

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM January 1, 1948 to January 4, 1948 No. 1

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
2 Jan. 1		Ottawa			
	H	18 33.8	430	Felt at St. Anne-de-Beaupre, Quebec. Epicentre $\phi = 47^{\circ}20' N.$ $\lambda = 70^{\circ}55' W.$	
	P ₃	18 34 48.5			
	P ₂	18 34 56			
	S ₃	18 35 35			
	S ₁	18 35 55			
	F ₁	18 44			
			Seven Falls		
	H	18 33.8	25		
	P ₁	18 33 53			
	S ₁	18 33 58			
	F ₁	18 37			
			Shawinigan Falls		
				188	
	H	18 33.8			
P ₂	18 34 17.3				
P ₁	18 34 20.6				
S ₃	18 34 36.8				
S ₁	18 34 42.8				
F ₁	18 44				
		Seven Falls			
3 Jan. 1	H	18 44.8	25		
	P ₁	18 44 51			
	S ₁	18 44 54.3			
	F ₁	18 45.4			
		Ottawa			
6 Jan. 3	H	22 08.3	150		
	P ₂	22 08 39.5			
	S ₂	22 08 57			
	e ₂	22 09 06			
	F	22 10			
		Ottawa			
7 Jan. 4	iZ	9 14 09		USCGS gives: $\phi = 21^{\circ} 3.$ $\lambda = 180^{\circ}$ $d = 600 \text{ km.}$	
	L	9 21			
	F	9 42			
			Victoria		
	i	9 17 26			
	i _E	9 21 19			
	F _E	9 25			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM January 4, 1948 to January 6, 1948 No. 2

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
9 Jan. 4	H P ₂ S ₂ F ₂	14 57.8 14 58 25 14 58 50 14 59.5	220	
		Ottawa		
11 Jan. 6	H P e S L F	17 23.5 17 30 09 17 32 44 17 35 35 17 38 24 19 25	3,650	USCGS gives:- φ = 16°5 N. λ = 98° W.
		Ottawa		
	H P PPP S L F	17 23.3 17 30 24 17 32 00 17 36 15 17 42 18 20+	4,060	
		Victoria		
	H P PPP S SSS L F	17 23.4 17 30 21 17 31 43 17 36 04 17 38 43 17 44 18 18+	3,920	
		Saskatoon		
	H P PP S SS L F	17 23.2 17 30 58 17 32 34 17 37 22 17 40.0 17 46 18 41	4,620	
		Halifax		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 6, 1948 to January 6, 1948 No. 3

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
11 Jan. 6 (cont'd)		Seven Falls		
	H	17 23.3	4,230	
	P	17 30 38		
	PP	17 32 12		
	e	17 34 36		
	S	17 36 40		
	SS	17 39 32		
	L	17 43		
	F	19 48		
		Shawinigan Falls		
	H	17 23.3	4,140	
	P	17 30 30		
	e	17 33 01		
S	17 36 26			
SS	17 38 57			
L	17 43			
F	18 45			
	Ottawa			
16 Jan. 6	H	20 46.9	490	
	P ₂	20 48 12		
	S ₃	20 48 55.5		
	S ₂	20 49 07		
	e	20 49 13.5		
	F	20 52		
		Seven Falls		
	H	20 46.8	245	
	P ₂	20 47 28		
	S ₂	20 47 55.5		
S ₁	20 47 58			
F ₁	20 50			
	Shawinigan Falls			
H	20 46.8	330		
P ₂	20 47 39.5			
S ₂	20 48 16			
S ₁	20 48 21.5			
F ₁	20 51			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM January 6, 1948 to January 16, 1948 No. 4

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
17 Jan. 7	H P ₂ S ₂ e F	20 15.0 20 15 24.5 20 15 41.5 20 15 50 20 16.1	150	
		Victoria		
23 Jan. 10	e L F	5 38.0 5 51 6 34		USCGS gives:- $\varphi = 20^{\circ}$ S. $\lambda = 169^{\circ}$ E.
		Ottawa		
25 Jan. 14	H P ₂ S SS SSS L F	2 26.0 2 36 00 2 44 16 2 48.4 2 50.6 2 56 3 40	6,620	USCGS gives:- $\varphi = 10^{\circ}$ S. $\lambda = 109^{\circ}$ W.
		Victoria		
	e L F	2 43 46 2 50 3 55		
		Ottawa		
26 Jan. 14	H P ₂ S ₂ e F	19 17.1 19 17 30 19 17 47.5 19 17 56 19 18.5	150	
		Ottawa		
28 Jan. 16	H P ₂ P ₁ e S ₃ S ₂ S ₁ F	6 03.3 6 05 16.5 6 05 40 6 05 48.5 6 06 22 6 06 46 6 07 12 6 09.5	780	Epicentre probably east of the Sague- nay River and north of the St. Lawrence River.

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM January 16, 1948 to January 16, 1948 No. 5

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
28 Jan. 16 (cont'd)		Seven Falls			
	H	6 03.2	250		
	P ₂	6 03 50.5			
	P ₁	6 03 54.5			
	S ₃	6 04 14.8			
	S ₂	6 04 19			
	e	6 04 32			
	F	6 07			
		Shawinigan Falls			
	H	6 03.2	445		
P ₂	6 04 23.5				
e	6 04 56.5				
S ₃	6 05 00				
S ₂	6 05 13.5				
e	6 05 27				
F	6 08				
	Ottawa				
29 Jan. 16	H	11 08.8	7,080	USCGS gives:- $\phi = 52^{\circ}$ N. $\lambda = 172^{\circ}$ E. h = 100 km.	
	P _Z	11 19 18			
	S	11 28.0			
	SSS _E	11 35			
	L	11 40			
	F	12 17			
		Victoria			
	H	(11 08.1)	4,380		No clock correction.
	P _E	11 15 34			
	P _P	11 17 15			
S _N	11 21 45				
S _S	11 24.4				
L	11 27				
F	13 10				
	Saskatoon				
e	11 24				
L	11 31				
F	12 32				
	Seven Falls				
e	11 19 26				
L	11 30				
F	12 45				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM	January 16, 1948	to	January 20, 1948	No. 6	
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
31 Jan. 17		Ottawa			
	H	7 12 ca	11,700 ca	USCGS gives:- $\varphi = 15^\circ \text{ N.}$ $\lambda = 147^\circ \text{ E.}$ $h = 100 \text{ km.}$	
	PP _E	7 30.5			
	SKS	7 36 10			
	S _E	7 37 30			
	PS _E	7 39 16			
	SS _E	7 44 52			
	SSS _N	7 49.0			
	L	8 00			
	F	9 09			
		Victoria			
	H	(7-11.5)	8,250		No clock correction.
	P	7 23.0			
	S	7 32 38			
SS	7 37.6				
L	7 43				
F	9 09				
	Saskatoon				
i	7 34 19				
l	7 47				
F	8 45				
	Seven Falls				
e	7 39.6				
e	7 45.5				
L	7 55				
F	8 28				
	Ottawa				
32 Jan. 17	H	16 35.5	150		
	P ₂	16 35 56			
	S ₂	16 36 13.5			
	e	16 36 21			
	F	16 36.7			
	Ottawa				
35 Jan. 20	H	9 44.0	13,700	USCGS gives:- $\varphi = 33^\circ \text{ S.}$ $\lambda = 179^\circ \text{ E.}$	
	P ₁	10 02 58			
	PP	10 04 33			
	PS _E	10 14 28			
	SS _E	10 21 32			
	L	10 38			
	F	11 40			

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 20, 1948 to January 24, 1948 No. 7

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
35 Jan. 20 (cont'd)	e _N	10 04.2		
	e _N	10 07.8		
	e _E	10 08 49		
	e	10 28		
	L	10 33		
	F	11 35		
		Saskatoon		
	e	10 12.2		
	e	10 17.7		
	L	10 34		
	F	11 34		
		Ottawa		
40 Jan. 21	H	19 01.5	150	
	P ₂	19 01 52.5		
	P ₁	19 01 54.5		
	S ₂	19 02 11		
	S ₁	19 02 14		
	e	19 02 19.5		
	F	19 02.5		
		Victoria		
41 Jan. 22	I	14 17 54		
	L	14 30		
	F	15 09		
		Ottawa		
44 Jan. 24	H	17 46.7	13,500	USCGS gives:- φ = 10° N. λ = 122° E.
	P ₁	18 05 38		
	P ₂	18 07 12		
	PPP	18 09 30		
	SKS	18 12 36		
	S	18 15 02		
	PS	18 16 52		
	SS	18 23 38		
	SSS	18 27.5		
	L	18 41		
	F	20 46		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM	January 24, 1948		to	January 24, 1948		No. 8	
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS			
		h m s	km.				
		Victoria					
#4 Jan. 24 (cont'd)	H	17 46.7	10,900				
	P	18 00 18					
	PP	18 04 18					
	SKS	18 10 54					
	SM	18 11 48					
	PS _E	18 12 54					
	PPS	18 13 59					
	SS	18 18 14					
	SSS	18 22 03					
	L	18 31					
	F	22 26					
			Saskatoon				
		H	17 46.6	11,800			
	PP	18 05 04					
	SKS	18 11 27					
	S	18 12 42					
	FPS	18 15 12					
	SS	18 20 16					
	SSS	18 24 01					
	L	18 37					
	F	21 55					
		Halifax					
	H	17 47 ca	13,500	ca			
	PP	18 07.3					
	SKS	18 13					
	PS	18 17.3					
	SS	18 24					
	L	18 40					
	F	20 26					
		Seven Falls					
	H	17 46.7	13,500				
	P'	18 05 38					
	PP	18 07 09					
	SKP	18 08.5					
	SKKS	18 14.2					
	PS	18 17.3					
	PPS	18 18.3					
	SS	18 23.7					
	SSS	18 27.5					
	L	18 43					
	F	22 15					

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM January 24, 1948 to January 26, 1948 No. 9

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
		Shawinigan Falls			
44 Jan. 24 (cont'd)	H	17 46.7	13,350		
	P ¹	18 05 39			
	PP	18 07 09			
	SKP	18 08.4			
	SKS	18 10.8			
	SKKS	18 12.5			
	PS	18 16.2			
	L F	18 41 19 42			
		Ottawa			
50 Jan. 26	H	14 10.7	13,500	USCGS gives:- $\varphi = 10^{\circ}$ N. $\lambda = 122^{\circ}$ E.	
	P ¹	14 29 36			
	SKKS	14 38			
	PS ^N	14 41.2			
	SS ^E	14 47.7			
	SSS ^N	14 51.5			
	L F	15 01 16 03			
		Victoria			
	e L F	14 34 21 14 57 16 24			
		Saskatoon			
e L F	14 36 41 14 56 15 50				
	Seven Falls				
e L F	14 48.0 15 00 16 15				
	Ottawa				
52 Jan. 26	ez	19 05 27			
	ez	19 09 00			
	L	19 18			
	F	19 33			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM January 26, 1948 to January 27, 1948 No. 10

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
55 Jan. 27		Ottawa			
	eZ	12 15 53		USCGS gives:- $\varphi = 20^{\circ} \text{ S.}$ $\lambda = 178^{\circ} \text{ W.}$ $d = 600 \text{ km.}$	
	eE	12 20.0			
	eN	12 23 52			
	eE	12 25.7			
	eN	12 27 50			
	eE	12 29.5			
	eN	12 32 00			
	eN	12 35 40			
	eN	12 40 00			
	F	12 52+			
		Victoria			
	H	(11 58.1)	8,080	No clock correction	
	P	12 09 26			
	e	12 11 34			
	e	12 12 41			
	S	12 18 56			
	SS	12 23 00			
	L	12 32			
	F	13 54			
		Saskatoon			
	H	11 58.3	13,550		
	P	12 13.8			
	PPP	12 21 22			
	SKS	12 23 59			
	SKKS	12 25 22			
	S	12 26 26			
	F	13 48			
		Seven Falls			
	H	11 58.6	13,300		
e	12 16 07				
SKP	12 20.3				
SKKS	12 26 10				
S	12 27 36				
PPS	12 30.02				
SS	12 35.7				
L	13 00				
F	14 30				

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM		January 27, 1948		to		January 28, 1948		No. 11	
NO. AND DATE	PHASE	TIME			DISTANCE	REMARKS			
		h	m	s	km.				
		Ottawa							
56 Jan. 27	eZ	12	26	53					
	eZ	12	29	20					
	eN	12	53						
	eE	12	59						
	L	13	05						
	F	13	33						
		Ottawa							
58 Jan. 27	H	19	17.1		150				
	P ₂	19	17	28					
	S ₂	19	17	45					
	e	19	17	53					
	F	19	18.2						
		Ottawa							
-59 Jan. 28	H	3	47.3		14,400	USCGS gives:-			
	P ₁	4	06	26		φ = 10° N.			
	PP	4	08	28		λ = 122° E.			
	SKP	4	09	41					
	PS _N	4	19.3						
	eN	4	21	24					
	SSS	4	30.4						
	L	4	41						
	F	5	25						
		Victoria							
	e	4	11	11					
	eN	4	23	08					
	L	4	29						
	F	5	17						
		Saskatoon							
	H	3	47.1		12,600				
	PP	4	06	30					
	SKS	4	12	26					
	SKKS	4	13	22					
	PS	4	15	57					
	SS	4	21	47					
	L	4	47						
	F	5	20						

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM January 28, 1948 to January 31, 1948 No. 12

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
60 Jan. 28	eZ	16 04 28		USCGS gives:- $\varphi = 33^{\circ}$ N. $\lambda = 68^{\circ}$ E.
	e	16 15 10		
	e ^N	16 32 20		
	L F	16 40 17 05		
		Saskatoon		
64 Jan. 29	e	13 33.2		
	L	13 35		
	F	13 39		
		Ottawa		
68 Jan. 30	e ^N	9 11.C		USCGS gives:- $\varphi = 24^{\circ}$ N. $\lambda = 64^{\circ}$ E.
	e ^N	9 16		
	L	9 33		
	F	11 06		
		Victoria		
	e ^N	9 01 15		
	e ^N	9 07 30		
	e ^N	9 11 37		
	L	9 36		
	F	11 08		
		Saskatoon		
	e	9 08 40		
	e	9 16.7		
	L	9 28		
	F	11 17		

W. W. Dwyer.

EARTHQUAKE CORRELATION TABLE

January, 1946

No.	Date	Ottawa	Victoria	Saskatoon	Halifax	Seven Falls		Shawinigan	**
						M.S.	V.A.		
35	20	10 03+1 37u	10 04+1 31u	10 12+1 22u	.....	10 48+1 22L	.....	.....	P
36	20	20 35+0 02P*	.....	.....	.....	.....	.....	.....	..
37	20	20 46+0 0.2P*	.....	.....	.....	.....	.....	.....	..
38	20	17 17+0 0.4P*	.....	.....	.....	.....	.....	.....	..
39	21	18 26+0 0.4P*	.....	.....	.....	.....	.....	18 26+0 02P	..
40	21	19 02+0 0.6V*	.....	.....	.....	.....	.....	.....	Q
41	22	.....	14 18+0 51y	14 20+0 13P	.....	.....	.....	.....	..
42	22	20 21+0 0.3P*	.....	.....	.....	.....	.....	.....	..
43	23	20 57+0 0.2P*	.....	.....	.....	.....	.....	.....	..
44	24	18 06+2 40U	18 00+4 26U	18 05+3 50U	18 07+2 19U	18 07+4 08U	18 06+1 41U	18 06+1 37U	R
45	24	18 15+0 01P*	.....	.....	.....	.....	.....	.....	..
46	24	19 22+0 01P*	.....	.....	.....	.....	.....	.....	..
47	24	21 55+0 01P*	.....	.....	.....	.....	.....	.....	..
48	24	23 15+0 0.3P*	23 26+0 08L	.....	.....	.....	.....	.....	..
49	26	2 25+0 01P*	.....	.....	.....	.....	.....	.....	..
50	26	14 30+1 33u	14 34+1 50u	14 37+1 13u	.....	14 48+1 27u	.....	.....	S
51	26	15 04+0 0.1P*	.....	.....	.....	.....	.....	.....	..
52	26	19 05+0 28u	19 00+0 43L	19 08+0 25L	.....	.....	.....	.....	..
53	26	20 03+0 0.3P*	19 56+0 07L	.....	.....	.....	.....	.....	..
54	26	20 38+0 0.4P*	20 33+0 04L	.....	.....	.....	.....	.....	..
55	26	12 16+0 37u	12 09+1 45u	12 14+1 34u	.....	12 20+2 10u	12 16+0 08P	.....	F
56	27	12 27+1 06u	.....	.....	.....	.....	.....	.....	..
57	27	15 00+0 11P*	.....	.....	.....	.....	.....	.....	..
58	27	19 17+0 01V*	.....	.....	.....	.....	.....	.....	U
59	28	4 06+1 19u	4 11+1 06u	4 06+1 14u	.....	4 22+1 23L	4 08+0 07P	4 06+0 07P	V
60	28	16 04+1 01u	16 41+0 36L	16 41+0 28L	.....	16 34+0 54L	.....	.....	..
61	28	.....	20 34+0 04L	.....	.....	.....	.....	.....	..
62	28	.....	22 25+0 02L	.....	.....	.....	.....	.....	..
63	29	3 57+0 01P*	.....	.....	.....	.....	.....	.....	..
64	29	13 29+0 0.7P*	.....	13 33+0 06r	.....	.....	.....	.....	..
65	29	13 41+0 0.3P*	.....	.....	.....	.....	.....	.....	..
66	30	6 48+0 0.2P*	3 35+0 12L	3 39+0 09L	.....	.....	13 41+0 04P	13 41+0 04P	..
67	30	9 11+1 55u	9 01+2 07u	9 09+2 08u	.....	.....	.....	.....	..
68	30	.....	.....	.....	.....	9 19+1 22L	.....	.....	..

EARTHQUAKE CORRELATION TABLE

January, 1948



No.	Date	Ottawa	Victoria	Saskatoon	Halifax	Seven Falls		Shawinigan	**
						M.S.	W.A.		
1	1	27+0 0.6P*	.....	.....	.....	18 34+0 02D	18 34+0 03D	18 34+0 10V	A
2	1	35+0 0.9V*	.....	.....	.....	.....	.....	.....	B
3	1	47+0 0.4v*	.....	.....	.....	.....	.....	.....	..
4	2	27+0 0.1P*	.....	.....	.....	.....	.....	.....	C
5	2	05+0 0.3P*	.....	.....	.....	.....	.....	.....	..
6	3	09+0 0.1v*	.....	.....	.....	.....	.....	.....	D
7	4	14+0 28u	9 17+0 08u	9 19+0 07P	.....	.....	.....	.....	..
8	4	25+0 0.7P*	.....	.....	.....	.....	.....	.....	..
9	4	53+0 0.1v*	.....	.....	.....	.....	.....	.....	..
10	6	03+0 0.3P*	.....	.....	.....	.....	.....	.....	..
11	6	30+1 55R	17 30+0 50R	17 30+0 48R	17 31+1 10R	17 31+2 17R	17 31+1 02R	17 30+1 15R	E
12	6	47+0 0.2P*	.....	.....	.....	.....	.....	.....	..
13	6	07+0 0.8P*	18 19+0 32L	18 19+0 53L	.....	.....	.....	.....	..
14	6	16+0 0.3P*	.....	.....	.....	.....	.....	.....	..
15	6	33+0 0.7P*	.....	.....	.....	.....	.....	.....	..
16	6	48+0 0.4v*	.....	.....	.....	.....	.....	.....	F
17	7	15+0 0.7v*	.....	.....	.....	.....	.....	.....	G
18	8	50+0 0.3P*	.....	.....	.....	.....	.....	.....	..
19	8	56+0 0.2P*	.....	.....	.....	.....	.....	.....	..
20	8	40+0 0.7P*	.....	.....	.....	.....	.....	.....	..
21	9	10+0 0.1P*	.....	.....	.....	.....	.....	.....	..
22	10	04+0 0.7L	0 49+0 0.7L	0 54+0 0.7L	.....	.....	.....	.....	..
23	10	11+0 2.7L	5 38+0 56u	5 54+0 52L	.....	6 13+0 35L	.....	.....	..
24	13	18+0 0.7L	.....	.....	.....	.....	.....	.....	..
25	14	36+1 0.4u	2 44+1 11u	2 55+0 38L	.....	2 55+0 15L	.....	.....	H
26	14	17+0 0.1v*	.....	.....	.....	.....	.....	.....	J
27	15	21+0 0.2P*	.....	.....	.....	.....	.....	.....	..
28	16	05+0 0.4v*	.....	.....	.....	.....	.....	.....	..
29	16	19+0 58u	11 16+1 54r	11 24+1 08u	11 46+0 19L	11 30+1 15L	6 04+0 03v	6 04+0 04v	K
30	17	56+0 3.1L	2 51+0 0.9L	.....	.....	.....	11 19+0 03P	11 19+0 03P	L
31	17	30+1 3.9u	7 23+1 46u	7 34+1 11u	8 04+0 29L	7 40+0 48u	.....	.....	M
32	17	36+0 0.8v*	.....	.....	.....	.....	.....	.....	N
33	19	35+0 0.2P*	.....	.....	.....	.....	.....	.....	..
34	19	57+0 0.1P*	7 57+0 0.5L	.....	.....	.....	2 35+0 0.1P	2 35+0 0.1P	..

CORRELATION OF EARTHQUAKES

January, 1948

N O T E S

A :	Ottawa	$\Delta =$	430 km.	H = 18 ^h 33 ^m .8 U.T.
	Seven Falls	$\Delta =$	25 km.	H = 18 33.8 U.T.
	Shawinigan Falls	$\Delta =$	188 km.	H = 18 33.8 U.T.
B :	Ottawa	$\Delta =$	25 km.	H = 18 ^h 44 ^m .8 U.T.
C :	Ottawa	$\Delta =$	150 km.	H = 22 ^h 08 ^m .3 U.T.
D :	Ottawa	$\Delta =$	220 km.	H = 14 ^h 57 ^m .8 U.T.
E :	Ottawa	$\Delta =$	3,650 km.	H = 17 ^h 23 ^m .5 U.T.
	Victoria	$\Delta =$	4,060 km.	H = 17 23.3 U.T.
	Saskatoon	$\Delta =$	3,920 km.	H = 17 23.4 U.T.
	Halifax	$\Delta =$	4,620 km.	H = 17 23.2 U.T.
	Seven Falls	$\Delta =$	4,230 km.	H = 17 23.3 U.T.
	Shawinigan Falls	$\Delta =$	4,140 km.	H = 17 23.3 U.T.
F :	Ottawa	$\Delta =$	490 km.	H = 20 ^h 46 ^m .9 U.T.
	Seven Falls	$\Delta =$	245 km.	H = 20 46.8 U.T.
	Shawinigan Falls	$\Delta =$	330 km.	H = 20 46.8 U.T.
G :	Ottawa	$\Delta =$	150 km.	H = 20 ^h 15 ^m .0 U.T.
H :	Ottawa	$\Delta =$	6,620 km.	H = 2 ^h 26 ^m .0 U.T.
J :	Ottawa	$\Delta =$	150 km.	H = 19 ^h 17 ^m .1 U.T.
K :	Ottawa	$\Delta =$	780 km.	H = 6 ^h 03 ^m .3 U.T.
	Seven Falls	$\Delta =$	250 km.	H = 6 03.2 U.T.
	Shawinigan Falls	$\Delta =$	445 km.	H = 6 03.2 U.T.
L :	Ottawa	$\Delta =$	7,080 km.	H = 11 ^h 08 ^m .8 U.T.
	Victoria	$\Delta =$	4,380 km.	H = (11 08.1)U.T.
M :	Ottawa	$\Delta =$	11,700 km.	H = 7 ^h 12 ^m U.T.
	Victoria	$\Delta =$	8,250 km.	H = 7 11.5 U.T.
N :	Ottawa	$\Delta =$	150 km.	H = 16 ^h 35 ^m .5 U.T.
P :	Ottawa	$\Delta =$	13,700 km.	H = 9 ^h 44 ^m .0 U.T.
Q :	Ottawa	$\Delta =$	150 km.	H = 19 ^h 01 ^m .5 U.T.
R :	Ottawa	$\Delta =$	13,500 km.	H = 17 ^h 46 ^m .7 U.T.
	Victoria	$\Delta =$	10,900 km.	H = 17 46.7 U.T.
	Saskatoon	$\Delta =$	11,800 km.	H = 17 46.6 U.T.
	Halifax	$\Delta =$	13,500 km.	H = 17 47 U.T.
	Seven Falls	$\Delta =$	13,500 km.	H = 17 46.7 U.T.
	Shawinigan Falls	$\Delta =$	13,350 km.	H = 17 46.7 U.T.
S :	Ottawa	$\Delta =$	13,500 km.	H = 14 ^h 10 ^m .7 U.T.
T :	Victoria	$\Delta =$	8,080 km.	H = (11 ^h 58 ^m .1)U.T.
	Saskatoon	$\Delta =$	13,500 km.	H = 11 58.3 U.T.
	Seven Falls	$\Delta =$	13,300 km.	H = 11 58.6 U.T.
U :	Ottawa	$\Delta =$	159 km.	H = 19 ^h 17 ^m .1 U.T.
V :	Ottawa	$\Delta =$	14,400 km.	H = 3 ^h 47 ^m .3 U.T.
	Saskatoon	$\Delta =$	12,600 km.	H = 3 47.1 U.T.

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>December, 1947</u>	
Strasbourg	November, 1947; Supplement October, 1947	December 2
Bureau Central	August, September, 1947	" 2
Wellington	Year 1945	" 3
Almeria	January, 1947	" 3
Wellington	September, 1947	" 3
De Bilt	Years 1942, 1943, October, 1947	" 5
Ksara	September, 1947	" 8
Saint Louis and Auxiliary Stations	Preliminaries October 3, 5, 6, 7, September 4, 22, 23	" 9
Brisbane	September, 1947	" 9
Almeria	February, March, 1947	" 10
Rome	October, 1947	" 10
Rio de Janeiro	1940 to 1944	" 11
Helsinki	July to September, 1947	" 11
Brisbane	October, 1947	" 13
Zurich	October, 1947	" 16
Santa Clara	November, 1947	" 17
Harvard	January 1 to June 30, 1947	" 17
Richmond	October, 1947	" 17
Strasbourg	October, November, 1947	" 26
Bureau Central	August, 1947; Supplement July, 1947	" 26
Belgrade	October, 1947	" 27
De Bilt	November, 1947	" 27
Firenze	September, October, 1947	" 27
Trieste	September, October, 1947	" 27
Apia	July to September, 1947	" 31
Istanbul	September to November, 1947	" 31
	<u>January, 1948</u>	
Pasadena	January to March, 1947; Preliminaries October 7 to Decem- ber, 1947	January 2
Almeria	April, 1947	" 2
U.S.C.G.S.	Year, 1945	" 9
Ksara	October, November, 1947	" 12
Kew	November, 1947	" 12
Trieste	December 1 - 19, 1947	" 12
Santa Clara	December, 1947	" 14
Rome	November, 1947	" 14
Chile	Years 1942 - 1946	" 14
De Bilt	1942, 1943	" 16
U.S.C.G.S.	October - December, 1944	" 19
U.C.C.L.E.	October - November, 1947	" 21
Reykjavik	Year, 1943	" 21
Saint Louis and Auxiliary Stations	Preliminaries - July 24, October 3, 10, 14, 1947; Supplement - July, 1947	" 26
Apia	October - December, 1947	" 28
Belgrade	November, December, 1947	" 31



DEPARTMENT OF MINES AND RESOURCES
MINES; FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

February, 1948

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DOMINION OBSERVATORY

OTTAWA - CANADA

00000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. W. Doxsee, Seismologist in charge
W. G. Milne, Station Superintendent

S T A T I O N S

OTTAWA

$\phi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.
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

$\phi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

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

SEVEN FALLS

Quebec Power Company

$\phi = 47^{\circ}07'14''$ N. $\lambda = 70^{\circ}42'16''$ W. $h = 232$ m. 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.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory
 $\phi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.
 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company
 $\phi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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
 $\phi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.
 Time correction from radio time signals
 Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	T ₀	V	ε	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10-6 g
17 (Ottawa)	12.0	300	20:1	50 mm.	5 mm. 16 mm.
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				
EL (Ottawa)	1.0				
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2500			
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
18 (Saskatoon)	10.0	150	20:1	18 mm.	
22 (Saskatoon)	10.0	150	20:1	18 mm.	

