



HARVARD UNIVERSITY
SEISMOGRAPH STATION

Oak Ridge Observatory

Bulletin Number 28

January 1, 1947 through June 30, 1947

Part A of Paper Number 104 published under the
auspices of the Committee on Experimental Geology
and Geophysics and of the Division of Geological
Sciences at Harvard University.

STATION CONSTANTS

Latitude: 42° 30' 26" North

Longitude: 71° 33' 45" West

Altitude: 180 meters

INSTRUMENTS

Three Benioff 112.7 kg. long and short period combinations, (one vertical, and two horizontal components oriented respectively north-south and east-west) with galvanometric registration and magnetic damping.

Normal Operating Constants

Instrument	T _o sec.	T _g sec.	e	Drum speed	Displacement for acceleration of 10 ⁻⁶ gravity
ZSP	1.0	0.2	20:1	60 mm/min	15 mm
NSP	1.0	0.2	20:1	60 mm/min	15 mm
ESP	1.0	0.2	20:1	60 mm/min	15 mm
ZLP	1.0	14.0	20:1	30 mm/min	12 mm
NLP	1.0	14.0	20:1	30 mm/min	12 mm
ELP	1.0	14.0	20:1	30 mm/min	12 mm

Upward displacements on the seismograms correspond to displacements of the ground upward, to the north, or to the east.

NOTE

Although the Oak Ridge Observatory is located in the town of Harvard, Massachusetts, all mail intended for the station or any of its personnel should preferably be addressed exactly as follows:

Harvard Seismograph Station

Geological Museum

Cambridge 38, Massachusetts

Date	Phase	Time (GMT)	Remarks
1947			
Jan. 3	eP _{1Z} eP _{2Z} eP _{F1Z} eS _{1NE} eZ eL _{ZNE}	02-29-50 33-14 33-26 40-29 51-38 03-06	USC&GS: 0 = 02-17.1; epicenter at 44° N, 144° E (off east coast of Hokkaido, Island, Japan) Pasadena: Magnitude = 6 3/4 BCIS: Two shocks, 0 = 02-17.1 and 0 = 02-20.5; epicenter as above. $\Delta(S-P) = 87.2$; 0 = 02-17-01 (1)
Jan. 4	eL _Z	18-23.5	
Jan. 4	eP _{ZE} iS _{ZNE}	18-51-38.1 52-04.6	Reported felt at Greenwich and Stamford, Connecticut. $\Delta = 240$ km. ca
Jan. 7	iP _{NE} iS _{ZNE}	10-05-04.7 05-06.7	Local. $\Delta = 16$ km.
Jan. 9	eP _{ZE} eS _{1N}	21-21-22.5 21-42.7	Local. $\Delta = 159$ km. ca 0 = 21-20-56.8
Jan. 10	iP? N	18-51-04.2	Local. Remainder lost in minute break.
Jan. 14	eL _{NE} eL _Z	05-04.5 05-07.5	
Jan. 15	eP _Z eL _Z	18-35-05 18-47	USC&GS: 0 = 18-28.0; epicenter at 27° N, 111° W Pasadena: Magnitude = 6
Jan. 21	iP _N	20-17-36 (comp.)	USC&GS: 0 = 20-06.7; epicenter at 25° S, 70° W
Jan. 23	iP _{ZN} eL _Z	16-07-36 31-15	USC&GS: 0 = 15-57.5; epicenter at 53° N, 164° W
Jan. 24	eL _Z	17-46	
Jan. 25	eP _{ZNE} eS _{NE} eSS _E eL _Z	03-59-11 04-04-17 06-31 08-27	USC&GS: 0 = 03-52.6; epicenter at 13° N, 88° W Pasadena: Magnitude = 6-6 1/2 $\Delta(S-P) = 31.2$; 0 = 03-52-48
No records, 13h January 25 to 20h February 1 due to lack of photographic paper			
Feb. 2	eL _Z	04-35-12	

