DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

EASTERN DIVISION

SEISMOLOGICAL BULLETIN

January - March

1953

000

Dominion Observatory

OTTAWA - CANADA

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT	SYNCHRONOUS MAGNIFICATION
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				
SA (Shawinigan)	1.0		2200			
SF (Seven Falls)	1.0		2200			
SM (Seven Falls)	12.0		300	20:1	50 mm.	
S1130 (Kirkland Lake)	1.4	1.4				10,000 ca.
NS (Halifax)	20.	20.				6,000
EW (Halifax)	20.	20.				6,000
BS (Halifax)	1.0	0.2				
BL (Halifax)	1.0	60				
NS (Resolute Bay)	14.1	14.1				1,600
EW (Resolute Bay)	16.0	16.0				1,600
z (Resolute Bay)	1.4	1.4				10,000
Z (Resolute Bay)	12.2	15.5				

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
John H. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

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

Time correct within 0.02s.

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 30mm. per min., mass 235 lbs.

Leet-Blumberg, 3-component, pen-recording seismograph. Final adjustments of the instruments have not been made, the inertial elements are currently operating at a period of about 2 seconds.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Sprengnether NS and EW long period horizontals, damping critical, photographic registration, paper speed of 30 mm. per minute.

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

SEVEN FALLS

Quebec Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian Basement rock of Canadian Shield

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

Instruments: Wood-Anderson and Milne-Shaw, both EW components, 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian basement rock of Canadian Shield

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

KIRKLAND LAKE

φ = 48°08'41" N. λ = 80°01'45" W. h = 310 m.

Time correction from recorded radio time signals

Foundation: Precambrian basement rock (Timiskaming Tuff)

Instrument: Sprengnether Vertical, short-period, designated as S1130, galvanometric registration on photographic paper, paper speed 60 mm. per min.

RESOLUTE BAY, N.W.T.

φ = 74°41' N. λ = 94°54' W. h = 5 m.

Time corrections daily from W.W.V.

Foundation: Early Palaeozoic limestone

Instruments:

At the above location

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented N.S. Sprengnether Series DH short-period vertical seismometer, critical damping, paper speed 60 mm. per minute, designated z in table.

At a point 1000' N 15° W of the above location, on a permafrost foundation.

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented E.W. Press long-period vertical seismometer, damping approximately critical, paper speed 30 mm. per minute, designated Z in table.

SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

January, 1953

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
1	O	iP	11 21 38 d	
		i	11 29 22	
	SH	eP	11 21 56	
		e	11 29 51	
	KL	eP	11 22 04	
		i	11 30 22	
	RB	iP	11 25 48 c	
	SF	e	11 27 35	
1	O	P_n	16 26 44	Δ = 150 km
		S_n	16 27 01	
		L	16 27 11	
2	RB	eP	03 17 52 Prob. c	
		i	03 24 18	
	O	eP	03 27 25	
	SH	eP	03 27 26	
2	O	iP	11 32 06 d	U.S.C.G.S.
	SH	eP	11 32 17	6°S, 81°W
	SF	eP	11 32 24	near coast of Peru
	KL	eP	11 32 25	H = 11:23:00
	RB	eP	11 35 16 d	O Δ = 5750 km., RB Dist. = 9000 km.
4	RB	eP	06 51 58 d	U.S.C.G.S. 48°N, 156°E Kurile Islands H = 06:43:1[illegible]
4	O	iP'	09 34 54	U.S.C.G.S. 7°S, 147°E near east coast of New Guinea H = 09:15:52
4	RB	iP	22 46 28 d	U.S.C.G.S. 51°N, 157 1/2°E near south coast of Kamchatka H = 22:38:05
4	O	i	22 57 39	
		i	22 57 57	
5	RB	eP	05 00 24	U.S.C.G.S.
	O	eP	05 03 43	Komandorskie Islands foreshock H = 04:52:42

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
5	RB	eP	07 55 58	U.S.C.G.S.
		i	07 56 07 d	54°N, 170°E
		iPP	07 57 44	Komandorskie Islands region
		iS	08 02 02	Felt: Attu
	KL	eP	07 58 50 d	H = 07:48:17
		F	09 15	Ottawa Δ = 7350 km
	O	eP	07 59 13 c	Resolute Bay Δ = 4450 km
		PP	08 01 40	
		PPP	08 03 20	
		e	08 07 20	
		S	08 08 00	
		PS	08 08 20	
		PPS	08 08 40	
		ScS	08 09 04	
		SS	08 12 24	
		SSS	08 15 32	
	SH	eP	07 59 17	
		PP	08 01 54	
		PPP	08 03 27	
		S	08 07 50	
		PPS	08 08 50	
		SSS	08 15 27	
	SF	eP	07 59 27	
		PP	08 01 48	
		PPP	08 03 33	
		e	08 05 18	
		S	08 08 07	
		PS	08 08 32	
		PPS	08 08 45	
		ScS	08 09 10	
		e	08 14 14	
		SSS	08 15 42	
		G	08 16 52	
		L	08 22 12	
	H	iP	07 59 47	
		i	08 00 48	
		PP	08 02 30	
		PPP	08 04 18	
		S	08 09 04	
		PS	08 09 45	
		SS	08 13 45	
		SSS	08 16 45	
5	RB	eP	08 31 22 d	
	O	iP	08 34 32 d	
	SH	eP	08 34 35	U.S.C.G.S.
	SF	eP	08 35 04	54°N, 171°E
	H	iP	08 35 06 d	Komandorskie Islands aftershock
				H = 08:23:46
5	RB	iP	10 15 10 c	U.S.C.G.S.
	KL	iP	10 17 53 c	49°N, 156°E
		i	10 18 05 c	Kurile Islands
		F	11.0	H = 10:06:25
	SF	eP	10 18 15	Ottawa Δ = 8350 km
		PP	10 21 07	Resolute Bay Δ = 5350 km
		S	10 27 55	
		ScS	10 28 21	
		SS	10 32 45	
		L	10 40 20	

'quake cont'd on next page

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
5	C	iP	10 18 15 c	
		P	10 21 03	
		S	10 27 50	
		e	10 28 12	
		PPS	10 28 48	
		SS	10 32 48	
		SSS	10 36 20	
	SH	eP	10 18 16	
		PP	10 20 53	
		S	10 27 49	
		ScS	10 28 16	
	H	iP	10 18 42 c	
		S	10 28 45	
5	RB	iP	10 25 10 c	U.S.C.G.S.
	O	iP	10 28 14 c	49°N, 155 1/2°E.
				Kurile Islands
				H = 10:16:25
5	RB	eP	16 12 24	U.S.C.G.S.
	O	eP	16 15 42	49°N, 156°E
	SF	eP	16 15 53	Kurile Islands
				H = 06:03:45
5	RB	eP	16 27 00 d	U.S.C.G.S.
				Komandorskie Islands
				H = 16:19:20
6	RB	eP	01 46 26	
6	RB	eP	10 35 39 d	U.S.C.G.S.
	O	eP	10 38 45	49°N, 156°E
				Kurile Islands
				H = 10:27:00
6	RB	eP	15 55 27 c	
6	RB	eP	16 00 20	
6	H	eP	16 16 13	U.S.C.G.S.
	O	eP	16 16 17 c	21 1/2°S, 68°W
	SH	eP	16 16 23	Chile-Bolivia border region
	SF	eP	16 16 26	H = 06:05:36
		S	16 25 18	h = about 150 km
		ScS	16 26 23	Felt: Calama
		SS	16 30 18	
		SSS	16 33 18	
	KL	iP	16 16 37	small d followed by large c
	RB	eP	16 18 57 c	
6	H	iP_n	17 49 02	
		i	17 49 16	
		S_n	17 49 25	
6	RB	eP	22 36 45 c	
6	H	eP	22 40 25	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
6	O	eP	23 30 56	U.S.C.G.S.
		PP	23 32 19	9 1/2°N, 83°W
		S	23 36 44	Costa Rica foreshock
		ScS	23 41 12	H = 23:23:43
	SH	eP	23 31 12	
	KL	e(P)	23 31 15	
	H	eP	23 31 22	
		PP	23 32 44	
	SF	eP	23 31.4	
		SSS	23 40.7	
		e	23 42.2	
		L	23 43.3	
	RB	eP	23 34 55	
7	H	eP	00 11 27	U.S.C.G.S.
	SF	eP	00 11.9	41 1/2°N, 20 1/2°E
	O	eP	00 12 13	Albania foreshock
				H = 00:01:27
7	RB	eP	01 28 40 c	U.S.C.G.S.
	H	eP	01 28 56 c	42°N, 20°E
	SF	eP	01 29.3	Albania
	O	iP	01 29 42 c	H = 01:18:56
				O Δ = 7250 km, RB Δ = 6250 km
7	O	eP	05 09 23 c	
7	RB	eP	05 56 52	U.S.C.G.S.
		eS	06 03 04	53 1/2°N, 161°E
		iSS	06 06 30	off east coast of Kamchatka
		iL	06 09.4	H = 05:48:54
		F	06.6	O Δ = 7800 km.
	KL	e	05 59 57	RB Δ = 4750 km.
	O	eP	06 00 08	
	SF	eP	06 00.3	
		S	06 09.4	
		SS	06 14.2	
		SSS	06 17.3	
	H	eP	06 00 51	
7	O	iP	12 07 39 d	U.S.C.G.S.
		PP	12 09 02	9 1/2°N, 83°W
		PcP	12 10 04	Costa Rica
		S	12 13 18	Several injured and slight
		SS	12 16 10	property damage.
	SH	eP	12 07 55	H = 12:00:30
		PP	12 09 16	O Δ = 3950 km
		PcP	12 10 25	RB Δ = 7100 km
	KL	iP	12 07 57	slight d, followed by c, followed
	H	eP	12 08 02 d	by large d.
	SF	eP	12 08.0	
		SS	12 16.6	
		SSS	12 17.4	
		L	12 18.5	
	RB	iP	12 11 16 c	
		iS	12 19 55	
		i	12 21 09	
		eL	12 29.9	
		F	12.9	

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
7	RB	eP	14 22 11	c	U.S.C.G.S.
		eS	14 31 59		5 1/2°S, 150 1/2°E
		ePS	14 33 17		New Britain
		iL	14 41.0		H = 14:08:20
		F	15.7		0 Δ = 13650 km
	KL	eP'	14 27 17	prob d	RB Δ = 11250 km
	O	iP'	14 27 23	d	
		i	14 27 36		
		PS	14 39 10		
		SS	14 45 40		
	SH	eP'	14 27 26		
	SF	eP'	14 27 26		
		e	14 35 09		
		e	14 36 24		
		PS	14 39 07		
		e	14 41 07		
		SS	14 46 00		
	H	iP'	14 27 38	d	
		i	14 27 52		
9	RB	eP	16 55 03	d	
10	RB	eP	10 09 06	prob c	U.S.C.G.S.
		F	10.2		51°N, 171 1/2°W
					Fox Islands Aleutian Islands
					H = 10:01:45
10	RB	eP	13 48 39	c	
			13.9		
11	RB	e	15 51 26	prob local	
		i	15 52 01		
11	RB	iP	22 57 10	c	U.S.C.G.S.
		i	22 59 51		65°N, 133°W
		iS	23 00 14		Yukon, Canada
		F	23.7		H = 22:53:30
	KL	iP	23 00 05	c	0 Δ = 4000 km
		e(S)	23 06 43		RB Δ = 1800 km
		F	23.6		
	O	iP	23 00 38	c	
		PP	23 02 05		
		PPP	23 02 26		
		S	23 06 22		
		SS	23 08 46		
		L	23 12 00		
	SH	eP	23 00 40		
		PP	23 02 11		
		S	23 06 30		
		SSS	23 09 46		
		e	23 10 25		
		L	23 11 35		
	SF	eP	23 00 48		
		PP	23 02 10		
		PPP	23 02 36		
		S	23 06 35		
		e	23 08 43		
		SSS	23 09 38		
		i	23 10 23		
		ScS	23 10 58		
	H	iP	23 01 26	c	

'quake cont'd on next page.

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
11	H	PP	23 03 09		
		PcP	23 03 18		
		PPP	23 03 56		
		S	23 07 50		
		PPS	23 08 17		
		SS	23 10 58		
		L	23 15 30		
11	RB	e	23 54 44		
		e	23 57 30		
		F	24.1		
12	RB	eP	05 44 53		U.S.C.G.S. 53°N, 161 1/2°E near east coast of Kamchatka H = 05:36:53
12	O	i	12 48 01		
	RB	e	12 51 31		
12	RB	eP	17 32 08		U.S.C.G.S.
		i	17 32 11	d	49 1/2°N, 156°E
		iS	17 39 01		Kurile Islands
		iL	18 06.2		H = 17:23:39
		F	19.2		O Δ = 8300 km
	O	iP	17 35 18	c	RB Δ = 5300 km
		PP	17 38 15		
		PPP	17 40 07		
		S	17 44 48		
		e	17 45 16		
		PPS	17 45 48		
		e	17 49 26		
		SSS	17 53 00		
	SH	eP	17 35 18		
		PP	17 38 21		
		S	17 44 48		
		PPS	17 45 08		
	SF	eP	17 35 21		
		PP	17 38 19		
		S	17 44 53		
		ScS	17 45 21		
		PPS	17 45 57		
		SS	17 49 39		
		SSS	17 53 15		
		G	17 55.1		
	H	iP	17 35 45	c	
		PP	17 39 57		
		S	17 45 38		
		SS	17 51 04		
		SSS	17 54 12		
	KL	iP	17 35 55		small ic followed by stronger id (microseisms are large)
12	O	e(P)	19 51 34		
13	O	iP	07 46 33	d	U.S.C.G.S. 2°S, 81°W near coast of Equador H = 07:37:59

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
13	O	P_n	17 04 11		Δ = 175 km
		i	17 04 12		
		S_n	17 04 31		
		L	17 04 41		
14	RB	iP	13 04 24	d	U.S.C.G.S.
		iPP	13 06 12		52 1/2°N, 159 1/2°E
		eS	13 10 43	near east coast of Kamchatka	
		eScS	13 14 12		H = 12:56:17
	KL	eP	13 07 15	prob c	
	SH	eP	13 07 37		
	O	iP	13 07 37	c	
	H	eP	13 08 07	c	
14	O	eP'	21 12 20	c	U.S.C.G.S.
	H	eP'	21 12 34	c	Solomon Islands
					H = 20:53:28
15	RB	iP	08 19 17	c	U.S.C.G.S.
		iPP	08 21 06		53°N, 159°E
		eS	08 25 37	near east coast of Kamchatka	
		F	08.5		H = 08:11:09
	KL	eP	08 22 08	prob c	
	O	iP	08 22 32	c	
	SH	eP	08 22 32		
	H	iP	08 23 02	c	
15	RB	iP	12 15 12	d	U.S.C.G.S.
		eS	12 23 50		19°N, 156°W
		iL	12 33.9	near southwest coast of Hawaii,T.H.	
	KL	eP	12 15 26		Felt = Oahu and Hawaii
	O	eP	12 15 46		H = 12:04:33
		S	12 24 50		O Δ = 7750 km, RB Δ =7100 km.
	SF	eP	12 15 58		
	SH	eP	12 15 59		
	H	eP	12 16 38		
15	RB	eP	17 51 12	d	
15	RB	iP	18 19 09	c	
15	RB	eP	20 17 41	prob d	
		eL	20 45.7		
		F	21.1		
16	RB	iP	02 07 49	d	
16	RB	e	02 50 50		
16	RB	e	16 07 27		
16	H	iP_n	20 24 01		Δ = 185 km
		S_n	20 24 21.5		

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
17	RB	iP	17 38 22	d	U.S.C.G.S.
		esP	17 38 59		50 1/2°N, 155°E
		ePcP	17 39 53		Kurile Islands
		iPP	17 40 26		H = 17:30:03
		iS	17 45 05		h = about 150 km
		iScS	17 48 01		0 Δ = 8300 km
		iSS	17 49 31		RB Δ = 5100 km
		iL	17 55.0		
	KL	e(P)	17 41.3		
		e	17 41.6		
	O	iP	17 41 30	d	
	SH	eP	17 41 31		
	RB	eP	20 58 41	c	
18	O	iP	08 34 42	c	
18	RB	iP	18 16 09	c	U.S.C.G.S.
		iPP	18 17 59		53 1/2°N, 160 1/2°E
		eS	18 22 32		H = 18:08:10
		e	18 26 02		
	KL	eP	18 19 00	c	
	O	iP	18 19 24	c	
	SH	eP	18 19 26		
	SF	eP	18 19 28		
	H	iP	18 19 53		
19	RB	eP	05 07 15		U.S.C.G.S.
		iS	05 15 10		42°N, 143°E
		i	05 17 02	near	southeast coast of Hokkaido,
		eL	05 26.6		Japan
		F	05.8		H = 04:57:22
	O	eP	05 10 30		0 Δ = 9500 km
		eS	05 20 38		RB Δ = 6350 km
	SF	eS	05 20 40		
		e	05 20 58		
		L	05 38 31		
19	RB	eP	05 50 44		
19	RB	eP	20 26 31		
		e	20 26 41	d	
19	KL	eP	21 02 39	prob c	
20	O	iP	05 24 03	d	
	RB	eP	05 27 26	d	
20	O	iP	09 50 09	c	U.S.C.G.S.
	SH	eP	09 50 20		9 1/2N, 79 1/2W
	H	eP	09 50 24		Panama
	KL	eP	09 50 31		H = 09:43:09
	RB	eP	09 53 51	prob c	
20	H	iP	17 22 45		
		e	17 23 05		
20	H	iP	17 29 35		
		e	17 29 56		

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
20	RB	iP	17 46 56	d	
		iPP	17 51 01		U.S.C.G.S.
		iS	17 57 29		1 1/2°N,126°E
		iPS	17 59 52		Molucca Passage
		eL	18 12.9		H = 17:33:06
		F	18.8		RB Δ = 11250 km.
	KL	iP'	17 52 12	c	O Δ = 14400 km.
		e	17 52 31		
	O	iP'	17 52 18	d	
		i	17 53 02		
		PP	17 54 22		
		SKKS	18 01 16		
		PPS	18 05 46		
		SS	18 11 06		
	SH	eP'	17 52 19		
		PP	17 53 28		
	SF	eP'	17 52.4		Seven Falls time corrections
		PP	17 54.7		doubtful; hence times expressed
		e	17 55.7		only to 0.1 min.
		SKKS	18 01.3		
		PPS	18 06.3		
		SS	18 11.5		
		SSS	18 15.7		
	H	iP'	17 52 27		
		e	17 52 45		
		PP	17 54 49		
		PKS	17 55 52		
		SS	18 12 21		
21	RB	eP	01 51 28		U.S.C.G.S.
		iP	01 51 29	d	50°N, 156°E
		ipP	01 51 40		Kurile Islands
		isP	01 53 06		H = 01:43:00
		iS	01 58 18		h = 60 km.
		iSS	02 01 47		RB Δ = 5200 km.
		iL	02 07.0		O Δ = 8450 km.
		F	02.4		
	KL	iP	01 54 14	c	
		ipP	01 54 25	c	
	O	eP	01 54 35	d	
		ipP	01 54 45		
		PP	01 57 28		
		S	02 04 06		
		G	02 14 08		
	SH	eP	01 54 36		
	SF	e	01 54 55		
		S	02 04 16		
		ScS	02 04 49		
	H	iP	01 55 04	d	
		ipP	01 55 13		
		S	02 05 01		
		ScS	02 05 21		
21	RB	eP	09 35 21	d	U.S.C.G.S.
	KL	eP	09 38 12		52 1/2°N, 159°E
	O	iP	09 38 35	d	near southeast coast of
	SF	eP	09 38 46		Kamchatka
	H	iP	09 39 04	c	H = 09:27:12

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
22	RB	eP	21 46 52	
		F	21.8	
23	RB	iP	02 58 51 d	
23	H	eP	08 39 42 c	
	O	iP	08 39 45 d	
	KL	eP	08 40 02	
24	RB	e	08 31.6	
		i	08 33 14 c	
		F	08.8	
	SF	e	08 40 06	
		e	08 41 22	
		e	08 42 28	
		F	08 47.5	
	KL	e	08 40.5	
		e	08 42 11	
	SH	e	08 41 24	
		e	08 42 47	
	O	e	08 41 43	
		e	08 43 27	
24	SF	eP_n	09 59 32.5	Δ = 477 km.
		i	09 59 38.5	
		e	09 59 42.5	
		i	09 59 51.5	
		S_n	10 00 17.5	
	H	iP_n	09 59 46	Δ = 582 km.
		eS_n	10 00 39	
		e	10 00 55	
		S_1	10 01 09	–
	SH	eP_n	09 59 52.6	Δ = 633 km.
		e	10 00 02.6	Gaspe Peninsula Quebec; felt
		e	10 00 14.6	Our epicentre
		e	10 00 25.6	49° 42'N
		eS_n	10 00 51.6	65° 38'W
		e	10 01 06.6	H = 09:58:29
		S_1	10 01 15.6	
	O	iP_n	10 00 24	Δ = 894 km.
		iS_n	10 01 48	
	KL	eP_n	10 00 44	Δ = 1067 km.
		eS_1	10 03 21	
	RB	e	10 10.3	
		i	10 13 05 d	
24	SF	i	10 05 51.5	
		e	10 05 59.5	
24	RB	eP	22 45 17	U.S.C.G.S. 55°N, 158°E Central Kamchatka H = 22:37:20
25	RB	e	00 06.3	
		i	00 07 45	
		i	00 07 50	
25	RB	e	11 53 30	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
25	O	eP	19 53 42	U.S.C.G.S.
		eS	19 58 24	19°N, 73 1/2°W
	H	iP	19 53 52	Off west coast of Haiti
		eS	19 58 33	H = 19:47:58
	SH	eP	19 53 52	Ottawa Δ = 2,900 km.
	SF	ePP	19 54 38	RB Δ = 6,300 km.
		S	19 58 24	
		SS	19 59 52	
		SSS	20 00 33	
	KL	iP	19 54 11 c	
	RB	iP	19 57 48 c	
		iS	20 05 50	
		eL	20 14.2	
		F	20.8	
26	RB	iP	05 10 47 c	U.S.C.G.S.
	O	iP	05 14 01 c	52 1/2°N, 159°E
	SH	eP	05 14 02	Near southeast coast of Kamchatka
	SF	eP	05 14 03	H = 05:02:35
26	O	iP	09 08 20 c	
26	RB	iP	09 23 13 d	
27	RB	eP	03 21 06 c	U.S.C.G.S.
		i	03 21 09 d	52°N, 159 1/2°E
		iS	03 27 39	Off east coast of Kamchatka
		i	03 30 55	H = 03:12:55
		i	03 31 04	Ottawa Δ = 8,000 km.
		iL	03 31.5	RB Δ = 4,950 km.
		F	04.8	
	O	eP	03 24 19	
		eS	03 33 36	
	SH	eP	03 24 20	
	SF	eP	03 24 26	
		S	03 33 40	
		PS	03 34 26	
		e	03 34 50	
		SSS	03 41 44	
	H	eP	03 24 49	
		eS	03 34 35	
27	RB	iP	03 38 53 d	U.S.C.G.S.
	O	eP'	03 43 59	4 1/2°S, 153°E
		i	03 47 31	New Britain Region
	H	eP'	03 44 52	H = 03:25:02
				Ottawa Δ = 13,500
				RB Δ = 11,100
27	RB	iP	04 14 35 c	
	O	iP	04 17 47 d	
	SH	eP	04 17 48	
	SF	eP	04 17 59	
	H	iP	04 18 17 d	
27	RB	eP	08 26 30 Prob.d	
		i	08 26 40 d	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
27	RB	iP	14 08 04	U.S.C.G.S. Assam-Burma Border H = 13:55:45
28	O	'	12 45 22	U.S.C.G.S. 20°S, 169 1/2°E Loyalty Islands H = 12:26:29
29	RB	e	08 17.3	
29	O	eP	08 38 06 d	
	KL	eP	08 38 26 c	
29	RB	eP	09 30 33 prob d	
		eL	09 48.1	
		F	09.9	
30	RB	iP	15 38 52 c	U.S.C.G.S.
		iPP	15 40 36	52°N, 158 1/2°E
		iS	15 45 49	near southeast coast of
	SH	eP	15 42 03	Kamchatka
	O	iP	15 42 04 d	H = 15:30:40
	SF	eP	15 42.2	
	H	iP	15 42 33 d	
30	RB	e	22 00 45	U.S.C.G.S.
		iS	22 11 18	12°S, 166 1/2°E
		ipS	22 11 58	Santa Cruz Islands
		i	22 20 45	H = 21:46:50
		F	23.1	h = 100 km.
	O	eP'	22 05 28	Ottawa Δ = 13,050 km.
		PP	22 06 45	RB Δ = 11,500 km.
		PPP	22 09 03	
		PS	22 16 36	
		e	22 17 09	
		e	22 18 14	
		SS	22 22.8	
	SF	ePP	22 07.0	
		PS	22 16.8	
		e	22 17.5	
		PPS	22 20.2	
		SS	22 23.3	
	H	eP'	22 05 51	
		PP	22 07 32	
		e	22 09 04	
		PS	22 17 32	
		SS	22 24 54	
31	H	eP	22 04 11	U.S.C.G.S.
	SF	eP	22 04.8	15°S, 18°W
	SH	eP	22 04 45	Mid-Atlantic Ocean
	O	eP	22 04 50 d	H = 21:52:25
	KL	iP	22 05 11 c	Ottawa Δ = 8,850 km.
	RB	e	22 06 25	RB Δ = 11,200 km.
		e	22 11 33	
		F	22.3	

J. H. Hodgson
J. L. O'Connor
F. Lombardo

SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

February, 1953.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
1	RB	eP	11 09 29 prob d	
1	RB	eP	20 45 34 c	U.S.C.G.S.
		eS	20 51 04	54°N, 165°W
		iPcS	20 51 50	Fox Islands, Aleutian Islands
		F	21.1	H = 20:38:57
	KL	eP	20 47.9	h = 100 km.
	O	eP	20 48 20	Ottawa Δ = 6,050 km.
		i	20 48 38	RB Δ = 3,750 km.
	SF	eP	20 48 37	
		S	20 56 34	
		L	21 08 08	
	SH	eP	20 48 41	
2	RB	eP	03 53 15 prob c	
2	RB	iP	09 38 39 c	U.S.C.G.S.
		eS	09 45 36	49°N, 156°E
		eL	09 56.0	Kurile Islands
		F	10.3	H = 09:30:00
	SH	eP	09 41 46	
2	RB	eP	10 27 19 c	
3	O	iP	06 59 41 c	
3	O	eP	08 19 39 c	
4	O	iP	11 00 59 c	U.S.C.G.S.
	KL	eP	11 01 20 prob c	37 1/2°N, 19.1/2°W
	RB	iP	11 02 05 c	North Atlantic Ocean
		i	11 02 16 d	H = 10:53:07
		F	11.4	
4	SH	eP	12 43 14	
	KL	eP	12 43 50 prob d	
	RB	iP	12 46 04 c	
		i	12 46 11	
4	RB	eP	18 50 20	U.S.C.G.S.
	O	iP	18 53 20 c	48°N, 147°E
				Kurile Islands
				H = 18:41:33
4	SH	e	19 07 14	
5	RB	eP	05 42 51	
		i	05 45 38 c	
		e	05 47 01	
		i	05 47 27	
		F	06.0	

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
5	RB	eP	22 52 34	U.S.C.G.S.
	H	eP	22 52 41	Off south coast of Greece
	SF	eP	22 53 18	H = 22:42:10
	O	iP	22 53 26 c	
	KL	e	22 53.6	
6	RB	eP	03 43 43	
6	RB	eP	04 43 40 prob. d	
6	RB	eP	05 41 39 c	U.S.C.G.S.
	KL	eP	05 44 27	51°N, 159°E
	O	eP	05 44 50 d	Near east coast of Kamchatka
		PP	05 47 31	H = 05:33:22
		PPP	05 49 14	
	SH	eP	05 44 51	
	SF	eP	05 44 54	
	H	iP	05 45 20 d	
6	RB	eP	12 40 55 c	U.S.C.G.S.
		e	12 41 01 c	Near Karachi, Pakistan
				H = 12:28:45
6	RB	iP	13 22 47 c	U.S.C.G.S.
		iS	13 30 40	42 1/2°N, 143 1/2°E
		i	13 31 05	Near southeast coast of
		eL	13 40.1	Hokkaido, Japan.
		F	15.1	H = 13:12:59
	KL	eP	13 25 22	Ottawa Δ = 9,550 km
	O	eP	13 25 40	RB Δ = 6,350 km
		S	13 36 04	
		PPS	13 37 24	
	SH	eP	13 25 43	
	SF	eP	13 25 45	
		PP	13 29 18	
		PPP	13 31 06	
		S	13 36 01	
		e	13 36 26	
		PS	13 37 08	
		SSS	13 45 06	
		G	13 48 09	
		L	13 53 26	
	H	iP	13 26 02	
		S	13 36 42	
		PS	13 38 12	
6	RB	eP	19 20 42 c	U.S.C.G.S.
		e	19 21 01	52°N, 158°E
		eL	19 38.2	Near southeast coast of Kamchatka
		F	19.8	H = 19:12:25
	H	eP	19 24 22	
6	RB	eP	19 49 17	
7	RB	eP	00 30 22 prob. c	
7	RB	iP	18 31 53 c	
		iS	18 38 50	
		eL	18 45.0	U.S.C.G.S.
		F	19.1	49°N, 156°E
	O	iP	18 34 59 d	Kurile Islands
		PP	18 37 52	H = 18:23:12
		S	18 44 26	Ottawa Δ = 8,350 km
		SS	18 49 32	RB Δ = 5,300 km

'quake cont'd on next page

DATE	STN.	PHASE	TIME(G.C.T.) h m s		REMARKS
7	O	e	18 53 18		
	SH	eP	18 35 01		
	SF	eP	18 35 04		
		G	18 54 06		
		L	18 58 54		
	H	eP	18 35 27	d	
		S	18 45 37		
7	RB	iP	22 41 40	c	U.S.C.G.S.
		F	22.9		35 1/2°N, 24 1/2°E
	H	iP	22 41 50	d	Crete
	KL	eP	22 42 41	prob.c	H = 22:31:08
	SF	eP	22 42 12		
		S	22 51 09		
		L	23 10 42		
	SH	eP	22 42 20		
	O	iP	22 42 35		
		S	22 52 02		
7	RB	eP	23 07 22	prob.c	
	O	eP	23 10 38		
9	H	eP	08 09 10		
9	RB	eP	14 58 18		U.S.C.G.S.
		eS	15 04 48		Near east coast of Kamchatka
		eL	15 12.9		H = 14:50:12
		F	15.7		
	O	eP	15 01 39		
9	RB	iP	21 39 44	d	U.S.C.G.S.
		--	21 42 07		52 1/2°N, 169°W
		eS	21 45.4		Fox Islands, Aleutians
		eL	21 51.9		H = 21:32:36
		F	22.3		
	KL	eP	21 42 03	c	
	O	eP	21 42 28		
	SH	eP	21 42 35		
	SF	eP	21 42 40		
		S	21 51 06		
		L	22 03 24		
10	RB	iP	01 22 59	d	U.S.C.G.S. 43°N, 145°E Near east coast of Hokkaido, Japan H = 01:13:19
10	RB	eP	06 13 05		
		i	06 16 01	d	
		i	06 17 56	d	
10	RB	eP	08 05 09		U.S.C.G.S.
		eL	08 17.1		52°N, 169°W
		F	08.8		Fox Islands, Aleutians
	KL	eP	08 07 58	d	H = 07:58:29
	O	eP	08 08 21		Ottawa Δ = 6,400 km
	SH	eP	08 08 30		RB Δ = 4,000 km
	SF	eP	08 08 39		
11	KL	eP	10 58 00		
	O	iP	10 58 01		
	SH	e	10 59 05		

DATE	STN.	PHASE	TIME(G.C.T.) h m s		REMARKS
12	RB	iP	01 31 00	c	U.S.C.G.S.
		iS	01 33 42		Yukon foreshock
		F	02.0		H = 01:27:18
	O	iP	01 34 29		
		PP	01 36 06		
		ScS	01 44 55		
		L	01 46 18		
12	RB	iP	04 34 56	d	
		iS	04 37 41		
		F	05.2		
	KL	eP	04 37 51	Prob.c	
		F	5.0		
	O	iP	04 38 24	c	U.S.C.G.S.
		PPP	04 40 28		65°N, 133°W
		PcP	04 41 03		Yukon, Canada
		SS	04 46 46		H = 04:31:16
		SSS	04 47 06		Ottawa Δ = 4,050 km
		ScS	04 48 56		RB Δ = 1,700 km
		L	04 50 10		
	SH	eP	04 38 32		
		e	04 46 08		
		SS	04 46 56		
		SSS	04 47 18		
		L	04 50 23		
	SF	eP	04 38 45		
		L	04 50 45		
	H	eP	04 39 13		
		L	04 53.3		
12	O	iP	04 52 37		
	H	eP	04 53 23		
12	RB	iP	08 26 37	d	U.S.C.G.S.
		iPP	08 29 15		35°N, 54 1/2°E
		iS	08 35 37		Northern Iran
		eSS	08 40 18		H = 08:15:29
		iL	08 43.6		
		F	09.1		
	H	eP	08 27 58		
		PP	08 31 10		
		S	08 38 09		
		PS	08 39 05		
		SS	08 43 38		
		G	08 49 53		
	SF	eP	08 28 10		
		S	08 38 26		
		PS	08 39 33		
		PPS	08 40 93		
		SS	08 44 11		
		SSS	08 47 26		
		G	08 50 33		
		L	08 56 11		
	SH	eP	08 28 16		
	KL	eP	08 28 23		
	O	eP	08 28 29		
		S	08 38 40		
		e	08 39 06		
		PS	08 40 12		
		SS	08 45 04		
		G	08 51 10		
12	H	iP	08 39 51	c	

DATE	STN.	PHASE	TIME(G.C.T.) h m s		REMARKS
13	RB	eP	01 27 40		Yukon aftershock?
		eS	01 30 23		
		F	01.5		
13	RB	eP	22 05 53	c	
14	RB	eP	08 53 37	d	
	SF	eP	08 54.3	SF time correction doubtful	
		S	09 03.3		
	SH	eP	08 54 28		U.S.C.G.S.
	0	iP	08 54 42	d	Dodecanese Islands
		PP	08 57 34		H = 08:43:10
		S	09 04 02		
	KL	iP	08 54 46	c	
14	RB	iP	22 00 15	d	U.S.C.G.S.
		iS	22 09 55		18 1/2°N, 146°E
		eL	22 21.5		Marianas Islands
		F	22.9		H = 21:48:12
	0	eSKS	22 12 50		h = 60
	SF	eSKS	22 12 53		Ottawa Δ = 11,800 km
					RB Δ = 8,900
14	0	iP	22 18 33	c	U.S.C.G.S.
		eS	22 25 12		1 1/2°S, 77 1/2°W
	SH	eP	22 18 44		Central Ecuador
	SF	eP	22 18 53		H = 22:10 20
		S	22 25 42		h = 200 km
		PPS	22 26 12		Ottawa Δ = 5,200 km
		SSS	22 30 17		RB Δ = 8,500 km
	KL	eP	22 18 54	d	
	RB	eP	22 21 52	prob. d	
15	RB	iP	17 27 45	d	U.S.C.G.S.
					Hokkaido, Japan
					H = 17:18:05
15	RB	eP	22 10 37	d	
16	RB	iP	00 16 47	c	U.S.C.G.S.
	0	eP	00 19 40		42 1/2°N, 143°E
					Near south coast of Hokkaido, Japan.
					H = 00:06:58
16	RB	eP	01 13 50		U.S.C.G.S.
					29 1/2°N, 81°E
					Western Napal
					H = 01:02:02
16	0	iP	10 17 41	c	U.S.C.G.S.
	SH	eP	10 17 56		8 1/2°N, 83°W
	KL	eP	10 17 59		Near coast of Costa Rica
	SF	eP	10 18 02		H = 10:10 22
	RB	iP	10 21 17		Ottawa Δ = 4,150 km
		eS	10 30.3		RB Δ = 7,400 km.
		eL	10 45.9		
		F	10.9		
18	0	ePn	16 14 25		Δ = 150 km
		Sn	16 14 42		
		L	16 14 49		

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
19	RB	e	01 54 28	
19	RB	iP'	13 24 20 c	U. S. C. G. S.
		F	13.6	28°S, 179°W
	KL	eP'	13 24 22	Kermadic Islands
	O	iP'	13 24 26 d	H = 13:05:42
	H	iP'	13 24 42 d	Ottawa Δ = 13,150
				RB Δ = 12,900
19	O	eP	13 34 42	
	RB	iP	13 34 56 d	
	H	iP	13 36 53	
19	H	iP	15 27 51 d	
		PcP	15 28 40	
		S	15 36 03	
		PS	15 36 26	
		SS	15 39 58	
		SSS	15 42 30	
	SF	eP	15 28 27	U. S. C. G. S.
		S	15 37 13	0°, 18°W
		PS	15 37 35	Mid-Atlantic Ocean
		PPS	15 37 50	H = 15:17:40
		ScS	15 38 16	Ottawa Δ = 7,550 km.
		e	15 43 50	RB Δ = 9,600 km.
		L	15 48 31	
	SH	eP	15 28 33	
	O	iP	15 28 43 d	
		S	15 37 32	
		PS	15 38 00	
		SS	15 42 00	
		SSS	15 45 08	
	KL	iP	15 29 06 d	
	RB	eP	15 30 29 prob c	
		iS	15 41 06	
		eL	15 50.7	
		F	17.0	
20	KL	eP	02 08 35 prob d	
	H	iP	02 08 09 c	
20	RB	eP	18 50 41 prob d	
		F	18.9	
21	RB	eP	01 11 41 d	
		F	01.3	
22	RB	e	04 15 40	
22	RB	eP	07 47 16	U. S. C. G. S.
		eS	07 51 38	Near west coast of Seward
		F	08.1	Peninsula, Alaska
				H = 07:40:53
22	RB	eP	08 29 34	
		F	08.6	
23	RB	eP	00 57 57 c	U. S. C. G. S.
		eL	00 30.5	29 1/2°N, 81°E
		F	01.7	Western Nepal
				H = 00:46:08
				RB Δ = 8,500 km.