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 1, 1948 to February 6, 1948 No. 13

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h n s	km.	
		Ottawa		
69 Feb. 1	eZ L F	20 46 43 21 31 21 51		
		Victoria		
73 Feb. 3	e L F	12 03.7 12 20 12 37		
		Ottawa		
74 Feb. 3	H P ₂ S ₂ e ₂ F	16 28.5 16 28 56.5 16 29 13.5 16 29 21 16 29.7	150	
		Saskatoon		
75 Feb. 4	e L F	2 26 31 2 30 3 14		
		Ottawa		
82 Feb. 6	H P ₃ P ₂ S ₂ e ₂ F	20 55.1 20 55 47 20 55 49.5 20 56 17 20 56 40 20 57	265	
		Shawinigan Falls		
	H P ₂ S ₃ S ₂ F ₂	20 55.1 20 55 38.5 20 56 02 20 56 04 20 56.6	215	
		Ottawa		
84 Feb. 6	eZ e L F	21 29 21 21 32 36 21 33.7 21 43		Felt at Aklavik, N.W.T.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 6, 1948 to February 9, 1948 No. 14

NO. AND DATE	PHASE	TIME			DISTANCE	REMARKS	
		h	m	s			
		Shawinigan Falls					
84 Feb. 5 (cont'd.)	e	21	29	32			
	L	21	34				
	F	21	45				
		Ottawa					
85 Feb. 6	eZ	23	09	22			
	L	23	28				
	F	23	55				
		Ottawa					
89 Feb. 9	H	12	58.3		8,160	USCGS gives:- $\varphi = 37^{\circ}$ N. $\lambda = 26^{\circ}$ E.	
	PZ	13	09.47				
	i	13	09.51				
	PP	13	12.32				
	PPP	13	14.16				
	iS	13	19.21				
	SS _E	13	24.3				
	SSS _E	13	27.4				
	L	13	32				
	F	16	28				
			Victoria				
	H	12	58.2		9,420		
	P	13	10.41				
PP	13	14.0					
S	13	21.11					
SSS	13	30.1					
L	13	40					
F	16	26					
		Saskatoon					
H	12	58.5		9,140			
P	13	10.51					
S	13	21.08					
SS	13	26.42					
SSS	13	29.8					
L	13	37					
F	15	53					

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, CANADA

FROM February 9, 1948 to February 11 1948 No. 15

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	kn.	
		Halifax		
89 Feb. 9 (cont'd)	H	12 58.5	7,200	
	P	13 09 05		
	S	13 17 53		
	SS	13 22.4		
	SSS	13 24.9		
	L	13 28		
	F	14 12		
		Shawinigan Falls		
	H	12 58.5	7,790	
	P	13 09 36		
	S	13 18 50		
	L	13 29		
	F	13 50		
		Ottawa		
98 Feb. 11	H	15 41.9	4,680	USCGS gives:- φ = 64° N. λ = 147° W.
	P	15 49 47		
	S	15 56 14		
	SS	15 58 45		
	SSS	16 00 12		
	L	16 03.2		
	F	16 48		
		Victoria		
	H	15 41.8	2,250	
	P	15 46 26		
	S	15 50 11		
	L	15 51 30		
	F	17 02		
		Saskatoon		
	H	15 41.9	2,700	
	P	15 47 11		
	S	15 51 33		
	L	15 54 03		
	F	16 51		
		Halifax		
	eN	16 01.1		
	L	16 07		
	F	16 22		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 11, 1948 to February 14, 1948 No. 16

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
98 Feb. 11 (cont'd)		Seven Falls		
	H	15 42.2	4,550	
	P	15 49 54		
	S	15 56 14		
	SS	15 59 19		
	SSS	15 59 47		
	L	16 02		
F	16 50			
		Shawinigan Falls		
	e	15 49 50		
	L	16 03		
	F	16 11		
		Victoria		
100 Feb. 11	e	17 28.9		
	L	17 31		
	F	17 41		
		Ottawa		
106 Feb. 13	eZ	5 10 44		
	L	5 41		
	F	6 17		
		Victoria		
	e	5 21		
	L	5 42		
	F	6 29		
		Ottawa		
108 Feb. 13	H	21 28.3	150	
	P	21 28 43.5		
	SS ₂	21 29 01		
	SS ₁	21 29 04.5		
	e ₁	21 29 10		
	F	21 30.5		
		Ottawa		
112 Feb. 14	eZ	22 09 55		USCGS gives:- φ = 64° N. λ = 147° W.
	L	22 23.5		
	F	22 42		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM February 14, 1948 to February 18, 1948 No. 17

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
112 Feb. 14 (cont'd)		Victoria			
	H	22 04.5	1,570		
	P _M	22 07 54			
	S _M	22 10 40			
	L	22 11.5			
	F	23 01			
			Saskatoon		
	e	22 12.3			
	L	22 14.5			
	F	22 37			
			Seven Falls		
	e	22 18.4			
	i	22 24 51			
	L	22 31			
	F	22 52			
		Shawinigan Falls			
	e	22 10 12			
	L	22 24			
	F	22 31			
		Ottawa			
117 Feb. 15	H	19 52.7	145		
	P ₂	19 53 04.5			
	P ₁	19 53 08			
	S ₁	19 53 21.5			
	S ₂	19 53 25			
	e	19 53 31			
	F	19 54.5			
		Ottawa			
121 Feb. 16	H	22 14.5	210		
	P ₂	22 15 03			
	S ₂	22 15 27			
	e	22 15 39			
	F	22 15.8			
		Ottawa			
124 Feb. 18	H	20 29.9	5,320		
	P	20 38 33			
	PP	20 40 35			
	S	20 45 36			
	SS	20 48 24			
	L	20 51			
	F	21 50			

USCGS gives:-
 $\varphi = 82^{\circ}$ N.
 $\lambda = 43^{\circ}$ E.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM	February 18, 1947		to	February 20, 1948		No. 18	
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS			
		h m s	km.				
124 Feb. 18 (cont'd)		Victoria					
	H	20 29.9	5,350				
	P	20 38 33					
	S	20 45 37					
	SS	20 48.9					
	L	20 53					
	F	21 51					
		Saskatoon					
	H	20 30.0	4,450				
	PP	20 39 48					
	S	20 44 40					
	SSS	20 48.0					
	L	20 51					
	F	21 48					
		Halifax					
H	20 30.0	5,200					
P	20 38 32						
PP	20 40 24						
S	20 45 28						
SS	20 48.8						
L	20 53						
F	21 21						
	Seven Falls						
H	20 30.0	5,020					
P	20 38 18						
S	20 45 04						
SS	20 48 18						
SSS	20 49.2						
L	20 52						
F	22 23						
	Seven Falls						
129	H	15 45.5	35				
Feb.	P ₁	15 45 35.5					
19	S ₁	15 45 40					
	F ₁	15 46.6					
	Ottawa						
131	H	19 53.4	210				
Feb.	P ₂	19 54 00.5					
20	S ₂	19 54 24.5					
	e	19 54 37					
	F	19 55					

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM February 20, 1948 to February 28, 1948 No. 19

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h n s		
		Ottawa		
132 Feb. 23	iZ L F	9 44 31		
		10 09		
		11 41		
		Saskatoon		
	e L F	9 51		
		10 08		
		11 50		
		Ottawa		
135 Feb. 23	H P ₂ S ₂ e F	15 12.1	150.	
		15 12 27.5		
		15 12 45		
		15 12 57		
		15 14.2		
		Ottawa		
141 Feb. 24	eZ L F	8 22 07		
		8 34		
		8 43		
		Saskatoon		
	e L F	8 24.0		
		8 27		
		8 38		
		Ottawa		
143 Feb. 28	H P S L F	1 58.1	4,090	USCGS gives:- φ = 53°5' N. λ = 133° W.
		2 05 18		
		2 11 11		
		2 16.3		
		3 31		
		Victoria		
	H P iS iL F	1 58.0	895	
		2 00 00		
		2 01 34		
		2 02 12		
		3 36		
		Saskatoon		
	H P S L F	1 58.3	1,660	
		2 01 51		
		2 04 45		
		2 05.5		
		3 31		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM	February 28, 1948		to	February 29, 1948		No. 20
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS		
		h m s	km.			
143 Feb. 28 (cont'd)		Halifax				
	e	2 16.3				
	L ₂	2 21				
	F	2 57				
		Seven Falls				
	H	1 58.2	4,300			
	P	2 05 35				
	PP	2 07 03				
	S	2 11 41				
	SS	2 14 11				
	L	2 18.2				
	F	3 52				
		Shawinigan Falls				
	H	1 58.0	4,290			
P	2 05 27					
S	2 11 33					
SS	2 14 42					
L	2 18					
F	2 35					
	Ottawa					
144 Feb. 28	H	21 19.2	165			
	P ₂	21 19 38				
	S ₂	21 19 57				
	i ₂	21 20 02				
	e	21 20 08				
	F	21 21.4				
		Shawinigan Falls				
	H	21 19.2	228			
	P ₂	21 19 47.5				
	S ₂	21 20 13.5				
S ₁	21 20 20					
F	21 21					
	Ottawa					
145 Feb. 29	eZ	4 47 39				
	L	4 59				
	F	5 13				

W. W. Dovee,

CORRELATION OF EARTHQUAKES

February, 1948

N O T E S

A :	Ottawa	$\Delta =$	150 km.	$H = 16^h 28^m 5$ U.T.
B :	Ottawa	$\Delta =$	265 km.	$H = 20^h 55^m 1$ U.T.
	Shawinigan Falls	$\Delta =$	215 km.	$H = 20 55.1$ U.T.
C :	Ottawa	$\Delta =$	8,160 km.	$H = 12^h 58^m 3$ U.T.
	Victoria	$\Delta =$	9,420 km.	$H = 12 58.2$ U.T.
	Saskatoon	$\Delta =$	9,140 km.	$H = 12 58.5$ U.T.
	Halifax	$\Delta =$	7,200 km.	$H = 12 58.5$ U.T.
	Shawinigan Falls	$\Delta =$	7,790 km.	$H = 12 58.5$ U.T.
D :	Ottawa	$\Delta =$	4,680 km.	$H = 15^h 41^m 9$ U.T.
	Victoria	$\Delta =$	2,250 km.	$H = 15 41.8$ U.T.
	Saskatoon	$\Delta =$	2,700 km.	$H = 15 41.9$ U.T.
	Seven Falls	$\Delta =$	4,550 km.	$H = 15 42.2$ U.T.
E :	Ottawa	$\Delta =$	150 km.	$H = 21^h 28^m 3$ U.T.
F :	Victoria	$\Delta =$	1,570 km.	$H = 22^h 04^m 5$ U.T.
G :	Ottawa	$\Delta =$	145 km.	$H = 19^h 52^m 7$ U.T.
H :	Ottawa	$\Delta =$	210 km.	$H = 22^h 14^m 5$ U.T.
J :	Ottawa	$\Delta =$	5,320 km.	$H = 20^h 29^m 9$ U.T.
	Victoria	$\Delta =$	5,350 km.	$H = 20 29.9$ U.T.
	Saskatoon	$\Delta =$	4,450 km.	$H = 20 30.0$ U.T.
	Halifax	$\Delta =$	5,200 km.	$H = 20 30.0$ U.T.
	Seven Falls	$\Delta =$	5,020 km.	$H = 20 30.0$ U.T.
K :	Seven Falls	$\Delta =$	35 km.	$H = 15^h 45^m 5$ U.T.
L :	Ottawa	$\Delta =$	210 km.	$H = 19^h 53^m 4$ U.T.
M :	Ottawa	$\Delta =$	150 km.	$H = 15^h 12^m 1$ U.T.
N :	Ottawa	$\Delta =$	4,090 km.	$H = 1^h 58^m 1$ U.T.
	Victoria	$\Delta =$	895 km.	$H = 1 58.0$ U.T.
	Saskatoon	$\Delta =$	1,660 km.	$H = 1 58.3$ U.T.
	Seven Falls	$\Delta =$	4,300 km.	$H = 1 58.2$ U.T.
	Shawinigan Falls	$\Delta =$	4,290 km.	$H = 1 58.0$ U.T.
P :	Ottawa	$\Delta =$	165 km.	$H = 21^h 19^m 2$ U.T.
	Shawinigan Falls	$\Delta =$	228 km.	$H = 21 19.2$ U.T.

Dominion Observatory,
 Ottawa, Canada.
 April 27, 1948.



DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

March and April
1948

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DOMINION OBSERVATORY

OTTAWA - CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. W. Doxsee, Seismologist in charge
W. G. Milne, Station Superintendent

S T A T I O N S

OTTAWA

$\phi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\phi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

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

SEVEN FALLS

Quebec Power Company

$\phi = 47^{\circ}07'14''$ N. $\lambda = 70^{\circ}49'16''$ W. $h = 232$ m. 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.

STATIONS (Cont'd)

VICTORIA

Dominion Astrophysical Observatory
 $\phi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.
 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company
 $\phi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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
 $\phi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.
 Time correction from radio time signals
 Foundation: clay and sand
 Instrument: Milne-Shaw NE and NW components,
 designated 18 and 22, respectively, each with
 photographic registration, magnetic damping,
 paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	To	V	ϵ	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10-6 g
17 (Ottawa)	12.0	300	20:1	50 mm.	5 mm. 16 mm.
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				
BL (Ottawa)	1.0				
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2500			
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
18 (Saskatoon)	10.0	150	20:1	18 mm.	
22 (Saskatoon)	10.0	150	20:1	18 mm.	

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 1, 1948 to March 1, 1948 No. 21

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
147 Mar. 1		Ottawa			
	H	1 12.3	15,000	USCGS gives:- $\phi = 3^{\circ}$ S. $\lambda = 130^{\circ}5$ E.	
	P'	1 31 41			
	iZ	1 31 50			
	PP	1 34 15			
	SKP	1 35 11			
	e	1 36 08			
	SKS	1 38 48			
	SKKS	1 41 03			
	i	1 44 26			
	PPS	1 46 18			
	SS	1 52.0			
	SSS	1 57			
	L	2 11			
F	4 05				
	Victoria				
H	1 12.3	11,700			
P	1 26 30				
PP	1 30 36				
PPP	1 32 55				
SKS	1 36 55				
SKKS	1 37 59				
PS	1 39 49				
SS	1 45 32				
L	2 01				
LR ₁	3 14				
F	4 40				
	Saskatoon				
H	1 12.5			10,900	
PP	1 30 01				
i	1 35 52				
SKKS	1 37 01				
PPS	1 39 35				
SS	1 44.1				
SSS	1 45.9				
L	1 57				
F	4 20				
	Halifax				
H	1 12.5	15,600			
SKP	1 34 45				
PPP	1 36 59				
SS	1 52.7				
SSS	1 57.7				
L	2 18				
F	3 36				

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 1, 1948 to March 2, 1948 No. 22

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
147 Mar. 1 (cont'd)	H	1 12.6	15,000	
	P'	1 31 55		
	PP	1 34 17		
	SKP	1 35 18		
	PPP	1 37 20		
	SKKS	1 40 53		
	S	1 42 43		
	PPS	1 46.1		
	SS	1 52.1		
	SSS	1 56.9		
	L	2 13		
	F	4 49		
		Shawinigan Falls		
	H	1 12.5	14,450	
	P'	1 31 44		
	PP	1 34.0		
	SKP	1 35 11		
	SKKS	1 40.8		
	PS	1 44.1		
	SSS	1 56.0		
	F	2 42		
		Ottawa		
150 Mar. 1	H	21 51.0	225	
	P ₂	21 51 37		
	S ₂	21 52 02.5		
	e	21 52 11		
	F	21 52.6		
		Ottawa		
153 Mar. 2	H	19 06.1	150	
	P ₂	19 06 27		
	S ₂	19 06 44		
	e ₂	19 06 52		
	F	19 07.2		
		Ottawa		
154 Mar. 2	H	21 58.4	210	
	P ₂	21 58 59.5		
	S ₂	21 59 23.5		
	e	21 59 36		
	F	21 59.7		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM	March 2, 1948	to	March 4, 1948	No. 23
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
156 Mar. 3		Ottawa	13,000	USCGS gives:- $\varphi = 18^{\circ}$ N. $\lambda = 119^{\circ}$ E.
	H	9 09.9		
	P'	9 28 34		
	PP	9 29 23		
	SKS	9 35 28		
	PS	9 39.1		
	SS	9 45.6		
	SSS	9 50.4		
	L	10 02		
	F	11 32		
		Victoria	9,320	
	H	9 10.5		
	P	9 22 57		
	S	9 33 22		
	PS	9 34 12		
	SS	9 39.8		
	L	9 49		
	F	11 55		
	Saskatoon			
e	9 25 43			
e	9 32 17			
e	9 33 12			
e	9 40			
L	9 51			
F	11 46			
	Halifax			
e	9 39.7			
e	9 45.7			
L	10 06			
F	10 53			
	Seven Falls			
e	9 37 01			
e	9 38 56			
e	9 44 41			
e	9 48.9			
L	9 58			
F	11 49			
	Ottawa	6,240		
H	1 53.1			
PZ	2 02 40			
SZ	2 10 34			
L	2 18			
F	2 42			
158 Mar. 4				USCGS gives:- $\varphi = 10^{\circ}$ S. $\lambda = 75^{\circ}$ W.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM	March 4, 1948		to	March 9, 1948		No. 24	
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS			
		h m s	km.				
158 Mar. 4 (cont'd)	e L F	Victoria					
		2 13 48					
		2 28					
			2 57				
			Seven Falls				
		e L F	2 02 58				
2 18							
2 41							
		Ottawa					
159 Mar. 5	H P ₂ S ₂ e F	19 42.8	150				
		19 43 12					
		19 43 29					
		19 43 37					
		19 43.9					
		Ottawa					
162 Mar. 7	H P ₂ S ₂ e F	16 13.8	155				
		16 14 12					
		16 14 30					
		16 14 38.5					
		16 15					
		Ottawa					
163 Mar. 7	eZ eE L F	19 01 27		USCGS gives:- φ = 54° N. λ = 161° E.			
		19 10.6					
		19 28					
		19 45					
		Ottawa					
164 Mar. 8	eZ L F	16 26 35		USCGS gives:- φ = 6° S. λ = 157° E.			
		17 07					
		17 31					
		Seven Falls					
165 Mar. 9	e L F	19 26					
		19 43					
		21 14					
			Victoria				
	H P S PS PPS SS L F	18 48.8	9,560				
		19 01.7					
		19 12 16					
		19 13 16					
		19 13 42					
		19 18 35					
		19 30					
20 34							

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM March 9, 1948 to March 13, 1948 No. 25

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Saskatoon		
165 Mar. 9 (cont'd)	e	19 14		
	e	19 21		
	L	19 32		
	F	20 23		
		Victoria		
167 Mar. 10	e	11 49.3		USCGS gives:- $\varphi = 29^{\circ} S.$ $\lambda = 177^{\circ} E.$
	e	11 50.3		
	e	12 02.5		
	L	12 12		
	F	12 38		
		Ottawa		
170 Mar. 11	H	20 51.2	155	
	P ₂	20 51 37		
	S ₂	20 51 55		
	e	20 52 03		
	F	20 52.5		
		Ottawa		
171 Mar. 12	H	4 28.4	2,940	
	P	4 34 03		
	S	4 38 42		
	L	4 40 33		
	F	4 46		
		Ottawa		
175 Mar. 13	H	20 02.5	14,500	USCGS gives:- $\varphi = 1^{\circ} N.$ $\lambda = 126^{\circ} E.$
	P _{1/2}	20 21 41		
	PP	20 23 50		
	SKP	20 24 54		
	e	20 33 19		
	PPS	20 35 30		
	SS	20 41.3		
	L	20 55		
	F	22 36		
	e	(20 25 24)		No clock correction
	e	(20 27 45)		
	e	(20 34.8)		
	L	(20 50)		
	F	(22 05)		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM March 13, 1948 to March 18, 1948 No. 26

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
		Saskatoon			
175 Mar. 13 (cont'd)	H	20 02.7	12,200		
	PP	20 21 41			
	SKKS	20 28 32			
	PS	20 31 06			
	SS	20 37 00			
	L	20 51			
	F	21 53			
		Seven Falls			
	e	20 35.5			
	L	21 04			
	F	22 16			
		Ottawa			
176 Mar. 14	H	21 56.9	6,780	USCGS gives:- $\varphi = 17^{\circ} \text{ S.}$ $\lambda = 75^{\circ} \text{ W.}$	
	P	22 07 03			
	S	22 15 28			
	S3S	22 22.6			
	L	22 26			
	F	22 57			
		Victoria			
	H	(21 57.5)	8,650	No clock correction	
	P	22 09 26			
	S	22 19 22			
	L	22 33			
	F	23 06			
		Victoria			
178 Mar. 16	e	17 21 50			
	L	17 34			
	F	18 16			
		Victoria			
179 Mar. 17	e	20 03 24		USCGS gives:- $\varphi = 16^{\circ} \text{ N.}$ $\lambda = 146^{\circ} \text{ E.}$	
	e	20 12.4			
	e	20 19.1			
	F	20 45			
		Ottawa			
181 Mar. 18	H	16 16.8	150		
	P ₂	16 17 12.5			
	S ₂	16 17 30			
	e	16 17 38			
	F	16 17.9			

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM		March 18, 1948		to		March 23, 1948		No. 27	
NO. AND DATE	PHASE	TIME			DISTANCE	REMARKS			
		h	m	s	km.				
		Ottawa							
184 Mar. 21	ez eN L F	21	53	39					
		22	03	20					
		22	31						
		23	00						
		Ottawa							
185 Mar. 22	H PZ S L F	0	06.2		6,550	USCGS gives:- $\phi = 14^{\circ}$ S. $\lambda = 75^{\circ}$ W.			
		0	16	06					
		0	24	18					
		0	34						
		0	45						
		Ottawa							
187 Mar. 22	H P PPN S SS L F	21	34.1		4,180	USCGS gives:- $\phi = 11.05$ N. $\lambda = 86.05$ W.			
		21	41	22					
		21	42	48					
		21	47	21					
		21	49.3						
		21	53						
		22	34						
		Seven Falls							
	e	21	43.4						
	L	21	48						
	F	22	58						
		Ottawa							
188 Mar. 22	H PZ PPN SN L F	23	40.8		4,220				
		23	48	09					
		23	49	33					
		23	54	10					
		23	58						
		0	23						
		Ottawa							
190 Mar. 23	H PZ SE L F	18	11.6		7,880	USCGS gives:- $\phi = 51^{\circ}$ N. $\lambda = 155^{\circ}$ E.			
		18	22	51					
		18	32	10					
		18	50						
		19	02						
		Seven Falls							
	H	18	11.7		7,875				
	P	18	22	55					
	S	18	32	13					
	F	18	33						

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM		March 23, 1948		to		March 29, 1948		No. 28	
NO. AND DATE	PHASE	TIME			DISTANCE	REMARKS			
		h	m	s	km.				
		Shawinigan Falls							
190 Mar. 23 (cont'd)	H P S F	18	11.6		7,920				
		18	22	52					
		18	32	13					
		18	35						
		Ottawa							
194 Mar. 24	eZ L F	3	35	49					
		3	47						
		4	03						
		Ottawa							
195 Mar. 24	H P' PPP SS SSS L F	5	20	ca	13,000	USCGS gives:-			
		5	39	00		$\varphi = 6^{\circ}$ S.			
		5	42	07		$\lambda = 104^{\circ}$ E.			
		5	56						
		6	00						
		6	23						
		7	37						
		Victoria							
	e e L F	5	51						
		6	10						
		6	25						
		7	44						
		Saskatoon							
	e e L F	5	42						
		5	51						
		6	24						
		7	39						
		Ottawa							
199 Mar. 26	H P ₂ S ₂ e F	18	34.3		155				
		18	34	42.5					
		18	35	00.5					
		18	35	08.5					
		18	35.3						
		Ottawa							
203 Mar. 29	H P S L F	10	22.8		7,900				
		10	34	04					
		10	43	24					
		10	57						
		11	18						

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM March 29, 1948 to March 31, 1948 No. 29

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
204 Mar. 29	H Pz S SSS L F	Ottawa 11 57.3 12 09 35 12 19.8 12 28.4 12 42 13 23	9,050	
		Victoria		
	en en i e L F	12 07 58 12 14 39 12 15 27 12 20.8 12 27 13 05		
		Saskatoon		
	e e L F	12 16 05 12 24.3 12 39 13 13		
205 Mar. 29	H P ₂ S ₂ e F	Ottawa 20 38.9 20 39 18.5 20 39 36 20 39 45 20 40.3		

W. W. Doxsee.

EARTHQUAKE CORRELATION TABLE
 March, 1948

No.	Date	Ottawa	Victoria	Saskatoon	Halifax	Seven Falls		Shawinigan	**
						H. S.	W. A.		
147	1	1 32+2 32U	1 26+3 14U	1 30+2 50U	1 35+2 01U	1 34+3 15U	1 32+0 05P	1 32+1 10U	A
148	1	14 11+0 01P*	16 53+0 08L						..
149	1	21 52+0 01V*							..
150	1	2 58+0 01P*						21 52+0 01V	B
151	2	8 56+0 01P*							..
152	2	19 06+0 07V*							C
153	2	21 59+0 07V*							D
154	2	2 35+0 01P*							..
155	3	9 29+2 03u	9 23+2 32u	9 26+2 20u	9 40+1 13u	9 37+2 12u		9 29+0 01P	E
156	3	22 15+0 06P*							..
157	3	2 02+0 32u	2 14+0 43u	2 26+0 21L		2 18+0 23L	2 03+0 05P	2 03+0 03P	F
158	4	19 43+0 07V*							G
159	5	5 34+0 02P*							..
160	6	20 24+0 02P*							..
161	6	16 14+0 01V*						20 24+0 01P	J
162	7	19 01+0 44u	19 05+0 51L	19 10+0 32L		19 15+0 55L		19 02+0 02P	..
163	7	16 27+1 05u	16 45+0 36L	16 54+0 21L		17 03+0 35L	16 27+0 02P		K
164	8					19 26+1 48u			..
165	9		19 02+1 32u						..
166	9	12 19+0 32L	20 58+0 27L			12 23+0 31L			..
167	10	13 34+0 13L	11 49+0 49u						..
168	10	3 09+0 01P*							..
169	11	20 52+0 01V*							M
170	11	4 34+0 12u						4 39+0 06r	N
171	12	10 59+0 01P*							..
172	12	5 14+0 02P*							..
173	13	5 22+0 02P*							..
174	13	20 22+2 14U	20 25+1 40U	20 22+1 31u		20 35+1 40u		20 22+0 05P	P
175	13		22 09+0 57u	22 40+0 09L					..
176	14	22 07+0 50u							..

CORRELATION OF EARTHQUAKES

March, 1948

N O T E S

A :	Ottawa	$\Delta = 15,000$ km.	H = 1 ^h 12 ^m .3 U.T.
	Victoria	$\Delta = 11,700$ km.	H = 1 12.3 U.T.
	Saskatoon	$\Delta = 10,900$ km.	H = 1 12.5 U.T.
	Halifax	$\Delta = 15,600$ km.	H = 1 12.5 U.T.
	Seven Falls	$\Delta = 15,000$ km.	H = 1 12.6 U.T.
	Shawinigan Falls	$\Delta = 14,450$ km.	H = 1 12.5 U.T.
B :	Ottawa	$\Delta = 225$ km.	H = 21 ^h 51 ^m .0 U.T.
C :	Ottawa	$\Delta = 150$ km.	H = 19 ^h 06 ^m .1 U.T.
D :	Ottawa	$\Delta = 210$ km.	H = 21 ^h 58 ^m .4 U.T.
E :	Ottawa	$\Delta = 13,000$ km.	H = 9 ^h 09 ^m .9 U.T.
	Victoria	$\Delta = 9,320$ km.	H = 9 10.5 U.T.
F :	Ottawa	$\Delta = 6,240$ km.	H = 1 ^h 53 ^m .1 U.T.
G :	Ottawa	$\Delta = 150$ km.	H = 19 ^h 42 ^m .8 U.T.
J :	Ottawa	$\Delta = 155$ km.	H = 16 ^h 13 ^m .8 U.T.
K :	Victoria	$\Delta = 9,560$ km.	H = 18 ^h 48 ^m .8 U.T.
M :	Ottawa	$\Delta = 155$ km.	H = 20 ^h 51 ^m .2 U.T.
N :	Ottawa	$\Delta = 2,940$ km.	H = 4 ^h 28 ^m .4 U.T.
P :	Ottawa	$\Delta = 14,500$ km.	H = 20 ^h 02 ^m .5 U.T.
	Saskatoon	$\Delta = 12,200$ km.	H = 20 02.7 U.T.
Q :	Ottawa	$\Delta = 6,780$ km.	H = 21 ^h 56 ^m .9 U.T.
	Victoria	$\Delta = 8,650$ km.	H = (21 57.5) U.T.
R :	Ottawa	$\Delta = 150$ km.	H = 16 ^h 16 ^m .8 U.T.
S :	Ottawa	$\Delta = 6,550$ km.	H = 0 ^h 06 ^m .2 U.T.
T :	Ottawa	$\Delta = 4,180$ km.	H = 21 34.1 U.T.
U :	Ottawa	$\Delta = 4,220$ km.	H = 23 ^h 40 ^m .8 U.T.
V :	Ottawa	$\Delta = 7,880$ km.	H = 18 ^h 11 ^m .6 U.T.
	Seven Falls	$\Delta = 7,875$ km.	H = 18 11.7 U.T.
	Shawinigan Falls	$\Delta = 7,920$ km.	H = 18 11.6 U.T.
W :	Ottawa	$\Delta = 13,000$ km.	H = 5 ^h 20 ^m U.T.
X :	Ottawa	$\Delta = 155$ km.	H = 18 ^h 34 ^m .3 U.T.
Y :	Ottawa	$\Delta = 7,900$ km.	H = 10 ^h 22 ^m .8 U.T.
Z :	Ottawa	$\Delta = 9,050$ km.	H = 11 ^h 57 ^m .3 U.T.
AA :	Ottawa	$\Delta = 150$ km.	H = 20 ^h 38 ^m .9 U.T.

Dominion Observatory,
 Ottawa, Canada.
 June 17, 1948.

