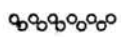
SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

January

1941



DOMINION OBSERVATORY

OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.
Time correction from recorded radio time signals
Foundation: solid granite of Canadian Shield
Instruments: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.
Time correction from radio time signals
Foundation: clay and sand
Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.
Time correction from radio time signals
Foundation: sand and clay
Instruments: Milne-Shaw NS and EW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.
Time correction from recorded radio time signals
Foundation: rock
Instruments: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				11 mm.
BL (Ottawa)	1.0				17 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
22 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	61	Aper.		
SE (Saskatoon)	9.0	58	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

e used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 1, 1941 to January 6, 1941 No. 1

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
4 Jan. 3	e_Z	9 22 38		
	e	9 28.3		
	e_N	9 31.9		
	L	9 35		
	F	10 01		
		Seven Falls		
	e	9 29		
	L	9 35		
	F	10 16		
		Ottawa		
7 Jan. 5	e_Z	19 06 12		
	e_N	19 09 37		
	e_E	19 25.8		
	eL	19 49		
	F	21 07		
		Victoria		
	e_E	19 05 18		
	e	19 11 50		
	e	19 14 33		
	e	19 20 24		
	e_N	19 30.3		
	L	19 35		
	F	21 22		
		Toronto		
	e_N	19 09 33		
	e_N	19 21.6		
	L	19 46		
	F	20 47		
		Seven Falls		
	e	19 35.3		
	L	19 44		
	F	20 52		
		Ottawa		
8 Jan. 6	H	9 48.1	4200	
	P	9 55 25		
	PPP	9 56 52		
	S	10 01 25		
	SSS	10 04.0		
	L	10 07		
	F	10 51		
		Victoria		
	e_E	9 57.4		
	e_E	10 04		
	L	10 15		
	F	11 16		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 6, 1941 to January 13, 1941 No. 2

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Toronto		
8 Jan. 6 (Cont'd)	e_N	10 00 48		
	L	10 06		
	F	10 37		
		Seven Falls		
	e	10 04.3		
	L	10 07		
	F	10 44		
		Shawinigan Falls		
	e	9 55 40		
	L	10 09		
	F	10 17		
		Ottawa		
13 Jan. 11	i_Z	3 04 51		
	eL	3 47		
	F	4 22		
		Victoria		
	e_E	3 11		
	L_E	3 31		
	F	4 05		
		Ottawa		
14 Jan. 11	e_Z	8 45 39		
	e	8 49 29		
	e_E	8 59 26		
	L	9 24		
	F	10 02		
		Seven Falls		
	e	8 56.6		
	L	9 25		
	F	10 20		
		Ottawa		
15 Jan. 13	H	16 27.8	13,500	USCGS. gives:
	P'	16 46 41		ϕ = 3° S.
	i_Z	16 47 02		λ = 144° E.
	PP	16 48.2		Depth 100 km. ca.
	e	16 54 11		
	S	16 56 12		
	SS	17 04 48		
	eL	17 20.5		
	F	19 39		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 13, 1941 to January 14, 1941 No. 3

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
15 Jan. 13 (Cont'd)	H	16 28.2	10,000	
	P	16 41 10		
	SKS	16 51 35		
	SKKS	16 52 05		
	SS	16 57.2		
	e	17 04 43		
	eL	17 10		
	F	19 58		
		Toronto		
	e	16 49 05		
	e	16 56.0		
	e	17 04 30		
	e	17 07.3		
	eL	17 18		
	F	19 86		
		Saskatoon		
	e	16 52 52		
	L	17 10		
	F	17 59		
		Halifax		
	e	16 51.3		
	L	17 21		
	F	18 39		
		Shawinigan Falls		
	e	16 47.0		
	e	17 05.3		
	L	17 20		
	F	18 00		
		Seven Falls		
	H	16 27.5	13,800	
	e	16 47.2		
	SKP	16 49.5		
	S	16 56.2		
	PS	16 58.3		
	SS	17 05.8		
	L	17 16		
	F	19 37		
		Victoria		
16 Jan. 14	e_E	10 32.1		
	e_E	10 36 46		
	L	10 37		
	F	11 03		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 14, 1941 to January 21, 1941 No. 4

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
18 Jan. 17		Ottawa		
	e_Z	12 41 39		
	L	12 47.3		
	F	13 06		
		Ottawa		
19 Jan. 19	e	3 31 31		
	e_N	3 38.0		
	e	3 46.0		
	L	3 56		
	F	4 50		
		Toronto		
	e_N	3 38 00		
	L	3 59		
	F	4 37		
		Ottawa		
22 Jan. 20	H	3 37.3	8380	
	iP_Z	3 48 58		
	eS	3 58.7		
	L	4 12		
	F	4 36		
		Toronto		
	e_N	3 59.5		
	L	4 16		
	F	4 31		
		Seven Falls		
	H	3 37.1	8120	
	P	3 48 35		
	S	3 58 07		
	L	4 12		
	F	4 50		
		Ottawa		
25 Jan. 21	e	2 28 42		Nearby quake.
	e	2 29 19		
	e	2 29 27		
	F	2 30.5		
		Ottawa		
26 Jan. 21	e_Z	13 00 24		
	L	13 35		
	F	14 26		
		Victoria		
	e	13 06 07		
	L	13 30		
	F	14 14		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 21, 1941 to January 31, 1941 No. 5

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
29 Jan. 24	H	5 44.2	5180	
	P	5 52 39		
	S	5 59 34		
	SS	6 03		
	F	6 15		
		Shawinigan Falls		
	H	5 44.1	5380	
	P	5 52 48		
	S	5 59 54		
	F	6 00		
		Ottawa		
30 Jan. 24	H	15 36.0	7480	
	P	15 46 43		
	S	15 55 40		
	eL	16 03		
	F	16 36		
		Toronto		
	e	15 50.1		
	e	15 55.9		
	L	16 04		
	F	16 25		
		Seven Falls		
	e	15 55 14		
	L	16 03		
	F	16 40		
		Ottawa		
41 Jan. 31	e_Z	2 57 22		
	e_Z	3 00 37		
	e	3 02 36		
	e	3 12		
	e	3 18		
	L	3 35		
	F	4 06		

W. W. Doxsee.

CORRELATION TABLE

This tabulation not only provides a yearly numbered list of all earthquakes recorded in Canada but also correlates the seismic registrations of the eight Canadian stations. The seismograph at the Kirkland Lake rockburst station (Established Dec. 19, 1939) records only the bursts and those earthquakes originating very close to Kirkland Lake. Entries for this station in the Correlation Table will be confined to those earthquakes and rockbursts which registered at Kirkland Lake and also at one or more outside stations. Such entries will be indexed as notes. Entries for each station show in hours and minutes the time of beginning of the tremors in Greenwich Mean Time. The appearance of entries in two or more columns in the same line indicates that these are known to be concerned with the same earthquake even though the times of beginning may differ slightly. The figures after the plus sign show the duration of the record in hours and minutes. The earthquake number and the day of the month on which it occurred are listed in the first and second columns, respectively, while the extreme right hand column is reserved for index letters to a series of notes following the tabulation. Certain letters are reserved for the purpose of classifying the entries: these are as follows:-

d (domesticus)	epicentre less than 100 km.
v (vicinus)	epicentre between 100 and 1000 km.
r (remotus)	epicentre between 1000 and 5000 km.
u (ultimus)	epicentre beyond 5000 km.

(above lower-case letters apply to earthquakes of the lowest order of intensity on a scale of three.)

D, V, R, U :	distance as above, intensity intermediate.
<u>D</u>, <u>V</u>, <u>R</u>, <u>U</u> :	distance as above, intensity - top of scale.
L	Long (or surface waves) alone recorded.
Q	Questionable (may not be seismic).
T	Time uncertain.
P	Preliminary tremors alone recorded.
*	Recorded only by short period seismograph.

EARTHQUAKE CORRELATION TABLE

January, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
1	1	.....	.....	.....	.....	.....	13 37+0 24L	.....	.....	..
2	1	.....	.....	.....	.....	.....	21 52+0 22L	.....	.....	..
3	2	.....	.....	.....	.....	.....	.....	17 10+0 05P	17 10+0 07P	..
4	3	9 23+0 38r	9 40+0 22L	.....	.....	.....	9 29+0 47r	.....	.....	..
5	3	.....	.....	.....	.....	.....	11 38+0 08L	.....	.....	..
6	4	3 32+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
7	5	19 06+2 01u	19 05+2 17u	19 10+1 37u	.....	.....	19 35+1 17u	.....	19 06+0 05P	..
8	6	9 55+0 56r	9 57+1 19u	10 01+0 36r	.....	.....	10 04+0 40r	.....	9 56+0 21r	A
9	7	10 57+0 04P*	.....	.....	.....	.....	.....	.....	10 57+0 05P	..
10	8	21 42+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
11	9	18 25+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
12	9	19 59+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
13	11	3 05+1 17u	3 11+0 54u	.....	.....	.....	3 54+0 39L	.....	.....	..
14	11	8 46+1 16u	8 59+1 10L	.....	.....	.....	8 57+1 23u	.....	.....	..
15	13	16 47+2 52U	16 41+3 17U	16 49+2 37U	16 53+1 07U	16 51+1 48U	16 49+2 47U	16 47+1 24U	16 47+1 13U	B
16	14	.....	10 32+0 31u	.....	.....	.....	.....	.....	.....	..
17	16	16 04+0 05L	.....	.....	.....	.....	.....	.....	.....	..
18	17	12 42+0 24r	.....	.....	.....	.....	.....	.....	12 42+0 02P	..
19	19	3 32+1 18u	4 17+0 30L	3 38+0 59u	.....	.....	3 54+0 49L	.....	3 32+0 01P	..
20	19	8 40+0 01P	.....	.....	.....	.....	.....	.....	.....	..
21	19	.....	14 30+0 09L	.....	.....	.....	.....	.....	.....	..
22	20	3 49+0 47u	4 19+0 33L	3 59+0 32u	.....	.....	3 58+0 51u	3 49+0 03P	3 49+0 04P	C
23	20	17 18+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
24	20	18 38+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
25	21	2 29+0 02v	.....	.....	.....	.....	.....	.....	.....	..
26	21	13 00+1 26u	13 06+1 08u	13 39+0 37L	.....	.....	13 34+0 44L	.....	.....	..
27	23	0 17+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
28	23	5 33+0 0.5P*	.....	.....	.....	.....	.....	.....	.....	..

EARTHQUAKE CORRELATION TABLE

January, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
29	24	5 53+0 22u	6 03+0 21L	.....	.....	.....	6 00+0 13L	5 53+0 05P	5 53+0 07P	E
30	24	15 47+0 50u	16 01+0 45L	15 50+0 35u	.....	.....	15 55+0 45u	.....	.....	F
31	24	19 47+0 0.5 P	.....	.....	.....	.....	.....	.....	.....	..
32	24	.....	.....	.....	.....	.....	20 56+0 13L	.....	.....	..
33	25	5 25+0 0.3P	.....	.....	.....	.....	.....	.....	.....	..
34	25	5 38+0 01P	.....	.....	.....	.....	.....	.....	.....	..
35	25	23 53+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
36	26	.....	3 20+0 23L	.....	.....	.....	.....	.....	.....	..
37	26	9 22+0 0.7P*	.....	.....	.....	.....	.....	.....	.....	..
38	27	.....	.....	.....	.....	.....	.....	.....	.....	..
39	28	.....	.....	.....	.....	.....	3 30+0 12L	.....	.....	..
40	30	15 31+0 01P	.....	.....	.....	.....	4 19+0 13L	.....	.....	..
41	31	2 57+1 09u	2 32+0 57L	.....	.....	.....	.....	.....	.....	..

CORRELATION OF EARTHQUAKES
January, 1941

N O T E S

A :	Ottawa	Δ = 4,200 km.	H = $9^h48^m.1$ U.T.
B :	Ottawa	Δ = 13,500 km.	H = $16^h27^m.8$ U.T.
	Victoria	Δ = 10,000 km.	H = 16 28.2 U.T.
	Seven Falls	Δ = 13,800 km.	H = 16 27.5 U.T.
C :	Ottawa	Δ = 8,380 km.	H = $3^h37^m.3$ U.T.
	Seven Falls	Δ = 8,120 km.	H = 3 37.1 U.T.
E :	Ottawa	Δ = 5,180 km.	H = $5^h44^m.2$ U.T.
	Shawinigan Falls	Δ = 5,380 km.	H = 5 44.1 U.T.
F :	Ottawa	Δ = 7,400 km.	H = $15^h36^m.0$ U.T.

Dominion Observatory,
Ottawa, Canada,
February 20, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

January, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
International Union of Geodesy and Geophysics	Supplements to June and July: and August, 1940	January	2
San Fernando	March to June, 1940	"	4
Fordham	April to June, 1940	"	6
Ksara	October, 1940	"	7
Weston	Preliminary for November and December, 1940	"	13
San Fernando	May and June, 1940	"	14
Saint Louis and Auxiliary stations	Preliminary for August 22, 1940	"	16
Florissant	February to May, 1940	"	16
Little Rock	October to December, 1939	"	16
Cape Girardeau	September, 1939 to March, 1940	"	16
Pittsburgh	October and November, 1940	"	16
Manila	October, 1940	"	16
Pasadena	Preliminary for December, 1940	"	17
Helwan	January to March, 1940	"	27
India Stations	October to December, 1939	"	27
Perth	October, 1940	"	28
New Zealand Stations	November, 1940	"	28
Brisbane	November, 1940	"	28
Bureau Central	Supplements to July and August; and September, 1940	"	29
United States Coast and Geodetic Survey	February and March, 1939	"	30

DOMINION OBSERVATORY
OTTAWA - CANADA

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN
February
1941

DOMINION OBSERVATORY
OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instruments: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instruments: Milne-Shaw NS and EW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				11 mm.
BL (Ottawa)	1.0				17 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
22 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	61	Aper.		
SE (Saskatoon)	9.0	58	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 1, 1941 to February 8, 1941 No. 6

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
43 Feb. 2	H	23 38.7	4220	
	P_Z	23 46 03		
	S_E	23 52 04		
	eL	23 56		
	F	0 14		
		Seven Falls		
	e	23 52 39		
	L	23 56		
	F	0 25		
		Ottawa		
44 Feb. 4	H	14 13.6	4340	Δ from PPP-P
	P_Z	14 21 06		
	PPP_Z	14 22 50		
	L	14 36		
	F	14 55		
		Shawinigan Falls		
	H	14 13.6	4330	
	P	14 21 05		
	S	14 27 13		
	F	14 30		
		Ottawa		
46 Feb. 7	i_Z	15 24 22		
	e_Z	15 26 47		
	e_E?	15 34.2		
	eL	15 46		
	F	16 30		
		Victoria		
	e_E	15 21.1		
	e_E	15 23.5		
	e_N	15 27 19		
	e_E	15 28 12		
	L	15 36		
	F	16 14		
		Toronto		
	e_N	15 43 11		
	L_N	15 51		
	F	16 29		
		Seven Falls		
	e	15 33 16		
	L	15 51		
	F	16 28		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 8, 1941 to February 9, 1941 No. 7

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
48 Feb. 8	H	18 59.5	8200	
	P	19 10 58		
	PP	19 13.6		
	S_E	19 20 34		
	SSS	19 29		
	L	19 35		
	F	21 20		
		Ottawa		
50 Feb. 9	H	9 44.2	3900	USCGS. gives:
	P	9 51 09		ϕ = 40°.7 N.
	PP	9 52 19		λ = 125.4 W.
	S	9 56 50		
	SSS	9 59.4		
	eL	10 01.4		
	F	12 32		
		Victoria		
	H	(9 43.5)	1140	
	iP	(9 46 00)		
	S	(9 48 06)		
	L	(9 50)		
	F	(13 23)		
		Toronto		
	H	(9 42.3)	3610	
	P	(9 48 54)		
	S	(9 54 17)		
	SS	(9 56.1)		
	e	(9 57.2)		
	L	(9 58.2)		
	F	(12 29)		
		Saskatoon		
	H	9 44.1	1920	
	P	9 48 08		
	PPP_E	9 48 35		
	S	9 51 27		
	SS	9 52		
	eL	9 53		
	F	10 42		
		Halifax		
	H	9 44.5	4750	
	P	9 52 25		
	S	9 58 56		
	L	10 05		
	F	11 07		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 9, 1941 to February 11, 1941 No. 8

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
50 Feb. 9 (Cont'd)	H	9 44.2	4260	
	P	9 51 34		
	PP	9 53 04		
	S	9 57 38		
	L	10 02.2		
	F	12 50		
		Shawinigan Falls		
	H	9 44.3	4040	
	P	9 51 24		
	S	9 57 14		
	SSS	10 00.6		
	L	10 03.4		
	F	10 41		
		Ottawa		
52 Feb. 9	e_Z	19 38 20		
	e	19 45.8		
	e	19 56.8		
	e	20 05		
	eL	20 11		
	F	21 28		
		Victoria		
	e_E	19 32.4		
	e_E	19 35 57		
	e_E	19 42 52		
	e_N	19 43 16		
	e_E	19 44 44		
	e	19 48.6		
	e	19 53.5		
	eL	19 57		
	F	22 08		
		Toronto		
	e_N	19 45.7		
	L_N	20 10		
	F	21 22		
		Seven Falls		
	e	19 40.3		
	e	19 49.9		
	e	19 56.9		
	L	20 09		
	F	21 38		
		Ottawa		
54 Feb. 11	H	14 35.5	3720	USCGS. gives: ϕ = 14°.5 N. λ = 94° W.
	P	14 42 16		
	PPP	14 43.6		
	S	14 47 46		
	eL	14 53		
	F	16 32		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 11, 1941 to February 13, 1941 No. 9

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
54 Feb. 11 (Cont'd)	H	14 35.5	4510	
	P	14 43 12		
	S	14 49 30		
	SSS	14 53.1		
	eL	14 56		
	F	17 23		
		Toronto		
	e	14 43		
	S?	14 47 03		
	e	14 48 10		
	eL	14 52		
	F	16 30		
		Saskatoon		
	H	14 36	4200	
	P	14 43.3		
	S	14 49.3		
	e_E	14 53.3		
	L	14 58		
	F	15 24		
		Halifax		
	H	14 35.7	4340	
	P	14 43 07		
	PPP	14 44 48		
	S	14 49.3		
	L	14 55		
	F	15 45		
		Seven Falls		
	H	14 35.6	4090	
	P	14 42 46		
	PPP	14 44 15		
	S	14 48.6		
	SSS	14 51 32		
	L	14 56		
	F	16 46		
		Shawinigan Falls		
	H	14 35.7	3910	
	P	14 42 38		
	PPP	14 44 00		
	S	14 48 20		
	L	14 52.7		
	F	15 26		
		Ottawa		
57 Feb. 13	e_Z	14 56 14		
	L	15 07		
	F	15 25		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 13, 1941 to February 25, 1941 No. 10

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
57 Feb. 13 (Cont'd)	e_E	15 02.1		
	e	15 04.1		
	F	15 17		
		Seven Falls		
60 Feb. 14	e	19 24.4		
	L	19 44		
	F	21 02		
		Ottawa		
61 Feb. 15	e_Z	6 17 55		
	L	6 38		
	F	6 43		
		Ottawa		
62 Feb. 15	i_Z	9 03 00		
	L	9 09		
	F	9 26		
		Seven Falls		
	e	9 04 56		
	e	9 12 30		
	L	9 16		
	F	9 31		
		Ottawa		
63 Feb. 16	e_Z	16 52 08		
	L	17 24		
	F	17 53		
		Victoria		
72 Feb. 23	e	11 41.3		
	L	11 51		
	F	11 58		
		Ottawa		
73 Feb. 23	H	22 45.5	1960	
	P_Z	22 49 35		
	S_Z	22 52 58		
	F	22 57		
		Ottawa		
75 Feb. 25	e_Z	5 57 03		
	e	6 00.5		
	eL	6 24		
	F	8 00 ca.		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 25, 1941 to February 28, 1941 No. 11

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
75 Feb. 25 (Cont'd)	e_E	5 57.3		
	e	6 02 40		
	L	6 24		
	F	8 16		
		Toronto		
	e_N	6 01.6		
	e_N	6 19.0		
	L	6 58		
	F	7 35		
		Seven Falls		
	e	6 19		
	L	6 44		
	F	7 38		
		Ottawa		
78 Feb. 27	e_Z	10 03 14		
	L	10 46		
	F	11 13		
		Victoria		
	e	10 08.6		
	L	10 30		
	F	11 04		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

February, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
42	2	21 32+0 01P	.....	.....	.....	.....	.....	.....	.....	..
43	2	23 46+0 28r	.....	.....	.....	.....	23 53+0 32r	.....	23 46+0 03P	A
44	4	14 21+0 34r	.....	.....	.....	.....	14 35+1 13L	14 21+0 07r	14 21+0 09r	B
45	5	23 24+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
46	7	15 24+1 06u	15 21+0 53u	15 43+0 46u	.....	.....	15 33+0 55u	.....	15 24+0 04P	..
47	7	16 15+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
48	8	19 40+0 44L	19 11+2 09u	19 41+0 28L	.....	.....	19 25+1 27L	.....	.....	C
49	9	.....	4 36+0 21L	.....	.....	.....	5 03+0 09L	.....	.....	..
50	9	9 51+2 41R	9 46+3 37R	9 49+2 40R	9 48+0 54R	9 52+1 15R	9 52+2 58R	9 52+0 43R	9 51+0 50R	E
51	9	15 32+0 02P	15 32+0 10L	.....	.....	.....	.....	.....	.....	..
52	9	19 38+1 50u	19 32+2 36u	19 46+1 36u	.....	20 22+0 20L	19 40+2 02u	.....	.....	..
53	11	.....	4 55+0 11L	.....	.....	.....	.....	.....	.....	..
54	11	14 42+1 50r	14 43+2 40r	14 43+1 47r	14 43+0 41r	.....	14 43+2 03r	14 44+0 50r	14 43+0 43r	F
55	12	20 45+0 02P	.....	.....	.....	.....	.....	.....	.....	..
56	12	21 11+0 0.5P*	.....	.....	.....	.....	.....	.....	.....	..
57	13	14 56+0 29r	15 02+0 15r	15 06+0 10L	.....	.....	15 09+0 27L	15 09+0 08L	15 08+0 09L	..
58	13	16 48+0 06L	.....	16 46+0 06L	.....	.....	16 51+0 05L	.....	.....	..
59	13	18 25+0 0.6v*	.....	.....	.....	.....	.....	.....	.....	..
60	14	19 52+0 08L	19 43+0 57L	19 52+0 10L	.....	.....	19 24+1 38u	.....	.....	..
61	15	6 18+0 25u	.....	.....	.....	.....	6 37+0 09L	.....	.....	..
62	15	9 03+0 23r	9 21+0 06L	9 09+0 13L	.....	.....	9 05+0 26r	.....	9 03+0 03P	..
63	16	16 52+1 01u	17 34+0 17L	17 23+0 37L	.....	.....	17 15+0 59L	.....	.....	..
64	17	10 11+0 0.6P*	.....	.....	.....	.....	.....	.....	.....	..
65	17	11 37+0 01v*	.....	.....	.....	.....	.....	.....	.....	..
66	18	19 27+0 03P*	.....	.....	.....	.....	.....	.....	.....	..

EARTHQUAKE CORRELATION TABLE
February, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
67	18	20 57+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
68	22	.....	.....	.....	.....	.....	1 32+0 03L	.....	.....	..
69	22	17 34+0 01v*	.....	.....	.....	.....	.....	.....	.....	..
70	22	19 43+0 01P	19 36+0 09P	.....	.....	.....	.....	.....	.....	..
71	23	.....	1 57+0 13L	.....	.....	.....	.....	.....	.....	..
72	23	11 39+0 05P	11 41+0 17L	.....	.....	.....	.....	.....	0 54+0 01P	..
73	23	22 50+0 07r	.....	.....	.....	.....	.....	.....	11 39+0 10P	..
74	24	13 37+0 11L	13 19+0 30L	.....	.....	.....	.....	.....	22 53+0 03P	G
75	25	5 57+2 03u	5 57+2 19u	6 02+1 33u	.....	.....	13 38+0 27L	.....	.....	..
76	25	6 22+0 01P*	.....	.....	.....	.....	6 19+1 19u	.....	5 57+0 05P	..
77	25	7 32+0 0.3P*	.....	.....	.....	.....	.....	.....	.....	..
78	27	10 03+1 10u	10 09+0 55u	10 50+0 22L	.....	.....	.....	.....	.....	..
79	27	14 21+0 0.3v*	.....	.....	.....	.....	.....	.....	10 03+0 03P	..
80	27	15 15+0 01P	.....	.....	.....	.....	.....	.....	.....	..
81	27	.....	.....	.....	.....	.....	.....	.....	.....	..
82	28	19 52+0 0.3v*	.....	.....	.....	.....	.....	.....	23 42+0 02P	..

