



HARVARD UNIVERSITY

SEISMOGRAPH STATION

Oak Ridge Observatory

Bulletin Number 20

January 1, 1943 through June 30, 1943

Part A of Paper Number 96 published under  
the auspices of the Committee on Experi-  
mental Geology and Geophysics and of the  
Division of Geological Sciences at  
Harvard University

## Constants of the station:

 Latitude:  $42^{\circ} 30' 26''$  North

 Longitude:  $71^{\circ} 33' 45''$  West

Altitude: 180 Meters

## Mail address for the station:

Harvard Seismograph Station

Geological Museum

Cambridge, Massachusetts, U.S.A.

## Time:

All determinations are reduced to Universal Time.  
 Clock rated daily by time signals from Arlington,  
 Virginia. Accurate within 0.1 second unless  
 otherwise specified.

## 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	To sec.	Tg 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

Displacements of the ground upward or toward the north or east are  
 designated by +, down or toward the south or west by -.

## Tables used:

For teleseisms, Jeffreys-Bullen 1939  
 For local earthquakes and blasts, Harvard travel times  
 (Reference: Bulletin Seismological Society of America,  
 Vol. 31, No. 4, October 1941).

Date	Phase	Time (UT)	Remarks
1943			
Jan. 11	eL	20-43	
Jan. 12	eL	18-37-58	Local
Jan. 12	eL	18-44-39	Local
Jan. 14	iP <sub>n</sub> iS <sub>n</sub> iS <sub>1</sub>	21-33-24 33-57 34-13	NESA: 45°2 N, 59°6 W O = 21-32-38
Jan. 17	eL	17-23	
Jan. 23	iP iS eL	13-35-28 39-54 41.0	Caribbean?
Jan. 24	i e	09-33-11 48.5	Foreshock of following?
Jan. 24	iP ipP iS e e e i(ScS?)	20-48-27 48-36 53-41 54-03 56-51 57.5 58-32	USC&GS: 15°±N, 91°± W O = 20-42.1
Jan. 25	i	09-23-34	Aftershock
Jan. 27	iP i eS e eLQ eLR	02-56-12 03-03-41 05-00 06-23 16 19	USC&GS: 52°N, 180° O = 02-45.2 JSA: 51°2 N, 176°9 W O = 02-45-26
Jan. 28	i	02-08-07	
Jan. 30	iP ipP i e iS i i	05-41-17 41-30 43-21 47-06 47-52 50-59 51-30	USC&GS: 2°0S, 80°0 W Depth about 100 km. O = 05-33.0 JSA: 0°3 S, 80°2 W Depth 500 km. O = 05-33-53
Jan. 30	e(P) e(S) e eL	08-35-39 41-28 42-57 50	JSA: 18°8N, 94°7 W O = 08-29-12 Depth about 100 km. Distance about 38°

Date	Phase	Time (UT)	Remarks
1943			
Feb. 6	eL	03-37.5	
Feb. 7	eL	05-32	
Feb. 7	eL	06-27.5	
Feb. 9	iP iS iL	15-20-35 48 50	Local or blast S-P distance = 106 km.
Feb. 16	iP eS iS e e eL	07-38-08 45-40 45-45 47-36 49-35 51.5	JSA: 15°2 S, 68°5 W Depth = 300 km. O = 07-28-41 Distance about 55°
Feb. 16	i eL	14-55-10 15-48	
Feb. 16	e	16-52-15	
Feb. 17	eL	03-25	
Feb. 22	iP ipP e i e(S) i(S) i eG	09-27-44 51 28-05 51 33-17 39 34-03 37-00	Epicenter at 17°55' N, 101°05' W Origin time 09-20-51 See Transactions of American Geophysical Union, p. 315-6, 1944
Feb. 23	eL	23-18	
Feb. 24	e e eL	04-30-50 44-49 48	
Feb. 28	eL	13-15	
March 5	iP iPP iPcP iS iSS eL	00-30-07 40-52 41-24 45-00 47-36 49	USC&GS: 5°8 N, 82°8 W O = 00-31-47 JSA: 5°5 N, 83°0 W Depth about 50 km. O = 00-31-53 Distance about 38°
March 8	e e	22-43-20 44-36	