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>February, 1948</u>	
Helsinki	October to December, 1947	February 2
Wellington	October, 1947	" 2
Saint Louis and Auxiliary Stations	Preliminaries October 16, 20, November 1, 2, 4, 7, 1947	" 2
Perth	July to September, 1947	" 3
Brisbane	November, 1947	" 3
Pasadena	Locals October to December, 1947	" 4
Trieste	December 20 - 31, 1947	" 7
Strasbourg	December, 1947, January 1-10, 1948	" 7
Bureau Central	September, 1947; Supplement for August, 1947	" 7
Zurich	November, December, 1947	" 9
Zi-Ka-Wei	March to May, 1939	" 9
Kew	December, 1947	" 9
Bucarest	Year, 1947	" 12
Trieste	November, December, 1947, January 1 - 18, 1948	" 13
Wellington	November, 1947	" 16
Rome	December, 1947	" 16
Istanbul	April to December, 1947, February 9, 1948	" 18
Santa Clara	January, 1948	" 18
Ksara	December, 1947	" 18
Zurich	Year, 1946	" 19
Stuttgart	October to December, 1947	" 21
Uppsala	July, 1946 to June, 1947	" 25
Bureau Central	Year, 1947	" 26
Saint Louis and Auxiliary Stations	Preliminaries November, December 14, 1947	" 27
La Paz	January to July, 1947	" 27
UCCLE	October to December, 1947	" 28
	<u>March, 1948</u>	
Strasbourg	January 11 - 31, 1948	March 3
Bureau Central	October, 1947	" 3
Trieste	January 15 - 31, 1948	" 3
Brisbane	December, 1947	" 5
Santa Clara	February, 1948	" 10
UCCLE	October, 1947	" 10
Pasadena	Preliminaries Bull. No. 60, April - June, 1947	" 15
De Bilt	Year, 1944	" 16
Belgrade	Year, 1946	" 18
Saint Louis and Auxiliary Stations	Supplements for August to November, 1947; Preliminaries December 15, 23, November 20, 1947	" 18
Trieste	February, 1948	" 18
Firenze	January, 1948	" 18
Strasbourg	February 1 - 20, 1948	" 18
Zurich	January, 1948	" 19
Copenhagen	Years 1942, 1943	" 19
Istanbul	January, 1948	" 22
Richmond	January, 1948	" 22
Rome	January, 1948	" 22
Cleveland	September, October, 1947	" 22
Brisbane	January, 1948	" 28
Trieste	February 19 - 25, 1948	" 31

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>April, 1948</u>	
UCCLE	January, 1948	April 1
Trieste	February 12-18, 26, March 4, 1948	" 1
Strasbourg	February 21 to March 10, 1948	" 6
Bureau Central	Supplements for October, November, 1947	" 6
China	March to December, 1947	" 6
Ksara	January, 1948	" 8
Wellington	December, 1947, January, 1948	" 10
Bucarest	January, February, 1948	" 13
Santa Clara	March, 1948	" 13
Cleveland	November, December, 1947	" 13
Strasbourg	July 4 - 8, 1947	" 14
Trieste	March 5 - 10, 1948	" 16
Rome	February, 1948	" 16
Istanbul	Years 1941, 1942	" 16
Brisbane	February, 1948	" 20
Trieste	January, February, 1948	" 21
Richmond	February, 1948	" 21
UCCLE	March, 1948	" 21
Prague	Years 1945 - 1947	" 23
Belgrade	January, February, 1948	" 28
Trieste	March 25 - 31, 1948	" 29
Zurich	February, March, 1948	" 29
Saint Louis and Auxiliary Stations	Preliminaries for December, 1947, January, 1948; Supplement for December, 1947	" 29
De Bilt	March, 1948	" 29

Dominion Observatory,
 Ottawa, Canada,
 June 17, 1948.

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 1, 1948 to April 12, 1948 No. 30

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s			km.
		Ottawa			
206 Apr. 2	H	20 55.5	155		
	P ₂	20 55 57			
	S ₂	20 56 15			
	S ₁	20 56 18			
	e	20 56 23			
	F	20 56.6			
		Ottawa			
209 Apr. 4	H	2 44.5	210		
	P ₂	2 45 05.5			
	S ₂	2 45 29.5			
	e	2 45 42			
	F	2 45.9			
		Ottawa			
217 Apr. 8	H	19 48.6	150		
	P ₂	19 49 01			
	S ₂	19 49 18.5			
	e	19 49 25			
	F	19 49.7			
		Ottawa			
220 Apr. 12	H	6 15.4	3,380	USCGS gives:- φ = 14° N. λ = 90° 5' W. h = 200 km.	
	P	6 21 40			
	S	6 26 48			
	SS _N	6 28.1			
	L	6 30			
	F	6 47			
		Ottawa			
221 Apr. 12	e _Z	9 08 07			
	e _E	9 15.0			
	e	9 16.8			
	e	9 26 30			
	L	9 45			
	F	10 45			
		Victoria			
	e _E	9 10 19			
	e	9 12 17			
	L	9 32			
	F	10 16			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM April 12, 1948 to April 17, 1948 No. 31

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Saskatoon		
221 Apr. 12 (cont'd)	e	10 14 35		
	L	10 34		
	F	11 13		
		Ottawa		
223 Apr. 17	H	16 11.4	10,800	USCGS gives:- $\phi = 33^{\circ} \text{ N.}$ $\lambda = 135^{\circ} 5 \text{ E.}$
	P	16 24 54		
	PP	16 28 54		
	PPP	16 30 58		
	SKS	16 35 40		
	S	16 36 20		
	PS	16 37 36		
	SS	16 42 55		
	L	16 58		
	F	19 36		
	H	16 11.7	7,940	
	P	16 22 58		
	S	16 32 20		
	SS _N	16 37 01		
	e	16 40.4		
	L	16 44		
	F	18 32		
		Saskatoon		
	H	16 11.6	8,740	
	P	16 23 38		
	PP	16 26 41		
	IS	16 33 38		
	PS	16 33 54		
	SS	16 38 47		
	SSS	16 42.3		
	L	16 49		
	F	19 27		
		Halifax		
	H	16 11.7	11,400	
	PP	16 29 49		
	SKS	16 36 13		
	SKKS	16 37 01		
	PS	16 38 45		
	SS	16 44.0		
	L	17 02		
	F	18 11		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 17, 1948 to April 20, 1948 No. 32

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS		
		h m s	km.			
223 Apr. 17 (cont'd)		Seven Falls				
	H	16 11.5	10,700			
	P	16 24 56				
	PP	16 29 05				
	SKS	16 35 34				
	S	16 36 20				
	PS	16 37 19				
	PPS	16 37 52				
	SS	16 42.8				
	SSS	16 48.1				
	L	16 57				
	F	19 28				
				Shawinigan Falls		
	e	16 26 19				
	e	16 28 30				
	L	16 51				
	F	17 32				
		Ottawa				
224 Apr. 18	ez	12 38 52	3,460	USCGS gives:- $\phi = 3^{\circ} S.$ $\lambda = 137^{\circ} E.$		
	e	12 41.8				
	L	12 58				
	F	14 57				
					Victoria	
		e			12 44 06	
		e			12 51	
		L			13 00	
		F			13 52	
					Saskatoon	
		e			12 46 21	
		L			13 04	
		F			15 03	
		Seven Falls				
	e	12 48.6				
	e	12 54.1				
	L	12 58				
	F	14 01				
		Ottawa				
227 Apr. 20	H	2 11.4	3,460	USCGS gives:- $\phi = 14^{\circ} N.$ $\lambda = 92^{\circ} W.$		
	PZ	2 17 47				
	PPPZ	2 19 10				
	SZ	2 23.0				
	L	2 26				
	F	2 44				

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 20, 1948 to April 21, 1948 No. 33

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
230 Apr. 21		Ottawa		
	H	20 22.2	2,850	USCGS gives:- $\varphi = 19^{\circ} N.$ $\lambda = 69^{\circ} 5' W.$ Between the begin- ning of this quake and 22 ^h 15 ^m U.T. there are indica- tions of seven aftershocks for none of which could exact arrival times be determined nor phases differentiated.
	P	20 27.42		
	i	20 27.46		
	PPZ	20 28.3		
	S	20 32.14		
	SS _N	20 33.30		
	i _N	20 34.12		
	L _N	20 34.48		
	F	0 12		
		Victoria		
	H	20 22.4	5,580	
	P	20 31.20		
	S	20 39.37		
	i _N	20 41.14		
	SS	20 42.2		
	SSS	20 43.6		
	L	20 46		
	F	22 46		
		Saskatoon		
	H	20 22.2	4,660	
	P	20 30.14		
	PPP	20 32.07		
	iS	20 36.40		
	SSS	20 40.10		
	iL	20 41.51		
	F	23 11		
	Halifax			
H	20 22.3	2,900		
P _N	20 27.57			
i	20 28.03			
S	20 32.33			
SS	20 34.0			
L	20 35.1			
F	22 16			
	Seven Falls			
H	20 22.2	3,010		
P	20 27.59			
PP	20 28.44			
PPP	20 29.00			
S	20 32.43			
SS	20 33.59			
L	20 35.2			
F	0 31			

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 21, 1948 to April 22, 1948 No. 34

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
230 Apr. 21 (cont'd)		Shawinigan Falls		
	H	20 22.2	2,890	
	P	20 27 49		
	i	20 27 54		
	PP	20 28 21		
	PPP	20 28 38		
	S	20 32 24		
	SS	20 33 41		
	L	20 35		
	F	21 55		
	Ottawa			
237 Apr. 22		Ottawa		USCGS gives:- $\varphi = 19^{\circ}$ N. $\lambda = 69^{\circ}5$ W.
	H	0 28.5	2,880	
	P	0 34 01		
	i	0 34 05		
	PP	0 34 34		
	S	0 38 36		
	SS	0 40 02		
	L	0 41		
	F	3 04		
		Victoria		
	e	0 44 58		
	e	0 47 20		
	L	0 54		
	F	2 10		
	Saskatoon			
		Saskatoon		
	H	0 28.6	4,730	
	P	0 36 31		
	PPP	0 38 35		
	S	0 43 01		
	SSS	0 46 33		
	L	0 49		
	F	2 41		
	Halifax			
		Halifax		
	H	0 28.6	2,890	
	eP	0 34 13		
	eS	0 38 48		
	SS _E	0 40.2		
	L	0 43		
	F	2 03		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 22, 1948 to April 22, 1948 No. 35

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
237 Apr. 22 (cont'd)		Seven Falls		
	H	0 28.5	2,970	
	P	0 34 15		
	S	0 38 56		
	SS	0 40 04		
	L	0 41		
	F	3 10		
		Shawinigan Falls		
	H	0 28.5	2,920	
	P	0 34 06		
	PPP	0 34 55		
	S	0 38 44		
	SS	0 39 51		
	L	0 41 55		
F	1 01			
	Ottawa			
238 Apr. 22	H	10 43.2	7,220	
	PZ	10 53 47		
	S	11 02.36		
	SSN	11 07.3		
	L	11 14.5		
	F	12 40		
		Victoria		
	e	11 06.4		
	L	11 24		
	F	12 00 ca		
		Saskatoon		
	e	11 04 47		
	e	11 13.4		
	L	11 20		
F	12 31			
	Seven Falls			
H	10 42.9	7,065		
P	10 53 20			
S	11 02 01			
SS	11 06 30			
SSS	11 07 49			
L	11 13			
F	12 32			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM April 22, 1948 to April 23, 1948 No. 36

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
239 Apr. 22		Ottawa			
	H	13 09.1	2,865		
	P	13 14 40			
	S	13 19 14			
	L	13 22.5			
	F	14 19			
		Saskatoon			
	e	13 27.2			
	L	13 31			
	F	14 08			
		Seven Falls			
	e	13 15 35			
	e	13 21 17			
	L	13 21 53			
	F	13 35			
241 Apr. 23		Ottawa			
	H	11 50.5	2,850	USCGS gives:- $\varphi = 19^{\circ} \text{ N.}$ $\lambda = 69^{\circ} 5 \text{ W.}$	
	P	11 56 00			
	PP	11 56 36			
	S	12 00 32			
	SS	12 01 40			
	L	12 03			
	F	13 46			
		Saskatoon			
	e	12 00.4			
	e	12 04 59			
	L	12 09			
	F	13 14			
		Halifax			
	H	12 50.6	2,900		
P	11 56 15				
S	12 00 51				
e _N	12 01 11				
L	12 04				
F	13 03				
	Seven Falls				
P	11 56 09				
e	11 01.6				
L	11 04				
F	13 32				

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM April 23, 1948 to April 30, 1948 No. 37

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
241 Apr. 23 (cont'd)	H	11 50.5	2,920	
	P	11 56 06		
	S	12 00 44		
	SS	12 01 49		
	L	12 04		
	F	12 24		
		Ottawa		
244 Apr. 24	H	21 57.9	235	
	P ₂	21 58 34		
	S ₂	21 59 01		
	e	21 59 10		
	F	21 59.4		
		Ottawa		
246 Apr. 26	H	9 32.5	2,940	USCGS gives:- φ = 51° N. λ = 34° W.
	P _Z	9 38 09		
	S _Z	9 42.8		
	L	9 46		
	F	10 06		
		Seven Falls		
	H	9 32.2	2,740	
P	9 37 34			
S	9 41 58			
L	9 44			
F	10 18			
		Ottawa		
247 Apr. 28	H	12 03.3	2,830	USCGS gives:- φ = 11° N. λ = 63° W. h = 100 km. ca.
	P	12 08 47		
	PP	12 09 08		
	S _E	12 13.3		
	L	12 17		
	F	12 39		
	i	12 18 45		
	L	12 26		
	F	12 37		

W. W. Doysee.

EARTHQUAKE CORRELATION TABLE

Page 1

April, 1946

No.	Date	Ottawa	Victoria	Saskatoon	Halifax	Seven Falls		Shawinigan	**
						M. S.	V. A.		
206	2	56 +0 0.6v*	.....	.....	.....	.....	.....	.....	A
207	3	02+0 02P*	.....	.....	.....	.....	.....	.....	.....
208	3	04+0 02P*	.....	.....	.....	.....	.....	.....	.....
209	4	45+0 0.8v*	.....	.....	.....	.....	.....	.....	B
210	4	33+0 0.4P*	.....	.....	.....	.....	.....	.....	.....
211	4	42+0 0.1P*	.....	.....	.....	.....	.....	.....	.....
212	5	08+0 0.2P*	.....	.....	.....	.....	.....	.....	.....
213	5	36+0 0.1P*	.....	.....	.....	.....	.....	.....	.....
214	6	45+0 0.6P*	.....	.....	.....	.....	.....	.....	.....
215	6	47+0 0.2P*	.....	.....	.....	.....	.....	.....	.....
216	6	50+0 0.6P*	.....	.....	.....	.....	.....	.....	.....
217	8	49+0 0.7v*	.....	.....	.....	.....	.....	.....	.....
218	9	29+0 0.3P*	.....	.....	.....	.....	.....	.....	C
219	11	45+0 0.4P*	.....	.....	.....	.....	.....	.....	.....
220	12	22+0 0.25r	.....	.....	.....	.....	.....	.....	.....
221	12	08+1 37u	9 10+1 06u	10 15+0 58u	.....	.....	.....	.....	D
222	15	39+0 37L	.....	.....	.....	.....	.....	.....	.....
223	17	25+3 11U	16 23+2 09U	16 24+3 03U	.....	.....	.....	.....	.....
224	18	39+2 18u	12 44+1 08u	12 46+2 17u	16 30+1 31U	16 25+3 03U	16 25+0 52U	16 26+1 06U	.....
225	19	30+0 0.4P*	.....	.....	13 23+0 27L	12 49+1 12u	.....	.....	.....
226	19	45+0 0.3P*	.....	.....	.....	.....	.....	.....	.....
227	20	18+0 26r	.....	.....	.....	.....	.....	.....	.....
228	20	05+0 0.1v*	.....	.....	.....	.....	.....	.....	.....
229	21	17+0 45L	.....	.....	.....	.....	.....	.....	.....
								2 18+0 14r	F

CORRELATION OF EARTHQUAKES

..... April, 1948

N O T E S

A :	Ottawa	$\Delta = 155$ km.	H = 20 ^h 55 ^m 5 U.T.
B :	Ottawa	$\Delta = 210$ km.	H = 2 ^h 44 ^m 5 U.T.
C :	Ottawa	$\Delta = 150$ km.	H = 19 ^h 48 ^m 6 U.T.
D :	Ottawa	$\Delta = 3,380$ km.	H = 6 ^h 15 ^m 4 U.T.
E :	Ottawa	$\Delta = 10,800$ km.	H = 16 ^h 11 ^m 4 U.T.
	Victoria	$\Delta = 7,940$ km.	H = 16 11.7 U.T.
	Saskatoon	$\Delta = 8,740$ km.	H = 16 11.6 U.T.
	Halifax	$\Delta = 11,400$ km.	H = 16 11.7 U.T.
	Seven Falls	$\Delta = 10,700$ km.	H = 16 11.5 U.T.
F :	Ottawa	$\Delta = 3,460$ km.	H = 2 ^h 11 ^m 4 U.T.
G :	Ottawa	$\Delta = 2,850$ km.	H = 20 ^h 22 ^m 2 U.T.
	Victoria	$\Delta = 5,580$ km.	H = 20 22.4 U.T.
	Saskatoon	$\Delta = 4,660$ km.	H = 20 22.2 U.T.
	Halifax	$\Delta = 2,900$ km.	H = 20 22.3 U.T.
	Seven Falls	$\Delta = 3,010$ km.	H = 20 22.2 U.T.
	Shawinigan Falls	$\Delta = 2,890$ km.	H = 20 22.2 U.T.
H :	Ottawa	$\Delta = 2,880$ km.	H = 0 ^h 28 ^m 5 U.T.
	Saskatoon	$\Delta = 4,730$ km.	H = 0 28.6 U.T.
	Halifax	$\Delta = 2,890$ km.	H = 0 28.6 U.T.
	Seven Falls	$\Delta = 2,970$ km.	H = 0 28.5 U.T.
	Shawinigan Falls	$\Delta = 2,920$ km.	H = 0 28.5 U.T.
J :	Ottawa	$\Delta = 7,220$ km.	H = 10 ^h 43 ^m 2 U.T.
	Seven Falls	$\Delta = 7,065$ km.	H = 10 42.9 U.T.
K :	Ottawa	$\Delta = 2,865$ km.	H = 13 ^h 09 ^m 1 U.T.
M :	Ottawa	$\Delta = 2,850$ km.	H = 11 ^h 50 ^m 5 U.T.
	Halifax	$\Delta = 2,900$ km.	H = 11 50.6 U.T.
	Shawinigan Falls	$\Delta = 2,920$ km.	H = 11 50.5 U.T.
N :	Ottawa	$\Delta = 235$ km.	H = 21 ^h 57 ^m 9 U.T.
P :	Ottawa	$\Delta = 2,940$ km.	H = 9 ^h 32 ^m 5 U.T.
	Seven Falls	$\Delta = 2,740$ km.	H = 9 32.2 U.T.
Q :	Ottawa	$\Delta = 2,830$ km.	H = 12 03.3 U.T.

 Dominion Observatory,
 Ottawa - Canada,
 June 29, 1948.



DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

May and June
1948

0000

DOMINION OBSERVATORY

OTTAWA - CANADA

0000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. W. Doxsee, Seismologist in charge
W. G. Milne, Station Superintendent

S T A T I O N S

OTTAWA

$\phi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\phi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

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

SEVEN FALLS

Quebec Power Company

$\phi = 47^{\circ}07'14''$ N. $\lambda = 70^{\circ}49'16''$ W. $h = 232$ m. 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.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

 $\phi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.

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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

 $\phi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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

 $\phi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.

Time correction from radio time signals

Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	To	V	ϵ	DISPLACEMENT FOR 1" ARC TILT	DISPLACEMENT FOR 10-6 g
17 (Ottawa)	12.0	300	20:1	50 mm.	5 mm. 16 mm.
23 (Ottawa)	12.0	300	20:1	50 mm.	
BS (Ottawa)	1.0				
BL (Ottawa)	1.0				
HN (Halifax)	5.0	125	20:1		
HE (Halifax)	5.0	125	20:1		
SA (Shawinigan)	1.0	2500			
20 (Victoria)	12.0	300	20:1		
21 (Victoria)	12.0	300	20:1		
SF (Seven Falls)	1.0	2500			
SM (Seven Falls)	12.0	300	20:1	50 mm.	
18 (Saskatoon)	10.0	150	20:1	18 mm.	
22 (Saskatoon)	10.0	150	20:1	18 mm.	

NOTE:- Universal Time used throughout.

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM May 1, 1948 TO May 9, 1948 No. 38

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
254 May 2		Ottawa		
	H	20 50.5	185	
	P ₂	20 50 57		
	S ₃	20 51 16.5		
	S ₂	20 51 18		
	e	20 51 22		
F	20 51.6			
257 May 5		Ottawa		
	H	19 01.5	155	Felt in Montreal
	P ₂	19 01 55.5		
	P ₃	19 01 57.8		
	S ₂	19 02 13.5		
	e	19 02 21.5		
F	19 02.5			
258 May 7		Ottawa		
	H	12 02.4	168	
	P ₃	12 02 53.5		
	e	12 02 56		
	S ₃	12 03 13.4		
	S ₁	12 03 18		
	F ¹	12 12		
		Seven Falls		
	H	12 02.4	265	
	P ₃	12 03 06.1		
	S ₃	12 03 36.3		
	F	12 05		
	Shawinigan Falls			
H	12 02.4	107		
P ₂	12 02 44.6			
S ₂	12 02 57.2			
F	12 16			
261 May 9		Ottawa		
	H	2 09 ca.	10,900	USCGS gives:- $\phi = 30^{\circ}$ N. $\lambda = 129^{\circ}$ E.
	P _Z	2 22 44		
	PP	2 26 34		
	SKKS	2 33 44		
	PS	2 35 15		
	SS	2 40.3		
	L	2 55		
	F	4 40		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM May 9, 1948 to May 11, 1948 No. 39

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
261 May 9 (cont'd)	H	2 08.9	8,160	
	PE	2 20 15		
	S	2 29 49		
	PSN	2 30 11		
	F	2 45		
		Saskatoon		
	H	2 09.2	9,000	
	P	2 21 28		
	S	2 31 39		
	SS	2 36.7		
	L	2 46		
	F	4 09		
		Seven Falls		
	H	2 09.4	11,100	
	PP	2 27 07		
	SKS	2 33 45		
	SS	2 41 23		
	SSS	2 45		
	L	2 53		
	F	4 55		
		Ottawa		
262 May 9	eN	9 08.5		
	L	9 14		
	F	10 04		
		Saskatoon		
	e	8 40.7		
L	9 05			
F	10 02			
		Ottawa		
263 May 11	H	8 56.0	6,700	Compression USCGS gives:- $\varphi = 17^{\circ} S.$ $\lambda = 71^{\circ} W.$
	P	9 06 05		
	i	9 06 21		
	s	9 14 26		
	e	9 15 36		
	SS	9 18.5		
	L	9 25		
	F	10 16		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM May 11, 1948 to May 12, 1948 No. 40

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
263 May 11 (cont'd)	H	(8 55.1)	8,800	No clock corrections
	P	(9 07 08)		
	i	(9 07 23)		
	S	(9 17 11)		
	PS	(9 17 42)		
	SS	(9 21 15)		
	L F	(9 33) (10 00)		
		Saskatoon		
	H	8 55.9	8,250	
	P	9 07 26		
	S	9 17 04		
	SS	9 22.0		
	L	9 30		
	F	10 20		
		Halifax		
	H	8 56.0	6,580	
	P	9 05 59		
	S	9 14 13		
	i	9 16 09		
	SS	9 19.9		
	L F	9 25 9 43		
		Seven Falls		
	H	8 56.1	6,820	
	P	9 06 18		
	S	9 14 46		
	PS	9 15 18		
	SSS	9 20 38		
	L	9 24		
	F	11 00		
		Ottawa		
265 May 12	H	0 57.1	9,880	
	P ₇	1 09 57		
	PPP	1 13.3		
	SKS	1 20.3		
	S	1 20 46		
	PFS	1 22 04		
	SS	1 26.7		
	L	1 38		
	F	4 03		

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM	May 12, 1948	to	May 14, 1948	No. 41	
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
265 May 12 (cont'd)		Victoria			
	H	(0 56.6)	6,935	No clock correction	
	P	(1 07 00)			
	S	(1 15 34)			
	i	(1 16 45)			
	L	(1 28)			
	F	(2 25)			
		Saskatoon			
	H	0 57.2	7,860		
	P	1 08 26			
	S	1 17 44			
	SS	1 22.2			
	SSS	1 25.7			
	L	1 33			
	F	4 20			
	Halifax				
e	1 21.3				
e _E	1 26.9				
e	1 34.3				
L	1 42				
F	2 38				
	Seven Falls				
H	0 57.1	9,850			
P	1 09 58				
S	1 20 46				
PPS	1 21 58				
SS	1 26.6				
e	1 33 50				
L	1 40				
F	4 14				
	Seven Falls				
e	13 43 00				
L	13 56				
F	15 01				
269 May 14		Seven Falls			
e	19 02 28				
L	19 13				
F	20 33				
270 May 14					

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM	May 14, 1948	to	May 14, 1948	No. 42
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
271 May 14		Ottawa		
	H	22 31.9	5,700	USCGS gives:- φ = 54° 5' N. λ = 161° W.
	P	22 40 57		
	PP	22 43.0		
	iS	22 48 20		
	i	22 50 48		
	SS	22 51 50		
	SSS	22 53 22		
	iL	22 55 36		
	F	2 13		
		Victoria		
	H	(22 30.8)	2,745	No time correction
	P	(22 36 11)		
	PP	(22 36 44)		
	S	(22 40 36)		
	L	(22 42 30)		
	F	(2 10)		
		Saskatoon		
	H	22 31.9	3,420	
	P	22 38 13		
	S	22 43 24		
SS	22 44 18			
L	22 46 26			
F	2 34			
	Halifax			
H	22 32.1	6,290		
P	22 41 48			
S	22 49 45			
e	22 51 22			
SS	22 53.6			
L	22 59			
F	1 17			
	Seven Falls			
H	22 32.0	5,790		
P	22 41 08			
PP	22 43 16			
S	22 48 37			
e	22 50 33			
SS	22 52 32			
L	22 55			
F	1 56			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM May 14, 1948 to May 17, 1948 No. 43

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Shawinigan Falls		
271 May 14 (cont'd)	H	22 31.9	5,750	
	P	22 41 00		
	i	22 41 05		
	PP	22 43 03		
	S	22 48 27		
	SS	22 52 01		
	L	22 57		
	F	0 04		
		Seven Falls		
272 May 15	e	1 58 40		
	L	2 10		
	F	2 45		
		Victoria		
273 May 15	H	(2 41.3)	2,580	No clock correction
	P	(2 46 25)		
	PP	(2 46 59)		
	S	(2 50 37)		
	F	(3 05)		
		Ottawa		
274 May 17	H	17 48.7	5,680	USCGS gives:- φ = 55° N. λ = 161° W.
	PZ	17 57 44		
	S	18 05 07		
	SS	18 08.7		
	SSS	18 10 05		
	L	18 14		
	F	19 30		
		Victoria		
	H	17 48.8	2,500	
	P	17 53 50		
	PP	17 54 22		
	S	17 57 56		
	SS	17 58 45		
	L	18 00		
	F	18 56		
		Saskatoon		
	H	17 48.7	3,400	
	P	17 55 03		
	S	18 00 13		
	L	18 02.6		
	F	18 55		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM May 17, 1948 to May 23, 1948 No. 44

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
274 May 17 (cont'd)		Halifax			
	e	18 06 30			
	L	18 16			
	F	18 42			
		Seven Falls			
	H	17 48.8	5,800		
	P	17 57 55			
	S	18 05 25			
	SS	18 08.0			
	L	18 14			
F	19 46				
	Ottawa				
287 May 22	H	19 21.3 ca	15,000		
	P	19 40 39			
	SKP	19 44.1			
	e _E	19 59 48			
	SS	20 01			
	SSS	20 07.3			
	L	20 25			
	F	22 05			
		Victoria			
	e	20 04			
L	20 11				
F	20 43				
	Ottawa				
291 May 23	H	4 07.9	90	Cornwall?	
	P ₂	4 08 11.7			
	S ₂	4 08 22.2			
	S ₃	4 08 25			
	F	4 08.9			
	Ottawa				
292 May 23	H	4 12.2	13,350	USCGS gives:-	
	P ₁	4 31 02		$\phi = 18^{\circ}$ S.	
	SKS _E	4 37 42		$\lambda = 169^{\circ}$ E.	
	PS	4 42.1			
	SS	4 49			
	L	5 13			
	F	5 49			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM May 23, 1948 to May 25, 1948 No. 45

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS		
		h m s	km.			
292 May 23 (cont'd)		Victoria				
	H	(4 13.3)	8,340	No clock correction		
	P	(4 25.0)				
	PP	(4 27.7)				
	S	(4 34.7)				
	eN	(4 36.0)				
F	(5 17)					
		Ottawa				
298 May 25	H	7 12	11,000	USCGS gives:- $\varphi = 30^{\circ}$ N. $\lambda = 99^{\circ}5$ E.		
	PZ	7 25 50				
	PP	7 29.9				
	PPP	7 32 21				
	SKS	7 36 15				
	PS	7 38 55				
	SS	7 44 35				
	SSS	7 49				
	L	7 59				
	F	10 18				
					Victoria	
H	7 11.3	9,800				
P	7 24 12					
PP	7 27 58					
SKS	7 34 31					
S	7 34 58					
PS	7 35 45					
PPS	7 36 07					
L	7 52					
F	9 51					
				Saskatoon		
H	7 11.3			10,700		
PP	7 28.9					
SKS	7 35 42					
SKKS	7 36 11					
S _N	7 36 33					
PS _E	7 38 00					
SS	7 43 08					
SSS	7 47.5					
L	7 57					
F	10 50					
		Halifax				
e	7 32					
e	7 45					
e	7 51					
L	7 59					
F	9 30					

