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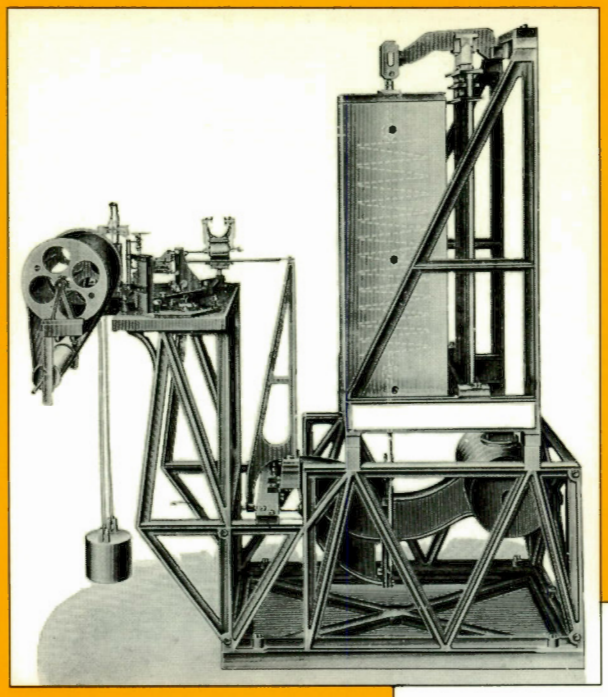

CANADIAN SEISMOGRAPH OPERATIONS - 1987

P.S. Munro
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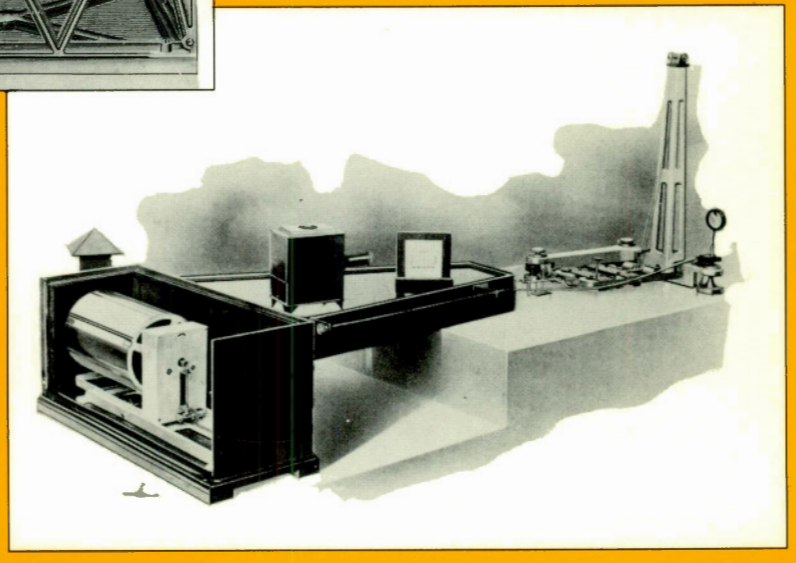

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GEOLOGICAL SURVEY OF CANADA
PAPER 88-25

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Cover description

Pictured here are early seismic instruments used at the Dominion Observatory in Ottawa. The seismographs are (top) a Milne-Shaw horizontal (in service from 1923 to 1959), and (bottom) a Weichert vertical (1912 to 1937). The observatory now houses the national headquarters for the Seismology Program of the Geological Survey of Canada. This site continues to record seismic data with modern instrumentation and the activities of the program are described in this report.

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CANADIAN SEISMOGRAPH OPERATIONS — 1987

Abstract

At the end of 1987 the Geological Survey of Canada, Department of Energy, Mines and Resources, operated or contracted the operation of 14 standard seismograph stations, 48 regional stations, 2 regional telemetered networks, based in Ottawa and near Victoria, 2 local telemetered networks, a medium-aperture array at Yellowknife, two strong-motion seismograph networks on the east and west coasts and several special or temporary seismographs. This report gives the characteristics of the various systems and describes the format and availability of the recorded data.

INTRODUCTION

This report is published annually as part of the Seismological Series of the Geological Survey of Canada. It contains summary information on the seismograph installations operated by, for, or in co-operation with the Geophysics Division, Geological Survey of Canada, Department of Energy, Mines and Resources. This information includes a brief description of the various types of seismograph installations, the data produced, the data processing procedures and facilities, and the availability of station data and records. Summary information on instrumental changes in the network and calibration curves for the seismograph stations are included later in the report.

CANADIAN SEISMOGRAPH NETWORK

General

The Canadian Seismograph Network (CSN) is composed of various types of seismograph installations, which are briefly described in the following sec tions. At the end of 1987, these installations included 14 standard stations (minimum of six daily records), 48 regional stations (minimum of one daily record), a 20-station, short-period, vertical-component network telemetered into Ottawa, Ontario, a similar 18-station network telemetered into Sidney, British Columbia, a 3-station short-period, vertical component network telemetered into Sudbury, Ontario, a 6-station short-period, three component network telemetered into La Pocatière, Quebec, a short and long-period vertical seismograph array situated at Yellowknife Northwest Territories, two strong-motion seismograph networks and several special or temporary installations.

Standard stations

A standard station consists of three orthogonal short-period seismographs and three orthogonal long-period seismographs, each producing a photographic record or a visual record on a Helicorder. Table 1 lists stations, locations and operators in alphabetic order by station code (*see also* Fig. 1). The short-period seismometers used in most standard stations are Willmores with a nominal period of one second. The seismometer signal, after passing through the attenuator, which has resistors arranged in a TEE-pad formation, is fed into a Tinsley galvanometer having a nominal period of one-quarter second. The Montréal station has a standard short-period Benioff system. The three long-period Columbia seismometers used in all standard stations have their free period nominally set to 15 seconds. The same type of attenuator TEE-pad formation used in the short-period seismographs is also used in the long period seismographs. The long-period Lehner-Griffith galvanometers have a nominal period of 90 seconds.

Accurate timing is provided by a Sprengnether TS-100 chronometer or a Geological Survey of Canada digital chronometer rated against the national time service CHU or WWV. For stations equipped with Sprengnether chronome ters, a calibration pulse, corresponding in initial direction to a compression of the ground, is applied to the three long-period seismometers at 00^h and 12^h U.T. (Lombardo *et al.* 1977, p. 17). For stations with digital chronometers (FRB, SCH, INK, ALE, MBC, YKC), the calibration pulse is applied only at 00^h U.T. At station INK only, it corresponds to an initial dilatation of the ground, producing an initial downward response on these seismograms instead of upward, as at the other stations.

A Sprengnether three-component photographic recorder is used for both short- and long-period seismographs. The short-period recorder drum rotation rate is set to 60 mm per minute, and the long-period rate at 15 mm per minute.

Calibration curves for all standard stations and any instrumental changes made during the year are included in Section 4 in alphabetical order by station code in the section on "Calibration curves".

Regional stations

Regional seismograph stations are used in seismically active areas of Canada to supplement the standard station network or for special studies. Table 1 lists the stations, locations and operators in alphabetic order by station code (*see also* Fig. 1).

Table 1. Standard and Regional Seismograph Stations and Operators — 1987
(*see also* Tables 2 and 4)

Station Code	Station	Latitude and Longitude (degrees)	Elevation (metres)
ALE	Alert, N.W.T.	82.503 N 62.350 W	65
	Owned and operated by the Geological Survey of Canada. Station seismologist in 1987 was P. Rushforth, succeeded by C. Willis on June 4.		
BBB*	Bella Bella, British Columbia	52.1847 N 128.1133 W	14
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by L. Bergen.		
BLC*	Baker Lake, N.W.T.	64.32 N 96.02 W	16
	Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada.		
BMS	Big Muddy Lake, Saskatchewan	49.212 N 104.793 W	419
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by S. Nyhus, Minton, Saskatchewan.		
BNAB*	Bonilla, British Columbia	53.4933 N 130.6372 W	16
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra. The station commenced operation on December 4.		
BNB*	Barry Inlet, British Columbia	52.5758 N 131.7522 W	765
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.		
CWB*	Cumshewa, British Columbia	53.1581 N 131.9967 W	620
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.		
DLB*	Dease Lake, British Columbia	58.427 N 130.060 W	1210
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.		
DWY*	Dawson City, Yukon	64.053 N 139.432 W	346
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by Mr. and Mrs. O. Blattler.		
EDM	Edmonton, Alberta	53.222 N 113.350 W	730
	Instrumented by the Geological Survey of Canada. Owned and operated by the Department of Physics, University of Alberta, with contract support from the Geological Survey of Canada.		
EFO*	Effingham, Ontario	43.092 N 79.312 W	168
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by M. Bering.		
FCC*	Fort Churchill, Manitoba	58.762 N 94.087 W	39
	Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by W. Ayotte.		
FFC	Flin Flon, Manitoba	54.725 N 101.978 W	338
	Owned and operated by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by W. Kemp.		
FRB	Iqaluit, N.W.T.	63.747 N 68.547 W	18
	Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada.		
FSB*	Fort St. James, British Columbia	54.477 N 124.328 W	747
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by D. Hoy.		
FST*	Fort Simpson, N.W.T.	61.840 N 121.275 W	175
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by D. Balderson. The station was closed on March 30.		
GBN*	Guysborough, Nova Scotia	45.407 N 61.513 W	38
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by F. Lombardo.		
GDR*	Gold River, British Columbia	49.7810 N 126.0319 W	100
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by H.M. de Waal.		
GOB*	Galiano Island, British Columbia	49.0122 N 123.5833 W	10
	Owned and operated by the University of British Columbia with contract support from the Geological Survey of Canada.		
GTO*	Geraldton, Ontario	49.745 N 86.962 W	350
	Owned by Atomic Energy of Canada Limited. Operated for Atomic Energy of Canada Limited by the Ontario Department of the Environment with support from the Geological Survey of Canada.		
HAL*	Halifax, Nova Scotia	44.6376 N 63.5920 W	64
	Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by Dalhousie University.		
HUO*	Hudson, Ontario	50.0805 N 92.0982 W	367
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by E. Sitar. The station was closed on June 2.		
HYT*	Haines Junction, Yukon	60.8250 N 137.5038 W	1416
	Instrumented by the Geological Survey of Canada. Operated at Parks Canada by E. Dulac under contract for the Geological Survey of Canada.		
IGL*	Igloolik, N.W.T.	69.377 N 81.807 W	38
	Instrumented by the Geological Survey of Canada. Operated for the Geological Survey of Canada by the Department of Indian and Northern Affairs.		
INK	Inuvik, N.W.T.	68.307 N 133.520 W	40
	Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada.		
JBQ*	La Grande-3, Québec	53.6103 N 75.6053 W	381
	Owned and operated by the James Bay Corporation, La Grande-3, Québec, with support from the Geological Survey of Canada.		
JCQ*	La Grande-3, Québec	53.4672 N 75.8242 W	320
	Owned by the James Bay Corporation, La Grande-3, Québec, with support from the Geological Survey of Canada.		
KAO*	Kapuskasing, Ontario	49.448 N 82.485 W	198
	Owned by Atomic Energy of Canada Limited. Operated under contract for Atomic Energy of Canada Limited by R. Stackhouse with support from the Geological Survey of Canada.		
KBB*	Kelsey Bay, British Columbia	50.3847 N 126.0275 W	1310
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.		

* Regional station

* Regional stations

Station Code	Station	Latitude and Longitude (degrees)	Elevation (metres)
KBT*	Komakuk Beach, Yukon Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada.	69.5936 N 140.1822 W	15
LIB*	Langara Island, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by K. Brunn.	54.2558 N 133.0583 W	35
LMQ*	La Malbaie, Québec (Charlevoix Observatory) Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by H. Bergeron, Saint-Hilarion, Québec.	47.5483 N 70.3267 W	419
LXQ*	La Grande-3, Québec Owned and operated by the James Bay Corporation, La Grande-3, Québec, with support from the Geological Survey of Canada.	53.7223 N 76.0222 W	195
MBC	Mould Bay, N.W.T. Owned and operated by the Geological Survey of Canada. Station seismologist in 1987 was R. Sherlock, succeeded by J. Sabourin on June 3.	76.242 N 119.360 W	15
MNB*	Mount Dainard, British Columbia Partially instrumented by the Geological Survey of Canada and operated for B.C. Hydro and Power Authority by B. Chandra.	52.1987 N 118.3833 W	2271
MNT	Montréal, Québec Owned and operated by Jean-de-Brébeuf College with partial instrumental support and full contract support from the Geological Survey of Canada.	45.5025 N 73.6230 W	112
MSTB*	Masset, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra. The station commenced operation on December 4.	54.0033 N 132.1180 W	91
NDB*	Naden, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra. The station commenced operation on December 15.	53.9550 N 132.9417 W	686
OTT	Ottawa, Ontario Owned and operated by the Geological Survey of Canada.	45.3942 N 75.7167 W	77
PCB*	Port Clements, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra. The station commenced operation on December 15.	53.7061 N 132.5675 W	634
PGC*	Sidney, British Columbia Owned and operated by the Geological Survey of Canada. The seismograph observatory is part of the Pacific Geoscience Centre, 9860 W. Saanich Road, Box 6000, Sidney, B.C., V8L 4B2. An office of the Geological Survey of Canada is located in the Pacific Geoscience Centre.	48.6500 N 123.4508 W	5
PHC*	Port Hardy, British Columbia Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada. The standard station was closed on September 25. A regional station commenced operation on December 10, and was operated under contract for the Geological Survey of Canada by M. Kearey.	50.707 N 127.437 W	33

* Regional station

Station Code	Station	Latitude and Longitude (degrees)	Elevation (metres)
PNT	Penticton, British Columbia Owned by the Geological Survey of Canada. The station was operated under contract for the Geological Survey of Canada by G. Furtado.	49.32 N 119.62 W	550
QCQ*	Québec, Québec Owned and operated by the Department of Geology, Laval University, with contract support from the Geological Survey of Canada.	46.7789 N 71.2758 W	91
RES*	Resolute, N.W.T. Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by Kheraj Enterprises Ltd.	74.687 N 94.900 W	15
RUB*	Prince Rupert, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.	54.3262 N 130.2847 W	35
SCH	Schefferville, Québec Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by McGill University Research Station.	54.817 N 66.783 W	540
SES	Suffield, Alberta Owned by the Geological Survey of Canada. Operated for the Geological Survey of Canada by the Department of National Defence.	50.396 N 111.042 W	770
SIC*	Sept-Îles, Québec Owned and operated by the Iron Ore Company of Canada, Sept-Îles, Québec, with support from the Geological Survey of Canada.	50.172 N 66.738 W	283
SJB*	Cape St. James, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Atmospheric Environment Service, Environment Canada.	51.937 N 131.015 W	100
SKB*	Skidegate, British Columbia Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by N. Gessler, Queen Charlotte, B.C.	53.2478 N 131.9963 W	10
SLQ*	Saint-Louis-du-Ha! Ha!, Québec Instrumented by the Geological Survey of Canada. Operated for the Geological Survey of Canada by the Centre d'interprétation scientifique de Témiscouata.	47.6662 N 69.0103 W	320
SOO*	Sioux Lookout, Ontario Owned by Atomic Energy of Canada Limited. Operated for Atomic Energy of Canada Limited by J. Mickelson with support from the Geological Survey of Canada. The station commenced operation on June 10.	50.0762 N 91.8880 W	358
SPY*	Shingle Point, Yukon Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Divison, Atmospheric Environment Service, Environment Canada.	68.922 N 137.260 W	35
STJ	St. John's, Newfoundland Owned by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Department of Earth Sciences, Memorial University.	47.5717 N 52.7328 W	62
SXT*	Sachs Harbour, N.W.T. Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by A.R. Goose until October 3 and then by S. McDonnell.	71.9892 N 125.2397 W	77

* Regional stations

Station Code	Station	Latitude and Longitude (degrees)	Elevation (metres)
TBO*	Thunder Bay, Ontario	48.6473 N 89.4083 W	468
	Instrumented by the Geological Survey of Canada. Operated for Atomic Energy of Canada Limited by the School of Forestry, Lakehead University, with support from the Geological Survey of Canada. The station commenced operation on January 23.		
TXB*	Texada Island, British Columbia	49.6969 N 124.4360 W	515
	Owned and operated by the University of British Columbia with contract support from the Geological Survey of Canada.		
ULM*	Lac du Bonnet, Manitoba	50.2499 N 95.8750 W	281
	Instrumented by the Geological Survey of Canada. Operated for the Geological Survey of Canada by Atomic Energy of Canada Limited.		
UNB*	Fredericton, New Brunswick	45.9462 N 66.6442 W	64
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Physics Department, University of New Brunswick.		

* Regional station

Station Code	Station	Latitude and Longitude (degrees)	Elevation (metres)
VIB*	Van Inlet, British Columbia	53.2522 N 132.5406 W	1008
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by B. Chandra.		
WHC*	Whitehorse, Yukon	60.737 N 135.098 W	734
	Instrumented by the Geological Survey of Canada. Operated under contract for the Geological Survey of Canada by the Radiosonde Division, Atmospheric Environment Service, Environment Canada.		
WKB*	White Rock, British Columbia	49.0436 N 122.8181 W	110
	Owned and operated by the University of British Columbia with contract support from the Geological Survey of Canada.		
YKC	Yellowknife, N.W.T.	62.478 N 114.473 W	198
	Owned and operated by the Geological Survey of Canada. Station seismologists during 1987 were D. Monsees, O.I.C., L. Mahaney and A. Langlois.		

* Regional stations

An older regional station consists of a short-period vertical seismograph using a Willmore MK II seismometer with a nominal one-second period. A Geotech preamplifier is used with a Geotech Helicorder to produce a visual record. Accurate timing is provided by a Sprengnether TS-100 chronometer rated against the national time service CHU or WWV. The newer stations have a Regional Modular Seismograph. This seismograph uses a Geotech S-13 seis mometer, a Geological Survey of Canada preamplifier and a Geotech Helicorder. Timing is provided by a Geological Survey of Canada digital chronometer.

At Whitehorse, short-period, north-south and east-west records are also produced. At Resolute both short- and long-period vertical seismographs are operated; the long-period seismometer is a Geotech SL-210 with nominal 15-second period. Several regional stations have a radio telemetry link (BNB, CWB, DLB, GOB, HYT, KBB, LMQ, MNB, MSTB, NDB, PCB, SIC, VIB, WKB) or a telephone link (DLB, KBT, PHC, SPY, SXT) from the seismometer site to the recorder site.

Regional station calibration curves and any instrumental changes made during the year are described in a later section in alphabetic order by station code. Seven new regional stations were added to the CSN (BNAB, MSTB, NDB, PHC, PCB, SOO, TBO) while two were closed (FST, HUO).

Eastern Canada Telemetered Network (ECTN)

The Eastern Canada Telemetered Network (ECTN) commenced operation in 1974 with four short-period vertical outstations transmitting data to a central processing site in Ottawa via leased telephone lines. Since then the system has been expanded and, at the end of 1987 there were 20 stations transmitting data by UHF radio and/or telecommunication lines. Data concentration schemes are used for some of the more distant stations in order to reduce telephone line costs. Figures 2, 3 and 4 show the locations of seismograph stations and concentration points for the radio telemetry and telecommunications subnet works. Table 2 lists each station with its geographical co-ordinates and operating dates. Stations are listed in order of their entry into the ECTN.

The outstations

The Mark I seismograph outstations consist of a Geotech S-13 seismometer with a period of 1 second, driving a signal amplifier and 5-pole low-pass Butterworth filter with a corner frequency of 20 Hz. The amplifier output is digitized by a 9-bit A/D converter sampling at 60 times per second. An eight-step binary gain-ranging scheme is used to extend the dynamic range while maintaining reasonable resolution. When the A/D converter senses an input signal greater than its full-scale value, the gain is reduced by a factor of two, or to a minimum gain if no intermediate gain values exist. Conversely, for an input signal less than half the full-scale value, the gain is increased by a factor of two or to maximum gain if no intermediate gain values exist. The minimum ground velocity that can be detected is 10 nanometres per second, while the maximum ground velocity is about ± 320 microns per second, giving a dynamic range of 96 decibels.

Most locations now employ the more advanced Mark II outstation package. Either a Geotech S-13 seismometer or a Willmore MK II is used. The preamplifier incorporates a switch-selectable filter usually set to pass frequencies between 1 Hz and 16 Hz. A 12-bit A/D converter is used to digitize the seismic signal 60 times per

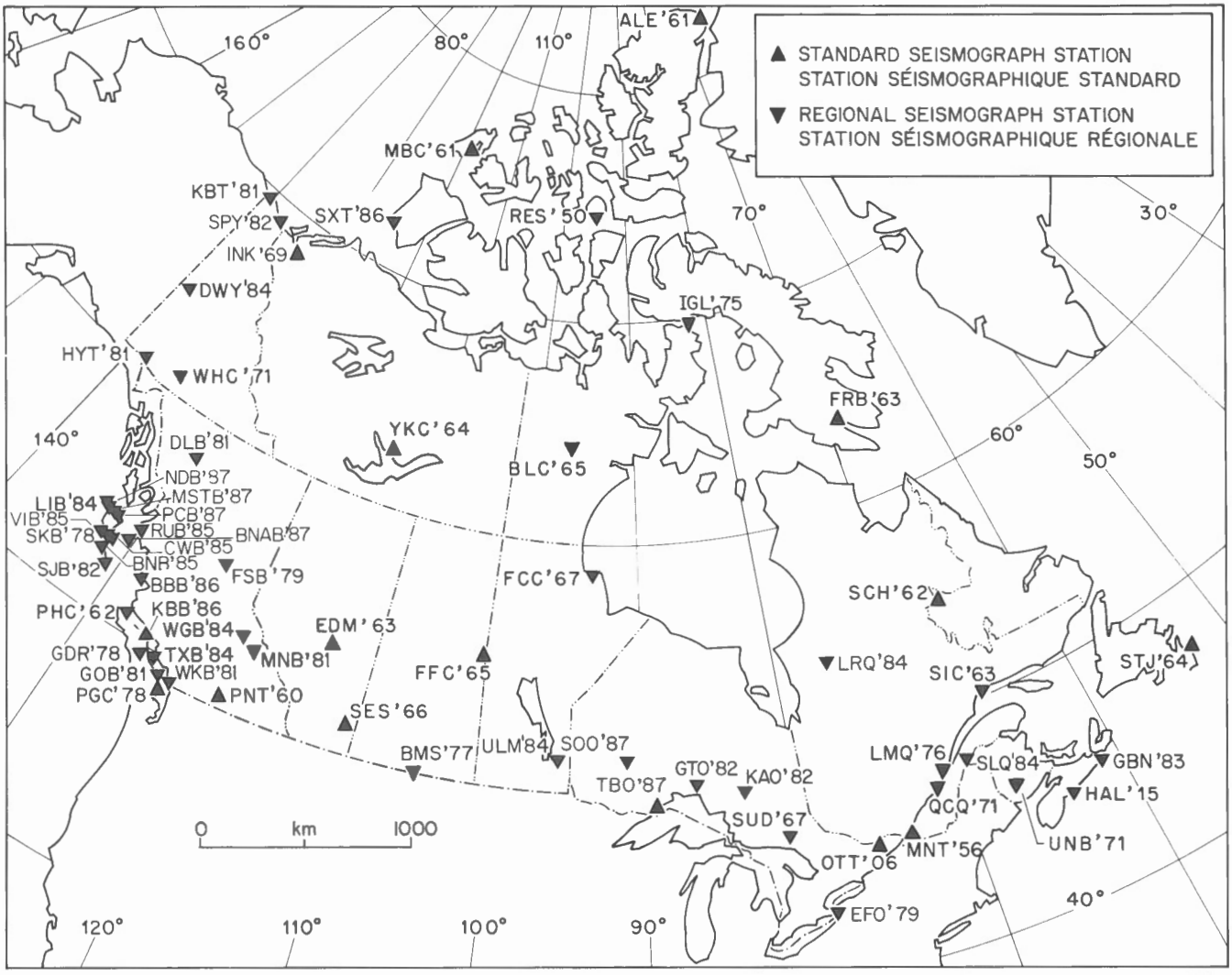


Figure 1. Canadian standard and regional seismograph stations – 1987. (*see also* Fig. 2 and 5)

second. The gain-ranging scheme involves four selectable gains: X1, X4, X16, and X64. A microcomputer selects the highest value of gain that can be used without overloading the A/D converter. The minimum detectable ground velocity is again 10 nanometres per second, but the largest signal that can be accommodated increases to about ± 1309 microns per second, giving a dynamic range of 108 decibels.

The Mark III outstation package was introduced during this year. This configuration employs a Geotech S-13 seismometer, with period of one second, driving a signal amplifier with a 6-pole Bessel low-pass filter at 15 Hz, a single-pole Butterworth low-pass filter at 30 Hz and a single pole Butterworth high-pass filter at 0.568 Hz. A 12-bit A/D converter is used to digitize the seismic signal at a rate of 60 or 80 times per second. The gain-ranging scheme involves a 3-bit gain table. Again, a microcomputer selects the highest value of gain that can be used without overloading the A/D converter. The minimum detectable ground velocity is 2 nanometres per second and the largest signal that can be accommodated is ± 2097 microns per second, giving a dynamic range of 126 decibels.

For the Mark II and Mark III outstations, a calibration pulse is input once each 24 hours by applying a 1 milliampere direct current to the seismometer calibration coil for 4 seconds. Also once each 24 hours, one sample of seismic data is replaced by a special code-word that identifies the station.

Digital telemetry

Most outstations transmit data over dedicated, unconditioned (voicegrade) telephone lines at 1200 baud using frequency-shift-key (FSK) modula tion. For remote sites where telecommunications were not feasible, UHF radio telemetry links were established for all or part of the transmission path. The carrier at radio sites is frequency modulated directly by the serialized digital signal. Figure 3 shows the current radio telemetry subnetwork.

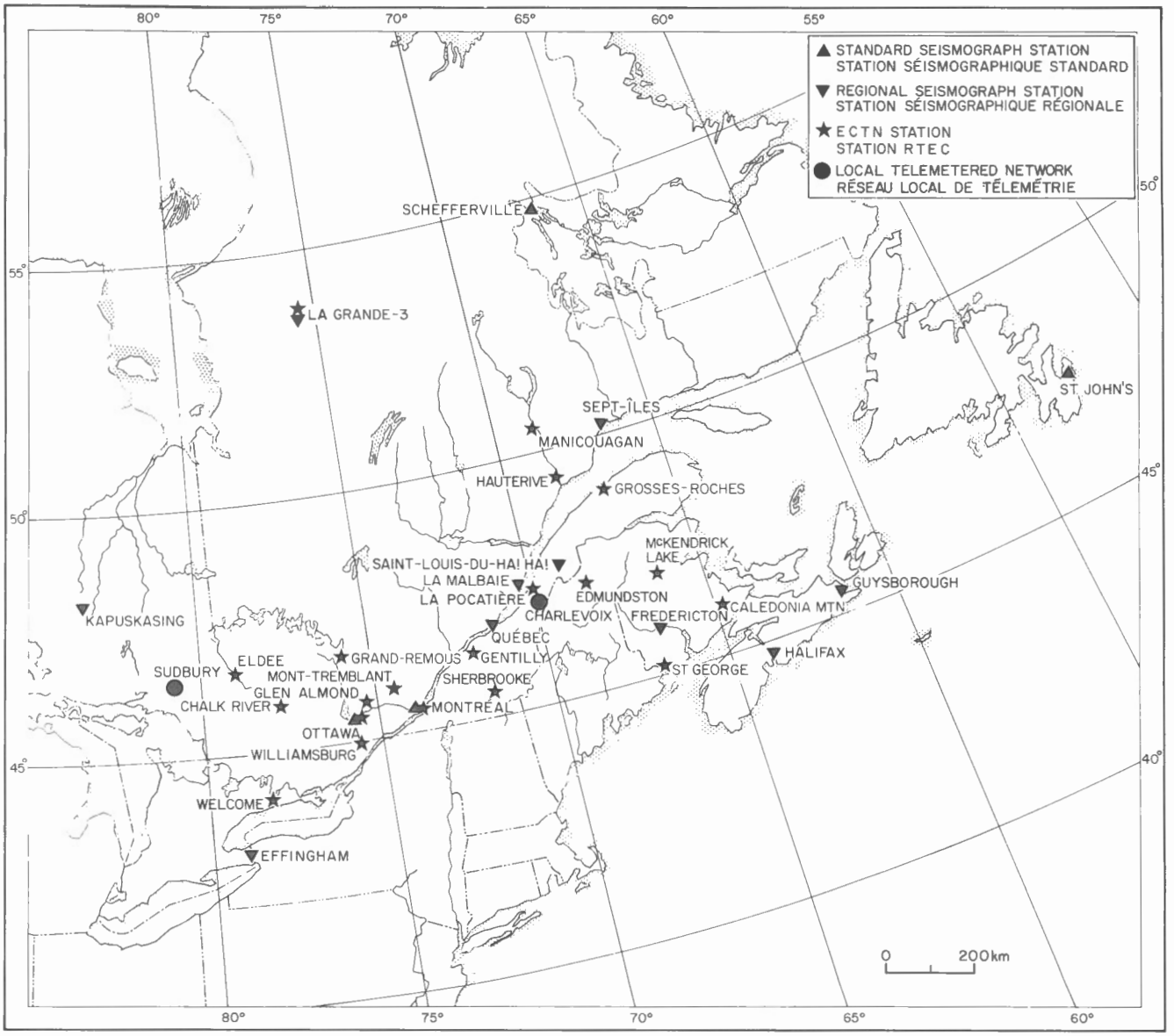


Figure 2. Eastern Canada Telemetered Network and other stations – 1987.

As the network expanded the ongoing costs of telecommunications became significant. Special software and hardware were developed which concentrated up to four seismic channels on a single line. A second level of signal concentration over telephone lines was developed for the eastern stations. At a concentrator site, a Gandalf SM9600 supermodem combined two 4800 bit per second streams into one 9600 bit per second stream. Thus, signals from up to eight seismic stations may be sent over a single, unconditioned telephone line. The current telecommunications subnetwork is presented in Figure 4.

Time delays and uncertainties are introduced by digitization, concentra tion and telephone line transmission of data from an outstation to the recording laboratory in Ottawa. Table 3 presents measured or theoretical values for the time delay plus uncertainty for all ECTN stations, including delays in the outstation amplifiers.

Central processing site

On June 11, 1986, the fourth-generation Canadian Digital Telemetered Seismic Network (CDTSN) computer system was installed. This system, called the CDTSN Mark IV, features a PDP-11/73 processor which receives the incoming data stream and produces formatted one-second data buffers. These data blocks are stored in a temporary 5 minute ring buffer that resides in memory. A separate

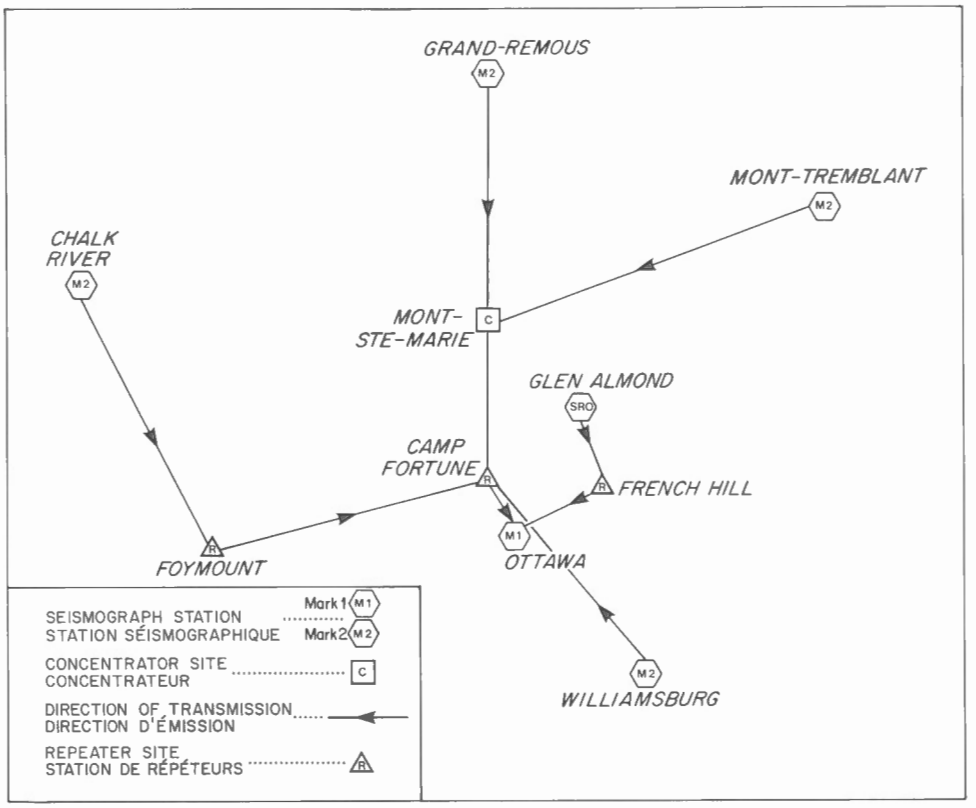


Figure 3. Eastern Canada Telemetered Network, radio telemetry subnetwork – 1987.

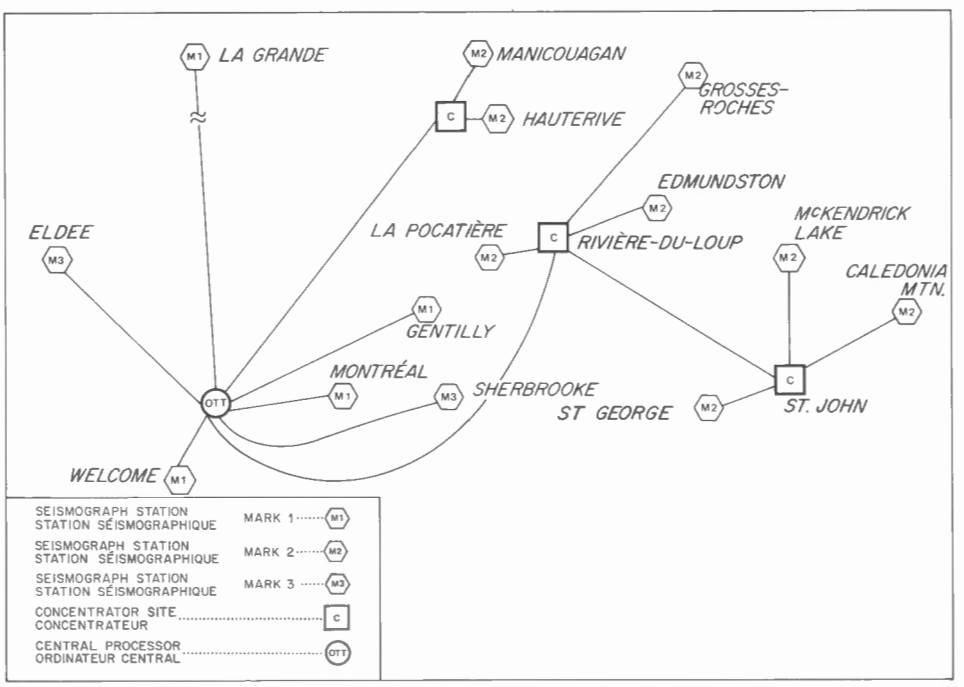


Figure 4. Eastern Canada Telemetered Network, telecommunications subnetwork – 1987.

Table 2. Eastern Canada Telemetered Network stations — 1987

Station	Lat. (°N)	Long. (°W)	Elevation (m)	Operating dates
Ottawa, Ont. (OTT)	45.3942	75.7167	77	Feb. 24/74 to Apr. 25/78; Jan. 26/79 to date
Montréal, Qué. (MNT)	45.5025	73.6230	112	Feb. 24/74 to date
Manicouagan, Qué. (MNQ)*	50.5333	68.7744	564	Nov. 27/74 to date
Gentilly, Qué. (GNT)*	46.3628	72.3722	10	Apr. 26/78 to date
Glen Almond, Qué. (GAC)	45.7033	75.4783	62	Oct. 26/79 to date
La Pocatière, Qué. (LPQ)	47.3408	70.0093	126	June 6/80 to date
Sherbrooke, Qué. (SBQ)	45.3783	71.9263	265	Aug. 12/80 to date
Williamsburg, Ont. (WBO)	45.0003	75.2750	85	Dec. 9/80 to date
Chalk River, Ont. (CKO)	45.9944	77.4500	190	Jan. 12/81 to date
Mont-Tremblant, Qué. (TRQ)	46.2222	74.5556	853	Mar. 16/81 to date
Grand-Remous, Qué. (GRQ)	46.6067	75.8600	290	Mar. 16/81 to date
Grosses-Roches, Qué. (GSQ)	48.9142	67.1106	398	Oct. 28/81 to date
Edmundston, N.B. (EBN)	47.462	68.242	195	Oct. 28/81 to date
St. George, N.B. (GGN)	45.117	66.822	30	Oct. 28/81 to date
Caledonia Mtn., N.B. (LMN)	45.852	64.806	363	Oct. 28/81 to date
McKendrick L., N.B. (KLN)	46.8433	66.3717	411	Jan. 28/82 to date
Hauterive, Qué. (HTQ)*	49.1917	68.3939	123	Apr. 15/82 to date
Welcome, Ont. (WEO)!	44.0186	78.3744	149	Apr. 30/82 to date
Eldee, Ont. (EEO)+	46.6411	79.0733	398	March 8/84 to date
La Grande-3, Qué. (JAQ)*	53.8022	75.7211	366	Mar. 23/81 to Nov. 22/82 Apr. 2/84 to Nov. 5/84 Feb. 26/85 to date

* Supported by Hydro-Québec
! Supported by Ontario Hydro
\+ Supported by Atomic Energy of Canada Limited

Table 3. Theoretical transmission delays for ECTN station data

Communication Link	ECTN Station	Typical Delay (Fixed & Uncertainty) (ms)
Direct radio or telephone link to Ottawa	CKO, EEO, GAC, GNT, JAQ, JBQ, MNT, OTT, SBQ, WBO, WEO	47 - 82
One level of data concentration, no supermodem	TRQ, GRQ MNQ, HTQ	70 - 104 61 - 109
One level of data concentration using supermodems	LPQ, GSQ, EBN	198 - 233
Two levels of data concentration using supermodems	GGN, LMN, KLN	277 - 311

Table 4. Sudbury Local Telemetered Network stations — 1987

Station	Lat. (°N)	Long. (°W)	Elevation (m)	Operating dates
Sudbury, Ont. (SUO)	46.4027	81.0068	252	Dec. 16/84 to date
Sudbury, Ont. (SZO)	46.4380	81.4961	312	Jan. 24/87 to date
Sudbury, Ont. (SWO)	46.7328	80.9994	372	May 27/87 to date

event detection program continuously monitors the incoming data and, when the trigger conditions are satisfied, creates an event file on disk of unfiltered digital data.

The event-detection algorithm decimates the data by a factor of two and pre-filters it with a passband of 2 to 5 Hz. The absolute value is then integrated to form a short-term average with a 4.3 second time constant and a long-term average with a 4.3 minute time constant. A trigger is declared when the short-term average exceeds a threshold, defined as a constant (typically 2 to 4), times the long-term average. Digital data from all channels are saved in the event file whenever a trigger occurs on any channel. The filter characteristics, time constants and trigger threshold may each be changed to provide different trigger conditions on a per channel basis.

Digital event files are transferred automatically to the Current Seismicity MicroVAX II computer over an Ethernet LAN for interactive display and analysis of waveforms and for event location. The same network is used for subsequent transfers to the VAX-11/750 central computer. This unit is used to archive waveform data in a 9-track magnetic tape library and to maintain the relational Seismicity Database of phase measurements and location determinations. A second identical PDP-11/73 system provides a parallel backup system.

Each PDP-11/73 system produces up to twelve channels of visual Helicorder records with operator-selectable monitor channels and sensitivities.

Additional information on the ECTN development can be found in the annual reports by Wetmiller et al. (1986) and Hayman et al. (1985), as well as internal reports by Lyons (1980, 1988) and Lyons and Vesa (1981). Calibration curves for the monitor records and response curves for the digital data are included in a later section of this report

GAC SRO-type borehole seismometer

At Glen Almond, Québec (GAC), a Geotech model 36000 triaxial seismometer is installed at a 100 metre depth in a cased borehole. The digital short period and long-period signals are incorporated into the ECTN data acquisition system. At the outstation the three short-period signals are each digitized at 30 samples per second and the three long-period signals at one sample per second. The respective passbands are shown on the GAC calibration curves. The data are transmitted to Ottawa by radio telemetry at a rate of 1800 baud.

The ECTN trigger algorithm monitors only the short-period vertical component, but all three short-period components are saved during an event. Continuous three-component long-period data are saved separately and permanently on magnetic tape. Copies of these tapes are sent to the Albuquerque Seismological Laboratory in Albuquerque, New Mexico, where they are merged with data from other seismic research observatories (SRO).

Sudbury Local Telemetered Network (SLTN)

In 1984, an autonomous local event processor was installed at the Science North museum in Sudbury, Ontario, for public display. Modelled on the ECTN, the SLTN system processes the data telemetered from a Mark II ECTN outstation, SUO, deployed in the rural area south of the city. Detected events, stored on a local disk, are transferred to Ottawa daily over a dial-up 9600 baud telephone link for editing and merging with the ECTN data set. A custom version of the ECTN Seismic Analysis Monitor software (SAM) provides automatic graphics display of the last triggered event and limited on-site event analysis.

The capability of the SLTN to monitor seismicity in the Sudbury Basin was significantly enhanced during 1987. In January, the SLTN central site hardware and software were upgraded to the CDTSN Mark IV level. The Mark II outstation at SUO was replaced with a Mark III unit on January 20 and two more Mark III outstations were added: SZO was installed on January 24 and SWO started on May 27 (*see* Fig. 2 and Table 4 for coordinates). All three outstations operate at 60 samples per second.

Charlevoix Local Telemetered Network (CLTN)

The Charlevoix Local Telemetered Network was installed in October, 1987, as a replacement for the analogue array deployed in the area since August 1977. The original six locations are still used and are listed in Table 5. These sites are now fitted with three orthogonal MkIII outstations running at 80 samples per second. Data are transmitted to the central processing site at La Pocatière, Québec, via UHF radio telemetry links (see Figure 2).

The CDTSN Mark IV central processor performs event detection on the vertical components of the six 3-component outstations. Absolute timing is achieved using a satellite time receiver (GOES) backed up by a Geological Survey of Canada digital chronometer. This processor is networked to the Ottawa Seismological

Laboratory via a synchronous DECnet connection over a dedicated telephone line. Event files are automatically transmitted to the Current Seismicity MicroVAX II computer for processing in conjunction with the ECTN and SLTN data sets. A visual record can be produced on site for any component during site visits.

Western Canada Telemetered Network (WCTN)

The Western Canada Telemetered Network, which commenced operation in 1975, consisted of four short-period vertical outstations connected to Victoria by telephone lines. Sidney replaced Victoria in mid-March 1978. At the end of 1987 the network consisted of 18 stations transmitting data by UHF radio and/or telecommunication lines. Table 6 gives a list of the stations with their coordinates and operating dates and Figure 5 shows their locations.

In October, 1986, the WCTN central site hardware and software were upgraded to the Mark IV level currently used in the ECTN.

The outstations, computer system, data recording and storage are similar to those of the ECTN.