Date	Phase	Time(UT)	Remarks
1943			
March 9	eP iS	03-27-33 29-10	Felt in Cleveland, Ohio USC&GS: 42°2 N, 80°9 W 0 = 03-25-32 JSA: 41.0 N, 81.3 W Distance about 8°5
March 9	iPP i ePPP i ePS eSSS eL	10-07-46 08-35 10-11 13-06 17-13 23-15 33	USC&GS: Region of 60°S, 29°W 0 = 09-49.0 JSA: 61.0 S, 31.2 W 0 = 09-49-04
March 9	eL	20-38	
March 10	e i i e e e eL	08-33-23 34-31 35-19 40-00 41-06 43-15 09-10	Aftershock of March 9, 10h
March 11	eL	10-35	
March 12	eL	23-33	
March 14	eL	12-56.5	
March 14	iP iS	21-53-08 25	Blast? Distance about 135 km.
March 14	iP' e iPP iPPS i i i e e eL	17-30-05 31-13 32-00 43-27 47-00 51-30 54-40 55-40 58-17 18-12	Distance (PP-P') about 125° USC&GS: 22°± S, 170° ± E JSA: 23.0 S, 169.0 E 0 = 17-10-57
March 15	iP ipP iS esS iScS isScS eK	18-48-10 38 56-24 57-10 48 58-37 19-00.5	Distance 61.9; depth 110 km. USC&GS: 21° ± S, 71° ± W 0 = 18-37.8 JSA: 18.5 S, 68.3 W ± Depth 120 km. - 0 = 18-38-08

Date	Phase	Time (UT)	Remarks
1943			
March 15	iP'	02-43-32	USC&GS: $21^{\circ} \pm$ S, $169^{\circ} \pm$ E
	iPP	45-24	0 = 02-24.6
	i	47	JSA: Region of $21^{\circ}$ S, $169^{\circ}$ E
	e	57-21	0 = 02-24-32
	eL	03-25	Distance about $126^{\circ}$
March 15	iP'	05-06-50	Confused in coda of preceding.
	e	07-00	USC&GS & JSA: $10^{\circ} \pm$ N, $142^{\circ} \pm$ E
	ePP	08-37	0 = 04-47.9
	eL	05-50	Distance about $119^{\circ}$
March 15	eL	15-19	
March 15	iPP	23-17-55	USC&GS: $14^{\circ} \pm$ S, $174^{\circ} \pm$ W
	iSKS	23-30	Depth 300 km. $\pm$
	iSP	27-00	0 = 22-59.2
	iSPP	28-00	Distance about $109^{\circ}$
March 19	iP2	16-09-39	Local
	iP1	40	Distance about 160 km.
	iS1	59	
March 21	iP	20-18-10	Local or blast.
	iS	30	Distance about 170 km.
	iL	35	
March 21	e	20-56-35	USC&GS: $6^{\circ} \pm$ S, $146^{\circ} \pm$ E
	e	57-17	0 = 20-35.4
	e	58-09	Distance about $132^{\circ}$
	eL	21-36	
March 25	e	18-46-15	Sandwich Islands?
	e	47-36	
	e	51-31	
	e	57-51	
	eL	19-23	
March 26	iPP	17-57-51	Felt in Nukualofa, Friendly Is.
	i	58-17	Apia: 0 = 17-38-31
	iSKS	18-03-33	
	ePS	07-29	
	eL	34	
April 1	eL	15-34	
April 5	eL	02-39	
April 5	i	03-17-37	

Date	Phase	Time (UT)	Remarks
1943			
April 5	e	08-45-10	
	e	46-40	
	e	47-27	
	e	48-22	
April 5	eL	21-55	
April 6	iP	16-18-45 (comp.)	Destructive in northern Chile Pasadena gives magnitude as 8 Distance = 73.6 USC&GS: 32° S, 70° W JSA: 29°8 S, 71°0 W, depth 80 km.
	iS	28-15	
	i	34	
	e	32-40	
	eL	37	
April 7	iP	13-18-33	Aftershock of preceding.
	iS	28-05	
	eL	45	
April 7	iP	23-29-25	Aftershock of April 6, 16h
	i	38-57	
	i	39-10	
	eL	58	
April 8	e	09-06.8	
April 15	e	11-46-23	
	e	56-00	
	e	27	
	eL	12-23	
April 15	e	17-54-35	
	e	55	
April 16	e	01-09-38	
April 16	eL	03-48	
April 18	eL	01-29	
April 19	eL	11-50	
April 23	i	18-18-19	
May 2	iP	17-25-13 (comp.)	Distance = 36.3 USC&GS: 6°4 N, 80°1 W Depth between 50-100 km. JSA: 7°0 N, 80°1 W Depth about 100 km.
	i	26-34	
	iS	30-54	
	eL	33-12	