Date	Phase	Time (GMT)	Remarks
1947			
Feb. 2	eN eE iNE iE iN	16-51-47 52-40 52-49 53-05 53-11	Local
Feb. 4	eL _Z	07-56	
Feb. 7	eL _Z	09-41.5	BCIS: $9\frac{1}{2}^{\circ}$ S, $161\frac{1}{2}^{\circ}$ E Pasadena: Magnitude = $6\frac{3}{4}$
Feb. 7	eL _Z	10-42	
Feb. 8	eL _Z	11-03	
Feb. 10	eL _Z	04-52	BCIS: 29° N, $82^{\circ}5$ E
Feb. 15	eP _{NE} eS _{NE}	19-01-24 02-07	Local. Δ about 340 km.
Feb. 16	i _{ZNE}	02-22-25	Deep focus
Feb. 26	eL _Z	02-11	
March 1	e _{ZNE} i _{ZNE}	21-12-25 12-38	
March 1	i _Z	21-31-28	
March 12	i _Z	23-08-21.3	
March 17	iP' _Z ePP _Z e _Z ePPS? _Z ePKKS _Z eSS _Z e _Z eL _E eL _Z	08-37-53 39-46 47-17 49-52 52-17 54-30 09-03-43 08-20 18.1	USC&GS: 0 = 08-19.3; epicenter at 29° N, 100° E (Sikang Province, China) Pasadena: Magnitude = $7\frac{1}{4}$ Δ (PP-P') = $112^{\circ}7$
March 22	i _{ZNE}	09-52-07	
March 25	ePP _Z ePKS _Z	20-53-28 55-18	USC&GS: 0 = 20-32.2; epicenter at 39° S, 178.5 E. 30-foot tidal wave reported along east coast of North Island, New Zealand

Date	Phase	Time (GMT)	Remarks
1947			
March 29	eZNE iZNE	12-31-25 31-29	Local
March 29	iZN	14-27-09	Deep focus
April 1	eZNE eZNE	20-32-09 32-19	This and three following may be non-seismic
April 1	eZNE eZNE	20-48-17 48-43	
April 1	eZNE eZNE	21-14-12 14-35	
April 1	eZNE eZNE	21-41-16 41-41	
April 2	iP'Z ePPZ iPKS _{ZN} iPKS _E eZ iSKKS _{NE} ePS _N ePS _Z ePPS _{ZN} ePPPS _{ZN} e _N eSS _N ePSPS _E e _E e _N iScSScS _{NE} eSSS _N e _E eLZNE	05-58-34 06-00-38 01-51 02-01 03-04 07-41 10-41 10-50 12-25 13-23 16-27 17-53 19-13 19-39 20-01 20-32 23-05 23-32 43	USC&GS: 0 = 05-39.3; epicenter at 1° S, 141 E (off northern coast of New Guinea) △ (PP-P') = 127.4; 0 = 05-39-27
April 2	eZ eLZ eL _N	21-15-12 21-46 21-50	
April 2	iZE iZ iZN	23-06-14 06-16 06-36.5	Local
April 10	iPZ iPZE ePPP _E eS _E eS _N	16-05-04 05-09 06-29 10-45 10-51	USC&GS: 0 = 15-58-04; epicenter at 35.0 N, 116.6 W (125 miles northeast of Los Angeles) △ (S-P) = 36.3; 0 = 15-57-57

(cont. over)

Date	Phase	Time (GMT)	Remarks
1947			
April 10 (cont.)	ePcSN ? eSSN eLE	16-11-05 13-17 16-37	
April 13	iPZ iPZ	03-58-16 58-35	Deep focus
April 14	eLZ	04-20	
April 14	iPZ iZ iZ eSKS _{NE} eSZ eE eE ePS _Z eZ eLZ	07-28-17.5 28-27 28-49 38-47 39-02 39-11 39-41 39-52 40-14 08-02	USC&GS: 0 = 07-15.5; epicenter at 45°0 N, 146°5 E (off north- east coast of Hokkaido Island, Japan) △ (S-P) = 88.3; 0 = 07-15-24
April 14	iPZNE iSNE iZ	20-04-05 04-22.8 04-23.5	Local, probably blast. △ = 149 km.
April 19	iPZE iSZE iZE	19-44-25.8 44-57.0 44-58.4	Local, probably blast. △ about 290 km.
April 23	ePZN eSE eZNE	04-54-01.4 58-07 14-57	Caribbean. △ = 23°2
April 23	iPNE iSNE iZNE	18-23-49.6 23-53.6 23-54.5	Local, blast at Dracut, Mass. △ = 32 km.
April 24	iPZE iSZNE iQ _N iRZE	15-56-59.0 57-05.2 57-06.5 57-08.0	Local, blast at Swampscott, Mass. △ = 49 km.
April 24	iPZNE iSNE eQNE eLZ	19-43-29 (comp.) 50-06 54.0 55.6	USC&GS: 0 = 19-35.1; epicenter at 8° N, 37°5 W (800 miles off northeast coast of South America) Pasadena: Magnitude = 6 3/4 △(S-P) = 44.7
April 27	eZNE	08-22-50	