Table 5. Charlevoix Local Telemetered Network stations — 1987

Station	Lat. (°N)	Long. (°W)	Elevation (m)	Operating dates
St-Roch-des-Aulnais, Qué. (A11Q)	47.2425	70.1978	61	Oct. 30/87 to date
Rivière-Ouelle, Qué. (A16Q)	47.4706	70.0064	15	Oct. 30/87 to date
St-André, Qué. (A21Q)	47.7036	69.6897	46	Oct. 30/87 to date
Misère, Qué. (A54Q)	47.4567	70.4125	381	Oct. 30/87 to date
Sainte-Mathilde, Qué. (A61Q)	47.6930	70.0900	358	Oct. 30/87 to date
St-Siméon, Qué. (A64Q)	47.8264	69.8922	137	Oct. 30/87 to date

Table 6. Western Canada Telemetered Network stations — 1987

Station	Lat. (°N)	Long. (°W)	Elevation (m)	Operating dates
British Columbia				
Port Alberni, (ALB)	49.272	124.830	25	Sept. 1/75 to date
Sidney, (PGC)	48.6500	123.4508	5	Mar. 18/78 to date
Haney, (HNB)	49.2744	122.5792	183	June 5/80 to date
Saturna Island, (SNB)	48.7750	123.1708	405	Jan. 28/81 to date
Sechelt, (SHB)	49.5972	123.8750	1143	Jan. 28/81 to date
Campbell River, (CBB)	50.0328	125.3653	317	Jan. 28/81 to date
Whistler, (WHB)	50.1281	122.9553	695	Nov. 9/81 to date
Nanaimo, (NAB)	49.2225	124.0037	256	Jan. 11/82 to date
Gonzales, (VGZ)	48.4139	123.3244	68	Mar. 23/82 to date
Eliza Dome, (EDB)	49.8737	127.1198	189	Apr. 29/82 to date
Estevan Point, (ETB)	49.3763	126.5380	1	Apr. 29/82 to date
Mount Ozzard, (OZB)	48.9603	125.4928	671	Apr. 29/82 to date
Port Renfrew, (PFB)	48.5717	124.4400	550	Jun. 15/83 to date
Bowen Island, (BIB)	49.406	123.306	37	May 9/84 to date
Mount Vedder, (VDB)	49.2061	122.1028	404	May 9/84 to date
Watts Point, (WPB)	49.6570	123.2095	273	May 9/84 to date
Buttle Lake, (BTB)	49.4683	125.5214	1640	Sept. 26/84 to date
Mount Grey, (MGB)	49.0000	124.6975	1300	Sept. 26/84 to date

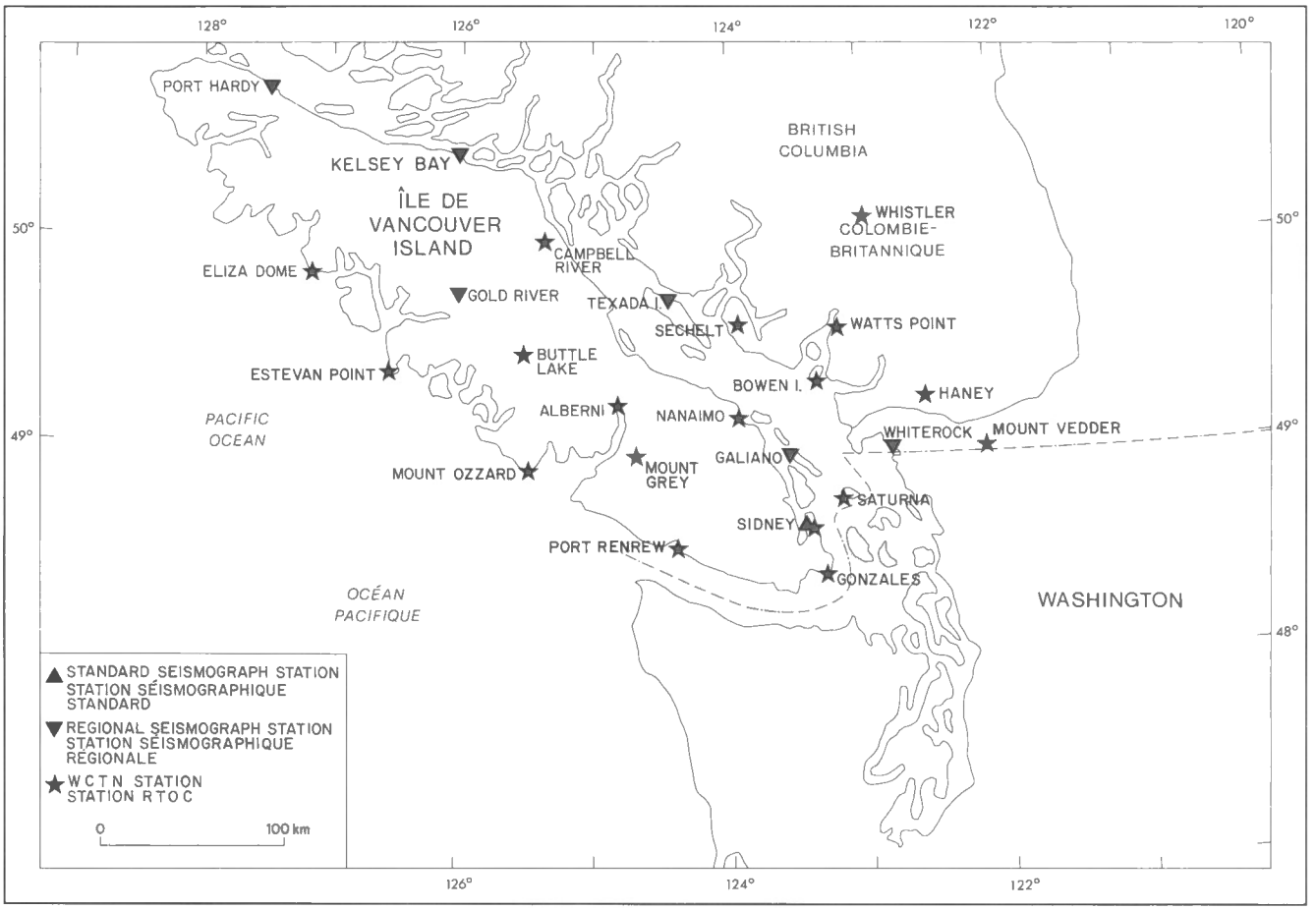


Figure 5. Western Canada Telemetered Network and other stations – 1987.

Calibration curves for the monitor stations and digital data response curves are given later.

Yellowknife array

The medium-aperture, short-period vertical array at Yellowknife, N.W.T., has operated since 1962. The array configuration is shown in Figure 6. The 18 Willmore Mark II vertical seismometers with a nominal one second period have a 2.5 km spacing. A nineteenth short-period vertical seismometer and two short-period horizontal seismometers are located in the Yellowknife standard station vault (YKC), which is indicated on Figure 6 as site G1.

In addition to the short-period array, a long-period tripartite array consisting of Geotech SL210 long-period vertical seismometers is located at sites G1, G2 and G3. Site G1 also contains two Geotech SL220 long-period horizontal seismometers and a single-component vertical broadband seismometer. These seismometer signals are recorded on FM tape only.

The outstation electronics package includes a VHF transmitter, receiver, diplexer, amplifier, calibrator and power inverter housed in a case insulated with 15 cm of polystyrene to reduce the effect of environmental extremes. Data are transmitted to the Control Centre by a frequency-modulated audio subcarrier. Power is obtained from a thermo-electric generator which burns propane from a 1000 litre tank which is refuelled annually. Because of the extremely low temperatures in winter (-40°C) a nitrogen tank is required to pressurize the propane tank.

At the Control Centre, the on-line digital processing system, called the Canadian Seismic Array Monitor (CANSAM) is built around a PDP-11 mini computer. The system remotely monitors and calibrates the various seismic sensors, digitizes the short-period signals at 20 samples per second, forms 121 beams in real time and processes the data with a detection algorithm. Detected events are saved on 9-track digital tape. A detection log is saved on disk with a hard copy log printed on a teletypewriter and punched in parallel on paper tape. The detection log is regularly transferred to Ottawa by a dial-up data link. Analogue FM tape is used to provide a continuous backup to the digital system and for additional data processing off-line in Ottawa. Helicorders are used to monitor one short-period channel, one long-period channel, a fifteen minute sequential sample of all channels and the last beam to trigger.

Additional information on the Yellowknife array history, developments and current configuration can be found in reports by Manchee and Somers (1966),

Manchee and Hayman (1972) and Weichert and Henger (1976). Response curves for the short- and long-period array and the broadband seismometer are included in a later section.

Special or temporary stations

To supplement the existing permanent seismograph networks of the Geological Survey of Canada, special or temporary installations are commissioned at different sites for varying lengths of time. Table 7 gives the locations and operating dates for these stations plus a brief description of the type of installation.

Strong-Motion Seismograph Networks

Strong-motion instruments in Canada are organized into two networks, one in eastern Canada maintained by the Geophysics Division of the Geological Survey of Canada and one in western Canada (including one station in northern Canada) maintained by the Cordilleran and Pacific Geoscience Division of the Geological Survey of Canada. At the end of 1987 there were 80 accelerographs deployed in the two networks. The 62 accelerograph sites described in Table 6 are listed in chronological order of initial installation. (Some sites have been closed and subsequently re-opened.)

For a description of the strong-motion program see Weichert and Munro (1987). For a report on all Canadian strong-motion records to 1979, see Weichert and Milne (1980). For a report on the analysis of the Miramichi accelerograms, see Weichert et al. (1982) and Weichert (1985). For reports on the analysis and discussion of the Nahanni accelerograms see Weichert et al. (1986) and Wetmiller et al. (1987).

For any additional information on the strong-motion networks write to:

Geophysics Division
Geological Survey of Canada
Energy, Mines and Resources Canada
1 Observatory Crescent
Ottawa, Ontario K1A 0Y3
or
Cordilleran and Pacific Geoscience Division
Geological Survey of Canada
Energy, Mines and Resources Canada
9860 W. Saanich Road, Box 6000
Sidney, B.C. V8L 4B2

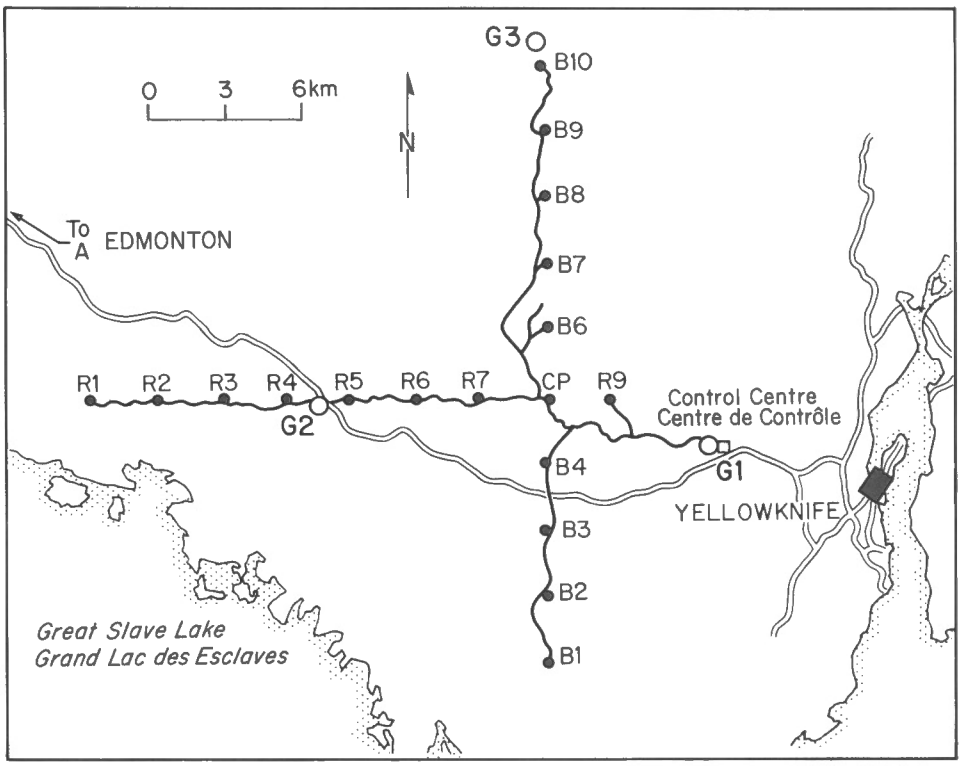


Figure 6. Yellowknife seismograph array – 1987.

Table 7. Special or temporary stations – 1987

Station Location	Coord. (degrees)	Operating Dates	Description
Charlevoix array La Pocatière, Qué.	47.5 N 70.0 W	Aug. 30/77 to Oct/87	6 element (3 on north shore, 3 on south) telemetered array recording on analogue tape
Nahanni, N.W.T.	62.2 N 124.2 W	Oct. 13/85 to date	3 Kinemetrics SMA-1 accelerographs at various locations.

Table 8. Accelerograph sites in Canada — 1987

TABLE EXPLANATION

LOCATION
Closest community followed by site name.

DATE
Installation date of first instrument at site.

COORDINATES (COORD)
Latitude (N) and longitude (W) are listed to the nearest 0.01 degree. Where they are not known that accurately they are listed to the nearest 0.1 degree. For eastern Canada, coordinates supplied in degrees and minutes have been converted to the nearest 0.01 degree.

INSTRUMENT (INSTR)
eledyne-Geotech RFT-250 and Kinemetrics SMA-1.

SENSITIVITY (SENS)
Full-scale sensitivity of the instrument expressed as multiplier of the acceleration of gravity (g).

TRIGGER
Triggering level. The RFT-250 has a horizontal displacement trigger. The SMA-1 has a vertical trigger sensitive to acceleration in the 1 to 10 Hz bandwidth. Where the acceleration level is listed as 0.01 g, the instrument has not been field calibrated and is assumed to be at the factory-set level.

OWNER

EMR	Energy, Mines and Resources Canada
HQ	Hydro-Québec
BCHPA	British Columbia Hydro and Power Authority
TG	Teleglobe Canada
ALCAN	Aluminum Company of Canada

BUILDING
A brief description of the structure housing the instrument, followed by the location of the instrument.

FOUNDATION
The material underlying the structure housing the instrument.

* New or reopened sites or those having changes in the tabulated material during the current year.

ACCELEROGRAPH SITES IN EASTERN CANADA — 1987

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Saint-Féréol, Qué. Former seismograph station	1/66	47.12 70.83	SMA-1	1 g	0.0072 g	EMR	Underground seismic vault. Instrument on concrete pier.	bedrock
Québec, Qué. Laval University	6/67	46.78 71.28	SMA-1	1 g	0.0065 g	EMR	Three-storey reinforced concrete. Instrument on concrete pier on basement floor slab.	bedrock
La Malbaie, Qué. Post Office	9/67	47.68 70.15	SMA-1	1 g	0.0112 g	EMR	One-storey steel frame, masonry walls. Instrument on concrete pier on basement floor slab.	bedrock
Saint-Pascal, Qué. Post Office	10/69	47.53 69.80	SMA-1	1 g	0.0050 g	EMR	One-storey reinforced concrete and masonry. Instrument on concrete basement floor slab.	bedrock
Montréal, Qué. Jean-de-Brébeuf College	12/73	45.50 73.62	SMA-1	1/2 g	0.0058 g	EMR	Four-storey steel frame, curtain wall, poured concrete. Instrument in seismic vault in basement.	bedrock
Baie-Comeau, Qué. Daniel-Johnson Dam	6/74	50.67 68.73	SMA-1 (6 units)	1/2 g	0.01 g	HQ	Several locations in reinforced concrete dam of multiarch construction. Instruments vary from bedrock to 183 m level.	bedrock

ACCELEROGRAPH SITES IN EASTERN CANADA — 1987 (concl.)

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Baie-Comeau, Qué. Manic Trois Dam	9/74	49.77 68.62	SMA-1 (5 units)	1/2 g	0.01 g	HQ	One on concrete pier in instrument room in rock tunnel. Four on 3 different levels in earth dam.	bedrock alluvium
Tadoussac, Qué. Post Office	5/79	48.15 69.72	SMA-1	1 g	0.0075 g	EMR	Concrete pier to bedrock in crawl space of one-storey building.	bedrock
Chute-aux-Outardes, Qué. Outardes Deux Dam	10/79	49.17 68.40	SMA-1 (4 units)	1 g	0.01 g	HQ	One in spillway structure, three on earth dam.	bedrock alluvium
Rivière-du-Loup, Qué. Post Office	8/80	47.84 69.54	SMA-1	1 g	0.0108 g	EMR	Two-storey reinforced concrete. Instrument on basement slab.	bedrock
Baie-Saint-Paul, Qué. Post Office	5/79 10/82	47.44 70.51	SMA-1	1 g	0.0090 g	EMR	Two-storey brick building. Instrument on basement slab.	alluvium valley
Miramichi, N.B. Loggie Lodge II	6/82	46.97 66.53	SMA-1	1 g	0.0105 g	EMR	Above-ground seismic vault. Opened 10/86.	bedrock
Ottawa, Ont. GEO, Bldg. #7	8/84	45.39 75.72	SMA-1	1/2 g	0.0088 g	EMR	Underground seismic vault. Instrument on concrete pier.	bedrock
Rivière-Ouelle, Qué.	8/84	47.48 70.00	SMA-1	1 g	0.0108 g	EMR	Above-ground seismic vault.	bedrock
Edmundston, N.B.	8/84	47.46 68.24	SMA-1	1 g	0.0103 g	EMR	Above-ground seismic vault.	bedrock
Saint-Éleuthère, Qué.	8/84	47.50 69.36	SMA-1	1 g	0.0105 g	EMR	Above-ground seismic vault.	bedrock
Sainte-Lucie-de-Beauregard, Qué.	8/84	46.74 70.02	SMA-1	1 g	0.0100 g	EMR	Above-ground seismic vault.	bedrock
Saint-Georges, Qué.	8/84	46.14 70.58	SMA-1	1 g	0.0132 g	EMR	Above-ground seismic vault.	bedrock
Chicoutimi-Nord, Qué.	9/84	48.49 71.01	SMA-1	1/2 g	0.01 g	EMR	Outcrop in basement of two-storey wood-frame house.	bedrock
Saint-André-du-Lac-Saint-Jean, Qué.	9/84	48.33 71.99	SMA-1	1 g	0.0058 g	EMR	Above-ground seismic vault.	bedrock
Rimouski, Qué.	8/84	48.45 68.48	SMA-1	1 g	0.0101 g	EMR	Above-ground seismic vault.	bedrock
Les Éboulements, Qué.	6/85	47.55 70.33	SMA-1	1 g	0.0054 g	EMR	Above-ground seismic vault.	bedrock

ACCELEROGRAPH SITES IN WESTERN CANADA (BRITISH COLUMBIA) — 1987

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Victoria Law Courts Building	1/63	48.42 123.36	SMA-1	1 g	0.009 g	EMR	Five-storey reinforced concrete. Instrument on concrete basement floor slab.	bedrock
Vancouver B.C. Hydro Building	7/63	49.28 123.12	SMA-1	1 g	0.011 g	EMR	Twenty-two-storey reinforced concrete. Instrument on concrete floor in lower basement.	bedrock
Victoria University of Victoria	9/64	48.46 123.31	SMA-1	1 g	0.011 g	EMR	Three-storey reinforced concrete. Part of foundation is reinforced concrete footings and part is 'Franki' piles. Instrument on basement floor slab.	clay
Port Alberni Pulp and Paper Mill	7/65	49.24 124.81	SMA-1	1 g	0.008 g	EMR	Two-storey reinforced concrete. Instrument on concrete floor over a stiff cellular substructure built on wood piles.	sand and gravel
Campbell River Ladore Dam	7/65	50.01 125.39	SMA-1	1 g	0.009 g	EMR	Concrete gravity dam 43 m high. Instrument on concrete floor near base of dam.	bedrock

ACCELEROGRAPH SITES IN WESTERN CANADA (BRITISH COLUMBIA) — 1987 (cont.)

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Vancouver University of B.C.	8/65	49.26 123.25	SMA-1	1 g	0.009 g	EMR	Two-storey. Instrument on concrete floor slab.	sand and gravel
Comox St. Joseph's Hospital	8/67	49.67 124.94	SMA-1	1 g	0.009 g	EMR	Four-storey reinforced concrete. Instrument on concrete pier at ground level.	glacial till
Richmond Massey Tunnel	9/67	49.12 123.08	SMA-1	1 g	0.010 g	EMR	Reinforced concrete tunnel in partial trench dredged in river bottom. Instrument on concrete floor about 15 m below ground surface.	sand and slit
Duncan Cowichan Hospital	10/67	48.79 123.72	SMA-1	1 g	0.010 g	EMR	Varying from one to six storeys, reinforced concrete. Instrument on pier on concrete footing at basement level.	sand
North Vancouver Cleveland Dam	1/68	49.36 123.11	SMA-1	1 g	0.011 g	EMR	Concrete gravity dam 91 m high. Instrument at end of gallery on concrete floor directly above bedrock.	bedrock
Delta Roberts Bank Seaport	11/69	49.02 123.16	RFT-250	1 g	0.5 mm	EMR	Small hut. Instrument on concrete slab.	silt fill
Langley Municipal Hall	3/71	49.10 122.62	RFT-250	1 g	0.5 mm	EMR	One-storey wood frame. Instrument on reinforced concrete basement floor slab.	clay
Matsqui Clearbrook Public Library	3/71	49.05 122.32	RFT-250	1 g	0.5 mm	EMR	Two-storey reinforced concrete. Instrument on concrete floor slab.	sand and gravel
Mica Creek Mica Creek Dam	5/72	52.0 118.5	SMA-1 (3 units)	1 g	0.019 g	BCHPA	Three locations in 244 m high earth-fill dam.	bedrock
Vancouver Manitoba Works Yard	12/72	49.21 123.11	RFT-250	1 g	0.5mm	EMR	Two-storey steel frame, masonry walls. Instrument on concrete floor slab over pile foundation.	alluvium
Delta Annacis Island	12/72	49.18 122.93	RFT-250	1 g	0.5 mm	EMR	One-storey. Instrument on concrete floor slab.	alluvium
Lake Cowichan Satellite Station	3/73	48.8 124.2	SMA-1	1 g	0.010 g	TG	One-storey structure next to earth station antenna. Instrument on concrete floor slab.	bedrock
Gold River Public Safety Building	8/73	49.78 126.05	SMA-1	1 g	0.010 g	EMR	One-storey reinforced concrete block. Instrument on concrete floor slab.	bedrock
Vancouver Bloedel Conservatory	5/74	49.24 123.11	SMA-1	1 g	0.009 g	EMR	Triodetic dome structure 15 m high and 43 m in diameter. Instrument on concrete foundation.	bedrock
Richmond Brighouse Library	5/74	49.16 123.14	SMA-1	1 g	0.009 g	EMR	One-storey reinforced masonry. Instrument on concrete basement floor slab.	alluvium
Port Alberni Maquinna Elementary School	11/74	49.23 124.79	SMA-1	1 g	0.009 g	EMR	One-storey wood frame. Instrument on concrete basement floor slab.	bedrock
Kemano Switching Station	1/75	53.56 127.93	SMA-1	1 g	0.009 g	ALCAN	One-storey masonry. Instrument on concrete floor slab.	gravel
Haney UBC Research Forest	6/75	49.27 122.57	SMA-1	1 g	0.010 g	EMR	Small vault. Instrument on bedrock outcrop.	bedrock
Richmond Highway Patrol Building	11/75	49.12 123.08	RFT-250	1 g	0.5mm	EMR	One-storey wood frame. Instrument on concrete basement floor.	alluvium
Ucluelet Ucluelet Secondary School	1/78	48.94 125.55	SMA-1	1 g	0.010 g	EMR	One-storey wood frame. Instrument on concrete floor slab.	bedrock
Nanaimo Pauline Haarer Elementary School	1/78	49.17 123.94	SMA-1	1 g	0.009 g	EMR	One-storey wood frame. Instrument on concrete floor slab.	bedrock
Upper Campbell Lake Strathcona Park Lodge	4/78	49.89 125.65	SMA-1	1 g	0.010 g	EMR	Two-storey log. Instrument on concrete floor slab.	till

ACCELEROGRAPH SITES IN WESTERN CANADA (BRITISH COLUMBIA) — 1987 (concl.)

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Tofino Tofino Federal Building	5/78	49.15 125.91	SMA-1	1 g	0.009 g	EMR	Two-storey. Instrument on concrete floor slab.	bedrock
Sidney Pacific Geoscience Centre	7/78	48.65 123.45	SMA-1	1 g	0.008 g	EMR	Buried concrete seismic vault. Instrument on concrete pier.	bedrock
Skidegate Queen Charlotte Islands Museum	9/79	53.25 131.99	SMA-1	1 g	0.009 g	EMR	One-storey wood frame. Instrument on concrete floor slab.	bedrock
Saturna Island WCTN Seismometer Site	5/81	48.78 123.17	SMA-1	1 g	0.009 g	EMR	Instrument in small vault.	bedrock
Prince Rupert, Sourdough Bay Fisheries and Oceans Canada	6/81	54.33 130.28	SMA-1	1 g	0.011 g	EMR	One-storey metal Quonset hut. Instrument on concrete slab.	bedrock
Queen Charlotte Islands Cape St. James	7/83	51.94 131.01	SMA-1	1 g	0.011 g	EMR	Two-storey wood frame. Instrument on concrete floor slab.	bedrock
Queen Charlotte Islands Masset	7/83	54.01 132.15	SMA-1	1 g	0.011 g	EMR	One-storey wood frame. Instrument on concrete floor slab.	sand and gravel
Revelstoke Revelstoke Dame	8/83	51.05 118.19	SMA-1 (5 units)	1 g	0.01 g	BCHPA	Three instruments in an earthfill dam, one of which is on bedrock; two instruments on concrete piers in a concrete dam on bedrock.	bedrock
Port Hardy G.S.C. Seismic Vault	10/83	50.71 127.44	SMA-1	1 g	0.010 g	EMR	Concrete seismic vault. Instrument on concrete floor slab.	bedrock
Queen Charlotte Islands Langara Point Lighthouse	8/84	54.26 133.06	SMA-1	1 g	0.010 g	EMR	One-storey metal. Instrument on concrete floor slab.	bedrock
Queen Charlotte Islands Barry Inlet	9/86	52.58 131.75	SMA-1	1 g	0.010 g	EMR	Above-ground seismic vault.	bedrock
Queen Charlotte Islands Van Inlet	9/86	53.25 132.54	SMA-1	1 g	0.010 g	EMR	Above-ground seismic vault.	bedrock

ACCELEROGRAPH SITE IN NORTHERN CANADA – 1987

LOCATION	DATE	COORD	INSTR	SENS	TRIGGER	OWNER	BUILDING	FOUNDATION
Haines Junction, Yukon Parks Canada Building	3/82	60.75 137.51	SMA-1	1 g	0.009 g	EMR	One-storey. Instrument on concrete floor slab.	alluvium

CANADIAN SEISMOLOGICAL DATA

Standard and regional station procedures

Seismograms from all stations are mailed weekly to Ottawa or the Pacific Geoscience Centre (PGC) in Sidney. On a weekly basis standard stations submit phase report sheets listing the arrival times of all P phases of teleseisms and also local earthquakes equal or greater than magnitude three. Local earthquake monthly summary sheets, seismogram log sheets and instrument and equipment log sheets are submitted from standard stations monthly. Regional stations submit only monthly seismogram log sheets, instrument and equipment log sheets. Quality control on station seismograms, data and log sheets is performed by Network staff in Ottawa or PGC prior to having the seismograms microfilmed.

Rapid Telex Data

All Canadian standard seismograph stations forward readings to Ottawa five days a week via telegraph, telecopier or inter-computer communications. These readings include P-wave onset times from most teleseisms and from local earthquakes of magnitude three or greater. If the peak-to-peak trace amplitude of a teleseismic P-wave exceeds four millimetres during the first minute, then the period and the maximum zero-to-peak ground amplitude are both reported. Selected high-gain stations telegraph periods (in seconds) and ground amplitudes (in millimicrons) for all teleseisms. This procedure was adopted to improve the determination of m_b for smaller events. Additional information, such as pP phase arrival times and P-wave first motions of teleseisms, are telegraphed when they are clearly recorded. For local earthquakes of

magnitude three or greater, the maximum trace amplitude of the S or Lg phase, and the corresponding period, are included with the P-wave arrival time in the telegraphed message. Only the P-wave arrival times from these messages are relayed to other seismological institutions.

The U.S. Geological Survey, National Earthquake Information Service (NEIS), continues to make immediate use of the Canadian P-phase data in their fast epicentre determinations. The telegraphed data from Canadian standard stations are made available with limited checking to NEIS, within 48 hours of their arrival in Ottawa. The P-wave data are stored temporarily in the departmental computer in Ottawa. These data are then accessed by NEIS using a teletype terminal and telephone lines. Copies of the telegraphed P-wave arrival data are airmailed to Britain, Sweden and the U.S.S.R. for use of seismological institutions in those countries. NEIS relays Canadian data to the International Seismological Centre for inclusion in the ISC definitive calculations.

Microfilm

Thirty-five millimetre negative microfilm rolls of Canadian seismograms from standard and some selected regional stations (WHC, BLC, SKB and LMQ) are stored in Ottawa and PGC. In addition the records from all the stations (regional and standard) are microfilmed together on a single roll for significant local events (magnitude at least 4). Copies of Canadian seismogram microfilm from January 1, 1962, to the present have been deposited with the World Data Center A for Seismology, Environmental Data Service, NOAA, Boulder, Colorado, 80302, U.S.A. Present scheduling permits film to be in the World Data Center A within four months of the current date. Microfilm of records prior to 1962 is available to cooperating institutions on request to the Head, Canadian Seismograph Network, Geophysics Division, Geological Survey of Canada, Energy, Mines and Resources Canada, 1, Obrvatory Crescent, Ottawa, Canada, K1A 0Y3.

Original seismograms

Original seismograms are normally available only to qualified Canadian research scientists, since microfilm is available at Boulder, Colorado, to all others. On special request to the Director, Geophysics Division, Geological Survey of Canada, Energy, Mines and Resources Canada, 1 Observatory Crescent, Ottawa, Canada, K1A 0Y3, original Canadian seismograms may be loaned to qualified foreign requesters. This loan, in general, can be made only after the seismograms have been photographed; this avoids undue delay in depositing complete microfilm from the Canadian Seismograph Network in the World Data Center for use of all scientists.

Original Canadian seismograms dating back to and including 1899 are stored in Ottawa.

Data management

The Seismological Data Laboratory at Ottawa maintains analogue and digital tape libraries. Analogue FM field tapes are normally recycled within a year. Long-term storage is usually in the form of edited digital event files. These libraries include event files from the Eastern and Western Canada Telemetered Networks and from the short-period Yellowknife array CANSAM processor, events recorded on the long-period digital tape system in British Columbia from August 3, 1972 until October 28, 1975, digitized and processed accelerograms from the New Brunswick and Nahanni strong-motion arrays (Weichert et al., 1982, 1986), and specialized data from limited duration field surveys or special seismograph installations. The format of these digital event files varies depending on the data, the recording method and the computer operating system, but in all cases the data can be reformatted on special request.

Special and digital data

Data and records from seismograph installations other than the standard and regional networks are available on special request to the Head, Canadian Seismograph Network, Geophysics Division, Geological Survey of Canada, Energy, Mines and Resources Canada, 1 Observatory Crescent, Ottawa, Ontario K1A 0Y3. These records and data include those produced from special or temporary seis mograph installations and all data processed in the Data Laboratory. A charge is made for accessing and copying digital data.

Canadian earthquakes

All significant earthquakes occurring in or near Canada are located by the Geological Survey of Canada in Ottawa or Sidney. A quarterly bulletin of Canadian earthquakes is produced approximately six months in arrears and distributed to cooperating institutions. An annual catalogue of Canadian earthquakes is produced for each calendar year. A composite digital tape file, the Canadian Earthquake Epicentre File, is also maintained and updated each year. All Canadian earthquake determinations with magnitude greater than three, with their associated data, are submitted to the ISC for inclusion in its bulletin.

SEISMOGRAPH STATION INSTRUMENTATION

Instrument changes during 1987

Instrument changes or calibrations were performed during 1987 at the following stations, listed in alphabetical order by their code. For any changes that resulted in more than one calibration curve being applicable during the year, the appropriate additional curves are included here. New stations are calibrated on the day of installation, unless otherwise indicated.

Bonilla (BNAB). On December 4 a Geotech short-period vertical regional type seismograph recording on a helicorder commenced continuous operation. The station was installed to improve the monitoring of seismicity in the vicinity of Queen Charlotte Sound and Hecate Strait. The station is owned by the Geological Survey of Canada and is operated under contract by B. Chandra.

Barry Inlet (BNB). From December 25, 1986, to June 5, 1987, the regional station was not in service due to lightning damage.

Eldee (EEO). The ECTN station was calibrated on June 3 and again on October 27 when the Mark I outstation was replaced with a Mark III outstation. The station was out of service from November 23 to December 4 due to a power supply failure.

Churchill (FCC). The regional station was inoperative from April 9 to 13 due to a helicorder failure.

Guysborough (GBN). The regional station was calibrated "as found" on November 18. A new pen drive amplifier with an extra high pass filter was installed and a final calibration was performed. The overall sensitivity of the seismograph was significantly improved.

Grand-Remous (GRQ). The ECTN station was calibrated on August 25.

Geraldton (GTO). The regional station was calibrated on June 12.

Halifax (HAL). The regional station was calibrated on November 10. The co-ordinates were determined more precisely at this time.

Hudson (HUO). The regional station was closed on June 4. The equipment was installed in the vicinity at a new site in Sioux Lookout, SOO, and commenced continuous operation on June 10.

Haines Junction (HYT). Operation of the seismograph had to be suspended as records had no longer been produced after October 30, 1986. The station was reopened on January 20 with a new station operator.

La Grande-3 (JCQ). The regional station was inoperative from November 19, 1987, to February 23, 1988, due to a helicorder failure.

Kapuskasing (KAO). The regional station was calibrated "as found" on June 2. The entire seismograph was replaced and a "final" calibration was performed on June 12.

La Malbaie (LMQ). The regional station was inoperative from October 22 to November 4 due to a failure in the telemetry system. There was a further loss of data from November 27 to December 5 due to a seismometer failure.

Masset (MSTB). On December 4 a Geotech short-period vertical regional type seismograph recording on a helicorder commenced continuous operation. The station was installed to improve the monitoring of seismicity in the vicinity of Queen Charlotte Sound and Hecate Strait. The station is owned by the Geological Survey of Canada and is operated under contract by B. Chandra.

Naden (NDB). On December 15 a Geotech short-period vertical regional type seismograph recording on a helicorder commenced continuous operation. The station was installed to improve the monitoring of seismicity in the vicinity of Queen Charlotte Sound and Hecate Straight. The station is owned by the Geological Survey of Canada and is operated under contract by B. Chandra.

Ottawa (OTT). From June 5, 1987, to September 6, 1988, the polarity of the calibration pulse of the long-period north-south seismograph was reversed.

Port Clements (PCB). On December 15 a Geotech short-period vertical regional type seismograph recording on a helicorder commenced continuous operation. The station was installed to improve the monitoring of seismicity in the vicinity of Queen Charlotte Sound and Hecate Straight. The station is owned by the Geological Survey of Canada and is operated under contract by B. Chandra.

Port Hardy (PHC). On September 23 the standard station was closed permanently and the seismographs were calibrated "as found". On December 10 a short-period vertical Regional Modular Seismograph commenced continuous operation. The location of the seismometer remains the same and the signal is telemetered by telephone to produce an analogue record on a helicorder located in Port Hardy.

Sherbrooke (SBQ). The ECTN station was fitted with a Mark III outstation on December 14. The outstation had been calibrated in Ottawa on December 12.

Schefferville (SCH). The standard station was closed for calibration and maintenance from June 10 to 15. The "as found" calibrations agreed very well with the previous 1983 calibrations with the exception of the short-period north-south seismograph. This component was slightly higher in overall sensitivity and its galvanometer was replaced. The three short-period components were adjusted slightly and "final" calibrations were performed with the seismograph responses more closely matched. The sensitivity of the long-period north-south seismograph was raised slightly to more closely match the responses of the other long-period components.

Sept-Îles (SIC). The regional station was inoperative from April 2 to 14 due to a telemetry failure. The regional station was closed for calibration and maintenance from June 8 to 10. There was a further loss of recording from December 17, 1987, to to January 22, 1988, due to a seismometer failure.

Sioux Lookout (SOO). A short-period Regional Modular Seismograph commenced continuous operation at Sioux Lookout, Ontario, on June 10. This site replaces the station at Hudson (HUO), Ontario, which closed on June 4.

St. John's (STJ). The standard station was closed for calibration and maintenance from November 11 to 15. The "as found" calibrations were very similar to the 1983 calibrations and all the seismographs were left as found. The co-ordinates were determined more precisely at this time.

Sachs Harbour (SXT). On October 2 the regional station's recorder was relocated and a telephone telemetry link was added. The station was calibrated and the effect of the telemetry link is reflected in the new calibration curve.

Thunder Bay (TBO). On January 23 a short-period Regional Modular Seismograph station commenced continuous operation near Thunder Bay, Ontario. The station is operated by Atomic Energy of Canada Limited and was installed to improve seismic monitoring in northern Ontario. The regional station was calibrated on June 11 "as found". A new pen drive amplifier with an extra high pass filter was installed and a "final" calibration was performed. The overall sensitivity of the seismograph was significantly improved.

Mont-Tremblant (TRQ). The ECTN station was calibrated on August 13.

Fredericton (UNB). The regional station was calibrated on November 9. The co-ordinates were determined more precisely at that time.

Van Inlet (VIB). From November 19, 1986, to September 17, 1987, the regional station was not in service due to lightning damage. There was a further loss of recording due to lightning from November 27 to December 30.

Yellowknife (YKC). The standard station was converted from photographic recording to visual recording in 1987. The last short-period photographic records were recorded on February 10. On February 11 the short-period analogue signals, produced by Geotech S-13 seismometers and driving Geotech As-420 preamplifiers and GSC pen drive amplifiers, were recorded on helicorders. The last photographic long-period records were recorded on July 20. The long-period analogue signals, produced by Geotech SL-210/220 seismometers and driving Geotech AS-620 preamplifiers and GSC pen drive amplifiers, were recorded on helicorders starting that day.

Calibration curves

Calibration curves for all permanent seismograph stations, listed alphabetically by station code, are given on the following pages. The curves for the photographic seismographs were obtained by application of the Willmore bridge method on site (Willmore, 1959). Telemetered and regional stations are usually calibrated in situ. Theoretical or calculated response curves are shown by dashed lines while dots represent values measured in situ. Magnification and acceleration sensitivity of any seismograph are determined from the curves by multiplying the velocity sensitivity by $2\pi/T$ and $T/2\pi$, respectively.

The calibration sheets give the periods of the seismometers and galvanometers, the filter frequencies, and other information such as the station co-ordinates, altitude, geological formation and date of calibration. Where the seismograph uses electronic amplification, the calibration curves indicate the preamplifier and amplifier settings and also, where applicable, the preamplifier mode of operation-either constant magnification (MAG) or constant velocity sensitivity (VEL). Response curves for computer-produced monitor records give a computer (Monitor) gain factor.

PERSONNEL

During 1987, R.J. Halliday was in charge of the operation of the Canadian Seismograph Network and was assisted in quality control and in network and data management by W.E. Shannon and D.R.J. Schieman in Ottawa and by D.H. Weichert, R.B. Horner, G.C. Rogers and M. Wilde at the Pacific Geoscience Centre. P.S. Munro was responsible for station maintenance and calibration of CSN stations and also of the eastern strong-motion network.

Research and development of ECTN, WCTN and other instrument systems is done in the Ottawa Seismological Instrumentation Laboratory under the direction of D. Trigg. In particular, F. Andersen has been respon sible for the design of ECTN/WCTN outstation hardware and software. J. Thomas has been responsible for the construction, deployment, overhaul and repair of all instrumentation systems.

In the Ottawa Datalab J.A. Lyons has been responsible for ECTN/WCTN software development. W.E. Shannon and D. Higgs have been responsible for the daily ECTN operation. A. Vesa looked after hardware maintenance of the datalab equipment until his retirement in March.

At the Pacific Geoscience Centre M. Bone has overall responsibility for instrumentation; he was assisted by A. Whitford. R. Baldwin and M. Gregory have been responsible for the daily WCTN operation.

REFERENCES

Hayman, R.B., Basham, P.W., Wetmiller, R.J., Lyons, J.A., Munro, P.S., and Kollar, F.
1985: Canadian Seismic Agreement; Final report NRC-04-79-180 for the U.S. Nuclear Regulatory Commission, Washington, D.C., 31 March 1985.

Lombardo, F., Shannon, W.E., Halliday, R.J., and Schieman, D.
1977: Canadian seismograph operations – 1976. Earth Physics Branch Seismo logical Series No. 78, 58 p, 1977.

Lyons, J.A.
1980: Overview of the proposed LSI-11 Front End Processor System (ECTN Mark III); Seismological Service of Canada, Internal Report 80-9.

Lyons, J.A.
1988: Canadian Digital Telemetered Seismic Networks. Central Acquisition System, Version 4.1; Geophysics Division, Geological Survey of Canada, Internal Report 88-3, 65 p, 1988.

Lyons, J.A. and Vesa, A.
1981: The ECTN Mark III (LSI-11 Front End) System; Seismological Service of Canada, Internal Report 81-5.

Manchee, E.B. and Somers, H.
1966: The Yellowknife seismological array; Publications of the Dominion Observatory., Number 32, p. 69-84.

Manchee, E.B. and Hayman, R.B.
1972: The radio telemetry installation at the Yellowknife seismic array; Publication of the Earth Physics Branch., Number 43, p. 505-526.

Weichert, D.H.
1985: New Brunswick strong ground motion records; Physics of the Earth and Planetary Interiors, Number 38, p. 83-91.

Weichert, D.H. and Henger, M.
1976: The Canadian Seismic Array Monitor Processing System (CANSAM); Bulletin of the Seismological Socciety of America., number 66, p. 1381-1403.

Weichert, D.H. and Milne, W.G.
1980: Canadian strong-motion records; Earth Physics Branch, Open File 80-1, 22 p.

Weichert, D.H., Pomeroy,P.W., Munro, P.S., and Mork, P.N.
1982: Strong motion records from Miramichi, New Brunswick, 1982 Aftershocks. Earth Physics Branch, Open File 82-31, 12 p.

Weichert, D.H., Wetmiller, R.J., Horner, R.B. Munro, P.S., and Mork, P.N.
1986: Strong motion records from the 23 December 1985, Ms 6.9 Nahanni, N.W.T., and some associated earthquakes; Geological Survey of Canada, Open File 1330.

Weichert, D.H. and Munro, P.S.
1987: Canadian strong motion seismograph networks; Proceedings, Fifth Canadian conference on earthquake engineering, 6-8 July 1987, Ottawa.

Wetmiller, R.J., Lyons, J.A., Shannon, W.E., Munro, P.S., Thomas, J.T., Andrew, M.D., Lamontagne M., and Drysdale, J.A.
1986: Canadian Seismic Agreement. Annual report NRC-04-85-110 for the U.S. Nuclear Regulatory Commission, Washington, D.C., 30 June 1986.

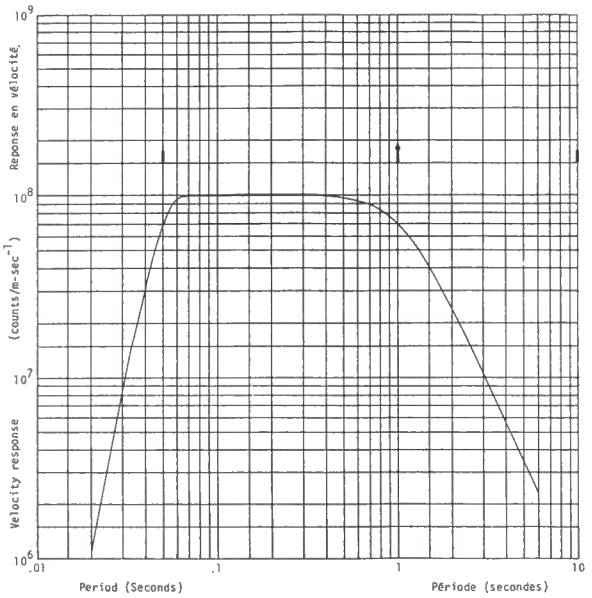
Wetmiller, R.J., Basham, P.W., Weichert, D.H., and Evans, S.G.
1987: The 1985 Nahanni earthquakes: problems for seismic hazard estimates in the northeast Canadian Cordillera; Proceedings, Fifth Canadian conference on earthquake engineering, 6-8 July 1987, Ottawa.

Willmore, P.L.
1959: The application of the Maxwell impedance bridge to the calibration of electromagnetic seismographs; Bulletin of the Siesmological Society of America, 49, p. 99-114.

CALIBRATION CURVES

Curve represents theoretical velocity response to digital output.
La courbe représente la vélocite théorique en reponse à un signal de sortie numerique.

