

KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT

No. 108.



SEISMIC RECORDS
AT DE BILT

32.

1944.

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TE VERKRIJGEN BIJ
DE RIJKSUITGEVERIJ TE 'S GRAVENHAGE.

Prijs f 1.00.

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INTRODUCTION.

The geographic coordinates of the seismographic station are: $52^{\circ} 6',1$ N and $5^{\circ} 10',6$ E. The instruments are standing 3 m above mean sea-level on a subsoil consisting of sand (diluvial deposits).

The instruments used are:

- a set of seismographs (two horizontal and one vertical) with galvanometric recording according to GALITZIN,
- one astatic horizontal seismograph according to WIECHERT, $M = 200$ kg,
- two horizontal pendulums according to BOSCH, $M = 25$ kg.

THE GALITZIN SEISMOGRAPHS. Below are given: the period of the galvanometer T_1 , the reduced length of pendulum l , the distance between the mirror of the galvanometer and the recording paper A_1 , and the limits for the natural period of the undamped pendulum T , of the damping constant μ and of the multiplying factor k for the year 1944.

	NS comp.	EW comp.	Z comp.
Period of galvanometer T_1	24,43 sec	24,96 sec.	12,0 sec
Reduced length of pendulum l	123,1 mm	122,6 mm	406 mm
Distance A_1	1380 mm	1380 mm	1380 mm
Period of pendulum T	23,20—25,40 sec	23,25—26,18 sec	12 sec
Damping constant μ	—0,063; 0,142	—0,103; —0,016	0,0
Multiplying factor k	10,76; 11,30	10,35 11,18	178

THE WIECHERT AND BOSCH SEISMOGRAPHS. The mean values of the natural period of the undamped pendulum T , of the damping ratio ϵ and of the static magnification V are for the year 1944:

	T	ϵ	V
WIECHERT (NS comp.)	4,9 sec	4	160
„ (EW comp.)	4,9 sec	4	170
BOSCH (NS comp.)	18,0 sec	4	20
„ (EW comp.)	18,0 sec	4	20

PREFACE

This Seismic Yearbook was composed by Dr J. Veldkamp, director of the Section for Terrestrial Magnetism and Seismology, and bij Mr. J. Oldeman, scientific assistant.

*The Director in Chief of the Royal
Netherlands Meteorological Institute,*

F. A. Vening Meinesz.

DE BILT, December 1947.

In spite of the war the seismographic station was in function during the greater part of the year. Owing to the liberation of the southern part of the country the transport of coal stopped in September, and consequently the power supply was reduced on a large scale in that part of the country, which remained in enemy hands. On the 13th of October the power supply to the seismographic station was cut off. For a few weeks it was tried to maintain the recording by means of the WIECHERT and BOSCH seismographs, but soon circumstances got too difficult and the recording was stopped.

The data given in this Yearbook have been obtained from the GALITZIN records in general. The velocity of the recording paper is 30 mm per minute, allowing a good time-accuracy. Only when the earthquake was extraordinarily strong, so that the GALITZIN records could not be disentangled, the records of the seismographs WIECHERT and BOSCH were used. The velocity of the paper on these seismographs is 10 mm and 15 mm per minute respectively. When the WIECHERT and BOSCH records were used, this has been mentioned in the column "remarks".

The time is Greenwich mean time, from midnight till midnight counted as 0 till 24 hours. In the column "direction" + means an upward movement of the soil (compression), - means a downward movement (dilatation). Uncertain data have been given in parenthesis. The subjoined symbols were used for the phases.

- P = normal first phase, or first longitudinal tremor.
 pP = P-wave one time reflected at the earth's surface near the epicenter.
 PP = P-wave reflected halfway between epicenter and station.
 PPP = P-wave two times reflected at the earth's surface.
 PPPP = P-wave three times reflected.
 S = second phase, arrival of the transversal tremor.
 sS = S-wave reflected at the earth's surface near the epicenter.
 PS = wave changed from longitudinal to transversal oscillation through reflection at the earth's surface.
 PPS = wave twice reflected, having been transversal on one branch of the path.
 SS = S-wave reflected halfway between epicenter and station.
 SSS = S-wave two times reflected at the earth's surface.
 SSSS = S-wave three times reflected at the earth's surface.
 PcP = P-wave reflected at the core boundary.

- ScS = S-wave reflected at the core boundary.
 P' = PKP = wave having penetrated the core.
 S' = SKS = transversal wave, having been longitudinal within the core.
 PKS = alternating wave having penetrated the core.
 pP' = P'-wave reflected near the epicenter.
 sS' = S'-wave reflected near the epicenter.
 SKKS = alternating wave which has been reflected within the core.
 L = long waves or surface waves.
 M = maximum of the surface waves.
 L' = surface waves travelling around the major arc.
 M' = maximum of these waves.
 i = sudden beginning of the phase.
 e = gradual beginning of the phase.
 F = end of discernable movement.
 H.O. = time of the shock at point of origin.
 h = depth of the origin.
 Δ = distance of epicenter.

The indices H, N, E and Z refer to the horizontal, north-south, east-west and vertical components of the movement.

The distance of epicenter and the depth of origin have been calculated by means of the curves of Brunner's "focal depth-time-distance chart" and the time tables of Macelwane (1933) and of Jeffreys and Bullen (1940).

The data given in the column "amplitude" are the maximum amplitudes measured from the medium line. Generally the first and largest maximum of the L-waves has been given only. The amplitude has been omitted when the oscillations were too irregular. The amplitudes have been calculated by means of the formula:

$$V = \frac{A_1 k T_b}{\pi l} \cdot \frac{1}{\left\{1 + \left(\frac{T_b}{T}\right)^2\right\}^2}$$

Here A_1 is the distance between galvanometer mirror and recording paper, k is the multiplying factor, T_b the period of the wave, l the reduced length of the pendulum, T the free period of the undamped seismograph, and V the magnification. The period of the galvanometer is assumed to be equal to the free period of the undamped seismograph.

For the horizontal components of the Galitzin records the mean values were used: $k = 10,9$ and $T = 24,5$ sec.

For the vertical component of the Galitzin records they were: $k = 175$ and $T = 12,0$ sec.

The seismological bulletins of the following stations were available: Apia, Bucarest, Harvard, Helwan, La Paz, Leipzig, Parc Saint Maur, Pasadena, Riverview, Timisoara, Uccle, Uppsala, Wellington and Zürich.

BCIS = Bureau central international séismologique.

JSA = Jesuit seismological association.

USCGS = U.S. coast and geodetic survey.

THE MICROSEISMIC ACTIVITY.