Date	Phase	Time (GMT)	Remarks
1947			
May 1	iP _{ZNE} iS _{ZNE}	19-34-29.2 34-46.6	Blast at Plainville, Conn. $\Delta = 142.2$ km.
May 1	iP _{ZNE} iS _{ZNE}	20-04-29.0 04-46.4	Blast at Plainville, Conn. $\Delta = 142.2$ km.
May 2	iP _Z eL _{ZNE}	02-28-54 02-50	USC&GS: 0 = 02-19.0; epicenter at 54° N, 164° W (south of Unimak, Aleutian Islands)
May 2	iP _{ZNE} iZ _{NE} iS _{ZNE} iZ _{NE}	07-05-10.4 05-12.5 05-50.7 05-54.0	Local. Δ about 380 km.
May 4	eL _Z	05-17	
May 9	eL _Z	00-18	
May 11	e _Z	18-59-40	
May 17	eP' _Z ePP _Z ePKS _{ZN} e _Z eSSP _N e _N eL _Z	07-26-03 28-04 29-10 37-07 45-20 47-46 08-08	USC&GS: 0 = 07-06.7; epicenter at 37°5 S, 180° (off northeast coast of North Island, New Zealand) Δ (PP-P') = 126.7; 0 = 07-06-58
May 23	i _Z i _Z i _Z	05-11-48 12-18 12-33	Deep focus?
May 23	iP _{ZE} iS _N	17-19-45.7 19-52	Blast at Swampscott, Mass. $\Delta = 51.5$ km.
May 23	iS _N	18-55-40	Blast at Swampscott, Mass.
May 23	i _{ZNE}	20-32-45	Local?
May 25	eL _Z	16-32	
May 26	eL _Z	00-08	
May 27	i _Z	03-54-20	
May 27	iP' _Z iPP _Z i _Z	06-18-12 20-43 20-56	USC&GS: 0 = 05-59.2; epicenter at 2° S, 141° E (off north coast of New Guinea)

Date	Phase	Time (GMT)	Remarks
1947 May 27 (cont.)	ePKS	06-21-46	Pasadena: Magnitude = 7
	eZ	22-52	
	eSKS _Z	25-29	Δ (PP-P') = 133.4; 0 = 05-58-54
	e _Z	26-47	
	eSKKS _Z	27-28	
	e _{ZN}	30-34	
	ePKKS _Z	31-06	
	e _{NE}	31-40	
	ePPS _Z	32-54	
	eZ	34-12	
	eZ	36-07	
	eSS _N	38-28	
	eSSP _Z	38-56	
	e _E	39-12	
	e _N	41-23	
	eZ	41-34	
	eSSS _E	43-16	
	eL _Z	59	
May 29	eL _Z	18-01	
May 29	eL _Z	21-50	
June 1	eZ	11-29-45	
	eL _Z	59	
June 1	eZ	17-32-22	
	eZ	33-14	
June 2	eZ	04-11-24	
June 2	eZ	06-53-37	
	eL _Z	07-32	
June 2	iP _{ZNE}	19-31-02.6	Blast at Westfield, Mass.
	iS _{ZNE}	31-14.9	Δ = 101.6 km.
June 5	i _Z	23-04-45	
	i _Z	05-04	
	eL _Z	12	
June 7	ePP _Z	19-08-38	USC&GS: 0 = 18-47.9; epicenter
	ePKS _Z	10-25	at 11° N, 127° E (near Samar,
	eZ	12-38	Philippine Islands)
	eSKS _Z	13-49	
	ePKKP _Z	16-38	
	ePS _Z	18-32	
	eL _Z	45	

Date	Phase	Time (GMT)	Remarks
1947 June 9	iP _{ZN} i _N i _Z i _N i _S _{ZNE}	11-01-23.8 01-25.4 01-28.2 01-29.0 01-29.7	Local. Reported felt in New Hampshire. Δ (S-P) = 47 km.
June 12	eP' _Z e _Z ePP _Z e _{ZN} ePKS _N e _N e _N e _Z ePPP _Z ePPS _Z e _Z eSS _E eL _Z	09-21-43 22-00 24-12 25-00 25-17 25-28 26-09 26-23 27-27 36-13 37-11 42-00 49	USC&GS: 0 = 09-02.4; epicenter at 1° N, 127° E (near Gilolo Island) Pasadena: Magnitude = 7 Δ (PP-P') = 133°; 0 = 09-02-25
June 13	eP _Z ePP _Z iPP _Z i _Z ePPP _Z eSKS _E eSKS _N ePS _Z ePS _E ePS _N ePPS _Z ePPS _N eSSP _E e _N e _Z eL _{ZNE}	20-39-18 43-33 43-43 45-15 45-55 49-55 50-07 52-52 52-57 53-02 53-59 54-07 59-00 59-18 59-33 21-17.5	USC&GS: 0 = 20-24.7; epicenter at 19° N, 146° E (400 miles north of Guam) Pasadena: Magnitude = 7-7 $\frac{1}{4}$ Δ (PS-PP) = 108°
June 13	ePP _Z ePS _Z eL _Z	23-09-11 19-14 45	USC&GS: 0 = 23-50.3; aftershock of 20h
June 14	iP _{ZNE} i _S _{ZNE}	20-00-04.2 00-17.3	Blast at Westfield, Mass. Δ = 101.6 km.
June 17	iP _E i _S _N i _Q _N iR _{ZE}	14-48-42.5 48-48.8 48-50.2 48-51.6	Blast at Swampscott, Mass. Δ = 50 km.