Date	Phase	Time (UT)	Remarks
1943			
May 3	iP'	02-18-04 (d.i.l.)	Distance about 123°
	iPP	19-47	
	e	21-00	JSA: Region of 11°8 N, 123°0 E
	e	23-45	0 = 01-59-11
	eSKKS?	26-19	
	ePS?	29-53	
	ePKKS	31-45	
	eScSPKP	33-18	
	eSS	36-33	
	ePKPPKS	40-10	
	eSSS	41-10	
	e	44-20	
	e	50-15	
	eG	52-20	
May 3	i	10-23-28	
May 9	i	11-04-04	
	i	45	
	i	47	
May 22	i	09-13-31	
	e	40	
May 25	e	23-23-31	
	e	23-26-09	
May 25-26	iP'	23-26-42	Distance (PP-P') = 126°3
	iPP	28-41	
	ePKS?	30-03	USC&GS: 7½°N, 126½°E
	e	32-02	0 = 23-07.6
	e	32-35	JSA: Region of 7°N, 127° E
	eSKS	33-43	0 = 23-07.7
	eSKKS	35-35	
	eL	00-12	
May 26	iP	10-38-51	Distance (S-P) = 38°6
	eS	44-48	USC&GS: 17½°N, 106½°W
	eL	52	0 = 10-31.4
			JSA: 15°5 N, 106°6 W
			Possibly somewhat deep
May 30	iP	08-31-58	Caribbean. Distance about 26°5
	i	32-14	
	iS	36-31	
	e	55-04	
	e	55-20	



Date	Phase	Time (UT)	Remarks
1943			
May 31	iP	02-33-11	Caribbean.
	i	36	
	iS	37-38	
	eL	40.5	
	e	56-04	
	e	57-10	
June 1	e	04-33-06	
	e	54	
	e	35-56	
	eL	38	
June 2	i	05-30-02	
	i	46	
	e	34-54	
	eL	38	
June 3	e	20-18-06	Near Apia
	e	22-06	
	e	24-18	
	eL	49	
June 8	i	01-21-26	
June 8	eP'	21-02-11	USC&GS: $3^{\circ}$ S, $102\frac{1}{2}^{\circ}$ E 0 = 20-42.7 Distance about $145^{\circ}$
	eL	59	
June 9	eP'	03-25-44	USC&GS: $3^{\circ}$ S, $102\frac{1}{2}^{\circ}$ E 0 = 03-06.3 Distance about $145^{\circ}$
	ePP	29-08	
	e	16	
	eL	04-19.5	
June 12	iP	01-32-24	Local. Distance about 170 km.
	iS	44	
June 13	iP	05-24-43	USC&GS: $43^{\circ}$ N, $142^{\circ}$ E 0 = 05-11-44 JSA: Region of $42^{\circ}$ N, $145^{\circ}$ E 0 = 05-11-52 Distance about $90^{\circ}$
	e	25-03	
	e	28-44	
	eS?	35-36	
	e	36-47	
	eL <sub>Q</sub>	51	
June 13	i	06-11-14	
June 13	iP	08-50-00	Aftershock of 05h
	eS?	09-00-58	
	eL	25	
June 13	e	17-52-22	Aftershock of 05h
	e	18-04-20	
	eL	17	

Date	Phase	Time (UT)	Remarks
1943			
June 15	e	11-23-40	Aftershock of 05h, June 13
	e	35-50	
	eL	59	
June 15	iP	18-28-23 (comp.)	Distance - 34°
	iPP?	29-24	
	iPcP	30-46	USC&GS: 14 $\frac{1}{2}$ °N, 93°W
	e	32-54	0 - 18-21.7
	eS	33-48	JSA: 13°7' N, 93°1' W
	ePcS	34-55	Slightly deep?
	cSS?	36-06	0 - 18-21-36
	e	37-26	
	eScS	38-40	
	eL	43	
June 15	eL	20-05	Aftershock
June 15	eL	20-45.5	Aftershock
June 17	i	17-09-21	
	i	31	
June 18	eL	14-31	
June 18	i	17-04-43	
June 18	eL	20-19	
June 19	eL	10-11	
June 20	e	15-44-20	
	eL	16-10	
June 20	i	17-51-20	
	eL	18-14	
June 28	eL	03-47	
June 28	eL	15-42	
June 30	iP'	11-07-25	Pasadena: Flores Sea
	ipP'	10-10	Depth = 700 km.