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM May 25, 1948 to May 26, 1948 No. 46

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s			kn.
298 May 25 (cont'd)		Seven Falls	11,100	
	H	7 11.2		
	PP	7 29 55		
	SKS	7 36.3		
	SKKS	7 37 09		
	S	7 37 33		
	PS	7 38.7		
	PPS	7 42 16		
	e	7 44 26		
	SS	7 48.3		
	L	7 57		
F	11 07			
301 May 25		Shawinigan Falls	4,830	USCGS gives:- $\varphi = 43^{\circ} 5' N.$ $\lambda = 127^{\circ} W.$
	e	7 36 16		
	e	7 48		
	F	8 44		
		Ottawa		
	H	15 11.4		
	PZ	15 19 25		
	PPP	15 21 36		
	S _E	15 26.0		
	L	15 32		
	F	16 00		
302 May 26		Saskatoon	2,340	
	H	15 11.4		
	P	15 16 07		
	S	15 19 59		
	L	15 22		
	F	16 00		
		Ottawa		
	H	9 17.0		
	PZ	9 25 32		
	PP	9 27 25		
	S	9 32 32		
SS	9 35 25			
L	9 39			
F	10 48			
		Victoria	2,280	No clock correction
	H	(9 15.9)		
	P	(9 20 34)		
	S	(9 24 22)		
	SS	(9 25 11)		
	L	(9 26)		
	F	(10 27)		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM	May 26, 1948	to	May 31, 1948	No. 47		
NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS		
		h m s	km.			
302 May 26 (cont'd)	H P S L F	Saskatoon	3,020			
		9 16.6				
		9 22 25				
		9 27 10				
		9 30				
		11 15				
	eN L F	Halifax	3,020			
		9 33 02				
		9 43				
		10 22				
		P e L F		Seven Falls	3,020	
				9 25 45		
9 27.3						
9 41						
11 09						
Ottawa						
303 May 26	eZ L F	Ottawa	6,330			
		14 05 28				
		14 17				
306 May 28	H P S SSS L F	Ottawa	6,330			
		5 36.3				
		5 46 01				
		5 54 00				
		5 59.8				
		6 06				
		6 15				
311 May 31	eZ L F	Ottawa	6,330			
		3 21 40				
		3 34				
312 May 31	H P ₂ S ₂ S ₁ e F	Ottawa	150			
		21 00.9				
		21 01 17.6				
		21 01 35				
		21 01 38.5				
		21 01.44				
21 02.1						

USCGS gives:-
 $\varphi = 12^{\circ} \text{ S.}$
 $\lambda = 77^{\circ} \text{ W.}$

W. W. Dorse.

CORRELATION OF EARTHQUAKES

..... May, 1948

N O T E S

A :	Ottawa	$\Delta = 185$ km.	H = 20 ^h 50 ^m .5 U.T.
B :	Ottawa	$\Delta = 155$ km.	H = 19 ^h 01 ^m .5 U.T.
C :	Ottawa	$\Delta = 168$ km.	H = 12 ^h 02 ^m .4 U.T.
	Seven Falls	$\Delta = 265$ km.	H = 12 02.4 U.T.
	Shawinigan Falls	$\Delta = 107$ km.	H = 12 02.4 U.T.
	Felt in Montreal City.		
D :	Ottawa	$\Delta = 10,900$ km.	H = 2 ^h 09 ^m U.T.
	Victoria	$\Delta = 8,160$ km.	H = 2 08.9 U.T.
	Saskatoon	$\Delta = 9,000$ km.	H = 2 09.2 U.T.
	Seven Falls	$\Delta = 11,100$ km.	H = 2 09.4 U.T.
E :	Ottawa	$\Delta = 6,700$ km.	H = 8 ^h 56 ^m .0 U.T.
	Victoria	$\Delta = 8,800$ km.	H = (8 55.1)U.T.
	Saskatoon	$\Delta = 8,250$ km.	H = 8 55.9 U.T.
	Halifax	$\Delta = 6,580$ km.	H = 8 56.0 U.T.
	Seven Falls	$\Delta = 6,820$ km.	H = 8 56.1 U.T.
F :	Ottawa	$\Delta = 9,880$ km.	H = 0 ^h 57 ^m .1 U.T.
	Victoria	$\Delta = 6,935$ km.	H = (0 56.6)U.T.
	Saskatoon	$\Delta = 7,860$ km.	H = 0 57.2 U.T.
	Seven Falls	$\Delta = 9,850$ km.	H = 0 57.1 U.T.
G :	Ottawa	$\Delta = 5,700$ km.	H = 22 ^h 31 ^m .9 U.T.
	Victoria	$\Delta = 2,745$ km.	H = (22 30.8)U.T.
	Saskatoon	$\Delta = 3,420$ km.	H = 22 31.9 U.T.
	Halifax	$\Delta = 6,290$ km.	H = 22 32.1 U.T.
	Seven Falls	$\Delta = 5,790$ km.	H = 22 32.0 U.T.
	Shawinigan Falls	$\Delta = 5,750$ km.	H = 22 31.9 U.T.
H :	Victoria	$\Delta = 2,580$ km.	H = (2 ^h 41 ^m .3)U.T.
J :	Ottawa	$\Delta = 5,680$ km.	H = 17 ^h 48 ^m .7 U.T.
	Victoria	$\Delta = 2,500$ km.	H = 17 48.8 U.T.
	Saskatoon	$\Delta = 3,400$ km.	H = 17 48.7 U.T.
	Seven Falls	$\Delta = 5,800$ km.	H = 17 48.8 U.T.
K :	Ottawa	$\Delta = 15,000$ km.	H = 19 ^h 21 ^m .3 U.T.
M :	Ottawa	$\Delta = 90$ km.	H = 4 ^h 07 ^m .9 U.T.
N :	Ottawa	$\Delta = 13,350$ km.	H = 4 ^h 12 ^m .2 U.T.
	Victoria	$\Delta = 8,340$ km.	H = (4 13.3)U.T.
P :	Ottawa	$\Delta = 11,000$ km.	H = 7 ^h 12 ^m U.T.
	Victoria	$\Delta = 9,800$ km.	H = 7 11.3 U.T.
	Saskatoon	$\Delta = 10,700$ km.	H = 7 11.3 U.T.
	Seven Falls	$\Delta = 11,100$ km.	H = 7 11.2 U.T.
Q :	Ottawa	$\Delta = 4,830$ km.	H = 15 ^h 11 ^m .4 U.T.
	Saskatoon	$\Delta = 2,340$ km.	H = 15 11.4 U.T.
R :	Ottawa	$\Delta = 5,280$ km.	H = 9 ^h 17 ^m .0 U.T.
	Victoria	$\Delta = 2,280$ km.	H = (9 15.9)U.T.
	Saskatoon	$\Delta = 3,020$ km.	H = 9 16.6 U.T.

CORRELATION OF EARTHQUAKES

..... May, 1948

N O T E S

S	:	Ottawa	$\Delta = 6,330$ km.	H = $5^{\text{h}}36^{\text{m}}.3$ U.T.
T	:	Ottawa	$\Delta = 150$ km.	H = $21^{\text{h}}00^{\text{m}}.9$ U.T.

Dominion Observatory,
Ottawa, Canada,
July 26, 1948.

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>May, 1948</u>	
St. Louis	July, August, 1943	May 1
Tananarive	Year, 1940	" 3
Istanbul	February, 1948	" 3
Cleveland	February, March, 1948	" 3
Strasbourg	March, 1948; Supplement November, 1947	" 3
Bureau Central	December, 1947	" 3
Toledo	Year, 1948	" 4
Saint Louis and Auxiliary Stations	Preliminaries January, February, 1948	" 5
Rome	March, 1948	" 6
Richmond	October - December, 1936	" 9
Saint Louis and Auxiliary Stations	Preliminaries January, March, 1948	" 12
Tananarive	Year, 1945	" 12
Wellington	February, 1948	" 13
Perth	October - December, 1947	" 13
Almeria	May, June, 1947	" 14
Budapest	January - March, 1948	" 14
Kalocsa	January - March, 1948	" 14
Malaga	August - September, 1947	" 15
Santa Clara	April, 1948	" 15
Belgrade	March, 1948	" 17
Apia	January - March, 1948	" 17
Santiago	March, 1948	" 18
Richmond	March, 1948	" 18
La Plata	July - December, 1946	" 19
Budapest	April, 1948	" 21
Kalocsa	April, 1948	" 21
De Bilt	April, 1948	" 25
Ksara	February - March, 1948	" 25
Pasadena	July - September, 1947; Preliminaries March, April, May, 1948	" 27
Saint Louis and Auxiliary Stations	Preliminaries March, 1948	" 29
Stuttgart	January - March, 1948	" 29

Dominion Observatory,
Ottawa - Canada,
August 31, 1948.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM June 1, 1948 to June 11, 1948 No. 48

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
314 June 1	iz ez L F	Ottawa			
		19 12 50			
		19 15 20			
		19 51			
		21 07			
		Seven Falls			
	e L F	19 34.1			
19 48					
21 12					
		Ottawa			
320 June 8	ez L F	4 01 15			
		4 23			
		4 42			
		Ottawa			
321 June 9	H P ₃ P ₁ i S ₃ S ₁ F	3 04.2	147	Felt in Montreal area	
		3 04 35.5			
		3 04 39			
		3 04 41			
		3 04 53.3			
		3 04 57.5			
			Seven Falls		
	H P ₂ S ₂ F	3 04.3	255		
		3 05 01			
		3 05 30			
		3 06			
			Shawinigan Falls		
	H P ₃ P ₁ S ₃ S ₁ F	3 04.2	172		
3 04 39.4					
3 04 43.3					
3 05 00					
3 05 04					
3 07					
		Ottawa			
323 June 11	H P ₂ S ₂ e F	18 41.2	150		
		18 41 36.5			
		18 41 54			
		18 42 02			
		18 42.3			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM June 11, 1948 to June 15, 1948 No. 49

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
327 June 14	H P ₂ S ₂ e F	Ottawa	165	
		16 21.8		
		16 22 12.7		
		16 22 31.5		
		16 22 37		
328 June 15	H Pz ez PPz SKS SKKS PS L F	Ottawa	10,900	USCGS gives:- $\varphi = 33^{\circ}5' N.$ $\lambda = 136^{\circ} E.$
		11 44.6		
		11 58 12		
		12 01 18		
		12 01 50		
		12 08 46		
		12 09 26		
		12 10 50		
		12 28		
		14 33		
		Saskatoon		
		11 45.0		
		11 56 51		
		12 06 44		
		12 12.0		
12 20				
13 30				
330 June 15	H P S S L F e L F ez L F	Victoria	7,950	
		11 44.9		
		11 56 13		
		12 05 35		
		12 06 27		
		12 17		
		13 41		
		Halifax		
		12 09.1		
		12 36		
		13 22		
		Ottawa		
		15 15 30		
		15 40		
		15 55		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 15, 1948 to June 19, 1948 No. 50

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
332 June 18	H	0 53.8	13,700	USCGS gives:- $\varphi = 6^{\circ} \text{ S.}$ $\lambda = 155^{\circ} \text{ E.}$
	P ₁	1 12 43		
	PP	1 14 21		
	iZ	1 16 18		
	SKS	1 19 40		
	SKKS	1 21 11		
	PPS	1 25.7		
	ez	1 30 31		
	SS ₂	1 38		
	L	1 53		
	F	3 30		
	e	1 17 17		
	L	1 31		
	F	2 05		
		Saskatoon		
	e	1 18.5		
	L	1 36		
	F	2 35		
		Seven Falls		
	e	1 19 48		
	e	1 22.0		
	e	1 31.1		
	L	1 46		
	F	3 26		
		Ottawa		
335 June 18	ez	10 39 14		
	L	11 02		
	F	12 00		
		Ottawa		
337 June 18	ez	18 57 24		
	L	19 28		
	F	20 14		
		Ottawa		
338 June 19	iZ	16 03 31		Nearby quake
	e	16 03 52		
	F	16 04		

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM June 19, 1948 to June 21, 1948 No. 51

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
340 June 19	ez L F	23 03 16 23 12 23 22		
		Ottawa		
342 June 21	iz ez ez L F	12 24 32 12 26 35 12 37.6 13 13 14 38		USCGS gives:- $\varphi = 3^{\circ} \text{ N.}$ $\lambda = 126^{\circ} \text{ E.}$
		Victoria		
	e L F	12 30.6 12 48 13 06		
		Saskatoon		
	e e e L F	12 24.3 12 30.6 12 33.8 12 53 13 48		
		Ottawa		
343 June 21	H P S L F	13 07.7 13 11 04 13 13 50 13 15 36 13 28	1,570	
		Seven Falls		
	H P S L F	13 07.8 13 10 27 13 12 42 13 13 19 13 25	1,235	
		Shawinigan Falls		
	H P S L F	13 07.7 13 10 39 13 13 05 13 13 56 13 25	1,355	

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM June 21, 1948 to June 27, 1948 No. 52

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
346 June 21	H P ₂ S ₂ e F	18 23.0 18 23 25.5 18 23 45.5 18 23 51 18 24.2	165	
		Ottawa		
348 June 22	H P ₂ S ₂ i e F	20 22.4 20 22 49.5 20 23 06.5 20 23 10 20 23 17 20 23.6	150	
		Ottawa		
350 June 22	ez L F	22 26 26 23 00 23 17		
		Ottawa		
354 June 24	H P ₂ S ₂ e F	19 55.5 19 56 06 19 56 30 19 56 40 19 56.8	210	
		Ottawa		
357 June 25	H P ₂ S ₂ e F	15 09.6 15 10 03 15 10 22 15 10 26.5 15 10.9	165	
		Ottawa		
360 June 27	H iP ₂ PP ₂ PPP S SS L F	12 48.4 12 54 23 12 55 10 12 55 26 12 59 18 13 00 30 13 03 14 00	3,170	USCGS gives:- φ = 17° N. λ = 85° W.

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM June 27, 1948 to June 27, 1948 No. 53

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
360 June 27 (cont'd)		Victoria		
	H	12 48.4	4,845	
	1P	12 56 28		
	S	13 03 04		
	SSS	13 06 26		
	L	13 09		
	F	14 16		
		Saskatoon		
	H	12 48.5	3,720	
	P	12 55 13		
	PP	12 56 22		
	S	13 00 43		
	L	13 05		
	F	13 50		
		Halifax		
e	13 00 20			
L	13 06			
F	13 26			
	Seven Falls			
H	2 48.3	3,535		
P	12 54 49			
S	13 00 07			
SS	13 01.8			
L	13 04			
F	14 05			
	Shawinigan Falls			
P	12 54 40			
L	13 05			
F	13 14			
	Ottawa			
361 June 27	H	21 39.5	5,330	USCGS gives:- $\varphi = 56^{\circ} \text{ N.}$ $\lambda = 158^{\circ} \text{ W.}$
	PZ	21 48 06		
	SZ	21 55 09		
	SS	21 58 00		
	SSS	21 59.3		
	L	22 03		
	F	23 25		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 27, 1948 to June 28, 1948 No. 54

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
361 June 27 (cont'd)		Victoria		
	H	21 39.3	2,320	
	PP	21 44 00		
	PP	21 44 15		
	S	21 47 52		
	L	21 49.7		
	F	23 25		
		Saskatoon		
	H	21 39.3	2,500	
	PPP	21 45 12		
	S	21 48 27		
	SS	21 49 24		
	L	21 50.3		
	F	23 00 ca.		
		Halifax		
e	22 06.0			
L	22 09			
F	22 36			
	Seven Falls			
H	21 39.6	5,400		
P	21 48 17			
S	21 55 24			
e	21 58 06			
SS	21 59 13			
L	22 03			
F	23 27			
	Shawinigan Falls			
P	21 48 12			
L	22 06			
F	22 14			
	Ottawa			
H	7 13.3	10,700		
PZ	7 26 46			
PP	7 30 38			
PPP	7 32 47			
e	7 37 34			
S	7 38 09			
PS	7 39 20			
SS	7 44.4			
L	8 00			
F	10 15			

USCGS gives:-
 $\varphi = 36^{\circ} \text{ N.}$
 $\lambda = 136.95 \text{ E.}$

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM June 28, 1948 to June 28, 1948 No. 55

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
362 June 28 (cont'd)		Victoria			
	H	7 13.4	7,880		
	P	7 24 37			
	i	7 24 41			
	PP	7 27 23			
	S	7 33 56			
	PS	7 34 26			
	SS	7 38 52			
	SSS	7 41.4			
	L	7 47			
	F	10 30			
			Saskatoon		
	H	7 13.2	8,145		
	P	7 24 39			
	PP	7 27 27			
	S	7 34 12			
	PS	7 34 57			
	SS	7 39 24			
	SSS	7 42 08			
	L	7 47			
	F	9 30			
			Halifax		
	H	7 13.4	11,100		
	PP	7 31 09			
	SKS	7 37.7			
	PS	7 40 12			
	SS	7 45.4			
	L	8 00			
F	9 03				
		Seven Falls			
H	7 13.4	10,650			
P	7 26 50				
PP	7 30 45				
SKS	7 37 19				
S	7 38 11				
SS	7 49.3				
L	8 00				
F	10 36				
		Shawinigan Falls			
P	7 26 51				
L	8 03				
F	8 35				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM June 28, 1948 to June 29, 1948 No. 56

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS			
		h m s			km.		
364 June 28	eZ L F	Ottawa					
		23 42 41					
		0 00					
			Victoria				
			23 38 36				
			23 42 34				
365 June 29	eZ L F	Ottawa					
		23 44.2					
		0 12					
	H P PP SKS S _M PS SS L F	H P PP SKS S _M PS SS L F	Ottawa	11,900	USCGS gives:- φ = 16° S. λ = 172° W.		
			10 28.4				
			10 42 45				
10 47 06							
10 53 24							
10 54 40							
10 56 25							
11 02 15							
11 18							
13 14							
H iP PP PPP S PS SS SSS L F			H iP PP PPP S PS SS SSS L F	Victoria		8,555	
				10 28.6			
	10 40 26						
	10 43 23						
	10 45 11						
	10 50 18						
	10 51 11						
	10 55 48						
	10 58.7						
	11 01						
	13 29						
	H P PP S PPS SS SSS L F	H P PP S PPS SS SSS L F		Saskatoon	9,780		
10 28.6							
10 41 26							
10 44 56							
10 52 11							
10 53 26							
10 58 26							
11 01 36							
11 09							
13 00 ca.							

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM June 29, 1948 to June 29, 1948 No. 57

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
365 June 29 (cont'd)		Halifax		
	H	10 28.5	12,700	
	PP	10 48.1		
	SKS	10 54 02		
	PS	10 57.8		
	en	10 15		
	L	10 21		
	F	12 05		
		Seven Falls		
	H	10 28.5	12,200	
	P	10 43 02		
	e	10 47 06		
	PP	10 47 33		
SKS	10 53 39			
PS	10 56 59			
SS	11 03.1			
L	11 20			
F	13 10			
	Ottawa			
369 June 29	H	16 06.5	8,720	USCGS gives:- φ = 43° N. λ = 47° E.
	P	16 18 29		
	S	16 28 28		
	L	16 43		
	F	18 08		
		Victoria		
	H	16 06.5	10,870	
	iPz	16 20 09		
	S	16 31 38		
	L	16 55		
	F	17 33		
		Seven Falls		
	H	16 06.5	8,320	
P	16 18 07			
S	16 27.8			
L	16 39			
F	18 01			
	Ottawa			
371 June 30	H	12 21.6	7,280	USCGS gives:- φ = 38°5 N. λ = 20°5 E.
	P	12 32 14		
	S	12 41 06		
	SS	12 45.7		
	SSS	12 48.0		
	L	12 53		
	F	14 33		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM June 29, 1948 to June 30, 1948 No. 58

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Victoria		
371 June 30 (cont'd)	H	12 21.9	9,960	
	PZ	12 34 51		
	S _M	12 45 44		
	L	13 06		
	F	13 50		
		Saskatoon		
	H	12 21.5	8,655	
	P	12 33 22		
	PP	12 36 25		
	S	12 43 18		
	SS	12 48 22		
	SSS	12 51 25		
	L	12 59		
	F	14 10		

W. W. Doysee.

EARTHQUAKE CORRELATION TABLE
June, 1948

No.	Date	Ottawa	Victoria	Saskatoon	Halifax	Seven Falls		Shawinigan	**
						N. S.	W. A.		
313	1 1	24+0 02P	19 55+0 38L	.....	20 07+0 26L	19 34+1 38u	.....	.....	..
314	1 1	13+1 54u	14 02+0 13L	.....	.....	13 56+0 27L	.....	.....	..
315	2 4	54+0 06P*	.....	.....	.....	.....	.....	.....	..
316	4 4	59+0 01P*	.....	.....	.....	.....	.....	.....	..
317	6 6	27+0 08P*	.....	.....	.....	.....	.....	.....	..
318	7 7	32+0 08P*	.....	.....	.....	.....	.....	.....	..
319	8 8	01+0 41u	.....	.....	.....	4 22+0 19L	.....	.....	..
320	8 8	05+0 03V	.....	.....	.....	.....	.....	.....	..
321	9 9	40+0 06P*	.....	.....	.....	.....	.....	.....	..
322	10 10	42+0 07V	.....	.....	.....	.....	.....	.....	..
323	11 11	28+0 02P	.....	.....	.....	.....	.....	.....	..
324	11 11	16+0 01P*	.....	.....	.....	.....	.....	.....	..
325	14 14	04+0 05P*	.....	.....	.....	.....	.....	.....	..
326	14 14	22+0 07V*	.....	.....	.....	.....	.....	.....	..
327	15 15	58+2 35u*	11 56+1 45u	11 57+1 33u	12 09+1 13u	.....	.....	.....	..
328	15 15	23+0 04P*	.....	.....	.....	.....	.....	.....	..
329	15 15	15+0 40u	.....	.....	.....	.....	.....	.....	..
330	15 15	04+0 01P*	.....	.....	.....	.....	.....	.....	..
331	17 17	13+2 17u*	1 17+0 48u	1 18+1 17u	1 48+0 29L	1 20+2 06u	.....	.....	..
332	18 18	18+0 02P*	.....	.....	.....	.....	.....	.....	..
333	18 18	.....	.....	.....	.....	.....	.....	.....	..
334	18 18	39+1 21u	.....	8 21+0 07L	.....	.....	.....	.....	..
335	18 18	40+0 50L	.....	10 53+0 18L	.....	11 01+0 41L	.....	.....	..
336	18 18	57+1 17u	.....	.....	.....	17 48+0 31L	.....	.....	..
337	19 19	03+0 05V	.....	.....	.....	19 26+0 45L	.....	.....	..
338	19 19	.....	.....	.....	.....	.....	.....	.....	..
339	19 19	.....	.....	.....	.....	17 30+0 10L	.....	.....	..
340	21 21	03+0 19r	.....	.....	.....	.....	.....	.....	..
341	21 21	51+0 01P*	.....	.....	.....	.....	.....	.....	..
342	21 21	25+2 13u	12 31+0 35u	12 24+1 24u	.....	.....	.....	.....	..
343	21 21	11+0 17r	.....	.....	.....	.....	.....	13 11+0 14r	..

F

E

D

C

B

A

CORRELATION OF EARTHQUAKES

June, 1948

N O T E S

A	: Ottawa	$\Delta = 147$ km.	H = 3 ^h 04 ^m .2 U.T.
	Seven Falls	$\Delta = 255$ km.	H = 3 04.3 U.T.
	Shawinigan Falls	$\Delta = 172$ km.	H = 3 04.2 U.T.
B	: Ottawa	$\Delta = 150$ km.	H = 18 ^h 41 ^m .2 U.T.
C	: Ottawa	$\Delta = 165$ km.	H = 16 ^h 21 ^m .8 U.T.
D	: Ottawa	$\Delta = 10,900$ km.	H = 11 ^h 44 ^m .6 U.T.
	Victoria	$\Delta = 7,950$ km.	H = 11 44.9 U.T.
	Saskatoon	$\Delta = 8,580$ km.	H = 11 45.0 U.T.
E	: Ottawa	$\Delta = 13,700$ km.	H = 0 ^h 53 ^m .8 U.T.
F	: Ottawa	$\Delta = 1,570$ km.	H = 13 ^h 07 ^m .7 U.T.
	Seven Falls	$\Delta = 1,235$ km.	H = 13 07.8 U.T.
	Shawinigan Falls	$\Delta = 1,355$ km.	H = 13 07.7 U.T.
G	: Ottawa	$\Delta = 165$ km.	H = 18 ^h 23 ^m .0 U.T.
H	: Ottawa	$\Delta = 150$ km.	H = 20 ^h 22 ^m .4 U.T.
J	: Ottawa	$\Delta = 210$ km.	H = 19 ^h 55 ^m .5 U.T.
K	: Ottawa	$\Delta = 165$ km.	H = 15 ^h 09 ^m .6 U.T.
M	: Ottawa	$\Delta = 3,170$ km.	H = 12 ^h 48 ^m .4 U.T.
	Victoria	$\Delta = 4,845$ km.	H = 12 48.4 U.T.
	Saskatoon	$\Delta = 3,720$ km.	H = 12 48.5 U.T.
	Seven Falls	$\Delta = 3,535$ km.	H = 12 48.3 U.T.
N	: Ottawa	$\Delta = 5,330$ km.	H = 21 ^h 39 ^m .5 U.T.
	Victoria	$\Delta = 2,320$ km.	H = 21 39.3 U.T.
	Saskatoon	$\Delta = 2,500$ km.	H = 21 39.3 U.T.
	Seven Falls	$\Delta = 5,400$ km.	H = 21 39.6 U.T.
P	: Ottawa	$\Delta = 10,700$ km.	H = 7 ^h 13 ^m .3 U.T.
	Victoria	$\Delta = 7,880$ km.	H = 7 13.4 U.T.
	Saskatoon	$\Delta = 8,145$ km.	H = 7 13.2 U.T.
	Halifax	$\Delta = 11,100$ km.	H = 7 13.4 U.T.
	Seven Falls	$\Delta = 10,650$ km.	H = 7 13.4 U.T.
Q	: Ottawa	$\Delta = 11,900$ km.	H = 10 ^h 28 ^m .4 U.T.
	Victoria	$\Delta = 8,555$ km.	H = 10 28.6 U.T.
	Saskatoon	$\Delta = 9,780$ km.	H = 10 28.6 U.T.
	Halifax	$\Delta = 12,700$ km.	H = 10 28.5 U.T.
	Seven Falls	$\Delta = 12,200$ km.	H = 10 28.5 U.T.
R	: Ottawa	$\Delta = 8,720$ km.	H = 16 ^h 06 ^m .5 U.T.
	Victoria	$\Delta = 10,870$ km.	H = 16 06.5 U.T.
	Seven Falls	$\Delta = 8,320$ km.	H = 16 06.5 U.T.
S	: Ottawa	$\Delta = 7,280$ km.	H = 12 ^h 21 ^m .6 U.T.
	Victoria	$\Delta = 9,960$ km.	H = 12 21.9 U.T.
	Saskatoon	$\Delta = 8,165$ km.	H = 12 21.5 U.T.

Dominion Observatory,
 Ottawa, Canada,
 Aug. 5, 1948.

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>June, 1948</u>	
Belgrade	April, 1948	June 1
Jena	January, 1944 - December, 1946	" 8
Ksara	April, 1948	" 8
Santa Clara	May, 1948	" 8
Bureau Central	January, 1948; Supplement December, 1947	" 8
Strasbourg	April 1 - May 10, 1948	" 8
Wellington	March, 1948	" 8
La Paz	July - October, 1947	" 8
Istanbul	October, November, 1947	" 8
Uccle	April, May, 1948	" 9
De Bilt	Year, 1944	" 14
Malaga	November, 1947	" 14
Upsala	January, 1919 - September, 1920	" 16
Bureau Central	February, 1948	" 17
Strasbourg	May 10 - 20, 1948	" 17
Bogota	January - February, 1947	" 18
Saint Louis and Auxiliary Stations	September, October, 1943; Preliminaries January, February, April, 1948	" 21
Zi-Ka-Wei	Years 1943 - 1947	" 21
Rome	April, 1948	" 22
Brisbane	March, 1948	" 22
Pasadena	January - March, 1948	" 22
Richmond	April, 1948	" 26
Kalocsa	May, 1948	" 26
Budapest	May, 1948	" 26
Helsinki	January - March, 1948	" 28
Uccle	May, 1948	" 30

Dominion Observatory,
Ottawa - Canada,
August 31, 1948.



DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

July, 1948

00000

DOMINION OBSERVATORY
OTTAWA - CANADA

000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. G. Milne, Station Superintendent

S T A T I O N S

OTTAWA

$\varphi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\varphi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

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

$\varphi = 47^{\circ}07'4''$ N. $\lambda = 70^{\circ}49'6''$ W. $h = 232$ m. 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.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

 $\phi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.

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.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

 $\phi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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

 $\phi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.

