CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

JANUARY - MARCH 1944

(PASADENA AND AUXILIARY STATIONS)

	Lat.N.	Long.W.	h (m)	Symbol
Pasadena	34 08°9	118°10.3	295	P, PX
Mt. Wilson	34 13.5	118 03.4	1742	MW
Riverside	33 59.6	117 22.5	250	R
Santa Barbara	34 26.5	119 42.9	100	SB
La Jolla	32 51.8	117 15.2	8	LJ
Tinemaha	37 05.7	118 15.5	1180	T
Haiwee	36 08.2	117 57.9	1100	H
Palomar				
to March 21	33 21.0	116 51.5	1700	Pr
from March 18	33 21.3	116 51.6	1700	Pr

In the columns headed "Sta.", P denotes readings for short-period instruments, and PX for long-period instruments, all at Pasadena.

Readings for Tucson (Tu) are from original records lent by courtesy of the U.S. Coast and Geodetic Survey.

c = compression d= dilatation

When surface waves are not reported no such waves are found on the seismograms at Pasadena.

All times are G.C.T.

Under "Remarks," data headed A and T refer to the maximum amplitude in microns of computed earth displacement, and the corresponding period in seconds, of each indicated phase at Pasadena.

Beginning late in February, recording was seriously affected by storms, causing heavy microseisms, power interruptions, and defective radio reception. Several vertical-component instruments remained on the stop for days or weeks before it was possible to adjust them. The Mount Wilson station was out of service from Feb. 22 to April 6.

At Palomar the vertical-component instrument was put out of action by a storm on March 21. A new three-component station had already been set up on March 18 in temporary quarters in the dome designed for the 200-inch telescope, but was also out of service from March 25 to April 4.

All communications should be addressed to the central station, as follows:

Seismological Laboratory,
220 North San Rafael Avenue,
Pasadena 2, California.

Date	Sta.	Phase	h	m	s		Remarks
Jan. 1	MW	ePZ	10	28	55		Tu iP 10 28 12
	R	ePZ			47		
	T	ePZ		29	20		
	Pr	ePZ		28	40		
Jan. 2	P	iPZ	07	33	15		Tu iP 07 33 32
	MW	iPZ			17		North of New Zealand?
		eZ			31		
	R	ePZ			17		
	T	iPZ			27		
	Pr	ePZ			17		
		eZ			35		
Jan.2	P	iPZ	15	17	36		Tu iP 15 17 57
	MW	iPZ			37		
	R	iPZ			39		
	T	iPZ			42		
	H	iPZ			43		
	Pr	iPZ			38		
Jan. 2	P	iPZ	22	40	25		Tu iP 22 40 50 c
	MW	iPZ			27		e 42 58
	R	iPZ			29		Apia reports:
	T	iPZ			33		iP(?) 22 32 45
Jan. 3	P	ePZ	10	27	51		Tu iP 10 27 00 c
	MW	ePZ			51		e 28 47
	R	ePZ			47		Off Venezuela?
	T	iPZ			59		Recorded at Bogota
	H	ePZ			54		Foreshock of Jan.5, 10h -11h?
	Pr	iPZ			42		
Jan. 3	P	iPNEZ	13	18	02		Tu iP 13 18 25
	MW	iPNZ			03		
	R	ePZ			04		
	SB	ePZ		17	59		
	T	iPNEZ		18	11		
	H	iPNEZ			09		
	Pr	iPZ			05		
Jan. 4	P	iPZ	01	06	30		Tu iP 01 05 39
	MW	iPZ			30		Off Venezuela?
	R	ePZ			26		Bogota reports
	T	iPNZ			38		iP 01 00 03.5
	H	ePNEZ			35		iS 01 48
	Pr	iPZ			21		
Jan. 4	MW	iZ	16	16	09		Tu iP 16 16 08
	R	iZ		15	58		
	Pr	iZ			49		
Jan. 4	P	iPZ	23	24	16		Tu iP 23 23 33
	MW	iPZ			14		
	R	iPZ			11		
	T	iPZ			25		
	H	ePZ			22		
	Pr	iPZ			06		
Jan. 5	P	iPZ	03	06	29	d	Tu iP 03 06 57 d
	MW	iPZ			29	d	Japan?
		iPPZ		09	52		
	SB	ePNZ		06	24		
	T	iPNEZ			21	d	
	H	iPNZ			23	d	
	Pr	iPZ			35		
Jan. 5	P	iPNEZ	04	19	03		Deep? Tu iP 04 18 22 c
		iNEZ			19		e 41
		iNEZ			33		i 52
	MW	iPZ			04	c	i 19 15
		iZ			23		South America?
		iZ			27		
		iZ			32		
	R	iPZ		18	58	c	
		iZ		19	18		
		iNEZ			28		

(Continued)

Date	Sta	Phase	h	m	s	Remarks
				(Continued)		
Jan. 5	T	iPNEZ	04	19	16	
		iNEZ			46	
	Pr	iPZ		18	53 c	
		iZ		19	22	
Jan. 5	P	iPZ	07	08	56	Deep? Tu iP 07 09 14 d
	MW	iPZ			57	i 24
		iZ		09	12	i 29
	R	ePZ		08	58	
	T	ePZ		09	06	
	H	ePZ			04	
	Pr	iPZ		08	57	
		eZ		09	06	
		iZ			12	
Jan. 5	P	iPEZ	11	07	48	Normal? Tu iP 11 06 57
	PX	eLE		26.2		i 08 33
	MW	iPZ		07	48	Off Venezuela
		iZ		09	52	Approximately 13°N.73°W.,
	R	ePEZ		07	44	O=10:59.3
	SB	ePZ			58	
	LJ	ePNZ			38	
	T	ePZ			56	
		iEZ		08	02	
	H	ePZ		07	52	
	Pr	iPZ			39	
		iZ			44	
		iZ		09	40	
Jan. 5	P	ePZ	12	04	41	Tu iP 12 03 46
	MW	ePZ			37	i 52
		iZ			43	
	T	iPZ			47	
	H	ePZ			42	
	Pr	iPZ			29	
		iZ			34	
		iZ			48	
Jan. 5	P	iPZ	12	57	19	Tu iP 12 57 42
	MW	iPZ			19	
	H	iPZ			26	
	Pr	iPZ			22	
Jan. 5	P	iP"Z	21	31	57	Normal? Tu eP" 21 31 58
		iZ		32	11	ePP 34 56
		iPPZ		34	14	iSKP 35 52
		iSKPNEZ		35	19	Very roughly 3°S.100°E.,
	PX	iZ			42	O=21:12.7, h=60 km?
		eSKSNZ		38.8		A T
		iNE		39	10	PP 1 3
		eSSNE		51.6		SKP 4 4
		eLNEZ	22	09		L small
	MW	eP"NZ	21	31	59	(magnitude nearly 7)
		iPPZ		34	11	
		iSKPEZ		35	22	
		eZ		44	10	
	R	eP"Z		31	58	
		ePPZ		34	21	
		iSKPNEZ		35	22	
	SB	eP"Z		31	58	
		iSKPNEZ		35	19	
	LJ	eP"Z		32	15	
		iSKPNZ		35	26	
	T	eP"Z		31	53	
		ePPZ		34	06	
		iSKPNEZ		35	14	
	H	iP"EZ		31	57	
		iPPZ		34	16	
		iSKPEZ		35	17	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
				(Continued)		
Jan. 5	Pr	eP"Z	21	31	59	
		ePPZ		34	22	
		iSKPZ		35	26	
		iZ			34	
Jan. 6	MW	iPZ	06	59	27	Tu iP 06 58 43
	R	iPZ			22	
Jan. 6	P	iZ?	11	40	05	Tu iP 11 39 12
	MW	eZ			08	
	R	ePZ		39	59	
	T	ePNEZ		40	17	
	H	ePEZ			06	
	Pr	iPZ		39	59	
Jan. 6	P	iPZ	13	46	05	Deep? Tu iP 13 46 52 c
	MW	iPZ			07	i 47 06
		iZ			22	i 21
		iPcPZ		47	57	iPcP 48 16
	R	ePZ		46	07	i 32
		iZ			22	e 50 19
		iPcPZ		47	57	
		iZ		48	12	Alaska?
	T	iPNEZ		45	51 c	
		iEZ		46	06	
		iPcPZ		47	50	
		iZ		48	06	
	H	iPNEZ		45	58 c	
		iZ		46	13	
		iPcPEZ		47	53	
		iZ		48	08	
	Pr	iPZ		46	17 c	
		iZ			32	
		iZ			40	
		iZ			45	
		iPcPZ		48	01	
Jan. 6	PX	eLZ	16	30.5		Normal. Tu eP 16 20 39
	R	ePZ		21	17	
	H	ePZ			19	
Jan. 6	P	iPZ	16	54	35	Tu iP 16 53 55 c
		iNEZ			45	i 54 05
	MW	iPZ			35	South America
		iZ			45	
	R	iNEZ			42	
	LJ	ePZ			35	
	T	iPZ			58	
	H	ePZ			44	
Jan. 7	P	iPNEZ	03	02	55	Deep. Tu eP 03 03 23
		iZ		03	24	ePKKP 19 21
		ePPEZ		06	55	New Guinea
		iSKSE		13	23	Pasadena: 4.5°S.142°E.,
	PX	ePSE		15	58	O=02:49:16
		eSSNE		21.2		h=120 km
		eGN		30.2		(magnitude 7.1)
	MW	iPZ		02	56	A T
		iZ		03	26	PP 1½ 4
	R	ePZ		02	57	
		eZ		03	30	
		eSKSNE		13	29	
	SB	ePZ		02	50	
	T	ePZ			53	
	Pr	iPZ		03	00	
		iZ			29	
Jan. 7	Pr	iPZ	06	46	07	Tu iP 06 16 45 c
Jan. 7	MW	iZ	09	19	04	Tu e 09 20 03
	Pr	iZ			28	

Date	Sta.	Phase	h	m	s		Remarks
Jan. 7	P	iPZ	12	07	27		Tu iP 12 07 52
	MW	iPZ			28		Near Apia, which reports
	R	iPZ			29		P 11 56 39
	T	iPZ			37		S 57.0
	Pr	iPZ			30		
Jan. 8	P	iZ	04	41	37		Tu e 04 42 21
		iZ			48		
	MW	eZ			23		
		iZ			50		
	T	ePZ			20		
		eZ			37		
	H	ePZ			25		
		eZ			43		
Jan. 8	P	ePZ	10	19	04		Tu eP 10 18 26
	MW	ePZ			03		
	T	ePZ			00		
Jan. 8	P	iPZ	12	47	17		Tu iP 12 47 41
	MW	iPZ			20		
	T	iPZ			29		
Jan. 8	T	eZ	14	37	24		Tu eP 14 36 07
Jan. 8	P	ePZ	19	29	10		Tu iP 19 29 33
	MW	ePZ			12		Apia reports:
	R	ePZ			13		i 19 17 26
	T	ePNEZ			21		i 18 00
		iZ			45		
	Pr	ePZ			13		
Jan.10	P	ePZ	04	34	48		Tu iP 04 34 17
	MW	iPZ			49		i 23
		iZ			58		
	R	ePZ			45		
	T	ePZ		35	01		
	Pr	eZ		34	49		
Jan.10	MW	iPZ	16	36	01		Deep? Tu eP 16 35 24
		iZ			30		i 51
	R	iPZ		35	59		
		iZ		36	25		
	T	iPZ		36	13		
Jan.10	P	iPNEZ	20	15	01	c	Normal? Tu iP 20 14 02 c
		iZ			10		USCGS: 18.1°N.100.6°W.,
	PX	iSNEZ		19	16		O=20:10.0
		iNZ			26		Tacubaya: 16°44'N.100°41'W.,
		eLN		20	25		This and the following felt
	MW	iPNZ		15	02	c	in Mexico City.
	R	ePNZ		14	55		Damage in Guerrero
		iZ		15	15		magnitude nearly 7
		iZ		18	51		A T
	SB	iPZ		15	13		P 15 4
	LJ	iPNZ		14	47		
	T	iPZ		15	22	c	L 400 20
	H	iPNE			17		
	Pr	ePZ		14	48		
Jan.10	P	iPNEZ	20	38	31	c	Tu iP 20 37 32 c
		iZ			53		
	PX	iSNE		42	46		Aftershock, somewhat smaller
		iNZ			57		A T
		eLN		43.3			P 5 4
	MW	iPNZ		38	32	c	
	R	iPNEZ			27		
		iZ		42	20		
	SB	ePE		38	43		
	LJ	iPNEZ			17	c	
	T	iPNEZ			53	c	
	H	iPNE			46		
	Pr	ePZ			18		

Date	Sta.	Phase	h	m	s		Remarks
Jan.10	P	eZ	23	22	11		
	MW	iZ			13		
	R	eZ			14		
	T	eZ?		21	58		
Jan.11	P	iPEZ	01	45	50		Tu iP 01 46 23 c
	MW	iPZ			50	c	
	R	iPZ			53		
	T	iPZ			40		
	H	ePNE			46		
Jan.11	P	eZ	04	56	23		Tu iP 04 56 02
		eSNE		57	54		Felt in Lassen National Park
	MW	ePZ		56	09		
		iSZ		57	52		
	R	eZ		56	44		
		iSZ		58	09		
	T	ePZ		55	39		
		iSZ		56	35		
Jan.11	P	eZ	05	55	52		Aftershock
	MW	ePZ		54	11		Also felt in Lassen Park
		eSZ		55	41		
	R	iZ		55	09		
	T	iZ		53	47		
		iSNEZ		54	25		
Jan.12	P	ePZ	06	32	15		Tu iP 06 33 00
		eZ			27		
		eZ			52		
	MW	ePZ?			16		
		eZ			28		
	R	eZ			28		
	T	iPZ		31	56		
		eZ		32	08		
Jan.12	P	iPZ	07	48	40		
	MW	iPZ			41		
	R	iPZ			43		
	T	iPZ			32		
Jan.12	P	iPZ	15	04	39		Normal. Tu iP 15 06 01
		iSNE		06	12		Felt at Eureka, Calif.
	MW	iPEZ		04	39		and elswhere in Humboldt County;
	R	iPNEZ			47		
	SB	ePNE			25		magnitude 5 1/2
	T	iPEZ			14	d	
	H	ePNE			25		
	Pr	ePZ			57		
Jan.13	P	eZ	03	50	54		Tu eP 03 51 14
	MW	ePZ			47		
	R	eZ			57		
	T	ePZ		51	01		
Jan.13	P	ePZ	22	56	39		Tu eP 22 56 23
	R	iPZ			38		
	T	ePZ			39		
Jan.14	MW	iPZ	05	04	56		Tu iP 05 04 25
	R	ePZ			53		
	T	iPZ		05	10		
Jan.14	P	iPZ	07	01	19		Tu iP 07 00 58
	MW	iPZ			18		Near East?
	R	iPZ			16		
	T	iPZ			06		
Jan.14	R	iZ	12	09	44		Tu iP 12 09 30 c
		iZ		10	28		i 52
	T	eZ			51		
Jan.14	P	iPZ	20	07	47		Tu eP 20 08 02
	MW	ePZ			45		
	T	iPZ			53		
Jan.14	MW	eZ	21	15	19		Tu eP 21 14 28
	R	eZ			06		

Date	Sta.	Phase	h	m	s	Remarks
Jan.15	P	iPZ	03	45	46	Tu eP 03 45 07
	MW	iPZ			45	
	R	iPZ			41	
	T	iPZ			56	
Jan.15	P	iPZ	05	56	40	Normal? Tu iP 05 55 59
		iZ		57	18	i 56 37
		iZ			37	i 57 09
	PX	eLN	06	16		Atlantic?
	MW	ePZ	05	56	38	
	R	ePZ			35	
	T	ePZ			41	
Jan.15	P	ePZ	23	15	19	Tu iP 23 16 04 c
	MW	iPZ			21	i 16
		iZ			34	Aleutian Islands?
	T	iPZ			09	
		iZ			19	
Jan.15	MW	iPZ	23	43	46	Tu iP 23 43 20
Jan.16	P	iPNEZ	00	01	41 c	Normal? Tu iP 00 01 10 c
		iZ			48	i 20
	PX	iPPZ		05	02	eP:P: 28 28
		eSNE		11	38	eP:P:P: 48 23
		eLN		23	28	Destructive at San Juan,
	P	eP:P:Z		28	29	Argentina
		eP:P:P:Z		48	27	USCGS: 31.5°S, 68°W.,
	MW	iPEZ		01	41 c	O=23:49.4
		iNEZ			51	A T
		eP:P:Z		28	11	P 5 3
		eZ			31	S 5 4
		eP:P:P:Z		48	35	L 35 20
	R	iPNEZ		01	37 c	
		iZ			46	Major earthquake
		iZ			51	(magnitude 7.4)
		eSNE		11	40	
		eP:P:Z		28	27	
		eP:P:P:Z		48	33	
	SB	iPNZ		01	47 c	
		iZ			57	
	LJ	iPNZ			36	
	T	iPNEZ		01	53 c	
		iNZ		02	03	
		eSNE		12	10	
		eP:P:Z		28	25	
		eZ		31	50	
		eZ		48	17	
	H	ePNE		01	48	
		eSE		12	00	
	Pr	ePZ		01	34	
		iZ			44	
Jan.16	MW	iPZ	01	52	55	Tu iP 01 53 16 d
	R	iPZ			58	Small, sharp impulses
	T	iPZ		53	05	
Jan.16	P	iZ	01	59	00	Tu iP 01 58 31
	MW	iPZ		58	53	
		iZ		59	01	
	R	ePZ		58	51	
	T	iZ		59	14	
Jan.16	P	ePZ	02	27	32	Normal. Tu iP 02 28 52
		iSNE		29	04	Felt in Humboldt County, Cal.
	PX	eLE			23	(magnitude 5±)
	MW	ePZ		27	32	
		eSZ		29	07	
	R	iPZ		27	39	
	SB	ePNZ			17	
		iSZ		28	40	
	T	iPEZ		27	06	
		iSEZ		28	31	
	H	ePNE		27	16	
		eSE		28	54	

Date	Sta.	Phase	h	m	s	Remarks
Jan.16	P	iPZ	11	38	03	Deep? Tu iP 11 38 26 c
	MW	iPZ			04 c	i 40 40
	R	ePZ			09	
	T	iPZ			12	
Jan.16	P	iPZ	12	13	12	Tu iP 12 13 36
	MW	iPZ			13	Near Apia, which reports:
	T	iPZ			21	P=12:03:00, S=12:03:58
Jan.16	P	ePZ	13	43	29	Tu eP 13 42 58
	MW	ePZ			29	
	R	ePZ			26	
Jan.16	P	ePZ	14	34	40	(Deep) Tu eP 14 33 46
		ipPZ			53	ipP 59
		iPcPZ		37	11	iPcP 36 54
		ipPcPZ			24	ipPcP 37 10
	PX	eLNZ		48		Central America
	MW	ePZ		34	40	
		iPcPZ		37	11	
		iZ			27	
	R	iPZ		34	34	
		eZ			43	
		iPcPZ		37	06	
		epPcPZ			18	
		iZ			20	
	T	ePZ		34	56	
		iZ		35	05	
		iPcPZ		37	16	
		ipPcPZ		37	29	
Jan.17	P	iPZ	13	31	57	
	MW	iPZ			56	
	R	ePZ			59	
Jan.18	P	iPNEZ	01	04	30 c	Deep. Tu iP 01 04 52 c
		ipPZ		06	30	e 06 51
	MW	iPZ		04	32 c	e 08 13
		ipPZ		06	33	Tonga region; depth about
	R	iPNZ		04	34 c	550 km.
	SB	ePZ			28	
	LJ	ePN			31	
	T	iPZ			39	
	H	ePNE			39	
	Pr	ePZ			34	
Jan.18	PX	eLZ	06	05.0		Normal. Tu iP 05 18 21
Jan.18	MW	ePZ?	20	48	47	
Jan.18	P	ePZ	23	25	35	Tu eP 23 25 49
	MW	ePZ			39	i 29 19
Jan.19	P	iPNEZ	05	41	57	Deep. Tu iP 05 42 27 d
		ipPZ		43	51	epP 44 10
	MW	iPZ		41	58	South of Japan?
		ipPZ		43	52	Depth about 550 km.
	R	iPZ		41	58 d	
		ipPZ		43	58	
	T	iPZ		41	50	
		ipPZ		43	49	
Jan.19	P	iPZ	07	47	24	
	MW	ePZ			25	
	R	ePZ			26	
Jan.19	P	iPZ	18	38	23	Tu eP 18 37 35
	MW	iPZ			23	
	R	iPZ			19	
Jan.20	P	iPNEZ	03	10	34 c	Deep? Tu iP 03 10 59 c
	PX	iZ			57	i 11 30
	P	iZ		11	08	eP:P: 38 17
		iZ			18	Pasadena O=02:59.3,
	PX	eSNE		19	49	h=90 km.
		eLNE		29.0		Near Apia, which reports
	MW	iPNZ		10	37 c	iP 02 59 55
		iZ			58	iS 03 00 21
	R	iPNEZ			37 c	and gives 15.1°S. 173.5°W.,
	SB	iPNEZ			30	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
					(Continued)	
Jan.20	LJ	ePNZ	03	10	37	A T
	T	iPNZ			44 c	P 1 4
	H	iPNEZ			43 c	S smaller
	Pr	ePZ			37	
		eZ			55	
Jan.20	P	ePZ	12	48	42	Tu eP 12 48 47
		iZ		52	03	i 52 22
	MW	ePZ		48	43	Very distant?
		iZ		52	04	
	R	eZ		49	17	
		iZ		52	05	
	T	iZ			00	
Jan.20	Pr	iPZ	19	22	06	Tu iP 19 21 27
Jan.22	MW	iPZ	06	19	12	Tu iP 06 18 10
	T	iPZ			30	
	Pr	iPZ			00	
Jan.22	P	iPZ	22	59	40	Tu iP 23 00 03
	MW	iPZ			41	
	R	iPZ			45	
	T	ePZ			40	
	Pr	iPZ			43	
Jan.23	P	iPZ	07	25	32	Normal? Tu iP 07 26 17
		iEZ!			35	i 21
		iPcPZ		27	52	i 30
		iScPZ		31	38	iPcP 28 10
						eScP 32 03
	PX	eLZ		36.3		
	MW	ePZ		25	32	Alaska
		iNZ			37	
		iPcPZ		27	53	
		iScPZ		31	39	
	R	ePZ		25	37	
		iZ			40	
		iPcPZ		27	54	
		iScPZ		31	41	
	SB	iPZ		25	27	
	LJ	iPNZ			49	
	T	ePZ			15	
		iNEZ			18	
		iPcPZ		27	46	
		iScPZ		31	32	
	H	ePEZ		25	22	
		iNZ			25	
		iPcPZ		27	49	
		iScPZ		31	34	
	Pr	iPZ		25	45	
		iZ!			52	
		iZ			59	
		iPcPZ		27	57	
		iScPZ		31	40	
Jan.23	MW	iPZ	22	51	40	Tu eP 22 51 41
	R	iPZ			40	i 47
Jan.24	R	ePZ	00	15	51	Tu iP 00 14 58
		iZ		16	02	Mexico?
	T	iZ			19	
	Pr	iPZ		15	46	
		iZ			57	
Jan.24	P	ePZ	04	25	42	Normal. Tu eP 04 25 07
		iZ			49	i 13
		iSE		26	53	
		iNEZ			59	Roughly 31°N.114°W.,
	R	ePZ		25	26	O=20:24.2
		iZ			37	magnitude 4.5
		iSEZ		26	39	
	LJ	ePZ		25	23	
		iSNZ		26	08	
	Pr	iPZ		25	13	
		iZ			22	

Date	Sta.	Phase	h	m	s	Remarks
Jan.24	P	iZ	06	04	31	Normal? Tu iP 06 05 19
	R	ePZ			37	
		iZ			46	
	T	ePZ			02	
		eEZ			11	
	H	iNEZ			15	
	Pr	iPZ			48	
Jan.25	P	iP"NEZ	07	52	04	Deep. Tu iP" 07 52 17
		ipP"Z			35	ipP" 44
		iSKPZ		55	31	iSKP 55 27
	MW	iP"Z		52	04	iPKS 36
		ipP"Z			33	e 58 08
	R	iP"Z			04	iSKKP 08 05 17
		ipP"Z			33	Roughly 7°S.117°E.,
		ePPZ		53	45	O=07:33.3
		epPPZ		54	06	h=110 km.
		iPKKPZ	08	01	56	
	T	iP"Z	07	52	03	
	Pr	iP"Z			08	
Jan.27	T	iPZ	00	00	02	
Jan.27	P	iPZ	04	49	04	
	MW	iPZ			03	
	R	iPZ			04	
	SB	ePZ			01	
	Pr	iPZ			08	
Jan.27	Pr	iPZ	14	38	17	
Jan.28	P	ePEZ	11	12	32	Normal? Tu e 11 13 12
		iNEZ			44	e 17 08
	PX	eLEZ		41		New Hebrides?
	MW	ePZ		12	32	
		iZ			44	
	R	ePZ			36	
		iZ			47	
	LJ	eZ			47	
	T	iPZ			46	
	H	ePE			46	
	Pr	ePZ			30	
		iZ			48	
Jan.28	R	iPZ	14	12	37	Tu iP 14 13 20
	Pr	iPZ			44	
Jan.28	P	iPZ	23	24	54	Tu iP 23 24 17
	MW	iPZ			54	
	R	iPZ			50	
	T	iPZ		25	06	
	Pr	iPZ		24	46	
Jan.29	MW	ePZ	01	01	34	Normal? Tu iP 01 01 52
		eZ			43	i 02 00
		eZ			49	i 06
	R	eZ			45	
		eZ			51	
	Pr	iPZ			36	
		eZ			44	
		iZ			52	
		iZ		02	00	
Jan.29	P	iPNEZ	02	32	17 c	Normal. Tu iP 02 32 56 c
		iZ			21	i 33 01
	PX	eLEZ		44		Aleutian Islands?
	MW	iPNZ		32	17 c	
		iNZ!			22	
		iZ			44	
	R	iPNZ			20 c	
	SB	ePEZ			10	
	LJ	iPZ			29	
	T	iPNEZ		31	56 c	
		iZ		32	01	
	H	ePNE		32	03	
	Pr	iPZ			27 c	
		iZ			32	
		iZ			46	

Date	Sta.	Phase	h	m	s	Remarks
Jan. 29	MW	iPZ	08	53	57	
	R	iPZ		54	01	
	Pr	iPZ			02	
Jan. 29	P	iPNEZ	09	25	10	Normal?
	MW	iPZ			12	
		iZ			18	
		iZ			27	
	R	iPZ			14	
	T	ePZ			13	
	Pr	iPZ			15	
Jan. 30	PX	eLZ	01	11		Normal. Tu e 00 52 58
Jan. 31	P	ePNZ	00	04	45	Tu iP 00 04 43
	MW	ePZ			42	
	R	ePZ			42	
	Pr	iPZ			39	
Jan. 31	P	eZ	02	56	35	Normal. Tu eP 02 55 34
		eSEZ		58	05	i 45
	MW	eZ		56	37	iS 56 30
		eSZ		58	04	Roughly 29°N. 113°W.,
	R	ePZ		56	12	O=02:54.6
		iZ			29	
		iSZ		57	54	
	LJ	ePZ		56	14	
		iSZ		57	23	
	Pr	iPZ		56	14	
		iZ			15	
		iSZ		57	40	
Jan. 31	P	iPZ	09	39	30	Deep? Tu iP 09 40 05 c
		iZ			50	e 20
	MW	iPZ			30	Japan?
	R	iPZ			33 c	
	T	iPZ			20	
		eZ			41	
	Pr	iPZ			38	
Jan. 31	P	iP"Z	21	32	21	Normal? Tu eP" 21 32 24
		iSKPNEZ		35	43	e 32
		iZ		36	03	ePP 35 24
	MW	iP"Z		32	21	iSKP 36 03
		ePPZ		34	41	i 29
		iSKPNEZ		35	43	
	R	eP"Z		32	23	Somewhat doubtful.
		iSKPNEZ		35	45	Distance assumed about 132°.
	SB	eSKPZ			39	Sumatra?
	T	iSKPZ			36	
		eZ		36	04	
	Pr	iP"Z		32	25	
		ePPZ?		34	40	
		iSKPZ		35	48	
		eZ		36	13	
Feb. 1	P	ePZ	03	36	28	Normal. Tu eP 03 36 20
		iPPZ		40	34	eP'P' 04 01 29
	PX	eSKSZ		47.5		Destructive in Anatolia
		eSZ		48	00	Major Earthquake
		iNE			30	(magnitude about 7.5)
	P	eP'P'Z	04	01	37	USCGS: 41°N. 31°E.,
	PX	eGN		02.4		O=03:22.7
		eG2N		05	11	
	MW	iPZ		36	30	A T
	R	ePZ			30	PP 2 1/2 3
	T	iPZ			19	L 300 20
	H	ePN			23	
	Pr	ePZ			31	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 1	P	ePNEZ	05	27	49	Deep? Tu iP 05 28 21
		iZ			59	i 37
		iZ		28	10	i 48
		iSNE		37	16	eP'P' 55 10
		eP'P'Z		55	16	Northern Japan
	MW	ePZ		27	50	Roughly 41°N. 142°E.,
		iZ			59	O=05:16.2
		iZ		28	12	
	R	ePNZ		27	51	h=80 km?
	SB	ePZ			45	
	LJ	ePNZ		28	09	
	T	ePEZ		27	37	
		iZ			53	
		eSNE		36	55	
	H	ePNE		27	43	
		eSNE		37	01	
	Pr	iPZ		27	57	
Feb. 1	MW	iPZ	06	22	39	Tu eP 06 22 34
		iZ			42	e 37
	R	ePZ			39	Aftershock, Anatolia
		eZ			42	
	Pr	iPZ			40	
		iZ			50	
Feb. 1	MW	ePZ	07	00	49	Tu iP 07 00 10
	R	ePZ			44	
Feb. 1	R	ePZ	07	48	03	Tu iP 07 47 29
	Pr	iPZ		47	56	
Feb. 1	T	iPZ	12	37	56	Tu iP 12 38 38
	Pr	iPZ		38	03	
Feb. 1	P	iPZ	14	16	09	Tu iP 14 16 43
	MW	iPZ			09	
	R	iPZ			12	
	T	ePZ		15	57	
	Pr	iPZ		16	17	
Feb. 1	P	iPZ	15	37	40	Tu iP 15 36 51
	MW	iPZ			39	
	R	iPZ			34	
	T	iPZ			53	
	Pr	iPZ			28	
Feb. 2	P	eSNEZ	02	02	50	Normal. Tu eP 01 59 26
	MW	eSZ			46	eS 02 00 54
	R	ePZ		00	18	Mexico?
		eSZ		02	34	
	H	ePZ?		00	44	
		eSNEZ		03	47	
	Pr	iPZ		00	03	
		iSZ		02	08	
Feb. 2	MW	iPZ	03	47	01	Tu eP 03 46 57
	T	iPZ		46	51	Aftershock, Anatolia
	Pr	iPZ		47	07	
Feb. 2	P	iPNZ	04	00	05 c	Deep? Tu iP 04 00 37
	PX	eLZ		32.2		e 54
	MW	iPZ		00	05 c	Japan?
	R	iPZ			08	
	SB	iPEZ	03	59	59	
	T	iPNEZ	04	00	00	
	H	iPNEZ			03	
	Pr	iPZ			11	
Feb. 2	MW	ePZ	11	46	56	Tu eP 11 47 20
Feb. 2	P	eZ	21	02	55	Tu e 21 02 50
	R	eZ		03	04	e 04 16
	T	iZ			26	
	Pr	eZ		02	53	
Feb. 2	MW	ePZ	22	55	45	Tu iP 22 54 48
	R	ePZ			41	
	Pr	iPZ			33 c	

Date	Sta.	Phase	h	m	s		Remarks
Feb. 3	P	iPZ	11	34	31		Tu iP 11 33 42 d
	MW	ePZ			29		i 49
	R	ePZ			27		Felt in Colombia
	T	ePZ			40		Bogota reports
	Pr	iPZ			22		iP=11:26:11.5
Feb. 3	P	iPNEZ	12	21	01	c	Normal. Tu iP 12 21 38 c
	PX	iPPZ		22	00		USCGS: 59.3°N.138.0°W.,
		eSNE		25.7			O=12:15.2
		eLNE		28.2			Felt at Whitehorse, Canada.
	MW	iPNZ		21	00	c	A T
	R	iPNZ			04	c	
	SB	iPNZ		20	55		P 1 1/2 3
	LJ	ePNEZ		21	13		S 1 4
	T	ePNEZ		20	38		
	H	iPEZ			45	c	
Feb. 3	R	iPZ	14	19	15		Tu iP 14 18 26
	Pr	iPZ			11		Colombia
Feb. 3	P	iPZ	20	39	55		Normal? Tu iP 20 40 16 d
		iZ		40	11		i 26
	PX	eLZ	21	05.4			i 31
	MW	iPNZ	20	39	59	c	
	R	iPZ		40	00		
	T	iPNEZ			07		
	H	iPNEZ			05		
	Pr	iPZ		39	58		
		iZ		40	09		
		iZ			18		
Feb. 4	R	ePZ	09	09	31		Tu eP 09 09 19
	T	ePZ			51		
	H	ePZ			44		
	Pr	ePZ			25		
Feb. 4	R	iPZ	16	02	24		Tu iP 16 02 44
	Pr	iPZ			24		
Feb. 4	P	ePZ	21	16	54		Deep? Tu iP 21 17 29
		iNEZ		17	25		i 18 02
	MW	iPZ		16	55		
		iZ		17	26		Japan?
		iZ			39		
	R	ePZ		16	57		
		eZ		17	28		
	SB	eZ			11		
	T	ePZ		16	42		
		eZ		17	13		
		iZ			54		
	Pr	ePZ			01		
		iZ			33		
Feb. 4	PX	eLZ	24	17.6			Normal. Tu eP 23 55 57
	MW	ePZ	23	56	02		
	R	ePZ?			09		
	T	ePZ		55	49		
	H	ePZ			51		
Feb. 5	R	iPZ	02	04	20		Tu eP 02 03 19
	T	ePZ			44		i 28
	Pr	iPZ			04		Mexico?
		iZ			12		
Feb. 5	P	iPZ	17	33	54		Normal. Tu eP 17 34 24
		eZ		37	00		e 38 26
		iPPZ			48		Region of Formosa?
	PX	eSKSNE		44	32		
		eLN	18	01.7			
	MW	ePZ	17	33	55		
	R	ePZ			58		
	T	ePZ			42		
		ePPZ		37	28		
	H	ePZ		33	48		
Feb. 5	P	iPZ	20	15	15		Normal. Tu iP 20 15 38
	PX	eLZ		44			Roughly 21°S.169°E.,
	MW	iPZ		15	15		O=20:02.4

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
					(Continued)		
Feb. 5	R	iPZ	20	15	16		
	T	iPNEZ			21		
	H	ePZ			23		
	Pr	iPZ			15		
Feb. 6	P	iPZ	02	37	42		Tu iP 02 38 04
	MW	iPZ			43		
	R	iPZ			44		
	T	iPZ			54		
	H	iPZ			52		
	Pr	iPZ			44		
Feb. 6	MW	ePZ	04	00	15		Tu eP 03 59 28
	R	ePZ			11		South America
	Pr	iPZ			06		
Feb. 6	R	ePZ	08	27	07		Tu eP 08 27 45
Feb. 6	P	iPZ	18	15	35		Tu iP 18 16 04
	MW	iPZ			35		
	R	iPZ			37		
	Pr	iPZ			41		
Feb. 6	P	ePZ	18	50	05		Tu iP 18 49 17 c
	MW	ePZ			04		Central America?
	R	ePZ		49	59		
	T	ePZ		50	12		
	Pr	ePZ		49	54		
Feb. 7	P	iPZ	08	20	14		Tu iP 08 19 42
	MW	iPZ			15		South America?
	R	iPZ			12		
	T	ePZ			25		
	Pr	ePZ			08		
Feb. 7	MW	ePZ	17	45	51		Tu iP 17 46 30 c
	T	ePZ			29		
	H	ePNZ			38		
Feb. 7	P	iPZ	19	33	07		
	MW	iPZ			06		
		iZ			28		
	R	ePZ			09		
	T	ePZ			06		
	Pr	ePZ			11		
Feb. 8	MW	iPZ	05	02	08		
	T	ePZ		01	58		
	Pr	iPZ		02	14		
Feb. 8	P	iPZ	14	08	09		
		iZ			21		
	MW	ePZ			11		
		eZ			22		
	T	eZ?			28		
	Pr	ePZ			16		
Feb. 8	R	eZ	20	40	03		Tu eP 20 40 50
	Pr	eZ		39	59		
Feb.11	P	iPZ	09	42	09		Deep? Tu iP 09 42 29
		eZ		44	20		i 44 40
	MW	iPZ		42	10		
		eZ		44	21		
	R	ePZ		42	10		
		eZ		44	18		
	Pr	iPZ		42	11		
		eZ		44	22		
Feb.11	P	iPZ	19	19	10		Tu eP 19 18 39
	MW	iPZ			10		
	R	ePZ			06		
	T	ePZ			22		
	Pr	ePZ			00		
Feb.12	R	ePZ	05	23	22		Tu iP 05 22 37
	T	iPZ			33		
	H	ePZ			29		
	Pr	iPZ			19		

Date	Sta	Phase	h	m	s		Remarks
Feb. 12	P	iPNEZ	13	27	16		Tu iP 13 27 47
	MW	iPZ			17		
	R	iPZ			21		
	SB	iPZ			11		
	LJ	ePZ			21		
	H	iPZ			15		
	Pr	iPZ			23		
Feb. 12	Pr	iPZ	17	47	46		Tu iP 17 48 06
Feb. 12	Pr	iPZ	18	05	24		Tu iP 18 05 42
Feb. 14	P	iPNEZ	03	03	56	c	Normal? Tu iP 03 04 32 c
		iZ		04	05		i 41
	MW	iPZ		03	57	c	i 49
	R	iPNZ		04	00	c	Northern Japan?
	SB	iPZ		03	49		
	LJ	iPZ		04	05	c	
	T	iPNEZ		03	45		
	H	iPNEZ			49		
	Pr	iPZ		04	04		
Feb. 14	MW	ePZ	09	42	20		Tu eP 09 41 24
	T	ePZ			45		
	H	ePZ			32		
	Pr	ePZ			08		
Feb. 14	T	eZ	13	48	08		Tu iP 13 49 15
Feb. 15	P	ePZ	05	49	50		Normal. Tu iP 05 49 31
	PX	eLZ	06	13			North Atlantic
	MW	iPZ	05	49	51		
	R	iPZ			48		
	T	iPZ			42		
	Pr	ePZ			50		
Feb. 15	P	iPZ	15	31	55		Tu iP 15 31 30
	R	iPZ			43		
	Pr	iPZ			42		
Feb. 15	P	iPZ	16	04	49		Tu iP 16 04 01
		iZ		05	04		
	R	iPZ		04	45		
		iZ			59		
	Pr	iPZ			41		
Feb. 16	P	ePZ	11	18	40		Normal. Tu iP 11 19 17
	PX	eLN		27	3		i 21 07
	MW	ePZ			37		
	R	ePZ			45		Alaska?
	SB	ePZ			36		
	T	ePZ			15		
	H	ePZ			26		
Feb. 17	P	iZ	00	04	52		Deep? Tu iP 00 05 11 c
	MW	iPZ			50		i 14 c
		iZ			53		i 23
	R	iZ			55		
	LJ	eEZ			53		
	T	ePZ		05	00		
		iEZ			02		
	Pr	iPZ		04	53		
		iZ			56		
Feb. 18	R	iPZ	00	23	40		Deep? Tu iP 00 24 09
		iZ		25	39		i 25 59
	T	iPZ		23	57		
	Pr	iPZ			50		
		iZ		24	42		
Feb. 18	P	iPNEZ	09	23	32	c	Deep? Tu iP 09 23 53 c
	MW	iPNZ			33	c	i 24 17
	R	iPNZ			34	c	i 25 59
	SB	iPZ			28		Southwest Pacific
	T	iPNEZ			41	c	
	Pr	iPZ			34	c	
Feb. 18	P	iSNEZ	15	34	33		Tu eP 15 32 59
	MW	ePZ		33	32		Near 30.5°N. 114.2°W.,
		eSNZ		34	35		O=07:32.0
							(magnitude 4.5)

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
						(Continued)
Feb. 18	R	ePZ	15	33	27	
		eSE		34	20	
	LJ	ePNZ		33	10	
		eSN			50	
	Pr	ePZ			01	
		iPZ			13	
		iSZ			53	
Feb. 18	P	iPZ	19	11	56	Tu iP 19 11 24
	MW	iPZ			56	
	R	ePZ			53	
	SB	ePZ		12	14	
	T	iPNZ			08	
	Pr	ePZ		11	49	
Feb. 18	P	iPNEZ	19	29	29	Tu iP 19 29 54
	MW	iPZ			29	
	R	iPZ			32	
		iZ			43	
	SB	ePZ			21	
	LJ	ePZ			37	
	T	ePZ			18	
	Pr	iPZ			38	
		iZ			46	
Feb. 18	P	ePZ	20	13	30	Tu iP 20 13 20
	MW	iPZ			30	
	R	ePZ			29	
	Pr	ePZ			30	
Feb. 18	T	eZ?	20	59	05	Tu eP 20 59 19
	Pr	ePZ			35	
Feb. 19	T	ePZ	11	23	32	Tu eP 11 23 39
		iZ			43	i 49
Feb. 19	P	ePZ	11	46	17	Normal. Tu iP 11 46 03
	PX	eLZ	12	08		North Atlantic
	MW	iPZ	11	46	15	
	R	ePZ			14	
	T	eZ?		45	53	
	Pr	ePZ		46	18	
Feb. 19	P	iPNEZ	13	00	37	Deep? Tu iP 13 00 54 c
		iZ			52	i 01 04
	MW	iPZ			38	i 11
		iZ			48	North of New Zealand
		iZ			53	
	R	ePZ			39	
		eZ			54	
	T	iPZ			46	
		iZ			58	
		iZ		01	02	
	Pr	iPZ		00	39	
		iZ			54	
Feb. 19	PX	eLZ	14	24		Normal. Tu eP 13 57 30
	MW	ePZ	13	57	42	
	Pr	iPZ			45	
Feb. 19	MW	iPZ	16	10	57	Tu iP 16 11 48 c
	R	iPZ		11	03	
	T	iPNZ		10	31	
	Pr	iPZ		11	15	
Feb. 19	PX	eLZ	20	19		Normal. Tu e(P) 19 49 20
	R	ePZ	19	49	53	
	Pr	iPZ			37	
Feb. 20	R	iPZ	04	15	09	Tu eP 04 15 48
Feb. 20	PX	eLZ?	10	40		Tu e 09 35 16
Feb. 20	P	iPZ	19	33	29	Normal. Tu iP 19 33 50
	PX	eLZ	20	07		i 42 14
	R	iPZ	19	33	30	
	T	iPZ			36	
		iZ			38	
		iZ		35	42	
	Pr	iPZ		33	30	