DATE	STN.	PHASE	TIME(G.C.T.) h m s		REMARKS
23	RB	eP	03 49 50	c	U.S.C.G.S.
		F	03.9		53°N, 161°E
					Off east coast of Kamchatka
					H = 03:41:45
25	RB	eP	12 42 48		U.S.C.G.S.
		F	12.8		49°N, 156°E
					Kurile Islands
					H = 12:34:10
25	RB	iP	21 22 20	d	U.S.C.G.S.
		iS	21 27 12		56°N, 156 1/2°W
		F	22.1		Off south coast of Alaska
	KL	iP	21 24 36	d	Peninsula
		ipP	21 24 48	d	H = 21:16:18
		e	21 26 19	d	h = 60 km.
	O	eP	21 25 04		Ottawa Δ = 5,500 km.
		PP	21 27 00		RB Δ = 3,250 km.
		S	21 32 02		
		PPS	21 32 29		
	SH	eP	21 25 10		
		pP	21 25 24		
		PcP	21 26 35		
		PP	21 27 09		
		S	21 32 09		
		PPS	21 32 41		
		SSS	21 37 40		
		L	21 40 08		
	SF	eP	21 25 15		
		PcP	21 26 24		
		PP	21 27 14		
		PPP	21 28 11		
		S	21 32 27		
		PS	21 32 53		
		PPS	21 33 04		
		ScS	21 35 00		
		SS	21 36 31		
		SSS	21 37 57		
		L	21 39 08		
	H	iP	21 25 53	d	
		PcP	21 27 03		
		PP	21 27 49		
		PPP	21 28 49		
		S	21 33 28		
		PS	21 33 40		
		ScS	21 35 28		
		SS	21 37 21		
		SSS	21 38 43		
		L	21 41 58		
26	RB	eP	00 40 35	d	U.S.C.G.S.
		F	00.9		51°N, 156 1/2°E
	KL	iP	00 43 21	d	Near south coast of Kamchatka
	SH	eP	00 43 46		H = 00:32:07
		S	00 52 57		Ottawa Δ = 8,200 km.
		PS	00 53 40		RB Δ = 5,100 km.
	SF	eP	00 43 49		
		S	00 53 03		
		PPS	00 53 59		
	H	iP	00 44 12	d	
		S	00 53 49		

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
26	RB	eP	02 26 31	U.S.C.G.S. Off east coast of Kamchatka H = 02:18:20
26	RB	eP	04 55 51 c	U.S.C.G.S. Off coast of Guerrero, Mexico H = 04:45:55
26	RB	eP	07 46 15 c	U.S.C.G.S. 50°N, 157°E Off south coast of Kamchatka H = 05:37:45
26	RB	eP	11 56 30	U.S.C.G.S.
		iPP	12 00 48	11°S, 164 1/2°E
		iS	12 07 11	Santa Cruz Islands Region
		F	12.9	H = 11:42:26
	KL	e	12 02 03	Ottawa Δ = 13,200 km.
		eL	12.5	RB Δ = 11,500 km.
	O	ePP	12 02 20	
		SKS	12 08 10	
		SKKS	12 09 38	Benioff not operating at Ottawa
		PS	12 12 24	
		PPS	12 13 38	
		SS	12 18 44	
		SSS	12 23 04	
		G	12 32 20	
	SH	e	12 09 57	
	SF	eP'	12 01 30	
		PP	12 02 48	
		PPP	12 05 45	
		SKS	12 08 23	
		SKKS	12 09 43	
		PS	12 12 51	
		e	12 15 38	
		SS	12 19 30	
		SSS	12 23 39	
		L	12 38 28	
	H	[illegible]'	12 01 33	
		PP	12 03 29	
		PKS	12 04 54	
		SKS	12 08 44	
		SKKS	12 10 22	
		PPS	12 15 09	
		SS	12 20 23	
		G	12 35 01	
		L	12 40 06	
26	RB	e	13 24 09	U.S.C.G.S. Off south coast of Kamchatka H = 13:15:54
26	H	eP	16 15 16	U.S.C.G.S.
		PP	16 16 04	19°N, 73 1/2°W
		S	16 19 56	Gulf of Gonaives, Haiti
	SH	eP	16 15 19	H = 16:09:25
	SF	e	16 16 07	Ottawa Δ = 2,900
		S	16 20 55	RB Δ = 6,300
		L	16 24 36	
	KL	eP	16 15 38	Note: Benioff seismometer at Ottawa
	RB	eP	16 19 17	not operating.
		eS	16 27 19	
		eL	16 38.4	
		F	16.9	

DATE	STN.	PHASE	TIME(G.C.T.) h m s		REMARKS
26	RB	eP	19 51 54	c	U.S.C.G.S. 50°N, 156°E Off south coast of Kamchatka H = 19:43:20
27	O	eP'	06 04 11	d	U.S.C.G.S. New Britain H = 05:45:10
28	KL	eP	04 31 35	d	U.S.C.G.S. 18 1/2°N, 105°W Near coast of Colima, Mexico H = 04:24:33 Ottawa Δ =4,000 km RB Δ = 6,200
		eL	04 44.0		
	O	iP	04 31 38	d	
		S	04 37 12		
	SH	eP	04 31 59		
	SF	eP	04 32.2		
		S	04 38.3		
		L	04 45.7		
	RB	eP	04 34 17		
		eS	04 42 12		
		eL	04 52.8		
		F	05.0		
28	RB	eP	05 56 10		U.S.C.G.S. 72°N, 0° Arctic Ocean H = 05:50:48
28	SH	i	06 24 38.0		Local
		e	06 25 03.5		
	SF	e	06 25 20		
		e	06 25 23		
		e	06 25 28		
	O	e	06 25 20.5		
		S	06 25 30.5		
	KL	e	06 25 44		
		e	06 25 58		
28	KL	eP	22 00 16		U. S. C. G. S. Colima, Mexico, Aftershock H = 21:53:15
	O	eP	22 00 19		
		S	22 06 02		
	SH	eP	22 00 38		
	SF	eP	22 00 53		
		PP	22 02 26		
		S	22 07 09		
		L	22 14 30		
	H	iP	22 01 23		
	RB	eP	22 02 56		
		eS	22 10 51		
		eL	22 20.2		
		F	22.7		

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SEISMOLOGICAL SERVICE OF CANADA
Eastern Division
DOMINION OBSERVATORY, OTTAWA

STATION: O - Ottawa SF - Seven Falls
KL - Kirkland Lake H - Halifax
SH - Shawinigan Falls RB - Resolute Bay

March, 1953

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
2	RB	eP	21 04 44 c	U.S.C.G.S. Off east coast of Kamchatka H = 20:56:36
2	RB	eP	22 53 38 d	U.S.C.G.S.
	O	eP	22 56 55	51°N, 159°E Off southeast coast of Kamchatka H = 22:45:18
3	RB	eP'	11 45 35	U.S.C.G.S.
		e	11 51 59	20°S, 169°E
		ePS	11 56 34	Loyalty Islands
		F	12.1	H = 11:26:55
	KL	eP'	11 45 50	
	O	iP'	11 45 51 c	
		e	11 47 07	
		e	11 49 29	
		SKS	11 53 02	
		SKKS	11 54 30	
		PS	11 57 22	
		SS	12 04 22	
		SSS	12 09 06	
		G	12 17 40	
	SF	eP'	11 45 56	
		PP	11 47 19	
		PPS	11 58 36	
		SS	12 04 51	
		SSS	12 09 10	
	SH	eP'	11 46 03	
	H	eP'	11 46 17	S.P. Benioff out of order at Halifax
		PP	11 48 36	
		PKS	11 49 42	
		e	12 04 18	
		SS	12 06 03	
		SSS	12 10 28	
3	O	iP	11 53 14 c	
		e	11 55 44	
3	RB	e	13 11 44	
		F	13.4	
3	O	iP'	13 57 51 c	U.S.C.G.S. Loyalty Islands Aftershock H = 13:38:58
3	O	eP'	14 00 13	U.S.C.G.S. Loyalty Islands Aftershock H = 13:41:20
3	RB	iP	23 02 42 d	U.S.C.G.S.
		eS	23 10 02	48°N; 155°E
		eL	23 15.7	Kurile Islands
	KL	iP	23 05 26	H = 22:53:54
	O	eP	23 05 48	Ottawa Δ = 8,500 km.
	SH	eP	23 05 51	RB Δ = 5,450 km. (cont'd.)

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
3	SF	eP	23 05 52	
		eS	23 15 32	
4	H	eP	01 08 24	S.P. Benioff not operating
		S	01 16 59	at Halifax
		PS	01 17 34	U.S.C.G.S.
	O	iP	01 08 32 d	28°S, 62 1-2°W
		pP	01 10 31	Argentina
		PP	01 11 29	H = 00:57:52
		S	01 17 12	h = 600 km.
	SH	eP	01 08 38	
	SF	iP	01 08 44	
		iS	01 17 33	
		SSS	01 25 01	
	KL	iP	01 08 51 d	
		ipP	01 10 52 c	
4	O	iP	07 32 40 c	U.S.C.G.S. 19 1/2°S, 168 1/2°E Loyalty Islands region H = 07:13:47
4	SF	e	09 47 18	Local
		e	09 49 25	
		e	09 50 16	
		F	09 56 41	
4	O	eP	19 46 48	
	RB	eP	19 49 54 Prob c	
5	RB	eP	03 53 13	
5	SF	iP1	06 47 27.5	Δ = 48 km.
		iS1	06 47 33.5	
	SH	e(Sn)	06 48 10	
	O	e(Sn)	06 49 21	
5	O	eP'	07 48 13	U.S.C.G.S. Loyalty Islands Region H = 07:29:20
5	RB	eP	19 13 01	
		F	19.4	
5	SH	ePn	19 46 14	Δ = 220 km.
		Sn	19 46 38	
	O	iPn	19 46 23	Δ = 280 km.
		Sn	19 46 52	H = 19:45:43
5	RB	eP	19 56 02 c	
		eS	20 02.9	
		eL	20 07.2	
		F	20.4	
5	RB	iP	21 09 41 c	U.S.C.G.S.
		iPP	21 11 29 c	51°N, 158°E
		iPPP	21 12 08 c	Near south coast of Kamchatka
		iS	21 16 17	H = 21:01:23
		iScS	21 19 41	h = 60 km.
		i	21 19 31	Ottawa Δ = 8,100 km.
		i	21 19 52	RB Δ = 5,050 km.
		eL	21 21.2	
		F	23.1	
	KL	iP	21 12 28 c	
	O	iP	21 12 50 c	

'quake cont'd.

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
5	O	PP	21 15 28	
		eS	21 22 08	
	SH	eP	21 12 52	
	SF	eP	21 12 54	
		eS	21 25 17	
	H	iP	21 13 23 c	
		eS	21 23 34	
		SSS	21 32 26	
5	RB	iP	21 30 27 c	U.S.C.G.S.
	O	iP	21 33 31 d	49°N, 156°E
				Off south coast of Kamchatka
				H = 21:21:45
5	RB	eP	23 02 34 c	U.S.C.G.S.
		e	23 07 50	14°S, 71 1/2°W
				Southern Peru
				H = 22:49:46
				h = 100 km.
6	RB	eP	00 53 42 Prob d	
6	RB	eP	07 03 10	U.S.C.G.S.
		eS	07 07 34	58 1/2°N, 156 1/2°W
		i	07 07 47	Alaska Peninsula
		i	07 08 23	H = 06:57:26
		i	07 08 37	h = 100 km.
		i	07 08 47	
		F	07.4	
	KL	eP	07 05 29	
		ipP	07 05 59	
		e	07 06 10	
	O	eP	07 05 55	
		isP	07 06 30	
		PP	07 07 41	
		sPP	07 08 22	
		SS	07 16 20	
	SH	eP	07 06 35	
	SF	eP	07 06 40	
		SS	07 17 20	
	H	eP	07 06 41	
6	RB	eP	11 21 16 c	
6	RB	iP	22 10 30 c	U.S.C.G.S.
		F	22.3	Southern Ryukyu Islands
				H = 21:58:40
8	RB	eP	12 35 19 c	U.S.C.G.S.
	O	eP	12 38 26	50°N, 156 1/2°E
	SH	eP	12 38 27	Off south coast of Kamchatka
	SF	eP	12 38.6	H = 12:26:50
				h = 60 km.
9	RB	e	10 17 33	U.S.C.G.S.
		iP	10 17 52 d	4 1/2°S, 153 1/2°E
		eS	10 28 25	New Britain region
		ePS	10 30 39	H = 10:03:41
		eL	10 35.0	Ottawa Δ = 13,350 km.
		F	11.6	Resolute Bay Δ = 11,000 km.
	KL	e	10 22.9	
		i	10 24 01	
	O	eP'	10 22 30	
		i	10 22 38	
		PP	10 24 03	
		PPP	10 26 33	

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
9	O	SKKS	10 31 02	
		PS	10 34 00	
		PPS	10 35 26	
		SS	10 40 42	
	SH	e(PP)	10 24 39	
	SF	eP'	10 22 44	
		PP	10 24 21	
		SKKS	10 31 17	
		PS	10 34 10	
		PPS	10 36 32	
		SS	10 40 19	
	H	iP'	10 22 52	
		e	10 23 01	
9	RB	eP	10 34 12 c	
10	O	iP	00 07 19 d	
10	O	eP'	06 17 49	U.S.C.G.S. 18 1/2°S, 168°E New Hebrides Islands H = 05:58:55
11	O	iP	11 01 52 c	U.S.C.G.S.
	SH	eP	11 01 53	49°N, 154 1/2°E
	H	eP	11 02 19	Kurile Islands H = 10:50:00 Resolute Bay's time correction poor but it recorded an iPc
12	H	iP1	01 05 42	Δ = 95 km.
		S1	01 05 54	
13	H	e	06 51 53	
		L	06 57 13	
13	H	ePn	15 58 06	Δ = 240 km.
		Sn	15 58 31	
14	RB	eP	17 13 57 c	U.S.C.G.S.
		e	17 17 52	Near southeast coast of
		e	17 31 42	Mindanao
		F	18.4	H = 17:00:32
	KL	eP'	17 19 28	
	O	eP'	17 19 33	
		PP	17 21 14	
		PS	17 31 17	
		PPS	17 33 08	
		SS	17 38 16	
		SSS	17 42 36	
	SF	eP'	17 19 34	
		PP	17 21 19	
		PS	17 31 23	
		SS	17 38 12	
		SSS	17 41 13	
	SH	eP'	17 19 43	
	H	eP'	17 19 42 d	
		PP	17 21 48	
		PKP	17 23 04	
		SS	17 39 10	
		G	17 52 44	
16	RB	iP	11 22 48 c	U.S.C.G.S.
		F	11.4	48°N, 154°E
	O	iP	11 25 52 c	Kurile Islands
	SH	eP	11 25 54	H = 11:13:55
	H	iP	11 26 22	

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
17	RB	eP	06 41 13	
		eS	06 51 22	
		eL	06 58.4	
		F	07.2	
	SF	eP	06 44 31	U.S.C.G.S.
	O	eP	06 44 33	51°N, 159°E
	SH	eP	06 44 34	near southeast coast of
	H	iP	06 44 57	Kamchatka
				H = 06:32:52
17	RB	eP	12 43 02 c	U.S.C.G.S.
		F	12.8	Panay Island, P.I.
				H = 12:30:00
17	RB	iP	12 55 59 c	
17	RB	eP	13 13 07 c	U.S.C.G.S.
		ePP	13 14 48	50 1/2°N, 156 1/2°E
		iS	13 19 55	Kurile Islands
		iScS	13 22 55	H = 13:04:33
		F	13.8	Ottawa Δ = 8,200 km.
	KL	eP	13 15 51 c	RB Δ = 5,150 km.
	O	eP	13 16 14	
		S	13 25 41	
		PS	13 26 15	
	SF	eP	13 16 17	
		iS	13 25 47	
		iScS	13 26 20	
	H	iP	13 16 43 d	
		S	13 26 38	
		ScS	13 26 58	
		SSS	13 34 48	
		L	13 43 43	
17	KL	e	14 35.7	
	SF	e	14 38 14	
18	RB	eP	19 16 18 d	U.S.C.G.S.
		i	19 16 22	40°N, 27 1/2°E
		iS	19 24 32	West Turkey
		F	23.0	H = 19:06:11
	H	eP	19 16 49	
		PcP	19 17 21	
		i	19 18 53	
		PP	19 19 15	
		S	19 25 29	
		L	19 40 16	
	SF	eP	19 17.2	Seven Falls time correction
		PP	19 18.6	doubtful.
		PPP	19 21.2	Times given only to 0.1 m.
		S	19 26.1	
		ScS	19 27.4	
		SS	19 30.1	
		SSS	19 33.2	
	SH	eP	19 17 21	
		e	19 18 02	
		PP	19 19 53	
		S	19 26 23	
		PS	19 26 58	
		ScS	19 27 21	
		e	19 28 26	
		SS	19 31 00	
		SSS	19 33 53	
		G	19 35 01	

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	Remarks
18	O	eP	19 17 33	
		PP	19 20 12	
		S	19 26 46	
		PPS	19 27 40	
		SS	19 31 40	
		SSS	19 34 48	
		G	19 36.0	
	KL	eP	19 17 36 c	
		F	20.6	
18	RB	eP	21 28 11	U.S.C.G.S. 40°N, 27°E Western Turkey H = 21:18:08
19	H	iP	08 33 56 d	U.S.C.G.S. 14°N, 61°W Windward Islands H = 08:27:57 h = 200 km. Ottawa Δ = 3,800 km. RB Δ = 7,050 km.
		i	08 34 26	
		pP	08 34 37	
		sP	08 34 56	
		PP	08 35 13	
		sPP	08 36 00	
		PcP	08 36 38	
		S	08 38 45	
		ScP	08 40 00	
		PcS	08 40 16	
	O	iP	08 34 21 d	
		pP	08 35 00	
		sP	08 35 20	
		PP	08 35 34	
		e	08 36 22	
		PcP	08 37 00	
		S	08 39 36	
		ScP	08 40 04	
		PcS	08 40 28	
		ScS	08 44 12	
	SH	eP	08 34 24	
		i	08 34 28	
		S	08 39 39	
		PcS	08 40 31	
		sS	08 41 13	
		G	08 41 41	
	SF	eP	08 34.4	Time correction doubtful at S.F. Times given only to 0.1 min.
		pP	08 35.2	
		PP	08 35.6	
		sPP	08 36.5	
		S	08 39.7	
		PcS	08 40.5	
		G	08 42.4	
	KL	iP	08 34 53 d	
		F	09.6	
	RB	iP	08 38 08 d	
		iPcP	08 38 48	
		ipP	08 38 56	
		isP	08 39 24	
		ipPP	08 41 15	
		iS	08 46 18	
		F_Z	09.5	
		F_{NE}	11.5	
19	RB	eP	10 27 06 Prob c	U.S.C.G.S. 28 1/2°N, 127 1/2°E Ryukyu Islands H = 10:15:33

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
19	H	ePn	19 36 25	
		iSn	19 36 42	Δ = 150 km.
		L	19 36 51	
19	H	iPn	19 44 16	
		eSn	19 44 33	Δ = 150 km.
		L	19 44 43	
19	RB	eP	21 24 02 c	U.S.C.G.S.
	H	eP	21 24 31 d	Western Turkey Aftershock
	SF	eP	21 24 52	H = 21:13:58
	O	iP	21 25 14 c	
20	O	eP	19 34 12 d	
21	RB	eP	01 34 50 Prob d	
22	RB	iP	08 28 55 Time ± 2 sec.	Time correction doubtful
22	RB	eP	19 43.7 d Time	correction doubtfull at RB
	O	eP	19 46 55	U.S.C.G.S.
	H	eP	19 47 22	52 1/2°N, 159 1/2°E
				Off east coast of Kamchatka
				H = 19:35:35
23	RL	eP	02 17.1 d	Time correction doubtful at
	O	iP	02 20 21 d	RB
	H	eP	02 20 49 d	
23	H	eP	02 25 21 d	U.S.C.G.S.
	O	eP	02 26 09	Off west coast of Greece
				H = 02:15:10
23	RB	iP	12 43.6 d	No time correction at RB
		iPcP	12 45.7	
		eS	12 49.	
		iScS	12 53.8	U.S.C.G.S.
		eL	12 54.9	Foreshock of Fox Islands
		F	13.5	earthquake.
	KL	eP	12 45 40	H = 12:36:13
	O	eP	12 46 05	Ottawa Δ = 6,350 km.
		PP	12 48 12	RB Δ = 4,000 km.
		S	12 54 06	
	SH	eP	12 46 10	
	SF	eP	12 46 19	
		S	12 54 19	
		SS	12 58 30	
		L	13 04 19	
	H	eP	12 46 50	
		S	12 55 23	
		SSS	12 59 33	
23	H	iPn	18 48 47	Δ = 200 km.
		Sn	18 49 07	
25	RB	eP	05 58 34	U.S.C.G.S.
		iPcP	06 00 58	52 1/2°N, 169°W
		eS	06 04 19	Fox Islands, Aleutians
		iScS	06 08 48	H = 05:51:21
		eL	06 09,5	Ottawa Δ = 6,350 km.
		F	06.9	RB Δ = 4,000 km.
	KL	eP	06 00 47	
	O	eP	06 01 13	
		S	06 09 13	
	SH	eP	06 01 20	

'Quake cont'd on next page

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
25	SF	eP	06 01 20	
		S	06 09 20	
		PPS	06 09 41	
		ScS	06 11 08	
		SS	06 13 35	
		SSS	06 16 02	
		L	06 19 08	
	H	eP	06 01 59	
		S	06 10 34	
		SS	06 14 58	
		SSS	06 18 04	
		L	06 21 02	
26	RB	eP	02 17 46 c	U.S.C.G.S.
		iS	02 24 20	52°N, 161°E
		eScS	02 27 32	Off east coast of Kamchatka
		eSS	02 27 43	H = 02:09:35
		eL	02 35.2	
		F	02.4	
	O	eP	02 21 04	
	SH	eP	02 21 19	
	SF	eS	02 30 13	
		SSS	02 39 03	
		G	02 40 46	
26	RB	eP	05 11 12 d	U.S.C.G.S.
		eL	05 36.7	52°N, 161°E
		F	05.7	Off east coast of Kamchatka
				H = 05:02:57
26	RB	eP	12 24 47 d	
26	RB	eP	14 30 00 c	
26	RB	eP	15 14 36 Prob d	
28	SH	e	16 52 38	
		e	16 52 48	
		e	16 53 03	
	H	e(P)	16 52 42	
	KL	e(P)	16 52 51 Prob a local shock	
		F	17.0	
	O	i	16 53 06	
		e	16 56 01	
	SF	e	16 55.0	
29	RB	iP	11 09 11 c	
29	RB	eP	11 55 19 d	
31	H	iP	12 16 55	
31	O	iPn	12 59 14	Δ = 270 km.
		Sn	12 59 42	
	SH	ePn	12 59 20	Δ = 325 km.
		Sn	12 59 53	
	SF	e	13 00.4	
	KL	e	13 01 23	
		eS	13 01 51	
	H	e	13 01 39	
		e	13 02 03	
		e	13 02 05	
		e	13 04 35	
31	KL	e(P)	15 13 39	

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SEISMOLOGICAL BULLETINS RECEIVED

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

STATION	BULLETINS
January, 1953	
Potsdam	Bulletin, 1951
Santa Clara	October, November, December, 1952
Uppsala	1 - 10 January, 1952
Kiruna	15 - 29 December, 1952
Cartuja	October, 1952
Bermuda	June 1, 1951 - May 31, 1952
Madrid	Bulletin, 1949, 1950
Tacubaya	November, 1952
Palisades	December 15 -27, 1952
Richmond	November, 1952
DeBilt	November, 1952
Uppsala	January 10 - 20, 1952
Kiruna	December 29, - January 5, 1953
Trieste	January - September, 1952
State College	January - December, 1951
Pakistan	October, 1952
Bermuda	December 15, 1952 - January 15, 1953
Florence	December, 1952
Tortosa	November, 1952
Athens	November, 1952
University of Washington	January - April 1952
Arkansas	October, November, December, 1952
February, 1953	
Stuttgart	December, 1952
DeBilt	December, 1952
Weston	November, 1952
South Africa	November, 1952
Toledo	October, November, 1952
Richmond	December, 1952
Trieste	March 25 - 31, 1952; September 24 - 30, 1952
Palisades	January 1 - 21, 1953
Helwan	September, October, 1952
Cartuja	November, 1952
Coimbro	December, 1952
Hermanus, South Africa	January - June, 1952
Uppsala	January 20 - 30, 1953
Kiruna	January 5 - 19, 1953
Hong Kong	October, November, 1952
B.C.I.S.	August, 1952
Bureau Central	October, 1952
Strasbourg	December 10 - 31, 1952; January 1 - 10, 1953
Toledo	November, 1952; Provisional December, 1952
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Hautes Tatra	November, 1952
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Jamaica	September, October, November, 1952
Tacubaya	December, 1952
Japan	April 1, 1952 - September 30, 1952
Melbourne	November, 1952
MacQuarie Island	November, 1952
Cartuga	Bulletin, 1951

SEISMOLOGICAL BULLETINS RECEIVED

February, 1953 (cont'd)

Switzerland	October, November, December, 1952; Bulletin 1951
Wellington	January - June, 1950
Wellington	June, 1952
DeBilt	January, 1953
Uppsala	January 30 - February 10, 1953; also February 10 - February 20, 1953
Kiruna	February 2 - 9, 1953
Weston	January, 1953
Athens	December, 1952
Ksara	October, 1952
Santo Domingo	July, August, September, 1952
De Bilt	Bulletin, 1948
Tananarive	January, February, March, 1952
Tortosa	December, 1952; January, 1953
Palisades	January, 1953
Instanbul	June, July, August, 1952
Belgrade	October, November, 1952

March, 1953

Alger	August, 1952
Tamanrasset	August, September, 1952
Pasadena and Auxiliary Stations	1951, No. 4; October, November, December, 1951
Pasadena	Preliminary Bulletin No. 78; June - December, 1952; January, February, 1953
Uppsala	February 20 - March 1, 1953
Kiruna	February 9 - 23, 1953
Hong Kong	December, 1952
Galerazamba	January - May, 1952
Chinchina	January - May, 1952
Bogota	January - May, 1952
Budapest	October, November, 1952
Szeged	October, November, 1952
Kalocsa	October, November, 1952
Kecskemit	October, 1952
India	March, December, 1952
Palisades	February, 1953
Richmond	January, 1953
Rome	November, December, 1952
Bermuda	January, 1953
Lisbon	September, October, 1952
de Angra do Heroismo	October, December, 1952
Uccle	January 1 - February 15, 1953
Bermuda	June 1, 1951 - May 31, 1952
U.S.C.G.S.	October, November, December, 1946
B.C.I.S.	September, 1952
Bureau Central	November, 1952
Strasbourg	January 10 - February 10, 1953
Tananarive	April, May, June, 1952
Santa Clara	January, 1953
Uppsala	March 1 - 10, 1953
Kiruna	February 24 - March 2, 1953
Toledo	December, 1952; Provisional January, 1953
Tacubaya	January, 1953
Pittsburg	Bulletin 1952
Athens	January, 1953
Helwan	December, 1952
South Africa	December, 1952
Apia	October - December, 1952
Cartuga	December, 1952
Ireland	October - December, 1952
Reykjavik	February 15 - December 27, 1952
Tamanrasset	October, 1952; January, 1953

SEISMOLOGICAL BULLETINS RECEIVED

March, 1953 (cont'd)

Algiers	October, 1952; January 1953
Uppsala	March 9 - 20, 1953
Kiruna	March 2 - 9, 1953
Wellington	July, 1952
Berkeley and Shasta	March 10 - 19, 1953 (preliminary)
Almeria	October, November, 1952
Uccle	February 15 - 28, 1953
Lisbon	November, December, 1952
Malaga	May, 1952
Cartuga	January, February, 1953
Florence	January, 1953
Melbourne and MacQuarie Island	January, 1953
Cleveland	January, 1953
Uppsala	March 20 - 31, 1953
Kiruna	March 9 - 23, 1953
Uppsala	Earthquake of March 6, 1953
Richmond	The International Seismological Summary 1942 July, August and September
Rome	January, 1953
South Africa	January, 1953
Stuttgart	January, February, 1953
Uccle	March 1 - 15, 1953
Tacubaya	February, 1953
Heard Island	Provisional bulletins, October, December, 1951; January, February, 1952
Melbourne	December, 1952
MacQuarie Island	December, 1952

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
John H. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

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

Time correct within 0.02s.

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 30mm. per min., mass 235 lbs.

Leet-Blumberg, 3-component, pen-recording seismograph. Final adjustments of the instruments have not been made, the inertial elements are currently operating at a period of about 2 seconds.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Sprengnether NS and EW long period horizontals, damping critical, photographic registration, paper speed of 30 mm. per minute.

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

SEVEN FALLS

Quebec Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian Basement rock of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW components, 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian basement rock of Canadian Shield

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

KIRKLAND LAKE

φ = 48°08'41" N. λ = 80°01'45" W. h = 310 m.

Time correction from recorded radio time signals

Foundation: Precambrian basement rock (Timiskaming Tuff)

Instrument: Sprengnether Vertical, short-period, designated as Sl130, galvanometric registration on photographic paper, paper speed 60 mm. per min.

