

HARVARD UNIVERSITY
DEPARTMENT OF GEOLOGY AND GEOGRAPHY
Kirtley F. Mather, Chairman
Cambridge, Massachusetts

HARVARD SEISMOGRAPH STATION

L. Don Leet, Seismologist
Randolph C. Ray, Observer

Bulletin (new series) #13, issued May 14, 1930.
Under record from Oct. 28, 1928 to Nov. 24, 1929.

H A R V A R D U N I V E R S I T Y
 SEISMOGRAPH STATION DEPARTMENT OF GEOLOGY AND GEOGRAPHY
 CALBRIDGE, MASSACHUSETTS, USA

Latitude 42° 22' 36" North
 Longitude 71° 06' 59" West
 Height 5.367 meters

Foundation: Glacial sand over clay
 Time: Mean Greenwich, midnight to midnight
 Time correction: within .5 second

INSTRUMENTS---FIXED CONSTANTS

<u>Instrument</u>	<u>Symbol</u>	<u>Registration</u>	<u>Damping</u>	<u>Paper Speed</u>	<u>Mass</u>
Milne-Shaw	43	Photographic	Magnetic	8 mm/minute	1 pound
Milne-Shaw	44	Photographic	Magnetic	8 mm/minute	1 pound

INSTRUMENTS--DETERMINED CONSTANTS

<u>Instru- ment</u>	<u>To</u>	<u>V</u>	<u>Damping Ratio</u>	<u>Component</u>	<u>Deflection per second of arc tilt mm</u>	<u>Date Determined</u>
	<u>secs.</u>					
43	12.0	250	20:1	EW	44.0	1928 November 28
44	12.0	250	20:1	NS	44.0	1928 November 28

The following scale, designed by E. A. Hodgson at Ottawa, has been used in evaluating records on the basis of ten for a "perfect" record:

<u>Epoch (s)--</u>	<u>None--Poor</u>	<u>Unidentified but distinct</u>	<u>Identified & distinct</u>	} According to quality of focus and absence of fog, add 0, 1, or 2
No time	0	1	2	
Fair time	0	2	4	
Good time	0	4	8	

<u>DATE</u>	<u>DURATION OF RECORD</u>	<u>VALUE</u>	<u>PHASE</u>	<u>TIME</u>	<u>DISTANCE in km</u>	<u>REMARKS</u>
1928 Nov 27 04h 30m						Recording started on 43 and 44

H A R V A R D U N I V E R S I T Y
 TELEGRAPH STATION DEPARTMENT OF GEOLOGY AND GEOGRAPHY
 CAMBRIDGE, MASSACHUSETTS, USA

Latitude 42° 38' 38" North
 Longitude 71° 08' 38" West
 Height 5.833 meters

Foundation: Special sand over clay
 Test: Mean observed period 30 minutes
 The coefficient: 1/1000

INSTRUMENTS - KNOWN COMPONENTS

Instrument	Symbol	Registration	Remarks
Wine-Glow	43	Photographic	8 magnitudes 1 point
Wine-Glow	44	Photographic	8 magnitudes 1 point

INSTRUMENTS - UNKNOWN COMPONENTS

Instrument	To	V-Damping	Component	Deflection	Date
43	12.0	250	EW	44.0	1928 November 28
44	12.0	250	NS	44.0	1928 November 28

The following scale, designed by E. A. Robinson at Ottawa, has been used in evaluating records on the basis of ten for a "perfect" record.

Epoch (s)	None-Poor	Unidentified	Identified
No time	0	1	3
Full time	0	2	4
Good time	0	4	8