Date	Sta.	Phase	h	m	s		Remarks
Feb 21	P	ePZ	11	25	24		Tu iP 11 25 50
	R	iPZ			27		i 57
		iZ			34		
	T	iPZ			30		
	Pr	iPZ			29		
		iZ			36		
Feb.21	P	iPNEZ	11	33	16		Normal. Tu iP 11 32 13 d
	PX	iSNE		36	59		Roughly 17°N.104°W.,
		eLEZ		38.7			O=11:28.6
	MW	iPNZ		33	08		
	SB	ePZ			23		
	LJ	iPZ			11		
	T	iPNEZ			39		
		eSNE		37	47		
	Pr	iPZ		32	59		
Feb.21	T	iPZ	12	22	09		Tu iP 12 20 48
Feb.21	R	iZ	17	44	06		Tu eP 17 43 55
	Pr	iPZ?			00		i 58
		iZ			07		
Feb.22	P	iPZ	07	31	50		Tu iP 07 30 58 c
	T	iPZ		32	03		
	Pr	iPZ		31	41	c	
Feb.22	R	iPZ	23	30	49		Tu iP 23 30 08
Feb.23	P	iPNEZ	12	33	33	c	Normal. Tu iP 12 34 18 c
	PX	eLN		44.7			i 23
	R	iPZ		33	37	c	i 44
		iNEZ			58		i 35 31
		iZ		34	08		Aleutian Islands.
		iZ		35	10		
	SB	ePZ		33	25		
	LJ	ePNZ			44		
	Pr	iPZ			43	c	
Feb.23	P	ePZ	20	30	31		Tu iP 20 30 03
	R	iPZ			31		
	T	iPZ			46		
Feb.24	P	ePZ	12	23	48		Tu iP 12 24 15
	R	ePZ			52		i 27
	Pr	iPZ			53		Near Apia, which reports:
							P=12:12:57, S=12:13:47
Feb.25	PX	eLZ	06	57.0			Normal. Tu iP 06 43 50
		ePZ		45	05		
	Pr	iPZ		44	36		
Feb.25	P	ePNEZ	07	40	33		Normal. Tu eP 07 41 08
	PX	eLZ		55.8			i 31
	R	iPZ		40	36		Japan?
	T	iPEZ			13	c	
	Pr	iPZ			43		
Feb.26	P	iPNEZ	22	30	12		Normal? Tu iP 22 30 53
	PX	eLZ		40.5			i 31 13
	R	iPNZ		30	16		i 24
	SB	iPZ			05		Kamchatka?
	T	iPNZ		29	53		
Feb.27	P	eZ	20	16	12		Normal. Tu eP 20 15 37
		eSE		17	29		i 50
	R	ePZ		16	00		29.2°N.114.1°W.,
		iSNEZ		17	16		O=12:14.5
	LJ	ePEZ		15	53		using Lake Mead stations
		eSNE		16	41		(magnitude 4.5)
Feb.28	R	eZ?	02	18	23		Tu iP 02 18 21
	T	ePZ			09		
Feb.28	P	ePZ	16	37	08		Tu iP 16 37 19
	T	iPZ			05		
Feb.28	R	iPZ	17	15	39		Tu iP 17 15 07
	T	ePZ			55		
Feb.28	P	ePZ	17	50	47		Tu eP 17 51 35
	R	iPZ		51	02		Aleutian Islands?
	T	iPZ		50	37		
		eZ		51	35		

Date	Sta.	Phase	h	m	s		Remarks
Feb.29	P	iPNEZ	03	52	27	d	Deep. Tu iP 03 51 48 d
		iZ			42		ipP 52 31
		iPcPZ			55		isP 50
		ipPZ		53	14		iPP 54 13
		isPZ			38		ipPP 29
	PX	eZ		54	38		ePcS 56 19
		iSEZ	04	01	03		ePKKP 04 13 37
		iScSE			58		eP'P' 20 45
		isSE		02	24		i 21 02
		eSSNE		05	32		iSKPP 24 12
		eLNE		08.4			e 29 53
	P	eP'P'Z		20	31		P very large and sharp at all these stations.
		iP'P'Z		21	03		
		eZ		24	00		A T
		eSKPP'Z			25		
	R	iPNEZ	03	52	24	d	P 5 4
		iZ			43		S 5 6
		iPcPZ			52		
		ipPZ		53	06		Surface waves small;
		eSNE	04	00	57		magnitude 7.
		eScSNE		01	57		USCGS: 13.7°S.70.6°W.,
		iP'P'Z		21	04		O=03:42.0
	SB	iPNEZ	03	52	35	d	h=200 km
		iZ			50		
		eP'P'Z	04	20	59		
	LJ	iPNEZ	03	52	18	d	
		iPcPZ			49		
		eSNE	04	00	45		
		eScSN		01	57		
		eP'P'Z		21	06		
	T	iPNEZ	03	52	39	d	
		iZ			58		
		ipPZ		53	17		
		eSNEZ	04	01	27		
		iScSNE		02	27		
		iP'P'EZ		20	54		
		iZ		21	05		
		eSKPP'Z		24	02		
Feb.29	P	iP'NEZ	16	47	37	c	Normal. Tu iP' 16 47 48 c
	PX	iPPNEZ		50	50		i 51
		iPPPZ		54	12		Indian Ocean
		eSKSPNE	17	00	44		Pasadena distant about 143°
		eSSNE		09	24		A T
		iSSNE		15	21		PP 1 1/2 4
		eLNE		24			L 75 20
	R	iP'NZ	16	47	38	c	
		ePPZ		51	02		JSA: 0.5°N.75.5°E.,
	LJ	iP'NEZ		47	44		O=16:28:08
	T	iP'Z			32		Major earthquake
		iPPZ		50	38		(magnitude 7.3)
Feb.29	P	ePZ	20	41	24		Tu eP 20 42 41
		eZ			34		
	R	eZ			29		
		eZ			39		
	Pr	eZ			48		
Mar.1	Pr	ePZ	07	51	44		Tu iP 07 51 04
Mar. 1	R	iPZ	13	18	50		Deep? Tu iP 13 19 14
		eZ		19	38		e 20 02
	T	ePZ		18	53		
		iZ		19	41		
	Pr	ePZ		18	52		
		eZ		19	41		
Mar. 1	P	ePZ	21	04	06		Tu iP 21 04 27
	R	ePZ			08		e 05 38
	T	iPZ			17		
	Pr	iPZ			08		

Date	Sta.	Phase	h	m	s		Remarks
Mar. 1	R	iZ	22	32	14		Tu iP 22 32 08
	T	ePZ			41		
		eZ			44		
	Pr	iZ?			06		
		eZ			19		
Mar. 2	T	eZ?	11	36	00		Tu eP 11 36 06
		eZ		39	04		i 20
Mar. 2	P	iPNEZ	16	59	13		Deep. Tu iP 16 59 34 c
	R	iPZ			16	c	i 17 01 34
	SB	iPZ			10		
	LJ	iPZ			12		
	T	iPZ			19		
	Pr	iPZ			15	c	
Mar. 3	R	ePZ	00	54	18		Tu iP 00 54 39
	LJ	ePZ?			47		
	T	iPZ			26		
		iZ			33		
	Pr	ePZ			45		
Mar. 3	PX	eLZ	14	07	3		Normal.
Mar. 4	P	iPZ	05	55	28		Tu iP 05 56 03
	T	eZ?			02		
		iZ			19		
Mar. 4	Pr	ePZ	14	14	55		Tu eP 14 14 15
Mar. 5	P	iPZ	09	49	52		Tu iP 09 50 16 c
	R	iPZ			55		
Mar. 5	P	iPKKPZ	17	45	45		Deep? Tu e 17 33 45
	PX	eLZ	19	00			iPKKP 45 17
	R	iPPZ	17	34	22		Region of Mindanao
		iPKKPZ		45	42		
Mar. 6	P	iPZ	09	01	16		Tu iP 09 01 49
	R	iPZ			20		
		iZ			29		
	T	iPZ			10		
		iZ			14		
	H	ePZ			12		
	Pr	iPZ			21		
		eZ			32		
Mar. 6	P	iPZ	14	06	43		Tu eP 14 07 37
	R	ePZ			42		Foreshock of next.
	T	iPZ			13		
	H	ePZ			18		
	Pr	ePZ			48		
Mar. 6	P	ePZ	20	12	21		Normal? Tu eP 20 13 30
		iPNE			31		Pasadena: 44°N.128.5°W.,
	PX	eLNEZ		14.8			O=20:09:11
	R	ePZ		12	24		Most of the following
		iZ			36		earthquakes are aftershocks
	SB	eZ			21		
	LJ	ePNEZ			45		
	T	iPNZ		11	53		
		eNE			56		
	Pr	ePZ		12	33		
Mar. 6	P	eZ	20	31	42		Tu eP 20 32 18
	T	ePZ			05		Aftershock?
	Pr	eZ			41		
Mar. 6	Pr	ePZ	20	52	00		Tu eP 20 52 57
Mar. 6	Pr	eZ	21	08	07		Tu eP 21 09 16
Mar. 6	P	ePZ	21	09	06		Normal. Tu iP 21 10 20 c
		iZ			18		Pasadena:
	PX	eLNE		11.8			44°N.128.5°W.,
	R	iPNEZ		09	13		O=21:05.9
	SB	ePZ		08	50		
	LJ	ePNEZ		09	26		
	T	iPNEZ		08	41		
	H	iPNZ			51		
	Pr	iPZ		09	23		
		iZ			29		

Date	Sta.	Phase	h	m	s		Remarks
Mar. 6	P	ePZ	21	14	17		Tu eP ? 21 14 38
	R	ePZ			17		
	T	ePZ		13	53		
	H	iPZ		14	20		
Mar. 6	P	ePZ	21	30	17		Tu eP 21 31 35
	R	ePZ			29		
	T	ePZ		29	56		
	Pr	iPZ		30	39		
Mar. 6	P	ePNZ	21	32	07		Tu iP 21 33 28
	R	eZ			10		
	T	iZ		31	31		
	Pr	iZ		32	12		
Mar. 6	P	ePZ	22	06	44		Tu eP 22 07 49
	R	ePZ			39		
	T	ePZ			06		
	Pr	ePZ			46		
Mar. 6	P	ePNZ	22	24	05		Tu eP 22 25 11
	R	ePZ			05		
	Pr	ePZ			08		
Mar. 6	P	ePNEZ	22	54	42		Tu eP 22 55 36
	PX	eLZ		57.6			
	R	ePZ		54	29		
	T	iPZ		53	56		
		eN		54	00		
	Pr	iPZ			38		
Mar. 6	P	ePNEZ	23	19	45		Tu eP 23 20 52
	PX	eLNE		22	17		
	R	iPZ		19	48		
	LJ	ePNZ		20	07		
	T	ePNZ		19	14		
	H	ePNEZ			31		
	Pr	iPZ			57		
Mar. 6	P	ePZ	23	27	33		Tu eP 23 28 30
	R	ePZ			29		
	T	ePZ		26	47		
	Pr	ePZ		27	29		
Mar. 7	P	ePZ	01	03	59		Tu eP 01 05 11
	R	iPZ		04	06		
	SB	ePZ			06		
	T	ePZ		03	32		
	H	ePZ			45		
	Pr	iPZ		04	15		
Mar. 7	T	ePZ	02	35	22		
	Pr	ePZ			24		
Mar. 7	H	ePZ	02	56	15		
Mar. 7	T	ePZ	03	21	36		Tu eP 03 23 10
	Pr	iPZ		22	18		
Mar. 7	P	iPNEZ	04	53	51	d	Deep. Tu iP 04 54 14 d
		epPZ		55	56		i 31
	R	iPZ		53	54		ipP 56 23
		ipPZ		56	03		Tonga region; depth about
	SB	ePZ		53	47		600 km.
		epPZ		55	57		
	T	iPNEZ		54	01		
	H	iPNEZ		53	59	d	
		ipPZ		56	08		
	Pr	iPZ		53	53	d	
Mar. 7	P	ePZ	05	52	21		Tu iP 05 53 33
	R	ePZ			27		
	T	iPNZ		51	55		
	H	ePZ		52	05		
	Pr	iPZ			36		

Date	Sta.	Phase	h	m	s	Remarks
Mar. 7	P	ePEZ	06	12	25	Tu iP 06 13 35
		iNE			32	
	PX	eLE		15	24	
	R	iPNEZ		12	30 d	
		iZ			40	
	SB	ePNZ			09	
	LJ	ePNE			43	
		iNEZ			49	
	T	iPNEZ		11	57	
		iZ		12	05	
	H	iPNEZ			07	
	Pr	iPZ			39	
		iZ			46	
Mar. 7	P	ePNEZ	06	48	16	Tu eP 06 49 30
	PX	eLNE		50.8		
	R	ePNZ		48	24	
	SB	ePNZ			05	
	LJ	ePNEZ			37	
	T	iPNEZ		47	52	
	H	ePZ		48	04	
	Pr	iPZ			34	
Mar. 7	P	ePNEZ	08	24	38	Tu iP 08 25 51 d
	PX	eLNE		27	13	
	R	iPNEZ		24	46	
	T	ePZ			11	
	H	ePNEZ			21	
	Pr	iPZ			54	
Mar. 7	P	iPZ	08	39	14	Tu eP 08 40 26
	R	ePZ			30	
	T	ePZ		38	47	
	H	ePZ			53	
	Pr	iPZ		39	30	
Mar. 7	R	ePZ	11	20	32	Tu eP 11 21 31
	Pr	eZ			45	
Mar. 7	P	ePZ	13	19	02	Tu eP 13 19 36
		eZ			14	
		eZ			25	
	R	ePZ			03	
	T	iPZ			46	
		eZ			55	
	H	iPZ		18	55	
		iZ		19	05	
		iZ			13	
	Pr	iZ			05	
Mar. 7	P	ePZ	20	45	29	Normal. Tu e 20 49 46
		iZ		49	38	i 50 53
		eEZ		50	00	
	PX	eZ		59.8		
		eLZ	21	21		
	R	ePZ	20	45	28	
		iZ		50	05	
	Pr	ePZ		45	34	
		eZ		50	04	
Mar. 7	P	iPZ	23	17	05	Deep? Tu iP 23 17 32
		eZ		18	00	
	R	iPZ		17	09	
	T	iPZ			11	
	H	iPZ			10	
	Pr	iPZ			08 d	
		eZ		18	02	
Mar. 8	Pr	iPZ	14	31	03	Tu iP 14 32 50
		eZ		32	05	
Mar. 8	P	ePZ	23	12	39	Normal. Tu eP 23 13 02
	PX	eLNE		34.4		
	SB	eZ		12	34	
	T	iPZ?			53	
	Pr	ePZ			41	
		eZ			53	

Date	Sta.	Phase	h	m	s	Remarks
Mar. 9	P	iPNEZ	09	30	21 c	Deep. Tu iP 09 30 41 c
		iZ		32	08	i 32 30
	R	iPZ		30	23 c	
		eZ		32	10	
	SB	ePZ		30	17	
	LJ	iPZ			20	
	T	iPZ			29	
	Pr	iPZ			23 c	
Mar. 9	P	iZ	16	10	27	Tu eP 16 10 29
	R	ePZ			12	i 51
		eZ			27	
	Pr	ePZ			16	
		iZ			30	
Mar. 9	P	iPNEZ	16	25	40	Normal. Tu eP 16 26 40
	PX	eLNE		28,6		
	R	ePZ		25	41	
	Pr	ePZ			46	
Mar. 9	P	iPZ	16	36	16	Tu eP 16 37 05
		iZ			30	
	Pr	eZ			10	
Mar. 9	P	ePZ	17	10	50	Tu iP 17 11 48
	PX	eLZ		14.4		
	Pr	ePZ		10	51	
Mar. 9	P	iPZ	20	14	14	Tu iP 20 13 45
	R	ePZ			16	
	Pr	iPZ			24	
Mar. 9	P	ePZ	22	17	30	Tu eP 22 17 40
		iZ		20	20	e 20 41
		iZ			50	e 22 02
	R	eZ?		21	40	
		iZ		23	10	Foreshock of next.
	Pr	ePZ		17.	31	O=22:03:51
		eZ		21	29	
Mar. 9	P	ePZ	22	26	43	Normal. Tu iP 22 26 59
		eZ		29	43	iPP 31 17
	PX	ePPZ		30	47	iSKS 37 41
		eZ		32	48	iPKKP 42 50
		iSKSNE		37	21	
		ePSNZ		39	44	A T
	P	iPKKPZ		43	00	PP 1 4
	PX	eSSNE		44.3		L 50 20°
		eLZ		53.5		Pasadena distant 99°
	R	ePZ		26	44	46°N. 83.5°E.,
		iPKKPZ		42	59	
	SB	ePZ		26	46	O=22:13:05
		iSKSNE		37	19	Major earthquake
	LJ	iSKSN			29	(magnitude 7.2)
	R	ePZ		26	33	
		iPPZ		30	25	
		iSKSNE		37	11	
	H	ePZ		26	36	
		iSKSNEZ		37	13	
		iPKKPZ		43	34	
	Pr	ePZ		26	48	
		iPPZ		30	52	
		iSKSZ		37	31	
Mar.10	P	eZ	00	16	35	Tu e 00 16 34
		iZ			57	e 17 09
	R	eZ			51	
		eZ		17	07	
	H	eZ		16	35	
	Pr	eZ			34	
		eZ		17	09	
Mar.10	P	ePZ	01	44	31	Tu eP 01 43 53
	H	ePZ			38	e 44 47

Date	Sta.	Phase	h	m	s		Remarks
Mar.10	P	ePZ	06	51	36		Normal? Tu eP 06 52 09
		iNEZ			45		i 08
	PX	iSNE	07	01	10		Northern Japan
		eSSNE		05.0			Roughly 41°N.143°E.,
		eLZ		11			O=06:40.1
	R	ePZ	06	51	38		
		iZ			47		
	SB	ePZ			40		
	LJ	ePNEZ			53		
	T	ePZ			25		
		iEZ			39		
		eSN	07	00	58		
	H	ePZ	06	51	30		
	Pr	ePZ			44		
		eZ			51		
		iZ			56		
Mar.10	P	ePZ	08	43	26		Tu iP 08 44 00
	R	iPZ			29		Japan?
		eZ			35		
		iZ			46		
	T	ePZ			16		
	H	iPZ			19		
	Pr	iPZ			34		
Mar.10	P	ePZ	12	19	44		Tu iP 12 20 50
	R	ePZ			51		
Mar.10	R	iPZ	16	41	23		Tu iP 16 40 38 c
	T	iPZ			38		i 46
	Pr	iPZ			18		
Mar.10	P	iPNEZ	18	41	48	c	Deep. Tu iP 18 42 12 c
		iZ		42	53		i 43 17
	R	iPZ		41	52		Near Apia, which reports:
	T	iPZ			58	c	P 18 31 48
		iZ		43	04		S 32 39
	H	iPNEZ		41	56	c	
		iZ		43	01		
	Pr	iPZ		41	55		
		iZ		42	55		
Mar.11	T	iPZ	06	24	04		
	H	ePZ			07		
Mar.11	R	iPZ	07	17	12		Tu iP 07 17 37
	T	ePZ			15		
	H	ePZ			13		
	Pr	iPZ			13		
Mar.11	R	ePZ	11	40	44		Tu eP 11 39 51
	H	eZ		41	10		
	Pr	ePZ		40	45		
Mar.11	P	iPZ	17	41	15		Tu iP 17 41 38 d
	R	ePZ			19		e 43 50
	T	iPZ			26	d	Southwest Pacific
	H	iPZ			23	d	
	Pr	iPZ			19	d	
Mar.12	Pr	iPZ	08	27	40		Tu iP 08 26 54
Mar.12	P	ePZ	13	13	08		Normal.
	PX	eLEZ		44.7			
	R	ePZ		13	12		
	T	ePZ			09		
	Pr	ePZ			14		
Mar.12	P	iPZ	18	23	07		Deep? Tu iP 18 22 39
		eZ			48		
	R	iPZ			04		South America?
	T	iPZ			20		
		iZ			50		
		iZ		24	01		
	H	iPZ		23	15		
		eZ			55		
		eZ		24	02		
	Pr	iPZ		23	00		
		eZ			42		

Date	Sta.	Phase	h	m	s		Remarks
Mar.14	P	iPZ	07	31	05		Tu iP 07 31 50 d
Mar.14	PX	eLZ	12	21			Normal. Tu iP 11 37 13
Mar.14	P	ePZ	18	46	13		
		iNEZ			28		
	R	ePZ			16		
		iZ			31		
	SB	eZ			23		
	Pr	iZ			33		
Mar.15	PX	eLZ	06	12			Normal.
Mar.15	P	iPZ	08	15	45		Normal. Tu eP 08 17 16
		iSNE		16	28		e 20 20
	SB	iPZ		15	31		
		iSE		16	21		Felt in the region of
	T	ePN		15	27		Monterey Bay and as far
		iSE		16	05		north as San Rafael
	H	iPZ		15	36		
		iSNEZ		16	19		
Mar.15	P	iPZ	09	10	16		Tu eP 09 10 44
	R	iPZ			19		i 14 53
	T	iPNZ			09		
	H	iPZ			12		
	Pr	iPZ			23		
Mar.15	P	iZ?	13	46	29		
Mar.15	P	iPZ	20	52	22		Tu iP 20 52 42 c
	Pr	iPZ			24		
Mar.16	Pr	iPZ	07	01	07		Tu iP 07 01 00
Mar.16	P	ePZ	12	39	28		Normal. Tu iP 12 39 53 d
	PX	eN		58.0			
		eZ	13	00			
	R	ePZ	12	39	31		
Mar.17	Pr	ePZ	09	50	19		Tu iP 09 49 37 d
Mar.19	P	iPZ	08	46	06		Deep? Tu iP 08 46 38
		iZ			18		i 50
	R	iPZ			10		Japan?
		eZ			22		
	SB	ePZ		45	58		
	LJ	ePZ		46	14		
	T	iPZ		45	58		
	H	ePZ		46	01		
	Pr	iPEZ			13		
		iZ			25		
Mar.19	Pr	iPZ	09	31	17		Tu iP 09 31 38
Mar. 19	P	iPZ	13	04	14		Tu iP 13 04 30
	R	ePZ			17		e 48
	Pr	iPNEZ			16	d	
Mar.20	P	ePZ	09	32	15		Normal. Tu eP 09 32 41
		eSN		33	24		eS 34 05
	R	iPZ		32	05		Nevada
		eSEZ		33	13		roughly 37.5°N.114,7°W.,
	T	iPZ		32	05		O=01:30.57
		iSNE			43		
	H	ePZ		31	56		
		iSN		32	40		
	Pr	iPZ			09		
		iSNZ		33	33		
Mar.21	P	iPZ	08	00	28		Tu iP 08 00 49 c
	R	ePZ			30		
	Pr	iPZ			30	c	
Mar.21	Pr	iPZ	15	27	03		Tu iP 15 27 08
Mar.21	P	ePZ	22	21	31		Normal? Tu iP 22 22 05
		iNEZ			46		i 19
	PX	iSE		31	00		
		eLZ		43.9			Japan.
	SB	eNEZ		21	38		
	LJ	eNZ		22	02		
	T	ePN		21	26		

(Continued)

Date	Sta	Phase	h	m	s	Remarks
		(Continued)				
Mar.21	Pr	ePEZ			46	
		iNEZ			55 c	
		iNZ		22	10	
		iSE		31	18	
Mar.22	P	iP"NEZ	01	01	41 c	Deep. Tu eP"01 01 41
		iZ			50	iP" 55 c
		iZ		02	00	iPP 03 38
	PX	iPPEZ			56	iPKKP 11 40
		ipPPZ		03	52	eSKKP 15 31
		iSKPZ		04	59	USCGS: 7°S.126°E.,
		iSKSNE		08	22	O=00:43.0
		iSN		10	33	Pasadena: 8.5°S.123.5°E.,
	P	iPKKPZ		12	05	O=00:43.3,
	PX	eSPE			22	h=220 km
		iSPPNE		13	36	
		eSSN		18.8		A T
		eLNE		30		PP 1 2
	R	iP"NZ		01	44 c	
		iZ		02	48	Major earthquake
		iSKPZ		05	02	(magnitude 7.2)
		eSKSNEZ		08	29	
		ePKKPZ		12	00	
	SB	iP"NZ		01	41	
		iPPNZ		02	49	
	LJ	iP"Z		01	44	
		eZ		03	13	
	T	iP"Z		01	43	
		ePPN		02	28	
		iEZ			55	
		eSKSN		08	22	
	H	eP"NE		01	45	
	Pr	iP"Z			44 c	
		iEZ		03	03	
		iSKNE		08	29	
		iPKKPEZ		12	02	
		iSPN			45	
Mar.22	Pr	iPZ	17	28	15	Tu eP 17 28 20
Mar.22	P	ePZ	17	43	37	Normal? Tu iP 17 44 22
	PX	eLZ	18	00		i 33
	T	ePZ	17	43	23	
		iZ			35	
	Pr	iPNEZ			47	
Mar.22	P	iPZ	17	55	10	Tu iP 17 55 54 c
	LJ	eZ			30	i 56 08
	T	iPNEZ		54	56	
		iZ		55	05	
		iZ			11	
	Pr	iPNEZ			19 c	
		iZ			33	
Mar.22	P	ePZ	19	19	37	Normal. Tu iP 19 19 58 d
	PX	eLZ		46		
	Pr	iPZ		19	38 d	
Mar.23	R	iPcPZ	12	14	58	Tu iP 12 11 10 c
	T	ePZ		12	21	i 12 02
		iPcPZ		15	04	iPcP 14 44
	H	iPZ		12	15	
		eZ			36	
	Pr	iPNEZ		11	51	
		iPcPZ		14	56	
Mar.23	P	iPZ	19	31	46	Tu eP 19 32 19
	T	ePZ			36	

Date	Sta.	Phase	h	m	s	Remarks
Mar.24	P	iPNEZ	17	09	39	Tu iP 17 08 46
	R	ePZ			33	Central America
	LJ	iPZ			28	
	T	iPNEZ			53	
	Pr	iPNE			24	
Mar.24	P	iPZ	22	10	12	Tu iP 22 10 08
	R	iPZ			16	i 36
	T	iPZ			21	
	Pr	iPNEZ			16	
Mar.25	R	iPZ	04	30	38	Tu iP 04 30 10 c
	T	iPZ			55	
Mar.25	T	iPZ	05	32	53	Tu iP 05 33 29
Mar.25	P	iZ	08	59	38	Tu iP 09 00 05
	R	eZ			45	i 17
	T	eZ			15	
		iZ			29	
Mar.25	T	iPZ	12	38	02	Deep. Tu iP 12 38 14
		eZ		39	46	i 39 58
Mar.25	T	eZ	16	57	11	Tu iP 16 57 26
Mar.25	P	iPNEZ	20	24	15	Deep? Tu iP 20 24 38 c
	R	iPZ			18 c	i 26 26
	T	iPZ			25	Apia reports a tremor
						at 20 h 17 m
Mar.26	R	eZ	21	43	25	Tu iP 21 43 46
Mar. 26	PX	eLZ	17	02		Normal.
Mar.26	P	iPZ	23	54	36	Tu eP 23 54 35
	R	ePZ			37	i 58 18
	T	ePZ			32	
Mar.27	P	ePZ	14	39	47	Tu eP 14 39 22
	PX	eSNE?		50.4		
	R	ePZ		39	45	
	LJ	ePZ			37	
Mar.28	P	iPZ	10	48	21	Normal? Tu iP 10 48 33 c
	PX	eLZ	11	16		i 48
						i 56
Mar.28	P	ePZ	22	54	55	Normal. Tu iP 22 55 11
		iZ		55	05	
	PX	eLNEZ	23	35.4		Southwest Pacific
	R	ePZ	22	55	01	
		iZ			09	
	T	eZ			06	
Mar.30	P	iPNZ	10	57	47	Tu iP 10 57 17
	R	ePZ			45	
	T	ePZ			58	
	H	ePZ			54	
Mar.30	T	ePZ	19	03	11	Tu iP 19 02 13
Mar.31	PX	eZ	03	09	15	Normal. Tu e 03 10 25
		iPPZ		11	00	i 47
		eE		17.7		ePKKP 20 57
		ePSEZ		20.0		Roughly 5°S.135°E.,
		eSSN		26.2		O=02:51.8
		eLNE		36.5		
	R	ePPZ		10	46	
	T	eZ			12	
		iZ			47	
	H	eZ			13	
		ePPNE			53	
Mar.31	P	iPNEZ	19	08	28 c	Tu iP 19 08 59 c
	R	iPZ			31	
	T	iPZ			22 c	

Date	Sta.	Phase	h	m	s		Remarks
Mar. 31	P	iPNEZ	20	44	00	c	Normal? Tp iP 20 43 12 c
		iZ			33		USCGS: 3°S. 81°W.,
	PX	eSE		51.1			O=20:34.8
		eLNE		57.3			
	R	iPZ		43	55	c	
	SB	ePZ		44	10		A T
	LJ	ePNEZ		43	49		P O.8 3
	T	iPZ		44	13	c	
		iZ		45	07		
		iZ			37		
	H	eNEZ		44	13		

C. F. Richter

Feb. 13, 1945

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

APRIL – JUNE 1944

(PASADENA AND AUXILIARY STATIONS)

Date	Sta.	Phase	h	m	s	Remarks
Apr. 1	P	iPZ	09	35	15	Normal. Tu eP 09 35 03
	PX	eLE		58		i 11
	R	ePZ		35	15	i 27
	T	eZ?			26	
	H	ePZ			16	
		eZ			25	
Apr. 1	P	iPZ	21	30	52	Tu eP 21 31 50
	R	ePZ			57	
		iZ		31	08	
	T	ePZ		30	17	
		eZ			38	
	H	iPZ			28	
Apr. 2	P	eZ	04	43	03	Normal. Tu iP 04 41 18
	PX	eSNE		44.1		i 34
	R	ePZ		42	37	iS 42 14
		eSNEZ		44	05	
	LJ	ePN		42	20	
		eSNEZ		43	36	
	T	ePZ		42	46	
	H	ePZ			34	
Apr. 3	P	ePZ	05	48	37	Tu eP 05 49 32
	R	ePZ			44	
	T	ePZ			03	
	H	ePZ			15	
Apr. 3	P	ePZ	12	50	56	Normal. Tu eP 12 50 16
	PX	eLNEZ		58		
	R	ePZ		50	52	
	T	ePZ		51	19	
	H	ePZ			10	
Apr. 3	P	ePZ	13	09	38	Normal. Tu eP 13 09 00
	PX	eLNEZ		17		
	R	ePZ		09	36	
	T	ePZ		10	03	
	H	ePZ		09	54	
Apr. 3	P	ePZ	18	03	01	Normal. Tu eP 18 03 20
	PX	eLNE		25.5		Near Apia, which reports
	R	ePZ		03	02	P 17 53 26
	H	ePZ			09	S 56
Apr. 4	R	ePZ?	17	05	03	Tu iP 17 05 19
Apr. 4	P	ePZ	18	13	36	Tu iP 18 13 56 d
	R	ePZ			38	i 14 13
Apr. 4	P	iPNEZ	22	57	26	Normal. Tu iP 22 57 05
	PX	eLNE	23	16.4		Southeast Pacific?
	R	ePZ	22	57	21	
	SB	ePZ			30	
	T	ePZ			44	
	H	ePZ			38	
	Pr	ePNEZ			16	
Apr. 5	PX	eLNZ	05	38		Normal. Tu eP 04 54 24
Apr. 5	P	iPZ	09	30	13 d	Tu iP 09 30 43
	R	ePZ			16	
	H	iPZ			12	
	Pr	ePEZ			17	
Apr. 6	R	ePZ	02	40	29	Deep? Tu iP 02 39 24
	T	ePZ			44	
		iZ		41	00	Mexico. Tacubaya reports
		iZ			08	eP 02 36 25
		iZ		43	26	iS 38 15
	Pr	iPZ		40	17	
		iZ			33	
		eZ			47	
Apr. 6	P	iPZ	10	53	42	Tu iP 10 54 00 c
	R	ePZ			37	Near Apia, which reports:
	T	ePZ			44	P 10 42 47
	H	ePZ			43	S 43 13
	Pr	iPZ			37	

Date	Sta.	Phase	h	m	s	Remarks
Apr. 7	P	iPZ	00	03	39 d	Tu iP 00 03 58 c
	MW	iPZ			38	
	R	iPZ			41	
	T	iPZ			47	
	H	ePZ			41	
	Pr	iPNEZ			41 c	
Apr. 7	P	iPNEZ	13	39	52	Deep. Tu iP 13 38 58 c
		iZ		40	07	i 39 42
		eZ			31	i 40 40
		iPcPEZ		42	10	iPcP 41 51
	MW	iPZ		39	53	iScP 45 18
		iZ		40	06	eScS 49 20
		iPcPZ		42	09	Central America
	R	iPNEZ		39	47	Roughly
		iPcPZ		42	06	13°N 87°W.,
	T	iPNEZ		40	06	O-13 33.1
		iPcPZ		42	14	Depth 100 km?
	H	iPZ		40	00	
		eZ		41	31	
		iPcPZ		42	12	
	Pr	iPNEZ		39	42 c	
		iZ		40	25	
		iZ		41	13	
		iPcPNEZ		42	05	
		iSNE		45	08	
		eScPZ			38	
Apr. 8	MW	iPZ	03	27	50	Deep? Tu iP 03 28 20
	R	ePZ			50 d	e 55
	T	iPZ			45 d	
Apr. 8	P	ePZ	03	38	04	Tu iP 03 38 36
	R	ePZ			01	
	T	iPZ		37	36	
	Pr	iPZ		38	07	
Apr. 8	P	iPZ	05	44	59	Tu iP 05 45 17
	MW	ePZ		45	00	
	R	ePZ			02	
	T	ePZ			07	
	H	ePZ			07	
	Pr	iPZ			01	
Apr. 8	P	ePZ	09	27	45	Deep. Tu iP 09 28 09
		iZ		28	11	i 35
	MW	iPZ		27	48	
		iZ		28	14	Near Apia, which reports:
	R	ePZ		27	48	P 09 17 35
		iZ		28	14	S 18 32
		eZ			26	
	T	iPZ		27	55	
		iZ		28	21	
	H	iPZ		27	55	
		iZ		28	19	
	Pr	iPZ		27	49	
		iZ		28	14	
Apr. 10	P	iPZ	21	10	11	Deep. Tu iP 21 09 41
	MW	iPZ			12	i 10 05
		iZ			40	
	R	iPZ			08	South America
		iZ			15	
		iZ			19	
	T	iPNZ			24	
		iZ			45	
		iNZ			53	
	H	iPZ			18	
	Pr	iPZ			04	
		iZ			34	

Date	Sta.	Phase	h	m	s	Remarks
Apr. 11	P	ePZ	01	30	46	Tu iP 01 30 26 d
	MW	iPZ			46	i 31
	R	ePZ			44	
	T	ePZ			37	
	Pr	iPNZ			48	
Apr. 11	P	iPZ	02	23	56	Tu iP 02 24 20
	MW	iPZ			58 d	
	T	iPZ		24	05	
	Pr	iPZ		23	59	
Apr. 11	P	iPZ	02	31	42	Tu iP 02 31 20
	PX	eLZ		58.2		
	MW	ePZ		31	39	
	T	iPZ			25	
	Pr	iPNZ			40	
Apr. 11	MW	iPZ	15	33	47	
	R	ePZ			43	
	Pr	iPZ			39	
Apr. 11	P	iPEZ	23	06	23	Tu iP 23 05 19
	MW	ePZ			22	Mexico
	R	ePZ			12	
	Pr	iPZ			03	
		iNEZ			10	
Apr. 12	MW	ePZ	07	17	36	Tu iP 07 18 13
Apr. 13	P	ePZ	06	43	33	Normal. Tu eP 06 42 58
		iSNE		44	46	i 43 06
	MW	ePZ		43	40	iS 44.0
		iSZ		44	47	Near 29°N. 114°W.,
	R	ePZ		43	32	O-22.41.9;
		iSNEZ		44	34	magnitude 4.5
	LJ	ePNEZ		43	23	
		iSNEZ		44	13	
Apr. 13	P	iPZ	13	53	27	Normal. Tu eP 13 54 45
		iZ			33	i 56
	PX	eLE		55.9		
	MW	ePZ		53	24	Off the coast of Oregon
		iZ			36	
	R	ePZ			36	
	T	ePZ			03	
		iZ		54	41	
	H	iPZ		53	16	
Apr. 13	P	iPZ	15	40	42	Tu iP 15 41 55
	MW	iPZ			42	
	R	ePZ			49	
	T	ePNEZ			15	
	H	ePEZ			25	
Apr. 14	MW	ePZ	14	01	12	Tu iP 14 01 58
	T	iPZ		00	57	i 02 09
	Pr	iPZ		01	34	
Apr. 14	MW	ePZ	18	23	04	Deep. Tu iP 18 23 28
		eZ			50	i 24 12
	R	ePZ			06	
		iZ			52	Southwest Pacific
	T	eZ			55	
	Pr	iZ			53	
Apr. 15	MW	iPZ	10	42	48	Tu iP 10 43 12
	T	iPZ			56	
	Pr	iPZ			51	
Apr. 16	MW	iPZ	01	40	00	Deep. Tu iP 01 39 27 d
		iZ			27	i 50
	R	iPZ		39	57	
		iZ		40	21	
	T	iPZ			12	
		iZ			37	
		iZ			47	

Date	Sta.	Phase	h	m	s	Remarks
Apr. 16	P	iPNEZ	09	56	41 c	Deep. Tu iP 09 57 13 c
		iZ		57	08	i 33
	MW	iPZ		56	42	i 40
		iZ		57	09	e 10 00 42
	R	iPZ		56	45 c	South of Japan?
		iZ		57	06	
	SB	iPZ		56	36	
	LJ	ePZ			50	
	T	iPNEZ			36	
		iZ		57	03	
	H	iPEZ		56	39	
	Pr	iPNZ			48	
		iZ		57	15	
Apr. 17	Pr	iPZ	21	28	05	Tu iP 21 28 40
		iZ			19	
Apr. 18	P	iPZ	06	57	33	
		iZ			46	
	MW	iPZ			34	
		iZ			47	
	R	iPZ			37	
		iZ			49	
	T	ePZ			36	
		eZ			48	
	Pr	iPZ			39	
Apr. 18	R	iPZ	16	59	55	Tu eP 16 59 21
	Pr	iPZ			53	
Apr. 19	T	iPZ	08	15	07	Tu iP 08 15 21
Apr. 19	T	ePZ	15	40	57	Tu eP 15 40 04
Apr. 19	P	iPNEZ	22	42	27	Normal? Tu eP 22 42 11
	PX	eSNE		50.9		i 14
		eLZ	23	00.8		i 32
	MW	ePZ	22	42	26	i 44 44
		iZ			44	Atlantic?
	R	ePZ			25	
	LJ	ePNZ			18	
	T	ePZ			45	
	Pr	ePNEZ			18	
		iZ			22	
		iZ			26	
		iZ			36	
Apr. 19	MW	ePZ	23	21	59	Tu eP 23 21 49
	R	ePZ			56	i 22 11
	Pr	ePZ			59	
Apr. 20	PX	eLZ	03	55.2		Normal. Tu eP 11 40 06
	R	ePZ		40	40	
Apr. 20	P	iPZ	22	18	46	Tu iP 22 18 13 d
	MW	iPZ			47	i 32
	R	iPZ			43 d	i 39
	T	iPZ			59	South America?
	Pr	iPZ			39	
Apr. 21	T	iPZ	04	44	45	Tu iP 04 44 11
Apr. 21	PX	eLZ	15	23.5		Tu eP 15 08 28
	R	ePZ		09	23	West Indies?
	T	ePZ			44	
	Pr	iPZ			18	
Apr. 22	P	iPZ	02	27	53	Tu iP 02 28 10
		iZ			59	i 16
		iZ		28	12	i 22
	MW	iPZ		27	54	e(PKKP) 45 27
	R	iPNEZ			55	
		iZ		28	02	Pacific
	T	iPNEZ			02	
	H	ePNE			00	
	Pr	iPNEZ		27	55	
		iZ		28	01	