CORRELATION OF EARTHQUAKES
February, 1941

N O T E S

A	:	Ottawa	Δ = 4220 km.	H = $23^h38^m.7$ U.T.
B	:	Ottawa	Δ = 4340 km.	H = $14^h13^m.6$ U.T.
		Shawinigan Falls	Δ = 4330 km.	H = 14 13.6 U.T.
C	:	Victoria	Δ = 8200 km.	H = $18^h59^m.5$ U.T.
E	:	Ottawa	Δ = 3900 km.	H = $9^h44^m.2$ U.T.
		Victoria	Δ = 1140 km.	H = (9 43.5) U.T.
		Toronto	Δ = 3610 km.	H = (9 42.3) U.T.
		Saskatoon	Δ = 1920 km.	H = 9 44.1 U.T.
		Halifax	Δ = 4750 km.	H = 9 44.5 U.T.
		Seven Falls	Δ = 4260 km.	H = 9 44.2 U.T.
		Shawinigan Falls	Δ = 4040 km.	H = 9 44.3 U.T.
F	:	Ottawa	Δ = 3720 km.	H = $14^h35^m.5$ U.T.
		Victoria	Δ = 4510 km.	H = 14 35.5 U.T.
		Saskatoon	Δ = 4200 km.	H = 14 36 U.T.
		Halifax	Δ = 4340 km.	H = 14 35.7 U.T.
		Seven Falls	Δ = 4090 km.	H = 14 35.6 U.T.
		Shawinigan Falls	Δ = 3900 km.	H = 14 35.7 U.T.
G	:	Ottawa	Δ = 1960 km.	H = $22^h45^m.5$ U.T.

Dominion Observatory,
Ottawa, Canada,
March 25, 1941.

SEISMOLOGICAL BULLETINS RECEIVED
February, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED
Perth	November, 1940	February 1
Manila	November, 1940	" 3
Ksara	November, 1940	" 5
Fordham	July to December, 1940	" 7
Saint Louis and Auxiliary Stations	Supplements to August, September, October, 1940 and preliminaries for October 4, 5, 11, 27, 1940	" 7
Williams College	April to December, 1940	" 8
Zinsen	Year 1938	" 13
Perth	December, 1940	" 19
New Zealand Stations	December, 1940	" 20
Sydney	September and October, 1940	" 21
Bucarest	September, 1940	" 22
Pasadena	Preliminary bulletin for January, 1941	" 24
Saint Louis and Auxiliary Stations	Supplement to December, 1940	" 26
Cape Girardeau	September and October, 1940	" 26
Spokane	October 19, 1939 to July 31, 1940	" 26
Saint Louis and Auxiliary Stations	Supplement to November, 1940 and preliminaries for November 10 and December 20, 24, 1940.	" 28

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

March

1941

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DOMINION OBSERVATORY

OTTAWA, CANADA

*****

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07'.4 N. λ = 70°49'.6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.
Time correction from recorded radio time signals
Foundation: solid granite of Canadian Shield
Instruments: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.
Time correction from radio time signals
Foundation: clay and sand
Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.
Time correction from radio time signals
Foundation: sand and clay
Instruments: Milne-Shaw NS and EW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.
Time correction from recorded radio time signals
Foundation: rock
Instruments: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				11 mm.
BL (Ottawa)	1.0				17 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2000			
18 (Toronto)	10.0	165	20:1	20 mm.	
22 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.2	59	Aper.		
SE (Saskatoon)	9.2	60	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE: Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 1, 1941 to March 12, 1941 No. 12

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
83 Mar. 1	e_Z	4 03 50		
	L	4 25		
	F	4 51		
		Victoria		
	e	4 16.5		
	L	4 33		
	F	5 11		
		Ottawa		
87 Mar. 4	H	18 01.6	105	
	P	18 01 56		
	S	18 02 08		
	F	18 03		
		Ottawa		
89 Mar. 5	H	7 29.3	105	
	P	7 29 39		
	S	7 29 51		
	F	7 32		
		Ottawa		
93 Mar. 10	H	4 05.9	4120	
	P_Z	4 13 03		
	S_E	4 19 00		
	SSS	4 22		
	L	4 25		
	F	4 40		
		Seven Falls		
	e	4 19 41		
	L	4 23		
	F	4 46		
		Ottawa		
97 Mar. 12	e_Z	14 29 28		
	L	15 08		
	F	15 26		
		Victoria		
	e_E	14 35 45		
	L	14 55		
	F	15 34		
		Victoria		
98 Mar. 12	e_E	21 55.9		
	L	22 16		
	F	22 50		

SEISMOLOGICAL SERVICE OF CAN[illegible]
DOMINION OBSERVATORY, OTTAWA

FROM March 12, 1941 to March 16, 1941 No. 13

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
104 Mar. 15	H	5 46.5	3680	USCGS. gives:
	P	5 53 08		ϕ = 28°.1 N.
	S	5 58 35		λ = 113°.6 W.
	SS_E	6 00.7		
	M	6 04 09		
	F	7 00 ca.		
		Victoria		
	H	5 46.2	2540	
	P	5 51 15		
	S	5 55 25		
	SS	5 56.4		
	eL	5 57		
	F	7 15 ca.		
		Toronto		
	e	5 57 10		
	L	6 01		
	F	7 00 ca.		
		Halifax		
	e	6 00.0		
	L	6 05		
	F	6 32		
		Seven Falls		
	H	5 46.6	4160	
	P	5 53 41		
	PPP	5 55 10		
	S	5 59 39		
	SSS	6 02.4		
	M	6 06.4		
	F	7 21		
		Shawinigan Falls		
	H	5 46.6	3900	
	P	5 53 32		
	S	5 59 13		
	L	6 04		
	F	6 30		
		Ottawa		
105 Mar. 16	H	7 42.6	8000	
	P	7 53 59		
	S	8 03 25		
	SS	8 12		
	L	8 20		
	F	9 44		
		Victoria		
	H	7 42.6	5350	
	P	7 51 17		
	e	7 53 31		
	S	7 58 21		
	SS	8 02		
	L	8 06		
	F	10 28		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 16, 1941 to March 21, 1941 No. 14

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Toronto		
105 Mar. 16 (Cont'd)	e	8 03 33		
	e	8 08.4		
	L	8 20		
	F	9 40		
		Halifax		
	e	8 00.5		
	L	8 23		
	F	8 47		
		Shawinigan Falls		
	H	7 42.5	8140	
	P	7 54 00		
	S	8 03 33		
	F	8 41		
		Seven Falls		
	H	7 42.8	8020	
	P	7 54.2		
	S	8 03 37		
	SSS	8 12.3		
	L	8 20		
	F	10 23		
		Ottawa		
106 Mar. 16	e_Z	16 45 35		
	e_N	16 54.1		
	L	17 04		
	F	17 30		
		Victoria		
	e	16 58 25		
	L	17 13		
	F	18 09		
		Ottawa		
108 Mar. 16	e_Z	20 25 29		Nearby quake.
	e_Z	20 25 34		
	e_Z	20 25 50		
	F	20 27		
		Ottawa		
113 Mar. 21	H	7 58.1	5780	USCGS. gives:
	P	8 07 14		ϕ = 7°.3 N.
	S	8 14 42		λ = 36°.6 W.
	e	8 17 04		Depth 100 km.
	SSS	8 20		
	L	8 22		
	F	8 50		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 21, 1941 to March 28, 1941 No. 15

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
113 Mar. 21 (Cont'd)	H	7 58.0	9420	
	P	8 10 35		
	S	8 21 05		
	L	8 38		
	F	9 13		
		Toronto		
	e	8 15 01		
	L	8 21		
	F	9 12		
		Shawinigan Falls		
	H	7 58.1	5650	
	P	8 07 08		
	S	8 14 29		
	F	8 15		
		Seven Falls		
	H	7 58.1	5660	
	P	8 07 04		
	S	8 14 26		
	SS	8 17.9		
	SSS	8 19.3		
	L	8 20		
	F	9 10		
		Ottawa		
116 Mar. 23	H	9 00.5	3180	
	P_Z	9 06 28		
	S_N	9 11 24		
	L	9 16		
	F	9 28		
		Seven Falls		
	e	9 12.5		
	L	9 18		
	F	9 29		
		Ottawa		
118 Mar. 28	e_Z	22 48 59		
	e_N	22 58.2		
	e_N	23 06		
	eL	23 19		
	F	0 30		
		Victoria		
	e	22 54 37		
	L	23 14		
	F	1 01		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 28, 1941 to March 31, 1941 No. 16

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
118	e	22 57.1		
Mar.	e	23 07.8		
28	e	23 11.4		
(Cont'd)	eL	23 28		
	F	1 09		
		Ottawa		
119	e_Z	9 00.0		
Mar.	e_Z	9 06 25		
29	L	9 23		
	F	9 46		
		Victoria		
	e_E	9 02.3		
	L	9 07		
	F	9 51		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month March, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls M. S.	Seven Falls W. A.	Shawinigan	**
83	1	4 04+0 47u	4 16+0 55u	4 26+0 17L	.....	.....	4 22+0 17L	4 03+0 03P	4 04+0 03P	..
84	2	.....	12 34+0 24L	.....	.....	.....	.....	.....	.....	..
85	4	6 04+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
86	4	6 20+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
87	4	18 02+0 01v	.....	.....	.....	.....	.....	.....	18 03+0 0.3v	A
88	4	21 46+0 01P*	21 58+0 08L	.....	.....	.....	.....	.....	.....	..
89	5	7 30+0 02v	.....	.....	.....	.....	.....	.....	7 30+0 0.3v	B
90	6	20 40+0 0.1P	.....	.....	.....	.....	.....	.....	.....	..
91	9	16 59+0 01P	.....	.....	.....	.....	.....	.....	16 59+0 02P	..
92	10	3 55+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
93	10	4 13+0 27r	4 34+0 25L	4 24+0 22L	.....	.....	4 20+0 26r	.....	4 13+0 02P	C
94	10	.....	.....	.....	.....	.....	.....	.....	8 53+0 02P	..
95	11	1 12+0 0.2P*	.....	.....	.....	.....	.....	.....	.....	..
96	12	3 00+0 0.8P	.....	.....	.....	.....	.....	.....	.....	..
97	12	14 29+0 57u	14 36+0 58u	.....	.....	.....	15 03+0 19L	.....	.....	..
98	12	.....	21 56+0 54u	.....	.....	.....	22 27+0 07L	.....	.....	..
99	13	16 40+0 0.2P*	.....	.....	.....	.....	.....	.....	.....	..
100	14	0 59+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
101	14	4 27+0 0.2P*	.....	.....	.....	.....	.....	.....	.....	..
102	14	.....	15 10+0 12L	.....	.....	.....	15 21+0 10L	.....	.....	..
103	14	16 30+0 01P	.....	.....	.....	.....	.....	.....	.....	..
104	15	5 53+1 07r	5 51+1 24r	5 57+1 03r	.....	6 00+0 32r	5 54+1 27r	5 54+0 37r	5 54+0 37r	F
105	16	7 54+0 50u	7 51+2 37u	8 04+1 37u	.....	8 00+0 47u	7 54+2 29u	7 54+0 43u	7 54+0 47u	F
106	16	16 46+0 44u	16 58+1 11u	.....	.....	.....	16 57+0 54L	.....	.....	..
107	16	18 59+0 01P	.....	.....	.....	.....	19 20+0 05L	.....	.....	..
108	16	20 25+0 01v*	.....	.....	.....	.....	.....	.....	.....	..
109	16	23 03+0 01P	.....	.....	.....	.....	23 28+0 09L	.....	.....	..
110	18	14 44+0 0.4P*	.....	.....	.....	.....	.....	.....	.....	..

EARTHQUAKE CORRELATION TABLE

Month March, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
111	19	2 58+0 01P	.....	.....	.....	.....	3 34+0 11L	.....	.....	..
112	20	12 37+0 01P*	.....	.....	.....	.....	13 00+0 07L	.....	.....	..
113	21	8 07+0 43u	8 11+1 02u	8 15+0 57u	.....	.....	8 07+1 03u	8 07+0 02P	8 07+0 08u	G
114	22	14 44+0 0.8P	.....	.....	.....	.....	.....	.....	.....	..
115	22	15 07+0 0.4P	.....	.....	.....	.....	.....	.....	.....	..
116	23	9 06+2 22r	.....	.....	.....	.....	9 12+0 17u	.....	.....	J
117	28	21 27+0 0.5P*	.....	.....	.....	.....	.....	.....	.....	..
118	28	22 49+1 53u	22 55+2 06u	22 59+1 33L	.....	.....	22 57+2 12u	.....	.....	..
119	29	9 00+0 46u	9 02+0 49u	9 23+0 18L	.....	.....	9 23+0 27L	.....	.....	..
120	31	0 22+0 0.9P	1 31+0 10L	.....	.....	.....	1 48+0 08L	.....	.....	..
121	31	.....	7 15+0 14L	.....	.....	.....	7 32+0 08L	.....	.....	..

CORRELATION OF EARTHQUAKES

March, 1941

N O T E S

A :	Ottawa	Δ = 105 km.	H = $18^h01^m.6$ U.T.
B :	Ottawa	Δ = 105 km,	H = $7^h29^m.3$ U.T.
C :	Ottawa	Δ = 4120 km.	H = $4^h05^m.9$ U.T.
E :	Ottawa	Δ = 3680 km.	H = $5^h46^m.5$ U.T.
	Victoria	Δ = 2540 km.	H = 5 46.2 U.T.
	Shawinigan Falls	Δ = 3900 km.	H = 5 46.6 U.T.
	Seven Falls	Δ = 4160 km.	H = 5 46.6 U.T.
F :	Ottawa	Δ = 8000 km.	H = $7^h42^m.6$ U.T.
	Victoria	Δ = 5350 km.	H = 7 42.6 U.T.
	Shawinigan Falls	Δ = 8140 km.	H = 7 42.5 U.T.
	Seven Falls	Δ = 8020 km.	H = 7 42.8 U.T.
G :	Ottawa	Δ = 5780 km.	H = $7^h58^m.1$ U.T.
	Victoria	Δ = 9420 km.	H = 7 58.0 U.T.
	Shawinigan Falls	Δ = 5650 km.	H = 7 58.1 U.T.
	Seven Falls	Δ = 5660 km.	H = 7 58.1 U.T.
J :	Ottawa	Δ = 3180 km.	H = $9^h00^m.5$ U.T.

DOMINION OBSERVATORY
OTTAWA - CANADA
May 7, 1941.

SEISMOLOGICAL BULLETINS RECEIVED
March, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
Bucarest	November, 1940	March	3
Osaka	July to September, 1940	"	3
Apia	October to December, 1940	"	3
Pasadena	Preliminary Bulletin No. 22-January,1941	"	4
Manila	December, 1940	"	4
Weston	Preliminary for January - February, 1941	"	8
United States Coast and Geodetic Survey	April, 1939	"	13
Bureau Central and U, G. G. I.	October, 1940	"	18
Cape Town	Year 1940	"	18
Tokyo	July to December, 1939	"	18
Pasadena	Preliminary for February, 1941 and Local Shocks for November, 1940	"	19
Martinique	Year 1940	"	21
Helwan	April to June, 1940	"	21
Pittsburg	December, 1940 and January, 1941	"	21
New Zealand Stations	January, 1941	"	21
Riverview	October to December, 1940	"	24
Perth	January, 1941	"	24
Brisbane	December, 1940 and January, 1941	"	25
Batavia	January to June, 1940	"	31

Dominion Observatory,
Ottawa - Canada.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN
April
1941

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DOMINION OBSERVATORY
OTTAWA, CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM April 1, 1941 to April 1, 1941 No. 17

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
122 Apr. 1	H	10 41.2	5180	USCGS. gives:
	PZ	10 49 39		ϕ = 56°.0 N.
	S	10 56 34		λ = 153.0 W.
	SS	10 59.3		
	eL	11 04		
	F	12 30		
		Victoria		
	H	10 40.9	2260	
	iP	10 45 32		
	eE	10 48.1		
	iS	10 49 18		
	L	10 50		
	F	14 10		
		Toronto		
	e	10 51.5		
	S	10 56 22		
	SSS	11 00		
	L	11 04		
	F	12 40		
		Saskatoon		
	e	10 46.6		
	e	10 47 34		
	S	10 51 48		
	L	10 55		
	F	11 21		
		Halifax		
	H	(10 41.2)	6450	
	PPP	(10 54.3)		
	SS	(11 03.5)		
	SSS	(11 05)		
	L	(11 07)		
	F	(11 46)		
		Seven Falls		
	H	10 41.4	5230	
	P	10 49 58		
	S	10 56 56		
	SSS	11 00 45		
	L	11 05		
	F	13 11		
		Shawinigan Falls		
	H	10 41.2	5290	
	P	10 49 45		
	S	10 56 46		
	L	11 08		
	F	11 50		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 1, 1941 to April 3, 1941 No. 18

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
123 Apr. 1	e_Z	22 27 42		
	L	22 31		
	F	22 41		
		Seven Falls		
125 Apr. 3	e	15 14 52		
	L	15 23		
	F	15 27		
		Ottawa		
126 Apr. 3	H	15 21.7	7180	USCGS gives:
	iP	15 32 15		ϕ = 25° S.
	iS	15 41 02		λ = 69° W.
	SSS	15 48.0		Depth 200 km.
	eL	15 53		
	F	17 30		
		Victoria		
	H	15 21.9	8910	
	P	15 34 01		
	S	15 44 08		
	i	15 46 17		
	SS	15 49.3		
	L	15 58		
	F	17 15		
		Toronto		
	H	15 21.6	7160	
	iP	15 32 05		
	iS	15 40 51		
	e	15 42 16		
	SSS	15 47.3		
	L	15 52		
	F	17 23		
		Halifax		
	H	15 21.6	7060	
	P	15 32 03		
	S	15 40 43		
	SSS	15 46.7		
	L	15 52		
	F	16 13		
		Seven Falls		
	H	15 21.8	7240	
	P	15 32 27		
	S	15 41 17		
	SSS	15 48.5		
	L	15 55		
	F	18 12		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 3, 1941 to April 7, 1941 No. 19

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
126 Apr. 3 (Cont'd)	H	15 21.7	7250	
	P	15 32 21		
	S	15 41 12		
	F	16 01		
		Ottawa		
128 Apr. 3	H	19 52.9	150	
	P_1	19 53 23.5		
	S_1	19 53 43		
	L?	19 53 53		
	F	19 55		
		Ottawa		
129 Apr. 4	H	8 10.7	150	
	P_1	8 11 09.5		
	S_1	8 11 29		
	L?	8 11 36		
	F	8 14		
		Shawinigan Falls		
	e	8 11 20		
	F	8 14		
		Ottawa		
132 Apr. 6	e_Z	23 01 58		
	i_Z	23 02 02		
	e_N?	23 07.4		
	L	23 13		
	F	23 30		
		Victoria		
	e_E	23 13.8		
	L	23 20		
	F	23 40		
		Toronto		
	e	23 06.8		
	L	23 12		
	F	23 30		
		Ottawa		
134 Apr. 7	H	23 29.3	3090	USCGS. gives:
	P	23 35 10		ϕ = 17°.6 N.
	PPP	23 36 06		λ = 78°.3 W.
	S	23 40 00		
	i_E	23 40 32		
	SS	23 41 12		
	L	23 43.3		
	F	2 15 ca.		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 7, 1941 to April 8, 1941 No. 20

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
134 Apr. 7 (Cont'd)	H	23 29.7	5060	
	P	23 38 03		
	PP	23 39 56		
	S	23 44 51		
	SS	23 48.0		
	L	23 53		
	F	2 40		
		Toronto		
	H	23 29.4	2840	
	P	23 34 57		
	S	23 39 29		
	L	23 42		
	F	2 00 ca.		
		Saskatoon		
	H	23 29.8	4350	
	P	23 37 15		
	PP	23 38 39		
	S	23 43 24		
	SSS	23 46 24		
	L	23 48		
	F	0 55		
		Halifax		
	H	23 29.6	3140	
	P	23 35 31		
	S	23 40 24		
	SS	23 41.7		
	L	23 44		
	F	0 56		
		Seven Falls		
	H	23 29.4	3320	
	P	23 35 36		
	S	23 40 41		
	SS	23 42.4		
	L	23 44		
	F	2 44		
		Shawinigan Falls		
	H	23 29.2	3320	
	P	23 35 20		
	S	23 40 25		
	L	23 45		
	F	0 44		
		Ottawa		
136 Apr. 8	e_Z	10 12.4		
	L	10 20		
	F	10 29		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 8, 1941 to April 15, 1941 No. 21

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
137 Apr. 9	H	17 08.5	3850	
	P_Z	17 15 22		
	S_E	17 21.0		
	eL	17 26.5		
	F	17 57		
		Ottawa		
139 Apr. 12	H	0 46.7	120	
	P_1	0 47 03.5		
	S_1	0 47 18.0		
	M_1	0 47 22		
	F	0 47.7		
		Victoria		
140 Apr. 15	e	4 07 23		
	L	4 29		
	F	5 08		
		Ottawa		
144 Apr. 15	H	19 10.0	3700	USCGS. gives:
	iP	19 16 45		ϕ = 18°.8 N.
	PPP	19 18 04		λ = 103°.0 W.
	iS	19 22 14		
	SS	19 24 16		
	iL	19 26 24		
	F	23 36		
		Victoria		
	H	19 09.9	3970	
	iP	19 16 37		
	PPP	19 18 04		
	iS	19 22 11		
	SS	19 23 39		
	L	19 26		
	F	23 19		
		Toronto		
	H	19 10.0	3380	
	iP	19 16 18		
	PPP	19 17 30		
	S	19 21 26		
	L	19 25		
	F	23 16		
		Saskatoon		
	H	19 10.0	3590	
	P	19 16 33		
	PPP	19 18.0		
	iS	19 21 55		
	SS	19 24		
	L	19 26		
	F	20 03+		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 15, 1941 to April 15, 1941 No. 22

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Halifax		
144 Apr. 15 (Cont'd)	H	19 10.1	4380	
	P	19 17 40		
	PPP	19 19 29		
	eS	19 23 51		
	SSS	19 27 10		
	eL	19 31		
	F	21 28		
		Seven Falls		
	H	19 10.0	4120	
	P	19 17 15		
	PPP	19 18 57		
	S	19 23 10		
	SSS	19 25.9		
	L	19 28		
	F	23 36		
		Shawinigan Falls		
	H	19 09.9	4080	
	P	19 17 04		
	PPP	19 18 43		
	S	19 22 56		
	SSS	19 25.7		
	L	19 29.3		
	F	20 43		
		Saskatoon		
145 Apr. 15	e	20 03		
	e	20 03 56		
	e_N	20 04 30		
	L	20 07		
	F	20 48		
		Shawinigan Falls		
	e	19 53 10		
	L	20 06		
	F	20 16		
		Ottawa		
146 Apr. 15	e	23 49 52		USCGS. gives:
	e	23 51 06		ϕ = 19° N.
	L	0 00		λ = 103° W.
	F	0 15		
		Shawinigan Falls		
	e	23 50 11		
	L	0 04		
	F	0 09		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 15, 1941 to April 18, 1941 No. 23

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
147 Apr. 16	i_Z	1 45 11		USCGS. gives:
	e_Z	1 46 33		ϕ = 19° N.
	e	1 50.7		λ = 103° W.
	L	1 57		
	F	2 17		
		Victoria		
	e	1 50.5		
	L	1 56		
	F	2 16		
		Seven Falls		
	e	1 47.2		
	L	1 58		
	F	2 28		
		Shawinigan Falls		
	e	1 45 31		
	L	1 59		
	F	2 04		
		Ottawa		
150 Apr. 17	e_Z	10 16 27		Nearby quake.
	e_Z	10 16 39		
	F	10 17.2		
		Victoria		
151 Apr. 18	e	5 47 12		
	L	6 10		
	F	6 21		
		Victoria		
152 Apr. 18	e	6 38		
	L	7 07		
	F	7 22		
		Ottawa		
153 Apr. 18	e	14 06.6		
	L	14 39		
	F	15 10		
		Victoria		
	e	13 52		
	L	14 36		
	F	15 08		
		Seven Falls		
	e	14 06		
	L	14 39		
	F	15 13		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 18, 1941 to April 20, 1941 No. 24

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
154 Apr. 19	H	7 54.4	9650	
	P_Z	8 07 08		
	S_N	8 17 47		
	eL	8 38		
	F	9 16		
		Victoria		
	e	8 06 23		
	S	8 17 02		
	L	8 40		
	F	9 12		
		Seven Falls		
	e	8 33		
	L	8 40		
	F	9 16		
		Ottawa		
156 Apr. 20	H	17 38.5	10,000	USCGS. gives:
	P_Z	17 51 30		ϕ = 37° N.
	e	18 02.0		λ = 69° E.
	S_N	18 02 30		
	eL	18 23		
	F	19 44		
		Victoria		
	H	17 38.8	10,100	
	PP_N	17 55.4		
	SKS	18 02 11		
	SKKS	18 02 41		
	L	18 20		
	F	20 05		
		Toronto		
	e	18 02 14		
	L	18 31		
	F	19 23		
		Seven Falls		
	H	17 38.8	9550	
	P	17 51.4		
	e	18 01 41		
	S	18 02 00		
	L	18 20		
	F	19 48		
		Shawinigan Falls		
	H	17 38.8	9380	
	P	17 51 21		
	S	18 01 49		
	F	18 03		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 20, 1941 to April 21, 1941 No. 25

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
157 Apr. 21	H	2 54.3	6000	USCGS. gives:
	P_Z	3 03 40		ϕ = 53° N.
	S	3 11 20		λ = 166° W.
	L	3 23		
	F	4 12		
		Victoria		
	H	2 54.5	2810	
	P_E	3 00 01		
	S	3 04 31		
	L	3 06		
	F	4 33		
		Toronto		
	e	3 20.2		
	L	3 24		
	F	4 00 ca.		
		Seven Falls		
	e	3 11 43		
	L	3 23		
	F	4 34		
		Ottawa		
159 Apr. 21	H	18 32.4	5980	
	P_Z	18 41 44		
	S	18 49 23		
	L	19 00		
	F	19 26		
		Victoria		
	e_E	18 38.4		
	L	18 42		
	F	19 37		
		Seven Falls		
	e	18 49.3		
	L	19 02		
	F	19 47		
		Victoria		
160 Apr. 21	e	22 51.5		
	L	23 09		
	F	23 46		
		Seven Falls		
	e	23 05		
	L	23 27		
	F	0 40		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 21, 1941 to April 28, 1941 No. 26

