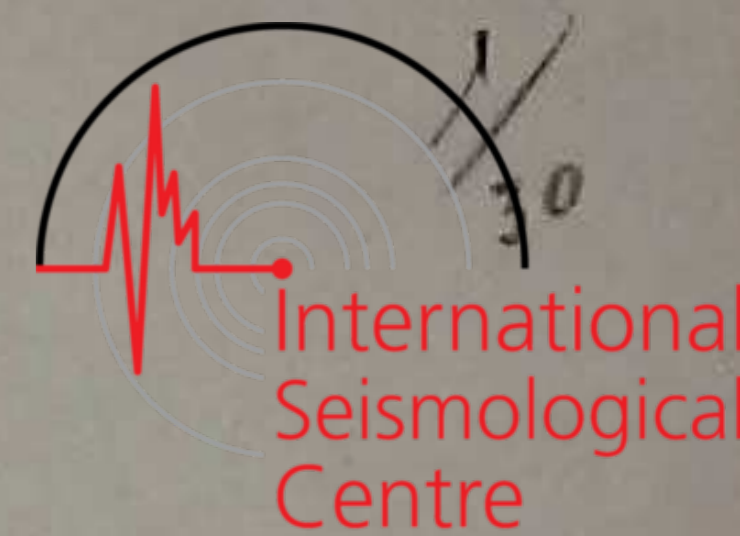




# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant, Seismologist*

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

Lithologic foundation : boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction: within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g.
Milne-Shaw .....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw .....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation .....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T <sub>0</sub>	r	v	ε	COMP.	1" tilt	DETERMINED
I.....	5.2		120	2:1	NS	displmt.	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43mm.	Jan. 31, 1929
D.....							
D.....	6.0		160	7:1	Vert.		Sept. 18, 1929
W.....							

From January 1st, 1930, to January 8th, 1930 No. 1

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3774 Jan. 5	e	1-31.4						
	i	1-40-45						
	eL?	1-53						
	LN	2-07	15		1-			
	LE	2-11	15	1-				
	F	3-00 ca.						
3775 Jan. 5	LN	9-15	20	1-				Sinusoidal L waves of small amplitude.
	LE	9-20	20		1-			
	F	9-33						
3776 Jan. 5	e	19-14-40						
	L	19-35	30	4	4			
	LE	19-40	20	2				
	F	20-13						
3777 Jan. 7	LN	0-45	20		2			Barely discernible on EW component.
	F	1-28						
3778 Jan. 8	L	14-30	15	1-	1			
	F	15-01						



CANADA

# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From... January 8th, 1930, ..... to ..... January 17th, 1930, ..... No. .... 2 .....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3779 Jan. 11	L F	15-03 to 15-09	17	1-	1			
3780 Jan. 12	L F	15-17 to 15-24						Sinusoidal L waves of small amplitude.
3781 Jan. 12	eL? LN F	15-17 15-20 15-24			1-			
3782 Jan. 13	e L F	5-46 5-49 5-54	12	1	1			
3783 Jan. 13	e F	6-23 to 6-28						Trace only.
3784 Jan. 14	L LE F	21-53 21-56 22-02	10	1				
3785 Jan. 15	eE e eN LN? LE LE F	22-26.0 22-35.0 22-45.5 22-50 22-56 23-08 23-53	15 22 15	9 3	1			
3786 Jan. 15	e F	1-08 to 1-14						Trace only.
3787 Jan. 15	e F	11-55 to 12-02						Trace only.
3788 Jan. 16	e L LN F	0-40 0-43 0-52 1-17	15 12	1	13 3			
3789 Jan. 16	L F	13-46 to 13-53	20	1	1-			
3790 Jan. 17	L F	12-27 to 12-38	20	1	1-			



CANADA

# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From January 17th, 1930, to January 31st, 1930 No. 3

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3791 Jan. 17	iS? eL L F	17-09-29 17-16 17-22 18-05	20	?	4			
3792 Jan. 18	e e e e eL LE LN LE LE F	7-25 7-31 7-34 7-41 7-55 8-10 8-14 8-24 8-55 8-31	20 17 17 30	4 1 2	3			L at 8-55 probably another quake.
3793 Jan. 19	eE eL L LN LE F	7-42.7 8-09 8-15 8-25 8-33 8-57	22 17 17	6 1	5 1			
3794 Jan. 21	e <sub>N</sub> F	1-56 to 2-03						On NS component only.
3795 Jan. 21	L LN F <sub>N</sub>	4-01.7 4-05 4-21	8		1			
3796 Jan. 21	e F	22-35 to 22-45						Irregular trace.
3797 Jan. 25	e <sub>N</sub> LE LN F	2-09 2-47 2-52 3-47	20 20	1	1			
3798 Jan. 28	eL? L F	7-15 7-23 8-07	20	1	1			

*u. w. 1/10 sec.*



# OTTAWA, CANADA

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Lithologic foundation, boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction: within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g.
Milne-Shaw.....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw.....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T.	r	v	ε	COMP.	1" tilt	DETERMINED
I.....	5.2		120	2:1	NS	displ'mt.	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43mm.	Jan. 31, 1929
D.....							
D.....	6.0		160	7:1	Vert.		Sept. 18, 1929
W.....							

From February 1st, 1930, to February 3rd, 1930 No. 4

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3799 Feb. 1	O	19-02-58					4040	EW component not operating at time of quake.
	ePN	19-10-19						
	eN	19-12.0						
	eSN	19-16-08						
	eN	19-18-34						
	eLN	19-21						
	MN	19-24	22		17			
F	19-56							
3800 Feb. 2	e	15-06.3						
	e	15-15-08						
	eN	15-20.0						
	e	15-22-10						
	eL	15-25						
	ME	15-35.5	(24)	(36)				
MN	15-36	15		22				
F	16-50							
3801 Feb. 3	L	22-57						
	LN	23-04	15		1-			
	F	23-08						



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From February 3rd, 1930, to February 23rd, 1930 No. 5

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3802 Feb. 7	eE? eN L F	6-54.6 7-04 7-15 7-53ca.	20	3	1			
3803 Feb. 9	L F	1-27 to 1-34						Irregular trace
3804 Feb. 12	e e LN LE LN LE F	6-53 7-00 7-26 7-30 7-32 7-46 9-07	20 17 17 15	6 1	2 3			
3805 Feb. 13	e F	0-37 to 0-43						Trace only.
3806 Feb. 14	0 eP? iS eE eSR <sub>2</sub> E? eL F	(18-38-21) 18-49-34 18-58-46 19-03.5 19-06.7 19-13 19-58					(7850)	
3807 Feb. 14	eE eN eE eN eN L LN LE F	21-06.4 21-08.2 21-10.0 21-16.0 21-32.0 21-41 22-02 22-04 23-24	20 17 15	13 2	4 2			
3808 Feb. 19	e F	11-38-54 to 11-39-04						Local - Felt at Westboro, Britannia and Rockcliffe.
3809 Feb. 19	e L F	13-36 13-39 14-00ca.	17	1	.1			
3810 Feb. 23	eL L F	18-52 18-58 19-19	20	1	1			



CANADA



## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From February 23rd, 1930, to February 28th, 1930, No. 6

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3811 Feb. 24	L F	1-49 to 2-04						Trace of L waves.
3812 Feb. 24	e i <sub>N</sub> L F	21-13.8 21-14-00 21-46 22-27	?	1-	1-			
3813 Feb. 26	e <sub>E</sub> e <sub>N</sub> e <sub>E</sub> M <sub>N</sub> M <sub>E</sub> F	2-41-38 2-46.7 2-47.3 2-47.7 2-50.0 3-30ca.	8 8	7	10			
3814 Feb. 26	e <sub>N</sub> ? L <sub>N</sub> F	3-37.7 3-39.5 3-51	12		1			Barely discernible on EW component.
3815 Feb. 26	L <sub>N</sub> F	4-41.6 to 4-47	10		1			Only slight trace on EW component.
3816 Feb. 26	e <sub>N</sub> ? L <sub>N</sub> F	7-54 7-55.6 8-07	12		1			Trace only on EW component.
3817 Feb. 27	L F	3-15.6 to 3-20						Trace only.
3818 Feb. 27	e L F	7-28 7-35 7-52	15	1-	1-			
3819 Feb. 28	e L L <sub>E</sub> F	1-11.5 1-16 1-25 1-55ca.	24 (15)	4 (2)	5			
3820 Feb. 28	e L F	19-00.5 19-06 19-38	?					Record masked by micros.