Date	Sta	Phase	h	m	s		Remarks
Apr. 22	P	iPNZ	03	46	02		Normal. Tu iP 03 45 47
	PX	eLNZ	04	04	6		
	MW	ePZ	03	46	02		Southeast Pacific?
	R	iPZ			03		
	T	ePZ			21		
	H	ePZ			16		
	Pr	ePNZ		45	56		
Apr. 22	P	iPZ	14	28	12		
	MW	iPZ			13	c	
	T	iPZ			21		
	H	iPZ			18		
	Pr	iPNZ			15	c	
Apr. 23	P	iPZ	03	10	26		Tu iP 03 09 47
	MW	iPZ			27		
	R	iPZ			23		
	T	iPZ			39	d	
	Pr	iPZ			18		
Apr. 23	P	iPZ	06	21	38	d	Deep? Tu iP 06 22 09
		iZ		22	03		South of Japan?
		iZ			11		
	MW	iPZ		21	38		
	R	iPZ			41		
	SB	iPZ			33		
	LJ	ePZ			37		
	T	iPZ			35		
	H	iPNEZ			38		
	Pr	iPNEZ			44	d	
		eZ		22	03		
Apr. 23	MW	iPZ	08	26	56		Tu iP 08 26 14
	R	ePZ			52		
	T	ePZ		27	10		
	Pr	iPZ		26	38		
Apr. 23	P	iPZ	09	14	51		Tu iP 09 15 15
	MW	iPZ			51		i 24
	R	iPZ			53		Southwest Pacific
	T	ePZ			57		
	Pr	iPZ			54	c	
Apr. 23	P	iPZ	09	17	59		Tu iP 09 17 07
	MW	ePZ			58		Central America?
	R	iPZ			53		
	T	iPZ		18	12		
	Pr	iPNZ		17	49		
		iZ		18	05		
Apr. 23	P	ePZ	09	24	33		Tu iP 09 24 58
	MW	ePZ			32		Pacific
	R	ePZ			36		
	T	ePZ			40		
	Pr	iPZ			36		
Apr. 23	P	iPNEZ	11	09	14	c	Deep! Tu iP! 11 09 37 c
		ipPNEZ!		10	39		i 47
		iSNE		18	48		ipP 11 02
		eP'P'Z		35	57		i! 06
	MW	iPZ		09	15	c	iS 19 32
		ipPNZ		10	39		iPKKP 27 51
		eSN		18	40		eP'P' 35 54
		eP'P'Z		36	03		At these stations pP is large
	R	iPZ		09	17		and has a long period.
		ipPNEZ		10	42		Pasadena: 22°S. 177.5°W.
		eSNE		18	54		O=10:57:45 h=370 km
		eP'P'Z		36	07		using New Zealand stations,
	SB	iPZ		09	10		Apia, Brisbane, Riverview, etc.
		ipPZ		10	37		Large shock (magnitude 6 1/2)
		iSN		18	44		A T
							P 0.4 1
							S 0.8 3

(Continued)

Date	Sta	Phase	h	m	s		Remarks
Apr. 23	LJ	ePN	11	09	17		(Continued)
		epPN		10	43		
	T	iPNEZ		09	24	d	
		eSNEZ		19	07		
		eP'P'Z		36	07		
	H	iPNEZ		09	21		
		ipPNEZ		10	47		
		eSN		19	02		
		eP'P'Z		36	07		
	Pr	iPNEZ		09	17	d	
		ipPEZ		10	42		
		eSNE		18	53		
		eP'P'Z		36	07		
Apr. 23	Pr	iPZ	22	05	10		Tu iP 22 05 51
Apr. 24	P	iPZ	15	31	52		Tu iP 15 32 18
	MW	iPZ			53		
	R	iPZ			57		
	T	ePZ			59		
	Pr	iPNZ			56	c	
Apr. 24	P	iPZ	02	02	43		Deep? Tu iP 02 03 07
	MW	iPZ			44		i 20
		eZ			55		
	R	iPZ			46		
		eZ			59		
	T	iPZ			50	d	
		iZ		03	03		
	Pr	iPNZ		02	46		
		iZ			58		
Apr. 24	P	iPZ	02	11	12		Tu iP 02 11 56
		iZ			21		
	MW	ePZ			13		
	R	ePZ			16		
	T	ePZ		10	52		
Apr. 24	T	eZ?	02	45	12		Tu eP 02 44 37
		eZ			19		
Apr. 25	T	ePZ	18	20	06		Tu eP 18 20 27
Apr. 25	MW	iPZ	21	41	31		Tu iP 21 41 55 c
	R	ePZ			32		i 42 13
	T	iPZ			41		Near Apia, which reports:
	H	iPZ			38		P 21 31 02
	Pr	iPZ			32	c	S 34
Apr. 25	MW	iPZ	23	24	52		Tu iP 23 24 19
	R	iPZ			49		
	T	iPZ		25	05		
	Pr	iPZ		24	44		
Apr. 26	P	iPZ	02	08	23		Normal? Tu eP 02 08 54
	PX	iPPZ		12	42		eP" 12 48
		eSKSE		19	07		ePP 13 38
		ePSE		21.6			ePKKP 23 46
		ePPSZ		22.7			
		iSSN		27	52		USCGS: 1°S. 131°E.,
		eLN		37.4			O=01:53.9
	MW	ePZ		08	23		Pasadena: 1°S. 135°E
	R	ePZ			26		O=01:54:15
		iPPNEZ		12	50		Major earthquake
	T	ePZ		08	25		(magnitude 7.2)
		ePKKPZ		24	27		
	H	ePZ		08	26		A T
	Pr	iPZ			31		P 0.4 2
		iPPEZ		12	55		PP 1 3
		ePSE		22	00		M 20 20

Date	Sta.	Phase	h	m	s	Remarks
Apr. 26	MW	eZ	18	47	48	Tu e 18 46 24
		eZ			57	i 46 59
	R	eZ			44	Seismograms peculiar
		eZ			54	
	Pr	iNEZ			43 c	
Apr 27	P	iPZ	14	52	19	Normal? Tu eP 14 52 50
	PX	ePPZ		56.3		eP" 56 35
		iSKSE	15	03	03	ePKKP 15 07 47
		ePSE		05.6		USCGS: 1°S.131°E.,
		eLNE		21		O=14:37.9
	MW	iPZ	14	52	22	Pasadena: 1°S.134.5°E.,
	R	ePZ			21	O=14:38:14 h=50 km?
	T	iPZ			14	Major earthquake(magnitude 7.3)
	H	ePEZ			22	A T
	Pr	iPZ			41	PP 1 3
						L 50 20
Apr. 27	PX	eLNZ	19	54.2		Normal. Tu iP 19 24 10
	R	ePZ		23	33	Aftershock of the preceding
	T	ePZ			37	
Apr. 28	T	iPZ	05	57	21	Tu iP 05 56 16
						Near Panama
Apr. 28	P	iPZ	05	58	18	Tu iP 05 57 26 c
	R	iPZ			12	Near Panama; larger than
	T	iPZ			31 c	the preceding.
	Pr	iPNZ			07 c	
Apr. 28	P	iPZ	06	33	43	Tu iP 06 34 16
	MW	iPZ			46	
	R	ePZ			47	
	T	iPZ			31	
	Pr	iPZ			52	
Apr. 28	P	iPZ	06	37	50	Tu iP 06 38 36
	MW	iPZ			51	
	R	iPZ			57	
	T	iPZ			25	
	H	ePNEZ			36	
	Pr	iPZ		38	04	
Apr. 29	Pr	iPZ	01	30	02	Tu eP 01 29 19
Apr. 29	P	iPZ	13	37	58	Tu iP 13 37 43
	MW	iPZ			59	
	R	iPZ			58	
	T	ePZ		38	19	
	Pr	iPZ		37	52	
Apr. 29	P	eZ	16	29	10	Tu eP 16 29 49
		iZ			16	
	MW	ePZ			03	
		iZ			16	
	R	eZ			15	
	T	ePZ		28	49	
		iZ		29	04	
	Pr	ePZ			14	
		iZ			21	
		iZ			30	
Apr. 29	P	ePZ	18	32	40	Tu eP 18 31 36
		eZ		33	05	e 34 18
		iZ		34	35	
	MW	ePZ		32	39	
	T	ePZ			45	
		iZ		34	43	
Apr. 29	MW	ePZ	21	57	56	Tu eP 21 57 03
	T	ePZ		58	14	
	Pr	iPZ		57	44	
Apr. 30	P	iZ	00	18	37	Tu iP 00 18 40
	T	ePZ			31	i 56
		eZ			42	
	Pr	iPZ			22	
		iZ			42	

Date	Sta.	Phase	h	m	s	Remarks
May 1	MW	iPZ	11	46	27	Tu eP 11 46 47
	Pr	iPNZ			28	e 48 13
		iZ		48	00	
May 2	P	iPZ	04	35	32	
	MW	iPZ			32	
	R	iPZ			36	
	Pr	iPZ			37	
	T	iPZ			35	
May 2	MW	iPZ?	17	52	47	Tu eP 17 53 11
		iZ			52	
	T	ePZ			56	
		iZ		53	03	
	Pr	ePZ		52	52	
May 3	MW	eZ	02	27	26	Tu. iP 02 25 57
	T	eZ		26	52	e 26 16
		iZ			40	
	Pr	iPZ			40	
		iZ		27	16	
May 3	P	iPNZ	04	32	12 c	Tu iP 04 32 36 c
	MW	iPZ			13 c	
	R	iPZ			15	
	T	iPZ			22	
	Pr	iPNEZ			15 c	
May 3	P	iPZ	05	01	31	Tu eP 05 01 55
	MW	iPZ			30	
	R	iPZ			32	
	T	iPZ			34	
	Pr	iPZ			34 d	
May 3	P	eZ?	09	26	15	
	Pr	iNEZ		26	59	
May 3	Pr	iPZ	12	36	33	Tu eP 12 36 53
May 3	MW	ePZ	21	26	37	Tu eP 21 27 29
		iZ			56	
	T	iPZ			27	
		iZ			46	
May 4	P	iPZ	06	06	42	Normal. Tu iP 06 06 27 c
	PX	eLNZ		25.9		Southeast Pacific?
	MW	iPZ		06	42	
	R	iPZ			41	
	T	iPZ		07	01	
	H	ePNZ		06	56	
	Pr	iPNZ			36	
May 4	MW	ePZ	06	18	37	Tu eP 06 19 24
	T	iPZ			28	
	Pr	ePZ			45	
May 4	T	iPZ	06	32	47	Tu iP 06 33 00
	Pr	iPZ			41	
May 4	PX	eLEZ	07	25	06	Normal. New Hebrides
	MW	ePZ	06	53	44	
	R	ePZ			52	
	T	ePZ			42	
	Pr	ePZ			51	
May 4	T	iPZ	07	21	32	
May 4	P	iPZ	08	06	07	Normal. New Hebrides?
	PX	eLEZ		38.7		
	MW	ePZ		06	08	
	R	iPZ			07	
	T	ePZ			07	
May 4	P	iPZ	20	44	21	Tu iP 20 43 31
	MW	iPZ			21	Near Panama. Balboa Heights
	R	ePZ			16	reports:
	T	iPZ			35	P=20:37:30, S=20:38:27
May 5	T	ePZ	05	31	46	
	Pr	ePZ			40	Tu eP 05 31 57

Date	Sta.	Phase	h	m	s	Remarks
May 5	PX	eLZ	06	38	01	Normal. Tu e 06 06 21
	R	eZ		06	39	
	T	ePZ		01	44	
		eZ		05	22	
		eZ			42	
	Pr	iZ		03	51	
		eZ		06	21	
		iZ			43	
May 5	P	iPZ	08	32	34	Tu iP 08 32 52 d
	MW	iPZ			34	e 34 10
	R	ePZ			36	Region of New Zealand
	T	iPZ			43	
	Pr	iPZ			36 d	
May 5	T	ePZ	18	06	06	Tu iP 18 05 05 c
	Pr	ePZ			01	
May 6	P	ePZ	00	24	24	Normal. Tu eP 00 23 41
		iZ			29	eP'P' 53 45
	PX	eLNZ		44.0		Atlantic
	P	iP'P'Z		53	22	USCGS: 22.4°N. 44.8°W.,
	MW	ePZ		24	20	O=00:13.7
		eP'P'Z		53	18	
	R	ePNEZ		24	20	
		eP'P'Z		53	22	
	SB	ePZ		24	42	
	LJ	ePZ			28	
	T	ePZ			20	
		eP'P'Z		53	24	
	H	ePZ		24	22	
	Pr	ePEZ			16	
May 6	PX	eLZ	02	39.8		Normal. Tu iP 02 00 38 d
	MW	ePZ		00	08	
	R	ePZ			10	
	T	iPZ			04	
	H	iPZ			06	
May 6	P	iPZ	17	46	05	Tu iP 17 46 43 c
		iZ			14	i 53
	R	ePZ			07	Kurile Islands?
		eZ			18	
	T	iPNEZ		45	52 c	
		iZ		46	01	
	H	iPZ		45	57	
	Pr	iPNZ		46	15 c	
		iZ			24 c	
May 7	P	iPZ	15	16	46	Tu iP 15 17 30
		iZ		17	09	Aleutian Islands?
	MW	iPNZ		16	47	
	R	iPZ			51	
	T	iPNEZ			28	
	H	iPNEZ			34	
	Pr	iPNEZ			58	
May 7	MW	iPZ	23	46	05	Tu iP 23 46 26
	R	iPZ			07	
	Pr	iPZ			06	
May 8	P	iPZ	08	20	14	Tu eP 08 20 50
	MW	iPZ			13	
	R	iPZ			16	
	T	iPZ		19	52	
	Pr	iPNEZ		20	23	
		iZ			53	
May 8	Pr	eZ	16	31	46	Tu eP 16 31 23

Date	Sta.	Phase	h	m	s	Remarks
May 9	P	iPZ	10	26	33	Tu iP 10 27 18
	MW	iPZ			35	
	R	ePZ			38	
		eZ		27	02	
	T	iPZ		26	21	
		iZ			36	
	Pr	iPNZ			44 c	
		iZ			59	
		iZ		27	04	
May 9	P	iPZ	11	51	40	
	MW	iPZ			42	
	R	ePZ			45	
	T	ePZ			43	
	Pr	ePZ			45	
May 9	P	iPZ	14	38	53	Normal? Tu eP 14 38 04
		iZ		39	27	i 16
	PX	eLNE		51.8		i 50
	MW	ePZ		38	54	Felt strongly in Colombia,
	R	ePZ			48	according to Bogotá
	T	ePZ		39	05	which reports:
	Pr	iPZ		38	43	P 14 30 20
		iZ			55	S? 51
		iZ		40	04	
May 10	P	ePZ	09	26	18	
		eZ			34	
	MW	ePZ			18	
		iZ			36	
	R	ePZ			22	
	T	iPZ			21	
		iZ			46	
	Pr	iPZ			25	
May 10	P	iPZ	21	46	57	Tu iP 21 47 20
	MW	iPZ			59	
	T	iPZ		47	07	
	Pr	iPEZ			00	
May 10	P	iPZ	22	43	04	Deep. Tu iP 22 42 28
	MW	iPZ			05	i 56
	R	iPZ			00 d	
		iZ			27	
	Pr	ePZ		42	55	
		iZ		43	16	
May 11	MW	iPZ	00	06	11	Tu iP 00 06 30
	R	iPZ			11	
	Pr	iPNEZ			12	
May 11	P	eZ	08	46	54	Tu iP 08 46 29 d
	MW	eZ			53	
	R	eZ			52	
	T	eZ			53	
	Pr	iZ			52	
May 11	P	iPZ	14	40	37	Deep? Tu iP 14 40 01
		iZ		41	08	e 31
	MW	ePZ		40	36	
		iZ		41	08	
	R	ePZ		40	34	
		iZ		41	05	
	T	ePZ		40	50	
		iZ		41	21	
	Pr	eZ		41	00	
May 12	P	eZ	07	15	01	Normal. Solomon Islands?
	PX	eLZ		41		
	MW	ePZ		14	53	
		iZ		15	00	
	R	eZ		14	56	
	T	ePZ		15	01	
	Pr	iPZ			00	
		eZ			04	

Date	Sta.	Phase	h	m	s		Remarks
May 12	MW	iPZ	14	02	35		Tu iP 14 02 39
	T	ePZ			17		
May 13	MW	eZ		02	54 24		Tu eP 02 53 18
	Pr	eZ			40		
May 13	R	iPZ	22	09	41		Tu iP 22 10 14
	T	iPZ			14		
	Pr	iPNZ			47		
May 14	P	iPZ		06 49	03	c	Deep? Tu iP 06 49 28 c
	MW	iPZ			05	c	i 44
	R	iPZ			06		
	LJ	ePZ			04		
	T	iPZ			13	c	
	H	iPZ			10		
	Pr	iPNEZ			07	c	
		iZ			26		
May 14	P	iPZ		08 28	22		Tu iP 08 27 49
	MW	iPZ			25		e 28 15
	R	iPZ			20		South America?
	T	iPZ			35		
	Pr	iPZ			15		
May 14	P	iPZ		09 02	59	d	Deep! Tu iP 09 03 22 d
		ipPZ		05	05		ipP 05 28
		iSE		12	31		
	MW	iPZ		03	01	d	Pasadena: 22°S.179°E.,
		ipPZ		05	06		O=08:51.7,
	R	iPZ		03	02		h=610 km.
		ipPZ		05	08		Using Apia, Brisbane and
	LJ	ePZ		02	59		Riverview
	T	iPZ		03	08	d	
		ipPZ		05	13		
	H	iPNEZ		03	05		
		epPEZ		05	11		
	Pr	iPNEZ!		03	03	d	
		ipPNEZ		05	07		
May 14	P	iPNEZ	11	05	44	d	Normal? Tu iP 11 06 10
	PX	eZ		06	23		Near Apia, which gives
		iZ		08	24		15.6°S.175.1°W.,
		eLN		24.5			and reports:
	MW	iPZ		05	46	d	iP 10 55 18
		iZ		08	24		iS 10 55 54
	R	iPNEZ		05	48		
		eZ		08	32		
	SB	iPNEZ		05	40		
	LJ	iPNEZ			46		
	T	iPNEZ			54	d	
	H	iPNEZ			53		
	Pr	iPNEZ!			47	d	
		iZ		08	30		
May 14	P	iPZ	17	38	55		Tu iP 17 38 14
	MW	iPZ			55		
	R	iPZ			51		
	Pr	iPZ			45		
	T	iPZ		39	08		
May 15	P	iPZ	19	31	47		Normal? Tu e 19 32 43
		eZ		32	13		e 36 20
	PX	eLN		56.1			
	MW	iPZ		31	49		Solomon Islands?
	R	ePZ			50		New Britain?
	LJ	ePNEZ			53		
	Pr	ePZ			42		
		iNEZ		32	24		
		eZ		35	31		
May 17	P	iPZ	07	06	19		Tu iP 07 06 51 c
	MW	iPZ			18		Japan?
	T	iPZ			08		
	H	iPZ			12		

Date	Sta.	Phase	h	m	s		Remarks
May 17	P	iPZ	20	29	40		Tu iP 20 30 03
	MW	iPZ			41		
	R	ePZ			40		
	T	iPZ			50		
	H	iPZ			50		
	Pr	iPZ			43		
May 18	T	ePZ	00	43	21		Tu iP 00 42 46
May 18	PX	ePZ	04	56	17		Normal. Tu e 04 56 53
		iZ			24		JSA: 1.5°S.151.0°E.,
		ePPZ		59	54		O=04:43:14
		iPPPZ	05	02	22		Foreshock of May 19, 00 h
		iSEZ		06	55		
		iEZ		08	24		
		iZ		09	24		
		eLZ		24.0			
	MW	iPZ	04	56	25		
	R	ePZ			27		
	T	ePZ			26		
	Pr	iPZ			30		
May 18	P	iPZ	20	07	15		Normal. Tu eP 20 07 00
	PX	iSNE		17	23		Southeast Pacific?
		eLNZ		32	29		
	MW	ePZ		07	13		
	R	ePZ			11		
	T	iPNEZ			29		
	H	ePNZ			26		
May 19	PX	ePZ	00	32	17		Normal. Tu eP 00 32 50
		ePPZ		35	38		JSA: 1.5°S.151.0°E.,
		iPPNE		36	12		O=00:19:14
		iSNEZ		42	52		Wellington: 3½°S. 155½°E.,
		iZ		44	22		O=00:19.4
		iZ		49	12		
		iZ		52	40		
		eLE		58	52		
	MW	ePZ		32	24		
	R	ePZ			23		
	T	ePZ			20		
	H	ePZ			20		
	Pr	ePNEZ			29		
		iSE		43	06		
May 19	P	iPZ	16	48	37		Tu iP 16 48 58 d
	MW	iPZ			38	d	Southwest Pacific
	R	ePZ			39		
	T	iPNZ			47	d	
	H	ePNZ			45		
	Pr	iPZ			39	c	
May 19	P	iPZ	18	28	30		Deep? Tu iP 18 28 57 c
	MW	iPZ			31	c	e 31 11
	R	ePZ			32		
	T	iPNEZ			38	c	
	H	iPNEZ			36		
	Pr	iPNEZ			33	c	
May 19	P	iPZ	19	50	34		Tu iP 19 50 57
	MW	iPZ			35		
	R	ePZ			37		
	T	iPZ			43		
	H	iPZ			42		
	Pr	iPNZ			38		
May 20	P	iZ	00	19	14		Tu eP 00 17 49
	T	ePZ		16	52		
	Pr	iPZ		17	15		
May 20	PX	eLNE	05	03.6			Normal.

Date	Sta.	Phase	h	m	s	Remarks
May 20	P	ePZ	12	15	09	Tu iP 12 14 38 d
	MW	iPZ			11	
	R	iPZ			09	
	T	iPZ			23 c	
	Pr	ePZ			04	
May 20	T	ePZ	21	11	48	Tu iP 21 11 18 c
	Pr	iPZ			46	
May 20	T	ePZ	22	45	54	Tu iP 22 45 47
	Pr	ePZ		46	07	Atlantic?
May 20	PX	eLZ	24	02.4		Normal. Tu iP 23 40 40
	MW	ePZ	23	41	00	Atlantic?
	T	ePZ		40	47	
	Pr	ePZ			58	
May 21	PX	eLZ	00	50.3		Normal. Tu eP 00 26 06
	MW	ePZ		26	08	
	T	ePZ?		25	51	
May 21	MW	iPZ	00	47	27	Tu iP 00 47 07
	T	iPZ			15	
May 21	P	iPZ	01	12	55 c	Tu iP 01 13 19 c
	MW	iPZ!			55	
	R	ePZ			57	
	T	iPZ		13	03 c	
	H	iPZ			03	
	Pr	iPNEZ		12	57 c	
May 21	P	ePZ	04	53	23	Normal. Tu iP 04 52 43
	PX	eLZ	05	22.6		Atlantic
	MW	ePZ	04	53	22	
	T	ePZ			22	
	Pr	iPNEZ			17	
May 21	MW	ePZ	17	15	19	Tu eP 17 14 27
	R	iPZ			15	Haiti?
	T	iPZ			24	
	Pr	iPZ			11	
May 21	P	iZ	19	28	51	Deep? Tu iP 19 28 07 c
	MW	iPZ			38	e 19
		iZ			52	South America?
	R	iPZ			34	
		eZ			45	
	T	iPZ			50	
		iZ		29	03	
	Pr	iPNZ		28	29	
		iZ			42	
May 22	P	iPZ	21	14	40	
	MW	iPZ			42	
	R	iPZ			44	
May 23	P	eZ	08	52	59	Tu iP 08 52 05 d
	MW	eZ		53	00	i 11
	R	ePZ		52	53	
	Pr	ePZ?			39	
		eZ			43	
May 23	P	iPZ	10	46	16	Normal. Tu iP 10 47 03 d
		iZ			22	i 09
	PX	eLN		56.0		Eastern Aleutian Islands
	MW	iPZ		46	17	
	R	iPZ			21	
	SB	ePZ			08	
	LJ	ePZ			30	
	T	ePN			02	
		eN			07	
	H	iPNEZ			06	
	Pr	iPNEZ			28 d	
May 23	Pr	iPZ	14	33	10	Tu iP 14 33 45
May 24	P	ePZ	01	38	34	Tu eP 01 37 43
	PX	eLN		57.4		Haiti?
	R	iPZ		38	30	
	T	iPZ			40	
	Pr	ePZ			27	

Date	Sta.	Phase	h	m	s	Remarks
May 24	P	iPZ	16	04	37	Tu iP 16 04 04 d
	R	iPZ			34	South America?
	T	iPZ			49	
	Pr	iPZ			30	
May 25	P	iPNEZ	01	17	46 d	Deep? Tu iP 01 18 08 d
		ipPZ		19	54	ipP 20 23
		isPZ		20	59	isP 21 13
		iZ		23	30	iPKKP 36 13
	PX	eSZ		26	28	ipPKKP 38 42
		iSNE		27	06	eP P 44 10
		iSPZ			47	iP P 20
		iE		28	00	iSKPP 46 47
		isSPNE		30	54	ipP P 57
	P	iPKKPZ		36	24	eP P P 02 04 47
	PX	iLNE		38	58	Magnitude 6.8, h 640 km
	P	eP P Z		44	27	USCGS: 21.5°S. 179°W.,
		iP P Z			32	0 01 06.39, h 600 km.
		ipP P Z		46	35	
		iSKPP Z			58	A T
	MW	ePNE		17	47	P 4 3
		ipPZ		20	00	S 5 3
		iSNZ		27	07	
	R	iPNEZ		17	48 d	
		ipPNEZ		20	02	
		isPZ			59	
		iSNE		27	10	
		ePKKPZ		36	03	
		iZ			25	
		eP P Z		44	13	
		iZ			27	
		iZ			31	
		ipP P Z		46	38	
		iSKPP Z			59	
	SB	iPNEZ		17	41	
		ipPZ		19	55	
		eSNEZ		26	59	
		eP P Z		44	34	
		eSKPP Z		47	03	
	LJ	iPNEZ		17	45	
		ipPNEZ		20	00	
		eSNE		27	06	
		eP P Z		44	32	
		eSKPP Z		47	05	
	T	iPNEZ		17	55 d	
		ipPZ		20	08	
		eSNEZ		27	22	
		iPKKPZ		36	23	
		eP P Z		44	12	
		iP P Z			29	
		ipP P Z		46	45	
		eSKPP Z			58	
		eP P P Z	02	04	20	
	H	iPNEZ	01	17	53 d	
		ipPZ		19	58	
		eSNEZ		27	19	
		iP P NEZ		44	30	
		ipP P Z		46	43	
		eSKPP Z			59	

(Continued)

Date	Sta	Phase	h	m	s		Remarks
May 25	Pr	ePZ	01	17	46		
		iNEZ!			49	d	
		ipPZ		20	01		
		isPZ		21	04		
		iSNE		27	15		
		eNE		30	56		
		iZ		33	19		
		iPKKPNZ		36	22		
		iP'P'Z		44	31		
		ipP'P'Z		46	38		
		iSKPP'Z			58		
May 25	P	iPZ	01	52	00		Tu iP! 01 52 22
	MW	iPZ			00		Aftershock
	R	iPZ			01		
	T	iPZ			08		
	Pr	iPZ			02		
May 25	P	iPZ	04	31	08	c	
		iZ			19		
	MW	iPZ			10	c	
		iZ			21		
	R	iPZ			11	c	
		iZ			22		
	T	iPZ			11		
	Pr	iPZ			15		
		iZ			25		
May 25	MW	iPZ	05	20	09		
	R	ePZ			10		
	T	ePZ			10		
May 25	PX	eLZ	07	40			Normal.
May 25	P	iPZ	13	11	11	d	Normal. Tu eP 13 11 41
		iEZ			18		eP'P' 36 41
		iZ			42		USCGS: 3°S.152°E.,
	PX	iPPZ		14	53		O=12:58.1
		iSKSEZ		21	44		Pasadena: 3°S.153°E.,
		iNE		23	16		O=12.58:13
		iSSN		28	20		Major earthquake
		eLN?		35			(magnitude 7.5)
		eLNE		38.5			
	MW	iPZ		11	12	d	
	R	ePZ			14		
	SB	eNZ			17		
	LJ	ePZ			20		
	T	ePZ			13		
	H	ePZ			19		
	Pr	ePNEZ			17		
		iNZ			24		
		iEZ			32		
		iPPEZ		14	54		
		eSKSE		21	54		
May 25	P	ePZ	13	25	35		Tu eP 13 26 05
	MW	iPZ			37		Aftershock
	R	ePZ			38		
	T	ePZ			38		
	Pr	ePZ			42		
May 25	P	iPZ	13	28	59	c	Deep? Tu iP 13 29 24 c
	MW	iPZ		29	01	c	i 40
	R	iPZ			02		
	SB	iPZ		28	56		New Hebrides or Tonga region
	LJ	ePZ		29	00		
	T	iPNEZ			08	c	
	H	iPNEZ			07	c	
	Pr	iPNZ!			05	c	

		A	T
P	0.5	1.5	
PP	2	4	
S	5	10	
L	200	20	

Date	Sta	Phase	h	m	s		Remarks
May 25	P	ePZ	14	18	34		Aftershock of 13 h 11 m?
	MW	ePZ			30		
	R	ePZ			32		(Continued)
	T	ePZ			31		
	Pr	ePZ			34		
May 25	P	iPZ	14	31	24		Tu e? 14 30 31
		iZ			48		e 35 58
	MW	ePZ			24		i 36 02
	R	ePZ			25		
	T	iPZ			15		
	Pr	iPZ			30		
		iZ			43		
May 26	MW	iPZ	07	15	08		Tu iP 07 14 35
	R	iPZ			05		
	T	ePZ			19		
May 26	P	iPZ	08	08	30		
	MW	ePZ			31		
	R	iPZ			33		
	T	iPZ			23		
	Pr	iPZ			37	c	
May 26	P	iPZ	19	20	48		
	MW	iPZ			49		
	R	iPZ			51		
	T	iPZ			50		
May 27	P	iZ	05	05	59		Tu eP 05 06 21
	MW	ePZ			45		i 35
		iZ			59		
	R	ePZ			50		
		iZ		06	03		
	T	ePZ		05	42		
	Pr	iPZ			52		
		iNZ		06	07		
May 27	P	iPZ!	09	39	57	d	Deep. Tu iP 09 40 20 d
	MW	iPNZ!			59	d	e 41 51
		eZ		41	37		Tonga region? Apia reports
	R	iPZ		40	01	d	a tremor at 09 h 32 m.
	SB	iPNZ		39	54		
	LJ	ePEZ			58		
	T	iPNEZ		40	07		
		eZ		41	38		
	H	iPZ		40	06		
	Pr	iPNEZ			01	d	
May 27	P	iPZ	23	03	00		Tu eP 23 03 19
	MW	iPZ			00		
	R	iPZ			01		
May 28	MW	iPZ?	00	14	24		Tu eP 00 14 27
	Pr	iPZ			07	c	Mediterranean?
May 28	T	ePZ	05	28	14		Tu eP 05 29 53
	Pr	iPZ			59		
May 28	Pr	iPZ	11	33	00		Tu eP 11 32 05
May 29	P	iPZ!	02	51	26	c	Normal. Tu iP 02 50 36 c
		eZ		52	14		Near Panama
	PX	eLZ	03	05.2			Balboa Heights reports:
	MW	iPNZ	02	51	26	c	P 02 44 32
	R	iPZ		-	21		S 45 27
	SB	iPZ			36		
	LJ	ePNEZ			15		
	T	iPNEZ			40	c	
	H	iPNEZ			33		
	Pr	iPNEZ			16	c	
May 29	P	iPZ	02	58	31		Tu iP 02 58 16 d
	PX	eLE	03	12.2			Southeast Pacific?
	MW	iPZ	02	58	32	d	
	R	iPZ			28		
	T	iPZ			53		
	H	ePZ			45		
	Pr	iPZ			25		

Date	Sta.	Phase	h	m	s	Remarks
May 29	P	iPZ	03	33	13	Deep? Tu iP 03 33 35 c
		eZ			59	e 34 21
	MW	iPZ			12	i 38
	R	ePZ			14	
	T	iPNEZ			22	
		eZ		34	12	
	H	iPNEZ		33	19	
	Pr	iPNEZ			15	
May 29	MW	ePZ	15	31	11	Tu eP 15 30 41
	R	ePZ			08	
	T	iPZ			23	
	Pr	ePZ			03	
May 30	P	iPNEZ	03	51	05 c	Tu iP 03 51 52 c
		iZ			22	Aleutian Islands?
	MW	iPNEZ			06 c	
	R	iPZ			10 c	
	LJ	ePZ			18	
	T	iPNEZ		50	50	
	H	iPNEZ			56	
	Pr	iPNEZ		51	17 c	
		iZ			32	
May 30	P	iZ	10	15	21	Tu iP 10 15 04
		iZ		17	26	i 34
	MW	eZ		14	54	i 42
		iZ		15	20	
		eZ		16	56	Very distant?
	R	iZ		14	56	
		iZ		15	21	
	LJ	eZ			24	
	T	eZ		14	53	
		iZ		15	17	
	H	iZ		14	53	
		iZ		15	17	
	Pr	eZ		14	58	
		eZ		15	20	
May 30	MW	eZ	13	49	26	Tu e (P) 13 50 06
	T	eZ			08	i 19
		eZ			16	
	Pr	eZ			31	
		iZ			44	
		iZ		50	21	
May 31	P	ePZ	11	02	38	Deep. Tu iP 11 02 08 d
		iZ			40	e 27
		iZ			56	i 34
	MW	iNZ			41	South America?
	R	iPZ			38 d	
		iZ		03	05	
	T	iPNEZ		02	54	
		eZ		03	34	
	H	iPEZ		02	51	
	Pr	iPNEZ			33 d	
		eZ			57	

Date	Sta.	Phase	h	m	s	Remarks
June 2	Pr	iPZ	00	07	42	Tu iP 00 07 42
June 2	P	ePZ	02	38	12	Tu eP 02 38 45
		eZ			27	i 39 01
	MW	ePZ			12	
		iZ			28	
		eZ			44	
	R	ePZ			16	
		eZ			29	
	Pr	iZ			35	
June 2	P	iPZ	06	52	25	Tu iP 06 53 03
	MW	iPZ			25	
	R	iPZ			28	
	Pr	iPZ			34	
June 2	P	ePZ	08	47	01	Tu eP 08 47 39
	MW	iPZ			03	
June 2	P	iPZ	08	50	05	Tu iP 08 50 30
	MW	iPZ			07	May be part of the
	R	ePZ			09	preceding
	Pr	iPZ			10	
June 3	PX	eLZ	01	52.2		Normal. Tu iP 01 44 50
	MW	ePZ		45	51	
	R	ePZ			39	
June 3	PX	eLZ	02	04.2		Normal. Tu iP 01 57 06
June 3	P	iPZ	04	22	13	Deep. Tu iP 04 22 44
		iNEZ			14	ipP 24 16
		epPZ		23	46	iPP 26 20
		ePPZ		25	04	Region of Guam, depth
	PX	iSNE		31	57	about 400 km.
		eZ		52.4		
	MW	iPZ		22	14 d	
		iZ			22	
		ipPZ		23	45	
		iPPZ		25	03	
	R	iPNZ		22	16	
		ipPZ		23	45	
	T	iPZ		22	06	
		iNEZ!			08	
		ipPZ		23	38	
		eSE		31	42	
		eP'P'Z		49	16	
	H	iPZ		22	10	
	Pr	iPZ		22	20	
		iNEZ!			21	
		epPZ		23	47	
		esPZ		24	20	
		eSE		32	03	
June 3	P	iPNZ	07	21	14	Normal? Tu iP 07 20 26 d
		eZ		22	32	Near Puerto Rico
	PX	eLZ?		48	32	
	MW	iPZ		21	13 d	
		iZ		22	32	
	R	iPZ		21	09 d	
		iZ		22	32	
	T	iPEZ		21	16	
		iZ		22	33	
	Pr	iPNEZ		21	05 d	
June 3	P	eZ	08	26	57	Normal.
	PX	eLZ		55.4		
	MW	ePZ		26	51	
	R	ePZ			56	
June 3	P	iPZ	10	01	35	Tu iP 10 02 12 c
	MW	iPZ			36	Kurile Islands?
	R	iPZ			38	
	T	iPNEZ			22	
	Pr	iPNZ			44	

Date	Sta.	Phase	h	m	s	Remarks
June 3	P	ePZ	11	53	23	Tu eP 11 53 52
	PX	eZ	12	22	3	
	MW	ePZ	11	53	21	
	R	ePZ			25	
	T	ePZ			13	
	Pr	ePZ			28	
June 3	P	iPNZ	15	55	54	Deep? Tu iP 15 55 14 d
		iZ		56	14	i 17
	MW	iPZ		55	54 d	i 56 02
		iZ		56	28	i 57 15
	R	iPZ		55	50	
		iZ		56	23	
	T	iPNEZ		56	05	
		iZ			31	
	Pr	iPZ		55	45	
		iZ		56	19	
June 4	MW	ePZ	00	08	42	Tu iP 00 07 56
	R	iPZ			44	i 08 13
	T	iPZ		09	19	
	Pr	iPZ		08	14	
June 4	P	ePZ	08	29	40	Tu iP 08 30 22
	MW	ePZ			40	i 33
	R	eZ			59	i 32 10
	T	ePZ			18	Aleutian Islands?
		eZ		30	25	
	Pr	iPZ		29	57	
June 4	P	iPZ	09	41	04	Tu eP 09 41 26
	MW	iPZ			05	
	R	iPZ			07	
	T	ePZ			08	
	Pr	iPZ			08	
June 4	P	ePZ	13	35	45	Deep? Tu eP 13 36 24
		iZ			53	i 44
		iZ		36	02	
	MW	ePZ		35	45	
	R	e(P)Z			56	
		iZ		36	06	
	T	ePZ		35	32	
		iZ			53	
		iZ		36	25	
	Pr	i(P)Z		36	03	
		iZ			11	
June 4	P	ePZ?	17	26	08	Tu eP 17 27 02
		eZ			23	e 29 47
	MW	iZ			23	
	R	eZ			33	
	T	ePZ			02	
		eZ			22	
	Pr	iPZ			32	
		iZ			50	
June 4	P	ePZ	19	46	41	Normal? Tu eP 19 47 12
	PX	eLZ	20	04	5	i 20
	MW	ePZ	19	46	39	
		iZ			44	
	R	e(P)Z			47	
	T	ePZ			20	
		iNEZ			38	
		iZ		47	02	
	Pr	iPNZ			00	
		iZ			34	
June 4	P	ePZ	20	04	22	Normal? Tu e(P) 20 05 01
		eZ			33	e 06
		iZ			40	Aftershock of preceding?
	PX	eLZ			34.6	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
					(Continued)	
June 4	MW	iPZ	20	04	21	
	R	ePZ			32	
		iZ			43	
	T	ePZ			06	
		iNEZ			26	
	Pr	ePZ			32	
		iZ			38	
June 4	P	iPZ	22	14	42	Tu iP 22 15 04
	R	iPZ			45	
	T	iPZ			50	
	Pr	iPZ			45	
June 5	P	iZ	00	55	14	Tu eP 00 55 30
	MW	ePZ		54	58	e 37
		iZ		55	15	e 49
	R	ePZ			06	
		eZ			18	
	T	ePZ		54	45	
		iZ		55	02	
	Pr	ePZ			08	
		eZ			26	
		iZ			49	
June 5	P	ePZ	01	30	38	Normal? Tu iP 01 29 57 c
	MW	ePZ			40	i 30 08
		iZ			51	South America
	R	ePZ			36	
		iZ			48	
	T	ePZ			54	
		iZ		31	05	
	Pr	ePZ		30	32	
		iZ			42	
June 5	MW	ePZ	05	02	27	Tu eP 05 03 04
	Pr	ePZ			30	
	T	ePZ		01	59	
June 5	MW	iPZ	06	28	27	Tu eP 06 29 05
	T	ePZ			05	
June 5	MW	iPZ	07	17	09	Tu iP 07 17 42
	T	iPZ		16	55	
	Pr	iPZ		17	17	
June 5	Pr	ePZ	12	58	04	Tu iP 12 57 26
June 5	R	iPZ	14	42	36	Tu eP 14 41 34
		iZ			46	Mexico?
	T	ePZ		43	00	
		iZ			14	
	Pr	iPZ		42	28	
		eZ			37	
June 5	T	ePZ	16	14	34	Tu eP 16 13 33
June 6	P	iPZ	00	40	26	
	R	iPZ			33	
	T	iPZ			08	
	Pr	ePZ			39	
June 6	P	iPZ	03	57	24 c	Normal? Tu eP 03 57 54
	PX	eLEZ	04	26	3	Solomon Islands?
	MW	iPNEZ	03	57	25 c	
		iZ			48	
	R	iPZ			27 c	
		iZ			43	
		iZ		58	22	
		eZ	04	01	13	
	SB	ePZ	03	57	20	
	T	iPNEZ			26 c	
		iZ			59	
	Pr	iPEZ			29 c	