DATE	DURATION	VALUE	TIME	DISTANCE	REMARKS
------	----------	-------	------	----------	---------

1928 Nov 28
 08:30M

Recording started
 at 08:30 and 28

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1928 Nov 27 09h	20m	4				Confused by heavy micros. $A_N = A_E$. Peculiar "phase" in body of L_E
1928 Nov 28 01h	30m	4				e confused by micros. Small amplitude
1928 Nov 28 07h	20m	3				Micros obscure first e. A_N greater than A_E
1928 Nov 28 11h	2h	EW 4 NS 2				(artificial disturbances)
1928 Nov 28 15h to 1928 Nov 29 18h						No records
1928 Nov 29 18h		EW 4 NS no record				
1928 Nov 29 23h	1½h	EW 4 NS no record				
1928 Dec 1 04h 18m 30s	7h	10	0 iP _N iS _E	04-06-13 04-18-03 04-27-51	8560	Press reports from Chili. USC&GS gives 35 S 74 W. Double N ground movement in iP. Good W-waves
1928 Dec 2 04h 32m 18s	3½h	10	0 iP _N iS _E	04-20-23 04-32-18 04-42-11	8660	USC&GS gives 35 S 74 W. W-waves recorded
1928 Dec 3 12h	½h	3				
1928 Dec 5 11h 19½m	½h	NS 3 EW no record				No time correction
1928 Dec 7 05h to 14h						No records
1928 Dec 8, 9, 10						Heavy microseisms
1928 Dec 10 15h to 1928 Dec 11 13½h						No records

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1928 Dec 12 20 $\frac{1}{2}$ h to 1928 Dec 12 21h 29m						No records
1928 Dec 12 21h	2h	2				Began earlier. Quak was coming in when recording began after adjustment of instruments.
1928 Dec 15 00h	45m	EW 2 NS no record				Small, sinusoidal L. No phases.
1928 Dec. 15 20h 31m	1m ?	2				A small, sinusoidal L. What precedes and follows is Joss in artificial dis- turbances.
1928 Dec 17 05h	$\frac{1}{2}$ h	2				No trace on NS
1928 Dec 17 06h 37 $\frac{1}{2}$ m	10m	4				Only faint trace on EW
1928 Dec 19 11h 58m 36s	2h	6	e 11-58-36 i _E 12-16-10 i _E 12-36-51 e 12-41.0 (L?)	14,300 (Scaled)		US C&GS gives 7 N 128 E 0 at 11-37.0 ca
1928 Dec 26 21h	$\frac{1}{2}$ h	1				Ottawa #3335 gives 0 at 21-32-47, Dist 4900 Km
1928 Dec 27 05h 10m	$\frac{1}{4}$ h	EW 2 NS 0				
1928 Dec 28	1 $\frac{1}{2}$ h	EW 2 NS 0				Started during changing of records
<hr/>						
1929 Jan 13 00h 15m 00s	3 $\frac{1}{2}$ h	EW 10 NS 0	0 00-03-07 iP 00-15-00 iS 00-24-51		8620	USC&GS gives 54N 154E
1929 Jan 16 09h	1h	EW 2 NS 0				
1929 Jan 17 11h 51m 57s	2h	EW 6 NS 5	e _N 11-51-57 i _N 11-57-23			Unusual amplitude (About 200 microns) on EW just after a small (S). Ampli- tudes much larger on EW in S and sur- face phases than on NS

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DIST in KM	
1929 Jan 17 23h	1h	EW 3 NS 0				
1929 Jan 19 03h	1½h	2				Peculiar maximum on NS, 17s period, amplitude 20 mic- rons, lasting 2m around 3h40m (pres- ent but smaller on EW)
1929 Jan 21 10h 41m ca	1½h	EW 4 NS 0				EW amplitudes not- ably greater than NS. Short periods.
1929 Jan 22 14h to 1929 Jan 23 14h						No records
1929 Jan 24 20h 43m 24s	2½h	NS 8 0 EW 0 eP IS		20-36-30 20-43-24 20-48-52	3680	USC&GS gives 12N 90W
1929 Jan 25 23h 40m	½h	NS 2 EW 0				Small L confused by microseisms and art- ificial disturbances.
1929 Jan 26 01h 50m	¼h	NS 3 EW 0				
1929 Jan 26 02h 45m	¼h	2				Small, irregular L
1929 Jan 27 04h ca to 1929 Jan 29 exact h unknown						Microseism storm develops fairly abruptly, reaching T=7½s; A= 5 microns at about 15h. Con- tinues through Jan 28 reaching Maximum A of 8 microns at 00h Jan 28.
1929 Jan 28 03h 50m ca	¼h	1				Doubtful L almost entirely masked by large microseisms.
1929 Jan 29 14h to 1929 Jan 31 15h						No records
1929 Jan 31 18h 10m	1h	NS 4 EW 0				