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
161 Apr. 24	e_Z	1 10 17		
	L	1 18		
	F	1 27		
		Ottawa		
164 Apr. 25	e_Z	12 19 00		
	L	12 31		
	F	12 41		
		Ottawa		
168 Apr. 27	e_E	5 45.0		
	eL	5 48		
	F	6 07		
		Ottawa		
169 Apr. 27	e_Z	13 13.2		
	e	13 23		
	eL	13 30		
	F	14 04		
		Victoria		
	e	13 26		
	L	13 42		
	F	14 25		
		Seven Falls		
	e	13 22.2		
	L	13 34		
	F	14 11		
		Ottawa		
170 Apr. 28	H	19 43.3	4100	
	P_Z	19 50 30		
	PPP	19 52 00		
	S	19 56.4		
	L	20 03		
	F	20 56		
		Victoria		
	e_N	19 50.4		
	e_E	19 52.1		
	L	20 02		
	F	20 56		
		Seven Falls		
	e	19 52 47		
	L	20 07		
	F	20 57		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM April 28, 1941 to April 30, 1941 No. 27

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
170 Apr. 28 (Cont'd)	e	19 50.9		
	L	20 04		
	F	20 14		
		Ottawa		
171 Apr. 29	e_Z	1 55 35		
	L	2 49		
	F	3 51		
		Victoria		
	e	2 09		
	L	2 31		
	F	4 06		
		Victoria		
172 Apr. 30	e	10 05.7		
	L	11 13		
	F	11 22		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month April, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
122	1	10 50+1 40U	10 46+3 24R	10 52+1 48U	10 47+0 34R	10 54+0 52U	10 52+2 19U	10 48+0 53U	10 50+1 00U	A
123	1	22 28+0 13u	.....	.....	.....	.....	22 30+0 14L	.....	.....	..
124	2	16 05+0 04P	.....	.....	.....	.....	.....	.....	.....	..
125	3	15 06+0 04P	.....	.....	.....	.....	15 15+0 12u	.....	15 06+0 04P	..
126	3	15 32+1 58u	15 34+1 41u	15 32+1 51u	.....	15 32+0 41u	15 32+2 40u	15 32+0 25u	15 32+0 29u	B
127	3	16 00+0 05P	.....	.....	.....	.....	.....	.....	.....	..
128	3	19 53+0 02v	.....	.....	.....	.....	.....	.....	.....	C
129	4	8 11+0 03v	.....	.....	.....	.....	.....	.....	8 11+0 03v	E
130	4	22 13+0 03P	.....	.....	.....	.....	.....	.....	22 13+0 02P	..
131	5	.....	5 48+0 09L	.....	.....	.....	.....	.....	.....	..
132	6	23 02+0 28u	23 14+0 26u	23 07+0 23u	.....	.....	23 17+0 19L	.....	23 02+0 04P	..
133	7	20 20+0 03P	.....	.....	.....	.....	.....	.....	20 20+0 03P	..
134	7	23 35+2 40R	23 38+3 02U	2 35+2 30R	23 37+1 18R	23 36+1 20R	23 36+3 09R	23 36+1 09R	23 35+1 09R	F
135	8	3 53+0 02P*	.....	.....	.....	.....	4 03+0 04L	.....	.....	..
136	8	10 12+0 17r	.....	10 21+0 06L	.....	.....	10 20+0 13L	.....	.....	..
137	9	17 15+0 42r	17 19+0 36L	17 18+0 33L	.....	17 31+0 08L	17 28+0 36L	17 27+0 12L	17 27+0 14L	G
138	10	14 37+0 02P	.....	.....	.....	.....	.....	.....	.....	..
139	12	0 47+0 0.6v*	.....	.....	.....	.....	.....	.....	.....	J
140	15	.....	4 07+1 01u	.....	.....	.....	4 11+1 22L	.....	.....	..
141	15	.....	.....	.....	.....	.....	5 59+0 11L	.....	.....	..
142	15	.....	7 38+0 43L	.....	.....	.....	7 51+0 46L	.....	.....	..
143	15	16 44+0 02P	.....	.....	.....	.....	.....	.....	.....	..
144	15	19 17+4 19R	19 17+4 04R	19 16+4 00R	19 17+0 47R	19 18+2 10R	19 17+4 19R	19 17+1 31R	19 17+1 26R	K
145	15	19 53+0 01P	.....	.....	20 03+0 45r	.....	.....	19 53+0 04P	19 53+0 23r	..
146	15	23 50+0 25r	23 58+0 11L	.....	.....	.....	23 52+0 25L	.....	23 50+0 19r	..
147	16	1 45+0 32r	1 50+0 26r	1 47+0 22L	.....	.....	1 47+0 41r	.....	1 45+0 19r	..

EARTHQUAKE CORRELATION TABLE

Month April, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
148	16	.....	5 16+0 04L	.....	.....	.....	5 03+0 07L	.....	.....	..
149	16	15 42+0 01P	.....	.....	.....	.....	.....	.....	15 42+0 02P	..
150	17	10 16+0 01v	.....	.....	.....	.....	.....	.....	.....	..
151	18	.....	5 47+0 34u	.....	.....	.....	.....	.....	.....	..
152	18	6 35+0 05P	6 38+0 44u	.....	.....	.....	6 39+1 00L	.....	.....	..
153	18	14 07+1 03u	13 52+1 16u	14 44+0 20L	.....	.....	14 06+1 07u	.....	.....	..
154	19	8 07+1 09u	8 06+1 06u	8 46+0 25L	.....	.....	8 33+0 43u	.....	8 07+0 02P	N
155	20	.....	0 17+0 07L	.....	.....	.....	.....	.....	.....	..
156	20	17 51+1 53u	17 55+2 10u	18 02+1 21u	.....	.....	18 02+1 48u	17 51+0 13u	17 51+0 12u	Q
157	21	3 04+1 08u	3 00+1 33r	3 20+0 40u	.....	.....	3 12+1 22u	.....	.....	S
158	21	16 14+0 26L	.....	.....	.....	.....	16 20+0 22L	.....	.....	..
159	21	18 42+0 44u	18 38+0 59r	.....	.....	.....	18 49+0 58u	.....	.....	W
160	21	23 25+0 35L	22 52+0 54u	.....	.....	.....	23 05+1 35u	.....	.....	..
161	24	1 10+0 17u	.....	.....	.....	.....	1 16+0 16L	.....	.....	..
162	24	.....	.....	.....	.....	.....	6 36+0 05L	.....	.....	..
163	24	15 23+0 0.1P	.....	.....	.....	.....	.....	.....	.....	..
164	25	12 19+0 22r	12 23+0 12L	.....	.....	.....	.....	.....	.....	..
165	26	.....	18 29+0 19L	.....	.....	.....	.....	.....	.....	..
166	26	23 24+0 0.5P	.....	.....	.....	.....	.....	.....	.....	..
167	27	.....	0 03+0 15L	.....	.....	.....	.....	.....	.....	..
168	27	5 45+0 22u	6 01+0 14L	.....	.....	.....	.....	.....	.....	..
169	27	13 13+0 51u	13 26+0 59u	.....	.....	.....	13 22+0 49u	.....	.....	..
170	28	19 50+1 06r	19 50+1 06r	.....	.....	20 04+0 06L	19 53+1 04r	20 06+0 09L	19 51+0 23r	Y
171	29	1 56+1 56u	2 09+1 57u	.....	.....	.....	2 46+1 06L	.....	.....	..
172	30	9 59+0 0.5P	10 06+1 16r	.....	.....	.....	.....	.....	.....	..
173	30	22 58+0 0.5P	.....	.....	.....	.....	.....	.....	.....	..

CORRELATION OF EARTHQUAKES
April, 1941

N O T E S

A :	Ottawa	Δ = 5180 km.	H = $10^h41^m.2$ U. T.
	Victoria	Δ = 2260 km.	H = 10 40.9 U. T.
	Halifax	Δ = 6450 km.	H = (10 41.2) U. T.
	Seven Falls	Δ = 5230 km.	H = 10 41.4 U. T.
	Shawinigan Falls	Δ = 5290 km.	H = 10 41.2 U. T.
B :	Ottawa	Δ = 7180 km.	H = $15^h21^m.7$ U. T.
	Victoria	Δ = 8910 km.	H = 15 21.9 U. T.
	Toronto	Δ = 7160 km.	H = 15 21.6 U. T.
	Halifax	Δ = 7060 km.	H = 15 21.6 U. T.
	Seven Falls	Δ = 7240 km.	H = 15 21.8 U. T.
	Shawinigan Falls	Δ = 7250 km.	H = 15 21.7 U. T.
C :	Ottawa	Δ = 150 km.	H = $19^h52^m.9$ U. T.
E :	Ottawa	Δ = 150 km.	H = $8^h10^m.7$ U. T.
F :	Ottawa	Δ = 3090 km.	H = $23^h29^m.3$ U. T.
	Victoria	Δ = 5060 km.	H = 23 29.7 U. T.
	Toronto	Δ = 2840 km.	H = 23 29.4 U. T.
	Saskatoon	Δ = 4350 km.	H = 23 29.8 U. T.
	Halifax	Δ = 3140 km.	H = 23 29.6 U. T.
	Seven Falls	Δ = 3320 km.	H = 23 29.4 U. T.
	Shawinigan Falls	Δ = 3320 km.	H = 23 29.2 U. T.
G :	Ottawa	Δ = 3850 km.	H = $17^h08^m.5$ U. T.
J :	Ottawa	Δ = 120 km.	H = $0^h46^m.7$ U. T.
K :	Ottawa	Δ = 3700 km.	H = $19^h10^m.0$ U. T.
	Victoria	Δ = 3970 km.	H = 19 09.9 U. T.
	Toronto	Δ = 3380 km.	H = 19 10.0 U. T.
	Saskatoon	Δ = 3590 km.	H = 19 10.0 U. T.
	Halifax	Δ = 4380 km.	H = 19 10.1 U. T.
	Seven Falls	Δ = 4120 km.	H = 19 10.0 U. T.
	Shawinigan Falls	Δ = 4080 km.	H = 19 09.9 U. T.
N :	Ottawa	Δ = 9650 km.	H = $7^h54^m.4$ U. T.
Q :	Ottawa	Δ = 10,000 km.	H = $17^h38^m.5$ U. T.
	Victoria	Δ = 10,100 km.	H = 17 38.8 U. T.
	Seven Falls	Δ = 9550 km.	H = 17 38.8 U. T.
	Shawinigan Falls	Δ = 9380 km.	H = 17 38.8 U. T.
S :	Ottawa	Δ = 6000 km.	H = $2^h54^m.3$ U. T.
	Victoria	Δ = 2820 km.	H = 2 54.5 U. T.
W :	Ottawa	Δ = 5980 km.	H = $18^h32^m.4$ U. T.
Y :	Ottawa	Δ = 4100 km.	H = $19^h43^m.3$ U. T.

Dominion Observatory,
Ottawa, Canada,
June 10, 1941.

SEISMOLOGICAL BULLETINS RECEIVED
April, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:

STATIONS	BULLETINS	RECEIVED
Coimbra	February, 1941	April 2
Pasadena	July to September, 1939	" 2
Zürich	November and December, 1940	" 3
U. G. G. I.	November, 1940	" 7
Manila	January, 1941	" 7
Saint Louis and Auxiliary Stations	Preliminaries for January 5, and February 9, 1941	" 10
Mount St. Michaels	August to December, 1940	" 10
Leningrad and Auxiliary Stations	January, 1941	" 12
Ksara	December, 1940	" 15
Brisbane	February, 1941	" 16
Weston	Preliminary for March, 1941	" 17
Cartuja	January to March, 1939	" 18
Zürich	January and February, 1940	" 22
Perth	February, 1941	" 22
New Zealand Stations	February, 1941	" 22
Sydney	November and December, 1940	" 24
Ksara	January, 1941	" 25
Pasadena	Preliminary for March, 1941	" 25

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

May

1941

DOMINION OBSERVATORY
OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 1, 1941 to May 11, 1941 No. 28

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km,	
		Victoria		
176	e_E	10 19		
May	L	10 38		
2	F	11 29		
		Ottawa		
182	e_Z	15 31 06		
May	eL	15 54		
5	F	16 37		
		Ottawa		
185	e_Z	10 39 19		
May	e	10 40 10		
8	e	10 46 14		
	e	10 47 02		
	e	10 49 05		
	L	10 52.5		
	F	11 47		
		Victoria		
	H	10 21.9	8020	
	eP	10 33 15		
	e	10 36 30		
	iS	10 42 42		
	F	11 36		
		Victoria		
187	e	5 49		
May	L	5 57		
9	F	8 03		
		Seven Falls		
	e	6 09.0		
	L	6 26		
	F	7 51		
		Ottawa		
189	H	5 07.8	6580	
May	P_Z	5 17 46		
11	S	5 26 00		
	SSS_E	5 33		
	L	5 41		
	F	6 01		
		Seven Falls		
	e	5 26 25		
	L	5 36		
	F	5 52		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 11, 1941 to May 13, 1941 No. 29

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
190 May 11	e_Z	13 35 43		
	e_N	13 41.4		
	eL	13 46		
	F	14 03		
		Victoria		
	e	13 43.5		
	L	13 53		
	F	14 23		
		Ottawa		
192 May 13	H	16 01.8	4080	USCGS. gives:
	P	16 08 55		ϕ = 40°3 N.
	PPP	16 10 31		λ = 125°0 W.
	S	16 14 47		
	SSS	16 17 24		
	eL	16 19.4		
	F	18 00 ca		
		Victoria		
	H	16 01.6	1000	
	P	16 03 48		
	iS	16 05 33		
	M	16 08		
	F	18 29+		
		Toronto		
	H	16 01.9	3610	
	P	16 08.7		
	S	16 14 05		
	SS	16 16 14		
	L	16 18		
	F	17 33		
		Saskatoon		
	H	16 01.7	2080	
	P	16 06 01		
	S	16 09 33		
	L	16 11		
	F	16 53		
		Halifax		
	H	16 01.9	5000	
	P	16 10 09		
	S	16 16 53		
	SS	16 20.2		
	L	16 25		
	F	17 07		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 13, 1941 to May 16, 1941 No. 30

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
192 May 13 (Cont'd)	H	16 01.9	4260	
	P	16 09 14		
	PP	16 10 44		
	S	16 15.3		
	SS	16 18.1		
	L	16 20		
	F	16 51		
		Seven Falls		
	H	16 01.8	4420	
	P	16 09 22		
	PP	16 10 53		
	iS	16 15 35		
	SSS	16 18.8		
	eL	16 22		
	F	18 15		
		Ottawa		
197 May 16	e	2 49.6		
	L	2 58		
	F	3 09		
		Ottawa		
199 May 16	e_N	7 39.8		
	e_E	7 40.8		
	e_N	7 43.2		
	e_E	7 49.3		
	e	7 53.4		
	L	8 09		
	F	9 22		
		Victoria		
	i	7 38 54		
	e_N	7 39 51		
	L	7 50		
	F	9 58		
		Toronto		
	e	7 42.6		
	L	7 53		
	F	9 17		
		Seven Falls		
	e	7 41.2		
	L	8 01		
	F	9 51		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 16, 1941 to May 17, 1941 No. 31

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
201 May 17	H	2 24.8	13,200	USCGS. gives:
	P'Z	2 43 34		ϕ = 12°.9 S.
	PP	2 44 40		λ = 166°.7 E.
	S	2 54 34		
	SS	3 01.0		
	SSS	3 05		
	L	3 15		
	F	7 05		
		Victoria		
	H	2 25.2	-	
	P	2 37 39	9940	
	PP	2 41 19		
	S	2 48 05		
	SS	2 53 44		
	eL	3 03		
	F	6 33		
		Toronto		
	e	2 50.3		
	e	2 52.9		
	e	3 00.9		
	eL	3 13		
	F	5 46		
		Saskatoon		
	e_E	2 38.7		
	e_N	2 49.2		
	L	2 56		
	F	4 10		
		Halifax		
	H	2 24.8	14,100	
	PP_E	2 45 49		
	e_N	2 50 48		
	PPS	2 57.3		
	SS	3 03.0		
	L	3 19		
	F	5 06		
		Seven Falls		
	H	2 25.2	13,200	
	P'	2 44.0		
	PP	2 45 11		
	e	2 50.0		
	PS	2 54 59		
	SS	3 02 00		
	L	3 15		
	F	6 55		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 17, 1941 to May 31, 1941 No. 32

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
207	e	20 03 24		
May	e	20 13		
23	L	20 27		
	F	21 00		
		Seven Falls		
	e	20 09.5		
	L	20 25		
	F	21 17		
		Ottawa		
213	e	11 55.7		
May	eL	12 14		
29	F	13 02		
		Ottawa		
215	e	17 58		
May	L	18 28		
30	F	19 21		
		Victoria		
	e	17 52 48		
	L	18 08		
	F	19 24		
		Seven Falls		
	e	17 59.7		
	L	18 31		
	F	19 16		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month May, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
174	1	6 48+0 01P	.....	.....	.....	.....	.....	.....	.....	..
175	1	7 17+0 01P	7 18+0 29L	.....	.....	.....	.....	.....	.....	..
176	2	10 54+0 38L	10 19+1 10u	10 51+0 31L	.....	.....	.....	.....	.....	..
177	3	21 10+0 15L	.....	.....	.....	.....	10 56+0 30L	.....	.....	..
178	4	22 27+0 05P	.....	.....	.....	.....	.....	.....	.....	..
179	4	22 52+0 01P	.....	.....	.....	.....	.....	.....	22 27+0 04P	..
180	4	22 57+0 01P	.....	.....	.....	.....	.....	.....	.....	..
181	4	23 44+0 03P	.....	.....	.....	.....	.....	.....	.....	..
182	5	15 31+1 06u	15 56+0 11L	16 07+0 31L	.....	.....	.....	.....	.....	..
183	7	.....	12 43+0 47L	.....	.....	.....	16 00+0 48L	.....	15 31+0 01P	..
184	8	.....	7 25+0 05L	.....	.....	.....	.....	.....	.....	..
185	8	10 39+1 08u	10 33+1 03u	.....	.....	.....	.....	.....	.....	..
186	8	17 57+0 13L	.....	.....	.....	.....	.....	.....	.....	A
187	9	5 59+1 47L	5 49+2 14u	5 59+1 21L	.....	.....	.....	.....	.....	..
188	9	10 20+0 27L	9 52+1 05L	10 30+0 43L	.....	.....	6 09+1 42u	.....	.....	..
189	11	5 18+0 43u	5 29+0 54L	.....	.....	.....	10 20+0 51L	.....	.....	..
190	11	13 36+0 27u	13 44+0 39u	.....	.....	.....	5 26+0 25u	.....	5 18+0 02P	B
191	12	4 55+0 16L	4 46+0 08L	.....	.....	.....	.....	.....	.....	..
192	13	16 09+1 51R	16 04+2 25V	16 09+1 25R	16 06+0 47R	16 10+0 57R	16 09+2 05R	16 09+0 37R	16 09+0 42R	C
193	13	19 59+0 01P	.....	.....	.....	.....	.....	.....	.....	..
194	14	8 11+0 08L	.....	.....	.....	.....	8 03+0 21L	.....	.....	..
195	14	9 08+0 12L	.....	.....	.....	.....	9 07+0 22L	.....	.....	..
196	16	1 39+0 01P	.....	.....	.....	.....	.....	.....	.....	..
197	16	2 50+0 19u	2 39+0 34L	2 54+0 08L	.....	.....	3 00+0 12L	.....	.....	..
198	16	.....	4 55+0 15L	.....	.....	.....	5 16+0 03L	.....	.....	..
199	16	7 40+1 42u	7 39+2 19u	7 43+1 35u	.....	8 06+0 32L	7 41+1 50u	.....	.....	..
200	16	.....	13 40+0 16L	.....	.....	.....	13 22+0 20L	.....	.....	..

EARTHQUAKE CORRELATION TABLE

Month May, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
201	17	2 44+4 21U	2 38+3 55U	2 50+2 56U	2 39+1 31U	2 46+2 20U	2 44+4 11U	2 45+2 03U	2 44+1 18U	E
202	17	9 50+0 20L	9 24+0 21L	.....	.....	.....	9 43+0 27L	.....	.....	..
203	17	21 18+0 01v	.....	.....	.....	.....	.....	.....	21 19+0 0.1v	..
204	18	.....	11 52+0 32L	.....	.....	.....	.....	.....	.....	..
205	19	21 57+0 07L	.....	21 57+0 05L	.....	.....	21 59+0 06L	.....	.....	..
206	23	18 24+0 02P	.....	.....	.....	.....	.....	.....	.....	..
207	23	20 03+0 57u	20 33+0 26L	.....	.....	.....	20 09+1 08u	.....	.....	..
208	23	.....	.....	.....	.....	.....	.....	.....	22 08+0 0.1v	..
209	23	22 46+0 01P	.....	.....	.....	.....	23 11+0 13L	.....	.....	..
210	24	.....	6 03+0 08L	.....	.....	.....	6 25+0 14L	.....	.....	..
211	25	.....	.....	.....	.....	.....	.....	.....	7 40+0 04P	..
212	29	.....	.....	.....	.....	.....	.....	.....	5 03+0 0.1v	..
213	29	11 56+1 06u	11 43+2 11L	.....	.....	.....	12 23+1 12L	.....	.....	..
214	29	12 43+0 0.5P	.....	.....	.....	.....	.....	.....	.....	..
215	30	17 58+1 23u	17 53+1 32u	.....	.....	.....	18 00+1 16u	.....	.....	..
216	30	.....	21 50+0 06L	.....	.....	.....	.....	.....	.....	..
217	31	0 54+0 01P	.....	.....	.....	.....	.....	.....	0 52+0 01P	..
218	31	.....	.....	.....	.....	.....	5 57+0 16L	.....	.....	..

CORRELATION OF EARTHQUAKES
May, 1941

N O T E S

A :	Victoria	Δ = 8020 km.	H = $10^h21^m.9$ U.T.
B :	Ottawa	Δ = 6580 km.	H = $5^h07^m.8$ U.T.
C :	Ottawa	Δ = 4080 km.	H = $16^h01^m.8$ U.T.
	Victoria	Δ = 1000 km.	H = 16 01.6 U.T.
	Toronto	Δ = 3610 km.	H = 16 01.9 U.T.
	Saskatoon	Δ = 2080 km.	H = 16 01.7 U.T.
	Halifax	Δ = 5000 km.	H = 16 01.9 U.T.
	Shawinigan Falls	Δ = 4260 km.	H = 16 01.9 U.T.
	Seven Falls	Δ = 4420 km	H = 16 01.8 U.T.
E :	Ottawa	Δ = 13,200 km.	H = $2^h24^m.8$ U.T.
	Victoria	Δ = 9340 km.	H = 2 25.2 U.T.
	Halifax	Δ = 14,100 km.	H = 2 24.8 U.T.
	Seven Falls	Δ = 13,200 km.	H = 2 25.2 U.T.