Time correction from radio time signals

Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	T_s	T_g	V	ϵ	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM	July 1, 1948	to	July 3, 1948	No. 59
No. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
375 July 1	eZ F ²	1 54 30 1 57		
		Ottawa		
376 July 1	H P ₃ i S ₃ i e F	22 26.4 22 27 00 22 27 01.5 22 27 29.5 22 27 32 22 27 50.5 22 28.2	260	
		Ottawa		
377 July 2	eZ eZ F	19 38 06 19 38 11 19 38.7		
		Ottawa		
378 July 2	e F	23 04 03 23 05.5		
		Victoria		
379 July 3	H P ₃ P ₂ P ₁ S ₃ S ₂ S ₁ F	3 36.8 3 37 27.5 3 37 30.5 3 37 34.5 3 37 56 3 38 00.2 3 38 04.4 3 39	260	
		Ottawa		
380 July 3	eZ eZ F ²	4 23 03 4 23 42 4 25.5		
		Victoria		
	eZ F ²	4 25 02 4 28		
		Victoria		
381 July 3	eZ F ²	13 01 55 13 04		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 3, 1948 to July 5, 1948 No. 60

NO. AND DATE	PHASE	TIME			DISTANCE km.	REMARKS
		h	m	s		
		Ottawa				
383 July 3	eZ FZ	15	52	42		
		15	53.1			
		Ottawa				
384 July 3	eZ FZ	20	27	18		
		20	27.8			
		Ottawa				
385 July 3	eZ iZ FZ	21	51	36		
		21	52	20		
		21	53.1			
		Ottawa				
386 July 4	eZ FZ	5	24	04		
		5	24.3			
		Ottawa				
387 July 4	eZ iZ FZ	12	28	09		
		12	28	25		
		12	30			
		Ottawa				
388 July 4	eZ FZ	16	12	33		
		16	12.8			
		Ottawa				
389 July 5	eZ FZ	13	50	02		
		13	50.6			
		Ottawa				
390 July 5	H PZ SKS S SS L F	13	52.1		12,200	
		14	06	36		
		14	17.3			
		14	19.0			
		14	30			
		14	44			
		16	hrs.	ca.		
		Victoria				
	eN eN L F	14	18.1			
		14	35			
		14	46			
		15	44			
		Seven Falls				
	L F	14	18			
		15	59			

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

FROM July 5, 1948 to July 7, 1948 No. 61

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
391 July 6	eZ FZ	18 26 44 18 27.1		
		Ottawa		
392 July 6	eZ FZ	19 08 12 19 09.5		
		Ottawa		
393 July 7	H P PPP SKS PS SS e L F	2 19.4 2 32 56 2 39.5 2 43.5 2 45.5 2 50.7 2 58 3 03 4 36	10,800	USCGS gives:- $\phi = 33^{\circ}$ N. $\lambda = 136^{\circ}$ E.
		Victoria		
	iZ eZ L F	2 30 45 2 39 08 2 48 4 23		
		Saskatoon		
	e L F	2 40 30 2 52 4 05		
		Seven Falls		
	L F	2 44 4 23		
		Ottawa		
394 July 7	eZ iZ FZ	4 47.2 4 47 59 4 48.4		
		Ottawa		
395 July 7	H P3 i F1 S3 i S1 F	7 38.0 7 38 23 7 38 24.6 7 38 26.5 7 38 40.2 7 38 43.2 7 38 44.0 7 42	150	Felt in Montreal area.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 7, 1948 to July 8, 1948 No. 62

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	kn.	
Shawinigan Falls				
395 July 7 (cont'd)	H	7 38.0	180	
	P ₃	7 38 29.5		
	S ₃	7 38 50.5		
	S ₂	7 38 51.4		
	F	7 40.5		
Victoria				
396 July 7	iZ	14 39 54		
	iZ	14 40 02		
	F	14 41		
Victoria				
397 July 8	iZ	0 01 35		
	F	0 03		
Ottawa				
398 July 8	H	12 34.7	4,600	USCGS gives:- φ = 71° N. λ = 6° W.
	P	12 42 31		
	PP	12 44 09		
	S	12 48 54		
	SS	12 51.8		
	L	12 55		
	F	13 17+		
	Victoria			
H	P	12 34.8	5,920	
	P	12 44 04		
	S	12 51 40		
	L	13 00		
	F	13 39		
Saskatoon				
H	P	12 34.8	4,980	
	P	12 43 00		
	S	12 49 43		
	SS	12 53.0		
	L	12 57		
	F	13 33		
Victoria				
399 July 8	eZ	14 02 08		
	F	14 05		
Ottawa				
400 July 8	eZ	17 26 28		
	F	17 28		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 8, 1948 to July 9, 1948 No. 63

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
		Ottawa		
401 July 8	eZ FZ	21 37 13 21 37.5		
		Victoria		
402 July 8	iZ iZ FZ	21 56 04 21 56 15 21 59		
		Ottawa		
403 July 8	H P ₂ S ₂ e F	22 04.5 22 04 55.5 22 05 13.5 22 05 17 22 05.5	155	
		Victoria		
404 July 8	eZ FZ	(22 38 09) (22 39)		No clock correction
		Victoria		
405 July 9	eZ FZ	(1 45 54) (1 47)		No clock correction
		Victoria		
406 July 9	eZ FZ	(1 53 42) (1 56)		No clock correction
		Ottawa		
407 July 9	eZ FZ	8 01 11 8 02		
		Ottawa		
408 July 9	eZ FZ	11 36 01 11 37		
		Victoria		
	eZ FZ	(11 38 23) (11 41)		No clock correction
		Victoria		
409 July 9	iZ iZ FZ	(15 47 34.5) (15 47 39) (15 50)		Local? No clock correction

SEISMOLOGICAL SERVICE OF CANADA



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DOMINION OBSERVATORY, OTTAWA

FROM July 9, 1948 to July 14, 1948 No. 64

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
410 July 9	eZ FZ	18 17 13 18 17.7		
		Ottawa		
411 July 10	eZ FZ	14 00 12 14 00.6		
		Ottawa		
412 July 10	eZ FZ	16 53 08 16 53.6		
		Ottawa		
413 July 10	eZ FZ	20 55 51 20 56.1		
		Ottawa		
414 July 10	eZ FZ	21 08 42 21 08.8		
		Ottawa		
415 July 12	eZ FZ	17 20 10 17 22		
		Ottawa		
416 July 12	eZ LZ FZ	23 22.0 23 31 23 45		
		Shawinigan Falls		
417 July 13	H P1 S1 F1	14 06.0 14 06 13 14 06 18.7 14 06.7	52	
		Shawinigan Falls		
418 July 13	H P1 e S1 e F	15 20.5 15 20 37 15 20 37.5 15 20 43.2 15 20 44.8 15 23	52	
		Ottawa		
419 July 14	eZ e e L F	22 48 04 22 50 08 22 58 30 23 26 1 05		USCGS gives:- φ = 4° S. λ = 142° E.



SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

FROM July 14, 1948 to July 15, 1948 No. 65

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS				
		h m s						
419 July 14 (cont'd)	iZ e L F	Victoria		No clock correction				
		(22 43 31)						
		(22 54 48)						
		(23 01)						
		F			(1 25)			
					Saskatoon			
					eNW	22 45 26		
					e	22 48 20		
		e			e	22 55 18		
					L	23 17		
					F	1 05		
					Halifax			
		e			e	22 51.8		
					e	23 00.0		
					L	23 27		
F			0 12					
		Seven Falls						
		e			22 49 56			
		e			22 56 16			
		e			22 59 06			
		L			F	23 25		
					F	1 22		
					Ottawa			
					H	11 02.1		
	420 July 15	P S SS L F				4,745	USCGS gives:- φ = 10° N. λ = 104° W.	
					P			11 10 03
					S			11 16 34
					SS			11 19.8
					L			11 23
		F			F	12 30		
					Victoria			
H			(11 03.4)					
P			(11 11 09)					
S			(11 17 31)					
	SS	L	(11 21 00)					
		L	(11 26)					
		F	(12 57)					
		Saskatoon						
		H			11 02.3			
		P			11 09 58			
		PP			11 11 21			
		PPP			S	11 12 04		
					S	11 16 18		
					SS	11 18 48		
		SSS			L	11 19 39		
					L	11 22		
					F	12 30		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 15, 1948 to July 16, 1948 No. 66

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
420 July 15 (cont'd)	H	11 02.3	5,050	
	P	11 10 37		
	PP	11 12 27		
	S	11 17 25		
	SS	11 21.0		
	L F	11 26 12 34		
		Shawinigan Falls		
421 July 16	e	7 19 20		
	F	7 23		
		Ottawa		
422 July 16	H ₁	7 12.5	3,565	Dual quake. USCGS gives:- $\varphi = 14^{\circ}5' N.$ $\lambda = 92^{\circ} W.$ $h = 100 \text{ km. ca.}$
	H ₂	7 19.9	3,500	
	P	7 19 02		
	i	7 19 18		
	PPP	7 20 18		
	S	7 24 22		
	P	7 26 20		
	S	7 31 36		
	SS	7 35.8		
	L F	7 39 8 31		
		Victoria		
	H ₁	(7 13.8)	4,650	No clock correction
	H ₂	(7 21.0)		
	P ₁	(7 21 37)		
	S ₁	(7 28 02)		
	P ₂	(7 28 49)		
	S	(7 35 15)		
	SS	(7 38.8)		
	L	(7 44)		
	F	(8 45)		
		Saskatoon		
	H ₁	7 12.8	4,280	
	H ₂	7 19.9	4,165	
	P	7 20 12		
	PPP	7 22 08		
	S	7 26 17		
	P	7 27 10		
	PPP	7 28 53		
	S	7 33 08		
	SSS	7 36 20		
	L F	7 38 8 45		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 16, 1948 to July 17, 1948 No. 67

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Halifax		
422 July 16 (cont'd)	H	7 12.4	5,600	
	P	7 21 18		
	e	7 25.6		
	S	7 28.6		
	e	7 32 42		
	L	7 35.6		
	F	7 39		
		8 02		
		Seven Falls		
	H ₁	7 12.5	3,950	
	H ₂	7 19.8		
	P	7 19 29		
	PPP	7 21 00		
	S	7 25 11		
	P	7 26 43		
	PPP	7 28 18		
	S	7 32 26		
	i	7 32 54		
	SS	7 35.9		
	L	7 40		
	F	8 55		
		Shawinigan Falls		
	H	7 19.8	3,755	
	P	7 26 34		
	S	7 32 06		
	F	7 48		
		Ottawa		
423 July 16	eZ	11 14 39		
	F	11 16		
		Victoria		
424 July 17	iZ	6 27 59		
	iZ	6 28 26		
	F	6 29		
		Ottawa		
425 July 17	eZ	9 37 24		
	F	9 40		
		Victoria		
	eZ	9 39 06		
	F	9 40		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 17, 1948 to July 18, 1948 No. 68

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	kn.	
426 July 17	H P ₁ S ₁ F	Victoria	96	
		22 22.1		
		22 22 23.5		
		22 22 34.5		
427 July 18	eZ FZ	Ottawa		
		3 19 37 3 23		
428 July 18	eZ L _E F _E	Ottawa		
		7 02 35 7 23		
		8 50		
		Saskatoon		
	e e L F	7 03 05 7 12 31 7 19 9 00		
		Halifax		
		L F	8 01 8 11	
		Seven Falls		
	e e L F	7 06 00 7 22.6 7 36 8 53		
		Ottawa		
		429 July 18	eZ L _E F _E	22 48 38 22 57 0 38
		Victoria		
L F	22 54 0 19			
	e e L F	Saskatoon		
		22 48 00 22 57 03 23 15 0 20		
		Seven Falls		
		L F	23 00 1 02	

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 18, 1948 to July 20, 1948 No. 69

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
430 July 19	eZ FZ	Ottawa			
		20 54 11 20 54.3			
431 July 19	H PZ S ₁ S ₂ L F	Ottawa			
		22 26.3	3,630	USCGS gives:- φ = 15° N. λ = 91.95 W.	
		22 32 54			
		22 38 18			
		22 40 52			
		22 44			
		23 03			
		Victoria			
		eZ LZ F	22 34 29 22 43 23 01		
		Baskatoon			
e e L F	22 36 03 22 39 58 22 45 23 10				
432 July 20	H P ₁ P ₂ SKS PS SS L F	Seven Falls			
		L F	22 39 23 02		
		Ottawa			
		0 41.5	13,600		
		1 00 25			
		1 02.0			
		1 07.5			
		1 12.0			
		1 19			
		1 38			
3 09					
Victoria					
L F	1 01 2 18				
Baskatoon					
H PP SKS PPS SS L F	0 41.3 0 58 56 1 05 36 1 08 28 1 13 32 1 28 2 17	11,000			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 20, 1948 to July 20, 1948 No. 70

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
		Seven Falls		
432	L	1 07		
July	F	3 10		
20				
(cont'd)		Victoria		
433	eZ	9 01 03		
July	F	9 03		
20		Ottawa		
434	H	11 02.5	6,670	USCGS gives:-
July	P	11 12 33		$\varphi = 17^{\circ} S.$
20	S	11 20 52		$\lambda = 74.95 W.$
	PS	11 21 36		
	iE	11 22 22		
	SS	11 25.1		
	L	11 33		
	F	13 13		
		Victoria		
	H	11 02.8	8,600	
	P	11 14 42		
	PP	11 17 37		
	S	11 24 36		
	L	11 38		
	F	12 50		
		Saskatoon		
	H	11 02.5	8,045	
	P	11 13 52		
	PPP	11 17 58		
	S	11 23 20		
	PS	11 24 51		
	SS	11 28 03		
	SSS	11 31 03		
	L	11 37		
	F	12 40		
		Halifax		
	H	11 02.6	6,630	
	P	11 12 35		
	PP	11 14 52		
	PPP	11 16.4		
	S	11 20 52		
	PS	11 21 28		
	SS	11 24.9		
	SSS	11 27.4		
	L	11 32		
	F	12 02		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 20, 1948 to July 21, 1948 No. 71

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Seven Falls		
434 July 20 (cont'd)	H P S L F	11 02.6	6,850	
		11 12 47		
		11 21 16		
		11 32		
		12 21		
		Shawinigan Falls		
	P F	11 12 41		
		11 23		
		Ottawa		
435 July 20	e F ^Z	11 41 56		
		11 47		
		Ottawa		
436 July 20	e F ^Z	17 00 50		
		17 01.2		
		Victoria		
436 July 20	i e F	(20 20 02)		No clock correction
		20 21 06		
		20 23		
		Ottawa		
437 July 20	e F ^Z	19 21 40		
		19 22.1		
		Victoria		
438 July 21	L F	12 02		
		12 21		
		Saskatoon		
	L F	12 01		
		12 07		
		Ottawa		
439 July 21	e F ^Z	23 21 57		
		23 22.3		
		Ottawa		
440 July 21	e F ^Z	23 32 29		
		23 32.7		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 21, 1948 to July 22, 1948 No. 72

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
		Ottawa		
441 July 22	ez F	5 17 34 5 18.1		
		Ottawa		
442 July 22	ez F	6 57 56 6 59		
		Seven Falls		
443 July 22	L F	18 04 18 15		
		Ottawa		
444 July 22	H P S L F	20 05.5 20 12 30 20 18 14 20 24 21 04	3,950	USCGS gives:- φ = 49°5 N. λ = 130°5 W.
		Victoria		
	H P P P L S S S L L F	(20 05.8) (20 06 55.2) (20 07 05.8) (20 07 14.5) (20 07 46) (20 07 53.5) (20 08 05) (20 08.5) (20 54)	485	No clock correction
		Saskatoon		
	H P P P S L F	20 05.5 20 08 56 20 09 21 20 11 57 20 13 20 45	1720	
		Halifax		
	e L F	20 27.1 20 28 20 45		
		Seven Falls		
	S L F	20 18 45 20 25 21 07		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 22, 1948 to July 23, 1948 No. 73

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
Shawinigan Falls				
444 July 22 (cont'd)	L	20 25		
	F	20 31		
Ottawa				
445 July 22	e ₂	20 59 46		USCGS gives:- φ = 49°5' N. λ = 130°5' W.
	L ₁	21 11		
	F	21 54		
Victoria				
	H	(20 53.0)		No clock correction
	F ₃	(20 54 11)		
	S ₃	(20 54 16.5)		
	S ₃	(20 55 05.5)		
	S ₂	(20 55 17.5)		
	S ₁	(20 55 26)		
	F ₁	(21 18)		
Saskatoon				
	e	20 56 47		
	S	21 00 11		
	SS	21 00 56		
	L	21 02		
	F	21 30		
Halifax				
	L	21 15		
	F	21 25		
Seven Falls				
	L	21 13		
	F	22 53		
Ottawa				
446 July 22	P ₂	22 02 56	145	
	S ₂	22 03 12.7		
	S ₁	22 03 16.3		
	F ₁	22 03.8		
Ottawa				
447 July 22	H	23 52.8	155	
	F ₂	23 53 12		
	F ₁	23 53 14.7		
	S ₂	23 53 29.8		
	S ₁	23 53 32.9		
	e	23 53 37		
	F	23 54		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 23, 1948 to July 24, 1948 No. 74

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
448 July 23	eZ L F	Ottawa		No clock correction
		12 40 15		
		12 51		
		13 17		
		Victoria		
		(12 34 49) F ⁻ (12 36)		
	L F	Seven Falls		
		12 46		
		14 55		
		Ottawa		
449 July 23	eZ F ⁻	17 31 02		
		17 31.3		
450 July 23	eZ F ⁻	Ottawa		
		18 27 32		
		18 28		
451 July 23	H P ₂ S ₂ S ₁ e F	Ottawa	155	
		18 42.5		
		18 42 57		
		18 43 15.		
		18 43 18.3		
		18 43 22		
452 July 23	eZ F ⁻	Ottawa		
		20 58 41		
		20 59.4		
		Ottawa		
453 July 23	e eE L F	21 10 40		
		21 21.0		
		21 36		
		22 00		
		Seven Falls		
	L F	21 20		
		22 10		
454 July 23	eZ F	Ottawa		
		23 34 58		
		23 36		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 24, 1948 to July 24, 1948 No. 75

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS	
		h m s	km.		
455 July 24	eZ FZ	Ottawa			
		4 36 15 4 37.2			
456 July 24	H P PP PPP S SS SSS L F	Ottawa	7980	USCGS gives:- $\varphi = 35^{\circ}$ N. $\lambda = 24^{\circ}$ E.	
		6 03.3			
		6 14 38			
		6 17 21			
		6 18 58			
		6 24 02			
		6 29.0			
		6 32.0			
		6 37			
		7 53			
		Victoria	9600		
		H J S PS L F	6 03.7 6 16 21 6 26 59 6 27 55 6 46 7 36		
		Saskatoon	9110		
H P PPP S PS SS SSS L F	6 03.3 6 15 36 6 20 44 6 25 52 6 26 48 6 31 36 6 34 59 6 43 8 45				
Halifax	7010				
H P PP S SS L F	6 03.5 6 13 56 6 16 22 6 22 34 6 27.2 6 36 7 01				
Seven Falls					
H P S PS SS L F	6 03.4 6 14 14 6 23 14 6 24 13 6 27.1 6 34 7 56				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 24, 1948 to July 26, 1948 No. 76

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
		Shawinigan Falls		
456 July 24 (cont'd)	P F	6 14 24 6 30		
		Victoria		
457 July 24	eZ F	14 35 14 14 37		
		Ottawa		
458 July 24	H P ₁ S ₂ S ₁ F ₁	16 58.9 16 59 20.5 16 59 34.5 16 59 38.5 16 59.7	155	
		Ottawa		
459 July 24	eZ FZ	18 28 01 18 28.2		
		Ottawa		
460 July 24	eZ FZ	19 27 14 19 27.4		
		Ottawa		
461 July 24	eZ FZ	22 01 21 22 02.1		
		Victoria		
462 July 25	eZ FZ	0 23 07 0 24		
		Seven Falls		
	L F	1 11 1 41		
		Ottawa		
463 July 25	eZ FZ	5 47 48 5 49		
		Victoria		
	eZ FZ	5 45 13 5 46		
		Ottawa		
464 July 25	eZ FZ	7 24 29 7 25.1		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 26, 1948 to July 26, 1948 No. 77

NO. AND DATE	PHASE	TIME			DISTANCE km.	REMARKS
		h	m	s		
						Ottawa
465 July 26	eZ F	2	29	22		
						Ottawa
466 July 26	iZ iZ L F	3	40	53		
		3	43	06		
		3	54			
		4	04			
						Victoria
	e F	3	44	07		
		3	45			
						Ottawa
467 July 26	eZ L F	6	18.7			
		6	28			
		6	41			
						Ottawa
468 July 26	eZ F	6	33	53		
		6	34.1			
						Ottawa
469 July 26	H PZ SE	12	55.3		6,640	
		13	05	15		
		13	13	32		
						Victoria
	eZ F	13	07	47		
		13	09			
						Ottawa
470 July 26	L F	17	46			
		18	11			
						Seven Falls
	L F	17	52			
		18	12			
						Ottawa
471 July 26	iZ F	19	18	52		
		19	19.6			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM		July 26, 1948		to	July 28, 1948		No. 78	
NO. AND DATE	PHASE	TIME			DISTANCE km.	REMARKS		
		h	m	s				
		Victoria						
471	eZ	19	13	42				
July 26	F	19	15					
cont'd		Seven Falls						
472	L	19	59					
July 26	F	21	02					
		Victoria						
473	eZ	1	12	14				
July 27	F	1	13					
		Ottawa						
474	iZ	18	30	52.5				
July 27	F	18	31					
		Ottawa						
475	iZ	18	31	39			r type	
July 27	iZ	18	31	45				
	F	18	32.3					
		Seven Falls						
	e	18	36	42				
	F	18	40					
		Victoria						
476	H	1	40	42	125		v type - Z	
July 28	P ₂	1	41	03			component	
	P ₁	1	41	05				
	S ₂	1	41	18				
	S ₁	1	41	21				
	e	1	41	23				
	F	1	42.0					
		Victoria						
477	H	2	06	41	148		v type - Z	
July 28	P _n	2	07	09			component	
	S _n	2	07	27				
	S ₁	2	07	29				
	F	2	08.0					
		Ottawa						
478	P	8	24	42			r type	
July 28	PP	8	26	24				
	L	8	36.2					
	F	9	05					

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 28, 1948 to July 28, 1948 No. 79

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
478 July 28 (cont'd)	H iPz S eNS LF	Victoria	4380	8 13 59
		8 21 30.0		
		8 27 41		
		8 27 55		
		8 28.8		
	F	8 46		
		Saskatoon		8 21 18
		8 26 28		
		8 28 10		
		8 30.2		
	9 00			
	LF	Halifax		8 41.5
		8 52		
	e LF F	Seven Falls		8 24 49
		8 38.9		
9 07				
e LF F	Shawinigan Falls		8 24 46	
	8 39.1			
	8 48			
eZ FZ	Ottawa		9 53 48	
	9 54.1			
480 July 28	H Fn e F ₂ S _n i F	Victoria	635	10 09 44
		10 11 11.5		
		10 11 22.4		
		10 11 28.5		
		10 12 18.3		
		10 12 22		
		10 14		
481 July 28	H F _n S _n i F	Victoria	635	10 20 13
		10 21 40.0		
		10 22 47.1		
		10 22 54		
		10 24		

 v type - Z
component

 v type - Z
component

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 28, 1948 to July 29, 1948 No. 80

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
482 July 28		Ottawa	4060	USCGS gives:- $\varphi = 7^{\circ} \text{ N.}$ $\lambda = 82^{\circ} \text{ W.}$ $h = 14 \text{ 21.8}$
	H	14 22 06		
	P	14 29 13		
	PPP	14 30 44		
	S	14 35 12		
	L	14 40		
	F	15 06		
		Seven Falls		
	e	14 35.7		
	L	14 38		
F	15 07			
483 July 28		Ottawa	4140	USCGS gives:- $\varphi = 7^{\circ} \text{ N.}$ $\lambda = 82^{\circ} \text{ W.}$ $h = 15 \text{ 05.6}$
	H	15 05 51		
	P	15 13 04		
	PPP	15 14 30		
	S	15 19 00		
	SS	15 21.3		
	SSS	15 21.7		
	L	15 24		
	F	16 11		
		Seven Falls		
e	15 19.6			
L	15 22			
F	16 21			
484 July 28		Ottawa	165 (?)	Z component
	H	19 42 27		
	F ₂	19 42 54		
	S ₂	19 43 13		
	F ₂	19 44.1		
485 July 29		Ottawa		
	e	0 45 22		
	L	1 15		
	F	1 54		
		Seven Falls		
L	1 08			
F	1 55			
486 July 29		Ottawa		1 waves
	iZ	0 49 10		
	F ₂	0 53		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 29, 1948 to July 30, 1948 No. 81

NO. AND DATE	PHASE	TIME	DISTANCE km.	REMARKS
		h m s		
487 July 29	H P S SSS L F	Ottawa	4010	r type
		18 58 14		
		19 05 18		
		19 11 06		
		19 14.0		
		19 17		
	L F	Seven Falls		
		19 11 19 49		
488 July 29	iZ F	Ottawa		
		20 05 24 20 06.2		
489 July 29	iZ F	Ottawa		
		20 55 32 20 55.8		
490 July 29	iZ F	Ottawa		
		20 57 14 20 58		
491 July 30	eZ L F	Ottawa		u type
		1 02 06 1 48		
		2 07		
492 July 30	iZ e L F	Ottawa		u type
		3 43 03 3 53.5		
		4 06		
		4 39		
		Victoria		
	iZ F	2 54 40 2 57.0		
		Victoria		
443 July 30	iZ F	4 55 49 4 56		
		Ottawa		
494 July 30	H F ₁ S ₁ i F	Ottawa	95	Z component Cornwall, Ontario (?)
		13 44 39		
		13 44 57		
		13 45 08.5		
		13 45 14.4		
		13 45.5		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 30, 1948 to July 31, 1948 No. 82

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
495 July 30	eZ e L F	Ottawa	180	u type
		15 45 11		
		15 50.0		
		15 54		
	L F	Seven Falls	180	
		15 55		
		16 10		
496 July 30	H F ₂ S ₂ S ₁ e F	Ottawa	180	z component
		20 00 50		
		20 01 19.4		
		20 01 40		
		20 01 43.5		
		20 01 53		
497 July 30	iZ F	Ottawa	180	
		22 33 36		
		22 34.6		
498 July 31	eZ L F	Ottawa	180	r type
		0 28 08		
		0 42		
		0 58		
		Seven Falls		
		0 43.1		
499 July 31	eZ F	Ottawa	180	
		14 46 25		
		14 46.6		
500 July 31	eZ F	Ottawa	180	
		17 08 41		
	F	Ottawa	180	
		17 09.5		
501 July 31	H F PPF S SS L F	Ottawa	4100	USCGS gives:- φ = 7° N. λ = 82° W. h = 19 04.2
		19 04 25		
		19 11 36		
		19 13 08		
		19 17 30		
		19 20.3		
		19 22.5		
		20 12		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

FROM July 31, 1948 to July 31, 1948 No. 83

NO. AND DATE	PHASE	TIME	DISTANCE	REMARKS
		h m s	km.	
501 July 31 (cont'd)	e L F	Victoria		
		19 14 (17)		u type
		19 22 20 08		
	e L F	Seven Falls		
		19 18.2		<i>M. S. G. L. N.</i>
		19 21.0		
20 10				



DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

August, 1948

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DOMINION OBSERVATORY

OTTAWA - CANADA

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SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
 Ernest A. Hodgson, Chief, Seismological Division
 W. G. Milne, Station Superintendent

STATIONS

OTTAWA

$\varphi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\varphi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

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

$\varphi = 47^{\circ}07'4''$ N. $\lambda = 70^{\circ}49'6''$ W. $h = 232$ m. 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.

STATIONS (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

 $\varphi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.

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.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

 $\varphi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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

 $\varphi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.

Time correction from radio time signals

Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	T_s	T_g	V	ϵ	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 84

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Ottawa			
502 Aug. 1	ez F	0	46	16 .7	509 Aug. 3	ez L LM F	9	37	20 47 50 05
	Ottawa					Victoria			
503 Aug. 1		4	14	to 4 23		ez L F	9	39	46 04 16
	Victoria					Clock correction unknown			
504 Aug. 1	iz iz F	16	44	24 43 45	510 Aug. 3	H Pn i Sn S1 F Δ	10	59	33 00.8 03.4 20.0 23.3 02 160 km.
	Clock correction unknown					Clock correction unknown			
	Ottawa					Victoria			
505 Aug. 1	ez F	18	25	46 .9	511 Aug. 3	ez F	11	23	32 24.5
	Ottawa					Clock correction unknown			
506 Aug. 1	H Pz S L F Δ	18	26	21 28 06 53 07 4860 km.		Ottawa			
	Saskatoon				512 Aug. 3	ez F	17	30	29 31
	eNW eNW e L F	18	34	53 07 06 52.7 00		Seven Falls			
	Victoria						17	41	to 17 49
507 Aug. 2	H P2 S2 F Δ	10	05	29 39.1 46.6 .7 60 km.		Surface waves			
	Clock correction unknown					Ottawa			
	Victoria				513 Aug. 3	H P2 S2 e F Δ	18	02	48 12 29 35 03.7 150 km.
508 Aug. 2	e F	22	45	50 47		Ottawa			
	Clock correction unknown				514 Aug. 3	ez F	22	21	17 4

SEISMOLOGICAL SERVICE OF CANAL..

