1000-6-2-34

1934

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw SUBSOIL, Sand and Clay

No. and Date	Phase	G. M. Time h. m. s.	Period s.	Δ	Remarks
1934 JANUARY.					
3rd	H	9-42-43			
	ePNE	9-53-26			JSA gives a depth of 300 km.
	ipP	9-54-30			
	e	9-59-29		7355	Provisional H- at 9h 42m 42s.
	iSNE	10-02-21			
	PSN	10-02-49			
	L	10-14-41			
	F	11-46'			
11th	iN	10-40-45			
	L?	10-51-21			
	F	11-36'			
15th	H	8-43-20			
	ePN	8-57-58			INDIAN QUAKE.
	P'	9-01-13			Destructive. Difficlt
	iPR1	9-02-28			to interpret. P not
	iPR2	9-04-37			shown on EW and motions
	ScPcS	9-08-32			complicated.
	S?	9-10-35		12,335	
	PS	9-11-58			
	SR1	9-17-58			
	L	9-36			
	F	13-50'			
19th	eN	10-08-08			
	L	10-12			
	F	11-00' ca			
28th	H	19-09-44			
	iPN	19-16-28			
	iPR1	19-17-31		3735	M-19-29-16
	iS	19-21-59			
	SR1	19-24			
	iL	19-26-21			
	F	22-20' ca.			
30th	iE	19-37-39			
	iLN	19-40			Microseisms mask
	F	20-ca'			small phases.
30th	H	20-16-08			
	ePN	20-22-55			
	i	20-27-32		3765	
	iS	20-28-40			
	L	20-31-47			
	F	21-50			

Minor disturbances on the 1st, 2nd, 4th, 14th, 16th, 18th, 19th 20th (2), 21st (2), 22nd (2), 28th, 30th and 31st.

Wm. G. Carroll.

1000-6-2-34

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw

Period 12 seconds.
Magnification 1000
Damping 20-1
SUBSOIL Sand and Clay

No. and Date	Phase	G. M. Time h. m. s.	Period s.	Δ	Remarks
~~1934~~ FEBRUARY.					
1st	eN	11-16-50			Microseisms mask record.
	L	11-34-35			
1st.	eN	11-58-27			Small movements, mixed
	L	12-01-51			with microseismic effects
	F	12-50·			
3rd.	eN	15-50-30			
	iN	15-10-12			
	iN	15-13-23			
	L	15-23			
	F	17-52·			
9th	eE	9-34-38			
	iE	9-38-32			Masked by microseisms.
	F	9-53·			
12th	eN	6-55-20			
	LN	7-00			
	F	7-34·			
14th	H	3-59-39			
	ePN	4-14-40			USCGS gives
	P'	4-18-21			18°N; 118°E
	iPR1	4-19-21			O= 3h 59.5m
	iPS	4-29-06			
	iSR1	4-35-27		12890	
	LE	4-54-51			
	MN	5-03-22			
	F	7-10·			
14th	eN	22-30-13			
	eN	22-34-37			
	iN	22-35-20			Phases minute.
	iL?	22-36-33			
	F	23-25·			
24th	eN	1-00-02			
	iN	1-04-28			
	F	1-45			
24th	iN	5-39-30			
	iN	5-44-22			
	F	6-09·			
24th	H	6-23-35			
	ePN	6-37-40			Computed from PS-P
	ePR1	6-41-42			
	iScPcS	6-48-15			USCGS gives:
	PS	6-50-57		11,555	21°N. Lat.
	SR1	6-56-30			145°E. Long.
	SR2	7-00-56			O= 6h23.7m G.C.T.
	L	7-13-06			
	F	9-46			
28th.	Distant quake at change time, large waves about 15h. vibrations continue to 17h30m.				

Minor quakes on the 2nd, 4th (2); 9th; 12th; 16th; 19th; 20th.

Wm. G. Carroll.