Date	Sta	Phase	h	m	s	Remarks
June 6	P	ePZ	11	59	47	Normal? Tu iP 12 00 18
		iZ	12	00	00	i 34
	PX	eLZ		22	6	Japan?
	MW	ePZ	11	59	45	
		iZ	12	00	00	
	R	ePZ	11	59	48	
		eZ	12	00	03	
	T	iPZ	11	59	35	
		iZ			49	
	H	ePZ			39	
	Pr	iPZ			54	
		iNZ	12	00	08	
June 6	P	ePZ	13	02	33	Tu iP 13 03 07 c
	MW	ePZ			33	i 14
		eZ			42	Japan?
	R	ePZ			36	
	T	ePZ			22	
	Pr	ePZ			41	
June 6	P	ePZ	15	16	35	Tu eP 15 15 53
		iZ			52	i 16 18
		iZ		17	08	i 22
	MW	iPZ		16	39	
		iZ		17	07	Very unusual in appearance.
		iZ			19	Two or more shocks?
	R	iPZ		16	35	
		iZ		17	03	
		eZ			15	
	T	iPZ		16	52	
		iZ		17	20	
	Pr	ePZ		16	30	
		iZ			58	
		iZ		17	30	
June 6	MW	ePZ?	15	26	43	Tu e? 15 26 52
		iZ			59	e 27 17
	T	ePZ			21	Part of preceding?
		iZ			37	
June 6	MW	eZ	18	44	06	Tu iP 18 44 50
	Pr	iPNZ			17	i 59
		iZ			23	
		iZ		46	31	
June 6	P	ePZ	23	30	33	Tu iP 23 29 53
	MW	ePZ			33	South America or
	R	ePZ			29	West Indies
	Pr	ePZ			23	
June 6	P	iPZ	23	35	16	Tu iP 23 35 49
	MW	iPZ			18	Japan?
	R	iPZ			20	
	Pr	iPZ			23	
June 7	P	iPZ	05	51	45	Tu iP 05 52 08 c
	MW	iPZ			46	i 24
	R	iPZ			48	
	Pr	iPNZ			48 c	
June 7	P	iPZ	06	57	25 c	Tu iP 06 57 47 c
	MW	iPZ			25 c	
	R	ePZ			26	
	Pr	iPNEZ			27 c	
June 7	P	ePZ	10	27	36	Deep. Tu iP 10 28 05 c
		iZ			56	i 24
		ePPZ		31	12	iPP 31 43
	MW	iPZ		27	36	Pacific
		iZ			54	
	R	ePZ			40	
		eZ			58	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
June 7	SB	iZ	10	27	53	(Continued)
	LJ	eZ		28	02	
	T	ePNE		27	29	
		eNE			49	
	H	iPZ			31	
		iZ			50	
	Pr	iPNZ			43	
		iNZ		28	02	
		ePPEZ		31	24	
June 7	R	ePZ	22	51	41	Tu iP 22 52 00
	Pr	iPZ			42	
June 8	P	iPZ	02	47	36	Deep. Tu iP 02 46 56 d
		iPcPZ		48	08	iPcP 47 43
		epPZ		49	34	i 48 17
		eSE		55	20	ipP 51
		eScSE		56	26	South America
	MW	iPZ		47	37 d	Approximately 10°S. 75°W.,
		iPcPZ		48	07	O=02:38:00, h=650 km.,
		ipPZ		49	35	using Bogota, Cartuja,
	R	iPZ		47	32	Toledo.
		iPcPZ		48	04	Possibly phases reported as
		iZ			47	pP are sP, with depth near
		ipPZ		49	30	400 km.
	T	ePNE		47	49	
	Pr	iPNEZ			27	
		iPcPNEZ		48	02	
		ipPNZ		49	25	
June 8	P	iPZ	15	44	44	Not at Tucson, which records
	MW	iPZ			46	iP at 15 40 11
	R	iPZ			47	
	Pr	iPZ			40	
June 9	P	eZ	20	48	21	Normal. Tu e 20 49 14
	PX	eLEZ	21	17	8	
	MW	ePZ	20	48	16	
	R	ePZ			18	
	T	ePZ			23	
	Pr	ePZ			21	
June 10	P	iPZ	08	04	31	Tu iP 08 04 55 d
	MW	iPZ			32 d	
	R	ePZ			33	
	T	iPZ			40	
	Pr	iPNEZ			32 d	
June 10	P	iPNEZ!	11	12	11 c	Normal. Tu eP 11 13 06
		iSE			27	33°58'N. 116°48'W.,
	MW	iPNEZ!			10 c	San Gorgonio Pass
		iSN			24	O=11:11:50
	R	iPNEZ!			00 c	Foreshock of June 12,
		iSNE!			07	10 h 45 m, with slightly
	LJ	iPNEZ			12 d	different epicenter.
		iSNZ			27	Felt at Banning, Hemet,
	T	iPEZ			42	San Jacinto, Palm Springs,
		iSN		13	35	Riverside, etc.
	H	iPZ		12	28 c	Smaller shock from same
		iSN		13	03	source 3 m 42 s later.
	Pr	iPNEZ!		12	03	
June 10	PX	eLZ	15	06	2	Normal. Tu iP 14 36 12
	T	ePZ	14	37	13	
	Pr	eZ		36	44	
		eZ		37	07	
June 10	T	iPZ	17	31	52	
June 11	P	ePZ?	11	25	01	Tu iP 11 24 24
	R	ePZ		24	59	
	T	ePZ		25	01	
	Pr	iPZ		24	59	

Date	Sta.	Phase	h	m	s		Remarks
June 11	T	iPZ	17	56	22		Tu iP 17 55 41
June 11	P	ePEZ	19	27	14		Normal. Tu iP 19 26 16
	PX	eSNE		33	58		East of the Galapagos
		eLZ		40	38		Islands.
	MW	ePZ		27	13		
	R	ePZ			09		
	T	ePNEZ			42		
	Pr	ePNEZ			03		
June 12	P	iPZ	01	57	56		Normal. Tu iP 01 58 23 c
	PX	eLZ	02	19	04		Near Apia, which reports:
	MW	iPZ	01	57	59		P 01 47 14
	R	ePZ		58	01		S 44
	T	ePNE			11		
	H	ePZ			04		
	Pr	iPZ			00		
June 12	P	iPNEZ!	10	45	56	c	Normal. Tu iP 10 46 51
		iSE		46	12		San Andreas fault in
	MW	iPNEZ!		45	55	c	San Gorgonio Pass
		iSE		46	10		33°58'N. 116°45'W.,
	R	iPNEZ!		45	45	c	O=10:45:34
		iSNE!			52		Moderate local shock
	SB	iPZ		46	15	c	(magnitude 5.1)
	LJ	iPNEZ		45	56	d	This and the following
		iSZ		46	12		larger shock felt widely
	T	iPNEZ			27	c	in Southern California.
		iSNEZ		47	23		Intensity VI reported
	H	iPNEZ!		46	13	c	near the epicenter.
		iSE			48		Many small aftershocks.
	Pr	iPNZ		45	47	c	
June 12	P	iPEZ!	11	16	58	c	Tu iP 11 17 52
		iSNE		17	14		San Andreas fault in
	MW	iPNEZ!		16	57		San Gorgonio Pass
		iSN		17	12		33°58'N. 116°45'W.,
	R	iPNEZ!		16	46	c	O=11:16:53
		iSNE!			54		Moderate local shock
	SB	iPZ		17	17		(magnitude about 5.3)
	LJ	iPNEZ		16	58	d	Felt widely
		iSZ		17	14		(compare the preceding)
	T	iPNEZ		17	28	d	Aftershocks numerous.
	H	iPNEZ			14		
		iSN			52		
	Pr	iPNEZ!		16	48	d	
June 12	P	iPZ	22	42	05		
	MW	iPZ			06		
	R	ePZ			17		
June 13	P	iPNEZ	08	28	06		Normal. Tu eP 08 29 35
		iSN			27		34°40'N. 120°30'W.,
	SB	iPNEZ!		27	47	c	O=08:27:32
		iSNE			56		Magnitude 4.6
	T	iPN		28	22		Felt at Lompoc and Santa
		iSN			59		Maria (Santa Barbara County)
	H	iPEZ			15	d	Small aftershock at 08:47,
		iSNE			43		and one nearly as large as
	Pr	iPNEZ			24	c	the first shock at 11:07
		iSE		29	00		
June 13	P	iPZ	10	02	57		Tu iP 10 03 44 c
		iZ		03	37		i 56
	MW	iPZ		02	58		i 04 11
	R	ePZ		03	02		i 23
	T	ePNE		02	45		
	Pr	iPZ		03	08	c	
		iZ			21		

Date	Sta.	Phase	h	m	s		Remarks
June 13	P	iPZ	18	50	15		Tu iP 18 49 35 d
	MW	iPNZ			15		i 50 09
	R	iPZ			11		
	T	iPNEZ			28		
		eZ			53		
		iZ		51	01		
	H	iPZ		50	22		
	Pr	iPNZ			06		
June 14	P	iPZ	16	18	28		Tu iP 16 18 52
	MW	iPZ			28		e 19 09
		iZ			48		
	R	iPZ			39		
	T	iPZ			40		
		iZ			54		
June 15	MW	iPZ	13	49	20		Tu iP 13 49 55 d
		iZ			39		
	R	iPZ			22		
	T	iPZ			06		
		eZ			37		
June 15	MW	iPZ	16	46	29		Tu iP 16 45 16
		eZ		47	08		i! 43
	R	ePZ		46	28		i 49
	T	ePZ			28		Two shocks?
		eZ		47	01		
	Pr	iZ		45	43		
		iPZ		46	25		
June 16	P	iZ	00	18	25		Tu e 00 18 27
	MW	eZ			07		
		iZ			15		
	R	eZ			09		
		iZ			25		
	Pr	eZ			08		
		iZ			26		
June 16	P	iPZ	04	29	16		Normal? Tu iP 04 29 48 c
		iZ			33		i 30 05
	PX	eLZ		52.7			Region of Japan
	MW	iPZ		29	16		
		iZ			32		
	R	iPZ			19		
		iZ			34		
		iZ			43		
	SB	eZ			17		
		iZ			29		
	LJ	ePZ			30		
		eZ			53		
	T	iPZ			08		
	H	iZ			16		
	Pr	iPEZ			23		
		iZ			41		
		iN			51		
June 16	P	iPNEZ!	21	55	58	c	Normal. Tu iP 21 54 55 c
	PX	iSE		59	36		Mexico
		iLE	22	00	31		USCGS: 19°N 105°W.,
	MW	iPNZ	21	55	57	c	O=21:51.5
	R	iPNEZ			52	c	Pasadena: 17°N. 106°W.,
	SB	iPNZ		56	09		O=21:51.3
	LJ	ePNEZ		55	41		
		eSE		59	14		
	T	iPEZ		56	22	c	
		eSE	22	00	28		
	H	iPNEZ	21	56	12	c	
		eSNE	22	00	09		
	Pr	iPNEZ	21	55	42		

Date	Sta	Phase	h	m	s		Remarks
June 16	P	ePZ	23	20	10		Tu iP 23 19 09 c
	MW	ePZ			07		Aftershock, Mexico
	R	ePZ			05		
	H	iPZ			30		
	Pr	iPZ			17		
June 16	R	ePZ	23	29	47		Tu eP 23 29 59
	T	ePZ			53		
		iZ		30	08		
June 17	P	iPZ	18	37	36		Tu iP 18 37 58 d
	MW	iPZ			36		
	R	iPZ			38		
	T	iPNZ			45	d	
	Pr	iPNZ			39	d	
June 18	PX	eLZ	02	40			Normal. Tu iP 02 12 36 c
	MW	iPZ		12	16		
	R	ePZ			17		
	T	iPZ			26		
	Pr	iPZ			18		
June 18	P	iPNEZ	14	43	08	c	Tu iP 14 43 49 c
	MW	iPZ			09	c	
	R	iPZ			11	c	
	SB	iPZ			03		
	T	iPNEZ			05	c	
		eZ		46	34		
	H	iPNEZ		43	08		
	Pr	iPEZ			15	c	
June 18	R	ePZ	16	17	38		Tu eP 16 17 09
	T	ePZ			47		
June 18	P	iPZ	17	38	04		Tu iP! 17 38 29 d
	MW	iPZ			05		
	R	ePZ			07		
	T	iPZ			13		
	Pr	iPNZ			08	d	
June 18	P	eSNEZ	22	16	52		Normal. Tu iP! 22 13 55 d
	MW	ePZ		14	55		i! 14 10
		eSNZ		16	54		i(S) 15 15
	R	iSNEZ			40		Mexico
	LJ	eSNE			08		
	Pr	ePZ		14	34		
		iSEZ		16	16		
June 19	P	iPNEZ!	00	03	40	d	Normal. Tu eP? 00 05 08
		iSE!			44		33°52'N. 118°13'W.,
	MW	iPNEZ!			42	d	O-00:03:33
	R	iPNEZ!			48	c	Inglewood fault west of
		iSN			59		Compton. Magnitude 4.5
	LJ	ePZ			58		Felt in the Los Angeles
	Pr	iPNEZ			57		area. Minor damage
							(intensity VI) near the
							epicenter. A newspaper
							sensation was caused by
							reporting this as the
							strongest local shock since
							1933- true, if at all, only
							of the intensity at Compton
June 19	P	eZ	01	55	38		Normal. Tu eP 01 55 41
	PX	eLZ	02	16.4			
	MW	ePZ?	01	55	18		
		iZ			23		
	R	ePZ			21		
	T	ePNEZ			27		
		eZ			43		
	H	eZ			31		
	Pr	ePZ			26		
		iZ			34		

Date	Sta	Phase	h	m	s		Remarks
June 19	P	iPNEZ!	03	06	13	d	Normal. TueP 03 07 48
		iSE			17		33°52'N. 118°13'W.,
	R	iPNZ!			22	c	O=03:06:07
		iSN			33		Shock similar to that at
							00 h, of about the same
							magnitude.
June 19	T	eZ	04	26	37		Tu eP 04 26 50
June 19	T	iPZ	16	56	51		Tu iP 16 55 17
June 20	P	ePZ	0_2	02	10		Normal. Tu eP 02 01 02
	PX	eLNZ		08.1			
	MW	ePZ		02	00		
	R	ePZ		01	59		
	T	ePN		02	40		
June 20	MW	iPZ	09	56	05		Tu iP 09 56 25
	T	iPZ			14		
	Pr	iPZ			06		
June 20	T	iPZ	11	46	50		Tu eP 11 47 07
	Pr	iPZ			44		
June 20	P	ePZ	12	27	59		Normal. Tu iP 12 28 36
	PX	eLZ		50.5			Kurile Islands?
	MW	ePZ		28	03		
	R	iPZ			06		
	T	iPZ		27	52		
	H	ePNZ			57		
	Pr	iPZ		28	10		
		iZ			21		
		eZ			48		
June 21	P	iPNEZ	11	11	10	c	Normal? Tu iP 11 11 31
		iZ			18		i 39
	PX	e(S)NE		21	34		USCGS: 21.5°S. 169.8°E.,
		eSSZ		27	34		O=10:58.3
		e(L)NE		35.5			JSA: 21°S. 169°E.,
		eLNEZ		38.6			O=10:58:20
	MW	ePZ		11	09		Pasadena: h=50 km?
	R	ePZ			11		Major earthquake
	SB	ePZ			07		(magnitude 7.0)
	LJ	ePE			07		A T
	T	iPZ			15		P 1 3
		iZ			24		S 3 6
	H	ePEZ			16		L 50 20
	Pr	iPEZ			12		
		i(S)NE		21	47		
June 21	P	iPZ	15	56	43		Deep? Tu iP 15 57 14
	MW	iPZ			44		i 32
	R	iPZ			46		Japan?
	T	iPZ			40		
	H	iPZ			42		
	Pr	iPZ			50		
		eZ		57	07		
June 21	T	ePZ	17	12	11		Tu eP 17 10 49
		iZ			16		
June 22	T	ePZ	00	46	55		Tu eP 00 44 50
	Pr	iPZ			26		i 45 43
June 22	T	iPZ	04	12	31		Deep? Tu iP 04 12 39
		iZ			46		i 55
	Pr	iPZ			22		
June 22	P	iPZ	09	40	25		Tu iP 09 41 02
	R	iPZ			29		e 27
	T	iPZ			14		
	Pr	iPZ			34		
June 22	P	iPZ	18	33	24		
	R	ePZ			27		
	Pr	iPZ			30	d	

Date	Sta.	Phase	h	m	s		Remarks
June 23	P	iPZ	02	18	36	c	
	MW	iPZ			37	c	
	R	iPZ			39	c	
	T	iPZ			42	c	
	H	iPZ			42		
	Pr	iPNZ			40		
June 23	R	eZ	07	41	51		Tu eP 07 40 53
		iZ?		44	38		e 43 35
	T	ePZ		42	21		e 44 25
		eZ			26		e 45 29
		eZ		45	59		e 46 11
		e(P)Z		47	31		e 51 11
		iZ			38		Several shocks?
June 23	R	ePZ	12	31	57		Tu iP 12 32 17
	T	iPZ		32	01		
	Pr	iPZ		31	58		
		eZ		32	08		
June 23	T	ePZ	16	11	05		
June 23	R	ePZ	16	52	41		Tu iP 16 53 02
	T	ePZ			46		
		iZ		53	05		
	Pr	iPZ		52	42		
		eZ			54		
June 25	P	iPNEZ	01	14	29	c	Normal. Tu iP 01 13 36 c
		iPcPZ		17	30		Central America
	PX	eLNE		22.2			
	MW	iPZ		14	29		
	R	iPZ			23		
	T	iPNEZ			46	c	
		iPcPZ		17	36		
	H	iPZ		14	38		
	Pr	iPZ			18	c	
		iPcPZ		17	12		
June 25	P	ePZ	04	30	16		Normal. Tu iP 04 30 05
	PX	eN		52.7			ePKKP 46 27
		eLNZ	05	04.7			Eastern Mediterranean.
	MW	iPZ	04	30	12		roughly 35°N. 30°E.,
		ePKKPZ		46	49		O=04:16.1
	R	ePZ		30	10		
		ePKKPZ		46	49		
	T	ePZ		30	00		
		ePKKPZ		47	00		
	Pr	ePZ		30	14		
		eZ		46	11		
		ePKKPZ			45		
June 25	P	iPZ	08	14	56		Normal? Tu iP 08 15 42 c
		iPcPZ		18	08		i 48
	PX	eLN		24			iPcP 18 55
	MW	iPZ		14	54		e 27 27
		iPcPZ		18	10		Aleutian Islands?
	R	ePZ		15	00		
		iPcPZ		18	13		
	T	iPZ		14	41	c	
		iPcPZ		17	53		
		iZ		18	09		
		iZ		20	01		
		eZ		23	47		
		iZ		28	01		
	Pr	ePNEZ		15	06		
		iPcPZ		18	21		
		iSE		21	32		
June 25	T	iPZ	08	33	48		Tu iP 08 34 50

Date	Sta.	Phase	h	m	s		Remarks
June 25	P	iPZ	14	30	19	c	Deep? Tu iP 14 30 42
		iZ			40		i 57
	PX	eLNE		53	38		i 31 02
	MW	iPZ		30	18		Roughly 21°S. 170°E.,
	R	iPZ			20		O=14:17.3
		iZ			42		Wellington gives:
	LJ	ePZ			18		21½ S. 169½ E.,
	T	iPNEZ			26		O = 14:17.5, h=100-110 km.
		iZ			39		
	H	ePNEZ			25		
	Pr	iPNEZ			22		
		iZ			42		
June 25	PX	iPZ	17	55	29		Normal. Tu eP 17 55 01
		eLNE	18	25.8			i 05
	MW	ePZ	17	55	30		USCGS: 1°S. 25°W.,
		iZ			33		O=17:42.2
	R	iPZ			29		
	LJ	ePZ			29		
	T	ePZ			31		
	Pr	ePZ			23		
		iNEZ			30		
		iZ		59	09		
June 26	P	iPZ	04	57	46		Deep? Tu e 05 02 32
		iZ		58	04		e 03 06
	MW	iPZ		57	47		Pacific
		iZ		58	06		
	R	iPZ		57	50		
		iZ		58	06		
	Pr	iPZ		57	52		
		iNZ		58	12		
		eZ			49		
June 26	P	ePZ	09	00	16		Deep. Tu iP 09 00 44
		iZ		01	08		i 01 34
	MW	iPZ		00	17		Southwest Pacific
		iZ		01	09		
	R	iPZ		00	21	c	
		iZ		01	12		
	Pr	iPZ		00	22		
		iNEZ		01	13		
June 26	P	iPZ	14	10	44		Deep Tu iP 14 10 13
		iZ!		11	14		i! 43
	MW	iPNZ		10	44	c	South America?
		iZ		11	15		
	R	iPZ		10	40	c	
		iZ		11	10		
	SB	ePZ		10	50		
		iZ		11	20		
	T	iPNEZ		10	55	c	
		iZ		11	26		
	H	iPZ		10	49		
		iZ		11	22		
	Pr	iPNZ		10	35		
		iNZ		11	05		
		iZ			21		
June 26	P	ePZ	16	36	38		Tu iP 16 36 25
	MW	ePZ			40		
	R	ePZ			38		
	T	iPZ			58		
June 27	P	iPZ	03	31	54		Tu eP 03 30 53
		eZ		32	15		
	MW	iPZ		31	57		
		iZ		32	14		
	R	iPZ		31	47		
		eZ		32	06		
	T	ePN			17		
	Pr	ePZ		31	39		

Date	Sta	Phase	h	m	s		Remarks
June 27	P	iPZ	12	24	03	c	Deep? Tu iP 12 24 26 c
		eZ		26	06		e 26 25
	MW	iPZ			05	c	
	R	iPZ			07		
	Pr	iPZ			05	c	
		iZ		26	09		
June 27	P	ePZ	23	42	13		Tu eP 23 41 19
		iZ			28		i 23
		eZ		45	46		Central America
	MW	iPZ		42	13		
		iZ			28		
	R	iPZ			08		
		eZ		44	45		
		eZ		45	01		
	T	ePN		42	31		
		eN			49		
	Pr	ePZ			02		
		iZ			18		
June 28	P	iPNEZ	04	19	51		Tu iP 04 20 16 c
		iZ		20	01		Near Apia, which reports
	MW	iPZ		19	53	c	tremors at 04 h 11 m and
	R	iPZ			55		04 h 12 m.
	T	ePNE		20	02		
	Pr	iPZ		19	53	c	
		iZ		20	04		
June 28	P	iPZ	05	38	02		Normal. Tu eP 05 37 08 c
		ePcPZ		41	01		Central America; foreshock
	PX	eLNE		46.0			
	MW	iPZ		38	01		
	R	iPZ		37	57		
		ePcPZ		41	02		
	T	ePNE		38	20		
	H	ePZ			11		
	Pr	iPNEZ			47	c	
June 28	P	ePZ	05	52	33		Tu eP 05 51 40 c
		ePcPZ		55	34		Central America;
	MW	iPZ		52	33		foreshock of next
	R	ePZ			28		
	T	ePNE			51		
	H	ePZ			42		
	Pr	iPNEZ			22		
June 28	P	iPNEZ	08	05	04	c	Normal. Tu iP 08 04 11 c
		iZ			21		Central America
		iPcPZ		08	04		USCGS: 14.6°N. 92.6°W.,
	PX	iSNZ		10	05		O=07:58.9
		eLNE		12.1			Major earthquake (magnitude 7.0)
	MW	iPNEZ		05	04		
		iPcPZ		08	09		A T
	R	iPNEZ		04	58	c	P 4 4
		iPcPZ		08	05		S 10 8
		eSNE		09	53		L 600 20
	SB	ePZ		05	14		Most of the shocks reported
		iPcPZ		08	09		during the following two days
		eSE		10	26		are aftershocks of this.
	LJ	ePNZ		04	52		
		eSNE		09	35		
	T	ePNE		05	21		
	H	iPZ			15		
		iPcPZ		08	09		
		eSNE		10	21		
	Pr	iPZ	08	04	52		
		iSNE		09	57		
June 28	MW	ePZ	08	27	44		Tu eP 08 26 51
	Pr	iPZ			30		
June 28	MW	ePZ	08	29	56		Tu iP 08 29 04
	Pr	ePZ			39		

Date	Sta	Phase	h	m	s		Remarks
June 28	P	iPZ	08	30	31		Tu iP 08 29 40
		ePcPZ		33	32		
	MW	iPZ		30	32		
	R	iPZ			26		
	T	ePNE			49		
	H	ePNEZ			42		
	Pr	iPNEZ			17		
June 28	Pr	iPZ	08	53	46		Tu iP 08 53 04
June 28	Pr	iPZ	08	54	08		Tu iP 08 53 21
June 28	Pr	iPZ	09	09	52		Tu iP 09 09 12
June 28	P	ePZ	09	10	11		Tu iP 09 09 20
	MW	iPZ			12		
	R	ePZ			06		
	T	ePN			32		
	H	ePZ			22		
	Pr	iPNEZ		09	59		
June 28	P	ePZ	09	10	58		Tu iP 09 10 05
	MW	iPZ			57		
	R	iPZ			53		
	H	ePZ		11	10		
	Pr	iPNEZ		10	44		
June 28	MW	iPZ	09	12	38		Tu iP 09 11 44
	Pr	iPZ			28		
June 28	MW	ePZ	09	24	36		Tu iP 09 23 42
	R	ePZ			28		
	Pr	iPZ			24		
June 28	MW	ePZ	09	38	45		Tu iP 09 37 52
	R	ePZ			40		
	Pr	iPZ			31		
June 28	Pr	iPZ	09	50	03		Tu iP 09 49 20
June 28	Pr	ePZ	10	01	10		Tu iP 10 00 30
June 28	P	iPNEZ	10	01	31	c	Tu iP 10 00 37
		ePcPZ		04	31		Central America
	MW	iPZ		01	30	c	
	R	iPZ			25		
	LJ	ePZ			18		
	T	ePN			47		
	H	ePZ			39		
	Pr	iPNEZ			19	c	
June 28	P	iPZ	10	07	49		Probably a Pacific shock
	MW	iPZ			49		
	Pr	iPZ			53		
June 28	P	ePZ	10	31	09		Tu iP 10 30 15
	MW	ePZ			07		Central America
	R	ePZ			02		
	T	ePN			25		
	Pr	iPZ		30	58		
June 28	MW	ePZ	10	47	24		Tu iP 10 46 32
	Pr	ePZ			17		
June 28	P	ePZ	10	59	31		Tu iP 10 58 36
	MW	iPZ			29		
	R	ePZ			22		
	T	ePNE			50		
	H	ePZ			46		
	Pr	iPZ			17		
June 28	Pr	iPZ	12	37	04		Tu iP 12 36 29
June 28	MW	ePZ	13	06	07		Tu iP 13 05 16
	Pr	ePZ		05	57		
June 28	Pr	iPZ	13	49	44		Tu iP 13 49 02
June 28	Pr	iPZ	16	07	46		Tu iP 16 07 10
June 28	Pr	iPZ	18	16	52		Tu iP 18 17 19
June 28	Pr	iPZ	19	46	19		Tu iP 19 45 32
June 28	Pr	iPZ	22	49	17		Tu iP 22 48 33
June 29	Pr	ePZ	01	09	17		Tu iP 01 08 38

Date	Sta	Phase	h	m	s	Remarks
June 29	P	ePZ?	01	43	30	Normal Tu iP 01 42 32
	PX	eLN		53		
	MW	ePZ		43	24	
	Pr	ePZ			01?	
June 29	Pr	iPZ	03	29	17	Tu iP 03 28 38
June 29	MW	ePZ	06	24	39	Tu iP 06 23 41
	R	ePZ			28	
	Pr	eZ			26	
June 29	P	ePZ	11	39	49	Tu iP 11 39 08
	MW	iPZ			46	South America?
June 29	P	eZ	14	02	58	Tu eP 14 02 10
	MW	eZ			56	
June 29	MW	ePZ	15	46	18	Tu iP 15 45 23
	R	ePZ			12	
June 29	Pr	ePZ	17	56	02	Tu iP 17 55 18

C. F. Richter
March 22, 1945

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

JULY–SEPTEMBER 1944

(PASADENA AND AUXILIARY STATIONS)

Date	Sta.	Phase	h	m	s		Remarks
July 1	MW	ePZ	11	26	05		Tu eP 11 25 10
July 2	R	ePZ	04	01	32		Tu iP 04 00 44
	Pr	ePNE			27		
July 2	P	iPZ	08	47	19		Deep. Tu iP 08 47 43 d
		eZ		49	22		e 49 47
	MW	iPZ		47	20	d	Near Apia, which reports:
	R	iPZ			22	d	P 08 38 20
		eZ		49	35		S 40 05
	LJ	ePZ.		47	20		
	T	iPNEZ			30	d	
	H	ePNE			27		
	Pr	iPNE			24		
		eN		49	40		
July 2	Pr	ePN	09	12	48		Tu eP 09 12 05
July 2	P	iPZ	22	18	32		Normal? Tu iP 22 17 39
	PX	eNE		27.0			JSA: 13°N. 97.5°W.,
	MW	iPZ		18	32		O=22:12:08
	R	ePZ			27		
	T	iPZ			49		
	Pr	iPNE			18		
July 3	P	iPNEZ	05	38	46	c	Normal. Tu eP 05 40 01
		iSE		39	03		35°21'N. 117°52'W.,
	MW	iPNZ		38	45	c	O=05:38:23
	R	iPEZ			49	c	Magnitude 4.7
		iSNEZ		39	08		Felt generally in the region
	SB	iPNZ		38	55		of southern Owens Valley and
		iSNE		39	20		as far as Riverside.
	T	iPNEZ		38	54	d	
		iSNE		39	18		
	H	iPNEZ		38	38	d	
		iSNE			48		
July 3	T	eZ	04	28	43		Tu eP 04 27 34
July 3	P	iPZ	07	32	10		Tu iP 07 31 16
	MW	ePZ			09		
	R	iPZ			04		
	T	iPZ			23		
	Pr	iPNE			06		
July 3	P	iPZ	23	15	36		Tu iP 23 15 52
	MW	iPZ			32		
	T	iPZ			40		
	Pr	ePNE			29		
July 4	MW	ePZ	03	29	19		Tu eP 03 28 35
	Pr	iPNE			13		
July 5	MW	eZ	09	48	59		Tu e 09 48 58
	T	eZ			49		
July 5	P	ePZ	09	52	46		Tu iP 09 51 56
	PX	eLZ	10	06.4			i 52 10
	MW	iPZ	09	52	48		
	R	ePZ			46		
	T	iPZ		53	07		
	Pr	iPNE		52	40		
July 5	P	e(P)Z	10	18	33		Tu e(P) 10 18 27
		eZ		21	35		e 22 18
		eZ			56		i 47
		eZ		22	19		
	MW	e(P)Z		18	33		
		eZ		20	38		
		eZ		21	56		
		iZ		22	23		
	R	i(P)Z		18	36		
	T	e(P)Z			32		
		iZ		21	52		
		eZ		22	21		
July 5	P	eZ	17	17	18		Tu iP 17 06 21
	R	iZ?			21		Not the same?

Date	Sta.	Phase	h	m	s	Remarks
July 6	P	iPZ	22	51	26	Tu iP 22 52 01
	MW	iPZ			27	
	R	iPZ			29	
	T	iPZ			16	
July 7	PX	eLZ	02	57	3	Tu e 02 33 02
July 7	MW	iPZ	06	16	28	Tu iP 06 16 44
	R	iPZ			28	
	T	ePZ			36	
	Pr	iPN			19	
July 7	P	iPZ	06	32	28	Tu iP 06 31 35
	MW	iPZ			29	
	T	iPZ			44	
July 7	P	iPZ	17	38	11	Normal? Tu iP 17 38 28
		iZ			19	i 44
		iZ			26	i 52
	PX	eLZ	18	07	7	Kermadec Islands?
	MW	iPZ	17	38	10	
		iZ			26	
		eZ		41	46	
	R	iPZ		38	11	
		iZ			28	
	T	ePNEZ			20	
		iNZ			35	
	H	ePE			22	
		eN			30	
		eZ			35	
	Pr	ePN			17	
July 8	MW	iPZ	08	22	45	Tu iP 08 23 05
	T	iPZ			54	
July 8	MW	iPZ	08	57	13	Tu iP 08 57 34
	R	iPZ			14	
	T	iPZ			21	
	Pr	iPNE			16	
July 8	P	iPZ	09	00	21 c	Tu iP 09 00 43 c
	MW	iPZ			22	
	R	iPZ			24	
	SB	iPZ			18	
	LJ	ePZ			21	
	T	iPZ			31 c	
	H	ePZ			28	
	Pr	iPNE			24	
July 8	P	iPZ	09	25	10	Tu iP 09 25 29
	MW	iPZ			10	
	R	iPZ			10	
	T	iPZ			19	
July 8	P	iPZ	10	31	35 c	Tu iP 10 32 00
	MW	iPZ			35 c	
	R	ePZ			28	
	T	iPZ			43	
	H	ePZ			41	
July 8	P	iPZ	14	33	03	Tu iP 14 33 29
	MW	iPZ			04	Near Apia, which reports:
	R	ePZ			05	P 14 22 20
	T	iPZ			14	S 23 16
July 9	P	iN	02	49	18	Tu iP 02 51 21
		iZ			54	
	PX	e(L)Z		53.5		
	MW	iZ		49	55	
	R	iZ		50	01	
	T	iPZ		49	31	
		iZ		51	01	
	H	eZ		49	39	
	Pr	iNE		50	11	
July 9	MW	iPZ	02	55	29	Tu e 02 56 15
	T	iPZ			16	
	Pr	iPZ			39	

Date	Sta.	Phase	h	m	s	Remarks
July 10	P	iPZ	12	42	47	Deep? Tu iP 12 43 22
		iZ			51	i 51
		iZ		43	03	i 59
		iZ			16	
		iZ			24	
	MW	iPZ		42	48	
		iZ		43	17	
		iZ			24	
	R	iPZ		42	51	
		eZ		43	16	
	LJ	ePZ		42	56	
		eZ		43	26	
	T	iPZ		42	37	
		iZ			57	
	H	iPEZ			42	
		iZ		43	09	
	Pr	iPNEZ		42	55	
		iZ		43	15	
		iZ			25	
July 10	P	iPZ	13	36	14 d	Deep. Tu iP 13 36 40 d
		iZ			20	i 37 08
		iZ			32	e 25
		i(pP)EZ			57	i 30
		iZ		37	03	eP P 14 03 35
		iZ			09	Near Apia, which reports:
	PX	eLN		55.6		P 13 25 54
	MW	iPNEZ		36	16 d	S 26 31
		iZ		37	05	and suggests epicenter at
	R	iPNEZ		36	17 d	15.4°S. 174.6°W.
		iZ		37	01	
	SB	iPZ		36	18	
		eZ			59	
	LJ	ePEZ			14	
		eE			59	
	T	iPNEZ			24 d	
	H	iPEZ			22 d	
		eZ		37	05	
	Pr	iPNEZ		36	17 d	
		iZ		37	01	
July 10	P	iPNEZ	16	00	22	Deep Tu iP 16 00 41 c
		ipPEZ			34	iPcP 49
		iZ			40	ipP 54
		iNEZ			56	i 01 15
		ePPZ		03	54	eP P 26 08
		eSNEZ		10	38	Roughly 27°S. 178°W.
		eLN		22	48	O=15:47.9
	MW	iPZ		00	23 c	h=50 km
		iZ			41	Wellington: 30°S. 177°W.,
		eP P Z		26	34	O = 15:47.6
	R	iPNEZ		00	23	
		iZ			39	
		eP P Z		26	27	
	SB	iPZ		00	19	
	LJ	ePEZ			21	
	T	iPNEZ			31 c	
		iZ			48	
	H	iPEZ			31	
	Pr	iPNEZ			24 c	
		iZ			27	
		iZ			41	
		iZ		01	00	
		eSN		10	46	
		eP P Z		26	27	
July 10	P	ePZ	16	24	15	Tu eP 16 24 15
	MW	ePZ			14	Not an aftershock
	R	ePZ			10	
	Pr	ePZ			02	

Date	Sta.	Phase	h	m	s	Remarks
July 11	P	ePZ	18	45	12	Deep? Tu e 18 45 50
	MW	ePZ			13	
		iZ			28	Southwest Pacific
	R	ePZ			16	
		iZ			30	
	SB	eZ			38	
	LJ	ePZ			21	
	T	iPZ			21	
	Pr	iPZ			17	
		iEZ			31	
July 11	P	iPNEZ	19	43	02	Deep. Tu iP 19 43 25 c
		eZ		44	32	e 44 55
	MW	iPNZ		43	03 c	Tonga region. Apia reports
		iZ		44	32	a tremor at 19 h 34 m
	R	iPZ		43	05	
		eZ		44	35	
	SB	iPZ		42	58	
	T	iPNEZ		43	12	
		iZ		44	44	
	H	iPZ		43	10	
	Pr	iPNEZ			05 c	
		iZ		44	35	
July 12	P	ePZ	07	52	31	Deep? Tu iP 07 53 06
		eZ			48	Japan?
		eZ			55	
	MW	iPZ			30	
		iZ			53	
	R	ePZ			33	
		eZ			49	
	T	iPZ			17	
		iZ			40	
		iZ		53	20	
	Pr	iPZ		52	38	
		iZ		53	01	
July 12	P	ePZ	08	11	50	Tu iP 08 11 15
		eZ		12	06	Atlantic?
	MW	ePZ		11	52	
		iZ		12	16	
	R	iPZ		11	50	
	T	ePZ			51	
	Pr	iPZ			48	
July 12	P	ePZ	08	25	15	Normal. Tu iP 08 24 34
	PX	eLN		43.6		Atlantic?
	MW	iPZ		25	15	
	R	iPZ			10	
	T	iPZ			15	
	H	ePZ			14	
	Pr	iPZ			07	
July 12	P	iPZ	15	22	13	Tu iP 15 21 45
	MW	iPZ			13 d	South America?
	R	iPZ			11	
	SB	ePZ			19	
	T	iPNEZ			26	
	H	iPZ			22	
	Pr	iPNZ			07 d	
July 12	P	ePZ	17	25	58	Tu eP 17 26 23
	MW	iPZ		26	00	
	R	ePZ			01	
	T	ePZ			07	
	Pr	iPZ			02	
July 12	P	iPNEZ	19	33	00	Normal. Tu iP 19 33 28 d
		iSZ		34	51	Felt in Idaho; magnitude 6.1
		eLNEZ		35	08	USCGS: 44.7°N. 114.4°W.,
	MW	iPNZ		32	58	O=19:30.4
	R	iPZ			59	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
					(Continued)	
July 12	SB	ePZ	19	33	03	
	LJ	ePZ			17	
	T	iPEZ		32	21	
		iSNEZ		34	23	
	H	ePZ		32	31	
	Pr	iPNZ		33	08	
July 13	P	iPZ	00	27	10	Deep? Tu iP 00 27 32 c
		eZ		30	36	i 50
	PX	eLZ		53	58	New Hebrides
	MW	iPZ		27	08 c	
	R	iPZ			12 c	
	T	iPZ			18 c	
	H	iPEZ			16	
	Pr	iPNEZ			15 c	
		iNZ			32	
July 13	MW	iPZ	06	09	06	Tu iP 06 08 34
	R	iPZ			10	
	Pr	iPZ			08	
July 13	P	ePZ	10	57	36	Normal. Tu eP 10 58 08
	PX	eSE?	11	08	58	
		eLE		20.2		
	MW	iPZ	10	57	36	
	R	ePZ			40	
	LJ	iPZ			44	
	T	iPZ			27	
	Pr	iPZ			43	
July 13	P	iPZ	18	50	25	Tu eP 18 50 49
	MW	iPZ			26	
	R	iPZ			27	
	T	iPZ			34	
	Pr	iPZ			35	
July 13	P	ePZ	19	56	26	Normal. Tu iP 19 55 29
	PX	eLE	20	04.2		
	MW	iPZ	19	56	27	Mexico
	R	iPZ			22	
	SB	ePZ			47	
	LJ	ePZ			14	
	T	ePZ			44	
	Pr	iPNZ			15	
July 14	P	iPZ	21	27	26	Tu iP 21 26 28
	MW	iPZ			27	Mexico?
	R	iPZ			20	
	T	iPZ			47	
	Pr	ePNEZ			12	
		iZ			26	
July 14	P	iPZ	23	01	16	Tu iP 23 01 37 c
	MW	iPZ			17	
	R	iPZ			19	
	T	ePZ			25	
	Pr	iPNEZ			19 c	
July 15	P	ePZ	13	05	18	Tu eP 13 05 36
	MW	ePZ			16	
	T	ePZ			24	
	Pr	ePZ			16	
		iZ			34	
July 15	R	ePZ	22	59	46	Tu iP 23 00 08
	T	iPZ			52	Near Apia, which reports:
	Pr	iPZ			46	P=22:49:19,
						S=22:50:06

Date	Sta.	Phase	h	m	s		Remarks
July 15	PX	eLZ	24	17	8		Normal? Tu iP 23 44 59
	MW	ePZ	23	45	27		
		eZ			52		
	R	ePZ			24		
		eZ		46	12		
	SB	ePZ		45	12		
	T	ePZ?		44	43		
	Pr	ePZ		45	28		
		eZ?			47		
July 16	P	ePZ	10	18	10		Deep? Tu iP 10 18 34
	MW	iPZ			12		e 52
		iZ			33		
	R	ePZ			14		
	T	iPZ			21		
		iZ			40		
	Pr	iPZ			13		
		eZ			33		
July 16	P	iPNEZ	10	30	22	c	Deep. Tu iP! 10 30 47 c
		iZ			41		i 32 29
		ipPEZ		32	02		eP P! 59 59
		eZ		33	21		Roughly 25°S. 177°W.
	PX	eSNZ		39	22		O=10:19.3
		eLNE		50.7			h=450 km
	MW	iPNZ		30	23	c	
		ipPEZ		32	06		
		eZ		33	06		
		iZ			19		
	R	iPZ		30	24	c	
		ipPZ		32	07		
		iZ		33	32		
		eSNEZ		39	38		
	SB	iPNEZ		30	18		
	LJ	iPZ			23		
	T	iPNEZ			31		
		eSNEZ		39	52		
	H	iPNEZ		30	29		
		ipPZ		32	00		
		eSN		39	48		
	Pr	iPNEZ!		30	25		
		epPZ		32	04		
		iSNEZ		39	42		
July 17	P	eZ	11	12	17		Normal. Tu e 11 12 23
	PX	eLN		41.1			Eastern Mediterranean?
	T	eZ		12	18		
	Pr	eZ		13	02		
July 19	P	iZ	01	09	42		Normal. Tu eP 01 08 51
	PX	eLZ		13.1			i 09 12
	MW	ePZ		09	33		e 10 57
		iZ			42		
	R	ePZ			25		
	H	iPZ		10	01		
	Pr	iPNZ		09	20		
		iZ			32		
		e(S)E		11	28		
July 19	P	ePZ	10	33	25		Normal. Tu eP 10 33 55
	PX	eSNEZ		43.3			Japan
	MW	iPZ		33	23		USCGS: 33°N. 138°E.,
	R	ePZ			26		O=10:20.9
	SB	iPNEZ			19		Magnitude about 7
	LJ	ePN			35		A T
	T	iPZ			16		L 70 20
	H	iPNZ			19		Possibly farther southeast
	Pr	ePZ			29		(near 28°N. 144°E?)
		iEZ			38		
		eSNE		43	37		

Date	Sta.	Phase	h	m	s		Remarks
July 19	P	iPZ	11	17	07		Tu iP 11 16 26
	MW	iPZ			07		South America?
	R	iPZ			02		
	T	ePZ			19		
	Pr	iPZ		16	58		
		iZ		19	52		
July 19	P	ePZ	11	33	42		Deep? Tu eP 11 34 15
	MW	ePZ			45		
	R	iPZ		34	00		
	T	iPZ		33	34		
		iZ		34	04		
	Pr	ePZ		33	49		
		iZ		34	13		
July 19	P	ePZ?	16	35	52		Normal. Tu iP 16 35 20
	PX	eLNE		45.1			
	R	ePZ		36	01		
	T	ePZ			35		
	Pr	iPZ			03		
July 19	P	iPZ	18	05	34		Normal. Tu iP 18 04 41
	PX	eLN		13.4			
	MW	iPZ		05	35		
	R	iPZ			29		
	T	iPNEZ			52		
	Pr	iPNEZ			23	c	
July 19	P	iPZ	21	01	30		Tu iP 21 01 55
	MW	iPZ			31	d	
	R	iPZ!			26	d	
	T	iPZ			42	d	
	Pr	iPZ			24		
July 19	PX	eLZ	23	51.4			Normal.
	R	eZ		15	40		South of Australia?
	T	eZ			48		
July 20	MW	iPZ	02	34	40		Tu iP 02 35 35
	R	iPZ			48		
	T	iPZ			12		
	Pr	iPNEZ			58		
July 20	P	iPZ	07	33	07		Deep? Tu iP 07 33 48
		eZ			17		i 34 05
	PX	eLZ		42.2			e 41
	MW	iPZ		33	07		i 36 03
		iZ			19		Aleutian Islands?
	R	iPZ			11		
		iZ			21		
		iZ		35	48		
		iZ		36	04		
	T	iPZ		32	46		
		iZ			59		
		iZ		35	41		
		iZ			57		
	H	iPZ		32	55		
	Pr	iPZ		33	18		
		iZ			29		
July 20	PX	eLNZ		33.5			Normal.
July 20	P	ePZ	20	19	12		Normal? Tu eP 20 19 56
		iZ			24		i 21 13
	PX	eLN		40.8			
	MW	iPZ		19	27		
	R	iPZ			26		
	T	iPZ			17		
		iZ			40		
	Pr	ePZ			29		
July 21	T	iPZ	02	22	17		Tu eP 02 23 35
July 21	MW	iPZ	10	27	03		Tu eP 1 28 09
	R	ePZ		26	59		i 28
	T	ePZ			32		