DOMINION OBSERVATORY, OTTAWA

No. 86

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Victoria					Ottawa			
531 Aug. 7	ez F	10	25	24 26	535 Aug. 8	e F	12	13	15 14.4
	Ottawa					Ottawa			
532 Aug. 7	H P e PP S SS SSS L M F Δ	14	40.1	14 53 21 14 54.5 14 57 07 15 04 28 15 11.0 15 15.7 15 22 22 15 41 17 30 10320 km.	536 Aug. 8	e F	16	37	02 37.2
	USCGS gives:- φ = 34° N. λ = 142° E. h = 14:40.2					Victoria			
	Victoria					e F	16	26	07 27
						Time correction unknown			
						Ottawa			
					537 Aug. 8	H P ₂ i S ₂ i S ₁ e F Δ	17	26	56 27 20.3 27 22 27 37.4 27 39.6 27 41.4 27 44 28.3 150 km.
						Ottawa			
					538 Aug. 8	e F	18	10	49 11.1
	Saskatoon					Ottawa			
	H P PP PPP S PS SS L M F Δ	14	40.5	14 51 59 14 54 56 14 56 38 15 01 30 15 02 38 15 06 45 15 16.8 15 23.5 17 30 8120 km.	539 Aug. 9	e F	12	42	57 43.3
						Ottawa			
533 Aug. 7	H P ₂ S ₂ F ₂ Δ	20	15	23 57 21 16.7 210 km.	540 Aug. 11	H P PP PPP S SS e L M F Δ	10	36	25 42 41 43 31 43 50 47 49 49 34 50 12 51 20 59 30 3380 km.
						USCGS gives:- φ = 17°5 N. λ = 95°5 W. h = 10 36.2 d = 50 km. Mag. 7			
	Ottawa								
534 Aug. 8	e e F	5	35	59 36 04 36.5					

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 87

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME	
		h m s			h m s	
	Victoria			Ottawa		
540 Aug. 11 (cont'd)	H	10 36 22	541 Aug. 12	H	17 19 49	
	P	10 43 27		P _n	17 20 13.0	
	PP	10 44 11		P ₂	17 20 14.3	
	e	10 46 00		S _n	17 20 30.5	
	S	10 49 16		S ₂	17 20 33.4	
	L	10 53.5		e	17 20 38.5	
	M	10 59		F	17 21	
	F	12 07		Δ	150 km.	
	Δ	4020 km.				
	Time correction unknown				Ottawa	
	Saskatoon		542 Aug. 12	e	17 46 13	
H	10 36 33	L		17 47.7		
P	10 43 12	F		17 52		
PP	10 43 53					
PPP	10 44 27	Seven Falls				
S	10 48 38	e		17 46.0		
SS	10 50 47	F		17 51		
L	10 53.0					
F	12 10	Victoria				
Δ	3655 km.	543 Aug. 12		e	22 44 02	
			e	22 47.7		
			L	23 16		
			F	0 19		
			Time correction unknown			
			Victoria			
			544 Aug. 13	e	9 41 20	
				F	9 44	
				Time correction unknown		
				Ottawa		
		545 Aug. 13		e	11 25 09	
				i	11 25 28	
				L	11 30.4	
				F	11 50	
				Victoria		
				e	11 26 13	
			F	11 29		
			Time correction unknown			
			Shawinigan Falls			
		Shawinigan Falls				
H	10 36 25	e	11 25 47			
P	10 43 00	F	11 32			
i	10 43 10					
PP	10 44 08					
S	10 48 23					
L	10 52.1					
F	11 10					
Δ	3610 km.					

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 89

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Seven Falls			
560 Aug. 16	H	19	58	58			17	54	
	P _n	19	59	28.8			to		
	i	19	59	29.7			18	50	
	S _n	19	59	52.9		Surface waves only			
	S ₂	19	59	55					
	S ₁	20	00	03		Victoria			
	F	20	00.5						
	Δ	208	km.		564 Aug. 17	e	19	10	50
	Victoria					F	19	11.5	
561 Aug. 17	e	5	16	12		Ottawa			
	F	5	17						
	Ottawa				565 Aug. 18	e _Z	19	19	00
						L	19	28	
						F	19	40	
562 Aug. 17	e	5	34	20		Ottawa			
	e	5	34	34					
	L	5	50		566 Aug. 18	H	20	50	51
	F	6	14			P ₂	20	51	25.5
	Victoria					S ₂	20	51	49.5
						e	20	52.0	
	H	5	25	10		F	20	52.1	
	P	5	30	33		Δ	210	km.	
	i _Z	5	30	36.5		Victoria			
	S	5	34	59	567 Aug. 18	H	20	58	35
	L	5	38.1			P ₁	20	58	51.5
	F	5	56			S ₁	20	59	03.0
	Δ	27	55	km.		F	20	59.1	
	Saskatoon					Δ	100	km.	
	eNE	5	36	44		Ottawa			
	L	5	41.5		568 Aug. 19	H	1	19	33
	F	6	15			P	1	27	40
	Halifax					S	1	34	18
						SSS	1	38	
		5	54			L	1	41	
		to				F	2	05	
	Surface waves only	6	01			Δ	4880	km.	
	Seven Falls					Seven Falls			
	e	5	50.8				1	38	
	F	6	18				to		
	Shawinigan Falls					Surface waves only			
							1	57	
	e	5	49.7			Ottawa			
	F	5	55		569 Aug. 19	e	8	01	24
	Victoria					F	8	02.1	
563 Aug. 17	e _Z	17	19	43					
	L	17	35						
	F	18	16						

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 90

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Ottawa			Saskatoon	
570 Aug. 19	H	11 00 13		H	13 51.1
	P	11 08 04		PNE	13 56 20
	S	11 14 30		PP	13 56 43
	SSS	11 18.3		S	14 00 38
	F	11 30		SS	14 01 16
	Δ	4660 km.		i	14 02 00
	Victoria			L	14 02.6
	e	11 06 49		F	15 00
	F	11 10		Δ	2645 km.
	Victoria			Halifax	
	e	11 10 03		e	14 07.0
571 Aug. 19	F	11 12		e	14 11.2
				L	14 15
				F	14 24
	Ottawa			Seven Falls	
572 Aug. 19	H	13 50 54		H	13 50 54
	iP	13 58 51		P	13 58 58
	iZ	13 58 59		PP	14 00 45
	iz	13 59 14		S	14 05 34
	PP	14 00 26		L	14 09.0
	PPP	14 00 59		F	14 48
	S	14 05 22		Δ	4845 km.
	SS	14 06 00		Shawinigan Falls	
	SSS	14 08 45		H	13 50 53
	L	14 11.4		P	13 58 53
	M	14 14.3		S	14 05 36
	F	14 53		L	14 09.0
	Δ	4750 km.		F	14 19
	USCGS gives:-			Δ	4790 km.
	φ = 62° N.			Ottawa	
	λ = 151° W.			H	19 59 12
	h = 13 50.8			P	20 06 40
	d = 100 km.			PPP	20 08 17
	Victoria			S	20 12 48
	H	13 48 48	573 Aug. 19	SSS	20 16.0
	P	13 53 32		L	20 18.3
	pP	13 53 53		F	21 07
	PP	13 54 14		Δ	4340
	S	13 57 24		USCGS gives:-	
	sS	13 57 38		φ = 5° N.	
	SS	13 58 00		λ = 82° W.	
	F	14 49		h = 19 59.0	
	Δ	2335 km.			
	Time correction unknown				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 91

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME			
		h	m	s			h	m	s	
573 Aug. 19 (cont'd)	Victoria					Ottawa				
	H	19	57	13	580 Aug. 22	e	23	26	53	
	iP	20	06	45		F	23	28.2		
	iS	20	14	36			Victoria			
	L	20	20				e	23	28	54
	F	21	08				F	23	30	
Δ	6190					Ottawa				
	Time correction unknown									
	Seven Falls									
	H	19	59	03	581 Aug. 23	e	11	58	53	
	P	20	06	58		F	11	59.4		
	S	20	13	27			Ottawa			
	L	20	16.	6			H	13	28	43
	F	21	07				P ₂	13	29	09
	Δ	4720					S ₂	13	29	27
	Shawinigan Falls					e	13	29	34	
	e	20	06	51	582 Aug. 23	F	13	29.	7	
	F	20	09			Δ	155	km.		
574 Aug. 19	Ottawa						Ottawa			
	e	22	49	26		583 Aug. 23	H	21	22	04
F	22	50		P ₂			21	22	26	
Ottawa							S ₂	21	22	41.5
575 Aug. 20	e	19	05	06			S ₁	21	22	44.5
	F	19	06.	1			e	21	22	47
Ottawa					F		21	22.9		
576 Aug. 20	e	22	35	50	584 Aug. 24	Δ	135	km.		
	F	22	36.	4		Ottawa				
Ottawa						eZ	8	23	40	
577 Aug. 21	e	3	29	47			eZ	8	26	34
	F	3	30.	6			L	9	08	
Ottawa						F	9	47		
578 Aug. 21	e	5	02	39	Seven Falls					
	F	5	02.	9			8	55		
Ottawa							to			
579 Aug. 21	e	8	55	32	Surface waves only					
	F	8	58		Ottawa					
Time correction unknown						e	20	21	40	
					585 Aug. 24	F	20	22.2		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 92

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Halifax			
586 Aug. 24	H	21	08	14		H	6	09	39
	P ₂	21	08	38		P	6	20	31
	S ₂	21	08	55		PP	6	22.9	
	S ₁	21	08	58		S	6	29	33
	F	21	09.4			SS	6	34.4	
	Δ	150 km.				SSS	6	37	
		Ottawa				L	6	42.9	
						F	7	40	
						Δ	7500 km.		
587 Aug. 25	H	6	09	27		Seven Falls			
	P	6	20	38		H	6	09	32
	PP	6	23	12		P	6	20	48
	PPP	6	25	02		S	6	30	09
	S	6	29	55		i	6	30	21
	i _{EW}	6	30	08		PS	6	30	40
	e _{NS}	6	34	00		e	6	31	23
	SSS	6	38	04		SS	6	38.7	
	L	6	42.3			L	6	42.3	
	M	6	51			F	10	02	
	F	9	47			Δ	7910 km.		
	Δ	7840 km.				Shawinigan Falls			
	USCGS gives:-					H	6	09	33
	φ = 24° S.					P	6	20	44
	λ = 63° W.					S	6	30	00
	h = 6 09.4					L	6	47	
						F	7	10	
	Victoria					Δ	7820 km.		
	H	6	09	27		Ottawa			
	P	6	22	19		H	16	14	21
	i _Z	6	22	22	588 Aug. 25	P ₂	16	14	51.5
	SKS	6	32	47		S ₂	16	15	12.5
	S	6	33	07		e	16	15	16
	PS	6	34	21		F	16	15.5	
	L	6	52			Δ	185 km.		
	F	8	47			Ottawa			
	Δ	9865				e	20	00	28
	Saskatoon				589 Aug. 25	F	20	02	
	H	6	09	47		Victoria			
	P	6	22	00		e	20	02	11
	PP	6	25	01		F	20	04	
	PPF	6	27	15		Ottawa			
	S	6	32	19		e	11	46	15
	PS	6	33	16		F	11	46.7	
	SS	6	38	04					
	i	6	40	04					
	L	6	51.2						
	F	9	20						
	Δ	9200 km.							
					590 Aug. 26				

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

No. 93

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Ottawa			Ottawa	
591 Aug. 26	H P ₂ i S ₂ i e F Δ	14 16 26 14 16 53 14 16 54.7 14 17 12 14 17 14 14 17 18 14 17.6 165 km.	597 Aug. 27	H PZ S SSS F Δ	16 48 30 16 59 42 17 09 00 17 17 17 32 7860 km.
	Ottawa			Ottawa	
592 Aug. 26		15 01 to 15 25 Surface waves only			
	Seven Falls			Seven Falls	
		15 01 to 15 17			
	Victoria			Victoria	
593 Aug. 26	i e F	20 48 36 20 50 14 20 52		e F	17 01 12 17 07
	Shawinigan Falls			Shawinigan Falls	
	Victoria			Victoria	
594 Aug. 26	e F	21 05 43 21 07		e F	16 59 49 17 01
	Ottawa			Ottawa	
595 Aug. 26	H P ₂ P ₁ S ₂ i S ₁ e F Δ	21 46 40 21 47 22 21 47 23.5 21 47 51 21 47 53 21 47 57.5 21 48 14 21 48.5 255 km.	598 Aug. 28	H P _n S _n F Δ	1 41 55 1 42 18.3 1 42 35.5 1 43.0 145 km.
	Ottawa			Ottawa	
596 Aug. 27	e F	10 56 39 10 58	599 Aug. 28	H P S SSS L F Δ	2 28 10 2 38 53 2 47 48 2 55.0 3 00 4 00 7350 km.
	Victoria			Victoria	
				USCGS gives:-	
				φ = 25° S. λ = 68° W. h = 16 48.4	
				USCGS gives:-	
				φ = 57° N. λ = 161° E. h = 2 27.8	

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

No. 94

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Victoria			Ottawa	
599	e	2 35 54	602	ez	18 43 52
Aug.	iz	2 35 56	Aug.	ez	18 45 12
28	L	2 46.0	29	L	18 56
(cont'd)	F	3 33		F	20 07
	Saskatoon			USCGS gives:-	
	e	2 37.2		$\phi = 16^{\circ}5' N.$	
	e	2 44.1		$\lambda = 197^{\circ} W.$	
	L	2 49.3		$h = 18 36.4$	
	F	3 55		Halifax	
	Halifax			L	18 30
	L	3 07			to
		to			19 10
		3 25		Ottawa	
	Seven Falls		603	L	1 58
	e	2 47 44	Aug.		to
	L	2 55	30		2 11
	F	4 14		Ottawa	
600	Seven Falls		604	e	21 54 05
Aug.	L	13 21	Aug.	F	21 54.7
28		to	30		
		13 51		Ottawa	
	Ottawa		605	H	20 16 32
601	e	18 03	Aug.	P2	20 17 06.5
Aug.	ez	18 05.4	31	S2	20 17 30.5
29	eNS	18 10.5		e	20 17 40
	ez	18 11.4		F	20 18
	L	18 18		Δ	210 km.
	F	18 57			
	USCGS gives:-				
	$\phi = 15^{\circ}5' S.$				
	$\lambda = 171^{\circ} W.$				
	$h = 17 37.8$				
	Seven Falls				
	e	18 03.0			
	e	18 12 24			
	L	18 28			
	F	20 15			

W.S. Wilson

DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

September and October

1948

000

DOMINION OBSERVATORY

OTTAWA - CANADA

00000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. G. Milne, Station Superintendent

STATIONS

OTTAWA

$\varphi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\varphi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

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

$\varphi = 47^{\circ}07'14''$ N. $\lambda = 70^{\circ}49'16''$ W. $h = 232$ m. 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.

STATIONS (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

$\varphi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.

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.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

$\varphi = 46^{\circ}33'1''$ N. $\lambda = 72^{\circ}45'8''$ W. $h = 60$ m. 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

$\varphi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.

Time correction from radio time signals

Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	T_s	T_G	V	ϵ	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 95

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
606 Sept. 1	Ottawa e F	0 18 48 0 20.4	610 Sept. 1 (cont'd)	Victoria H P S L F Δ	19 53 18 19 58 49 20 03 21 20 06.2 20 49 2845 km.
607 Sept. 1	Victoria e F	3 38 55 3 41		Halifax L F	20 16 20 21
608 Sept. 1	Ottawa H P ₂ S ₂ S ₁ e F Δ	14 11 20 14 11 45 14 12 02.5 14 12 05.5 14 12 11.5 14 12.3 150 km.		Seven Falls e L F	20 00 44 20 13.0 20 52
609 Sept. 1	Ottawa ez L F	19 24 12 19 34 19 49		Shawinigan Falls L F	20 12 20 18
	Victoria H P _z FP S L F Δ	19 15 57 19 22 30 19 23 01 19 27 52 19 31.0 19 42 3600 km.	611 Sept. 1	Ottawa L F	20 53 21 05
	Halifax L F	19 40 19 44		Victoria ez L F	20 41 34 20 50.0 21 09
	Seven Falls L F	19 37 19 42		Seven Falls L F	20 55 21 04
610 Sept. 1	Ottawa H eP _z i S L F Δ	19 53 18 20 00 05 20 00 12 20 05 38 20 09 20 50 3780 km.	612 Sept. 1	Ottawa i F	21 59 54 22 00.2
			613 Sept. 2	Ottawa H P _n S _n F Δ	18 31 41 18 33 01 18 34 03.5 18 35.3 585 km.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 96

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Ottawa			Ottawa	
614 Sept. 2	e F	20 24 10 20 24.4	619 Sept. 4	e e L F	15 28 28 15 31 25 15 50 17 05
	Ottawa			Victoria	
615 Sept. 2	ez i e e e L F	23 53 45 23 55 18 0 01.3 0 05.12 0 12 28 0 15.4 0 30 1 57		e L F	15 55.5 16 12 17 00
	USCGS gives:- $\phi = 10^\circ \text{ N.}$ $\lambda = 125^\circ \text{ E.}$ $h = 23:34.7$ Off northern coast of Mindanao, Philippine Ids.			Time correction unknown	
	Victoria			Seven Falls	
	e L F	23 57.5 23 13 1 20		L F	15 48 17 27
	Time correction unknown			Victoria	
	Halifax		620 Sept. 5	e F	10 11 58 10 15
	e L F	0 12 0 41 1 03		Time correction unknown	
	Ottawa			Ottawa	
616 Sept. 3	i F	9 50 07 9 54	621 Sept. 6	e F	0 57 53 0 58.5
	USCGS gives:- $\phi = 18^\circ \text{ S.}$ $\lambda = 72^\circ \text{ W.}$ $h = 09:39.9$ $d = 100 \text{ km.}$			Ottawa	
	Ottawa		622 Sept. 6	H P S SS L F Δ	8 10 28 8 21 20 8 30 20 8 34.7 8 43 11 07 7480 km.
	USCGS gives:- $\phi = 24^\circ 5 \text{ S.}$ $\lambda = 68^\circ 5 \text{ W.}$ $d = 100 \text{ km.}$ $h = 08:10.2$			Victoria	
	Ottawa			H P S Δ F	8 10 22 8 22 54 8 33 24 9 435 km. 10 19
617 Sept. 3	e F	21 33 23 21 35		Seven Falls	
	Ottawa			L F	8 31 10 45
618 Sept. 3	e F	23 33 08 23 33.3			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 97

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Shawinigan Falls			Victoria	
622 Sept. 6 (cont'd)	e F	8 21 17 8 25	626 Sept. 7 (cont'd)	iz L F	8 28 18 8 38.5 9 19
	Victoria			Seven Falls	
623 Sept. 6	e F	8 54 06 8 57		L F	8 38.1 9 17
	Ottawa			Shawinigan Falls	
624 Sept. 6	H P PP PPP S SS L F Δ	16 35 23 16 41 49 16 42 46 16 43 12 16 47 05 16 49.1 16 51.0 17 15 3500 km.		e F	8 28 05 8 34
	USCGS gives:- φ = 14° N. λ = 93°5 W. h = 16:35.1			Ottawa	
	Victoria		627 Sept. 7	L F	21 55 22 04
	H P S L F Δ			Ottawa	
	16 35 25 16 42 56 16 49 07 16 58 17 10 4380 km.		628 Sept. 7	e F	22 32 02 22 32.6
	Shawinigan Falls			Victoria	
	e F	16 42 12 16 57	629 Sept. 8	e F	4 30 11 4 32
	Victoria			Ottawa	
625 Sept. 7	e F	4 44 44 4 45.5	630 Sept. 8	H P PP i SKS S PS SS SSS e L M F Δ	15 09 05 15 23 49 15 28 20 15 29 16 15 34 10 15 36 05 15 37 50 15 43.9 15 47.8 15 55 16 00 16 10 21 21 12500 km.
	Ottawa			USCGS gives:- φ = 21° S. λ = 174° W. h = 15:09.2	
626 Sept. 7	iz e e e L F	8 28 13 8 38.4 8 40.4 8 45.6 8 54 9 23			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 98

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
Victoria			Seven Falls		
630 Sept. 8 (cont'd)	H	15 09 24	630 Sept. 8 (cont'd)	H	15 09 08
	eP	15 21 37		P	15 24 07
	i	15 21 39.5		PP	15 28 46
	i ₇	15 22 44		PPP	15 31 07
	PP	15 24 47		SKS	15 34 48
	S	15 31 48		SKKS	15 35 50
	e	15 32 06		S	15 36 40
	PS	15 32 38		PS	15 38 24
	SS	15 36 46		PPS	15 39 20
	L	15 47.3		SS	15 44 40
	M	15 49 to		SSS	15 49.0
	F	16 04		L	16 02.5
	Δ	9010 km.		F	21 54
		Δ	12835 km.		
Saskatoon			Shawinigan Falls		
	H	15 08 56		e	15 24 37
	PNW	15 22 33		e	15 28 02
	i	15 23 06		e	15 34 03
	i	15 23 27		e	15 36 20
	PP	15 26 24		e	15 38 09
	PPP	15 28 39		e	15 43 07
	SKS _{NW}	15 33 06		F	17 30
	SKKS	15 33 35	Victoria		
	S	15 34 03	631 Sept. 8	e	16 15 27
	PS	15 35 20		F	16 18
	PPS	15 36 03	Victoria		
	SS	15 40.0	632 Sept. 8	e	16 24 48
	SSS	14 43.6		F	16 26
	L	15 54.5	Victoria		
	F	21 00	633 Sept. 8	e	16 40 57
	Δ	10890 km.		F	16 42
	Halifax		Ottawa		
	H	15 09 12	634 Sept. 8	e	17 06 16
	PEW	15 24 32		F	17 09
	PP	15 29 22	Victoria		
	i	15 30 16	e	16 59 39	
	SKP	15 31 02		F	17 04
	PPP	15 32 04			
	SKS	15 35 00			
	SKKS	15 36 20			
	S _{EW}	15 37 20			
	PS	15 39 14			
	SS	15 45.7			
	SSS	15 50.1			
	L	16 05.3			
	F	18 25			
	Δ	13330 km.			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 99

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Victoria					Seven Falls			
635 Sept. 8	e F	17	16	30 18	642 Sept. 9 (cont'd)	e L F	6	30	02 10.4 50
	Victoria					Victoria			
636 Sept. 8	e F	20	12	09 14	643 Sept. 9	e F	7	18	21 20
	Victoria					Victoria			
637 Sept. 8	e F	23	06	09 5	644 Sept. 9	e F	12	36	39 39
	Victoria					Victoria			
638 Sept. 8	i e F	23	45	53.5 03.0 8	645 Sept. 9	i i F	12	39	23 04 44
	Victoria					Ottawa			
639 Sept. 9	e F	5	41	02 42	646 Sept. 9	L F	15	04	38
	Victoria					Victoria			
640 Sept. 9	iz e L F	6	16	54 32.0 45 36		ez L F	14	17	07 45 09
	Victoria					Seven Falls			
641 Sept. 9	e F	6	21	37 25		e L F	14	34	05 02 48
	Ottawa					Ottawa			
642 Sept. 9	L F	6	53	8 15	647 Sept. 9	H P ₂ S ₂ e F Δ	16	10	00 35.5 00 12 11.4 215 km.
	Victoria					Victoria			
	e F	7	02	20 04					
	Saskatoon				648 Sept. 9	e F	16	54	50 56
	L F	6	50	8 05					

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 101

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME			
		h	m	s			h	m	s	
Shawinigan Falls				Victoria						
654 Sept. 20 (cont'd)	e	14	11	20	660 Sept. 12	e.	19	55	33	
	L	14	35	F		19	57			
	F	15	03	Ottawa						
Ottawa				661 Sept. 13	H	21	07	48		
655 Sept. 11	H	8	53		02	P	21	14	34	
	P	9	03		45	S	21	20	06	
	i	9	04		06	L	21	24.5		
	S	9	12		40	F	22	05		
	PS	9	13		28	Δ	3755 km.			
	SS	9	17.2		USCGS gives:-					
	SSS	9	20.1		φ = 13° 5' N.					
	F	9	37		λ = 93° W.					
	Δ	7350 km.	h = 21:07.6							
Victoria				Off coast of Guatemala						
Victoria				Victoria						
e				e						
F				L						
Victoria				F						
Victoria				Seven Falls						
656 Sept. 11	e	23	42	28	e					
	F	23	44	L						
Ottawa				F						
657 Sept. 12	e	3	48.4	Victoria						
	e	3	54	22	e					
	L	4	05	F						
	F	4	49	662 Sept. 13						
Victoria				Victoria						
e				e						
F				F						
Victoria				Victoria						
e				e						
F				F						
Victoria				Ottawa						
658 Sept. 12	e	6	35	55	663 Sept. 14					
	F	6	38	e						
Ottawa				F						
659 Sept. 12				664 Sept. 16						
H				e						
P _n				F						
P ₂				665 Sept. 16						
S _n				e						
S ₂				F						
e				Δ						
F				157 km.						
Δ										

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 102

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Ottawa					Victoria		
666 Sept. 17	e F	19	06	38 .1	671 Sept. 19 (cont'd)	H P PP PPP S SS L F Δ	6 6 6 6 6 6 6 8	14 20 22 22 26 27 30	12 55 06 30 24 .7 09 02
		Ottawa					Saskatoon		
667 Sept. 18	ez L F	8	43	21		H P PP PPP S SS L F Δ	6 6 6 6 6 6 6 7	14.5 20 21 22 26 28.3 30.2 10	3700 km. 3460 km.
		USCGS gives:- φ = 8° N. λ = 84° W. h = 8:36.1 Off south-west coast of Costa Rica					Halifax		
		Victoria					Seven Falls		
	e F	8	04	10 06		L F	6 7	50.6 06	
		Seven Falls					Seven Falls		
	L F	8	52			e L F	6 6 7	33.2 44 40	
		Ottawa					Victoria		
668 Sept. 18	e e F	13	47	06 12 .5	672 Sept. 19	i i F	18 18 18	40 40 41.5	12 42 5
		Ottawa					Ottawa		
669 Sept. 18	H P _n S _n S _l e F Δ	17	52	00 22.5 38.0 41.0 43 52.8 136 km.	673 Sept. 20	e F	18 18	11 13.5	28 5
		Victoria					Ottawa		
670 Sept. 19	e F	1	41	41 44	674 Sept. 21	L F	8 8	24 26	
		Ottawa					Aleutian Islands		
671 Sept. 19	ez L F	6	24	29 44 24			USCGS gives:- φ = 52° N. λ = 178° W. h = 6:14.1 Aleutian Islands		

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 103

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
675 Sept. 21		Ottawa			680 Sept. 23		Ottawa		
	H	10	34	22		e	1	05	21
	P _n	10	34	44.8		L	1	39	
	P ₂	10	34	46.2		F	2	02	
	e	10	34	49.8			Victoria		
	S _n	10	35	00.4		e	1	03	04
	i ₃₂	10	35	02.8		F	1	05	
	F	10	35	.3			Ottawa		
	Δ	136				Ottawa			
676 Sept. 21	e	18	05	03	681 Sept. 23	e	15	23	45
	F	18	06	.1		F	15	24	.5
677 Sept. 22		Ottawa			682 Sept. 24		Victoria		
	e	5	15	24		e	1	03	38
	F	5	17		F	1	05		
678 Sept. 22		Victoria			683 Sept. 24		Ottawa		
	e	5	11	29		e	3	36	42
	F	5	13		F	3	38		
678 Sept. 22		Ottawa			684 Sept. 24		Ottawa		
	1	7	28	48		e	16	29	37
	e	7	29	38	F	16	31		
	F	7	33			Ottawa			
	USCGS gives:-				685 Sept. 24		Ottawa		
	φ = 22° S.					e	18	02	31
	λ = 68° W.				F	18	03		
	h = 7:18.0					Ottawa			
	d = 100 km.					Ottawa			
	Northern Chile					Ottawa			
679 Sept. 22		Victoria			686 Sept. 24		Ottawa		
	e	7	30	31		e	18	14	18
	F	7	32		F	18	15		
679 Sept. 22		Ottawa			687 Sept. 24		Ottawa		
	ez	21	35	37		e	18	44	33
	L	21	45		F	18	45		
	F	21	56			Ottawa			
	USCGS gives:-				688 Sept. 24		Ottawa		
	φ = 17°5 N.					ez	21	00	46
	λ = 82° W.				L	21	39		
	h = 21:29.7				F	22	07		
	Caribbean Sea					Ottawa			
		Victoria				Ottawa			
	e	21	38	10		Ottawa			
	F	21	39	.5		Ottawa			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 104

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Victoria			Victoria	
688	e	21 05.7	694	e	21 54 59
Sept.	L	21 25	Sept.	i	22 01 12
24	F	22 08	28	i	22 02 10
(cont'd)			(cont'd)	L	22 10
	Saskatoon			F	23 11
	e	21 00 27		Halifax	
	L	21 31.1		L	22 33
	F	22 05		F	22 55
	Victoria			Seven Falls	
689	H	22 34 04		e	22 04 32
Sept.	1Pz	22 34 22.0		e	22 09.8
24	S ₂	22 34 34.5		L	22 18.0
	F	22 39		F	23 26
	Δ	100 km.		Shawinigan Falls	
	Victoria			L	21 56
690	e	23 40 59		F	22 00
Sept.	F	23 43		Ottawa	
24				L	3 02
	Victoria		695	F	3 18
691	e	0 09 18	Sept.		
Sept.	F	0 11	30		
25				Seven Falls	
	Victoria			L	3 02
692	e	3 25 54		F	3 30
Sept.	F	3 27			
25					
	Victoria				
693	e	1 12 05			
Sept.	F	1 16			
26					
	Ottawa				
694	e	21 55 42			
Sept.	e	22 03 29			
28	e	22 05.4			
	e	22 11.6			
	L	22 25			
	F	23 08			
	USCGS gives:-				
	φ = 23° N.				
	λ = 94° E.				
	h = 21:36.6				
	Burma				



DOMINION OBSERVATORY, OTTAWA

No. 105

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Victoria (Z)					Shawinigan Falls			
696 Oct. 1	i F	3	23	17 26	698 Oct. 1	e F	11	40	11 52
	Victoria (Z)				(cont'd)	USCGS gives:-			
697 Oct. 1	H Pn i i e Sn e i S1 F Δ	9	44	51 45 45 45 45 46 46 46 46 47		$\phi = 17^\circ \text{ N.}$ $\lambda = 99^\circ \text{ W.}$ $H = 11:33.1$ $d = 100 \text{ km.}$ $M = 6 \frac{1}{2}$			
	Felt at Kamloops, B.C.			324 km.		Near coast of Mexico			
	Ottawa				699 Oct. 2	L F	15	09	15 28
698 Oct. 1	H P PP S L F Δ	11	33	17 49 22 10 0 31		Seven Falls			
	Victoria					L F	15	23	16 04
	H P e S L F Δ	11	33	16 11 40 37 51 3 30	700 Oct. 2	L F	16	21	16 33
	3890 km.					Victoria (Z)			
	Saskatoon				701 Oct. 3	e F	17	20	17 22
	H P PP PPP S SS L F Δ	11	33	08 19 03 19 13 50 0 42		Victoria			
	3310 km.				702 Oct. 4	ez L F	6	09	6 48 09
	Seven Falls					Saskatoon			
	e L F	11	46	.1 53 31		L F	6	45	7 25
						Seven Falls			
					703 Oct. 4	e F	19	44	19 46
						Ottawa (Z)			

DOMINION OBSERVATORY, OTTAWA

No. 106

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa (Z)					Saskatoon			
704 Oct. 4	e F	23	48	51 5	707 Oct. 5 (Cont'd)	H P PP PPP SKS S PS SS SSS L M F Δ	20 20 20 20 20 20 20 20 20 20 21 23	12 25 28 30 35 35 36 41 45 55 55 02 50	18 10 40 56 32 59 55 55 7 3 8 km.
	Victoria					Halifax			
705 Oct. 5	L F	12	14	22		H P PP S PS SS L F Δ	20 20 20 20 20 20 20 22	12 24 37 34 35 35 40 50 40	23 23 37 35 21 1 1 km.
	Ottawa (Z)					Seven Falls			
706 Oct. 5	e F	1	03	36 5		H P PP S PS SS SSS e L M	20 20 20 20 20 20 20 20 20 21	12 24 27 34 35 35 38 49 53 08	18 41 49 02 41 58 1 6 1 Amplitude 15 mm. Period 16 sec.
	USCGS gives:- φ = 38° N. λ = 58° E. H = 20:12.1 Mag. 7 1/2 Near Turkmen, USSR - Iran border.					F Δ	0 9500	24 km.	km.
	Ottawa					Shawinigan Falls			
	H P PP PPP SKS S PS SS SSS SSSS L F Δ	20 20 20 20 20 20 20 20 20 20 20 0	12 24 27 30 34 35 36 40 44 49 53 10	22 57 52 06 56 30 34 5 9 5 6 km. Rarefaction north-east.		H P PP S SS SSS e L M	20 20 20 20 20 20 20 20 21	12 24 27 35 38 44 49 53 08	13 44 12 13 7 3 0 km.
	Victoria								
	H P e e PP PPP iSKS SKKS S ePS e SS SSS L M F Δ	20 20 20 20 20 20 20 20 20 20 20 20 20 21 0	12 25 27 28 29 31 36 36 36 37 39 43 47 58 17 12	21 41 43 49 15 1 03 42 57 54 9 0 1 km. km. km.					