Cambridge, Massachusetts  
March 4, 1944

Mary P. Collins



HARVARD UNIVERSITY

SEISMOGRAPH STATION

Oak Ridge Observatory

Bulletin Number 21

July 1, 1943 through December 31, 1943

Part B of Paper Number 96 published under the auspices of the Committee on Experimental Geology and Geophysics and of the Division of Geological Sciences at Harvard University

## Constants of the station:

 Latitude:  $42^{\circ} 30' 26''$  North

 Longitude:  $71^{\circ} 33' 45''$  West

Altitude: 180 Meters

## Mail address for the station:

Harvard Seismograph Station

Geological Museum

Cambridge, Massachusetts, U.S.A.

## Time:

All determinations are reduced to Universal Time.  
 Clock rated daily by time signals from Arlington,  
 Virginia. Accurate within 0.1 second unless  
 otherwise specified.

## 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	To sec.	Tg 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

Displacements of the ground upward or toward the north or east are  
 designated by +, down or toward the south or west by -.

## Tables used:

For teleseisms, Jeffreys-Bullen 1939  
 For local earthquakes and blasts, Harvard travel times  
 (Reference: Bulletin Seismological Society of America,  
 Vol. 31, No. 4, October 1941).

Date	Phase	Time (UT)	Remarks
1943			
July 4	eP	09-58-54	JSA: 11°3 N, 84°5 W
	eS	10-04-26	
	eL	11	
July 4	eL	13-58	
July 4	eL	18-18	
July 4	eL	22-17	
July 5	eL	13-51	
July 5	iP	21-17-43 (comp.)	JSA: 15°0 S, 74°0 W
	eS	25-50	0 = 21-07-58
	eL	38	
July 6	e	13-19-28	
	eL	27	
July 6	iP <sub>n</sub>	22-10-56.6	Reported felt in Vermont.
	iP <sub>3</sub>	59.4	NESA: 44°9 N, 73°2 W
	iP <sub>2</sub>	11-00.2	
	iP <sub>1</sub>	01.8	
	iS <sub>n</sub>	24.8	
	iS <sub>3</sub>	28.0	
	iS <sub>2</sub>	30.3	
	iS <sub>1</sub>	35	
	iL	45	
July 7	eL	13-50	
July 9	i	20-07-25	
	i	44	
	i	55	
July 9-10	i	23-38-43	
	i	50	
	i	58	
	eL	00-03	
July 11	iP'	02-29-09	Reported felt on North Island, New Zealand.
	ipP'	53	Wellington: 38°0 S, 176°7 E
	i	30-19	Depth about 200 km.
	i	39	
	ePP	31-29	
	e	36-56	Distance = 129 ; depth = 170 km.
	e	38-25	0 = 02-10-14
	eSP	41-17	
	e	46-15	
	eL	03-12	

Date	Phase	Time (UT)	Remarks
1943			
July 11	eL	17-07	
July 12	eL	09-03	
July 14	eL	11-09	
July 14	eL	20-47	
July 15	eL	00-42	
July 15	e	12-28-38	Distant
	e	41.0	
	e	42-16	
	c	43.5	
July 18	i	22-00-45	Deep focus
	i	59	
July 21	e	04-26-36	
	e	28-48	
	e	31-24	
	eL	55	
July 22	e	15-21-58.5	NESA: 39°9 N, 71°9 W
	i	22-00	
	i	04.5	
	i	33	
July 23	iP'	15-12-41 (comp.)	Distance = 142°; depth 115 km.
	ipP'	13-13 (dil.)	0 = 14-53-26
	isP'	25	
	iPP	16-00	USC&GS: 10½°S, 117½°E
	iPKS	16-17	0 = 14-52.9
	i	18-19	
	i	20-40	JSA: 7° S, 111°3 E
	e	23-32	Depth 120 km.
	ePSKS	25-55	0 = 14-53-22
	i	26-11	
	ePFS	28-39	
	e	29-53	
	e	34-41	
	i	51	
	eL	16-05	
July 29	iP	03-07-28	Distance = 23.6; 0 = 03-02-15
	i	33	Pasadena gives magnitude as 8
	iS	11-40	USC&GS: 18°9 N, 67°0 W
	i	30-40	JSA: 19°1 N, 67°1 W