Dominion Observatory,
Ottawa, Canada,
July 23, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

May, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:

STATIONS	BULLETINS	RECEIVED	
United States Coast and Geodetic Survey	U.S. Earthquakes for 1938	May	1
Bureau Central	December, 1940	"	1
U. G. G. I.	Supplements to Nov.-Dec., 1940 and December/40 and January/41	"	2
Coimbra	March, 1941	"	5
Manila	February, 1941	"	6
Leningrad and Auxiliary Stations	February, 1941	"	6
Manila	January to June, 1940	"	8
Weston	Preliminary for April, 1941	"	12
Berkeley and Auxiliary Stations	January to June, 1938	"	12
United States Coast and Geodetic Survey	April and May, 1939	"	14
Pasadena and Auxiliary Stations	October to December, 1939	"	15
Pasadena	Local Shocks for January, 1941	"	16
Perth	March, 1941	"	19
New Zealand Stations	March, 1941	"	20
U. G. G. I.	Supplement to January, 1941 and February, 1941	"	21
Brisbane	March, 1941	"	21
Pittsburgh	March and April, 1941	"	22
Tiflis	January to June, 1937	"	22
Taihoku	January to March, 1941	"	23
Pasadena	Preliminary for April, 1941	"	26
Mizusawa	Year 1939 and September to December, 1940	"	26
United States Coast and Geodetic Survey	June, 1939	"	28
Leningrad and Auxiliary Stations	Supplements to January, February and March, 1941	"	29
Budapest	Year 1939 and reprints of 2 papers by Simon Béla	"	29

Dominion Observatory,
Ottawa - Canada.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

June

1941

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DOMINION OBSERVATORY

OTTAWA, CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 1, 1941 to June 9, 1941 No. 33

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
220 June 4	e_E	16 43.6		
	e	16 53 53		
	L	17 09		
	F	17 51		
		Ottawa		
222 June 8	H	20 20.7	1150	
	P_Z	20 23 17		
	iS_Z	20 25 17		
	F	20 29		
		Shawinigan Falls		
	e	20 23 17		
	e	20 24 48		
	F	20 29		
		Seven Falls		
	e	20 23 10		
	e	20 24 38		
	F	20 29		
		Ottawa		
223 June 9	H	6 17.6	3850	
	P	6 24 30		
	S	6 30 08		
	SS_E	6 32.0		
	L	6 36		
	F	7 47		
		Victoria		
	e_N	6 18 58		
	L_N	6 20.5		
	F	8 01		
		Toronto		
	e_N	6 27.4		
	e_N	6 31.9		
	L	6 34		
	F	7 30		
		Shawinigan Falls		
	e	6 24 55		
	L	6 37		
	F	6 48		
		Seven Falls		
	H	6 17.6	4260	
	P	6 24 56		
	S	6 31 00		
	L	6 37		
	F	8 02		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 9, 1941 to June 18, 1941 No. 34

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
224 June 9	H	8 44.0	3840	
	P_Z	8 50 53		
	PP_E	8 52 11		
	S	8 56 30		
	eL	9 03		
	F	9 38		
		Victoria		
	e_N	8 45 18		
	L	8 47		
	F	9 40		
		Toronto		
	e_N	8 58.4		
	L	9 01		
	F	9 20		
		Shawinigan Falls		
	e	8 51 16		
	eL	9 03		
	F	9 09		
		Seven Falls		
	e	8 52.7		
	L	9 05		
	F	9 49		
		Shawinigan Falls		
236 June 12	e	9 51 43		
	L	10 06		
	F	10 10		
		Ottawa		
241 June 16	e_Z	18 36.6		
	L	18 45		
	F	18 56		
		Ottawa		
242 June 16	e_Z	21 17 46		
	e	21 22.6		
	L	21 26		
	F	21 39		
		Seven Falls		
	e	21 17.2		
	L	21 24		
	F	21 49		
		Ottawa		
245 June 18	H	11 09.3	3000	USCGS. gives:
	P	11 15 03		ϕ = 51°.5 N.
	S	11 19 46		λ = 32° W.
	SS	11 20 33		
	eL	11 22		
	F	12 45		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 18, 1941 to June 20, 1941 No. 35

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
245 June 18 (Cont'd)	H	11 09.4	5800	
	P	11 18.6		
	S	11 26.1		
	SSS	11 30 32		
	eL	11 32		
	F	13 12		
		Saskatoon		
	e	11 17 16		
	e	11 26 43		
	L	11 32		
	F	11 59		
		Halifax		
	H	11 09.0	2440	
	P	11 13 51		
	S	11 17 52		
	L	11 20		
	F	12 04		
		Seven Falls		
	H	11 09.0	2800	
	P	11 14 28		
	S	11 18 57		
	eL	11 20		
	F	13 13		
		Shawinigan Falls		
	P	11 14 40		
	e	11 19.5		
	eL	11 22		
	F	11 39		
		Ottawa		
249 June 18	H	14 48.2	195	
	P_Z	14 48 42		
	S_Z	14 49 04.5		
	L	14 49 10		
	F	14 49.5		
		Seven Falls		
250 June 18	e	20 21.4		
	L	21 02		
	F	21 54		
		Ottawa		
251 June 20	e_Z	8 59 16		
	L	9 41		
	F	9 53		
		Ottawa		
252 June 20	e_Z	9 40 22		
	L	9 54		
	F	10 04		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 20, 1941 to June 26, 1941 No. 36

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
257	e_Z	9 47 51		
June	e	9 50.6		
23	L	10 08		
	F	11 31		
		Victoria		
	e	9 57.1		
	L	10 20		
	F	11 49		
		Seven Falls		
	e	10 00.7		
	e	10 08.3		
	L	10 27		
	F	11 50		
		Ottawa		
262	H	4 05.7	250	
June	iP_{2Z}	4 06 23		
26	iP_{1Z}	4 06 26		
	iS_{2Z}	4 06 52		
	F	4 14		
		Shawinigan Falls		
	i	4 07 09		
	i	4 07 16		
	F	4 10		
		Seven Falls		
	e	4 07.6		
	e	4 07 56		
	F	4 10		
		Ottawa		
265	H	11 52.0	13,800	USCGS. gives:
June	P	12 07.6		ϕ = 13° N.
26	P^1	12 11 01		λ = 93° E.
	PP	12 12 36		
	SKKS	12 19 30		
	PS	12 22 21		
	SS	12 29.2		
	SSS	12 34		
	eL	12 47		
	F	16 35		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 26, 1941 to June 26, 1941 No. 37

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
265 June 26 (Cont'd)	H	11 52.0	12,000	
	P	12 06 45		
	PP	12 11 36		
	SKS	12 17.3		
	S	12 18 55		
	PS	12 21.0		
	SS	12 26.9		
	SSS	12 30.8		
	eL	12 40		
	F	16 54		
		Toronto		
	H	11 52	13,900	
	e	12 08.0		
	P'	12 10.9		
	PP	12 12 36		
	SKS	12 17 38		
	PS	12 22.4		
	SS	12 29.4		
	SSS	12 34.2		
	eL	12 45		
	F	16 00 ca.		
		Saskatoon		
	H	11 52	12,350	
	e_N	12 10.4		
	PP	12 11 22		
	S_E	12 19 13		
	PPS	12 21.4		
	SS	12 27.0		
	SSS	12 31.1		
	eL	12 53		
	F	14 00 ca.		
		Halifax		
	H	11 52	13,350	
	PP	12 12.4		
	SKS	12 17 45		
	PPS	12 23 06		
	SS	12 28 34		
	SSS	12 31.8		
	e	12 36 41		
	L	12 42		
	F	14 20		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 26, 1941 to June 27, 1941 No. 38

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
265 June 26 (Cont'd)		Shawinigan Falls		
	H	11 52.0	13,500	
	eP'	12 10 58		
	PP	12 12 28		
	eS	12 20.5		
	PS	12 21 51		
	e	12 31 32		
	SSS	12 33.9		
	L	12 44		
	F	14 14		
		Seven Falls		
	H	11 52	13,500	
	P'	12 10 58		
	PP	12 12 24		
	PPP	12 15 22		
	SKS	12 17.9		
	PS	12 21.9		
	SS	12 28		
	L	12 44		
	F	16 51		
		Victoria		
267 June 27	e_E	8 15.6		
	L	8 44		
	F	10 29		
		Ottawa		
271 June 27	e_Z	8 57 21		
	L	9 10		
	F	10 05		
		Ottawa		
275 June 27	H	17 11.8	3150	USCGS. gives:
	P	17 17 48		ϕ = 16° N.
	PP	17 19 32		λ = 93° W.
	e	17 19 10		
	S	17 22 42		
	SS	17 24.1		
	L	17 25		
	F	17 49		
		Victoria		
	e_E	17 18		
	e_N	17 24.8		
	L	17 33		
	F	18 24		
		Toronto		
	H	17 11.8	3345	
	P	17 18.0		
	S	17 23.1		
	F	17 46		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 27, 1941 to June 30, 1941 No. 39

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
275 June 27 (Cont'd)	e	17 18 05		
	L	17 25		
	F	17 33		
		Seven Falls		
	H	17 11.8	3580	
	eP	17 18 18		
	PPP	17 19 46		
	eS	17 23 39		
	L	17 26		
	F	17 58		
		Ottawa		
283 June 29	eZ	22 25 29		
	e	22 58.7		
	L	23 07		
	F	0 15		
		Victoria		
	e	22 30.7		
	e	22 41 10		
	L	22 42		
	F	23 45		
		Seven Falls		
	e	22 37.5		
	e	22 53.4		
	e	23 00.7		
	L	23 09		
	F	23 54		
		Ottawa		
286 June 30	e_Z	16 53 20		
	e_E	16 57.5		
	e_Z	17 11 32		
	e	17 13.8		
	L	17 33		
	F	18 35		
		Victoria		
	e	16 53 53		
	e	17 16 38		
	L	17 39		
	F	19 52		
		Toronto		
	i_N	17 21 20		
	L	17 33		
	F	18 21		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM June 30, 1941 to June 30, 1941 No. 40

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
286	e	16 57 06		
June	e	17 18.8		
30	e	17 25 06		
(Cont'd)	e	17 27 44		
	L	17 37		
	F	18 44		
		Halifax		
	e	17 23.6		
	L	17 38		
	F	17 55		
		Ottawa		
288	eZ	18 42 27		
June	L	19 23		
30	F	19 44		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month June, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
219	3	.....	13 08+0 28L	.....	.....	.....	.....	.....	.....	..
220	4	.....	16 44+1 07u	.....	.....	.....	.....	.....	.....	..
221	6	.....	21 31+0 11L	.....	.....	.....	.....	.....	.....	..
222	8	20 23+0 06r	.....	.....	.....	.....	.....	20 23+0 06v	20 23+0 06v	A
223	9	6 24+1 23r	6 19+1 42r	6 27+1 03r	.....	6 39+0 20L	6 26+1 35r	6 25+0 27r	6 25+0 23r	B
224	9	8 51+0 47r	8 45+0 55r	8 58+0 22r	.....	9 07+0 07L	8 53+0 56r	9 06+0 05L	8 51+0 18r	C
225	10	.....	11 00+0 12L	.....	.....	.....	.....	.....	.....	..
226	10	.....	16 26+0 05L	.....	.....	.....	.....	.....	.....	..
227	10	20 51+0 02P	.....	.....	.....	.....	.....	.....	.....	..
228	11	.....	6 34+0 21L	.....	.....	.....	.....	.....	.....	..
229	11	.....	11 06+0 04L	.....	.....	.....	.....	.....	.....	..
230	12	0 14+0 15L	.....	.....	.....	.....	.....	.....	.....	..
231	12	2 24+0 0.5P	.....	.....	.....	.....	.....	.....	.....	..
232	12	4 42+0 0.1P	.....	.....	.....	.....	.....	.....	.....	..
233	12	4 54+0 01P	.....	.....	.....	.....	.....	.....	.....	..
234	12	5 13+0 02P*	.....	.....	.....	.....	.....	.....	.....	..
235	12	5 26+0 0.8P*	.....	.....	.....	.....	.....	.....	.....	..
236	12	10 06+0 07L	9 51+0 09L	.....	.....	.....	.....	.....	9 52+0 18r	..
237	13	15 08+0 03P	.....	.....	.....	.....	.....	.....	.....	..
238	15	12 54+0 02P	.....	.....	.....	.....	.....	.....	.....	..
239	16	10 45+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
240	16	11 46+0 06P	.....	.....	.....	.....	.....	.....	.....	..
241	16	18 37+0 19u	.....	.....	.....	.....	18 43+0 15L	.....	.....	..
242	16	21 18+0 21u	.....	21 28+0 04L	.....	.....	21 17+0 32u	.....	.....	..
243	18	1 27+0 02P	.....	.....	.....	.....	.....	.....	.....	..
244	18	10 34+0 06P	10 42+0 36L	.....	.....	.....	10 53+0 19L	10 38+0 02P	10 38+0 02P	..
245	18	11 15+1 30r	11 19+1 53u	.....	11 17+0 42r	11 14+0 50r	11 14+1 59r	11 14+0 42r	11 15+0 24r	E
246	18	11 34+0 07P	.....	.....	.....	.....	.....	11 35+0 03P	11 34+0 03P	..
247	18	11 42+0 04P	.....	.....	.....	.....	.....	.....	.....	..
248	18	.....	.....	.....	.....	.....	14 13+0 09L	.....	.....	..
249	18	14 49+0 0.7v	.....	.....	.....	.....	.....	.....	.....	..
250	18	20 18+0 07P	.....	.....	.....	.....	20 21+0 33u	.....	20 18+0 07P	..
251	20	8 59+0 54u	.....	.....	.....	.....	9 48+0 08L	.....	.....	..
252	20	9 40+0 24r	.....	.....	.....	.....	9 56+0 12L	9 56+0 03L	9 56+0 02L	..
253	21	9 48+0 22L	.....	.....	.....	.....	9 47+0 27L	.....	.....	..

EARTHQUAKE CORRELATION TABLE
Month June, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
254	21	21 12+0 0.9v	.....	.....	.....	.....	.....	.....	.....	..
255	22	.....	.....	.....	.....	.....	.....	10 00+0 01v	10 00+0 0.3v	..
256	23	.....	.....	.....	.....	.....	6 54+0 23L	.....	.....	..
257	23	9 48+1 43u	9 57+1 52u	.....	.....	.....	10 01+1 49u	.....	9 51+0 03P	..
258	24	0 39+0 11P	.....	.....	.....	.....	0 42+0 07P	0 38+0 07P	0 39+0 05P	..
259	24	1 06+0 05P*	.....	.....	.....	.....	.....	.....	.....	..
260	24	4 49+0 25L	.....	.....	.....	.....	4 45+0 39L	.....	.....	..
261	24	15 27+0 02P	.....	.....	.....	.....	.....	.....	.....	..
262	26	4 06+0 08v	.....	.....	.....	.....	.....	4 08+0 02v	4 07+0 03v	G
263	26	6 58+0 01v*	.....	.....	.....	.....	.....	.....	.....	..
264	26	8 14+0 02P*	.....	.....	.....	.....	.....	.....	.....	..
265	26	12 08+4 27U	12 07+4 47U	12 08+3 52U	12 10+1 50U	12 12+2 08U	12 11+4 40U	12 11+1 52U	12 11+2 03U	J
266	26	.....	23 45+0 06L	.....	.....	.....	.....	.....	.....	..
267	27	8 16+0 08P	8 16+2 13u	.....	.....	.....	.....	8 16+0 06P	8 16+0 06P	..
268	27	8 25+0 06P	.....	.....	.....	.....	.....	.....	8 25+0 02P	..
269	27	8 40+0 01P	.....	.....	.....	.....	.....	.....	.....	..
270	27	8 51+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
271	27	8 57+1 08u	.....	9 45+0 10L	.....	.....	9 09+0 53L	.....	.....	..
272	27	12 59+0 02P	.....	.....	.....	.....	.....	.....	.....	..
273	27	.....	14 28+0 29L	.....	.....	.....	.....	.....	.....	..
274	27	14 56+0 02P	.....	.....	.....	.....	.....	.....	.....	..
275	27	17 18+0 32r	17 18+1 06r	17 18+0 28r	.....	.....	17 18+0 40r	17 20+0 12r	17 18+0 15r	..
276	28	3 32+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
277	28	7 17+0 0.3P*	.....	.....	.....	.....	.....	.....	.....	..
278	28	9 36+0 0.3P*	.....	.....	.....	.....	.....	.....	.....	..
279	29	2 16+0 0.7P*	.....	.....	.....	.....	.....	.....	.....	..
280	29	6 44+0 32L	6 25+0 31L	.....	.....	.....	6 45+0 28L	.....	.....	..
281	29	.....	17 00+0 11L	.....	.....	.....	.....	.....	.....	..
282	29	.....	21 39+0 10L	.....	.....	.....	21 58+0 04L	.....	.....	..
283	29	22 25+1 50u	22 31+1 14u	22 58+1 10L	22 48+0 09L	.....	22 38+1 16u	.....	22 59+0 06L	..
284	29	.....	23 48+0 20L	.....	.....	.....	0 04+0 21L	.....	.....	..
285	30	.....	0 26+0 08L	.....	.....	.....	.....	.....	.....	..
286	30	16 53+1 42u	16 54+2 58u	17 21+1 00u	.....	17 24+0 31u	16 57+1 47u	17 24+0 07L	17 24+0 05L	..
287	30	17 23+0 09L	.....	.....	.....	.....	.....	.....	.....	..
288	30	18 42+1 02u	.....	.....	.....	.....	19 39+0 23L	.....	.....	..

CORRELATION OF EARTHQUAKES

June, 1941

N O T E S

A	:	Ottawa	Δ = 1150 km.	H = $20^h20^m.7$ U.T.
B	:	Ottawa	Δ = 3850 km.	H = $6^h17^m.6$ U.T.
		Seven Falls	Δ = 4260 km.	H = 6 17.6 U.T.
C	:	Ottawa	Δ = 3840 km.	H = $8^h44^m.0$ U.T.
E	:	Ottawa	Δ = 3000 km.	H = $11^h09^m.3$ U.T.
		Victoria	Δ = 5800 km.	H = 11 09.4 U.T.
		Halifax	Δ = 2440 km.	H = 11 09.0 U.T.
		Seven Falls	Δ = 2800 km.	H = 11 09.0 U.T.
F	:	Ottawa	Δ = 195 km.	H = $14^h48^m.2$ U.T.
G	:	Ottawa	Δ = 250 km.	H = $4^h05^m.7$ U.T.
J	:	Ottawa	Δ = 13,800 km.	H = $11^h52^m.0$ U.T.
		Victoria	Δ = 12,000 km.	H = 11 52.0 U.T.
		Toronto	Δ = 13,900 km.	H = 11 52 U.T.
		Saskatoon	Δ = 12,350 km.	H = 11 52 U.T.
		Halifax	Δ = 13,350 km.	H = 11 52 U.T.
		Shawinigan Falls	Δ = 13,500 km.	H = 11 52.0 U.T.
		Seven Falls	Δ = 13,500 km.	H = 11 52 U.T.
K	:	Ottawa	Δ = 3150 km.	H = $17^h11^m.8$ U.T.
		Toronto	Δ = 3345 km.	H = 17 11.8 U.T.
		Seven Falls	Δ = 3580 km.	H = 17 11.8 U.T.

Dominion Observatory,
Ottawa, Canada,
October 6, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

June, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED
Bucarest	Tremblement de terre de Roumaine - November, 1940	June 2
Ksara	February, 1941	" 2
Manila	March, 1941	" 3
Coimbra	April, 1941	" 5
Weston	Preliminary for May, 1941	" 5
Mizusawa	January to August, 1940	" 7
Bucarest	December, 1940 and March, 1941	" 7
Ksara	March, 1941	" 10
Berkeley and Auxiliary Stations	July to December, 1938	" 11
Saint Louis and Auxiliary Stations	Supplement to February-March, 1941 and Preliminaries April 3, 7, 9/41	" 13
Santa Clara	April, 1941	" 18
Riverview	January to March, 1941	" 18
Brisbane	April, 1941	" 19
Pasadena	Preliminary for May, 1941	" 19
Santa Clara	May, 1941	" 20
New Zealand Stations	April, 1941	" 23
Saint Louis and Auxiliary Stations	Supplement to January, 1941 and Preliminaries January 13, February 11, March 15, April 1, 15, May 13, 17 and Supplement to April, 1941	" 26

DOMINION OBSERVATORY,

OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

July

1941

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DOMINION OBSERVATORY
OTTAWA, CANADA

****

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 1, 1941 to July 3, 1941 No. 41

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
290 July 1	H	7 51.0	3800	USCGS. gives:
	P	7 57 50		ϕ = 34°.1 N.
	PPP$_E$	7 59 06		λ = 119°.8 W.
	S	8 03 25		
	e	8 06.3		
	L	8 09		
	F	9 20		
		Victoria		
	S?	7 54 24		
	L	7 58		
	F	10 22		
		Toronto		
	e	8 03		
	e	8 06		
	L	8 08		
	F	8 50		
		Saskatoon		
	e	7 55 40		
	L	8 02		
	F	8 19		
		Seven Falls		
	H	7 50.9	4310	
	P	7 58 21		
	PPP	7 59 46		
	S	8 04 28		
	L	8 11		
	F	9 33		
		Shawinigan Falls		
	e	7 58 48		
	L	8 08		
	F	8 24		
		Victoria		
295 July 2	e$_N$	4 19.2		
	e$_E$	4 22 52		
	L	4 26		
	F	4 41		
		Ottawa		
297 July 3	H	7 11.8	8560	USCGS. gives:
	P	7 23 38		ϕ = 33° S.
	S	7 33 30		λ = 68° W.
	L	7 48		
	F	9 17		
		Toronto		
	H	7 11.9	8350	
	P	7 23 33		
	S	7 33 16		
	L	7 54		
	F	9 12		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 3, 1941 to July 11, 1941 No. 42

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
297 July 3 (Cont'd)	H	7 11.8	8840	
	P	7 23 52		
	S	7 33 56		
	L	7 42		
	F	10 12		
		Shawinigan Falls		
	H	7 11.8	8700	
	P	7 23 44		
	S	7 33.7		
	F	7 36		
		Seven Falls		
299 July 5	e	12 09 02		Local quake - origin probably within 50 km. of Seven Falls.
	e	12 09 07		
	F	12 09 26		
		Ottawa		
311 July 11	H	1 16.6	4420	USCGS. gives: ϕ = 5°.5 N. λ = 83° W.
	P	1 24 12		
	PPP	1 25 51		
	S	1 30 25		
	SS	1 33.4		
	L	1 36		
	F	2 12		
		Victoria		
	H	1 16.8	6080	
	P	1 26 12		
	S	1 33 57		
	L	1 45		
	F	2 57		
		Toronto		
	e	1 25.5		
	L	1 32		
	F	1 57		
		Seven Falls		
	e	1 31 10		
	L	1 34		
	F	2 47		
		Ottawa		
312 July 11	H	1 59.6	4440	
	P_Z	2 07 10		
	S	2 13.4		
	SS_E	2 16.4		
	L	2 19		
	F	2 36		
		Victoria		
313 July 11	e	16 12		
	L	16 22		
	F	16 46		

SEISMOLOGICAL SERVICE OF CAN
DOMINION OBSERVATORY, OTTAWA

FROM July 11, 1941 to July 16, 1941 No. 43

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
318 July 13	H	15 39.7	7880	
	P	15 50 55		
	S_E	16 00 14		
	L	16 14		
	F	16 40		
		Seven Falls		
	e	15 59 32		
	L	16 12		
	F	16 55		
		Seven Falls		
319 July 14	e	2 39.3		
	L	3 01		
	F	3 42		
		Victoria		
321 July 14	e	9 31.3		
	L	9 47		
	F	10 08		
		Ottawa		
323 July 15	e_Z	14 58 39		
	e_N	15 09 12		
	L	15 31		
	F	15 56		
		Ottawa		
325 July 16	H	3 14.8	2780	
	P	3 20 13		
	S	3 24 40		
	SS	3 25 42		
	L	3 28		
	F	4 33		
		Victoria		
	e	3 19 08		
	e	3 23 48		
	L	3 26		
	F	4 57		
		Toronto		
	e	3 24.8		
	L	3 28		
	F	4 25		
		Seven Falls		
	e	3 20 57		
	e	3 26.4		
	L	3 31		
	F	5 10		
		Shawinigan Falls		
	e	3 20.7		
	L	3 31		
	F	3 51		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 16, 1941 to July 23, 1941 No. 44

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
332 July 19	eZ	2 14 15		
	L	2 29		
	F	2 37		
		Ottawa		
335 July 19	e	9 31 00		
	eE	9 36 26		
	L	9 40		
	F	10 05		
		Seven Falls		
	e	9 34		
	L	9 39		
	F	10 20		
		Ottawa		
337 July 19	eZ	15 26 56		
	eZ	15 31.0		
	L	16 00		
	F	17 02		
		Victoria		
	e	15 35 02		
	L	15 44		
	F	16 33		
		Seven Falls		
	e	15 43		
	L	15 57		
	F	17 09		
		Ottawa		
339 July 20	eZ	6 19 53		
	L	6 59		
	F	7 31		
		Ottawa		
340 July 21	eZ	16 47 05		
	eE	16 56		
	L	17 05		
	F	17 29		
		Seven Falls		
	e	16 59.7		
	L	17 07		
	F	17 51		
		Ottawa		
341 July 23	H	1 17.5	4010	
	PZ	1 24 34		
	eSZ	1 30 22		
	L	1 37		
	F	2 03		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 23, 1941 to July 24, 1941 No. 45

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
344 July 23	e_Z	10 29 56		
	e_E	10 35.0		
	L	10 38		
	F	10 52		
		Ottawa		
345 July 23	e	21 11 30		
	e	21 17		
	L	21 24		
	F	22 13		
		Victoria		
	e	21 13		
	e	21 19		
	L	21 27		
	F	22 36		
		Toronto		
	e	21 30.2		
	L	21 39		
	F	22 24		
		Seven Falls		
	e	21 17.3		
	e	21 22.0		
	L	21 29		
	F	22 55		
		Ottawa		
346 July 24	e_Z	5 18 00		
	L	5 27		
	F	5 40		
		Ottawa		
347 July 24	e_Z	6 39 00		
	L	7 22		
	F	7 50		
		Ottawa		
348 July 24	e_Z	10 37 27		
	L	10 45		
	F	11 09		
		Ottawa		
349 July 24	e_Z	14 10.8		
	e_E	14 17.4		
	L	14 37		
	F	15 14		
		Victoria		
	e	14 04.9		
	e	14 14.9		
	L	14 38		
	F	15 17		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 24, 1941 to July 30, 1941 No. 46

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
349	e	14 21		
July	L	14 42		
24	F	16 07		
(Cont'd)				
		Ottawa		
354	eZ	10 07 26		
July	L	10 48		
25	F	11 12		
		Ottawa		
357	e	20 30.0		
July	L	20 58		
26	F	22 06		
		Victoria		
	H	20 11.4	8790	
	P	20 23 27		
	S	20 33 29		
	L	20 44		
	F	22 38		
		Seven Falls		
	e	20 30.3		
	e	20 40.9		
	L	20 57		
	F	22 23		
		Victoria		
361	e	16 16.3		
July	L	16 39		
28	F	17 14		
		Ottawa		
362	H	1 51.2	5200	USCGS. gives:
July	iP	1 59 40		ϕ = 60°.9 N.
30	PP	2 01 26		λ = 149°.2 W.
	i	2 06 22		
	S	2 06 36		
	SSS	2 09 48		
	L	2 13		
	F	4 15		
		Victoria		
	H	1 51.2	2370	
	P	1 55 59		
	S	1 59 54		
	L	2 02		
	F	5 31		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 30, 1941 to July 31, 1941 No. 47