Date	Phase	Time (GMT)	Remarks
1947 June 17	iP _E iS _N iQ _N iR _{ZE}	16-44-18.2 44-24.3 44-26.1 44-27.5	Blast at Swampscott, Mass. △ = 50 km.
June 19	ePP _Z eSKS _N ePPS _Z eL _Z	07-53-23 59-33 08-03-44 29	USC&GS: 0 = 07-34.6; epicenter at 22° N, 146° E (600 miles north of Guam) Pasadena: Magnitude = 7-7 $\frac{1}{4}$
June 22	i _Z	17-07-35.3	Local
June 25	iP _{ZN} iS _{ZN} iL _{ZN}	19-26-19 26-23.7 26-25	Blast at Dracut, Mass. △ = 37 km.
June 25	eP _{ZN} eS _{ZN}	19-33-25 33-44	Local or blast. △ = 165 km.
June 25	eP _{ZN} eS _{ZN}	22-25-39 25-59	Local or blast. △ = 170 km.

Harvard University
Cambridge, Massachusetts
August 18, 1947

Mary P. Collins



H A R V A R D U N I V E R S I T Y
S E I S M O G R A P H S T A T I O N

Bulletin Number 29

July 1, 1947, through December 31, 1947

Part B of Paper Number 104, published under the auspices of the Committee on Experimental Geology and Geophysics and of the Division of Geological Sciences at Harvard University.

STATION CONSTANTS

Latitude: 42° 30' 26" North
 Longitude: 71° 33' 45" West
 Altitude: 180 meters

INSTRUMENTS

Vertical, North-South, and East-West Benioff long- and short-period variable reluctance seismographs with mass of 112.7 kg., galvanometric registration, and magnetic damping.

Three-component L-B Seismograph with displacement type transducer and ink registration.

Normal Operating Constants

Instru- ment	T _o sec.	T _g sec.	% Critical Damping	Drum Speed	V _s	Displacement for accelera- tion of 10 ⁻⁶ gravity
ZSP	1.0	0.2	.6	60 mm/min.		15 mm
NSP	1.0	0.2	.6	60 mm/min.		15 mm
ESP	1.0	0.2	.6	60 mm/min.		15 mm
ZLP	1.0	14.0	.6	30 mm/min.		12 mm
NLP	1.0	14.0	.6	30 mm/min.		12 mm
ELP	1.0	14.0	.6	30 mm/min.		12 mm
L-B (Z	1.0	0.1	.5	60 mm/min.	200,000	
(N	1.0	0.1	.5	60 mm/min.	200,000	
(E	1.0	0.1	.5	60 mm/min.	200,000	

NOTE

This station has been listed by the International Seismological Summary as Oak Ridge, because it is located at the Oak Ridge Observatory of Harvard College. Since the world-wide advertisement of the place name Oak Ridge, Tennessee, in connection with manufacture of the Atomic Bomb, this nomenclature has led to confusion. The correct designation of this station is the Harvard Station, because it is operated by Harvard University as the direct successor to the original Harvard Station in Cambridge, Mass., and it is the Town of Harvard, Mass.

MAIL ADDRESS

Harvard Seismograph Station
 c/o Prof. L. Don Leet
 Harvard, Massachusetts, U.S.A.