Date	Phase	Time (UT)	Remarks
1943 July 29	iP i iS e	04-13-00 16 17-10 35-33	Aftershock of 03h
July 29	iP iS e	05-25-12 29-07 48-30	Aftershock of 03h
July 29	iP i iS	06-26-18 34 29-26	Aftershock of 03h
July 29	iP i iS e	06-43-31 44-19 47-46 07-06-22	Aftershock of 03h
July 29	iP iS e	08-15-14 19-13 37-23	Aftershock of 03h
July 29	eP eS	08-30-15 34-12	Aftershock of 03h
July 29	eP eS e	08-42-46 46-36 09-05-04	Aftershock of 03h
July 29	eP eS e	09-30-53 34-50 52-56	Aftershock of 03h
July 29	iP iS eL i	11-48-14 52-07 54 12-10-21	Aftershock of 03h
July 29	eP eS	23-45-43 49-28	Aftershock of 03h
July 30	iP iS e	01-07-44 11-57 30-45	Aftershock of 03h, July 29
July 30	iP i i iS i i i i i	04-28-31 38 48 32-44 57 04-50-10 35 48 51-10	Aftershock of 03h, July 29

Date	Phase	Time (UT)	Remarks
1943			
July 31	iP	03-27-20	Aftershock of 03h, July 29
	i	33	
	i	36	
	iS	31-24	
	i	27	
	i	36	
	i	50-08	
July 31	eP	05-44-33	Aftershock of 03h, July 29
	eS	48-32	
July 31	eP	08-10-31	Aftershock of 03h, July 29
	eS	14-26	
July 31	eP	20-07-55	Aftershock of 03h, July 29
	i	08-14	
	iS	12-07	
	i	30-31	
July 31	eP	20-25-26	Aftershock of 03h, July 29
	eS	29-46	
Aug. 1	eP	01-17-40	Aftershock of 03h, July 29
	eS	21-44	
	e	40-34	
Aug. 1	i	14-30-03	Deep focus.
Aug. 1	i	15-46-00	
Aug. 1	i	16-37-16	
	i	40-29	
	eL	17-20	
Aug. 2	eP'	01-05-50	Reported felt in southern part of South Island, N.Z.
	ePP	08-51	Distance about 140°
	ePPP	11-50	Wellington: 45°5 S, 166°8 E
	eSKKS	15-39	0 = 00-46.5
	ePS	19-10	
	eL	53	
Aug. 2	eP	04-30-28	Aftershock of 03h, July 29
	eS	34-25	
	e	50-20	
	e	51-32	
Aug. 2	eP	10-01-25	Aftershock of 03h, July 29
	eS	05-16	
	e	21-42	



Date	Phase	Time (UT)	Remarks
1943			
Aug. 2	eP eS e e	20-25-24 29-25 46-19 50	Aftershock of 03h, July 29
Aug. 4	iP iS e	01-00-06 03-59 22-29	Aftershock of 03h, July 29
Aug. 5	eP eS	00-44-05 47-55	Aftershock of 03h, July 29
Aug. 8	iP i iS eL i i i	00-43-57 44-15 48-12 50 01-05-25 06-22 33	Aftershock of 03h, July 29
Aug. 9	e eL	04-48.7 50	
Aug. 9	i i eL	16-16-53 18-51 17-12	
Aug. 10	i	15-24-48	
Aug. 10	e(P) e(S)	15-57-54 16-01-40	Caribbean?
Aug. 12	eL	05-48	
Aug. 12	eP e eS e e	11-22-33 51 26-41 46 45-34	Caribbean
Aug. 13	eL	08-03	
Aug. 14	eL	03-01	
Aug. 14	eL	09-12	
Aug. 15	eP eS eL	00-18-43 22-38 26	Caribbean