1000-6-2-34

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw

SUBSOIL, Sand and Clay

Period 12 seconds.
Damping 20-1
Magnification 150

No. AND DATE 1934	PHASE	G. M. TIME h. m. s.	PERIOD s.	Δ	REMARKS
MARCH	H	21-45-32			
1st.	eP	21-57-42			Phases are from NS component, unless stated otherwise.
	iS	22-07-51		8955	
	iPS	22-08-37			
	L	22-24-35			
					CHILI
5th	H	12-46-19			Measured.
	ePE	12-02-12			P & P' not shown on NS component.
	eP'E	12-05-20			
	iPR1EN	12-07-12		14,120	Southern half of North Island, New Zealand.
	iScPcPE	12-08-26			
	ScPcS	12-12-12			
	S	12-15-12			
	SR1E	12-24-22			
	LE	12-46-44			
7th	H	22-41-11			
	eP	22-47-23			Early phases indistinct
	eS	22-52-30			
	iSR1	22-53-22		3335	
	L	23-56			
	M	22-58-35			
12th	H	15-05-49			The S on EW considerably before that on NS unless the "e" shown is corresponding phase. UTAH SHAKEN.
	P	15-11-05			
	e	15-15-13			
	iS	15-15-35			
	iSR1	15-16-19		2680	
	L	15-18			
	PE	15-11-00			
	iSE	15-15-13			
12th	H	18-19-54			Similar disagreement between phases on two components, but the PR and SR phases agree well.
	P	18-25-31			
	PR1	18-26-04		2910	
	iS	18-30-08			
	iSR1	18-31-22			
	iL	18-32-48			
					UTAH
13th	H	13-12-28			
	PR1	13-31-52			Distance derived from PS-PR1
	S	13-39-40			
	ePS	13-41-25		12,590	
	SR1	13-47-40			
	L	14-05-11			
16th	H	16-59-24			
	eP	17-09-33		6780	Small amplitude.
	PR1	17-12-33			
	S	17-17-58			
	L	17-29			
18th	H	4-33-22			Other phases indistinct.
	eP	4-44-48		8110	
	iS	4-54-20			
24th	H	12-04-21			
	eP?	12-19-30			
	eP'E	12-23-07			
	iPR1EN	12-24-27		13,255	
	iPSE	12-34-21			
	iSR1	12-40-40			
	L	13-02-40			

Minor disturbances on the 1st; 4th (2); 13th; 15th(3); 20th; 22nd; 29th; and 30th.

Wm. G. Carroll.

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw

SUBSOIL, Sand and Clay
Period 12 seconds
Magnification, 150
Damping 20 PCT

No. and Date 1934 APRIL.	Phase	G. M. Time h. m. s.	Period s.	Δ	Remarks
9th	eN	15-41-31			Phases from NS component unless otherwise noted
	e	15-51-47			
	L	16-03			
10th	e	5-49-22			
	i	5-53-37			
	F	6-18			
10th	e	10-46-28			
	i	10-52-19			
	F	12-30			Small amp.
14th	e	21-29			
	eL?	21-36-12			Small amp.
	F	22-12			
15th	H	22-15-52			
	eP	22-31-12			
	iPR1	22-36			Distant quake. Medium intensity.
	iPS	22-45-44			
	SR1	22-53-11		13,335	
	iSR2	22-57-17			
	L	23-13-24			
	F	0-00			
26th	e	21-36-11			
	L	21-53			Small amplitude.
	F	22-59			
Minor quakes on the 3rd (2); 7th; 18th; 19th; 22nd; 24th(2); 26th(2); 28th(2)					
MAY 1st	e	7-25-41			
	i	7-27-09			F 8-30
4th	i	0-48-18			
	L	0-54-26			F 1h 23m.
4th	H	4-36-09			
	iPN	4-43-49			
	iPE	4-43-53			
	iPR2N	4-44-39			
	iSN	4-50-07		4510	Well marked.
	iSE	4-50-09			
	SR2	4-53-27			
	iL	4-56-08			
	F	8-30			
6th	eE	8-08-20			
	iE	8-14-53			F 9h 20m.
	iE	8-19-16			NS record not so clear. Microseisms in evidence.
	LE	8-22-08			
14th	eSNE?	13-27-10			Early phases indistinct.
	L	13-30-03			F 14h 05m.
14th	H	22-13-91			
	iP	22-21-17			
	PR1	22-23-04			
	iSNE	22-28-02		5020	M 22h 38m 42s
	iSR1	22-31-32			F 0h 19m
	L	22-34-56			
15th	i	15-23-45			
	L	15-34-36			F 16h 30m
19th	H	10-47-52			
	iPNE	10-53-48			
	PR1N	10-54-30			
	iSN	10-56-41		3135	F 11h 35m.
	iSR1N	10-59-35			
	L	11-01-45			

Minor quakes on the 2nd, 3rd, 5th (2); 9th; 11th; 13th; 15th (2) 21st; 22nd; 26th; 27th; 28th and 30th.

William G. Carroll.
Seismologist.

TORONTO. SEISMOGRAPHIC STATION.