Date	Sta.	Phase	h	m	s		Remarks
July 21	P	iPNEZ	12	27	37		Normal. Tu iP 12 28 54
	PX	eLNEZ		30	01		Roughly 44°N. 128°W.,
	MW	iPZ		27	38		O=12:24.7
	R	iPNEZ			45		
	T	iPNEZ			13		
	H	ePZ			24		
	Pr	ePNZ			54		
July 21	P	iPZ	19	02	57		Normal. Tu iP 19 03 30
	PX	eLZ		28.0			
	MW	iPZ		02	58		
	R	iPZ		03	01	c	
	LJ	ePZ			06		
	T	iPZ		02	50		
	H	ePZ			51		
	Pr	iPNZ		03	05	c	
July 22	P	iPZ	06	20	07		Normal? Tu iP 06 20 32
		eZ			20		Near Apia, which reports:
	PX	eLZ		42.8			e? 06 09 49
	MW	iPZ		20	08		iL 10.8
	R	ePZ			10		
	T	ePZ			17		
	Pr	iPNEZ			11	d	
July 22	T	ePZ	07	44	31		Tu eP 07 45 09
	Pr	iPNEZ			44		
July 22	P	ePNEZ	11	34	19		Deep? Tu iP 11 33 21
		iNEZ			38		i 38
		iNZ			49		i 52
		iZ		38	01		Surface waves small
	PX	eSZ			59		Felt at Juchitan
		eNEZ		43	35		(Oaxaca, Mexico)
	MW	iPZ		34	19		JSA: 17°N. 94°W.,
	R	ePZ			12		O=11:28:34
		iZ			26		
		iZ			35		
		iZ			49		
		iZ		37	59		
		eZ		43	00		
	LJ	ePZ		34	08		
		iZ			25		
		iZ			36		
	T	ePZ			34		
		iZ			45		
		iZ			54		
		eN		43	13		
	H	ePZ		34	31		
		eZ			46		
		iZ		35	08		
	Pr	ePNEZ		34	06		
		iNEZ			26		
		iNZ			38		
		iN		38	01		
July 22	P	ePZ	11	57	45		Tu iP 11 56 51
	MW	iPZ			45		i 57 05
	H	ePZ			53		i 33
	Pr	iPNZ			33		Aftershock?
July 23	P	ePZ	10	30	41		Tu eP? 10 31 01
	MW	ePZ			43		
	R	iPZ			46		
	Pr	ePZ			47		
July 23	P	ePZ	10	38	26		Tu iP 10 38 40
	MW	ePZ			28		
	R	iPZ			28		

Date	Sta.	Phase	h	m	s		Remarks
July 23	P	iPZ	11	59	25		Deep. Tu iP 11 59 52
		eZ	12	00	12		Southwestern Pacific
		iZ			22		
	MW	iPZ	11	59	27		
		iZ	12	00	20		
	R	iPZ	11	59	28		
		iZ			51		
		iZ	12	00	23		
	LJ	ePZ	11	59	28		
	T	iPZ			35		
		iZ	12	00	24		
	H	ePZ	11	59	28		
	Pr	iPZ			30		
July 23	MW	iPZ	13	11	32		
		iZ			40		
	R	iPZ			32		
	Pr	ePZ			31		
July 23	P	iPNEZ	16	25	05	d	Deep. Tu iP 16 24 31
		iPcPZ			17		i 50
		ipPZ		26	03		ipP 25 29
		eZ		28	01		
	PX	eSE		34	26		Surface waves very small.
		eNE			54		Approximately 27°S. 66°W.,
		e(L)Z		45.2			O=16:13:30, h=250 km.
	MW	iPNZ		25	05	d	
		iZ		26	04		
	R	iPNEZ!		25	01	d	
		ipPZ			59		
	T	iPNEZ			17	d	
		iPcPZ			27		
		ipPZ		26	16		
		eSNE		34	49		
	H	iPNEZ		25	13		
		ipPNEZ		26	12		
	Pr	iPNEZ!		24	58		
		iZ		25	23		
		ipPZ			56		
July 23	P	ePZ	23	41	33		Tu iP 23 41 58 c
	MW	iPZ			35		Near Apia, which reports
	R	ePZ			36		a tremor at 23 h 32 m
	T	iPEZ			44		
	Pr	iPNEZ			36		
July 24	P	ePZ	07	43	16		Normal.
	PX	eLNEZ	08	10.4			Southwest Pacific
	MW	iPZ	07	43	16		
	T	ePZ			18		
	Pr	iPNEZ			21	c	
July 25	P	iZ	21	40	47		Tu eP 21 39 54
	MW	iZ			32		e 40 08
		iZ			41		
	R	ePZ			26		
July 26	P	iPZ	05	07	17		Tu eP 05 07 40
	MW	ePZ			18		i 55
	R	iPZ			25		
July 27	P	iPNEZ	00	11	41	c	Deep. Tu iP! 00 12 27 c
		ipPEZ			58		ipP 42
		isPZ		12	14		iScP 17 47
		iZ			35		USCGS: 54.5°N. 166.5°W.,
		iPcPZ		13	35		O=00:04.2
		iSNE		17	30		Pasadena: 54°N. 165.5°W.
		iScPEZ			33		O=00:04:23, h=70 km.
	PX	iSSNEZ		20	29		A T
	P	iScSNE		21	44		P 3 4
	PX	eLEZ		22.1			S 10 10
							L 80 20
							Magnitude 6.9

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
July 27	MW	iPNEZ	00	11	43	c	(Continued)
		ipPZ		12	05		
		eSN		17	35		
	R	iPNZ		11	46	c	
		ipPNZ		12	07		
		iScPZ		17	35		
		iSNE			41		
		iZ			49		
	SB	iPNEZ		11	33	c	
		ipPEZ			53		
		iZ		13	50		
		eSE		17	16		
		iScPNZ			30		
		eScSNEZ		21	39		
	LJ	iPNZ		11	44	c	
		ipPN		12	13		
		iPcPNZ		13	59		
		iScPNZ		17	40		
		eSNE			57		
		eScSNE		21	53		
	T	iPNE		11	26		
		eSNE		17	05		
		iScPNEZ			29		
		eSNE		21	34		
	H	iPNEZ		11	32	c	
		ipPZ			53		
		iPcPZ		13	51		
		eSNE		17	15		
		iScPNEZ			30		
		iZ		18	06		
		eScSNE		21	38		
	Pr	iPNEZ		11	52	c	
		ipPN		12	12		
		iN			45		
		iScPZ		17	39		
		iSN			53		
		iScSNEZ		21	55		
July 27	P	iPZ	00	50	55		Tu eP 00 51 23
		iZ		51	42		Light shock at Boise, Idaho
		iE		54	04		during night (press)
	MW	iPZ		50	55		
		iZ		53	54		
	R	ePZ		50	56		
		iZ		51	35		
		eZ		53	53		
	T	ePZ		50	18		
		iZ			38		
		iNEZ		52	28		
	H	ePNEZ		50	28		
		iNEZ			58		
		iSNEZ		52	51		
	Pr	iPNZ		51	09		
July 27	P	eZ	01	16	16		Tu eP 01 16 14
		eZ		18	39		e 19 44
	MW	iPZ		15	45		Idaho?
		iZ		16	24		Similar to preceding.
	R	eZ		16	20		
	T	ePNZ		15	09		
		iNEZ			31		
		iNEZ		17	17		
	H	ePNE		15	18		
	Pr	eNZ		16	06		

Date	Sta.	Phase	h	m	s		Remarks
July 27	P	iP"NEZ	08	37	44		Deep? Tu iP" 08 37 53
		iZ			57		i 38 07
	MW	iP"Z			42		i 40 22
		iZ			54		i 41 10
	R	iP"Z			43		e 47 52
	LJ	eP"Z			44		e 51 42
	T	iP"Z			38		Surface waves small at
		eZ		41	06		Pasadena.
		eZ		51	19		Region of Burma?
	H	iP"Z		37	40		
	Pr	iP"Z			45		
		iZ			58		
		eZ		39	52		
July 27	P	iPZ	10	40	00		Deep? Tu iP 10 39 09
	MW	iPZ		39	59		Central America?
		eZ		40	29		
	R	iPZ		39	56		
		eZ		40	24		
	T	iPZ			06		
		iZ			36		
	Pr	iPZ		39	52		
		eZ		40	26		
July 28	MW	iPZ	03	44	22		Tu iP 03 43 40
	T	iPZ			34		
July 28	P	iPZ	11	56	48		Tu iP 11 57 11
	MW	iPZ			49		
	T	iPZ			57		
July 29	MW	eZ	09	56	17		Tu e? 09 56 10
	R	iZ			18		e 31
	Pr	iZ			24		
July 29	P	ePZ	11	09	37		Tu iP 11 09 04
	MW	iPZ			37		South America?
	R	iPZ			34		
	T	iPZ			50		
		eZ		10	00		
	Pr	ePZ		09	28		
July 29	P	ePZ	11	39	21		Normal. Tu iP 11 40 44
		eSZ		41	01		Off Cape Mendocino
	MW	ePZ		39	24		Near 40°N. 125°W.
		iSZ		41	01		O=11:37:15, using
	R	ePZ		39	29		Shasta Dam and Grand Coulee
	T	ePZ		38	59		Dam
		eSEZ		40	27		
	H	iPNEZ		39	09		
		eSN		40	54		
	Pr	iPZ		39	34		
July 29	Pr	iPZ	13	09	23	d	Tu iP 13 08 43
July 29	P	iPZ	22	35	45		Normal. Tu eP 22 36 15
		iZ		36	26		e 39 45
	PX	iZ		38	44		Japan?
		eLZ	23	02	32		
	MW	iPZ	22	35	45		The following shock is
	R	iPZ			48		superimposed.
	T	ePZ			33		
		iZ			41		
		iZ		36	53		
	Pr	iPZ		35	55		
		eN		36	20		
July 29	P	iPZ	22	37	31		Tu iP 22 37 53
	MW	iPZ			32		Southwest Pacific?
	R	iPZ			34		Extremely sharp at MW, Pr, Tu.
	T	iPNEZ			41		
	Pr	iPNZ			34		

Date	Sta.	Phase	h	m	s	Remarks
July 30	P	iPZ	03	44	31	Normal. Tu iP 03 45 46
		iZ		45	13	Northern California
		iSZ		46	43	Shasta Dam reports
	MW	iPZ		44	32	iP 03 42 50.4
		iSZ		46	35	
	R	iPZ		44	46	
		iSZ		47	07	
	T	ePEZ		44	04	
		iNEZ			19	
		iSNE		45	25	
	H	ePZ		44	26	
		iSN		45	50	
	Pr	iPZ		44	49	
July 30	PX	eLZ	04	55.3		Normal. Tu eP 04 14 17
July 30	R	ePZ	09	14	03	Tu iP 09 14 26
	T	ePZ			18	
	Pr	ePZ			09	
July 30	P	iPZ	09	35	02	Tu iP 09 35 23
	MW	iPZ			04	
	R	ePZ			06	
	T	iPZ			13	
	Pr	iPZ			04	
July 30	P	iPZ	18	03	43	Tu iP 18 04 14
	MW	iPZ			45	South of Japan?
	R	iPZ			47	
	LJ	ePZ			49	
	T	iPNZ			42	
	H	iPZ			44	
	Pr	iPZ			50 c	
		iZ		04	10	
July 31	PX	eLZ	18	16.0		Normal. Tu eP 17 53 22
July 31	PX	eLZ	21	48.6		Normal. Tu iP 21 35 40
Aug. 1	PX	eLZ	13	29.7		Normal. Tu eP 12 25 55
Aug. 1	MW	ePZ	15	34	15	Tu iP 15 33 20
		iZ			23	i 24
		iZ			50	
	R	ePZ			09	
		iZ			18	
	T	ePZ			35	
	H	ePZ			38	
	Pr	iPZ			04	
		iZ			11	
Aug. 1	P	iPZ	20	05	47	Tu iP 20 06 19
	MW	iPZ			49	
	R	iPZ			49	
	T	iPNEZ			44	
	H	iPZ			46	
	Pr	iPZ			54	
Aug. 2	T	ePZ	01	29	48	Tu iP 01 30 06
	Pr	ePZ			43	
Aug. 2	R	ePZ	04	53	45	Tu eP 04 53 39
	T	ePZ			44	
	Pr	iPZ			49 c	
		iZ		54	21	
Aug. 2	R	iPZ	11	22	16	Tu iP 11 22 26
	T	iPZ			12	i 25 45
Aug. 2	P	iPZ	12	35	43	Normal. Tu iP 12 34 50
		ePcPZ		37	46	i 58
	MW	iPZ		35	43	i 35 13
		iZ			52	Near Panama.
		iZ		36	09	
	R	iPZ		35	40	
		ePcPZ		37	44	
	T	iPZ		35	58	
		ePcPZ		37	41	
	Pr	iPNEZ		35	33 c	
		iEZ			42	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 2	P	iPZ	18	00	53	Normal. Tu eP 18 01 17
	PX	eLZ		20.5		i 26
	MW	iPZ		00	53	
	T	ePZ		01	03	
	Pr	ePZ		00	53	
Aug. 2	P	iPZ	20	21	07	Tu eP 20 20 39
	MW	iPZ			08	
	R	iPZ			02	
	T	iPZ			22	
Aug. 2	R	iPZ	20	40	29	Tu iP 20 40 03
	T	iPZ			44	
	Pr	iPZ			37	
Aug. 3	R	ePZ	19	25	55	Tu iP 19 26 44
	Pr	iPZ		26	00	
Aug. 4	P	iPZ	09	27	34	Deep. Tu iP 09 27 57 d
	MW	iPZ			35 d	
		iZ		28	05	
	R	iPZ		27	36	
		iZ		28	06	
	T	iPZ		27	40	
	Pr	iPNEZ			37 d	
		iZ		28	07	
Aug. 4	P	ePZ	16	37	16	Normal. Tu eP 16 38 29
	PX	eLZ		40.5		
	MW	iPZ		37	18	
	R	ePZ			22	
	T	iPEZ		36	49	
	Pr	iPZ		37	42	
Aug. 4	P	eZ	20	01	21	Deep? Tu iP 20 00 14
	MW	iPZ			08	i 29
		iZ			21	
	R	iZ			10	
	T	eZ			26	
	Pr	iPZ		00	56	
		iNZ		01	09	
Aug. 4	P	iPNEZ	20	39	33 c	Tu iP 20 38 54 c
		iZ			41	i 39 09
		iZ			54	
		eZ		40	20	
	MW	iPNEZ		39	33 c	
		iZ			44	
	R	iPZ			29 c	
		iZ			48	
	T	iPNEZ			47 c	
	H	ePNZ			45	
	Pr	iPNEZ			24 c	
Aug. 5	P	iPNEZ	01	06	40 c	Normal? Tu iP 01 06 06 c
	PX	eLZ		23.5		i 24
	MW	iPNEZ		06	40 c	
	R	iPNEZ			36 c	South America?
	SB	iPZ			46	
	LJ	iPNEZ			27	
	T	iPZ			58 c	
	H	iPZ			51 c	
	Pr	iPNEZ			30 c	
Aug. 5	P	iPNEZ	01	33	30 c	Normal? Tu iP 01 32 57 c
		iNEZ			39	i 33 06
	PX	eNEZ		34	05	South America?
		e(S)NE		41	07	
		eLZ		49.8		
	MW	iPNEZ		33	31 c	
	R	iPZ			28	
	SB	iPZ			38	
	LJ	ePZ			19	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
Aug. 5	T	iPNEZ	01	33	49	
	H	iPNZ			42	
	Pr	iPNEZ!			22 c	
		iZ			39	
		eSE		40	50	
Aug. 5	P	iPNEZ	13	13	48	Deep? Tu eP 13 12 54
		iPcPNEZ		16	17	i 13 06
		iZ			33	iPcP 16 01
	PX	eLN		24.0		Central America
	MW	iPZ		13	48	
		iPcPZ		16	18	
	R	iPZ		13	41	
		iZ			55	
		eZ		14	54	
		iPcPZ		16	14	
		eZ			25	
		iZ			36	
	LJ	ePZ		13	43	
	T	ePZ		14	02	
		iPcPZ		16	24	
	Pr	iPZ		13	36	
		iZ			45	
		iNEZ			49	
		iPcPNZ!		16	14	
		iZ		19	59	
Aug. 5	P	eZ	14	13	07	Normal? Tu eP 14 13 26
	MW	ePZ		12	55	
		eZ		13	08	
	R	ePZ		12	58	
		iZ		13	10	
	T	iPZ		12	47	
		eZ			55	
	Pr	ePZ		13	02	
Aug. 5	P	iPZ	14	26	39	Tu iP 14 25 26
	MW	iPZ			30	
	R	iPZ			25	
	T	iPZ			41	
	Pr	iPZ			22	
Aug. 6	P	ePZ	16	44	15	Normal.
	PX	eLZ	17	13.7		Southwest Pacific
	R	ePZ	16	44	23	
Aug. 6	P	eZ	18	29	53	Normal. Southwest Pacific?
	PX	e(L)N		54.2		
	R	eZ		30	36	
	T	eZ		29	44	
Aug. 7	R	eZ?	00	12	19	Tu iP 00 11 46 c
		i(P)Z			38	i 12 06
	T	iPZ		13	01	
	Pr	iPNZ		12	30 c	
Aug. 7	P	ePZ	01	20	28	Normal.
		iSE		21	58	Northeastern California
	R	ePZ		20	33	near 40°N. 120°W.,
		iSEZ		22	11	O-01:18.9
	T	ePZ		19	47	
		iNEZ			53	
		iSE		20	31	
	H	iPNZ			10	
		eSNE		21	03	
Aug. 7	P	iPNEZ	03	36	11	Normal. Tu iP 03 35 31
	PX	iEZ		38	50	i 38 33
		iSNEZ		44	58	eP-P 04 05 03
		eZ		47	12	Peru. USCGS: 16.9°S. 71.5°W.,
		eLNZ		53	00	O-03:25.3
	P	eP-P-Z	04	04	49	JSA: 15.3°S. 73.8°W.
						O-03:25:33

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
					(Continued)	
Aug. 7	MW	ePNE	03	36	12	
		iSNE		45	00	
	R	iPNEZ		36	07	
		eSNE		44	52	
		eP-P-Z	04	04	51	
	SB	ePZ	03	36	22	
	LJ	ePNEZ			03	
	T	iPNEZ			23	
		eSN		45	25	
		eP-P-Z	04	04	35	
	H	iPZ	03	36	20	
	Pr	iPNZ			02 c	
		eSNE		44	42	
		eP-P-Z	04	04	39	
Aug. 7	P	eZ	05	07	22	Tu e 05 07 35
	T	eZ			24	
Aug. 7	P	iPZ	05	17	35	Tu iP 05 17 06
	R	iPZ			35	
	T	iPZ			49	
	Pr	ePZ			24	
Aug. 7	P	iPNEZ	12	53	31 c	(Deep) Tu eP 12 54 16
		ipPNEZ!			45	ePP 57 52
		isPZ			58	New Hebrides?
		ePPZ		57	20	
	PX	eLZ	13	21.8		
	MW	ePN	12	53	33	
		eNE			47	
	R	iPZ			39 c	
		ipPNEZ			54	
		esPZ		55	03	
		ePPZ		57	31	
	SB	iPZ		53	41	
	LJ	ePZ			50	
	T	iPZ			34	
		ipPNEZ			48	
	H	iPZ			34	
		ipPNEZ			49	
	Pr	iPZ		53	37 c	
		ipPNZ			51	
		isPNZ		54	03	
		ePPZ		57	27	
Aug. 7	P	ePNEZ	13	47	12	Tu eP 13 48 01
		eZ			43	i 28
	MW	ePE			16	Alaska?
	R	iPNEZ			22	
	LJ	ePZ			29	
	T	iPZ		46	45 c	
	H	ePNZ			54	
	Pr	iPEZ		47	25	
Aug. 7	P	iPEZ	18	52	51	Normal. Tu iP 18 51 53
	PX	eSNEZ		57	28	Mexico
		eLZ	19	00.7		
	MW	ePNE	18	52	50	
	R	ePNEZ			45	
	SB	iPEZ		53	09	
	LJ	ePNEZ		52	37	
	T	ePZ		53	09	
	H	ePZ			00	
	Pr	iPNEZ		52	39 c	
Aug. 7	T	iPZ	23	46	19	Tu iP. 23 48 29
Aug. 8	P	ePZ	02	42	56	Normal. Tu iP 02 42 42
	PX	eLZ	03	04.0		
	R	ePZ	02	42	53	
	T	ePZ		43	16	
	Pr	ePZ		42	52	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 8	P	ePZ	03	44	38	Tu iP 03 43 39
	MW	ePE			36	Mexico?
	R	ePZ			28	
	T	ePZ			52	
	Pr	ePEZ			21	
Aug. 8	P	ePZ	08	47	07	Normal?
		eZ			22	New Guinea, near 5°S. 145°E.,
	PX	ePPZ		50	44	O=08:33.6, using Australian
		eSKSE		57	42	and New Zealand stations.
		eSN		58	30	
		eLN	09	15.2		
		eLEZ		19.1		
	R	ePZ	08	47	16	
	T	ePZ			25	
	Pr	iPZ			31	
Aug. 8	P	iPZ	10	39	04	Deep. Tu iP 10 39 47
		iZ			26	i 40 09
	MW	ePN			04	i 18
	R	iPNZ			09	Aleutian Islands?
		iNZ			29	
	LJ	ePNEZ			16	
		eZ			38	
	T	iPEZ		38	45	
		iZ		39	04	
		eNE			09	
	H	iPZ		38	52	
		iZ		39	13	
	Pr	iPNZ			15	
		iZ			37	
Aug. 8	P	iPZ	15	10	29	
		eZ			43	
	MW	ePNE			32	
	R	iPZ			31	
		iZ			45	
	T	iPZ			32	
		eZ			46	
	Pr	iPZ			35	
		eZ			48	
Aug. 8	P	iPZ	16	14	48	Tu iP 16 15 36
	MW	eNE			53	
	R	iPZ			52	
	LJ	ePNZ		15	04	
	T	iPZ		14	19	
		iZ			35	
	Pr	iPNZ		15	01	
Aug. 9	P	iPNEZ	04	24	05 c	Normal? Tu iP 04 23 15 c.
	PX	eLN		41.1		iScP 29 03
	MW	iPNEZ		24	05 c	Caribbean?
		eScPZ		29	29	Readings reported as ScP
	R	iPEZ		24	00 c	may be P of another shock
		eScPZ		29	25	
	SB	iPEZ		24	16	
	LJ	ePNZ		23	59	
	T	iPNZ		24	09 c	
		eScPZ		29	31	
	H	iPEZ		24	07	
	Pr	iPNEZ		23	57 c	
		iScPZ		29	23	
Aug. 9	MW	ePZ	05	43	13	Tu iP 05 42 24
	R	ePZ			09	
	T	iPZ			23	
	Pr	iPNZ			05	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 9	P	iPZ	07	37	22 d	Tu iP 07 36 48 d
	MW	iPZ			22 d	
	R	iPZ			18 d	
	T	iPZ			34 d	
	H	iPZ			29	
	Pr	iPNEZ			14 d	
Aug. 9	R	iPZ	08	19	55	Tu iP 08 20 38
	T	iPZ		20	22	
	Pr	ePZ			03	
Aug. 9	MW	ePZ	08	44	46	Tu eP 08 43 48
	R	iPZ			32	
	Pr	iPZ			23	
Aug. 9	P	ePZ	10	37	04	
	MW	iPZ			06	
	R	iPZ			08	
	T	iPZ		36	59	
	Pr	iPZ		37	12	
Aug. 9	P	iPZ	12	56	31	Tu iP 12 55 30
	MW	ePZ			29	
	R	iPZ			23	
	T	iPZ			51	
	Pr	iPZ			19	
Aug. 10	P	iPNEZ	01	57	17 c	Normal? Tu iP 01 58 05 c
		iZ			34	i 10
		iZ			47	USCGS: 51.4°N. 130.5°W.,
	PX	iSZ	02	00	58	O=01:52.7
		iSE		01	04	JSA: 51°N. 131°W.,
		eLNE		01.6		O=01:52:48
	MW	iPNEZ	01	57	17 c	
		iEZ			33	A T
	R	iPNZ			22 c	P 3.5 3.5
		eSNE	02	01	13	S 7 8
	SR	iPNZ	01	57	10	L 60 15
		eSE	02	00	35	Magnitude 6 1/4
	LJ	ePNEZ	01	57	33	
		eSNE	02	01	41	
	T	ePZ	01	56	47	
		eSN	02	00	18	
	H	ePNE	01	56	59	
		eSNE	02	00	34	
	Pr	iPNZ	01	57	30 c	
		iZ			45	
Aug. 10	P	iPZ	05	42	56	Tu iP 05 43 32 c
	MW	iPZ			57	
	R	iPZ		43	01 c	
	SB	ePZ		42	49	
	LJ	ePZ		43	06	
	T	iPZ		42	44 c	
		iZ		43	21	
	Pr	iPNZ			05 c	
Aug. 10	P	ePZ	10	09	15	Tu iP 10 09 57
	MW	iPZ			14	
	R	ePZ			19	
	LJ	ePZ			26	
	T	iPZ			00	
	H	iPZ			06	
	Pr	iPZ			25	
Aug. 10	P	ePZ	11	02	08	Normal.
		ePPZ		05	50	Southwest Pacific
	PX	eZ		06	10	
		eZ		10	06	
		eLNE		27.5		
	MW	ePZ		02	10	
	R	ePZ			13	
	T	ePZ			14	
	Pr	ePZ			14	

Date	Sta.	Phase	h	m	s		Remarks
Aug. 10	P	iPNEZ	11	37	05		Normal? Tu iP 11 36 08 d
		iZ			15		i 23
		iPcPZ		40	31		i 35
	MW	iPEZ		37	05	d	Central America
	R	iPNEZ			00	d	
		iZ			14		
		iPcPZ		40	28		
		iZ			40		
	SB	ePZ		37	16		
	LJ	ePNEZ		36	53		
	T	iPZ		37	23	d	
		iZ			35		
		iPcPZ		40	35		
		iZ		46	34		
	H	iPNEZ		37	16		
	Pr	iPNEZ!		36	53	d	
		iZ		37	06		
		iPcPZ		40	28		
Aug. 10	P	iZ	15	37	44		Deep. Tu iP 15 36 46
	MW	iPZ			27		i 37 05
		iZ			46		Central America?
	R	iPZ			22		
		eZ			41		
	T	iPNEZ			39		
		eZ			59		
	Pr	iPEZ			17		
		iZ			36		
Aug. 10	P	iPZ	19	39	45		Normal. Tu iP 19 39 30
	PX	eLNZ	20	00	52		
	MW	ePZ	19	39	46		
	R	ePNZ			43		
	T	iPZ		40	03		
	Pr	iPNZ		39	40		
Aug. 10	P	iPZ	20	37	23		Deep?
		iZ			38		
	MW	iPZ			23		
	R	iPZ			26		
		eZ			40		
	T	iPZ			25		
		iZ			40		
	Pr	iPZ			27		
		eZ			42		
Aug. 11	P	iPZ	08	03	43	c	Deep. Tu iP 08 04 16 c
	MW	iPNEZ!			44		Japan?
		eZ		05	28		
	R	iPZ		03	46	c	
		eZ		05	30		
	SB	iPNEZ		03	38		
	LJ	iPZ			52		
	T	iPNEZ			32	c	
		iZ			57		
		eZ		05	15		
	H	iPNEZ		03	36	c	
	Pr	iPNZ			51	c	
		eZ		05	30		
Aug. 11	P	iPZ	09	56	27		Tu eP 09 56 35
	MW	ePZ			26		
	R	iPZ			21		
	LJ	ePZ			20		
	T	iPZ			30		
	Pr	iPNZ			18		
Aug. 11	P	iPZ	17	11	48		Normal. Southwest Pacific
		eZ		12	12		
	PX	eLZ		41.3			
	MW	ePZ		11	49		

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
Aug. 11	R	iPZ	17	11	51		(Continued)
	T	ePZ			50		
	Pr	iPZ			54		
		iZ		12	12		
Aug. 12	T	ePZ	15	04	05		Tu e 15 05 20
Aug. 13	P	iPZ	08	25	46		Normal. Tu iP 08 26 32
	MW	iPZ			46		Near 50°N. 132°W.,
	R	ePZ			48		Not reported by distant
	T	ePZ			09		stations.
	H	ePNEZ			25		
	Pr	ePNE			53		
Aug. 13	P	iPNEZ	08	26	43		Normal. Tu iP 08 27 35
	PX	eSEZ		30	21		Roughly 50°N. 132°W.,
	MW	iPNEZ		26	47		O=08:22:20
	R	iPNZ			50		Larger than the preceding;
		eSN		30	31		recorded at Fordham, Ottawa,
	LJ	ePNEZ		27	03		etc.
	T	iPZ		26	14		Aftershock of August 10, 01h?
		eSE		29	26		
	H	iPNZ		26	27		
		eSN		29	51		
	Pr	iPNE		26	58		
Aug. 13	R	iPZ	08	28	15		Normal. Small aftershock
	T	iPZ		27	31		
	H	ePZ		27	43		
Aug. 14	P	iPNEZ	11	14	03	c	Deep. Tu iP 11 14 47 c
		iZ			10		ipP! 15 08
		ipPNEZ			24		iPcP 16 45
		isPZ			32		i 17 58
	PX	ePPNZ		15	21		iScP 20 33
	P	iPcPZ		16	37		JSA: provisionally
	PX	eSNE		19	23		53°N. 148°W.,
		esSN		20	03		Pasadena: 60°N. 155°W.,
	P	iScPZ			12		O=11:07:18,
		epScPZ			55		h= 100 km
	PX	eLN		21.8			
	MW	iPNEZ		14	04	c	
		ipPNZ			26		
		isPZ			36		
		iScPZ		20	14		
	R	iPNZ		14	07	c	
		ipPNEZ			28		
		iPPZ		15	28		
		iPcPZ		16	40		
		iScPZ		20	14		
	SB	iPZ		13	56		
		ipPNZ		14	17		
		isPZ			24		
		eScPZ		20	10		
	LJ	ePNEZ		14	16		
		ipPNEZ			37		
	T	iPEZ		13	43	c	
		ipPEZ		14	04		
		eSE		18	50		
		iScPZ		20	06		
	H	iPNEZ		13	50	c	
		ipPNEZ		14	10		
		iScPZ		20	08		
	Pr	iPNE		14	14	c	
		ipPNE			36		
		eScPN		20	11		
Aug. 14	P	eP"Z	14	39	25		Normal? Tu iP 14 40 02
		ePPZ		40	09		iPKKP 51 02
	PX	iPSZ		49	46		Philippines?

(Continued)

Date	Sta	Phase	h	m	s	Remarks
				(Continued)		
Aug. 14	P	eZ	14	51	45	
	PX	eLN	15	06	2.	
	MW	ePPZ	14	40	13	
		ePKKPZ		51	21	
	R	ePZ		39	23	
		ePPZ		40	16	
		ePKKPZ		51	17	
	SB	ePPZ		40	10	
	T	eP"Z		39	21	
		ePPZ		40	06	
		iPKKPZ		51	52	
Aug. 14	P	iPZ	16	33	46	Tu eP 16 32 55
	MW	ePZ			45	
	R	iPZ			41	
	T	iPZ			50	
Aug. 14	P	eZ	16	52	51	Normal.
	PX	eLZ	17	25.7		
	MW	ePZ?	16	49	00	
		eZ		53	02	
Aug. 14	P	iZ	23	24	29	Deep. Tu eP 23 24 09
	MW	iPZ		23	46	i 53
		iZ		24	30	Near Apia, which reports:
	R	eZ			32	P 23 13 39
	T	ePZ		23	54	S 14 36
		iZ		24	38	
Aug. 15	P	eZ	01	36	33	Normal. Tu e 01 37 43
		eZ		37	45	e(PKKP) 49 30
	PX	eLZ	02	07.7		
	MW	eZ		36	58	
	R	eZ			36	
	T	eZ		33	02	
		eZ		35	41	
Aug. 15	P	iPNEZ	12	00	26 d	Deep. Tu iP 12 00 58
		ipPZ			55	ipP 01 26
		isPZ		01	01	iPPPZ 06 26
		iZ			25	iPKKPZ 18 15
		iZ		02	05	Pasadena: 13°N. 146°E.,
		epPPZ		04	21	O=11:47:45
		esPPZ			46	h=110 km.
	PX	iSKSNEZ		10	44	A T
		iSEZ		11	08	P 1 3
		eSPN			56	S 4 6
		eLN		23.0		Surface waves small;
		eLZ		23.8		magnitude 6.9.
	P	iP'P'Z		26	29	
	MW	iPEZ		00	28	
		ipPZ			54	
		eSKSE		10	46	
		iSE		11	10	
	R	ePZ		00	29	
		isPZ		01	00	
	SB	iPNEZ		00	21	
		ipPZ			51	
		eSKSE		10	38	
		eSNE			57	
	LJ	ePEZ		00	34	
		ipPZ		01	03	
		iSKSE		10	54	
		eSE		11	19	
	T	ePZ		00	23	
		ipPZ			53	
		eSKSE		10	41	
		eSE		11	07	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
Aug. 15	H	ePZ	12	00	26	(Continued)
		isPZ		01	03	
		eSKSNE		10	45	
		eSNE		11	07	
	Pr	iPN		00	34	
		ipPZ		01	04	
		iSKSE		10	54	
		iSE		11	21	
Aug. 15	P	iPZ	18	48	17	Tu iP 18 48 41 c
	MW	iPZ!			17 c	
	R	iPZ			19	
	T	iPZ			26	
	H	iPZ			24	
Aug. 16	P	iPZ	06	49	13	Tu iP 06 49 26 c
	T	iPZ			12	
Aug. 16	P	iPZ	11	02	50	
	MW	iPZ			51	
	R	iPZ			53	
Aug. 16	P	ePZ	15	10	42	Tu eP 15 11 20
	MW	ePZ			43	
	R	iPZ			46	
	T	ePZ			21	
	H	ePZ			29	
	Pr	iPNE			53	
Aug. 17	T	iPZ	18	13	39	Tu eP 18 13 29
Aug. 18	MW	iZ	01	43	44	
	T	eZ			03	
Aug. 18	P	iPNEZ!	10	45	02 d	Deep. Tu iP! 10 45 34 d
	PX	iZ			49	i 45
		iZ			54	iP'P' 11 11 47
		iZ		46	49	iSKPP' 15 03
		iPPZ		48	31	eP'P'P' 32 09
		iSNEZ		54	43	Japan.
		iNE		55	40	USCGS: 35°N. 137°E.,
		eLN	11	06	18	O=10:33.1, h=200 km.
	P	eP'P'Z		11	41	Pasadena: 38°N. 140°E.,
		eSKPPZ		15	18	O=10:33:17, h=150 km.,
	MW	iPNEZ	10	45	02 d	magnitude 6.7
		iZ			37	
		iZ			46	A T
		iZ			55	P 2.5 3
		iZ		47	59	S 2.5 5
		eSNE		54	43	Surface waves very small.
		eNE		55	39	
		eSKPP'Z	11	15	21	
	R	iPNEZ	10	45	05 d	
		eSN		54	45	
		eP'P'Z	11	11	49	
		eSKPP'Z		15	14	
	SB	iPZ	10	44	56 d	
		iZ		45	12	
		iZ			19	
		eSNE		54	31	
		eE		55	44	
	LJ	iPNEZ		45	11 d	
		eSNE		54	59	
	T	iPEZ		44	53 d	
		iZ		45	20	
		eSEZ		54	13	
		eE		55	21	
		eP'P'Z	11	12	09	
	H	iPNEZ	10	44	56	
		eSNE		54	31	
	Pr	iPNE		45	10	
		iSNE		54	58	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 18	P	ePNZ	19	33	49	Normal? Tu iP 19 33 14
	PX	iSNEZ		43	01	eP P 20 02 04
		eLNZ		56.9		Surface waves small;
	MW	iPZ		33	50	South America
	R	iPZ			46	
	LJ	ePZ			44	
	T	iPEZ		34	03	
		iZ			12	
	H	ePNE			01	
	Pr	ePNE		33	44	
		eSNE		42	51	
Aug. 19	P	iPZ	08	42	39	Deep. Tu iP 08 43 03
		eZ		43	35	e 57
	MW	iPZ		42	39	Near Apia, which reports
		eZ		43	33	a local tremor between
	R	ePZ		42	41	07 h and 12 h.
		eZ		43	34	
	T	iPZ		42	49	
		iZ		43	45	
Aug. 20	P	ePZ	18	46	21	Deep? Tu iP 18 46 45 c
		eZ			43	Near Apia, which reports:
	PX	eLZ	19	11.1		P 18 36 55
	MW	iPZ	18	46	22	
		eZ			45	
	R	iPZ			23	
	T	iPZ			32	
		eZ			49	
Aug. 20	P	ePZ	21	47	55	Normal. Tu iP 21 48 26
	PX	eLZ	22	12.7		
	MW	ePZ	21	47	55	
	R	iPZ			56	
	LJ	ePZ		48	02	
	T	iPZ		47	47	
	Pr	ePNE		48	08	
Aug. 21	R	iPZ	01	17	07	Tu iP 01 17 24 d
	T	iPZ			16	e 18 46
Aug. 21	P	ePZ	02	51	12	Deep? Tu iP 02 49 45
	MW	iPZ			13	i 50 14
		iZ			28	e 53 35
	R	iPZ			03	e 56 47
	LJ	ePZ		50	59	Two shocks?
	T	ePNEZ		51	28	
	H	ePE			19	
	Pr	ePNE		50	59	
Aug. 21	P	ePZ	11	05	49	Normal. Tu eP 11 06 04
	PX	eLZ		32.0		i 09
	MW	iPZ		05	51	
	R	iPZ			52	
	T	ePZ			58	
	H	ePNEZ			57	
	Pr	iPN			52	
Aug. 21	P	iPZ?	20	26	34	Normal. Tu iP 20 26 44 d
		iZ		27	15	May include the next.
		iZ			53	
	PX	eLN		53.0		
	MW	iZ		27	17	
	R	iZ			12	
	Pr	eNE		26	42	
Aug. 21	T	eZ	20	29	39	Tu i 20 29 48
Aug. 22	P	ePZ	01	45	24	Tu iP 01 45 51
	MW	ePZ			24	
	T	ePZ			33	
	Pr	ePNE			33	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 22	P	eZ	07	26	55	Tu eP 07 25 46
	MW	ePZ			39	
		iZ			54	
	R	iPZ			35	
		eZ			54	
	T	iZ			54	
Aug. 22	MW	ePZ	07	29	15	Tu iP 07 29 00
		eZ			30	Part of preceding?
	R	iPZ			13	
	T	iPNEZ			20	
		iZ			38	
Aug. 22	P	ePZ	17	00	29	Tu iP 17 01 02
	MW	ePZ			29	
	R	ePZ			32	
	T	ePZ			21	
Aug. 22	P	ePZ	19	31	30	Tu iP 19 31 01
	PX	eLZ	20	04.6		
	R	ePZ	19	31	23	
Aug. 23	MW	ePZ	21	34	20	Tu eP 21 34 46
Aug. 24	P	iPEZ	00	05	45	Deep?
	PX	eNEZ		06	13	
		eZ		13	52	
	MW	iPZ		05	45	
		iZ		06	12	
	R	iPNEZ		05	40	
		iZ		06	06	
		eZ		09	33	
	LJ	ePNEZ		05	32	
		eNZ			58	
	T	iPZ		06	02	
		iNZ		07	28	
	H	ePNE		05	58	
	Pr	iPNE			33	
		iNE			58	
Aug. 24	P	iPZ	02	42	42	Deep?
		iZ			59	
	MW	iPZ			43	
	R	ePZ			39	
		eZ			59	
	T	iPZ			59	
	Pr	iPNE			53	
Aug. 24	P	iPZ	16	09	22	Normal?
		iZ			28	
	PX	eZ		10	08	
		eLNE		32.3		
	MW	iPEZ		09	21	
		iEZ			28	
		e(P P)Z		38	16	
	R	iPZ		09	21	
		iZ			28	
	LJ	eNEZ			36	
	T	ePEZ			03	
		iNEZ			10	
		eP P Z?		38	40	
	H	iPZ		09	10	
		iEZ			17	
	Pr	ePNE			29	
Aug. 24	P	iPZ	21	33	54	Tu iP 21 33 27
	MW	iPZ			56	
	R	ePZ			53	
	T	iPEZ		34	08	
Aug. 24	P	iPNEZ	23	43	47	Deep. Tu iP 23 42 52 d
		ipPNEZ		44	07	USCGS: 15.0°N. 93.0°W.,
		iZ			30	O=23:37.8, h=100 km.
		iZ		46	33	JSA: 15.5°N. 93.6°W.,
		iPcPZ			53	O=23:37:51, h=80 km.