DATE	DURATION OR RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Feb 1 17h 31m 08s	1½h	6	e i	17-31-08 17-37-32		Badly confused in early phases by artificial disturbances
1929 Feb 2 00h 10m 59s	3½h	9	0 iP iS	00-00-53 00-10-59 00-19-08	6620	USC&GS gives 2S 23W P confused by artificial disturbances but time well determined. S best marked on EW and P on NS. SR ₂ well marked on NS and EW. L indeterminate.
1929 Feb 3 18h 15m	½h	2				Small L-waves confused by microseisms and artificial disturbances. EW amplitudes greater than NS
1929 Feb 4 06h to 14h						No records
1929 Feb 5 04h	¼h	EW 2 NS 0				Small irregular L
1929 Feb 6 07h 10m 34s	1h	4	i i	07-10-34 07-11-39		Best marked on EW
1929 Feb 8 02h	1h	EW 1 NS 0				Short period L
1929 Feb 10 03h 50m	½h	4				
1929 Feb 10 14h 45m 53s	1½h	9	0 iP iS	15-39-13 15-45-53 15-51-10	3500	USC&GS gives 11.7N 90.8W
1929 Feb 13 22h	1h	2				Badly confused by artificial disturbances
1929 Feb 15 08h 11m 25s	1½h	8	0 eP _N eS	(08-04-17) (08-11-25) 08-17-04	(3860)	
1929 Feb 22 21h-49m 31s	3h	9	0 iP _N iS	21-41-45 21-49-31 21-55-40	4380	USC&GS gives 17N 35.3W. First ground movement toward SE
1929 Feb 26 04h 30m	½h	2				
1929 Feb 26 09h 10m 37s	2h	10	0 iP iS	09-00-45 09-10-37 09-18-32	6360	USC&GS gives 54N 163W. Weak surface phases

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Mar 1 07h 35m	1½h	6	eE eN eL	07-45-08 07-47-49 07-49.5	ca	USC&GS gives 53N 132W
1929 Mar 1 09h 12m	1h	4				
1929 Mar 3 00h to 1929 Mar 4						Well-defined micro- seism storm builds up to a maximum at about 12h March 3.
1929 Mar 3 09h 25m	10m	1				All but two well- marked oscillations masked by microseis
1929 Mar 3 17h 06m	10m	1				L-waves masked by micros
1929 Mar 7 01h 45m 07s	5h	10	O iP iS	01-34-37 01-45-07 01-53-38	7040 (Ground moved NW)	USC&GS gives 51N 170W
1929 Mar 9 02h 45m	1½h	6				T _L = 26-19 s
1929 Mar 9 11h 20m	2h	NS 8 EW 5	e eL _N	11-30-29 11-48.5		T = 49s-17s
1929 Mar 12 03h ca	¼h	4				
1929 Mar 18 17h to 1929 Mar 19 13½h						No records
1929 Mar 19 21h 05.8m	1½h	4				Preliminary motions lost in artificial disturbances. EW am- plitudes greater than NS. Maximum period of L 19s.
1929 Mar 21 02h 43m 41s	2½h	10	O iP eS eL ₃₀	02-36-57 02-43-41 02-49-01 02-53.0		USC&GS gives 12N 90W NE) (Presumably Q)
1929 Mar 23 11h 50m 54s	10m	6				Period of L 9s A _N : A _E :: 3 : 1
1929 Mar 24 06½h	½h	4				A _E greater than A _N