L. Don Leet
 Seismologist in Charge

Date	Phase	Time (GMT)	Remarks
1947 July 1	iP iS	19-45-48.3 46-07.8	Blast at N. Branford, Conn. 165 km.
July 10	iP eS eSS e eLQ eLR	10-55-03 (59-57) 11-01-31 02-09 04-26 04-53	USCGS: H = 10-43.8 73° N 70° W (Baffin Bay) dist.(meas) = 30° (calc)=29°.1 H (calc) = 10-49-06
July 10	e(PPP) ePeP e eL	16-13-25 14-30 13-45 20.5	USCGS: H = 16-05.1 14° N 93° W (off coast Guatemala) dist.(meas) = 34°
July 12	iP eL	02-11-31 52	USCGS: H = 01-53.8 45° N 149° E (Kurile Islands) dist.(meas) = 86° M = 5-3/4 (Strasbourg)
July 12	ePP ePS e(SS) eL	12-49-06 53-43 13-04-44 28-37	USCGS: H = 12-29.6 20° S 176° W (Tonga Islands) dist.(meas) = 114°
July 12	iP iS	19-40-39.8 40-53.1	Blast at Westfield, Mass. dist. = 101.6 km.
July 17	eL	05-42	BCIS: H = 04-32-16 5.0° S 147.5° E (New Guinea)
July 23	iP i iS e e	05-13-57 19-00 22-50 40-26 41-15	USCGS: H = 15-13.4 17° N 68.5° W (off SW coast of Puerto Rico) dist.(meas) = 25.6°
July 23	iP ePP e e e eS ePS eSS eL	17-27-25 31-41 32-18 33-21 34-28 39-14 40-47 46-27 18-08	USCGS: H = 17-13.4 54° S 30° W (South Atlantic Ocean) dist.(meas) = 103° M = 6-1/4 (Strasbourg)
July 24	eL	09-36.5	BCIS: H = 0.8-39.8 (Aftershocks of 54° S 30° W) M = 5-1/2 ca. (Strasbourg)

Date	Phase	Time (GMT)	Remarks
1947 July 24	eL	11-43.5	BCIS: H = 10-39.9 11-01.1 (Foreshocks of 12-16.9)
July 24	eP' ePP(z) ePP(e) eSKS e e eL	12-35-50 37-26 37-33 42-57 49-50 53-32 13-45	USCGS: H = 12-16.9 18.5° S 170° E (New Hebrides Islands) dist.(meas) = 124° M = 6-1/2 (Pasadena and Strasbourg)
July 24	e	06-38-39	
July 24	e(L)	22-28-36	USCGS: H = 22-10-46 34.0° N 116.5° W M = 5-1/2 (Pasadena) felt in SE California dist. = 4400 km.
July 25	iP iS	09-29-06.3 29-07.5	Reported felt in several eastern Massachusetts towns
July 25	iP i ePP eS ePS eSS	19-18-52 20-49 21-29 27-13 28-13 31-35	USCGS: H = 19-09.0 21° S 67° W (northern Argentina) Depth about 400 km (BCIS - 600) dist.(meas) = 63°
July 25	iP iS	19-59-53.0 20-00-14.2	Local, probably blast dist. = 190 km.
July 26	e	03-11-22	
July 26	eP eS	22-56-00 23-00-59	Caribbean
July 28	iP ePP eL eL	03-57-29 59-19 04-12-22 15-26	USCGS: H = 03-48.7 62.5° N 151.0° W (South Central Alaska) dist.(meas) = 49°
July 28	i	09-04-38.9	
July 28	iP iS iL	13-49-27.3 49-31.5 49-33.8	Blast at Winchester, Mass. dist. = 35.2 km.
July 29	i	02-48-33	Deep focus?

Date	Phase	Time (GMT)	Remarks
1947			
July 29	P	13-57-43	USCGS: H = 13-43.5
	P'	14-02-14	29.5° N 97° E
	PPP	03-46	border of Tibet and Burma
	e	11-31	dist.(meas) 103°
	e	13-47	12,000 km.
	e	17-24	M = 7 ca. (Pasadena and
	eL	39.7	Strasbourg)
July 30	eP	04-14-38	Caribbean
	e	14-49	
	eS	18-54	
	eIII	37-53	
July 30	iS	14-23-51.3	Local
	iL	55.0	
July 31	ePP	14-22-43	USCGS: H = 14-12.9
	eL	33.5	0° 84° W
			(off coast of Ecuador)
			dist.(meas) = 4700 km.
July 31	iS	17-30-18.3	Local, blast at Saugus
	iL _n	19.9	
	iL _z	21.4	
Aug. 1	i	01-00-19.5	
	i	01-01.0	
Aug. 1	eL	05-25 ca	
Aug. 1	eL	14-44	
Aug. 4	iP	14-19-17.9	Blast at Winchester, Mass.
	iS	21.9	
	iL	24.2	
Aug. 4	iP	20-55-55.4	Blast at Westfield, Mass.
	iS	56-08.0	
Aug. 5	eP	14-33-02	USCGS: H = 14-24.2
	e	13	25° N 62° E
	e	40-49	(Arabian Sea south of
	e	41-14	Baluchistan)
	ePP	42-11	dist.(meas) = 11,200 km.
	ePPP	44-14	
	eSKKS	43-39	
	ePS	51-01	
	e(PKKS)	57-11	
	e	15-01-41	
	e	05-23	
Aug. 6	iP	00-45-25	USCGS: H = 00-40.3
	iS	49-32	19.8° N 75.3° W
	eLR	52	(off coast of Santiago, Cuba)
			dist.(meas) = 2550 km.