RESOLUTE BAY, N.W.T.

φ = 74°41' N. λ = 94°54' W. h = 5 m.

Time corrections daily from W.W.V.

Foundation: Early Palaeozoic limestone

Instruments:

At the above location

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented N.S. Sprengnether Series DH short-period vertical seismometer, critical damping, paper speed 60 mm. per minute, designated z in table.

At a point 1000' N 15° W of the above location, on a permafrost foundation.

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm per minute, oriented E.W. Press long-period vertical seismometer, damping approximately critical, paper speed 30 mm. per minute, designated Z in table.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT	SYNCHRONOUS MAGNIFICATION
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				
SA (Shawinigan)	1.0		2200			
SF (Seven Falls)	1.0		2200			
SM (Seven Falls)	12.0		300	20:1	50 mm.	
S1130 (Kirkland Lake)	1.4	1.4				10,000 ca.
NS (Halifax)	20.	20.				6,000
EW (Halifax)	20.	20.				6,000
BS (Halifax)	1.0	0.2				
BL (Halifax)	1.0	60				
NS (Resolute Bay)	14.1	14.1				1,600
EW (Resolute Bay)	16.0	16.0				1,600
z (Resolute Bay)	1.4	1.4				10,000
Z (Resolute Bay)	12.2	15.5				

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA
Eastern Division
Dominion Observatory, Ottawa.

STATION:

O - Ottawa SF - Seven Falls
KL - Kirkland Lake H - Halifax
SH - Shawinigan Falls RB - Resolute Bay

April, 1953

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
1	RB	eP	07 58 31 Prob d	
	KL	e	07 59.4	
	O	iP	07 59 27 c	
1	O	eP	10 58 03	U.S.C.G.S.
		PP	10 59 53	Foreshock of Ecuador 'quake
		PPP	11 00 37	H = 10:49:41
		S	11 04 42	
		e	11 06 02	
		SS	11 08 02	
		L	11 12 08	
	KL	e	10 58.4	
	H	eS	11 05 16	
		ScS	11 08 12	
		L	11 13 45	
	SF	eS	11 05.4	SF times, when given to
		e	11 08.3	0.1 minute, indicate poor time
		L	11 13.8	correction.
	RB	eP	11 01 25 Prob d	
		eS	11 11 00	
		eSS	11 15 45	
		eL	11 24.4	
1	O	eP	11 29 45	U.S.C.G.S.
		PP	11 31 35	0° Lat., 81°W
		S	11 36 26	Near coast of Ecuador
		SS	11 39 40	H = 11:21:23
		L	11 43 55	Ottawa Δ = 5,000 km.
	KL	e	11 30.1	R.B. Δ = 8,250 km.
	SH	e	11 30 16	
	H	eS	11 36 48	
		ScS	11 39 36	
		L	11 45 28	
	SF	eS	11 37.0	
		e	11 40.0	
		L	11 45.6	
	RB	eP	11 33 08	
		eS	11 42.2	
		eL	11 55.4	
		F	12.6	
1	RB	iP	18 22 36 d	U.S.C.G.S. Bonin Islands H = 18:11:20
1	O	e	20 20 30	
		e	20 24 08	
	SF	e	20 26 30	
	KL	i	20 45 13	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
1	O	eP	22 45 11	U.S.C.G.S.
		S	22 51 04	7 1/2°N, 78 1/2°W
		L	22 57 20	Near coast of Panama
	H	eP	22 45 23	H = 22:37:51
		S	22 51 28	
		SS	22 54 13	
		L	22 56 38	
	SF	eS	22 51.7	
		SS	22 54.5	
		L	22 57.8	
	KL	eP	22 45 34	
	RB	eP	22 48 55 c	
		eS	22 57 43	
		eL	23 12.3	
		F	23.7	
2	RB	eP	04 09 54 c	U.S.C.G.S.
		eS	04 20 22	5°S, 151 1/2°E
		ePPS	04 23 00	New Britain
		eSS	04 27.4	H = 03:56:06
		eL	04 37.5	h = 60 km.
		F	05.1	Ottawa Δ = 13,550 km.
	KL	eP'	04 14 51	RB Δ = 11,150 km.
		e	04 25 08	
	O	iP'	04 14 58	
		SKS	04 21 56	
		SKKS	04 23 29	
		PS	04 26 24	
		PPS	04 28 00	
		SS	04 33 15	
	SF	SKKS	04 23.6	
		SS	04 33.3	
		G	04 45.5	
		L	04 54.2	
	H	eP'	04 15 13 c	
		i	04 15 32	
		i	04 18 10	
		PKS	04 18 32	
2	H	iP	04 52 25	
3	SF	SKKS	04 46.9	
		PPS	04 52.1	
		G	05 12.9	
		L	05 19.0	
3	KL	e	06 05.3	
3	RB	iP	16 35 15 d	U.S.C.G.S.
		F	16.7	53°N, 160°E
	O	eP	16 38 30	Near east coast of Kamchatka
	H	eP	16 38 59	H = 16:27:15
3	RB	eP	18 02 18 d	U.S.C.G.S. Near east coast of Honshu, Japan. H = 17:51:39
3	O	ePn	21 11 44	
		P1	21 11 48	Δ = 325 km.
		Sn	21 12 18	H = 21:10:58
		L	21 12 41	

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
4	RB	eP	06 02 44 c	U.S.C.G.S.
		i	06 02 56 c	36 1/2°N, 141°E
		eS	06 11.1	Near east coast of Honshu, Japan
		eL	06 27.0	H = 05:52:15
		F	06.8	
	SF	eS	06 16 19	
		SSS	06 26 01	
		G	06 29.8	
		L	06 37.8	
4	RB	eP	07 14 53	
	H	eP	07 18 33	
5	RB	eP'	09 13 11 Prob. c	U.S.C.G.S.
	H	eP'	09 13 32	Kermadec Islands
				H = 08:54:30
5	RB	eP	10 27 42 Prob. c	U.S.C.G.S.
		F	11.3	22°N, 123°E
				Off east coast of Formosa
				H = 10:15:30
5	O	eP	14 39 07	U.S.C.G.S.
	RB	eP	14 42 10 Prob. d	9°S, 79°W
				Near coast of Peru
				H = 14:29:48
				h = 100 km.
5	RB	eP	19 47 57	
		e	19 50 43 c	
5	RB	eP	23 11 13 d	
6	RB	eP	00 07 41 d	
		e	00 08 23	
6	RB	iP	00 50 34 d	
		iPP	00 54 55	
		e	01 01 11	
		iS	01 02 31	
		i	01 03 05	
		F	02.3	
	KL	eP'	00 55 29 ed followed by ic	
		e(PP)	00 58 49 ec followed by id	
	O	eP'	00 55 33	
		PP	00 58 05	
		PKS	00 59 06	
		SKS	01 02 30	
		SKKS	01 05 02	U.S.C.G.S.
		PS	01 08 28	7°S, 132°E
		PPS	01 10 42	Banda Sea
		SS	01 16 06	H = 00:36:12
	SH	eP'	00 55 38	Ottawa Δ = 14,900 km.
		iPKS	00 59 08	RB Δ = 11,900 km.
	H	eP'	00 55 39	
		i	00 55 47	
		iPP	00 58 43	
		iPKS	00 59 13	
		e	01 08 29	
		PPS	01 10 59	
		SS	01 16 59	
		SSS	01 22 35	
	SF	eP'	00 55.7	
		e	00 58.9	
		iPKS	00 59.2	
		SKKS	01 05.1	
		PPS	01 10.9	

'quake cont'd on next page

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
6(cont'd)	SF	SS	01 16.1	
		SSS	01 20.9	
6	RB	eP	01 06 00	
		F	01.2	
6	RB	iP	04 02 41 c	U.S.C.G.S.
		e	04 12 53	10 1/2°N, 125 1/2°E
		iS	04 13 23	Philippine Islands
		ePPS	04 14 33	H = 03:49:32
		F	04.3	
	H	iP'	04 08 33 d	
		PP	04 10 22	
		SS	04 26 59	
6	RB	iP	12 22 52 c	U.S.C.G.S.
		iS	12 29 26	52°N, 155°E
		eScS	12 32 40	Near East Coast of Kamchatka
		eL	12 39.6	H = 12:14:41
		F	13.1	Ottawa Δ = 7,900 km.
	KL	eP	12 25 40 Prob.c	R.B. Δ = 4,850 km.
	O	eP	12 26 03	
	SF	eS	12 35.4	
		PS	12 36.1	
		G	12 44.0	
	H	iP	12 26 34	
		i	12 26 42	
		S	12 36 22	
6	RB	e	21 16 27	
		F	23.3	
7	RB	eP	10 20 43 Local	
		iS	10 20 46	
7	RB	eP	12 40 53	
		iS	12 40 55 Local	
7	O	iPn	16 14 00 Local	
		Sn	16 14 17	Δ = 150 km.
		L	16 14 25	
7	RB	eP'	17 45 55 d	U.S.C.G.S.
		e	17 46 47	Fiji Islands region
		F	17.9	H = 17:27:34
	O	iP'	17 46 09 c	
	H	iP'	17 46 26 c	
8	RB	eP	00 11 47 d	
		e	00 12 16	
		F	01.1	
	H	i	00 17 26	
		i	00 20 41	
8	RB	eP	05 21 48 d	U.S.C.G.S.
	H	eP	05 25 31 d	Near east coast of Kamchatka
				H = 05:13:39
8	H	iP	08 25 21	U.S.C.G.S.
				Central Chile
				H = 08:13:30
				h = 100 km.
9	RB	eP	15 55 59 d	
		F	16.1	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
12	RB	eP	07 30 05 Prob.d	U.S.C.G.S.
	H	eP	07 33 48	53°N, 160°E
		i	07 34 01	Off east coast of Kamchatka
				H = 07:22:00
12	H	iP	15 18 53	U.S.C.G.S.
		pP	15 19 37	Central Chile-Argentina border
		PP	15 21 31	H = 15:08:00
	KL	eP	15 19 17 Prob.c	h = 200 km.
		epP	15 19 59 c	
12	RB	iP	22 38 28 c	U.S.C.G.S.
		ePP	22 40 18	53°N, 160°E
		F	22.8	Off east coast of Kamchatka
	KL	eP	22 41 19 c	H = 22:30:24
	O	iP	22 41 43 c	
	H	iP	22 42 13 c	
14	O	iP	13 37 51 d	U.S.C.G.S.
		PcP	13 38 42	7 1/2°S, 71 1/2°W
		pP	13 39 40	Western Brazil
		PP	13 40 01	H = 13:29:26
		sP	13 40 45	h = 650 km.
		e	13 42 22	Ottawa Δ = 5,850 km.
		sPP	13 42 46	RB Δ = 9,150 km.
		S	13 44 36	
		sS	13 48 00	
		SS	13 48 34	
		G	13 51 20	
	H	iP	13 37 49 d	
		PcP	13 38 47	
		pP	13 39 45	
		sP	13 40 48	
		ScP	13 41 44	
		sPP	13 42 43	
		S	13 44 28	
		G	13 51 13	
	SH	iP	13 37 59 s	
		PcP	13 38 50	
		pP	13 39 54	
		PP	13 40 11	
		sP	13 41 00	
		PcS	13 42 43	
		eS	13 44 50	
		ScS	13 46 40	
		sS	13 48 16	
		SS	13 49 08	
		G	13 51 43	
	SF	iP	13 38.0	
		i	13 38.2	
		PcP	13 38.8	
		PP	13 40.2	
		iS	13 44.9	
		ScS	13 46.7	
		sS	13 48.3	
		SS	13 48.9	
		e	13 50.7	
		G	13 51.6	
	KL	iP	13 38 12 d	
		iPcP	13 39 00 d	
		iS	13 45 15 c	
	RB	iP	13 40 53 d	
		iPcP	13 40 55	
		ipP	13 43 02	
		isP	13 44 19	
		ePPP	13 46 15	
		iS	13 50 15	

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
14(cont'd)	RB	iSKS	13 50 25	
		iSP	13 51 17	
		isS	13 54 11	
		iSS	13 56 01	
		F	14.9	
15	RB	iP	01 25 38 c	U.S.C.G.S.
		ePP	01 27 08	49°N, 156°E
		eS	01 32 29	Kurile Islands
		eSS	01 35 53	H = 01:16:57
	KL	eP	01 28 22 c	Ottawa Δ = 8,300 Km.
	O	iP	01 28 44 c	RB Δ = 5,300 km.
	SH	eP	01 28 46	
15	RB	iP	18 15 13 c	U.S.C.G.S.
		iPP	18 16 57	53°N, 159°E
		F	18.3	Near East Coast of Kamchatka
	O	iP	18 18 23	H = 18:07:05
	H	eP	18 18 54	
16	O	iP	08 07 09	
	KL	e	08 07 15	
16	RB	eP	09 04 15	U.S.C.G.S.
		e	09 04 27	Northern Kurile Islands
		F	09.1	H = 08:55:40
17	O	iP	00 11 49	U.S.C.G.S.
		PcP	00 13 00	5°S, 77°W
		PP	00 13 45	Northern Peru
		S	00 19 02	H = 00:02:50
		ScS	00 21 36	Ottawa Δ = 5,650 km.
	H	iP	00 11 56 c	RB Δ = 8,950 km.
		i	00 12 59	
		PcP	00 13 11	
		S	00 19 07	
		SS	00 22 42	
		SSS	00 23 27	
	SH	eP	00 12 00	
	SF	eP	00 12 01	
		S	00 19 33	
	KL	eP	00 12 09 c	
		i(PcP)	00 13 19 c	
	RB	iP	00 15 03 c	
		eS	00 25 18	
		eL	00 42.2	
		F	01.3	
17	RB	eP	11 24 06	U.S.C.G.S.
		eL	11 51.9	New Britain region foreshock
		F	12.5	H = 11:10:17
	H	eP'	11 29 24	
17	RB	iP	15 18 57 Local	
		iS	15 19 00	
18	RB	eP	03 29 35 d	
		F	03.6	
18	O	eP	23 33 32	U.S.C.G.S.
		S	23 40 09	10°N, 102°W
		ScS	23 43 43	Off south coast of Mexico
	SF	ePcP	23 36.0	H = 23:25:40
		PP	23 36.3	
		S	23 41.0	
		SS	23 44.5	

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
18(Cont'd)	SF	L	23 48.7	
	H	eS	23 41 33	
		L	23 49 53	
	RB	e	23 36 13	
		S	23 45 05	
		e	23 52 37	
		e	23 59 44	
		F	00.3	
19	RB	eP	16 05 25 Prob.d	U.S.C.G.S.
				Off south coast of Kyushu,Japan
				H = 15:54:05
19	RB	eP	22 55 21 d	U.S.C.G.S.
		ePPP	22 57 27	50 1/2°N 179°W
		eS	23 31 13	Andreanof Islands, Aleutians
		F	23.1	H = 22:47:39
	KL	eP	22 57 48	RB Δ = 4,450 km.
	H	iP	22 58 55 d	
21	RB	eP	02 44 13 Prob.c	
		F	02.9	
21	RB	iP	08 59 13 d	
23	RB	iP	04 02 38 c	U.S.C.G.S.
		i	04 02 42	31°N, 96 1/2°E
	O	eP	04 03 12	Sikang Province, China
				H = 03:50:58
23	RB	iP	04 05 15 c	U.S.C.G.S.
		i	04 05 18	Sikang Province aftershock
				H = 03:53:35
23	RB	eP	16 38 05	U.S.C.G.S.
		PP	16 42 20	4°S, 154°E
		iS	16 49 50	New Britain region
		F	18.1	Minor damage
	O	eP'	16 43 11	H = 16:24:17
		PP	16 44 55	RB Δ = 11,000 km.
		PKS	16 46 37	O Δ = 13,300 km.
		PPP	16 47 37	
		e	16 53 10	
		PS	16 54 43	
		PPS	16 56 17	
		e	17 00 20	
		SS	17 01 26	
		SSS	17 06 18	
		G	17 15 20	
	KL	eP'	16 43 15	
		e	16 44 33	
		F	19	
	SH	eP'	16 43 15	
		e	16 44 31	
		PPP	16 47 22	
		SKS	16 50 13	
		SKKS	16 51 35	
		PS	16 54 35	
		e	17 00 31	
		SSS	17 06 31	
		G	17 15 26	
	SF	eP'	16 43 26	
		PP	16 45 15	
		PS	16 55 11	
		SS	17 02 05	
		SSS	17 06 52	
	H	eP'	16 43 39	

'quake cont'd on next page.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
23(cont'd)	H	PP	16 46 11	
		PKS	16 46 58	
		PPP	16 48 35	
		SKS	16 50 36	
		SKKS	16 52 51	
23	RB	eP	20 15 22	
		e	20 16 08	
24	RB	iP	02 14 42 c	U.S.C.G.S.
		iS	02 18 55	76 1/2°N, 6°E
		L	02 20.6	Off west coast of Spitzbergen
		F	02.4	H = 02:09:44
	SF	e	02 17 36	Ottawa Δ = 4,900 km.
		S	02 24 00	RB Δ = 2,450 km.
		SS	02 27 07	
		e	02 28 16	
		L	02 29 53	
	H	eP	02 17 42	
	KL	eP	02 17 44 Prob.c	
		e(PP)	02 19 25 Prob.c	
	SH	eP	02 17 44	
	O	iP	02 17 57 c	
		S	02 24 20	
25	RB	e	16 30 59	U.S.C.G.S.
		i	16 31 05	Sinkiang Province, China
		eL	17 01.4	H = 16:23:38
		F	17.2	
26	O	iPn	01 17 30	Δ = 190 km.
		Sn	01 17 51	
26	H	iPn	11 23 23	Δ = 225 km.
		Sn	11 23 47	
26	RB	eP	12 40 29 d	
	O	iP	12 40 39	
28	H	eP	04 53 04 d	
	KL	iP	04 53 28	
29	RB	eP	03 46 19	U.S.C.G.S.
		ePP	03 49 30	Solomon Islands
		eSKS	03 55 43	H = 03:31:18
		eS	03 56 54	
		ePS	03 58 45	
		eL	04 19.1	
		F	05.0	
	O	iP	03 50 12 d	
	H	eP	03 50.2	Halifax time correction doubtful
29	RB	eP	20 30 42	U.S.C.G.S.
		F	20.6	43°N, 143°E
				Hokkaido, Japan
				H = 20:21:00
29	RB	eP	22 02 04 c	U.S.C.G.S.
		F	22.1	49 1/2°N, 156°E
	KL	eP	22 04 49 c	Kurile Islands
		e	22 05 06 c	H = 21:53:30
	O	iP	22 05 13 c	
		i	22 05 28	
	SH	e	22 05 29	
	H	eP	22 05 41	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
30	RB	eP	01 17 32 Prob.c	U.S.C.G.S.
	KL	eP	01 20 21 c	Near east coast of Kamchatka
	O	iP	01 20 45 d	H = 01:09:23
	H	eP	01 21 15	
30	O	ePn	06 30 13	Δ = 340 km.
		Sn	06 30 48	
30	O	eP	06 32 29	U.S.C.G.S.
	SF	eS	06 39 51	About 150 Miles south of Panama
		SS	06 42 44	H = 06:25:24
		eL	06 46 29	
30	RB	eP'	06 45 17 Prob.d	U.S.C.G.S.
		ePS	06 55 26	20 1/2°S, 170°E
		eS	06 56 50	Loyalty Islands
		eSS	07 01 27	H = 06:26:40
		eL	07 11.4	
		F	09.6	
	KL	eP'	06 45 31	
	SH	eP'	06 45 32	
		PPP	06 49 18	
	O	eP'	06 45 36 d	
		PP	06 47 10	
		PPP	06 49 30	
		PS	06 56 40	
		e	06 58 30	
		SS	07 03 00	
		SSS	07 07 30	
		L	07 25 30	
	SF	eP'	06 45 44	
		PPP	06 50 24	
		PS	06 57 26	
		PPS	06 59 22	
		SS	07 04 44	
	H	eP'	06 45 53 d	
		PP	06 47 58	
		PKS	06 49 13	
		PS	06 58 07	
		PPS	06 59 59	
		SS	07 04 57	

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SEISMOLOGICAL SERVICE OF CANADA

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STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

May, 1953

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
1	KL	e(P)	00 10 58	
	H	e(P)	00 11 18	
2	RB	eP	18 46 23 c	U.S.C.G.S.
		eL	19 02.1	Off east coast of Kamchatka
		F	19.5	H = 18:38:12
	SF	eS	18 59 06	
		PS	18 59 40	
		L	19 15.1	
	H	eP	18 48 52	
4	RB	eP	00 09 16 d	
4	RB	eP	04 11 51	U.S.C.G.S.
	KL	eP	04 14.6	53 1/2°N, 161°E
	H	eP	04 15 36	Off east coast of Kamchatka
				H = 04:03:53
4	RB	eP	11 37 18 Prob. d	U.S.C.G.S.
		iS	11 43 32	53 1/2°N, 161°E
		iScS	11 47 23	Near east coast of Kamchatka
		eL	11 48.4	H = 11:29:08
		F	12.3	Ottawa Δ = 7,800 km.
	KL	eP	11 39 58	RB Δ = 4,750 km.
	O	eP	11 40 21	
	SF	eS	11 49 40	
		SS	11 54 23	
	H	eP	11 40 53 c	
		S	11 50 27	
4	KL	eP	15 36 59 Prob. d	U.S.C.G.S.
		iP	15 37 00 d	28°S, 62 1/2°W
		i	15 39 30 d	Santiago del Estero, Argentina
		e	15 46 32	H = 15:26:30
	H	iP	15 37 02 d	h = 600 km.
		PcP	15 37 20	Ottawa Δ = 8,100 km.
		pP	15 39 02	RB Δ = 11,450 km.
		PP	15 39 58	
		iS	15 45 40	
		sP	15 46 14	
		sS	15 48 52	
		G	15 56 46	
	O	eP	15 37 11 c	
		pP	15 39 10	
		PP	15 40 08	
		sP	15 40 16	
		ScS	15 46 00	
	SH	eP	15 37 17	
		PP	15 40 11	
		ScS	15 46 07	
	SF	eP	15 37 21	
		iS	15 46 15	
	RB	eP	15 39 37 Prob. d	
		F	16.0	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
4	H	iP	21 20 20 d	U.S.C.G.S.
	O	iP	21 20 25 d	20 1/2°S, 68°W
		pP	21 20 46	Chile-Bolivia border
	SH	eP	21 20 32	H = 21:09:45
	KL	eP	21 20 45 d	h = 100 km.
		epP	21 21 06	
4	RB	eP	23 35 28 d	U.S.C.G.S.
		F	23.7	49 1/2°N, 157°E
	KL	eP	23 38 12	Kurile Islands
	O	eP	23 38 36 d	H = 23:26:55
	H	eP	23 39 04	
6	H	iP	17 28 57 c	U.S.C.G.S.
		PP	17 32 06	36 1/2°S, 73°W
		PPP	17 34 15	Central Chile
		S	17 39 09	H = 17:16:48
		PS	17 40 08	h = 100 km.
	O	iP	17 29 00 d	Ottawa Δ = 9,100 km.
		PP	17 32 08	RB Δ = 12,400 km.
		pPP	17 32 36	
		PPP	17 34 08	
		pPPP	17 34 24	
		eS	17 38 34	
		iSKS	17 39 12	
		PS	17 40 08	
		PPS	17 40 28	
		SS	17 44 08	
		SSS	17 48 30	
		G	17 51.0	
	SH	eP	17 29 07	
		e	17 32 05	
		PP	17 32 21	
		PPP	17 34 28	
		S	17 39 22	
		PS	17 40 18	
		SS	17 44 33	
		SSS	17 48 32	
	SF	eP	17 29 13	
		i	17 29 30	
		PP	17 33 35	
		PPP	17 34 15	
		S	17 39 32	
		PS	17 40 26	
		SS	17 44 46	
		G	17 51 43	
	KL	eP	17 29 15 c	
		F	19.0	
	RB	eP	17 32 23	
		ePP	17 38 05	
		iPPP	17 39 30	
		iS	17 44 44	
		F	20.5	
7	RB	eP	15 37 57	U.S.C.G.S. Off east coast of Kamchatka H = 15:28:50
7	RB	eP	18 15 53 c	
7	H	eP	19 46 48	
		i	19 47 00	
7	RB	eP	20 43 09 d	
8	H	eP	03 33 57	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
13	KL	eP	04 26 41	
	O	eP	04 27 07 d	
	SH	eP	04 27 09	
	H	iP	04 27 44 c	
14	RB	eP	02 22 13 d	U.S.C.G.S. Marianas Islands H = 02:09:57
14	RB	eP	07 47 52	U.S.C.G.S.
		eL	07 56.2	50°N, 130°W
		F	08.2	Off coast of Vancouver, B.C.
	KL	eP	07 48 13	H = 07:41:44
	O	eP	07 48 46	
		PP	07 50 30	
		L	08 00 04	
14	O	e	17 32 23	
		e	17 32 41	
	SH	e	17 33 12	
14	KL	eP	18 03 07	
14	RB	eP	18 33 42	U.S.C.G.S.
		e	18 38 41	Vancouver aftershock
		eL	18 42.5	H = 18:27:41
		F	19.1	
	O	eP	18 34 46	
		e	18 43 04	
		L	18 46.1	
14	KL	eP	22 23 57	
15	O	eP	09 47 01	U.S.C.G.S.
	H	eP	09 47 42	Andreanof Islands, Aleutians H = 09:36:47 h = 100 km.
15	H	iP	19 53 32	
		e	19 53 44	
	KL	e	19 53 46	
16	KL	eP	19 46 19 c	
17	H	iP	02 43 44	
17	H	iPn	12 03 20.5	Δ = 195 km.
		Sn	12 03 43	
17	RB	eP	22 22 40 d	U.S.C.G.S.
		e	22 23 10	Near east coast of Honshu, Japan
	O	eP	22 25 16 d	H = 22:12:05 h = 100 km.
17	RB	eP	23 43 14	
		e	23 44 05	
		e	23 44 19	
18	O	eP'	08 11 22 d	U.S.C.G.S.
	H	eP'	08 11 39 d	10°S, 161°E
		e	08 11 56	Solomon Islands H = 07:52:36 h = 60 km.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
18	O	iP	08 17 16 c	U.S.C.G.S.
		PP	08 17 44	28 1/2°N, 44°W
		PPP	08 18 04	Mid Atlantic Ocean
		S	08 21 21	H = 08:12:12
		SS	08 22 16	Ottawa ∠ = 3,350 km.
		SSS	08 22 44	RB Δ = 5,800 km.
	SH	eP	08 18 15	
	SF	eP	08 18 20	
		S	08 22 58	
		L	08 25 08	
	O	eP	08 18 27 c	
		S	08 23 30	
	KL	eP	08 18 59 c	
		e	08 21 22	
	RB	eP	08 21 29 c	
		ePP	08 23 42	
		eS	08 29 04	
		eL	08 40.0	
		F	09.8	
18	O	eP'	08 35 02	U.S.C.G.S.
		PP	08 37 52	Near south coast of Sumatra
	H	ePP	08 37 48	
19	RB	eP	03 19 25 d	U.S.C.G.S.
		ePP	03 21 13	51°N, 159°E
		iS	03 26 06	Off south coast of Kamchatka
		iL	03 29.2	H = 03:11:06
		F	5.3	Ottawa Δ = 8,050 km.
	KL	eP	03 22 12 c	followed by larger d RB Δ = 5,000 km.
	O	iP	03 22 35 d	
		PP	03 25 17	
		S	03 31 56	
		PS	03 32 44	
		SS	03 36 34	
		SSS	03 40 28	
	SH	eP	03 22 37	
	SF	eS	03 32 08	
		PS	03 32 48	
		SSS	03 40 33	
		L	03 45 52	
	H	eP	03 23 06	
		S	03 32 50	
		SSS	03 41 22	
		L	03 48.9	
19	O	eP	06 04 02 d	U.S.C.G.S. 52 1/2°N, 158 1/2°E near east coast of Kamchatka H = 05:52:40
20	RB	e	00 08 41	
		e	00 10 33	
20	O	iP	07 57 15 c	
20	RB	eS	08 24 28	
		eL	08 43.5	
		F	09.6	
20	RB	e	10 58 10	U.S.C.G.S.
		e	11 01 35	Celebes Region
		e	11 01 45	H = 10:43:50
	KL	eP'	11 02 45 c	h = 200 km.
	O	eP'	11 02 51	
		ipP'	11 03 42	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
20(cont'd)	O	i	11 06 18	
	SH	ePKS	11 06 07	
		e	11 06 26	
	H	iP'	11 03 00	
		PKS	11 06 22	
20	RB	e	23 17 02	U.S.C.G.S.
		L	23 29.7	50°N, 130°W
		F	23.8	Off coast of Vancouver, B.C.
	KL	eL	23 31.6	H = 23:14:23
	O	eP	23 21 25 c	Ottawa Δ = 4,000 km.
		S	23 27 14	RB Δ = 3,150 km.
		L	23 33 11	
	SF	eS	23 27 50	
		L	23 24.1	
	H	eS	23 29 20	
		L	23 36.3	
21	O	eP	02 02 52 c	U.S.C.G.S.
		PP	02 04 08	Near south coast of Guatamala
		e	02 11 36	H = 01:56:10
		L	02 16 05	h = 100 km
	KL	eP	02 03 03	
	SH	eP	02 03 11	
	SF	e	02 12 30	
		L	02 15 55	
	RB	eP	02 05 55	
21	RB	eP	10 20 17 d	U.S.C.G.S. Andreanof Islands, Aleutians H = 10:12:37
21	RB	eP	12 36 04	U.S.C.G.S.
		eS	12 40 29	Vancouver, B.C., aftershock
		eL	12 44.8	H = 12:29:51
		F	13.3	
	KL	eL	12 47 06	
	O	eP	12 36 53	
		L	12 48 10	
	SF	e	12 43 13	
		L	12 49.3	
24	RB	eP	00 38 55	
		iPP	00 39 03	
		eS	00 42 31	
		eL	01 24.0	
		F	02.0	
24	H	ePP	01 38 05	U.S.C.G.S.
		SKS	01 44 16	51°S, 28°W
		S	01 45 26	Sandwick Islands region
		e	01 46 18	H = 01:19:55
		PS	01 47 18	
		PPS	01 48 23	
		SS	01 52 40	
		SSS	01 56 23	
		G	02 00 03	
	SF	ePP	01 38 46	
		SKS	01 44 42	
		S	01 46 12	
		PS	01 48 10	
		SS	01 53 42	
		G	02 04 27	
	O	e	01 38 10	
		ePP	01 38 32	
		PPP	01 41 10	

'quake cont'd on next page.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
24(cont'd)		SKS	01 44 38	
		S	01 45 42	
		PS	01 47 56	
		PPS	01 48 50	
		SS	01 53 02	
		SSS	01 57 28	
		G	02 01 12	
	KL	e	01 39 02	
24	O	iP	06 05 42 c	U.S.C.G.S.
		e	06 06 15	10 1/2°N, 85 1/2°W
		PP	06 07 13	Near coast of Costa Rica
	SH	eP	06 05 57	H = 05:58:40
		e	06 06 31	
	KL	iP	06 05 59 c	
	SF	eP	06 06 12	
	H	iP	06 06 09	
25	RB	eP	01 39 40 d	
		F	01.7	
25	KL	e	13 00.1	
25	RB	eP	17 48 50 c	U.S.C.G.S.
		eS	17 55.4	51°N, 159 1/2°E
		eL	18 06.5	Off south coast of Kamchatka
		F	18.5	H = 17:40:30
	KL	e	17 51.7	Ottawa Δ = 8,050 km.
	O	eP	17 52 09	RB Δ = 5,000 km.
	SH	eP	17 52 18	
	H	eP	17 52 29	
26	RB	eP	01 52 57	U.S.C.G.S.
		iP	01 52 58 d	42°N, 142 1/2°E
		eS	02 00 52	Near south coast of Hokkaido, Japan
		e	02 04.2	
		eL	02 06.5	H = 01:43:11
		F	02.7	h = 60 km.
	KL	eP	01 55 34	Ottawa Δ = 9,550 km.
	O	eP	01 55 51	RB Δ = 6,400 km.
		i	01 56 05	
		S	02 06 21	
	SH	eP	01 55 59	
	H	eP	01 56 12	
		i	01 56 27	
		S	02 06 59	
27	O	eP'	18 35 40	U.S.C.G.S.
	H	eP'	18 35 58	Kermadec Islands
				H = 18:16:54
28	KL	eP	03 42 23	U.S.C.G.S.
	O	eP	03 42 45 c	48 1/2°N, 157 1/2°E
	SH	eP	03 42 46	Kurile Islands
				H = 03:31:00
28	O	eP'	18 20 30	U.S.C.G.S.
				4 1/2°S, 152°E
				New Britain
				H = 18:01:41
				h = 100 km.
29	KL	eP	03 00 39	U.S.C.G.S.
	SH	eP	03 00 58	48 1/2°N, 158°E
	O	eP	03 01 02	Kurile Islands
				H = 02:49:18