W. W. Doxsee

# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



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Milne-Shaw.....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T <sub>0</sub>	r	v	$\epsilon$	COMP.	1" tilt displ't	DETERMINED
I.....	5.2		120	2:1	NS		Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43mm.	Jan. 31, 1929
D.....							
D.....	6.0		160	7:1	Vert.		Sept. 18, 1929
W.....							

From March 1st, 1930, to March 6th, 1930, No. 7.

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	$\mu$	$\mu$	$\mu$	km.	
3821 Mar. 1	L <sub>N</sub> F	1-32 to 1-37						Trace on NS component only.
3822 Mar. 1 and 2	e <sub>N</sub> e <sub>E</sub> M <sub>N</sub> L <sub>E</sub> F <sub>E</sub>	23-59.6 0-01.7 0-02 0-04 0-23	12 10	1	5	.		
3823 Mar. 2	L <sub>N</sub> F	0-48.7 to 0-51						No trace on EW component.
3824 Mar. 3	L F	11-31 to 11-46						Trace only.
3825 Mar. 6	e <sub>E</sub> e e <sub>E</sub> e <sub>N</sub> L L <sub>N</sub> L <sub>E</sub> F	15-55 16-01 16-05.3 16-12 16-39 16-50 16-53 18-20	17 15 15	2 3	2 3			



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From March 6th, 1930, to March 26th, 1930 No. 8

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3826 Mar. 7	L F	7-05 to 7-13						Trace only.
3827 Mar. 7	eL? L <sub>N</sub> F	11-52 12-00 12-03	15		1-			
3828 Mar. 8	e <sub>N</sub> ePR <sub>2N</sub> ? S <sub>2N</sub> ? eL L <sub>E</sub> M <sub>N</sub> L <sub>N</sub> F	3-52-32 3-53-33 3-58-00 4-03 4-05 4-07 4-18 5-06						
3829 Mar. 10	eL L F	14-31 14-35 14-51	20	1	1			
3830 Mar. 10	e F	15-23 to 15-28						
3831 Mar. 10	i e e L F	16-47-23 16-51-03 16-59.1 17-07 17-34	17	?	1			
3832 Mar. 13	e F	8-48.4 to 8-52						
3833 Mar. 15	e F	6-17 to 6-20						
3834 Mar. 20	L L <sub>E</sub> F <sub>E</sub>	13-36 13-39 14-06	20	1				
3835 Mar. 26	e? e i e e e eL L <sub>E</sub> L <sub>N</sub> F	7-31.4 7-34-20 7-35-16 7-47.2 7-53.2 7-57.6 8-09.5 8-26 8-31 10-13						
			24	10	8			
			20					





CANADA

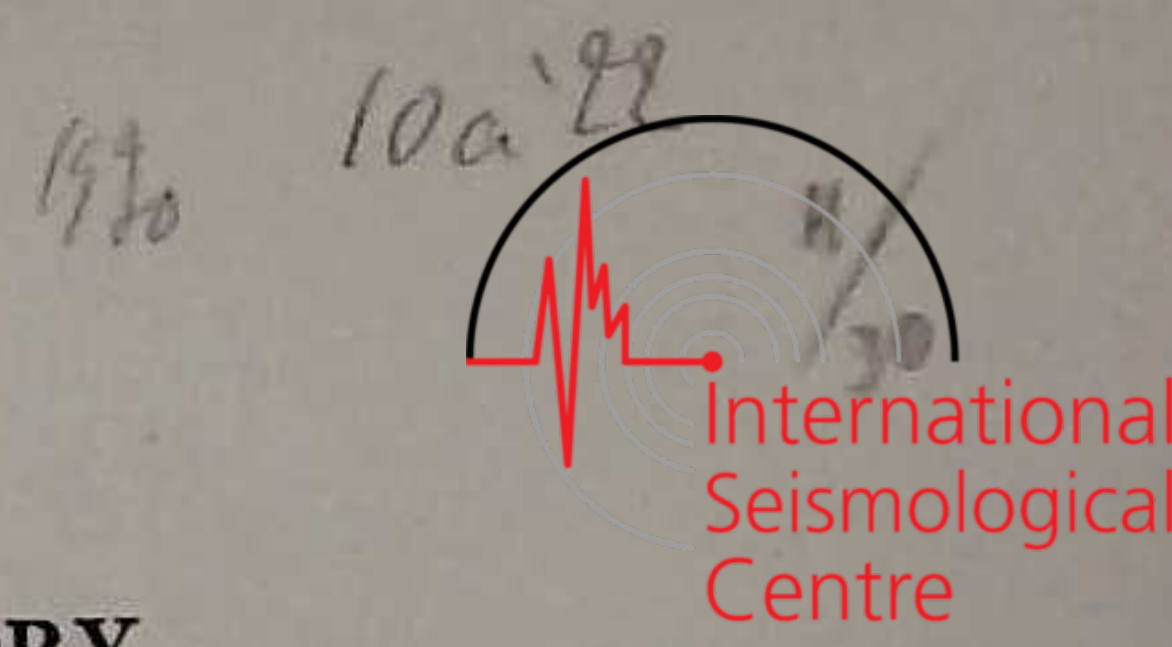
## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

 From March 26th, 1930 to March 31st, 1930 No. 9

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3836 Mar. 29	eL LN F	6-40 6-44 6-51	20		1-			
3837 Mar. 30	e eL LN FN	1-15 1-18 1-31 1-50	20		1			
3838 Mar. 30	eN eN eN eLN? LN LN F	8-45-00 8-54-11 9-00-15 9-17 9-23 9-32 10-41	20 17		3 1-			Clockwork of EW component stopped at time of quake.
3839 Mar. 30	eN L F	15-01.2 15-03 15-22	20	1-	1			
3840 Mar. 30	e? e eN e e eL? L LN LN FN	15-38 15-42-27 15-46-24 15-55.0 16-05-00 16-17 16-38 16-55 17-18 17-52	20 20 20	2	2 2 1			
3841 Mar. 31	e eL LN L F	12-54-00 13-05 13-13 13-17 13-45	17 15	1-	1 1-			

*W. W. Dore*



# OTTAWA, CANADA

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Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

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I.....	5.2		120	2:1	NS	displ'mt	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43mm.	Jan. 31, 1929
D.....							
D.....	6.0		160	7:1	Vert.		Sept. 18, 1929
W.....							

From April 1/1930 to April 9/1930 No. 10

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
3842 Apr. 1	e <sub>N</sub>	h - m <sup>s</sup> 0 - 45	20	μ	μ	μ	km.	
	L	0 - 49		1 -	1 -			
	F	1 - 04						
3843 Apr. 2	e <sub>N</sub> ?	20 - 30	20					
	e <sub>L</sub> ?	20 - 39						
	L <sub>E</sub>	21 - 00		1 -	1 -			
	F	21 - 25						
3844 Apr. 4	e ?	9 - 55	20					
	e <sub>L</sub> ?	10 - 13						
	L <sub>N</sub>	10 - 28		1 -	1 -			
	F	11 - 07						
3845 Apr. 5	e	11 - 54					Irregular trace	
	F	to 12 - 17						
3846 Apr. 9	e <sub>L</sub> ?	17 - 49.7	10					
	L <sub>N</sub>	17 - 50		1 -	1 -			
	F	17 - 52						



CANADA

# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From April 9/1930 to April 20/1930 No. 11

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3847 Apr 10	L F	13 - 38 to 13 - 41	17	1 -	1 -			
3848 Apr. 10	eL L L <sup>E</sup> F	15 - 08 15 - 22 15 - 28 15 - 48	17 15	1 1 -	1 -			
3849 Apr. 12	eN F	13 - 13.7 to 13 - 21						no trace on EW component
3850 Apr. 13	e ? eL F	1 - 10.7 1 - 15 1 - 45						
3851 Apr. 13	eL F	3 - 51 to 4 - 03	12	1 -	2			
3852 Apr. 15	eLN ? L <sup>E</sup> LN F	11 - 37 11 - 44 11 - 50 12 - 18	20 20	1	1			
3853 Apr. 15	eN eE L F	14 - 38 14 - 44.5 14 - 57 15 - 03	15	1	1			
3854 Apr. 16	eL LN F	10 - 37 10 - 45 10 - 54	20		1			
3855 Apr. 16	e eL M L F	14-43-30 14 - 48 14 - 51 14 - 55 15 - 46	10 8	7 4	11 3			
3856 Apr. 17	eN eL L F	20-26-58 20 - 38.5 20 - 49 21 - 22	15	1	1			
3857 Apr. 20	eE eN ? eLN L <sup>E</sup> F	16 - 52 17 - 05.6 17 - 14 17 - 33 17 - 49	1					