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
				(Continued)		
Aug. 24	PX	iSNEZ	23	48	37	A T
		isSNE		49	07	P O.5 2
		eLNE		51	39	S 3 7
		iScSE		54	22	
		isScSNE		55	07	
	R	iPNEZ		43	41 d	
		ipPZ		44	01	
		iZ			23	
		iPcPZ		46	52	
		iZ		47	13	
	LJ	ePNEZ		43	35	
	T	iPNEZ		44	03 d	
		ipPNEZ			23	
		iZ			30	
		iPcPZ		47	22	
	H	iPNEZ		43	56	
		ipPZ		44	16	
	Pr	iPNE		43	35	
		eSN		48	16	
		iScSN		54	18	
Aug. 25	PX	eLZ	03	46	3	Normal. Tu i 03 24 02
	MW	iPZ		23	36	
	R	ePZ			40	
	T	ePZ			35	
Aug. 25	PX	eLZ	05	40	8	Normal. Tu iP 05 18 38
	MW	ePZ		18	15	
	R	ePZ			21	
	T	ePZ			34	
Aug. 25	P	ePZ	07	59	45	Tu eP 07 58 51
	MW	iPZ			46	
	R	iPZ			40	
	T	iPZ	08	00	00	
Aug. 25	P	iPZ	12	36	23	Deep Tu iP 12 36 46
		iZ		37	17	i 37 41
	PX	eSZ		46	01	eP P 13 03 33
		eLZ	13	02	9	Depth about 250 km?
	MW	iPNEZ	12	36	24	Felt at Nukualofa,
		iEZ		37	18	according to Apia, which
	R	iPZ		36	25	gives 18°S. 176°W., and
		iZ		37	20	reports:
	T	iPNEZ		36	32	P 12 26 20
		iZ		37	27	S 27 14
		eSNE		46	03	
	H	iPNEZ		36	30	
		iNEZ		37	24	
		eSN		45	56	
	Pr	iPNE		36	34	
		iN		37	20	
Aug. 25	PX	eLZ	14	04	2	Tu iP 13 54 34 c
	MW	iPZ	13	55	30	
	R	ePZ			21	
	T	iPZ			46	
Aug. 25	MW	e(P)Z	15	23	47	Tu eP 15 24 02
		eZ			55	Near Apia?
Aug. 25	P	iPZ	15	32	10	Normal? Tu iP 15 32 21 c
	PX	eLZ		46	3	Felt at Nukualofa, according
	MW	iPZ		32	10 c	to Apia, which reports:
	R	iPZ			12	P 15 22 17
	T	iPNEZ			20 c	S 23 45
	H	iPNEZ			18	
	Pr	ePNE			12	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 26	P	iZ	02	08	00	Deep. Tu eP 02 07 03
	MW	iPZ		07	33	ipP 29
		ipPZ		08	00	P is much smaller than pP
	R	ePZ		07	34	
		ipPZ			57	
	T	ePZ		07	46	
		ipPZ		08	13	
	Pr	iNE		07	54	
Aug. 26	MW	iPZ	12	50	53	Tu iP 12 51 06
Aug. 27	P	iPZ	01	59	28	Tu iP 01 59 19
	MW	ePZ			29	i 02 00 22
	R	ePZ			26	e 03 15
	T	ePZ			30	
		eZ	02	00	12	
	Pr	iPZ	01	59	27	
		iZ	02	00	00	
Aug. 27	P	ePZ	18	54	26	Normal. Tu iP 18 55 36
	PX	eLZ		56.6		
	R	ePZ		54	36	
	T	ePZ		53	53	
	H	ePEZ		54	09	
	Pr	ePNZ		54	50	
Aug. 27	P	ePZ	23	45	35	Tu eP 23 44 15
	MW	iPZ			35	i 42
	T	iPZ			59	
	Pr	ePZ			11	
Aug. 28	P	ePZ	10	28	41	Normal. Tu iP 10 29 12
	PX	eLN		51.4		
	MW	ePZ		28	41	
	R	ePZ			43	
	LJ	ePZ			44	
	T	iPEZ			31	
	H	iPZ			29	
	Pr	iPNZ			47	
Aug. 28	MW	ePZ	14	10	04	
	T	iPEZ			04	
	R	iPZ			07	
Aug. 28	T	iZ	14	23	06	
Aug. 28	P	iZ	17	42	20	Tu e? 17 42 45
	MW	ePZ			07	
		eZ			19	
	R	iPZ			10	
	T	ePZ			02	
	Pr	iZ			27	
Aug. 29	T	ePZ	07	38	56	Tu iP 07 37 57
	Pr	ePZ			37	
Aug. 29	MW	iPZ	18	04	15	Tu iP 18 04 36
	T	ePZ			24	
	Pr	iPZ			17	
Aug. 30	P	iPZ	01	26	53	Normal. Tu iP 01 27 18
	PX	ePPZ		30	18	i 58
		eLZ		53.0		
	MW	iPZ		26	54	
	R	iPZ			56 c	
	T	iPNEZ			59	
	H	iPNEZ			58	
	Pr	iPNEZ			56 c	
Aug. 30	R	ePZ	03	16	58	Tu iP 03 17 43
	T	iPZ			26	
Aug. 30	P	iPZ	04	11	00 d	Deep. Tu iP 04 10 23 d
		iZ			37	South America
	MW	iPNEZ			00	
		iNEZ			38	
	R	iPZ		10	57 d	
		iZ		11	33	

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
				(Continued)			
Aug. 30	T	iPNEZ	04	11	13	d	
		iZ			50		
	H	iPNEZ			08		
		eZ			45		
	Pr	iPZ		10	50		
		iZ		11	14		
		iZ			27		
Aug. 30	PX	eLZ	17	07.4			Normal. Tu iP 17 04 41
Aug. 31	MW	ePZ	02	30	18		Tu iP 02 30 38 c
	R	iPZ			19		
	T	iPZ			26		
Aug. 31	P	ePZ	12	18	38		Tu eP 12 18 03
	R	ePZ			40		
	T	ePZ			58		
Aug. 31	MW	ePZ	15	47	13		Tu eP 15 47 28
Aug. 31	MW	iPZ	16	20	31		Tu eP 16 20 45
	T	ePZ			11		
Aug. 31	R	iZ	07	11	43		
	H	iZ			26		
Sept. 1	T	iZ	23	25	09		Tu e 23 24 02
	Pr	iZ?		24	18		
		iZ			31		
Sept. 3	T	ePZ	01	11	37		Tu eP 01 10 53
Sept. 3	T	e(P)Z	01	36	41		Tu e(P)01 36 17
Sept. 3	MW	ePZ	10	31	56		Tu eP 10 31 19
	Pr	ePZ			55		
Sept. 3	P	ePZ	19	24	34		Normal. Tu iP 19 24 26
		iZ			41		Near 58°S. 120°W.,
		iZ			54		O-19:11.4
	PX	eSKSZ		34.9			using New Zealand and
		eSNE		35.4			Australian stations.
		eSSNE		41.4			Major earthquake
		eLNE		48.3			(magnitude 7)
	MW	ePZ		24	34		A T
	R	ePZ			34		S 3 .7
	T	iPZ			45		L 70 20
		iZ		25	06		
	H	ePZ		24	45		
	Pr	iPZ			29	c	
		iZ		25	10		
Sept. 3	P	iPZ	21	38	26		Tu iP 21 37 38 d
		eZ			58		i 46
	MW	iPZ			26		i 54
	R	iPZ			21		i 38 09
	T	iPZ			37		Colombia
		eZ		39	13		
	Pr	iPNEZ		38	16	d	
Sept. 3	P	iPZ	23	10	08	c	Deep. Tu iP 23 09 33 c
		ipPZ			36		ipP 10 01
		isPZ			46		isP 09
	MW	iPNEZ			08	c	e 12 56
		epPEZ			34		South America
	R	iPZ			03	c	
		ipPNZ			30		
		isPZ			42		
	T	iPNEZ			19	c	
		ipPEZ			47		
		isPZ		11	02		
	Pr	iPZ		09	59		
		ipPZ		10	28		
		isPZ			39		
Sept. 4	P	iPZ	07	27	00	c	Tu iP! 07 27 22 c
	MW	iPZ			02		
	R	iPZ			03	c	
	T	iPZ			09		
	Pr	iPNZ!			03	c	

Date	Sta.	Phase	h	m	s		Remarks
Sept. 5	P	iPNEZ	01	19	10	c	Deep? Tu iP 01 19 42 c
		iZ			29		e 23 15
		iZ			24		Japan?
	MW	iPNZ!			12	c	
	R	iPNEZ			13	c	
		iNZ			31		
		iZ			48		
	SB	iPZ			04		
	T	iPNEZ			03	c	
	H	iPNEZ			06		
	Pr	iPNEZ!			17	c	
Sept. 5	P	eZ	04	46	01		Normal. Tu eP 04 45 01
		eZ		50	27		Damage at Cornwall, Ontario
	PX	eLN		55.7			and Massena, New York
	MW	ePZ		45	40		USCGS: 45°01'N. 74°44'W.,
	R	ePZ			41		O=04:38.8
	T	ePZ			33		
	Pr	ePZ			38		
Sept. 5	P	iPZ	12	46	49		
	MW	iPZ			49		
	R	iPZ			51		
	T	ePZ			51		
	Pr	iPZ			54		
Sept. 5	P	iPZ	13	12	39		
	MW	iPZ			40	c	
	R	iPZ			42	c	
	T	ePZ			47		
	Pr	iPZ			44		
Sept. 5	P	ePZ	15	41	11		Normal. Tu eP 15 41 35
	PX	eLZ	16	04.7			Southwest Pacific
	MW	ePZ	15	41	12		
	R	ePZ			16		
	T	ePZ			17		
	Pr	ePZ			15		
Sept. 5	P	iPZ	16	20	19		Tu iP 16 20 43 c
	MW	iPZ			21		Southwest Pacific?
	R	ePZ			23		
	T	iPZ			31		
	Pr	iPZ			23		
Sept. 6	P	iPNZ	06	05	08	c	Deep. Tu iP 06 05 31 c
		eZ			39		i 06 15
	PX	eLZ		32.8			
	MW	iPEZ		05	10	c	Roughly 23°S. 171°E.,
		eZ			42		O=05:52.4
	R	iPNEZ			10	c	h=120 km
	T	iPNEZ			16	c	Using Brisbane, Riverview
		eZ			47		and New Zealand stations.
		eZ			56		Wellington gives:
	H	ePNZ			14		22 1/2° S. 172°E.,
	Pr	iPEZ			11	c	O = 05:52.5
		eZ			50		h = 100 km.
		iZ			56		
Sept. 6	MW	iPZ	08	35	34		
	T	iPZ			55		
Sept. 6	PX	eLZ	14	39.3			Tu eP 13 47 20
Sept. 6	T	iPZ	22	55	19		Tu iP 22 54 25
	Pr	iPZ		54	56		
Sept. 8	P	iPZ	01	33	04		Normal? Tu iP 01 33 29
	PX	eLZ		54.2			Felt at Apia, which reports:
	MW	iPZ		33	05		P 01 22 14
		eZ			26		S 39
	R	iPZ			07		
	T	iPNEZ			15		
		eZ			35		
	H	iPNEZ			12		

Date	Sta.	Phase	h	m	s	Remarks
Sept. 8	P	iPZ	17	18	20	
	Pr	iPNE			11	
Sept. 9	P	iSEZ	04	17	35	Normal. Tu eP 14 14 06
	MW	ePZ		14	52	i 34
		iSZ		17	32	iS 16 15
	R	ePZ		14	50	Felt at Montrose, Colorado.
		eSNZ		17	20	
	T	ePZ		14	28	
		eSZ		17	01	
	Pr	ePZ		14	39	
		iSZ		17	07	
Sept. 9	P	iPZ	17	41	22	Normal. Tu iP 17 42 06
	PX	eLZ		54.2		i 11
	MW	ePZ		41	22	i 18
		iZ			27	
	R	iPZ			30	
	LJ	ePNZ			40	
		eEZ			44	
	T	ePN			08	
		iNEZ			12	
	H	eEZ			17	
	Pr	iPZ			33	
Sept. 9	P	ePZ	19	15	42	Tu iP 19 14 48
	MW	iPZ			45	
	R	iPZ			40	
	T	iPZ		16	11	
Sept. 10	MW	iZ	05	29	31	Tu eP 05 30 09
Sept. 10	P	iPZ	14	31	00	
	MW	iPZ			01	
	R	iPZ			00	
	H	iPZ			34	
	Pr	iPZ		30	57	
Sept. 11	PX	ePZ	09	59	56	Normal? Tu eP 10 00 32
		iP"Z	10	03	59	iP" 04 12
		iPPZ		04	33	iPP 05 23
		eNE		10	40	ePKKP 14 32
		eN		11	28	i 44
		iNE			36	eSKKP 18 39
		ePSZ		13	54	eP'P' 22 13
		ePSE		14	09	
		e(PPS)Z			22	
	P	iPKKPNEZ		15	12	
		iZ		17	24	
		iSKKPZ		19	04	
		eP'P'Z		22	52	
	PX	eGN		30	44	
		eLZ		34.5		
	MW	ePZ	10	00	00	
		iP"Z		04	00	
		iPKKPZ		15	10	
		iSKKPZ		19	05	
		eP'P'Z		22	42	
	R	ePZ		00	02	
		iP"Z		04	02	
		ePKKPZ		14	59	
		eSKKPZ		19	01	
		eP'P'Z		22	49	
	SB	ePZ	09	59	57	
	T	iPZ			56	
		iPKKPZ	10	15	15	
	H	ePZ	09	59	58	
		eP"Z	10	03	59	
		iPKKPZ		15	13	
		iSKKPZ		19	09	
		eP'P'Z		22	57	

Pasadena: 1°N. 127°E.
O=09:45:25

	A	T
PP	2	4
L	30	20

Major earthquake
(magnitude 7.2)

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
Sept. 11	Pr	iPZ	10	00	04	(Continued)
		iP"Z		04	03	
		ePSEZ		14	11	
		ePKKPZ			56	
		iPKKPNEZ		15	06	
		iZ		17	15	
		iSKKPZ		19	01	
		eP'P'Z		22	33	
Sept. 11	R	iPZ	23	30	41	Tu iP 23 30 57
	Pr	iPZ			40	
Sept. 12	PX	eLZ	03	17.0		Normal. Tu e 02 48 53
	MW	eZ	02	48	18	
	R	eZ			30	
	Pr	eZ			35	
Sept. 12	P	iPZ	11	12	17	
	MW	iPZ			19	
	R	ePZ			20	
	Pr	ePZ			23	
Sept. 12	MW	iPZ	21	29	58	Tu iP 21 30 20
	R	iPZ		30	00	i 33 08
	Pr	iPZ		30	00	
		iZ		32	34	
Sept. 13	PX	eLZ	01	24.3		Tu e(P) 01 01 22
	R	eZ	01	02	55	i 02 24
	T	eZ			57	Very distant?
	Pr	iZ			53	
Sept. 13	P	iPZ	23	11	18	Tu iP 23 11 45 c
	MW	iPZ			20 c	
	R	ePZ			22	
	T	iPZ			28	
	Pr	iPZ			23 c	
Sept. 14	PX	eP"Z	06	58	09	Normal. Tu eP" 06 58 19
		iPPNZ	07	01	37	e 07 01 03
		eSKPZ		03	22	
		eSSZ		18.1		Sumatra?
		eLN		34.1		
	MW	eP"Z	06	58	10	
	R	eP"Z			10	
	T	iP"NEZ			12	
	H	eP"Z			12	
	Pr	iP"Z			24	
		ePPZ	07	01	38	
Sept. 15	PX	eLZ	00	29.5		
Sept. 15	P	iPZ	02	20	06 d	Normal. Tu iP 02 20 34 d
	PX	eLZ		31.3		Felt at Apia, which reports
	MW	iPZ		20	07 d	P 02 09 16
	R	iPZ			09	S 38
	SB	ePZ			02	and gives 15°S. 173°W.
	T	iPZ			16	
	H	iPNEZ			14	
	Pr	iPNZ			10 d	
Sept. 15	P	ePZ	19	29	10	Tu eP 19 28 19
	R	ePZ			01	i 28
	T	ePZ			27	
	Pr	ePZ		28	56	
Sept. 15	P	ePZ	20	32	57	Tu iP 20 32 10
	MW	ePZ			55	
	T	eZ			58	
	Pr	ePZ			56	
		eZ		33	22	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 16	P	iPEZ	02	47	20	Tu 02 48 38 c
	MW	iPZ			22	Off Northern California
		iZ			39	
	R	iPZ			27	
	T	iPEZ		46	57	
		eNZ		48	39	
	H	iPNEZ		47	09	
	Pr	ePNZ			40	
Sept. 16	P	iPNEZ	04	47	24 d	Tu iP! 04 47 49 d
	MW	iPNEZ			26 d	i 54 c
		eZ		50	11	
	R	iPZ		47	27 d	
	T	iPNZ			35 d	
	H	iPNEZ			32	
	Pr	iPNEZ!			28 d	
		iZ		48	31	
		eZ		50	09	
Sept. 16	MW	ePZ	15	18	17	Tu iP 15 17 42
	Pr	iPZ			27	
Sept. 17	R	iPZ	07	08	56	Tu iP 07 08 31
	Pr	iPZ			54	
Sept. 17	P	iPZ	09	27	58	Deep. Tu iP 09 28 44 c
	MW	iPNZ			59	ipP 29 08
		ipPZ		28	23	i 21
	R	iPZ			04	i 33 53
		ipPZ			27	
	SB	iPZ		27	50	
	T	iPNEZ			44	
		ipPZ		28	06	
	Pr	iPNEZ			10 c	
		iNZ			33	
		iZ		33	35	
Sept. 17	P	ePZ	23	25	19	Normal
	PX	eLZ		55.3		Southwest Pacific
	MW	eZ		25	26	
	R	eZ			33	
	Pr	iPZ			18	
		iZ			45	
Sept. 18	MW	iPZ	00	15	47	Tu iP 00 16 10 d
	T	iPZ			52	
	Pr	iPZ			48	
Sept. 19	P	iPZ	13	16	00 c	Normal? Tu iP 13 16 40 c
		iZ			09	i 49
		iZ			23	eP P 45 16
	PX	eLN		30.9		Surface waves small.
	P	eP P Z		45	25	Kamchatka?
	MW	iPNEZ		16	01 c	
		iZ			11	
		iZ			24	
		eP P Z		45	46	
	R	iPZ		16	03	
		eP P Z		45	39	
	SB	iPNEZ		15	54	
	T	iPNEZ			47	
		iZ		16	33	
	H	iPNEZ		15	53	
	Pr	iPEZ		16	09	
		iZ			19	
		iZ			28	
		iNEZ!			33	
Sept. 20	MW	iPZ	06	59	48	Tu iP 07 00 35 c
	Pr	iPZ			59	
Sept. 20	P	iPZ	17	19	03	Tu iP 17 19 28
	R	iPZ			00	
	T	iPZ			16	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 20	P	iPZ	18	37	22	Tu iP 18 38 02
	R	ePZ			25	
		iZ			41	
	T	iPZ			09	
		iZ			23	
	H	iPZ			13	
		iZ			27	
	Pr	iPZ?			32	
Sept. 21	Pr	iPZ	01	41	55	Tu iP 01 42 16 c
Sept. 21	P	iPZ	01	55	57	Tu iP 01 56 36 c
	R	iPZ		56	01	i 46
	T	iPNEZ		55	44	
	Pr	iPNZ		56	05 c	
Sept. 21	P	ePZ	06	28	05	Normal. Tu eP 06 28 33
		eZ			38	
	PX	eLZ		54.9		
	MW	ePZ		28	05	
		iZ			33	
	R	iPZ			09	
		eZ			19	
	Pr	iPZ			07	
		iZ			19	
		eN			38	
Sept. 21	P	iPZ	17	20	28	Normal Tu eP 17 21 45
		eSZ		22	34	
	PX	eLZ		23.9		
	MW	ePZ		20	28	
	R	ePZ			36	
	T	iPNEZ			10	
		eSE		21	17	
	H	ePZ		20	07	
		iSEZ		21	48	
Sept. 21	MW	ePZ	19	58	40	Tu iP 19 58 18
	T	iPZ			24	
	Pr	iPZ			49	
Sept. 22	P	iPZ	04	23	48	Tu iP 04 24 13 c
	MW	iPZ			49 c	
	Pr	iPNEZ			52	
Sept. 22	P	eZ	19	36	31	Tu eP 19 36 27
	MW	iPZ			15	i 39 53
		eZ			36	
Sept. 22	P	iZ	22	44	49	Tu i 22 44 53 c
		iZ		45	07	i 45 03
		iNEZ		48	09	i 48 31
		iZ			15	i 39
		iZ			32	i 54
		iNEZ			38	Very distant?
	MW	iZ			49	
		iZ		45	07	
		iZ		48	09	
		iZ			33	
		iZ			38	
	R	iZ		45	00	
		iZ		48	12	
		eZ			34	
	SB	iZ			04	
		iZ			28	
		iZ			33	
	T	eEZ		44	45	
		eEZ		45	03	
		iNEZ		48	05	
		iZ			10	
		iEZ			27	
	H	iNEZ			06	
	Pr	iPZ		44	51	
		eZ		45	09	
		iEZ		48	14	

Date	Sta.	Phase	h	m	s		Remarks
Sept. 23	P	ePNZ	00	24	17		Deep? Tu iP 00 23 24
		ePcPZ		27	14		i 24 59
	MW	iPZ		24	18		i 25 13
		iPcPZ		27	17		iPcP 27 03
	R	iPZ		24	12		Central America?
		iPcPZ		27	14		
	T	iPZ		24	33		
		iPcPZ		27	31		
	Pr	iPZ		24	05	c	
		iPcPZ		27	12		
Sept. 23	P	iPZ	03	22	33	c	Deep? Tu iP 03 22 59 c
		iZ			57		i 23 10
		iZ		23	10		i 19
	PX	eLNE		44.6			i 31
	MW	iPNEZ		22	34	c	Near Apia, which reports:
	R	iPNEZ			35	c	P 03 12 15
		iZ			49		S 13 10
	SB	iPZ			28		
	T	iPNEZ			43		
		iZ		23	06		
	H	iPNEZ		22	40		
		iZ		23	04		
	Pr	iPNEZ!		22	36	c	
		iNZ			52		
Sept. 23	P	ePZ	08	43	28		Tu iP 08 43 54 c
	MW	iPZ			30		
	R	ePZ			29		
	T	iPZ			37		
	Pr	iPZ			29	c	
Sept. 23	PX	eLZ	09	47.8			
Sept. 23	P	iPNEZ	12	23	13		Normal? Tu iP 12 23 53
		iZ			17		i 58
		iZ!			25		i 24 04
	PX	iPPZ		25	03		eP'P' 53 42
		iSNE!		31	22		i 54 06
		iE			44		Kamchatka.
		iN		32	33		USCGS: 53.5°N. 160.7°E.,
		eSSE		35	29		O-12:13.3
		iGNE		37.9			
	P	eP'P'Z		52	41		A T
		iP'P'EZ		53	01		P 2 3
	MW	iPNEZ		23	14		S 6 5
		eSNE		31	22		L 100 20
		iP'P'Z		53	02		Major earthquake
	R	iPZ		23	17		(magnitude 7.1)
		iNZ			21		
		iNEZ			29		
		eSNE		31	28		
		eP'P'Z		52	46		
	SB	iPZ		23	07		
		iZ			23		
		eSE		31	14		
	T	iPNZ		23	00		
		iEZ			04		
		iZ			13		
		eSN		30	51		
		iSEZ		31	06		
	H	iPEZ		23	06		
		eSN		31	06		
	Pr	iPNZ		23	23	c	
		iZ			27		
		iZ			35		
		iSNEZ		31	45		
		eP'P'Z		52	37		
		iZ			53		
		iP'P'NEZ		53	05		

Date	Sta.	Phase	h	m	s		Remarks
Sept. 23	P	iPZ	12	27	50		Tu i 12 28 43
	MW	iPZ			52		Aftershock, superposed
	R	ePZ			53		
	T	iPZ			40		
	Pr	iPZ		28	03		
Sept. 23	P	iPZ	12	30	03		Tu iP 12 30 43
	MW	iPZ			04		Aftershock
	R	iPZ			07		
	SB	iPZ		29	57		
	T	iPEZ			50		
	Pr	iPNZ			14		
Sept. 23	P	iPZ	12	59	37		Tu iP 13 00 17
	MW	iPZ			38		Aftershock
	T	ePZ			24		
	Pr	iPZ			47		
Sept. 23	P	iPZ	13	29	44		Tu iP 13 30 23
	MW	iPZ			45		Aftershock
	R	ePZ			46		
	T	iPZ			30		
	Pr	iPNEZ			52		
Sept. 23	P	ePZ	14	00	58		Tu eP 14 01 37
	MW	iPZ			59		Aftershock
	T	iPZ			45		
	Pr	iPZ		01	08		
Sept. 23	MW	iPZ	14	04	19		Tu eP 14 04 55
	Pr	ePEZ			26		Aftershock?
Sept. 23	P	iPEZ	16	13	54	c	Normal? Tu iP 16 14 13
	PX	eLZ		40			i 24
	MW	iPNZ		13	55		Southwest Pacific
	R	iPEZ			56	c	
	T	iPNEZ		14	03		
	Pr	iPNEZ		13	54		
Sept. 23	P	ePZ	17	41	15		Tu eP 17 41 53
	MW	ePZ			16		
	Pr	iPZ			35		
Sept. 23	P	iPZ	22	42	10		Tu eP 22 42 50
	MW	iPZ			12		
	R	ePZ			27		
	T	iPZ		41	57		
	Pr	iPZ		42	21		
Sept. 24	MW	iPZ	10	08	23		Tu iP 10 08 46
	R	ePZ			25		
	LJ	ePZ			23		
	T	ePZ			31		
	H	iPZ			30		
	Pr	iPNZ!			25		
Sept. 24	P	iPNEZ	11	05	41	c	Tu eP 11 06 22
		eP'P'Z		35	21		eP'P' 35 12
	MW	iPNEZ		05	41		Kamchatka?
	R	iPNEZ			44	c	
		eP'P'Z		35	16		
	LJ	iPZ		05	51		
	T	iPZ			23	c	
		iZ		06	23		
	H	iPNEZ		05	33	c	
		iZ			57		
		iZ		06	27		
	Pr	iPNEZ		05	50	c	
		iP'P'Z		35	22		
Sept. 24	P	ePZ	23	03	12		
		iZ			32		
	MW	iPZ			14		
	Pr	iPZ			17		
		eZ			31		

Date	Sta.	Phase	h	m	s	Remarks
Sept. 25	P	iPZ	10	45	48	Tu iP 10 46 26
	MW	iPZ			50	
	R	iPZ			53	
	T	ePE			35	
	Pr	iPNZ			58	
Sept. 25	P	iPZ	16	25	36	Tu iP 16 26 13
		iEZ			38	i 16
		iZ			49	i 50
	MW	iPZ			37	
	R	ePZ			39	
	LJ	ePEZ			49	
	T	ePE			23	
	Pr	ePNEZ			44	
		iZ			46	
Sept. 25	P	iPZ	17	23	22	Tu iP 17 23 58
	MW	iPZ			22	
	R	iPZ			25	
	T	iPEZ			08	
	Pr	iPZ			30	
		iNEZ			35	
Sept. 25	MW	iPZ	18	59	44	Tu e 19 00 07
		iZ	19	00	19	e 37
	R	ePZ	18	59	44	i 43
		iZ	19	00	20	
	T	ePZ	18	59	50	
	Pr	iPNZ			49	
		iNZ	19	00	19	
Sept. 25	MW	ePZ?	21	24	35	Tu eP 21 23 38
	R	ePZ			32	
	T	ePZ			56	
	Pr	iPNZ			15 c	
		iNEZ			32	
Sept. 25	MW	ePZ	21	34	25	Tu eP 21 33 34
	R	ePZ			22	
	LJ	eZ			24	
	T	ePZ			51	
	Pr	iPEZ			20 c	
		iNZ			27	
Sept. 26	P	iPNEZ	01	03	23 d	Deep? Tu iP? 01 03 45 d
		iZ			28	i 54
	MW	iPNEZ			24 d	i 04 18
		iZ			36	e 05 01
	R	iPNEZ			25 d	At Tucson, large dilatation
	LJ	ePEZ			22	possibly preceded by very
	T	iPNEZ			32 d	small compression
		iZ			38	Near Apia, which reports
		iZ			58	P 00 53 51
		eN		13	38	S 55 17
	H	iPNEZ		03	29 d	
	Pr	iPNEZ			26 d	
		iZ		04	00	
Sept. 26	P	iPZ	17	50	51	Tu e 17 51 07
	MW	iPZ			54	i 20
		iZ		51	14	e 30
	R	ePZ		50	53	i 40
	LJ	ePNEZ			56	
	T	iPNEZ			47	
		iZ		51	09	
		eZ		54	17	
	Pr	iPNEZ		50	56	
		iZ		51	16	
		iE		52	49	
		eZ		56	46	
Sept. 26	R	ePZ	23	14	33	Tu eP 23 13 38
	Pr	iPZ			26	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 27	MW	eZ	09	35	38	Tu eP 09 37 03
	R	eZ		36	04	i 08
	T	eZ		35	29	
	Pr	ePZ		36	08	
Sept. 27	P	iPZ	12	03	36	Tu iP 12 03 56 d
	MW	iPZ			38 d	
	R	iPZ			39 d	
	T	iPZ			46	
	Pr	iPNEZ			39 d	
		eZ		04	05	
Sept. 27	P	ePZ	13	34	09	
	MW	ePZ			05	
		iZ			25	
	R	ePZ			08	
	Pr	iPNEZ			20	
Sept. 27	P	iPZ	14	23	26	
	MW	iPZ			26	
	R	ePZ			29	
	T	iPEZ			36	
	Pr	iPNEZ			29	
Sept. 27	PX	ePZ	16	39	20	Normal? JSA: 39°N. 74°E.,
		e(P?)Z		43	35	O=16:25:08
		iPPZ			45	
		iSKSZ		50	05	
		ePSNEZ		52	57	
		eZ		54	25	
	P	iPKKPZ			59	
	PX	eLNEZ	17	07	4	
	MW	eZ	16	42	51	
		iZ		43	37	
		ePKKPZ		54	54	
		eZ	17	03	17	
	R	eZ	16	43	44	
		ePKKPZ		54	58	
	Pr	ePZ		39	27	
		ePPE		43	38	
		iPKKPZ		54	54	
Sept. 27	MW	eZ	17	11	27	Aftershock
	Pr	eZ			48	
Sept. 28	P	ePZ	06	55	22	
	MW	iPZ			25	
	R	iPZ			24	
	T	ePZ			27	
	Pr	iPEZ			27 d	
Sept. 29	P	iPZ	07	54	03	Tu iP 07 54 34
	MW	iPZ			03	
	R	iPZ			05	
	SB	iPZ		53	57	
	T	iPEZ			56	
		eZ		54	22	
	Pr	iPZ			10	
Sept. 29	T	ePZ	09	13	18	Tu eP 09 12 08
	Pr	ePZ		12	51	
Sept. 29	P	ePZ	12	27	33	Tu iP 12 27 19
	MW	iPZ			32	
	R	ePZ			32	
	T	ePZ			46	
		eZ			52	
		iZ		28	10	
	Pr	ePZ		27	26	
Sept. 29	P	iPZ	17	05	12	Tu iP 17 05 52
	MW	iPZ			15	i 06 09
	R	ePZ			18	
	T	iPEZ			01	
		iZ			19	
	Pr	iPNZ			24	
		eZ		07	42	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 29	P	eZ	19	15	58	Normal. Tu iP 19 16 41 d
	PX	eLE		25.4		i 53
	MW	iPZ		15	48	
		iZ		16	08	
	R	ePZ		15	58	
		iZ		16	11	
	SB	ePNE		15	55	
	T	iPEZ			39	
		iZ			46	
	Pr	iPNEZ		16	06	
		iZ			12	
Sept. 29	MW	ePZ	19	35	47	Tu iP 19 36 26
	T	ePZ			25	
	Pr	iPNZ			51	
Sept. 29	MW	eZ	21	11	42	Tu eP 21 11 23
	T	eZ			21	
		iZ			42	
	Pr	iPZ		10	55	
		eZ		11	03	
		iZ		12	05	
Sept. 29	P	iPZ	22	09	34	Tu eP 22 10 08
	MW	ePZ			32	
	T	iPZ			18	
	Pr	iPZ			42	
Sept. 30	T	eZ	01	11	03	Tu iP 01 12 06
	Pr	iPEZ			30	
Sept. 30	P	iPZ	01	17	48	Tu iP 01 18 12
	MW	iPZ			50	
	R	iPZ			52	
	T	iPNEZ			55	
	Pr	iPNEZ			52	
Sept. 30	MW	ePZ	02	18	24	Tu iP 02 19 17
	Pr	iPZ			42	
Sept. 30	R	ePZ	09	15	48	Tu iP 09 16 10
	T	ePZ			55	
	Pr	iPZ			48	
Sept. 30	R	iPZ	12	11	05	Tu eP 12 11 20
	T	iPZ			14	e 29
	Pr	iPZ			04	i 36
		iZ			19	
		iZ			24	
Sept. 30	Pr	iPZ	20	09	59	Tu iP 20 09 18
		Addendum:				
Sept. 30	MW	ePZ	03	37	53	Tu iP 03 38 49
	R	ePZ			57	

C. F. Richter

Apr. 20, 1945

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

Oct - Dec.

~~APRIL – JUNE~~ 1944

(PASADENA AND AUXILIARY STATIONS)

Date	Sta.	Phase	h	m	s	Remarks
Oct. 1	P	iPZ	08	24	37	
	MW	iPZ			38	
	R	ePZ			39	
	T	ePZ			24	
	Pr	iPZ			46	
Oct. 1	P	iPZ	21	01	48	Tu iP 21 02 00
		iZ		02	22	i 05 19
		iZ		05	00	
	MW	ePZ		01	47	
		iZ		05	00	
	R	iPZ		01	50	
		iZ		05	01	
	T	iZ		04	56	
	Pr	iPZ		01	53	
		iZ		05	04	
Oct. 2	P	iPNEZ	17	28	15 c	Deep. Tu iP 17 27 20 c
		epPZ			47	ipP 53
		esPZ			57	iPcP 30 44
		ePPZ		29	17	iScP 34 11
		iPcPZ		31	00	USCGS: 14.5°N. 90.1°W.,
		eZ			27	O=17:21.9, h=100 km.
		ipPcPZ			41	JSA: 14.2°N. 90.1°W.,
		esPcPZ			58	O=17:21:58, h=150 km.
	PX	eSNE		33	19	Magnitude about 6 1/2
		esSNE		34	18	A T
		eScPZ			30	P 2 3
		eLN		35.9		S 2 6
		iScSN		38	30	
	MW	iPNEZ!		28	15 c	
		ipPZ			50	
		ePPN		29	35	
		iPcPZ		31	00	
		eSE		33	11	
		iScPZ		34	31	
	R	iPZ		28	08 c	
		iZ			26	
		iPPZ		29	08	
		iPcPZ		30	58	
		iZ		31	18	
		ipPcPZ			32	
		iScPZ		34	26	
		eScSNE		38	26	
	SB	iPNZ		28	26	
		iPcPZ		31	04	
	LJ	iPNEZ		28	03 c	
		eZ		30	56	
	T	iPNEZ		28	29	
		ipPZ			59	
		iPPNZ		29	02	
		eSE		33	39	
		iScPNEZ		34	35	
		eScSE		38	30	
	Pr	iPNEZ!		28	03 c	
		iPcPZ		30	57	
		iZ		31	15	
		eSE		33	00	
		iScPZ		34	26	
		iScSN		38	25	
Oct. 2	P	iPZ	20	41	19	Deep. Tu iP 20 41 54 c
		iNEZ			22	i 42 13
		ipPNEZ			36	eP'P' 21 08 28
		isPZ			56	Northern Japan

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
					(Continued)	
Oct. 2	PX	ePPZ	20	44	20	JSA: 43.5°N. 141.7°E.,
		eZ		46	14	O=20:29:57,
		iSNEZ		50	52	h=100 km
		iE		51	20	A T
		eLN		59.1		P 1 3
	MW	iPZ		41	21	S 4 6
		ipPZ			37	Surface waves small;
		eSNE		50	55	magnitude not quite 7
		eE		51	25	
	R	iPZ		41	23	
		ipPNEZ			40	
		iZ		42	30	
		iPPZ		44	10	
		eSEZ		50	58	
	SB	ePNE		41	16	
		eNE			37	
		eSNE		50	43	
		eN		51	13	
	LJ	eZ		41	43	
		iSE		51	10	
	T	iPNEZ		41	10	
		iZ			18	
		ipPZ			29	
		iZ			38	
		ePPN		43	08	
		iSNEZ		50	35	
	Pr	iPNEZ		41	28	
		ipPZ			47	
		iSEZ		51	07	
Oct. 3	Pr	iPZ	00	26	27	Tu iP 00 27 03
Oct. 3	P	ePNZ	02	30	42	Normal. Tu eP 02 30 58
	PX	eSZ		33	50	e(S) 33 58
		eLNEZ		35	12	
	MW	iPZ		30	40	Montana?
	R	iPNEZ			41	
	LJ	ePZ			41	
	T	ePNEZ			40	
		iNE			45	
		eSNE		32	44	
	H	ePNEZ		30	23	
		iNZ			49	
		eSN		33	03	
	Pr	iPNEZ.		30	46	
		eSN		33	58	
Oct. 3	P	iPZ	08	43	30	
	MW	iPZ			31	
	R	iPZ			34	
	T	iPZ			23	
	Pr	iPZ			37	
Oct. 3	P	ePZ	16	25	22	Normal? Tu iP 16 25 41
		eZ			48	i 26 42
		eZ		26	18	
	PX	iZ		35	12	
		eLEZ		56.5		
	R	ePZ		25	21	
	T	eZ			49	
	Pr	iZ		26	09	
Oct. 3	P	iZ	18	07	27	Tu iP 18 04 08
	R	ePZ		00	49	e(P) 04 28
	T	eZ		05	21	e(S) 05 46
		eZ		06	17	Probably two shocks
	Pr	iPZ		00	49 c	
Oct. 3	MW	iPZ	22	01	14	Tu iP 22 01 37
	R	iPZ			16	Near Apia, which reports:
	T	iPZ			24	P 21 51 45
	Pr	iPZ			15	
		iZ			39	

Date	Sta.	Phase	h	m	s		Remarks
Oct. 5	P	iPZ	15	30	02		Tu iP 15 29 14 d
	MW	iPZ			02		Near Bogota, which reports
	R	iPZ		29	57		P 15 22 24
	T	iPNEZ		30	13		S 23 05
	Pr	iPNZ		29	51		
Oct. 5	P	ePZ	17	10	01		Deep? Tu eP 17 10 57
	PX	eZ			26		ePKKP 26 58
		iNEZ			30		i 27 45
		ePFZ		13	54		eP'P' 36 01
		eSKSE		20	41		Roughly 3°S. 153°E.,
		eZ			57		O=16:57.0
		ePSE			51		Using Australian and New
		eLN		35.1			Zealand stations and Honolulu
	MW	ePZ		10	03		Surface waves small
		iZ			30		
		iNEZ			37		
	R	ePZ			04		
		iZ			33		
		iNEZ			39		
		eP'P'Z		36	09		
	SB	eZ		10	18		
	LJ	eZ			31		
	T	ePNEZ			07		
		eEZ			30		
		iZ		11	03		
		iZ		14	10		
	Pr	iPZ		10	10		
		iZ			35		
		iZ		12	03		
		iZ		14	16		
Oct. 5	P	ePNZ	17	41	05		Deep. Tu eP 17 41 27
		iNEZ			07	c	i! 29
		ipPEZ			37		i 45
		iZ			41		ipP 58
		ePPZ		44	31		iPKKP 58 48
		ipPPNEZ			56		eP'P' 18 06 54
	PX	iPPPZ		46	46		JSA: 19°S. 169°E.
		iSKSNE		51	21		O=17:28:27, h=100 km
		iSNE!			40		Pasadena: 22 1/2°S. 172°E.,
		iSPN		52	28		O=17:28:27, h=120 km.
		ePSZ			41		
		isSSN		58	15		A T
		eLN	18	03.9			
	P	eP'P'Z		07	03		P 2 4
	MW	iPZ	17	41	07		S 7 8
		ipPZ			36		Phases large and sharp;
		ipPPZ		45	03		magnitude 7 1/4
		eSKSNE		51	24		
		eSNE			42		
		eP'P'Z	18	07	03		
	R	iPZ	17	41	07		
		ipPZ			36		
		iPPZ		44	35		
		iNEZ		45	04		
		iSKSNEZ		51	24		
		iSNE			45		
		iP'P'Z	18	07	04		
	SB	iPEZ	17	41	02		
		ipPZ			33		
		iSE		51	30		
	LJ	iPNEZ		41	07	c	
		eSKSE		51	22		
		eSNE			42		

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
					(Continued)		
Oct. 5	T	ePZ	17	41	12		
		iNEZ			16		
		ipPZ			44		
		iZ			53		
		eSKSE		51	30		
		iSNEZ			56		
		iP'P'Z	18	07	04		
	Pr	iPZ	17	41	08	c	
		iNEZ!			10	c	
		iZ			29		
		ipPZ!			39		
		iZ			49		
		iPPZ		44	37		
		ipPPNZ		45	03		
		iSKSN		51	27		
		iSN			47		
		iP'P'Z	18	07	03		
Oct. 5	MW	ePZ	19	59	59		Tu iP 19 59 40
	R	ePZ			47		
	T	ePZ	20	00	02		
	Pr	iPZ	19	59	45		
Oct. 6	P	ePZ	02	48	28		Normal. Tu eP 02 48 23
		eZ		51	52		ePP 52 27
		ePPZ		52	31		ePKKP 03 05 21
	PX	eSSN	03	01.8			eP'P' 13 14
	P	ePKKPZ		04	44		Destructive at Aivalik and
		eP'P'Z		13	07		İzmir (Smyrna), Turkey
	PX	eLN		14.1			USCGS: 39°N. 27°E.,
	MW	ePZ	02	48	29		O=02:34.7
		iPPZ		52	38		JSA: 40.0°N. 29.3°E.,
		iPKKPZ	03	04	51		O=02:34:40
		eP'P'Z		13	04		
	R	ePZ	02	48	27		A T
		iZ		52	36		L 30 20
		ePKKPZ	03	04	48		
		eP'P'Z		13	02		
	SB	ePZ	02	48	34		
		ePPZ		52	39		
	T	ePEZ		48	18		
		ePKKPZ	03	04	59		
	Pr	iPZ	02	48	33		
		ePPZ		52	24		
		iPKKPZ	03	04	50		
		eZ		05	18		
		iP'P'Z		13	13		
Oct. 6	P	ePZ	08	59	27		Deep? Southwest Pacific
		eZ			46		
		eZ			57		
	PX	eLZ	09	27.7			
	MW	iPZ	08	59	29		
		iZ			47		
	R	iPZ			31		
		iZ			51		
		iZ	09	00	00		
	T	ePZ	08	59	30		
		eZ			53		
		iZ	09	00	07		
	Pr	iPZ	08	59	34		
		eZ			53		
		iZ	09	00	06		
		iZ		03	48		