PERIOD 12 Seconds.
Damping 20-1
Magnification 150

1934

JUNE 2nd	iSN	13-56-18?		
	LN	14-00-40		Early phases interfered
	F	15-20		with, changing papers.
2nd.	eN	16-55-24		
	eLN	16-59-32		Small record, early
	F	17-52		phases indistinct.
8th.	eN	5-02-35		
	LN	5-05-13		Early phases masked by
	F	6-22		previous quake.
9th	iN	13-17-45		
	eN	13-29-15		Phases indistinct.
	iN	13-30-40		F 15h 51m.
	LN	13-53		
13th	H	1-51-05		
	ePN	2-03-15		
	PR_1N	2-06-24		Kurile Islands.
	iSN	2-13-24	8955	F3h 50m.
	LN	2-29-31		C.S.J.S.gives
				H- 01h 51m 09s.
13th	H	22-10-26		
	ePN	22-24-12		
	iPR1	22-28-16		
	iScP6S	22-34-37	11,110	Wind effects
	iSN	22-35-50		interfere
	iPSN	22-37-22		
	iPPS	22-38-07		CSJSA gives
	iSR1N	22-42-42		H- 22h10m 35s.
	L	22-59		
18th	H	9-13-59		Southern Alaska.
	ePN	9-21-54		Jesuit Seis.Association
	iN	9-22-11	4720	gives H 9h 13m 59s.
	iPR2	9-23-53		
	iSN	9-28-23		F 10h 30m.
	iSR2	9-31-47		
	LN	9-35-11		
22nd.	H	18-33-34		
	ePN	18-40-17?		Small amplitude.
	iSN	18-45-47		
	SR1N	18-47-33	3720	S.W.of Manzanillo,
	eLE	18-49-44		Mexico.
	iLN	18-52-05		
	F	19-42		
24th	H	5-59-45		
	iPNE	6-10-28		
	iN	6-11-03		
	iSE	6-19-16		
	iSN	6-19-23	7355	Northern Chili.
	iPSN	6-19-54		CSJS gives:
	SR1E	6-23-38		H- 5h 59m 39s.
	LN	6-31		
	F	9-05		

Minor disturbances recorded on the 2nd, 3rd, 6th; 8th; 12th; 14th; 15th (2); 16th; 17th; 23rd; 24th (3); 28th; 29th; 30th (3).

Wm. G. Carroll,
Seismologist.

TORONTO. SEISMOGRAPHIC STATION.

Period 12 seconds.
Magnification 150
Damping 20-1.

1934

JULY 4th	ePN	2-01-06			
	iN	2-07-28			
	SN?	2-10-25		7880	F 3h 16m.
	L?	2-24			Small amplitude.
6th	H	22-49-00			
	iPN	23-55-34			
	iPR1E	23-56-25			Amplitude 482 microns.
	iSN	23-00-56		3600	Off Coast of Southern
	LN	23-04-50			Oregon.
	F	2-20			
10th	H	1-02-05			
	ePN	1-07-16			Small amplitude.
	iSN	1-11-32		2620	F.2h10m.
	LN	1-14			
	iLN	1-15-47			
16th	eN	8-24-27			
	eN	8-29-56			
	LN	8-38-04			Indistinct phases.
	F	9-20			
18th	H	1-36-43			Major quake.
	ePNE	1-43-09			PANAMA I,
	iPN	1-43-11			amp.394 microns.
	iPR2N	1-44-27		3500	F.merged into next eq.
	iSNE	1-48-25			CSJSA gives 8.2N
	LN	1-52-25			82.5W
	MN	1-54-48	15		Depth 65 kms.
18th	H	4-01-20			
	iPN	4-07-23			Preliminaries masked
	iPR1N	4-08-09			by previous quake.
	iPR2	4-08-33		3235	
	iSN	4-12-22			
	L	4-15-31			
	F	6-43			
18th	H	17-00-16			AFTER SHOCK.
	iPN	17-06-37			PANAMA II.
	iPR2N	17-07-43		3445	S not well defined,
	SNE	17-11-49			"i" which follows more
	iN	17-12-29			pronounced.
	LN	17-15-39			F.merged into next eq.
18th	H	19-40-04			Distance derived from
	ePEN	19-55-11			PS-P. EW record xxxx
	iPR1E	19-59-58			& this distance agree,
	PR2E	20-02-21		13020	NS phases not so good.
	iPSEN	20-09-41			CSJSA gives: Approx.
	iSR1E	20-16-06		x	Islands of New Hebrides
	iLE	20-35-43			H- 19h 40m 05s.
	iLN	20-35-51			
	F	0-30			
19th	iN	1-49-48			
	iN	1-58-25			After-shock, phases
	iN	2-05-48			intermixed with
	LN	2-31			other quakes.
	F	4-25			
20th	eN	2-28-50			
	eN	2-35-34			
	LN	2-42-30			
	F	5-47			Small amplitude