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Mar 28 03h	1h	2				A_E about equal to A_N . Small irregular L
1929 Mar 31 03h 45m ca	$\frac{1}{2}$ h	2				Scarcely perceptible
1929 Mar 31 06 $\frac{1}{2}$ h	$\frac{3}{4}$ h	2				$T_L = 22-19$
1929 Mar 31 21h	$\frac{1}{4}$ h	1				Lost in artificial disturbances
1929 Apr 6 01h 35m ca	$\frac{1}{4}$ h	2				A_E greater than A_N $T_L = 13s$
1929 Apr 6 04h 15m ca	$\frac{1}{4}$ h	4				Short period, irregular
1929 Apr 6 05h 15m ca	$\frac{1}{4}$ h	2				Short period, irregular
1929 Apr 7 19 $\frac{1}{2}$ h	$1\frac{1}{2}$ h	EW 2 no NS				Preliminary motion confused by artificial disturbances. $T_L = 15s$
1929 Apr 8 10 $\frac{1}{2}$ h	1h	2				Small amplitudes, irregular
1929 Apr 9 03h	$\frac{1}{2}$ h	2				Small amplitudes, irregular
1929 Apr 9 05h	1h	2				Small amps., sinusoidal $T_L = 15s$
1929 Apr 10 06 $\frac{1}{4}$ h	$\frac{1}{4}$ h	2				Small amps., sinusoidal
1929 Apr 10 09 $\frac{1}{2}$ h	$\frac{1}{2}$ h	2				Sinusoidal L
1929 Apr 13 07 $\frac{1}{2}$ h	$\frac{1}{2}$ h	2				Sinusoidal L confused by small micros.
1929 Apr 20 01 $\frac{3}{4}$ h	$\frac{1}{4}$ h	2				Sinusoidal L confused by microseisms
1929 Apr 21 12 $\frac{1}{2}$ h	$\frac{3}{4}$ h	EW 2 no NS				Irregular L
1929 Apr 24 08h	$\frac{1}{4}$ h	2 (EW)				Small sinusoidal L No trace on NS
1929 Apr 27 10h to 1929 Apr 30 14h						No records

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 May 1 08h (no time marks)	$\frac{1}{2}$ h	NS 2 No EW				Small sinusoidal L
1929 May 1 15h 50m 22s	2h ca	NS 9 EW 2	O iP iS	15-37-39 15-55-22 16-01-02	9610	St. Louis gives 37N 58E
1929 May 6 05h 31m 18s	2h	4	e	05-31-18		$T_L = 24-17$
1929 May 7 17h ca	1h	2				Phases lost in artificial disturbances
1929 May 10 05h 20m	5m	2				Sinusoidal L barely perceptible
1929 May 12 09h 50m ca	$\frac{1}{4}$ h ?	1				Record vitiated by artificial disturbances
1929 May 13 09 3/4h	$\frac{1}{4}$ h	2				Short period, almost imperceptible amplitude
1929 May 13 14h	$\frac{1}{2}$ h	NS 1 EW 0				Record lost in artificial disturbances
1929 May 18 06h 59m (26s)	1h	4	i eL _N eL _E	06-59-(26) 07-09 ca 07-10 ca		$T = 36-17s$
1929 May 21 17h ca	2h	1				A_E greater than A_N . All but maximum L lost in artificial disturbances
1929 May 22 01 $\frac{1}{2}$ h	$\frac{1}{2}$ h	2 (EW)				Irregular L, small amplitude. No trace on NS
1929 May 22 21h	1h	1				Small sinusoidal L lost in artificial disturbances
1929 May 25 03h 58m	$\frac{1}{4}$ h	4				Period about 15s A_N greater than A_E
1929 May 25 12h ca	$\frac{1}{2}$ h	4	i _E	12-19 ca (No time correction)		Destroyed by artificial disturbances
1929 May 26 09h 05m ca	2h	6	(No time correction)			A_E greater than A_N