Date	Phase	Time (UT)	Remarks
1943			
Aug. 31	iP	16-17-14	Distance = $33^{\circ}5$ ; depth 75 km.
	ipP	32	0 = 16-10-40
	iS	22-29	
	esS	23-01	USC&GS: $13\frac{1}{2}^{\circ}\text{N}$ , $91\frac{1}{2}^{\circ}\text{W}$
	eSS	24-35	0 = 16-10.5
	eSSS	25-21	
	eL	28	
Sept. 2	eP1	00-23-04.5	NESA: $39^{\circ}9$ N, $73^{\circ}5$ W
	eS2	39	
	eS1	46.5	
Sept. 5	eP'	08-53-56	Distance about $135^{\circ}$
	iPP	56-40	
	iPKS	57-24	USC&GS: $0^{\circ}$ , $125^{\circ}$ E
	eSKS	09-01-22	0 = 08-34.8
	e	05-21	
	eSKSP	06-40	JSA: $0^{\circ}3$ N, $124^{\circ}4$ E
	eScSPKP	09-23	0 = 08-34-50
	e	12-28	
	eSSP	14-48	
	eSSS	19-35	
	e	20-17	
	eL	45	
Sept. 6	iP'	04-01-03	Distance = $146^{\circ}$
	i	40	Magnitude = 8 (Pasadena)
	i	02-35	
	i	03-28	USC&GS: $53^{\circ}2$ S, $159^{\circ}4$ E
	iPP	04-30	0 = 03-41.5
	i	06-39	
	i	07-14	JSA: Region of Macquarie Is.
	i	08-56	0 = 03-41 ±
	ePPPP	09-44	
	e	10-34	
	iSKKS	11-30	
	eSKSP	14-38	
	ePS	15-08	
	i	38	
	e	16-36	
	e	17-26	
	e	18-14	
	e	44	
	e	22-32	
	e	23-45	
	e	04-25-48	
	e	27-04	
	e	29-16	
	i	28	
	e	31-00	
	e	32-32	
	eL	55	

Date	Phase	Time (UT)	Remarks
1943 Sept. 7	e eL	19-45.5 48	
Sept. 8	eP eS e	17-08-44 12-50 30-27	Caribbean
Sept. 10	iP i iS i eL e i	02-36-49 37-09 40-59 41-14 44 58-50 59-37	Distance = 23°5 USC&GS: 18°9 N, 67°0 W O = 02-31.6
Sept. 10	iP ipP iPP i i iSKS iS ePS ePPS? e i e eSS e eL	08-50-45 55 54-39 56-40 57-35 09-01-19 02-11 03-46 04-10 05-00 48 07-37 09-09 18-11 23	Damage reported at Tottori, Japan. Distance = 98°3; O = 08-37-04 Magnitude = 7 $\frac{1}{2}$ (Pasadena) USC&GS: 35°1 N, 133°3 E O = 08-36.9 JSA: 35°5 N, 135°0 E O = 08-37-03
Sept. 11	eP' e e ePS ePPS eSS eL	19-52-30 53-40 55-10 20-02-39 03-55 08-40 20	Distance about 111° USC&GS: 16 $\frac{1}{2}$ °S, 173°W O = 19-34.0 JSA: 18°2 S, 171°7 W O = 19-34-00

Date	Phase	Time (UT)	Remarks
1943 Sept. 14	eP'	02-20-18	Distance = 123°8 (PP-P') JSA: Probably in region of 25°S, 175°E Wellington: Region of New Caledonia. Depth 230 km. Apia: Near 21°S, 170° E
	ePP	22-05	
	ePKS	23-30	
	e	24-50	
	e	26-57	
	e	33-00	
	i	45	
	e	39-45	
	e	41-08	
	eL	03-00	
Sept. 14	eP'	04-06-16	Distance = 123°6 (PP-P') JSA: Probably in region of 21°S, 170°E Wellington: Region of Samoa Depth = 450 km. Apia: Near 21°S, 170°E
	e	07-22	
	iPP	08-02	
	ePKS?	09-30	
	e	11-48	
	e	19-38	
	e	21-00	
	eL	04-46	
Sept. 14	eP'	07-36-58	Distance = 122° (PP-P') Wellington: Region of 26°S, 175°W Depth 100-120 km. JSA: General region of 21°S, 170°E; 0 = 07-17.8
	ePP	38-36	
	e	39-12	
	eSKS	44-00	
	cSKKS?	45-16	
	ePS	48-08	
	eSS	55-24	
	eL	08-16	
Sept. 14	eL	15-04	
Sept. 16	eL	13-54	
Sept. 17	eL	05-30	
Sept. 17	eL	11-11	
Sept. 19	e	05-00-09	
	e	05-09	
	eL	33	
Sept. 19	eL	07-01	
Sept. 20	eP	01-01-10	Distance = 39°3 (S-P) USC&GS: 19½°N, 109°W 0 = 00-53.7
	i	22	
	ePP	02-22	
	eS	17-12	
	eSSS	10-24	
	eScS	11-25	
	i	14-12	
	i	16-30	