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From April 20, 1930 to April 26, 1930 No. 12

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
3858 Apr. 21	c L <sub>E</sub> L <sub>N</sub> F	11 <sup>m</sup> 00 11 - 07 11 - 12 11 - 24	s 20 20	μ 1	μ 1	μ	km.	
3859 Apr. 21	e e e <sub>E</sub> eL <sub>E</sub> ? L L F	12-10-00 12 - 19.4 12 - 25.4 12 - 35 12 - 50 13 - 00 13 - 42+	    20 17	    4 2	    7 3			
3860 Apr. 21	L <sub>N</sub> L F	14 - 03 14 - 17 14 - 39	20 17	1	1			
3861 Apr. 22	eL <sub>N</sub> L <sub>N</sub> L <sub>E</sub> F <sub>E</sub>	13 - 31 13 - 34 13 - 35 13 - 40	10 12	2	1			
3862 Apr. 22	L <sub>N</sub> F	21 - 27 to 21 - 33	10		1 -			Only a trace on EW component
3863 Apr. 23	e eL L F	18 - 44.2 18 - 52 19 - 00 19 - 21	19	3	3			
3864 Apr. 23	i eL ? L <sub>N</sub> L <sub>E</sub> L <sub>E</sub> L <sub>N</sub> F <sub>N</sub>	22-11-06 22 - 20 22 - 30 22 - 37 22 - 43 22 - 46 0 - 18	 20 20 15 15	  9 3	5  4			
3865 Apr. 24	e L F	1 - 03 1 - 12 1 - 43	20	2	1			
3866 Apr. 26	L L F	7 - 11 7 - 24 7 - 40	20 15	1 1	1 1			
3867 Apr. 26	L F	15 - 14 to 15 - 23	15	1 -	1 -			



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From April 26, 1930 to April 30, 1930 No. 13

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h. m. s	s	μ	μ	μ	km.	
3868 Apr. 26	0	16-18-10					7080	
	eP	16-28-42						
	iS	16-37-15						
	i <sub>N</sub>	16-38-30						
	SR <sub>2</sub>	16-44-24						
	eL	16 - 47.5						
	M <sub>1</sub>	16 - 53	20	63	60			
M <sub>2N</sub>	16 - 58.5	15		63				
F	19 - 06							
3869 Apr. 27	e <sub>E</sub>	14 - 45.9						
	e <sub>N</sub>	15 - 07.7						
	L <sub>N</sub>	15 - 43	20	3	2			
	F	16 - 58						
3870 Apr. 28	eL	13 - 35						
	L <sub>E</sub>	13 - 48	15	1				
	F <sub>E</sub>	14 - 20						
3871 Apr. 28	e <sub>N</sub>	18 - 59.8						
	e <sub>E</sub>	19 - 09						
	eL <sub>E</sub>	19 - 28						
	L <sub>E</sub>	19 - 43	7	2	2			
	F	20 - 37						
3872 Apr. 29	eL	8 - 52						
	L	9 - 03	20	1	1			
	F	9 - 33						
3873 Apr. 30	e <sub>E</sub>	16 - 30.8						
	e <sub>N</sub>	16-32-30						
	L <sub>N</sub>	16 - 56	15		1			
	L <sub>E</sub>	17 - 03	17	1				
	F <sub>E</sub>	17 - 13	15	1				
		7 - 47						

*W W Dorse*



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation : boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction: within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g.
Milne-Shaw .....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw .....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation .....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	$\tau$ .	$\gamma$	$\nu$	$\epsilon$	COMP.	1" tilt	DETERMINED
I.....	5.2		120	2:1	NS	displ'nt	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44 mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43 mm.	Jan. 31, 1929
D.....							
D.....							
W.....	6.0		160	7:1	Vert.		Sept. 18, 1929

From May 1, 1930 to May 3, 1930 No. 14

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				$A_E$	$A_N$	$A_Z$		
		h m s	s	$\mu$	$\mu$	$\mu$	km.	
3874 May 1	e	1 - 21.5	20	3	2			
	eL	1 - 48						
	L	1 - 56						
	F	2 - 41						
3875 May 2	eE	2 - 07.3	20	2	1			
	eE	2 - 11.6						
	eN	2 - 15.8						
	eL ?	2 - 35						
	L	2 - 48						
F	4 - 18							
3876 May 2	eE	6 - 21.9	17	1	1			
	e	6 - 31.6						
	e	6 - 38.3						
	eL	6 - 51						
	L	7 - 07						
F	8 - 25							
3877 May 3	eE ?	14 - 20	30	3	2			
	eL	14 - 33						
	LE	14 - 43						
	F	17 - 00 ca						



**OTTAWA, CANADA**  
**SEISMOLOGIC STATION, DOMINION OBSERVATORY**

From May 3, 1930 to May 11, 1930 No. 15

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3878 May 5	e e <sub>E</sub> e <sub>E</sub> eL <sub>E</sub> ? M <sub>1</sub> M <sub>2E</sub> M <sub>2N</sub> F	14-05-48 14 - 13.6 14 - 22.0 14 - 40 15 - 01 15 - 53 16 - 00 18 - 43	24 19 19	103 37	114	38		
3879 May 6	0 eP iS SR <sub>1</sub> eL <sub>1</sub>	22-34-24 22-46-42 22-56-58 23-02-50 23 - 12.6					9100	
May 7	M F	23 - 24 2 - 53	17	100	60			
3880 May 8	e eL L L <sub>E</sub> F <sub>E</sub>	14 - 05 14 - 31 14 - 36 14 - 42 15 - 57	20 17	9 3	4			
3881 May 8	e e <sub>E</sub> L <sub>E</sub> L <sub>N</sub> F <sub>N</sub>	15-57-55 16 - 09.3 16 - 20 16 - 22 17 - 32	17 (20)	1	2			
3882 May 8	e <sub>N</sub> e <sub>N</sub> eL F	22 - 58.6 23 - 01.2 23 - 05 23 - 25						
3883 May 9	e eL L F	7 - 29 7 - 45 7 - 56 8 - 04	15	1	1			
3884 May 9	e e F	14 - 16.2 14 - 23.0 14 - 57						Irregular waves of small amplitude and short period.
3885 May 10	e <sub>E</sub> e <sub>N</sub> eL M F	22 - 23.0 22 - 25.6 22 - 27 22 - 32 23 - 11	8	8	9			
3886 May 11 and 12	e <sub>N</sub> e <sub>E</sub> eL L F	23 - 01.8 23 - 07.0 23 - 23 23 - 35 0 - 18	17	1	1			



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

May 11/1930

May 20/1930

16

From..... to..... No.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
3887 May 12	eL L F	22 m- 46 23 - 54 23 - 20	s 15	$\mu$ 1	$\mu$ 1	$\mu$	km.	
3888 May 13	e eL L F	8 - 38 8 - 48 8 - 55 9 - 34	17	1	1			
3889 May 13	L F	18 - 27 to 18 - 47						Small sinusoidal L waves
3890 May 14	e eL L F	19 - 52 20 - 04 20 - 11 21 - 12	15	4	4			
3891 May 16	e eL L F	2 - 58 3 - 11 3 - 20 4 - 12	17	3	3			
3892 May 17	e <sub>E</sub> e <sub>N</sub> eL <sup>N?</sup> L F	0 - 24.3 0 - 40.0 0 - 54 1 - 11 2 - 14	20	1	1			
3893 May 19	e e e L F	3 - 31.0 3 - 40.3 3 - 46.5 4 - 10 5 - 32	20	2	3			
3894 May 19	e eL ? L <sub>E</sub> L <sub>N</sub> F	15 - 29.8 15 - 49 16 - 08 16 - 15 16 - 41	20 17	2	1			
3895 May 20	e eL L F	8 - 20.8 8 - 38 8 - 55 9 - 23	17	1	1			
3896 May 20	O eP eS SR <sub>2</sub> eL M <sub>1E</sub>	11-14-57 11-25-29 11-34-02 11-41-15 11 - 43 11 - 53.6	15	23			7080	





CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From May 20, 1930 to May 29, 1930 No. 17

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3896 May 20 cont'd	M <sub>1</sub> N	11 - 55.2	15		16			
	L <sub>E</sub>	12 - 15	13	2				
	L <sub>N</sub>	12 - 19	13		5			
	F	14 - 20						
3897 May 21	L	12 - 23	20	1 -	1 -			
	L <sub>E</sub>	12 - 46	17	1				
	F	13 - 04						
3898 May 21	e <sub>E</sub> ?	22 - 16.5						
	e	22 - 21 - 15						
	e <sub>L</sub>	22 - 25						
	L	22 - 29	15	2	2			
3899 May 22	F	23 - 11						
	L	17 - 01						
	L <sub>N</sub>	17 - 03.5	15		1			
3900 May 23	F	17 - 13						
	e	0 - 10.4						
	L	0 - 41	20	1 -	1 -			
3901 May 23	F	1 - 18						
	e <sub>N</sub>	17 - 01.6						
	i	17 - 02 - 18						
3902 May 26	L <sub>E</sub>	17 - 34	17	1				
	L <sub>N</sub>	17 - 40	17		1			
	F	17 - 52						
	e	22 - 55						Trace only
3903 May 27	F	to						
	L	23 - 13						
3904 May 29	L	6 - 17	12	1 -	1 -			
	F	to						
3905 May 29	L	6 - 24						
	e <sub>N</sub>	8 - 39.5						
	i <sub>E</sub>	8 - 43 - 43						
	e <sub>L</sub> ?	8 - 46.5						
	L <sub>N</sub>	8 - 55	15		1 -			
3905 May 29	F	9 - 17						
	L	17 - 54						Sinusoidal L waves of small amplitude.
3905 May 29	F	to						
	L	18 - 24						



**OTTAWA, CANADA**  
**SEISMOLOGIC STATION, DOMINION OBSERVATORY**

From..... May 29, 1930 ..... to ..... May 31, 1930 ..... No. 18

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3906 May 31	e eL F	10 - 34.6 10 - 38 11 - 46						Waves of varying amplitude and period
3907 May 31	e eL L F	18 - 22 18 - 45 18 - 54 19 - 19	20	1	1			

*W. W. Lissner*



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation : boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction: within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g.
Milne-Shaw .....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw .....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation .....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T.	r	v	ε	COMP.	1" tilt	DETERMINED
I.....							
II.....	5.2		120	2:1	NS	displ'nt	Feb. 26, 1929
17.....	6.9		120	14:1	EW		Feb. 2, 1929
23.....	12.0		250	20:1	EW	44 mm.	Dec. 5, 1929
D.....	12.0		250	20:1	NS	43 mm.	Jan. 31, 1929
D.....							
W.....	6.0		160	7:1	Vert.		Sept. 18, 1929

From..... June 1, 1930..... to..... June 5, 1930..... No..... 19.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3908 June 1	e	13 - 31						
	e	13 - 42						
	e	13 - 49						
	eLN?	13 - 59						
	LE	14 - 12	20	8				
	LN	14 - 15	17		4			
	LE	14 - 18	15	2				
3909 June 3	FE	16 - 12						
	eL?	16 - 37						
	LE	16 - 40	12	1				
3910 June 4	FE	16 - 44						
	e	10 - 12						
	eLN?	10 - 37						
	LN	11 - 17	17		1			
3911 June 5	FE	11 - 53						
	eE	12-02-27						
	e	12-10-32						
	eE	12-12-11						
	eE	12-18-36						
	eLN	12 - 32						
LN	12 - 36	15		1				



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From June 5, 1930 to June 15, 1930 No. 20

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
3911 cont'd June 5	eL	12 - 37						
	L <sub>E</sub>	12 - 41	20	3				
	L <sub>E</sub>	12 - 47	17	3				
	L <sub>E</sub>	12 - 57	15	1				
	F <sub>E</sub>	14 - 32						
3912 June 6	e	8 - 33						
	eL?	8 - 37						
	L	8 - 46	17	1	1			
	F	9 - 19						
3913 June 11	e	1 - 10.6						
	e	1 - 19.8						
	e	1 - 23.2						
	e	1 - 27.6						
	eL	1 - 42						
	M <sub>N</sub>	1 - 56	24		90			
	M <sub>E</sub>	2 - 02	22	114				
	L <sub>E</sub>	2 - 28	17	3	3			
3914 June 12	e <sub>N</sub>	9 - 25						Trace on NS componen only
	F	9 - 31						
3915 June 12	e	9 - 52						
	e <sub>E</sub>	9-56-34						
	L	9 - 59.5	8	2				
	L <sub>E</sub>	10 - 00.0	8		6			
3916 June 12	F <sub>N</sub>	10 - 30						
	eL	10 - 36.5						
	L <sub>E</sub>	10 - 38	15	1				
3917 June 13	F <sub>E</sub>	10 - 46						
	0	0-53-51					6540	
	eP	1-03-53						
	eS	1-11-58						
	eL	1 - 23						
	M	1 - 27	15	11				
	M <sub>N</sub>	1 - 28	15		10			
	L <sub>E</sub>	1 - 37	15	3				
L <sub>E</sub>	1 - 41	15		4				
3918 June 15	F <sub>N</sub>	3 - 30						
	eL	8 - 24						
	L <sub>E</sub>	8 - 34	17	1				
	F <sub>E</sub>	9 - 09						



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

June 15, 1930

June 25, 1930

21

From ..... to ..... No. ....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks		
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>				
3919 June 15	e	21 - 33.6	s	μ	μ	μ	km.			
	e	21 - 40.4								
	eL	21 - 50								
	L	22 - 02		17	1 -	1				
	F	23 - 33								
3920 June 18	e	16 - 02.6	12	2						
	e <sup>E</sup>	16 - 08.0								
	eL	16 - 11.5								
	L <sup>E</sup>	16 - 12								
	F <sup>E</sup>	16 - 23								
3921 June 19	e	13 - 49	20	2						
	eL <sup>N</sup>	14 - 14								
	L <sup>E</sup>	14 - 43								
	L <sup>E</sup>	14 - 56							15	1
	F <sup>N</sup>	15 - 39								
3922 June 21	e	(7 - 11)					Trace only			
	F	(7 - 17) to								
3923 June 22	eL?	2 - 54	15	1 -	1 -					
	L	2 - 58								
	F	3 - 19								
3924 June 22	e	18 - 48.0	20	1 -	1					
	e <sup>N</sup>	18 - 54.6								
	L <sup>N</sup>	19 - 14								
	F	19 - 46								
3925 June 23	e	20 - 03	20		2		EW component not operating at time of quake.			
	eL <sup>N</sup> ?	20 - 26								
	L <sup>N</sup>	20 - 41								
	F <sup>N</sup>	21 - 45								
3926 June 25	0	10-17-39	20	11	10	6750				
	eP	10-27-53								
	iS	10-36-09								
	i <sup>E</sup>	10-37-30								
	SR <sub>2</sub> <sup>E</sup>	10-43-00								
	iL <sub>2</sub> <sup>E</sup>	10-46-12								
	M <sup>E</sup>	10 - 49.5								
	M <sup>N</sup>	10 - 55								
F	12 - 16 +									
3927 June 25	e	12 - 16.4	15	2						
	eL	12 - 18								
	L <sup>E</sup>	12 - 23								
	L <sup>E</sup>	12 - 25						12	1	
	F <sup>N</sup>	13 - 28								



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

June 25 1930

June 30, 1930

22

From..... to..... No.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
3928 June 25	e L F	13 <sup>h</sup> - 41 <sup>m</sup> 13 - 54 14 - 11	s 17	μ 1 -	μ 1 -	μ	km.	
3929 June 25	eL? L <sub>E</sub> L <sub>N</sub> F	20 - 29 20 - 35 20 - 38 21 - 09	 20 17	3	1			
3930 June 25	O eP PR <sub>2N</sub> iS SR <sub>1N</sub> SR <sub>2E</sub> eL	21-21-34 21-31-45 21-35-30 21-39-58 21-44.7 21-46-30 21 - 49					6700	
June 26	M <sub>E</sub> M <sub>N</sub> L <sub>N</sub> F	21 - 57.6 22 - 00.0 22 - 12 0 - 37	17 17 15	12	23 5			
3931 June 26	e <sub>N</sub> eL L <sub>N</sub> F	10 - 45.5 10 - 53 10 - 55 11 - 02	17		1			
3932 June 26	e eL L <sub>N</sub> F	19 - 24 19 - 26 19 - 30 20 - 05	17		1			
3933 June 27	L <sub>T</sub> F	5 - 17.5 to 5 - 26	12		1			EW component not operating at time of this quake and the one following.
3934 June 27	L <sub>N</sub> F	10 - 25 to 10 - 29	10		1 -			
3935 June 29	e F	17 - 00 to 17 - 08						

*W W Dorse*

O T T A W A, C A N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY

SEISMOLOGICAL BULLETIN  
FOR  
JULY and AUGUST, 1930.