1934

July 21st	H	6-18-10			
	ePE	6-33-25			
	iPR$_1$NE	6-38-15			
	iScPcPN	6-39-45			P not shown on NS.
	iSN	6-46-14			Moderately large quake.
	iPSEN	6-48-04		13235	Trailers lost in next
	iPPSE	6-49-22			quake.
	iSR$_1$E	6-54-07			
	iSR$_2$E	6-59-16			C.S.J.S.A. gives:
	LN	7-14-25			18.2 S. 164 E.
	LE	7-15			H-6h 17m 59s.
	F	10-46			
21st.	H	10-39-32			Moderately large.
	iPN	10-45-43			(Aftershock)
	iPR$_2$N	10-46-54		3310	PANAMA III. Similar
	iSN	10-50-47			to I and II on 18th
	iSR$_1$E	10-52-13			CSJSA gives
	LN	10-54-16			H- 10h 39m 13s
27th	H	2-25-45			
	ePN	2-31-47			
	iSN	2-36-44			Small, well-defined
	iSR$_1$N	2-38-06			record.
	LN	2-39-54		3200	
	M	2-42-20			
	F	3-18			
28th	H	21-37-39			
	iPN	21-46-13			
	iPR$_1$N	21-48-02			
	iSN	21-53-13			
	iSR$_1$N	21-56-01		5280	Amplitude 50 microns.
	iLN	22-01-06			USC.gives:
	MN	22-04-27	12		58 N; 157 W.
	F	1-20			0- 21h 37.0m.

Minor quakes or poorly defined phases occurred on:
1st; 3rd; 7th; 10th; 14th; 17th; 18th (3); 19th (5); 20th (2);
21st; 22nd (3); 23rd; 24th; 27th; 28th (2); 31st.

Wm. G. Carroll,
Seismologist.

1000-6-2-34

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw — SUBSOIL, Sand and Clay

No. and Date	Phase	G. M. Time h. m. s.	Period s.	Δ	Remarks
					Period 12 seconds Damping 20-1 Magnification 150
1934.					
August	H	7-13-37			
2nd.	PE	7-21-15			
	SE	7-27-31			
	LE	7-33-23		4480	
	F	8-30			
6th	eN	12-15-45			
	iSN	12-21-53			
	F	12-57			
7th.	H	3-39-32			
	PR1E	3-59-35			Distance from
	PR1N	3-59-39			PS-PR$_1$.
	PR2E	4-02-19			Amp. not large.
	ScPcSE	4-05-34		13,220	
	ePSE	4-09-26			JSA gives
	ePSN	4-09-25			H 3h 39m 08s.
	SR1E	4-16-22			USCGS
	LE	4-36-11			H 3h 40m.
	LN	4-36-26			
	F	6-50			
13th	H	23-49-02			Off Island of
	iP'N	0-08-13			Mindanao, P.I.
	PR1N	0-10-23			Distance from
	iSN	0-18-09		14,480	PR$_1$-P'
	LN	0-51			
	M	1-00-33			
	F	2-28			
15th	H	11-04-15			JSA gives
	PN	11-10-05			H 11h 04m 18s.
	SN	11-14-52		3055	prob. 100 km. deep.
	eLN	11-17-42			
	F	11-57			
20th	iN	0-52-30			Felt in Charleston,
	eN	0-53-24			Mo., Cairo, Ill, and
	F	1-00			Wickliffe, Ky.
26th	H	1-32-13			
	iPN	1-38-08			
	iSN	1-43			
	SR1N	1-44-23		3120	
	LN	1-46			
	M	1-48-23			
31st.	H	5-02-52			Baffin Bay, similar
	iPN	5-08-51			to quake of Nov. 20
	iPR1N	5-09-30			1933.
	iSN	5-13-46		3165	JSA gives H-5h02m54s
	SR1N	5-15-06			USCGS " 5h02m48s.
	L	5-16-51			
Quakes with indistinct phases on 2nd, 3rd (2); 4th, 5th, 6th, 7th, 9th(3); 11th(2); 12th, 13th(2); 14th, 16th, 18th, 19th, 21st(4), 24th, 28th, 29th, 31st.					
SEPTEMBER 1934.					
15th	H	6-56-53			
	iPN	7-03-15			
	iSN	7-08-28		3455	
	iLN	7-12-15			
	M	7-13-53			
	F	8-50			
Minor disturbances also recorded on 2nd (2); 3rd, 4th, 6th(2), 8th, 12th, 14th, 15th, 18th, 20th, 21st, 23rd, 24th, 25th, 26th, 28th.					

Wm. G. Carroll.