Date	Phase	Time (UT)	Remarks
1943			
Sept. 22-23	e	23-30-07	
	i	37-15	
	i	39-05	
	i	40-25	
	i	49-08	
	eL	00-20	
Sept. 23	iP	15-07-07.5 (comp.)	Distance = $31^{\circ}7$
	iPPP	08-26	
	i	09-24	USC&GS: $15^{\circ}N$ , $92^{\circ}W$
	iPcP	10-02	0 = 15-00.5
	iS	12-18	
	i	46	
	iPcS	13-42	
	eSSS	14-28	
	e	17-24	
	eScS	40	
	eL	15-20	
Sept. 25	i	16-27-34.4	Local
	i	41.8	
Sept. 27	eP'	22-22-30	Distance about $122^{\circ}$
	epP'	48	Depth 50-75 km.
	ePP	24-08	0 = 22-03-38
	epPP	27	
	ePS	33-47	
	ePPS	35-16	
	eL	23-03	
Sept. 28	eL	11-43	
Oct. 4	eL	11-40	
Oct. 4	eP	12-37-31	Caribbean
	eS	41-27	
Oct. 12	i	06-34-02	Local
	i	09	
	i	10	
Oct. 13	eL	05-03	
Oct. 16	eP	11-06-44	Caribbean
	eS	10-39	
	e	27-12	
Oct. 21-22	iPP	23-27-30	USC&GS: $16^{\circ}5 S$ , $178^{\circ}E$
	ePS	37-00	0 = 23-07.7
	ePPS	38-02	JSA: $16^{\circ}5 S$ , $177^{\circ}4 W$
	eSS	43-20	0 = 23-08-08
	eL	00-02	

Date	Phase	Time (UT)	Remarks
1943			
Oct. 23	iP	17-38-04	Distance about 110° USC&GS: 25° N, 92.5 E 0 = 17-23.3 JSA: 28°5 N, 93°4 E 0 = 17-23-33 Possibly deeper than normal
	iP'	41-51	
	ePP	42-24	
	eSKS	48-24	
	e	49-48	
	iPS	51-44	
	iSSP	58-00	
	eL	18-11	
Oct. 24	e	16-24-06	Wellington suggests epicenter New Calcedonia region with depth of focus about 150 km.  JSA: 12°5 S, 155°9 W 0 = 16-06-40
	e	25-07	
	e	31-12	
	e	33-45	
	e	35-12	
	e	40-16	
	e	41-28	
	eL	17-01	
Oct. 24	iP	10-36-04	Caribbean
	i	22	
	eS	40-13	
Oct. 24	i	23-34-29	Deep focus
Nov. 2	e	18-12-45	
Nov. 2	eP	18-21-52	Epicenter presumably in vicinity of South Sandwich Islands.
	e	22-58	
	e	25-29	
	e	27-18	
	e	28-40	
	e	29-20	
	e	56	
	e	32-42	
	e	33-50	
	e	34-40	
	e	26-40	
	e	41-00	
	e	42-12	
	e	45-55	
	e	46-18	
	eG	52-17	
	eL	19-05	
Nov. 3	iP	14-41-06 (comp.)	Distance = 49°3; 0 = 14-32-14  USC&GS: 62° N, 151° W 0 = 14-32.3  JSA: 61°0 N, 149°0 W 0 = 14-32-25  Maximum double trace amplitude in L 14 cm.
	ePcP	42-50	
	iPP	43-08	
	i	45-22	
	iPcS	46-26	
	i	14-47-50	
	iS	48-12	
	i	49-18	
	i	54	
	iScS	51-00	
	iSS	51-44	
	eL	54	