The table on page VII gives the character of the microseismic activity (see also 1915 p. 101 and 1916 p. 101). The employed numbers 0, 1, 2 and 3 mean:

- 0 very weak and weak
- 1 moderate
- 2 strong
- 3 very strong

For measuring the microseismic activity the records of the WIECHERT seismograph were employed. In the table below the amplitudes of the oscillations (measured from the medium line) and the corresponding amplitudes of the movement of the soil are given.

Character	Ampl. record	Ampl. soil
0	0— $\frac{1}{4}$ mm	0— $1\frac{1}{4}$ μ
1	$\frac{1}{4}$ —1 "	$1\frac{1}{4}$ —5 "
2	1—2 "	5—10 "
3	>2 "	>10 "

Character of the microseismic movement.

Date 1944	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2	1, 2, 1	1, 2	1, 2, 1	0	0, 1	1	1	2, 1	1	1	1
2	2	1, 2	2, 3, 2	1, 2	0, 1, 2	1	1, 0	1	1, 2, 3	1, 2	1	1
3	2	2, 3	2, 3	2	2, 3, 2	1	0	1, 0	3	2, 1	1, 2, 1	1
4	2, 3, 2	3	3, 2	2, 3	2, 3	1, 2, 1	0, 1, 0	0	3	1	1	1, 2, 1
5	2, 1, 2	3, 2, 1	2, 1	3, 2, 1	3	1, 2, 1	0, 1, 0	0	3, 2	1	1, 2	1, 2, 1
6	2	1, 2, 1	1	1, 2, 1	3, 2, 1	1, 2, 1	0, 1, 0	0	2, 1	1, 2, 1	2, 1, 2	1
7	2, 3, 2	1, 2, 3	1	1	1	1	0, 1	0	1, 2, 3	1	2, 3, 2	1
8	2	3, 2	1	1	1	1	1, 0	0	3, 2	1	2, 1	1
9	2, 3	2, 3	1	1	1	1	0, 1	0	2, 1	1	1, 2	1
10	3	3, 2	1	1	1	1	1	0, 1	1	1	2, 1	1, 2, 1
11	3, 2	2, 1	1, 3, 2	1	1	1	1, 2, 1	1	1, 0	1, 2, 1	1	1
12	2, 3, 2	1	2, 1	1	1	1	1	1	0	1	1	1, 0
13	2	1, 2, 1	1, 2, 3	1	1	1	1	1	0, 1, 0	1	1, 2, 1	0
14	2	1	3, 2, 1	1	1, 2, 1	1	1	1	0	1, 0	1, 2, 1	0
15	2, 1	1, 2, 1	1, 0	1	1	1	1	1	0, 1	0	1	
16	1	1, 2, 1	0, 1	1	1	1, 2	1, 0	1, 0	1	0, 1	1	1
17	1	1	1	1	1	2, 3, 1	0, 1, 0	0, 1	1	1	1, 3, 1	
18	1, 2	1	1	1	1, 0	1	0	1	1	1, 2	1	
19	2, 3, 2	1	1	1	0	1	0	1, 0	1	2, 1	1	
20	3	1	1, 2	1, 2, 1	0	1	0, 1, 0	0, 1	1	1	1, 3	
21	2	1	2, 1	1	0, 1	1	0, 1	1, 2	1	1, 0	3	
22	2, 3	1	1	1	1	1	1	2, 1	1	0	3, 2	
23	3	1	1	1	1	1	1	1, 0	1	0, 1	2	
24	3	1	1	1, 2, 1	1	1	1	0, 1	1, 2, 1	1, 0	2, 3, 1	
25	3	1	1	1, 2, 1	1, 2	1	1	1	1, 2	0	1	
26	3	1, 2, 1	1	1	2, 1	1, 0	1	1, 0	2, 3, 2	0, 1	1, 2, 1	
27	2, 3, 2	1	1	1	1, 2, 1	0, 1	1	0	2	1	1, 2, 1	
28	2, 1	1, 2, 1	1, 0	1	1, 0	1	1	0, 1	2, 1	1	1	
29	1	1	0, 1	1, 0	0	1, 0	1	1	1, 2, 1	1, 0	1	
30	1		1	0	0	0, 1	1	1, 2	1	0, 1	1	
31	1		1		0		1	2		1		