Date	Phase	Time(GMT)	Remarks
1947 Aug. 6	iP i i i i iP _{cP} i _{pP} ePP e esS	05-55-12 31 40 47 51 56-17 57-03 57-19 06-01-41 04-55	USCGS: H = 05-46.9 9.5° S 72° W (near border of Brazil and Peru) Depth = 550 km. dist.(meas) = 5750 km.
Aug. 6	eL	10-16 ca	
Aug. 6	eP iS i i i	20-11-24 15-22 24.2 27 33	Caribbean
Aug. 6	eP i i eS i eIII	20-39-05 13 17 43-15 18 59.9	Caribbean
Aug. 6	e e i i	23-33-18 36-16 23 26	
Aug. 7	iP iS eLR	00-45-25 49-31 52 ca	USCGS: H = 00-40.3 19.8° N 75.8° W (off Santiago, Cuba) dist.(meas) = 2600 km. (23.5°)
Aug. 7	eP iS	19-26-42 30-47	Aftershock of 00-40.3
Aug. 7	eP i e iS	22-22-09 14 26-09 14	Aftershock of 00-40.3
Aug. 8	e(S)	17-22-21	Blast?
Aug. 8	e i	20-02-32 45	Blast?
Aug. 9	iP eS eL	02-58-04 03-05-55 14	USCGS: H = 02-48.3 10° N 28° W (mid Atlantic) dist.(meas) = 6300 km (57°)

Date	Phase	Time(GMT)	Remarks
1947			
Aug. 9	e	04-04-32	
Aug. 10	eP _n	02-49-06	USCGS: H = 02-46.7
	e	36	41.9°N 84.5° W
	e(P ₂)	41	(southern Michigan)
	e	50-24	dist.(meas) = 1100 km.
	e	39	
	eS _n	46	
	eS ₂	51-24	
	e	34	
	eS ₁	51	
Aug. 11	e(L)	20-02-31	Blast?
Aug. 15	eL	04-53.0	
Aug. 16	eL	10-08.5 ca	Trace
Aug. 16	e(P)	13-02-47	dist.(meas) = 365 km ca
	i(S ₂)	03-32	
	i(S ₁)	42	
Aug. 16	iP _L	20-06-30.7	Blast H = 20-06-1166
	F _L	43.7	dist.(meas) = 115 km.
	iS ₁	44.8	
Aug. 18	eL	07-07 ca	Trace
Aug. 20	iP _L	14-01-07.5	H = 14-01-01.6
	iS ₁	11.8	42-28-25 N 71-08-15 W
	iL	13.5	dist.(meas) = 35.2 km
			Blast of 4150 lb. Fixed by split second delay.
Aug. 22	eL	03-31.5	SiL: H = 02-31.6
			9.7° S 165.6° E
Aug. 23	eL	05-39	Trace
Aug. 24	iP	09-25-36.8	Caribbean
	iS	29-33.7	H(calc) = 09-20-55
	eIII	48-38	dist.(calc) = 22.7°
Aug. 24	iP	09-26-00	Caribbean
	iS	30-04.2	H(calc) = 09-20-59
	eIII	49-08	dist.(calc) = 23°
Aug. 27	eP _L	13-56-49	USCGS: H = 13-37.6
	ePP	59-02	42° S 179° E
	ePKS	14-00-22	(off SW coast of North Island
	eSS	16.2	New Zealand)
	eL(G)	30 ca	dist.(meas) = 14,600 km.
	eL	38.5	azimuth (meas) = 257°