Date	Phase	Time (UT)	Remarks
1943			
Nov. 6	eP'	08-50-54	Distance about 143°
	iP'	51-00	0 = 08-31-20
	i	26	
	i	52-34	USC&GS: 5°5 S, 134°E
	iPP	54-06	0 = 08-31.6
	iPKS	28	
	i	56	JSA: Region of 6°S, 135°W
	i	56-14	"Agreement poor"
	iPPP	57-18	
	i	39	
	iSKS	58-12	
	i	59-00	
	iSKKS?	09-00-44	
	iSKKKS	01-30	
	i	04-16	
	iPS	40	
	i	06-00	
	iPPS	26	
	iSS?	12-26	
	iSSS?	18-24	
	eL	34	
Nov. 8	e	07-07-38	
	e	09-15	
	e	14-23	
	eL	23	
Nov. 13	eL	19-44	
Nov. 16	i	11-47-47	
	e	56-49	
	e	59-40	
	eL	12-05	
Nov. 16	eP	21-38-41	Caribbean
	eS	42-38	
	e	22-01-03	
Nov. 18	eL	19-42	
Nov. 20	eL	00-40	
Nov. 20	e	07-49-13	
	e	50-13	
	eL	08-07	
Nov. 20	eL	19-26	
Nov. 21	eL	20-06	
Nov. 24	eL	14-11	
Nov. 26	e	21-44-34	
	e	47-25	
	i	55	

Date	Phase	Time (UT)	Remarks
1943			
Nov. 26	eP	22-32-09	According to press reports, several killed, and considerable destruction of buildings in Amasa-Tokat region of north central Turkey USC&GS: 41° N, 36° E O = 22-20.7 JSA: 40.9° N, 35.7° E O = 22-20-43 Double trace amplitude of L greater than 14 cm. in maximum
	iP	19	
	iPcP	35	
	i	36-00	
	i	47	
	i	38-45	
	iS	41-47	
	i	42-41	
	i	43-23	
	eG	55	
	eL	58	
Nov. 28	eL	17-13	
Nov. 29	i	19-48-18	
	eL	20-16	
Nov. 29	eL	22-07	
Dec. 1	e	06-23-55	Wellington: New Guinea region Depth about 140 km.
	i	57	
	i	24-28	
	i	27-10	
	i	28-05	
Dec. 1	iP	10-45-03	Distance = 61.7 USC&GS: 20.2° S, 68.1° W Depth probably 100 km. O = 10-34.7
	iS	53-25	
	i	54-14	
	eL	11-00	
Dec. 2	eL	.02-52	
Dec. 3	i	04-57-18	
	i	28	
	eL	05-44	
Dec. 3	i	07-05-42	
Dec. 7	e	01-14-04	
	e	15-13	
	i	36	
	e	21-04	
	e	22-11	
	e	24-07	
	eL	28	
Dec. 8	eL	19-55	
Dec. 9	eL	03-56	



Date	Phase	Time (UT)	Remarks
1943			
Dec. 10	i	15-38-45.7	Local or blast
	i	57.7	
	i	39-02.2	
Dec. 19	iP <sub>1</sub> ?	09-01-22.1	Reported felt at Waterville, Maine.
	i	45.6	
	i	49.8	
	iS <sub>1</sub>	55.0	
Dec. 21	iP	13-52-26 (comp.)	USC&GS: 13°N, 70°5 W
	eS	57-22	0 = 13-46.4
	e	58-12	Distance = 30°
	eL	14-01	
Dec. 22	iP	12-59-14	From same epicenter
	eS	13-04-10	
	eL	07	
Dec. 23	iP	16-02-11 (comp.)	USC&GS: 13°3 N, 70°4 W
	eS	07-15	0 = 15-56.0
	eL	09	
Dec. 23	eP'	19-19-12	Distance = 123°4 (PP-P')
	iPP	20-57	USC&GS: 6°S, 152° E
	i	23-45	0 = 19-00.1
	e	27-05	
	e	38-20	
	i	58	
Dec. 24	i	01-06-21	
	eL	13	
Dec. 24	eL	02-50	
Dec. 24	eL	07-06	
Dec. 24	eL	12-47	
Dec. 25	eL	05-36	
Dec. 25	i	08-24-42	
	i	36-12	
	eL	38.5	
Dec. 26	eL	04-20	
Dec. 27	eL	03-58	
Dec. 29	eL	08-28	
Dec. 30	eL	23-05	