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Toronto		
362 July 30 (Cont'd)	H	1 51.3	5160	
	PP	1 59 46		
	PPP	2 01 48		
	iS	2 06 39		
	SS	2 09 46		
	L	2 14		
	F	4 01		
		Saskatoon		
	H	1 51.4	2900	
	P	1 56 59		
	S	2 01 35		
	L	2 04		
	F	2 39		
		Seven Falls		
	H	1 51.2	5280	
	P	1 59 50		
	PP	2 01 38		
	S	2 06 52		
	SS	2 09 55		
	L	2 13		
	F	5 00		
		Shawinigan Falls		
	H	1 51.3	5180	
	P	1 59 44		
	S	2 06 39		
	L	2 14		
	F	2 45		

W. H. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month July, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
289	1	6 38+0 02P	7 06+0 14L	.....	.....	.....	7 12+0 10L	.....	.....	..
290	1	7 58+1 22r	7 54+2 28r	8 03+0 47r	7 56+0 23r	8 09+0 32L	8 00+1 33r	7 58+0 28r	7 59+0 25r	A
291	1	20 40+0 12L	20 32+0 16L	.....	.....	.....	.....	.....	.....	..
292	1	22 42+0 28L	22 39+0 23L	.....	.....	.....	.....	.....	.....	..
293	2	.....	0 02+0 06L	.....	.....	.....	.....	.....	.....	..
294	2	.....	1 33+0 02L	.....	.....	.....	.....	.....	.....	..
295	2	4 28+0 14L	4 19+0 22r	.....	.....	.....	.....	.....	.....	..
296	3	1 41+0 12L	1 33+0 18L	.....	.....	.....	1 41+0 20L	.....	.....	..
297	3	7 24+1 53u	.....	7 24+1 48u	.....	.....	7 24+2 45u	7 24+0 13u	7 24+0 12u	B
298	5	2 36+0 08P*	.....	.....	.....	.....	.....	.....	.....	..
299	5	.....	.....	.....	.....	.....	.....	12 09+0 0.4d	.....	..
300	6	0 48+0 05P*	0 55+0 19L	.....	.....	.....	.....	.....	.....	..
301	6	.....	21 34+0 46L	.....	.....	.....	.....	.....	.....	..
302	7	21 31+0 0.7P	.....	.....	.....	.....	.....	.....	.....	..
303	8	17 32+0 05P*	.....	.....	.....	.....	.....	.....	.....	..
304	8	20 21+0 01P	.....	.....	.....	.....	.....	.....	.....	..
305	9	0 56+0 01P	.....	.....	.....	.....	.....	.....	.....	..
306	9	.....	1 07+0 13L	.....	.....	.....	.....	.....	.....	..
307	9	.....	.....	.....	.....	.....	19 16+0 11L	.....	.....	..
308	10	.....	3 44+0 50L	.....	.....	.....	3 48+1 13L	.....	.....	..
309	10	9 40+0 02P	9 52+0 02L	.....	.....	.....	9 49+0 17L	.....	.....	..
310	10	.....	10 39+0 49L	.....	.....	.....	11 09+0 32L	.....	.....	..
311	11	1 24+0 48r	1 26+1 31u	1 25+0 32r	.....	.....	1 31+1 16r	.....	1 24+0 03P	
312	11	2 07+0 29r	.....	.....	.....	.....	.....	.....	2 07+0 01P	
313	11	.....	16 12+0 34u	.....	.....	.....	.....	.....	.....	.
314	11	23 14+0 01v	.....	.....	.....	.....	.....	.....	.....	.
315	12	6 27+0 01.6P	.....	.....	.....	.....	.....	.....	.....	.
316	12	.....	14 09+0 49L	.....	.....	.....	14 29+0 19L	.....	.....	.
317	13	15 18+0 10L	.....	.....	.....	.....	15 20+0 07L	.....	.....	.
318	13	15 51+0 49u	16 33+0 25L	.....	.....	.....	16 00+0 55u	.....	.....	
319	14	3 03+0 24L	3 03+0 28L	.....	.....	.....	2 39+1 03u	.....	.....	.
320	14	.....	6 42+0 07L	.....	.....	.....	.....	.....	.....	.
321	14	.....	9 31+0 37u	.....	.....	.....	9 25+0 23L	.....	.....	.
322	14	13 03+0 01P*	.....	.....	.....	.....	.....	.....	.....	.
323	15	14 59+0 57u	.....	15 42+0 09L	.....	.....	15 30+0 51L	.....	.....	.

EARTHQUAKE CORRELATION TABLE

Month July, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
324	16	3 01+0 16L	2 55+0 17L	3 01+0 09L	.....	.....	3 04+0 22L	.....	3 03+0 04L	..
325	16	3 20+1 13r	3 19+1 38r	3 25+1 00r	3 28+0 17L	.....	3 26+1 44r	3 21+0 33r	3 21+0 30r	G
326	16	.....	8 42+0 02L	.....	.....	.....	.....	.....	.....	..
327	16	.....	.....	.....	.....	.....	9 14+0 27L	.....	.....	..
328	17	.....	8 05+0 19L	.....	.....	.....	.....	.....	.....	..
329	17	21 30+0 16L	.....	.....	.....	.....	.....	.....	.....	..
330	17	.....	22 33+0 21L	.....	.....	.....	22 27+0 18L	.....	.....	..
331	18	.....	.....	.....	.....	.....	0 36+0 07L	.....	.....	..
332	19	2 14+0 23u	2 27+0 07L	.....	.....	.....	.....	.....	.....	..
333	19	6 16+0 17L	6 34+0 19L	.....	.....	.....	6 15+0 08L	.....	.....	..
334	19	.....	.....	.....	.....	.....	9 09+0 08L	.....	.....	..
335	19	9 31+0 34u	9 58+0 24L	.....	.....	.....	9 34+0 46u	.....	9 31+0 02P	..
336	19	.....	.....	.....	.....	.....	14 05+0 02L	.....	.....	..
337	19	15 27+1 35u	15 35+0 58u	.....	.....	.....	15 43+1 26u	.....	.....	..
338	19	18 12+0 01P	.....	.....	.....	.....	.....	.....	.....	..
339	20	6 20+1 11u	6 50+0 15L	.....	.....	.....	7 04+1 16L	.....	.....	..
340	21	16 47+0 42u	.....	.....	.....	.....	17 00+0 51u	.....	.....	..
341	23	1 25+0 38r	1 36+0 09L	.....	.....	.....	1 43+0 28L	.....	.....	..
342	23	.....	.....	.....	.....	.....	4 08+0 08L	.....	.....	J
343	23	9 43+0 08P	.....	.....	.....	.....	9 56+0 27L	.....	.....	..
344	23	10 30+0 22u	10 57+0 13L	.....	.....	.....	10 38+0 34L	.....	.....	..
345	23	21 12+1 01r	21 13+1 23u	21 30+0 54r	.....	21 21+0 29L	21 17+1 38r	.....	.....	..
346	24	5 18+0 22u	.....	.....	.....	.....	5 29+0 22L	.....	.....	..
347	24	6 39+1 11u	7 06+0 30L	.....	.....	.....	7 27+1 17L	.....	.....	..
348	24	10 37+0 30u	10 56+0 12L	10 57+0 13L	.....	.....	10 51+0 25L	.....	.....	..
349	24	14 11+1 03u	14 05+1 12u	.....	.....	.....	14 21+1 46u	.....	.....	..
350	24	15 25+0 01P	.....	.....	.....	.....	.....	.....	.....	..
351	24	.....	.....	.....	.....	.....	22 58+0 23L	.....	.....	..
352	25	4 39+0 03P	.....	.....	.....	.....	.....	.....	.....	..
353	25	.....	.....	.....	.....	.....	9 11+0 02L	.....	.....	..
354	25	10 07+1 05u	10 35+0 13L	.....	.....	.....	10 52+0 44L	.....	.....	..
355	25	20 11+0 0.7P*	.....	.....	.....	.....	.....	.....	.....	..
356	26	.....	.....	.....	.....	.....	5 30+0 38L	.....	.....	..
357	26	20 30+1 36u	20 23+2 15u	.....	.....	.....	20 30+1 53u	.....	.....	K

EARTHQUAKE CORRELATION TABLE

Month July, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	***
							M. S.	W. A.		
358	26	23 22+0 02P*	.....	.....	.....	.....	.....	.....	.....	..
359	28	.....	0 29+0 11L	.....	.....	.....	.....	.....	.....	..
360	28	4 52+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
361	28	.....	16 16+0 58u	.....	.....	.....	17 03+0 17L	.....	.....	..
362	30	2 00+2 15U	1 56+3 35R	2 00+2 01U	1 57+0 42R	.....	2 00+3 00U	2 00+0 49U	2 00+0 45U	N
363	30	2 42+0 1.5 P*	.....	.....	.....	.....	.....	.....	.....	..
364	30	.....	9 18+0 10L	.....	.....	.....	.....	.....	.....	..
365	30	.....	16 22+0 07L	.....	.....	.....	.....	.....	.....	..
366	31	2 41+0 0.4v	.....	.....	.....	.....	.....	.....	.....	Q
367	31	2 47+0 1.5v	.....	.....	.....	.....	.....	.....	2 49+0 0.5v	Q

CORRELATION OF EARTHQUAKES

July, 1941

N O T E S

A :	Ottawa	Δ = 3800 km.	H = $7^h51^m.0$ U.T.
	Seven Falls	Δ = 4310 km.	H = 7 50.9 U.T.
B :	Ottawa	Δ = 8560 km.	H = $7^h11^m.8$ U.T.
	Toronto	Δ = 8350 km.	H = 7 11.9 U.T.
	Seven Falls	Δ = 8840 km.	H = 7 11.8 U.T.
	Shawinigan Falls	Δ = 8700 km.	H = 7 11.8 U.T.
C :	Ottawa	Δ = 4420 Km.	H = $1^h16^m.6$ U.T.
	Victoria	Δ = 6080 km.	H = 1 16.8 U.T.
E :	Ottawa	Δ = 4440 km.	H = $1^h59^m.6$ U.T.
F :	Ottawa	Δ = 7880 km.	H = $15^h39^m.7$ U.T.
G :	Ottawa	Δ = 2780 km.	H = $3^h14^m.8$ U.T.
J :	Ottawa	Δ = 4010 km.	H = $1^h17^m.5$ U.T.
K :	Victoria	Δ = 8790 km.	H = $20^h11^m.4$ U.T.
N :	Ottawa	Δ = 5200 km.	H = $1^h51^m.2$ U.T.
	Victoria	Δ = 2370 km.	H = 1 51.2 U.T.
	Toronto	Δ = 5160 km.	H = 1 51.3 U.T.
	Saskatoon	Δ = 2900 km.	H = 1 51.4 U.T.
	Seven Falls	Δ = 5280 km.	H = 1 51.2 U.T.
	Shawinigan Falls	Δ = 5180 km.	H = 1 51.3 U.T.

Q : Rockburst at Lake Shore Mines at Kirkland Lake, Ontario.

Dominion Observatory,
Ottawa, Canada,
October 28, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

July, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED
Strasbourg	January to March, 1941	July 2
U. G. G. I.	Supplements to Jan.-Feb., 1941	" 2
Martinique	January and February, 1941	" 2
Zurich	March and April, 1941	" 3
St. Louis and Auxiliary Stations	Supplement to May, 1941 and Preliminary for June, 18, 1941	" 3
St. Louis	April to July, 1940	" 3
Florissant	June and July, 1940	" 3
Denver	July, 1940 to June, 1941	" 3
San Fernando	September to December, 1940	" 3
Coimbra	May, 1941	" 4
Taihoku	May, 1941	" 5
Sydney	January and February, 1941	" 7
Manila	April, 1941	" 8
Weston	Preliminary for June, 1941	" 8
New Zealand Stations	May, 1941	" 8
Apia	January to March, 1941	" 12
Brisbane	May, 1941	" 15
Batavia	July to September, 1940	" 16
St. Louis and Auxiliary Stations	Preliminaries for June 26, July 1, 3 and Supplement to June, 1941	" 17
Cape Girardeau	January and February, 1941	" 17
Florissant	August to December, 1940	" 17
St. Louis	August, 1940	" 17
Pasadena	January to March, 1940	" 20
United States Coast and Geodetic Survey	July and August, 1939	" 23
Bureau Central	April, 1941	" 25
U. G. G. I.	March, 1941	" 25
Pasadena	Preliminary for June, 1941	" 28
Leningrad and Auxiliary Stations	April, 1941	" 30
Chile Stations	Year 1938	" 31
Manila	May, 1941	" 31

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

August

1941

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DOMINION OBSERVATORY
OTTAWA, CANADA

****

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.
Time correction within 0.10s.
Foundation: boulder clay over limestone
Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.
Time correction from recorded radio time signals
Foundation: Carbonaceous slate
Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07'.4 N. λ = 70°49'.6 W. h = 232m. ca.
Time correction from recorded radio time signals
Foundation: Solid granite of Canadian Shield
Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.
Time correction from recorded radio time signals
Foundation: rock
Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 1, 1941 to August 2, 1941 No. 48

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
368 Aug. 2	H	11 41.3	13,350	USCGS. gives:
	P'Z	12 00 11		ϕ = 30° S.
	PP	12 01 26		λ = 178°5 W.
	SKS E	12 07 03		Depth 100 km. ca.
	S N	12 09 28		
	PS	12 11 20		
	PPS Z	12 12 50		
	SS	12 18 00		
	SSS	12 22 20		
	e	12 29.4		
	eL	12 38		
	F	15 06		
		Victoria		
	H	11 41.4	10,350	
	P	11 54 37		
	e	12 04 10		
	S	12 05 45		
	SS	12 11		
	L	12 23		
	F	16 11		
		Toronto		
	H	11 41.6	13,000	
	PP	12 01.4		
	SKS	12 07		
	S	12 09 20		
	PS	12 11 13		
	SS	12 17.3		
	SSS	12 21 18		
	eL	12 28		
	F	14 49		
		Seven Falls		
	H	11 41.4	13,500	
	P'	12 00 22		
	PP	12 01 55		
	SKS	12 07 27		
	PS	12 11 50		
	SS	12 18 58		
	SSS	12 22.8		
	e	12 26.8		
	eL	12 42		
	F	16 12		
		Shawinigan Falls		
	e	12 00 40		
	e	12 09 44		
	L	12 36		
	F	13 28		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 2, 1941 to August 4, 1941 No. 49

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
370 Aug. 3	e	13 05		
	L	13 24		
	F	14 04		
		Ottawa		
371 Aug. 4	e_Z	0 32 22		
	e_N	0 40.8		
	L	0 45		
	F	0 53		
		Victoria		
	e	0 36.5		
	L	0 41		
	F	1 00		
		Ottawa		
372 Aug. 4	H	10 53.4	6900	USCGS. gives:
	P	11 03 38		ϕ = 52° N.
	PPP	11 07 34		λ = 176°.5 W.
	S	11 12 10		Depth 100 km. ca.
	i	11 13 26		
	SS	11 16.5		
	SSS	11 19.1		
	eL	11 24		
	F	12 22		
		Victoria		
	H	10 53.3	3880	
	P	11 00 12		
	PPP	11 01 39		
	S	11 05 52		
	eL	11 09		
	F	13 08		
		Toronto		
	e	11 12 09		
	L	11 25		
	F	12 00 ca.		
		Halifax		
	e	11 13.3		
	L	11 28		
	F	11 43		
		Seven Falls		
	H	10 53.4	6970	
	P	11 03 46		
	PPP	11 07.7		
	S	11 12 22		
	SSS	11 20		
	eL	11 25		
	F	12 24		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 4, 1941 to August 6, 1941 No. 50

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
372 Aug. 4 (Cont'd)	H	10 53.3	6980	
	P	11 03 40		
	S	11 12 16		
	L	11 32		
	F	11 38		
		Ottawa		
375 Aug. 5	H	6 15.3	5520	USCGS. gives:
	P	6 24 08		ϕ = 55°5 N.
	i	6 24 43		λ = 160° W.
	S	6 31 22		Depth 200 km. ca.
	L	6 40		
	F	7 23		
		Victoria		
	H	6 15.2	2610	
	P	6 20 22		
	PP	6 20 49		
	S	6 24 37		
	SS	6 25 33		
	L	6 27		
	F	8 31		
		Toronto		
	H	6 15.4	5440	
	P	6 24.2		
	iS	6 31 19		
	i	6 33 44		
	L	6 40		
	F	7 29		
		Saskatoon		
	H	6 15.2	3350	
	P	6 21 27		
	S	6 26 33		
	L	6 30		
	F	6 50		
		Halifax		
	e	6 32 49		
	L	6 41		
	F	7 07		
		Seven Falls		
	H	6 15.3	5700	
	P	6 24 18		
	e	6 24 54		
	iS	6 31 42		
	L	6 40		
	F	8 23		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 6, 1941 to August 10, 1941 No. 51

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
375 Aug. 6 (Cont'd)	H	6 15.3	5580	
	P	6 24 11		
	i	6 24 48		
	S	6 31 28		
	L	6 40		
	F	6 50		
		Ottawa		
380 Aug. 8	H	21 18.7	180	Nearby quake.
	Pn	21 19 10		
	P1	21 19 11.5		
	S2	21 19 32		
	S1	21 19 34.5		
	L	21 19 47		
	F	21 20.2		
		Ottawa		
382 Aug. 10	H	5 05.5	4160	
	P	5 12 42		
	S	5 18 40		
	SS	5 21.0		
	eL	5 24		
	F	5 53		
		Victoria		
	e	5 08 33		
	L	5 12		
	F	5 40+		
		Toronto		
	e	5 22		
	L	5 25		
	F	6 00		
		Saskatoon		
	eN	5 08.4		
	eE	5 09 33		
	L	5 15		
	F	5 42		
		Halifax		
	e	5 28 41		
	L	5 32		
	F	5 44		
		Seven Falls		
	e	5 19.1		
	L	5 25		
	F	6 27		
		Shawinigan Falls		
	e	5 12 47		
	e	5 21.9		
	L	5 26		
	F	5 40		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 10, 1941 to August 15, 1941 No. 52

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
389	e	1 54 33		
Aug.	e	2 03 28		
14	F	2 20		
		Seven Falls		
	e	2 03 46		
	L	2 13		
	F	2 24		
		Ottawa		
390	e_Z	9 51 30		
Aug.	e_N	10 02 10		
14	L	10 19		
	F	10 53		
		Victoria		
	e	10 01.7		
	L	10 21		
	F	11 07		
		Ottawa		
392	H	6 09.6	5250	USCGS. gives:
Aug.	P	6 18 08		ϕ = 19° N.
15	PP	6 20 02		λ = 27° W.
	S	6 25 07		
	e_N	6 27 08		
	SS	6 28 15		
	SSS	6 29.5		
	eL	6 31		
	F	8 04		
		Victoria		
	H	6 09.6	8780	
	P	6 21 40		
	PP	6 25 06		
	S	6 31 42		
	PS	6 32 38		
	SS	6 37		
	e	6 43		
	L	6 46		
	F	9 19		
		Halifax		
	H	6 09.6	4260	
	P	6 16 57		
	PPP	6 18 36		
	S	6 23 01		
	SSS	6 25.7		
	L	6 27		
	F	7 16		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 15, 1941 to August 27, 1941 No. 53

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
392 Aug. 15 (Cont'd)	H	6 09.6	4920	
	P	6 17 48		
	PPP	6 19 48		
	S	6 24 28		
	SSS	6 28.1		
	L	6 30		
	F	8 18		
		Shawinigan Falls		
	H	6 09.7	5000	
	P	6 17 56		
	PP	6 19 44		
	S	6 24 40		
	SS	6 27.7		
	F	7 06		
		Victoria		
395 Aug. 18	e	4 02.8		
	L	4 23		
	F	5 03		
		Ottawa		
397 Aug. 19	eZ	17 59 32		
	L	18 42		
	F	19 20		
		Seven Falls		
	e	18 18		
	L	18 44		
	F	20 03		
		Victoria		
402 Aug. 22	e	19 19.3		
	L	19 39		
	F	20 23		
		Ottawa		
406 Aug. 27	e	18 40.7		
	eL	18 44		
	F	19 16		
		Victoria		
	e	18 39		
	L	18 53		
	F	19 14		
		Seven Falls		
	e	18 45.4		
	L	18 55		
	F	19 10		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA.

FROM August 27, 1941 to August 30, 1941 No. 54

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
408 Aug. 28	e	4 04.8		
	L	4 09		
	F	4 21		
		Ottawa		
409 Aug. 28	e	7 01		
	L	7 05		
	F	7 17		
		Victoria		
412 Aug. 29	e	13 11		
	L	13 14		
	F	13 34		
		Victoria		
413 Aug. 30	H	9 36.6	8300	
	P	9 48 14		
	S	9 57 54		
	L	10 12		
	F	11 32		
		Seven Falls		
	e	10 02.6		
	e	10 09.9		
	L	10 26		
	F	11 15		
		Ottawa		
414 Aug. 30	e	10 23 49		Nearby quake.
	e	10 24 12		
	F	10 25.1		
		Seven Falls		
	e	10 22 10		
	e	10 22 29		
	F	10 24		
		Shawinigan Falls		
	e	10 23 02		
	F	10 24		
		Victoria		
415 Aug. 30	H	13 06.8	8600	
	P	13 18 43		
	S	13 28 37		
	SS	13 33 35		
	L	13 42		
	F	15 29		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM August 30, 1941 to August 31, 1941 No. 55

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
415 Aug. 30 (Cont'd)	e	13 32		
	L	13 59		
	F	15 24		
		Ottawa		
416 Aug. 30	e	15 33.6		
	L	15 47		
	F	15 52		
		Victoria		
419 Aug. 31	e	4 34.5		
	L	4 56		
	F	5 35		

W. W. Doyle

EARTHQUAKE CORRELATION TABLE

Month August, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
368	2	12 00+3 06U	11 55+4 16U	12 01+2 48U	.....	.....	12 01+4 11U	12 00+1 19U	12 01+1 27U	A
369	3	10 56+0 04P*	11 30+0 32L	.....	.....	.....	.....	.....	.....	..
370	3	.....	13 05+0 59u	.....	.....	.....	13 44+0 32L	.....	.....	..
371	4	0 32+0 26r	0 36+0 24u	0 43+0 07L	.....	.....	0 47+0 10L	.....	.....	..
372	4	11 04+1 18u	11 00+2 08r	11 12+0 48u	.....	11 13+0 30u	11 04+1 20u	11 04+0 25u	11 04+0 34u	B
373	4	19 45+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
374	4	.....	21 37+0 22L	.....	.....	.....	.....	.....	.....	..
375	6	6 24+0 59u	6 20+2 11r	6 24+1 05u	6 21+0 29r	6 33+0 34u	6 24+1 59u	6 24+0 31u	6 24+0 25u	C
376	8	.....	19 45+0 32L	.....	.....	.....	.....	.....	.....	..
377	9	10 53+0 0.7P	.....	.....	.....	.....	.....	.....	.....	..
378	9	.....	12 48+0 21L	.....	.....	.....	.....	.....	.....	..
379	9	.....	15+57+0 28L	15 47+0 17L	.....	.....	15 43+0 34L	.....	.....	..
380	9	21 19+1 00v	.....	.....	.....	.....	.....	.....	.....	E
381	9	.....	23 21+0 24L	.....	.....	.....	23 19+0 42L	.....	.....	..
382	10	5 13+0 40r	5 09+0 31r	5 22+0 38r	5 08+0 34r	5 29+0 15r	5 19+1 08r	5 23+0 15r	5 13+0 27r	F
383	10	5 53+0 19L	5 40+0 51L	.....	5 43+0 12L	5 57+0 04L	.....	5 54+0 03L	5 54+0 05L	..
384	10	14 50+0 01P	14 51+0 25L	.....	.....	.....	.....	.....	.....	..
385	10	17 12+0 03P	.....	.....	.....	.....	.....	.....	17 12+0 02P	..
386	10	19 29+0 01P	.....	.....	.....	.....	.....	.....	19 28+0 05P	..
387	13	.....	14 16+0 04L	.....	.....	.....	.....	.....	.....	..
388	13	14 50+0 09L	14 32+0 18L	.....	.....	.....	14 51+0 12L	.....	.....	..
389	14	1 55+0 25u	.....	.....	.....	.....	2 04+0 20u	.....	.....	..
390	14	9 51+1 02u	10 02+1 05u	.....	.....	.....	10 20+0 42L	.....	.....	..
391	15	2 56+0 01v	.....	.....	.....	.....	.....	.....	.....	..
392	15	6 18+1 46U	6 22+2 57U	.....	.....	6 17+0 59R	6 18+2 00R	6 18+0 38R	6 18+0 48U	G
393	15	.....	16 38+0 04L	.....	.....	.....	.....	.....	.....	..
394	15	23 01+0 01P	.....	.....	.....	.....	.....	.....	.....	..
395	16	.....	4 03+1 00u	.....	.....	.....	.....	.....	.....	..
396	19	17 14+0 02P*	.....	.....	.....	.....	17 33+0 12L	.....	.....	..
397	19	18 00+1 20u	18 21+1 11L	18 40+0 36L	.....	19 00+0 07L	18 18+1 45u	.....	.....	..
398	20	9 21+0 34L	8 43+1 07L	.....	.....	.....	9 24+0 23L	.....	.....	..
399	20	.....	.....	.....	.....	.....	.....	.....	13 38+0 02P	..