DOMINION OBSERVATORY, OTTAWA

No. 107

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Ottawa (Z)					Victoria (Z)		
708 Oct. 7	e F	19	32	25	714 Oct. 9	e F	7	43	06
		19	33				7	45	
		Ottawa (Z)					Ottawa (Z)		
709 Oct. 8	e F	9	18	54	715 Oct. 10	e F	17	54	26
		9	22				17	57	
		Victoria (Z)					Seven Falls		
	e F	9	15	05		e L F	17	54	04
		9	18				18	21	
		Seven Falls					18	35	
	L F	9	40				Ottawa (Z)		
		9	59		716 Oct. 10	H Pn P2 Sn S2 e F Δ	20	18	15
		Victoria					20	18	39.6
710 Oct. 8	e i F	10	53	31			20	18	41.2
		10	53	43			20	18	57.5
		10	54				20	19	00.9
		Ottawa					20	19	05.5
							20	19	3
							145	km.	
							Seven Falls		
711 Oct. 8	L F	19	59		717 Oct. 11	L F	17	54	
		20	22				18	04	
		Victoria (Z)					Victoria (Z)		
	e F	19	15	12	718 Oct. 12	e F	2	48	57
		19	17				2	50	
		Seven Falls					Victoria (Z)		
	L F	19	57		719 Oct. 12	e F	2	53	11
		20	15				2	54	
		Ottawa (Z)					Seven Falls		
712 Oct. 8	H Pn P2 Sn S2 F Δ	20	00	51	720 Oct. 12	L F	3	39	
		20	01	12.6			4	08	
		20	01	14.5			Victoria (Z)		
		20	01	29.0	721 Oct. 12	e F	13	50	15
		20	01	33.0			13	52	
		20	01	7					
		133	km.						
		Victoria							
713 Oct. 9	e F	5	21	19					
		5	22						

SEISMOLOGICAL SERVICE OF CANA

DOMINION OBSERVATORY, OTTAWA

No. 108

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa (Z)					USCGS			
722 Oct. 13	e F	13	00	36 .3	729 Oct. 15	$\phi = 60^\circ$ S. $\lambda = 20^\circ$ W. H = 22 43.8 Sandwich Islands group			
	Ottawa (Z)					Ottawa			
723 Oct. 13	H P _n P ₂ S _n S ₂ e F Δ	18	15	41 07.0 08.8 26.8 28.0 32 16.8 154 km.		e e L F	23	03.6 13 02 19 1 14	
	Ottawa (Z)					Victoria			
724 Oct. 14	e F	5	23	21 24.2		e e e L F	23	03.4 07.2 23.7 44 0 45	
	Ottawa (Z)					Halifax			
725 Oct. 14	e F	22	00	05 .3		e L F	23	12 22 18.7 57	
	Ottawa (Z)					Seven Falls			
726 Oct. 14	e F	22	01	19 02.3		e e L F	23	03.7 13 12 27 1 17	
	Ottawa (Z)					Ottawa			
727 Oct. 14	e F	22	02	43 03.1	730 Oct. 16	L F	2	56 3 15	
	Victoria					Victoria			
	i e F	21	54	15 37 58		e F	2	08 58 10.5	
	Ottawa (Z)					Seven Falls			
728 Oct. 15	H P _n S _n e F Δ	19	07	56 27.0 50.5 03 09.3 203 km.		L F	2	57 3 15	
						Victoria (Z)			
					731 Oct. 16	e F	4	43 44 45	

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 109

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Victoria (Z)					Ottawa (Z)		
732 Oct. 16	e F	4	52	08 54	740 Oct. 20	H P _n P ₁ S _n S ₁ F Δ	11	59	10 34.0 35.6 51.6 54.2 00.3 149 km.
		Victoria (Z)					Ottawa (Z)		
733 Oct. 16	e F	4	55	39 56.5	741 Oct. 20	H P ₂ S _n e F	19	22	03 47.0 11.4 23 23.5
		Ottawa (Z)					Victoria (Z)		
734 Oct. 18	e F	9	11	28 13	742 Oct. 20	e F	20	14	38 17
		Victoria (Z)					Victoria (Z)		
	e F	9	13	08 14.5	743 Oct. 20	e F	23	58	40 01
		Victoria (Z)					Ottawa		
735 Oct. 19	H P _n P ₂ S _n S ₂ F ΔΔ	15	01	44 05.0 17.5 18.1 22 02.7 120 km.	744 Oct. 21	L F	2	50	3 10
		Ottawa (Z)					Victoria		
736 Oct. 19	e i F	22	27	10 15.5 28		L F	2	33	3 01
		Victoria (Z)					Seven Falls		
737 Oct. 19	e F	22	42	34 43		L F	2	57	3 18
		Victoria (Z)					USCGS		
738 Oct. 20	e F	11	08	30 10	745 Oct. 21	φ = 12°5 S. λ = 88° W. H = 4 50.2			
		Victoria					West coast of Nicaragua		
739 Oct. 20	e F	11	18	22 20					

SEISMOLOGICAL SERVICE OF CANA

DOMINION OBSERVATORY, OTTAWA

No. 110

NO. AND	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Saskatoon			
745	H	4	50	26	746	L	9	20	
Oct.	P	4	57	00	Oct.	F	9	53	
21	i	4	57	18	21				
(cont'd)	S	5	02	22	(cont'd)				
	SS	5	05.0			Seven Falls			
	L	5	08			L	9	41	
	F	7	28			F	10	02	
	Δ	3,600	km.			Ottawa (Z)			
	Victoria					H	17	42	15
	iZ	4	58	38	747	P ₁	17	42	17.9
	e	5	18.5		Oct.	S₁	17	42	19.4
	e	5	25	47	21	F	17	42.5	
	L	5	43			Δ	10	km.	
	F	8	24			Seven Falls			
	Saskatoon					L	5	40	
	e	5	07	41	748	F	6	18	
	e	5	28	38	Oct.				
	L	5	48		22				
	F	8	40			Victoria (Z)			
	Halifax					e	14	10	01
	e	5	24	08	749	F	14	13	
	e	5	36	04	Oct.				
	L	6	06.2		22				
	F	6	58			Victoria			
	Seven Falls					e	14	15	48
	e	4	57	23	750	F	14	17	
	e	5	03	07	Oct.				
	L	5	32		22				
	F	7	38			Ottawa (Z)			
	Shawinigan Falls					H	21	26	54
	e	4	57	16	751	P _n	21	27	36.8
	F	4	59		Oct.	P ₂	21	27	39.1
	Ottawa				22	P ₁	21	27	45
	L	9	34			S _n	21	28	09.0
746	F	9	54			S ₂	21	28	11.0
Oct.						e	21	28	32
21						F	21	28.6	
	Victoria					Δ	280	km.	
	L	9	13			Victoria (Z)			
	F	9	41			e	4	32	48
					752	F	4	35	
					Oct.				
					23				

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Victoria (Z)					Seven Falls			
753 Oct. 23	e F	4	35	06	758 Oct. 24	L F	18	01	18 15
	Ottawa					Victoria (Z)			
754 Oct. 23	L F	5	46		759 Oct. 25	e F	12	38	04 12 39
	Victoria (Z)					Victoria (Z)			
	e F	4	59	48	760 Oct. 26	e F	20	04	06 20 05.0
	Ottawa (Z)					Victoria (Z)			
755 Oct. 23	H Pn P2 Sn S1 i e F Δ	13	24	23 47.7 49.2 05.6 08.5 11.4 14 14 153 km.	761 Oct. 26	i i i F	20	13	51.1 54.2 57.4 14.0
	Ottawa (Z)					Victoria (Z)			
756 Oct. 23	e i F	15	56	47 53	762 Oct. 27	e F	0	40	12 0 41
	Victoria					Victoria (Z)			
	e L F	15	54	01 09 17	763 Oct. 27	i e F	7	41	21.5 38.5 42.3
	Saskatoon					Ottawa (Z)			
	e L F	15	56	29 14 21	764 Oct. 27	H Pn P2 Sn S2 e F Δ	17	04	01 24.2 25.8 40.6 44.2 52 05.1 140 km.
	Seven Falls					Ottawa			
	L F	16	24		765 Oct. 27	e L F	18	43	37 49 01
	Ottawa (Z)					Victoria (Z)			
757 Oct. 24	H Pn Sn e F Δ	13	26	33 04.5 28.6 40 27.8 203 km.		e F	18	47	19 50

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 112

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME			
		h	m	s			h	m	s	
	Shawinigan Falls				Saskatoon					
765 Oct. 27 (cont'd)	e F	18	43	41	768 and 769 Oct. 28	L F	14	26.5	14 47	
	Ottawa (Z)				Seven Falls					
766 Oct. 27	e F	21	11	11		L F	14	39.5	15 02	
	Victoria (Z)				USCGS					
767 Oct. 28	H Pn P2 Sn S2 ⁸ e F Δ	0	38	54	770 Oct. 28	φ = 36° N. λ = 141° E. d = greater than normal H = 20 45.4 Mag. 7				
	Saskatoon				Near coast of Honshu, Japan					
	e F	0	47	25		Ottawa				
	Victoria				H P PP SKS S SS L F Δ	20	45	54	20 58 42 21 02 19 21 09 04 21 09 27 21 15.8 21 32 22 08 9,780 km.	
768 Oct. 28	H Pn i e P2 P1 e Sn i S2 F Δ	14	18	13		Victoria				
	Victoria				H P i S L F Δ	20	45	39	20 56 20.5 20 56 34 21 05 14 21 19 21 53 7,320 km.	
	Victoria				Saskatoon					
769 Oct. 28	H Pn e P2 P1 Sn S2 F Δ	14	30	12		H P PP PPP S PS L F Δ	20	45	47	20 57 07 20 59 44 21 01 27 21 06 32 21 07 02 21 20 21 55 7,990 km.
	Trace of No's 768, 769 on horizontals at Victoria.				Seven Falls					
					e L F	21	09	31	21 31.0 22 16	

SEISMOLOGICAL SERVICE OF CANADA



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DOMINION OBSERVATORY, OTTAWA

No. 113

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	USCGS					Ottawa (Z)			
771 Oct. 29	$\phi = 19^\circ$ S. $\lambda = 71^\circ$ W. d = 100 km. H = 03 07.4 Northern Chile				775 Oct. 30	H P _n P ₂ S _n S ₂ S ₁ F Δ	16 59 43 17 00 06.3 17 00 07.9 17 00 22.9 17 00 24.1 17 00 26.2 17 00.8 141 km.		
	Victoria (Z)					Ottawa (Z)			
	e	3	19	37		H	19 40 12		
	F	3	22		776 Oct. 30	P _n P ₂ S _n S ₂ e F Δ	19 40 36.2 19 40 37.8 19 40 53.6 19 40 57.0 19 41 02 19 41.2 148 km.		
772 Oct. 29	H P _n S _n F Δ	8	15	39 8 17 05.5 8 18 09.0 8 20 690 km.		Ottawa (Z)			
	USCGS					H	21 55 00		
773 Oct. 29	$\phi = 5^\circ$ N. $\lambda = 101^\circ$ W. H = 11 07.4 Pacific Ocean, 800 miles south of Mexico.				777 Oct. 30	P _n P ₂ S _n S ₂ e F Δ	21 55 31.6 21 55 32.6 21 55 55.6 21 55 58.0 21 56 06 21 56.3 215 km.		
	Ottawa					Ottawa (Z)			
	e	11	15	39		e	16 48 58		
	e	11	22	24	778 Oct. 31	F	16 50		
	L	11	33						
	F	11	45						
	Victoria (Z)								
	e	11	15	55					
	F	11	18						
	Saskatoon								
	e	11	29	04					
	L	11	31						
	F	11	45						
	Seven Falls								
	L	11	24						
	F	11	45						
	Victoria (Z)								
774 Oct. 30	e F	5	00	36 5 02					

W.A. 2/10/61

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATIONS</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>July, 1948</u>	
Istanbul	March, 1948	July 2
Brisbane	April, 1948	" 2
Perth	January - March, 1948	" 2
Istanbul	April, 1948	" 5
Santiago	Year, 1947	" 5
Riverview	Year, 1946	" 5
De Bilt	May, 1948	" 5
Berkeley	April - June, 1941; Year 1947	" 6
Wellington	April, 1948	" 7
Budapest	1932 - 1945	" 7
Richmond	May, 1948	" 12
Pittsburg	January - December, 1946	" 13
Toledo	May, 1948	" 13
Belgrade	May, 1948	" 13
Santa Clara	June, 1948	" 13
Triests	March, April, 1948	" 14
Ksara	May, 1948	" 15
Wellington	March, April, 1948	" 16
Saint Louis and Auxiliary Stations	July - December, 1943; Preliminaries March, April, May, 1948	" 16
Cleveland	April - June, 1948	" 21
Prague	Year, 1947	" 22
Zurich	April, May, 1948	" 22
Apia	April - June, 1948	" 23
Toledo	July, 1947, April, 1948	" 23
Strasbourg	June, 1948	" 26
Bureau Central	March, 1948	" 26
Istanbul	May, 1948	" 26
Rome	May, 1948	" 27
De Bilt	June, 1948	" 30
	<u>August, 1948</u>	
Uccle	June, July, 1948	August 3
Saint Louis and Auxiliary Stations	Preliminaries May, June, 1948	" 3
Bucarest	February - June, 1948	" 3
Batavia	January - March, 1948	" 9
Santa Clara	July, 1948	" 10
Richmond	June, 1948	" 11
Helwan	Year, 1940	" 11
Belgrade	June, 1948	" 16
Rome	June, 1948	" 16
Saint Louis and Auxiliary Stations	Supplements for January, 1948; preliminaries June, 1948	" 16
Cleveland	July, 1948	" 19
Saint Louis and Auxiliary Stations	Supplements for February - April, 1948; Preliminaries June, July, 1948	" 19
Pasadena	April - June, 1948	" 19
Budapest	June, 1948	" 23
Istanbul	June, 1948	" 23
Cartuja	January - March, 1945	" 23
Wellington	May, 1948	" 24
Brisbane	June, 1948	" 25
Stuttgart	April - June, 1948	" 30
Trieste	May, June, 1948	" 30

SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATION</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>September, 1948</u>	
Ksara	June, July, 1948	September 1
Helsinki	April - June, 1948	" 1
De Bilt	July, 1948	" 2
Strasbourg	July, 1948	" 2
Bureau Central	April, 1948	" 2
Pasadena	October - December, 1947; Preliminaries May - August, 1948	" 8
Saint Louis and Auxiliary Stations	January, 1944; Preliminaries May - August, 1948	" 8
USCGS	January - March, 1945	" 11
Cleveland	August, 1948	" 14
Belgrade	July, 1948	" 14
La Plata	Year 1941	" 14
Wellington	June, 1948	" 17
Jena	Year 1947	" 24
Istanbul	July, 1948	" 24
La Paz	November, December, 1947	" 30
	<u>October, 1948</u>	
Belgrade	Year 1941	October 4
De Bilt	August, 1948	" 4
Rome	July, 1948	" 4
Santa Clara	August, 1948	" 4
Scoresby-sund	1943, 1944	" 4
Saint Louis and Auxiliary Stations	Preliminaries for August, 1948; February - June, 1944	" 4
Richmond	July, 1948	" 4
Brisbane	July, 1948	" 6
Budapest	1946, 1947	" 8
Saint Louis and Auxiliary Stations	July, 1944; Preliminary August, 1948	" 9
Belgrade	August, 1948	" 12
Strasbourg	August 1 - September 10, 1948	" 13
Bureau Central	May, 1948	" 13
Santa Clara	September, 1948	" 13
Saint Louis and Auxiliary Stations	August, 1944; Preliminaries September 8 - 19, 1948	" 14
Toledo	June, August, 1948	" 14
Batavia	April - June, 1948	" 15
Wellington	July, 1948	" 15
Richmond	August, 1948	" 16
Ksara	August, 1948	" 21
Istanbul	August, 1948	" 22
Rome	August, 1948	" 22
Zurich	June- August, 1948	" 25
De Bilt	September, 1948	" 27
Bureau Central	June - August, 1948	" 28
Strasbourg	September 10 - 20, 1948	" 28
Cleveland	September, 1948	" 29
Budapest	July, September, 1948	" 30
Kalocsa	July, September, 1948	" 30

Dominion Observatory,
Ottawa - Canada,
November 12, 1948



DEPARTMENT OF MINES AND RESOURCES
MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

November and December

1948

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DOMINION OBSERVATORY

OTTAWA - CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division
W. G. Milne, Station Superintendent

S T A T I O N S

OTTAWA

$\varphi = 45^{\circ}23'38''$ N. $\lambda = 75^{\circ}42'57''$ W. $h = 83$ m.

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

$\varphi = 44^{\circ}38'$ N. $\lambda = 63^{\circ}36'$ W. $h = 46$ m.

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

$\varphi = 47^{\circ}07'4''$ N. $\lambda = 70^{\circ}49'6''$ W. $h = 232$ m. 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.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

$\phi = 48^{\circ}31'14''$ N. $\lambda = 123^{\circ}24'56''$ W. $h = 197$ m.

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.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

$\phi = 46^{\circ}33'11''$ N. $\lambda = 72^{\circ}45'18''$ W. $h = 60$ m. 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

$\phi = 52^{\circ}08'$ N. $\lambda = 106^{\circ}38'$ W. $h = 515$ m.

Time correction from radio time signals

Foundation: clay and sand

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

DETERMINED CONSTANTS

INSTRUMENT	T_s	T_G	V	ϵ	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	4g			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 114

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
779 Nov. 1	Ottawa		781 Nov. 1 (Cont'd)	Ottawa	
	L	10 15		H	12 06 07
	F	10 24		Δ	7335 km.
	Victoria (Z)			P	12 16 48
	e	10 03 04		S	12 25 42
	F	10 04		e	12 28.2
	Saskatoon			SSS	12 33.2
	L	10 13		L	12 41
	F	10 18		F	13 24
	Halifax			Victoria	
	L	10 20		H	12 06 05
	F	10 23		P	12 13 57
Seven Falls		PPP	12 15 43		
L	10 18	S	12 20 24		
F	10 26	SSS	12 24.0		
Ottawa		L	12 28.0		
e	11 51 25	F	13 05		
L	12 02	Saskatoon			
F	12 11	H	12 05 55		
Victoria (Z)		P	12 14 22		
e	11 50 02	S	12 21 16		
F	11 52	PS	12 21 52		
Saskatoon		SS	12 24 34		
L	12 02	SSS	12 25.7		
F	12 08	L	12 29.4		
Halifax		F	13 24		
L	12 07	Halifax			
F	12 10	L	12 48		
Seven Falls		F	13 05		
L	12 05	Seven Falls			
F	12 14	H	12 06 02		
USCGS		P	12 16 51		
$\varphi = 57^\circ$ N.		S	12 25 51		
$\lambda = 161^\circ$ E.		e	12 33.5		
H = 12 05.8		L	12 40		
Kamchatka		F	13 56		
781 Nov. 1			Shawinigan Falls		
			e	12 16 49	
		Ottawa (Z)			
		F	12 19		
		Ottawa (Z)			
		e	0 01 47		
		F	0 04		
782 Nov. 1 and 2					

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

No. 115

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Victoria (Z)			Victoria (Z)	
782	e	23 58 09	786	H	4 47 43
Nov.	F	23 59	Nov.	Δ	460 km.
1,2			4	iPn	4 48 40.0
				i	4 48 43.1
	Seven Falls			i	4 48 48
	L	23 46		i	4 48 52.8
	F	0 35		e	4 49 09
				iSn	4 49 23.8
	Ottawa (Z)			i	4 49 27
783	e	1 40 47		F	4 53
Nov.	F	1 41		Ottawa (Z)	
2			787	e	13 29 06
	USCGS		Nov.	F	13 33
			4		
784	$\varphi = 20^{\circ}5$ S.			Victoria (Z)	
Nov.	$\lambda = 169^{\circ}5$ E.			e	13 26 21
3	H = 05 18.9			F	13 29
	Loyalty Islands			Shawinigan Falls	
	Ottawa			e	13 29 06
	e	5 37 43		F	13 31
	L	6 15		Ottawa (Z)	
	F	6 53		e	17 20 24
	Victoria (Z)		788	F	17 23
	e	5 32 02	Nov.		
	F	5 34	4		
	Halifax			Shawinigan Falls	
	L	6 17		e	17 20 32
	F	6 52		F	17 22
	Seven Falls			Ottawa	
	L	6 20	789	H	20 23 43
	F	6 57	Nov.	Δ	150 km.
	Ottawa (Z)		4	Pn	20 24 07.4
785	e	1 39 28		P2	20 24 09.0
Nov.	i	1 40 28		Sn	20 24 25.5
4	F	1 41.5		S2	20 24 27.5
				e ²	20 24 33
				F	20 24.8

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 116

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa (Z)					Ottawa			
790 Nov. 4	H	23	06	13	799 Nov. 9	e	20	45	11
	Δ		143	km.		L	20	56.2	
	En	23	06	36.8		F	21	03	
	P2	23	06	38.5		Victoria			
	Sn	23	06	53.6		e	20	43	58
	S2	23	06	57.2		L	20	51	
	e	23	07	06		F	21	04	
	F	23	07.3			Halifax			
	Ottawa (Z)					e	20	54.2	
791 Nov. 5	e	8	51	20		L	21	01	
	F	8	52.3			F	21	03	
	Victoria (Z)					Shawinigan Falls			
792 Nov. 6	e	14	22	03		L	20	57	
	F	14	24			F	21	00	
	Seven Falls					Victoria (Z)			
793 Nov. 6	L	15	11		800 Nov. 9	e	20	52	41
	F	15	40			F	20	55	
	Victoria (Z)					Victoria (Z)			
794 Nov. 8	e	4	44	49	801 Nov. 10	e	2	08	34
	F	4	47			i	2	08	37
	Victoria (Z)					F	2	09	
795 Nov. 8	e	16	48	57	802 Nov. 10	i	13	09	37
	e	16	49	18		i	13	09	45
	F	16	54			F	13	13	
	Victoria (Z)					Ottawa (Z)			
796 Nov. 8	e	18	03	07	803 Nov. 11	e	7	16	35
	F	18	07			F	7	19	
	Victoria (Z)					Victoria (Z)			
797 Nov. 8	e	18	31	45		e	7	18	46
	F	18	32.0			F	7	19	
	Victoria (Z)					Ottawa (Z)			
798 Nov. 9	e	5	03	24	804 Nov. 11	e	7	51	15
	F	5	04			F	7	51.6	

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 117

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Victoria (Z)					Seven Falls		
804 Nov. 11 (cont'd)	e F	7	52	13	809 Nov. 12	L F	18	41	18 58
		Victoria (Z)					Victoria (Z)		
805 Nov. 11	e F	12	52	51	810 Nov. 12	e F	22	08	38 22 09
		Ottawa					Victoria (Z)		
806 Nov. 11	L F	20	48.5		811 Nov. 13	e i i F	0	43	48.5 43 59.0 44 02.6 45.2
		Victoria (Z)					Victoria (Z)		
	H	20	28	14	812 Nov. 13	e F	4	57	45 4 59
	Δ	960 km.					Ottawa		
	P _n	20	30	23.0	813 Nov. 13	ens L F	7	25.4	7 52 8 41
	i	20	30	26.0			Victoria		
	i	20	30	29.4		e L F	7	12	48 7 43 8 21
	P ₂	20	30	42.0			Saskatoon		
	P ₁	20	31	12.0		e L F	7	24	48 7 44.5 8 15
	S _n	20	32	03.8			Seven Falls		
	e	20	32	06.0		L F	7	56	8 55
	i	20	32	09.5			Near Seven Falls station in Quebec		
	i	20	32	14.0	814 Nov. 13		Ottawa (Z)		
	S ₂	20	32	43.0		e	16	51	57
	S ₁	20	33	01.5		i	16	52	05
	F	20	39			F	16	53.5	
		Saskatoon							
	i _{NW}	20	37	11					
	F	20	40.3						
		Ottawa (Z)							
807 Nov. 11	H	21	45	18					
	Δ	220 km.							
	P _n	21	45	50.0					
	P ₂	21	45	51.0					
	S _n	21	46	14.0					
	S ₂	21	46	15.6					
	i	21	46	17					
	e	21	46	25					
	F	21	46.6						
		Victoria (Z)							
808 Nov. 11	e	22	38	50					
	i	22	39	10					
	i	22	40	33					
	F	22	42						