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
29	H	iP1	14 01 57.5	Appears to be a series of
		iS1	14 02 01.5	depth charges off the coast.
		e	14 02 03	
		i	14 50 46	
		i	15 00 36	
		i	15 01 05	
31	KL	eP1	05 11 33 Prob. c	U.S.C.G.S.
		e	05 23 04	9°S, 118°E
	O	eP1	05 19 34	Flores Sea
		e	05 19 41	H = 05:00:15
		e	05 20 08	h = 100 km.
		PKS	05 23 10	
	SH	eP1	05 19 41	
		ePKS	05 23 17	
	SF	ePKS	05 23 29	
		SS	05 40 10	
		SSS	05 45 07	
	H	eP1	05 19 43	
31	O	eP	06 18 06	
31	O	iP	06 23 01 c	
31	H	iP	20 04 06 d	U.S.C.G.S.
		PP	20 04 55	20°N, 70 1/2°W
		PPP	20 05 26	Near south coast of Dominican
		S	20 08 42	Republic
		SSS	20 10 28	H = 19:58:35
		L	20 11 03	Ottawa Δ = 2,950 km.
	O	iP	20 04 10 d	RB Δ = 6,200 km.
		PP	20 05 01	
		PPP	20 05 24	
		S	20 08 46	
		SS	20 10 06	
		SSS	20 10 24	
	SH	eP	20 04 17	
		PP	20 05 16	
		PPP	20 05 31	
		e	20 08 43	
		S	20 09 06	
		e	20 09 31	
		SSS	20 11 22	
		L	20 13 01	
	KL	eP	20 04 40 ed followed by ic	
		eS	20 09 27	
		F	21.0	
	RB	eP	20 08 19	
		iS	20 16 15	
		F	23.0	
31	H	iP	21 01 49	U.S.C.G.S.
	O	eP	21 01 53 d	Dominican Republic aftershock
	SH	eP	21 02 01	H = 20:56:18
	KL	eP	21 02 22	

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SEISMOLOGICAL SERVICE OF CANADA

Eastern Division

Dominion Observatory, Ottawa

STATIONS:

O - Ottawa
KL - Kirkland Lake
SH - Shawinigan Falls
SF - Seven Falls
H - Halifax
RB - Resolute Bay

June, 1953

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
1	O	iP	20 39 10 c	U.S.C.G.S. Dominican Republic aftershock H = 20:33:34
2	O	iP	10 29 11 d	
2	O	iP	14 11 39	U.S.C.G.S. Dominican Republic aftershock H = 14:06:00
2	RB	iP	18 01 21 c	U.S.C.G.S.
	O	eP	18 03 48 c	30°N, 142°E South of Honshu, Japan H = 17:50:13
2	H	iP	22 21 26 d	U.S.C.G.S.
		S	22 26 04	19 1/2°N, 70°W
		SS	22 27 13	Near north coast of Dominican Republic
		L	22 28 24	
	O	iP	22 21 32 d	H = 22:15:54
		S	22 26 07	Ottawa Δ = 2,900 km.
	SH	eP	22 21 38	RB Δ = 6,250 km.
	SF	e	22 26 57	
		L	22 28.3	
	KL	eP	22 22 00	
	RB	eS	22 33 25	
		eL	22 44.1	
		F	23.2	
2	O	eP	22 26 19	
	H	eP	22 26 20	
3	H	iP	16 16 06 c	U.S.C.G.S.
	O	iP	16 16 54	North western Turkey
	KL	eP	16 16 56	H = 16:05:32
3	KL	eP	18 02 48	U.S.C.G.S.
	O	eP	18 03 25	52°N, 159°E
		e	18 03 32	Near east coast of Kamchatka H = 17:51:48
3	O	eP	20 50 35	U.S.C.G.S. Dominican Republic aftershock H = 20:44:56
4	KL	e(P)	16 13 38	
5	O	eP	17 30 37	
5	H	eP	18 21 20	
		L	18 25.8	
	SF	eL	18 26.8	
	O	eP	18 21 26	

DATE	STN.	PHASE	TIME(G.C.T.) h m s	REMARKS
5	H	eP	18 26 01	
	SF	e	18 27 18	
	O	eP	18 26 26	
5	H	eP	18 44 21	
	SF	e	18 44 32	
		e	18 47 12	
	O	eP	18 44 24	
6	RB	eP	01 23 32 c	U.S.C.G.S.
		i	01 23 48	Bay of Bengal
				H = 01:10:30
6	H	eP	06 11 02	U.S.C.G.S.
		S	06 14 57	56°N, 35°W
		L	06 16 49	North Atlantic Ocean
	SF	eP	06 11 31	H = 06:06:15
		S	06 15 47	
		L	06 18 09	
	SH	eP	06 11 42	
	O	eP	06 12 01	
		i	06 12 06	
		S	06 16 36	
		L	06 19 18	
	KL	eP	06 12 09	
	RB	e	06 17 21	
		eL	06 21.9	
		F	06.6	
6	SH	eP	11 19 02	
	O	eP	11 19 24	
	H	eS	11 23 15	
		L	11 24.2	
6	H	eP	12 11 01	U.S.C.G.S.
		i	12 11 06	North Atlantic aftershock
		S	12 14 55	H = 12:06:13
		L	12 16 49	
	SH	eP	12 11 39	
	O	eP	12 12 01	
		S	12 16 37	
		L	12 19 16	
	KL	eP	12 12 09	
	RB	e	12 17 11	
		eL	12 23.0	
		F	12.5	
6	RB	eP	13 08 05	U.S.C.G.S.
		F	13.2	14°N, 144 1/2°E
				Marianas Islands
				H = 12:55:40
				h = 100 km.
7	RB	eP	02 06 31 c	U.S.C.G.S.
	KL	eP	02 09 31	53°N, 142 1/2°E
	O	eP	02 09 52	Northern Sakhalin
				H = 01:58:40
7	H	iP	12 29 25 d	U.S.C.G.S.
		PP	12 30 11	20°N, 70°W
		S	12 33 54	Near North Coast of Dominican
		SS	12 34 54	Republic
		SSS	12 35 23	Felt
		L	12 37 16	H = 12:23:56
	O	eP	12 29 32	Ottawa Δ = 2,850 km.
		PP	12 30 18	RB Δ = 6,200 km.

'quake cont'd on next page.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
7(cont'd)	O	PPP	12 30 32	
		S	12 34 04	
		SSS	12 35 51	
	SH	eP	12 29 39	
	SF	eP	12 29 45	
		PP	12 30 23	
		S	12 34 21	
		SS	12 35 52	
		SSS	12 36 22	
		L	12 36 48	
	KL	eP	12 30 04 c	
	RB	eP	12 33 41 d	
		eS	12 41 32	
		eL	12 46.2	
		F	13.7	
7	H	eP	12 34 04	
		i	12 34 18	
7	H	eP	12 52 36	
	KL	e(P)	12 53.3	
7	KL	eP	16 21 57	
8	RB	eP	11 48 38 d	U.S.C.G.S.
		iS	11 55 11	52°N, 159 1/2°E
		eL	11 58.5	Near east coast of Kamchatka
		F	13.3	H = 11:40:25
	KL	eP	11 51 26	O ∧ = 8,000 km.
	O	iP	11 51 50 d	RB Δ = 4,900 km.
		PP	11 54 38	
		S	12 01 04	
	SH		11 51 51	
	SF	eP	11 51 54	
		iS	12 01 12	
		PS	12 01 58	
		PPS	12 02 12	
	H	eP	11 52 19	
		S	12 01 55	
		SSS	12 11.3	
9	RB	iP	01 47 08 c	U.S.C.G.S.
		iS	01 53 38	53°N, 160°E
		iScS	01 57 05	Near east coast of Kamchatka
		L	01 58.6	H = 01:39:00
		F	03.0	O Δ = 8,000 km.
	KL	eP	01 49 55 c	RB Δ = 4,900 km.
	O	iP	01 50 20 c	
		PP	01 53 04	
		S	01 59 28	
		PPS	02 00 22	
		SSS	02 07 22	
		G	02 08 30	
	SF	eP	01 50 23	
		iS	01 59 40	
		SSS	02 07 11	
	SH	eP	01 50 25	
	H	iP	01 50 50 ?	Halifax time correction doubtful
		S	02 00 30 ?	Doubtful
		PPS	02 01 21 ?	
		SSS	02 08 23 ?	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
10	RB	eP	18 42 37 c	U.S.C.G.S.
	KL	eP	18 42 57	4°S, 128°E
	O	eP	18 43 05	Near south coast of Ceram Island
		PP	18 45 38	H = 18:23:43
		PKS	18 46 36	O Δ = 14,850 km.
	H	eP	18 43 07 ?	RB Δ = 11,700 km.
		e	18 43 32 ?	
		PKS	18 46 30 ?	Halifax time correction
		SKS	18 50 02 ?	doubtful
		PS	18 56 30 ?	
		SS	19 04 12 ?	
10	O	iPn	19 37 42	Δ = 225 km.
		Sn	19 38 06	
		i	19 38 11	
10	H	e	22 17 30 ?	Δ = 220 km.
		iPn	22 17 32 ?	Time correction doubtful.
		Sn	22 17 55 ?	
11	KL	eP	00 43 24 c	
	O	eP	00 43 56	
		e	00 58 40	
11	KL	eP	14 44 11	
11	O	iP	18 43 51	
		i	18 44 05	
12	KL	eP	19 45 45 c	
13	O	eP	15 53 59 c	U.S.C.G.S.
		S	15 59 20	Off coast of El Salvador
	KL	eP	15 54 11 c	H = 15:47:10
	SH	eP	15 54 35	h = 100 km.
13	H	iP	18 49 22 ?	Halifax time correction
		i	18 49 27 ?	doubtful
	SF	e	18 49 44	
	O	iP	18 50 04	
		i	18 50 08	
	KL	eP	18 50 13	
13	O	iP	23 07 26 c	New Hebrides Islands
	H	eP	23 07 44 ?	h = 150 km.
				Halifax time correction doubtful.
14	KL	eP	04 23 49	U.S.C.G.S.
		eL	04 33.6	33°N, 115 3/4°W
	O	eP	04 24 09	Imperial Valley California
		ScS	04 34 42	Slight property dammage Mag: 5.4
	SH	eScS	04 35 27	H = 04:17:27.5
	SF	eL	04 36 34	
	H	eP	04 25 22 ?	Halifax time correction
		S	04 31 40 ?	doubtful
		SS	04 34 48	
		L	04 38 40 ?	
15	O	e(P)	14 30 10	
		e	14 35 18	
		L	14 38.5	
	KL	e	14 31.5	

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
15	RB	eP	17 53 09	c	U.S.C.G.S.
		iS	17 58 43		56 1/2°N, 154°W
		F	21.1		Near south coast of Kodiak
	KL	eP	17 55 25	Prob. d	H = 17:47:14
		e(S)	18 01 55		O Δ = 5,300 km.
		F	18.8		RB Δ = 3,100 km.
	O	eP	17 55 56	d	
		PcP	17 57 26		
		PP	17 57 52		
		e	17 58 02		
		PPP	17 58 42		
		S	18 02 48		
		PS	18 03 00		
		PPS	18 03 07		
		ScS	18 05 46		
		SS	18 06 28		
		L	18 13 00		
	SH	eP	17 56 01		
		PP	17 57 58		
		PPP	17 58 43		
		e	17 59 54		
		S	18 02 46		
		PS	18 03 02		
		PPS	18 03 10		
		ScS	18 05 46		
		SS	18 06 26		
		SSS	18 07 44		
		L	18 13 31		
	SF	eP	17 56 08		
		PcP	17 57 43		
		PP	17 58 10		
		e	17 59 57		
		S	18 03 10		
		PS	18 03 23		
		PPS	18 03 39		
		ScS	18 05 54		
		SS	18 06 43		
		SSS	18 07 56		
	H	eP	17 56 50	?	Halifax time correction
		PcP	17 58 05	?	doubtful.
		PP	17 58 39	?	
		S	18 04 24	?	
		PS	18 04 31	?	
		PPS	18 04 43	?	
		ScS	18 08 04	?	
		L	18 14 34	?	
16	RB	eP	10 04 17	Prob. d	U.S.C.G.S.
		eS	10 13 09		31°N, 141°E
		eScS	10 14 10		South of Honshu, Japan
		eL	10 20.4		H = 09:53:06
		F	11.2		O Δ = 10,750 km.
	KL	e(P)	10 06 28		RB Δ = 7,600 km.
	O	eP	10 06 42		
		SKS	10 17 04		
	SF	SKS	10 17 16		
		SS	10 24 38		
16	O	iP	16 20 33		U.S.C.G.S.
		PS	16 31 10		About 250 miles south of Tonga
	KL	e	16 21 17		H = 16:01:57 Islands
					h = about 100 km.
16	O	iPn	19 04 45		Δ = 150 km.
		i	19 04 47		
		Sn	19 05 02		
		L	19 05 11		

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
16	RB	eP	19 54 43 d	U.S.C.G.S.
		eS	19 59 38	55 1/2°N, 160°W
		eL	20 03.5	Near south coast of Alaska
		F	20.6	Peninsula
	KL	iP	19 56 58 c	H = 19:48:25
		i(pP)	19 57 09 Prob.c	0 Δ = 5,700 km.
		ePP	19 58 51 c	RB Δ = 3,450 km.
	O	eP	19 57 27 c	h = about 60 km.
		PP	19 59 26	
		S	20 04 47	
	SH	eP	19 57 33	
		PcP	19 58 41	
		PP	19 59 33	
		S	20 04 57	
	SF	eP	19 57 41	
		S	20 05 09	
	H	eP	19 58 17 ?	Halifax time correction
		S	20 06 16 ?	doubtful
		SS	20 10 13 ?	
		L	20 15 35 ?	
17	KL	e	01 46.1	U.S.C.G.S.
	O	iP	01 46 33 c	52°N, 171°W
				Fox Islands, Aleutian Islands
				H = 01:36:31
				0 Δ = 6,450
17	O	iP	14 18 42 c	U.S.C.G.S.
		i	14 18 51	15 1/2°S, 75°W
		pP	14 19 02	Near coast of Southern Peru
		S	14 27 02	H = 14:08:33
	SH	eP	14 18 51	h = about 60 km.
		pP	14 19 20	0 Δ = 6,750 km.
	KL	iP	14 19 01 c	RB Δ = 10,050 km.
		i	14 19 15 c	
	RB	eP	14 21 33 Prob. c	
	SF	eS	14 26 39	
		SS	14 31 46	
18	KL	eP	03 55 42	U.S.C.G.S.
	O	eP	03 56 05 c	Near southeast coast of Kamchatka
				H = 03:44:40
18	RB	eP	05 53 58 Prob. d	
	H	eP	05 54 41 ?	Halifax time correction
	SF	eP	05 54 50	doubtful
	O	eP	05 55 15 d	
	KL	eP	05 55 18	
18	RB	eP	10 18 43	U.S.C.G.S.
		eS	10 29 20	6 1/2°S, 155°E
		ePS	10 31 54	Solomon Islands
		eL	10 40.9	H = 10:04:48
		F	12.0	0 Δ = 13,450
	SF	eP	10 23 36 ?	RB Δ = 11,200
		PP	10 25 15 ?	Seven Falls time
		SKKS	10 32 17 ?	correction doubtful
		PS	10 35 13 ?	
		PPS	10 36 53 ?	
		SS	10 42 25 ?	
	KL	eP	10 23 37	
	O	iP	10 23 43	
		PPP	10 27 20	
	H	eP	10 24 10 ?	Halifax time correction
		PKS	10 27 31 ?	doubtful
		PS	10 36 18 ?	
		SS	10 43 46 ?	
		G	11 01 08 ?	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
18	RB	eP	18 37 41 c	U.S.C.G.S.
	KL	eP	18 40 36	49°N, 157°E
	O	eP	18 40 48 c	Kurile Islands
				H = 18:29:05
19	KL	eP	05 13 57	U.S.C.G.S.
	O	eP	05 14 15 c	56 1/2°N, 114°E
				Northeast of Lake Baikal U.S.S.R.
				H = 05:02:15
19	O	eP	22 41 18	U.S.C.G.S.
				26°N, 110°W
				Gulf of California
				H = 22:34:30
20	KL	iP	08 53 41.5	Large rockburst
20	O	Pn	12 44 36	Δ = 150 km.
		i	12 44 38	
		Sn	12 44 53	
		L	12 45 02	
20	RB	eP	13 36 41 d	
		e	13 41 42	
		e	13 44 38	
		e	13 44 58	
		F	13.8	
20	O	iP	16 26 05 c	
23	H	eP	02 03 51 ?	Halifax time correction doubtful
	SF	eP	02 04 10	U.S.C.G.S.
	SH	eP	02 04 24	South Aegean Sea
	O	iP	02 04 32 c	H = 01:53:06
	KL	iP	02 04 38 c	
23	O	eP	08 45 20	U.S.C.G.S.
				Near north coast of Dominican Republic
				H = 08:39:25
23	RB	e	14 01 53 c	U.S.C.G.S.
		iP	14 01 54 d	51°N, 157 1/2°E
		ePP	14 03 37	Near south coast of Kamchatka
		iS	14 08 31	H = 13:53:28
		iL	14 12 09	O Δ = 8,050 km.
		F	14.8	RB Δ = 5,000 km.
	KL	eP	14 04 39 d	
	SF	eP	14 05 06	
		S	14 14 33	
		e	14 14 52	
		PPS	14 15 28	
		SS	14 19 02	
		G	14 22 58	
	H	eP	14 05 36 ?	Halifax time correction doubtful
23	O	iP	21 26 07 c	U.S.C.G.S.
				Solomon Islands
				H = 21:07:10
24	RB	iP	03 10 36 d	
24	RB	iP	21 27 49	U.S.C.G.S.
		e	21 29 00	45°N, 151°E
		F	21.5	Kurile Islands
	KL	iP	21 30 27 d	H = 21:18:30
	SH	eP	21 30 50	

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DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
25	O	eP	06 17 52	
25	O	eP	06 42 42	
25	O	eP	07 26 16 c	U.S.C.G.S. 7°S, 155°E Solomon Islands H = 07:07:19
25	O	eP	08 39 24 c	U.S.C.G.S. New Hebrides Islands region H = 08:20:42
	H	eP	08 39 42	
25	KL	eP	11 03 18	U.S.C.G.S. 8 1/2°S, 123 1/2°E Foreshock Off east coast of Flores Island H = 10:43:56 O Δ = 15,500 km. RB Δ = 12,200 km.
	O	eP	11 03 21	
		i	11 03 29	
		PKS	11 07 02	
	SH	eP	11 03 27	
		PKS	11 07 00	
	H	eP	11 03 31 c	
		PP	11 06 42	
		PS	11 17 10	
		PPS	11 19 14	
		SS	11 25 48	
	SF	eP	11 03 38	
		PKS	11 06 55	
		PPP	11 09 19	
25	RB	eP	10 59 33	U.S.C.G.S. 8 1/2°S, 123 1/2°E Off east coast of Flores Island H = 10:44:57 O Δ = 15,500 km. RB Δ = 12,200 km. Magnitude 6 3/4 (Pas.)
		iPP	11 04 09	
		iPS	11 13 35	
		iPPS	11 14 35	
		eSS	11 19 41	
		F	13.9	
	SH	eP	11 04 20	
		PP	11 07 22	
		PKS	11 07 49	
		PPP	11 10 22	
		SKS	11 11 22	
		SKKS	11 14 09	
	KL	eP	11 04 22 c	
	O	iP	11 04 23 d	
		i	11 04 30	
		PP	11 07 23	
		PKS	11 08 06	
		PPP	11 10 14	
		SKS	11 11 29	
		SKKS	11 14 12	
		SS	11 26 02	
	H	eP	11 04 32 c	
		PP	11 07 49	
		e	11 13 28	
		e	11 13 56	
		e	11 15 24	
		e	11 16 29	
		PPS	11 20 10	
		SS	11 26 48	
		SSS	11 34.0	
	SF	eP	11 04 40	
		PKS	11 08 00	
		PPP	11 10 19	
		SKS	11 11 53	
		SKKS	11 14 15	
		PPS	11 19 38	
		SS	11 26 43	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
25	H	eP	18 07 29 d	U.S.C.G.S.
		S	18 16 30	22 1/2°S, 68 1/2°W
		PS	18 17 00	Northern Chile
	O	iP	18 07 34 d	H = 17:56:40
	SF	eP	18 07 38	h = about 100 km.
		S	18 16 47	Felt.
		PPS	18 17 37	
	SH	eP	18 07 50	
	KL	iP	18 07 53 d	
		epP	18 08 18 c	
25	H	eP	21 55 39 c	U.S.C.G.S.
	O	eP	21 55 59 c	10 1/2°N, 61°W
		PP	21 57 31	Trinidad
		iPcP	21 58 22	H = 21:48:55
	SH	eP	21 56 03	h = about 100 km.
	KL	eP	21 56 30 c	
26	RB	e	05 57 26	U.S.C.G.S.
		ePP	06 02 01	8°S, 124°E
		eS	06 08 53	Flores Island region
		iPS	06 11 35	H = 05:42:50
		ePPS	06 12 44	O Δ = 15,700
		eSS	06 17 29	RB Δ = 12,200
		F	07.8	
	KL	eP'	06 02 07	
		e(PP)	06 05 05	
	O	eP'	06 02 12	
		i	06 02 21	
		PP	06 05 14	
		PKS	06 05 54	
		PPP	06 07 58	
		PPS	06 17 40	
	SH	eP'	06 02 19	
		e	06 05 04	
		PKS	06 05 52	
	H	eP'	06 02 25 c	
		e	06 03 03	
		PP	06 05 40	
		PKS	06 06 17	
		PPS	06 18 07	
		SS	06 24 21	
		SSS	06 29 24	
	SF	eP'	06 02 26	
		PP	06 05 23	
		PKS	06 05 51	
		PPP	06 08 27	
		SKS	06 09 24	
		SKKS	06 12 09	
		e	06 14 54	
		PS	06 15 58	
		PPS	06 17 37	
		SS	06 23 42	
26	O	iP'	07 52 48 c	Wellington, N.Z.
	H	eP'	07 53 06 c	Near 27°S, 173°W South coast of Tonga Island H = 07:35.0 h = 350 km.
27	O	iP'	08 00 47 d	U.S.C.G.S. 24°S, 178 1/2°E South of Fiji Islands H = 07:43:01 h = about 550 km.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
27	O	iP	10 06 53 d	U.S.C.G.S. 4 1/2°S, 153°E Solomon Islands H = 09:47:58
28	RB	eP	05 48 09	U.S.C.G.S. 31°N, 141 1/2°E South of Honshu, Japan H = 05:37:05
		eS	05 57 09	
		F	06.6	
28	O	iP	14 55 53 d	U.S.C.G.S. Southern Honshu, Japan H = 14:42:34
28	O	Pn	17 10 27	Δ = 150 km.
		Sn	17 10 44	
		L	17 10 54	
29	O	eP	03 35 10	U.S.C.G.S. 7°N, 82 1/2°W Off coast of Panama H = 03:27:43 O Δ = 4,250 RB Δ = 7,500 Seven [illegible] time correction doubtful
	H	eP	03 35 36	
		PcP	03 37 45	
		S	03 41 48	
		SS	03 44 32	
	SF	eS	03 41 55 ?	
		SS	03 44 45 ?	
		L	03 46 15 ?	
	KL	eP	03 35.5	
	RB	eS	03 47 50	
		eL	03 55 29	
		F	04.4	
30	O	iP	01 24 59 d	U.S.C.G.S. 11 1/2°S, 75 1/2°W Central Peru H = 01:15:10
	SH	eP	01 25 07	
	KL	eP	01 25 18	
	RB	eP	01 27 57	
30	RB	eP	03 13 19 c	U.S.C.G.S. Marianas Islands region H = 03:02:05
30	RB	eP	07 45 46 d	U.S.C.G.S. 54°N, 160°E Near east coast of Kamchatka H = 07:37:53 h = about 60 km.
		ePP	07 47 34	
		eS	07 52 11	
		e	07 52 34	
		F	07.9	
	KL	iP	07 48 37 c	
	O	iP	07 49 01 c	
	SF	eP	07 49 03	
	H	iP	07 49 30 c	
30	O	iP	13 32 36 c	U.S.C.G.S. 8°S, 76 1/2°W Northern Peru H = 13:23:14
	KL	eP	13 32 56	
30	O	iP	16 55 22	
	SH	eP	16 55 40	

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SEISMOLOGICAL BULLETINS RECEIVED

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

STATION	BULLETINS
April, 1953	
Weston, Mass.	February, 1953
Algiers	November, 1952
Tortosa	February, 1953
Palisades	March, 1953
Richmond	February, 1953
Budapest	December, 1952; January, 1953
Szeged	December, 1952; January, 1953
Kalocsa	December, 1952; January, 1953
Keckskemet	December, 1952; January, 1953
B. C. I. S.	October, 1952
Bureau Central	December, 1952
Strasbourg	February 11 - March 20, 1953
Toledo	January, 1953
Tamanrasset	November, 1952
DeBilt	February, 1953
Athens	February, 1953
Pakistan	November, 1952
Helvan	January, 1953
Wellington	August - September, 1952
Hong Kong	January, 1953
Buenos Aires	Bulletin, 1948, 1949, 1950.
Uccle	March 16-31, 1953
Reykjavik	Bulletin, 1947; July - December, 1948
Bogota	June, July, August, 1952
Chinchina	June, July, August, 1952
Galerazamba	June, July, August, 1952
Tamanrasset	December, 1952; February, 1953
Algiers	December, 1952; February, 1953
Stuttgart	July - December, 1951
May, 1953	
Stuttgart	March, 1953
Tokyo	March, 1952
Tokyo	Bulletin, 1950
Uppsala	Aprilll-20, 1953; April 21-May 2, 1953
Kiruna	March 30-April 13, 1953; April 13-19, 1953
Rome	February, 1953
Lisbon	January - February, 1953
U.S.C.G.S.	April, May, June, 1950; MSI - 142
Richmond	March, 1953
Tacubaya	March, 1953
Hong Kong	February, 1953
Uccle	April 1 - 15, 1953
Almeria	December, 1952; January, 1953
Switzerland	January, February, 1953
Tortosa	March, 1953
Berkeley, Calif.	Preliminary readings April 14 - 30, 1953
Bermuda	February 19 - 29, 1953; March, 1953
Coimbra	January, February, March 19, 1953
Haiti	Bulletin, 1950
Melbourne	February, March, 1953
MacQuarie	February, March, 1953
Malaga	June, 1952
DeBilt	March, 1953
Palisades	April 18 - 30, 1953
Brisbane	June, 1952
Cartuga	March, 1953
South Africa	February, 1953

SEISMOLOGICAL BULLETINS RECEIVED

May, 1953 (cont'd)

Praha, Cheb, Hurbanovo, Skalnate Plese	Bulletin 1950, 1951
Weston	March, April, 1953 and Kingston Prelim, Jan. - March, 1953.
Pasadena and Aux Stns.	January - April, 1952, Prelim. No. 79
Fayetteville	January, February, March, 1953
Kew	April, 1953
Hong Kong	March, 1953
Perth	October - December, 1952
Apia	January - March, 1953
Helwan	February, 1953
Quetta	December, 1952, Jan. - Feb., 1953
Beograd	Dec., 1952, January, 1953
Athens	March, April, 1953
Johannesburg and Aux Stns.	March, 1953
Uccle	April 16 - 30, May 1 - 15
Budapest	February, 1953
Kalocsa	February, 1953
Szeged	February, 1953
Kecskemet	February, 1953
Uppsala	May 1 - June 1, 1953
Kiruna	April 20 - May 25
Firenze	March 1953
Prague and Aux, Stns.	March 1953
Tortosa	Provisional April 1953
La Paz	January - June 1950
St. George's	Provisional April 1953
Rome and Aux, Stns.	March, 1953
Lisbon	January - March 1953
Malaga	August 1952
Santiago and Aux Stns.	January - December 1952, Jan. - March 1953

June, 1953

Tacubaya and Aux. Stns.	April 1953
Palisades	April 30 - June 4, 1953
Stuttgart	April 1953
Cartuja	April 1953
De Bilt	April 1953
Kiruna	May 25 - June 1, 1953
Uppsala	June 1 - 10, 1953
Toledo	March 1953
Hong Kong	1953
Almeria	September 1952
Almeria	February 1953
B.C.I.S.	November 1952
Bureau Central	January 1953
Bulletin d'echange	March 1953
Tortosa	Provisional May 1953
Strasbourg	March 21 - 31
Uccle	May 15 - 31, 1953
Zurich	March 1953
Lisbon	March - April, 1953
Prague	April 1953
Cheb	February 1953
Hurbanova	April 1953
Cheb	March 1953
Dublin	January 1 - March 31, 1953
Uppsala	June 10 - 22

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

EASTERN DIVISION

SEISMOLOGICAL BULLETIN

July - September

1953

000

Dominion Observatory

OTTAWA - CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
John H. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

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

Time correct within 0.02s.

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 30mm. per min., mass 235 lbs.

Leet-Blumberg, 3-component, pen-recording seismograph. Final adjustments of the instruments have not been made, the inertial elements are currently operating at a period of about 2 seconds.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Sprengnether NS and EW long period horizontals, damping critical, photographic registration, paper speed of 30 mm. per minute.

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

SEVEN FALLS

Quebec Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian Basement rock of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW components, 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian basement rock of Canadian Shield

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

KIRKLAND LAKE

φ = 48°08'41" N. λ = 80°01'45" W. h = 310 m.

Time correction from recorded radio time signals

Foundation: Precambrian basement rock (Timiskaming Tuff)

Instrument: Sprengnether Vertical, short-period, designated as S1130, galvanometric registration on photographic paper, paper speed 60 mm. per min.

RESOLUTE BAY, N.W.T.

φ = 74°41' N. λ = 94°54' W. h = 5 m.

Time corrections daily from W.W.V.

Foundation: Early Palaeozoic limestone

Instruments:

At the above location

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented N.S. Sprengnether Series DH short-period vertical seismometer, critical damping, paper speed 60 mm. per minute, designated z in table.

At a point 1000' N 15° W of the above location, on a permafrost foundation.

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm per minute, oriented E.W. Press long-period vertical seismometer, damping approximately critical, paper speed 30 mm. per minute, designated Z in table.

Instruments: Wood-Anderson and Milne-Shaw, both EW components, 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian basement rock of Canadian Shield

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

KIRKLAND LAKE

φ = 48°08'41" N. λ = 80°01'45" W. h = 310 m.

Time correction from recorded radio time signals

Foundation: Precambrian basement rock (Timiskaming Tuff)

Instrument: Sprengnether Vertical, short-period, designated as Sl130, galvanometric registration on photographic paper, paper speed 60 mm. per min.

RESOLUTE BAY, N.W.T.

φ = 74°41' N. λ = 94°54' W. h = 5 m.

Time corrections daily from W.W.V.

Foundation: Early Palaeozoic limestone

Instruments:

At the above location

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented N.S. Sprengnether Series DH short-period vertical seismometer, critical damping, paper speed 60 mm. per minute, designated z in table.

At a point 1000' N 15° W of the above location, on a permafrost foundation.

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm per minute, oriented E.W. Press long-period vertical seismometer, damping approximately critical, paper speed 30 mm. per minute, designated Z in table.

SEISMOLOGICAL SERVICE OF CANADA

Eastern Division

DOMINION OBSERVATORY, Ottawa

STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

July, 1953

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
1	KL	iP	00 19 18.3	d	Rockburst
1	RB	iP	03 07 58	c	U.S.C.G.S.
		i	03 09 08		50 1/2°N, 157°E
		i	03 09 33		Near south coast of Kamchatka
		iPP	03 09 48		H = 02:59:35
		e	03 11 47		h = 60 km.
		e	03 13 19		Magnitude = 6 3/4 (Pas)
		iS	03 14 40		O Δ = 8,100 km.
		i	03 15 03		RB Δ = 5,050 km.
		eL	03 17.9		
		F	03.8		
	KL	iP	03 10 44	c	
	SF	eP	03 10 54	?(SF time correction doubtful)	
		S	03 20 22	?	
	O	iP	03 11 07	c	
		PP	03 13 51		
		PPP	03 15 35		
		S	03 20 32		
		PS	03 21 02		
		PPS	03 21 12		
		SS	03 25 18		
		SSS	03 28 14		
		G	03 29 32		
	SH	eP	03 11 09		
		S	03 20 34		
	H	iP	03 11 34	c	
		S	03 21 23		
		ScS	03 21 45		
		PS	03 22 07		
		PPS	03 22 32		
		SS	03 26 05		
		SSS	03 30 13		
1	KL	e(P)	03 38 45		
1	O	eP	06 03 27		
1	RB	iP	16 30 37		Local
		iS	16 30 40		
2	RB	eP	07 11 01	c	U.S.C.G.S.
		epP	07 12 00		18 1/2°S, 169°E
		eP'	07 15 03		New Hebrides Islands
		iPP	07 15 35		H = 06:56:51
		i	07 16 56		h = 200 km.
		eSKS	07 21 14		Magnitude = 7 3/4 (Pas)
		iS	07 22 48		O Δ = 13,300 km.
		epS	07 23 59		RB Δ = 12,000 km.
		iSP	07 24 39		
		iPS	07 25 06		
		i	07 26 20		
		iSS	07 30 28		
		F	10.5		
	KL	eP	07 11 50		

'quake cont'd on next page.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT	SYNCHRONOUS MAGNIFICATION
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				
SA (Shawinigan)	1.0		2200			
SF (Seven Falls)	1.0		2200			
SM (Seven Falls)	12.0		300	20:1	50 mm.	
S1130 (Kirkland Lake)	1.4	1.4				10,000 ca.
NS (Halifax)	20.	20.				6,000
EW (Halifax)	20.	20.				6,000
BS (Halifax)	1.0	0.2				
BL (Halifax)	1.0	60				
NS (Resolute Bay)	14.1	14.1				1,600
EW (Resolute Bay)	16.0	16.0				1,600
z (Resolute Bay)	1.4	1.4				10,000
Z (Resolute Bay)	12.2	15.5				

NOTE:- Universal Time used throughout

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
2(cont'd)KL		eP'	07 15 17		
		iPP	07 16 32	c	
		F	08.7		
	O	iP'	07 15 21	c	
		i	07 15 57		
		i	07 16 27		
		iPP	07 16 51		
		i	07 16 57		
		i	07 18 13		
		i	07 18 36		
		PPP	07 19 20		
		e	07 20 32		
		SKS	07 21 55		
		SKKS	07 22 45		
		e	07 25 31		
		e	07 26 31		
		SPP	07 27 25		
		PPS	07 27 50		
		i	07 29 23		
		SS	07 32 35		
		e	07 34 25		
		SSS	07 37 10		
		SKPP'	07 39 01		
	SH	eP'	07 15 27		
		e	07 16 37		
		PP	07 17 04		
		e	07 17 19		
		e	07 18 18		
		PPP	07 19 06		
		e	07 20 54		
		SKS	07 22 10		
		SKKS	07 23 37		
		e	07 25 20		
		PS	07 26 35		
		PPS	07 28 20		
		e	07 29 43		
		SS	07 32 35		
	SF	eP'	07 15 32	?	(SF time correction doubtful)
		i	07 16 13	?	
		i	07 16 39	?	
		PP	07 17 10	?	
		e	07 17 18	?	
		e	07 18 17	?	
		e	07 18 42	?	
		PPP	07 20 09	?	
		SKS	07 22 06	?	
		SKKS	07 23 48	?	
		e	07 25 46	?	
		PS	07 27 10	?	
		e	07 28 06	?	
		PPS	07 28 37	?	
		i	07 30 05	?	
		e	07 30 48	?	
		SSS	07 38 32	?	
	H	e(P?)	07 12 31		
		eP'	07 15 39		
		i	07 16 44		
		PP	07 17 48		
		i	07 18 39		
		i	07 19 02		
		PPP	07 20 32		
		e	07 21 32		

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
2(cont)	H	e	07 22 05		
		e	07 24 04		
		e	07 25 47		
		e	07 26 45		
		PS	07 27 46		
		PPS	07 29 14		
		e	07 29 38		
2	O	eP	09 01 07		U.S.C.G.S.
		i	09 01 20		42°N, 144 1/2°E
					Near east coast of Hokkaido
					H = 08:48:26
2	O	eP	13 41 31	c	U.S.C.G.S.
		PcP	13 42 27		15°S, 75°W
		PP	13 43 51		Near coast of southern Peru
		PPP	13 45 15		H = 13:31:26
		S	13 49 44		h = 60 km.
		ScS	13 51 20		O Δ = 6,650 km.
		G	13 56 12		RB Δ = 10,000 km.
	H	eS	13 49 52		
		ScS	13 51 13		
		G	13 56 13		
	SH	eP	13 41 43		
	SF	S	13 50 14		
		ScS	13 51 33		
	KL	eP	13 41 53		
	RB	eS	13 55 19		
		F	14.8		
2	O	eP	15 28 14		U.S.C.G.S.
		PcP	15 29 11		Off coast of southern Peru
					H = 15:17:55
3	KL	iP	16 04 07	c	
3	O	P_n	18 05 26		Δ = 150 km.
		S_n	18 05 43		
		L	18 05 51		
3	RB	e	18 48 44		
		e	18 49 40		
		e	18 51 59		
		e	18 52 55		
		F	19.0		
	KL	eP	18 49.2		
4	O	iP	01 51 32	c	
	KL	iP	01 51 52	c	
4	O	eP'	20 00 42	d	U.S.C.G.S.
					Kermadec Islands
					H = 19:41:58
5	O	eP	02 28 38		U.S.C.G.S.
					51°N, 178 1/2°W
					Andreanof Islands, Aleutian Islands. Felt: Adak
					H = 02:18:20
					h = 100 km.