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Jan. 3 (1)	eL	10 16				
	MN	10 17		14	6	
	F	10 30				
Jan. 5 (2)	eL	3 36				
	MN	3 40		25	3	
	F	4 05				
Jan. 5 (3)	eL	5 17				
	F	5 25				
Jan. 5 (4)	iP	7 49 02	(-)			(4) $\Delta = 2600$ km. BCIS: 36° N 29° E, H.O. $7^{\text{h}}43,9^{\text{m}}$. Helwan: $\Delta = 720$ km, northeast of Crete. Uccle: $\Delta = 23^{\circ}$.
	eS	7 53 14				
	eL	7 56				
	F	8 30				
Jan. 5 (5)	eS	11 20 20				(5) USCGS: 13° N 71° W, H.O. $10^{\text{h}}59,1^{\text{m}}$, Gulf of Venezuela.
	eL	11 31				
	F	11 50				
Jan. 5 (6)	eP	21 26 09				(6) $\Delta = 10800$ km. USCGS: 3° S 102° E, H.O. $21^{\text{h}}12,7^{\text{m}}$, SW coast of Sumatra. Pasadena: 3° S 100° E, H.O. $21^{\text{h}}12,7^{\text{m}}$. Riverview: 0° S 102° E, H.O. $21^{\text{h}}12^{\text{m}}40^{\text{s}}$.
	ePP	21 30 09				
	ePPP	21 32 15				
	iS'	21 36 47				
	eSKKS	21 37 20				
	ePS	21 38 50				
	eL	21 55		24	40	
	MN	22 11				
F	24 00					
Jan. 7 (7)	e(PS)	3 20				(7) USCGS: $4^{\circ},5$ S 143° E, H.O. $2^{\text{h}}49,3^{\text{m}}$, East New Guinea. Riverview: 5° S 142° E, H.O. $2^{\text{h}}49^{\text{m}}15^{\text{s}}$.
	F	4 20				
Jan. 7 (8)	eL	9 47				
	F	10 15				
Jan. 8 (9)	eL	20 46				
	F	20 52				
Jan. 10 (10)	iP	20 22 38	+			(10) $\Delta = 9900$ km. JSA: $16^{\circ},4$ N $100^{\circ},3$ W, H.O. $20^{\text{h}}09^{\text{m}}50^{\text{s}}$. USCGS: $17^{\circ},4$ N $100^{\circ},9$ W, H.O. $20^{\text{h}}09^{\text{m}}56^{\text{s}}$, SW Coast of Mexico. Damage in State of Guerrero, felt in Mexico City. Pasadena: $18^{\circ},1$ N $100^{\circ},6$ W, H.O. $20^{\text{h}}10^{\text{m}}00^{\text{s}}$.
	ePP	20 26				
	iS	20 33 26				
	eSS	20 38 30				
	eSSS	20 43				
	eL	20 50		18	30	
	Mz	21 03				
F	22 00					
Jan. 12 (11)	eL	15 40				(11) USCGS: $40^{\circ},6$ N $125^{\circ},1$ W, H.O. $15^{\text{h}}02^{\text{m}}37^{\text{s}}$, off coast of Cape Mendocino, California.
	F	16 00				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Jan. 15 (12)	eL F	6 08 6 20				(12) USCGS: 18° N 47° W, H.O. 5 ^h 46,1 ^m . Mid-Atlantic.
Jan. 16 (13)	iPP eSKS eS iSS eL ME Mz F	0 07 57 0 14 20 0 15 21 0 23 00 0 37 0 58 0 58 3 00		16 16	75 50	(13) $\Delta = 11500$ km. USCGS: 31° S 68° W, H.O. 23 ^h 49 ^m 28 ^s , near San Juan, Argentina, considerable damages.
Jan. 16 (14)	eL F	19 18 19 26				
Jan. 20 (15)	i	0 02 44				(15) local shock near Aix-la-Chapelle.
Febr. 1 (16)	iP iS F	3 27 29 3 31 16 7 40	—			(16) $\Delta = 2300$ km. Gerede (Turkey). iS after Bosch seismograph. Galitzin records cannot be disentangled. Bucarest: 40° N 31° E. USCGS: 41° N 33° E, H.O. 3 ^h 22 ^m 31 ^s .
Febr. 1 (17)	e F	7 50 7 55				
Febr. 1 (18)	eL F	21 35 21 50				
Febr. 2 (19)	iP iS eL F	3 38 01 3 42 00 3 44 4 05	(—)			(19) $\Delta = 2400$ km. Bucarest: $\Delta = 610$ km. Leipzig: $\Delta = 2000$ km.
Febr. 4 (20)	eL F	23 55 0 20				
Febr. 5 (21)	iP ePP eS eSS eL ME F	17 32 50 17 36 17 43 30 17 49 30 18 00 18 09 19 00		22	40	(21) $\Delta = 9500$ km. Disturbed by micro- seisms. USCGS: 23° N 121° E, H.O. 17 ^h 20,0 ^m , near southern Formosa.
Febr. 6 (22)	e F	17 15 17 25				
Febr. 7 (23)	eL F	14 16 14 30				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Febr. 10 (24)	eH eL F	12 14 23 12 16 12 35				(24) Bucarest: $\Delta = 610$ km. Basel: $\Delta = 2050$ km.
Febr. 13 (25)	eL MH F	20 42 20 43 21 00		20	4	
Febr. 15 (26)	eL MH F	5 50 5 52 6 20		16	13	(26) USCGS: 51° N 32° W, H.O. 5 ^h 39,5 ^m , North Atlantic.
Febr. 16 (27)	e F	11 55 12 05				
Febr. 19 (28)	iP iPP iS eL F	11 40 20 11 40 43 11 44 06 11 45 12 10	+			(28) $\Delta = 2300$ km. USCGS: 63° N 25° W, H.O. 11 ^h 35,9 ^m , southwest of Iceland. Basel: $\Delta = 2640$ km.
Febr. 19 (29)	eL F	13 57 14 10				
Febr. 20 (30)	eL F	11 20 11 50				
Febr. 20 (31)	iP eS eL F	19 36 31 19 40 29 19 41 30 20 00	+			(31) $\Delta = 2400$ km.
Febr. 21 (32)	iP eL F	0 30 30 0 35 0 50	+			(32) $\Delta = 2400$ km. Aftershock of (31): Uccle: $\Delta = 21^{\circ},5$.
Febr. 21 (33)	iP eL F	8 33 43 8 39 8 50				(33) Aftershock of (31)?
Febr. 21 (34)	eS F	11 52 00 11 55				(34) USCGS: 18° N 105° W, H.O. 11 ^h 28 ^m 45 ^s , off coast of Colima, Mexico.
Febr. 21 (35)	eL F	12 18 12 40				
Febr. 21 (36)	eL F	14 30 14 38				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Febr. 21 (37)	iP	15 31 00		+		(37) $\Delta = 2400$ km. Aftershock of (31). Basel: $\Delta = 2800$ km.
	eZ	15 31 23				
	eL	15 36				
	F	16 05				
Febr. 21 (38)	iz	17 38 13				
	eL	17 43 30				
	F	17 55				
Febr. 21 (39)	eL	20 23				
	F	20 35				
Febr. 21 (40)	e	21 07				
	F	21 10				
Febr. 22 (41)	e	0 43 30				
	F	0 52				
Febr. 22 (42)	e	2 23				
	F	2 30				
Febr. 22 (43)	e	16 17				
	F	16 23				
Febr. 23 (44)	iP	1 33 48				(44) $\Delta = 2400$ km. Aftershock of (31).
	eL	1 39				
	F	1 50				
Febr. 23 (45)	eL	6 35				
	F	7 00				
Febr. 23 (46)	e	13 09				
	F	13 25				
Febr. 29 (47)	iP	3 54 51		(-)		(47) $\Delta = 10500$ km. $h = 200$ km. USCGS: $14^{\circ} 8' S$ $70^{\circ} 7' W$, H.O. $3^h 41^m 56^s$, Southeast Peru, $h = 200$ km. Uccle: $\Delta = 86^{\circ} 1'$, H.O. $3^h 42^m 21^s$, $h = 190$ km.
	epP	3 55 35				
	iz	3 58 36		+		
	eZ	3 59 10				
	iz	3 59 40		+		
	ePP	4 01 24				
	iS'	4 05 06				
	eZH	4 06 50				
Febr. 29 (48)	iP	16 40 04		+		(48) $\Delta = 8800$ km. Indian Ocean. Bucarest: $\Delta = 6880$ km. Leipzig: $\Delta = 8000$ km. USCGS: $1^{\circ} 5' N$ $77^{\circ} E$, H.O. $16^h 28,1^m$. Riverview: $\Delta = 8710$ km. Uccle: $\Delta = 79^{\circ} 5'$.
	i(pP)	16 40 17		+		
	iPP	16 43 10		-		
	ePPPP	16 46 10				
	eS	16 49 50				
	eSS	16 55				
	eL	17 04				
	F	21 00				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
March 1 (49)	e	12 58				
	F	13 05				
March 5 (50)	eL	18 10				(50) USCGS: $8^{\circ} N$ $127^{\circ} E$, H.O. $17^h 16,1^m$, $h = .200$ km, off east coast of Mindanao.
	F	18 35				
March 6 (51)	eL	20 40				
	MH	20 45				
	F	21 10				
March 6 (52)	eL	21 39				
	F	22 00				
March 6 (53)	eLH	23 49				
	eLZ	23 59				
March 7 (54)	F	0 15				
	eL	21 25				
March 7 (54)	F	21 50				
	eL	21 50				
March 9 (55)	eLH	0 24				
	eLZ	0 29				
	F	1 00				
March 9 (56)	iP	22 12 46				(56) $\Delta = 5800$ km. Fore-shock of (57). USCGS: $44^{\circ} N$ $83^{\circ} E$, H.O. $22^h 03,7^m$, Eastern Turkistan. F lost in the next shock.
	iS	22 20 06				
	eL	22 30				
	MN	22 33		13	180	
March 9 (57)	iP	22 22 00		-		(57) $\Delta = 5800$ km. USCGS: $44^{\circ} N$ $83^{\circ} E$, H.O. $22^h 13,0^m$, Eastern Turkistan. BCIS: $45^{\circ} N$ $82^{\circ} E$, Mounts Altaï.
	iS	22 29 22				
	eL	22 37				
	MN	22 41		18	>600	
	ME	22 41		18	550	
March 10 (58)	Mz	22 42 30				
	F	2 35				
March 10 (58)	iP	6 52 11		+		(58) $\Delta = 9000$ km. Change of papers $7^h 10^m - 7^h 16^m$. USCGS: $42^{\circ} 5' N$ $143^{\circ} 5' E$, H.O. $6^h 40,0^m$, near southern coast of Hokkaido, Japan.
	ePP	6 55 16				
	eS	7 02 17				
	eL	7 18				
	eLZ	7 23				
	MN	7 25 30		25	20	
	ME	7 25 30		25	25	
	F	9 05				
March 11 (59)	e	6 58				(59) F during change of papers $7^h 11^m - 7^h 22^m$.
	F	6 58				
March 12 (60)	e	14 05				
	F	14 20				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
March 15 (61)	e F	0 08 0 15				
March 15 (62)	iP ePP eS eSS eL F	5 12 30 5 14 20 5 19 22 5 23 02 5 28 6 00				(62) $\Delta = 5200$ km. Leipzig: $\Delta = 5300$ km.
March 15 (63)	e F	6 16 6 30				
March 15 (64)	e F	6 43 7 00				
March 15 (65)	e F	9 40 10 05				
March 16 (66)	e F	9 54 9 58				
March 18 (67)	eL F	20 28 20 45				
March 21 (68)	iP eS eLH Mz F	22 22 03 22 32 05 22 48 23 00 23 30		22	6	(68) $\Delta = 8900$ km. USCGS: 42° N 143° E, H.O. 22h09,9m, near southern coast of Hokkaido, Japan.
March 22 (69)	eP epP iPP iz ez iS iN i(PS) eL F	0 57 43 0 58 39 1 02 32 1 03 14 1 03 32 1 10 04 1 11 14 1 11 46 1 37 3 30				(69) $\Delta = 13000$ km, h = 200 km. USCGS: 8° S 124° E, H.O. 0h43,2m, h approximately 200 km, Flores Sea. Pasadena: $8^{\circ},5$ S $123^{\circ},5$ E.
March 27 (70)	e F	15 30 15 50				
March 27 (71)	e F	17 55 18 00				
March 27 (72)	eL F	20 47 21 00				
No records from March 28 10h42m till March 29 7h12m.						