10m0-6-2-34

TORONTO

SEISMOGRAPHIC STATION, METEOROLOGICAL SERVICE OF CANADA

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw — SUBSOIL, Sand and Clay

No. and Date	Phase	G. M. Time h. m. s.	Period s.	Δ	Remarks
					Period 12 seconds Damping 20-1 Magnification 150
1934 OCTOBER 10th	iN	16-07-45			
	e	16-09-45			Distant. Micros mask phases.
	e	16-10-38			
	i	16-11-27			
	i	16-16-00			
	i	16-19-41			
	eL?	16-34			
	F	18-10			
18th	eE	8-13-34			
	e	8-17-48			
	eL	8-40			
	F	10-32			
21st	eN	18-17-34			
	i	18-17-48			
	i	18-18-35			
	e	18-20-30			
	F	19-30			
25th	eN	9-04-45			
	L?	9-09-23			
	F	9-44			
29th	iN	2-46			Early phases masked by micros.
	L	2-49-44			CJSA gives H-2h 34m 47s.
	F	3-49			Erie, Pa. badly shaken

Minor disturbances on the 2nd(2), 4th, 5th, 6th, 25th (2) 27th, 29th (2), 30th.

Microseismic storms on 5th-6th; 8th-10th; 14th-16th; 23rd-24th

NOVEMBER.

5th	H	23-02-40			
	iPEN	23-12-37			North of Aleutian
	ePR1N	23-14-38		6565	Islands.
	iSN	23-20-50			
	LN	23-31-53			
	F	1-50			
18th	eE	15-16			Microseisms mask
	eLE	15-19-30			phases.
	F	15-54			
27th	ePR1N	6-35-23			
	iScPcS	6-40-11			Phases indistinct.
	i	6-42-08			USCGS gives
	eSR	6-52-23			0-6h 14m
	F	8-24			
30th	H	2-05-20			
	iPE	2-11-52			
	iPR1	2-12-35			
	iS	2-17-11		3545	
	iL	2-19-28			
	M	2-23-50			
	F	5-55			

Minor quakes recorded on the 4th (2); 7th; 9th; 10th; 16th (3); 18th (3); 24th; 26th;

Microseismic storm 17th-18th.

Wm. G. Carroll,
Seismological Observer.

500-21-2-35

TORONTO

Seismographic Station, Meteorological Service of Canada

LAT., 43° 39′ 53″ N. LONG., 79° 23′ 46″ W. H = 111m.

INSTRUMENTS—Two Milne-Shaw

Period 10 seconds
Damping 20-1
Magnification 150

1934 DECEMBER

3rd.	H	1-35-49	26°.9	Small amplitude.
	ePNE	1-41-33		
	SNE	1-46-16		
	LE	1-49		
	F	2-32		
3rd	H	2-38-33		
	iPN	2-44-38	29°.2	
	iSN	2-49-38		
	iSR$_1$N	2-51-06		
	LN	2-52-45		
	F	4-22		
4th	H	17-24-58		
	iPN	17-35-04	60°.5	S.Large amplitude Destructive at Zapiga, Tarapaca Prov.Chili
	iSN	17-43-26		
	PSN	17-44-01		
	LN	17-54-10		
	F	19-14		
8th	iN	9-54-17		Phases masked by heavy microseisms.
	iN	9-54-58		
	F	10-21		
15th	iN	2-16-05		Phases masked by microseisms.
	eEN	2-22-26		
	iN	2-32-21		
	L?	2-49		(109° Georgetown)
	F	4-50		
22nd	H	14-29-22	34°.5	
	ePN	14-36-13		
	iPR2N	14-37-43		
	iSN	14-41-50		
	LN	14-46-04		
23rd	H	9-51-50		
	ePN	10-02-42	66°.1	
	iPR1N	10-05-28		
	iSEN	10-11-37		
	iPSE	10-12-21		
	L	10-23-20		
24th	iN	14-46-56		Miscros mask phases
	L	14-51-50		
30th	H	13-51-33		
	ePNE	13-58-04	32°.1	
	iSN	14-03-24		
	SR1E	14-05-14		
	LN	14-07-20		
31st.	H	18-45-20		
	iPEN	18-52-18		
	iPR$_1$N	18-53-35	35°.3	California, Heavy microseisms
	iSN	18-58-01		
	iSRN	19-00-01		
	LN	19-02		
	M	19-06	12	540 microns

Minor quakes on the 1st, 2nd, 15th, 17th (3), 21st, 24th, 25th(2), 28th, 29th.
Heavy microseisms 7th-11th; 20th-23rd; 26th-29th; 30-31st.

Wm. G. Carroll,
Seismologist.