July, 1953

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
5	O	eP	04 14 18		U.S.C.G.S.
		e	04 14 30		Northern Algeria
					H = 04:04:15
5	O	P_1	09 10 52		Δ = 80 km.
		S_1	09 11 02		
		L	09 11 05		
5	O	eP	10 38 28		
	KL	eP	10 38 45	c	
5	O	eP	13 16 48		U.S.C.G.S.
					47 1/2°N, 157°E
					Kurile Islands
					H = 13:04:58
6	KL	eP'	22 14 37		U.S.C.G.S.
	O	eP'	22 14 43	c	Southeastern New Guinea
		e	22 18 00		H = 21:55:30
		e	22 18 17		
	H	eP'	22 14 59		
		PKS	22 18 26		
7	KL	eP'	04 26 35		
		iPP	04 29 36		Very prominent phase
	SF	eP'	04 26 38	?(SF time	corrections doubtful)
		e	04 39 27	?	U.S.C.G.S.
		PKS	04 30 01	?	1°N, 100°E
		SS	04 46 07	?	Sumatra
	O	eP'	04 26 39		H = 04:07:23
		iPP	04 29 44		O Δ = 14,800 km.
	SH	eP'	04 26 41		RB Δ = 11,500 km.
		PP	04 29 41		
	H	eP'	04 26 38		
		PP	04 29 05		
		e	04 29 20		
7	O	eP	13 55 56		U.S.C.G.S.
					47 1/2°N, 156°E
					Kurile Islands
					H = 13:44:03
9	H	eP	08 12 54	c	U.S.C.G.S.
	O	eP	08 12 59	d	Northern Chile
	KL	eP	08 13 18		Felt: Montezuma
		epP	08 13 45		H = 08:02:17
					h = 100 km.
9	O	eP	19 15 09		
		e	19 26 00		
9	O	P_n	20 00 57		Δ = 300 km.
		S_n	20 01 28		
9	H	iP	21 28 46	d	U.S.C.G.S.
		PP	21 29 18		30°N, 42 1/2°W
		PPP	21 29 36		North Atlantic Ocean
		e	21 30 06		H = 21:23:48
		S	21 33 01		O Δ = 3,300 km.
		SSS	21 34 22		RB Δ = 5,600 km.
	SF	eP	21 29 40	?	
		PP	21 30 25	?	(SF time corrections doubtful)

('quake cont'd on next page)

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
9(cont)	SF	PPP	21 30 33	?	
		e	21 31 33	?	
		e	21 32 38	?	
		e	21 33 28	?	
		S	21 34 20	?	
		e	21 35 27	?	
		SS	21 35 59		
		SSS	21 36 36	?	
		e	21 37 18	?	
		L	21 37 46	?	
	SH	eP	21 29 48		
		S	21 34 28		
	O	iP	21 30 01	d	
		PP	21 31 04		
		PPP	21 31 19		
		e	21 32 15		
		e	21 32 31		
		PcP	21 33 01		
		e	21 33 37		
		S	21 35 04		
		SS	21 37 04		
		SSS	21 37 20		
		L	21 38 04		
	KL	eP	21 30 32		
		ePP	21 31 56		
	RB	iP	21 32 58	c	
		iS	21 40 28		
		eSS	21 42 28		
		eL	21 47.1		
		F	23.1		
10	O	eP	07 30 32		U.S.C.G.S.
	H	eP	07 30 35	c	16°S, 76°W
	SF	eS	07 39 19	?	Off coast of Peru
		ScS	07 40 37	?	H = 07:20:18
	KL	e(P)	07 30 52		O Δ = 6,800 km.
					RB Δ = 10,100 km.
					(SF time corrections doubtful)
10	O	iP	08 25 20		
			08 25 33		
10	KL	eP	15 29 01		
	O	i	15 29 02		
		e	15 31 08		
		iPP	15 31 52		
		e	15 32 12		
		e	15 32 22		
		e	15 32 38		
		ePPP	15 34 03		
		SKS	15 38 07		
		e	15 38 38		
		e	15 44 22		
		e	15 49 40		
	H	e	15 29 07		
		i	15 29 13		
		e	15 29 20		
		e	15 31 44		
		PP	15 31 55		
		PPP	15 34 00		
	SF	e	15 31 14	?	(SF time corrections doubtful)
		e	15 39 11	?	
		e	15 48 45	?	

July, 1953

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
10cont.	SH	e	15 31 49		
	RB	e	15 33 54		
		e	15 34 52		
		e	15 36 19		
		e	15 37 26		
		F	16.5		
12	RB	eSKS	07 07 38		U.S.C.G.S.
		eS	07 08 38		2°S, 139 1/2°E
		eSS	07 15 30		Near north coast of New Guinea
		eL	07 33.7		H = 06:43:05
		F	08.5		Magnitude: 6 1/2 (Pas)
	KL	e(P')	07 01 59		0 Δ = 14,100 km.
	O	eP'	07 02 11		RB Δ = 11,100 km.
		PKS	07 05 38		
		SKS	07 09 16		
		SKKS	07 11 09		
	SH	eP'	07 02 15		
	SF	ePP	07 04 59		
		PKS	07 06 12		
		SKKS	07 11 46		
		PPS	07 16 31		
		e	07 20 14		
		SS	07 21 42		
		e	07 22 51		
		SSS	07 26 18		
		G	07 34 57		
	H	eP'	07 02 25		
		e	07 02 35		
		PP	07 04 51		
		PKS	07 05 53		
		e	07 06 15		
		PPP	07 07 32		
12	O	eP	08 42 41		
12	O	eP	09 09 46		
13	O	iP'	21 47 21	d	U.S.C.G.S.
		e	21 48 21		18°S, 169 1/2°E
		PP	21 48 36		New Hebrides Islands
	H	eP'	21 47 39		H = 21:28:35
		PP	21 49 12		
14	H	iP_1	15 07 37		
		iS_1	15 07 38.5		
15	KL	eP	02 46 49	c	U.S.C.G.S.
	O	iP	02 47 11	c	48 1/2°N, 154 1/2°E
		i	02 47 23		Kurile Islands
	SH	eP	02 47 13		H = 02:35:25
		e	02 47 24		h = 60 km.
	H	eP	02 47 38		
		i	02 47 51		
16	O	eP	06 49 41		
	KL	e(P)	06 49 51		
16	SH	eP	22 07 10		
	O	eP	22 07 20		
18	O	P_n	17 02 16		Δ = 580 km.
		S_n	17 03 13		

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
19	O	iP	09 43 25		
		i	09 43 34		
19	H	iP_1	10 07 48		
		iS_1	10 07 49.5		
20	RB	ePP	08 27 14		U.S.C.G.S.
		eSKS	08 33 12		21°S, 177°W
		eS	08 34 50		Tonga Islands Region
		e	08 35 39		H = 08:08:20
		e	08 36 43		h = 100 km.
		eSS	08 42 37		Magnitude = 6 1/2 (Pas)
		F	10.0		O Δ = 12,500 km.
	KL	eP'	08 26.7		RB Δ = 12,000 km.
		e	08 28 08		
	O	ePP	08 27 44		
		SKS	08 33 18		
		e	08 35 18		
		e	08 36 10		
		PS	08 37 16		
		SS	08 43 16		
		G	08 54 35		
	SF	ePP	08 28 19		
		PPP	08 30 51		
		SKS	08 33 46		
		e	08 34 36		
		PS	08 37 55		
		SS	08 44 40		
		e	08 47 09		
	H	eP'	08 26 58		
		e	08 36 50		
21	O	eP	08 59 38		
		L	09 11 10		
	SF	e	09 14 57		
21	RB	iP	17 34 22	c	U.S.C.G.S.
		eS	17 44 13		27 1/2°N, 128°E
		F	18.4		Ryukyu Islands
	KL	e	17 36 31		H = 17:22:39
	O	eP	17 36 47		O Δ = 11,400 km.
		e	17 40 29		RB Δ = 8,150 km.
		PP	17 40 58		
		PPS	17 50 38		
	H	eP'	17 41 26		
		e	18 15 55		
22	RB	iP	05 19 36	c	U.S.C.G.S.
		iPcP	05 21 10		51°N, 157°E
		iPP	05 21 26		Near south coast of Kamchatka
		iS	05 26 16		H = 05:11:15
		isS	05 26 40		h = 60 km.
		eScS	05 29 20		Magnitude: 6 3/4 - 7 (Pas)
		iSS	05 29 47		6 3/4 (Berk)
		eL	05 33.5		O Δ = 8,100 km.
		F	07.6		RB Δ = 5,050 km.
	KL	iP	05 22 22	c	
		iPP	05 22 36	c	
	O	iP	05 22 45	c	
		PP	05 25 20		
		PPP	05 27 33		
		S	05 32 06		

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
(cont'd)				
22	O	e	05 32 33	
		PS	05 32 48	
		PPS	05 33 10	
		SS	05 37 14	
		SSS	05 40 20	
		G	05 41 14	
	SH	eP	05 22 47	
		PP	05 25 23	
		PPP	05 27 17	
		S	05 32 13	
		e	05 32 35	
	SF	eP	05 22 50	
		e	05 25 11	
		PP	05 25 37	
		PPP	05 27 23	
		S	05 32 17	
		e	05 32 42	
		PPS	05 33 21	
		SS	05 37 33	
		SSS	05 40 36	
		G	05 42 18	
		L	05 45 15	
	H	iP	05 23 15	
		e	05 26 00	
		PP	05 26 17	
		PPP	05 28 08	
		S	05 33 02	
		ScS	05 33 27	
22	O	eP	05 50 21	
	KL	e(P)	05 50 24	
22	H	eP	07 00 31	
	O	eP	07 01 29	
22	H	iP	09 00 49 d	
	O	eP	09 00 51	
	KL	eP	09 01 13	
22	O	e	10 44 24	
		L	10 54.3	
	SF	eL	10 57 48	
22	O	eP	11 38 46	
22	RB	eP	13 01 59 d	U.S.C.G.S.
		eS	13 09 54	42 1/2°N, 143°E
		e	13 11 46	Near south coast of Hokkaido, Japan
		F	13.7	H = 12:52:12
22	O	iP_n	15 28 03	Δ = 150 km.
		S_n	15 28 20	
		L	15 28 28	
22	KL	e(P)	17 51 26	
22	H	eP	17 55 39	U.S.C.G.S.
	SH	eP	17 56 44	26 1/2°N, 44 1/2°W
	O	eP	17 56 50	North Atlantic Ocean
		S	18 02 00	H = 17:50:22
		SS	18 03 54	OΔ = 3,450 km.
		SSS	18 04 12	RB Δ = 6,000 km.

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
22	H	eP	18 09 45		U.S.C.G.S.
	SF	eP	18 10 38		26 1/2°N, 44 1/2°W
		S	18 15 31		North Atlantic Ocean
	SH	eP	18 10 48		H = 18:04:30
	O	eP	18 10 52		OΔ = 3,450 km.
		S	18 16 02		RB Δ = 6,000 km.
		SS	18 17 45		
		SSS	18 18 12		
	KL	eP	18 11 27	Prob. d	
	RB	eP	18 14 02	c	
		F	19.0		
22	O	eP_1	19 23 09		Δ = 50 km.
		S_1	19 23 15		
23	O	eP	02 47 39		
23	O	eP	07 43 18		
23	O	eP_1	17 41 15		Δ = 50 km.
		S_1	17 41 21		
23	RB	eP	18 32 34	d	U.S.C.G.S.
		eS	18 39 10		Off southeast coast of Kamchatka
		F	19.2		H = 18:24:14
	SF	e	18 45 11		
		L	18 58 52		
24	O	eP'	11 10 19		U.S.C.G.S. 11°S, 166°E Santa Cruz Islands H = 10:51:34
25	H	eP_n	15 55 41		Δ = 225 km.
		eS_n	15 56 05		
26	O	eP	13 15 34	d	U.S.C.G.S.
	KL	e(P)	13 15 46		Near south coast of Peru, Felt: Ica
	SH	eP	13 15 53		H = 13:05:20 h = 60 km.
26	RB	eP	17 05 08	d	U.S.C.G.S.
		ipP	17 06 00		17 1/2°N, 145°E
		iS	17 14 54		Marianas Islands
		ePS	17 16 17		H = 16:53:16
		esPS	17 16 57		h = 200 km.
		eL	17 26.2		Magnitude: 7 (Pas)
		F	18.3		O Δ = 11,800 km.
	KL	e	17 09.6		RB Δ = 8,850 km.
		e	17 11 57		
	O	e	17 07 13		
		eP'	17 10 28		
		PP	17 10 45		
		pPP	17 11 40		
		PPP	17 13 18		
		SKS	17 16 45		
		SKKS	17 17 28		
		S	17 18 19		

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
26(cont)	O	sPP	17 20 38	
		sPS	17 21 42	
		SS	17 25 40	
		SSS	17 26 24	
	SH	eP'	17 10 30	
		pPP	17 11 38	
		pPPP	17 14 06	
		SKS	17 17 31	
		S	17 18 20	
		PS	17 20 24	
		PPS	17 21 29	
		SS	17 26 23	
	SF	ePP	17 11 48	
		pPP	17 12 24	
		SKS	17 17 33	
		SKKS	17 18 20	
		S	17 18 59	
		e	17 21 35	
		e	17 22 58	
		SS	17 26 45	
		sSS	17 28 20	
		e	17 32 37	
	H	eP'	17 11 34	
		PP	17 12 22	
		PS	17 21 26	
27	RB	e	15 21 38	U.S.C.G.S. 34 1/2°N, 140 1/2°E Near east coast of Honshu, Japan Felt: Tokyo H = 15:10:58
28	O	iP	05 49 45	
	KL	e(P)	05 49 58	
	SF	e	05 59 13	
		L	06 03 43	
28	O	eP	07 13 57	U.S.C.G.S. Northern Kurile Islands H = 07:02:15
28	O	i	07 57 20	U.S.C.G.S. 21°S, 178 1/2°W Fiji Islands region H = 07:39:41 h = 550 km. Magnitude: 6 1/4 (Pas) O Δ = 12,600 km. RB Δ = 12,100 km.
		PP	07 59 20	
	SH	e	07 57 26	
		ePP	07 59 23	
	H	iP'	07 57 37 d	
28	H	iP	08 07 40	
	O	eP	08 08 09	
		i	08 08 19	
28	SH	e	08 16 24	
	O	eP	08 16 25	
		i	08 16 34	
28	H	eP	15 32 03	U.S.C.G.S. Near north coast of Dominican Republic H = 15:26:34
	O	eP	15 32 09	
		e	15 37 30	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
29	H	iP	13 43 25 c	U.S.C.G.S.
	SH	eP	13 44 11	Mid-Atlantic Ocean about 350
	O	eP	13 44 14 c	miles North of Ascension Island
				H = 13:32:26
29	H	eP	14 15 50	
	O	eP	14 16 39 c	
29	O	eP	18 22 25 d	U.S.C.G.S.
		e	18 23 22	13°N, 90 1/2°W
		e	18 23 29	Off coast of Guatemala
		e	18 23 35	H = 18:15:34
		PP	18 23 49	Magnitude: 6 (Pas)
		PPP	18 24 01	O Δ = 3,800 km.
		e	18 27 04	RB Δ = 6,800 km.
		S	18 28 00	
		e	18 29 43	
		SS	18 30 16	
		SSS	18 31 00	
	KL	eP	18 22 39 d	
		F	18.8	
	SH	eP	18 22 43	
		e	18 23 38	
		PPP	18 24 13	
		S	18 28 30	
	SF	eP	18 22 56	
		PP	18 24 20	
		e	18 26 50	
		S	18 28 05	
		e	18 30 06	
		SSS	18 31 11	
		e	18 33 51	
		L	18 36 25	
	H	eP	18 23 02	
		PP	18 24 42	
		PcP	18 25 21	
		S	18 29 02	
	RB	e	18 25 55	
		ePPP	18 29 53	
		eS	18 34 43	
		eL	18 43.9	
		F	19.6	
29	O	iP_1	18 55 31.5	Δ = 15 km.
		iS_1	18 55 33.5	
29	RB	eP	23 31 58 d	U.S.C.G.S.
		e	23 32 11	16°S, 173°W
		eS	23 43 40	Fiji Islands region
		eL	24 05.9	H = 23:18:02
		F	24.7	Magnitude: 6 1/2 (Pas)
	O	SKS	23 43 02	O Δ = 11,800 km.
		PS	23 46 00	RB Δ = 11,300 km.
	SF	eSKS	23 42 59	
		PS	23 46 35	
		PPS	23 47 50	
		e	23 51 20	
		SS	23 52 39	
		G	24 02 50	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
30	RB	e	04 07 22	Local
		iS	04 07 28	
		F	04.2	
30	H	eP	21 13 38	U.S.C.G.S.
	O	iP	21 13 44 d	22°S, 69°W
		iPcP	21 14 14	Northern Chile
		S	21 22 40	Felt: Antofagasta
	SH	eP	21 13 50	H = 22:02:54
		PcP	21 14 21	h = 100 km.
	SF	eS	21 23 02	
	KL	eP	21 14 03 Prob.d	
		epP	21 14 33 Prob.d	
30	RB	eP	23 56 33	
		ePP	23 57 25	
30	O	e	24 01 49	U.S.C.G.S.
		PP	24 02 50	19°N, 145°E
		SKS	24 08 50	Marianas Islands
		SKKS	24 09 38	H = 23:44:44
	SF	eSKS	24 09 02	h = 200 km.
		SKKS	24 09 47	O Δ = 11,950 km.
		PPS	24 13 32	RB Δ = 8,850
		SS	24 17 57	
	RB	eS	24 06 10	
		e	24 07 45	
		F	24.6	
31	H	eP	23 09 36	U.S.C.G.S.
	O	eP	23 09 40	Mendoza Province, Argentina
	SH	eP	23 09 51	Felt
	KL	eP	23 09 57 Prob d	H = 22:57:30

W. E. T. Smith
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F. Lombardo

SEISMOLOGICAL SERVICE OF CANADA

EASTERN DIVISION

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

August, 1953.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
1	O	iP	10 27 52 d	U.S.C.G.S.
2	RB	eP	17 28 41	Marianas Islands
		S	17 38 34	H = 17:15:51
2	O	iP'	17 38 56	U.S.C.G.S.
	H	eP'	17:39:15	Loyalty Islands region
		PKS	17 42 34	H = 17:19:59
2	RB	eP	21 11 01	U.S.C.G.S. Bonin Islands region H = 20:59:29 h = about 200 km.
3	O	eP	04 45 44	
	KL	eP	04 45 58	
4	RB	e	10 42 08	U.S.C.G.S.
	O	eP	10 33 32	Off coast of Vancouver, B. C.
		L	10 46 04	H = 10:26:22
	H	iP	10 34 35	
4	RB	e	11 51 05	U.S.C.G.S.
	O	eP	11 42 26	Off coast of Vancouver, B. C.
		L	11 55 04	H = 11:35:27
4	O	eP'	14 11 46	U.S.C.G.S.
	H	iP'	14 12 03	New Hebrides Islands H = 13:53:16 h = about 200 km.
4	O	iP_1	19 11 18	
		iS_1	19 11 22	
4	O	Sn	19 36 20	
		L	19 36 27	
6	RB	iP	06 26 53 d	U.S.C.G.S.
	KL	eP	06 29 39 c	51 1/2°N, 156 1/2°E
	O	eP	06 30 01 c	Near south coast of Kamchatka
	SH	eP	06 30 03	H = 06:18:32 h = about 60 km.
6	RB	iP	09 08 58 d	U.S.C.G.S.
		eS	09 15 25	52 1/2°N, 159 1/2°E
		F	09.9	Off east coast of Kamchatka
	KL	eP	09 11 49	H = 09:00:49
	O	eP	09 12 11 c	O Δ = 7,900 km.
		PP	09 14 49	RB Δ = 4,800 km.
	SH	eP	09 12 13	
6	O	iP_1	16 03 28	
		eS_1	16 03 44	
6	O	iP_1	18 38 50	
		iS_1	18 38 52	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
6	RB	eP	19 06 04	U.S.C.G.S.
		eS	19 14 21	45°N, 86°E
		L	19 32.0	Sinkiang Province
		F	19.7	H = 18:55:42
	O	eP	19 08 37	O Δ = 9,750 km.
				RB Δ = 6,700 km.
6	RB	eP	20 51 40	U.S.C.G.S.
		iS	20 57 45	Off southeast coast of Kamchatka
		F	21.3	H = 20:42:49
	O	eP	20 54 24	h = about 60 km.
	H	iP	20 54 54	
7	O	eP	06 32 08	U.S.C.G.S.
				54°N, 163 1/2°W
				Off coast of Unimak Island
				H = 06:22:43
7	H	iP_1	13 06 54	Δ = 55 km.
		i	13 06 58	
		iS_1	13 07 01	
8	H	iP_n	10 04 19	Δ = 210 km.
		i	10 04 33	
		eS_n	10 04 41	
8	H	eP	13 08 26	
8	O	iP_n	15 07 51	Δ = 150 km.
		eS_n	15 08 08	
		L	15 08 16	
8	RB	e	18 47 39	U.S.C.G.S.
	KL	eP	18 50 30 c	52 1/2°N, 159 1/2°E
	O	eP	18 50 52 c	Off east coast of Kamchatka
	SH	eP	18 50 52	H = 18:39:30
	H	iP	18 51 22	
9	O	eP	06 04 10	U.S.C.G.S.
		iPcP	06 04 41	22°S, 68 1/2°W
		S	06 13 00	Northern Chile
	H	eP	06 04 17	Felt: Calama
		i	06 04 34	H = 05:53:24
		PcP	06 04 52	h = about 150 km.
	SH	ePcP	06 04 48	Magnitude: 6 1/4 (Pas)
	SF	eP	06 04 33 ?	O Δ = 7,500 km.
		e	06 05 04 ?	RB Δ = 10,800 km.
		S	06 13 26 ?	S.F. time correction doubtful
		PPS	06 14 22 ?	
	KL	eP	06 04 31 Prob. c	
		ipP	06 05 02 c very prominent phase	
9	H	iP	07 51 21	U.S.C.G.S.
		PcP	07 52 09	38 1/2°N, 21°E
		S	07 59 21	Foreshock of 'quake in Greece
	RB	eP	07 51 22	H = 07:41:05
		eS	07 59 31	O Δ = 7,500 km.
		L	08 16 14	RB Δ = 6,600 km.
		F	08.8	
	SF	eP	07 51 57 ? SF time corrections doubtful	
		S	08 00 34 ?	
		PS	08 01 00 ?	

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
9	SF(cont)	PPS	08 01 14 ?	
		SS	08 04 46 ?	
	SH	eP	07 51 58	
	O	iP	07 52 09 d	
		PP	07 54 51	
		PPP	07 56 24	
		S	08 01 08	
		SSS	08 08 20	
	KL	eP	07 52 19	
10	O	eP	12 08 23	U.S.C.G.S.
	H	eP	12 08 42	6°N, 8 1/2°W
				Off south coast of Panama
				H = 12:00:50
11	RB	iP	03 42 28 d	U.S.C.G.S.
		ePP	03 44 37	38 1/2°N, 21°E
		ePPP	03 46 27	Foreshock of 'quake in Greece
		iS	03 50 45	H = 03:32:24
		iScS	03 52 27	Magnitude: 6 3/4 (Pas)
		SS	03 54 33	O Δ = 7,500 km.
		F	06.8	RB Δ = 6,600 km.
	H	eP	03 42 37	
		PP	03 44 51	
		PPP	03 46 13	
		e	03 47 03	
		S	03 51 01	
	SF	eP	03 43 02	
		PP	03 45 26	
		S	03 51 40	
		e	03 52 37	
		ScS	03 53 03	
		e	03 55 10	
		SS	03 56 03	
		SSS	03 58 46	
	SH	eP	03 43 13	
	O	eP	03 43 24 c	
		PP	03 45 58	
		S	03 52 24	
	KL	eP	03 43 32 c	
11	O	eP	12 19 35	U.S.C.G.S.
	H	iP	12 20 20	Andreanof Islands, Aleutian Islands
				H = 12:09:10
11	RB	eP	12 53 29	U.S.C.G.S.
				38 1/2°N, 21°E
				Greece Foreshock
				H = 12:43:24
11	RB	eP	13 21 11	U.S.C.G.S.
	H	iP	13 21 21	Greece foreshock
	O	eP	13 22 06	H = 13:11:06
12	RB	eP	06 18 09	U.S.C.G.S.
	H	eP	06 18 18	38 1/2°N, 21°E
	SF	eP	06 18 41	Greece foreshock
	O	eP	06 19 04	H = 06:08:03

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
12	RB	iP	09 34 00 c	U.S.C.G.S.
		iPP	09 36 10	38 1/2°N, 21°E.
		iPPP	09 37 37	Near west coast of Greece
		i	09 42 13	Heavy casualties and
		ScS	09 43 56	extensive property damage
	H	iP	09 34 07	H = 09:23:55
		PcP	09 34 59	Magnitude = 7 1/4 (Pas) (Berk)
		PP	09 36 28	0 Δ = 7,500 km.
		i	09 37 09	RB Δ = 6,600 km.
		PPP	09 37 57	
		S	09 42 25	
		PS	09 42 37	
		PPS	09 42 45	
		e	09 47 33	
	SF	iP	09 34 30	
		PP	09 36 49	
		e	09 37 55	
		S	09 43 10	
		PPS	09 43 55	
		e	09 44 10	
		ScS	09 44 33	
		SS	09 47 36	
		L	09 52 10	
	SH	eP	09 34 39	
		PP	09 37 22	
		PPP	09 38 29	
		S	09 43 16	
		e	09 43 27	
		SSS	09 50 56	
	O	eP	09 34 54 c d	
		PP	09 37 47	
		PPP	09 39 20	
		S	09 43 49	
		i	09 44 01	
		PS	09 44 20	
		PPS	09 44 40	
		ScS	09 45 02	
		SS	09 48 28	
		e	10 03 11	
	KL	eP	09 35 01 c(weak)	
			09 35 03 d(strong)	
		eS	09 44 09	
		F	10.5	
12	H	iP	09 40 27	
		i	09 42 09	
12	H	eP	10 17 56	
	O	eP	10 18 44	
12	RB	eP	11 43 51	U.S.C.G.S.
	H	iP	11 44 00	38 1/2°N, 21°E
	SF	eP	11 44 22	Greece aftershock
	O	eP	11 44 47	H = 11:43:46
	KL	e(P)	11 44 53	
12	RB	iP	12 15 30 c	U.S.C.G.S.
		iS	12 23 46 c	38°N, 21°E
	H	iP	12 15 38	Off west coast of Greece
		PP	12 18 07	H = 12:05:22
	SF	eP	12 15 57	Magnetic = 6(Pas)
	SH	eP	12 16 09	0 Δ = 7,500 km.
	O	iP	12 16 25	RB Δ = 6,600 km.
		S	12 25 26	

'quake cont'd. on next page.

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
(cont'd)12	KL	eP	12 16 23 c	
12	RB	eP	13 49 28	U.S.C.G.S.
	H	eP	13 49 38	38 1/2°N, 21°E
	SF	eP	13 49 54	Greece aftershock
	O	eP	13 50 25	H = 13:39:23
12	RB	iP	14 18 46 c	U.S.C.G.S.
		eS	14 26 59	38°N, 21°E
	H	eP	14 18 54	Greece aftershock
	SF	eP	14 19 15	H = 14:08:38
		S	14 27 54	O Δ = 7,500 km.
	SH	eP	14 19 28	RB Δ = 6,600 km.
	O	eP	14 19 41	
	KL		14 19 48 c	
12	RB	eP	16 18 36	U.S.C.G.S.
	H	eP	16 18 47	38 1/2°N, 21°E
	O	iP	16 19 34 d	Greece aftershock
	KL	eP	16 19 40	H = 16:08:32
12	SF	SKS	17 19 14	U.S.C.G.S.
		SKKS	17 20 33	22°S, 175°W
		PS	17 23 09	Tonga Islands
		PPS	17 24 25	H = 16:53:42
		SS	17 29 59	Magnitude = 6 1/4 (Pas), 6 1/2 (Berk)
				O Δ = 12,400 km.
				RB Δ = 12,000 km.
12	RB	eP	18 16 58	
		iS	18 22 40	
12	O	eP	20 49 18	
12	H	eP	22 27 49	
	O	eP	22 28 37	
	RB	e	22 39 01	
13	O	eP	01 38 06	
	KL	e(P)	01 38 10	
	H	eP	01 38 19	
13	RB	e	03 32 12	U.S.C.G.S.
	H	iP	03 32 22	38 1/2°N, 21°E
	SF	eP	03 32 46	Greece aftershock
	O	eP	03 33 09	H = 03:22:06
	KL	eP	03 33 15	
13	O	eP	06 11 52 c	U.S.C.G.S.
	H	eP	06 12 40	53°N, 167°W
				Fox Islands, Aleutian Islands
				H = 06:02:12
13	RB	eP	09 41 47	U.S.C.G.S.
		eS	09 52 03	21 1/2°S, 170°E
	KL	eP'	09 42 00	Loyalty Islands
	O	iP'	09 42 04 d	H = 09:23:23
		i	09 42 08	h = about 150 km.
		PP	09 43 44	Magnitude = 6 3/4-7 (Pas) 6 3/4-7 1/4 (Berk)
		sPP	09 45 08	
		e	09 45 30	O Δ = 13,650 km.
		i	09 45 32	RB Δ = 12,450 km.