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
March 29 (73)	e F	13 50 14 10				
March 30 (74)	e F	15 47 16 05				
March 31 (75)	iP' (eL) F	3 11 27 3 40 5 30				(75) USCGS: probable epicenter $5^{\circ},5$ S $136^{\circ},5$ E, H.O. 2h51,9m, west of New Guinea.
March 31 (76)	eP iz eS eL F	20 47 55 20 48 04 20 58 34 21 13 22 00		+		(76) $\Delta = 9800$ km. USCGS: $0^{\circ},5$ S $80^{\circ},0$ W, H.O. 20h35m05s, near coast of Ecuador, felt at Guayaquil and Quito.
April 1 (77)	e F	11 31 11 35				
April 5 (78)	eP iS eL F	4 45 29 4 49 24 4 51 5 20				(78) $\Delta = 2400$ km. Uccle: $\Delta = 22^{\circ}$. USCGS: $40^{\circ},5$ N 31° E, Northwest Turkey. Felt at Istanbul.
April 5 (79)	eL MN F	7 05 7 09 7 20				
April 5 (80)	eL F	16 34 16 45				
April 7 (81)	eP e(pP) ePP eE F	13 44 54 13 45 37 13 48 06 13 56 14 30				(81) USCGS: epicenter approx. $12^{\circ},4$ N $85^{\circ},7$ W, H.O. 13h32m51s, north of Lake Nicaragua, h = approx. 100 km.
April 9 (82)	eL MH F	18 58 19 02 19 30			28	7
April 9 (83)	eL F	19 45 20 00				
April 10 (84)	eL MN F	4 03 4 07 4 30			21	8
April 13 (85)	e F	0 24 0 37				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
April 16 (86)	eL F	10 34 11 00				
April 17 (87)	eL	18 35				(87) F in next shock.
April 17 (88)	eL MN F	19 04 19 06 19 30		15	5	
April 19 April 20 (89)	eL F	23 33 1 00				
April 22 (90)	eL F	2 17 2 45				
April 23 (91)	iP' ipP' F	11 16 54 11 18 29 11 20	-			(91) Wellington: $21^{\circ},5$ S 180° E, H.O. $10^h57,8^m$, $h = 390$ km. USCGS: 22° S $177^{\circ},5$ W $h = 375$ km, Tonga Islands.
April 26 (92)	eP eP' (i)PP iS' ePS eSS eL F	2 09 03 2 12 25 2 13 50 2 19 40 2 23 20 2 29 30 2 46 5 00				(92) $\Delta = 13000$ km. (i) PP under paper-clip. Riverview: $\Delta = 4080$ km, H.O. $1^h54^m16^s$. USCGS: 1° S 135° E, H.O. $1^h54^m15^s$, north of Netherlands New Guinea, slight depth.
April 26 (93)	e F	12 53 13 00				
April 27 (94)	eP iPP eS' iPS iSS eL F	14 53 03 14 57 48 15 03 40 15 07 20 15 13 40 15 27 18 30	+			(94) $\Delta = 13000$ km. Same focus as (92)? Riverview: $\Delta = 4255$ km, H.O. $14^h37^m59^s$. USCGS: $0^{\circ},5$ S $134^{\circ},5$ E, slight depth, H.O. $14^h38,2^m$.
April 27 (95)	e eL F	19 40 19 57 22 00				
April 28 (96)	eL F	6 31 7 00				
April 29 (97)	e F	2 46 2 50				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
April 29 (98)	eL F	7 00 7 30				
April 29 (99)	e F	10 03 10 10				
April 29 (100)	e F	17 05 17 13				
May 3 (101)	e F	20 06 20 15				
May 4 (102)	eL F	7 50 8 05				
May 5 (103)	eL F	6 45 7 05				
May 6 (104)	eP eS eL MH F	0 22 30 0 29 32 0 34 0 37 1 30		25	13	(104) $\Delta = 5300$ km. Disturbed by strong microseisms. USCGS: $22^{\circ},5$ N $45^{\circ},0$ W, H.O. $0^h13^m45^s$, Mid Atlantic Ocean.
May 8 (105)	eL F	10 31 10 40				
May 8 (106)	eL F	12 47 12 53				
May 9 (107)	eL F	15 05 15 35				(107) USCGS: 3° N $74^{\circ},5$ W, H.O. $14^h29,9^m$, depth approximately 100 km. Felt in Colombia.
May 10 (108)	e F	18 10 18 15				
May 12 (109)	e F	21 12 21 20				
May 15 (110)	eL MH F	20 15 20 32 21 30		22	3	(110) USCGS: 4° S $143^{\circ},5$ E, H.O. $19^h18,1^m$, near north coast of New Guinea.
May 18 (111)	ePP eL F	5 04 00 5 40 7 20				(111) Riverview: $\Delta = 3560$ km, H.O. $04^h43^m19^s$. JSA: $1^{\circ},5$ S 151° E, H.O. $4^h43^m14^s$. USCGS: H.O. $4^h43,8^m$, foreshock of (112).
May 19 (112)	eP' eSS eL ME F	0 38 30 0 56 30 1 15 1 17 3 30		40	20	(112) Wellington: $3^{\circ},5$ S $155^{\circ},5$ E, H.O. $0^h19,4^m$, $h = 100$ km? JSA: 5° S 151° E, H.O. $0^h19^m14^s$. USCGS: epicenter approximately $2^{\circ},7$ S $153^{\circ},3$ E, near New Ireland. Riverview: $\Delta = 3520$ km, H.O. $0^h19^m21^s$.