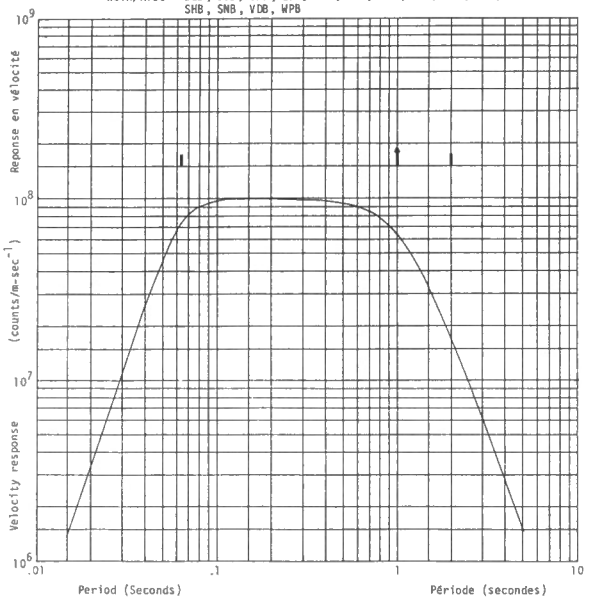
STATIONS: ECTN/RTEC - GNT,MNQ,MNT,OTT
WCTN/RTOC - ALB,PGC,VGZ,WHB



Filter frequencies are indicated by vertical bars. (▮)
Les barres verticales indiquent les fréquences des filtres.

Curve represents theoretical velocity response to digital output.
La courbe représente la vélocite théorique en reponse à un signal de sortie numerique.

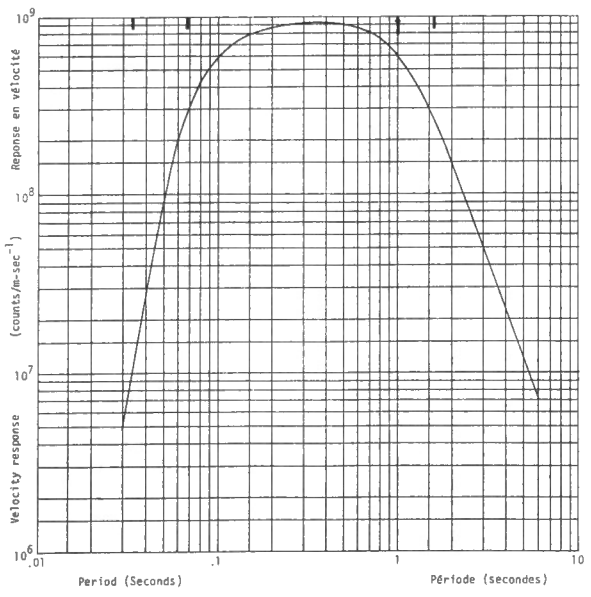
STATIONS: ECTN/RTEC - CKO, EBN, GGN, GRQ, GSQ, HTQ, JAQ, KLN, LMN, LPQ, TRQ, WBO, WEO
WCTN/RTOC - BIB, BTB, CBB, EDB, ETB, HNB, MGB, NAB, OZB, PFB, SHB, SNB, VDB, WPB



Filter frequencies are indicated by vertical bars. (▮)
Les barres verticales indiquent les fréquences des filtres.

Curve represents theoretical velocity response to digital output.
La courbe représente la vélocite théorique en reponse à un signal de sortie numerique.

STATIONS: ECTN/RTEC - EEO, SBQ, SUO, SWO, SZO



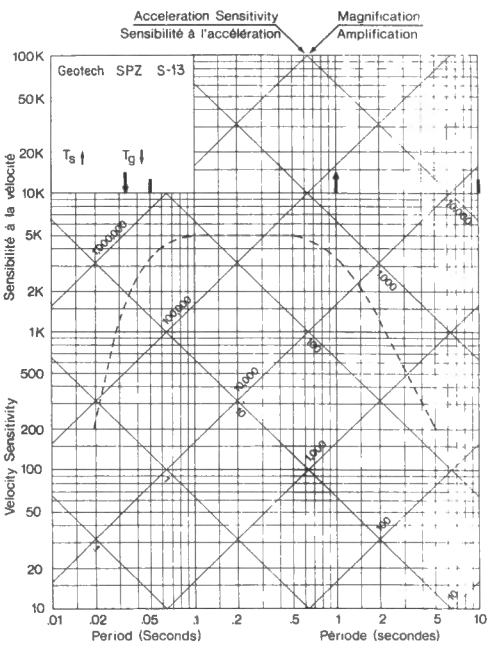
Filter frequencies are indicated by vertical bars. (▮)
Les barres verticales indiquent les fréquences des filtres.

STATION ALBERNI, B.C. / C.B. (WCTN / RTOC) (ALB)

Φ = 49° 16'18" N λ = 124° 49'48" W/O Altitude 25m

Geological Structure: Basic volcanic rock

Formation géologique: Roches de base volcaniques



Date of Calibration: February 7, 1980
La date de calibrage: le 7 février, 1980

Filter frequencies are indicated by vertical bars. (▮)
Les barres verticales indiquent les fréquences de filtres. (▮)

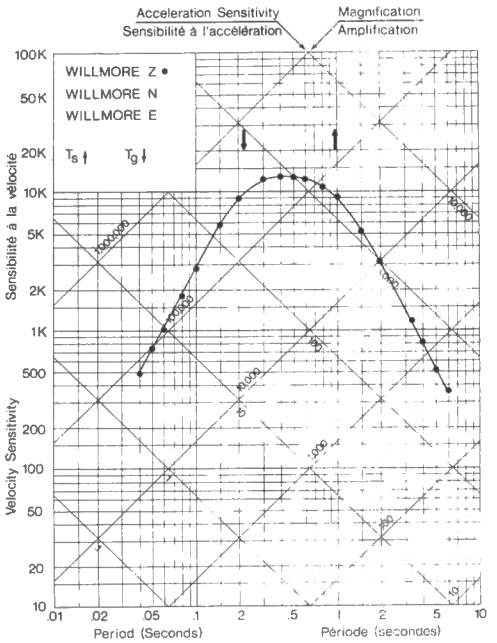
Mon: 1; Amp: 1 cm/v

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2'N λ= 62° 21.0'W/O Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



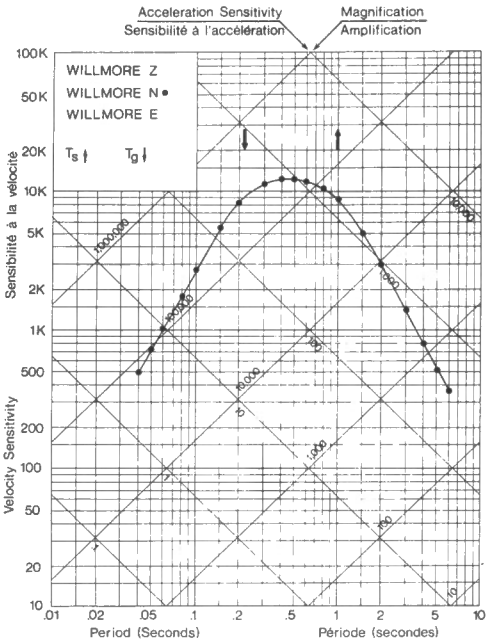
Date of Calibration 21 November, 1986
La date de calibrage le 21 novembre 1986
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2'N λ= 62° 21.0'W/O Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



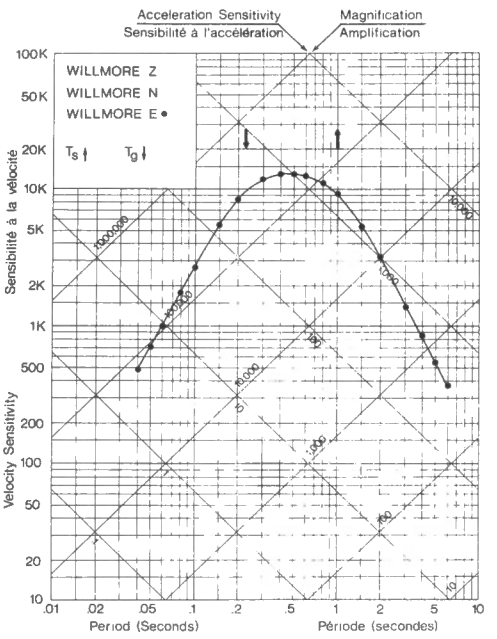
Date of Calibration 21 November, 1986
La date de calibrage le 21 novembre 1986
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2'N λ= 62° 21.0'W/O Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



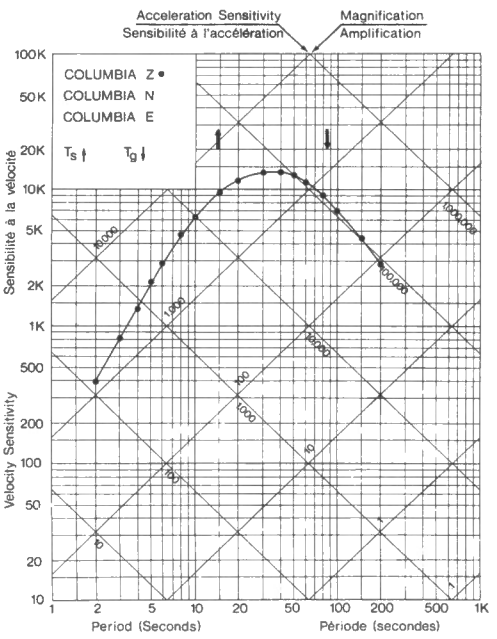
Date of Calibration 21 November, 1986
La date de calibrage le 21 novembre 1986
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2 λ= 62° 21.0 Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



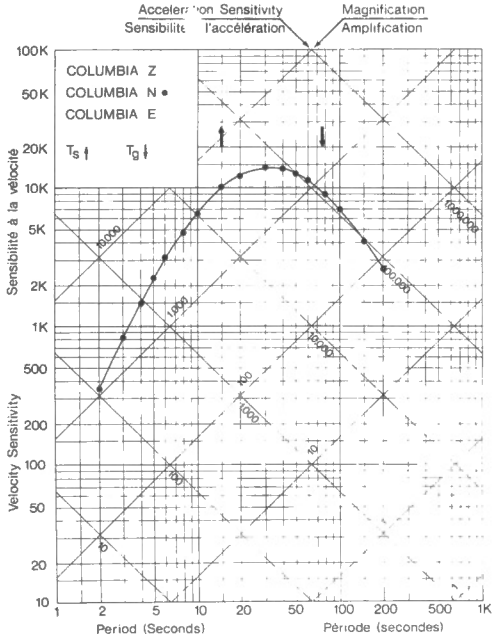
Date of Calibration 22 November, 1986
La date de calibrage le 22 novembre 1986
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2'N λ= 62° 21.0'W/O Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



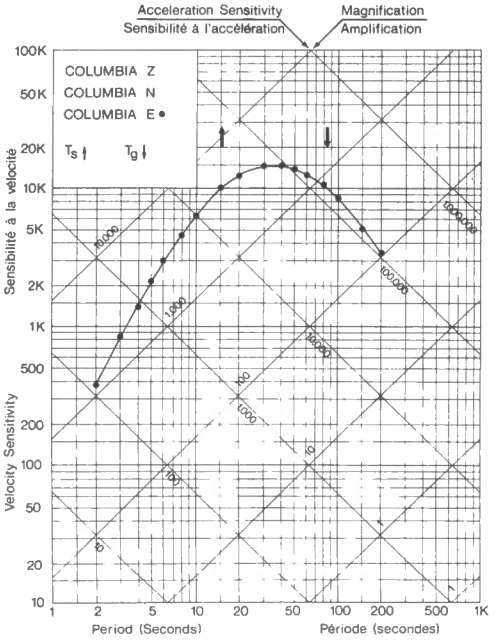
Date of Calibration 23 November, 1986
La date de calibrage le 23 novembre 1986
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION ALERT, N.W.T./T.N.-O. (ALE)
(As found and left/tel que trouvé et laissé)

Φ= 82° 30.2'N λ= 62° 21.0'W/O Altitude 65 m

Geological Structure: Permanently frozen glacial debris overlying Paleozoic limestone

Formation géologique: Débris glaciaires gelés en permanence et qui reposent sur du calcaire paléozoique



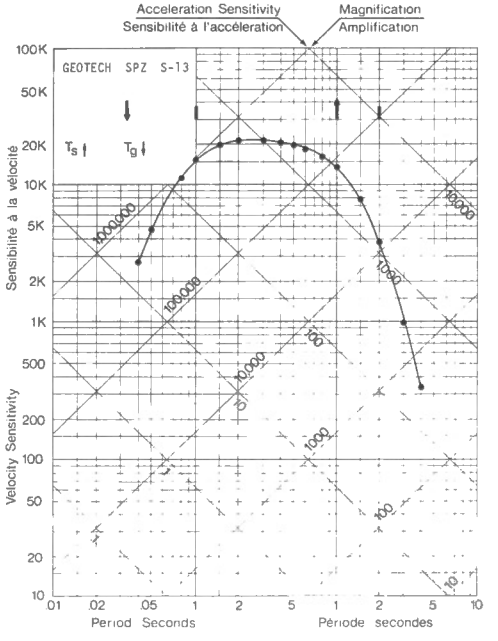
Date of Calibration 23 November, 1986
La date de calibrage le 23 novembre 1986
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION BAKER LAKE, N.W.T./T.N.-O. (BLC)

Φ= 64° 19'N λ= 96° 01'W/O Altitude 16m

Foundation: Granite Gneiss

Fondation: Gneiss granitique



Dates of Calibration 5 June, 1984
Les dates de calibration le 5 juin 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

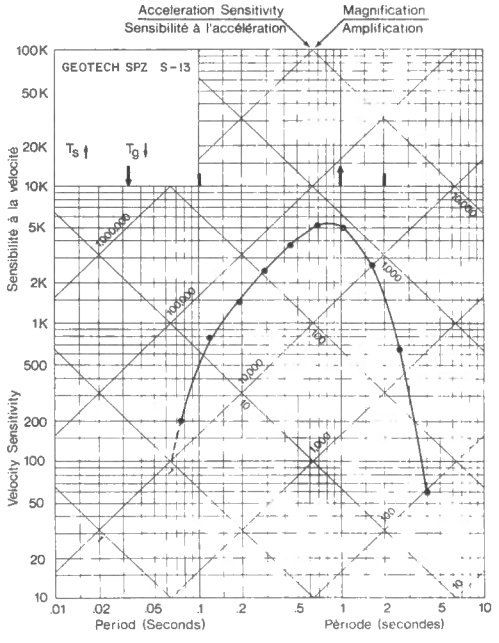
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION BIG MUDDY, SASK. (BMS)

Φ= 49° 12.7'N λ=104° 47.6'W/O Altitude 700m

Geological Structure: Paleocene sandstone, Ravenscrag formation

Formation géologique: Grès du paléocène, formation de Ravenscrag



Date of Calibration January 9, 1979
La date de calibrage le 9 janvier 1979

Filter frequencies are indicated by vertical bars (|)
Les barres verticales indiquent les fréquences des filtres.

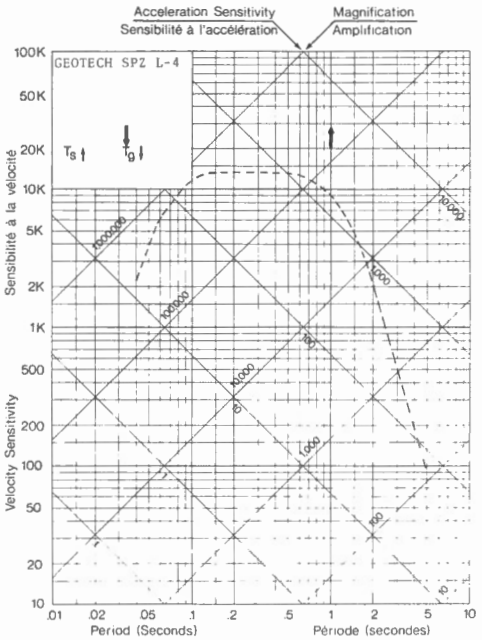
Mode Mag, Preamp: 05, Amp: 1cm/v

STATION DEASE LAKE, B.C./C.-B. (DLB)

Φ• 58°25.6'N λ• 130°03.6'W/O Altitude 1210m

Geological Structure:

Formation géologique:



Date of Calibration October 7, 1981
La date de calibrage le 7 octobre 1981

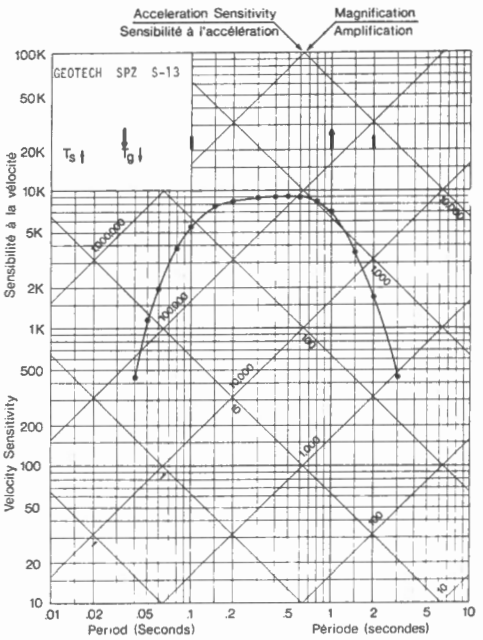
Gain 78dB

STATION DAWSON CITY, Y.T./T.Y. (DWY)
(Final)

Φ• 64° 03.2'N λ• 139° 25.9'W/O Altitude 346 m

Geological Structure:

Formation géologique:



Date of Calibration: 30 June, 1985
La date de calibrage le 30 juin 1985

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

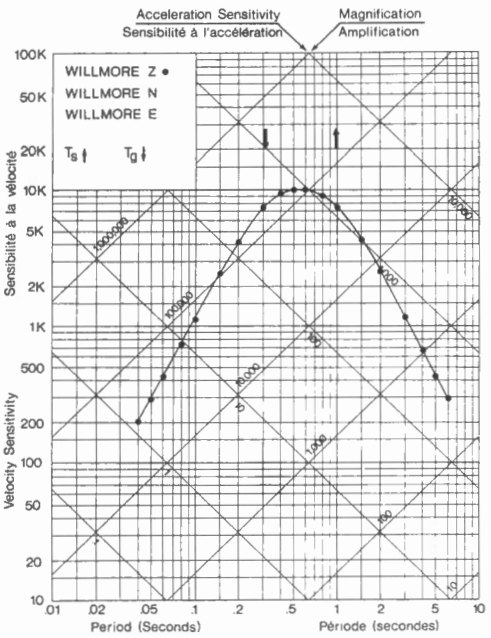
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION EDMONTON, ALTA. (EDM)
(Final)

Φ• 53° 13.3'N λ• 113° 21.0'W/O Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



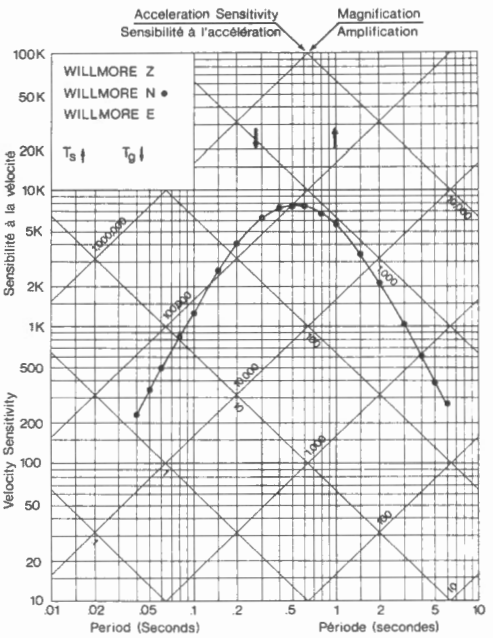
Date of Calibration 6 February, 1984
La date de calibrage le 6 février 1984
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION EDMONTON, ALTA. (EDM)
(As found and left/tel que trouvé et laissé)

Φ• 53° 13.3'N λ• 113° 21.0'W/O Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



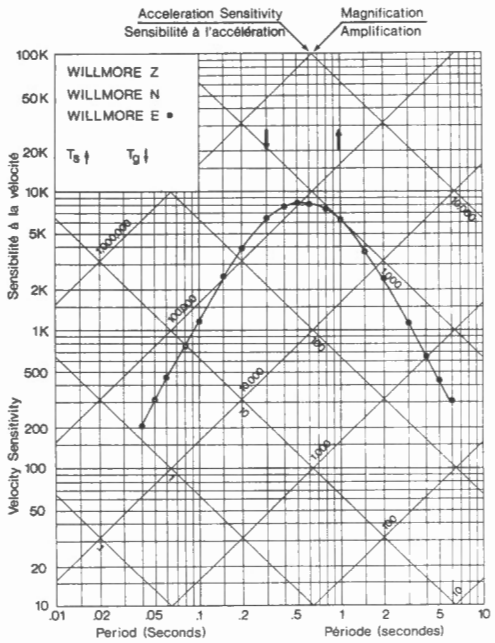
Date of Calibration: 6 February, 1984
La date de calibrage: le 6 février 1984
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION EDMONTON, ALTA. (EDM)
(Final)

Φ= 53° 13.3'N λ= 113° 21.0'W/0 Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



Date of Calibration: 6 February, 1984
La date de calibrage: le 6 février 1984

WILLMORE Z

WILLMORE N

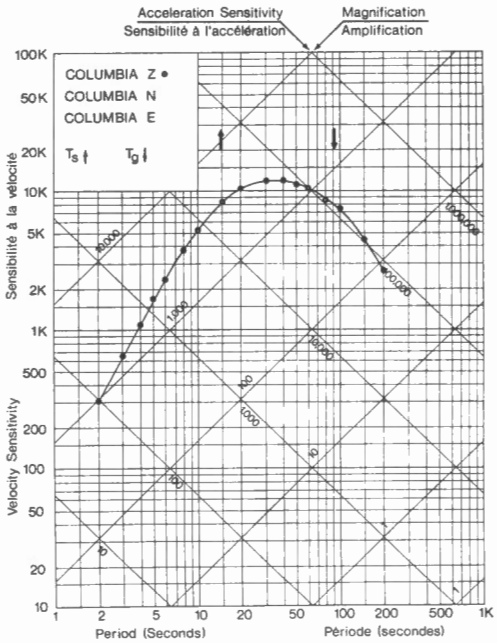
WILLMORE E •

STATION EDMONTON, ALTA. (EDM)
(As found and left/tel que trouvé et laissé)

Φ= 53° 13.3'N λ= 113° 21.0'W/0 Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



Date of Calibration 6 February, 1984
La date de calibrage le 6 février 1984

COLUMBIA Z •

COLUMBIA N

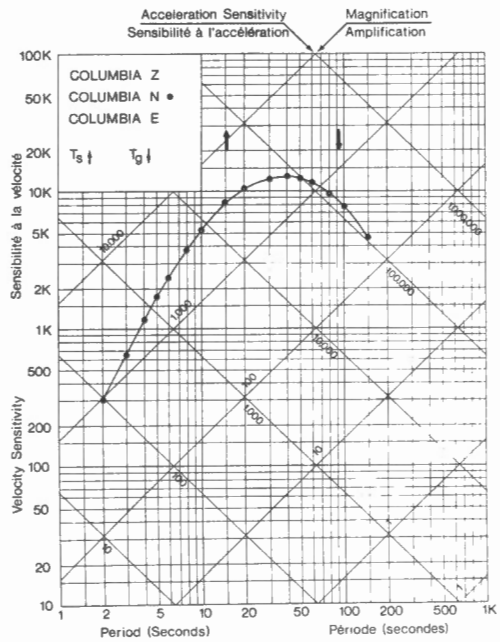
COLUMBIA E

STATION EDMONTON, ALTA. (EDM)
(Final)

Φ= 53° 13.3'N λ= 113° 21.0'W/0 Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



Date of Calibration 7 February, 1984
La date de calibrage le 7 février 1984

COLUMBIA Z

COLUMBIA N •

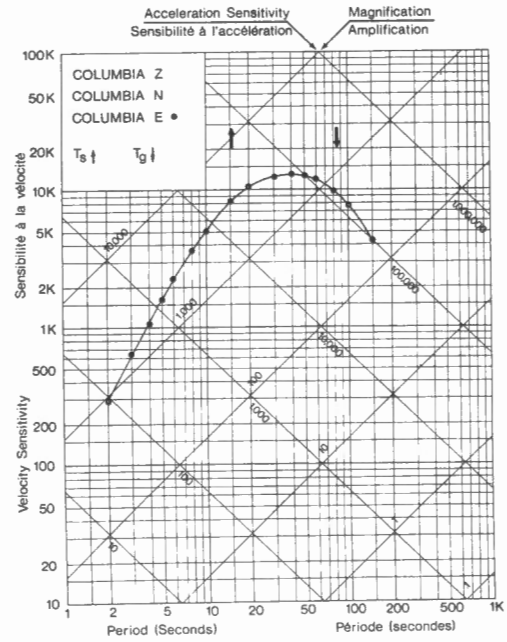
COLUMBIA E

STATION EDMONTON, ALTA. (EDM)
(As found and left/tel que trouvé et laissé)

Φ= 53° 13.3'N λ= 113° 21.0'W/0 Altitude 730m

Geological Structure: Unconsolidated shales, Edmonton formation

Formation géologique: Argiles litées meubles, formation d'Edmonton



Date of Calibration 8 February, 1984
La date de calibrage le 8 février 1984

COLUMBIA Z

COLUMBIA N

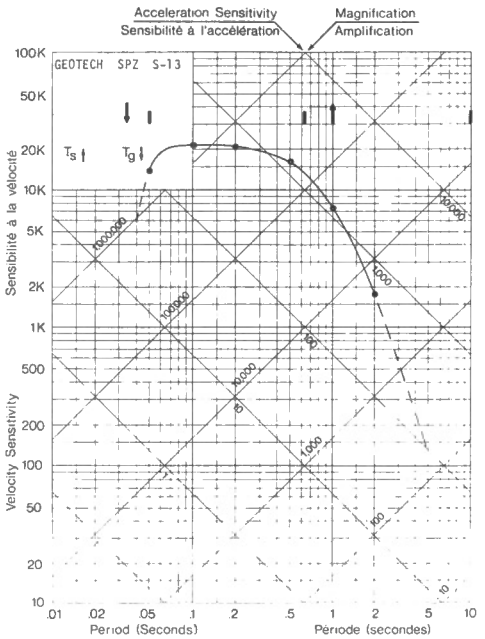
COLUMBIA E •

STATION ELDEE, ONT. (EEO)

Φ= 46° 38.47'N λ= 79° 04.40'W/0 Altitude 398 m

Geological Structure:

Formation géologique:



Date of Calibration 7 November, 1984
La date de calibrage le 7 novembre 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

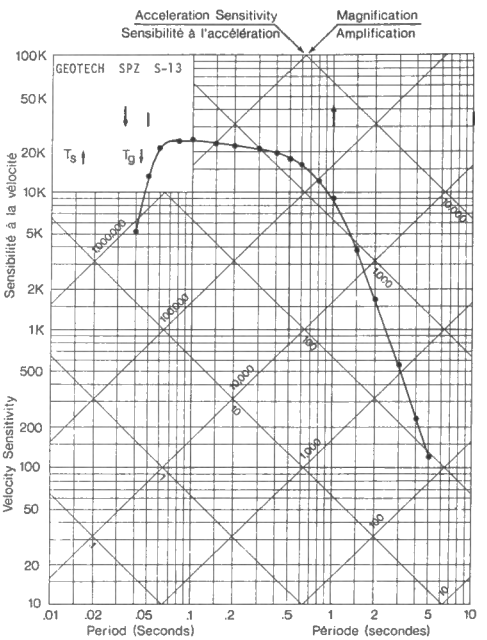
Button/bouton: 2, Amp: 1 cm/v

STATION ELDEE, ONT. (EEO)
(As found/tel que trouvé)

Φ= 46° 38.47'N λ= 79° 04.40'W/0 Altitude 398 m

Geological Structure:

Formation géologique:



Date of Calibration 27 October, 1987.
La date de calibrage le 27 octobre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres vericales indiquent les fréquences des filtres.

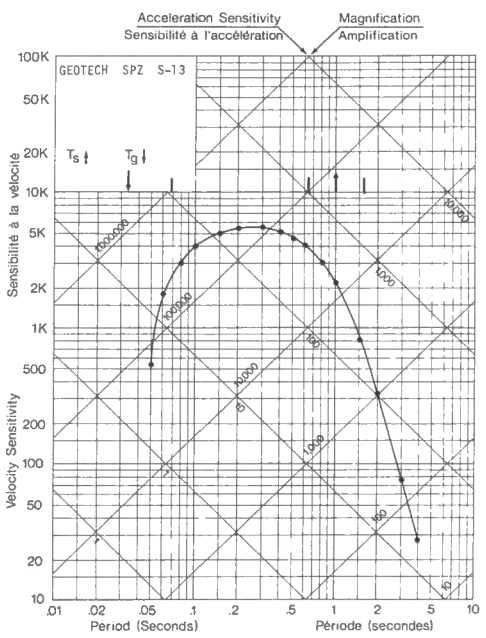
Monitor: 3, Amp: 1 cm/v

STATION ELDEE, ONT. (EEO)
(Final)

Φ= 46° 38.47'N λ= 79° 04.40'W/0 Altitude 398 m

Geological Structure:

Formation géologique:



Date of Calibration 27 October, 1987.
La date de calibrage le 27 octobre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

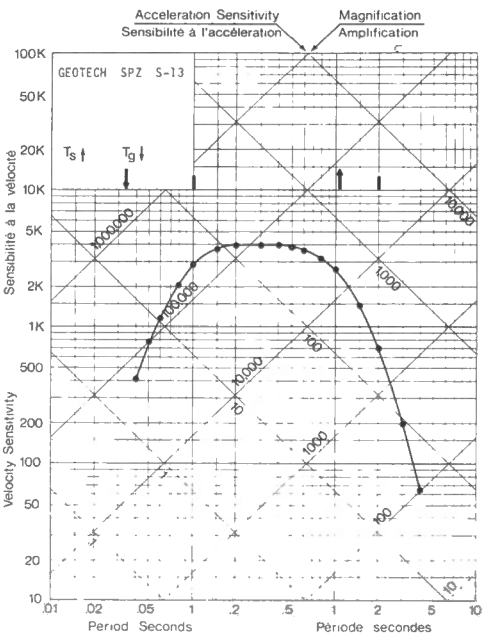
Monitor: 1, Amp: 1 cm/v

STATION EFFINGHAM, ONT. (EFO)
(Final)

Φ= 43° 05.5'N λ= 79° 18.7'W/0 Altitude 168m

Foundation: Calcareous dolomite

Fondation: Dolomite calcaire



Dates of Calibration 31 October, 1983
Les dates de calibration le 31 octobre 1983

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

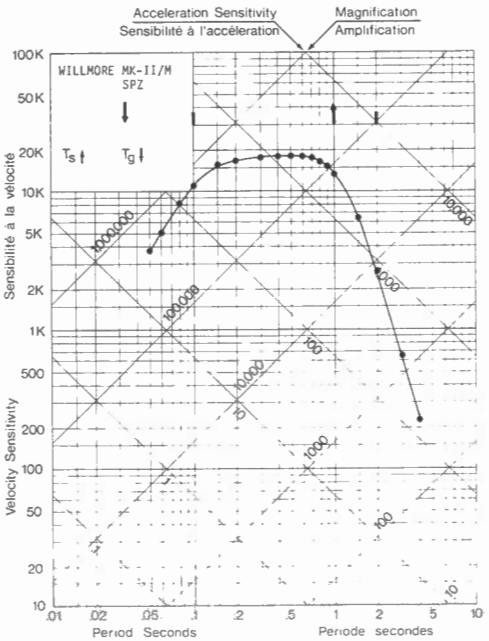
Mode: Vel, Preamp: 04, Amp: 1cm/v

STATION FORT CHURCHILL, MAN. (FCC)

Φ= 58° 45.7'N λ= 94° 05.2'W/O Altitude 39m

Foundation: Precambrian sediments and volcanic rocks

Fondation: Sédiments précambriens et roches volcaniques



Dates of Calibration: 10 June, 1984
Les dates de calibration le 10 juin 1984

Filter frequencies are indicated by vertical bars. (❙)
Les barres verticales indiquent les fréquences des filtres.

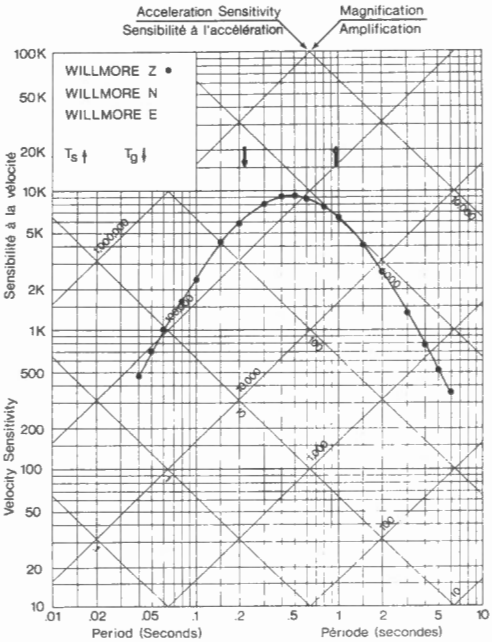
Preamp: Att. 24, Sep. 30; Amp: 1 cm/v

STATION FLIN FLON, MAN. (FFC)
(As found and left/tel que trouvé et laissé)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



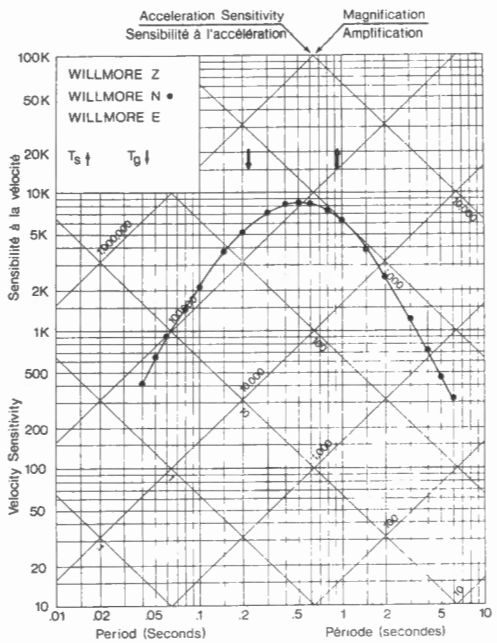
Date of Calibration 29 May, 1984
La date de calibrage le 29 mai 1984
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION FLIN FLON, MAN. (FFC)
(As found and left/tel que trouvé et laissé)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



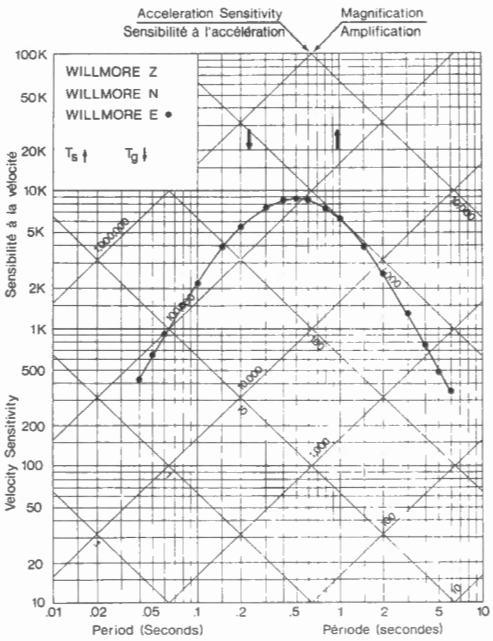
Date of Calibration 29 May, 1984
La date de calibrage le 29 mai 1984
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION FLIN FLON, MAN. (FFC)
(As found and left/tel que trouvé et laissé)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



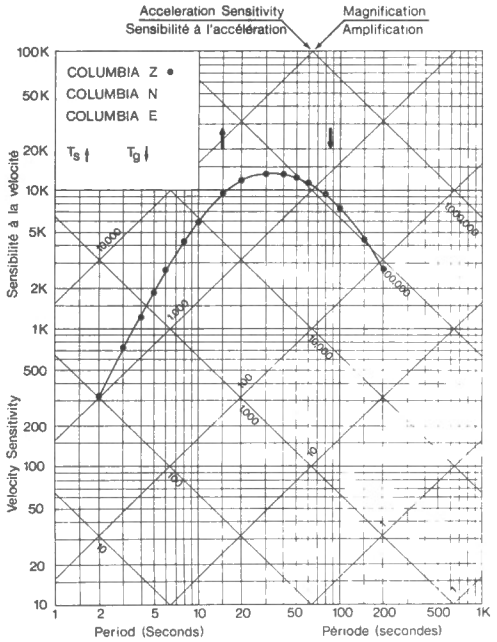
Date of Calibration 30 May, 1984
La date de calibrage le 30 mai 1984
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION FLIN FLON, MAN. (FFC)
(As found and left/tel que trouvé et laissé)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



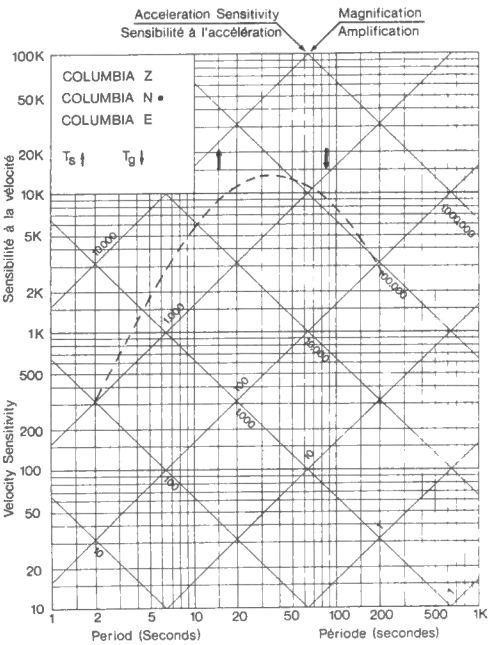
Date of Calibration 30 May, 1984
La date de calibrage le 30 mai 1984
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION FLIN FLON, MAN. (FFC)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338 m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



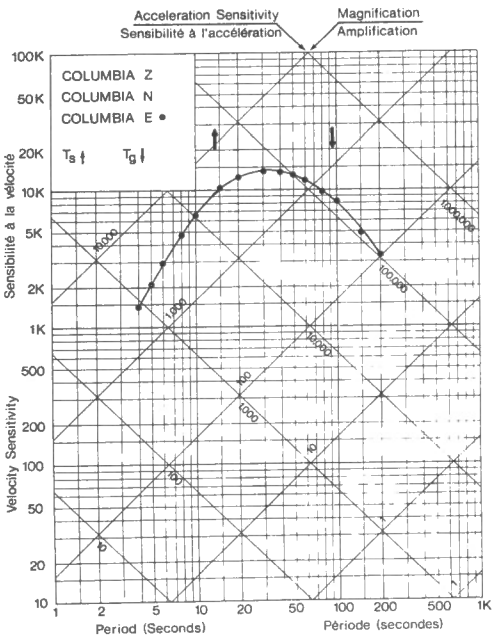
Date of Calibration: 27 November, 1986
La date de calibrage: le 27 novembre 1986
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION FLIN FLON, MAN. (FFC)
(As found and left/tel que trouvé et laissé)

Φ= 54° 43.5'N λ= 101° 58.7'W/O Altitude 338m

Geological Structure: Granite Gneiss

Formation géologique: Gneiss granitique



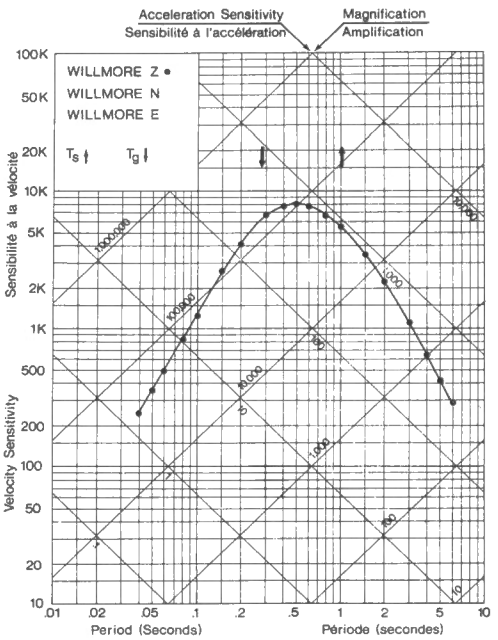
Date of Calibration 31 May, 1984
La date de calibrage le 31 mai 1984
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION IQALUIT, N.W.T./T.N.-O. (FRB)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



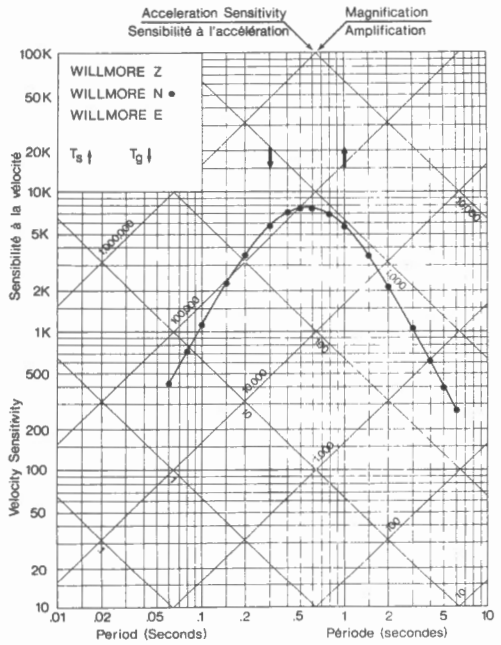
Date of Calibration: 20 August, 1985
La date de calibrage: le 20 août 1985
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION IQALUIT, N.W.T./T.N.-O. (FRB)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



Date of Calibration: 20 August, 1985
La date de calibrage le 20 août 1985

WILLMORE Z

WILLMORE N •

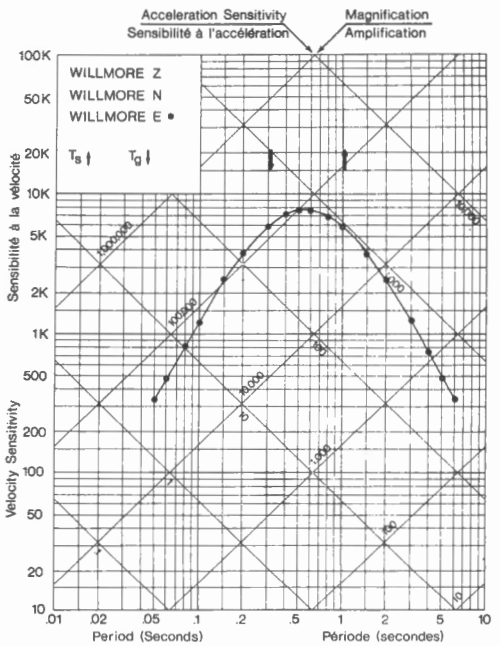
WILLMORE E

STATION IQALUIT, N.W.T./T.N.-O. (FRB)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



Date of Calibration: 20 August, 1985
La date de calibrage le 20 août 1985

WILLMORE Z

WILLMORE N

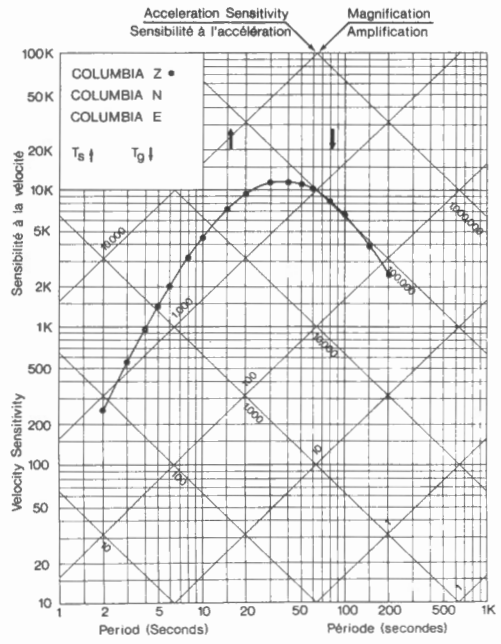
WILLMORE E •

STATION IQALUIT, N.W.T./T.N.-O. (FRB)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



Date of Calibration: 21 August, 1985
La date de calibrage le 21 août 1985

COLUMBIA Z •

COLUMBIA N

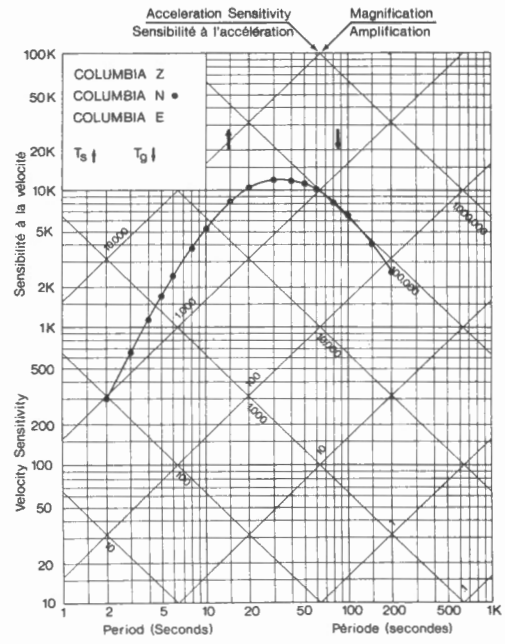
COLUMBIA E

STATION IQALUIT, N.W.T./T.N.-O. (FRB)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



Date of Calibration: 21 August, 1985
La date de calibrage le 21 août 1985

COLUMBIA Z

COLUMBIA N •

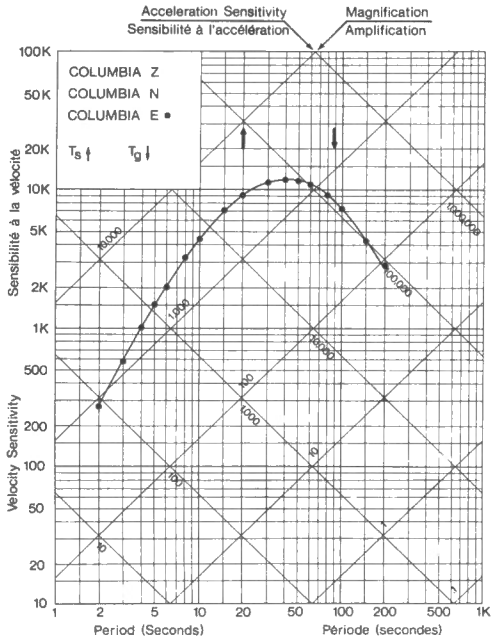
COLUMBIA E

STATION IQALUIT, N.W.T./T.N.-O. (FR8)
(As found and left/tel que trouvé et laissé)

Φ= 63° 44.8'N λ= 68° 32.0'W/O Altitude 18m

Geological Structure: Precambrian metamorphic rock

Formation géologique: Roches précambriennes métamorphiques



Date of Calibration: 25 August, 1985
La date de calibrage le 25 août 1985

COLUMBIA Z

COLUMBIA N

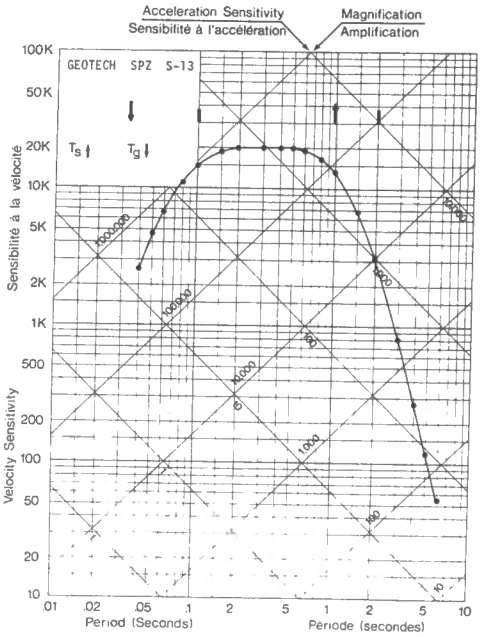
COLUMBIA E •

STATION FORT ST. JAMES, B.C./C.-B. (FS8)
(As found and left/tel que trouvé et laissé)

Φ= 54° 28.6'N λ= 124° 19.7'W/O Altitude 747 m

Geological Structure: Paleozoic limestone

Formation géologique: Calcaire paléozoique



Date of Calibration 22 August, 1986
La date de calibrage le 22 août 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des flitres.