'quake cont'd on next page

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
13	O(cont'd)	i	09 45 36	
		pPPP	09 47 23	
		S	09 51 20	
		SS	10 00 10	
	SH	eP'	09 42 17	
		SKS	09 49 04	
	SF	ePP	09 44 02	
		SKS	09 49 03	
		S	09 51 26	
		PS	09 54 02	
		SS	10 00 08	
	H	eP'	09 42 20	
		pP'	09 42 51	
		SKP	09 45 34	
		iPKS	09 45 40	
		PPS	09 57 02	
13	O	eP	10 14 21 d	
	KL	eP	10 14 34 c	
	SH	eP	10 14 37	
13	RB	e	10 26 56	U.S.C.G.S.
	H	eP	10 27 03	38 1/2°N, 21°E
	O	eP	10 27 51	Greece aftershock
				H = 10:16:51
13	H	eP	14 53 48	
	O	eP	14 54 34	
13	O	eP	16 00 57	
14	O	eP	00 38 49	
14	O	eP	22 34 52	
15	O	eP	21 35 08	
16	O	iP	03 18 52	U.S.C.G.S.
		S	03 26 06	7°S, 74°W
	H	iP	03 18 54	Central Peru-Brazil border
		iPcP	03 20 01	H = 03:09:50
		S	03 26 08	h = about 150 km.
	SH	eP	03 19 01	O Δ = 5,750 km.
	KL	eP	03 19 14	RB Δ = 9,150 km.
	SF	eP	03 19 17	
	RB	iP	03 22 00 d	
17	H	eP	02 22 38	U.S.C.G.S.
	O	iP	02 23 25	Greece aftershock
				H = 02:12:22
17	O	iP'	03 34 01 c	U.S.C.G.S.
				7 1/2°S, 115°E
				Java Sea
				H = 03:14:33
17	O	iP	18 28 14 c	
	H	eP	18 28 43	

DATE	STN	PHASE	TIME(G.C.T.) h m s		REMARKS
17	RB	iP_n	21 47 56	d	U.S.C.G.S.
		iS_n	21 48 18		76 1/2°N, 92°W
	KL	e	21 53 51		Devon Island, Canada
		i	21 58 43		H = 21:47:22
		eL_g	22 02 08		0 Δ = 3,350 km.
	SF	ePcP	21 56 43	?	(SF time RB Δ = 300 km.
		S	21 59 41	?	corrections doubtful.)
		e	22 01 34	?	
		SS	22 02 26	?	
		SSS	22 02 59	?	
		i	22 03 05	?	
		i	22 03 15	?	
	SH	ePcP	21 55 47		
		S	21 59 26		
		ScS	22 04 23		
	O	iP	21 53 49	c	
		i	21 54 20		
		i	22 00 14		
		SS	22 01 12		
		i	22 02 16		
		i	22 02 58		
		i	22 03 50		
		ScS	22 04 16		
	H	ePP	21 54 58		
		SS	22 01 19		
		e	22 04 55		
18	O	iP_n	18 53 55		Δ = 270 km.
		i	18 54 12		
		eS_n	18 54 24		
		L	18 54 50		
18	H	eP	22 54 02		U.S.C.G.S.
	O	eP	22 54 49		Greece aftershock
					H = 22:43:47
19	H	eP	08 27 09		U.S.C.G.S.
		PP	08 28 17		14 1/2°N, 59 1/2°W
		PPP	08 28 30		Windward Islands
	O	iP	08 27 36	c	H = 08:21:00
	SH	eP	08 27 38		h = about 100 km.
	KL	e(P)	08 28 10		
20	H	iP_1	12 29 42		Appears to be a series of four
		iS_1	12 29 53		depth charges at a distance
		L	12 30 00		of approximately 85 km.
		iP_1	12 30 22		
		iS_1	12 30 33		
		L	12 30 40		
		iP_1	12 32 37		
		iS_1	12 32 50		
		L	12 32 55		
		iP_1	12 33 05		
		iS_1	12 33 16		
		L	12 33 23		
20	H	iP_1	15 04 38		
		iS_1	15 04 40		

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
20	H	iP	19 37 32	U.S.C.G.S.
	O	eP	19 38 18	Greece aftershock
				H = 19:27:18
21	O	eP_n	04 03 33	Δ = 265 km.
		eS_n	04 04 00	
21	O	eP	13 37 25	U.S.C.G.S.
		PP	13 38 30	18°N, 67°W
		i	13 41 41	Near west coast of Puerto Rico
		S	13 42 21	H = 13:31:30
		SSS	13 44 32	
	SH	eP	13 37 34	
		S	13 42 58	
	SF	eP	13 37 56	
		S	13 42 43	
	KL	e(P)	13 38 02	
21	O	iP	16 53 34	U.S.C.G.S.
		PP	16 55 30	4°N, 76 1/2°W
		PcP	16 55 37	Western Colombia, Felt
	H	eP	16 53 42 d	H = 16:45:57
		PP	16 55 33	h = about 150 km.
	SH	eP	16 53 45	
	SF	eP	16 53 50	
	KL	iP	16 53 57 c	
			16 54 22 c	
21	O	iP_1	19 13 28	
		eS_1	19 13 31	
		L	19 13 46	
22	O	iP'	00 40 10 c	U.S.C.G.S.
		pP'	00 40 37	6°S, 147°E
		SS	00 59 20	Near east coast of New Guinea
	H	eP'	00 40 25	H = 00:21:06
		iPKS	00 43 43	
23	H	eP	07 28 42 d	U.S.C.G.S.
		iPcP	07 29 24	1°S, 14°W
		e	07 29 32	Mid-Atlantic Ocean
		S	07 37 13	H = 07:18:06
		SS	07 41 09	O Δ = 7,900 km.
		SSS	07 43 59	RB Δ = 9,750 km.
		L	07 47 09	
	SF	eP	07 29 03	
		S	07 38 41	
	O	iP	07 29 28	
		e	07 30 32	
		S	07 38 54	
		L	07 47 04	
	KL	eP	07 29 56	
	RB	eP	07 31 18	
		iS	07 42 02	
		SS	07 45 25	
		F	07.9	
23	H	eP	12 14 00	
	O	eP	12 14 54	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
24	O	eP	04 45 06	U.S.C.G.S. 5°N, 72°W Central Colombia H = 04:37:36
24	O	iP	13 27 36 d	U.S.C.G.S.
		PP	13 28 47	14 1/2°N, 91°W
		PPP	13 29 10	Guatemala
		PcP	13 30 30	H = 13:21:00
		S	13 32 56	h = 100 km.
		SS	13 35 06	Magnitude = 6 1/2(Pas),
		SSS	13 35 24	6 3/4 (Berk)
		L	13 40 10	
	KL	eP	13 27 48 c	
		epP	13 28 04 Prob.d	
	SH	eP	13 27 54	
	SF	eP	13 27 58	
		PP	13 29 27	
		S	13 33 42	
		SS	13 36 05	
		SSS	13 36 38	
		L	13 39 23	
	H	iP	13 28 16	
		PP	13 29 47	
		e	13 31 05	
		S	13 34 08	
		SS	13 36 54	
24	H	iP	16 41 56 d	
25	RB	eP	02 18 06 Prob.c	U.S.C.G.S.
		e	02 28 56	5°S, 152°E
		e	02 29 48	New Britain
		ePS	02 30 52	H = 02:04:13
		eL	02 37.2	Magnitude = 7 (Berk),
		F	04.6	6 1/2-6 3/4 (Pas)
	O	iP'	02 23 12 c	O Δ = 13,500 km.
		SKS	02 30 10	RB Δ = 11,150 km.
		PS	02 34 26	
		PPS	02 36 20	
		SS	02 41 08	
	SF	ePP	02 25 01	
		e	02 26 33	
		SKS	02 30 29	
		PS	02 34 53	
		PPS	02 36 01	
		e	02 36 43	
		SS	02 41 23	
	H	eP'	02 23 33	
		PKS	02 26 48	
		SKS	02 30 22	
		PS	02 35 40	
25	O	iP	11 51 50 c	U.S.C.G.S.
		PcP	11 52 31	Andreanof Islands, Aleutian
	H	eP	11 52 32	Islands
				H = 11:41:30
25	H	iP	16 15 02	
		i	16 15 17	

DATE	STN	PHASE	TIME (G.C.T.) h m s	REMARKS
25	O	iP_n	17 34 17	Δ = 290 km.
		iS_n	17 34 47	
		L	17 35 09	
26	O	iP_n	18 38 02	Δ = 150 km.
		eS_n	18 38 19	
		L	18 38 27	
26	O	eP	19 16 31	
	KL	eP	19 16 40 Prob. c	
26	H	iP_n	19 22 05	Δ = 215 km.
		i	19 22 18	
		S_n	19 22 28	
27	O	iP_n	17 00 48	Δ = 200 km.
		eS_n	17 01 10	
27	RB	iP	22 26 05 c	U.S.C.G.S.
	KL	eP	22 28 38 c	44°N, 142 1/2°E
	SH	eP	22 28 57	Hokkaido, Japan. Felt
	O	iP	22 28 58 c	H = 22:16:30
		SP	22 29 38	h = about 100 km.
		PP	22 32 10	Magnitude = 6 (Pas)
		S	22 39 07	OΔ = 9,300 km.
	H	iP	22 29 18 c	RBΔ = 6,100 km.
28	O	iP	08 26 01	
28	RB	eP	10 54 41	U.S.C.G.S.
		e	10 58 37	East-central Alaska
		eL	11 00.6	H = 10:50:00
		F	11.2	
	SH	eP	10 57 55	
		L	11 11 56	
	O	eP	10 57 58	
		i	11 06 03	
		L	11 11 41	
	SF	eL	11 11 52	
	H	iP	10 58 39 d	
		e	11 15 04	
		e	11 18 18	
28	KL	e	11 08.3	
		e	11 09.7	
28	O	eP	11 56 56	U.S.C.G.S. Off south coast of Panama H = 11:49:30
28	H	iP	20 49 06 c	U.S.C.G.S.
	O	eP	20 49 51	Off west coast of Greece H = 20:38:56
28	RB	eP_n	23 05 00	Δ = 225 km.
		iS_n	23 05 24	
28	RB	eP	23 25 40	Local
		e	23 26 05	

DATE	STN	PHASE	TIME(G.C.T.) h m s	REMARKS
29	RB	eP	02 10 36 c	U.S.C.G.S. 28°N, 82°E Near India-Nepal border. Felt H = 01:58:24
29	RB	eP	03 13 34	Local
		eS	03 13 58	
29	RB	eP	13 45 30 d	
29	H	eP	14 18 07	U.S.C.G.S.
	O	eP	14 19 00	36°N, 5 1/2°E Algeria H = 14:08:48
29	KL	eP	16 28 13	
	O	eP	16 28 14	
	RB	e	16 28 32	
30	O	iP_n	12 46 19	Δ = 150 km.
		i	12 46 21	
		S_n	12 46 36	
		L	12 46 44	
31	O	eP	04 16 25	U.S.C.G.S.
			04 20 47	51 1/2°N, 161°E Near east coast of Kamchatka H = 04:05:08
31	O	eP'	07 04 35	U.S.C.G.S. Off northeast coast of New Guinea H = 06:45:37
31	RB	iP	08 00 43 c	U.S.C.G.S.
	KL	eP	08 03 33 c	53 1/2°N, 160°E
	O	iP	08 03 57 c	Near east coast of Kamchatka
		PP	08 06 35	H = 07:52:46
		PPP	08 08 15	h = 60 km.
		S	08 13 04	Magnitude = 6 1/4 (Pas)
	SH	eP	08 03 59	0 Δ = 7,800 km.
	SF	eP	08 04 06 ?	RB Δ = 4,700 km.
		S	08 13 10 ?	SF time corrections doubtful
31	RB	eP	17 18 23	U.S.C.G.S.
	O	eP	17 21 25	53°N, 160°E
		i	17 21 32	Near east coast of Kamchatka
	SH	eP	17 21 34	H = 17:10:06
31	RB	eP	17 23 36	U.S.C.G.S.
	KL	eP	17 26 23	53°N, 160°E
	O	eP	17 26 38	Near east coast of Kamchatka
		i	17 26 47	H = 17:15:20
	SH	eP	17 26 49	

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SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
KL - Kirkland Lake
SH - Shawinigan Falls
SF - Seven Falls
H - Halifax
RB - Resolute Bay

September, 1953.

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
2	H	eP	00 47 43		U.S.C.G.S.
	O	eP	00 48 13		Azerbaijan S.S.R.
					H = 00:36:00
2	O	iP	04 55 38	d	
2	O	eP	07 56 02		
2	KL	e	13 41.1		
2	O	eP	18 40 58		
4	KL	iP	07 34 16	c	U.S.C.G.S.
		ipP	07 34 33	d	50°N, 156 1/2°E
	O	iP	07 34 39	c	Kurile Islands
		PP	07 37 28		H = 07:23:05
		PPP	07 39 13		h = about 60 km.
		S	07 44 04		Mag. = 6 3/4-7 (Pas)
		PPS	07 44 44		0Δ = 8,300 km.
	SH	eP	07 34 40		
		S	07 44 05		
		e	07 44 33		
	SF	eP	07 34 43	?	SF time corrections doubtful
		PP	07 37 35	?	
		PPP	07 39 22	?	
		e	07 43 48	?	
		iS	07 44 11	?	
		e	07 44 30	?	
	H	iP	07 35 08	c	
		PP	07 38 06		
		S	07 45 01		
		SS	07 50 02		
4	H	iP	14 19 08	c	U.S.C.G.S.
		PP	14 22 04		32°S, 71°W
	O	iP	14 19 10	c	Near coast of central Chile.
		PP	14 22 11		Several injured.
		S	14 28 36		[illegible] 13
	SH	eP	14 19 15		
	SF	eP	14 19 28	?	SF time corrections doubtful
		S	14 29 21	?	
	KL	iP	14 19 26	c	
		ipP	14 19 39	c	
5	RB	iP	14 28 55	d	U.S.C.G.S.
	H	eP	14 29 07	c	38°N, 23°E
	SF	eP	14 29 29	?	Eastern Greece
	SH	eP	14 29 40		H = 14:18:41
	O	iP	14 29 53	c	RBΔ = 6,700 km.
	KL	eP	14 30 01	d	0Δ = 7,700 km.
					SF time corrections doubtful

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
5	H	iP_n	14 42 29		
		eS_n	14 42 52		HΔ = 210 km.
		i	14 42 46		
5	RB	iP	19 06 35	c	U.S.C.G.S.
		eS	19 13 19		51°N, 157°E
	KL	eP	19 09 20		Near south coast of Kamchatka
	O	eP	19 09 45		H = 18:58:09
		S	19 19 10		Mag. = 6 1/2 (Pas)
	SH	e	19 09 46		RBΔ = 5,050 km.
	SF	eP	19 09 54	?	OΔ = 8,100 km.
		S	19 19 11	?	SF time corrections doubtful
	H	iP	19 10 13	c	
		PP	19 12 56		
		S	19 19 57		
6	H	eP	01 44 48		U.S.C.G.S.
	O	eP	01 44 49	c	50 1/2°N, 90°E
					Outer Mongolia
					H = 01:32:24
6	O	eP'	07 56 21		U.S.C.G.S.
					5 1/2°S, 149°E
					New Britain Island region
					H = 07:37:24
6	KL	eP	08 24 13	c	U.S.C.G.S.
	O	iP	08 24 43	c	56°N, 162°W
	SH	eP	08 24 48		Near Alaska Peninsula
	H	iP	08 25 29	c	H = 08:15:50
					h = about 200 km.
7	RB	eP	04 09 28		U.S.C.G.S.
		eS	04 17 20		41°N, 33°E
		eL	04 24.9		Northern Turkey. Felt
		F	05.1		H = 03:58:56
	H	iP	04 09 51	c	Mag. = 6 1/4 (Pas)
		S	04 18 45		SF time corrections doubtful
	SF	e(P)	04 08 44	?	
		(S)	04 17 45	?	
10	RB	eP	04 16 44		U.S.C.G.S.
		ePP	04 19 12		32°E, 35°N
		eS	04 25 28		Near west coast of Cyprus
		eSS	04 25.1		Heavy casualties and extensive
		F	05.5		property damage
	H	iP	04 17 17	c	H = 04:06:00
		i	04 17 26		Mag. = 6 1/2 (Pas)
		S	04 26 23		RBΔ = 7,250 km.
	SF	eP	04 17 32	?	OΔ = 8,500 km.
		PP	04 20 16	?	SF time corrections doubtful
		S	04 27 00	?	
		PS	04 27 32	?	
		ScS	04 27 44	?	
		PPS	04 27 51	?	
		SS	04 31 36	?	
	SH	eP	04 17 43		
	O	iP	04 17 56	c	
		S	04 27 44		
		SS	04 32 40		
	KL	iP	04 18 00	c	

September, 1953.

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
10	O	iP	07 03 14	c	
	KL	eP	07 03 38	c	
10	SH	eP_n	17 38 50.5		Weston iP 17:39:02.5
		eS_n	17 39 12.5		i 17:39:37
		e	17 39 38.5		Provisional epicentre
	O	iP_n	17 38 59		44.8°N, 72.5°W
		e	17 39 24		Northeast of Burlington Vermont
		eS_n	17 39 30		H = 17:38:21
		L	17 39 54		SHΔ = 192 km.
	SF	eP	17 39 29	?	OΔ = 262 km.
		e	17 39 33	?	SFΔ = 290 km.
		e	17 39 41	?	SF time correction doubtful
		L	17 40 49	?	
11	O	iP_n	19 09 04		Δ = 225 km.
		e	19 09 21		
		eS_n	19 09 28		
		i	19 09 34		
13	O	iP_n	18 44 30		Δ = 150 km.
		i	18 44 32		
		S_n	18 44 47		
		L	18 44 56		
14	RB	e	00 40 46		U.S.C.G.S.
		eS	00 51 36		18 1/2°S, 178 1/2°E
		e	01 00 33		Fiji Islands
		eL	01.3		Several killed and extensive
		F	02.8		property damage.
	O	ePP	00 46 06		H = 00:26:36
		SKKS	00 53 04		h = about 60 km.
		PS	00 55 40		Mag. = 6 3/4 (Pas)
		SS	01 01 12		OΔ = 12,600 km.
	SF	ePP	00 46 51	?	RBΔ = 11,850 km.
		SKS	00 52 20	?	
		SKKS	00 53 28	?	SF time corrections doubtful
		PS	00 56 16	?	
		PPS	00 57 43	?	
		e	00 59 10	?	
		SS	01 02 43	?	
	H	eSKS	00 52 49		
		e	00 55 09		
		PS	00 57 04		
		SS	01 03.5		
		SSS	01 08 01		
14	RB	eP	09 06 23	c	U.S.C.G.S.
		e	10 33 42		52°N, 161 1/2°E
		i	10 33 46		Off southeast coast of Kamchatka
	O	eP	09 09 34		H = 08:58:12
					RBΔ = 4,850 km.
					OΔ = 7,850 km.
14	O	eP	10 33 09		
	KL	e	10 33 16		
	RB	eP	10 33 41		
		iP	10 33 45		
14	O	eP'	11 31 15		U.S.C.G.S.
	KL	e	11 31 14		52 1/2°S, 26°E
	RB	e	11 31 43		Indian Ocean
		e	11 31 55		H = 11:12:06
		i	11 32 01		
		F	12.0		

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
14	RB	eP	14 24 32	c	U.S.C.G.S.
	O	iP	14 27 35	c	49°N, 158°E
					Northern Kurile Islands
					H = 14:16:00
					h = about 60 km.
14	H	eP	15 06 22		U.S.C.G.S.
	RB	eP	15 06 23		38°N, 20 1/2°E
		F	15.7		Near West coast of Greece
	O	eP	15 07 15		Felt
	KL	eP	15 07 25		H = 14:56:15
					RBΔ = 6,650 km.
					OΔ = 7,500 km.
14	SF	eP_n	22 54 08	?	49.5N, 65°W
		e	22 54 27	?	Mouth of the St. Lawrence River
		S_n	22 54 57	?	H = 22:52:53
		e	22 55 13	?	SFΔ = 510 km.
		e	22 55 22	?	HΔ = 555 km.
	H	eP_n	22 54 08		SHΔ = 670 km.
		e	22 54 36		OΔ = 930 km.
		e	22 54 55		KLΔ = 1,110 km.
		S_n	22 55 00		Note:- Coordinates of epicentre
	SH	e(P)	22 54 28		to nearest 1/2 degree and H to
		e	22 54 36		nearest 5 seconds because of the
		eS_n	22 55 21		uncertainty in SF time correction
		e	22 55 37		and an arrival time for e(P) at
		e	22 55 54		SH which is inconsistant with the
	O	eP_n	22 54 52		other data.
		iS_n	22 56 21		
	KL	e(P)	22 55 15		
		eS_n	22 56 55		
		eS_1	22 57 48		
16	O	eP	21 53 36	d	U.S.C.G.S.
	H	eP	21 53 54		47°N, 152 1/2°E
					Kurile Islands
					H = 21:41:37
					h = about 60 km.
17	O	iP_1	05 53 44		OΔ = 80 km.
		i	05 53 48		
		S_1	05 53 54		
	SH	e	05 54 18		
		F	05 54 35		
17	KL	e	09 28 07		
		i	09 31 18		
17	O	e	09 31 45		
		e	09 32 38		
17	SH	e	09 32 42		
17	O	SKKS	21 37 44		U.S.C.G.S.
		e	21 38 34		20 1/2°S, 174°W
		PS	21 40 16		Tonga Islands
		e	21 44 04		H = 21:11:48
		SS	21 46 04		h = about 100 km.
		SSS	21 49 38		Mag. = 6 3/4-7 (Pas)

'quake cont'd. on next page

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
17(cont'd)	SF	eP'	21 30 20		
		PPP	21 33 30		0Δ = 12,200 km.
		SKS	21 37 14		
		SKKS	21 38 18		
		PS	21 40 53		
		PPS	21 42 07		
		SS	21 47 18		
	H	ePP	21 31 53		
		e	21 32 31		
		SKS	21 37 23		
		e	21 39 46		
		PS	21 41 21		
		e	21 41 41		
		SS	21 48 01		
		e	21 51 39		
		G	21 59 16		
18	KL	eP	21 57 05	c	
		e	21 57 25	c	
19	O	iP_n	17 24 20		Δ = 150 km.
		eS_n	17 24 37		
		L	17 24 45		
19	O	iP_n	20 30 52		Δ = 220 km.
		eS_n	20 31 16		
		L	20 31 28		
20	O	eP	09 24 44		U.S.C.G.S. 51°N, 179°W Andreanof Islands H = 09:14:22
20	O	iP_1	12 37 38		0Δ = 55 km.
		iS_1	12 37 45		
	SH	e	12 38 28		
		F	12 38 37		
21	O	iP_n	15 30 11		0Δ = 150 km.
		i	15 30 13		
		eS	15 30 28		
		L	15 30 36		
22	O	iP_1	16 55 55		0Δ = 55 km.
		iS_1	16 56 02		
	SH	e	16 57 03		
23	RB	iP	02 23 06	c	U.S.C.G.S.
		iPP	02 24 58		50 1/2°N, 156°E
		iS	02 29 55		Northern Kurile Islands
		eScS	02 33 03		H = 02:14:36
		iSS	02 33 18		h = about 60 km.
		F	04.1		Mag. = 7(Pas), 6 3/4(Berk.)
	KL	iP	02 25 49	c	0Δ = 8,200 km.
		ipP	02 26 04		RBΔ = 5,100 km.
	O	iP	02 26 12	c	
		PP	02 28 58		SF time corrections doubtful
		S	02 35 40		
		e	02 36 06		
		e	02 40 08		
		SS	02 40 36		
		SSS	02 44 20		
	SH	eP	02 26 13		
		S	02 35 43		

'quake cont'd. on next page

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
23	SF	eP	02 26 23	?	
		S	02 35 54	?	
		e	02 36 19	?	
	H	iP	02 26 41	c	
		e	02 29 11		
		PP	02 29 46		
		PPP	02 31 39		
		S	02 36 37		
		iScS	02 37 03		
		SS	02 41 39		
		e	02 42 39		
		SSS	02 44 35		
		G	02 47 23		
25	RB	eP	13 52 30	c	U.S.C.G.S.
		eS	14 01 51		28°N, 140°E
		eL	14 25.2		Bonin Islands
		F	14.6		H = 13:41:08
25	SF	e	20 36 48	?	
		e	20 37 11	?	SF time correction doubtful
		e	20 39 01	?	
25	O	eP	20 59 29		U.S.C.G.S.
	H	iP	20 59 29		54°N, 160°E
					Off east coast of Kamchatka
					H = 20:48:20
					h = about 60 km.
26	KL	eP	01 13 38	c	U.S.C.G.S.
	O	iP	01 14 02	c	50°N, 157 1/2°E
	SF	eP	01 14 11	?	Near south coast of Kamchatka.
		PP	01 16 53	?	H = 01:02:30
		S	01 23 37	?	h = about 60 km.
	H	iP	01 14 31		0Δ = 8,150
		S	01 24 15		
		e	01 24 41		SF time corrections doubtful
		PPS	01 25 06		
26	O	eP	03 41 02		U.S.C.G.S.
		i	03 41 04		39.6°N, 119.8°W
					Western Nevada
					Slight damage at Reno
					H = 03:34:29.5
					Mag. = 5 (Pas), 5 1/2 (Berk.)
27	H	iP	06 11 49	d	U.S.C.G.S.
		PP	06 12 31		14°N, 58°W
		PPP	06 12 55		Windward Islands region
		S	06 16 57		H = 06:05:27
		e	06 18 11		
		SS	06 18 35		
		SSS	06 19 11		
	O	iP	06 12 22	d	
		PP	06 12 40		
		PPP	06 14 03		
		PcP	06 14 52		
		S	06 18 04		
		SS	06 20 00		
		e	06 22 00		
	SH	eP	06 12 23		
	SF	eP	06 12 14	?	
		iS	06 17 48	?	
		SS	06 19 47	?	

'quake cont'd next page

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
27(cont'd)	SF	SSS	06 20 04	?	
	KL	eP	06 12 55	d	
		iP	06 12 56	c	
27	O	iP'	10 11 03	c	U.S.C.G.S.
	H	iP'	10 11 20		Kermadec Islands region
					H = 09:52:20
27	H	iP_n	16 51 38		HΔ = 600 km.
		iS_n	16 52 32		
28	O	eP	04 03 25		
		i	04 05 29		
28	H	iP	06 00 51	d	U.S.C.G.S.
		PcP	06 01 31		22 1/2°S, 65°W
		PP	06 03 11		Bolivia-Argentina Border region
		PPP	06 04 51		H = 05:50:21
		S	06 09 18		h = about 250 km.
	O	iP	06 00 59	d	
		PP	06 02 39		
		iS	06 09 34		
		e	06 10 30		
		e	06 11 20		
	SH	eP	06 01 04		
		PP	06 02 37		
	SF	eP	06 01 09	?	SF time corrections doubtful.
		iS	06 09 48	?	
		PPS	06 10 34	?	
		e	06 11 36	?	
	KL	iP	06 01 31	c	
		e	06 02 35		
28	O	eP	06 48 49		U.S.C.G.S.
					44 1/2°N, 128°W
					Off coast of Oregon
					H = 06:44:41
28	O	eP	13 25 13		U.S.C.G.S.
	SH	eP	13 25 27		52 1/2°N, 160°E
	H	iP	13 25 28		Off east coast of Kamchatka
					H = 13:13:50
28	H	eP	21 49 25		U.S.C.G.S.
					41°N, 2°W
					Northeastern Spain
					Felt: Tortosa
					H = 21:41:10
29	KL	eP'	01 55 10		U.S.C.G.S.
		iP'	01 55 11	c	36 1/2°S, 177°E
		ipP	01 56 25		Off north coast of North Island, N. Z.
	O	eP'	01 55 10		Felt: Wellington
		i	01 55 14		H = 01:36:45
		i	01 56 21		h = about 300 km.
		PP	01 57 07		Mag. = 7 1/4 (Pas)
		e	01 58 06		OΔ = 14,000 km.
		PPP	01 59 31		RBΔ = 13,900 km.
		e	02 00 04		
		SKKS	02 03 40		
		e	02 05 00		
		PS	02 07 06		
		PPS	02 08 06		

'quake cont'd next page.

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
29(cont'd)	O	~~SS~~	02 14 00		
		~~2SS~~	02 18 20		
	RB	eP'	01 55 12	Prob d	
		epP'	01 56 29		
		F	02.2		
	SH	eP'	01 55 22		
		PP	01 57 14		
	SF	eP'	01 55 17	?	SF time corrections doubtful
		e	01 56 24	?	
		PP	01 57 38	?	
		iPKS	01 58 43	?	
		e	01 59 53	?	
		PPP	02 00 32	?	
		SKS	02 02 08	?	
		e	02 07 06	?	
		e	02 08 36	?	
		PPS	02 09 31	?	
		e	02 10 47	?	
		SS	02 14 48	?	
		SSS	02 20 21	?	
	H	eP'	01 55 25		
		i	01 55 30		
		i	01 56 46		
		i	01 57 19		
		PP	01 58 10		
		i	01 58 29		
		PKS	01 59 01		
		e	02 00 16		
		PPP	02 00 43		
		SKKS	02 04 39		
		e	02 06 17		
		PS	02 08 11		
		PPS	02 10 03		
		SS	02 15 41		
29	O	eP	03 29 34		U.S.C.G.S. Near west coast of Costa Rica H = 03:22:20
29	H	iP_n	17 22 28		Δ = 180 km.
		i	17 22 30		
		iS_n	17 22 48		
		i	17 22 51		
30	H	eP'	05 13 53		U.S.C.G.S.
		PKS	05 17 29		6°S, 100 1/2°E
	O	eP'	05 14 07		Off southwest coast of Sumatra
		iPP	05 16 41		H = 04:54:15
		PKS	05 17 50		
	KL	e	05 16 22		
30	O	iP	07 02 49	c	U.S.C.G.S.
	H	eP	07 03 17		50 1/2°N, 156°E Near south coast of Kamchatka H = 06:51:15 h = about 60 km.
30	KL	eP	23 10 56	Prob.d	U.S.C.G.S.
		iP	23 10 59	c	22°N, 107 1/2°W
		iL	23 21 54		Off coast of Sinaloa, Mexico
		F	24.0		Felt: Mazatlan
	O	iP	23 11 02	d	H = 23:04:08
		PP	23 12 25		Mag. = 6 3/4-7(Pas), 6 1/2(Berk)
		PPP	23 12 35		OΔ = 3,800 km.
		PcP	23 13 39		RBΔ = 5,800 km. 'quake cont'd

DATE	STN.	PHASE	TIME (G.C.T.) h m s		REMARKS
30(cont'd)0		e	23 16 00		
		S	23 16 33		
		ScS	23 21 09		
		L	23 22 10		
	SH	e	23 10 41		
		eP	23 11 24		
		e	23 12 13		
		PP	23 12 55		
		S	23 17 09		
		SS	23 19 19		
		SSS	23 19 49		
		e	23 22 19		
	SF	iP	23 11 51	?	SF time corrections doubtful
		e	23 13 03	?	
		PP	23 13 19	?	
		PcP	23 14 18	?	
		e	23 15 03	?	
		S	23 17 48	?	
	H	eP	23 12 07	c	
		i	23 12 24		
		PP	23 13 52		
		PcP	23 14 11		
		PPP	23 14 33		
		S	23 18 28		
		e	23 21 31		
		SS	23 21 41		
		L	23 24 31		
	RB	eP	23 13 30	c	
		ePcP	23 14 26		
		ePP	23 15 37		
		iS	23 21 03		
		iSS	23 25 11		
		F	23.9		

W. E. T. Smith
J. H. Hodgson
J. L. O'Connor
F. Lombardo

SEISMOLOGICAL BULLETINS RECEIVED

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

STATION	BULLETINS
July, 1953	
Helwan	March, 1953
Wellington	October and November, 1952
Cartuja	May, 1953
Roma	April, 1953
Uccle	June 1-15
Kew	January, February, March
Cheb	April, 1953
Skalnate Pleso	April, 1953
Tacubaya and Aux. Stns.	May, 1953
Kew	May, 1953
Peshawar	March, 1953
Quetta	March, 1953
Strasbourg	May 21-31, Ins. de Physique du Globe
Strasbourg	February, 1953
Strasbourg	B.C.I.S., January, 1953
Peshawar	April, 1953
Quetta	April, 1953
Santo Domingo	Jan. Feb. March, 1953
Santo Domingo	Oct. Nov. Dec., 1952
Tamanrasset	March, 1953, Apr. 1953
Alger	March, 1953, Apr. 1953.
Stuttgart	May, 1953
Malaga	July, Sept. 1952
Uppsala	June 22-July 10, 1953
Melbourne and Aux Stns.	Jan. 1-Aug. 28/52;Apr. 1-30/53
Toledo	Apr. 1953 and May, 1953.
Strasbourg	B.C.I.S., Dec. 1952.
Strasbourg	June 10-20, 1953
Uccle	June 16-30, 1953
Helwan	Apr. 1953
South Africa	Apr. 1953
Athens	May, 1953
Palisades	June 5-30, 1953
Kiruna	June 8-July 5, 1953
Uppsala	July 10-20, 1953
Kiruna	July 6-12, 1953
Almeria	Jan. and Feb. 1951
Tortosa	June, 1953
Helwan	May, June, 1953
Strasbourg	July, 1953
Uccle	July 1-15, 1953
De Bilt	May, 1953
August, 1953	
Firenze	May, June 1953
Beograd	Feb. March, Apr. 1953
Madrid	Bulletin 1951
Kew	June, 1953
Bermuda	May 1-30, June, 1953
Uppsala	20-31 July, 1953
Kiruna	July 12-19, 1953
Weston, Mass.	Preliminary Bulletin - May and June, 1953
Djakarta	Jan, Feb, March and Apr., 1953
Zurich	May, June 1953
Perth	Jan. - March, 1953
Melbourne and Aux Stns.	May 6-31, 1953
Ksara	Jan.Feb.Mar.Apr.May, and June, 1953.