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 May 26 22h 47m 51s	5h	10	O eP iS _E	22-39-48 22-47-51 22-54-13	4630	USC&GS gives 54.5N 137W St. Louis gives 54N 139W P & S poorly marked in proportion to the intensity indicated by maximum amplitudes and duration. S later on NS than on EW
1929 May 27 04h to 14h						No records
1929 May 28 00h	1h ca	2				Preliminary motion lost in artificial disturbances
1929 May 28 05h10m	5m	1				Motion barely perceptible
1929 May 29 05h	$\frac{1}{4}$ h	2				A _N greater than A _E
1929 May 29 14h 35m	$\frac{1}{4}$ h	4				A _N greater than A _E
1929 May 30 02h 20m	5m	1				
1929 May 30 09h 55m 16s	4h (sheets changed)	10	O iP _N iS _N	09-43-22 09-55-16 10-05-08	8640	
1929 May 31 00h 34m 00s	3/4h	6	i _E	00-34-00		i followed by sinusoidal L
1929 June 2 22h 02m	1 $\frac{1}{2}$ h	4	i _N i _{EN}	22-02 22-03		irregular small amplitudes
1929 June 3 21h	1h	2				Preliminary phases lost in artificial disturbances
1929 June 6 11h 00m 54s	3/4h	NS 8 no EW	O eP iS	10-50-03 11-00-54 11-09-46	7440	Small L
1929 June 7 00h 50m	10m	EW 2 no NS				Long period sinusoidal L
1929 June 9 01h 15m	$\frac{1}{2}$ h	4				Small, sinusoidal L
1929 June 9 07h 11m	$\frac{1}{4}$ h	4				Small, irregular disturbance. A _N about equal to A _E

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 June 9 08h 20m 06s	1h	6	e _E e	08-20-05 08-33.0		Irregular maximum
1929 June 9 09h 20m 22s	3h	9	0 eP _N iS _E	09-07-53 09-20-22 09-30-48	9320	
1929 June 10 23h 11m 52s	1½h	8	0 iP _N eS _N L	23-03-12 23-11-52 23-18-44 23-30	5180	Sinusoidal, T = 13s
1929 June 12 12h 04¼m	2h	6	e i	12-04¼ 12-05.5		Sinusoidal L, period 15s
1929 June 13 00h 24m 52s	3½h	10	0 eP _E iS _N OII e i	00-12-34 00-24-52 00-35-08 (00-26-10) 00-38½ 00-48-44	9100	Probably two quakes PII? SII?
1929 June 13 09h 45m 40s	3h ca	6	i i eL _E	09-45-40 10-02-57 10-16.0	(PP?) (A _E greater than A _N) T = 37-22-17s	Ground moved SE Possible W-waves lost in artificial disturbances which became marked after 1h
1929 June 13 21¼h	½h	2				Period 15s. Preliminary motion lost in artificial disturbances
1929 June 13 23-21-36	2h	4	e L	23-21-36 00-15 ca	T = 17-15s	
1929 June 14 21h to 1929 June 15 13¼h						No records
1929 June 15 20h	1½h	2				Confused by artificial disturbances
1929 June 16 15h 34½m	5m	4				"Local" type. (Nearby)
1929 June 16 16h 58½m	5m	4				"Local" type.
1929 June 16 22h 29m ca	¼h	4				"Local" type. A _N greater than A _E

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 June 16 22h 46m ca	$\frac{1}{2}$ h	4				"Local" type
1929 June 16 23h 07m 12s	$4\frac{1}{2}$ h	6	eP' iPP i _E (SS) i _N (Q?)	23-07-12 23-09-34 23-27.2 23-44-45	(14,700) (scaled)	USC&GS gives 40.5E 173.2E. Period of Q 51s, amplitude 625 microns
1929 June 17 13h to 1929 June 18 16h						No records
1929 June 19 07h 57m 20s	2h	4	e	07-57-20		
1929 June 22 16 $\frac{1}{2}$ h	$1\frac{1}{2}$ h	2				T _L of 19s, confused by artificial dis- turbances
1929 June 22 19h	$\frac{1}{2}$ h	2				T _L of 20s, confused by artificial dis- turbances
1929 June 22 22 3/4h	10m	1				
1929 June 23 04h ca	5m	2				"Local" type
1929 June 23 07h ca	10m	2				T _L = 19-15s
1929 June 26 06 3/4h	1h	2				T _L = 15-11s
1929 June 27 13h 01m 00s	5h	4	e i i	13-01-00 13-05.0 13-20 $\frac{1}{4}$		Broken in middle by changing of records. Beginning on EW only, balance on both
1929 June 27 22h 58m	$\frac{1}{4}$ h	2				
1929 June 28 02h 10m	$\frac{1}{2}$ h	4 (EW)	e	02-10 ca		T _L = 15s No trace on NS
1929 June 28 09h 15 3/4 m	5m					"Local" type, short period, irregular. A _N greater than A _E
1929 June 30 03h 05m 53s	$3\frac{1}{2}$ h	EW 4 no NS	i	03-22-53		T _L = 22-17s