R. Meldrum Stewart,  
Director.

Ernest A. Hodgson,  
Seismologist.

W. W. Doxsee,  
Assistant Seismologist.

SEISMOLOGICAL BULLETINS RECEIVED



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

STATIONS	BULLETINS	RECEIVED
Rome	April 23-May 6, 1930	June 1, 1930
Akita	April, 1930	" 4, 1930
Central Bureau	} April, 1930	" 5, 1930
Strasbourg		
Paris		
Zi-Ka-Wei	January 5-March 16, 1930	" 5, 1930
Osaka	July, August and September, 1930	" 5, 1930
Manila	March, 1930	" 5, 1930
Budapest	January-December, 1930	" 7, 1930
Budapest	Ungarische Erdbebenkatalog fur das Jahr Catalogue 1929	" 7, 1930
Algiers	March 6-April 28, 1930	" 7, 1930
La Plata	March and April, 1930	" 7, 1930
San Fernando	March and April, 1930	" 10, 1930
Riverview	Provisional, April and May 5, 1930	" 10, 1930
Riverview	May-August, 1929	" 10, 1930
Sydney	March and April, 1930	" 10, 1930
Fordham	May, 1930	" 11, 1930
Rome	May 7-20, 1930	" 12, 1930
Karlsruhe	January, February and March, 1930	" 16, 1930
Bergen	Year 1929	" 17, 1930
Cartuja	January-April, 1930	" 18, 1930
Toledo	} January and February, 1930	" 18, 1930
Almeria		
Malaga		
Alicante		
St. Louis	Preliminary May 20-21, 1930	" 24, 1930
Florissant	December, 1929	" 24, 1930
Georgetown	May, 1930, and seismological despatches for May, 1930	" 25, 1930
Rome	May 21-June 3, 1930	" 25, 1930
Richmond	May, 1930	" 28, 1930
Helwan	April and May, 1930	" 30, 1930

DOMINION OBSERVATORY  
 O T T A W A - C A N A D A

R. Holdrum Stewart,  
 Director.

Ernest A. Hodgson,  
 Seismologist.  
 W. W. Doxsoo,  
 Assistant Seismologist.



O T T A W A , C A N A D A

SEISMOLOGIC STATION, DOMINION OBSERVATORY

Latitude 45° 23' 38" North  
Longitude 75 42 57" West  
Height 83 meters

Lithologic foundation: boulder clay over limestone (Ordovician)  
Time: Mean Greenwich, midnight to midnight  
Time correction: within .25 second

INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm./min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm./min.	200 g.
Milne-Shaw.....	17	Photographic	Magnetic	8 mm./min.	1 lb.
Milne-Shaw.....	23	Photographic	Magnetic	8 mm./min.	1 lb.
Spindler-Hoyer.....	W	Smoked sheet	Air	15 mm./min.	80 kgm

INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T <sub>0</sub>	V	E	COMP	1" tilt	DETERMINED
I.....	5.2	120	2:1	NS	displ'nt	Feb. 26, 1929
II.....	6.9	120	14:1	EW		Feb. 2, 1929
17.....	12.0	250	20:1	EW	44 mm.	Dec. 5, 1929
23.....	12.0	250	20:1	NS	43 mm.	Jan. 31, 1929
W.....	6.0	160	7:1	Vert.		Sept. 18, 1929

FROM July 1, 1930 to July 5, 1930 No. 23

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3936 July 1 1 <sup>h</sup> 16 <sup>m</sup> 15 <sup>s</sup>	2 <sup>h</sup>	O eP <sub>N</sub> eS <sub>N</sub> eL	1-08-50 1-16-15 1-22-08 1-27.5	41.00	
3937 July 2 21 <sup>h</sup> 18 <sup>m</sup> 03 <sup>s</sup>	4 <sup>h</sup>	O eP <sub>N</sub> PR <sub>1</sub> ScPcS PS SR1 SR2N eL	21-03 21-18-03 21-22-42 21-28-38 21-32-08 21-38-12 21-43-26 21-49	12450	Based on Macelwane's Tables Interpretation of phases some- what doubtful
3938 July 5 18-28	1 <sup>h</sup> 40 <sup>m</sup>				Sinusoidal L waves of small amplitude
3939 July 5 22-07	5 <sup>m</sup>				Irregular trace

O T T A W A, C A N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY



FROM July 5, 1930 to July 17, 1930 No. 24

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3940 July 7 2-37	24 <sup>m</sup>				Trace only
3941 July 7 13-40	2 <sup>h</sup>	e <sub>N</sub> e	13-40 13-45		L waves irregular with maximum of much greater amplitude on EW componen
3942 July 7 20-51	40 <sup>m</sup>				Irregular L waves of small amplitude
3943 July 9 16-08	16 <sup>m</sup>				Sinusoidal waves of small amplitude
3944 July 13 1-04-48	55 <sup>m</sup>	PR <sub>2</sub> E S SR <sub>2</sub> L	1-04-48 1-09-12 1-12-00 1-14.1		L waves of 8 second period
3945 July 13 1-54	2 <sup>h</sup>				A continuous train of sinusoidal L waves of small amplitude
3946 July 13 9-35	28 <sup>m</sup>				Trace on EW component only
3947 July 13 13-29	40 <sup>m</sup>				Sinusoidal L waves of small amplitude
3948 July 13 15-01	12 <sup>m</sup>				Trace on NS component only
3949 July 13 19-52	1 <sup>h</sup>			48 <sup>m</sup>	Sinusoidal waves preceded by an irregular trace
3950 July 14 22-47-15	4 <sup>h</sup>	O iP iPR <sub>2</sub> iS SR <sub>1</sub> SR <sub>2</sub> E iL	22-40-21 22-47-15 22-48-18 22-52-43 22-54-20 22-54-44 22-56-24	3680	Maximum of pronounced amplitude on EW component
3951 July 15 9-19	22 <sup>m</sup>				L waves of small amplitude
3952 July 15 15-59	23 <sup>m</sup>				Same character as 3951
3953 July 17 18-42-48	34 <sup>m</sup>				An emergence followed by an irregular trace.