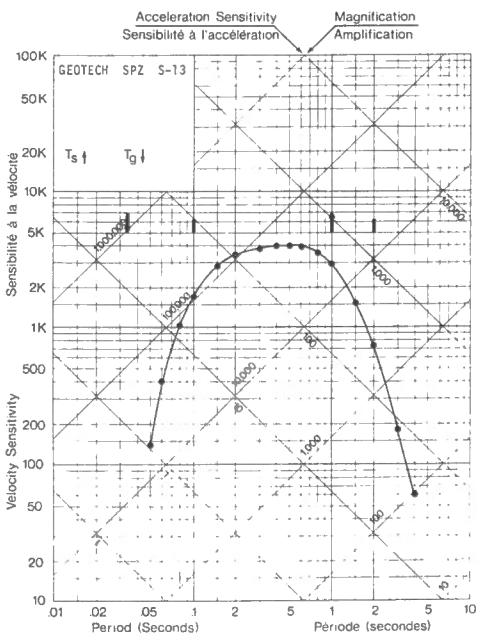
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION FORT SIMPSON,N.W.T./T.N.-O. (FST)

Φ= 61.840° N λ= 121.275° W/O Altitude 175 m

Geological Structure:

Formation géologique:



Date of Calibration 8 January, 1986
La date de calibrage le 8 janvier 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

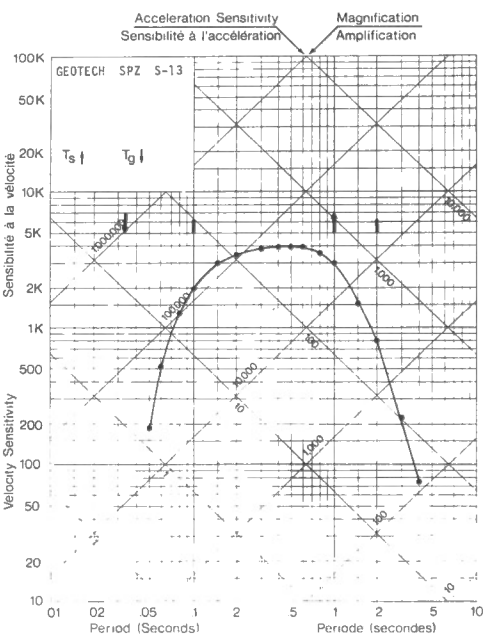
Mode: Vel, Preamp: 04, Amp: 1 cm/v

STATION FORT SIMPSON, N.W.T./T.N.-O. (FST)

Φ= 61.840° N λ= 121.275° W/O Altitude 175 m

Geological Structure:

Formation géologique:



Date of Calibration 30 March, 1987
La date de calibrage le 30 mars 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

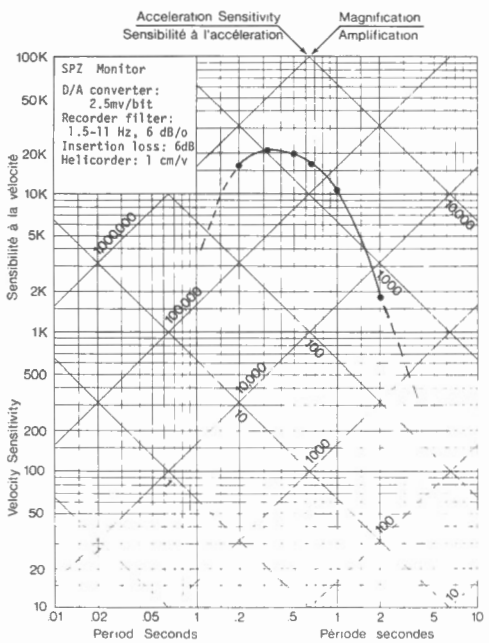
Mode: Vel, Preamp: 04, Amp: 1 cm/v

STATION GLEN ALMOND, QUE. (GAC)

Φ= 45° 42.2'N λ= 75° 28.7'W/O Altitude 62m

Foundation: Granite

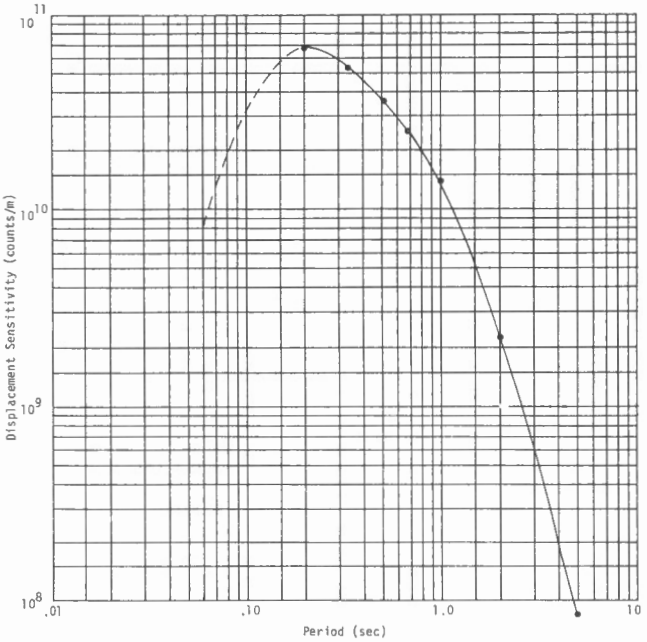
Fondation: Granite



Dates of Calibration: 6 June, 1983
Les dates de calibration: le 6 juin 1983

STATION: GLEN ALMOND, QUE. (GAC)

Geotech 36000 borehole seismometer with EPB short period filter
EPB anti-alias filter: 8 Hz, 18dB/oct.; 30 samples/sec



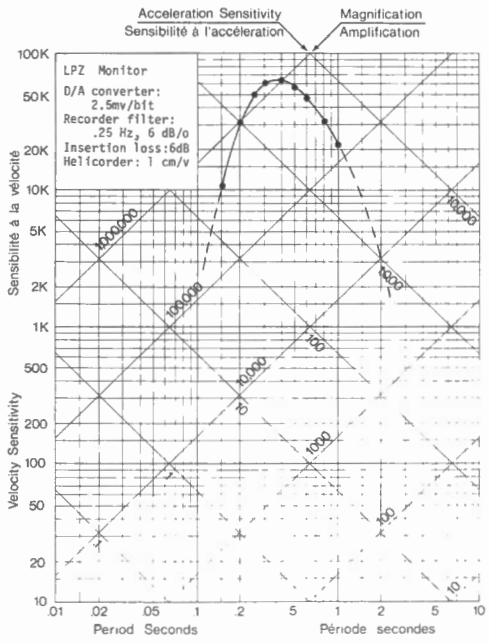
Date of calibration: 6 June, 1983
La date de calibrage: le 6 juin 1983

STATION GLEN ALMOND, QUE. (GAC)

Φ= 45° 42.2'N λ= 75° 28.7'W/O Altitude 62m

Foundation: Granite

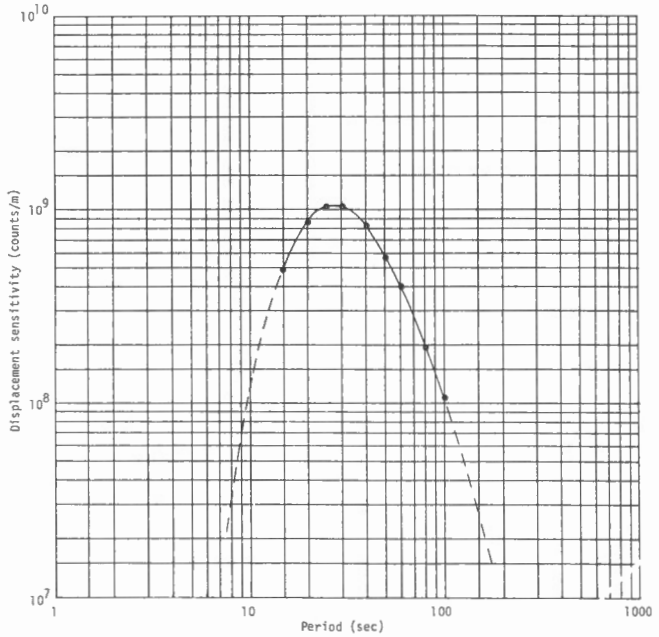
Fondation: Granite



Dates of Calibration: 6 June, 1983
Les dates de calibration le 6 juin 1983

STATION: GLEN ALMOND, QUE. (GAC)

Geotech 36000 borehole seismometer with Geotech long period filter
EPB anti-alias filter: 0.125 Hz, 18 dN/octave, 1 sample/sec



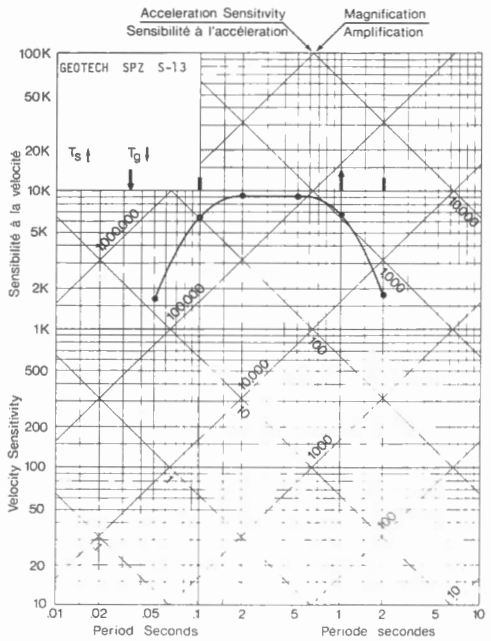
Date of calibration: 6 June, 1983
La date de calibrage: le 6 juin 1983

STATION GUYSBOROUGH, N.S./N.E. (GBN)

Φ= 45° 24.4'N λ= 61° 30.8'W/0 Altitude 38m

Foundation:

Fondation:



Dates of Calibration: 24 June, 1983
Les dates de calibration: le 24 juin 1983

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

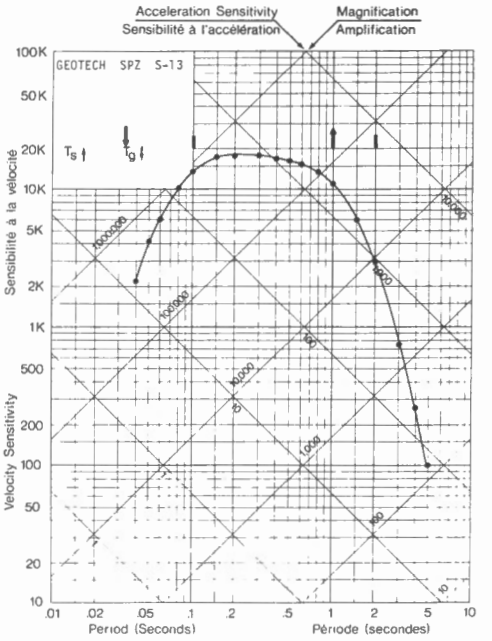
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION GUYSBOROUGH, N.S./N.E. (GBN)
(As found/tel que trouvé)

Φ= 45° 24.4'N λ= 61° 30.8'W/0 Altitude 38 m

Geological Structure:

Formation géologique:



Date of Calibration: 18 November, 1987
La date de calibrage: le 18 novembre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

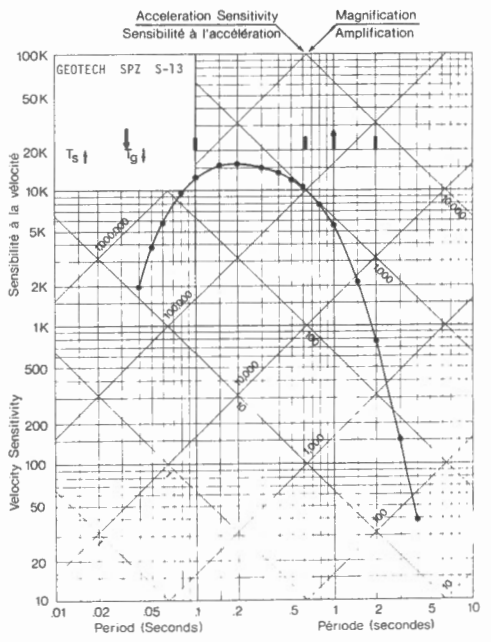
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION GUYSBOROUGH, N.S./N.E. (GBN)
(Final)

Φ= 45° 24.4'N λ= 61° 30.8'W/0 Altitude 38 m

Geological Structure:

Formation géologique:



Date of Calibration: 18 November, 1987
La date de calibrage: le 18 novembre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

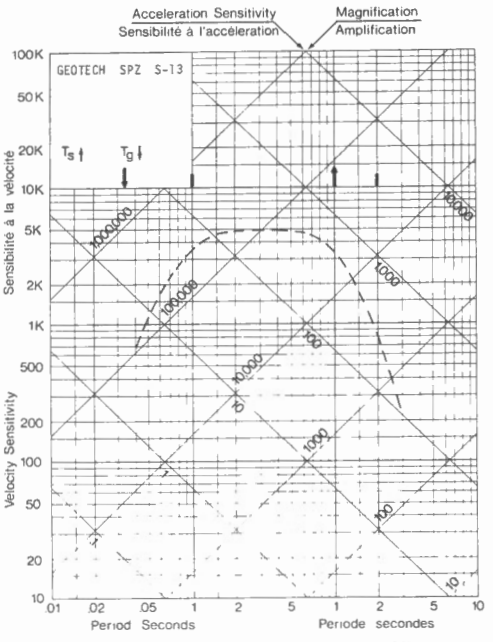
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION GOLD RIVER, B.C./C.B. (GDR)

Φ= 49° 46.9'N λ= 126° 03.3'W/0 Altitude 100m

Foundation: Granite

Fondation: Granite



Dates of Calibration: 4 August, 1978
Les dates de calibration: le 4 août 1978

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

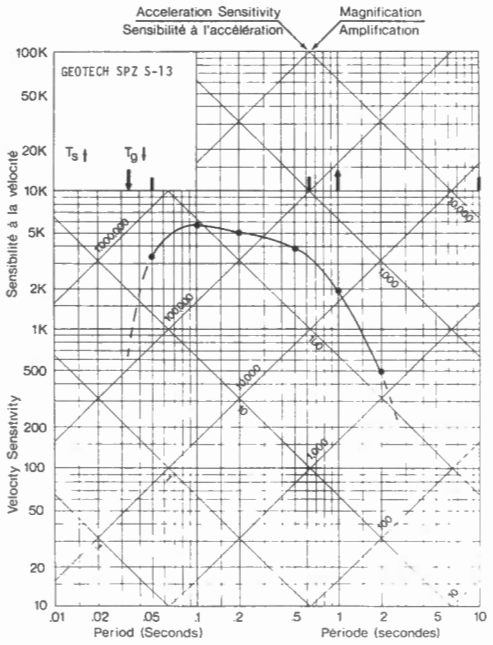
Mode: Vel; Preamp: 05; Amp: 1 cm/v

STATION GENTILLY, QUE. (ECTN/RTEC) (GNT)

Φ= 47° 21.77'N λ= 72° 22.33'W/O Altitude 10m

Geological Structure: Schist

Formation géologique: Argillite, schisteuse



Date of Calibration 12 October, 1982
La date de calibrage le 12 octobre 1982

Filter frequencies are indicated by vertical bars. (I)
Les barres verticales indiquent les fréquences des filtres.

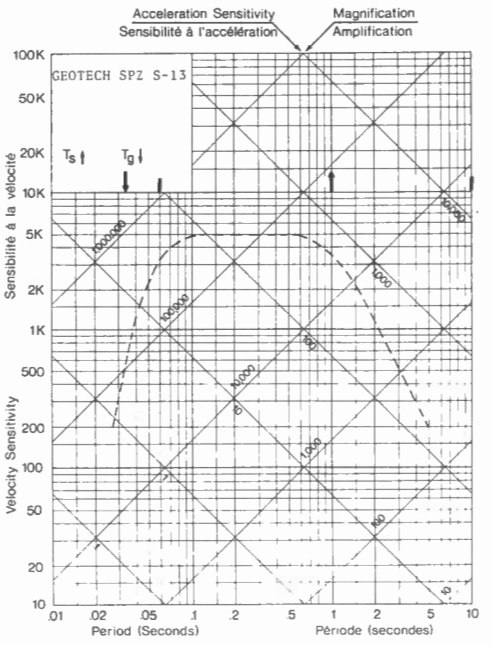
Button/bouton:4; Amp: 1cm/v

STATION GALIANO I., B.C./C.-B. (GOB)

Φ= 49°00.73'N λ=123°35.00'W/O Altitude 10m

Geological Structure:

Formation géologique:



Date of Calibration November 11, 1981
La date de calibrage le 11 novembre 1981

Filter frequencies are indicated by vertical bars. (I)
Les barres verticales indiquent les fréquences des filtres.

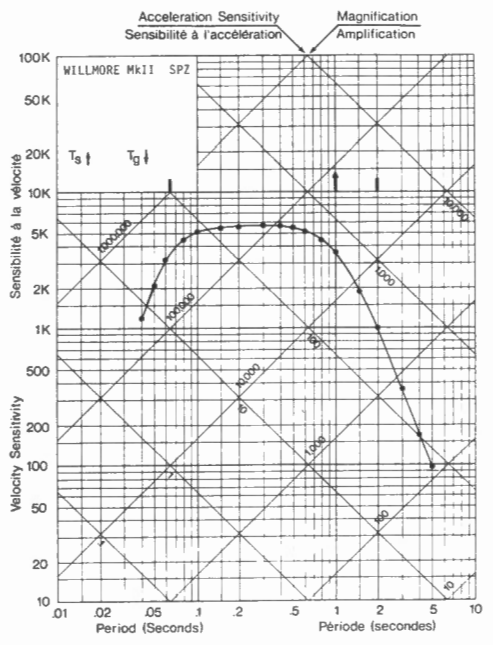
MODE:VEL, ATT: 0dB, AMP: 1 cm/V

STATION GRAND REMOUS, QUE. (ECTN/RTEC) (GRQ)
(Final)

Φ= 46° 36.4'N λ= 75° 51.6'W/O Altitude 290 m

Geological Structure:

Formation géologique:



Date of Calibration 23 October, 1986
La date de calibrage le 23 octobre 1986

Filter frequencies are indicated by vertical bars. (I)
Les barres verticales indiquent les fréquences des filtres.

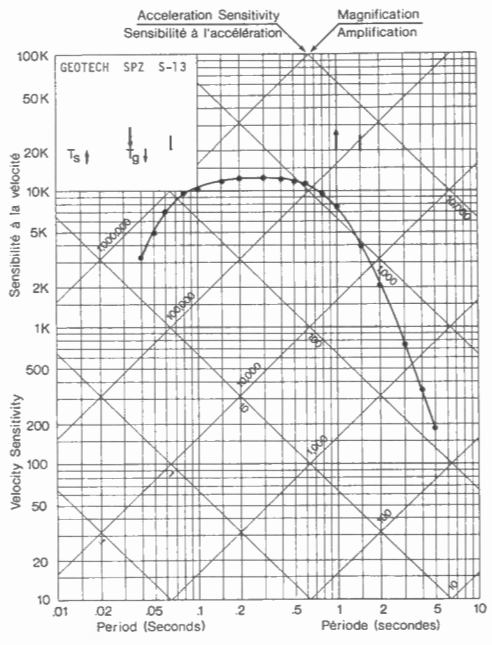
Monitor: 1, Amp: 1 cm/v

STATION GRAND REMOUS, QUE. (ECTN/RTEC) (GRQ)

Φ= 46° 36.4'N λ= 75° 51.6'W/O Altitude 290 m

Geological Structure:

Formation géologique:



Date of Calibration: 25 August, 1987
La date de calibrage: le 25 août 1987

Filter frequencies are indicated by vertical bars. (I)
Les barres verticales indiquent les fréquences des filtres.

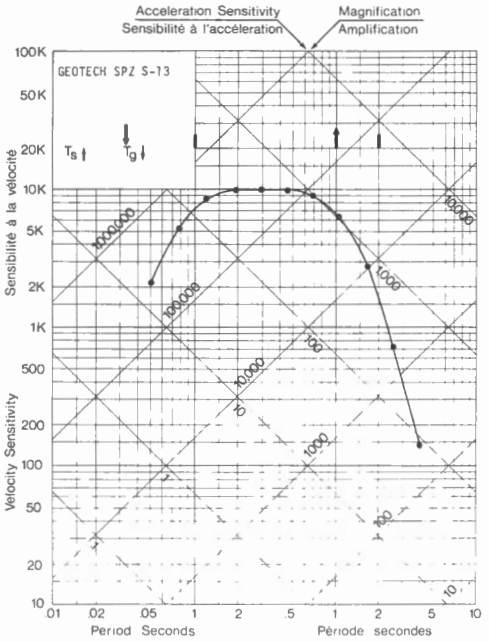
Monitor: 2, Amp: 1 cm/v

STATION GERALDTON, ONT. (GTO)

Φ= 49° 44.7'N λ= 86° 57.7'W/O Altitude 350m

Foundation:

Fondation:



Dates of Calibration: 30 September, 1982
Les dates de calibration le 30 septembre 1982

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

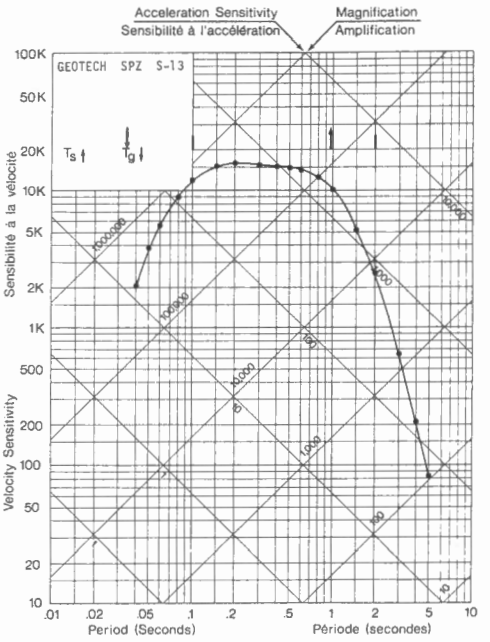
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION GERALDTON, ONT. (GTO)

Φ= 49° 44.7'N λ= 86° 57.7'W/O Altitude 350 m

Geological Structure:

Formation géologique:



Date of Calibration 12 June, 1987
La date de calibrage le 12 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

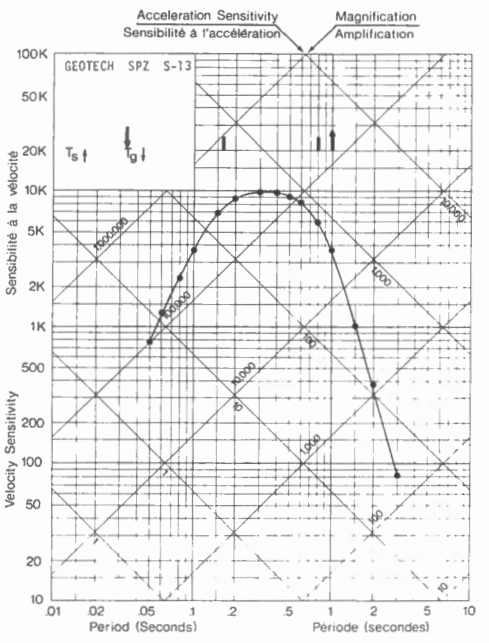
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION HALIFAX, N.S./N.E. (HAL)

Φ= 44° 38'N λ= 63° 36'W/O Altitude 56 m

Geological Structure: Carbonaceous slate

Formation géologique: Ardoise du carbonacé



Date of Calibration 6 May, 1986
La date de calibrage le 6 mai 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

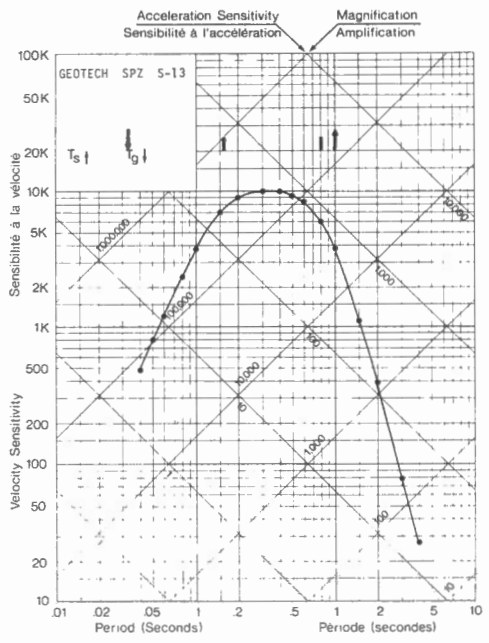
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION HALIFAX, N.S./N.E. (HAL)

Φ= 44° 38.26'N λ= 63° 35.52'W/O Altitude 64 m

Geological Structure: Carbonaceous slate

Formation géologique: Ardoise du carbonacé



Date of Calibration 10 November, 1987
La date de calibrage le 10 novembre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

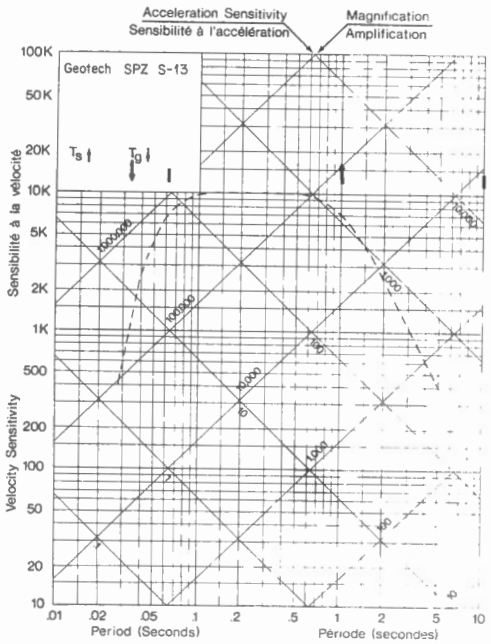
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION HANEY , B.C. / C.B. (WCTN / RTOC) (HNB)

Φ= 49° 16.47'N λ= 122° 34.75' W/O Altitude 185m

Geological Structure:

Formation géologique:



Date of Calibration June 5, 1980
La date de calibrage le 5 juin, 1980

Filter frequencies are indicated by vertical bars. (❙)
Les barres verticales indiquent les fréquences des filtres. (❙)

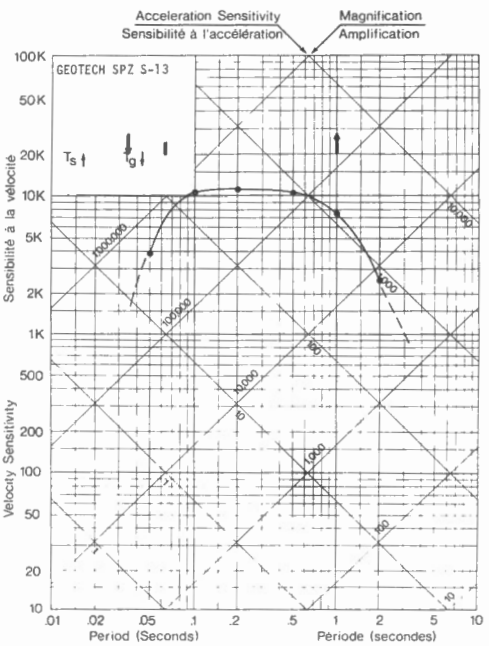
Mon: 2, Amp: 1 cm/v

STATION HAUTERIVE, QUE. (ECTN/RTEC) (HTQ)

Φ= 49° 11.50'N λ= 68° 23.63'W/O Altitude 123m

Geological Structure:

Formation géologique:



Date of Calibration 15 April, 1982
La date de calibrage le 15 avril 1982

Filter frequencies are indicated by vertical bars. (❙)
Les barres verticales indiquent les fréquences des filtres.

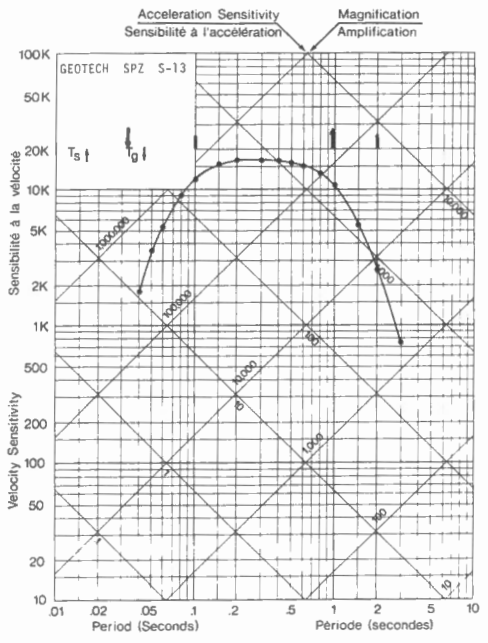
Monitor: 2; Amp: 1 cm/v

STATION HUDSON, ONT. (HUO)

Φ= 50° 04.83'N λ= 92° 05.89'W/O Altitude 367 m

Geological Structure:

Formation géologique:



Date of Calibration 2 October, 1986
La date de calibrage le 2 octobre 1986

Filter frequencies are indicated by vertical bars. (❙)
Les barres verticales indiquent les fréquences des filtres.

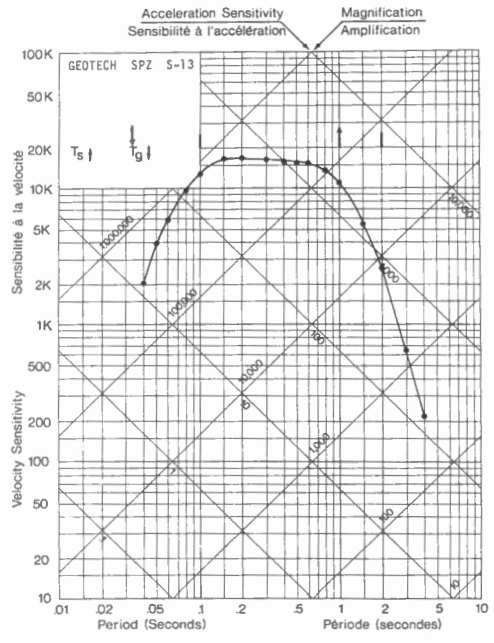
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION HUDSON, ONT. (HUO)

Φ= 50° 04.83'N λ= 92° 05.89'W/O Altitude 367 m

Geological Structure:

Formation géologique:



Date of Calibration 4 June, 1987.
La date de calibrage le 4 juin 1987

Filter frequencies are indicated by vertical bars. (❙)
Les barres verticales indiquent les fréquences des filtres.

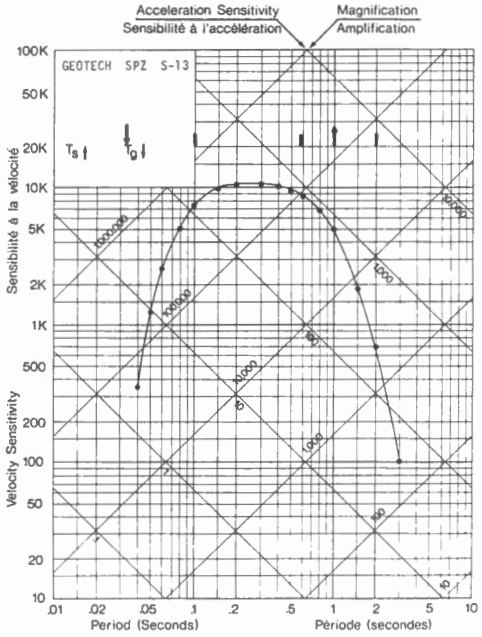
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION HAINES JUNCTION, Y.T./T.Y. (HYT)
(Final)

Φ• 60° 49.50'N λ• 137° 30.23'W/O Altitude 1416 m

Geological Structure:

Formation géologique:



Date of Calibration 3 July, 1985
La date de calibrage le 3 juillet 1985

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

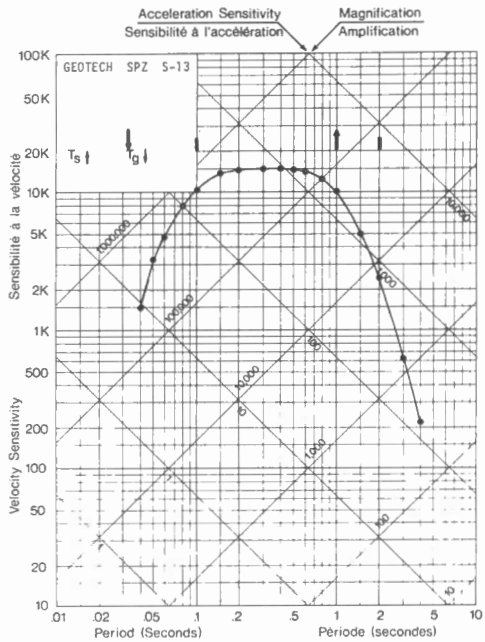
Mode: Vel, Preamp: 13, Amp: 1 cm/v

STATION IGLOOLIK,N.W.T./T.N.-O. (IGL)

Φ• 69° 22.5'N λ• 81° 48.3'W/O Altitude 15 m

Geological Structure: Sediments overlying Paleozoic Ordovician limestone

Formation géologique: Sédiments qui reposent sur de calcaire ordovicien, paléozoique



Date of Calibration 26 May, 1986
La date de calibrage le 26 mai 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

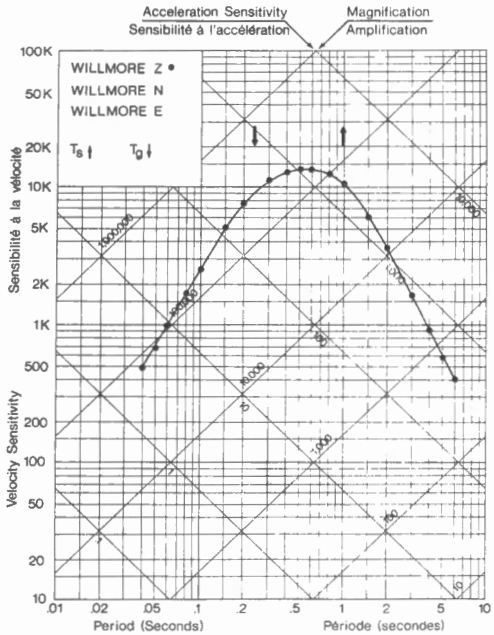
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION INUVIK, N.W.T./T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ• 68° 14.2'N λ• 133° 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments paléozoiquie, Calcaire cambrien



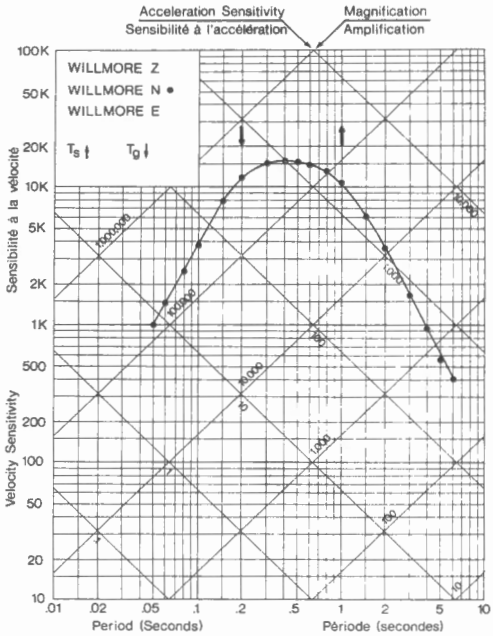
Date of Calibration 13 August, 1986
La date de calibrage le 13 août 1986
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION INUVIK, N.W.T./T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ• 68° 14.2'N λ• 133° 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments paléozoique, Calcaire cambrien



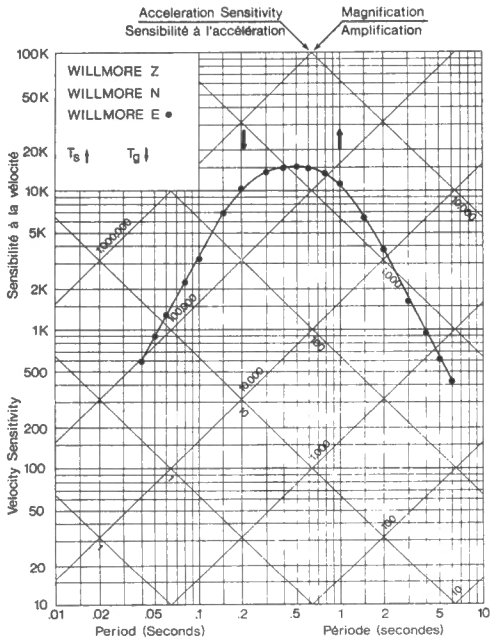
Date of Calibration 14 August, 1986
La date de calibrage le 14 août 1986
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION INUVIK, N.W.T./T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ= 68° 14.2'N λ= 133° 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments paléozoique, Calcaire cambrien



Date of Calibration 14 August, 1986
La date de calibrage le 14 août 1986

WILLMORE Z

WILLMORE N

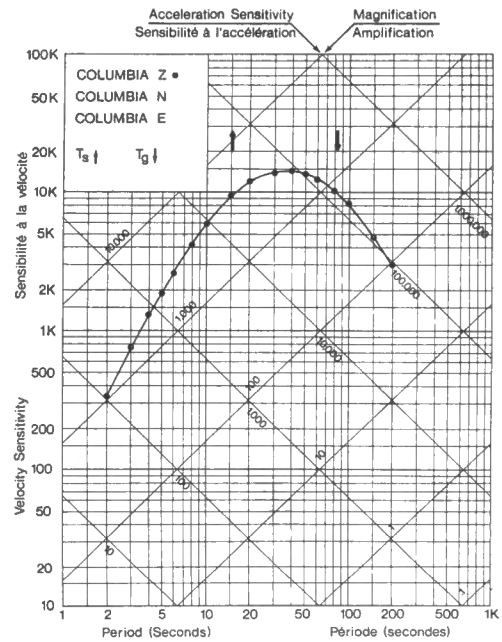
WILLMORE E •

STATION INUVIK, N.W.T./T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ= 68° 14.2'N λ= 133° 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments pléozoique, Calciare cambrien



Date of Calibration 14 August, 1986
La date de calibrage: le 14 août 1986

COLUMBIA Z •

COLUMBIA N

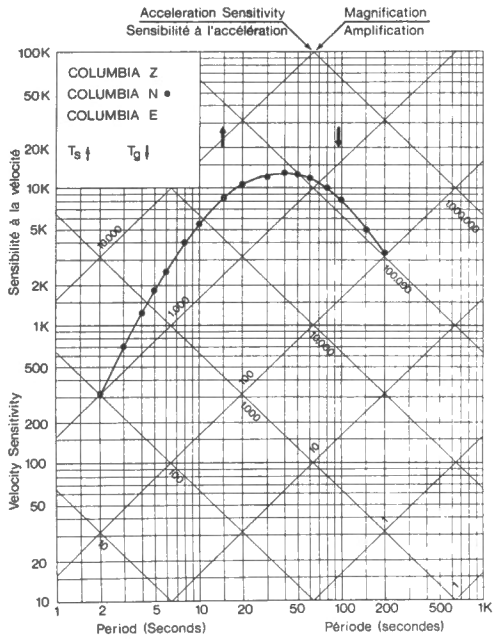
COLUMBIA E

STATION INUVIK, N.W.T/T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ= 68 14.2'N λ= 133 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments paléozoique, Calcaire cambrien