ISMOLOGICAL BULLETINS RECEIVED

August, 1953 (cont'd)

Tananarive	July, Aug., and Sept. 1952
Rome	May, 1953
Stuttgart	June, 1953
Tacubaya and Aux. Stns.	June, 1953
South Africa	July 15, 1953
Hong Kong	May, 1953
Pasadena	July, Aug, and Sept., 1952
Palisades	Aug. 6, 1953
Bergen	Jordskjely i Norge i 1942-44
Berlin	Seismische Registrierunge in Jena - Jan. 1, 1951-Dec. 31, 1951.
Mexico	Catalogo De Temblores, 1953
Cartuja	June, 1953
Bermuda	July 1-31, 1953
Uppsala	Aug. 1-10, 1953
Kiruna	July 19-27, 1953
Lisbon	Apr. 1-June 27, 1953
De Bilt	June, 1953
Fayetteville	Apr. May and June, 1953
South Africa	June, 1953
Hermanus	July-Dec., 1952
Toledo	June, 1952, and May, 1953
Peshawar	May, 1953
Quetta	May, 1953
Hong Kong	June, 1953
Bergen	July, 1953
Malaga	Oct., Nov., and Dec., 1952
Kew	The International Seismological Summary - Apr., May and June, 1943
Athens	June, 1953
Coimbra	Apr. 1-June 30, 1953
Tortosa	July, 1953
Kyoto -Kamigamo and Abuyama Observatories	Oct. 1-March 31, 1953
Lisbon	May and June, 1953
Almeria	March, 1953
Uccle	July 16-31, 1953

September, 1953

Bermuda	June 1, 1952 - May 31, 1953
Melbourne	June 10-28, 1953
Kiruna	July 27-Aug. 17, 1953
Uppsala	Aug. 10-25, 1953
Pennsylvania	Jan. 1-June 30, 1952
Bermuda	Aug. 1-15, 1953
Mexico	July 1953
Uccle	Aug. 1-15, 1953
Kew	July, 1953
Wellington	July, Aug. and Sept., 1950
Malaga	Jan. 1953
Wellington	Dec., 1952
Athens	July, 1953
Beograd	May, 1953, June, 1953
Quetta	Bulletin 14 June, 1953
Peshawar	Bulletin 4, 1953
Apia	Apr.-June, 1953
Cleveland	Feb.-July, 1953
Toledo	June and July, 1953
Kiruna	Aug. 17-30, 1953
Uppsala	Aug. 26-Sept. 10, 1953
Strasbourg(B.C.I.S.)	Feb. 1953
Strasbourg	June 21-30, 1953
Strasbourg	Apr., 1953
De Bilt	July, 1953
Stuttgart	July, 1953

SEISMOLOGICAL BULLETINS RECEIVED

September (cont'd)

India	August, 1951
Tamanrasset	May, June, 1953
Alger	May, June, 1953
Granada	July, 1953
Beograd	1951
Bermuda	Aug. 18-31, 1953
Uccle	Aug. 16-31, 1953
Firenze	Aug. 1953
South Africa	July, 1953
Palisades	Sept. 14, 1953
Kalocsa	Mar., Apr. and May, 1953
Szeged	Mar., Apr. and May, 1953
Kecskemet	Mar., Apr. and May, 1953
Budapest	Mar., Apr. and May, 1953.
Uppsala	Sept. 10-20, 1953
Kiruna	Aug. 30-Sept. 12, 1953.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

EASTERN DIVISION

SEISMOLOGICAL BULLETIN

October - December

1953

000

DOMINION OBSERVATORY

OTTAWA - CANADA

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
John H. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

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

Time correct within 0.02s.

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 30mm. per min., mass 235 lbs.

Leet-Blumberg, 3-component, pen-recording seismograph. Final adjustments of the instruments have not been made, the inertial elements are currently operating at a period of about 2 seconds.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Sprengnether NS and EW long period horizontals, damping critical, photographic registration, paper speed of 30 mm. per minute.

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

SEVEN FALLS

Quebec Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian Basement rock of Canadian Shield

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

Instruments: Wood-Anderson and Milne-Shaw, both EW components, 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.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

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

Time correction from recorded radio time signals

Foundation: Precambrian basement rock of Canadian Shield

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

KIRKLAND LAKE

φ = 48°08'41" N. λ = 80°01'45" W. h = 310 m.

Time correction from recorded radio time signals

Foundation: Precambrian basement rock (Timiskaming Tuff)

Instrument: Sprengnether Vertical, short-period, designated as S1130, galvanometric registration on photographic paper, paper speed 60 mm. per min.

RESOLUTE BAY, N.W.T.

φ = 74°41' N. λ = 94°54' W. h = 5 m.

Time corrections daily from W.W.V.

Foundation: Early Palaeozoic limestone

Instruments:

At the above location

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented N.S. Sprengnether Series DH short-period vertical seismometer, critical damping, paper speed 30 mm. per minute, designated z in table.

At a point 1000' N 15° W of the above location, on a permafrost foundation.

Sprengnether Series H long-period horizontal seismometer, critical damping, paper speed 60 mm. per minute, oriented E.W. Press long-period vertical seismometer, damping approximately critical, paper speed 30 mm. per minute, designated Z in table.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT	SYNCHRONOUS MAGNIFICATION
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				
SA (Shawinigan)	1.0		2200			
SF (Seven Falls)	1.0		2200			
SM (Seven Falls)	12.0		300	20:1	50 mm.	
S1130 (Kirkland Lake)	1.4	1.4				10,000 ca.
NS (Halifax)	20.	20.				6,000
EW (Halifax)	20.	20.				6,000
BS (Halifax)	1.0	0.2				
BL (Halifax)	1.0	60				
NS (Resolute Bay)	14.1	14.1				1,600
EW (Resolute Bay)	16.0	16.0				1,600
z (Resolute Bay)	1.4	1.4				10,000
Z (Resolute Bay)	12.2	15.5				

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS:
O - Ottawa
KL - Kirkland Lake
SH - Shawinigan Falls
SF - Seven Falls
H - Halifax
RB - Resolute Bay

October, 1953

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
1	H	iP	16 10 43 d	
	O	iP	16 10 51	
	SH	eP	16 10 55	
1	O	iP_1	16 56 04	
		iS_1	16 56 06	
1	O	iP_1	20 45 08	
		iS_1	20 45 10	
2	O	eP	01 23 20	
2	O	eP	09 13 12	
	KL	e(P)	09 13 14	
3	RB	iP	23 13 46 d	U.S.C.G.S. 15°N, 144 1/2°E Marianas Islands Felt: Guam H = 23:01:22
5	RB	iP	04 39 36 c	U.S.C.G.S
		PP	04 41 17	53 1/2°N, 160 1/2°E
		PPP	04 41 53	Near east coast of Kamchatka
		S	04 45 54	H = 04:31:40
		SS	04 49 01	Mag: 6 3/4-7 Pas. 6 1/2 (Berk.)
		ScS	04 49 21	RB Δ = 4700 km.
		L	04.9	O Δ = 7750 km.
		F	05.5	
	KL	iP	04 42 30 c	very large phase
	O	iP	04 42 55	
		PP	04 45 29	
		e	04 46 50	
		S	04 52 00	
		e	04 52 20	
		SS	04 56 24	
		SSS	04 59 46	
	SH	iP	04 42 56	
		S	04 52 00	
	SF	iP	04 42 56	
		PPP	04 47 18	
		iS	04 52 02	
		i	04 52 26	
		SSS	04 59 55	
	H	iP	04 43 24 c	
		PP	04 46 11	
		S	04 52 54	
		e	04 53 14	
		PS	04 53 34	
		PPS	04 53 53	
		SS	04 57.5	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
5	O	eP	10 07 53	U.S.C.G.S. 53 1/2°N, 162°E Off east coast of Kamchatka H = 09:56:40
5	KL	eP	14 23 22 Prob c	
5	H	iP_1 iS_1 i	20 42 37 20 42 53 20 42 55	Δ = 130 km.
5	O	iP' iPKS	23 35 25 c 23 38 55	U.S.C.G.S. 9°S, 152 1/2°E Off east coast of Papua, New Guinea H = 23:16:22 O Δ = 13.850 km.
6	RB O SH H	eP iP PP PPP eP iP	07 29 22 07 32 34 d 07 35 15 07 37 05 07 32 34 07 33 03 d	U.S.C.G.S. 51 1/2°N, 158°E Near southeast coast of Kamchatka H = 07:21:10 h = about 60 km.
6	O	eP i	20 48 32 20 48 49	
6	O	eP' PP SKS SKKS e PPS e SSS	21 57 15 21 58 48 22 04 20 22 06 00 22 09 16 22 10 09 22 14 24 22 20 20	U.S.C.G.S. 3 1/2°S, 151°E New Britain region H = 21:38:16 Mag: 6 3/4-7 (Pas) O Δ = 12,450 km.
6	O	eP' i	23 12 31 23 12 35	U.S.C.G.S. 23°S, 171°E Loyalty Islands region H = 22:53:34
7	O	iP_1 iS_1	15 54 01 15 54 06	Δ = 35 km.
7	RB	eP	21 49 07	
8	O	iP	03 30 54	
10	H	iP_1 iS_1 i	18 47 35 18 47 40 18 47 44	Δ = 40 km.
10	RB H O	iP iP eP	21 39 20 21 39 29 d 21 40 15	U.S.C.G.S. 38 1/2°N, 21°E Near west coast of Greece H = 21:29:14 RB Δ = 6,600 km. O Δ = 7,500 km.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
10	O	eP'	22 14 22	U.S.C.G.S. 8°S, 158°E Solomon Islands H = 21:55:32
11	H	iP_n	12 47 34	Δ = 210 km.
		iS_n	12 47 57	
11	RB	iP	13 17 03	U.S.C.G.S.
		PcP	13 18 40	50°N, 155 1/2°E
		PP	13 18 56	Northern Kurile Islands
		PPP	13 19 41	H = 13:08:34
		S	13 23 54	h = About 60 km.
		ScS	13 27 19	Mag: 6 3/4 (Pas)
		SS	13 27 56	RB Δ = 5,200 km.
		L	13.5	O Δ = 8,300 km.
		F	14.7	
	O	iP	13 20 12 c	
		PP	13 23 02	
		S	13 29 47	
		e	13 30 12	
		PS	13 30 28	
		SS	13 34 28	
		SSS	13 38 24	
	SH	eP	13 20 14	
		e	13 22 13	
		S	13 29 39	
		e	13 29 50	
		PS	13 30 14	
	SF	eP	13 19 27 ? SF time correction doubtful	
	H	eP	13 20 40	
		i	13 20 43	
		PP	13 23 34	
		S	13 30 35	
		e	13 30 57	
		PS	13 31 25	
	KL	eP	13 19 52 Prob c	
11	RB	eP	17 19 37	U.S.C.G.S.
		L	17.8	31 1/2°N, 83°E
		F	18.2	Western Tibet
				H = 17:08:00
13	KL	eP	09 00 17	U.S.C.G.S.
		eL	09 10.4	30°N, 113 1/2°W
	O	iP	09 00 31 c	Northern Gulf of California
		PP	09 01 47	H = 08:53:45
		PPP	09 02 12	Mag: 6 1/4 (Pas)
		PcP	09 03 12	O Δ = 3,650 km.
		S	09 06 00	RB Δ = 5,050 km.
		SSS	09 08 25	
		ScS	09 11 04	
		iL	09 11 34	
	SH	eP	09 01 03	
	SF	eP	09 01 04 ? SF time correction doubtful	
		PP	09 02 43 ?	
		S	09 07 02 ?	

cont'd on next page

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
13 cont'd.	SF	SSS	09 10 18 ?	
		ScS	09 11 06 ?	
		L	09 13 19 ?	
	H	eP	09 01 43	
		S	09 08 03	
		PPS	09 08 31	
		SS	09 11 11	
		SSS	09 12 04	
		L	09 15 21	
	RB	eP	09 02 16	
		L	09.3	
		F	10.2	
14	O	eP	00 57 20	U.S.C.G.S. Off north coast of Dominician Republic H = 00:51:42
14	O	eP	08 23 47	U.S.C.G.S. Off coast of Ecuador H = 08:15:30
14	RB	iP	14 56 49 c	U.S.C.G.S.
		S	15 04 20	43°N, 144 1/2°E
		PcP	14 57 47	Near east coast of Hokkaido, Japan
		F	15.5	
	KL	eP	14 59 25	microseism(?)
		iP	14 59 27 d	H = 14:47:17
		ipP	14 59 57 c	h = about 100 km.
	O	iP	14 59 45 c	Mag: 6 3/4(Pas and Berk.)
		PP	15 02 54	RB Δ = 6,200 km.
		PPP	15 04 50	O Δ = 9,400 km.
		S	15 10 02	
		SS	15 11 10	
	SF	eP	14 59 43	
		S	15 09 53	
		PS	15 10 51	
	SH	eP	14 59 46	
		PP	15 02 45	
		PPP	15 04 45	
		S	15 09 57	
	H	eP	15 00 06 c	
		S	15 10 25	
		e	15 11 17	
		PS	15 11 27	
16	SH	eP	08 54 04	U.S.C.G.S.
	O	iP	08 54 10	15°N, 45°W Mid Atlantic Ocean H = 08:46:29
16	O	iP	09 24 15	U.S.C.G.S. 16°N, 45 1/2°W Mid Atlantic Ocean

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
16	O	iP	10 00 01 c	U.S.C.G.S.
		i	10 00 13	16°N, 96 1/2°W
		PP	10 01 15	Oaxaca, Mexico
		PPP	10 01 47	H = 09:53:15
		PcP	10 02 41	Mag: = 6(Pas) and (Berk)
		e	10 03 41	O Δ = 3,700 km.
		S	10 05 32	
		SS	10 07 40	
		SSS	10 08 11	
	KL	iP	10 00 06 c	
		eP	10 00 20	
		e	10 00 30	
		PPP	10 02 24	
		S	10 06 05	
		SSS	10 09 29	
	SF	iP	10 00 22 ?	
		i	10 00 34 ?	
		PP	10 01 54 ?	
		S	10 06 18 ?	
		SSS	10 09 16 ?	
	H	eP	10 00 50 c	
		i	10 00 59	
		PPP	10 02 34	
		PcP	10 03 21	
		SSS	10 09 57	
16	H	iP	16 05 15	Blast?
		i	16 05 17	
16	O	eP	21 55 43	U.S.C.G.S. Near west coast of Greece H = 21:44:49
17	H	iP	01 04 37 d	U.S.C.G.S.
	O	iP	01 05 22 d	Near south coast of Crete H = 00:53:55
17	H	iP	01 44 40 c	
	O	iP	01 44 40 d	
17	RB	(P)	21 21 40 ?	U.S.C.G.S.
		S	21 28 18	52°N, 159°E
		ScS	21 31 38	Near southeast coast of Kamchatka
		L	21.6	
		F	22.7	H = 21:07:22
	KL	iP	21 18 24 c	RB Δ = 4,900 km.
	O	iP	21 18 48 c	O Δ = 7,950 km.
		PP	21 21 29	
		PPP	21 23 14	
		S	21 28 08	
	SH	eP	21 18 49	
	SF	iP	21 18 51 c	
		i	21 19 05	
		iS	21 28 15	
		SS	21 32 52	
	H	iP	21 19 17 c	

DATE	STN	PHASE	TIME (G.C.T.) h m s	REMARKS
17	O	eP	23 54 46	U.S.C.G.S.
		PP	23 57 31	52°N, 159°E
		PPP	23 59 08	Near east coast of Kamchatka
	SF	eP	23 54 50	H = 23:43:20
	H	iP	25 55 15	
19	H	iP	18 30 43 c	U.S.C.G.S.
		S	18 35 03	19 1/2°N, 65 1/2°W
	O	eP	18 31 13	North of Puerto Rico
		PP	18 32 13	H = 18:25:18
		PPP	18 32 30	
		S	18 36 07	
		SS	18 36 27	
		SSS	18 36 37	
	SH	eP	18 31 40	
	KL	eP	18 32 25	
		e	18 38 53	
20	H	eP	05 48 09	U.S.C.G.S.
		i	05 48 20	Near east coast of Black Sea
	SF		05 48 22	H = 05:36:53
	SH	eP	05 48 27	
	O	eP	05 48 44	
20	O	eP	10 35 43	U.S.C.G.S.
		S	10 40 37	Near north coast of Dominican Republic
				H = 10:30:10
20	O	eP	15 53 40	
	SF	iP	15 53 59 d	
21	H	eP	11 41 20 c	U.S.C.G.S.
	SF	eP	11 41 41 c	38°N, 20 1/2°E
	O	eP	11 42 07 c	Foreshock near west coast of Greece
	KL	eP	11 42 17	H = 11:31:01
				O Δ = 7,500 km.
21	O	eP	12 41 13	
	H	eP	12 41 32	
21	H	iP	18 50 08	U.S.C.G.S.
		S	18 58 23	38°N, 20 1/2°E
	SF	iP	18 50 31 d	Near west coast of Greece
		S	18 59 12	Minor damage on Cephalonia
		SS	19 03 37	H = 18:39:50
	SH	eP	18 50 42	Mag: 6 1/2(Pas)
	O	eP	18 50 55 d	O Δ = 7,500 km.
		S	18 59 45	
	KL	eP	18 51 04	
21	H	iP	23 54 17 d	U.S.C.G.S.
	SF	eP	23 54 41	38°N, 20 1/2°E
	O	eP	23 55 05	H = 23:44:00
				O Δ = 7,500 km.
22	KL	eP	13 13 49	U.S.C.G.S.
	O	eP	13 14 11	51°N, 156°E
	SH	eP	13 14 12	Near south coast of Kamchatka
	SF	eP	13 14 12	H = 13:02:39
	H	iP	13 14 39 d	h = about 60 km.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
22	O	eP	23 01 01	
		i	23 01 12	
	SF	eP	23 01 04 d	
	H	eP	23 01 39	
23	O	iP_n	15 58 53	O Δ = 150 km.
		i	15 58 55	
		eS_n	15 59 10	
		L	15 59 19	
	SF	e	16 00 21	
		e	16 00 35.5	
24	RB	eP'	23 38 31	U.S.C.G.S.
	KL	eP'	23 38 37	35 1/2°S, 179 1/2°W
	SH	eP'	23 38 37	Off north coast of North Island
	SF	iP'	23 38 46 d	New Zealand
		PKS	23 42 21	H = 23:19:40
		SKS	23 45 43	Mag: -6 1/4 (Berk)
		SKKS	23 47 42	RB Δ = 15,600
		PPS	23 52 40	
		SS	23 58 14	
	H	eP'	23 38 59	
		PKS	23 42 19	
		SS	23 59.3	
25	SH	eP	01 05 30	U.S.C.G.S.
	KL	eP	01 05 35	Near west coast of Costa Rica
	SF	iP	01 05 39	H = 00:58:10
26	O	eP	11 00 33 d	U.S.C.G.S.
		PcP	11 03 06	Near coast of El Salvador
		S	11 06 12	H = 10:53:50
	SH	eP	11 00 45	h = about 100 km.
	SF	iP	11 00 59 d	
26	O	iP_n	17 02 13	Δ = 150 km.
		S_n	17 02 30	
		L	17 02 38	
27	RB	iP	03 49 19 c	U.S.C.G.S.
	O	iP	03 53 21 d	43°N, 145°E
	SH	eP	03 53 21	Near east coast of Hokkaido,
	SF	iP	03 53 23 c	Japan
		S	04 03 58	H = 03:40:45
				RB Δ = 6,300 km.
				O Δ = 9,300 km.
27	O	iP'	11 00 38 c	U.S.C.G.S.
	SF	eP'	11 00 42	New Britain Island region
				H = 10:41:39
27	H	iP	18 30 50 c	U.S.C.G.S.
		pP	18 31 49	19°S, 66°W
		e	18 32 07	Southern Bolivia
		sP	18 32 18	Felt: Calama, Chile
		PP	18 33 16	H = 18:20:48
		S	18 39 03	h = about 300 km.
		e	18 40 20	Mag: 6 3/4(Pas), (Berk)
		e	18 44 49	
	KL	iP	18 31 20 d	
		ipP	18 32 31 d	
	O	iP	18 30 59	
		pP	18 32 00	

'quake cont'd on next page

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
27 cont'd.	O	sP	18 32 40	
		PP	18 33 37	
		pPP	18 34 40	
		PPP	18 35 07	
		S	18 39 19	
		ScS	18 40 23	
		sSS	18 45 14	
		SSS	18 46 40	
	SH	eP	18 31 04	
		pP	18 32 06	
		sP	18 32 43	
		S	18 39 28	
	SF	iP	18 31 07 c	
		i	18 32 03	
		pP	18 32 09	
		sP	18 32 39	
		PP	18 33 29	
		pPP	18 34 30	
		S	18 39 33	
		sS	18 40 20	
		SS	18 43 49	
		sSS	18 45 45	
		SSS	18 46 57	
27	O	eP	23 09 07	
28	H	eP	08 54 48	U.S.C.G.S.
		i	08 54 57	16 1/2°N, 98°W
	O	iP	08 53 57 d	Near coast of Oaxaca, Mexico
		PP	08 55 15	H = 08:47:06
		PPP	08 55 42	Mag: 5 3/4(Pas)
	KL	iP	08 54 00 c	O Δ = 3,800 km.
	SH	eP	08 54 18	
28	RB	iP	12 18 14 c	U.S.C.G.S.
	O	iP	12 21 22	49°N, 156°E
	SH		12 21 25	Kurile Islands
	H	eP	12 21 58	H = 12:09:36
				RB Δ = 5,300 km.
				O Δ = 8,350 km.
28	SF	iP_n	16 21 44.0	SF Δ = 225 km.
		iS_n	16 22 09.0	
	H	eP_n	16 22 22	H Δ = 375 km.
		iS_n	16 23 00	
29	RB	iP	14 53 17 d	U.S.C.G.S.
	O	iP	14 56 32 c	Near east coast of Kamchatka
		i	14 56 45	H = 14:45:13
	SH	eP	14 56 34	
	SF	iP	14 56 35 c	
		PP	14 59 22	
	H	iP	14 57 02 c	
30	H	eP	12 16 46	
30	O	eP_1	17 09 04	Δ = 40 km.
		eS_1	17 09 09	
		i	17 09 11	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
31	SF	iP	04 05 52 d	
	SH	e	04 06 34	
31	SF	iP	19 49 49 c	
	O	iP	19 49 45 c	
		i	19 49 58	
	SH	e	19 49 54	

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SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS: O - Ottawa SF - Seven Falls
KL - Kirkland Lake H - Halifax
SH - Shawinigan Falls RB - Resolute Bay

November, 1953

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
1	RB	iP	00 24 53 c	U.S.C.G.S.
	O	iP	00 28 00	50°N, 159°E
	SH	eP	00 28 02	Off southeast coast of Kamchatka
	SF	iP	00 27 55 c?	H = 00:16:25
	H	iP	00 28 29 d	SF time correction doubtful
1	RB	e	17 35 22	U.S.C.G.S. 36 1/2°N, 70°E Hindu Kush H = 17:24:40 h = about 200 km.
1	RB	eP	18 29 04	U.S.C.G.S. 22°N, 122°E Off east coast of Formosa H = 18:16:50 RB Δ = 8,950 km.
1	RB	iP	21 04 38 c	U.S.C.G.S.
		S	21 11 49	Kurile Islands
		L	21.5	H = 04:22:35
		F	22.0	
	O	eP	21 07 36 d	
2	O	eP	05 42 14 c	
	KL	e	05 49.2	
2	SH	eP	07 46 19	
	O	eP	07 47 09 c	
	RB	e	07 47 36	
2	RB	e	14 44 04	
2	H	iP1	17 09 41	
		i	17 09 53	
		iL	17 09 57	
2	H	iP1	17 24 34	Δ = 50 km.
		iS1	17 24 40	
		i	17 24 43	
4	RB	e	00 28 30	
4	RB	e	01 41 31	U.S.C.G.S. 71°N, 18°E Off north coast of Norway H = 01:35:55
4	RB	eP	04 03 13	U.S.C.G.S.
		PP	04 07 32	12 1/2°S, 166 1/2°E
		PPP	04 09 40	New Hebrides Islands
		S	04 15 08	H = 03:49:04
	O	eP'	04 08 00	Mag: 7.3 (Pas), 7 (Berk)
		PP	04 09 21	RB Δ = 11,600 km.
		i	04 11 35	O Δ = 13,200 km.('quake cont'd.)

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
4 (cont'd)	O	PPP	04 11 41	
		e	04 18 06	
		PS	04 19 04	
		PPS	04 20 22	
		e	04 22 10	
		SS	04 25 40	
		SSS	04 30 04	
	SH	eP'	04 08 17	
	SF	eP'	04 08 06 d	
		PP	04 09 31	
		e	04 11 23	
		SKS	04 14 51	
		PS	04 19 06	
		e	04 20 01	
		PPS	04 20 51	
		e	04 22 03	
		SS	04 26 21	
	H	iP'	04 08 21 d	
		PP	04 10 13	
		e	04 11 23	
		PPS	04 21 48	
		SS	04 27 50	
4	RB	iP	04 18 54	U.S.C.G.S.
	KL	e	04 18 30	12 1/2°S, 166 1/2°E
		eL	04 46.0	New Hebrides Islands aftershock
		F	05.6	H = 04:04:44
	O	eP'	04 23 31	
	SH	eP'	04 23 46	
	SF	eP	04 18 05 c	
		iP'	04 23 36 d	
	H	eP'	04 23 51	
4	RB	ePP	12 46 13	U.S.C.G.S.
		S	12 52 25	12°S, 166 1/2°E
		L	13.3	New Hebrides Islands
		F	14.2	H = 12:27:41
	O	eP'	12 46 29	Mag: 6 1/2 (Pas), 6 3/4 (Berk)
	SF	eP'	12 46 37	RB Δ = 11,550
	H	eP'	12 46 48	O Δ = 13,200
4	RB	e	14 48 31	
4	O	iP_n	18 21 02.5	O Δ = 280 km.
		i	18 21 03.5	
		eS_n	18 21 31.5	
		i	18 21 34.5	
	SF	iP_n	18 21 07	SF Δ = 320 km.
		eS_n	18 21 39	
	SH	eP	18 21 18	
5	SF	eP	08 34 14 d	U.S.C.G.S.
	RB	iP	08 32 16 c	36 1/2°N, 70°E
		S	08 42 33	Hindu Kush
				H = 08:21:35
				h = about 200 km.
6	SF	eP	17 31 26 c	
6	O	eP_1	21 09 05	O Δ = 25 km.
		iS_1	21 09 09	
	SH	e	21 09 44	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
7	O	iPn	02 00 40	O Δ = 170 km.
		iSn	02 00 59	
	SH	ePn	02 00 50	
		eSn	02 01 14	
	SF	ePn	02 01 05	SF Δ = 385 km.
		iSn	02 01 44	
		i	02 01 53	May be rockburst at Lyon Mountain, N. Y.
7	RB	e	08 42 08	
7	RB	e	12 41 32	
8	RB	e	03 26 00	
8	RB	e	14 55 55	
9	RB	e	04 28 48	
		e	04 32 07	
9	H	eP	11 59 22	
9	SF	iP	15 59 43 c	
	H	eP	15 59 55 c	
9	RB	iP	17 33 47 c	U.S.C.G.S.
		PP	17 35 34	52 1/2°N, 159°E
		S	17 40 21	Near east coast of Kamchatka
		L	17.7	H = 17:25:42
	KL	eP	17 36 36	h = about 60 km.
	O	eP	17 37 00 d	Mag: 6 1/2 (Pas)
		PP	17 39 40	RB Δ = 4,800 km.
		S	17 46 12	O Δ = 7,850 km.
		PPS	17 47 04	
	SF	eP	17 37 03 d	
		iS	17 46 20	
	SH	eP	17 37 08	
	H	eP	17 37 30	
		S	17 47 12	
10	H	eP	15 14 09	U.S.C.G.S.
		S	15 18 35	39°N, 29°W
	SF	eS	15 19 57	Azores Islands. Felt
		L	15 23.7	H = 15:08:35
	RB	e	15 17 00	
10	RB	iP	23 48 40 c	U.S.C.G.S.
		PP	23 50 35	50 1/2°N, 157°E
		PPP	23 51 19	Near south coast of Kamchatka
		iS	23 55 28	H = 23:40:20
		SS	23 58 51	h = about 60 km.
		L	00.1	Mag: 7-7 1/4 (Pas)
		F	01.1	RB Δ = 5,000 km.
	KL	iP	23 51 29 c	O Δ = 8,100 km.
		eS	24 00 36	
	O	eP	23 51 51 c	
		PP	23 54 17	
		PPP	23 56 11	
		S	24 01 16	
		e	24 01 40	
		PPS	24 01 50	
		SS	24 06 10	
		SSS	24 09 12	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
10 (cont'd)	SH	eP	23 51 53	
		e	23 51 59	
		PP	23 54 46	
		PPP	23 56 26	
		S	24 01 20	
		e	24 01 40	
		PS	24 01 49	
	SF	eP	23 51 55 c	
		PP	23 54 24	
		PPP	23 56 19	
		S	24 01 12	
		PS	24 01 46.	
		PPS	24 01 52	
		e	24 02 27	
		SS	24 05 51	
		SSS	24 08 51	
		G	24 10 13	
	H	iP	23 52 21 c	
		S	24 02 12	
		ScS	24 02 37	
		PS	24 03 00	
11	RB	iP	07 39 34	U.S.C.G.S. Ryukyu Islands region H = 07:27:55
13	KL	eP'	16 36 12	U.S.C.G.S.
	SF	iP'	16 36 12 d	3 1/2°N, 96°E
		PKS	16 39 52	Near west coast of Sumatra
	SH	eP'	16 36 30	H = 16:17:02
	H	iP'	16 36 14 d	0 Δ = 14,600 km.
	0	eP'	16 36 16 d	
		e	16 38 19	
		iPP	16 38 28	
		iPKS	16 39 36	
		e	16 39 58	
13	0	e	19 35 02	U.S.C.G.S.
		SKS	19 41 16	13°S, 166°E
		PS	19 45 04	New Hebrides Islands
		SS	19 51 40	H = 19:15:37
	SH	ePP	19 36 09	Mag: 6 3/4 (Pas)
		SKS	19 41 14	0 Δ = 13,250 km.
		SKKS	19 43 06	
		iPS	19 46 04	
		e	19 51 23	
		iSS	19 53 14	
	H	eP'	19 35 01	
		e	19 36 35	
		e	19 40 11	
		e	19 45 09	
		PS	19 46 55	
		e	19 48 05	
		SS	19 54 13	
14	RB	iP	20 11 39 d	U.S.C.G.S.
		PcP	20 13 22	52°N, 160°E
		PPP	20 13 50	Off southeast coast of Kamchatka
		S	20 18 16	H = 20:03:27
		SS	20 21 27	RB Δ = 4,850 km.
		ScS	20 21 58	0 Δ = 7,850 km.