O T T A W A, C A N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY



International  
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FROM July 17, 1930 to July 31, 1930 No. 25

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3954 July 20 11-19-00	58 <sup>m</sup>				Same character as 3953
3955 July 22 19-38-00	1 <sup>h</sup> 48 <sup>m</sup>	O eP eS i <sub>E</sub> eL	19-25-55 19-38-00 19-48-03 19-49-04 20-03	8850	
3956 July 23 0-27-43	1 <sup>h</sup> 49 <sup>m</sup>	e eL	0-27-43 0-37		e phase probably eS
3957 July 23 18-00	29 <sup>m</sup>				Sinusoidal trace
3958 July 25 21-46-49	1 <sup>h</sup>				Maximum a regular oscillation of short period and sharp turning points.
3959 July 26 18-02	13 <sup>m</sup>				Trace only
3960 July 27 8-37	47 <sup>m</sup>				Sinusoidal trace
3961 July 27 12-37	26 <sup>m</sup>				Same character as 3960
3962 July 27 15-13-30	1 <sup>h</sup> 8 <sup>m</sup>	e eL	15-13-30 15-19		e phase probably eS
3963 July 27 19-05-23	2 <sup>h</sup>	O eP eS i <sub>E</sub> eL	18-58-20 19-05-23 19-10-58 19-13-44 19-15	3800	
3964 July 29 6-30-45	1 <sup>h</sup>	O eP eS e <sub>N</sub> eL	6-23-58 6-30-45 6-36-07 6-38.8 6-40	3580	Phases more definition on NS component
3965 July 30 19-09	13				Sinusoidal waves of small amplitude

O T T A W A , C A N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
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SASKATOON RECORD

3950 July 14 22-48-10	38 <sup>m</sup>	O	22-40-27	4340	All preliminary phases better defined on NS component.
		eP	22-48-10		
		PR <sub>2N</sub>	22-49-49		
		eS	22-54-16		
		SR <sub>2N</sub>	22-57-18		

W. W. D.

SEISMOLOGICAL BULLETINS RECEIVED

JULY

1930

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

STATIONS	BULLETINS	RECEIVED
Nagoya	May, 1930	July 2, 1930
Beograd	Provisional-Jan. to May, 1930	" 2, 1930
San Fernando	Year 1928	" 3, 1930
Manila	April, 1930	" 4, 1930
Toronto	May, 1930	" 4, 1930
Victoria	May, 1930	" 4, 1930
Strasbourg	May, 1930	" 5, 1930
Central Bureau	May, 1930	" 5, 1930
Paris	May, 1930	" 5, 1930
Rome	June 4 to 17, 1930	" 7, 1930
Riverview	Provisional for May, 1930	" 7, 1930
Upsala	Years 1928 and 1929	" 8, 1930
San Fernando	Year 1929	" 9, 1930
Toronto	June, 1929	" 9, 1930
Victoria	June, 1929	" 9, 1930
St. Louis	Preliminary June 13 and 25, 1930	" 11, 1930
Florissant	January 1 to 16, 1930	" 11, 1930
Osaka	October to December, 1930	" 14, 1930
Florissant	January 17 to March 31, 1930	" 15, 1930
St. Louis	Preliminary July 2, 1930	" 15, 1930
La Plata	May, 1930	" 17, 1930
Georgetown	June, 1930 and seismological despatches for June 1930	" 21, 1930
Florissant	April 1 to May 13, 1930	" 22, 1930
St. Louis	Preliminary July 14, 1930	" 22, 1930
Sydney	May 2 to 20, 1930	" 22, 1930
Lemberg	October 5 to December 31, 1929	" 23, 1930
Innsbruck	September 16 to December 31/29	" 23, 1930
Wien	January 1 to March 20, 1930	" 23, 1930
Graz	January 1 to March 30, 1930	" 23, 1930
Zurich	May 8 to July 5, 1930	" 23, 1930
Firenze	June to December, 1929	" 23, 1930
Rome	June 18 to July 1, 1930	" 24, 1930
Helwan	June, 1930	" 26, 1930
Batavia	January, February and March, 1930	" 28, 1930
Kobe	January 1 to March 31, 1930	" 28, 1930
Koti	April 1 to May 6, 1930	" 31, 1930

O T T A W A, C A N N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY



FROM August 1, 1930 to August 13, 1930 No. 26

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3966 Aug. 1 7-29	1 <sup>h</sup>				L waves of small amplitude
3967 Aug. 1 22-16	26 <sup>m</sup>				Sinusoidal trace
3968 Aug. 2 16-31-22	2h 30m	O eP eS L	16-20-02 16-31-22 16-40-41 16-55	7980	
3969 Aug. 3 1-35	1 <sup>h</sup>				A broken series of irregular traces
3970 Aug. 3 23-39	18 <sup>m</sup>				Small amplitude sinusoidal waves
3971 Aug. 4 5-13	50 <sup>m</sup>				An irregular trace marked by several sharply defined offsets
3972 Aug. 4 10-46	4 <sup>m</sup>				Trace only. May not be seismic
3973 Aug. 4 16-10	20 <sup>m</sup>				Sinusoidal trace
3974 Aug. 5 0-24	40 <sup>m</sup>				Emergence followed after 8 min. by well defined L waves of 15 sec. period.
3975 Aug. 7 6-18	10 <sup>m</sup>				Sinusoidal trace on EW component only.
3976 Aug. 10 0-14	1 <sup>h</sup>				Trace of sinusoidal L waves of small amplitude
3977 Aug. 13 1-19	10 <sup>m</sup>				Sinusoidal waves of short period and small amplitude
3978 Aug. 13 5-39	30 <sup>m</sup>				Sinusoidal trace.
3979 Aug. 13 22-03	25 <sup>m</sup>				Sinusoidal trace

O T T A W A, C A N A D A  
SEISMOLOGIC STATION, DOMINION OBSERVATORY



FROM August 13, 1930 to August 29, 1930 No. 27

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3980 Aug. 17 10-13	30 <sup>m</sup>				Trace only
3981 Aug. 17 12-53	1 <sup>h</sup> 10 <sup>m</sup>				Sinusoidal waves of small amplitude
3982 Aug. 18 10-08-24	3 <sup>h</sup>	e i i i i eL?	10-08-24 10-12-48 10-22-08 10-28-08 10-32-00 10-38		Well defined max. of 24 secs. perio
3983 Aug. 19 2-14	25 <sup>m</sup>				Trace on EW component
3984 Aug. 19 5-31	30 <sup>m</sup>				Irregular trace of short period waves.
3985 Aug. 19 23-46	7 <sup>m</sup>				Sinusoidal trace
3986 Aug. 20 9-30	10 <sup>m</sup>				L waves only
3987 Aug. 20 21-18	2 <sup>h</sup> 10 <sup>m</sup>				Well defined maximum at 22 hr.
3988 Aug. 21 20-14	25 <sup>m</sup>				Sinusoidal trace
3989 Aug. 23 11-17	1 <sup>h</sup> 25 <sup>m</sup>				Irregular trace followed by trace of sinusoidal waves.
3990 Aug. 24 9-57	1 <sup>h</sup> 30 <sup>m</sup>				Continuous trace of sinusoidal L waves
3991 Aug. 24 11-47	20 <sup>m</sup>				Sinusoidal trace
3992 Aug. 25 8-29	20 <sup>m</sup>				L waves of small amplitude
3993 Aug. 29 8-35	40 <sup>m</sup> +				Begins with a small emergence succeeded by a well defined maximum



O T T A W A, C A N A D A

SEISMOLOGIC STATION, DOMINION OBSERVATORY

FROM August 29, 1930 to August 31, 1930 No. 28

No. and Date	Duration of Record	Phase	Time	Distance in km.	Remarks
3994 Aug. 29 9-11	1 <sup>h</sup>				Same as 3993 but of small amplitude
3995 Aug. 31 0-58	20 <sup>m</sup>				Irregular trace

*W. W. Horne*



SEISMOLOGICAL BULLETINS RECEIVED

AUGUST

1930

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STATIONS	BULLETINS	RECEIVED
Richmond	June, 1930	August 2, 1930
Central Bureau	June, 1930	" 2, 1930
Strasbourg	June, 1930	" 2, 1930
Paris	June, 1930	" 2, 1930
Manila	May, 1930	" 2, 1930
Rome	July 2 to 15, 1930	" 4, 1930
St. Louis	Preliminary July 22, and 23, 1930	" 5, 1930
Florissant	May 13 to June 26, 1930	" 5, 1930
Hohenheim	} January to June, 1930	" 5, 1930
Ravensburg		
Hamburg	April May and June, 1930	" 5, 1930
Riverview	Provisional for June, 1930	" 5, 1930
Riverview	July, August and September, 1927	" 5, 1930
Zagreb	January to March, 1930	" 7, 1930
St. Louis	Provisional July 27 and 29, 1930	" 7, 1930
Florissant	June 27 to 30, 1930	" 7, 1930
Nagoya	June, 1930	" 15, 1930
Georgetown	Seismological despatches July, 1930	" 16, 1930
Georgetown	July, 1930	" 16, 1930
Koti	May 6 to 31, 1930	" 22, 1930
Rome	July 16 to 29, 1930	" 22, 1930
Taihoku	April 10 to July 11, 1930	" 23, 1930
Jena	Year 1929	" 25, 1930
Zi-Ka-Wei	March 31 to May 2, 1930	" 26, 1930
Tananarive	January and February, 1930	" 26, 1930
Nagoya	July, 1930	" 27, 1930
Denver	December 17, 1929 to March 1, 1930	" 27, 1930
St. Louis	Preliminary August 18, 1930	" 27, 1930
Richmond	July, 1930	" 28, 1930
Potsdam	Year 1928	" 30, 1930



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



International  
Seismological  
Centre

R. MELDRUM STEWART, *Director*

ERNEST A. HODGSON, *Seismologist*

W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation: boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction: within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g.
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g.
Milne-Shaw .....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw .....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation .....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer .....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	$T$	$r$	$V$	$\xi:1$	COMP.	$1''$ tilt displ't	DETERMINED
I.....	5.2		120	2:1	NS		Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44 mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43 mm.	Jan. 31, 1929
D.....							
D.....	6.0		160	7:1	Vert.		Sept. 18, 1929
W.....							