EARTHQUAKE CORRELATION TABLE

Month August, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
400	21	.....	1 11+0 11L	.....	.....	.....	.....	.....	.....	..
401	22	.....	17 41+0 14L	.....	.....	.....	17 54+0 31L	.....	.....	..
402	22	.....	19 19+1 04u	.....	.....	.....	19 58+0 48L	.....	.....	..
403	24	23 02+0 02v	.....	.....	.....	.....	.....	.....	.....	..
404	25	3 11+0 01P*	3 22+0 12L	.....	.....	.....	.....	.....	.....	..
405	25	15 45+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
406	27	18 41+0 35u	18 39+0 35u	.....	.....	.....	.....	.....	.....	..
407	27	.....	23 43+0 08L	.....	.....	.....	18 45+0 25u	.....	.....	..
408	28	4 05+0 16r	4 03+0 17L	.....	.....	.....	.....	.....	.....	..
409	28	7 01+0 16r	7 00+0 18L	.....	.....	.....	4 11+0 09L	.....	.....	..
410	28	.....	11 55+0 16L	.....	.....	.....	7 07+0 11L	.....	.....	..
411	28	.....	20 49+0 07L	.....	.....	.....	11 37+0 07L	.....	.....	..
412	29	.....	13 11+0 23r	.....	.....	.....	21 22+0 29L	.....	.....	..
413	30	10 23+0 54L	9 48+1 44u	10 25+0 44L	.....	.....	13 29+0 09L	.....	.....	..
414	30	10 24+0 01v	.....	.....	.....	.....	10 03+1 12u	.....	.....	J
415	30	13 55+0 53L	13 19+2 10u	13 58+0 42L	.....	.....	.....	10 22+0 02v	10 23+0 01v	..
416	30	15 34+0 20u	15 52+0 17L	.....	.....	.....	13 32+1 52u	.....	.....	K
417	30	21 56+0 01P	.....	.....	.....	.....	15 47+0 10L	.....	.....	..
418	31	.....	1 49+0 09L	.....	.....	.....	.....	.....	.....	..
419	31	.....	4 35+1 00u	.....	.....	.....	.....	.....	.....	.
420	31	.....	11 09+0 08L	.....	.....	.....	5 14+0 30L	.....	.....	.
421	31	21 15+0 05L	21 00+0 07L	.....	.....	.....	.....	.....	.....	.

CORRELATION OF EARTHQUAKES

August, 1941

N O T E S

A :	Ottawa	Δ = 13,350 km.	H = $11^h41^m.3$ U.T.
	Victoria	Δ = 10,350 km.	H = 11 41.4 U.T.
	Toronto	Δ = 13,000 km.	H = 11 41.6 U.T.
	Seven Falls	Δ = 13,500 km.	H = 11 41.4 U.T.
B :	Ottawa	Δ = 6,900 km.	H = $10^h53^m.4$ U.T.
	Victoria	Δ = 3,880 km.	H = 10 53.3 U.T.
	Seven Falls	Δ = 6,970 km.	H = 10 53.4 U.T.
	Shawinigan Falls	Δ = 6,980 km.	H = 10 53.3 U.T.
C :	Ottawa	Δ = 5,520 km.	H = $6^h15^m.3$ U.T.
	Victoria	Δ = 2,610 km.	H = 6 15.2 U.T.
	Toronto	Δ = 5,440 km.	H = 6 15.4 U.T.
	Saskatoon	Δ = 3,350 km.	H = 6 15.2 U.T.
	Seven Falls	Δ = 5,700 km.	H = 6 15.3 U.T.
	Shawinigan Falls	Δ = 5,580 km.	H = 6 15.3 U.T.
E :	Ottawa	Δ = 180 km.	H = $21^h18^m.7$ U.T.
F :	Ottawa	Δ = 4,160 km.	H = $5^h05^m.5$ U.T.
G :	Ottawa	Δ = 5,250 km.	H = $6^h09^m.6$ U.T.
	Victoria	Δ = 8,780 km.	H = 6 09.6 U.T.
	Halifax	Δ = 4,260 km.	H = 6 09.6 U.T.
	Seven Falls	Δ = 4,920 km.	H = 6 09.6 U.T.
	Shawinigan Falls	Δ = 5,000 km.	H = 6 09.7 U.T.
J :	Victoria	Δ = 8,300 km.	H = $9^h36^m.6$ U.T.
K :	Victoria	Δ = 8,600 km.	H = $13^h06^m.8$ U.T.

Dominion Observatory,
Ottawa, Canada,
November 12, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

August, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED
Weston	Preliminary for July, 1941	August 7
Coimbra	June, 1941	" 7
Perth	May, 1941	" 7
Pasadena	Preliminary for June, 1941	" 8
Cape Girardeau	November, 1940 to May, 1941	" 8
Florissant	January to March, 1941	" 8
Santa Clara	June, 1941	" 9
St. Louis	September, 1940 to February, 1941	" 11
St. Louis and Auxiliary Stations	Preliminaries for July 11, 16, 1941	" 11
Cape Girardeau	June and July, 1941	" 11
Mt. St. Michael's	January to June, 1941	" 11
Florissant	April, 1941	" 11
Brisbane	June, 1941	" 11
Batavia	October to December, 1940	" 13
Pasadena	Local Shocks for March-April-May, 1941	" 14
Helwan	July to December, 1940	" 18
Apia	April to June, 1941	" 19
New Zealand Stations	November, 1939 and June, 1941	" 20
Berkeley	January to September, 1939	" 22
St. Louis and Auxiliary Stations	Preliminaries for July 23, 30 and August 2, 4, 6 and Supplement to July/41	" 22
St. Louis	March to May, 1941	" 25
Pasadena	Preliminary Bulletin No. 28 - July, 1941	" 27

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN
September
1941

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DOMINION OBSERVATORY
OTTAWA, CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 1, 1941 to September 6, 1941 No. 56

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
429 Sept. 4	H	10 21.6	13,600	
	P'	10 40 30		
	PP	10 42 01		
	SKS	10 47.4		
	SKKS	10 49.0		
	PS	10 51 50		
	SS	10 58 33		
	eL	11 12		
	F	13 08		
		Victoria		
	H	(10 22)	9400	Time correction uncertain.
	P	(10 34 29)		
	PP	(10 38 00)		
	e_E	(10 43 45)		
	S	(10 44 58)		
	SS	(10 51 23		
	SSS	(10 54 45)		
	L	(11 02)		
	F	(13 37)		
		Toronto		
	e	10 42 08		
	e	10 51.5		
	e	10 58 11		
	L	11 11		
	F	12 45		
		Seven Falls		
	H	10 21.6	13,700	
	P'	10 40 37		
	PP	10 42 14		
	SKS	10 47 35		
	SKKS	10 49.4		
	PS	10 52 03		
	SS	10 58.3		
	L	11 10		
	F	13 12		
		Victoria		
432 Sept. 5 and 6	e_E	23 31.3		
	e_N	23 35.7		
	L	23 42		
	F	0 24		
		Ottawa		
433 Sept. 6	H	17 04.9	530	
	P	17 06 07		
	S	17 07 04		
	F	17 17		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 6, 1941 to September 9, 1941 No. 57

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
433 Sept. 6 (Cont'd)	H	17 04.9	35	
	P_1	17 04 58		
	iS_1	17 05 02		
	F	17 07		
		Shawinigan Falls		
	H	17 04.8	210	
	P_2	17 05 27		
	S_2	17 05 51		
	F	17 07		
		Ottawa		
434 Sept. 7	H	0 50.9	4720	
	P_Z	0 58 49		
	S_N	1 05 18		
	e_E	1 07.3		
	L	1 12		
	F	1 22		
		Victoria		
	e	1 06.6		
	L	1 19		
	F	1 42		
		Ottawa		
435 Sept. 7	H	22 22.9	7080	
	P_Z	22 33 24		
	eS	22 42 06		
	eL	22 53		
	F	0 25		
		Victoria		
	e	22 45 32		
	L	23 09		
	F	23 40		
		Seven Falls		
	e	22 42.5		
	L	22 56		
	F	23 23		
		Ottawa		
439 Sept. 9	H	7 19.6	13,700	USCGS. gives:
	P'_Z	7 38 35		ϕ = 7° S.
	PP	7 40 04		λ = 153° E.
	SKS_E	7 45 30		
	$SKKS_N$	7 47.0		
	PS	7 50 07		
	SS_N	7 57 00		
	eL	8 11		
	F	10 14		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 9, 1941 to September 10, 1941 No. 58

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
439 Sept. 9 (Cont'd)		Victoria		
	H	(7 19)	9850	Time correction uncertain.
	P	(7 31 51)		
	S	(7 42 39)		
	PPS_E	(7 44 09)		
	SS	(7 49.0		
	eL	(7 56)		
	F	(11 14)		
		Halifax		
	e	7 42 07		
	e	7 51.4		
	L	8 22		
	F	9 07		
		Seven Falls		
	H	7 19.7	13,700	
	P'	7 38 41		
	PP	7 40.4		
	PS	7 50 18		
	PPS	7 52 07		
	SS	7 57 24		
	SSS	8 01		
	e	8 09 19		
	L	8 21		
	F	10 33		
		Shawinigan Falls		
	P'	7 38		
	L	8 24		
	F	8 43		
440 Sept. 9		Victoria		
	e	22 06.7		
	e	22 15 55		
	L	22 31		
	F	22 40		
		Ottawa		
442 Sept. 10	H	21 54.0	8750	
	P_Z	22 06 00		
	S	22 16 00		
	L	22 27		
	F	23 34		
		Victoria		
	e	22 17.8		
	L	22 39		
	F	23 21		
		Seven Falls		
	e	22 15.5		
	L	22 26		
	F	23 46		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 10, 1941 to September 13, 1941 No. 59

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
446 Sept. 12	H	7 02	15,000	USCGS. gives:
	P'Z	7 21 09		ϕ = 2°± N.
	PPS	7 36.0		λ = 130°± E.
	SS	7 41.0		
	eL	7 59		
	F	10 00		
		Victoria		
	H	7 02	11,500	
	P	7 15.6		
	PPP	7 21 53		
	SKS	7 26 28		
	PS	7 28 58		
	SS	7 34 28		
	L	7 48		
	F	10 16		
		Toronto		
	e	7 23 09		
	e	7 32.8		
	e	7 40.9		
	L	7 55		
	F	9 22		
		Halifax		
	e	7 25		
	L	8 07		
	F	9 02		
		Seven Falls		
	e	7 23.4		
	e	7 24 32		
	e	7 36		
	L	7 41		
	F	10 30		
		Ottawa		
449 Sept. 13	H	18 14.9	4080	USCGS. gives:
	P	18 22 02		ϕ = 18°.7 N.
	PPP	18 23 32		λ = 106°.9 W.
	S	18 27 54		
	eL	18 33		
	F	20 24		
		Victoria		
	H	18 15.0	3580	
	P	18 21 31		
	PPP	18 22 51		
	S	18 26 52		
	SS	18 29.0		
	L	18 32		
	F	21 00		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 13, 1941 to September 14, 1941 No. 60

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Toronto		
449 Sept. 13 (Cont'd)	H	18 14.8	3780	
	P	18 21 32		
	S	18 27 05		
	e	18 28 29		
	SSS	18 29 50		
	L	18 33		
	F	20 00		
		Saskatoon		
	e	18 21 34		
	L	18 32		
	F	19 22		
		Halifax		
	e	18 23.0		
	e	18 33.0		
	L	18 39		
	F	19 17		
		Seven Falls		
	H	18 15.0	4500	
	P	18 22 39		
	PPP	18 24 19		
	S	18 28.9		
	SS	18 31.3		
	L	18 34		
	F	20 22		
		Shawinigan Falls		
	P	18 22 22		
	e	18 31 30		
	L	18 35		
	F	19 07		
		Ottawa		
452 Sept. 14	e_Z	4 27 46		
	e_N	4 40.3		
	e_E	4 42.5		
	L	5 04		
	F	6 13		
		Victoria		
	e	4 27		
	L	4 54		
	F	5 55		
		Toronto		
	e	4 32.8		
	e	4 39 33		
	L	5 09		
	F	6 22		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 14, 1941 to September 16, 1941 No. 61

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
452 Sept. 14 (Cont'd)	e	4 40		
	L	5 10		
	F	6 24		
		Ottawa		
453 Sept. 14	e_Z	13 52.7		
	e	13 56.4		
	L	14 36		
	F	15 26		
		Victoria		
	e_E	13 52.3		
	e_N	14 00		
	L	14 27		
	F	14 52		
		Seven Falls		
	e	13 55.7		
	L	14 37		
	F	15 37		
		Ottawa		
457 Sept. 14	e_Z	18 45.8		
	L	18 56		
	F	19 32		
		Victoria		
	e	18 42.1		
	L	18 46		
	F	19 45		
		Ottawa		
458 Sept. 16	e	1 59 37		
	L	2 11		
	F	2 16		
		Ottawa		
460 Sept. 16	H	21 39	13,350	USCGS. gives:
	P'_Z	21 57 52		ϕ = 28°.5 S.
	PP_E	21 59.0		λ = 178° W.
	SKS	22 04 40		
	S_N	22 07.0		
	PS	22 09 02		
	SS	22 15.5		
	e_{EZ}	22 23.5		
	eL	22 31		
	F	0 33		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 16, 1941 to September 17, 1941 No. 62

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
460 Sept. 16 (Cont'd)	H	21 39	10,200	
	P	21 52 13		
	SKS	22 02 42		
	S	22 03 15		
	SS	22 09.0		
	eL	22 17		
	F	0 45		
		Toronto		
	e	22 03.1		
	e	22 08.7		
	e	22 14.8		
	e	22 19.2		
	L	22 26		
	F	0 21		
		Halifax		
	e_E	22 06.9		
	e_E	22 17.5		
	L	22 34		
	F	23 28		
		Seven Falls		
	H	21 39	13,700	
	P'	21 58.1		
	SKS	22 04 58		
	SKKS	22 06 28		
	PS	22 09 31		
	PPS	22 10 58		
	SS	22 16 37		
	e	22 24		
	L	22 34		
	F	1 16		
		Shawinigan Falls		
	P'	21 58.2		
	L	22 29		
	F	23 15		
		Ottawa		
461 Sept. 17	H	6 47.6	13,900	
	P'_Z	7 06 39		
	SKP	7 09 49		
	SKS_N	7 13 36		
	PS	7 18.8		
	SS_E	7 26.5		
	L	7 41		
	F	9 02		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 17, 1941 to September 18, 1941 No. 63

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
461 Sept. 17 (Cont'd)	e	7 07.4		
	i	7 12 07		
	eN	7 13 28		
	e	7 15 08		
	e	7 21.1		
	L	7 32		
	F	9 20		
		Toronto		
	e	7 09 56		
	e	7 13 33		
	e	7 15 47		
	L	7 29		
	F	8 49		
		Seven Falls		
	e	7 09 50		
	e	7 15 44		
	e	7 26 33		
	e	7 31 25		
	L	7 43		
	F	9 15		
		Shawinigan Falls		
	H	7 47.6	14,350	
	P'	7 06 47		
	SKP	7 09 47		
	SKKS	7 15 41		
	SS	7 26.2		
	F	7 30		
		Ottawa		
463 Sept. 18	e	2 39		
	L	3 03		
	F	3 50		
		Victoria		
	e	2 30		
	L	2 53		
	F	3 35		
		Seven Falls		
	e	2 33		
	L	3 04		
	F	4 01		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 18, 1941 to September 18, 1941 No. 64

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
464 Sept. 18	H	13 14.3	6380	USCGS. gives:
	P	13 24 04		ϕ = 13° S.
	S	13 32 06		λ = 73° W.
	PSE	13 32 50		Depth 100 km. ca.
	eE	13 34 28		
	SSS	13 38.5		
	L	13 43		
	F	14 40		
		Victoria		
	H	13 14.2	8500	
	P	13 25 57		
	S	13 35 46		
	L	13 52		
	F	15 11		
		Toronto		
	H	13 14.4	6210	
	P	13 23 58		
	S	13 31 51		
	L	13 43		
	F	14 28		
		Halifax		
	H	13 14.3	6290	
	P	13 24 00		
	S	13 31 57		
	L	13 39		
	F	13 48		
		Seven Falls		
	H	13 14.3	6570	
	P	13 24 17		
	PPP	13 28.2		
	S	13 32 30		
	SS	13 36.6		
	L	13 41		
	F	15 11		
		Shawinigan Falls		
	H	13 14.3	6480	
	P	13 24 12		
	S	13 32 20		
	F	13 41		
		Victoria		
465 Sept. 18	e	18 40.3		
	L	19 01		
	F	19 24		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 18, 1941 to September 25, 1941 No. 65

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
467 Sept. 24	H	1 01.4	8080	USCGS. gives:
	P	1 12 50		ϕ = 52°± N.
	S	1 22 20		λ = 158°± E.
	e	1 31		
	eL	1 35		
	F	3 00		
		Victoria		
	H	1 01.5	5300	
	P	1 10 04		
	PPP	1 12.3		
	S	1 17 06		
	SS	1 19.8		
	L	1 25		
	F	4 01		
		Seven Falls		
	H	1 01.5	8140	
	P	1 12 56		
	S	1 22 29		
	SSS	1 30.6		
	eL	1 35		
	F	3 40		
		Shawinigan Falls		
	H	1 01.4	8100	
	P	1 12 52		
	S	1 22 23		
	F	1 28		
		Victoria		
468 Sept. 24	e	18 49.3		
	L	19 07		
	F	19 28		
		Ottawa		
471 Sept. 25	e	2 56 10.5		Nearby quake.
	e	2 56 21.5		
	i	2 56 25.5		
	F	3 01		
		Ottawa		
473 Sept. 25	H	17 48.8	7700	
	PZ	17 59 49		
	S	18 09.0		
	eL	18 21		
	F	19 07		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM September 25, 1941 to September 30, 1941 No. 66

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
473	i	18 02 16		
Sept.	L	18 05		
25	F	19 45		
(Cont'd)				
		Ottawa		
476	e_Z	17 31 04		
Sept.	e_N	17 36.4		
29	e_N	17 44.5		
	e_N	17 48.5		
	eL	17 58		
	F	19 07		
		Victoria		
	e	17 31.7		
	L	17 45		
	F	18 39		
		Seven Falls		
	e	17 36		
	L	18 08		
	F	19 20		
		Ottawa		
478	eZ	8 38 12		
Sept.	L	9 18		
30	F	10 00		
		Victoria		
	e	8 42.6		
	L	9 00		
	F	9 53		

W. H. Doyle.

EARTHQUAKE CORRELATION TABLE

Month September, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
422	1	.....	0 14+0 12L	.....	.....	.....	.....	.....	.....	..
423	1	7 12+0 20L	6 56+0 34L	.....	.....	.....	7 15+0 30L	.....	.....	..
424	1	15 43+0 02P*	.....	.....	.....	.....	.....	.....	.....	..
425	1	.....	20 35+0 11L	.....	.....	.....	.....	.....	.....	..
426	1	.....	23 59+0 19L	.....	.....	.....	.....	.....	.....	..
427	3	4 41+0 16L	4 44+0 12L	.....	.....	.....	4 42+0 12L	.....	.....	..
428	3	.....	18 41+0 15L	.....	.....	.....	18 56+0 11L	.....	.....	..
429	4	10 40+2 28u	10 34+3 03u	10 42+2 03u	.....	.....	10 42+2 30u	10 41+0 05P	10 41+0 07P	A
430	4	10 50+0 07P	.....	.....	.....	.....	.....	.....	.....	..
431	4	.....	19 24+0 17L	.....	.....	.....	19 38+0 12L	.....	.....	..
432	5	23 55+0 31L	23 31+0 53u	0 01+0 11L	.....	.....	23 53+0 30L	.....	.....	..
433	6	17 06+0 11v	.....	.....	.....	.....	.....	17 05+0 02d	17 05+0 02v	B
434	7	0 59+0 23r	1 07+0 35u	.....	.....	.....	1 08+0 17L	.....	.....	C
435	7	22 33+1 52u	22 46+0 54u	.....	.....	.....	22 42+0 41u	.....	.....	E
436	8	.....	3 20+0 09L	.....	.....	.....	.....	.....	.....	..
437	8	9 50+0 02P*	.....	.....	.....	.....	.....	.....	.....	..
438	8	11 27+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
439	9	7 39+2 35u	7 32+3 42u	.....	8 02+0 20L	.....	7 40+2 52u	7 39+1 08u	7 39+1 04u	F
440	9	.....	22 07+0 33u	.....	.....	.....	.....	.....	.....	..
441	10	17 36+0 17L	17 41+0 09L	.....	.....	.....	17 39+0 13L	.....	.....	..
442	10	22 06+1 28u	22 18+1 03u	.....	.....	.....	22 16+1 30u	.....	.....	G
443	11	.....	2 48+0 08L	.....	.....	.....	2 25+0 28L	.....	.....	..
444	11	.....	.....	.....	.....	.....	.....	.....	14 42+0 03P	..
445	12	2 42+0 01P	.....	.....	.....	.....	.....	.....	.....	..
446	12	7 21+2 39u	7 14+3 00u	7 23+1 59u	.....	7 25+1 37u	7 23+3 07u	.....	.....	J
447	13	1 31+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
448	13	.....	4 29+0 16L	.....	.....	.....	.....	.....	.....	..
449	13	18 22+2 02r	18 22+2 38r	18 22+1 38r	18 22+1 00r	18 23+0 54r	18 23+1 59r	18 23+0 46r	18 22+0 45r	K
450	13	23 07+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
451	13	23 27+0 02P	.....	.....	.....	.....	23 52+0 09L	.....	.....	..
452	14	4 28+1 45u	4 27+1 28u	4 33+1 49u	.....	.....	4 40+1 44u	.....	.....	..

EARTHQUAKE CORRELATION TABLE

Month September, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
453	14	13 53+1 33u	13 52+1 00u	.....	.....	.....	13 56+1 41u	.....	.....	..
454	14	17 00+0 17L	16 49+0 46L	16 59+0 12L	16 52+0 07L	.....	17 03+0 25L	.....	17 02+0 05L	..
455	14	.....	18 27+0 14L	.....	18 30+0 07L	.....	.....	.....	.....	..
456	14	18 38+0 15L	.....	18 37+0 12L	.....	.....	18 41+0 17L	.....	18 39+0 07L	..
457	14	18 46+0 46r	18 42+1 03r	18 55+0 10L	18 47+0 15L	19 01+0 11L	18 58+0 36L	18 58+0 07L	18 56+0 09L	..
458	16	2 00+0 16r	.....	.....	.....	.....	.....	.....	.....	..
459	16	5 39+0 04P*	.....	.....	.....	.....	.....	.....	.....	..
460	16	21 58+2 35u	21 52+2 53u	22 03+2 18u	22 28+0 48L	22 07+1 21u	22 00+3 17u	21 58+1 19u	21 58+1 17u	N
461	17	7 07+1 55u	7 07+2 13u	7 10+1 39u	.....	.....	7 10+2 05u	7 10+0 07P	7 07+0 24u	Q
462	17	.....	15 38+0 06L	.....	.....	.....	.....	.....	.....	..
463	18	2 39+1 11u	2 30+1 05u	.....	.....	.....	2 33+1 28u	.....	.....	..
464	18	13 24+1 16u	13 26+1 45u	13 24+1 04u	.....	13 24+0 24u	13 24+1 47u	13 24+0 19u	13 24+0 17u	R
465	18	.....	18 40+0 44u	.....	.....	.....	19 19+0 13L	.....	.....	..
466	21	.....	20 00+0 11L	.....	.....	.....	.....	.....	.....	..
467	24	1 13+1 47u	1 10+2 51u	.....	.....	.....	1 13+2 27u	1 13+0 38u	1 13+0 15u	S
468	24	.....	18 49+0 39u	.....	.....	.....	19 32+0 16L	.....	.....	..
469	24	.....	20 13+0 11L	.....	.....	.....	.....	.....	.....	..
470	25	2 52+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
471	25	2 56+0 05v	.....	.....	.....	.....	.....	.....	.....	.
472	25	4 19+0 03P	.....	.....	.....	.....	.....	4 17+0 04P	.....	.
473	25	18 00+1 07u	18 02+1 43u	.....	.....	.....	18 24+0 56L	.....	.....	.
474	28	5 43+0 04P	5 39+0 15L	.....	.....	.....	.....	.....	5 43+0 04P	.
475	29	.....	3 27+0 16L	.....	.....	.....	.....	.....	.....	.
476	29	17 31+1 36u	17 32+1 07u	.....	.....	.....	17 36+1 44u	.....	.....	.
477	29	20 54+0 01P*	.....	.....	.....	.....	.....	.....	.....	.
478	30	8 38+1 22u	8 43+1 10u	.....	.....	.....	9 19+0 43L	.....	.....	.