Date of Calibration: 15 August, 1986
La date de calibrage le 15 août 1986

COLUMBIA Z

COLUMBIA N •

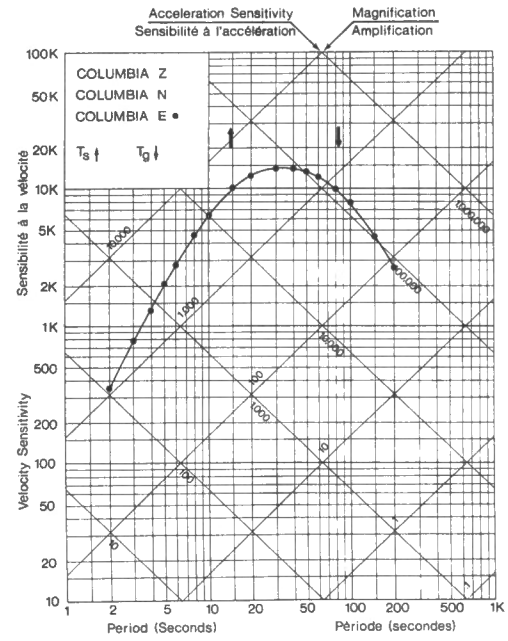
COLUMBIA E

STATION INUVIK, N.W.T./T.N.-O. (INK)
(As found and left/tel que trouvé et laissé)

Φ= 68° 14.2'N λ= 133° 31.2'W/O Altitude 40 m

Geological Structure: Paleozoic sediments, Cambrian limestone

Formation géologique: Sédiments paléozoique, Calcaire cambrien



Date of Calibration: 15 August, 1986
La date de calibrage le 15 août 1986

COLUMBIA Z

COLUMBIA N

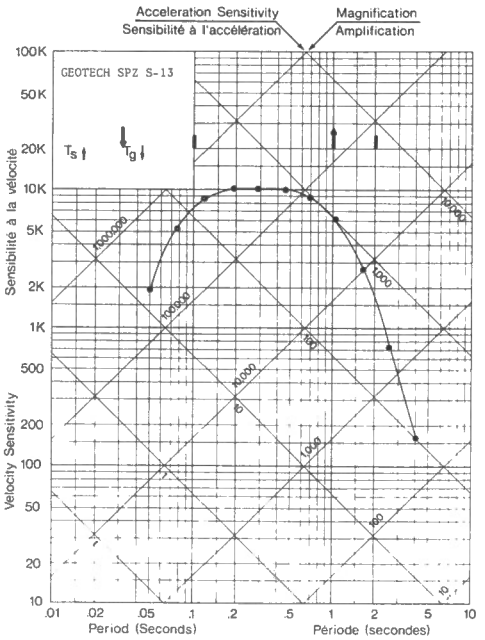
COLUMBIA E •

STATION KAPUSKASING, ONT. (KAO)

Φ= 49° 26.9'N λ= 82° 29.1'W/O Altitude 198m

Geological Structure:

Formation géologique:



Date of Calibration 18 September, 1982
La date de calibrage le 18 septembre 1982

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

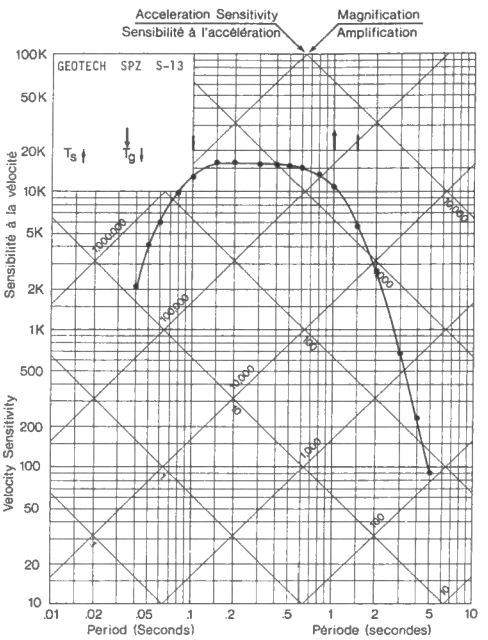
Mode: Vel., Preamp: 10, Amp: 1 cm/v

STATION KAPUSKASING, ONT. (KAO)
(As found/tel que trouvé)

Φ= 49° 26.9'N λ= 82° 29.1'W/O Altitude 198 m

Geological Structure:

Formation géologique:



Date of Calibration: 2 June, 1987
La date de calibrage: le 2 juin 1987

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

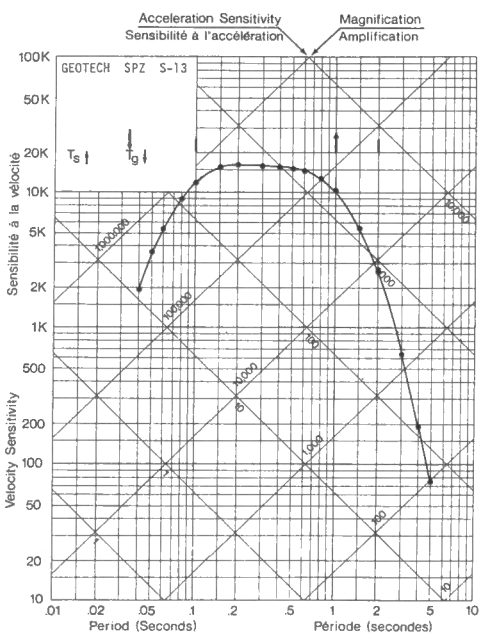
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION KAPUSKASING, ONT. (KAO)
(Final)

Φ= 49° 26.9'N λ= 82° 29.1'W/O Altitude 198 m

Geological Structure:

Formation géologique:



Date of Calibration 12 June, 1987
La date de calibrage: le 12 juin 1987

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

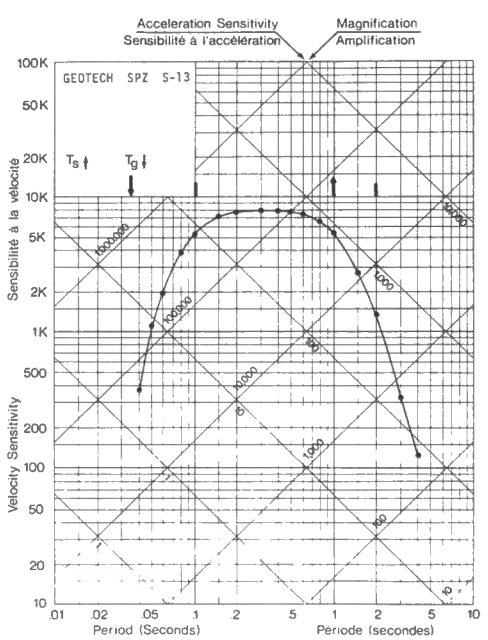
Mode: Vel, Preamp: 15, Amp: 1 cm/v

STATION KOMAKUK BEACH, N.W.T./T.N.-O. (KBT)

Φ= 69° 35.62'N λ= 140° 10.93'W/O Altitude 15 m

Geological Structure:

Formation géologique:



Date of Calibration 16 August, 1986
La date de calibrage le 16 août 1986

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

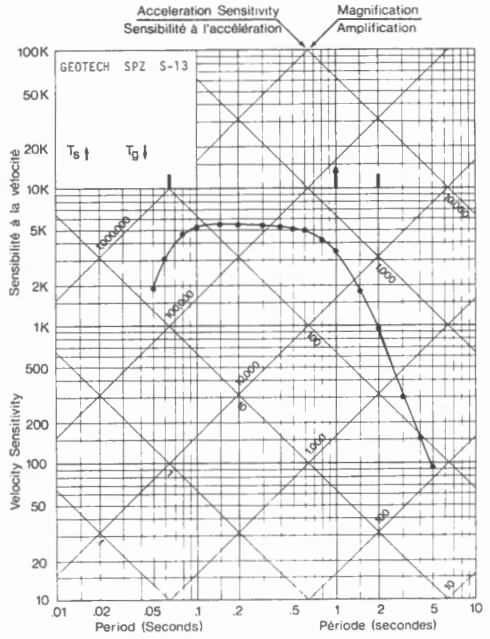
Mode: Vel, Preamp: 08, Amp: 1 cm/v

STATION McKENDRICK LAKE, N.B./N.-B. (ECTN/RTEC) (KLN)

Φ= 46° 50.6'N λ= 66° 22.3'W/O Altitude 411 m

Geological Structure:

Formation géologique:



Date of Calibration: 18 November, 1986
La date de calibrage le 18 novembre 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

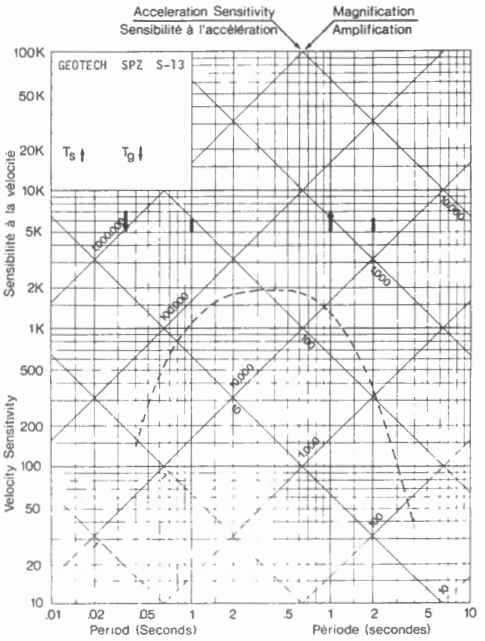
Monitor: 1, Amp: 1 cm/v

STATION LANGARA ISLAND, B.C. (LIB)

Φ= 54° 15.35'N λ= 133° 03.50'W/O Altitude 35m

Geological Structure:

Formation géologique:



Date of Calibration 13 September, 1984
La date de calibrage le 13 septembre 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

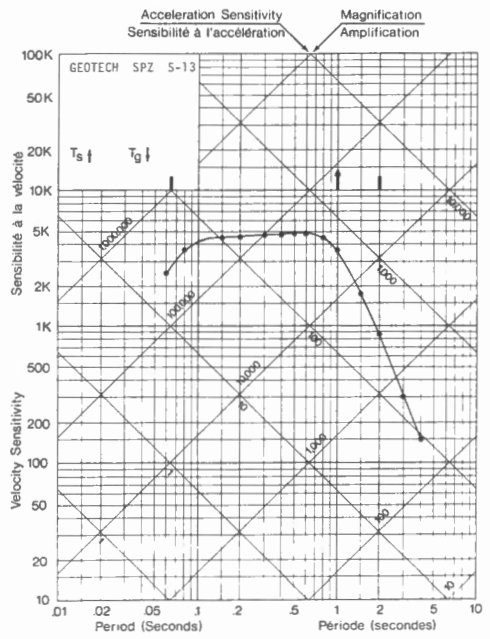
Mode: Vel, Preamp: 02, Amp: 1 cm/v

STATION CALEDONIA MTN., N.B./N.-B. (ECTN/RTEC) (LMN)

Φ= 45.852°N λ= 64.806°W/O Altitude 363 m

Geological Structure:

Formation géologique:



Date of Calibration 20 November, 1986
La date de calibrage le 20 novembre 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

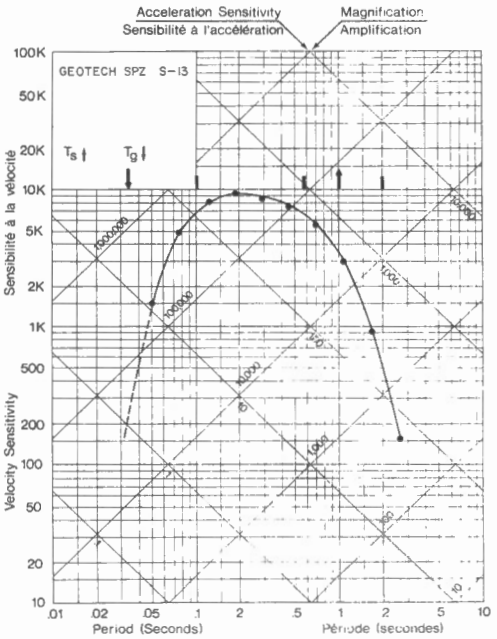
Monitor: 1, Amp: 1 cm/v

STATION LA MALBAIE, QUE. (CHARLEVOIX OBS.) (LMQ)
(Final)

Φ= 47°32'54"N λ= 70°19'36" W/O Altitude 419m

Geological Structure: Precambrian, anorthosite

Formation géologique: Anorthose, Précambrien



Date of Calibration February 8, 1977
La date de calibrage le 8 février, 1977

Filter frequencies are indicated by vertical bars (|)
Les barres verticales indiquent les fréquences des filtres.

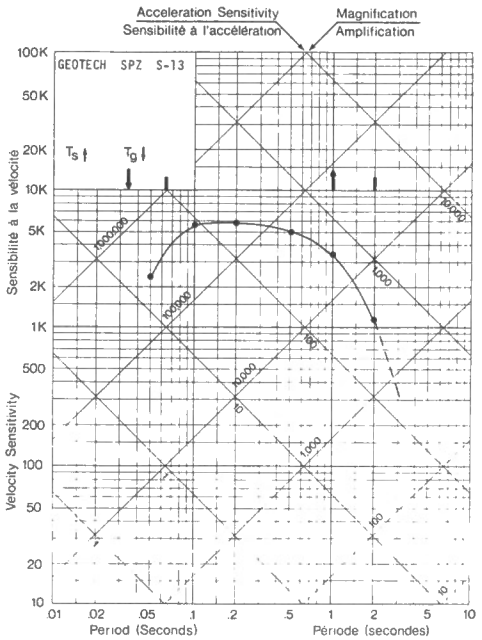
Mode: Vel., Preamp: 10, Amp: 1cm/v

STATION LA POCATIERE, QUE. (LPQ)

Φ= 47° 20.45'N λ= 70° 00.56'W/O Altitude 126 m

Geological Structure: Quartzite

Formation géologique: Quartzite



Date of Calibration 1 November, 1984
La date de calibrage le 1er novembre 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

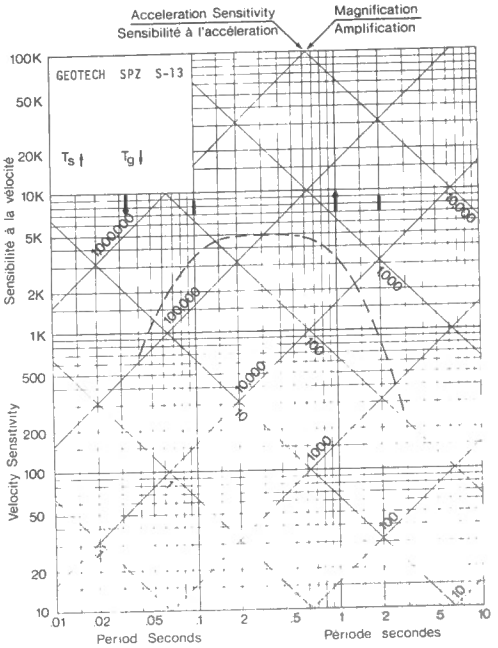
Monitor: 1, Amp: 1 cm/v

STATION LA GRANDE, QUE. (LRQ)

Φ= 53° 42.08'N λ= 76° 03.53'W/O Altitude 284 m

Foundation:

Fondation:



Dates of Calibration 2 April, 1984
Les dates de calibrage le 2 avril 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

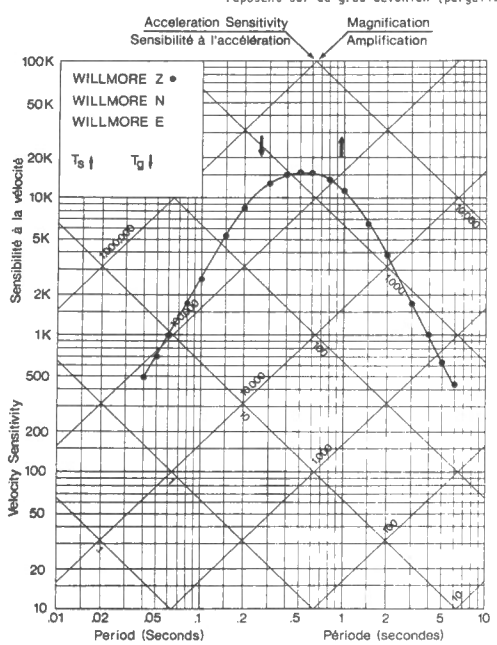
Mode: Vel; Preamp: 05; Amp: 1 cm/v

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(As found and left/tel que trouvé et laissé)

Φ= 76° 14.5'N λ= 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion deposits overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



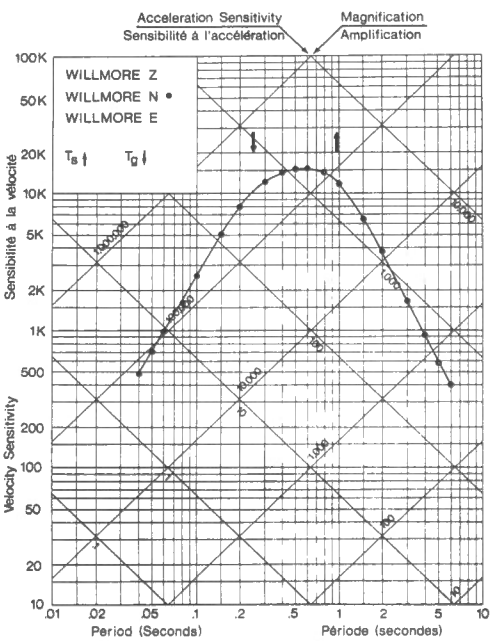
Date of Calibration: 14 September, 1986
La date de calibrage le 14 septembre 1986
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(As found and left/tel que trouvé et laissé)

Φ= 76° 14.5'N λ= 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion deposits overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



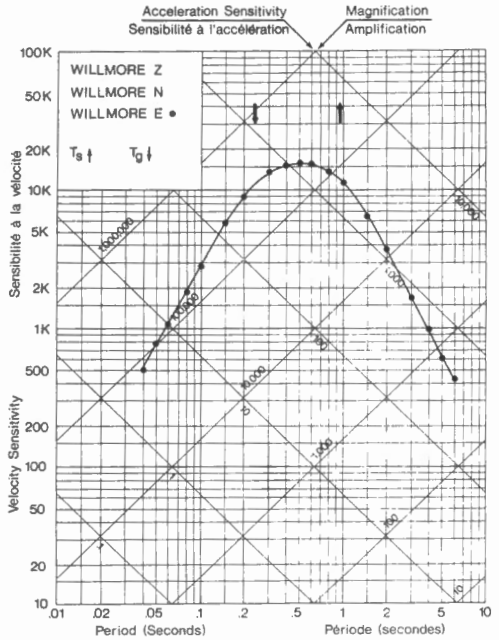
Date of Calibration: 14 September, 1986
La date de calibrage le 14 septembre 1986
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(As found and left/tel que trouvé et laissé)

Φ• 76° 14.5'N λ• 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion deposits overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



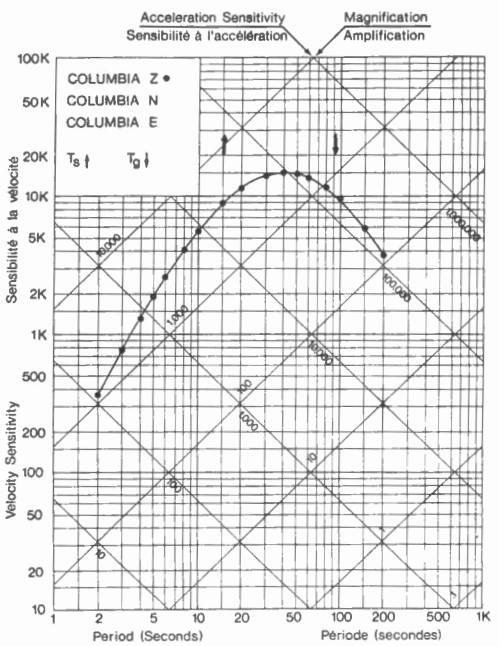
Date of Calibration: 14 September, 1986
La date de calibrage le 14 septembre 1986
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(Final)

Φ• 76° 14.5'N λ• 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion deposits overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



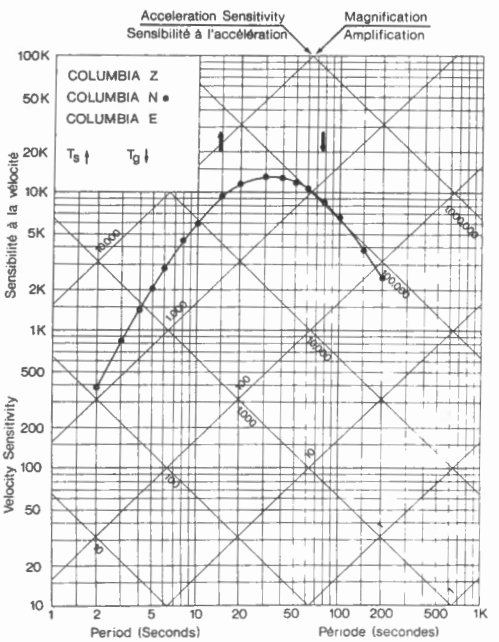
Date of Calibration 15 September, 1986
La date de calibrage le 15 septembre 1986
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(As found and left/tel que trouvé et laissé)

Φ• 76° 14.5'N λ• 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion deposits overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



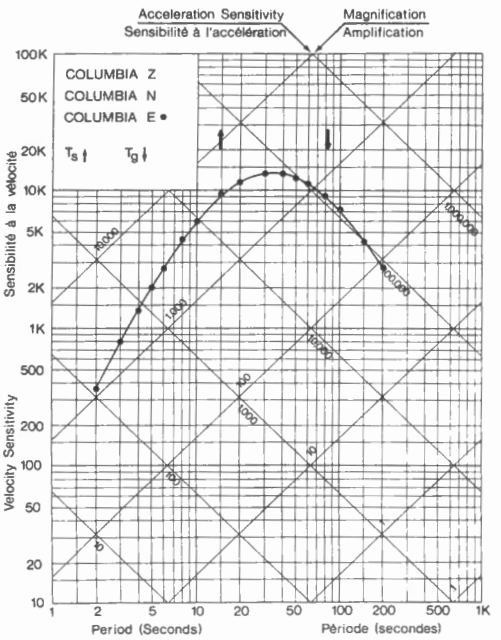
Date of Calibration: 15 September, 1986
La date de calibrage le 15 septembre 1986
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION MOULD BAY, N.W.T./T.N.-O. (MBC)
(As found and left/tel que trouvé et laissé)

Φ• 76° 14.5'N λ• 119° 21.6'W/O Altitude 15 m

Geological Structure: Regolith and solifluxion sediments overlying Devonian sandstone (permafrost)

Formation géologique: Regolithe et sédiments de solifluxion qui reposent sur de grès dévonien (pergélisol)



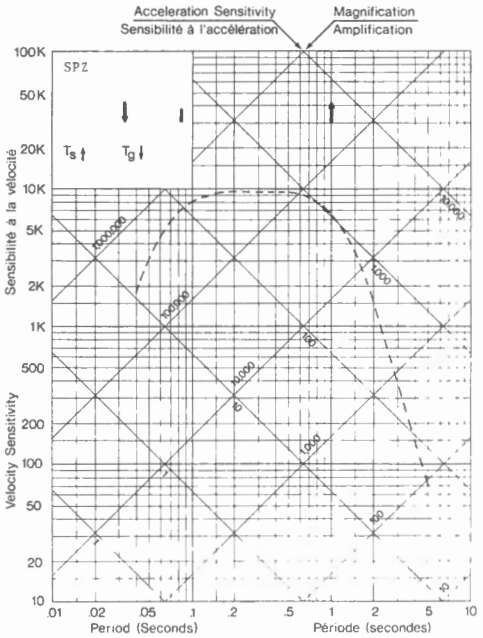
Date of Calibration 16 September, 1986
La date de calibrage le 16 septembre 1986
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION MOUNT DAINARD, B.C./C.-B. (MNB)

Φ• 52°11.92'N λ• 118°23.00'W/OAltitude 2271m

Geological Structure:

Formation géologique:



Date of Calibration September 29, 1981
La date de calibrage le 29 septembre 1981

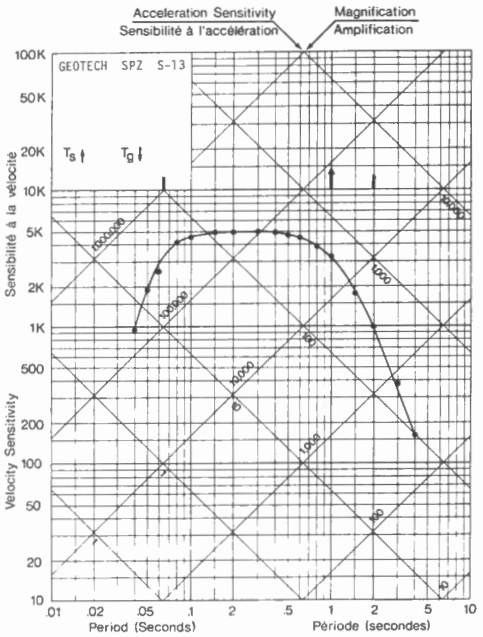
Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

STATION MANICOUAGAN, QUE. (ECTN/RTEC) (MNQ)

Φ• 50° 32.00'N λ• 68° 46.28'W/O Altitude 564 m

Geological Structure:

Formation géologique:



Date of Calibration 4 March, 1986
La date de calibrage le 4 mars 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

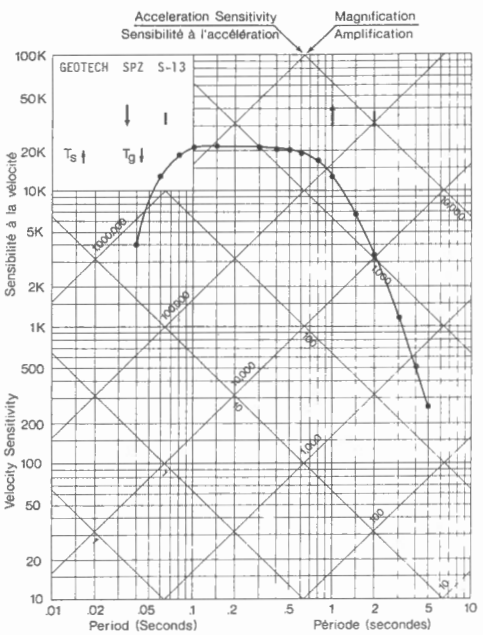
Monitor: 1, Amp: 1 cm/v

STATION MANICOUAGAN, QUE. (ECTN/RTEC) (MNQ)

Φ• 50° 32'00"N λ• 68° 46'28"W/O Altitude 564 m

Geological Structure:

Formation géologique:



Date of Calibration 3 June, 1987.
La date de calibrage le 3 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

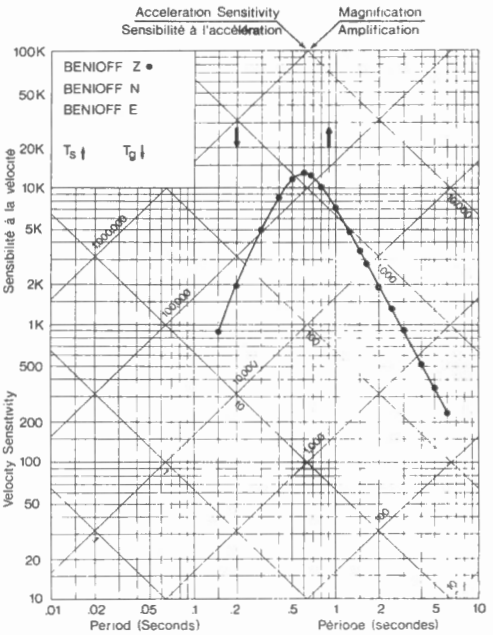
Monitor: 3, Amp: 1 cm/v

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(Final)

Φ• 45° 30'09"N λ• 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 8 November, 1985
La date de calibrage le 8 novembre 1985

BENIOFF Z •

BENIOFF N

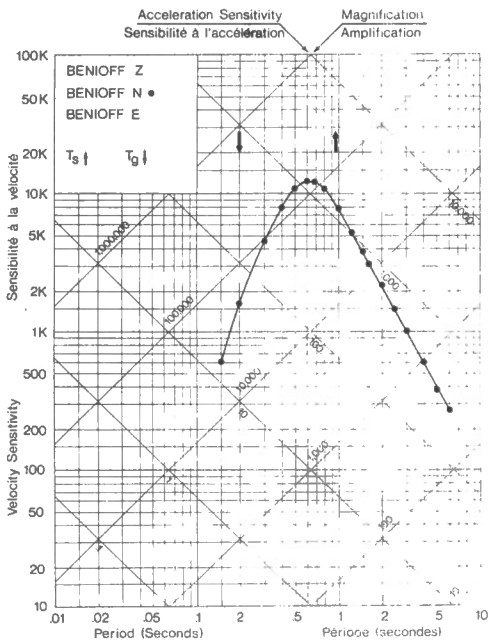
BENIOFF E

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 30'09"N λ= 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 8 November, 1985
La date de calibrage le 8 novembre 1985

BENIOFF Z

BENIOFF N •

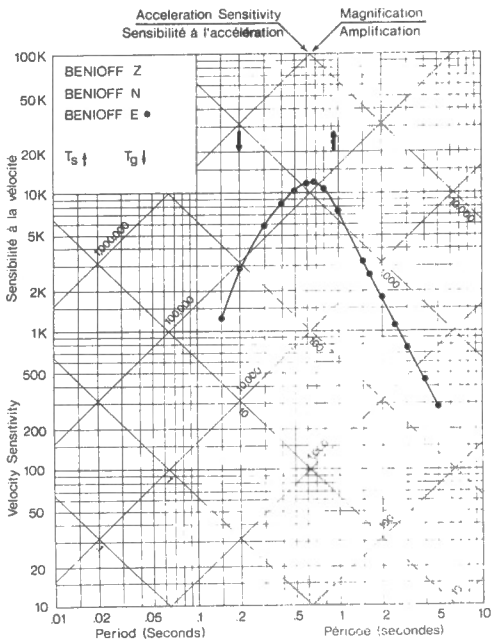
BENIOFF E

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 30'09"N λ= 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 7 November, 1985
La date de calibrage le 7 novembre 1985

BENIOFF Z

BENIOFF N

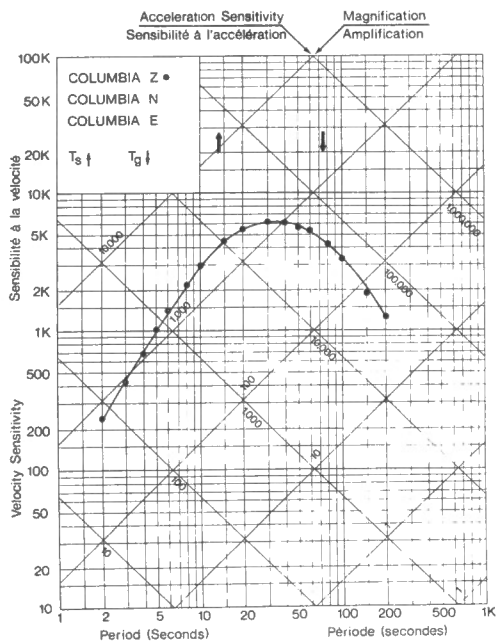
BENIOFF E •

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 30'09"N λ= 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 6 November, 1985
La date de calibrage le 6 novembre 1985

COLUMBIA Z •

COLUMBIA N

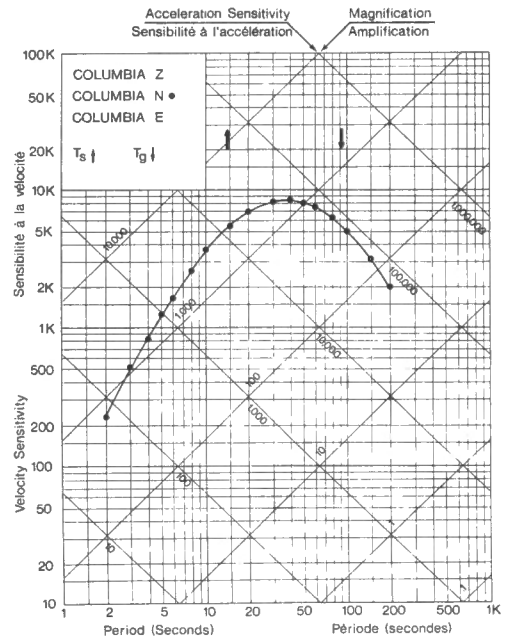
COLUMBIA E

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 30'09"N λ= 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 6 November, 1985
La date de calibrage le 6 novembre 1985

COLUMBIA Z

COLUMBIA N •

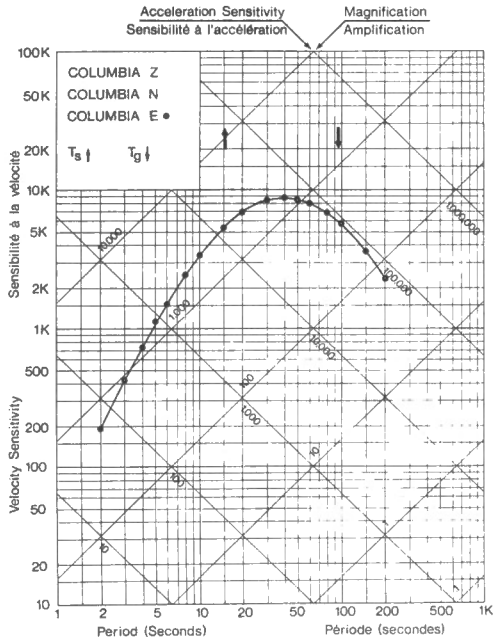
COLUMBIA E

STATION Collège Brébeuf, MONTREAL, QUE. (MNT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 30'09"N λ= 73° 37'23"W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 7 November, 1985
La date de calibrage le 7 novembre 1985

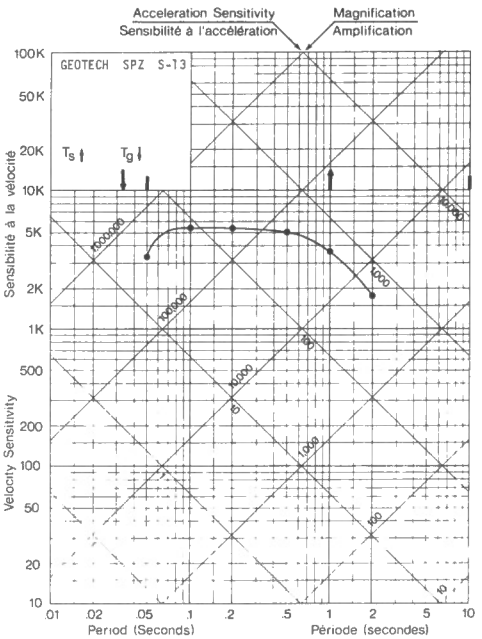
COLUMBIA Z
COLUMBIA N
COLUMBIA E

STATION MONTREAL, QUE. (ECTN/RTEC) (MNT)

Φ= 45° 30.15'N λ= 73° 37.38'W/O Altitude 112 m

Geological Structure: Ordovician Limestone (Trenton)

Formation géologique: Calcaire ordovicien (Trenton)



Date of Calibration 9 November, 1984
La date de calibrage le 9 novembre 1984

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

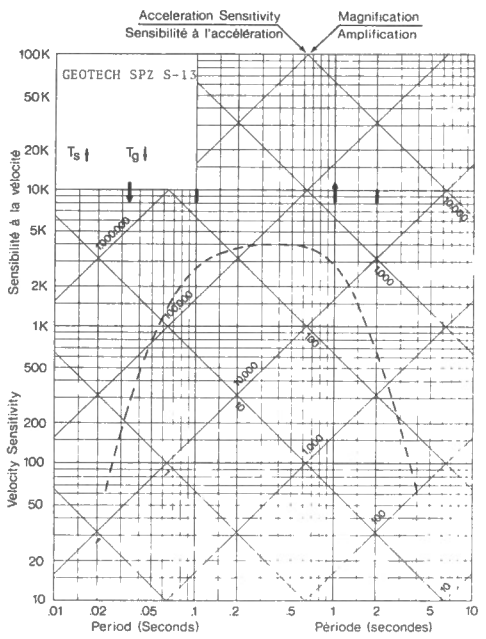
Button/bouton: 4, Amp: 1 cm/v

STATION NICHOLSON POINT, N.W.T./T.N.-O. (NPT)

Φ= 69°55.63'N λ= 128°57.79'W/O Altitude 60m

Geological Structure:

Formation géologique:



Date of Calibration August 8, 1981
La date de calibrage le 8 août 1981

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

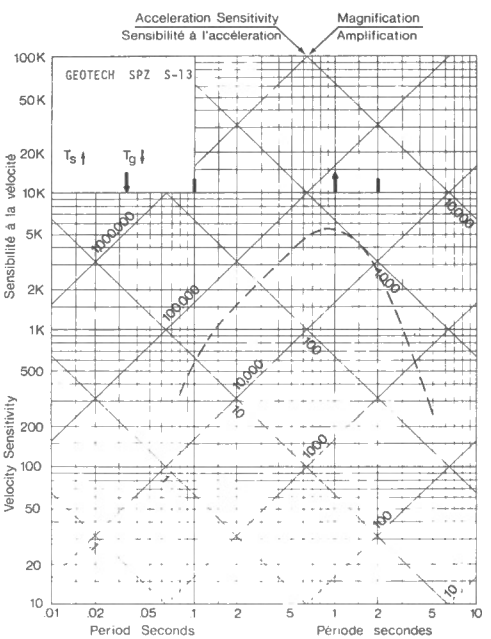
MODE: VEL, PREAMP: 04, AMP: 1cm/V

STATION OCEAN FALLS, B.C./C.-B. (OFB)

Φ= 52° 21.2'N λ= 127° 41.4'W/O Altitude 75m

Foundation:

Fondation:



Dates of Calibration 27 July, 1982
Les dates de calibration le 27 juillet 1982

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

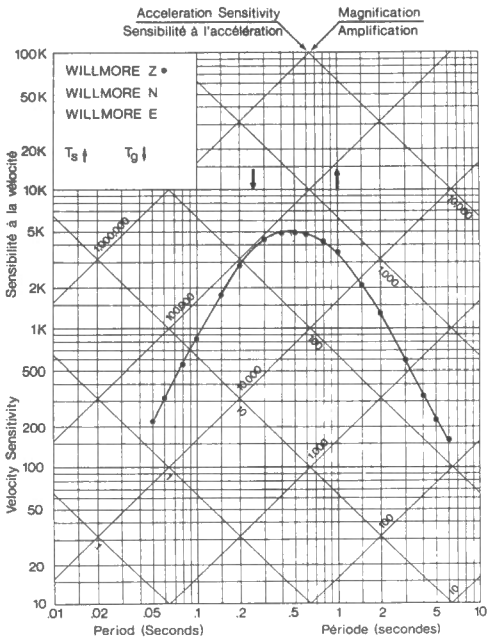
Mode: Mag; Preamp: 05; Amp: 1 cm/v

STATION OTTAWA, ONT. (OTT)
(Final)

Φ= 45° 23'39"N λ= 75° 43'00"W/O Altitude 77 m

Geological Structure: Middle Ordovician limestone

Formation géologique: Calcaire ordovicien moyen



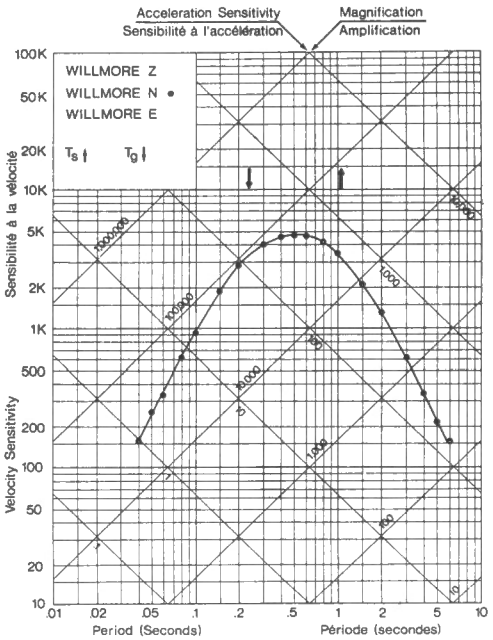
Date of Calibration 25 January, 1985
La date de calibrage: le 25 janvier 1985
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION OTTAWA, ONT. (OTT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 23'39" N λ= 75° 43'00" W/O Altitude 77m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



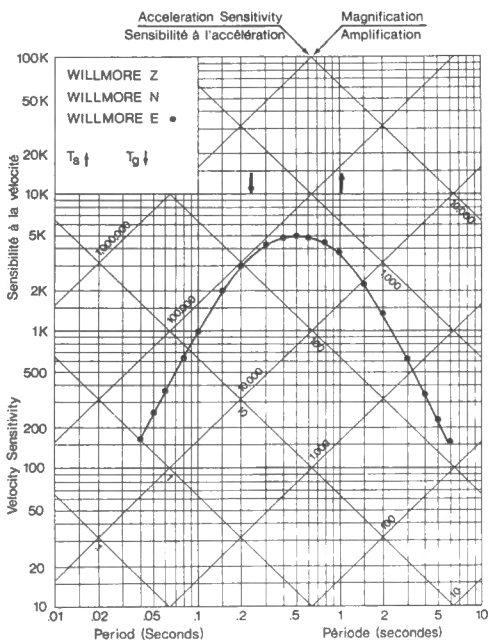
Date of Calibration: May 20, 1981
La date de calibrage: le 20 mai 1981
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION OTTAWA, ONT. (OTT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 23'39" N λ= 75° 43'00" W/O Altitude 77m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



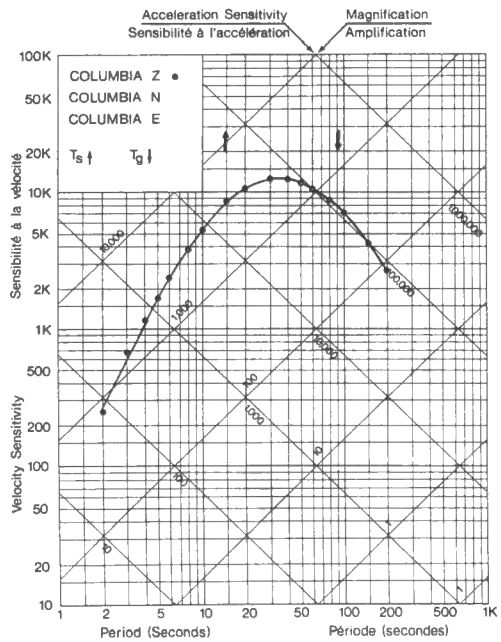
Date of Calibration May 20, 1981
La date de calibrage: le 20 mai 1981
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION OTTAWA, ONT. (OTT)
(As left/tel que laissé)

Φ= 45° 23'39" N λ= 75° 43'00" W/O Altitude 77m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



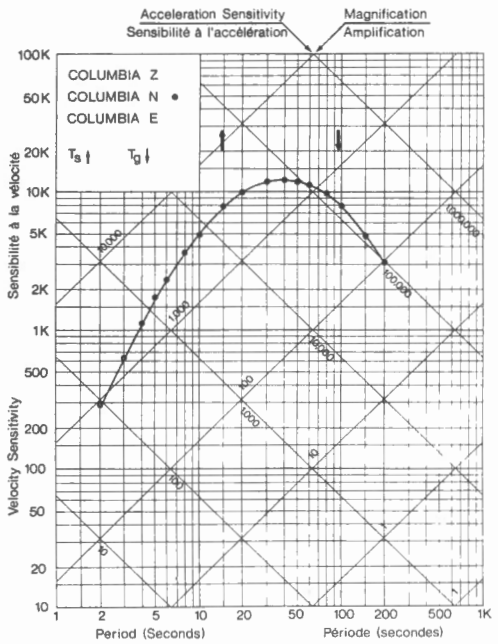
Date of Calibration May 26, 1981
La date de calibrage: le 26 mai 1981
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION OTTAWA, ONT. (OTT)
(As found and left/tel que trouvé et laissé)

Φ= 45°23'39" N λ= 75° 43'00" W/O Altitude 77m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