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 118

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
Seven Falls			Ottawa (Z)		
814	H	16 49 47	817	H	17 13 40
Nov.	Δ	63 km.	Nov.	Δ	145 km.
13	P ₂	16 50 03.5	14	P _n	17 14 02.5
(cont'd)	P _n	16 50 06.0		P ₂	17 14 04.2
	S ₂	16 50 11.0		S _n	17 14 20.2
	e	16 50 13.0		S ₂	17 14 22.0
	F	16 52		e	17 14 23.3
				e	17 14 29
				F	17 14.8
Shawinigan Falls			Ottawa (Z)		
	e	16 50 29.5	818	e	10 38 05
	e	16 50 52	Nov.	F	10 40
	F	16 52	15		
Ottawa (Z)			Ottawa (Z)		
815	H	22 00 56	819	H	23 03 29
Nov.	Δ	203 km.	Nov.	Δ	135 km.
13	P _n	22 01 27.0	15	P _n	23 03 51.8
	S _n	22 01 50.5		P ₂	23 03 53.6
	S ₂	22 01 53.4		S _n	23 04 08.5
	e	22 02 04		S ₂	23 04 12.4
	F	20 02.2		e	23 04 22
Ottawa				F	23 04.5
816	e	23 15.1	Ottawa (Z)		
Nov.	e	23 23	820	e	4 33 06
13	L	23 41	Nov.	F	4 33.5
	F	0 24	16		
Victoria			Ottawa (Z)		
	e	23 02 58	821	H	19 52 48
	L	23 30	Nov.	Δ	175 km.
	F	23 37	16	P _n	19 53 16.0
Saskatoon				S _n	19 53 36.5
	e	23 12 54		e	19 53 42
	L	23 35		F	19 53.9
	F	0 31	Victoria (Z)		
Seven Falls			822	H	1 12 33
	L	23 50	Nov.	Δ	535 km.
	F	0 46	17	P _n	1 13 47.6
				i	1 13 52.4
				P ₂	1 13 58.5
				P ₁	1 14 04.0
				S _n	1 14 38.6
				i	1 14 41.0
				S ₂	1 14 46.0
				S ₁	1 14 53
				F	1 16

SEISMOLOGICAL SERVICE OF CANADA
 DOMINION OBSERVATORY, OTTAWA

No. 119

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Victoria (Z)			Victoria	
823 Nov. 18	H	8 54 01	827 Nov. 19 (cont'd)	H	1 04 09
	Δ	55 km.		Δ	5835 km.
	P ₂	8 54 13.7		P	1 13 20
	S ₂	8 54 20.5		e	1 14.4
	F	8 56		S	1 20 51
				L	1 31
	Ottawa (Z)			F	2 17
824 Nov. 18	e	13 06 05		Saskatoon	
	F	13 07		H	1 04 37
				Δ	5555 km.
	Ottawa (Z)			e	1 14 00
825 Nov. 18	e	17 28 18		PP	1 15 30
	i	17 28 37		S	1 20 45
	e	17 28 43		SS	1 24 15
	F	17 28.8		L	1 28 30
				E	2 04
	Ottawa (Z)			Halifax	
826 Nov. 18	H	21 52 29		H	1 04 33
	Δ	200 km.		Δ	4170 km.
	P _n	21 52 50.2		P	1 11 48
	S _n	21 53 13.5		i	1 13 26
	S ₂	21 53 16		PPP	1 13 41
	e	21 53 24		S	1 17 46
	F	21 53.6		SS	1 19 48
				L	1 27
	USCGS			F	1 50
827 Nov. 19	φ = 9° N.			Seven Falls	
	λ = 84° W.			H	1 04 31
	H = 1 04.3			Δ	4150 km.
	d = 100 km.			P	1 11 46
	Near coast of western Costa Rica			PPP	1 13 24
				S	1 17 44
	Ottawa			SS	1 20.4
	H	1 04 25		L	1 24.0
	Δ	3910 km.		F	2 24
	P	1 11 22		Shawinigan Falls	
	i	1 11 25		H	1 04 27
	i	1 11 42		Δ	4090 km.
	PP	1 11 50		P	1 11 36
	PPP	1 12 38		PPP	1 13 25
	S	1 17 07		S	1 17 29
	e	1 17 30		L	1 24
	SS	1 19 28		F	1 28
	SSS	1 20.0			
	L	1 22.7			
	M	1 24.5			
	Ampl. 13 mms. on horizontals with period of 20 sec.				
	F	2 26			

SEISMOLOG'

CANADA

DOMINI'

OTTAWA

No. 120

 NO.
AND
DATE

PHASE

n

Ottawa (Z)

828	e	4 15 15
Nov.	F	4 16
20		

Victoria (Z)

	e	4 17 29
	F	4 18

Ottawa

829	e	8 28 43
Nov.	L	8 41.6
20	F	9 05

Saskatoon

	L	8 41
	F	8 48

Seven Falls

	L	8 43
	F	8 56

Ottawa (Z)

830	e	10 21 56
Nov.	F	10 24
20		

Victoria (Z)

	e	10 19 18
	F	10 21

Ottawa (Z)

831	e	14 50 14
Nov.	F	14 51.2
21		

Victoria (Z)

832	H	15 29 53
Nov.	Δ	680 km.
21	Pn	15 31 25.5
	e	15 31 31
	e	15 31 39
	e	15 31 48
	Sn	15 32 29
	e	15 32 35
	e	15 32 45
	F	15 33

NE

PHASE

TIME

h m s

Ottawa (Z)

833	H	16 54 56
Nov.	Δ	140 km.
21	Pn	16 55 19.5
	P ₂	16 55 21.0
	Sn	16 55 36.5
	S ₂	16 55 40.0
	e ²	16 55 45
	F	16 55.9

USCGS

834	$\phi = 11^\circ$ S.
Nov.	$\lambda = 167^\circ$ E.
21	H = 19 10.6
	d = 150 km.

Ottawa

	e	19 28 58
	e	19 39 54
	e	19 47 20
	L	20 04
	F	20 48

Victoria

	H	19 10 27
	Δ	9300 km.
	P	19 22 57
	pP	19 23 40
	e	19 24 39
	e	19 26.8
	S	19 33 18
	PS	19 34 33
	e	19 40.5
	L	19 55
	F	20 02

Saskatoon

	e	19 35.0
	e	19 36.7
	L	19 55.3
	F	20 33

Seven Falls

	e	19 41.0
	L	20 00
	F	20 43

Ottawa (Z)

835	e	19 39 21
Nov.	F	19 39.6
21		

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

No. 121

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
	Ottawa (Z)			Ottawa (Z)	
836 Nov. 21	H	21 55 36	839 Nov. 22	H	23 32 44
	Δ	105 km.		Δ	166 km.
	P _n	21 55 54.6		P _n	23 33 15.4
	P ₂	21 55 57.0		P ₂	23 33 16.4
	S _n	21 56 08.2		e	23 33 17.9
	e	21 56 13		P ₁	23 33 19.2
	F	21 56.4		S _n	23 33 34.5
	USCGS			S ₂	23 33 34.8
837 Nov. 22	φ = 51° N.			e	23 33 36.4
	λ = 180° E.			S ₁	23 33 38.4
	H = 09 06.8			e	23 33 39
	Aleutian Islands			e	23 33 47
	Ottawa			F	23 35.2
	e	9 17 26	840 Nov. 22,23	Ottawa (Z)	
	e	9 26.1		e	23 41 36
	L	9 36.5		F	23 44
	F	10 41		Victoria (Z)	
	Victoria			L	0 01
	H	9 07 04		F	0 12
	Δ	3850 km.		Saskatoon	
	P	9 13 57		L	0 57.5
	S	9 19 35		F	1 06
	SS	9 22 21		Ottawa (Z)	
	L	9 24	841 Nov. 23	H	4 33 26
	F	10 16		Δ	169 km.
	Saskatoon			P _n	4 33 58.0
	e	9 21 31		P ₁	4 33 59.0
	e	9 21 44		S _n	4 34 17.5
	e	9 25.0		S ₁	4 34 19.2
	L	9 26.5		F	4 34.5
	F	10 27		Ottawa (Z)	
	Halifax		842 Nov. 23	H	21 29 53
	L	9 42.5		Δ	186 km.
	F	9 57		P _n	21 30 27.0
	Seven Falls			P ₁	21 30 29.0
	L	9 37		S _n	21 30 48.5
	F	10 36		S ₂	21 30 49.2
	Victoria (Z)			e	21 30 53
838 Nov. 22	e	12 09 29		F	21 31.5
	F	12 10		Shawinigan Falls	
				e	21 31 09
				F	21 32

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 123

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Ottawa (Z)					Ottawa (Z)		
849 Nov. 26	e F	20	35	15 6	856 Nov. 30	e F	8	39	47 45
		Ottawa (Z)					Seven Falls		
850 Nov. 26	e F	22	46	02 8		e F	8	39	55 41
		Ottawa (Z)					Shawinigan Falls		
851 Nov. 27	e F	6	23	28 25		e F	8	39	53 41
		Victoria (Z)					Ottawa (Z)		
	e F	6	25	10 26	857 Nov. 30	H Δ P _n P ₂ S _n S ₂ e F	21	05	04 155 km. 29.0 30.6 47.8 49.5 54 06.1
		Ottawa (Z)					Ottawa (Z)		
852 Nov. 27	e F	6	43	21 44	858 Nov. 30	H Δ P _n P ₂ S _n S ₂ e F	22	14	20 217 km. 53 54.6 18 19 29 14.6
		Ottawa (Z)					Ottawa (Z)		
853 Nov. 27	H Δ P _n P ₂ S _n e S ₂ e S ₁ F	22	20	00 500 km. 12 22.0 58.5 12.6 15.5 19.5 25.5 23.0			Ottawa (Z)		
		Shawinigan Falls					Ottawa (Z)		
	e F	22	22	48 23			Ottawa (Z)		
		Ottawa (Z)					Ottawa (Z)		
854 Nov. 28	e F	4	59	00 00			Ottawa (Z)		
		Ottawa (Z)					Ottawa (Z)		
855 Nov. 29	e F	20	35	29 6			Ottawa (Z)		

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SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 125

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Shawinigan Falls				Ottawa (Z)				
864 Dec. 4 (cont'd)	H	0	22	45	870 Dec. 4	e	16	04	09
	Δ		4230	km.		F		16	04.5
	P	0	29	59		Ottawa			
	PP	0	31	31		P	16	40	09.5
	S	0	45	50	871 Dec. 4	e	16	40	52
	SSS	0	39	21		L	17	01	
	L	0	40.	4		F	17	24	
	F	1	17			Saskatoon			
	Ottawa					L	16	43	
865 Dec. 4	e	2	50	20		F	17	03	
	L	3	02			Seven Falls			
	F	3	15			L	17	01	
	Saskatoon					F	17	29	
	L	3	00			Shawinigan Falls			
	F	3	10			e	16	40	18
	Seven Falls					F	16	41	
	L	3	04			Ottawa (Z)			
	F	3	13			e	20	41	17
	Shawinigan Falls				872 Dec. 4	F	20	42	
	L	3	02			Ottawa (Z)			
	F	3	07			e	20	42	05
866 Dec. 4	e	2	56	09	873 Dec. 4	F	20	42.5	
	F	2	57			USCGS			
	Ottawa					$\phi = 33^{\circ}9$ N.			
867 Dec. 4	e	3	59	36		$\lambda = 116^{\circ}4$ W.			
	L	4	13		874 Dec. 4	H = 23 43 15			
	F	4	19			Southern California			
	Shawinigan Falls					Ottawa			
	L	4	12			H	23	43	19
	F	4	15			Δ	3600	km.	
	Ottawa (Z)					P	23	49	53
868 Dec. 4	e	4	34	12		S	23	55	15
	F	4	35			SS	23	57.0	
	Ottawa (Z)					L	24	00.2	
						M	24	03	
869 Dec. 4	e	7	59	14		amplitude 30 mm.			
	F	8	01			period 11 sec.			
						F	1	06	

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 126

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
Victoria				Ottawa					
874 Dec. 4 (cont'd)	H	23	43	20	875 Dec. 5 (cont'd)	H	6	26	.4
	Δ	1830 km.				Δ	15	100	km.
	P	23	47	03.5 ^r		P ⁱ	6	45	27.5
	PP	23	47	16		i	6	45	38
	S	23	49	59		e	6	46	09
	SS	23	50	.3		PP	6	48	.0
	L	23	51	.1		PPP	6	51	.3
	M	23	53			SKS	6	52	.6
	amplitude 76 mm.					SKKS	6	54	58
	period 7 sec.					PS	6	58	.5
F	1	10		PPS	7	00	.2		
Saskatoon				SS	7	06			
H	23	43	27	L	7	27			
Δ	2155 km.			F	9	12			
P	23	47	53	Victoria					
PPP	23	48	25	e	6	48	.1		
S	23	51	31	i	6	49	40		
L	23	53		e	6	53	.9		
F	1	07		i	6	58	36		
Halifax				e	7	04	.5		
H	23	43	27	e	7	08	.5		
Δ	4555 km.			L	7	22	.1		
P	23	51	10	F	9	11			
S	23	57	30	Saskatoon					
SS	24	00	14	i	6	49	02		
SSS	24	00	52	i	6	49	17		
L	24	03	.6	e	6	50	28		
F	23	41		e	6	58	18		
Seven Falls				e	7	05	53		
e	23	49	24	e	7	11	01		
e	23	56	14	e	7	14	31		
L	0	02	.4	e	7	24	.5		
F	1	20		L	7	29			
Shawinigan Falls				F	9	38			
e	23	50	27	Halifax					
L	23	59		e	6	51	.6		
F	0	17		e	7	05	10		
USCGS				L	7	31			
875 Dec. 5	$\varphi = 53^\circ$ S.			F	8	27			
	$\lambda = 158^\circ$ E.			Seven Falls					
H = 6 26.4			H	6	26	.5			
South east of New Zealand				Δ	15	600	km.		
				P ⁱ	6	45	52		
				PPP	6	52	.2		
				SKKS	6	56	.5		
				PPS	7	01	.3		
				SS	7	08	.2		
				SSS	7	12	.7		
				L	7	30			
				F	9	49			

SEISMOLOGICAL SERVICE OF CANADA



From the ISC collection scanned by SISMOS

DOMINION OBSERVATORY, OTTAWA

No. 127

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
Shawinigan Falls			Seven Falls		
875 Dec. 5 (cont'd)	e F	6 45 57 6 50	878 Dec. 7 (cont'd)	e F	9 27 11 9 30
USCGS			Shawinigan Falls		
876 Dec. 6	$\varphi = 16^{\circ}$ S. $\lambda = 168^{\circ}$ E. H = 12 10.4			e F	9 27 11 9 29
New Hebrides Is.			Ottawa (Z)		
	Ottawa		879 Dec. 7	e F	23 03 51 23 05
	L F	13 12 13 40	Ottawa (Z)		
Victoria			880 Dec. 8	e F	1 17 26 1 19
	L F	12 54 13 25	Victoria (Z)		
Saskatoon			881 Dec. 8	e F	11 54 34 11 56
	L F	13 01 13 31	Ottawa		
Seven Falls			882 Dec. 8	L F	17 11 17 23
	L F	13 12 13 47	Seven Falls		
USCGS				L F	17 10 17 18
877 Dec. 7	$\varphi = 18^{\circ}$ N. $\lambda = 69^{\circ}5$ W. H = 09 15.3		Ottawa (Z)		
South coast of the Dominican Republic			883 Dec. 8	i i F	22 33 11 22 33 46 22 35
	Ottawa (Z)		USCGS		
	e F	9 21 06 9 24	884 Dec. 10	$\varphi = 57^{\circ}$ N. $\lambda = 163^{\circ}$ E. H = 09 42.5	
Victoria (Z)			Near east coast of Kamchatka		
	i e F	9 24 35 r 9 25 00 9 26	Ottawa (Z)		
Ottawa (Z)				e F	9 53 12 9 57
878 Dec. 7	e F	9 26 15 9 30			

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
		Victoria (Z)					Saskatoon		
884	e	9	50	23	888	e	13	32	13
Dec.	F	9	53		Dec.	i	13	35	29
10					12	L	13	38.5	
						F	14	13	
		Victoria (Z)					Halifax		
885	H	23	32	23		L	13	54	
Dec.	Δ	85	km.			F	14	12	
10	P ₂	23	32	39.0					
	P _n	23	32	40.0					
	e	23	32	43					
	S ₂	23	32	49.7					
	e	23	33	02					
	F	23	33.2						
		Ottawa (Z)					Shawinigan Falls		
886	e	5	15	33		e	13	28	11
Dec.	F	5	16			F	13	30	
11									
		Ottawa (Z)					Ottawa (Z)		
887	e	6	54	30	889	e	16	03	14
Dec.	F	6	55		Dec.	F	16	03.5	
12					13				
		USCGS					Victoria (Z)		
888	$\varphi = 52^\circ$ N.				890	H	19	08	07
Dec.	$\lambda = 178^\circ$ E.				Dec.	Δ	135	km.	
12	d greater than normal				13	P _n	19	08	30.2
	H = 13 17.3					S _n	19	08	45.0
	Aleutian Islands					S ₂	19	08	45.5
						F	19	09	
		Ottawa					Victoria (Z)		
	e	13	28	02	891	H	19	33	02
	e	13	31	33	Dec.	Δ	145	km.	
	L	13	44		13	P _n	19	33	26.2
	F	14	20			S _n	19	32	42.2
						e	19	32	45.0
		Victoria				F	19	34.0	
	H	13	17	12			Victoria (Z)		
	Δ	4250	km.		892	H	19	40	57
	P	13	24	35.5	Dec.	Δ	145	km.	
	e	13	25	37	13	P _n	19	41	22.5
	e	13	27.2			S _n	19	40	38.0
	S	13	30	28		F	19	42.0	
	SSS	13	34.2				Ottawa (Z)		
	L	13	39.3		893	e	9	38	13
	F	14	36		Dec.	F	9	42	
					14				
							Victoria (Z)		
					894	e	16	20	46
					Dec.	F	16	23	
					14				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 129

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
895 Dec. 14	Victoria (Z)		901 Dec. 14	Victoria (Z)	
	H	18 19 35		H	21 56 43
	Δ	145 km.		Δ	135 km.
	Pn	18 20 03.0		Pn	21 56 06.2
	Sn	18 20 18.5		e	21 56 07
	F	18 21	Sn	21 56 23.0	
			F	21 57	
896 Dec. 14	Victoria (Z)		902 Dec. 14	Victoria (Z)	
	H	18 24 29		H	22 12 11
	Δ	135 km.		Δ	135 km.
	Pn	18 24 51.5		Pn	22 12 34.5
	Sn	18 25 06.5		Sn	22 12 50.5
	e	18 25 08.3		F	22 13.5
	e	18 25 10.7			
	F	18 26			
897 Dec. 14	Victoria (Z)		903 Dec. 14	Victoria (Z)	
	H	19 40 10		H	22 16 32
	Δ	135 km.		Δ	135 km.
	Pn	19 40 31.5		Pn	22 16 55.0
	Sn	19 40 48.1		Sn	22 17 11.5
	e	19 40 50		F	22 18
	F	19 41.5			
898 Dec. 14	Victoria (Z)		904 Dec. 14	Victoria (Z)	
	H	21 39 47		H	23 07 25
	Δ	135 km.		Δ	120 km.
	Pn	21 39 10.0		Pn	23 07 45.5
	e	21 39 13.2		Sn	23 07 59.0
	e	21 39 15		e	23 08 02
	iSn	21 39 25.2		F	23 08.5
	e	21 39 31			
e	21 39 33				
	F	21 41			
899 Dec. 14	Victoria (Z)		905 Dec. 15	Victoria (Z)	
	H	21 43 05		H	8 08 34
	Δ	135 km.		Δ	168 km.
	Pn	21 43 28.5		Pn	8 09 02.5
	Sn	21 43 44.5		e	8 09 05.6
	F	21 44.5	Sn	8 09 20.5	
			e	8 09 22.9	
			e	8 09 25	
			F	8 10	
900 Dec. 14	Victoria (Z)		906 Dec. 15	Victoria (Z)	
	H	21 49 32		e	13 55 32
	Δ	135 km.		F	13 56
	Pn	21 49 55.0			
	e	21 49 56			
	Sn	21 50 11.5			
	F	21 51			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 130

NO. AND DATE	PHASE	TIME	NO. AND DATE	PHASE	TIME
		h m s			h m s
907 Dec. 15	USCGS		910 Dec. 16	USCGS	
	$\varphi = 22^\circ \text{ N.}$			$\varphi = 20^\circ \text{ S.}$	
	$\lambda = 143^\circ \text{ E.}$			$\lambda = 179^\circ \text{ W.}$	
	$H = 19 \text{ 11.4}$			$H = 07 \text{ 18.2}$	
	$d = 200 \text{ km.}$			Fiji Islands	
	Bonin Islands region.			Ottawa	
	Ottawa			L	8 05
	e	19 35 25		F	8 59
	L	19 44		Victoria	
	F	20 21		e	7 30 45
	Victoria			e	7 41 06
	H	19 11.6		e	7 46 28
	Δ	8000 km.		L	7 52
	P	19 22 54 r		F	8 49
	e	19 24 04		Saskatoon	
e	19 24 28	e	7 42 50		
S	19 32 20	L	8 03.3		
PS	19 32 58	F	8 53		
e	19 34.0	Seven Falls			
SS	13 37.1	L	8 20		
L	19 43.4	F	8 54		
F	20 10	Ottawa (Z)			
Saskatoon		H	17 06 09		
e	19 31 57	Δ	215 km.		
e	19 33 33	P _n	17 06 41.7		
i	19 33 48	P ₂	17 06 43.2		
e	19 35 16	S _n	17 07 06.5		
L	19 43	e	17 07 19		
F	20 04	F	17 07.5		
Ottawa (Z)		Ottawa (Z)			
e	22 40 24	H	20 09 28		
F	22 41	Δ	140 km.		
Victoria (Z)		P _n	20 09 51.5		
e	22 01 52	P ₂	20 09 52.2		
F	22 03	S _n	20 10 09.6		
Victoria (Z)		S ₂	20 10 13.5		
H	4 30 04	e	20 10 16		
Δ	155 km.	F	20 10.5		
P _n	4 30 30.0	Ottawa (Z)			
e	4 30 31.0	e	11 38 54		
S _n	4 30 46.5	F	11 41		
e	4 30 51.5	913 Dec. 17			
e	4 30 54.5				
F	4 31.6				

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 131

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Victoria (Z)					Shawinigan Falls			
	e	11	41	04	918	e	20	19	29
	F	11	42.5		Dec.	F	20	26	
	Ottawa				21	(cont'd)			
914 Dec. 18	L	15	12			Ottawa (Z)			
	F	15	25		919	e	20	24	18
	Seven Falls				Dec.	F	20	28	
	L	15	19		21				
	F	15	40			Seven Falls			
	Ottawa (Z)					e	20	24	51
915 Dec. 19	e	4	08	40		F	20	28	
	F	4	10		920	Ottawa (Z)			
	Ottawa (Z)				Dec.	e	20	42	44
916 Dec. 20	e	20	58	32	21	F	20	46	
	F	21	00			Ottawa (Z)			
	Victoria (Z)				921	H	16	51	56
917 Dec. 20	e	23	20	08	Dec.	Δ	140	km.	
	F	23	21.5		22	P _n	16	52	19.0
	USCGS					P ₂	16	52	20.8
918 Dec. 21	$\varphi = 19^\circ$ N. $\lambda = 69.5^\circ$ W. H = 20 13.4					S _n	16	52	36.1
	Near southeast coast of Dominican Republic					S ₂	16	52	38.7
	Ottawa (Z)					S ₁	16	52	43
	e	20	19	12		F	16	52.9	
	F	20	24		922	USCGS			
	Victoria				Dec.	$\varphi = 30^\circ$ S. $\lambda = 177^\circ$ W. H = 7 12.1			
	e	20	22	46	23	Kermadec Islands			
	L	20	41			Victoria (Z)			
	F	20	53			e	7	25	09
	Seven Falls					F	7	27	
	e	20	20	12		Seven Falls			
	F	20	23		923	L	8	16	
					Dec.	F	8	31	
					23	USCGS			
						$\varphi = 56^\circ$ N. $\lambda = 166^\circ$ E. H = 8 41.3 d = 100 km.			
						Off east coast of Kamchatka			

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

No. 132

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Victoria (Z)			
923 Dec. 23	H	8	41	09	924 Dec. 23	H	9	43	06
	Δ	7500 km.				Δ	165 km.		
	P	8	52	01 r		Pn	9	43	32.5
	e	8	52	21		Sn	9	43	50.0
	PP	8	54	21		F	9	44	.2
	S	9	00	52		Ottawa			
	e	9	01	10		e	15	36	54
	SS	9	04	53	925 Dec. 23	L	15	55	
	SSS	9	08	21		F	16	02	
	L	9	11	.5		Victoria (Z)			
	F	10	35			e	15	33	56
	Victoria					F	15	35	
	H	8	41	00		Seven Falls			
	Δ	4970 km.				L	15	57	
	P	8	49	04 r		F	16	16	
	e	8	49	06		Ottawa (Z)			
	e	8	50	12		e	15	48	34
	PP	8	50	48	926 Dec. 23	F	15	49	
	S	8	55	30		Ottawa (Z)			
	e	8	56	00		H	17	03	18
	e	8	56	40		Δ	150 km.		
	SS	8	58	50		Pn	17	03	42.0
	L	9	02	.2		P2	17	03	44.0
	F	10	28			Sn	17	04	00.0
	Halifax					S2	17	04	02.5
	e	9	01	50		e	17	04	07
	e	9	02	22	927 Dec. 23	F	17	04	.5
	e	9	07	46		Ottawa (Z)			
	e	9	09	38		e	19	00	05
	e	9	10	26		F	19	00	.2
	L	9	16			Victoria (Z)			
	F	9	53			e	18	57	07
	Seven Falls					F	18	59	
	e	8	52	08		Victoria (Z)			
	e	9	00	58	928 Dec. 23	e	2	12	12
	e	9	04	36		F	2	13	
	e	9	08	.4					
	L	9	16	.4					
	F	10	34						
	Shawinigan Falls								
	e	8	47	04					
	e	8	55	54					
	F	9	00		929 Dec. 25				

NO. AND DATE	PHASE	TIME			NO. AND DATE	PHASE	TIME		
		h	m	s			h	m	s
	Ottawa					Shawinigan Falls			
936 Dec. 30 (cont'd)	H	23	49	56	936 Dec. 30	e	23	57	13
	Δ	4050 km.				L	0	09	0
	P	23	56	57 r		F	0	34	
	PP	23	58	27		Victoria (Z)			
	S	0	02	36		H	6	40	27
	e	0	02	41	937 Dec. 31	Δ	680 km.		
	SS	0	04	3		P _n	6	41	52
	L	0	08	9		S _n	6	42	57
	M	0	10			e	6	42	59
	78 mm. amplitude					F	6	44	
	11 sec. period					Ottawa (Z)			
	F	1	30		938 Dec. 31	e	7	15	09
	Victoria					F	7	17	
	H	23	49	51		Ottawa (Z)			
	Δ	680 km.			939 Dec. 31	e	7	38	28
	P _n	23	51	14.0 r		F	7	40	
	e	23	51	18.1					
	e	23	51	21					
	e	23	51	29					
	e	23	51	38					
	e	23	52	00.0					
	S _n	23	52	19					
	i	23	52	24					
	e	23	52	38					
	F	1	15						
	Saskatoon								
	H	23	50	16					
	Δ	1490 km.							
	P	23	53	29					
	S	23	56	11					
	L	23	56	8					
	M	23	58	0					
	F	1	20						
	Halifax								
	e	0	08	0					
	e	0	10	32					
	L	0	12	8					
	F	1	01						
	Seven Falls								
	H	23	49	53					
	Δ	4245 km.							
	P	23	57	17					
	S	0	03	16					
	SS	0	05	4					
	L	0	07	6					
	F	1	45						



SEISMOLOGICAL BULLETINS RECEIVED

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

<u>STATION</u>	<u>BULLETINS</u>	<u>RECEIVED</u>
	<u>November, 1948</u>	
Perth	April - June, 1948	November 1
Saint Louis and Auxiliary Stations	Nos. 111, 114; September - December, 1944	" 2
Nanking	January - June, 1948	" 10
La Plata	Year, 1942	" 15
Ksara	September, 1948	" 15
Cleveland	October, 1948	" 15
Brisbane	September, 1948	" 17
Santa Clara	October, 1948	" 18
Wellington	August, 1948	" 19
Uccle	July - October, 1948	" 20
Richmond	September, 1948	" 20
Brisbane	May, August, 1948	" 23
Barcelona	Year, 1946	" 23
Prague	1940 - 1943	" 23
Upsala	July, 1947 to June, 1948	" 23
De Bilt	October, 1948	" 25
Belgrade	Year, 1939	" 25
Budapest	October, 1948	" 26
Kalogsá	October, 1948	" 26
	<u>December, 1948</u>	
Upsala	1940 - 1945	December 2
Paris	June, 1947	" 3
Bureau Central	July, 1948	" 3
Strasbourg	October, 1948	" 3
Saint Louis and Auxiliary Stations	Supplement for September; Preliminaries Oct. 5; Jan, Feb., 1945	" 3
Pittsburg	Year, 1947	" 4
Apia	July - September, 1948	" 4
Lima	Year 1947	" 6
Belgrade	September, 1948	" 11
Santa Clara	November, 1948	" 13
Pasadena	Locals July - September, 1948	" 14
Tananarive	Year 1946	" 14
Rome	September, 1948	" 14
Almeria	September, October, 1947; January - March, 1948	" 16
Toledo	September, 1948	" 16
Almeria	November, December, 1947	" 16
Cleveland	November, 1948	" 18
Ksara	October, 1948	" 18
Bucarest	March - June, 1948	" 18
Zurich	September, October, 1948	" 18
Belgrade	October, 1948	" 28
Bureau Central	October, 1948	" 30
Strasbourg	August, November 1-10, 1948	" 30
Stuttgart	July - September, 1948	" 30
Uccle	October, November, 1948	" 30
Pasadena	Locals July - September, 1948	" 30
Rome	October, 1948	" 30
Trieste	July - September, 1948	" 30

Dominion Observatory,
Ottawa - Canada,
February 2, 1949.