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
May 20 (113)	eL F	22 37 23 00				
May 20 (114)	iP eS eL	23 35 14 23 39 25 23 41				(114) $\Delta = 2550$ km. Uccle: $\Delta = 22^\circ$.
May 21	F	0 10				
May 21 (115)	iP eS eL F	0 20 18 0 24 05 0 26 1 00				(115) $\Delta = 2300$ km. Uccle: $\Delta = 22^\circ$.
May 21 (116)	e F	3 00 3 10				
May 21 (117)	ez F	4 59 50 5 25				
May 23 (118)	eL F	11 20 12 00				(118) USCGS: $51^\circ,2$ N $170^\circ,6$ W, H.O. $10^h38,5^m$, south of Aleutian Islands.
May 25 (119)	iP' ipP' iPP eSKKS eSS eSSS F	1 25 13 1 27 42 1 28 43 1 35 30 1 47 1 51 4 00	— — —			(119) Wellington: 21° S 178° W, H.O. $1^h06,5^m$, h = 600 km? Riverview: $\Delta = 3180$ km, H.O. $1^h06^m41^s$, h = 0.10. USCGS: 22° S 179° W, H.O. $1^h06,5^m$, h > 600 km, south of Fiji Islands.
May 25 (120)	eP' eH eL ME F	13 17 20 13 36 13 51 13 56 16 30		37	190	(120) Wellington: $0^\circ,0$ S $151^\circ,5$ E, H.O. $12^h58,3^m$. Riverview: $\Delta = 3660$ km, H.O. $12^h57^m57^s$. USCGS: epicenter approximately $2^\circ,5$ S $152^\circ,0$ E, H.O. $12^h58^m03^s$, near New Ireland.
May 27 May 28 (121)	eP eS eL F	23 57 24 0 01 39 0 04 0 30				(121) $\Delta = 2700$ km. Helwan: $\Delta = 1500$ km. Zürich: west coast of Asia Minor. Uccle: $\Delta = 22^\circ$.
May 30 (122)	iz ez eL F	10 08 22 10 11 25 10 38 11 00				
May 30 (123)	eL F	18 25 18 35				
June 2 (124)	eL F	3 10 3 30				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
June 2 (125)	eL F	23 15 23 25				
June 3 (126)	iz ez eH eL F	4 22 38 4 33 54 4 35 34 4 15 6 00				
June 3 (127)	eL F	7 43 7 55				(127) USCGS: 20° N 63° W, H.O. $7^h12^m13^s$, North of Leeward Islands, West Indies.
June 3 (128)	eL F	12 28 13 05				
June 4 (129)	eL F	14 12 14 35				
June 4 (130)	eL M F	20 15 20 25 21 00				
June 5 (131)	eL F	1 27 1 40				
June 6 (132)	eL F	4 46 5 30				(132) USCGS: 5° S 152° E, H.O. $3^h44,2^m$, near New Britain.
June 6 (133)	e F	12 30 12 50				
June 7 (134)	eL F	10 57 11 20				
June 8 (135)	e F	11 17 11 22				
June 9 (136)	eH eL ME MN Mz F	21 05 21 29 21 34 21 49 21 49 23 00			35 14 20 25 20 26	(136) USCGS: 4° S 150° E, H.O. $20^h35,0^m$, east of New Guinea.
June 10 (137)	e F	2 04 2 06				
June 10 (138)	iH eL F	14 42 00 14 49 15 20				(138) La Paz: $\Delta = 4680$ km. USCGS: possibly Caribbean region.