Date of Calibration May 21, 1981
La date de calibrage le 21 mai 1981

COLUMBIA Z

COLUMBIA N •

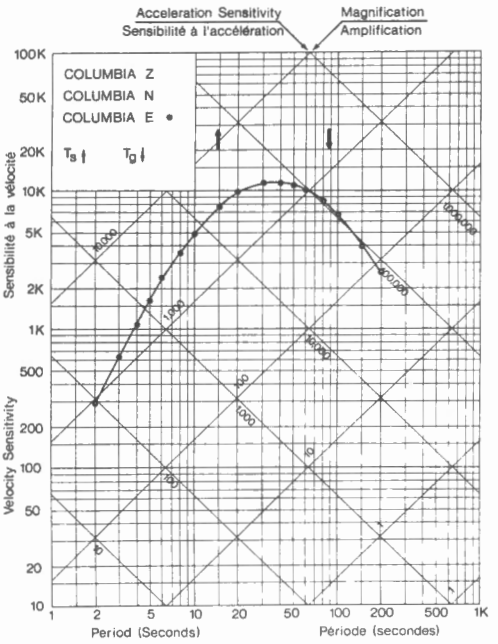
COLUMBIA E

STATION OTTAWA, ONT. (OTT)
(As found and left/tel que trouvé et laissé)

Φ= 45° 23'39" N λ= 75° 43'00" W/O Altitude 77m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



Date of Calibration May 21, 1981
La date de calibrage le 21 mai 1981

COLUMBIA Z

COLUMBIA N

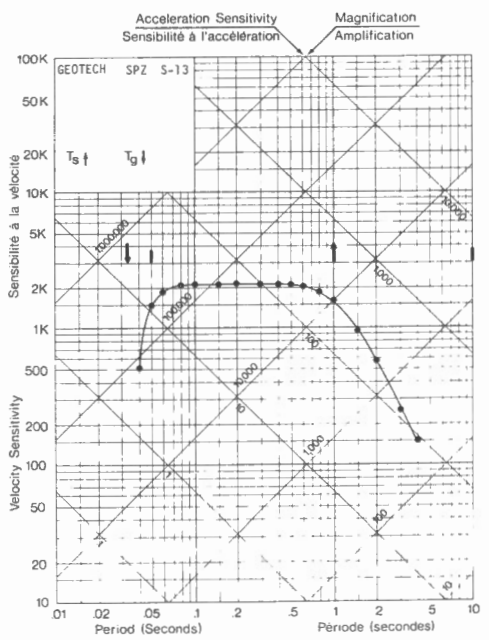
COLUMBIA E •

STATION OTTAWA, ONT. (ECTN/RTEC) (OTT)

Φ= 45° 23'39"N λ= 75°43'00"W/O Altitude 77 m

Geological Structure: Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



Date of Calibration 29 November, 1984
La date de calibrage le 29 novembre 1984

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

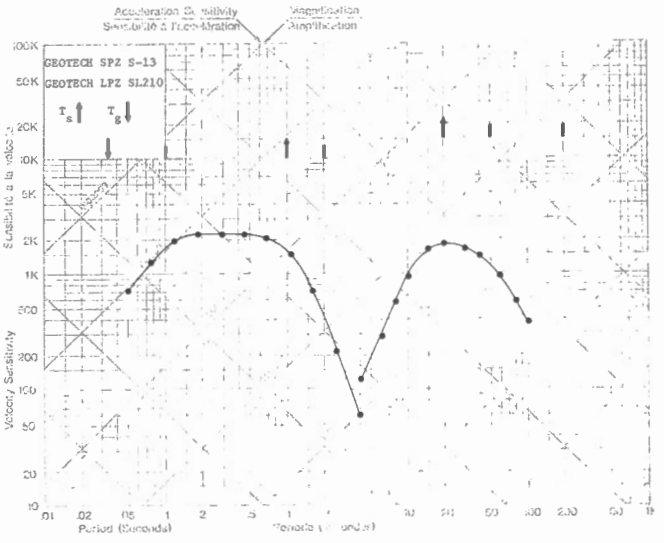
Monitor: 1, Amp: 1 cm/v

STATION OTTAWA, ONT. (Dual-band system/Système passe-bande double) (OTT)

Φ 45° 23.48'N λ 75° 43.00'W/O Altitude 77m

Geological Structure Middle Ordovician Limestone

Formation géologique: Calcaire ordovicien moyen



Date of Calibration 9 October 1981
La date de calibrage le 9 octobre 1981

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

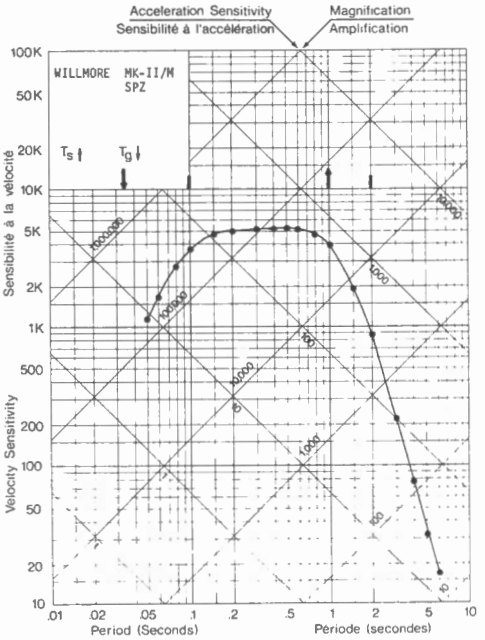
Mode: Vel; SP Preamp: ol; LP Amp: Sep. 30dB, Attn. 18dB; AR311: 1v/cm @ -30dB,set @-6dB

STATION SIDNEY, B.C./C.-B. (PGC)
(Final)

Φ= 48° 39'00"N λ= 123° 27'03"W/O Altitude 5 m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration 21 February, 1985
La date de calibrage le 21 février 1985

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

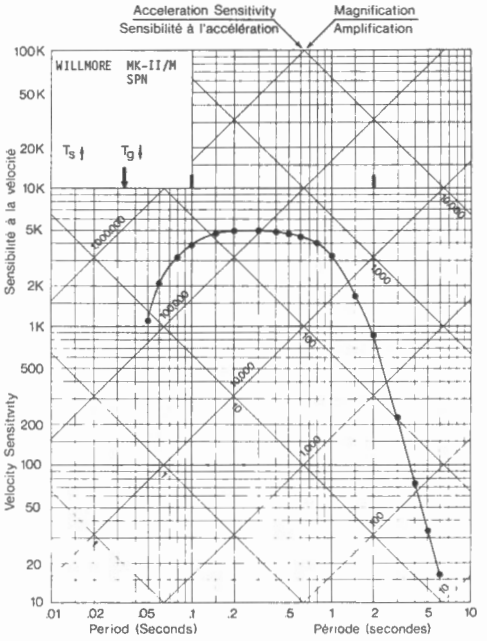
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION SIDNEY, B.C./C.-B. (PGC)
(Final)

Φ= 48° 39'00"N λ= 123° 27'03"W/O Altitude 5 m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration 21 February, 1985
La date de calibrage le 21 février 1985

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

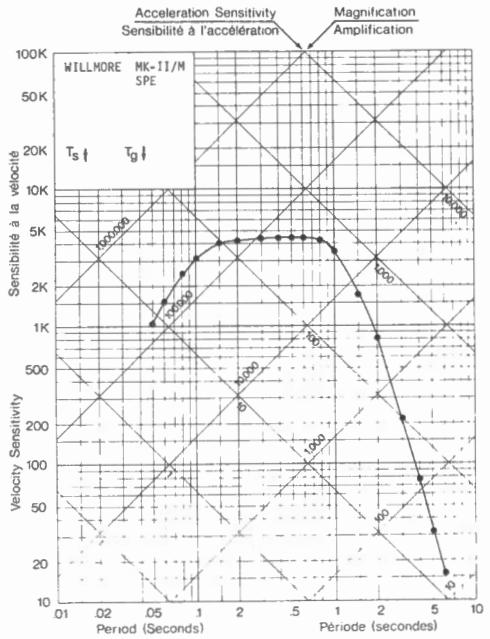
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION SIDNEY, B.C./C.-B. (PGC)
(Final)

Φ= 48° 39'00"N λ= 123° 27'03"W/O Altitude 5 m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration 21 February, 1985
La date de calibrage le 21 février 1985

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

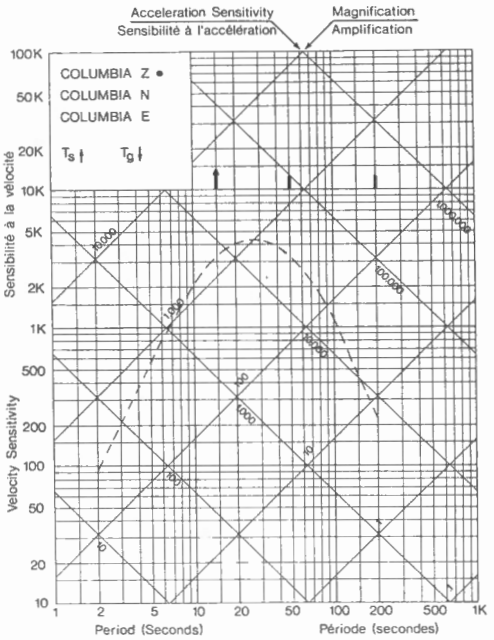
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION SIDNEY, B.C./C.B. (PGC)

Φ= 48° 39'00"N λ= 123° 27'03"W/O Altitude 5m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration September 5, 1979
La date de calibrage le 5 septembre, 1979

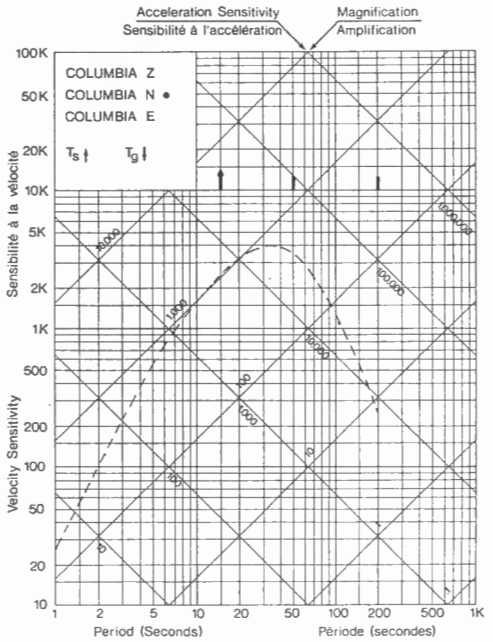
Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres. (|)
MODE: VEL., PREAMP-05, AMP.-1cm/v

STATION SIDNEY, B.C./C.B. (PGC)

Φ= 48° 39'00"N λ= 123° 27'03"W/0 Altitude 5m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration: September 5, 1979
La date de calibrage: le 5 septembre, 1979

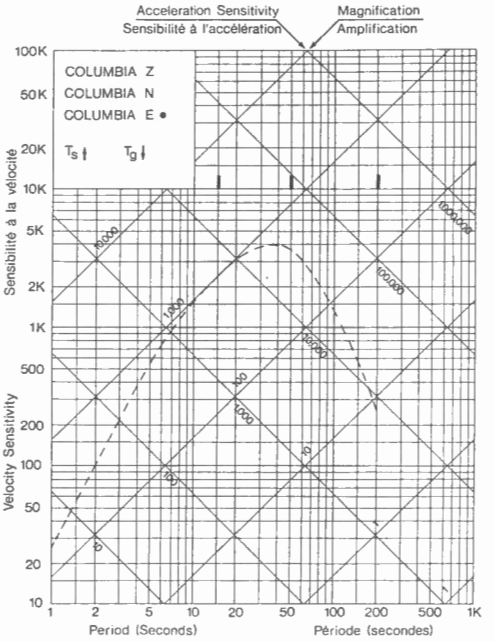
Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres. (‖)
MODE: VEL., PREAMP-05, AMP.-1cm/v

STATION SIDNEY, B.C./C.B. (PGC)

Φ= 48° 39'00"N λ= 123°27'03"W/0 Altitude 5m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration: September 5, 1979
La date de calibrage: le 5 septembre, 1979

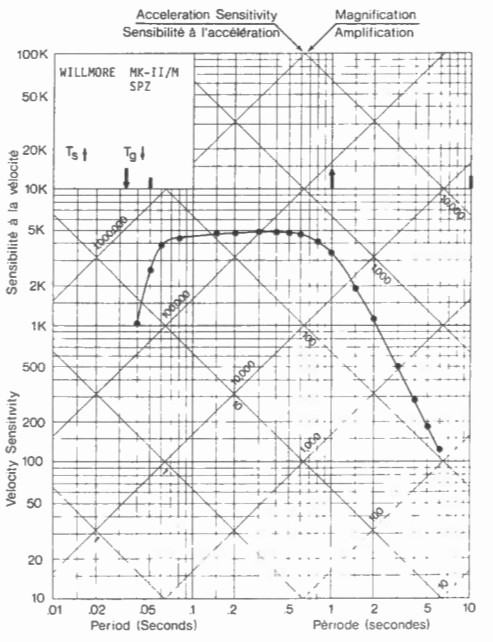
Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres. (‖)
MODE: VEL., PREAMP-05, AMP.-1cm/v

STATION SIDNEY, B.C./C.-B. (WCTN/RTOC) (PGC)
(As found and left/Tel que trouvé et laissé)

Φ= 48° 39'00"N λ= 123° 27'03"W/0 Altitude 5 m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



Date of Calibration 21 February, 1985
La date de calibrage le 21 février 1985

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

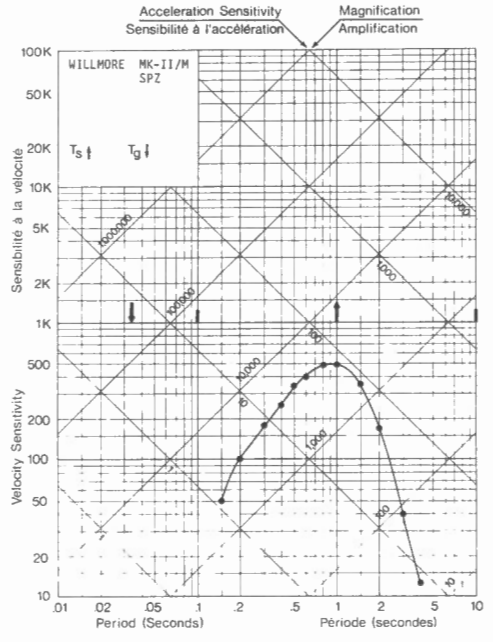
Monitor: 1, Amp: 1 cm/v

STATION SIDNEY, B.C./C.-B. (PGC)

Φ= 48° 39'00"N λ= 123° 27'03"W/0 Altitude 5 m

Geological Structure: Quartz diorite

Formation géologique: Diorite quartzifère



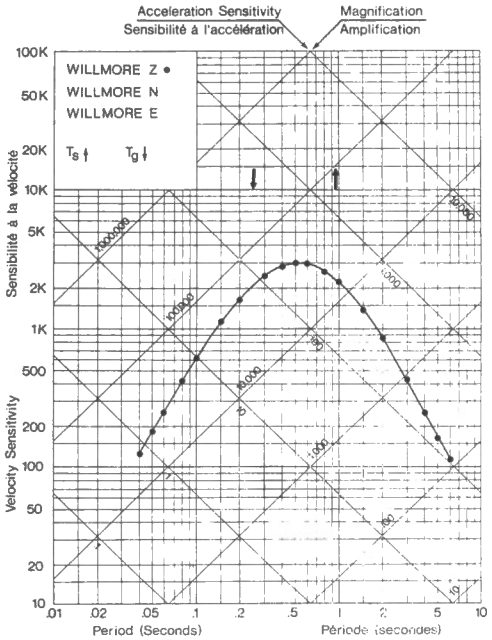
Date of Calibration 21 February, 1985
La date de calibrage le 21 février 1985

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

Mode: Mag, Preamp: 01, Amp: 2 cm/v

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

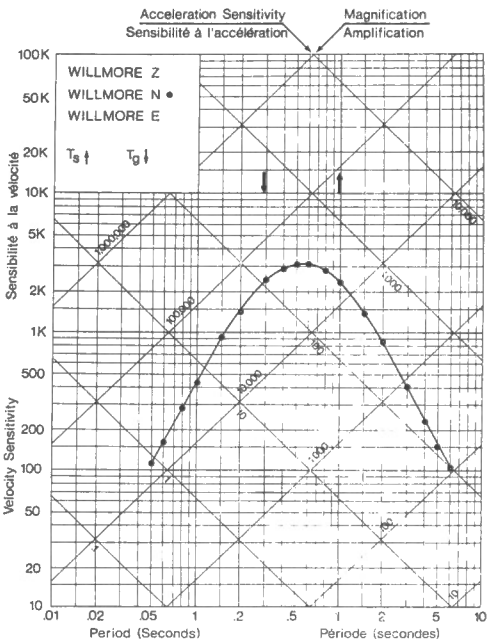
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration / La date de calibrage: 15 February, 1985 / le 15 février 1985
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

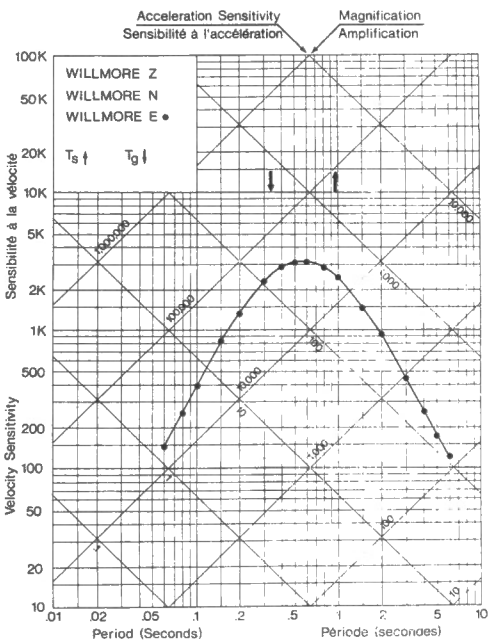
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration / La date de calibrage: 15 February, 1985 / le 15 février 1985
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50° 42.4'N λ= 127°25.9'W/O Altitude 33 m

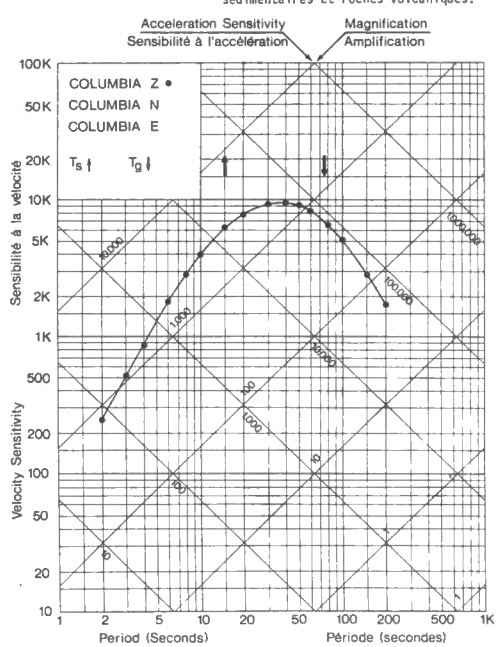
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration / La date de calibrage: 15 February, 1985 / le 15 février 1985
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

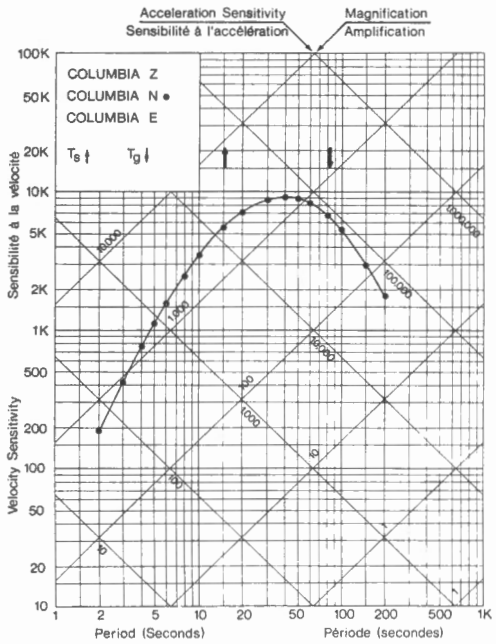
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration / La date de calibrage: 13 February, 1985 / le 13 février 1985
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50°42.4'N λ= 127°25.9'W/O Altitude 33 m

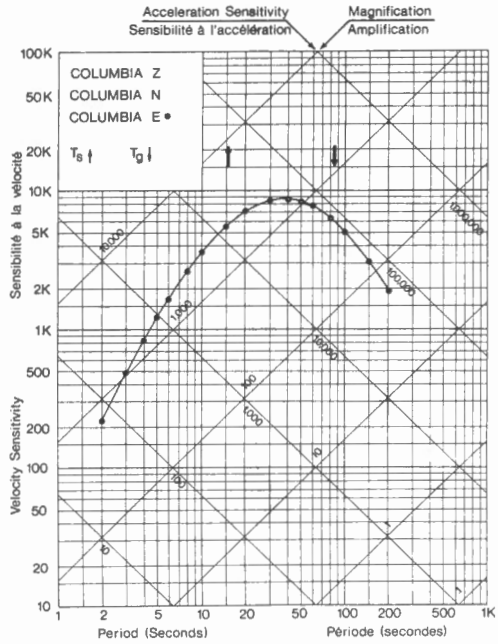
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration 14 February, 1985
La date de calibrage le 14 février 1985
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found and left/Tel que trouvé et laissé)
Φ= 50° 42.4'N λ= 127°25.9'W/O Altitude 33 m

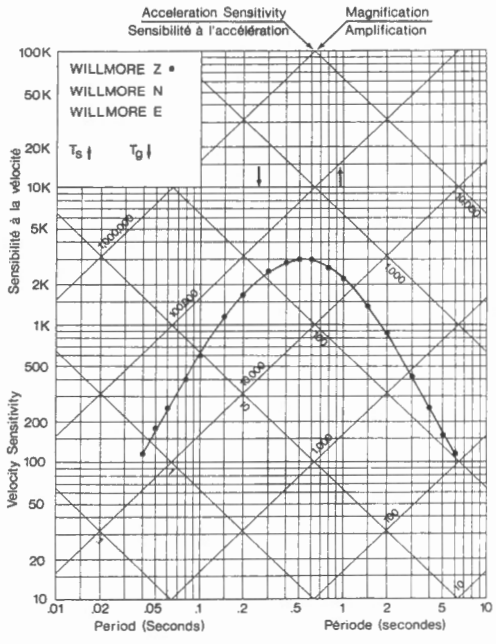
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks.
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques.



Date of Calibration 14 February, 1985
La date de calibrage le 14 février 1985
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)
Φ= 50 42.4'N λ= 127 25.9'W/O Altitude 33 m

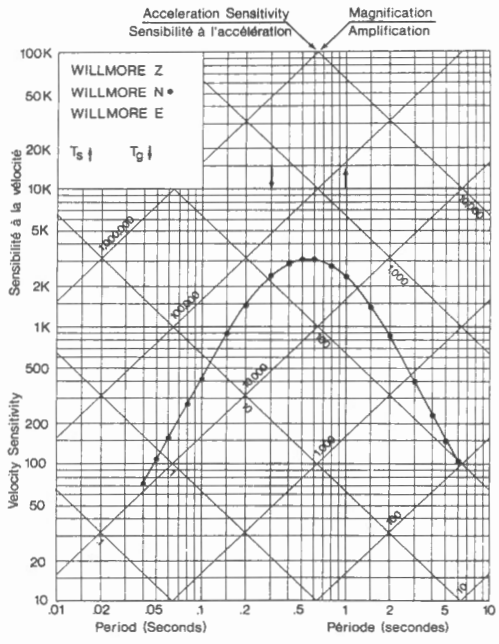
Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



Date of Calibration: September 22, 1987
La date de calibrage: le 22 septembre 1987
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)
Φ= 50 42.4'N λ= 127 25.9'W/O Altitude 33 m

Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks
Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



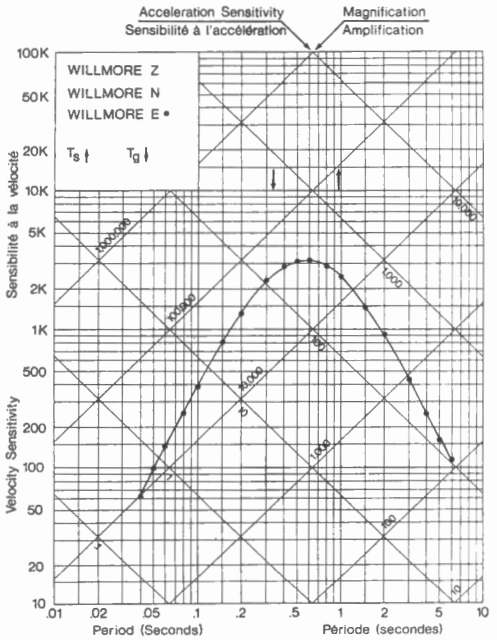
Date of Calibration: September 22, 1987
La date de calibrage: le 22 septembre 1987
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)

Φ= 50 42.4'N λ= 127 25.9'W/O Altitude 33 m

Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks

Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



Date of Calibration: September 22, 1987
La date de calibrage: le 22 septembre 1987

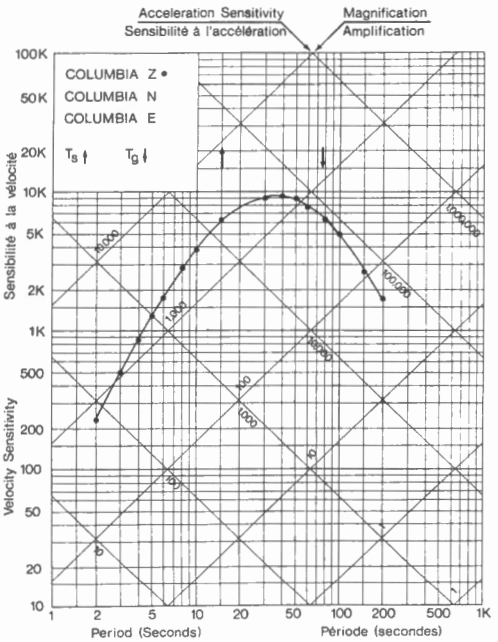
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)

Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks

Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



Date of Calibration: September 23, 1987
La date de calibrage: le 23 septembre 1987

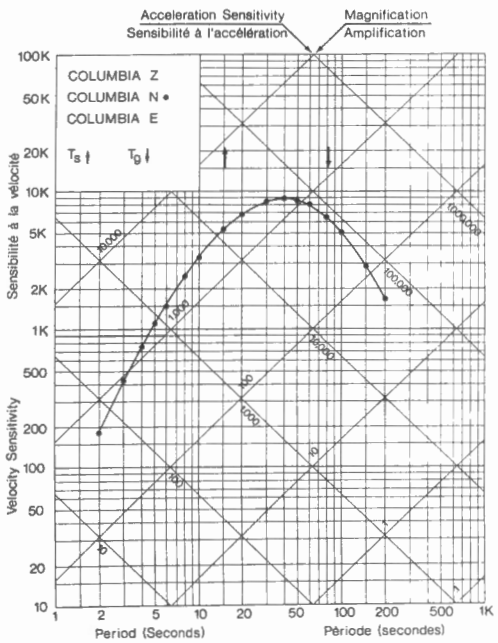
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)

Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks

Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



Date of Calibration: September 23, 1987
La date de calibrage: le 23 septembre 1987

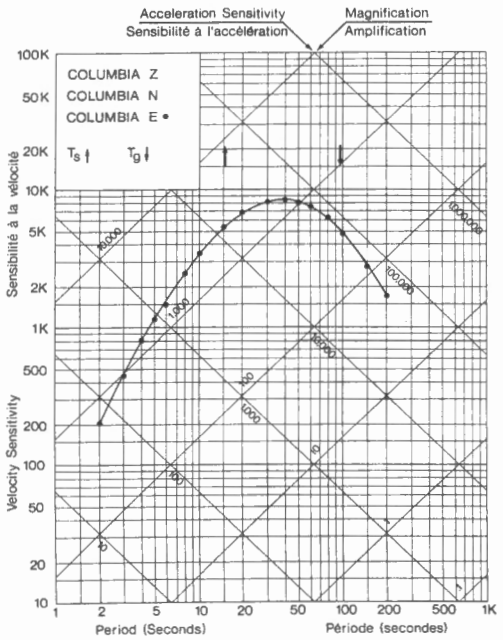
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION PORT HARDY, B.C./C.-B. (PHC)
(As found/tel que trouvé)

Φ= 50° 42.4'N λ= 127° 25.9'W/O Altitude 33 m

Geological Structure: Mesozoic, Triassic sedimentary and volcanic rocks

Formation géologique: Roches mésozoïques, roches triassiques sédimentaires et roches volcaniques



Date of Calibration: September 24, 1987
La date de calibrage: le 24 septembre 1987

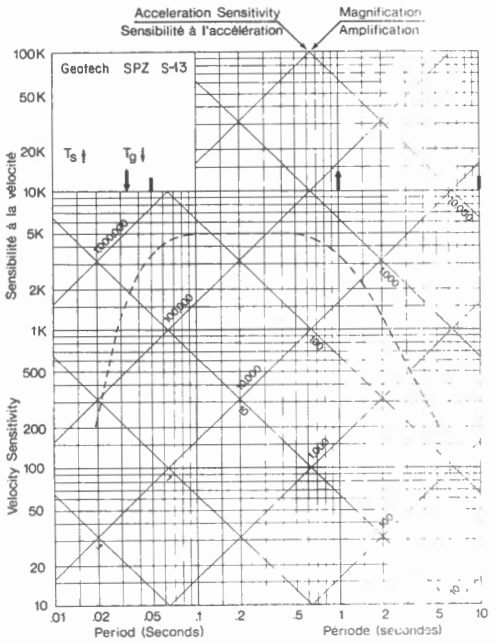
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION PENDER ISLAND , B.C. / C.B. (WCTN / RTOC) (PIB)

Φ= 48° 49' N λ= 123° 49' W/O Altitude 60m

Geological Structure: Sandstone

Formation géologique: Grès



Date of Calibration February 7, 1980
La date de calibrage le 7 février, 1980

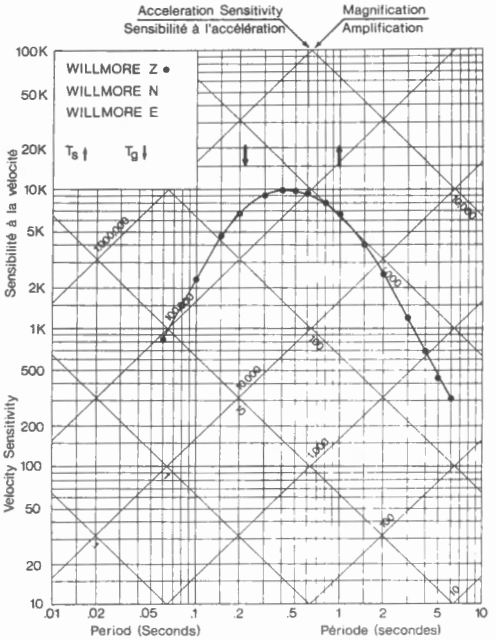
Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences de filtres. (|)

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouvé et laissé)

Φ= 49° 19.37'N λ= 119° 37.47'W/O Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



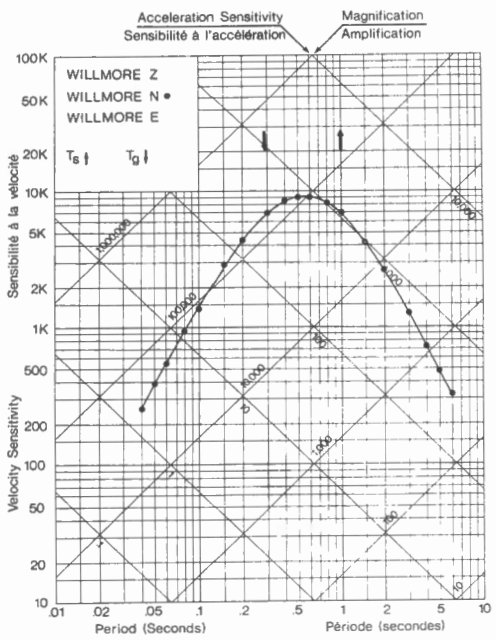
Date of Calibration: 23 August, 1986
La date de calibrage le 23 août 1986
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouve et laissé)

Φ= 49° 19.37'N λ= 119° 37.47'W/O Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



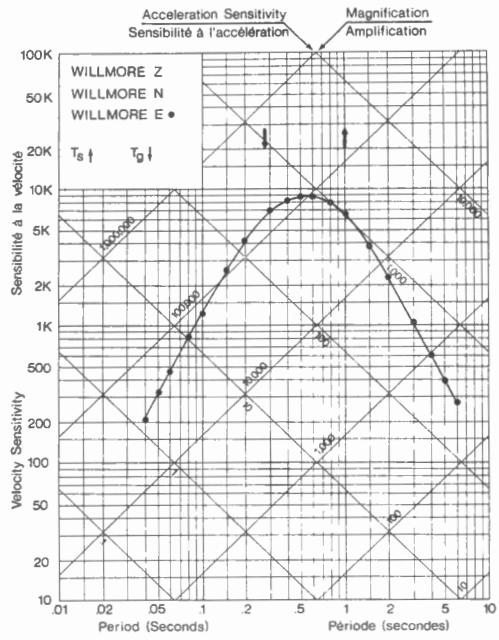
Date of Calibration 23 August, 1986
La date de calibrage le 23 août 1986
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouvé et laissé)

Φ= 49° 19.37'N λ= 119° 37.47'W/O Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



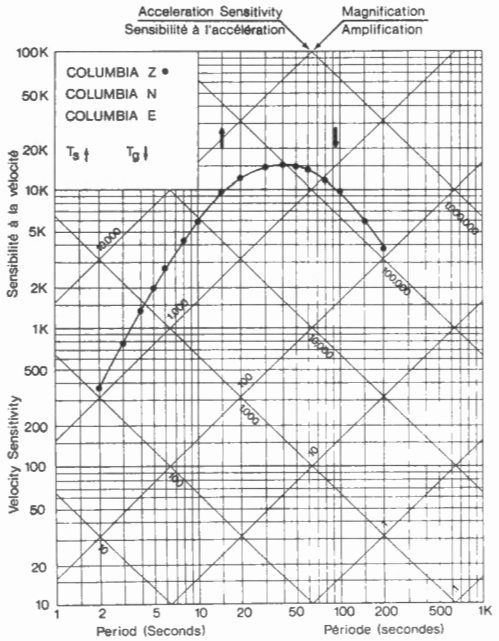
Date of Calibration 23 August, 1986
La date de calibrage le 23 août 1986
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouvé et laissé)

Φ• 49° 19.37'N λ• 119° 37.47'W/0 Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



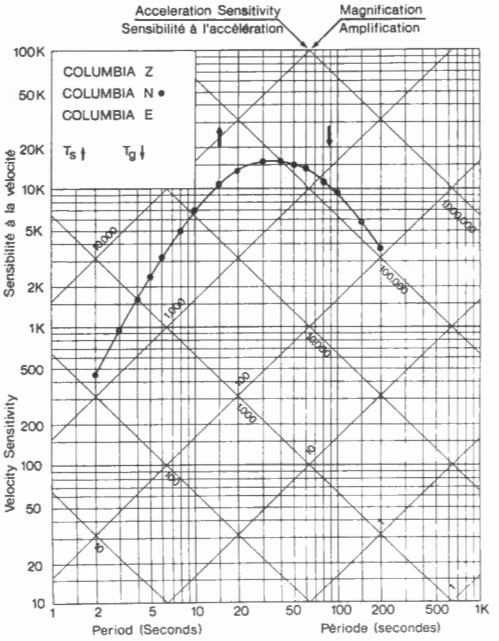
Date of Calibration: 24 August, 1986
La date de calibrage le 24 août 1986
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouvé et laissé)

Φ• 49° 19.37'N λ• 119° 37.47'W/0 Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



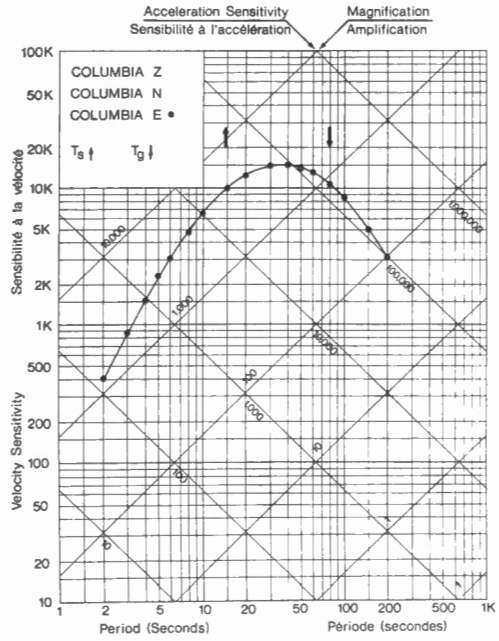
Date of Calibration 24 August, 1986
La date de calibrage le 24 août 1986
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION PENTICTON, B.C./C.-B. (PNT)
(As found and left/tel que trouvé et laissé)

Φ• 49° 19.37'N λ• 119° 37.47'W/0 Altitude 550 m

Geological Structure: Tertiary shale

Formation géologique: Argile litée tertiare



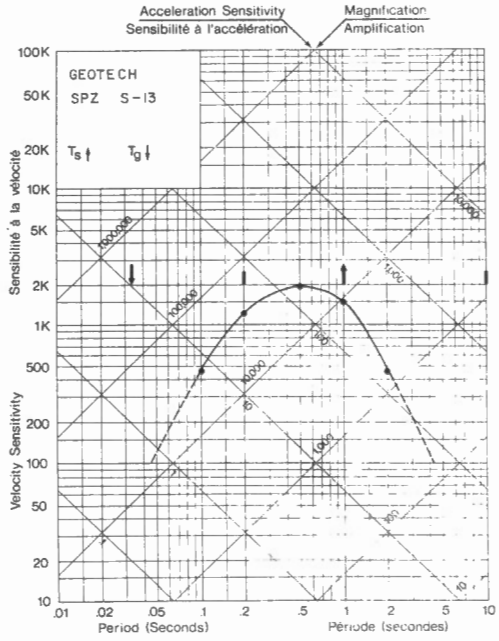
Date of Calibration 25 August, 1986
La date de calibrage le 25 août 1986
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION QUEBEC CITY, QUE (QCQ)

Φ= 46°46'44"N λ• 71°16'33"W/0 Altitude 91m

Geological Structure: Schist

Formation géologique: Schiste



Date of Calibration October 16, 1977
La date de calibrage le 16 octobre 1977

Filter frequencies are indicated by vertical bars (|)
Les barres verticales indiquent les fréquences des filtres.