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	RECORDS
1929 June 30 12h						No records
to 1929 July 1 14h						
1929 July 3 01h	$\frac{1}{2}$ h	EW 2 no NS				Short period, irreg- ular maximum
1929 July 4 04h 3/4	$1\frac{1}{2}$ h	EW 2 no NS				Short period, irreg- ular maximum
1929 July 4 07 $\frac{1}{2}$ h	1h	EW 2 no NS				$T_L = 17-13s$
1929 July 4 15h						No records
to 1929 July 5 14 $\frac{1}{2}$ h						
1929 July 5 14h 30m 02s	$3\frac{1}{2}$ h	10	O iP iS	14-19-09 14-30-02 14-38-55	7460	USC&GS gives 50N 177W
1929 July 5 22h 47m 08s	3h	10	O eP iS	22-36-19 22-47-08 22-55-58	7400	USC&GS gives 50N 177W
1929 July 6 02h 14m 40s	3h	10	O eP eS	02-03-51 02-14-40 02-23-30	7400	USC&GS gives 50N 177W
1929 July 6 09h 53m	2h	10	O iP _E iS	09-46-04 09-53-15 09-58-56	3900	St. Louis gives 15.6N 43.4W PP well marked. Double dis- placement of ground toward W at begin- ning of P on EW
1929 July 7 06 3/4h	1h	4				
1929 July 7 09 3/4h	1h	4				
1929 July 7 14h						No records
to 1929 July 8 15h						
1929 July 8 17h 05m ca	$\frac{1}{2}$ h	2				Short period, irreg- ular maximum. Pre- liminary phases lost in artificial dis- turbances

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 July 8 18 3/4h	1/2h	EW 1 no NS				Vitiated by artificial disturbances
1929 July 8 19 1/2h	1h	EW 1 no NS				Artificial disturbances
1929 July 9 06 1/2h	1/2h	EW 2 no NS				$T_L = 17s$
1929 July 11 14h	1/2h	0				Destroyed by artificial disturbances
1929 July 11 21h 05m ca.	1 1/2h	2				Preliminary phases lost in artificial disturbances
1929 July 12 16h 13m ca.	1/2h	4				Short period, well-marked maximum
1929 July 13 08h	1h	EW 2 no NS				
1929 July 13 15h	1h	1				Vitiated by artificial disturbances
1929 July 13 18h						
to						No records
1929 July 17 14h						
1929 July 18 07h 04 1/4m	3/4h	4	e	07-04 1/4		Short period, irregular
1929 July 21 10 1/2h	1h	2				$T_L = 20s$
1929 July 23 18 1/2h	1 1/2h	NS 1 no EW				Felt on SW coast of Iceland. $T_{LN} 17s$ Record NG a/c artificial disturbances
1929 July 25 01h	1/2	2				
1929 July 25 23 1/2h	1/2	2				$T_L = 20s$
1929 July 26 30h	1 1/2h	4				$T_L = 26-13s$
1929 July 27 13h	?	0				a/c artificial disturbances
1929 July 28 13h						
to						No records
1929 July 29 15h						