Date 1944	Phase	Time h m s	Direction s	Period s	Amplitude μ	Remarks
June 11 (139)	eL F	20 03 20 30				(139) USCGS: epicenter approximately $0^{\circ},8'N$ $85^{\circ},8'W$, H.O. $19^h18^m54^s$, off west coast of Ecuador.
June 12 (140)	eL F	12 03 12 10				
June 15 (141)	eL F	1 29 1 40				(141) Uccle: $\Delta = 22^{\circ}$.
June 16 (142)	eL F	5 00 5 30				(142) USCGS: H.O. $4^h17,2^m$. Possibly east coast of Honshu Island, Japan.
June 16 (143)	iP (ePP) eS eSS eSSS eL ME Mz F	22 04 22 22 07 40 22 14 55 22 20 22 24 30 22 35 22 46 22 46 23 40	+			(143) $\Delta = 9500$ km. USCGS: $19^{\circ}N$ $105^{\circ},2'W$, H.O. $21^h51^m34^s$, near coast of Colima, Mexico.
June 19 (144)	eL eLz Mz F	20 15 20 19 20 24 20 40		14 14	16 13	
June 20 (145)	e eL ME F	12 14 12 55 12 58 13 30		33	6	
June 21 (146)	eP' iP' eSS (eL) F	11 18 00 11 18 05 11 40 50 12 00 14 00	-			(146) USCGS: $21^{\circ},5'S$ $169^{\circ},5'E$, H.O. $10^h58,3^m$, Loyalty Islands region. Riverview: $\Delta = 2260$ km, H.O. $10^h58^m19^s$. Wellington: $22^{\circ}S$ $169^{\circ},5'E$, H.O. $10^h58,3^m$.
June 25 (147)	iP iP eL ME Mz F	1 20 51 1 21 03 1 48 1 58 1 58 2 30		20 20	3 2	(147) USCGS: $14^{\circ},5'N$ $93^{\circ}W$, H.O. $1^h08,3^m$, off west coast of Guatemala.
June 25 (148)	iP iS eL F	4 21 (10) 4 25 04 4 26 6 00				(148) iP under paperclip. $\Delta = 2450$ km. Uccle: $\Delta = 22^{\circ}$. CBIS: $37^{\circ}N$ $28^{\circ}E$. USCGS: $39^{\circ}N$ $29^{\circ}E$, H.O. $4^h16,3^m$, Western Turkey.

Date 1944	Phase	Time h m s	Direction s	Period s	Amplitude μ	Remarks
June 25 (149)	iP eS eL F	7 02 37 7 06 36 7 08 8 00				(149) $\Delta = 2450$ km. Aftershock of (148). Uccle: $\Delta = 22^{\circ}$.
June 25 (150)	e F	9 25 9 30				
June 25 (151)	iP' iP' e eLz eLzN MN F	14 37 12 14 37 24 14 49 15 23 15 30 15 37 17 00	-		25 11	(151) Wellington: $22^{\circ},5'S$ $169^{\circ},5'E$, H.O. $14^h17,5^m$, $h = 100-110$ km. USCGS: $21^{\circ},5'S$ $170^{\circ}E$, H.O. $14^h17,4^m$, Loyalty Islands region. Pasadena: $21^{\circ}S$ $170^{\circ}E$, H.O. $14^h17,3^m$.
June 25 (152)	iP iS eSS eL F	17 52 07 18 00 14 18 04 00 18 10 19 15	-			(152) $\Delta = 6500$ km. Zürich: $1^{\circ}S$ $20^{\circ}W$. La Paz: $\Delta = 5050$ km, H.O. $17^h42^m12^s$. USCGS: epicenter approximately $0^{\circ},4'S$ $24^{\circ},1'W$, H.O. $17^h42^m12^s$, Mid Atlantic Ocean, SE of St. Paul Rocks.
June 28 (153)	e F	3 10 3 25				
June 28 (154)	eL F	6 15 6 50				(154) USCGS: $14^{\circ},5'N$ $93^{\circ}W$, H.O. $5^h31,8^m$, off west coast of Guatemala.
June 28 (155)	iP iS iSS eSSSS eL ME MEZ F	8 11 23 8 21 39 8 27 29 8 34 8 39 8 41 8 49 13 00	+		26 19 95 100	(155) $\Delta = 9200$ km. La Paz: $\Delta = 4450$ km, H.O. $7^h58^m48^s$. USCGS: epicenter approximately $14^{\circ},5'N$ $92^{\circ},8'W$, H.O. $7^h58^m52^s$, off west coast of Guatemala.
June 29 (156)	eL F	12 20 12 35				
July 1 (157)	eL F	4 56 5 00				
July 2 (158)	iP eS eL ME F	22 24 54 22 35 25 22 52 22 55 23 30			25 1	(158) $\Delta = 9400$ km. USCGS: $14^{\circ},5'N$ $93^{\circ}W$, H.O. $22^h13,4^m$, near coast of Guatemala.
July 3 (159)	e F	17 00 17 10				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
July 5 (160)	eL F	9 49 9 55				
July 5 (161)	eL F	10 50 11 35				
July 7 (162)	e F	6 12 6 22				
July 10 (163)	eLz F	6 32 6 40				
July 10 (164)	eL Mz F	17 05 17 15 17 55		23	2	(164) USCGS: 31° S 178° W, H.O. $15^{\text{h}}47,8^{\text{m}}$, depth slightly less than 100 km.
July 11 (165)	eP' eL F	18 52 10 19 50 20 05				(165) Riverview: $\Delta = 2410$ km, H.O. $18^{\text{h}}32^{\text{m}}15^{\text{s}}$.
July 12 (166)	e eL F	8 25 8 37 9 10				
July 12 (167)	eL F	20 05 20 30				(167) No Z-record. USCGS: $44^{\circ},7$ N $115^{\circ},2$ W, H.O. $19^{\text{h}}30^{\text{m}}22^{\text{s}}$.
July 13 (168)	e F	1 40 2 05				
July 13 (169)	eP iS eL M F	10 58 15 11 08 53 11 31 11 39 13 25				(169) $\Delta = 9800$ km.
July 15 (170)	eL F	16 41 16 43				
July 16 (171)	eL MH F	0 20 0 23 1 00		23	2	
July 16 (172)	iP' F	10 38 05 11 10				(172) USCGS: 22° S 175° W, H.O. $10^{\text{h}}19,1^{\text{m}}$, $h = 450$ km, south of Tonga Islands.
July 17 (173)	iP eS eL F	10 59 59 11 05 00 11 09 00 12 40				(173) $\Delta = 3200$ km. Zürich: $\Delta = 3050$ km. USCGS: Probably east Central Turkey.