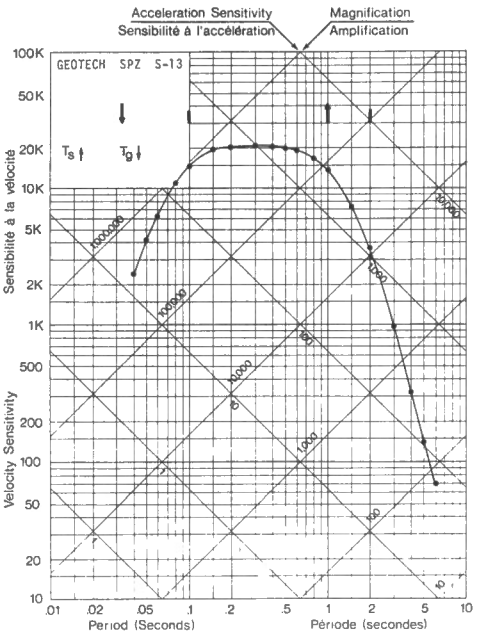
Preamp A11.30, Sep 42, Amp: 1cm/v Ø – 24db

STATION RESOLUTE BAY, N.W.T./T.N.-O. (RES)
(As found and left/tel que trouvé et laissé)

Φ= 74° 41.2'N λ= 94° 54.0'W/O Altitude 15 m

Geological Structure: Early paleozoic limestone

Formation géologique: Calcaire paléozoique inférieur



Date of Calibration 20 September, 1986
La date de calibrage le 20 septembre 1986

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

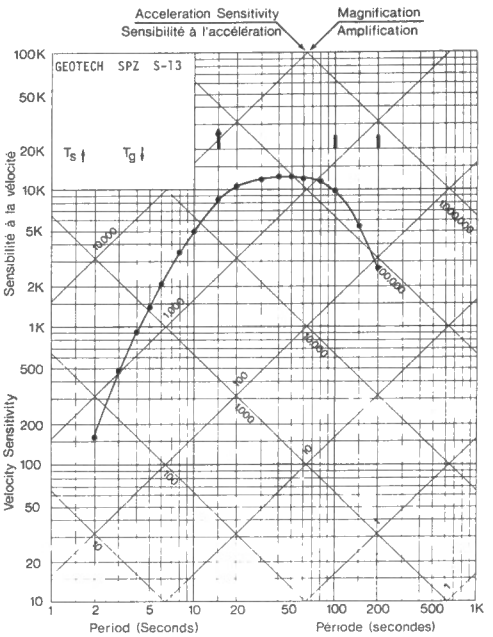
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION RESOLUTE BAY, N.W.T./T.N.-O. (RES)
(As found and left/tel que trouvé et laissé)

Φ= 74° 41.2'N λ= 94° 54.0'W/O Altitude 15 m

Geological Structure: Early paleozoic limestone

Formation géologique: Calcaire paléozoique inférieur



Date of Calibration 20 September, 1986
La date de calibrage le 20 septembre 1986

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

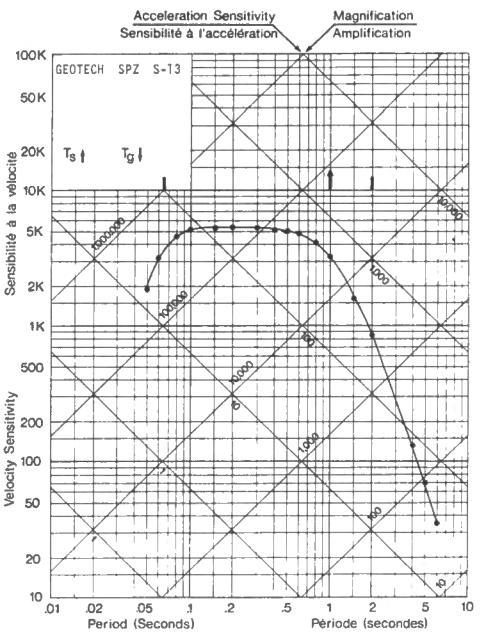
Mode: Vel, Preamp: 12, Amp: 1 cm/v

STATION SHERBROOKE, QUE. (ECTN/RTEC) (SBQ)
(Final)

Φ= 45° 22.70'N λ= 71° 55.58'W/O Altitude 265 m

Geological Structure:

Formation géologique:



Date of Calibration 5 March, 1985
La date de calibrage le 5 mars 1985

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

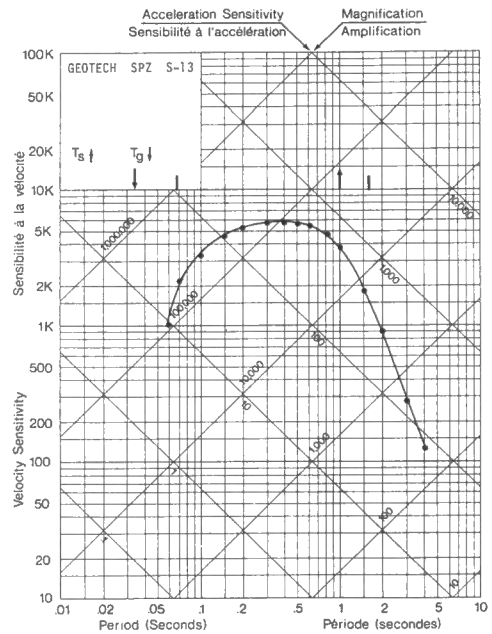
Monitor: 1, Amp: 1 cm/v

STATION SHERBROOKE, QUE. (ECTN/RTEC) (SBQ)

Φ= 45° 22.70'N λ= 71° 55.58'W/O Altitude 265 m

Geological Structure:

Formation géologique:



Date of Calibration: 14 December, 1987
La date de calibrage le 14 décembre 1987

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

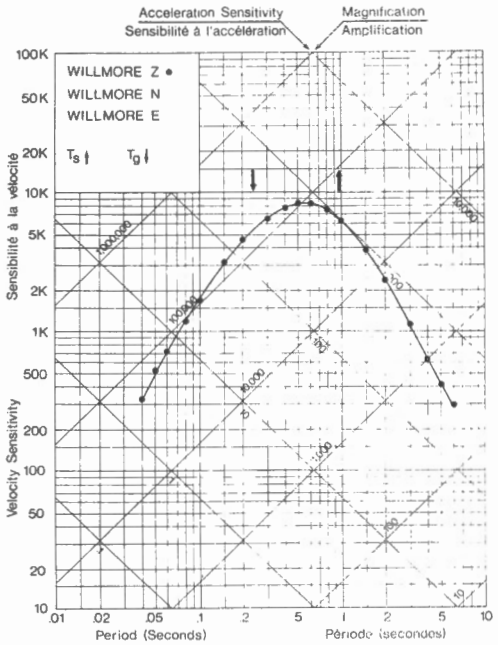
Monitor: 1, Amp: 1 cm/v

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoises Schisteuse du Précambrien



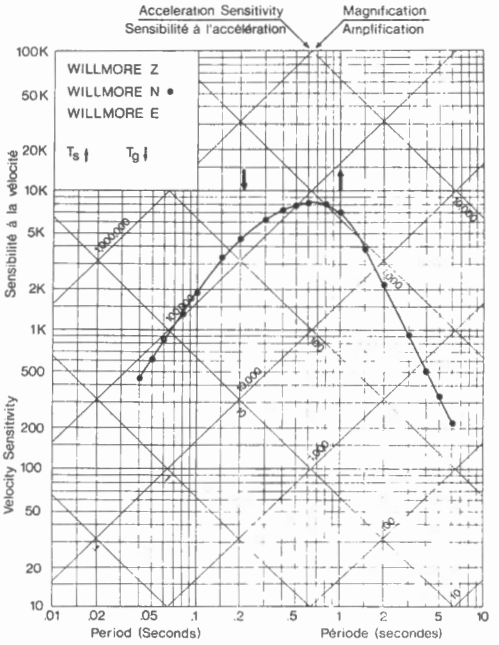
Date of Calibration 24 June, 1983
La date de calibrage le 24 juin 1983
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couche compétentes d'ardoise Schisteuse du Précambrien



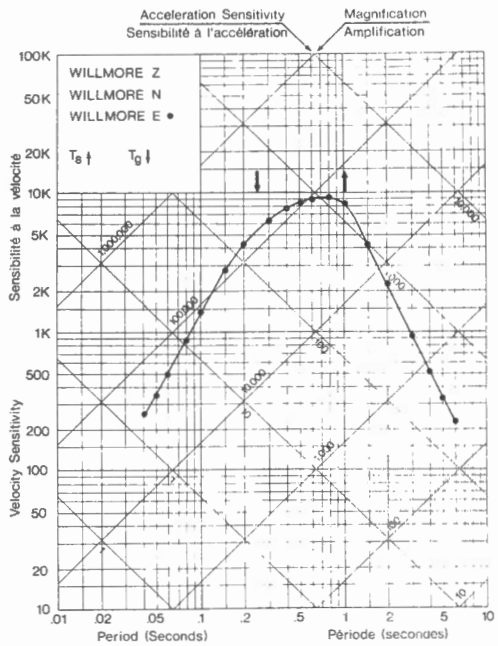
Date of Calibration 24 June, 1983
La date de calibrage le 24 juin 1983
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



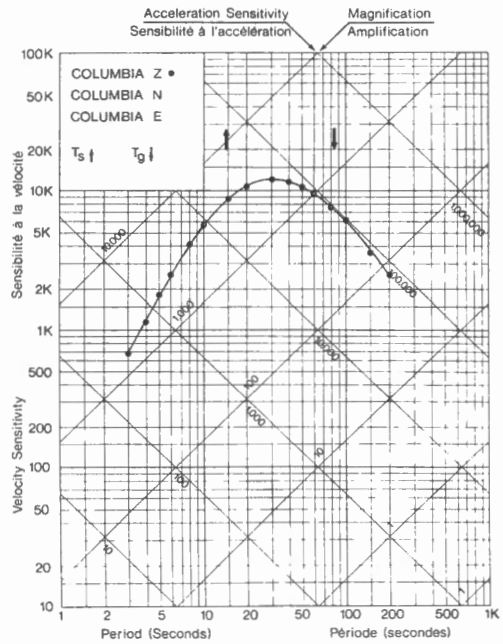
Date of Calibration 24 June, 1983
La date de calibrage le 24 juin 1983
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



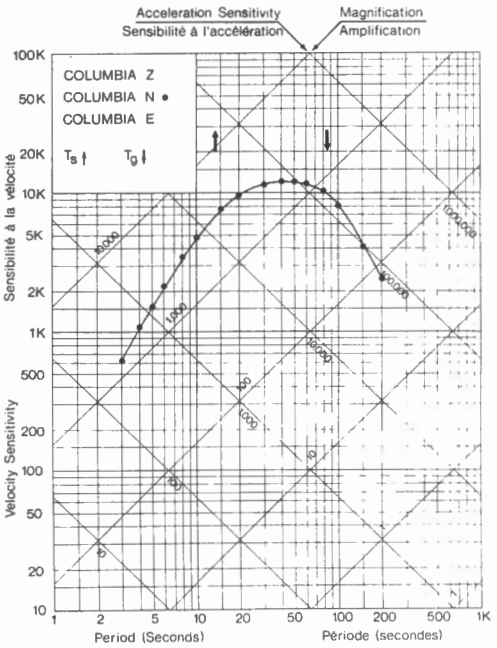
Date of Calibration 24 June, 1983
La date de calibrage le 24 juin 1983
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



Date of Calibration 24 June, 1983
La date de calibrage le 24 juin 1983

COLUMBIA Z

COLUMBIA N •

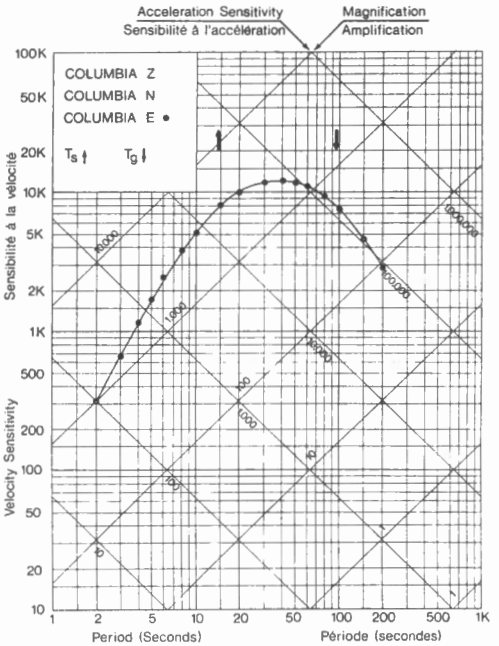
COLUMBIA E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49'N λ= 66° 47'W/O Altitude 540m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



Date of Calibration 22 June, 1983
La date de calibrage le 22 juin 1983

COLUMBIA Z

COLUMBIA N

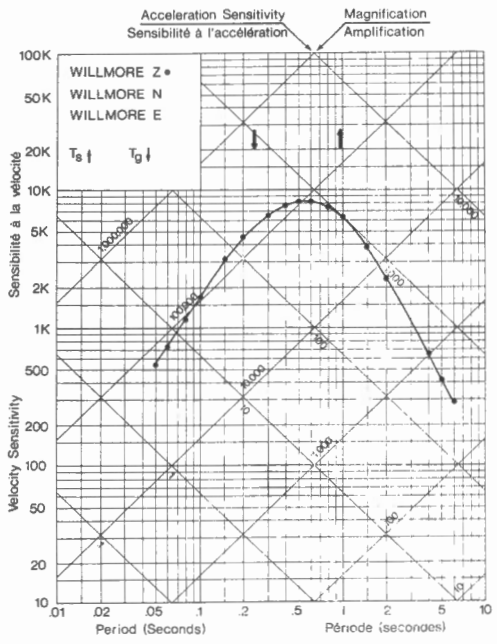
COLUMBIA E •

STATION SCHEFFERVILLE, QUE. (SCH)
(As found/tel que trouvé)

Φ= 54° 49.10'N λ= 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



Date of Calibration 11 June, 1987
La date de calibrage le 11 juin 1987

WILLMORE Z •

WILLMORE N

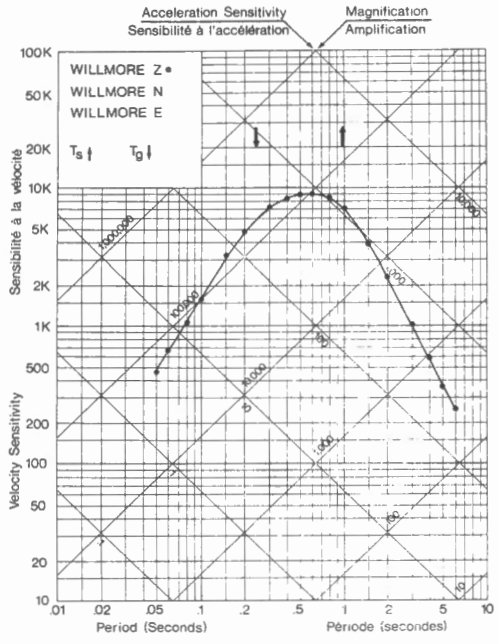
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ= 54° 49.10'N λ= 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



Date of Calibration 12 June, 1987
La date de calibrage le 12 juin 1987

WILLMORE Z •

WILLMORE N

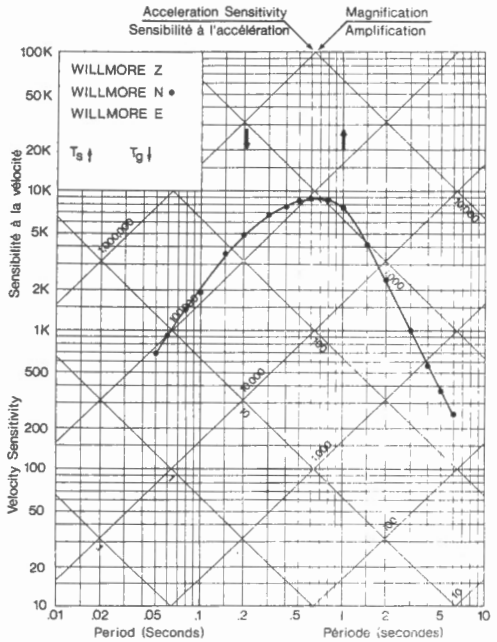
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(As found/tel que trouvé)

Φ• 54° 49.10'N λ• 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



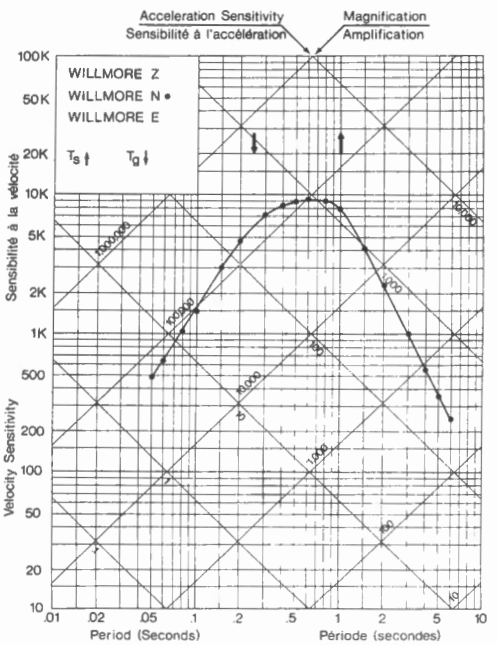
Date of Calibration 11 June, 1987
La date de calibrage le 11 juin 1987
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ• 54° 49.10'N λ• 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



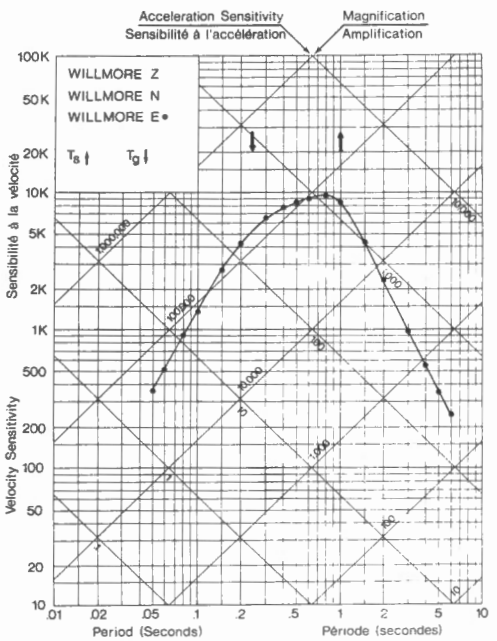
Date of Calibration 13 June, 1987
La date de calibrage le 13 juin 1987
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION SCHEFFERVILLE, QUE. (SCH)
(As found/tel que trouvé)

Φ• 54° 49.10'N λ• 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



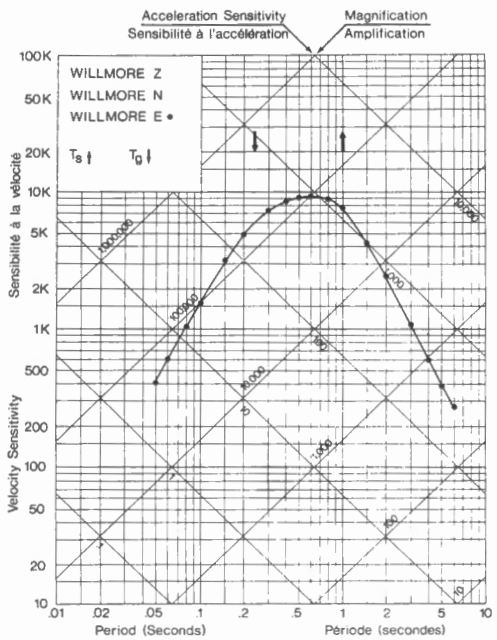
Date of Calibration 11 June, 1987
La date de calibrage le 11 juin 1987
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION SCHEFFERVILLE, QUE. (SCH)
(Final)

Φ• 54° 49.10'N λ• 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



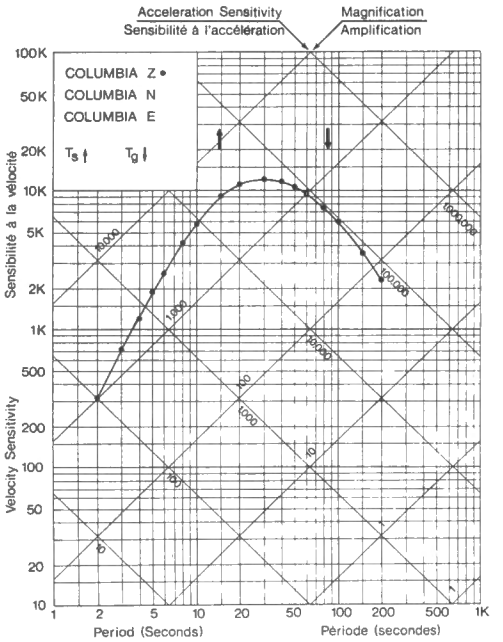
Date of Calibration 13 June, 1987
La date de calibrage le 13 juin 1987
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION SCHEFFERVILLE, QUE (SCH)
(As found and left/tel que trouvé et laissé)

Φ= 54° 49.10'N λ= 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



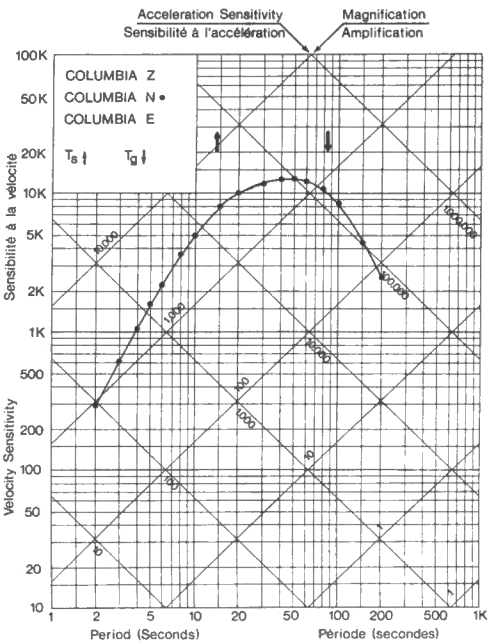
Date of Calibration 11 June, 1987
La date de calibrage le 11 juin 1987
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION SCHEFFERVILLE, QUE. (SCH)
(As found and left/tel que trouvé et laissé)

Φ= 54° 49.10'N λ= 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



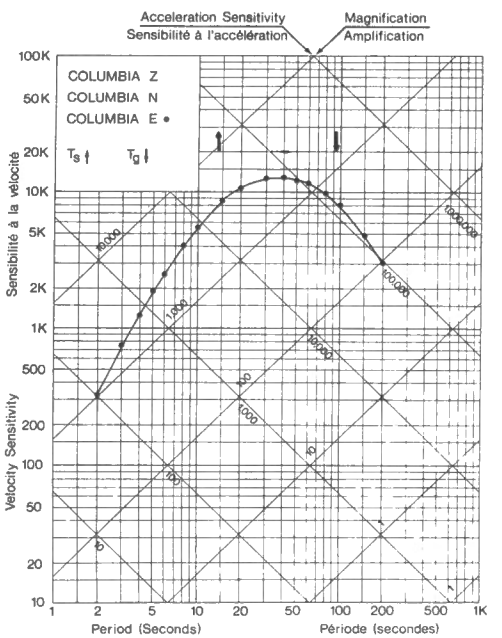
Date of Calibration: 12 June, 1987
La date de calibrage le 12 juin 1987
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION SCHEFFERVILLE, QUE. (SCH)
(As found and left/tel que trouvé et laissé)

Φ= 54° 49.10'N λ= 66° 47.00'W/O Altitude 518 m

Geological Structure: Competent Precambrian Slate-shale

Formation géologique: Couches compétentes d'ardoise Schisteuse du Précambrien



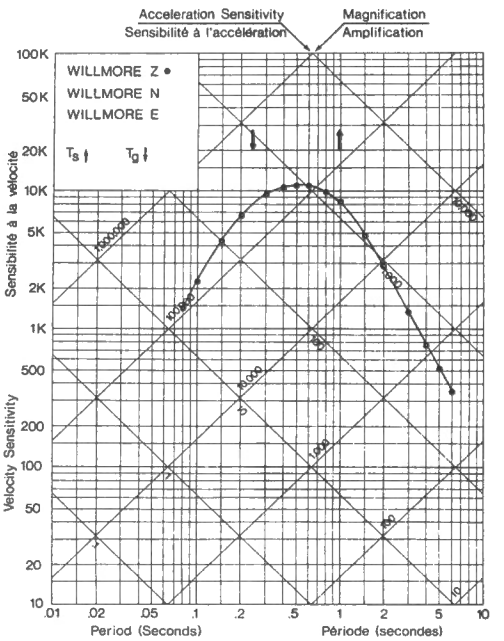
Date of Calibration 12 June, 1987
La date de calibrage: le 12 juin 1987
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION SUFFIELD, ALTA. (SES)
(As found and left/tel que trouvé et laissé)

Φ= 50° 23'45"N λ=111° 02'30"W/O Altitude 770m

Geological Structure: Competent sandstone

Formation géologique: Couches compétentes de grès



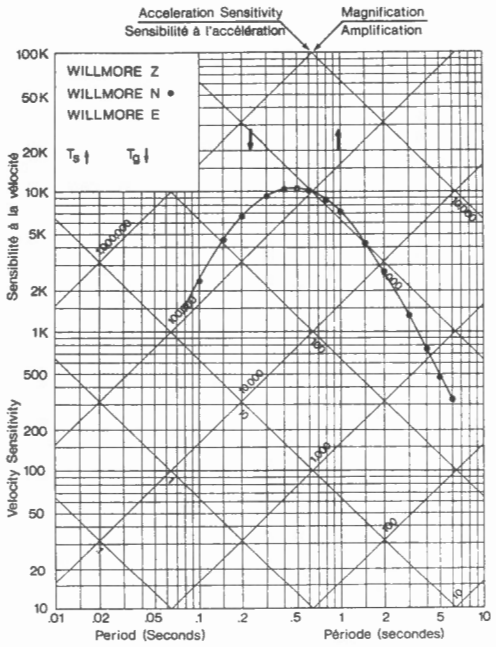
Date of Calibration: 31 January, 1984
La date de calibrage: le 31 janvier 1984
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION SUFFIELD, ALTA. (SES)
(As found and left/tel que trouvé et laissé)

Φ= 50° 23'45"N λ= 111° 02'30"W/O Altitude 770m

Geological Structure: Competent sandstone

Formation géologique: Couches copétentes de grès



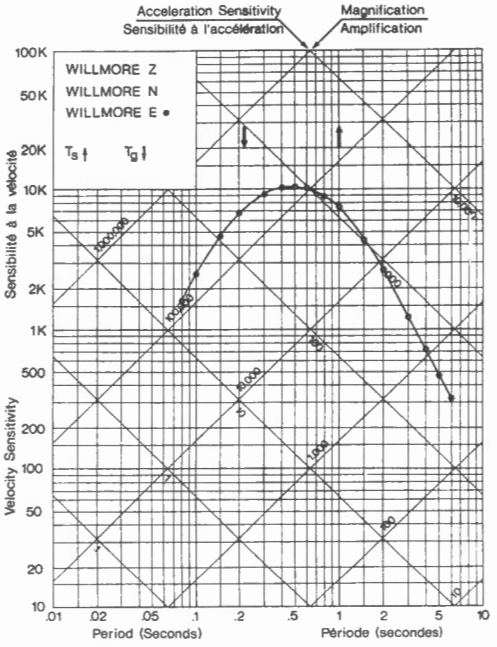
Date of Calibration: 31 January, 1984
La date de calibrage: le 31 janvier 1984
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION SUFFIELD, ALTA. (SES)
(As found and left/tel que trouvé et laissé)

Φ= 50° 23'45"N λ= 111° 02'30"W/O Altitude 770m

Geological Structure: Competent sandstone

Formation géologique: Couches compétentes de grès



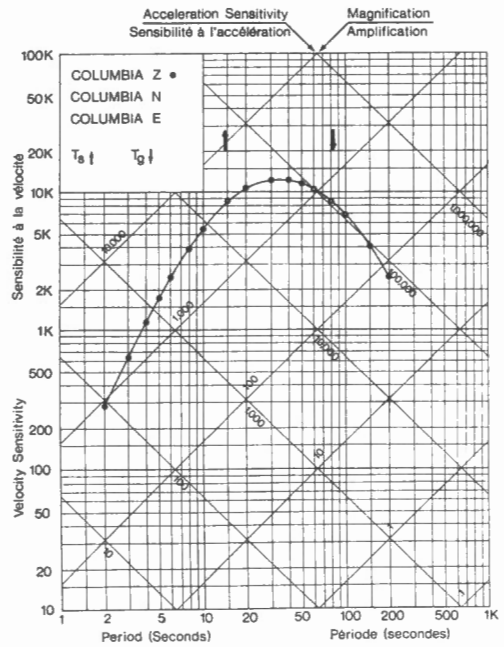
Date of Calibration: 31 January, 1984
La date de calibrage: le 31 janvier 1984
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION SUFFIELD, ALTA. (SES)
(As found and left/tel que trouvé et laissé)

Φ= 50° 23'45"N λ= 111° 02'30"W/O Altitude 770m

Geological Structure: Competent sandstone

Formation géologique: Couches compétentes de grès



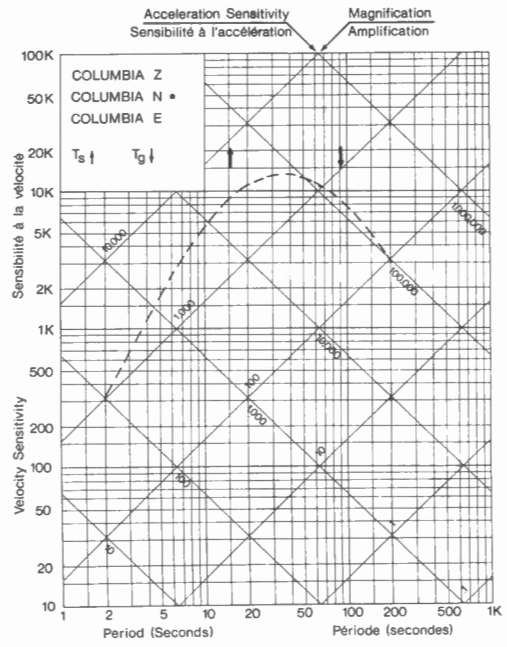
Date of Calibration: 1 February, 1984
La date de calibrage: le 1er février 1984
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION SUFFIELD, ALTA. (SES)

Φ= 50° 23'45"N λ= 111° 02'30"W/O Altitude 770 m

Geological Structure: Competent sandstone

Formation géologique: Couches compétentes de grès



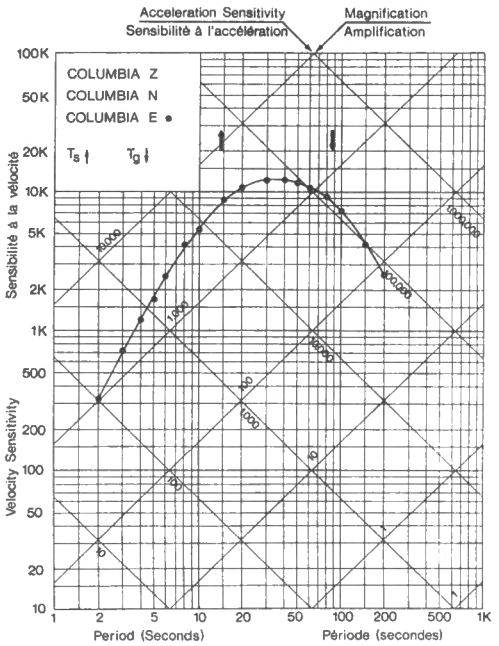
Date of Calibration: 21 November, 1986
La date de calibrage: le 21 novembre 1986
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION SUFFIELD, ALTA. (SES)
(As found and left/tel que trouvé et laissé)

Φ= 50° 23'45"N λ= 111° 02'30"W/O Altitude 770m

Geological Structure: Competent sandstone

Formation géologique: Couches compétentes de grès



Date of Calibration 2 February, 1984
La date de calibrage le 2 février 1984

COLUMBIA Z

COLUMBIA N

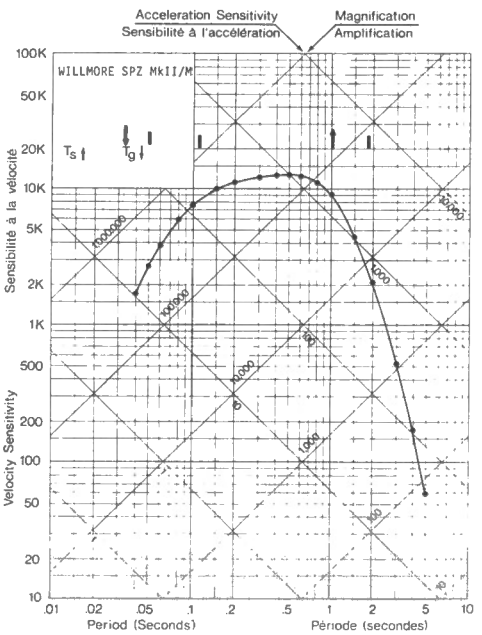
COLUMBIA E •

STATION SEPT-ILES, QUE. (SIC)
(As found and left/tel que trouvé et laissé)

Φ= 50° 10.3'N λ= 66° 44.3'W/O Altitude 283 m

Geological Structure: Anorthosite

Formation géologique: Anorthose



Date of Calibration 9 June, 1987
La date de calibrage le 9 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

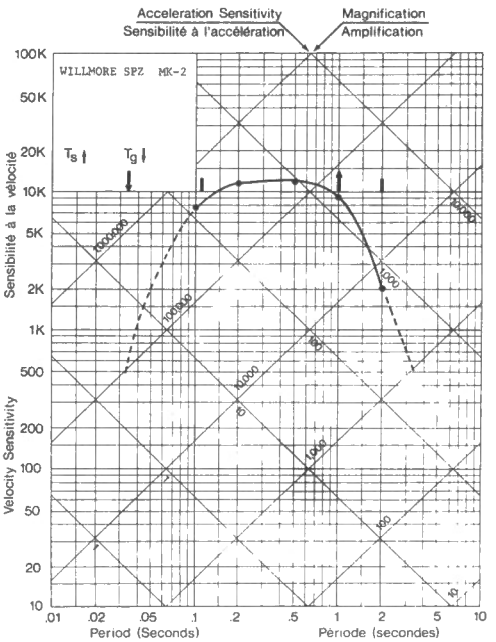
Amp: 1 cm/v

STATION SEPT-ILES, QUE. (SIC)
(As found and left/Telque trouvé et laissé)

Φ= 50° 10.3'N λ= 66° 44.3'W/O Altitude 283m

Geological Structure: Anorthosite

Formation géologique: Anorthose



Date of Calibration October 25,1978
La date de calibrage le 25 octobre,1978

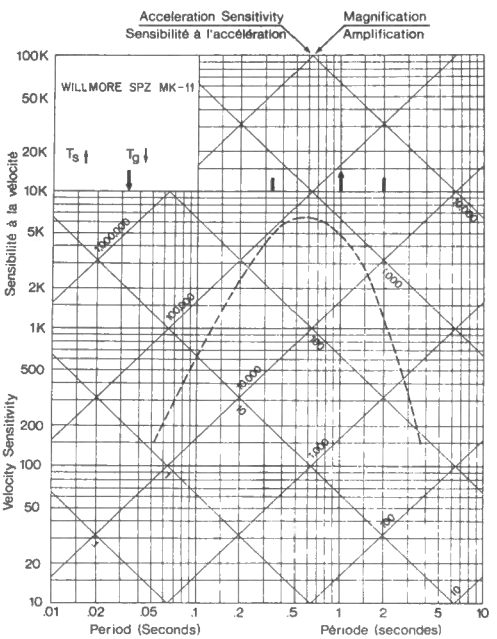
Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

STATION SKIDEGATE, B.C./ C.- B. (SKB)

Φ= 53°14.87'N λ= 131°59.78' W/O Altitude 10m

Geological Structure: Jurassic pyroclastic sediments

Formation géologique: Sédiments pyroclastiques du jurassique



Date of Calibration: October 20,1978
La date de calibrage le 20 octobre 1978

Filter frequencies are indicated by vertical bars (|)
Les barres verticales indiquent les fréquences des filtres.

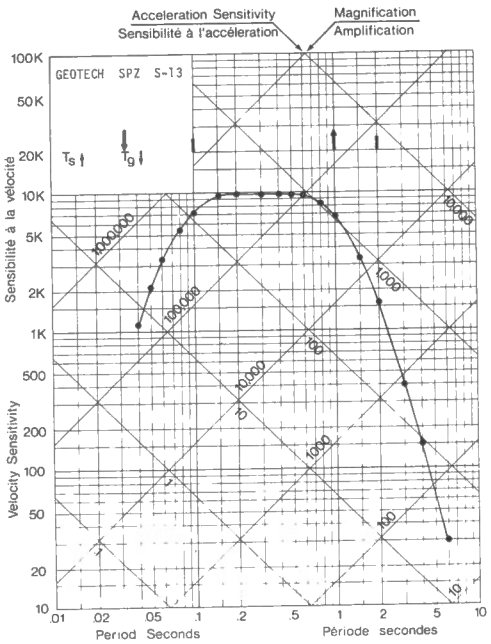
Preamp: Sep 30, Att.24, Amp:1cm/v

STATION SAINT-LOUIS-DU-HA! HA!, QUE. (SLQ)

Φ= λ= Altitude

Foundation:

Fondation:



Dates of Calibration: 15 May, 1984
Les dates de calibration: le 15 mai 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

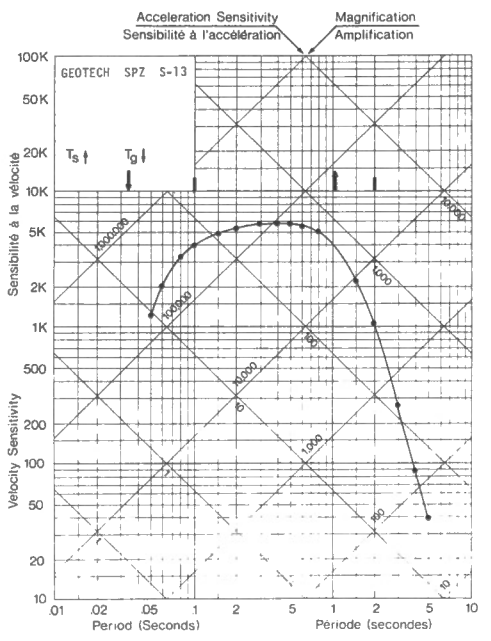
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION SHINGLE POINT, N.W.T./T.N.-O. (SPY)

Φ= 68° 55.3'N λ= 137° 15.6'W/O Altitude 35 m

Geological Structure:

Formation géologique:



Date of Calibration 16 August, 1986
La date de calibrage le 16 août 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

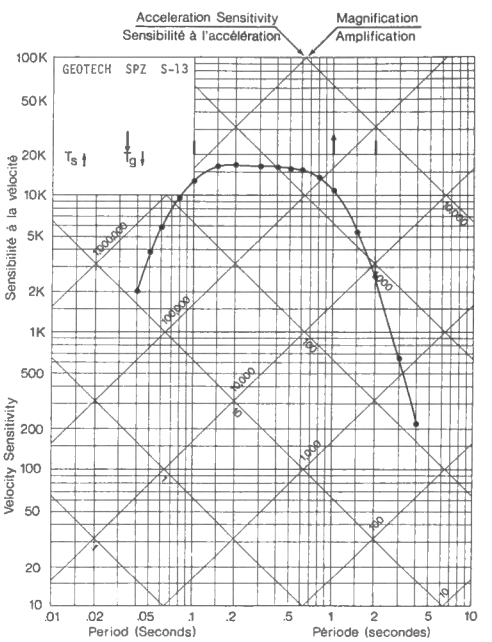
Mode: Vel, Preamp: 06, Amp: 1 cm/v

STATION SIOUX LOOKOUT, ONT. (SOO)

Φ= 50° 04.57'N λ= 91° 53.28'W/O Altitude 35 m

Geological Structure:

Formation géologique:



Date of Calibration: 10 June, 1987.
La date de calibrage le 10 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

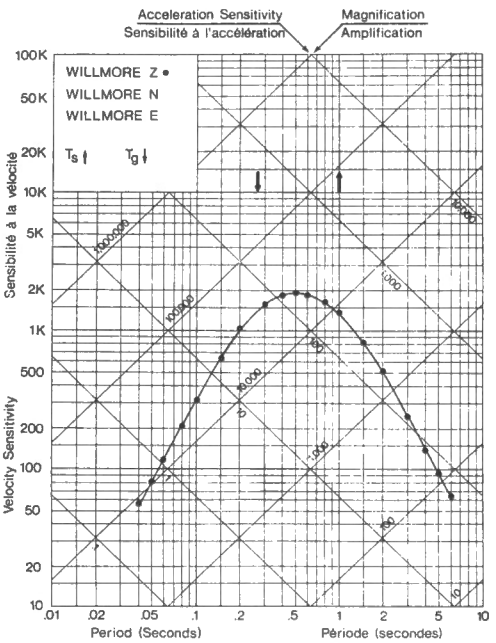
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION ST JOHN'S, NFLD./T.N. (STJ)
(Final)

Φ= 47° 34.3'N λ= 52° 44.0'W/O Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



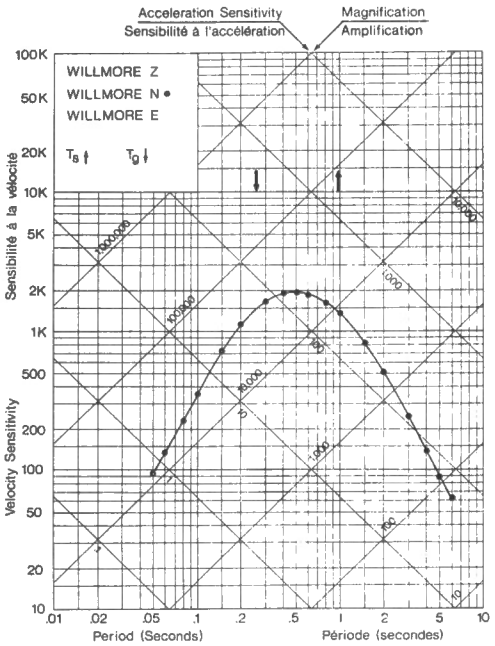
Date of Calibration 6 May, 1983
La date de calibrage le 6 mai 1983
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION ST. JOHN'S, NFLD./T.N. (STJ)
(Final)

Φ= 47° 34.3'N λ= 52° 44.0'W/O Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



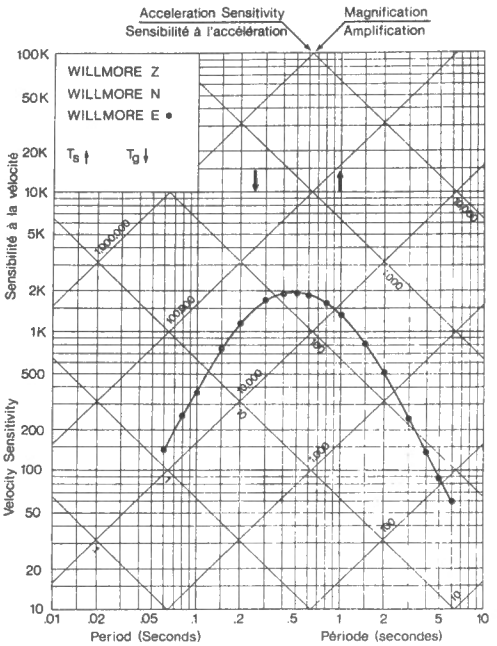
Date of Calibration 3 May, 1983
La date de calibrage le 3 mai 1983
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION ST. JOHN'S, NFLD./T.N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.3'N λ= 52° 44.0'W/O Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



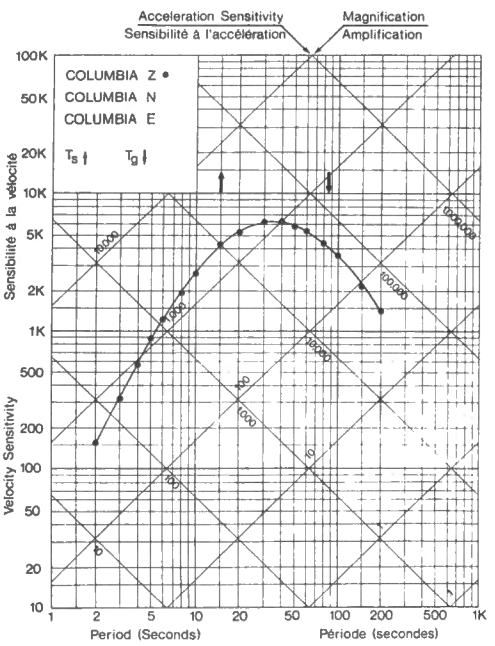
Date of Calibration 3 May, 1983
La date de calibrage le 3 mai 1983
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION ST. JOHN'S, NFLD./T.N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.3'N λ= 52° 44.0'W/O Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



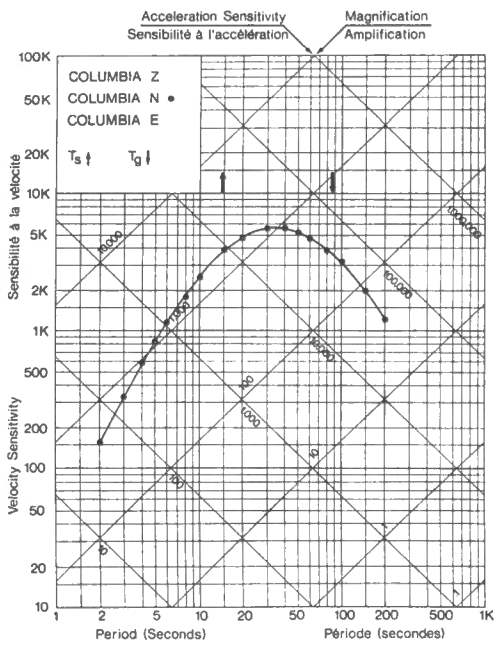
Date of Calibration 4 May, 1983
La date de calibrage le 4 mai 1983
COLUMBIA Z •
COLUMBIA N
COLUMBIA E

STATION ST. JOHN'S, NFLD./T.N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.3'N λ= 52° 44.0'W/O Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



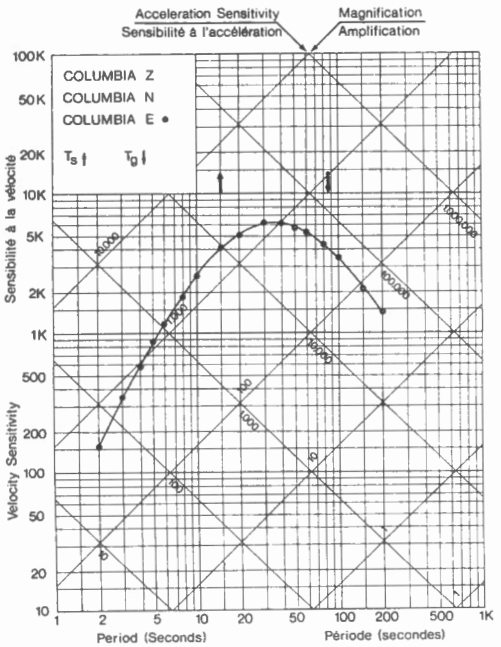
Date of Calibration 5 May, 1983
La date de calibrage le 5 mai 1983
COLUMBIA Z
COLUMBIA N •
COLUMBIA E

STATION ST. JOHN'S, NFLD./T.N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.3'N λ= 52° 44.0'W/0 Altitude 62m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



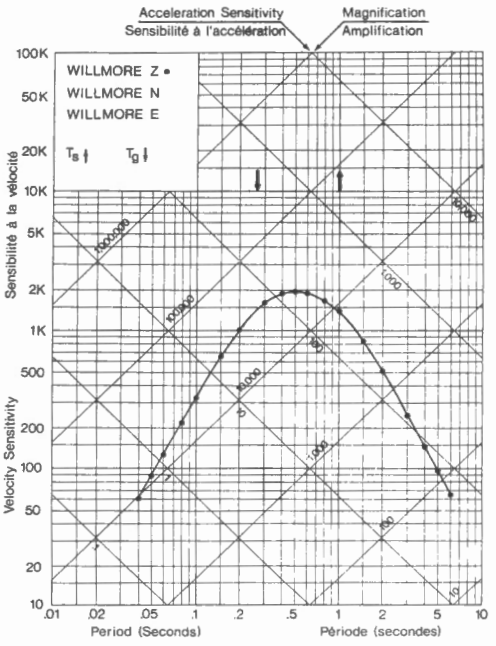
Date of Calibration 5 May, 1983
La date de calibrage le 5 mai 1983
COLUMBIA Z
COLUMBIA N
COLUMBIA E •

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.30'N λ= 52° 43.97'W/0 Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



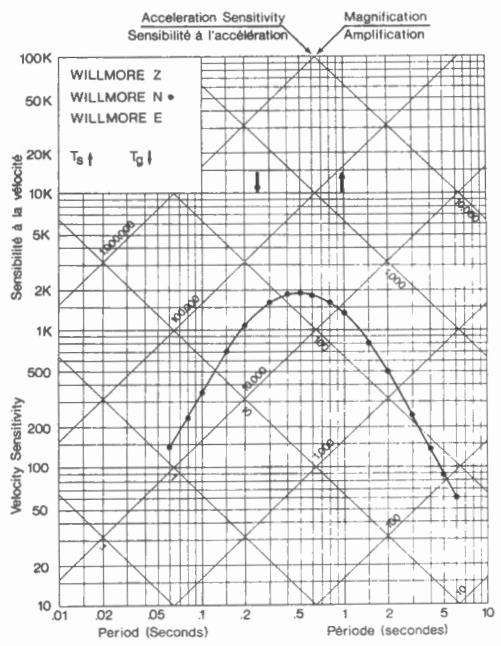
Date of Calibration: 12 November, 1987
La date de calibrage le 12 novembre 1987
WILLMORE Z •
WILLMORE N
WILLMORE E