CORRELATION OF EARTHQUAKES
September, 1941

N O T E S

A :	Ottawa	Δ = 13,600 km.	H = $10^h21^m.6$	U.T.
	Victoria	Δ = 9,400 km.	H = (10 22)	U.T.
	Seven Falls	Δ = 13,700 km.	H = 10 21.6	U.T.
B :	Ottawa	Δ = 530 km.	H = $17^h04^m.9$	U.T.
	Seven Falls	Δ = 35 km.	H = 17 04.9	U.T.
	Shawinigan Falls	Δ = 210 km.	H = 17 04.8	U.T.
C :	Ottawa	Δ = 4,720 km.	H = $0^h50^m.9$	U.T.
E :	Ottawa	Δ = 7,080 km.	H = $22^h22^m.9$	U.T.
F :	Ottawa	Δ = 13,700 km.	H = $7^h19^m.6$	U.T.
	Victoria	Δ = 9,850 km.	H = (7 19)	U.T.
	Seven Falls	Δ = 13,700 km.	H = 7 19.7	U.T.
G :	Ottawa	Δ = 8,750 km.	H = $21^h54^m.0$	U.T.
J :	Ottawa	Δ = 15,000 km.	H = 7^h02^m	U.T.
	Victoria	Δ = 11,500 km.	H = 7 02	U.T.
K :	Ottawa	Δ = 4,080 km.	H = $18^h14^m.9$	U.T.
	Victoria	Δ = 3,580 km.	H = 18 15.0	U.T.
	Toronto	Δ = 3,780 km.	H = 18 14.8	U.T
	Seven Falls	Δ = 4,500 km.	H = 18 15.0	U.T.
N :	Ottawa	Δ = 13.350 km.	H = 21^h39^m	U.T.
	Victoria	Δ = 10,200 km.	H = 21 39	U.T.
	Seven Falls	Δ = 13,700 km.	H = 21 39	U.T.
Q :	Ottawa	Δ = 13,900 km.	H = $6^h47^m.6$	U.T.
	Shawinigan Falls	Δ = 14,350 km.	H = 6 47.6	U.T.
R :	Ottawa	Δ = 6,380 km.	H = $13^h14^m.3$	U.T.
	Victoria	Δ = 8,500 km.	H = 13 14.2	U.T.
	Toronto	Δ = 6,210 km.	H = 13 14.4	U.T.
	Halifax	Δ = 6,290 km.	H = 13 14.3	U.T.
	Seven Falls	Δ = 6,570 km.	H = 13 14.3	U.T.
	Shawinigan Falls	Δ = 6,480 km.	H = 13 14.3	U.T.
S :	Ottawa	Δ = 8,080 km.	H = $1^h01^m.4$	U.T.
	Victoria	Δ = 5,300 km.	H = 1 01.5	U.T.
	Seven Falls	Δ = 8,140 km.	H = 1 01.5	U.T.
	Shawinigan Falls	Δ = 8,100 km.	H = 1 01.4	U.T.
V :	Ottawa	Δ = 7,700 km.	H = $17^h48^m.8$	U.T.

Dominion Observatory,
Ottawa, Canada,
November 28, 1941.

SEISMOLOGICAL BULLETINS RECEIVED

September, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
Manila	June, 1941	September	2
Sydney	March and April, 1941	"	4
Coimbra	July, 1941	"	4
Weston	Preliminary for August, 1941	"	5
New Zealand Stations	December, 1939 and July, 1941	"	5
Santa Clara	February-March and July, 1941	"	12
Fordham	January to March, 1941	"	15
Zurich	May to July, 1941	"	15
Brisbane	July, 1941	"	16
United States Coast and Geodetic Survey	September and October, 1939	"	17
Riverview	April to June, 1941	"	20
U. G. G. I.	Supplements to March-April-May, 1941	"	22
Coimbra	August, 1941	"	25
Florissant	May and June, 1941	"	27
St. Louis	June, 1941	"	27
St. Louis and Auxiliary Stations	Preliminary for August 15, 1941	"	27

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

October

1941

DOMINION OBSERVATORY
OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07'.4 N. λ = 70°49'.6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15 g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument : Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15 g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				7 mm.
BL (Ottawa)	1.0				26 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	62	Aper.		
SE (Saskatoon)	9.1	65	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM October 1, 1941 to October 3, 1941 No. 67

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
479 Oct. 1	e_Z	19 56 44		
	e_E	20 02.5		
	eL	20 08		
	F	20 37		
		Toronto		
	e	20 05.8		
	L	20 08		
	F	20 31		
		Saskatoon		
	e	19 53.2		
	L	19 58		
	F	20 12		
		Ottawa		
480 Oct. 3	H	16 13.2	3910	USCGS. gives:-
	P	16 20 11		ϕ = 40°.6 N.
	S	16 25 53		λ = 124°.6 W.
	SSS	16 28.6		
	eL	16 31		
	F	18 41		
		Victoria		
	P	16 15 07		
	L	16 16		
	F	17 55		
		Toronto		
	H	16 13.3	3610	
	P	16 19 54		
	S	16 25 17		
	L	16 30		
	F	18 00 ca.		
		Saskatoon		
	H	16 13.2	1900	
	P	16 17 09		
	S	16 20 26		
	L	16 22		
	F	17 26		
		Halifax		
	H	16 13.3	4850	
	P	16 21 23		
	S	16 28.0		
	SS_E	16 31.5		
	L	16 35		
	F	17 28		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM October 3, 1941 to October 6, 1941 No. 68

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
480 Oct. 3 (Cont'd)	H	16 13.2	4260	
	P	16 20 37		
	PP	16 22.0		
	S	16 26 40		
	eL	16 31		
	F	19 06		
		Shawinigan Falls		
	H	16 13.2	4200	
	P	16 20 28		
	S	16 26 28		
	SSS	16 30.2		
	eL	16 32		
	F	17 04		
		Ottawa		
482 Oct. 5	e_E	10 36 02		USCGS. gives:-
	e_N	10 37 27		ϕ = 15° S.
	e_E	10 39 09		λ = 173° W.
	e	10 44.6		
	eL	11 00		
	F	12 50		
		Victoria		
	H	10 11.3	8540	
	eP	10 23.1		
	iS	10 32 58		
	SS	10 38.1		
	eL	10 46		
	F	12 52		
		Seven Falls		
	e	10 36 26		
	e	10 39 44		
	e	10 45 45		
	L	11 01		
	F	12 45		
		Ottawa		
484 Oct. 6	e_Z	7 05 58		
	e	7 16		
	L	7 18		
	F	7 40		
		Victoria		
	e	7 00.5		
	L	7 03		
	F	8 00		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM October 6, 1941 to October 8, 1941 No. 69

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
485 Oct. 6	H	16 34.4	530	
	P_Z	16 35 39		
	S_Z	16 36 36		
	F	16 40		
		Seven Falls		
	H	16 34.4	50	
	P_1	16 34 36		
	S_1	16 34 42		
	F	16 37		
		Shawinigan Falls		
	H	16 34.4	210	
	P_2	16 35 00		
	S_2	16 35 24		
	F	16 37		
		Ottawa		
487 Oct. 8	H	4 22.1	4090	
	P	4 29 16		
	PP_N	4 30 41		
	S_E	4 35 09		
	eL	4 41		
	F	5 30		
		Victoria		
	e_E	4 38.5		
	L	4 51		
	F	5 25		
		Seven Falls		
	e	4 31.5		
	L	4 39		
	F	5 24		
		Ottawa		
488 Oct. 8	e_N	5 48.5		
	e_E	5 56		
	eL	6 11		
	F	7 13 ca.		
		Victoria		
	H	5 24.2	8000	
	P	5 35.5		
	S	5 44 56		
	L	5 57		
	F	7 01		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM October 8, 1941 to October 24, 1941 No. 70

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
488	e	5 49.4		
Oct.	L	6 14		
8	F	7 21		
(Cont'd)				
		Ottawa		
491	e_Z	20 06 27		
Oct.	e_Z	20 08 16		
12	F	20 13		
		Seven Falls		
	e	20 05.9		
	e	20 07.5		
	L	20 32		
	F	20 49		
		Shawinigan Falls		
	e	20 03.3		
	e	20 06 07		
	e	20 07 44		
	F	20 18		
		Ottawa		
496	e_Z	9 45 18		
Oct.	e	9 53 24		
15	L	10 04		
	F	10 16		
		Ottawa		
503	e_Z	6 10 54		Nearby quake.
Oct.	e	6 11 05		
21	e	6 11 09		
	F	6 15		
		Shawinigan Falls		
	e	6 11 17		
	e	6 11 43		
	F	6 14		
		Ottawa		
506	H	14 13.9	120	
Oct.	P_{2Z}	14 14 17.5		
24	S_{2Z}	14 14 31.5		
	F	14 16.5		
		Seven Falls		
	e	14 15 20		
	F	14 16		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM October 24, 1941 to October 31, 1941 No. 71

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
506	H	14 13.9	155	
Oct.	P_2	14 14 23		
24	S_2	14 14 41		
(Cont'd)	F	14 17		
		Ottawa		
509	e_Z	7 23 07		
Oct.	L	7 38		
27	F	7 45		
		Ottawa		
513	e_Z	6 33 35		
Oct.	L	7 25		
31	F	8 05		
		Ottawa		
514	H	12 41.2	3980	
Oct.	P_Z	12 48 14		
31	PPP_E	12 49 38		
	S_E	12 54 00		
	L	13 00		
	F	13 10+		
		Seven Falls		
	e	12 5?.7		
	L	13 03		
	F	13 30		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month October, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls M. S.	Seven Falls W. A.	Shawinigan	**
479	1	19 57+0 40u	19 50+0 46L	20 06+0 25u	19 53+0 19u	.....	20 10+0 32L	20 10+0 09L	.....	..
480	3	16 20+2 21R	16 15+1 40R	16 20+1 40R	16 17+1 09R	16 21+1 07R	16 21+2 46R	16 21+0 55R	16 20+0 43R	A
481	5	7 55+1 04L	8 18+0 47L	.....	.....	.....	8 00+1 00L	.....	.....	..
482	5	10 36+2 14u	10 23+2 29u	.....	.....	11 07+0 09L	10 36+2 09u	.....	.....	B
483	6	6 53+0 12L	6 34+0 11L	.....	.....	.....	6 57+0 06L	.....	.....	..
484	6	7 06+0 34r	7 00+1 00r	7 16+0 09L	7 08+0 10L	.....	7 21+0 15L	.....	.....	..
485	6	16 36+0 04v	.....	.....	.....	.....	.....	16 35+0 02d	16 35+0 02v	C
486	6	16 58+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
487	8	4 29+1 01r	4 38+0 46u	.....	.....	.....	4 31+0 52r	.....	4 30+0 03P	E
488	8	5 48+1 25u	5 35+1 26u	.....	.....	.....	5 49+1 32u	.....	.....	F
489	8	7 59+0 01P	.....	.....	.....	.....	.....	.....	8 00+0 02P	..
490	8	16 14+0 27L	16 13+0 23L	.....	.....	.....	16 18+0 19L	.....	.....	..
491	12	20 06+0 07r	.....	.....	.....	.....	20 32+0 17L	20 06+0 07r	20 03+0 15r	..
492	14	7 49+0 0.4P*	.....	.....	.....	.....	.....	.....	7 49+0 01P	..
493	14	10 33+0 03P*	.....	.....	.....	.....	.....	.....	10 34+0 02P	..
494	14	16 47+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
495	15	0 17+0 01P*	.....	.....	.....	.....	.....	.....	0 17+0 02P	..
496	15	9 45+0 31u	.....	.....	.....	.....	.....	.....	9 45+0 02P	..
497	16	5 32+0 11L	.....	.....	.....	.....	5 35+0 17L	.....	.....	..
498	16	16 10+0 42L	15 51+0 34L	.....	.....	.....	16 12+0 38L	.....	.....	..
499	16	.....	.....	.....	.....	.....	17 22+0 12L	.....	.....	..
500	20	21 35+0 46L	.....	.....	.....	.....	21 35+0 42L	.....	.....	..
501	21	3 48+0 01P*	.....	.....	.....	.....	4 19+0 04L	.....	.....	..
502	21	5 24+0 01v	.....	.....	.....	.....	.....	.....	.....	..
503	21	6 11+0 04v	.....	.....	.....	.....	.....	.....	6 11+0 03v	..
504	21	17 00+0 02P	.....	.....	.....	.....	.....	.....	17 00+0 03P	..
505	23	23 38+0 33L	23 21+0 56L	.....	.....	.....	23 39+0 34L	.....	.....	..
506	24	14 14+0 02v	.....	.....	.....	.....	.....	14 15+0 0.5v	14 14+0 03v	G
507	25	.....	.....	.....	.....	.....	1 08+0 16L	.....	.....	..
508	26	.....	.....	.....	.....	.....	16 39+0 07L	.....	.....	..
509	27	7 23+0 22r	7 24+0 08L	.....	.....	.....	.....	.....	.....	..
510	27	12 32+0 06L	12 15+0 16L	.....	.....	.....	.....	.....	.....	..

EARTHQUAKE CORRELATION TABLE

Month October, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
511	28	10 51+ 0 09L	10 36+0 16L	.....	.....	.....	.....	.....	.....	..
512	28	.....	11 44+0 06L	.....	.....	.....	.....	.....	.....	..
513	31	6 34+1 31u	7 23+0 23L	.....	.....	.....	7 15+0 44L	.....	.....	..
514	31	12 48+0 22r	12 44+0 28L	13 00+0 13L	.....	.....	12 53+0 37r	.....	.....	J
515	31	.....	17 35+0 25L	.....	.....	.....	17 52+0 48L	.....	.....	..

CORRELATION OF EARTHQUAKES
October, 1941

N O T E S

A :	Ottawa	Δ = 3910 km.	H = $16^h13^m.2$ U.T.
	Toronto	Δ = 3610 km.	H = 16 13.3 U.T.
	Saskatoon	Δ = 1900 km.	H = 16 13.2 U.T.
	Halifax	Δ = 4850 km.	H = 16 13.3 U.T.
	Seven Falls	Δ = 4260 km.	H = 16 13.2 U.T.
	Shawinigan Falls	Δ = 4200 km.	H = 16 13.2 U.T.
B :	Victoria	Δ = 8540 km.	H = $10^h11^m.3$ U.T.
C :	Ottawa	Δ = 530 km.	H = $16^h34^m.4$ U.T.
	Seven Falls	Δ = 50 km.	H = 16 34.4 U.T.
	Shawinigan Falls	Δ = 210 km.	H = 16 34.4 U.T.
E :	Ottawa	Δ = 4090 km.	H = $4^h22^m.1$ U.T.
F :	Victoria	Δ = 8000 km.	H = $5^h24^m.2$ U.T.
G :	Ottawa	Δ = 120 km.	H = $14^h13^m.9$ U.T.
	Shawinigan Falls	Δ = 155 km.	H = 14 13.9 U.T.
J :	Ottawa	Δ = 3980 km.	H = $12^h41^m.2$ U.T.

Dominion Observatory,
Ottawa, Canada,
January 14, 1942.

SEISMOLOGICAL BULLETINS RECEIVED
October, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
Pasadena	April to June, 1940	October	1
Santa Clara	January and August, 1941	"	6
Weston	Preliminary for September, 1941	"	6
Manila	July, 1941	"	8
Pasadena	Preliminary bulletin for August, 1941	"	10
New Zealand Stations	August, 1941	"	14
Brisbane	August, 1941	"	14
Georgetown	Seismological Despatches from November, 1940 to September, 1941	"	15
Helwan	June, 1941	"	16
India Stations	April to June, 1940	"	18
Sydney	May, 1941	"	18
San Fernando	January to June, 1941	"	20
State College	July, 1940 to June, 1941	"	23
Leningrad and Auxiliary Stations	May and June, 1941	"	27

DOMINION OBSERVATORY,
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

November

1941

DOMINION OBSERVATORY

OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.
Time correction within 0.10s.
Foundation: boulder clay over limestone
Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.
Time correction from recorded radio time signals
Foundation: Carbonaceous slate
Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.
Time correction from recorded radio time signals
Foundation: Solid granite of Canadian Shield
Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.
Time correction from recorded radio time signals
Foundation: rock
Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33!1 N. λ = 72°45!8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg.

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				5 mm.
BL (Ottawa)	1.0				16 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	65	Aper.		
SE (Saskatoon)	9.1	67	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 1, 1941 to November 6, 1941 No. 72

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
518 Nov. 5	e	17 59 00		
	e	18 09		
	e	18 15.5		
	e_N	18 20.0		
	L	18 36		
	F	19 40		
		Victoria		
	e	18 03		
	e_E	18 09.6		
	L	18 31		
	F	19 12		
		Toronto		
	e	17 59 03		
	e	18 09.0		
	e	18 16.2		
	L	18 37		
	F	19 22		
		Seven Falls		
	e	18 06 46		
	e	18 15 15		
	e	18 19.4		
	L	18 29		
	F	20 03		
		Ottawa		
519 Nov. 6	e_Z	7 25 01		
	e_E	7 34		
	e_N	7 41		
	L	7 57		
	F	9 11		
		Victoria		
	e	7 32.5		
	L	7 45		
	F	8 16		
		Ottawa		
521 Nov. 6	H	12 30.0	5700	USCGS. gives:
	P_Z	12 39 02		ϕ = 54° N.
	S	12 46 26		λ = 163° W.
	SS	12 50.2		
	eL	12 55		
	F	14 11		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 6, 1941 to November 8, 1941 No. 73

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
521 Nov. 6 (Cont'd)	H	12 30.2	2550	
	P	12 35 18		
	S	12 39 28		
	SS	12 40.6		
	L	12 42		
	F	14 33		
		Saskatoon		
	e	12 41 28		
	L	12 44		
	F	13 03		
		Halifax		
	e	12 47 52		
	L	13 00		
	F	13 22		
		Seven Falls		
	H	12 30.2	5720	
	P	12 39 16		
	S	12 46.7		
	SSS	12 50.8		
	L	12 54		
	F	14 07		
		Victoria		
523 Nov. 6	e	18 12.1		
	L	18 14		
	F	18 27		
		Ottawa		
525 Nov. 8	H	23 37.4	14,700	
	P'Z	23 56 38		
	PP	23 58 55		
	SKP	0 00 02		
	PPPE	0 02 04		
	SKKS	0 06 08		
	PPS	0 11 05		
	SS	0 16 24		
	SSS	0 21.6		
	eE	0 31.5		
	eL	0 40		
	F	2 42		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM November 8, 1941 to November 8, 1941 No. 74

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
525 Nov. 8 (Cont'd)	H	23 37.4	11,800	
	eP	23 51.7		
	PP	23 55 56		
	iSKS	0 02 14		
	PS	0 05 19		
	SS_E	0 10.4		
	SSS_E	0 14.2		
	e	0 20		
	L	0 26		
	F	2 54		
		Saskatoon		
	e	23 56.6		
	e_N	0 04 26		
	e	0 06 37		
	e_E	0 12.5		
	e_N	0 23.7		
	L	0 37		
	F	1 48		
		Halifax		
	e	23 59.3		
	e	0 00 18		
	e_E	0 17.1		
	L	0 32		
	F	1 39		
		Seven Falls		
	H	23 37.4	15,000	
	P'	23 56 41		
	SKP	23 59 59		
	S	0 07 29		
	PPS	0 11 56		
	SS	0 16.3		
	e	0 25.6		
	eL	0 32		
	F	3 03		
		Shawinigan Falls		
	H	23 37.4	14,800	
	P'	23 56 38		
	PP	23 59.0		
	SKP	23 59 58		
	SKKS	0 06 13		
	PPS	0 10.9		
	SS	0 17.6		
	L	0 50		
	F	1 31		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 8, 1941 to November 15, 1941 No. 75

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
526	e_Z	9 55 53		
Nov.	e_Z	9 56 18		
10	e_E	10 04 14		
	e	10 05 12		
	F	10 24		
		Seven Falls		
	e	9 55 45		
	e	10 04 34		
	e	10 05 53		
	eL	10 13		
	F	10 22		
		Ottawa		
527	e_Z	7 10 16		
Nov.	e_Z	7 12.3		
12	e_N	7 29.4		
	L	7 57		
	F	8 17		
		Seven Falls		
	e	7 28.8		
	L	7 49		
	F	8 19		
		Ottawa		
528	e	10 16 50		
Nov.	e	10 26.5		
12	L	10 43		
	F	11 11		
		Victoria		
	e	10 28.8		
	L	10 46		
	F	11 22		
		Seven Falls		
	e	10 16 29		
	e	10 26 06		
	L	10 40		
	F	11 21		
		Ottawa		
534	e	4 39 11		
Nov.	L	4 49		
15	F	5 04		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 15, 1941 to November 18, 1941 No. 76

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
535 Nov. 16	H	9 39.9	3580	USCGS. gives:
	P	9 46 26		ϕ = 13°.5 N.
	i	9 46 44		λ = 88° W.
	S	9 51 47		
	e_E	9 54.4		
	L	9 57		
	F	10 18		
		Seven Falls		
	e	9 46 53		
	e	9 48 22		
	e	9 55.5		
	eL	9 57		
	F	10 16		
		Ottawa		
536 Nov. 18	H	10 14.4	12,250	
	PP	10 33 25		
	PS_N	10 42 44		
	PPS	10 44		
	SS	10 48.5		
	e_E	11 00		
	eL	11 04		
	F	12 53		
		Victoria		
	e_E	10 36.0		
	e_E	10 43 48		
	e	10 56 50		
	L	11 08		
	F	12 50		
		Toronto		
	e	10 39		
	e	10 48		
	L	11 02		
	F	11 35		
		Ottawa		
537 Nov. 18	H	16 46.6	10,750	
	P	17 00 09		
	PP	17 04 18		
	S_E	17 11 34		
	PPS	17 13 06		
	SS	17 18 15		
	SSS	17 22.3		
	e	17 26 21		
	eL	17 32		
	F	19 38		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 18, 1941 to November 18, 1941 No. 77

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
537 Nov. 18 (Cont'd)	H	16 46.8	8140	
	P	16 58 18		
	iS	17 07 51		
	SSE	17 12 11		
	e	17 16.0		
	eL	17 19		
	F	20 36		
		Toronto		
	e	17 09.4		
	e	17 10 52		
	e	17 13 16		
	e	17 18 35		
	L	17 31		
	F	19 29		
		Saskatoon		
	H	16 46.6	9050	
	eP	16 58 53		
	eS	17 09 06		
	SS	17 14.3		
	SSS	17 18.2		
	eL	17 24		
	F	18 32		
		Halifax		
	H	16 46.6	11,250	
	PPN	17 04.5		
	SE	17 12 03		
	PSN	17 13.6		
	SS	17 19.1		
	e	17 28.7		
	eL	17 33		
	F	18 47		
		Seven Falls		
	H	16 46.6	10,900	
	P	17 00.1		
	PP	17 04.1		
	S	17 11 30		
	SS	17 18 33		
	e	17 30.1		
	eL	17 34		
	F	19 30		
		Shawinigan Falls		
	H	16 46.5	10,900	
	P	17 00 08		
	PP	17 04.4		
	PS	17 13 01		
	SS	17 18.4		
	eL	17 37		
	F	18 20		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 18, 1941 to November 25, 1941 No. 78

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
538 Nov. 19	e_Z	17 44 42		Nearby quake.
	e_Z	17 45 06		
	F	17 45.5		
		Ottawa		
544 Nov. 24	e_Z	16 57.2		
	e	17 01		
	L	17 46		
	F	18 43		
		Ottawa		
545 Nov. 24	H	21 46.3	13,000	USCGS. gives:
	P'_Z	22 05 02		ϕ = 28°.5 S.
	SKS_E	22 12.0		λ = 178° W.
	$SKKS_E$	22 13.2		
	S_N	22 14 13		
	PS	22 16 10		
	SS	22 22.4		
	eL	22 37		
	F	0 19		
		Victoria		
	H	21 46.4	10,140	
	P	21 59 25		
	S	22 10 25		
	SS	22 16.1		
	eL	22 23		
	F	0 37		
		Toronto		
	e	22 13.5		
	L	22 41		
	F	23 29		
		Seven Falls		
	H	21 46.4	13,350	
	PP	22 06.6		
	SKS	22 12 06		
	PS	22 16 30		
	SS	22 23.7		
	e	22 31.5		
	F	0 22		
		Ottawa		
547 Nov. 25	eZ	15 33.0		
	L	16 06		
	F	16 27		
		Victoria		
	e	15 39 43		
	L	16 04		
	F	16 27		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 25, 1941 to November 25, 1941 No. 79

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
548 Nov. 25	H	18 04.1	4570	USCGS. gives:
	iP	18 11 53		ϕ = 36°.5 N.
	PPP	18 13 48		λ = 19°.5 W.
	iS	18 18 14		
	SS	18 21 09		
	SSS	18 22 04		
	eL	18 24		
	F	22 42		
		Hamilton, Ont.		
		Courtesy of Mr. E. Mantle		
	H	18 04.1	5020	
	iP	18 12 20		
	PPP	18 14 42		
	iS	18 19 06		
	SS	18 22 23		
	eL	18 25.3		
	F	20 30		
		Victoria		
	H	18 03.8	8160	
	P	18 15 17		
	S	18 24 51		
	SS	18 29 39		
	SSS	18 32.6		
	eL	18 38		
	F	23 12		
		Toronto		
	H	18 04.1	4940	
	P	18 12 16		
	S	18 18 57		
	SSS	18 23.6		
	eL	18 25		
	F	22 29		
		Saskatoon		
	H	18 04.0	6780	
	P	18 14 11		
	PP_E	18 16 26		
	PPP	18 17 59		
	iS	18 22 36		
	SS_N	18 26.5		
	eL	18 31		
	F	20 15		
		Halifax		
	H	18 04.2	3540	
	P	18 10 40		
	S	18 15 58		
	eL	18 18		
	F	21 53		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM November 25, 1941 to November 30, 1941 No. 80

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
548 Nov. 25 (Cont'd)	H	18 04.1	4170	
	P	18 11 21		
	e	18 11 57		
	eS	18 17 19		
	eL	18 22		
	F	22 30		
		Shawinigan Falls		
	H	18 04.1	4350	
	P	18 11 37		
	PPP	18 13.6		
	S	18 17 46		
	SS	18 20 39		
	SSS	18 21 37		
	L	18 23		
	F	19 55		
		Ottawa		
550 Nov. 27	e_Z	8 56 02		
	e	8 59 50		
	e_N	9 01 40		
	e	9 11		
	e	9 16.8		
	F	10 25		
		Victoria		
	e_E	8 57.2		
	e	9 05.1		
	e_E	9 08 19		
	L	9 12		
	F	10 06		
		Seven Falls		
	e	8 52.3		
	e	8 59.7		
	L	9 17		
	F	10 32		

W. W Doxsee

EARTHQUAKE CORRELATION TABLE

Month November, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
516	5	14 04+0 42L	13 54+0 24L	.....	.....	.....	14 06+1 15L	.....	.....	..
517	5	15 16+0 07L	.....	.....	.....	.....	.....	.....	.....	..
518	5	17 59+1 41u	18-03+1 09u	17 59+1 23u	.....	18 38+0 28L	18 07+1 56u	.....	.....	..
519	6	7 25+1 46u	7 32+0 44u	8 00+0 24L	.....	.....	7 34+1 04L	.....	7 25+0 03P	..
520	6	.....	9 19+0 15L	.....	.....	.....	8 54+0 22L	.....	.....	..
521	6	12 39+1 32u	12 35+1 58r	.....	12 41+0 22r	12 48+0 34u	12 47+1 21u	12 39+0 29u	12 39+0 08P	A
522	6	17 50+0 13L	17 33+0 30L	.....	17 40+0 05L	.....	17 52+0 13L	17 52+0 07L	17 52+0 05L	..
523	6	18 30+0 08L	18 12+0 15r	.....	18 19+0 09L	.....	18 32+0 13L	18 32+0 05L	18 30+0 05L	..
524	8	7 59+0 02P	.....	.....	.....	.....	.....	.....	.....	..
525	8	23 57+2 45U	23 52+3 02U	.....	23 57+1 51U	23 59+1 40U	0 00+3 02U	23 57+1 34U	23 57+1 34U	B
526	10	9 56+0 28u	10 08+0 11L	.....	.....	.....	10 05+0 17u	9 56+0 03P	9 56+0 05P	..
527	12	7 10+1 07u	7 56+0 11L	.....	.....	.....	7 29+0 50u	.....	7 10+0 03P	..
528	12	10 17+0 54u	10 29+0 53u	.....	.....	.....	10 16+1 05u	10 17+0 02P	10 17+0 02P	..
529	12	15 04+0 01P	.....	.....	.....	.....	.....	.....	15 04+0 01P	..
530	14	.....	.....	.....	.....	.....	4 01+0 28L	.....	.....	..
531	14	7 01+0 02P	.....	.....	.....	.....	7 11+0 27L	.....	7 01+0 02P	..
532	14	9 00+0 14L	8 51+0 11L	8 59+0 14L	.....	.....	9 02+0 22L	9 02+0 08L	9 01+0 06L	..
533	15	0 36+0 0.2P	.....	.....	.....	.....	.....	.....	.....	..
534	15	4 39+0 25u	4 41+0 17L	.....	.....	.....	4 49+0 44L	.....	4 39+0 01P	..
535	16	9 46+0 32r	9 58+0 30L	.....	.....	.....	9 48+0 28r	9 47+0 03P	9 47+0 10P	C
536	18	10 33+2 20u	10 36+2 14u	10 39+0 56u	.....	10 58+0 09L	10 59+0 42u	.....	.....	E
537	18	17 00+2 38U	16 58+3 38U	17 09+2 20U	16 59+1 33U	17 05+1 42U	17 04+2 26U	17 00+1 29U	17 00+1 20U	F
538	19	17 45+0 01v	.....	.....	.....	.....	.....	.....	.....	..
539	20	.....	.....	.....	.....	.....	16 24+0 28L	.....	.....	..
540	22	.....	.....	.....	.....	.....	5 49+0 05L	.....	.....	..
541	22	.....	7 53+0 58L	.....	.....	.....	8 31+0 17L	.....	.....	..
542	23	.....	.....	.....	.....	.....	17 05+0 11L	.....	.....	..