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
July 17 (174)	e F	17 12 17 15				
July 19 (175)	eP eS eSSS eL MH Mz F	10 34 00 10 44 45 10 54 30 11 06 11 16 11 16 14 00		22 22	115 90	(175) $\Delta = 9800$ km. USCGS: 35° N 143° E, H.O. $10^{\text{h}}21,4^{\text{m}}$, off east coast of Hunshu, Japan.
July 19 (176)	eL F	18 49 19 05				
July 20 (177)	eL F	0 15 1 00				
July 20 (178)	iP eS eL F	10 42 22 10 46 30 10 49 11 20				(178) $\Delta = 2550$ km. Uccle: $\Delta = 22^{\circ}$. Zürich: $\Delta = 2060$ km. According to the newspapers 1650 km from Belgrad, Asia Minor.
July 20 (179)	eP ePP eS eL F	20 20 00 20 23 22 20 30 25 20 50 21 35				(179) $\Delta = 9400$ km.
July 21 (180)	e F	8 50 8 52				
July 21 (181)	e F	10 25 10 32				
July 21 (182)	eL F	19 38 20 10				
July 22 (183)	e F	17 45 17 55				
July 23 (184)	e F	11 15 11 35				
July 23 (185)	e F	12 05 13 00				
July 24 (186)	e F	8 40 9 15				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
July 27 (187)	iP	0 15 54	—			(187) $\Delta = 8200$ km. $h = 100$ km. Zürich: $\Delta = 8500$ km, Alaska. USCGS: 54° N 165° W, H.O. $0h04,4^m$, $h =$ approximately 70 km, southwest of Unimak Island, Aleutian Islands. Pasadena: 54° N $165^{\circ},5$ W, H.O. $0h04^m23^s$, $h = 70$ km. F in next earthquake.
	ipP	0 16 12	—			
	ePP	0 18 44				
	ePPP	0 20 08				
	iS	0 25 19				
	isS	0 25 59				
	eSS	0 30				
	eL	0 38				
July 27 (188)	MN	0 41		35	27	
	eL	2 32				
	MN	2 40		20	4	
	Mz	2 40		20	3	
July 27 (189)	F	3 05				
	iP	8 30 46				(189) $\Delta = 8800$ km. Uccle: $\Delta = 78^{\circ}$. USCGS: 12° N 93° E, H.O. $8h18,6^m$, Bay of Bengal, near Andaman Islands.
	ePP	8 33 47				
	iS	8 40 41				
	eL	9 00				
MN	9 04		25	9		
July 29 (190)	F	9 35				
	e	23 10				
July 30 (191)	F	23 35				
	iP	4 05 06	—			(191) $\Delta = 2200$ km. Uccle: $\Delta = 19^{\circ}$, H.O. $4h00,7^m$. Zürich: $\Delta = 1600$ km.
	iz	4 06 07				
	(ez)	4 07 15				
	iS	4 08 49				
	eL	4 10 30				
	M	4 12				
F	4 35					
July 30 (192)	e	16 02				
	F	16 10				
Aug. 1 (193)	eL	12 58				
	F	13 30				
Aug. 2 (194)	e	19 12				
	F	19 30				
Aug. 2 (195)	e	21 09				
	F	21 35				
Aug. 2 (196)	eL	23 30				
	MN	23 35				
Aug. 3	F	0 15				
Aug. 5 (197)	eL	13 48				(197) USCGS: $12^{\circ},5$ N $87^{\circ},5$ W, Nicaragua, off coast.
	F	14 00				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Aug. 6 (198)	eL	8 07				
	F	8 20				
Aug. 6 (199)	eL	17 32				
	F	18 00				
Aug. 6 (200)	eL	19 08				
	F	21 00				
Aug. 7 (201)	iP	3 38 53	+			(201) $\Delta = 10800$ km. USCGS: $17^{\circ},5$ S $73^{\circ},5$ W, H.O. $3h25,3^m$, Peru, off coast.
	ipP	3 42 43	+			
	eS'	3 49 30				
	eS	3 50 20				
	ePS	3 51 35				
	eL	4 09				
	MH	4 17		22	30	
	Mz	4 21		18	34	
Aug. 7 (202)	eL	13 40				
	F	14 50				
Aug. 7 (203)	eL	19 32				
	F	20 00				
Aug. 8 (204)	eL	0 27				(204) USCGS: 18° S 74° W, H.O. $23h38,2^m$, Peru, off coast.
	M	0 31				
	F	1 10				
Aug. 8 (205)	(iP')	8 52 37				(205) $\Delta = 12700$ km. Riverview: $\Delta = 3450$ km. La Paz: $\Delta = 11600$ km. Pasadena: 5° S 145° E, H.O. $8h33,6^m$, New Guinea.
	ipP	8 53 30	+			
	ePPP	8 56 00				
	ePS	9 03 00				
	eSS	9 10 00				
	eL	9 30				
	F	11 00				
Aug. 9 (206)	eL	4 44				(206) USCGS: $19^{\circ},0$ N $67^{\circ},2$ W, H.O. $4h15^m26^s$, off northwest coast of Puerto Rico.
	ME	4 53		18	1	
	Mz	4 53		18	2	
	F	5 25				
Aug. 9 (207)	eP	17 41 27				(207) $\Delta = 2800$ km. Uccle: $\Delta = 22^{\circ}$. Zürich: $\Delta = 2050$ km, east of Crete.
	eS	17 45 49				
	eL	17 49				
	F	18 10				
Aug. 10 (208)	eP	2 04 13				(208) $\Delta = 7900$ km. USCGS: epicenter approximately $51^{\circ},0$ N $130^{\circ},7$ W, H.O. $1h52^m52^s$, off southwest coast of British Columbia.
	eS	2 13 34				
	eL	2 26				
	MEZ	2 36		18	28	
	F	5 00				

Date 1944	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
Aug. 10 (209)	(ez) eL F	11	09	00			(209) USCGS: probably New Guinea.	
Aug. 12 (210)	eL F	9	53				.	
Aug. 13 (211)	eL F	8	59				(211) USCGS: $50^{\circ},5$ N 132° W, H.O. $8^h22,3^m$, off southwest coast of British Columbia.	
Aug. 14 (212)	i(S) i(ScS) F	11	27	16			(212) USCGS: $58^{\circ},5$ N 153° W, H.O. $11^h07,5^m$.	
Aug. 14 (213)	eP eS' eSS eL MN F	14	35	00		24	(213) $\Delta = 10300$ km. Riverview: 6250 km. H.O. $14^h21^m35^s$. USCGS: Probably Philippine Islands.	
Aug. 15 (214)	eL MH F	2	06			20	11	
Aug. 15 (215)	iP iPP iz eL F	12	01	39			(215) USCGS: 13° N $143^{\circ},5$ E, H.O. $11^h47,6^m$, depth approximately 100 km, Mariana Islands. Riverview: $\Delta = 5150$ km.	
Aug. 17 (216)	eL F	13	39				(216) No Z-record. Uccle: $\Delta = 22^{\circ}$ ca.	
Aug. 17 (217)	iH eL F	18	12	04			(217) No Z-record. Uccle: $\Delta = 22^{\circ}$ ca.	
Aug. 18 (218)	iP i(pP) iS e(sS) eL F	10	45	25			(218) $\Delta = 9100$ km, $h = 100$ km? USCGS: 38° N 140° E, H.O. $10^h33,4^m$, $h =$ approx. 200 km, Northern Hunshu, Japan. Pasadena: 38° N 140° E, H.O. $10^h33^m17^s$, $h = 150$ km.	
Aug. 18 (219)	eL Mz F	20	08			19	4	