September 1, 1930

September 14, 1930

29

From..... to..... No.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				$A_E$	$A_N$	$A_Z$		
3996 Sept. 1		18 m - 07 to 19 - 10	s	$\mu$	$\mu$	$\mu$	km.	Sinusoidal waves of small amplitude
3997 Sept. 2		16 - 04 to 16 - 56						Same as No. 3996
3998 Sept 11		12 - 58 to 13 - 38						Emergence followed by sinusoidal trace
3999 Sept. 13		0 - 57 to 1 - 18						Same as No. 3998
4000 Sept. 13		23 - 47 to 1 - 42						Emergence followed later by long train of sinusoidal waves
4001 Sept. 14		3 - 25 to 5 - 19						Same as No. 4000



# OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From September 14, 1930 to September 24, 1930 No. 30

No. and Date	Phase	Time h m s	Period s	Amplitude			Distance km.	Remarks
				A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
002 ept. 4		17 - 43.5 to 18 - 40						Irregular trace
003 ept. 6		0 - 08 to 1 - 07						Trace only
004 ept. 7		3 - 27 to 4 - 09						Irregular waves of short period
005 ept. 8		18 - 19 to 18 - 35						Sinusoidal trace
006 ept. 10		2 - 21 to 2 - 38						Waves of small amplitude and short period
007 ept. 1		7 - 51 to 8 - 08						Sinusoidal trace
008 ept. 1 and 2	eN eE eE eLE F	23-23-08 23-30-42 23-38-36 23 - 49 1 - 52 +						A period of 17 secs. at max. with amplitude of 13μ
009 ept. 2	e iE e F	1 - 52.0 2-02-00 2 - 08.9 4 - 42						The L waves resemble record from undamped pendulum. Maximum greater on EW component.
010 ept. 2		5 - 16 to 5 - 45						Irregular trace
011 ept. 2		12 - 39 to 13 - 07 +						Sinusoidal waves of small amplitude
012 ept. 24		0 - 09 to 0 - 36						Sinusoidal trace
013 ept. 24		12 - 43 to 14 - 08						Sinusoidal waves of small amplitude.



CANADA



## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From September 24, 1930 to September 30, 1930 No. 31

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				$A_E$	$A_N$	$A_Z$		
		h m s	s	$\mu$	$\mu$	$\mu$	km.	
4014 Sept. 24		19 - 00 to 20 - 25						Long train of sinusoidal L waves of 17 secs. period and max. amp. of 3 $\mu$
4015 Sept. 26		4 - 41 to 4 - 56						
4016 Sept. 30 and Oct. 1	e e i eL F	21 - 41.6 21 - 53.0 21-59-00 22 - 12 0 - 18						Waves sharply sinusoidal at the maximum.

*W. W. Benson*



# SEISMOLOGIC STATION, DOMINION OBSERVATORY OTTAWA

R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation: boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction; within .25s.

## INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g
Milne-Shaw.....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw.....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

## INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	$\tau$ .	$r/T^2$	v	$\epsilon$	COMP.	1" tilt	DETERMINED
I.....	5.2		120	2:1	NS	displ'nt	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44 mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43 mm.	Jan. 31, 1929
D.....							
D.....							
W.....	6.0		160	7:1	Vert.		Sept. 18, 1929

From.....October 1, 1930.....To.....October 5, 1930..... No.....32.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	$\mu$	$\mu$	$\mu$	km.	
4017 Oct. 1		14 - 09.2 to 14 - 20						Trace only.
4018 Oct. 2		1 - 08 to 2 - 27						Sinusoidal waves of 20 sec. period and small amplitude
4019 Oct. 2		7 - 59 to 8 - 14						Trace on NS component only
4020 Oct. 3		11 - 54 to 12 - 10						Sinusoidal trace
4021 Oct. 4		0 - 00 to 0 - 12						Sinusoidal trace
4022 Oct. 5		19 - 35 to 20 - 01						Trace of sinusoidal waves of 20 sec. period. Greater amplitude on EW component.



CANADA



## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From October 5, 1930 to October 19, 1930 No. 33

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4023 Oct. 6		5 - 01 to 5 - 29						Sinusoidal trace on EW component only
4024 Oct. 8	e e e <sub>E</sub> i eL F	10-39-18 10-45-45 10-48-52 10-55-16 11 - 10 13 - 26						Maximum much greater on EW component.
4025 Oct. 8		19 - 48 to 20 - 27						Irregular trace
4026 Oct. 9		5 - 19 to 5 - 33						Barely discernible
4027 Oct. 10		1 - 32 to 2 - 00						Sinusoidal trace
4028 Oct. 11	0 eP <sub>N</sub> ePR <sub>2N</sub> eS SR <sub>2</sub> eL F	3-06-16 3-13-50 3-15-16 3-19-50 3-22-38 3 - 24.3 4 - 17					4220	
4029 Oct. 15		21 - 46 to 22 - 02						Sinusoidal waves of small amplitude
4030 Oct. 16		21 - 41 to 22 - 05						Same character as 4029
4031 Oct. 17	0 iP <sub>N</sub> iS <sub>E</sub> eL F	8-47-28 8-58-52 9-08-15 9 - 24 10 - 27					8060	
4032 Oct. 19		11 - 23 to 12 - 15						An emergence follow- ed by long trace of Sinusoidal waves of small amplitude.



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



From October 19, 1930 to October 25, 1930 No. 34

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4033 Oct. 20		19 - 33 to 19 - 50						Sinusoidal trace
4034 Oct. 21		10 - 08 to 10 - 14						Irregular trace On NS component only
4035 Oct. 21		19 - 19 to 19 - 43						Sinusoidal trace
4036 Oct. 22		18 - 39 to 19 - 43						An emergence with L waves of 20 sec. period at 19 - 14
4037 Oct. 23		9 - 00 to 9 - 42 +						Same character as 4036
4038 Oct. 23		9 - 42 to 11 - 28						Continuous train of L waves
4039 Oct. 24		2 - 28 to 3 - 03						Sinusoidal trace
4040 Oct. 24		11 - 29 to 12 - 22						Sinusoidal waves of small amplitude
4041 Oct. 24	O eP ? PR <sub>1N</sub> ? i iS e i	(20-17-12) 20-29-36 20-33-06 20-33-43 20-39-57 20-42-52 20-49.3					(9220)	Saskatoon record gives O=20-15-29 Δ=9160 iP=20-27-50 iS=20-38-09
Oct. 25	eL F	20 - 58.4 0 - 43						
4042 Oct. 25	O eP PF <sub>1N</sub> S SR <sub>1N</sub> eL F	12-03-06 12-11-37 12-13-32 12-18-21 12-21-30 12 - 24.6 13 - 40					5040	Saskatoon record gives O=12-03-00 Δ=3040 eP=12-09-00 iS=12-13-46



## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From October 25, 1930 to October 31, 1930 No. 35

No. and Date	Phase	Time h m s	Period s	Amplitude			Distance km.	Remarks
				$A_E$ $\mu$	$A_N$ $\mu$	$A_Z$ $\mu$		
4043 Oct. 26		12 - 33 to 12 - 42					Sinusoidal trace	
4044 Oct. 28	O eP ? eS ? eL F	(21 - 24.1) 21 - 35.1 21 - 44.1 21 - 58 23 - 37				(7600)		
4045 Oct. 30		7-31-24 to 8 - 22					Well defined emergence with L waves at 7 - 40	
4046 Oct. 31		10 - 52.3 to 13 - 16					Well defined sinusoidal L waves of 20 sec. period begin at 11 - 28	
4047 Oct. 31		16 - 57 to 17 - 37					Sinusoidal waves of small amplitude.	
4048 Oct. 31		19 - 14 to 20 - 23					Similar to 4047	

*W. W. Dawson*





CANADA

SEISMOLOGIC STATION, DOMINION OBSERVATORY  
OTTAWA



R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation: boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction; within .25s.

INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g
Milne-Shaw.....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw.....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	$\tau$	$r/\tau^2$	$v$	$\epsilon$	COMP.	In tilt	DETERMINED
I.....	5.2		120	2:1	NS	displ'nt	Feb. 26, 1929
II.....	6.9		120	14:1	EW		Feb. 2, 1929
17.....	12.0		250	20:1	EW	44 mm.	Dec. 5, 1929
23.....	12.0		250	20:1	NS	43 mm.	Jan. 31, 1929
D.....							
D.....							
W.....	6.0		160	7:1	Vert.		Sept. 18, 1929

From November 1, 1930 To November 4, 1930 No. 36

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				$A_E$	$A_N$	$A_Z$		
		h m s	s	$\mu$	$\mu$	$\mu$	km.	
4049 Nov. 1		13 - 28 to 14 - 24						Sinusoidal L waves of 17 secs. period and small amplitude
4050 Nov. 2		6 - 34 to 6 - 41						Trace only
4051 Nov. 2		16 - 54 to 17-49						L waves pronounced from 17-05 to 17-11
4052 Nov. 3		19 - 14 to 20 - 27						Long train of sinusoidal L waves of small amplitude
4053 Nov. 4		6 - 01 to 6 - 16						Sinusoidal trace
4054 Nov. 4		16 - 37 to 17 - 00						Same type as No. 4053



CANADA



## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

November 4, 1930

November 23, 1930

37

From..... to..... No.....

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4055 Nov. 5		1 - 19 to 1 - 31						Sinusoidal trace
4056 Nov. 5		8 - 48 to 8 - 52						Same type as No. 4055
4057 Nov. 9	e e eL ? F	19-29-50 19-47-30 20 - 03 22 - 42						Phase at 19-47-30 quite pronounced Character of record indicates a distant epicentre
4058 Nov. 10	e e eL ? F	14 - 07.4 14 - 22.4 14 - 36 16 - 25						Same character as No. 4057 but phases not so pronounced
4059 Nov. 12	i eL F	19-27-00 19 - 38 21 - 07						
4060 Nov. 16		13 - 51 to 13 - 55						Irregular trace
4061 Nov. 17		12 - 56 to 13 - 35						Irregular L waves
4062 Nov. 21		2 - 02 to 2 - 11						Irregular trace
4063 Nov. 21		2 - 37 to 2 - 48						Similar to No. 4062
4064 Nov. 21		4 - 06 to 4 - 29						Sinusoidal waves of small amplitude
4065 Nov. 22		14 - 33 to 16 - 24						Sinusoidal waves from 15-04 to 15-20
4066 Nov. 23		16 - 49 to 17 - 21						Sinusoidal L waves of small amplitude



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY



From November 23, 1930 to November 30, 1930 No. 38

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4067 Nov. 23		18 - 23 to 18 - 32						Short period L waves of small amplitude
4068 Nov. 24		2 - 15 to 2 - 20						Sinusoidal trace.
4069 Nov. 24		3 - 50 to 4 - 41						Trace of sinusoidal waves of small amplitude
4070 Nov. 24	e i eL F	6 - 15 6-22-15 6 - 26 6 - 50						
4071 Nov. 25	e eL ? F	8 - 51.0 8 - 55 9 - 32						Sinusoidal L waves begin at 9-01
4072 Nov. 25	O eP PR <sub>1</sub> iS <sub>1</sub> e eL <sup>N</sup> F	19 - 03.0 19 - 16.2 19-20-10 19-27-18 19 - 34 19 - 48 22 - 32					10180	
4073 Nov. 28	e i e eL ? F	7 - 41.5 7-45-52 7-48-44 7 - 50 9 - 15						
4074 Nov. 30	e e i eL <sup>N</sup> ? F	21-39-25 21-43-40 21-43-46 21 - 50.6 22 - 49						

W. W. Howell



## SEISMOLOGIC STATION, DOMINION OBSERVATORY OTTAWA

R. MELDRUM STEWART, *Director*  
ERNEST A. HODGSON, *Seismologist*  
W. W. DOXSEE, *Assistant Seismologist*

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

Lithologic foundation: boulder clay over limestone (Ordovician). Time: Mean Greenwich, midnight to midnight.  
Time correction; within .25s.

### INSTRUMENTS—FIXED CONSTANTS

INSTRUMENT	SYMBOL	REGISTRATION	DAMPING	PAPER SPEED	MASS
Bosch.....	I	Photographic	Air	15 mm. per min.	200 g
Bosch.....	II	Photographic	Magnetic	15 mm. per min.	200 g
Milne-Shaw.....	17	Photographic	Magnetic	8 mm. per min.	1 lb.
Milne-Shaw.....	23	Photographic	Magnetic	8 mm. per min.	1 lb.
Deformation.....	D	Photographic	Air	17 mm. per min.	20 g. ca.
Spindler-Hoyer.....	W	Smoked Sheet	Air	15 mm. per min.	80 kgm.

### INSTRUMENTS—DETERMINED CONSTANTS

INSTRUMENT	T.	r/T. <sup>2</sup>	v	ε	COMP.	1" tilt displ't	DETERMINED
I.....	5.2		120	2:1	NS		Dec. 3, 1930
II.....	6.4		120	10:1	EW		Dec. 3, 1930
17.....	12.0		250	20:1	EW	45 mm.	Dec. 30, 1930
23.....	12.0		250	20:1	NS	43 mm.	Dec. 22, 1930
D.....							
D.....							
W.....	6.0		160	10:1	Vert.		Dec. 12, 1930

From December 1, 1930 To December 8, 1930 No. 39

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4075 Dec. 2		7 - 59 to 8 - 22						L waves of small amplitude
4076 Dec. 3	i e e e iM F	19-11-38 19-17-40 19-27.9 19-39.0 19-53-56 22-30						Maximum at 20-07.3 with period of 19 secs. and earth amplitude of 152 μ.
4077 Dec. 6	e i eL F	7-21-18 7-23-06 7-33 8-25						
4078 Dec. 8		9 - 04 to 9 - 23						Sinusoidal trace



CANADA

## OTTAWA, CANADA

## SEISMOLOGIC STATION, DOMINION OBSERVATORY

From December 8, 1930 to December 31, 1930 No. 40

No. and Date	Phase	Time	Period	Amplitude			Distance	Remarks
				A <sub>E</sub>	A <sub>N</sub>	A <sub>Z</sub>		
		h m s	s	μ	μ	μ	km.	
4079	e	17 - 42.2						May be two quakes Long train of sinusoidal L waves beginning 18-28
Dec. 8	e	17 - 49.6						
	e	18 - 04						
	e	18 - 16						
	F	19 - 59						
4080		19 - 32						Irregular L waves of short period
Dec. 9		to 20 - 01						
4081		4 - 21						Trace only
Dec. 10		to 4 - 26						
4082		11 - 11						Sinusoidal trace
Dec. 10		to 11 - 28						
4083		9 - 16						Irregular trace
Dec. 11		to 9 - 24						
4084		9 - 50						Same as No. 4083
Dec. 12		to 9 - 55						
4085	i	15-10-36						Sheets changed at 15-30
Dec. 21	e	15-20-00						
	F	16 - 21						
4086		0 - 54						L waves of small amplitude
Dec. 22		to 1 - 42						
4087		5 - 23						Trace only
Dec. 22		to 5 - 36						
4088		20 - 00 ca						May be non-seismic operators in vault
Dec. 24		to 20 - 50						
4089	e	6-31-06						
Dec. 25	eL	6 - 39						
	F	7 - 01						
4090	eP	22-08-42					500	Local. Felt severely at Baie St. Paul, Que.
Dec. 25	iS	22-09-37						
	iL	22-09-40						
	F	22-16-30						

*W. W. Howe*