EARTHQUAKE CORRELATION TABLE

Month Novemoer, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
543	24	16 13+0 01P	.....	.....	.....	.....	.....	.....	.....	..
544	24	16 57+1 40u	18 08+0 31L	17 59+0 14L	.....	.....	17 45+1 10L	.....	.....	..
545	24	22 05+2 14u	21 59+2 38u	22 13+1 16u	.....	22 48+0 28L	22 07+2 15u	.....	.....	G
546	24	22 15+0 03P	.....	.....	.....	.....	.....	.....	.....	..
547	25	15 33+1 03u	15 40+0 47u	16 21+0 05L	.....	.....	16 08+0 15L	.....	.....	..
548	25	18 12+4 30R	18 15+4 57U	18 12+4 17R	18 14+2 01U	18 11+3 42R	18 11+4 20R	18 11+1 58R	18 12+1 43R	J
549	26	8 43+0 12L	8 44+0 11L	.....	.....	.....	8 46+0 13L	.....	.....	..
550	27	8 56+1 29u	8 57+1 09u	.....	.....	.....	9 00+1 32u	8 52+0 05P	8 56+0 12P	..

CORRELATION OF EARTHQUAKES
November, 1941

N O T E S

A :	Ottawa	Δ = 5700 km.	H = $12^h30^m.0$ U.T.
	Victoria	Δ = 2550 km.	H = 12 30.2 U.T.
	Seven Falls	Δ = 5720 km.	H = 12 30.2 U.T.
B :	Ottawa	Δ = 14,700 km.	H = $23^h37^m.4$ U.T.
	Victoria	Δ = 11,800 km.	H = 23 37.4 U.T.
	Seven Falls	Δ = 15,000 km.	H = 23 37.4 U.T.
	Shawinigan Falls	Δ = 14,800 km.	H = 23 37.4 U.T.
C :	Ottawa	Δ = 3580 km.	H = $9^h39^m.9$ U.T.
E :	Ottawa	Δ = 12,250 km.	H = $10^h14^m.4$ U.T.
F :	Ottawa	Δ = 10,750 km.	H = $16^h46^m.6$ U.T.
	Victoria	Δ = 8140 km.	H = 16 46.8 U.T.
	Saskatoon	Δ = 9050 km.	H = 16 46.6 U.T.
	Halifax	Δ = 11,250 km.	H = 16 46.6 U.T.
	Seven Falls	Δ = 10,900 km.	H = 16 46.6 U.T.
	Shawinigan Falls	Δ = 10,910 km.	H = 16 46.5 U.T.
G :	Ottawa	Δ = 13,000 km.	H = $21^h46^m.3$ U.T.
	Victoria	Δ = 10,140 km.	H = 21 46.4 U.T.
	Seven Falls	Δ = 13,350 km.	H = 21 46.4 U.T.
J :	Ottawa	Δ = 4570 km.	H = $18^h04^m.1$ U.T.
	Hamilton	Δ = 5020 km.	H = 18 04.1 U.T.
	Victoria	Δ = 8160 km.	H = 18 03.8 U.T.
	Toronto	Δ = 4940 km.	H = 18 04.1 U.T.
	Saskatoon	Δ = 6780 km.	H = 18 04.0 U.T.
	Halifax	Δ = 3540 km.	H = 18 04.2 U.T.
	Seven Falls	Δ = 4170 km.	H = 18 04.1 U.T.
	Shawinigan Falls	Δ = 4350 km.	H = 18 04.1 U.T.

Dominion Observatory,
Ottawa, Canada,
February 3, 1942.

SEISMOLOGICAL BULLETINS RECEIVED

November, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
Pasadena	Preliminary Bulletin No. 30 for September, 1941	November	3
Perth	June to August, 1941	"	3
Strasbourg and U.G.G.I.	May and June, 1941	"	6
Santa Clara	September, 1941	"	7
Perth	September, 1941	"	10
Manila	August, 1941	"	12
New Zealand Stations	September, 1941	"	12
Brisbane	September, 1941	"	17
Weston	Preliminary for October, 1941	"	19
Bucarest	May, 1941	"	25
Budapest	January to June, 1941	"	25
Taihoku	June, 1941	"	26
United States Coast and Geodetic Survey	November and December, 1939	"	26

DOMINION OBSERVATORY
OTTAWA - CANADA.

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

December

1941

DOMINION OBSERVATORY

OTTAWA, CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

R. Meldrum Stewart, Dominion Astronomer
Ernest A. Hodgson, Seismologist
W. W. Doxsee, Station Superintendent

S T A T I O N S

OTTAWA

ϕ = 45°23'38" N. λ = 75°42'57" W. h = 83m.
Time correction within 0.10s.
Foundation: boulder clay over limestone
Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

ϕ = 44°38' N. λ = 63°36' W. h = 46m.
Time correction from recorded radio time signals
Foundation: Carbonaceous slate
Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200g.

SEVEN FALLS

Quebec Power Company

ϕ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.
Time correction from recorded radio time signals
Foundation: Solid granite of Canadian Shield
Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

ϕ = 48°31'14" N. λ = 123°24'56" W. h = 197m.
Time correction from recorded radio time signals
Foundation: rock
Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Wiechert Vertical, designated WV, smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 80 kg.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

ϕ = 46°33'.1 N. λ = 72°45'.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

ϕ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instruments: Mainka NS and EW components, designated SN and SE, respectively, each with smoked sheet registration, air damping, paper speed of 15 mm. per min., mass 139 kg,

TORONTO

ϕ = 43°40' N. λ = 79°24' W. h = 111m.

Time correction from radio time signals

Foundation: sand and clay

Instrument: Milne-Shaw NS component, designated 18, photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

KIRKLAND LAKE

Lake Shore Mines

ϕ = 48°09' N. λ = 80°03' W. h = 320m.

Time correction from recorded radio time signals

Foundation: rock

Instrument: Converted Heiland Field Seismometer, vertical component, designated KL, photographic registration, paper speed of 30 mm. per min.

DETERMINED CONSTANTS

INSTRUMENT	T_o	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10^{-6} g
17 (Ottawa)	12.0	300	20:1	50 mm.	
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				5 mm.
BL (Ottawa)	1.0				16 mm.
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2200			
18 (Toronto)	10.0	165	20:1	20 mm.	
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
WV (Victoria)	4.0	120	15:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
SN (Saskatoon)	9.1	65	Aper.		
SE (Saskatoon)	9.1	67	"		
KL (Kirkland Lake)	1/30	2×10^4 at 30 cycles			

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 1, 1941 to December 5, 1941 No. 81

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
551 Dec. 1	e	20 26.6		
	L	21 01		
	F	21 48		
		Seven Falls		
	e	20 28.9		
	e	20 38.6		
	L	20 45		
	F	21 17		
		Ottawa		
555 Dec. 5	H	20 46.8	4280	USCGS. gives:
	iP	20 54 11		ϕ = 8° N.
	PPP	20 55 48		λ = 83° W.
	iS	21 00 16		
	SS_N	21 02 58		
	SSS_E	21 03 20		
	i_N	21 03 42		
	eL	21 05		
	F	1 38 ca		
		Victoria		
	H	20 46.3	5680	
	P	20 55 16		
	S	21 02 39		
	e	21 05 25		
	SSS_N	21 08		
	eL	21 10		
	F	0 51		
		Toronto		
	H	20 47.0	3890	
	P	20 53 54		
	PPP	20 55 27		
	S	20 59.6		
	SS	21 02.1		
	L	21 04		
	F	0 24		
		Saskatoon		
	H	20 47.3	5110	
	P	20 55 40		
	PPP	20 57 52		
	S	21 02 31		
	SSS	21 06 44		
	eL	21 08		
	F	22 30		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 5, 1941 to December 6, 1941 No. 82

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Halifax		
555 Dec. 5 (Cont'd)	H	20 46.5	4850	
	P	20 54 33		
	e	20 54 57		
	PP	20 56 26		
	S	21 01 09		
	SS	21 04		
	L	21 06		
	F	0 07		
		Seven Falls		
	H	20 46.9	4500	
	P	20 54 34		
	PPP	20 56 31		
	S	21 00 52		
	SS	21 04 00		
	L	21 08		
	F	1 22		
		Shawinigan Falls		
	H	20 47.0	4280	
	P	20 54 25		
	PPP	20 56 10		
	S	21 00 30		
	SSS	21 03.9		
	eL	21 06		
	F	23 09		
		Ottawa		
558 Dec. 6	e	1 32 04		
	e	1 37.4		
	eL	1 40		
	F	2 43		
		Toronto		
	e	1 37		
	L	1 43		
	F	2 30		
		Seven Falls		
	e	1 32.1		
	e	1 34.2		
	L	1 38		
	F	2 57		
		Shawinigan Falls		
	e	1 32.4		
	L	1 45		
	F	1 55		
		Ottawa		
561 Dec. 6	e_E	7 28 30		
	L	7 31		
	F	7 50		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 6, 1941 to December 6, 1941 No. 83

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
562 Dec. 6	eZ	9 47 25		
	L	10 02		
	F	10 11		
		Ottawa		
563 Dec. 6	H	21 24.8	4120	USCGS. gives:
	P	21 31 57		ϕ = 8° N.
	PPP	21 33 29		λ = 83° W.
	S	21 37 52		
	eL	21 43		
	F	0 06		
		Victoria		
	H	21 25	5650	
	P	21 33 59		
	S	21 41 21		
	L	21 50		
	F	23 22 ca.		
		Toronto		
	H	21 24.8	3790	
	P	21 31 35		
	S	21 37 09		
	L	21 41		
	F	23 15		
		Saskatoon		
	H	21 24.6	5465	
	P	21 33 23		
	S	21 40.5		
	SS	21 43 18		
	L	21 51		
	F	22 26		
		Halifax		
	H	21 24.5	4650	
	P	21 32 22		
	PPP	21 34.3		
	S	21 38 47		
	eL	21 43		
	F	23 01		
		Seven Falls		
	H	21 24.6	4565	
	P	21 32 21		
	PPP	21 34.1		
	S	21 38 42		
	SSS	21 42.1		
	eL	21 44		
	F	0 11		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 6, 1941 to December 8, 1941 No. 84

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
563 Dec. 6 (Cont'd)	H	21 24.7	4400	
	P	21 32 13		
	PP	21 33.8		
	S	21 38 26		
	L	21 45		
	F	22 39		
		Ottawa		
564 Dec. 6 and 7	H	23 54.7	4120	
	P	0 01 53		
	PPP_N	0 03 19		
	S	0 07 48		
	L	0 13		
	F	0 42		
		Toronto		
	e	0 02		
	L	0 13		
	F	0 22		
		Ottawa		
565 Dec. 7	e_Z	0 32 27		
	L	0 43		
	F	1 00		
		Ottawa		
566 Dec. 7	e_Z	4 30 16		
	L	4 42		
	F	4 51		
		Ottawa		
567 Dec. 7	e_Z	11 49 11		
	e_N	11 51 38		
	e	11 55.0		
	L	12 00		
	F	12 21		
		Seven Falls		
	e	11 55.7		
	L	12 03		
	F	12 19		
		Ottawa		
568 Dec. 8	H	7 41.3	4080	
	P_Z	7 48 29		
	PP	7 49 34		
	S	7 54 21		
	L	8 00		
	F	8 57		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 8, 1941 to December 16, 1941 No. 85

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
568 Dec. 8 (Cont'd)	e	7 55.1		
	L	7 59		
	F	8 33		
		Ottawa		
571 Dec. 12	H	23 28.9	155	
	P_2	23 29 23		
	S_2	23 29 41		
	F	23 31		
		Shawinigan Falls		
	H	23 28.9	210	
	P_2	23 29 29		
	S_2	23 29 53		
	F	23 31		
		Ottawa		
572 Dec. 13	e_Z	6 27 33		
	L	6 57		
	F	7 06		
		Ottawa		
573 Dec. 13	e_Z	11 10.6		
	L	11 22		
	F	11 35		
		Seven Falls		
	e	11 20.4		
	L	11 26		
	F	11 48		
		Ottawa		
577 Dec. 16	e_Z	19 38.2		
	e	19 43		
	e	19 48.3		
	e	19 57		
	L	20 09		
	F	21 27		
		Victoria		
	H	19 20.2	9360	
	P	19 32 41		
	S	19 43 08		
	L	20 01		
	F	21 00 ca.		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 16, 1941 to December 26, 1941 No. 86

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Toronto		
577 Dec. 16 (Cont'd)	e	19 48.4		
	L	20 15		
	F	21 05		
		Seven Falls		
	e	19 47.8		
	e	19 54.5		
	L	20 12		
	F	21 06		
		Ottawa		
579 Dec. 20	e	15 58		
	L	16 09		
	F	16 46		
		Ottawa		
581 Dec. 24	e_Z	3 40 58		
	L	3 51		
	F	4 13		
		Ottawa		
582 Dec. 24	e_Z	12 08 43		
	L	12 19		
	F	12 41		
		Ottawa		
583 Dec. 24	e_Z	15 05 45		
	L	15 34		
	F	17 17		
		Ottawa		
584 Dec. 26	e	15 14.5		
	e_E	15 23		
	e_E	15 34		
	e_L	15 43		
	F	17 05		
		Victoria		
	e	15 12.6		
	e_E	15 24.4		
	L	15 36		
	F	16 41		
		Toronto		
	e	15 18.7		
	L	15 43		
	F	16 56		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM December 26, 1941 to December 31, 1941 No. 87

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
584 Dec. 26 (Cont'd)	e	15 14.9		
	L	15 33		
	F	17 05		
		Ottawa		
585 Dec. 27	H	18 17.6	5300	
	P_Z	18 26 12		
	PP_Z	18 27 35		
	S	18 33 14		
	SS_E	18 36.6		
	eL	18 40		
	F	19 09		
		Seven Falls		
	H	18 17.5	5010	
	P	18 25 43		
	S	18 32.5		
	L	18 40		
	F	18 51		
		Ottawa		
591 Dec. 31	H	17 36.3	5110	
	P	17 44 43		
	PP	17 46 34		
	S	17 51 34		
	SS	17 54 34		
	eL	17 58		
	F	18 28		
		Victoria		
	e	17 55 00		
	L	18 06		
	F	18 28		
		Seven Falls		
	H	17 36.3	5450	
	P	17 45 02		
	S	17 52.2		
	SS	17 54.7		
	L	17 56		
	F	18 26		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE

Month December, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
551	1	20 41+0 40L	20 27+1 21u	.....	.....	.....	20 29+0 48u	.....	.....	..
552	2	.....	14 04+0 07L	.....	.....	.....	.....	.....	.....	..
553	3	9 52+0 05L	.....	.....	.....	.....	.....	.....	.....	..
554	4	18 19+0 01P	.....	.....	.....	.....	.....	.....	.....	..
555	5	20 54+4 44R	20 55+3 56U	20 54+3 30R	20 56+1 34U	20 55+3 12R	20 55+4 27R	20 55+2 12R	20 54+2 15R	A
556	5	21 41+0 05P	.....	.....	.....	.....	.....	21 42+0 03P	21 42+0 04P	..
557	5	22 20+0 01P*	.....	.....	.....	.....	.....	.....	.....	..
558	6	1 32+1 11r	1 48+0 44L	1 37+0 53r	.....	1 43+0 22L	1 34+1 23r	1 32+0 21r	1 32+0 23r	..
559	6	1 38+0 01P	.....	.....	.....	.....	.....	.....	.....	..
560	6	1 57+0 01P	.....	.....	.....	.....	.....	.....	.....	..
561	6	7 28+0 22u	.....	.....	.....	.....	7 30+0 37L	.....	.....	..
562	6	9 47+0 24u	.....	.....	.....	.....	10 02+0 09L	.....	.....	..
563	6	21 32+2 34R	21 34+1 48U	21 32+1 43R	21 33+0 53U	21 32+1 29R	21 32+2 39R	21 32+1 03R	21 32+1 07R	B
564	7	0 02+0 40r	.....	0 02+0 20r	.....	.....	0 11+0 35L	.....	0 02+0 03P	C
565	7	0 32+0 28r	.....	0 46+0 08L	.....	.....	0 46+0 18L	.....	0 33+0 02P	..
566	7	4 30+0 21r	.....	.....	.....	.....	4 44+0 08L	.....	.....	..
567	7	11 49+0 32r	.....	12 03+0 06L	.....	.....	11 56+0 23r	.....	.....	..
568	8	7 48+1 09r	8 10+0 39L	7 54+0 29L	.....	8 03+0 08L	7 55+0 38r	.....	7 49+0 02P	E
569	8	13 29+0 06L	.....	.....	.....	.....	13 30+0 03L	.....	.....	..
570	9	.....	.....	.....	.....	.....	3 48+0 31L	.....	.....	..
571	12	23 29+0 02v	.....	.....	.....	.....	.....	.....	23 29+0 02v	G
572	13	6 28+0 38r	.....	.....	.....	.....	6 53+0 15L	.....	.....	..
573	13	11 11+0 24r	.....	.....	.....	.....	11 20+0 28r	.....	.....	..
574	14	6 26+0 02P	.....	.....	.....	.....	.....	.....	6 26+0 02P	..
575	14	9 31+0 01P	.....	.....	.....	.....	.....	.....	.....	..
576	15	.....	.....	.....	.....	.....	.....	.....	21 51+0 01P	..
577	16	19 38+1 49u	19 33+1 27u	19 48+1 17u	20 12+0 22L	.....	19 48+1 18u	.....	.....	J
578	19	.....	1 12+0 05L	.....	.....	.....	.....	.....	.....	..
579	20	15 58+0 48u	15 54+0 25L	.....	.....	.....	16 12+0 27L	.....	.....	..
580	21	5 49+0 03P*	.....	.....	.....	.....	.....	.....	.....	..
581	24	3 41+0 32u	3 49+0 08L	.....	.....	.....	3 54+0 22L	.....	3 53+0 06L	..
582	24	12 09+0 32u	12 17+0 07L	.....	12 19+0 07L	.....	.....	.....	12 21+0 05L	..

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Month December, 1941

No.	Date	Ottawa	Victoria	Toronto	Saskatoon	Halifax	Seven Falls		Shawinigan	**
							M. S.	W. A.		
583	24	15 06+2 11u	.....	.....	.....	.....	15 51+0 35L	.....	.....	..
584	26	15 14+1 51u	15 13+1 28u	15 19+1 37u	.....	.....	15 15+1 50u	.....	.....	..
585	27	18 26+0 43u	.....	.....	.....	.....	18 32+0 19u	18 26+0 05P	18 26+0 06P	K
586	29	1 46+0 01P	.....	.....	.....	.....	.....	.....	.....	..
587	29	6 19+0 15L	6 01+0 29L	.....	.....	.....	6 21+0 22L	.....	.....	..
588	29	.....	7 16+0 20L	.....	.....	.....	7 49+0 40L	.....	.....	..
589	31	7 06+0 09L	6 55+0 13L	.....	.....	.....	7 08+0 08L	.....	.....	..
590	31	17 41+0 01P	.....	.....	.....	.....	.....	.....	.....	..
591	31	17 45+0 43u	17 55+0 33u	18 00+0 08L	.....	.....	17 52+0 34u	17 45+0 03P	17 45+0 08P	N
592	31	17 52+0 02P	.....	.....	.....	.....	.....	.....	.....	..
593	31	20 06+0 22L	.....	.....	.....	.....	20 02+0 30L	.....	.....	..

CORRELATION OF EARTHQUAKES
December, 1941

N O T E S

A :	Ottawa	Δ = 4280 km.	H = $20^h46^m.8$ U.T.
	Victoria	Δ = 5680 km.	H = 20 46.3 U.T.
	Toronto	Δ = 3890 km.	H = 20 47.0 U.T.
	Saskatoon	Δ = 5110 km.	H = 20 47.3 U.T.
	Halifax	Δ = 4850 km.	H = 20 46.5 U.T.
	Seven Falls	Δ = 4500 km.	H = 20 46.9 U.T.
	Shawinigan Falls	Δ = 4280 km.	H = 20 47.0 U.T.
B :	Ottawa	Δ = 4120 km.	H = $21^h24^m.8$ U.T.
	Victoria	Δ = 5650 km.	H = 21 25 U.T.
	Toronto	Δ = 3790 km.	H = 21 24.8 U.T.
	Saskatoon	Δ = 5465 km.	H = 21 24.6 U.T.
	Halifax	Δ = 4650 km.	H = 21 24.5 U.T.
	Seven Falls	Δ = 4565 km.	H = 21 24.6 U.T.
	Shawinigan Falls	Δ = 4400 km.	H = 21 24.7 U.T.
C :	Ottawa	Δ = 4120 km.	H = $21^h24^m.7$ U.T.
E :	Ottawa	Δ = 4080 km.	H = $7^h41^m.3$ U.T.
G :	Ottawa	Δ = 155 km.	H = $23^h28^m.9$ U.T.
	Shawinigan Falls	Δ = 210 km.	H = 23 28.9 U.T.
J :	Victoria	Δ = 9360 km.	H = $19^h20^m.2$ U.T.
K :	Ottawa	Δ = 5300 km.	H = $18^h17^m.6$ U.T.
	Seven Falls	Δ = 5010 km.	H = 18 17.5 U.T.
N :	Ottawa	Δ = 5110 km.	H = $17^h36^m.3$ U.T.
	Seven Falls	Δ = 5450 km.	H = 17 36.3 U.T.

Dominion Observatory,
Ottawa - Canada,
February 23, 1942.

SEISMOLOGICAL BULLETINS RECEIVED
December, 1941

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATIONS	BULLETINS	RECEIVED	
Ksara	Year 1938	December	3
Manila	September, 1941	"	4
Zurich	July 30 to September 30, 1941	"	5
Sydney	July and August, 1941	"	6
Riverview	July to September, 1941	"	8
Brisbane	October, 1941	"	8
New Zealand Stations	October, 1941	"	8
Pasadena	July to September, 1940 and Preliminary for October, 1941	"	15
Santa Clara	October, 1941	"	16
Strasbourg and Bureau Central	July and August, 1941	"	17
Saint Louis and Auxiliary Stations	Supplement to August and preliminaries for September 4, 9, 12, 13, 18, 24, 25 and November 25, 1941	"	18
Leningrad and Auxiliary Stations	July, 1941	"	18

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