Date	Phase	Time(GMT)	Remarks
1947 Aug. 28	iP ePP eS eL	7-02-27 05-23 12-25 32 ca	USCGS: H = 06-50.3 49° N 155° E (off southern coast of Kamchatka) dist.(meas) = 8950 km (80.6°)
Aug. 28	iP e ePP eS eSS eL	14-41-14 22 44-04 50-50 55-22 15-10	USCGS: H = 14-29.4 52° N 159° E (near SE coast of Kamchatka) dist.(meas) = 8550 km
Aug. 28	iP i i eS e(S _c S)	19-59-26 45 50 20-08-44 09-10	USCGS: H = 19-43.0 29.5° S 71° W (near coast of central Chile) dist.(meas) = 71°
Aug. 29	e(S) e eL	16-55-41 56-17 17-01	
Aug. 30	iP eS eL	22-32-48 42-04 57 ca	Aftershock of Aug. 28, 19-43.0 ? H (calc) = 22-21-31 dist.(calc) = 71°
Sept. 3	eL	19-59 ca	USCGS: H = 18-56.4 11° S 162° E (Solomon Islands) dist.(meas) = 13,800 km.
Sept. 4	eL	01-23 ca	USCGS: H = 00-30.2 15° S 174° W (Samoan Islands) dist.(meas) = 12,200 km.
Sept. 4	iP ₂ iS ₂	17-01-44.0 02-00.8	Blast: H = 17-01-21.2 dist.(meas) = 140 km
Sept. 5	i	05-43-24	From SW ?
Sept. 8	iP ₁ iS ₁	15-02-37.5 41.0	Blast: H = 15-02-32.8 dist.(meas) = 28 km
Sept. 8	iP ₁ iS ₁	13-35-16.5 29.5	Blast: H = 18-34-59.0 dist.(meas) = 105 km
Sept. 8	iP ₁ iS ₁	19-43-36.5 41.0	Blast: H = 19-43-31.8 dist.(meas) = 28 km
Sept. 9	e eL	22-59.5 23-28	

Date	Phase	Time (GMT)	Remarks
1947 Sept. 10	eL	00-52	
Sept. 11	iP iS	13-28-19.0 23.5	Blast: H = 13-28-13.2 42-28-25 N 71-08-15 W dist.(meas) = 35.2 km
Sept. 11	i	19-53-09	
Sept. 11	iP iS	20-05-38.5 53.0	Blast dist.(meas) = 115 km ca
Sept. 14	i P _n i P ₂ i P ₁ i S _n i S ₃ i S ₂ i S ₁	19-30-47 57 31-02 37 43 50 32-02	H = 19-29-42 dist.(calc) = 480 km (4.3°)
Sept. 15	eL	10-24 ca	USCGS: H = 09-14.2 41° S 176.2° E (New Zealand) dist.(meas) = 14,500 km (131°) M = 5-1/2 (Wellington)
Sept. 19	i i	10-34-13 39	From SE, strong rarefaction
Sept. 23	eL	13-11 ca	BCIS: H = 12-28-08 39-1/2° N 59° E dist.(meas) = 86.5° M = 6-1/2 (destructive in Iran, Province of Khorassan)
Sept. 25	i P ₁ i S ₁	01-01-46 01-02-12	Blast or Local: H = 01-01-11 dist.(calc) = 235 km
Sept. 25	i e eL	23-52-54 00-05-10 00-39 ca	Confused by microseisms SIL: H = 23-31-10 0.5° N 127° E
Sept. 26	L	04 ca	Trace
Sept. 26	eP' ePP ePS esPS eL	16-20-44 21-03 30-23 31-23 51.5	USCGS: H = 16-02.3 25° N 126° E (Eastern Sea off east coast of China) depth = 200 km dist.(meas) = 12,200 km M = 7-1/4 (Pasadena)
Sept. 27	i	22-19-25.5	

Date	Phase	Time(GMT)	Remarks
1947 Oct. 3	irreg L	07-39.0 ca	BCIS: H = 06-13.7 Depth = 300 km (L large for this depth) Region of Afghanistan - Baluchistan M = 6 (Strasbourg)
Oct. 3	iP	08-17-55	USCGS: H = 08-11.0 16.5° N 99° W (near NE coast of State of Guerrero, Mexico) dist.(meas) = 3900 km.
Oct. 3	iP ipP i iPP eS e e	23-38-59 39-20 40-04 40-19 44-23 47-04 55-24	USCGS: H = 23-32.2 19° N 162° W (state of Michoacan, Mexico) dist.(meas) = 3900 km. M = 6-1/4 (Pasadena)
Oct. 4	eL	16-33 ca	
Oct. 5	iP' e ePPPS eLR	19-00-09 03-41 16-25 46	USCGS: H = 18-41.0 3° S 140° E (N coast of New Guinea) dist.(meas) = 14,500 km
Oct. 6	eL	19-01 ca	
Oct. 6	iP i iS eSS eLR	20-06-39 43 15-39 22.7 33	USCGS: H = 19-55.6 37° N 21° E (near coast of southern Greece) dist(calc) = 7660 km (68.1°*) M = 7 (Pasadena)
Oct. 7	iP _I e i eS _I iL _I i iL _{II}	02-01-55.5 03-27 46 08-57 18-01 21-14 03-22.2	USCGS: H _I = 01-53.4 H _{II} = 02-57.5 64.5° N 146° W (central Alaska) dist _I (meas) = 5100 km
Oct. 7	eL	05-06.3	
Oct. 10	iP eS eLQ eLR	07-44-53 55.3 03-17 25.5	USCGS: H = 07-32.3 40° N 144° E (off NE coast of Honshu) depth = 300 km dist.(meas) = 10,300 km (93°) No evidence of deep focus