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 July 30 2 $\frac{1}{4}$ h	$\frac{1}{4}$ h	2				
1929 July 30 04h	$\frac{1}{2}$ h	2				
1929 July 30 07h 45m ca	1h	4				$T_L = 17s$
1929 Aug 1 04h 39m ca	1 $\frac{1}{2}$ h	4				$T_L = 24-15s$
1929 Aug 1 09h 10m ca	?	EW 2 no NS				$T_L = 21-15s$. Lost in tangled lines after first e
1929 Aug 3 15h	?	EW 1 no NS				Tangled lines
1929 Aug 3 16h	3/4h	EW 1 no NS				$T_L = 15s$. Vitiating by artificial dis- turbances
1929 Aug 3 19h	1h	EW 1 no NS				$T_L = 15s$. Vitiating by artificial dis- turbances
1929 Aug 6 12h to 1929 Aug 7 13h						No records
1929 Aug 8 13h	?	1-				Lost in tangled lines and changing records
1929 Aug 10 15h to 1929 Aug 12 13h						No records. (Quake felt throughout Southern Ontario, N. Y., Ohio, and Penna. Ottawa Distance 330 km., O = 11-24-45, 1929 Aug 12)
1929 Aug 14 19 $\frac{1}{2}$ h	1h	1-				$T_L = 11s$. Prelimin- ary phases lost in artificial distur- bances
1929 Aug 15 20h 03m 44s	1 $\frac{1}{2}$ h	6	O iP iS	19-56-10 20-03-44 20-09-44	4220	
1929 Aug 16 10 $\frac{1}{2}$ h	$\frac{1}{2}$ h	2				
1929 Aug 16 22 $\frac{1}{2}$ h	1 $\frac{1}{2}$ h	2				$T_L = 17s$
1929 Aug 16 23h 50m ca	$\frac{1}{4}$ h	2				Another quake

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Aug 17 23h 47m 31s	2h	10	0 iP iS	23-40-32 23-47-31 23-53-03	3740	
1929 Aug 18 09h	2½h	4				$T_L = 17s$
1929 Aug 18 11h to 1929 Aug 19 14h						No records
1929 Aug 19 21h	1h	2				$T_L = 19s$
1929 Aug 20 17h	2h	2				Probably two quakes, but not distinguish- able a/c artificial disturbances
1929 Aug 22 00 3/4h	¼h	2				
1929 Aug 22 08½h	½h	2				Sinusoidal L, period 15s
1929 Aug 28 19¼h	1½h	4				$T_L = 23-21s$. Prelim- inary motion lost in artificial distur- bances
1929 Sept 1 16½h	1½h	2				Sinusoidal L, period 21-17s.
1929 Sept 2 12h	?	1-				Beginning lost in changing records and artificial distur- bances
1929 Sept 5 10h 20m	5m	4				$T_L = 10-8s$
1929 Sept 8 11h 02.9m	½h	4				
1929 Sept 10 16h to 1929 Sept 11 14h						No records
1929 Sept 11 23¼h	½h	2				Small, sinusoidal L, period 19-15s

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Sept 13 13h						No records
to 1929 Sept 14 14h						
1929 Sept 16 03h 59 3/4m ca	1/4h	2	i	03-59 3/4		No time correction
1929 Sept 17 05h 45m ca	1/2h	4				$T_L = 15s$
1929 Sept 17 19h 25m 16s	3h	10	O iP iS	19-17-23 19-25-16 19-31-30	4480	Short period, irregular L. A_N greater than A_E
1929 Sept 18 05h						No records
to 1929 Sept 18 14h						
1929 Sept 21 16h 54m ca	1/4h	4				Short period, irregular, A_N greater than A_E . Beginning lost and maximum confused by artificial disturbances
1929 Sept 24 02 1/4h	1/2h	2				$T_L = 17s$
1929 Sept 26 05h 12m 05s	2h	NS 6 no EW	i e	05-12-05 05-26-11		$T_L = 12s$
1929 Sept 27 23h 23m 17s	1h	EW 10 no NS	O eP eS eL	23-16-05 23-23-17 23-28-59 23-33.0	3910	Short period, irregular L. eL of 39s period at 23h-33.0m
1929 Sept 28 22 3/4h	1/4h	2				No trace on EW
1929 Oct 2 09h 3/4	1h	2				Confused by artificial disturbances
1929 Oct 2 10 3/4h	1h	2				Confused by artificial disturbances
1929 Oct 2 13h						No records
to 1929 Oct 3 14h						