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.30'N λ= 52° 43.97'W/0 Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



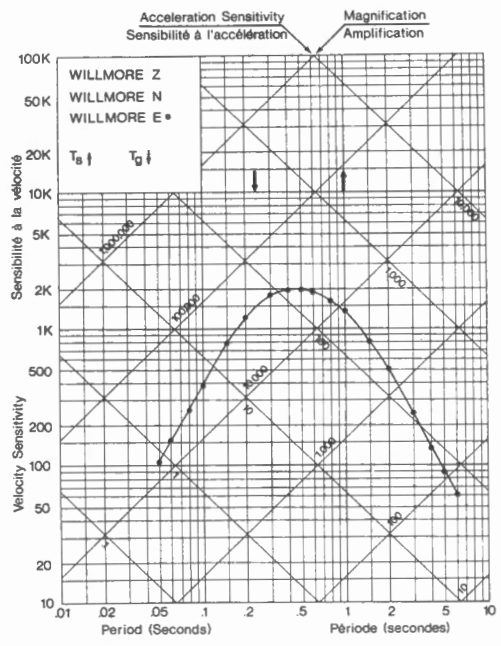
Date of Calibration 12 November, 1987
La date de calibrage le 12 novembre 1987
WILLMORE Z
WILLMORE N •
WILLMORE E

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ= 47° 34.30'N λ= 52° 43.97'W/0 Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite siliceuse



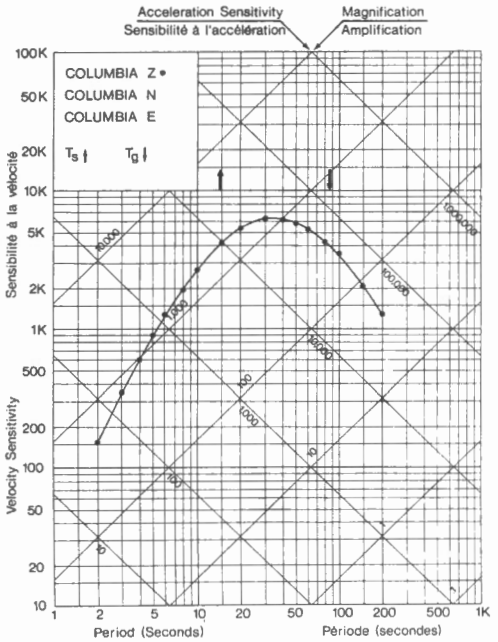
Date of Calibration: 12 November, 1987
La date de calibrage: 1e 12 novembre 1987
WILLMORE Z
WILLMORE N
WILLMORE E •

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ• 47° 34.30'N λ• 52° 43.97'W/O Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite silicieuse



Date of Calibration: 12 November, 1987
La date de calibrage: le 12 novembre 1987

COLUMBIA Z •

COLUMBIA N

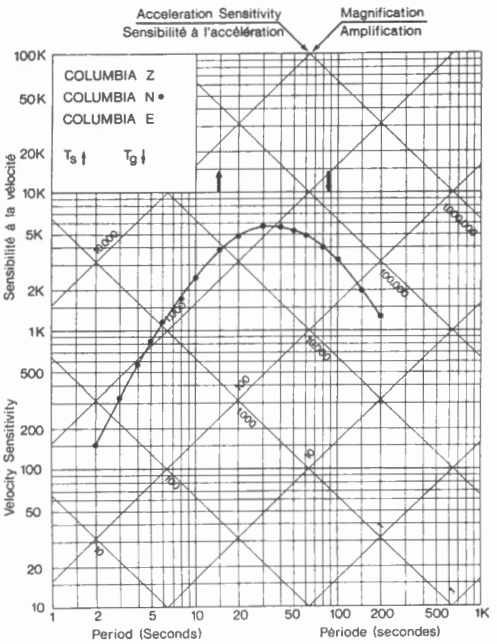
COLUMBIA E

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ• 47° 34.30'N λ• 52° 43.97'W/O Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite silicieuse



Date of Calibration: 13 November, 1987
La date de calibrage: le 13 novembre 1987

COLUMBIA Z

COLUMBIA N •

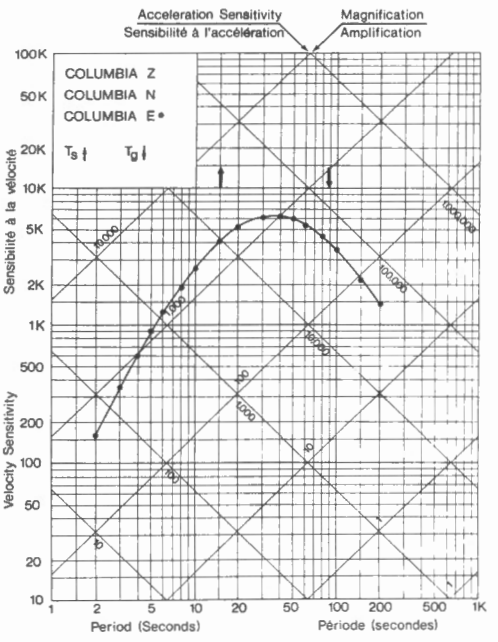
COLUMBIA E

STATION ST. JOHN'S, NFLD./T.-N. (STJ)
(As found and left/tel que trouvé et laissé)

Φ• 47° 34.30'N λ• 52° 43.97'W/O Altitude 62 m

Geological Structure: Precambrian, Siliceous mudstone

Formation géologique: Précambrien, pelite silicieuse



Date of Calibration: 13 November, 1987
La date de calibrage: le 13 novembre 1987

COLUMBIA Z

COLUMBIA N

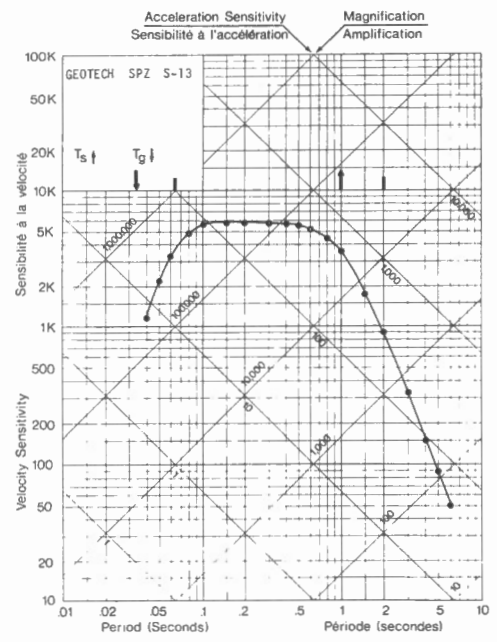
COLUMBIA E •

STATION SCIENCE NORTH, SUDBURY, ONT. (ECTN/RTEC) (SUO)

Φ• 46° 24.16'N λ• 81° 00.41'W/O Altitude 252 m

Geological Structure:

Formation géologique:



Date of Calibration: 14 December, 1984
La date de calibrage: le 14 décembre 1984

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

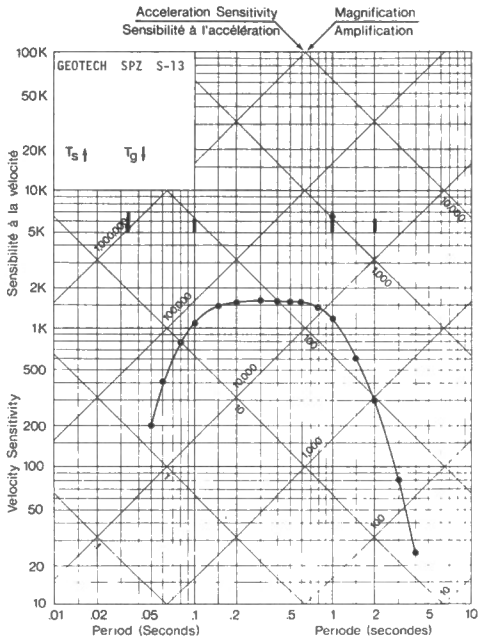
Monitor 1; Amp: 1 cm/v

STATION SACHS HARBOUR, N.W.T./T.N.-O. (SXT)

Φ= 71° 59.35'N λ= 125° 14.38'W/O Altitude 77 m

Geological Structure:

Formation géologique:



Date of Calibration 14 August, 1986
La date de calibrage le 14 août 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

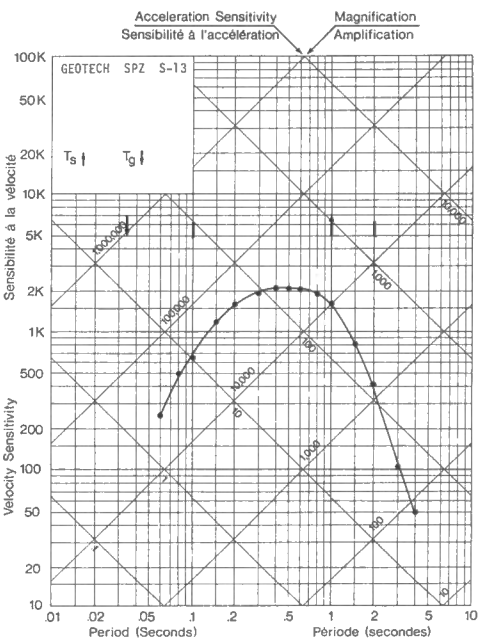
Mode: Vel, Preamp: 02, Amp: 1 cm/v

STATION SACHS HARBOUR, N.W.T./T.N.-O. (SXT)

Φ= 71° 59.35'N λ= 125° 14.38'W/O Altitude 77 m

Geological Structure:

Formation géologique:



Date of Calibration: 2 October, 1987
La date de calibrage: le 2 octobre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

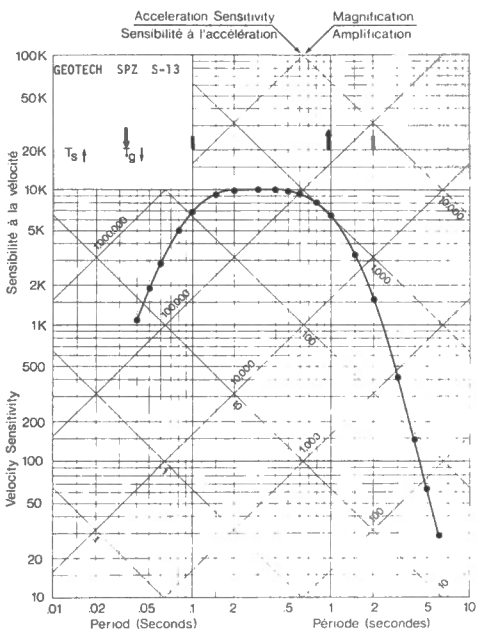
Mode: Vel, Preamp: 3, Amp: 1 cm/v

STATION THUNDER BAY, ONT. (TBO)

Φ= 48° 38.84'N λ= 89° 24.50'W/O Altitude 468 m

Geological Structure:

Formation géologique:



Date of Calibration 23 January, 1987
La date de calibrage le 23 janvier 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

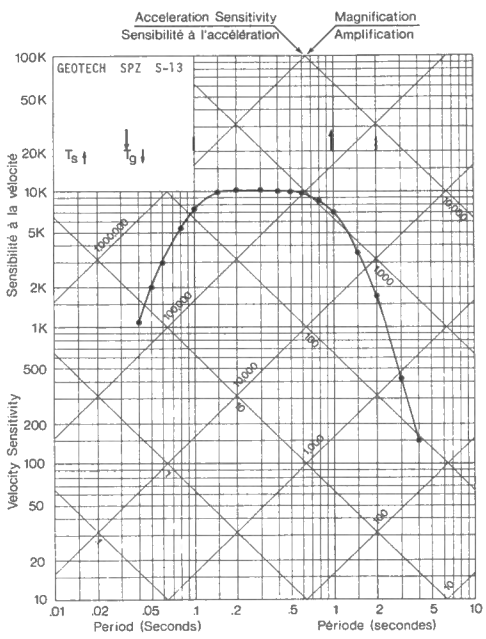
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION THUNDER BAY, ONT. (TBO)
(As found/tel que trouvé)

Φ= 48° 38.84'N λ= 89° 24.50'W/O Altitude 468 m

Geological Structure:

Formation géologique:



Date of Calibration: 11 June, 1987
La date de calibrage: le 11 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

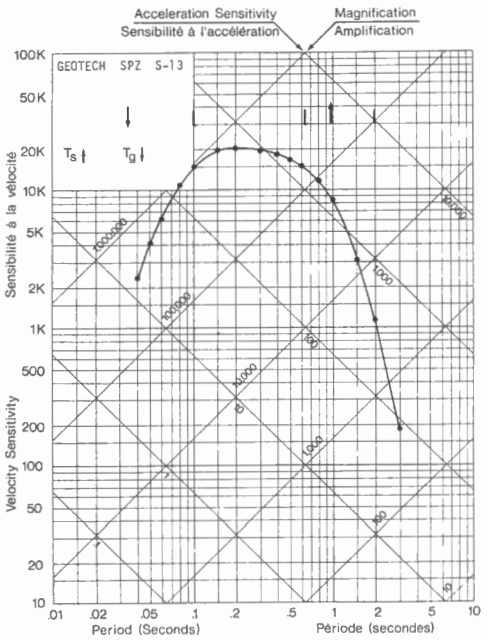
Mode: Vel, Preamp: 10, Amp: 1 cm/v

STATION THUNDER BAY, ONT. (TBO)
(Final)

Φ= 48° 38.84'N λ= 89° 24.50'W/0 Altitude 468 m

Geological Structure:

Formation géologique:



Date of Calibration 11 June, 1987
La date de calibrage le 11 juin 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

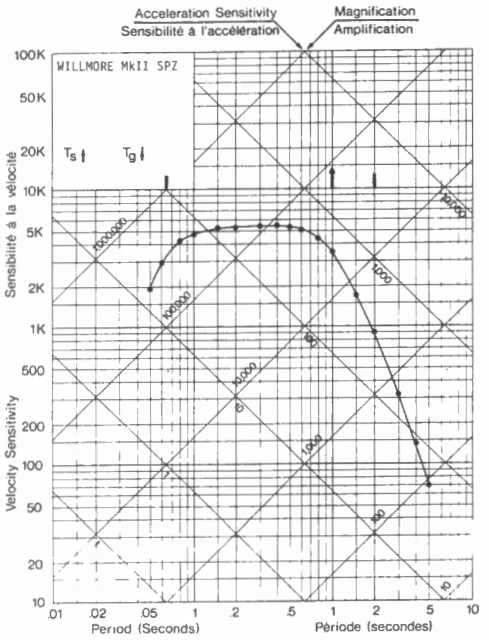
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION MONT TREMBLANT, QUE. (ECTN/RTEC) (TRQ)

Φ= 46° 13.33'N λ= 74° 33.34'W/0 Altitude 853 m

Geological Structure:

Formation géologique:



Date of Calibration 22 October, 1986
La date de calibrage le 22 octobre 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

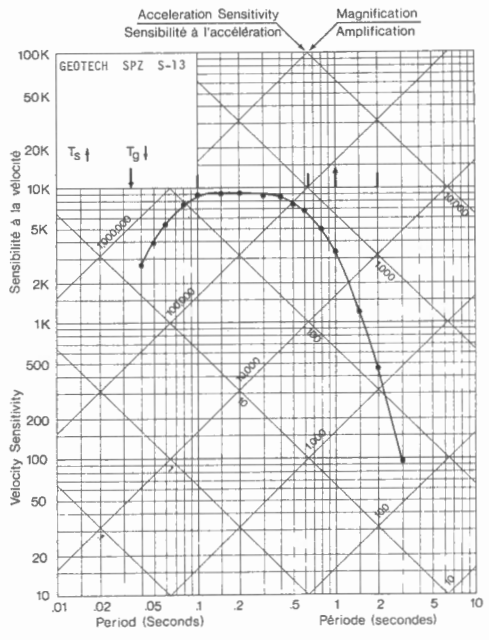
Monitor: 1, Amp: 1 cm/v

STATION MONT TREMBLANT, QUE. (ECTN/RTEC) (TRQ)

Φ= 46° 13.33'N λ= 74° 33.34'W/0 Altitude 853 m

Geological Structure:

Formation géologique:



Date of Calibration: 13 August, 1987.
La date de calibrage le 13 août 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

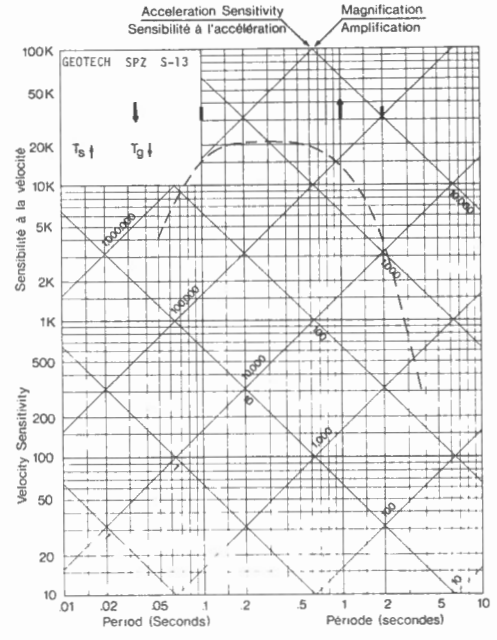
Monitor: 2, Amp: 1 cm/v

STATION LAC-DU-BONNET, MAN. (ULM)

Φ= 50° 14.99'N λ= 95° 52.50'W/0 Altitude 281 m

Geological Structure:

Formation géologique:



Date of Calibration 4 September, 1984
La date de calibrage le 4 septembre 1984

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

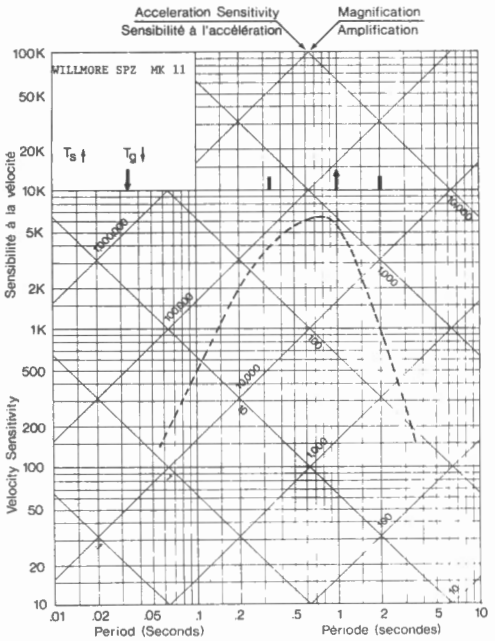
Mode: Vel, Preamp: 20, Amp: 1 cm/v

STATION FREDERICTON,N.B./N.-B. (UNB)

Φ= 45°57'N λ= 66°38'W/O Altitude 56m

Geological Structure: Cenozoic,early post-glacial rock

Formation géologique: Roches post-glaciaires du Cénozoïque inférieur.



Date of Calibration June 7,1979
La date de calibrage le 7 juin 1979

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

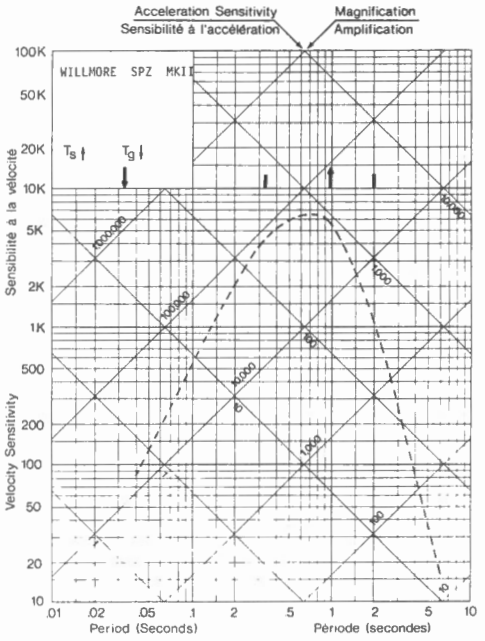
Preamp:Sep.30,Att.24,Amp:1cm/v

STATION FREDERICTON, N.B./N.-B. (UNB)

Φ= 45° 56.77'N λ= 66° 38.65'W/O Altitude 64 m

Geological Structure: Cenezoic early post-glacial rock

Formation géologique: Roches post-glaciaires du Cénozoïque inférieur



Date of Calibration 9 November, 1987
La date de calibrage le 9 novembre 1987

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

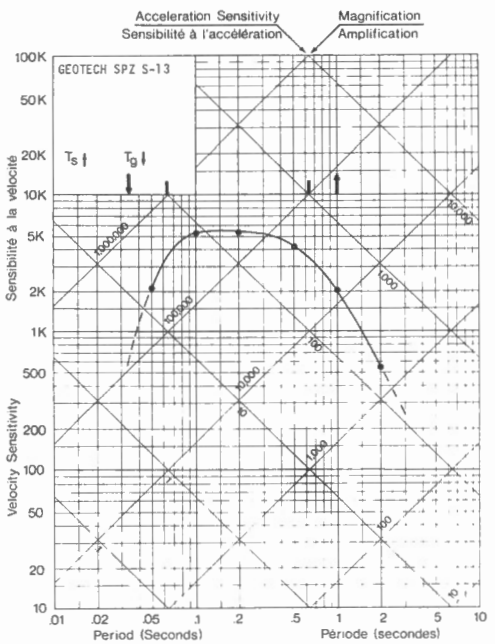
Preamp:Sep.30,Att.24;Amp:1cm/v

STATION WELCOME, ONT. (ECTN/RTEC) (WEO)

Φ= 44° 01.12'N λ= 78° 22.46'W/O Altitude 149m

Geological Structure:

Formation géologique:



Date of Calibration 30 April, 1982
La date de calibrage le 30 avril 1982

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

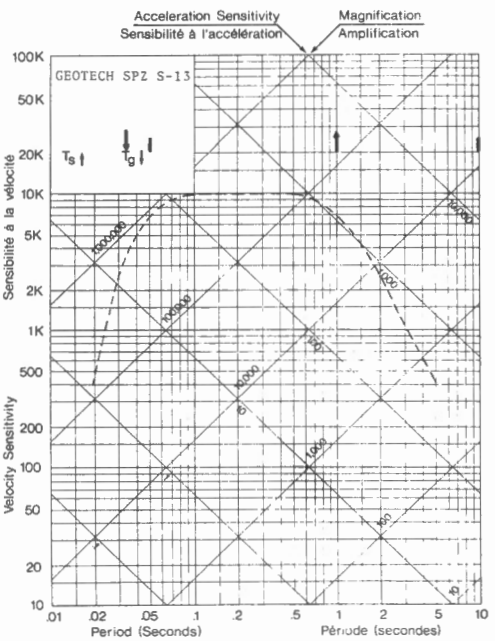
Button/bouton:4; Amp: 1cm/v

STATION WHISTLER, B.C./C.-B. (WCTN/RTOC) (WHB)

Φ= 50°07.68'N λ= 122°57.32'W/O Altitude 695m

Geological Structure:

Formation géologique:



Date of Calibration November 9, 1981
La date de calibrage le 9 novembre 1981

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

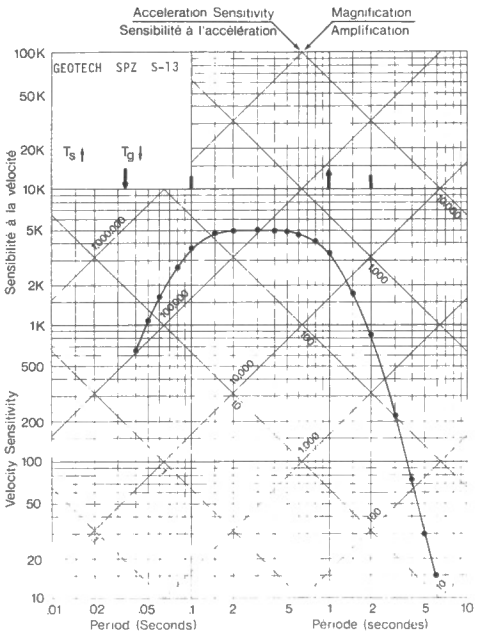
Monitor: 2, Amp: 1 cm/V

STATION WHITEHORSE, Y.T./T.Y. (WHC)

Φ= 66° 44.2'N λ= 135° 05.9'W/O Altitude 734 m

Geological Structure: Granodiorite

Formation géologique: Granodiorite



Date of Calibration 22 August, 1986
La date de calibrage le 22 août 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

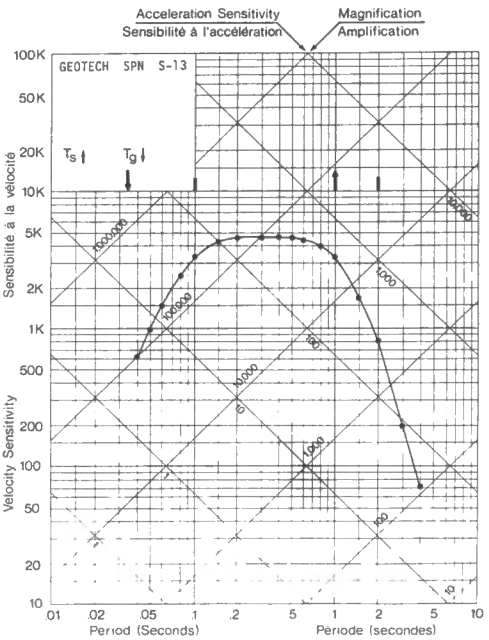
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION WHITEHORSE, Y.T./T.Y. (WHC)

Φ= 66° 44.2'N λ= 135° 05.9'W/O Altitude 734 m

Geological Structure: Granodiorite

Formation géologique: Granodiorite



Date of Calibration 19 December, 1986
La date de calibrage le 19 décembre 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

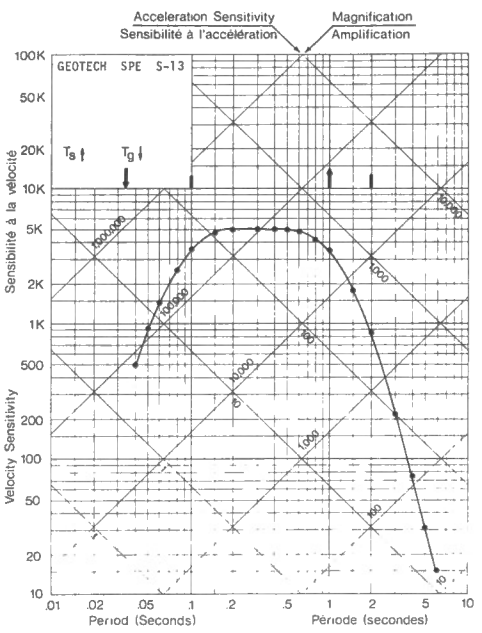
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION WHITEHORSE, Y.T./T.Y. (WHC)

Φ= 66° 44.2'N λ= 135° 05.9'W/O Altitude 734 m

Geological Structure: Granodiorite

Formation géologique: Granodiorite



Date of Calibration 15 September, 1986
La date de calibrage le 15 septembre 1986

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

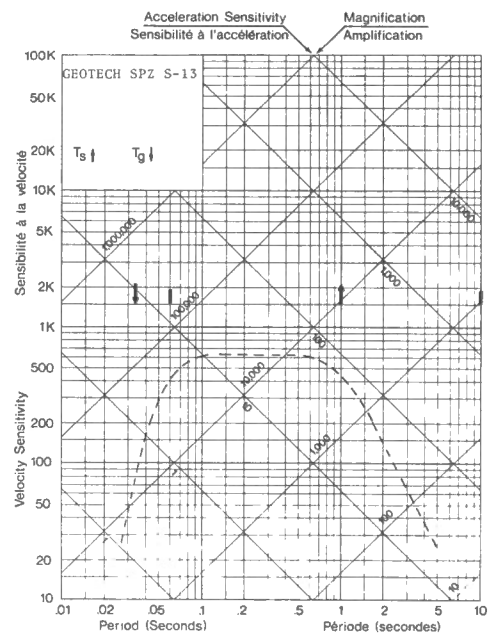
Mode: Vel, Preamp: 05, Amp: 1 cm/v

STATION WHITE ROCK, B.C./C.-B. (WKB)

Φ= 49°02.62'N λ=122°49.09'W/O Altitude 110m

Geological Structure:

Formation géologique:



Date of Calibration November 30, 1981
La date de calibrage le 30 novembre 1981

Filter frequencies are indicated by vertical bars. (|)
Les barres verticales indiquent les fréquences des filtres.

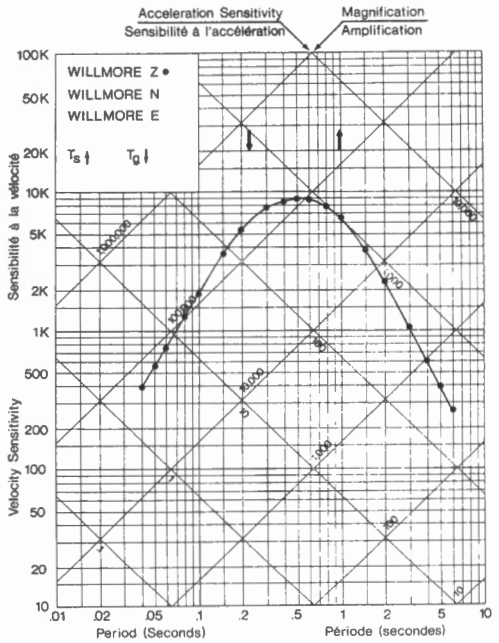
MODE: VEL, ATT: 18dB, AMP: 1 cm/V

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 21 September, 1986
La date de calibrage: le 21 septembre 1986

WILLMORE Z •

WILLMORE N

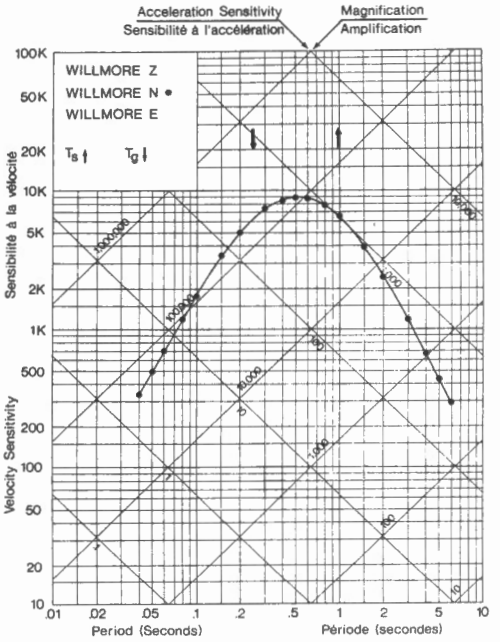
WILLMORE E

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 21 September, 1986
La date de calibrage: le 21 septembre 1986

WILLMORE Z

WILLMORE N •

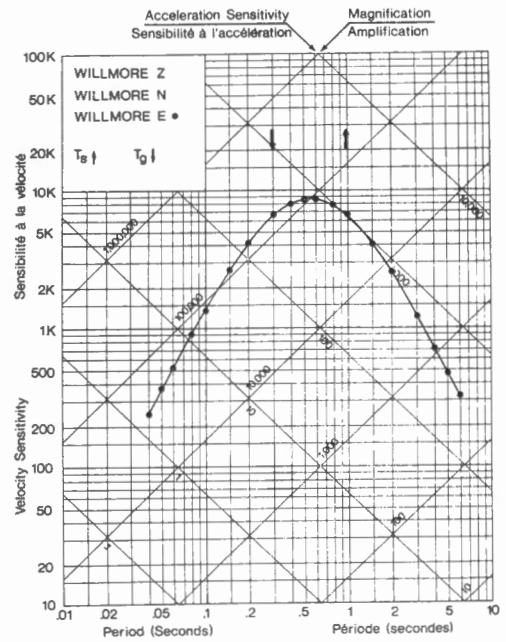
WILLMORE E

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 21 September, 1986
La date de calibrage: le 21 septembre 1986

WILLMORE Z

WILLMORE N

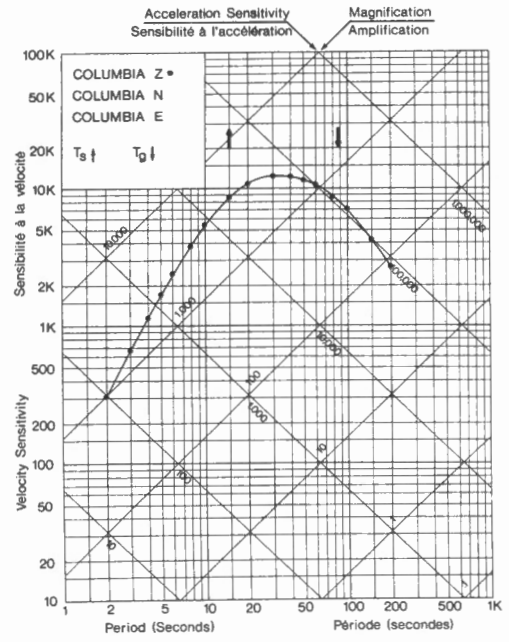
WILLMORE E •

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 21 September, 1986
La date de calibrage: le 21 septembre 1986

COLUMBIA Z •

COLUMBIA N

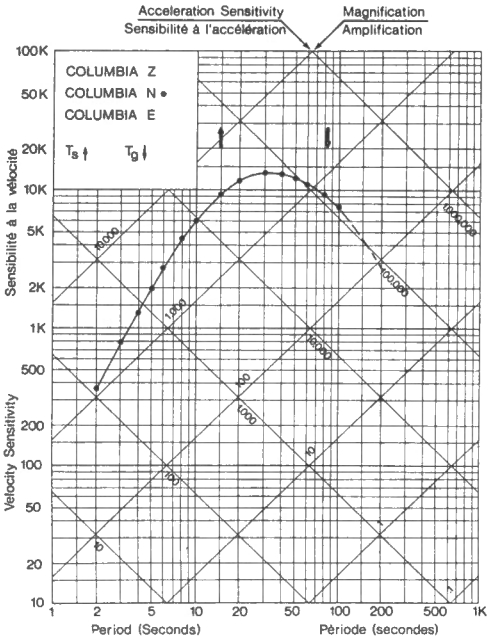
COLUMBIA E

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 22 September, 1986
La date de calibrage: le 22 septembre 1986

COLUMBIA Z

COLUMBIA N •

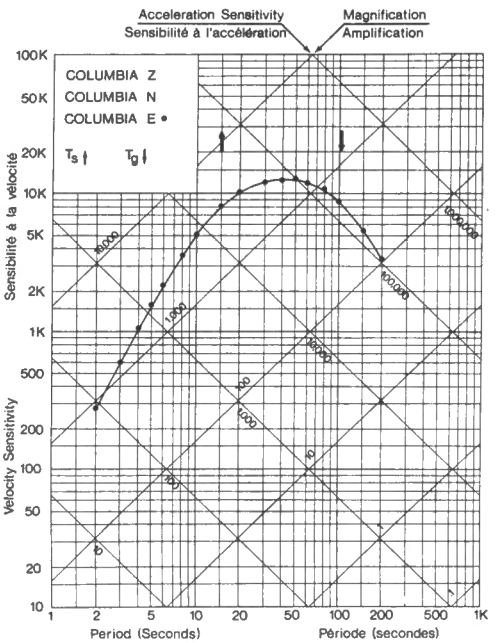
COLUMBIA E

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)
(As found and left/tel que trouvé et laissé)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 22 September, 1986
La date de calibrage: le 22 septembre 1986

COLUMBIA Z

COLUMBIA N

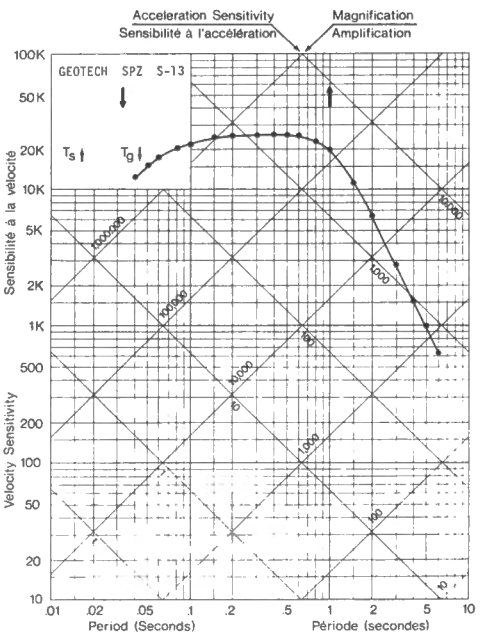
COLUMBIA E •

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 13 February, 1987
La date de calibrage: le 13 février 1987

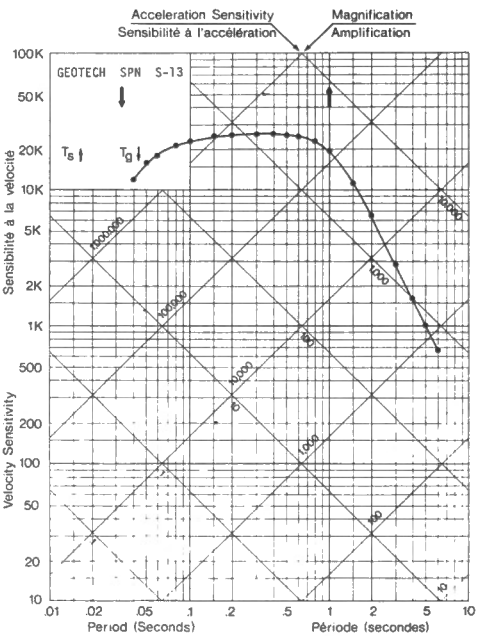
Amp: 2 v/cm

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 13 February, 1987
La date de calibrage: le 13 février 1987

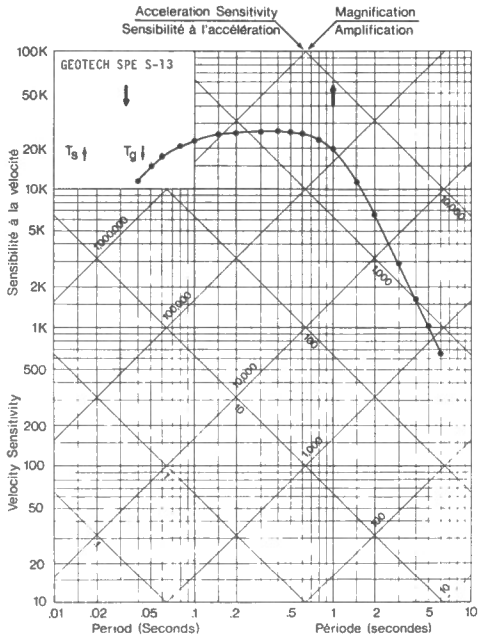
Amp: 2 v/cm

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration 13 February, 1987
La date de calibrage le 13 février 1987

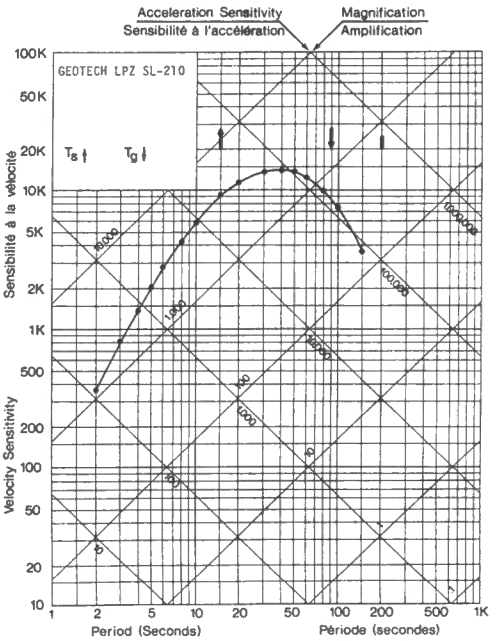
Amp: 2 v/cm

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 10 July, 1987
La date de calibrage: le 10 juillet 1987

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

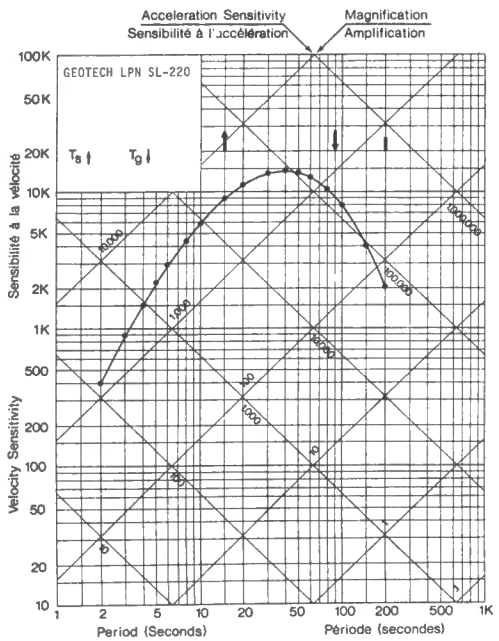
Amp: 1 cm/v

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 10 July, 1987
La date de calibrage: le 10 juillet 1987

Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

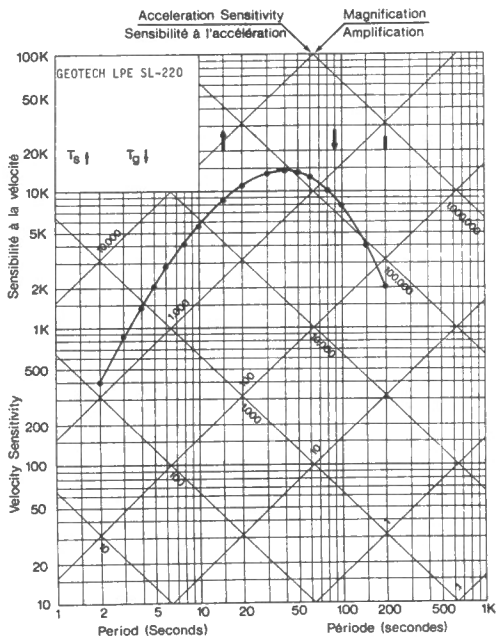
Amp: 1 cm/v

STATION YELLOWKNIFE, N.W.T./T.N.-O. (YKC)

Φ= 62° 28.7'N λ= 114° 28.4'W/O Altitude 198 m

Geological Structure: Granite

Formation géologique: Granite



Date of Calibration: 10 July, 1987
La date de calibrage: le 10 juillet 1987

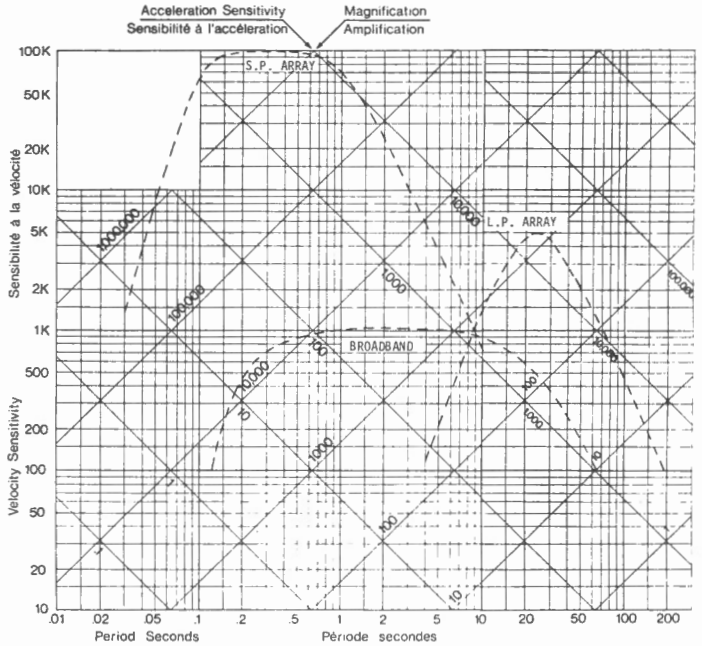
Filter frequencies are indicated by vertical bars. (‖)
Les barres verticales indiquent les fréquences des filtres.

Amp: 1 cm/v

STATION YELLOWKNIFE, N.W.T./T.N.-O. (ARRAYS)

Foundation: Granite

Fondation: Granite



SEISMOMETERS: WILLMORE SPZ MK2
GEOTECH LPZ SL210