Date	Sta	Phase	h	m	s	Remarks
Oct. 6	P	iPZ	09	23	33	
		eZ			44	
	MW	iPZ			34	
	R	iPZ			38	
	T	iPZ			35	
		iZ			46	
	Pr	iPZ			42	
		eZ			58	
Oct. 7	Pr	iZ	06	41	31	
Oct. 7	T	ePZ	08	40	11	Tu iP 08 38 46
		eZ			22	e 56
Oct. 7	P	ePZ	19	04	13	Deep? Tu e 19 05 08
		iZ			43	Southwest Pacific
	PX	eLEZ		31.8		
	MW	ePZ		04	14	
		iZ			39	
	R	ePZ			17	
		eZ			40	
	T	ePZ			17	
		eZ			40	
		iZ			46	
	Pr	iPZ			25	
		iZ			43	
Oct. 8	R	iPZ	07	28	37	Tu iP 07 27 59
	Pr	iPZ			32	
Oct. 8	T	ePZ	19	51	41	
Oct. 9	MW	ePZ	02	21	22	Tu iP 02 20 43
		iZ			36	i 54
	R	ePZ			21	
		eZ			35	
	T	ePZ			37	
		iZ			48	
		eZ			55	
	Pr	iZ			27	
Oct. 9	P	iPZ	02	30	58	Tu iP 02 31 35
		iZ		31	11	i 49
	PX	eLZ		49.2		
	MW	iPNEZ		30	59 d	
		iZ		31	12	
	R	iPZ			02	
		iZ			15	
	T	iPNEZ		30	45	
		iZ			58	
	Pr	iPNEZ		31	09 d	
		iNEZ			20	
		iZ			46	
Oct. 9	R	iPZ	07	41	28	Tu iP 07 40 58
	T	iPZ			43	
Oct. 9	R	iPZ	19	37	33	Tu iP 19 36 50
	T	ePZ			50	
Oct. 9	T	ePZ	19	44	15	Tu iP 19 44 30
	Pr	iPZ			10	
Oct. 9	PX	eLZ	21	29.7		Normal. Tu iP 20 58 27
	MW	ePZ	20	58	09	e 45
	R	ePZ			11	Region of New Zealand
	T	iPEZ			19	
	Pr	iPNZ			12	
Oct. 10	MW	iPZ	02	11	33	Tu iP 02 11 54
	R	iPZ			32	
	T	iPZ			38	
	Pr	iPZ			35	

Date	Sta	Phase	h	m	s	Remarks
Oct. 10	P	iN	07	36	51	Tu eP 07 35 42
		iSNE		38	38	iS 36 23
	R	ePZ		36	01	Swarm of shocks
		iZ			48	recorded at Tucson
		iSZ		38	19	
	LJ	eN		36	09	
		iSNE		37	56	
	Pr	ePZ		35	43	
		iNZ		36	21	
		iSNZ		37	46	
Oct. 10	R	ePZ	09	42	41	Tu eP 09 42 54
	T	iPNEZ			42	
	Pr	iPZ			35	
Oct. 10	R	ePZ.	00	12	44	Tu e 00 12 51
	T	iZ?			44	
	Pr	iPZ			38	
Oct. 11	P	iPNEZ!	09	56	28 c	Deep. Tu iP! 09 56 53 c
		iZ			45	i 57 08
		iNEZ			50	i 31
	PX	iPPZ		59	06	JSA: 15.0°S. 173.5°W.,
		ipPPZ			20	O=09:45:16
		eSE	10	05	42	h=80 km.
		eLNEZ		17.1		Negr Apia, which gives
	MW	iPNEZ	09	56	29 c	15°S. 173°W.,
		iZ			42	and reports
		iZ			53	P 09 45 42
		iZ		57	31	S 59
		iPPZ		59	06	
	R	iPNEZ		56	30 c	A T
		ePPZ		59	06	P 1 3
	LJ	iPNEZ		56	27 c	S 1 7
		eZ			44	
	T	iPNEZ			39 c	
		iZ			59	
		iZ		57	17	
		iPPZ		59	21	
	H	iPEZ		56	36	
	Pr	iPZ	09	56	31 c	
		iNZ			45	
		iZ			54	
		iZ		57	41	
Oct. 11	P	iPZ	16	55	54	Tu iP 16 56 12
	MW	iPZ			56	
	R	ePZ			55	
	T	iPZ		56	04	
	Pr	iPZ		55	55	
Oct. 12	MW	iPZ	14	24	43	Tu iP 14 25 05
		iZ			53	
	T	ePZ			49	
	Pr	iPZ			44	
		iZ			55	
		iZ		25	17	
Oct. 12	P	iPZ	14	44	06	
	MW	iPZ			08	
	R	iPZ			09	
	Pr	iPZ			11	
Oct. 12	P	iPZ	16	19	42	Deep. Tu iP 16 20 08
		ipPZ		20	31	ipP 59
	MW	iPZ		19	43	i 21 24
		ipPNEZ		20	34	
	R	iPZ		19	45 d	Southwest Pacific
		ipPZ		20	34	
		iZ		21	11	
	LJ	eZ		20	35	

(Continued)

Date	Sta	Phase	h	m	s		Remarks
							(Continued)
Oct 12	T	ePEZ	16	19	48		
		epPNEZ		20	37		
	H	eE			38		
	Pr	iPNEZ		19	47	d	
		ipPNEZ		20	37		
Oct 13	PX	eLZ	01	52			Normal Tu e 01 22 58
Oct 13	P	iPZ	05	46	20		Deep Tu iP 05 46 52
		ipPZ		47	10		ipP 47 44
	R	iPZ		46	24		South of Japan?
		ipPZ		47	15		
	T	iPEZ		46	17	c	
		ipPZ		47	08		
	Pr	iPZ		46	28		
Oct 13	P	iPZ	11	32	58		Normal Tu eP 11 33 14
	PX	eLNEZ		59.0			New Zealand
	MW	ePZ		32	59		
	R	ePZ			59		
	T	ePEZ		33	06		
	Pr	iPNZ			02		
Oct 13	P	ePZ	21	08	45		Tu eP 21 08 49
	MW	iPZ			46		
	R	ePZ			46		
	LJ	ePZ			44		
	Pr	iPZ			49		
Oct 14	P	ePZ	02	31	43		Tu e? 02 32 08
	PX	eLN		57.7			New Hebrides?
	MW	iPZ		31	43		
		iZ			58		
	R	iPZ			45		
		iZ		32	50		
	T	iPNEZ		31	44		
		eZ		33	16		
	H	ePE		31	47		
	Pr	iPZ			44		
		iZ			57		
Oct 14	MW	iPZ	07	03	38		Tu eP 07 03 54
	R	ePZ			37		Near New Zealand
	Pr	iPZ			35		
Oct 14	R	eZ	09	19	52		Tu iP 09 20 18
	Pr	iPZ			56		
Oct 14	MW	ePZ	09	57	46		Tu eP 09 58 10
	Pr	iPZ			56		
		iZ		58	19		
Oct 14	Pr	iPZ	13	20	00		Tu iP 13 20 23
Oct 14	P	iPEZ	15	26	30		Deep Tu iP 15 27 02
		eZ		28	09		Japan?
	MW	iPNEZ		26	31	c	
		eZ		28	07		
	R	iPZ		26	32		
	LJ	iPZ			20		
	T	ePNEZ			20		
	H	iPNEZ			23		
	Pr	iPZ			37		
		eSN		35	56		
Oct 14	P	eZ	16	33	17		Normal
	PX	eLEZ		56.3			Southwest Pacific
	MW	iPZ		32	49		Apia reports:
	R	ePZ			52		P 16 23 49
	T	ePE		33	06		S? 27 37
	Pr	iPNZ		32	54		
Oct 14	P	ePZ	19	32	23		Normal Tu eP 19 32 45
	PX	eLEZ		55.8			Southwest Pacific
	MW	ePZ		32	22		
	R	ePZ			21		
	T	eE?			36		
	Pr	iPNZ			22		

Date	Sta	Phase	h	m	s	Remarks
Oct 14	P	ePPZ	20	34	50	Normal Tu i 20 35 57
	PX	iZ		35	18	iPKKP 45 42
		eSSE		50.4		
		eLN	21	01.3		
	MW	ePPZ	20	34	24	
	R	ePZ		30	43	
		ePPZ		35	04	
		ePKKPZ		46	02	
	T	ePPZ		35	02	
	H	ePPE			10	
	Pr	ePZ		31	03	
		eZ		32	12	
		iPPZ		34	53	
		iPKKPZ		46	38	
Oct 14	Pr	iPZ	21	26	01	Tu eP 21 25 19
Oct 14	P	ePZ	22	18	26	Tu iP 22 18 54
		eZ			37	Southwest Pacific
	PX	eLN		38.9		Apia reports
	MW	ePZ		18	28	P 22 09 30
		iEZ			39	S? 13 12
	R	ePZ			32	
	T	iPEZ			35	
		eNEZ			44	
		eE		25.2		
	H	eE		18	46	
	Pr	iPZ			33	
		iZ			44	
Oct 15	P	ePZ	04	13	59	Tu iP 04 13 16
		eZ		14	08	i 27
	MW	ePZ		13	58	South America
		iNEZ		14	07	
	R	ePZ		13	54	
	T	iPEZ		14	12	
		iNEZ			21	
	Pr	iPNZ		13	48	
		iZ		14	04	
Oct 15	Pr	iPZ	05	12	16	Tu iP 05 12 51
Oct 15	R	iPZ	06	08	22	Tu iP 06 08 41
	Pr	iPZ			21	
Oct 15	PX	eLZ	08	32.0		Normal Tu eP 08 08 30
	MW	ePZ		08	05	
	R	ePZ			11	
	Pr	iPZ			07	
		iZ			17	
Oct 15	P	ePZ	09	26	17	Tu eP 09 26 40
	PX	eLN		49.7		
	MW	ePZ		26	18	
	R	ePZ			19	
	T	ePN			22	
	Pr	iPZ			20	
Oct 15	P	ePZ	10	00	07	Tu iP 10 00 28
	MW	ePZ			04	
	R	ePZ			06	
	Pr	iPNZ			05	
Oct 15	P	ePZ	19	58	54	Tu eP 19 57 58
	MW	ePZ			54	
	R	ePZ			48	
	Pr	iPZ			43	
Oct 16	T	ePZ	01	39	50	Tu iP 01 38 41
	Pr	iPZ			32	
Oct 16	R	iPZ	01	53	29	Tu iP 01 53 02
	T	ePZ?		52	47	Apia reports
						P 01 41 51
						S 42 13

Date	Sta.	Phase	h	m	s	Remarks
Oct. 16	Pr	iPZ	09	03	42	Tu iP 09 03 57
Oct. 17	MW	iPZ	00	11	45	Tu iP 00 12 10
	R	iPZ			48	
	Pr	iPNZ			48	
Oct. 17	P	iPZ	01	51	55	Tu eP 01 51 54
	MW	iPZ			56	i 52 35
	R	iPZ			58	i 56 36
		iZ		52	46	
	T	iPNEZ		51	47	
	Pr	iPZ			59	
		iZ		54	34	
		iZ		55	54	
		iZ		56	31	
Oct. 17	P	iPZ	04	13	55	Tu iP 04 13 33
	MW	iPZ			55	
	R	ePZ			53	
	Pr	iPZ			50	
Oct. 17	P	eZ	04	53	10	Tu iP 04 52 47
	MW	eZ			11	
	Pr	iNZ			02	
Oct. 17	P	ePZ	10	16	52	Tu eP 10 17 27
	R	ePZ		17	00	
	Pr	iPZ			03	
Oct. 17	P	eP"Z	18	55	27	Normal? Tu eP" 18 55 34
		eZ		56	05	iPKKP 19 06 14
	PX	iPPZ			15	eSKKP 10 06
		iPSNZ	19	05	47	Pasadena distant 108°
	P	ePKKPZ		06	25	Very roughly 35°N. 80°E.,
	PX	ePPSZ			30	O=18:37.0
		eSSSNZ		17.2		
		eLN		29.2		
	MW	eP"Z	18	55	31	
		iPPZ		56	11	
		iPKKPZ	19	06	28	
	R	eP"Z	18	55	28	
	T	eE			53	
	Pr	iP"Z			35	
		iZ		56	27	
		iPKKPZ	19	06	21	
		iZ			30	
Oct. 17	P	ePZ	22	31	35	Tu iP 22 30 49
	MW	iPZ			35	
	R	iPZ			31	
	Pr	iPNZ			26	
Oct. 18	P	iPZ	03	25	06	Tu iP 03 25 21
	MW	iPZ			07	
		iZ			14	
	R	iPZ			02	
		iZ			14	
	Pr	iPZ			05	
Oct. 18	MW	ePZ	04	29	59	Tu iP 04 30 21
	Pr	iPZ		30	05	
Oct. 18	P	ePZ	12	36	36	Tu eP 12 37 28
	MW	iPZ			34	
	R	iPZ			39	
	Pr	iPZ			47	
Oct. 18	MW	iPZ	23	10	13	Tu eP 23 10 44
	Pr	ePZ?			15	
		iZ			27	
Oct. 19	P	ePZ	04	31	52	Tu eP 04 30 57
	PX	eLNZ		50.1		
	MW	ePZ		31	47	
		iZ		32	03	
	R	eZ			00	
	T	eZ			17	
	Pr	ePZ		31	49	

Date	Sta.	Phase	h	m	s		Remarks
Oct. 19	PX	eLZ	07	17.8			Normal. Tu iP 06 40 57
	MX	ePZ	06	40	49		
	Pr	eZ?			36		
		iZ		41	14		
Oct. 19	PX	eLZ	13	37.3			Normal. Tu eP 13 10 06
	Pr	iPZ		40	16		
Oct. 19	P	iPZ	13	57	53		Tu iP 13 58 32
		iEZ		58	00		i 39
	MW	iPZ		57	54		
		iZ		58	00		
	R	ePZ		57	57		
	LJ	eZ?			56		
		eZ		58	03		
	T	iPNEZ		57	40		
	H	eE			51		
	Pr	iPNZ		58	02		
Oct. 19	P	ePZ	15	56	38		Tu eP 15 56 24
	MW	ePZ			40		
	R	ePZ			39		
	Pr	ePZ			35		
Oct. 19	P	iPZ	20	00	56		Tu iP 20 01 18
		eZ		01	07		
	MW	iPZ		00	57		
	R	ePZ			58		
	Pr	iPZ			57		
Oct. 19	MW	iPZ	23	31	35		Tu iP 23 30 49
	R	iPZ			30		
	Pr	iPZ			25		
Oct. 20	MW	iPZ	05	18	45		Tu iP 05 18 01
	R	iPZ			41		
	Pr	iPZ			36		
Oct. 20	P	iPZ	09	11	33	d	Tu iP 09 11 54
		iZ			49		i 13 59
		iZ		12	04		Two shocks?
		eZ		13	37		
	MW	iPEZ		11	34	d	
		eZ		13	37		
	R	iPZ		11	36	d	
		eZ		13	44		
	LJ	iPZ		11	33		
	T	iPNEZ			42		
	Pr	iPNZ			36	d	
		eZ		13	40		
Oct. 20	P	iPZ	23	13	02		Deep? Tu iP 23 13 46
		iZ			30		i 14 14
	MW	iPNEZ			02		
	R	ePZ			06		
	T	iPEZ		12	48	d	
		iZ			57		
		iZ		14	32		
	H	eZ		12	58		
	Pr	iPNZ		13	03	c	
		iZ			21		
		iZ			32		
Oct. 21	R	iPZ	10	03	26		Tu iP 10 03 44
	Pr	iPZ			26		
Oct. 21	MW	iPZ	10	48	32		Tu iP 10 48 44
Oct. 21	PX	eLN	20	35.1			Normal. Tu iP 20 24 05
	R	eZ?		24	56		
		iZ		25	02		
	T	eZ			08		
		eZ		27	56		
		eZ		28	07		

Date	Sta.	Phase	h	m	s		Remarks
Oct. 21	P	ePZ	21	27	03		Normal. Tu eP 21 27 30
	PX	eLZ		49.4			Southwest Pacific
	MW	iPZ		27	03		Apia reports
		iZ		36	53		P 21 16.8
	R	ePZ		27	04		
		eZ		36	57		
	T	ePZ		27	10		
		iZ		36	54		
	Pr	iPZ		27	04		
Oct. 22	P	iPZ	18	59	21	c	Deep? Tu iP 18 59 49
		iZ			33		
		eZ	19	01	27		
	PX	eLZ		31.2			
	MW	iPNEZ	18	59	21	c	
		iZ			34		
		iZ			41		
	R	iPZ			23	c	
		iNZ			36		
		eN	19	02	59		
	SB	ePNZ	18	59	13		
		eEZ			29		
	LJ	iPNEZ			28		
		iZ			41		
	T	iPNEZ			14		
		iEZ			28		
		iZ	19	00	28		
		eE		03	13		
	H	iPZ	18	59	19		
	Pr	iPNEZ			29	c	
		iNEZ			42		
		iZ	19	02	51		
		iZ		03	10		
Oct. 23	P	iPZ	04	43	49		Tu iP 04 44 11
	MW	iPZ			50		
	R	ePZ			55		
	T	iPEZ		44	00	c	
	Pr	iPNEZ		43	52		
		iZ		44	05		
Oct. 23	P	ePZ	05	47	06		Tu iP 05 47 27
	MW	ePZ			08		
	R	ePZ			01		
	T	ePZ			13		
	Pr	iPNZ			06		
Oct. 23	MW	iPZ	07	33	27		Tu iP 07 33 46
	R	ePZ			25		Near Apia which reports:
	T	iPZ			31		P 07 23 02 ± 2
	Pr	iPZ			28		S 50
Oct. 23	P	iPZ	22	23	19		Tu iP 22 23 40 d
	MW	iPZ			21		Southwest Pacific
	R	iPZ			21		
	T	iPNEZ			28		
	H	ePE			28		
	Pr	iPZ			21		
Oct. 23	T	ePZ	22	32	04		Tu iP 22 32 15
	Pr	ePZ		31	50		
Oct. 23	P	ePZ	23	48	54		Normal? Tu iP 23 48 06
		iNEZ			59		i 11
		iNEZ		49	03		i 54 44
	PX	ePPZ		50	56		Ecuador. Felt at Guyaquil
		ePcSZ		54	09		USCGS: 0.5°N 80.0°W
		eZ		55	31		O=23:40:03
		iSN		56	03		JSA: 0.3°S 80.2°W
		eSSNE		59	39		O=23:40:01
		eLNEZ	24	03.7			

(Continued)

Date	Sta.	Phase	h	m	s	Remarks		
						(Continued)		
Oct. 23	MW	iPZ	23	48	53		A	T
		iNEZ			58	P	3	6
		eSNEZ		56	06	PP	1	3
	R	ePZ		48	49	S	4	9
		iNEZ			58	L	70	20
		ePPZ		50	51			
		eSN		55	53			
	SB	ePNZ		49	06			
		eSNE		56	21			
	LJ	ePE		48	49			
	T	ePEZ		49	07			
		iNZ			12			
		iNEZ			16			
		iPPZ		51	07			
		eSNEZ		56.5				
	H	ePNE		49	08			
	Pr	iPEZ		48	44			
		iNZ			49			
		iEZ			53			
		eSNEZ		55	46			
Oct. 24	P	ePZ	00	36	29	Tu iP 00 35 44 c		
		iZ			32	Ecuador, aftershock		
		iZ			38			
	MW	iPNEZ			32			
		iZ		38	03			
	R	iPZ		36	26			
	SB	eNEZ			46			
	T	iPNEZ			45	c		
		iZ			53			
		iZ		38	04			
	H	eNE		36	44			
	Pr	iPNEZ			22			
		iEZ			30			
Oct. 24	P	iPZ	07	20	51	Tu iP 07 21 16		
	MW	iPZ			51	Near Apia, which reports		
	R	iPZ			53	P 07 10 18		
	T	iPZ			57	S 52		
	Pr	iPZ			54			
Oct. 24	MW	iPZ		12	47	27		
	Pr	iPZ				32		
Oct. 25	MW	ePZ		06	45	23	Tu iP 06 44 35	
	T	ePZ				38		
	Pr	iPZ				14		
Oct. 25	R	eZ?		07	44	54	Tu iP 07 44 02	
	T	eZ			45	21		
Oct. 25	P	iPZ		22	25	35	Tu iP 22 26 09	
	MW	iPZ				37		
	R	iPZ				37		
	T	iPZ				26		
		iZ				37		
	Pr	iPZ				43		
Oct. 26	MW	iPZ		01	54	18	Tu iP 01 53 36	
	R	iPZ				14		
	T	iPZ				33		
	Pr	iPEZ				06		
Oct. 26	P	iPZ		02	55	55	Tu iP 02 56 19	
	MW	iPZ!				57		
	R	ePZ				59		
	T	iPZ			56	04		
	Pr	iPZ			55	59		
Oct. 27	P	iPZ		08	11	12	Tu iP 08 10 26 c	
	MW	iPZ				12		
	R	iPZ				08	c	
	Pr	iPZ				02		

Date	Sta	Phase	h	m	s		Remarks
Oct. 27	P	ePZ	09	25	17		Tu eP 09 25 49
		iZ			27		
	MW	ePZ			15		
		iZ			28		
		iZ			43		
	R	ePZ			19		
	T	iZ			24		
	Pr	iPZ			23		
		iZ			44		
Oct. 27	T	iPZ	13	42	43		Tu eP 13 41 29
	Pr	iPZ			09		
Oct. 28	P	iPZ	04	02	32		Normal. Tu iP 04 02 38
		iSEZ		03	19		iS 03 50
	MW	ePZ		02	33		31.0°N. 116.0°W.,
		iSNE		03	28		O=04:01:29
	R	iPNZ		02	27		
		iSEZ		03	04		
	LJ	iPZ		02	10		
		iSEZ			37		
	T	ePZ		03	07		
		iSZ		04	43		
	H	ePZ		02	59		
		iSZ		04	10		
	Pr	iPNEZ		02	12		
		iSNE			42		
Oct. 28	P	iPZ	04	46	31		Tu iP 04 46 02
	MW	iPZ			32		
	R	ePZ			28		
	T	iPEZ			44		
	H	iPZ			39		
	Pr	iPNZ			25		
Oct. 28	P	iPEZ!	18	30	38	c	Normal. Tu iP 18 31 34
		iSNE!			53		33°58'N. 116°45'W.,
	MW	iPNEZ!			37	c	O=18:30:16
		iSNEZ!			52		Reported felt at
	R	iPNEZ!			27	c	Riverside, Thermal,
		iSNEZ			34		and Lake Arrowhead
	SB	iPNZ			57		
	LJ	iPNE			39	d	
		iSNE			54		
	T	iPNEZ		31	09		
		iSEZ		32	01		
	H	ePZ		30	54		
		iSNEZ		31	32		
	Pr	iPNEZ!		30	30	d	
Oct. 29	P	eZ?	00	30	12		Normal. Tu iP" 00 30 13
		eZ			30		ePKKP 40 48
	PX	ePSZ		39.9			Pasadena distant 108°
		eLE	01	02.3			O=00:11.5
	MW	eP"Z	00	30	08		Probably aftershock of
		ePKKPZ		41	27		Oct. 17, 18 h
	R	eP"Z		30	06		(near 35°N. 80°E.)
		ePKKPZ		40	58		
	T	eP"Z		30	02		
		eZ			25		
		ePKKPEZ		41	19		
		eSKKPZ		45	14		
	Pr	iP"Z		30	09		
		iZ			39		
		iPKKPZ		41	01		
Oct. 29	P	eZ	07	34	34		Tu e 07 35 19
	MW	iPZ			25		
		eZ			35		
	R	ePZ			29		

(Continued)

Date	Sta	Phase	h	m	s	Remarks
						(Continued)
Oct. 29	T	iPZ	07	34	09	
		iZ			24	
		eZ		36	06	
	Pr	iPZ		34	35	
		iNEZ			45	
		iZ			49	
Oct. 30	P	iPZ	05	44	27	Tu iP 05 43 48
		iZ			38	i 57
	MW	iPZ			27	i 44 09
		iZ			37	
		iZ			47	Atlantic?
	R	iPZ			23	
		iZ			34	
		eZ		45	24	
	T	ePZ		44	27	
		eEZ			38	
	H	eZ			40	
	Pr	ePNEZ			21	
		iNZ			32	
		eZ			42	
Oct. 31	P	iPZ	09	40	00	
	MW	iPNEZ			01	
	R	iPZ			04	
	T	iPZ			01	
	Pr	iPZ			05	
Oct. 31	P	ePZ	13	22	06	Tu eP 13 22 30
		iZ			26	i 48
	MW	ePZ			03	Southwest Pacific
		iZ			14	Apia reports:
		iZ			26	P 13 12.0
	R	ePZ			10	e? 13.9
		iZ			16	
		iZ			28	
	T	iPZ			18	
		iZ			36	
	H	ePZ			18	
		eZ			34	
	Pr	ePNEZ			15	
		eZ			25	
		iZ			29	
Oct. 31	P	iPZ	20	16	51	Tu iP 20 17 13
	MW	iPZ			52	
		eZ		17	03	
	R	iPZ		16	53	
	T	iPZ		17	02	
	Pr	iPNEZ		16	53	
Oct. 31	P	iZ	20	57	54	Tu iP 20 57 16
	R	iZ			52	i 33
	T	iPZ			00	i 48
		iZ			41	
	Pr	iPZ?		56	54	
		iZ		57	53	
Nov. 1	P	eP"Z	12	20	32	Normal? Tu iP" 12 20 34
		iZ			47	e 23 27
		ePPZ		22	52	iSKP 24 16
		eZ		23	51	i! 44
		iSKPNEZ			57	Pasadena distant 135°
		iEZ!		24	16	Surface waves small
	PX	eLZ	13	03.8		Off Sumatra
	MW	iP"Z	12	20	33	
		iZ			45	
		ePPZ		22	50	
		iSKPNZ		23	56	
		iEZ!		24	18	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
						(Continued)
Nov.1	R	iP"Z	12	20	34	
		iZ			49	
		iSKPZ		23	55	
		iNEZ		24	17	
	SB	eNE		23	47	
		iZ			51	
		iZ		24	12	
	LJ	eZ		23	57	
	T	iP"Z		20	30	
		iSKPEZ		23	50	
		iEZ		24	09	
		iZ		25	23	
	H	eP"EZ		20	32	
		iSKPNEZ		23	53	
		iEZ		24	15	
		iEZ			20	
	Pr	eP"Z		20	36	
		iSKPNZ		24	00	
Nov.2	R	iPZ	09	32	55	Tu iP 09 33 15
	T	iPZ		33	05	
	Pr	iPZ		32	56	
Nov.2	P	iPZ	11	08	56 d	Deep? Tu iP 11 08 20 d
		iZ		09	22	i 48
		iZ			35	
	MW	iPNEZ		08	56 d	
	R	iPZ			53	
	T	iPNEZ		09	03 d	
		iZ			36	
		iZ			48	
	H	iPZ			03	
	Pr	iPNZ		08	48	
		eZ		09	15	
		iN			45	
Nov.2	MW	ePZ	18	56	58	Tu eP 18 56 04
	R	ePZ			53	
Nov.3	P	ePZ	06	26	16	Normal? Tu eP 06 26 37
		iZ			28	i 49
	PX	eLZ		59.4		
	MW	iPZ		26	18	
		iZ			29	
	R	ePZ			19	
		iZ			31	
		iZ			49	
	T	ePZ			26	
		iZ			36	
	H	ePZ			28	
		eNEZ			36	
	Pr	ePZ			18	
		iNEZ			32	
Nov.4	Pr	eZ	04	34	47	
Nov.5	P	iPNEZ	06	32	05 c	Tu iP 06 32 27 c
	MW	iPZ			05 c	
	R	iPZ			08	
	LJ	iPNEZ			04	
	T	iPNEZ			13	
	H	iPEZ			12	
	Pr	iPNEZ!			08 c	
Nov.5	T	ePZ	11	07	04	Tu iP 11 07 48
Nov.5	P	iPNEZ	16	29	14 d	Deep. Tu iP! 16 29 32 d
	MW	iPZ			14 d	i 30 58
		iZ			29	e 31 34
		eZ		31	03	Near New Zealand
	R	iPNEZ		29	16 d	
		eZ		30	44	
	T	iPZ		29	24	
	H	iPEZ			22	
	Pr	iPNEZ			16 d	

Date	Sta.	Phase	h	m	s	Remarks
Nov.6	P	ePZ	17	28	07	Tu eP 17 28 20
	MW	iPZ			09	
	R	ePZ			08	
Nov.7	P	iPZ	05	43	19	Tu eP 05 42 25
	MW	iPZ			20	i 30
		iZ		44	53	i 43 13
	R	iPZ		43	14	i 45 24
		iZ		44	03	
	T	iPZ		43	39	
		eZ		44	23	
	Pr	iPZ		43	08	
		iZ			20	
		eZ		44	45	
Nov.7	P	iPZ	09	51	04	Deep? Tu iP 09 51 30 c
	MW	iPNEZ			06 c	Tonga region
	R	iPZ			08 c	
	SB	iPZ			02	
	LJ	iPEZ			07	
	T	iPNEZ			12 c	
	Pr	iPEZ			10 c	
		iZ			28	
Nov.7	P	iPZ	16	03	05	Deep? Tu eP 16 03 28
	MW	iPZ			06	i 47
		iZ			17	Near Apia, which reports:
		iZ			25	
	R	iPZ			07	P 15 53 10
	T	ePZ			22	S 54 28
	H	ePZ			14	
	Pr	iPZ			08	
		iZ			20	
Nov.8	Pr	iPZ	04	12	51	Tu iP 04 13 27
		iZ		13	08	e 42
Nov.8	P	i(P)Z	06	34	11	Tu iP 06 34 52
	MW	ePZ			04	
		iZ			10	
	R	ePZ			04	
		iZ			14	
		iZ			20	
	H	iPZ		33	57	
	Pr	iPZ		34	17	
Nov.8	P	ePZ	20	32	02	Tu eP 20 32 09
		iSNE		33	44	i 18
	R	ePZ		32	06	iS 33 36
		iZ			18	Utah. Lake Mead stations give
		iSZ		33	36	$38^{o}52'$N. $112^{o}45'$W.
	SB	eSNZ			49	
	T	iPZ		31	50	
		eSEZ		32	54	
	H	eSNE		33	00	
	Pr	iPZ		32	04	
		iSEZ		33	42	
Nov.9	P	iPZ	09	04	34	Tu iP 09 04 56
	MW	iPZ			32	
	Pr	iPZ			37	
Nov.10	P	iPZ	04	09	14	Tu eP 04 08 48
	MW	iPZ			17	Preceded by other shocks?
	R	iPZ			09	
	Pr	ePZ		08	51	
		iZ			55	
		iEZ		09	49	
Nov.10	P	iPZ	08	42	18	Tu iP 08 42 41
		iZ			33	i 43 04
	MW	iPZ			19	
		iZ			34	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
						(Continued)
Nov. 10	R	iPZ	08	42	21	
		iZ			43	
	T	iPZ			18	
	H	iPEZ			26	
	Pr	iPZ			22	d
Nov. 10	P	iPZ	13	23	29	Normal? Tu eP 13 24 10
	PX	eN		29.1		i 23
		eLNEZ		32.2		
	MW	iPZ		23	27	
		iZ			37	
	R	ePNZ			31	
	LJ	ePNEZ			42	
	H	iPNZ			18	
	Pr	iPEZ			39	
		iZ			49	
		iZ		24	52	
Nov. 10	MW	iPZ	13	29	52	Tu iP 13 30 12
	R	ePZ			53	
	H	iPZ			48	
	Pr	iPZ			56	
Nov. 11	R	iPZ	05	43	46	Tu iP 05 44 06 c
	T	iPZ			51	
	Pr	iPZ			46	
		iZ		44	05	
Nov. 12	P	iPZ	13	59	16	Tu iP 13 59 40
	MW	iPZ			17	
	R	iPZ			18	
	Pr	iPZ			18	
Nov. 13	Pr	iPZ	08	24	43	Tu iP 08 24 34
Nov. 13	P	iPNEZ	19	35	00	Deep! Tu iP 19 35 20 c
	MW	iPZ			02	ipP 37 28
		epPZ		37	06	esP 38 50
	R	iPZ		35	02 c	Tonga region;
		ipPZ		37	12	depth about 600 km.
		eSE		44	32	
	T	iPNEZ		35	09	
		epPZ		37	15	
		eSN		44	38	
	H	iPNEZ		35	06	
		iEZ			15	
		epPNEZ		37	15	
		eSN?		44	56	
	Pr	iPEZ		35	03 c	
		ipPZ		37	09	
		iSE		44	33	
Nov. 13	PX	eLNZ	24	11.5		Normal. Tu iP 23 51 16 d
	R	ePZ	23	51	46	
	T	ePZ			49	
Nov. 14	PX	eLZ	01	00.6		Tu iP 00 41 06
Nov. 14	P	iPNEZ	19	58	00	Tu iP 19 58 29 d
	MW	iPZ			03	Near Apia, which gives
	R	iPZ			05	15.1°S. 174.7°W.
	H	iPZ			10	and reports:
	Pr	iPZ			06	P 19 47 23
						S 50
Nov. 14	MW	eZ	23	25	20	Tu iP 23 25 50
	R	eZ			10	i 26 23
	Pr	iPZ			15	
		iEZ			49	
Nov. 15	Pr	iPZ	16	06	19	Tu eP 16 06 13

Date	Sta.	Phase	h	m	s	Remarks
Nov. 15	PX	iPZ	21	01	27	Normal. Tu e 21 05 31
		eZ		04	31	iPP 06 30
		ePPEZ		05	47	iPKKP 16 20
		iSKSNE		11	52	i 20 46
		iNE		12	12	USCGS: 4°N. 128°E.,
		iSNE		13	28	O=20:47.0
		iPSEZ		14	53	A T
		iSSNE		21	08	L 25 20
		eSSSE		24.9		Major earthquake
		iLNEZ		35	37	(magnitude 7)
	MW	ePZ		01	25	
		iZ		04	36	
		eSKSNE		11	55	
		eNE		12	14	
		iPKKPZ		17	17	
	R	iPPEZ		06	03	
		eSKSNE		11	57	
		eNE		12	14	
	SB	eSKSE		11	49	
		eE		12	08	
	LJ	eSKSNE		12	01	
		eNE			20	
	T	iPPZ		05	43	
		iSKSNE		11	50	
		iNE		12	11	
		iPKKPZ		17	24	
	H	ePPNE		05	37	
		eSKSNE		11	53	
		eNE		12	13	
		iPKKPZ		17	21	
	Pr	iPZ		01	34	
		iEZ		04	54	
		iPPZ		05	41	
		eSKSE		11	55	
		eE		12	18	
		iPKKPZ		17	15	
Nov. 15	MW	iPZ	22	35	18	Tu iP 22 35 25 c
	Pr	iPEZ			07	
Nov. 16	P	iPZ	12	23	32 c	Normal. Tu eP 12 24 00
		iPPZ		27	48	USCGS: 12°S. 166°E.,
	PX	eSNEZ		34	01	O=12:10.9
		eNE		35.3		A T
		eLNE		45.8		P 2 6
	MW	ePEZ		23	32	L 150 20
	R	ePZ			34	Major earthquake
	LJ	ePEZ			33	(magnitude 7 1/2)
	T	iPZ			42	
	H	iPZ			42	
	Pr	iPEZ			36 c	
Nov. 16	P	ePZ	12	36	57	Tu iP 12 37 31
	MW	ePZ			59	Aftershock
	R	ePZ		37	01	
	Pr	iPZ			06	
Nov. 16	PX	eLZ	19	22		
	MW	ePZ	18	55	27	
	Pr	ePZ			24	
Nov. 16	Pr	iPEZ	20	40	17	
Nov. 16	R	eZ	22	46	16	
	Pr	iZ			20	
Nov. 16	MW	iPZ	23	56	10	Felt in Humboldt County,
	R	iPZ			16	California
Nov. 17	P	iPZ	02	40	03	Tu eP 02 40 30
	R	ePZ			05	
	T	iPEZ			16	
	Pr	ePEZ			06	
		iZ			17	

Date	Sta.	Phase	h	m	s		Remarks
Nov.17	PX	eLZ	05	13			Normal. Tu iP 04 45 55
	MW	iPZ	04	45	28		
	R	ePZ			30		
	Pr	iPZ			32		
Nov.17	P	iPNEZ	07	08	18		Tu iP 07 08 44
	MW	iPZ			18		
	R	iPZ			21		
	T	iPZ			24		
	H	iPZ			20		
	Pr	iPEZ			22		
Nov. 17	P	ePZ	18	50	28		Tu iP 18 51 05
		iZ			32		
	MW	ePZ			29		
	SB	eZ			27		
	T	iPEZ			21		
		iNZ			26		
	H	iNEZ			28		
	Pr	ePZ			35		
Nov.17	P	ePZ	22	22	55		Normal, Tu iP 22 23 23
	PX	eLZ		49.3			New Hebrides, aftershock
	MW	iPZ		22	56		of Nov.16, 12 h
	T	iPZ		23	01		
	Pr	iPEZ			01		
Nov.17	MW	iPZ	23	30	57		
	Pr	iPZ		31	04		
Nov.18	P	iPZ	05	23	35		Tu iP 05 24 01
	MW	iPZ			36		e 25 13
	T	iPZ			45		Near Apia, which reports:
	Pr	iPEZ			38	c	P 05 12 05
							S 32
Nov.18	P	iPNEZ	08	03	44		Normal? Tu eP 08 03 26
		iNZ			52		i 31
	PX	eLNZ		22.9			i 39
	MW	ePZ		03	43		Southeast Pacific?
	T	ePZ			59		
	H	ePZ			54		
	Pr	ePZ			35		
		iZ			46		
Nov.18	MW	iPZ	12	06	36		Tu eP 12 07 01
	T	iPZ			40		
	Pr	iPZ			39		
Nov.19	P	iPZ	03	55	50		Tu eP 03 56 14
		iZ		56	02		
	T	ePZ		56	02		
		eZ			14		
	Pr	ePZ			02		
Nov.19	MW	eZ	05	44	21		Tu e 05 44 42
Nov.19	P	iZ	07	00	36		Tu eP 07 00 45
	MW	eZ?			26		i 58
		iZ			34		
	T	iPZ			43		
	H	ePZ			42		
	Pr	ePZ			33		
		iZ			38		
Nov.19	MW	ePZ	19	21	31.		Tu iP 19 21 13 d
	R	ePZ			42		i 25
	Pr	iPZ			37		
Nov.19	P	iPZ	21	24	54		Tu iP 21 24 42
	MW	iPZ			55		
	R	ePZ			51		
	Pr	ePZ			48		
Nov.20	P	iPNEZ!	03	31	15		Tu iP 03 31 28
	MW	iPNZ			15	c	May be very distant
	R	iPZ			16		
	H	iPNZ			15		
	Pr	iPZ			18		
		iZ			36		

Date	Sta.	Phase	h	m	s		Remarks
Nov.20	P	ePZ	04	53	58		Tu iP 04 54 24
		eZ		54	09		Southwest Pacific
	MW	iPZ		54	03		
	R	ePZ		53	59		
	T	iPEZ		54	12		
		iZ			22		
	H	iPZ			10		
	Pr	iPZ			04		
Nov.20	P	iPNZ	20	22	28		Tu iP 20 23 06 d
	MW	iPZ			28	d	
	T	iPZ			16		
Nov.20	P	iPNEZ	21	40	27	c	Deep. Tu iP 21 41 04 c
		ipPEZ			55		ipP 33
		isPZ		41	05		Kurile Islands?
	MW	iPNZ		40	27	c	
		ipPEZ			56		
		isPZ		41	08		
	R	iPZ		40	31	c	
		ipPZ			59		
		iZ		41	12		
	LJ	ePZ		40	36		
	T	iPEZ			14		
		ipPEZ			43		
	H	iPNEZ			19		
		ipPZ			47		
Nov.21	P	eZ	10	20	26		Normal. Tu iP 10 15 54
	PX	eLZ		50.6			
	MW	eZ		20	26		
	R	eZ			12		
Nov.21	P	iPNEZ!	15	09	24	c	Deep? Tu iP 15 09 37
		iZ			54		e 11 16
	MW	iPZ			24	c	
	R	iPZ			25	c	
		eZ		10	45		
	SB	iPZ		09	28		
	LJ	ePZ			27		
	T	iPEZ			22		
	H	iPEZ			24	c	
Nov.23	P	iPZ	05	53	30		Tu iP 05 54 17
	MW	iPZ			30		
	R	iPZ			34		
	T	iPZ			15		
	H	iPZ			21		
Nov.23	P	ePZ	11	00	50		Tu iP 11 01 39
	MW	ePZ			47		
	R	ePZ			37		
Nov.24	P	iPNEZ!	05	01	34	c	Deep. Tu iPZ! 05 01 58 c
		iZ'		02	08		i 02 13
		ipPZ			17		i 43
		iPPNZ		04	53		i 05 38
		ipPPZ		05	43		i 15 05
	PX	iSKSE		11	43		iPKKP 19 18
		iSN		12	03		eP'P' 27 17
		isSE			58		ipP'P' 28 08
		iNZ		13	16		e 30 13
		iZ		14	09		USCGS: 20°S. 171°E.,
		eLN		24.5			O=04:48.9
	P	iP'P'Z		27	38		JSA: 18.5°S. 169.0°E.,
		ipP'P'Z		28	18		O=04:49:00