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Oct 5 04 $\frac{1}{2}$ h	1 $\frac{1}{2}$ h	2				Preliminary phases lost in artificial disturbances $T_{LE} = 34-19s$
1929 Oct 5 17h	?	1-				Ottawa distance 7820 km. Lost in artificial disturbances
1929 Oct 6 06h	1h	2				$T_{LE} = 28-21s$
1929 Oct 6 08-02m 50s	3 $\frac{1}{2}$ h	8	O iP _E iS _E	07-51-23 08-02-50 08-12-16	8120	Absolute time undertain within 4 sec. Sinusoidal L, period 15s. No defined eL
1929 Oct 6 14h 10m	$\frac{1}{2}$ h	2				$T_L = 19-17s$
1929 Oct 7 16h ca	?	1-				Lost in artificial disturbances
1929 Oct 7 18h to 1929 Oct 8 14h						No records
1929 Oct 8 18h ca	?	1-				$T_L = 17s$. Vitiating by artificial disturbances
1929 Oct 14 10h 28m ca	1 $\frac{1}{2}$ h	EW 4 no NS				Time undertain
1929 Oct 16 21h	$\frac{1}{2}$ h	1				Artificial disturbances
1929 Oct 19 (10h 23m 56s)	2h	EW 6 no NS	O eP iS	{10-12-56} (10-23-56) 10-32-57	(7620)	
1929 Oct 21 11 $\frac{1}{2}$ h	$\frac{1}{2}$ h	1-				No time marks
1929 Oct 23 04h to 14h						No records
1929 Oct 24 07 $\frac{1}{2}$ h	$\frac{1}{2}$ h	1-				No time marks
1929 Nov 1 07 $\frac{1}{4}$ h	$\frac{1}{2}$ h	2				Trace only. No trace on EW
1929 Nov 3 11h 55m ca	10m	2				Trace only. $T_L = 15s$

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Nov 5 12h	1½h	1-				Artificial distur- bances. $T_L = 24-17$
1929 Nov 6 06h 04m	3m	4				Microseisms obscure. Trace only. A_N greater than A_E
1929 Nov 8 03½h	3/4h	2				Preliminary motion confused by artifi- cial disturbances.
1929 Nov 9 01h 51m 01s ca	1½h	6	O eP iS _N	(01-40-11) 01-51-01 01-59-52	7420	Time correction un- certain. Short per- iod, irregular L
1929 Nov 11 13h 27m ca	5m	2	(No time correction)			Trace only on EW. A_N much greater than A_E
1929 Nov 13 01½h	½h	2				
1929 Nov 15 19h 11m ca	2½h	4	e e	19-11 ca 19-45 (T = 34s)		Preliminary phases and coda confused by artificial dis- turbances.
1929 Nov 16 11h 12m	5m	EW 4 no NS				
1929 Nov 17 04h 05m ca	2h	4	e e	04-05 04-22¼		Obscured by large microseisms.
1929 Nov 18 20h 34m 32s	2½h	6	O iP iS	(20-31-55) 20-34-32 (20-36-40)	1200	Felt in eastern Canada and NE United States. Tidal wave in Placentia Bay, Newfoundland caused loss of life. 10 of 21 trans-Atlantic cables crossing south of Newfound- land were broken. Dominion Observatory Ottawa, making a special study, an- nounces preliminary location as 44° 30' N 57° 15' W O = 20h 32m 08s

DATE	DURATION OF RECORD	VALUE	PHASE	TIME	DISTANCE IN KM	REMARKS
1929 Nov 18 23h 05m ca	$\frac{1}{2}$ h	6				Confused by micro- seisms. Aftershock of 1929 Nov 18 20h 34m 32s
1929 Nov 19 02h 05m ca	$\frac{1}{4}$ h	4				Aftershock of 1929 Nov 18 20h 34m 32s
1929 Nov 24 09h to 12 $\frac{1}{2}$ h						On NS only, an unusual, sinusoidal, sustained vibra- tion of periods ranging from 75s down to 60s, 40s, and disappearing. E.A. Hodgson observed similar phenomenon at St. Anne in 1926--as reported in the Proceedings of the American Geophysical Union for 1923

Bulletin Issued May 14, 1930

L. Don Leet, Seismologist