Date 1944	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
Aug. 20 (220)	eL F	22	22					
Aug. 21 (221)	iP eS eL F	20	24	29 (+)			(221) $\Delta = 6500$ km. La Paz $\Delta = 4680$ km. USCGS: 3° N 31° W, H.O. $20^h14,6^m$, Mid-Atlantic Ocean.	
Aug. 23 (222)	eL F	22	10					
Aug. 24 (223)	ez F	16	04	30				
Aug. 24 (224)	eP ePP	23	50	08			(224) $\Delta = 9100$ km. USCGS: $15^{\circ},5$ N 93° W, H.O. $23^h37,8^m$, h approx. 100 km, off southern coast of Cheapas, Mexico.	
Aug. 25	eS eL Me F	0	00	20		30	8	
Aug. 25 (225)	iz iz F	12	44	18			(225) USCGS: 18° S 176° W, H.O. $12^h27,1^m$, depth approx. 250 km, north of Tonga Island. Wellington: $18^{\circ},5$ S 176° W, H.O. $12^h24,9^m$, $h = 100$ km.	
Aug. 28 (226)	eL F	11	05					
Aug. 30 (227)	eP' iPP iPKS eL F	1	33	36			(227) $\Delta = 15800$ km. Riverview: 2750 km, H.O. $01^h19^m16^s$, $h = 0,01$. USCGS: 17° S $168^{\circ},5$ E, H.O. $1^h14,2^m$, New Hebrides Islands.	
Sept. 3 (228)	eL F	20	15					
Sept. 3 (229)	eL F	23	12					
Sept. 5 (230)	eL F	5	02					
Sept. 6 (231)	eL F	13	49					
Sept. 11 (232)	eP ez iPP iKS iPS eL F	9	59	46			(232) $\Delta = 12000$ km. USCGS: 1° N 127° E, H.O. $9^h45,4^m$, west of Gilolo, Molucca Islands. Pasadena: 1° N 127° E, H.O. $9^h45^m25^s$.	

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Sept. 12 (233)	eL F	3 26 4 00				
Sept. 14 (234)	eZ eL F	6 56 40 7 28 9 30				(234) Change of papers 7 ^h 01 ^m till 7 ^h 20 ^m . Christchurch: $\Delta = 81^\circ$ ca.
Sept. 18 (235)	eL F	0 17 0 35				
Sept. 18 (236)	eL F	3 56 4 07				
Sept. 19 (237)	eL F	13 44 14 20				(237) USCGS: 54° N 161° E, H.O. 13 ^h 06,0 ^m . Foreshock of (240).
Sept. 23 (238)	eZ F	3 30 38 3 32				
Sept. 23 (239)	e F	9 56 10 15				
Sept. 23 (240)	iP iS eL F	12 24 47 12 34 17 12 47 16 00	-			(240) $\Delta = 8100$ km. Riverview: $\Delta = 9870$ km, La Paz: $\Delta = 14340$ km. USCGS: epicenter approx. $53^\circ,8$ N $161^\circ,2$ E, H.O. 12 ^h 13 ^m 19 ^s , slight depth, off southeast coast of Kamchatka.
Sept. 23 (241)	eL F	17 30 18 25				
Sept. 24 (242)	eL F	11 37 12 05				
Sept. 25 (243)	eL F	3 24 3 30				
Sept. 25 (244)	eL ME F	16 54 16 58 17 30		23	3	(244) USCGS: 54° N 161° E, H.O. 16 ^h 15,7 ^m . Aftershock of (240).
Sept. 27 (245)	iP eS eSS eL MN ME Mz	16 33 53 16 40 50 16 44 20 16 50 16 54 16 56 30 16 56 30	+			(245) $\Delta = 5200$ km. Disturbed by micro- seisms. USCGS: 39° N 73° E, H.O. 16 ^h 25,1 ^m , south- east of Tashkent. JSA: 39° N 74° E, H.O. 16 ^h 25 ^m 08 ^s . F in the next earthquake.
Sept. 27 (246)	eL F	17 18 18 30				(246) Aftershock of (245).

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Sept. 28 (247)	eL F	18 15 18 25				
Sept. 30 (248)	iP eS eL F	4 18 26 4 22 30 4 26 30 4 50	-			(248) $\Delta = 2550$ km.
Sept. 30 (249)	eL F	5 36 5 45				
Sept. 30 (250)	eL F	8 08 8 30				
Oct. 2 (251)	iP ipP F	17 34 05 17 34 42 18 15				(251) USCGS: $14^\circ,5$ N $90^\circ,1$ W, H.O. 17 ^h 21,9 ^m , h = 100 km. JSA: $14^\circ,2$ N $90^\circ,1$ W, H.O. 17 ^h 21 ^m 58 ^s , h = 150 km.
Oct. 2 (252)	iP iPP iS eL F	20 41 50 20 44 53 20 51 51 21 07 22 00	+			(252) ^h $\Delta = 8900$ km. JSA: $43^\circ,5$ N $141^\circ,7$ E, H.O. 20 ^h 29 ^m 57 ^s , h = 100 km.
Oct. 3 (253)	eL MH F	16 58 17 00 17 30		23	4	
Oct. 5 (254)	e	17 18 00				(254) F in the next earthquake.
Oct. 5 (255)	iP iPP iPPP eSS eL F	17 48 01 17 51 37 17 54 56 18 10 30 18 40 20 00	+			(255) $\Delta = 16700$ km. JSA: 19° S 172° E, H.O. 17 ^h 28 ^m 27 ^s , h = 100 km. Pasadena: $22^\circ,5$ S 172° E, H.O. 17 ^h 28 ^m 27 ^s , h = 120 km. Riverview: $\Delta = 2400$ km, H.O. 17 ^h 28 ^m 26 ^s , h = 0,02.
Oct. 6 (256)	iP iS eL MN ME Mz F	2 39 14 2 42 54 2 44 30 2 46 2 46 2 48 5 00	-			(256) $\Delta = 2200$ km. Smyrna. USCGS: 39° N 27° E, H.O. 02 ^h 34,7 ^m . JSA: $40^\circ,0$ N $29^\circ,3$ E, H.O. 02 ^h 34 ^m 40 ^s . Uccle: $\Delta = 19^\circ,5$. Zürich: $\Delta = 1720$ km, westcoast of Ana- tolia.
Oct. 6 (257)	e F	7 38 7 50				

Date 1944	Phase	Time	Direction	Period	Amplitude	Remarks
Oct. 7 (258)	e	15 40				
	F	15 45				
Oct. 7 (259)	iP	21 38 54				(259) $\Delta = 2200$ km. Uccle: $\Delta = 20^\circ$.
	eS	21 42 30				
	eL	21 44				
	M	21 45				
	F	22 10				
Oct. 11 (260)	eL	11 00				Recording was stopped from October 13, 1944 till June 1, 1945.
	F	12 00				