Date	Phase	Time(GMT)	Remarks
Date 1947			
Oct. 10	eSS eLR	14-20.0 45.5	USCGS: H = 13-42.6 30° S 130° (Kermadec Islands) dist.(meas) = 13,700 km (123.39)
Oct. 13	e eL	.01-30.5 34	Alaska ?
Oct. 13	eLR	08-41 ca	Brisbane: H = 07-31-07 Kermadec Region
Oct. 14	ePP ePS eSS eSSS eLR	02-01-47 13.1 18.5 21.4 44	USCGS: H = 01-41.1 32° S 180° (Kermadec Islands) dist.(meas) = 13,900 km (125.1°) M = 6-3/4 (Pasadena)
Oct. 15	e	04-33.8	
Oct. 15	eL	09-20	Alaska ?
Oct. 15	iP iL i	19-43-13 53-56 20-02-26	H (calc) = 19-34-28 dist.(calc) = 5400 km ca Alaska
Oct. 16	iP iS iSS i	02-18-18 25-14 23-46 31-46	USCGS: H = 02-09-45 64.5° N 148.8° W (about 40 miles southwest of Fairbanks Alaska) dist.(meas) = 5300 km (48°)
Oct. 16	i	14-03-09	
Oct. 20	eP ePP eS eSS iL i	01-51-53 53-50 59.0 02-02-33 07-47 11-03	USCGS: H = 01-43-16 64.5° N 148.8° W dist.(meas) = 49.6° Aftershock of Oct. 16, 02-09
Oct. 23	iP iS eIII	11-51-46 56-34 12-15-34	Caribbean: H(calc) = 11-45-56 dist. = 3150 km (28.5°*) (calculated)
Oct. 25	iP iS eIII	18-33-21 37-20 54.2	Caribbean type: H (calc) = 18-23-25 dist.(calc) = 2500 km (22.5°*)
Nov. 1	iP iPP iS eLR	15-03-13 10-20 15-32 28-50	USCGS: H = 14-58.9 11° S 75° W (about 150 miles NE of Lima, Peru) dist.(meas) = 5900

Date	Phase	Time(GMT)	Remarks
1947 Nov. 2	eP eS eL	07-08-15 (14-19) 23	USCGS: H = 07-00.3 40° N 127° W (off Cape Mendocino, California) dist.(meas) = 4500 km (40.5°)
Nov. 4	eL	00-54	USCGS: H = 00-09.1 43° N 143° E (off W coast of Hokkaido) dist. = 9300 km
Nov. 7	iP	23-09-47	USCGS: H = 23-00.5 11° S 75° W dist.(meas) = 5050 km Aftershocks of Nov. 1
Nov. 8	i	05-30-41	USCGS: H = 05-25.9 7° N 85.5° W (South of Panama) depth = 200 km ca
Nov. 21	eP ePP iS	04-01-36 03-00 07-31	USCGS: H = 03-54-15 19° N 107° W (about 150 miles off W coast of Mexico) dist.(meas) = 4200 km (38°) Aftershock at 04-17-39
Nov. 23	iP i e eS eL iL	09-52-06 33 53-08 56-48 53.7 10-00-56	USCGS: H = 09-46-05.5 44°47' N 112°02' W (SW Montana) dist(calc) = 3290 km (29.6°)
Dec. 10	e(P) i i i(L)	12-45-12 23 32 40	Local
Dec. 14	iP	02-27-59	USCGS: H = 02-16.2 26° S 63° W dist.(meas) = 7500 km

Date	Phase	Time	Remarks
1947			
Dec. 21	eL	17-39.5	STL: H = 16-46.2 20° S 160° W dist.(meas) = 11,300 km
Dec. 23	iP i(pP) i	02-02-37 45 56	STL: H = 01-56-08 15° N 92° W depth = 100 km dist.(meas) = 3630 km (32.7°)

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