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
14 cont'd	RB	L	21.5	
		F	21.8	
	KL	eP	20 14 28	
		i	20 14 39	
	O	eP	20 14 52 d	
		PP	20 17 15	
	SH	eP	20 14 53	
	SF	eP	20 14 54	
		S	20 24 12	
		PS	20 24 54	
	H	eP	20 15 21 d	
		PP	20 18 13	
		S	20 24 55	
15	O	eP	13 40 44	
16	O	eP'	16 19 49 c	U.S.C.G.S.
	SF	iP'	16 19 56 c	Loyalty Islands
				H = 16:00:53
16	SF	iP'	16 35 49 d	U.S.C.G.S.
				Loyalty Islands
				H = 16:16:44
16	O	eP'	17 36 25 c	U.S.C.G.S.
	SF	iP'	17 36 30 c	21 1/2°S, 169°E
	H	eP'	17 36 52	Loyalty Islands
				H = 17:17:27
				O Δ = 13,600 km.
16	O	iPn	19 08 53	O Δ = 150 km.
		i	19 08 55	
		eSn	19 09 10	
		L	19 09 18	
17	H	eP	01 08 38	
17	SF	iP'	04 38 39 d	U.S.C.G.S.
				20°S, 168°E
				Loyalty Islands
				H = 04:19:35
17	O	iP'	05 46 56 c	U.S.C.G.S.
	SF	iP'	05 46 59 c	5 1/2°S, 147°E
				Off northeast coast of New Guinea
				H = 05:27:53
17	O	eP'	10 04 20 d	U.S.C.G.S.
		i	10 04 29	Loyalty Islands
	SF	eP'	10 04 27 d	H = 09:45:23
17	O	iP	13 36 42 c	U.S.C.G.S.
		i	13 37 23	14°N, 92°W
		PP	13 38 05	Near coast of Guatemala
		e	13 39 00	H = 13:29:52
		S	13 42 14	Mag: 7 1/4 - 7 1/2 (Pas), 7 - 7 1/4 (Berk)
		i	13 44 04	
		SS	13 44 44	O Δ = 3,750 km.
		e	13 45 38	
		ScS	13 47 12	

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
17 cont'd.	KL	iP	13 36 53 c	
		eG	13 45.4	
		F	14.6	
	SH	eP	13 37 00	
		e	13 37 46	
		PP	13 38 22	
		PcP	13 39 38	
		e	13 40 15	
		e	13 40 37	
		S	13 42 48	
		e	13 44 49	
	SF	eP	13 37 10 c	
		PP	13 38 37	
		PPP	13 38 57	
		S	13 43 02	
		SS	13 45 34	
		SSS	13 46 05	
		e	13 46 51	
		ScS	13 47 27	
	H	iP	13 37 23 c	
		i	13 37 42	
		e	13 38 12	
		PP	13 38 57	
		S	13 43 24	
17	H	eP	16 12 01	
17	H	iP	20 08 13 d	U.S.C.G.S.
		S	20 12 10	32°N, 39°W
				North Atlantic Ocean
				H = 20:03:10
17	O	eP	22 54 52 d	U.S.C.G.S.
		PP	22 57 30	Near east coast of Kamchatka
	SF	iP	22 54 54 d	H = 22:43:30
	H	eP	22 52 22 d	
17	O	eP	23 25 06	
18	O	eP	14 33 50	U.S.C.G.S.
		pP	14 34 11	16°N, 94°W
		PPP	14 35 20	Chiapas, Mexico
	H	eP	14 35 01 d	H = 14:27:15
				h = about 60 km.
20	H	iP	02 38 24 c	U.S.C.G.S.
		pP	02 38 46	20 1/2°S, 69 1/2°W
	O	eP	02 38 29 c	Northern Chile. Felt
		pP	02 38 52	H = 02:27:46
	SH	eP	02 38 29	h = about 60 km.
		e	02 38 54	
	SF	eP	02 38 40	
		pP	02 39 02	
		i	02 39 22	
	KL	eP	02 38 50	
20	RB	e	03 31 34	
	O	eP	03 32 28	
	KL	e	03 32 39	
20	H	eP	19 24 15	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
20	O	eP1	20 35 29	O Δ = 55 km.
		eS1	20 35 36	
21	H	iPn	04 03 43	H Δ = 350 km.
		eSn	04 04 17	
		i	04 04 19	
21	RB	e	07 26 38	
	O	eP	07 27 41	
21	O	eP	08 34 00	
23	RB	iP	03 53 24 d	U.S.C.G.S. 13°N, 145°E Off coast of Guam H = 03:41:45
23	O	iP	05 42 04 d	
	H	eP	05 42 45	
23	H	iP	06 01 03 d	U.S.C.G.S. 42°N, 90 1/2°E Sinkiang Province, China H = 05:47:58
		i	06 01 07	
24	O	eP	09 14 57 d	U.S.C.G.S. 14°N, 92°W Near coast of Guatemala H = 03:41:45
	RB	e	09 17 21	
24	RB	iP	10 08 16 c	U.S.C.G.S. Off northwest coast of Hokkaido, Japan H = 09:59:50
	O	iP	10 12 19 c	
25	O	iPn	15 14 42	O Δ = 150 km.
		iSn	15 14 59	
25	RB	iP	17 58 34 d	U.S.C.G.S. 34°N, 141°E Near south coast of Honshu, Japan H = 17:48:49 Mag: 8 1/4 (Pas), 8 1/4 - 8 1/2 (Berk) O Δ = 10,400 km. RB Δ = 7,250 km.
		S	18 07 37	
	KL	iP	18 01 52 d	
		iS	18 14 00	
		F	20.3	
	SH	eP	18 02 09	
		e	18 04 04	
		e	18 05 07	
		PP	18 05 58	
		PPP	18 08 02	
		e	18 09 38	
		SKS	18 12 35	
		SKKS	18 12 51	
		PS	18 14 20	
		PPS	18 14 52	
		SSS	18 23 07	
	O	iP	18 02 10 d	
		PP	18 05 58	
		e	18 09 42	
		SKS	18 12 40	
		SKKS	18 12 56	
		PS	18 14 44	
		SS	18 19 40	

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
25 cont'd.	SF	iP	18 02 11 d	
		PP	18 05 50	
		e	18 06 14	
		PPP	18 07 33	
		SKS	18 12 23	
		SKKS	18 12 42	
		PS	18 13 40	
		PPS	18 14 23	
		SS	18 18 45	
	H	eP	18 02 31	
		PP	18 06 32	
		PPP	18 08 32	
		PS	18 15 08	
25	RB	iP	19 13 09	U.S.C.G.S. 34°N, 141°E Honshu, Japan, (aftershock) H = 19:02:23
25	RB	iP	20 32 12	
25	RB	e	21 49 01	
25	RB	iP	23 46 48 c	U.S.C.G.S. 34°N, 141 1/2°E Honshu, Japan (aftershock) H = 23:36:03
25	RB	iP	23 50 28 c	
26	RB	iP	00 14 13 d	U.S.C.G.S.
		PcP	00 14 48	34°N, 141°E
		PP	00 16 39	Off south coast of Honshu,
		PPP	00 18 16	Japan. Felt
		S	00 23 13	H = 00:03:28
		SS	00 27 31	Mag: 6 3/4 (Pas), 7 (Berk)
		L	00.5	
	KL	eP	00 16 31	
	O	eP	00 16 47	
	SH	eP	00 16 49	
	SF	eP	00 16 49	
26	RB	e	00 42 53	
26	RB	iP	01 30 30 d	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 01:19:43
26	RB	iP	01 58 12 d	U.S.C.G.S.
	KL	eP	02 00 08	34°N, 141°E Off south coast of Honshu, Japan H = 01:47:27
26	RB	e	02 07 43	U.S.C.G.S. Honshu, Japan (aftershock) H = 01:56:58
26	RB	e	03 35 10	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
26	RB	e	03 43 45	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 03:33:00
26	RB	e	04 32 20	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 04:21:35
26	RB	iP	05 14 43 d	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 05:03:59
26	RB	e	05 18 50	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 05:08:05
26	RB	iP	08 24 57 d	U.S.C.G.S.
		PcP	08 25 29	34°N, 141°E
		PP	08 27 14	Off south coast of Honshu,
		PPP	08 28 56	Japan. Felt
		S	08 33 32	H = 08:14:12
		ScS	08 34 59	Mag: 6 3/4-7 (Pas), 7 (Berk)
		L	08.6	RB Δ = 7,200 km.
		F	10.0	O Δ = 10,350 km.
	KL	eP	08 27 16 Prob d	
	O	eP	08 27 33 c	
		PP	08 31 20	
		SKS	08 38 14	
		PS	08 40 08	
	SH	eP	08 27 35	
26	RB	iP	08 37 19 d	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 08:26:34
26	RB	e	08 50 06	
26	RB	iP	11 47 05 d	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 11:36:20
26	RB	iP	11 52 18	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 11:41:33
26	RB	iP	11 54 50 d	U.S.C.G.S. 34°N, 141°E Honshu, Japan (afterchock) H = 11:44:05
26	RB	e	14 54 50	
26	RB	e	19 36 56	
26	RB	e	20 07 19	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
27	RB	iP	00 12 05 d	U. S. C. G. S. 34°N, 141°E Honshu, Japan (aftershock) H = 00:01:20
27	RB	iP	01 35 17	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 01:24:46
27	RB	iP	02 05 17	U.S.C.G.S. 34°N, 141°E Honshu, Japan (aftershock) H = 01:54:36
27	RB	e	05 30 41	
27	RB	iP PcP S L F	11 40 47 11 41 21 11 49 51 12.1 12.2	U.S.C.G.S. 33 1/2°N, 141 1/2°E Off south coast of Honshu, Japan H = 11:30:06 h = about 60 km.
	O	eP	11 43 22 c	
27	RB	iP	13 41 33	
27	RB	iP	18 42 17	U.S.C.G.S. 33 1/2°N, 141°E Honshu, Japan (aftershock) H = 18:31:31
28	RB	iP	02 21 21	U.S.C.G.S. 33 1/2°N, 141 1/2°E Honshu, Japan (aftershock)
28	RB	e	02 53 44	
28	RB	e	04 36 02	U.S.C.G.S. Honshu, Japan (aftershock) H =04:25:16
28	RB	iP	05 21 56	U.S.C.G.S. Honshu, Japan (aftershock) H = 04:25:16
28	RB	iP	05 21 56	U.S.C.G.S. Honshu, Japan (aftershock) H = 05:11:11
28	RB	e	07 06 56	
28	RB	e	14 24 11	U.S.C.G.S. 34°N, 141 1/2°E Hondhu, Japan (aftershock) H = 14:13:30 h = about 60 km.
28	SH	eP1 eS1	15 47 21 15 47 30	Δ = 75 km.
	O	ePn eSn	15 47 40 15 48 05	Δ = 230 km.
	SF	ePn eSn	15 47 41 15 48 12	Δ = 300 km.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
28	RB	iP	19 39 37	U.S.C.G.S. 34 1/2°N, 141°E Honshu, Japan (aftershock) H = 19:28:53
28	RB	e	20 04 39	
28	RB	iP	20 27 39 d	U.S.C.G.S.
	H	eP	20 27 43	37°N, 20°E
	SF	eP	20 28 08 c	Off west coast of Greece
		i	20 28 17	H = 20:17:21
	0	eP	20 28 32	
28	RB	iP	23 26 05 d	U.S.C.G.S.
	H	iP'	23 30 50	17°S, 93°E
	SF	iP'	23 30 51 d	Indian Ocean about 1000 miles
			23 31 28	southwest of Sumatra
	SH	eP'	23 30 54	H = 23:11:07
	KL	iP'	23 30 55	
	0	eP'	23 30 59	
		1	23 31 22	
29	RB	e	00 46 00	U.S.C.G.S.
	SF	eP	00 48 31	44°N, 86°E
	0	eP	00 48 42	Northern Sinkiang Province,
				China
				H = 00:35:40
29	RB	e	04 18 02	U.S.C.G.S. 34 1/2°N, 141 1/2°E Honshu, Japan (aftershock) H = 04:07:19
29	RB	e	18 31 54	U.S.C.G.S. Near east coast of Honshu, Japan H = 18:21:07
30	RB	e	02 51 22	
30	RB	e	03 51 55	
30	RB	e	06 09 01	
30	RB	e	11 46 09	
30	H	iP	13 32 16 c	

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SEISMOLOGICAL SERVICE OF CANADA
EASTERN DIVISION
DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa	SF - Seven Falls
KL - Kirkland Lake	H - Halifax
SH - Shawinigan Falls	RB - Resolute Bay

December, 1953

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
1	RB	iP	04 22 39	U.S.C.G.S.
		S	04 28 33	52°N, 179 1/2°E
	SF	eP	04 25 43 d	Andreanof Islands
		S	04 34 15	H = 04:15:15
		SSS	04 41 42	
	H	eP	04 26 17 d	
1	RB	iP	05 19 52 c	U.S.C.G.S.
		PcP	05 20 49	29°N, 128 1/2°E
		PP	05 22 38	Ryukyu Islands
		PPP	05 24 25	H = 05:08:30
		S	05 29 02	h = about 60 km.
		ScS	05 30 06	Mag: = 6 3/4-7 (Pas) 7 (Berk)
		F	06.0	RB Δ = 8,000 km.
	KL	eP	05 22 06	O Δ = 11,350 km.
	SF	iP	05 22 19 c	
		PP	05 26 40	
		PPP	05 28 41	
		SKS	05 32 39	
		S	05 33 33	
	O	iP	05 22 21 c	
		i	05 25 35	
		i	05 25 51	
		PP	05 26 30	
		PPP	05 28 55	
		S	05 32 40	
		e	05 34 18	
		e	05 35 53	
	SH	eP	05 22 22	
		PP	05 26 37	
		S	05 32 38	
	H	eP	05 22 37 c	
		PP	05 26 48	
		i	05 26 59	
		i	05 27 04	
		SKS	05 32 49	
		e	05 34 32	
		PS	05 36 12	
		PPS	05 37 29	
1	RB	iP	05 36 51 d	
1	H	iP1	13 37 26	Δ = 55 km.
			13 37 33	
1	O	eP	16 18 23	
1	RB	e	16 29 02	U.S.C.G.S.
				33°N, 141°E
				Honshu, Japan (aftershock)
				H = 16:18:15

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
1	H	iP1	17 27 28	Δ = 40 km.
		iS1	17 27 33	
1	H	iP1	17 34 00	Δ = 40 km.
		iS1	17 34 05	
1	H	iP1	17 43 36	Δ = 40 km.
		iS1	17 43 41	
1	H	iP1	17 50 11	Δ = 35 km.
		iS1	17 50 15	
1	H	iP1	17 56 12	Δ = 35 km.
		iS1	17 56 16	
1	SH	eSn	20 06 59	Δ = 310 km.
	O	ePn	20 07 07	
		eSn	20 07 39	
		L	20 08 03	
	SF	iPn	20 07 11	Δ = 310 km.
		iSn	20 07 43	
1	O	iPn	20 11 53	Δ = 150 km.
		iSn	20 12 10	
		L	20 12 18	
1	O	eP	20 42 33	U.S.C.G.S.
	KL	eP	20 42 47 d	Near coast of Nicaragua
	SH	eP	20 42 48	H = 20:35:35
	SF	eP	20 42 58	
	RB	iP	20 46 00	
1	O	iP'	21 40 17 c	U.S.C.G.S.
		pPP	21 43 06	25°S, 180°
	SF	iP'	21 40 22 c	About 450 miles south of Fiji
		pPP	21 43 13	Islands
	H	iP'	21 40 34 c	H = 21:22:27
				h = about 500 km.
2	RB	e	00 41 20	
2	RB	e	04 24 32	
2	RB	eP	04 38 41	U.S.C.G.S.
		PP	04 43 00	3 1/2°S, 141 1/2°E
		iS	04 49 26	Northern New Guinea
		L	05.5	H = 04:24:50
		F	07.0	Mag: 6 3/4 (Pas)
	SF	eP'	04 43 54 c	
		PP	04 46 01	
		SKS	04 50 46	
		SKKS	04 52 50	
		PS	04 55 58	
		PPS	04 57 31	
		SS	05 02 39	
		SSS	05 07 16	
	O	eP'	04 43 56	
		pP'	04 44 19	
		PP	04 45 49	
		PKS	04 47 15	
		SKS	04 51 00	
		PS	04 56 00	
		e	05 01 47	

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
2 cont'd.	H	ePP	04 46 37	
		e	04 47 32	
		e	04 48 26	
		SKS	04 51 22	
		SKKS	04 53 32	
		PS	04 56 42	
		PPS	04 58 42	
2	RB	e	06 20 47	
2	RB	e	07 11 10	
2	RB	eP	09 58 02	U.S.C.G.S. 33 1/2°N, 141 1/2°E Honshu, Japan (aftershock) H = 09:47:17
2	RB	eP	10 41 12	U.S.C.G.S. 33 1/2°N, 141 1/2°E Honshu, Japan (aftershock) H = 10:30:31 h = about 60 km.
3	SF	iP'	01 29 04	U.S.C.G.S. 2°S, 140 1/2°E Off north coast of New Guinea H = 01:09:57
3	RB	eP	01 57 41	
3	RB	eP	12 18 10	U.S.C.G.S.
	O	iP	12 21 25 d	Off east coast of Kamchatka H = 12:10:10
3	RB	iP	15 05 44	U.S.C.G.S.
		S	15 15 16	31°N, 85 1/2°E
		SS	15 20 28	Central Tibet
		L	15.4	H = 14:54:03
		F	16.1	
3	O	iP	15 32 57	
	H	iP	15 32 57 d	
	SF	iP	15 33 07	
	KL	iP	15 33 14	
3	H	iP1	19 04 17	Δ = 25 km.
		iS1	19 04 21	
3	O	eP	20 51 53	
4	RB	e	02 16 22	
4	RB	iP	08 35 14	U.S.C.G.S. Honshu, Japan (aftershock) H = 08:24:29
4	KL	eP	15 01 16	U.S.C.G.S.
		F	15.8	49 1/2°N, 129°W
	O	eP	15 01 45 d	Off coast of Vancouver Island
		PP	15 03 13	H = 14:54:46
		PPP	15 03 22	Mag: 6 1/2 (Pas), 6 (Berk)
		PcP	15 04 19	
		S	15 07 29	
		SS	15 10 06	

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
4	O	e	15 11 40	
		L	15 12 54	
	SH	eP	15 02 10	
		PP	15 03 38	
	SF	eP	15 02 09 c	
		PP	15 03 35	
		S	15 08 01	
		SS	15 10 26	
		SSS	15 10 48	
		e	15 12 10	
		L	15 13 26	
	H	eP	15 02 24 d	
		e	15 03 06	
		PP	15 04 15	
		e	15 09 24	
		SS	15 12 14	
		ScS	15 12 30	
		SS	15 12 41	
5	RB	iP	09 52 00 d	U.S.C.G.S. 34°N, 141 1/2°E Honshu, Japan (aftershock) H = 09:41:17
5	RB	e	17 30 55	
5	RB	e	17 34 17	
5	RB	iP	18 50 09 d	U.S.C.G.S. 34°N, 141 1/2°E Honshu, Japan (aftershock) H = 18:29:35
5	O	iP_n	23 08 00	Δ = 200 km.
		iS_n	23 08 22	
	SF	eP_n	23 08 31	Δ = 390 km.
		eS_n	23 09 10	
	SH	eS_n	23 08 42	
6	RB	e	04 14 15	U.S.C.G.S. 52°N, 160 1/2°E Off east coast of Kamchatka H = 04:06:03
6	O	iP'	08 57 57 d	U.S.C.G.S. 4 1/2°S, 153°E New Britain Region H = 08:39:29 h = about 250 km.
6	RB	e	11 29 37	
6	H	iP_n	15 27 56	Δ = 210 km.
		iS_n	15 28 19	
6	RB	e	15 42 25	
6	RB	e	17 37 41	U.S.C.G.S.
	O	eP'	17 43 01 c	0°, 123 1/2°E
		PP	17 45 21	Northern Celebes
		PKS	17 46 35	H = 17:23:54
	H	eP'	17 43 15 c	h = about 100 km.
		PP	17 45 50	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
7	H	iP	02 16 22 d	U.S.C.G.S.
		PcP	02 16 40	22°S, 68 1/2°W
		SP	02 17 01	Northern Chile
		PP	02 19 13	Heavy casualties and extensive
		pPPP	02 20 57	damage
		S	02 25 08	H = 02:05:37
		ScS	02 25 54	h = about 100 km.
		e	02 27 01	Mag: 7 1/4 (Pas), 7 (Berk)
		G	02 33 21	
	O	iP	02 16 26 d	
		SP	02 17 06	
		SPP	02 19 38	
		S	02 25 18	
		ScS	02 26 00	
		e	02 27 00	
		sSS	02 30 12	
		G	02 33 20	
	SH	eP	02 16 32 d	
		pP	02 16 56	
		SP	02 17 11	
		SPP	02 19 47	
		S	02 25 31	
		ScS	02 26 14	
	SF	iP	02 16 36 d	
		pP	02 17 04	
		e	02 17 25	
		e	02 18 47	
		PP	02 19 15	
		SPP	02 20 00	
		iS	02 25 34	
		PPS	02 26 22	
		SSS	02 33 29	
	KL	iP	02 16 45 d	
		ipP	02 17 13 d	
	RB	iP	02 19 03 d	
		pP	02 19 32 d	
		PcP	02 22 59	
		PPP	02 26 01	
		S	02 30 03	
		L	02.7	
		F	03.5	
7	SF	eP	02 44 52	
		i	02 48 25	
7	RB	iP	14 21 41	U.S.C.G.S.
		L	14.4	39 1/2°N, 141 1/2°E
		F	15.0	Near east coast of Honshu, Japan
	O	iP	14 24 28 c	Felt
		i	14 24 41	H = 14:11:32
		S	14 35 15	RB Δ = 6,650 km.
	SF	eS	14 35 15	O Δ = 9,850 km.
	SH	eP	14 24 29	
7	RB	e	16 55 53	
7	RB	iP	19 20 27	U.S.C.G.S.
		L	19.4	34°N, 141 1/2°E
		F	20.0	Honshu, Japan (aftershock)
				H = 19:09:41
7	RB	e	21 50 17	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
8	RB	iP	02 22 00	U.S.C.G.S.
		S	02 31 10	29 1/2°N, 142°E
		L	02.6	Bonin Islands Region
		F	03.1	H = 02:10:47
	0	iP	02 22 58	
8	RB	e	11 50 15	
8	RB	e	13 47 49	
8	0	iP_n	16 41 20	Δ = 150 km.
		iS_n	16 41 37	
		L	16 41 45	
10	H	iP'	01 49 40 d	U.S.C.G.S.
	0	iP'	01 49 52 d	9 1/2°S, 159°E
				Solomon Islands
				H = 01:30:36
				h = about 100 km.
12	RB	e	05 42 05	U.S.C.G.S.
				Marianas Islands region
				H = 05:30:40
				h = about 300 km.
12	0	eP	08 35 45	U.S.C.G.S.
	SF	e(P)	08 36 12	49°N, 139 1/2°W
		L	08 49 16	Off coast of Vancouver Island. B. C.
				H = 08:28:38
12	0	eP	16 43 59 c	U.S.C.G.S.
	SF	iP	16 44 17 d	3 1/2°S, 81°W
				Peru (Foreshock)
				H = 16:35:10
12	0	eP	17 40 11 c	U.S.C.G.S.
		PcP	17 41 29	3 1/2°S, 81°W
		i	17 41 52	Near coast of Peru
		PP	17 42 14	Several killed and heavy
		PPP	17 43 11	property damage in Tumber and
		S	17 47 16	Corrales
		PPS	17 47 36	H = 17:31:22
		SS	17 50 02	Mag: 7 3/4 (Pas)
	SH	eP	17 40 22	0 Δ = 5,400 km.
		e	17 42 05	RB Δ = 8,650 km.
		PP	17 42 21	
		PPP	17 43 29	
		e	17 45 25	
		S	17 47 20	
		ScS	17 50 06	
		G	17 51 48	
	H	eP	17 40 26 c	
		PcP	17 41 45	
		PP	17 42 20	
		e	17 43 58	
		e	17 45 38	
		S	17 47 37	
	SF	iP	17 40 29 c	
		PcP	17 42 02	
		PP	17 42 38	
		PPP	17 43 42	
		e	17 44 50	
		iS	17 47 42	

'quake cont'd.

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
12 (Cont'd)	SF	ScS	17 50 19	
		SS	17 51 22	
	KL	eP	17 40 31	
		i(pP)	17 40 41	
	RB	iP	17 43 26 c	
		PcP	17 43 48	
		PP	17 46 28	
		PPP	17 48 31	
		S	17 53 19	
13	KL	e(P)	03 31 30	
13	RB	iP	07 04 26 d	U.S.C.G.S.
		S	07 11 27	50°N, 158 1/2°E
		L	07.5	Off south coast of Kamchatka
		F	07.9	H = 06:56:00
	KL	eP	07 07 13 d	
		e(pP)	07 07 26	
	O	iP	07 07 37 d	
		PP	07 10 17	
	SH	eP	07 07 38	
		e	07 07 52	
	SF	iP	07 07 39 d	
		PP	07 10 18	
		S	07 17 08	
	H	iP	07 08 06 d	
14	RB	e	13 52 15	U.S.C.G.S. 19 1/2°N, 122°E Off north coast of Luzon Philippine Islands. Felt: Aparri H = 13:39:46
14	O	eP	20 00 34	
15	RB	e	03 56 58	
15	RB	e	18 05 24	
16	RB	e	02 59 23	
16	H	iP_1	14 32 59	Δ = 25 km.
		iS_1	14 33 03	
16	H	iP_1	14 36 59	Δ = 25 km.
		iS_1	14 37 03	
16	H	iP_1	14 43 09	Δ = 25 km.
		iS_1	14 43 13	
17	O	iP	06 33 44 d	
17	H	iP_1	14 03 06	Δ = 25
		iS_1	14 03 10	
17	H	iP_1	14 11 54	Δ = 25
		iS_1	14 11 58	
17	H	iP_1	14 16 16	Δ = 25
		iS_1	14 16 20	
17	O	iP	23 03 14 c	
		S	23 09 46	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
18	RB	e	07 51 52	
19	SF	eP	16 08 43	
20	RB	iP	00 31 02 c	U.S.C.G.S.
		S	00 38 52	39 1/2°N, 136 1/2°E
	KL	eP	00 33 32 c	Sea of Japan
	SF	eP	00 33 49	H = 00:21:19
	O	iP	00 33 50 c	h = about 300 km.
20	H	iP	09 31 37 c	U.S.C.G.S.
		S	09 41 25	Central Chile. Slight
		e	09 43 20	damage at Illapel
		SS	09 46 30	H = 09:19:40
		SSS	09 49 41	
	O	iP	09 31 38 c	
		i	09 31 52	
		S	09 41 26	
		SS	09 46.5	
	SH	eP	09 31 44	
	SF	iP	09 31 48 c	
		e	09 32 34	
		iS	09 41 45	
		SKS	09 42 00	
	KL	eP	09 31 55 Prob c	
20	H	iP_n	13 25 15	Δ = 215 km.
		iS_n	13 25 38	Time Uncertain
20	RB	iP	21 30 55 c	U.S.C.G.S.
		S	21 39 35	34 1/2°N, 140 1/2°E
		L	21.5	Near south coast of Honshu,
		F	22.1	Japan
	KL	eP	21 3 3 18	H = 21:20:14
	O	iP	21 33 32 d	
	SF	eP	21 33 33	
	SH	eP	21 33 56	
21	O	iP_n	05 10 15	Δ = 180 km.
		iS_n	05 10 35	
	SH	eP_n	05 10 23	Δ = 245 km.
		e	05 10 42	
		eS_n	05 10 49	
	SF	iP_n	05 10 40	Δ 350 km.
		e	05 11 12	
		iS_n	05 11 18	H = 05:09:47
	KL	e	05 12 19.5	Epicentre in New York State.
21	RB	iP	17 46 04 c	U.S.C.G.S.
		S	17 54 03	42°N, 141 1/2°E
		e	17 54 34	Near south coast of Hokkaido,
		ScS	17 55 49	Japan
	KL	e	17 48.6	H = 17:36:12
	O	iP	17 48 57 d	
	SF	eP	17 49 00	
		i	17 49 19	
21	O	iP_n	22 11 51	Δ = 210 km.
		eS_n	22 12 14	
21	RB	e	22 57 36	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
22	KL	eP'	08 08 56	U.S.C.G.S.
	SF	iP	08 08 56	6°S, 109 1/2°E
	O	iP'	08 09 02 c	Java Sea
	H	iP'	08 09 03 c	H = 07:49:34
22	RB	e	11 26 31	U.S.C.G.S. Near east coast of Honshu, Japan Felt = Tokyo H = 11:15:55
22	RB	iP	18 58 04	U.S.C.G.S.
		S	19 08 45	16°N, 119°E
		ScS	19 08 56	Near west coast of Luzon, Philippine Islands
		F	19.4	H = 18:45:18
23	O	iP	04 53 51	U.S.C.G.S.
	SF	eP	04 53 51 c	1°N, 77°W Southwestern Columbia Many injured and extensive property damage in Narino H = 04:45:23
23	RB	iP	18 39 16 d	U.S.C.G.S.
	KL	eP	18 41 56	47 1/2°N, 157 1/2°E
	O	eP	18 42 19 d	Kurile Islands region
	SH	eP	18 42 21	H = 18:30:30
	SF	eP	18 42 21	
	H	eP	18 42 48	
23	KL	eP	20 49 09 c	
24	RB	iP	02 41 53	U.S.C.G.S.
		PcP	02 43 22	51 1/2°N, 159 1/2°E
		PPP	02 48 08	Near east coast of Kamchatka
		S	02 48 30	H = 02:33:39
		SS	02 51 35	
		ScS	02 51 46	
		L	03.1	
		F	04.1	
	O	eP	02 45 22	
	SF	eP	02 45 30 c	
		S	02 54 27	
		ScS	02 55 28	
	SH	eP	02 45 32	
	H	S	02 55 22	
24	RB	iP	23 29 20 c	U.S.C.G.S
		S	23 35 59	52°N, 159 1/2°E
		L	23.7	Off east coast of Kamchatka
		F	24.1	H = 23:21:09
	KL	eP	23 32 10 c	Mag: 5 3/4 - 6 (Pas)
	O	iP	23 32 33 d	
		PP	23 35 15	
	SF	iP	23 32 35 c	
		PP	23 35 16	
		S	23 41 55	
		PS	23 42 19	
		PPS	23 42 32	
		G	23 50 48	
	SH	eP	23 32 35	
	H	eP	23 33 04	

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
25	RB	iP	01 59 38 c	U.S.C.G.S.
		PcP	02 01 05	52°N, 159 1/2°E
		PP	02 01 15	Off east coast of Kamchatka
		PPP	02 01 53	H = 01:51:26
		S	02 06 18	Mag: 6 3/4 (Pas)
		SS	02 08 41	RB Δ = 4,900 km.
	KL	eP	02 02 27	O Δ = 7,950 km.
	O	iP	02 02 50 d	
		PP	02 05 19	
		S	02 12 08	
		PPS	02 13 00	
		SS	02 16 36	
		G	02 20 30	
	SF	iP	02 02 53 d	
		PP	02 05 33	
		S	02 12 13	
		PS	02 13 07	
		PPS	02 13 26	
	SH	eP	02 02 52	
	H	eP	02 03 22	
		S	02 13 04	
		SS	02 17 27	
25	O	iP	02 25 41 d	U.S.C.G.S.
		PP	02 26 37	17 1/2°N, 62°W
	SF	iP	02 25 44	Leeward Islands
				H = 02:19:30
25	O	iP	02 31 41 d	U.S.C.G.S.
	SF	iP	02 31 44 c	Leeward Islands (aftershock)
				H = 02:25:29
25	SF	eP	02 44 17 d	U.S.C.G.S.
				Southern Peru
				H = 02:34:03
25	RB	eP	16 23 21	U.S.C.G.S.
				34 1/2°N, 141 °E
				Off coast of Honshu, Japan
				H = 16:13:09
26	RB	e	09 48 42	
	O	eP	09 51 56	
	SF	eP	09 51 58	
26	RB	e	10 13 26	U.S.C.G.S.
	SF	eP	10 16 54 c	Near east coast of Kamchatka
				H = 10:05:20
26	RB	iP	13 20 50 c	U.S.C.G.S.
	O	iP	13 24 01	51 1/2°N, 160°E
	SF	eP	13 24 03 d	Off east coast of Kamchatka
	SH	eP	13 24 11	H = 13:12:35
	H	eP	13 24 31 d	
26	RB	eP	18 22 06	U.S.C.G.S.
		S	18 31 41	Off southeast coast of
	SF	eP	18 25 20 c	Kamchatka
				H = 18:13:45

DATE	STN.	PHASE	TIME (G.C.T.) h m s	REMARKS
28	RB	iP	02 48 50 c	U.S.C.G.S.
	H	iP	02 49 02 d	38°N, 20 1/2°E
	SF	iP	02 49 20 d	Near west coast of Greece
	SH	eP	02 49 (50)?	Felt: Cephalonia
	O	iP	02 49 26 d	H = 02:38:42
				RB Δ = 6,600 km.
				O Δ = 7,500 km.
28	SF	iP	08 33 41	U.S.C.G.S.
				3°S, 81°W
				Of coast of Ecuador
				H = 08:39:40
30	RB	e	08 38 06	
30	RB	e	16 16 26	U.S.C.G.S.
				50°N, 161°E
				Off southeastern coast of Kamchatka
				H = 16:08:09
30	H	eP_n	16 29 46	Δ = 95 km.
		S_n	16 29 58	
30	H	eP_n	16 37 32	Δ = 95 km.
		S_n	16 37 44	
30	H	eP_n	16 45 05	Δ = 95 km.
		S_n	16 45 17	
31	O	iP	04 51 40	
	SF	iP	04 51 44	
		i	04 51 54	

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Copenhagen	1948, 1952
Strasbourg (Inst. de Physique du Globe)	Sept.- Page 40 and 41
Strasbourg (Du Bureau Central Seismologique Francaois)	June, 1953
Strasbourg (B.C.I.S.)	April, 1953
Mexico	August, 1953
Strasbourg(B.C.I.S.)	March, 1953
Strasbourg(Inst. de Physique du Globe)	May, 1953
Strasbourg(Inst. de Physique du Globe)	Aug. 1-31, 1953
Bogota	Sept., Oct., Nov., Dec., 1952
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Riverview	3rd Quarter, 1952
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India	Sept. 1951
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Uppsala	Sept. 30-Oct. 11, 1953
Kiruna	Sept. 22-Oct. 4, 1953
Rome	June, 1953
Stuttgart	August, 1953
University of Washington	May 1, 1952-August 31, 1952
Uccle	Sept. 1-15, 1953, Pages 50-54
Wellington, N.Z.	March, 1953
Peru	1951, 1952
Santa Clara, Calif.	March, 1953
Zurich	July, August, 1953
South Africa	Sept. 30, 1953
Kiruna	Oct. 4-11, 1953
Uppsala	Oct. 11-20, 1953
Bermuda	Sept. 1-30, 1953
Dublin	Apr. 1 - June 30, 1953
November, 1953	
Budapest	Bulletin 1952
Cleveland	Feb. and March 1952; Aug. 1953
Mexico (Tacubaya)	Sept., 1953
Uccle	Sept. 16-30, 1953
Tortosa	Sept., 1953
Palisades	Oct. 23, 1953
Rome	July, 1953
De Bilt	Sept., 1953
Cartuja	Sept., 1953; card acknowledging receipt of Publ. XVI 5-6 Contr. Vol. 1 No. 8, 10
Toledo	July and Aug., 1953
Kew	Sept., 1953
Hong Kong	August, 1953

SEISMOLOGICAL BULLETINS RECEIVED

November, 1953 (cont'd)

Queensland	(Woody Point) Jan., Feb., March, 1953; Queensland Bulletin 1952
Quetta	July, 1953
Peshawar	July, 1953
Fayetteville	Vol. 2, No. 3 July, Aug. and Sept., 1953
Strasbourg	(B.C.I.S.)
Strasbourg	Institut de Physique du Globe, July 1953; 11 to 20 Sept. 20-30 Sept. 1-10 Oct., 1953
Strasbourg	Station Seismologique, July 1953
Uppsala	21 Oct. - 4 Nov., 1953
Kiruna	12-26 Oct., 1953
Melbourne	Aug., 1953
Coimbra	July 1st-Sept. 30th, 1953; Vol. 14
Jamaica	Apr., May, June, July, Aug., 1953
Weston, Mass.	July, Aug., Sept., 1953
Peshawar	August, 1953
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Tananarive	1952
Bermuda	Oct. 1-31, 1953
De Bilt	1948
Japan	The Seis. Bulletin of The Central Meteorological Obs. - Apr.-Dec., 1952 Jan.-Apr., 1953
Trieste	Su Una Possibilita D'Impiego Del Nefelometro Publication No. 33
Uppsala	Nov. 2-20, 1953
Kiruna	Oct. 26 - Nov. 8, 1953.

December, 1953

Lisbon	July 2-Aug. 12; July and Aug. 1953
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Wellington	Oct. Nov. and Dec. 1950; Apr., 1953
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Tortosa	October, 1953
Uccle	Oct. 1-15, 1953
Chile (Santiago)	Annual Bulletin - 1951
Toledo	Aug. and Sept., 1953
India	Nov., 1951
India(Colaba and Alibag	Apr., May and June, 1953
Perth	Apr., May, and June, 1953
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Uppsala	Dec. 1-10, 1953
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Firenze	Sept. 1953, Pages 18,19,20,21,22.
Toledo	Sept., 1953
Uccle	Nov. 1-15, Pages 66-69
Rome	Aug. 1953 - 1 to 72
Copenhagen	Jan-Dec., 1945.