(Continued)

Date	Sta	Phase	h	m	s		Remarks
							(Continued)
Nov. 24	MW	iPZ!	05	01	34	c	
		ipPZ		02	17		
		iPPZ		05	00		A T
		ipPPZ			42		P 4 3
		eSKSE		11	44		PP 4 4
		esSE		12	56		S 5 8
		eZ		13	03		L 15 20
		ePKKPZ		20	01		Major earthquake
		iP'P'Z		27	38		(magnitude 7.2)
		epP'P'Z		28	12		Depth about 170 km.
		iZ			20		
		eSKPP'Z		30	39		
	R	iPNEZ!		01	36	c	
		ipPZ		02	18		
		isPZ			39		
		eSKSE		11	48		
		eSN		12	05		
		esSNE			58		
		eP'P'Z		27	33		
	SB	iPNEZ		01	29	c	
		eE		13	08		
	LJ	iPEZ		01	36		
		eSKSE		11	47		
		esSE		12	55		
	T	iPEZ!	05	01	40	c	
		ipPZ		02	21		
		eSKSZ		11	42		
		eE		13	10		
		eZ		14	17		
		eP'P'Z		27	55		
	H	iPNEZ		01	40	c	
		eSKSNE		11	52		
		eNE		13	29		
Nov. 26	MW	eZ	07	29	02		
	R	eZ		28	55		
Nov. 26	P	iPNEZ	07	55	12	d	Tu iP 07 55 41
		iZ			20		i 59
		iZ			37		
		iSN!	08	05	48		
	MW	iPZ	07	55	13	d	
		iSN	08	05	50		
	R	iPNEZ	07	55	14	d	
		eSNE	08	05	54		
	SB	iPZ	07	55	16		
		eSN	08	05	36		
	LJ	iPZ	07	55	16		
	T	iPZ			07	d	
		eSN	08	05	40		
	H	iPNZ	07	55	11		
		eSN	08	05	45		
Nov. 26	P	ePZ	08	27	06		Tu eP 08 27 32
		iZ		37	28		i 39
	PX	eLN		46.4			i 49
	MW	ePZ		27	08		Near Apia, which reports:
	R	ePZ			06		P 08 16 48
	T	ePZ			16		S 17 48
	H	ePZ			16		
Nov. 26	P	iPZ	18	55	07		Tu iP 18 55 28
	MW	iPZ			06		
	T	iPZ			14		
Nov. 27	P	iPZ	13	39	06	d	
	MW	iPZ			07	d	
	R	iPZ			10		
	T	ePZ			07		

Date	Sta	Phase	h	m	s		Remarks
Nov. 27	P	iPZ	16	38	27		Tu iP 16 37 28 c
	MW	iPZ			27		
	R	iPZ			21		
	LJ	ePZ			16		
	T	iPEZ			45		
	H	ePNEZ			40		
Nov. 28	P	iPZ	03	59	31		Tu iP 03 58 58
	MW	iPZ			31		
	R	iPZ			28		
	T	iPZ			42		
	H	iPZ			40		
Nov. 28	P	eZ	16	13	04		Tu iP 16 12 04
		eZ			16		i(S) 13 57
	PX	eLE		15.8			
	MW	eZ		13	16		
	R	ePZ			01		
	T	iPZ			42		
	H	ePNEZ			29		
Nov. 28	P	iPZ	19	05	44		Tu iP 19 06 19
		iNEZ		06	05		
	PX	eLZ		27.1			
	MW	iPZ		05	45		
	R	iPZ			49		
	T	ePZ			34		
	H	iPZ			39		
Nov. 29	P	iPZ	00	50	07		Tu iP 00 49 26
	MW	ePZ?			00		
		eZ			09		
	R	ePZ		49	57		
		iZ		50	03		
	T	ePZ		50	17		
Nov. 29	P	iPZ	19	03	52	c	Deep. Tu iP 19 04 16 c
		iNE			54		i 19
		iZ!			58		i! 23
		iN		05	13		i 05 06
	PX	iSKSE		14	06		Near 20°S. 171°E.,
		eSN			19		Aftershock of Nov. 24;04 h
		esSE		15	13		
		iZ		16	34		A T
		eLZ		31.0			
	MW	iPNEZ		03	54	c	P 2 3
		iZ		04	43		
	R	iPZ		03	55	c	
		iEZ			57		
		iZ!		04	02		
		iZ			42		
		eP'P'Z		29	57		
		eZ		30	36		
	SB	iPNEZ		03	50		
	LJ	ePZ			54		
		iNEZ			56		
		iZ		04	00		
	T	iPNEZ		03	57	c	
		iZ		04	01		
		iZ!			05		
	H	ePEZ		03	58		
Nov. 30	P	iPNEZ	01	57	49		Deep. Tu iP 01 58 08 c
		iZ		58	33		i 55
	PX	eSEZ	02	07	14		i 59 05
		iNE			52		
		eLN		19.4			Kermadec Islands?
	R	iPZ	01	57	52		
		eZ		58	35		
	SB	iPZ		57	47		
	LJ	ePNEZ			50		
	T	iPNEZ			59		
	H	iPNEZ			57		

Date	Sta.	Phase	h	m	s		Remarks
Dec. 1	P	iPNEZ	04	11	32		Deep! Tu iP 04 11 55
		epPZ		13	34		ipP 13 59
	MW	iPZ		11	34		iPKKP 30 09
		iNEZ!			38		iP'P' 38 19
		epPZ		13	38		ipP'P' 40 47
	R	ePZ		11	35		Pasadena:
		epPZ		13	40		21°S. 178 1/2°W.,
	SB	ePZ		11	28		O=04:00:25
	T	iPEZ			42	d	h=600 km.
		iNEZ			46		
		epPZ		13	43		
	H	ePNEZ		11	40		
		ipPZ		13	45		
		eSN		21.1			
Dec. 1	MW	iPZ	13	14	03		Tu iP 13 14 35
	R	ePZ			04		
	T	ePZ			50		
	H	ePZ			52		
Dec. 1	P	iPNZ	15	06	58		Deep, Tu iP 15 07 26
		ipPZ		07	30		ipP 54
	MW	iPZ		07	00		
		ipPEZ			33		
	R	iPZ			02		
		ipPZ			34		
	SB	iPZ		06	52		
		iZ		07	26		
	T	iPNEZ		06	50	c	
		eZ		07	11		
		ipPZ			16		
	H	iPNEZ		06	54		
		iZ		07	01		
		ipPZ			21		
Dec. 2	P	iZ	03	03	49		Tu e 03 01 52
	MW	eZ		02	41		i 03 02
		eZ		03	50		Two shocks?
	R	eZ			46		
Dec. 2	MW	eZ	14	10	37		Tu e 14 11 17
		iZ			44		
	R	eZ			38		
		eZ			47		
	T	eZ			36		
		iZ			48		
	H	eZ			47		
Dec. 3	P	iPZ	07	55	32		Tu iP 07 56 03
	R	iPZ			35		
		eZ		56	14		
	T	iPZ		55	28		
		iZ		56	06		
		iZ			19		
Dec. 3	P	iPNEZ	09	03	40		
	R	iPZ			58		
Dec. 4	T	iPZ	02	37	41		
Dec. 4	MW	iZ	03	05	55		Tu i 03 06 24
	T	iPZ			37		
		iEZ			45		
Dec. 4	MW	iPZ	10	11	56		Tu iP 10 12 42 d
		iZ		12	06		i 56
	R	iPZ		12	00		
	T	iPEZ		11	40		
		iZ			54		
	Pr	iPNZ		12	06		
Dec. 4	MW	iPZ	11	33	06		Tu eP 11 33 52
		iZ			23		i 34 03
	R	iZ			21		

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
							(Continued)
Dec. 4	T	ePZ	11	32	51		
		iEZ		33	03		
	Pr	ePZ			17		
		iZ			21		
		iZ			29		
Dec. 4	P	iPZ	20	47	15	c	(Deep) Tu iP 20 47 46
		iNEZ!			16		isP 48 07
		ipPZ			28		i 51
		isPZ			35		Reported in the press as felt
	PX	e(S)NE		57	36		on Saipan (about 06:30 Dec. 5)
		iNE			45		Roughly 15°N. 146°E.,
		eLZ	21	13.1			O=20:34:35
	MW	iPNEZ	20	47	16	c	h=50 km
		ipPNZ			29		
		isPZ			37		
		iZ		49	29		
		eSNE		57	45		
	R	ePZ		47	18	c	
		isPZ			38		
		eSNE		57	50		
		eN		58	13		
	SB	ePEZ		47	09		
		ipPNZ			31		
	LJ	iPNEZ			21		
	T	iPZ		47	11	c	
		iZ		48	01		
		eSNE		57	31		
	H	iPZ		47	13		
		ipPZ			27		
		esPZ			54		
	Pr	iPNEZ			21	c	
		ipPNE			36		
		iN			48		
		eSNE		57	44		
		iNE			58		
Dec. 5	P	iPNEZ	01	03	06	d	Deep. Tu iP 01 02 36
		ipPZ			37		ipP 03 08
		isPZ			49		isP 20
	MW	iPNEZ			15		
		ipPZ			37		
		iZ		04	02		
	R	iPZ		03	03		
		ipPZ			34		
		isPZ			46		
	SB	ePZ			12		
		ipPZ			42		
	T	iPZ			17		
		epPZ			49		
		iZ		04	02		
	H	ePZ		03	13		
		ipPZ			47		
		iZ		04	01		
	Pr	iPNZ		02	59	d	
		iZ		03	25		
		ipPZ			31		
		isPZ			43		
Dec. 5	T	iZ	09	33	04		Tu iP 09 33 20
	Pr	ePZ		32	49		i 54
		iZ		34	08		
Dec. 5	P	iPNZ	14	38	04		Tu iP 14 38 22 d
	MW	iPZ			04		i 32
	R	iPZ			05		North of New Zealand
	T	iPZ			13		
	H	iPNEZ			10		
	Pr	iPNEZ!			06	d	
		iZ			14		

Date	Sta	Phase	h	m	s	Remarks
Dec. 5	P	iPNEZ	14	44	10	Normal. Tu iP 14 43 03
	PX	eLNE		46.5		Mexico
	P	iSNE		48	09	JSA: 25°N. 110°W.,
	MW	ePZ		44	09	O=14:41:22
		eSEZ		48	05	
	R	ePZ		44	02	
	T	iPZ			43	
	H	iPNZ			32	
		eNE		48	36	
	Pr	iPNEZ		43	51	
		eSNZ		46	51	
Dec. 5	P	iZ	14	55	45	Normal. Tu iP 14 55 51
	PX	eLZ?	15	03.7		i 56 06
		eNEZ		05.6		
	MW	ePZ	14	55	39	
		eZ			44	
		iZ			53	
	R	ePZ			37	
		iZ			49	
	T	eZ			47	
	H	iZ			52	
	Pr	iPZ			40	
		iZ			48	
		iZ		56	04	
Dec. 5	P	iPEZ	17	12	08	Normal. Tu iP 17 11 04
		iNEZ			13	Mexico
	PX	eLNE		14.5		JSA: 25°N. 110°W.
	MW	ePZ		12	10	O=17:09:20
	R	ePZ			01	
	LJ	ePNEZ		11	54	
	T	ePNEZ		12	42	
	H	iPNEZ			31	
	Pr	iPNZ		11	51	
		iEZ			58	
		iZ		12	07	
Dec. 6	P	iPZ	05	00	44	Tu iP 05 01 09
	MW	iPZ			45	Near Apia, which reports:
	R	ePZ			47	P 04 49 40
	T	iPZ			54	S 50 06
	H	iPZ			51	
	Pr	iPNEZ			47	
Dec. 6	P	iPZ	16	38	53	Tu iP 16 39 26
	MW	iPZ			54	Japan?
	R	ePZ			59	
	T	iPZ			45	
	Pr	iPZ		39	04	
Dec. 7	P	iPZ	04	11	51	Tu eP 04 11 19
	MW	iPZ			50	South America?
	T	ePZ		12	11	
	H	iPZ			05	
	Pr	iPZ		11	41 c	
Dec. 7	P	iPEZ	04	48	05 c	Normal. Tu iP 04 48 35
		iZ			19	i 44
		iZ!			37	iP'P' 05 14 50
	PX	iPPE		51	30	Destructive in Japan
		eSE		58	22	Great earthquake(magnitude 8)
		iSNE			31	A T
		iSSNE	05	04	11	P 6 3
		iGN		10	17	S 40 20
	MW	iPZ	04	48	06	L 600 20
		eSNE		58	27	USCGS: 33°N. 137°E.,
		iPKKPZ	05	07	11	O=04:35.7
		eP'P'Z		14	43	
		iZ			54	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
						(Continued)
Dec. 7	R	ePZ	04	48	09	
		ePKKPZ	05	06	48	
		eP'P'Z		14	43	
	SB	ePZ	04	48	00	
	LJ	ePNEZ			16	
	T	iPZ		47	57	
		iZ		48	14	
		iZ			29	
		eSN		58	12	
		iPKKPZ	05	07	00	
		eP'P'Z		14	48	
	H	ePZ	04	48	00	
		iPKKPZ	05	07	04	
		iP'P'Z		14	45	
	Pr	iPEZ	04	48	13 c	
		iEZ!			20	
		iNEZ			28	
		iE!		50	01	
		eSNE		58	44	
		iPKKPZ	05	06	58	
		iP'P'Z		14	17	
Dec. 7	R	iZ	05	42	55	
	T	iZ			22	
	H	iZ			18	
	Pr	ePZ			31	
Dec. 7	MW	iPZ	06	00	27	
	R	iPZ			30	
	T	iPZ			18	
	H	iPZ			22	
	Pr	iPZ			34	
Dec. 7	MW	iPZ	06	14	59	
	T	ePZ			47	
	H	ePZ			45	
Dec. 7	P	iPNEZ	06	37	56	Tu eP 06 38 24
		iSN		48	04	
	MW	iPNEZ		37	56	Japan
	R	iPZ			59	
	SB	iPZ			50	
	T	iPZ			47	
	H	iPZ			51	
	Pr	iPNEZ		38	03 c	
		eSN		48	30	
Dec. 7	P	ePZ	07	01	11	Tu eP 07 01 39
	MW	ePNZ			11	
	R	ePZ			15	
	T	ePZ			00	
	H	iPZ			06	
	Pr	ePZ			17	
Dec. 7	P	iPZ	15	18	00	Tu iP 15 18 23
	MW	iPZ			02	
	R	iPZ			03	
	T	iPZ			09	
	Pr	iPNEZ			05	
Dec. 7	P	ePNEZ	21	10	04	Tu iP 21 10 36
	PX	eLN		31.7		
	MW	iPZ		10	05	
	R	iPZ			07	
	T	iPZ		09	56	
	H	iPZ		10	01	
	Pr	iPZ			12	
Dec. 7	P	ePZ	21	35	44	Tu eP 21 36 15
		iZ			52	
	MW	ePZ			45	
	R	ePZ			44	
		iZ			51	
	Pr	ePZ			48	

Date	Sta.	Phase	h	m	s	Remarks
Dec.7	MW	iPZ	22	53	42	Tu iP 22 54 16
	R	iPZ			45	Japan?
	T	iPZ			31	
	H	iPZ			35	
	Pr	iPZ			50 d	
Dec.7	P	eZ?	23	00	44	Tu iP 23 01 09
	MW	iPZ			48	Southwest Pacific
	R	iPZ			51	
	T	iPZ			54	
	H	ePZ			54	
	Pr	iPZ			50	
Dec.8	P	iPZ	01	22	28	Normal. Tu iP 01 22 50
	PX	eLZ		48.5		Near Apia, which reports:
	R	iPZ		22	30	P 01 12 22
	T	iPZ			38	S 13 38
	H	ePEZ			36	
	Pr	iPNEZ			31 c	
Dec.8	P	iPZ	07	29	54	Deep. Tu iP 07 30 17
		eNZ		30	16	Roughly 22°S.170°E.,
	PX	eLZ		57.5		O=07:17.0
	R	ePZ		29	56	h=100 km
		iZ		30	18	
	T	ePZ			00	
		iZ			23	
	Pr	iPZ		29	56	
Dec.8	PX	eLNEZ	08	47.7		
Dec.8	P	iPNEZ	13	12	13	Deep. Tu eP 13 12 36
	PX	eZ		24.5		Roughly 22°S.170°E.,
		eLZ		39.8		O=12:59.3
	R	ePZ		12	16	h=100 km.
		iZ			31	
	T	ePZ			20	
	H	ePZ			19	
	Pr	iPEZ			16 c	
Dec.8	Pr	iPZ	13	27	37	Tu eP 13 26 55
Dec.8	T	iPZ	13	37	52	Tu eP 13 38 32
	Pr	iPZ			50	
Dec.8	Pr	iPZ	14	33	58	
Dec.8	P	iPZ	16	39	37	Tu iP 16 40 02
	R	iPZ			40	Felt at Apia, which gives:
	T	iPNEZ			47	14.7°S. 173.4°W.,
	H	iPZ			44	and reports
	Pr	iPEZ			40	P 16 28 55
						S 29 18
Dec.8	P	iPNEZ	18	33	08 c	Normal. Tu iP 18 33 41
		eSE		43	15	Japan
	PX	eLN		54.8		
	R	iPZ		33	12	
	T	iPZ			01	
	H	ePEZ			04	
	Pr	iPEZ			17	
Dec.8	T	iPEZ	22	13	36	
	H	iPZ			40	
	Pr	ePZ			49	
Dec.9	P	ePZ	00	23	03	Tu eP? 00 23 39
	MW	iPZ			03	
	R	iPZ			06	
	T	iPZ		22	55	
	H	iPZ			59	
	Pr	iPZ		23	11	
Dec.9	MW	iPZ	02	04	52	Tu eP 02 05 17
	T	ePZ			43	
	H	iPZ			45	
	Pr	iPZ			56	
Dec.9	P	iPNEZ!	07	58	43 d	Deep. Tu iP! 07 59 07 d
		iZ		59	26	i 44
		iZ			47	Near Apia, which reports:
		(Continued)				P 07 48 56 ±

Date	Sta.	Phase	h	m	s	Remarks
		(Continued)				
Dec.9	MW	iPNEZ!	07	58	43 d	
		iZ		59	55	
	R	iPZ!		58	45 d	
		eZ		59	59	
	T	iPNEZ		58	42 d	
	H	iPNEZ!			51 d	
	Pr	iPNEZ!			47 d	
		iNZ		59	58	
Dec.9	P	iPZ	11	56	25	Tu iP 11 56 39
	MW	iPZ			25	
	R	ePZ			23	
	T	ePZ			30	
	H	ePZ			33	
	Pr	iPZ			27	
Dec.9	P	iPZ	18	18	04	Tu iP 18 18 26
	MW	iPZ			04	
	R	ePZ			06	
	T	iPZ			13	
	Pr	iPNEZ			06	
Dec.10	P	iP'Z	05	31	39 d	Normal. Tu iP' 05 31 40 d
		iZ		32	08	i- 33 01
		iP2'Z			49	iPP 36 48
		iNEZ		33	03	Pasadena distant 173°
		iPPNZ		36	39	A T
	PX	eN		40	15	PP 0.3 3
		ePcPP'Z			44	L 15 20
		iZ		41	02	magnitude about 6 3/4
		eSKKSN		43	26	
		eZ		44	49	Near 26°S.65°E.,
		eSSN		57.9		O=05:10.6
		eLN	06	29		
	MW	iP'Z	05	31	39 d	
		iP2'Z		32	51	
		eZ		34	23	
		iPPNZ		36	37	
	R	eP'Z		31	39	
		ePPZ		36	34	
	SB	eP'Z?		31	28	
		eZ		32	47	
		ePPZ		36	39	
	LJ	eP'Z		31	39	
	T	eP'EZ		31	37	
		iPPZ		36	28	
	H	eP'Z		31	38	
		eP2'Z		32	43	
		ePPZ		36	33	
	Pr	iP'EZ		31	41 d	
		iP2'Z		32	57	
		iPPNEZ!		36	50	
		ePcPP'Z		40	47	
		iZ		43	19	
Dec.10	P	iPEZ	09	39	49	Deep. Tu iP 09 40 21
		ipPZ		41	59	epP 42 29
	MW	iPZ		39	50 c	iPP 44 07
		ipPZ		41	59	Region of Japan;
	R	iPZ		39	53	depth about 600 km?
	SB	iPNEZ			44	
	T	iPNEZ			45 c	
		ipPZ		41	47	
	H	iPNEZ		39	48 c	
	Pr	iPZ			54 c	
		epPZ		42	03	

Date	Sta.	Phase	h	m	s		Remarks
Dec. 10	P	iPNEZ	16	37	45	c	Normal? Tu iP 16 38 09
	PX	eSKSZ		47	49		i 13
		iSNE		48	11		i 23
		iPPSE		49	44		iP'P' 17 03 34
		eLNZ	17	00.6			USCGS: 18°S. 167°E.,
	P	iP'P'Z		03	44		O=16:24.9
	MW	iPZ	16	37	46	c	
		iSNE		48	11		A T
	R	iPNEZ		37	47	c	P 2 5
		eSNEZ		48	13		S 7 7
		eP'P'Z	17	03	43		L 70 20
	SB	iPZ	16	37	40		Major earthquake
		eSE		48	04		(magnitude 7.2)
	LJ	iPNEZ		37	46		
		iSE		48	11		
	T	ePZ		37	50		
		iSEZ		48	18		
		eP'P'Z	17	03	42		
	H	iPNEZ	16	37	50		
		eSNE		48	18		
	Pr	iPNEZ		37	49	c	
		iZ			53		
		iZ		38	04		
Dec. 10	P	iPNEZ	16	57	17		
		iNEZ			26		Normal? iP 16 57 49
	MW	iPZ			37		i 58 01
		iZ			25		
	R	iPZ			40		Aftershock
		iZ			27		
	SB	iPZ			40		
	LJ	ePZ			22		
	T	iPZ			27		
		iZ			31		
	H	iPNEZ			44		
		iZ			32		
	Pr	iPZ			43		
		iZ			29		
Dec. 10	P	iPNZ	19	43	41		
		iZ			09		Tu iP 19 43 11
		eZ			42		i 53
		eZ		47	17		
	MW	iPZ		51	22		
		iZ		43	09		
		iNZ			39		
	R	ePZ			43		
		iZ			07		
		eZ			42		
	LJ	eZ		47	24		
	T	ePZ		43	47		
		iZ			06		
		iZ			32		
	H	ePZ		47	05		
		iNEZ		43	08		
		eZ			35		
	Pr	iPZ		47	10		
		iNZ		43	11		
		iEZ			47		
Dec. 11	P	iPZ		47	28		
	MW	iPZ	05	30	43		Tu e? 05 31 09
	R	iPZ			45		
	H	iPZ			46		
	Pr	iPZ			48		
		iZ			49	c	

Date	Sta.	Phase	h	m	s		Remarks
Dec. 12	MW	iPZ	01	20	43		Tu iP 01 21 05
	R	ePZ			46		
	T	iPNEZ			54		
	Pr	iPZ			45		
Dec. 12	P	iPZ	04	25	38		Normal. Tu iP 04 26 24 c
		i(pP)EZ			45		i 29
		iZ			52		iPcP 27 38
		iPcPZ		27	18		iPP 28 53
	PX	ePPE		27	52		i 29 51
		iPcSZ		31	46		iPcS 31 36
		iSNEZ		32	27		i 54
		iScSN		35	32		iS 34 04
		isSN			50		i 25
		iLN		36	06		iP'P' 56 26
	P	eP'P'Z?		56	46		USCGS: 51.5°N. 179°E.,
	MW	iPNEZ		25	40		O=04:17.0
		eSNE		32	26		JSA: 52.0°N. 176.7°W.,
	R	iPZ		25	44		O=04:17:24
		eSNE		32	35		
	LJ	ePEZ		25	50		A T
		eSE		32	48		P 4 3
	T	iPZ		25	23	c	S 6 7
		iNEZ!			31		L 100 20
		iNZ!			36		Major earthquake
		iZ		31	00		(magnitude 7)
		eSE		32	03		
		eScSZ		35	14		
		eP'P'Z		56	31		
	H	ePEZ		25	30		
		iNEZ			35		
		iPcPZ		27	08		
		eSE		32	09		
	Pr	iPNEZ		25	50		
		iSNE		32	50		
Dec. 12	MW	iPZ	09	35	50		Tu iP 09 36 34
	T	iPZ			35		
		iZ		38	46		
	Pr	iPZ		36	00		
Dec. 12	MW	ePZ	10	09	59		Tu e 10 10 49
	T	ePZ			46		
	Pr	iPZ		10	11		
Dec. 12	P	iPEZ	10	37	32	c	Normal? Tu iP 10 38 03 c
		iZ			59		i 41 28
		eZ		39	59		Region of Japan?
		iSE		47	48		
	PX	eLN	11	01.0			
	MW	iPNEZ	10	37	33	c	
	R	iPNZ			35	c	
	SB	iPNEZ			27		
	LJ	ePEZ			41		
	T	iPNEZ			24		
		iZ			32		
	H	iPEZ			28		
	Pr	iPNZ!			40	c	
		iZ			48	d	
		iZ		38	04		
		iNZ		40	52		
		eSN		47	53		
Dec. 12	MW	iPZ	17	26	46		Tu iP 17 27 06
	Pr	iPZ			48		
Dec. 12	P	ePZ	20	42	13		Tu iP 20 41 24
	MW	ePZ			12		
	T	ePZ			23		
	Pr	ePZ			01		

Date	Sta	Phase	h	m	s		Remarks
Dec 13	P	iPZ	06	48	48		Tu eP 06 49 10
	MW	ePZ			41		
	R	iPZ			44		
	T	ePZ			37		
	H	iPZ			39		
Dec 14	MW	iPZ	20	37	16	c	Tu iP 20 37 39
	R	iPZ			18		
	T	iPZ			22		
	Pr	iPZ			19	c	
Dec 15	P	iPZ	04	58	26		Tu eP 04 57 25
	MW	iPZ			26		
	R	ePZ			24		
	T	iPZ			51		
	Pr	ePZ			17		
		iZ			26		
Dec 15	T	iPZ	05	21	05		
Dec 15	P	iPZ	08	18	02	c	Tu iP 05 19 44
	MW	iPZ			02	c	Tu eP 18 18 33 c
	R	iPZ			04	c	
	T	iPNEZ		17	47	c	
	H	ePNE			53		
	Pr	iPNZ		18	11	c	
Dec 15	P	i(P)Z	14	04	02		Tu e 14 03 03
	R	ePZ		03	49		
		eZ		04	00		
	T	ePZ			03		
	Pr	iPZ		03	49		
Dec 16	P	iPZ	14	32	28		Tu iP 14 32 54
	MW	iPZ			29		Near Apia, which reports:
	R	iPZ			31		P 14 21 42
	T	iPZ			39		S 22 05
	Pr	iPNZ			31		
Dec 16	MW	iPZ	15	43	25		Tu eP 15 43 54
	R	iPZ			29		
	T	iPEZ			18		
	Pr	iPZ			33		
Dec 16	P	iPZ	19	48	30		Tu iP 19 48 53
	MW	iPZ			30		
	R	iPZ			31		
	Pr	iPNZ			33		
Dec 17	P	iPEZ	07	31	44	c	Deep. Tu iP 07 32 12
		ipPZ			58		epP 26
	MW	iPEZ			45		
		ipPZ			58		
	R	iPNZ			47	c	
		iZ		32	01		
	SB	ePZ		34	38		
	LJ	iPZ			51		
	T	iPNEZ			37	c	
		iZ			51		
	H	ePNE			40		
	Pr	iPNZ			50	c	
		iZ		32	05		
Dec 17	P	iZ	07	42	33		Tu iP 07 41 04
	R	iPZ		41	55		
	T	eZ		42	16		
	Pr	iPZ		41	47		
		iZ		42	45		
Dec 17	P	iPZ	14	03	49		Tu iP 14 04 15
	PX	eLZ		25.6			i 29
	MW	ePZ		03	49		Near Apia, which gives
		iZ		04	08		14.6°S. 173.1°W.,
	R	ePZ		03	52		and reports
	T	ePZ		04	00		P 13 52 51
		iZ			35		S 53 12
	H	ePE			00		
	Pr	iPNZ		03	52		

Date	Sta	Phase	h	m	s	Remarks
Dec 17	MW	ePZ	21	30	41	
	R	ePZ			45	
		eZ		31	09	
	T	ePZ		30	42	
Dec 18	Pr	iPZ	10	13	45	Tu iP 10 12 54
Dec 18	MW	iZ	10	39	30	Tu iP 10 39 48
	R	ePZ			24	
	T	iPZ			30	
	Pr	iPZ			24	
Dec 18	T	iPZ	17	50	42	Tu iP 17 49 33
	Pr	iPZ			14	
Dec 19	P	ePZ	14	21	41	Normal? Tu iP 14 22 08
		iZ		22	08	Region of Japan
	PX	eLNZ		49.6		
	MW	iPZ		21	41	
	R	iPZ			42	
	SB	ePZ			35	
	T	iPNZ			31	
	H	ePNE			37	
	Pr	iPZ			58	
		eSN		32	28	
Dec 19	R	ePZ	15	49	35	Tu eP 15 49 08
	Pr	iPZ			36	
Dec 19	P	ePZ	20	48	29	Tu iP 20 49 04
		eZ			42	i 15
		iZ			49	
	MW	ePZ			29	
		iZ			45	
	R	eZ			48	
	T	eE			34	
	Pr	eZ			38	
		iZ			47	
		eNZ			54	
Dec 20	P	ePZ	14	31	53	Tu eP 14 32 14
	PX	eLZ		57.8		
	MW	ePZ		31	49	
	R	ePZ			54	
	T	ePZ		32	04	
	H	ePE			01	
	Pr	iPZ		31	51	
Dec 20	P	iPZ	20	28	01	Tu iP 20 28 31
	MW	iPZ			01	Region Japan?
	R	iPZ			04	
	LJ	iPE			15	
	T	iPZ		27	54	
	H	ePE			58	
	Pr	iPNZ		28	08	d
Dec 20	P	iPZ	20	57	33	Normal? Tu iP 20 57 52
	PX	eLZ	21	23.2		i 58 07
	MW	iPZ	20	57	34	i 28
	R	iPZ			35	Felt in the Kermadec Islands,
	T	ePZ			42	according to Wellington
		iZ			54	
	H	ePE			42	
	Pr	ePZ			34	
Dec 20	P	iZ	23	33	23	Normal? Tu iP 23 32 29
	PX	eLZ	24	03.6		i 41
	MW	ePZ	23	33	11	
	R	ePZ			13	
	T	ePZ			21	
	Pr	ePZ			13	
Dec 21	P	iPZ	04	03	16	Tu eP 04 03 38
	MW	iPZ			15	
		iZ			50	
	R	iPZ			19	
		iZ			56	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
						(Continued)
Dec. 21	T	iPZ	04	03	18	
	Pr	ePZ			23	
Dec. 21	P	iPZ	05	21	25	Tu iP 05 22 43
		iSNEZ		23	07	Northern California
	PX	eLN		23.5		
	MW	ePZ		21	26	
	T	ePEZ			02	
		eSNE		22	38	
	H	ePNE		21	16	
	Pr	ePN			51	
Dec. 21	P	iPZ	09	14	12	Tu iP 09 14 35 c
		eZ			42	i 15 02
	MW	iPEZ			13	
	R	iPZ			16	
		eZ			43	
	SB	ePZ			09	
	T	iPZ			20 c	
	H	ePNE			20	
	Pr	ePN			16	
Dec. 21	P	iPZ	09	53	00	Tu. iP 09 53 23
	MW	iPZ			00	
	T	iPZ			09	
	Pr	iPN			04	
Dec. 21	P	iPZ	09	59	55	Tu iP 10 00 08
	MW	iPZ			54	
	R	iPZ			57	
	T	iPZ			55	
	H	ePNE			57	
Dec. 21	P	iPZ	17	59	18	Tu iP 17 59 42 c
	MW	iPZ			18	Near Apia, which reports
	R	iPZ			21	P 17 50 11
	T	iPEZ			26	S 51 40
	H	ePE			26	
	Pr	ePN			22	
Dec. 21	P	iPZ	20	26	15	Normal? Tu eP 20 26 34
		iEZ			28	i 42
		iZ			33	i 48
	PX	eSNE		36	40	i 27 06
		eLNE		51.9		e 31 01
	MW	ePZ		26	17	ePKKP 44 24
		eSE		36	44	
	R	ePZ		26	19	Felt in Kermadec Islands
		eZ			26	according to Wellington
		iZ			32	
		eSNE		36	44	
	LJ	ePEZ		26	21	
	T	iPZ			26	
		iNEZ			34	
	Pr	ePN			19	
		iN			32	
Dec. 21	P	iPEZ	22	40	13	Normal? Tu iP 22 40 28
		iZ			25	Kermadec Islands?
		iSNE		50	39	
	PX	eLNEZ	23	05.7		
	MW	ePZ	22	40	14	
	T	ePZ			20	
		iZ			36	
		iZ			40	
	Pr	ePN			27	
Dec. 22	P	eZ	01	58	46	Tu eP 01 58 48
	MW	eZ			46	i 59 01
	R	eZ			47	
	T	eZ			40	
	Pr	eN			47	

Date	Sta	Phase	h	m	s	Remarks
Dec. 22	P	eZ	02	08	12	Tu iP 02 08 29
	MW	eZ		07	48	
	R	eZ		08	13	
	T	eZ			19	
Dec. 22	R	iPZ	03	24	46	Deep? Tu iP 03 24 15
		iZ		25	13	e 41
	T	iPZ			01	
		iZ			28	
Dec. 22	P	ePZ	05	47	52	Normal? Tu iP 05 48 11
		iZ		48	07	i 21
	PX	eLZ	06	13.7		i 26
	MW	iPZ	05	47	55	Kermadec Islands?
	R	ePZ			56	Resembles Dec. 21, 20 h
		iZ		48	06	
	SB	eZ		47	56	
	LJ	eZ		48	05	
	T	ePZ			05	
		iZ			21	
	H	ePE			11	
		eNE			24	
		iNE			37	
	Pr	eE		47	57	
Dec. 22	MW	ePZ	09	09	19	Tu eP 09 09 30
	R	ePZ			15	
	T	ePZ			46	
Dec. 22	T	iPZ	09	51	48	Tu iP 09 51 50
		iZ		52	03	
Dec. 22	P	iPZ	10	48	41	Normal. Tu iP 10 49 09
	PX	eLZ	11	29.2		i 33
	MW	ePZ	10	48	42	
	R	ePZ			45	
	T	ePZ			45	
		iZ		49	05	
		iZ			15	
	Pr	iPNE		48	50	
Dec. 22	P	ePZ?	15	17	54	Tu iP 15 18 44
	T	iPZ		18	37	
Dec. 22	P	iPZ	16	00	37	Tu iP 16 01 02
	MW	ePZ			39	
	R	ePZ			39	
	T	ePEZ			46	
	H	ePE			48	
	Pr	eE			48	
Dec. 22	P	iPZ	23	43	21 d	Tu iP 22 42 47
		iPcPZ!			33	iPcP! 43 01
		ipPZ			50	i 10
		iZ		45	00	i 20
		iPPZ		46	29	i 33
		iSN		52	59	iPKKP 23 03 18
	PX	eLN	23	03.3		eP'P' 10 52
	P	iPKKPZ		03	53	Magnitude about 6 1/2
		iP'P'Z		10	52	JSA: 25°S. 70°W.,
	MW	iPNEZ	22	43	21	O=22:32:03
		iPcPNEZ!			35	h=150 km
		iZ			47	
		eSN		52	55	
		ePKKPZ	23	03	39	
		eP'P'Z		10	50	
	R	iPZ	22	43	17	
		iPcPZ			32	
		ipPZ			40	
		eSN		52	52	
		ePKKPZ	23	03	39	
		eP'P'Z		11	00	

(Continued)

Date	Sta.	Phase	h	m	s		Remarks
				(Continued)			
Dec. 22	SB	ePZ	22	43	26		
		iPcPZ			41		
	LJ	ePEZ			14		
		iPcPZ			26		
	T	iPZ			33	c	
		iPcPZ			47		
		ipPZ		44	05		
		iZ		45	01		
		iZ		46	27		
		eSE		53	22		
		ePKKPZ	23	03	15		
		eP'P'Z		10	43		
	H	ePZ	22	43	25		
		iZ!			43		
		ipPZ		44	00		
		iZ		45	12		
		eSNE		53	12		
	Pr	iPNEZ	22	43	15		
		iPcPNEZ			28		
		eSNE		52	44		
		ePKKPNE	23	03	44		
Dec. 23	P	iPNEZ!	08	17	01	d	Tu iP 08 18 08
		iNEZ			05		Felt in Owens Valley
		iSEZ			32		36°24'N.117°55'W.
	MW	iPZ			00	d	O=08:16:22
	R	iPNEZ			03		Magnitude 4.7
		iSZ			36		
	SB	ePEZ			06		
		iSE			41		
	LJ	ePZ			27		
		iSEZ		18	13		
	T	iPNEZ!		16	36	d	
		iSNEZ!			46		
	H	iPNEZ!			28	d	
	Pr	iPZ		17	13		
Dec. 23	P	ePZ	17	00	48		Normal? Tu e 17 01 33
		iZ			53		
		iZ		02	18		
	PX	eLZ		41.6			
	MW	eZ		00	53		
	R	ePZ			47		
	T	iPZ			55		
		eZ		02	31		
Dec. 23	P	iPZ	21	59	53	c	
	MW	iPZ			55	c	
	R	iPZ			56		
	T	ePZ			55		
Dec. 24	P	ePZ	03	40	14		Deep. Tu iP 03 39 36
		eZ			29		
	MW	iPZ			15		
		iZ			27		
	R	iPZ			11		
		eZ			26		
Dec. 24	MW	ePZ	13	30	55		Tu iP 13 31 18
	R	ePZ			57		
	T	ePZ		31	03		
	Pr	ePN			00		
Dec. 24	MW	iPZ	15	05	17		Tu iP 15 05 30
		eZ		06	20		
	R	iPZ		05	22		
	T	ePZ			17		
Dec. 25	P	iPZ	10	46	11		Tu eP 10 46 39
	MW	iPZ			12		
	R	iPZ			14		
	T	iPZ			02		
	H	ePNE			06		
	Pr	iPZ			18		

Date	Sta	Phase	h	m	s		Remarks
Dec. 25	P	iPZ	13	19	16		Tu iP 13 19 00 c
		iNEZ			22		
	MW	ePZ			15		
		iZ			21		
	R	iPZ			14		
		iZ			26		
	T	iPZ			19		
		iZ			27		
	Pr	iPZ			12		
Dec. 26	T	ePZ	03	00	23		Tu iP 02 59 22
	Pr	iPZ	02	59	54		
Dec. 26	P	eZ	04	32	36		
	MW	iZ			37		
	R	ePZ			42		
		iZ			55		
Dec. 26	P	iPZ	05	04	05		Tu iP 05 04 25
	MW	iPZ			05	c	
	R	iPZ			06	c	
	T	iPZ			13		
	H	ePN			11		
	Pr	iPZ			07	c	
Dec. 27	P	iPZ	03	14	11		Tu eP 03 14 32
	MW	iPZ			09		Small surface waves
	R	ePZ			11		recorded.
	T	ePE			20		
	H	ePNE			22		
	Pr	ePZ			09		
Dec. 27	MW	ePZ	06	20	55		Tu eP 06 21 18
	Pr	ePZ			56		
Dec. 27	P	iPEZ	14	18	40	c	Normal?
		iZ			48		Shock near Mauna Loa,
	PX	eLEZ		27	49		Hawaii (BSSA 35,p.43)
	MW	iPEZ!		18	41	c	
	R	iPEZ			44	c	
	SB	iPNEZ			30		
	LJ	iPNEZ			45		
	T	ePE			42		
	Pr	iPZ			48		
		iZ!			56		
		iZ		19	05		
Dec. 27	P	iPEZ	15	38	37	c	Deep. Tu eP 15 39 24
		ipPZ		39	16		iPKKP 56 13
	PX	iE		49	32		eP'P' 16 12 04
		iE		50	07		
	MW	iPZ		38	58	c	Pasadena:
		ipPZ		39	17		6 1/2°S.152°E.,
		iZ			22		O=15:25:49
		eE		49	30		h=90 km.
	R	iPZ		38	59	c	Magnitude 7.0
		iZ		39	17		
		eE		49	34		A T
	SB	iPZ		38	54		P 2 4
	LJ	ePEZ		39	01		S 4 5
	T	ePE		38	58		
	H	ePNE		39	01		
	Pr	iPZ		39	01		
		iZ			09		
		ipPZ			19		
		eZ		41	45		
		eN		49	37		
Dec. 27	P	iPZ	19	20	01		Normal: Tu eP 19 19 36
		iZ			18		
	PX	eLN		31.7			
	MW	iPZ		20	04		
	R	ePZ		19	59		
	Pr	ePNZ			55		

Date	Sta.	Phase	h	m	s		Remarks				
Dec. 28	P	iPZ	01	18	52		Normal?				
		iZ		19	30		New Britain?				
		eZ		22	02						
		eSNE		29	30						
	PX	eLN		44.4							
	MW	ePZ		18	50						
		iNEZ		19	44						
		eSE		29	31						
	R	iPZ		18	56						
	T	ePNE			55						
	Pr	ePZ			56						
		eSN		29	38						
Dec. 29	P	iPZ	11	14	39		Tu	iP	11	15	10
	MW	iPZ			39						
	R	iPZ			42						
	Pr	iPZ			46						
Dec. 29	P	iPZ	14	02	42	c	Tu	iP	14	03	09
	R	ePZ			42						
	T	ePE			34						
	Pr	iPNZ			47						
Dec. 29	P	iPNZ	23	02	05		Normal.	Tu	eP	23	01	23
	PX	eLNE		09.1							
	MW	iPNEZ		02	06						
	R	iPZ			01						
	T	ePNE			29						
	H	ePNE			23						
	Pr	iPNZ		01	54						
Dec. 29	P	iPZ	23	09	40		Tu	iP	23	09	04
	MW	iPZ			41						
	R	ePZ			34						
	T	ePE		10	05						
	H	ePNE			00						
	Pr	iPZ		09	27						
Dec. 29	P	iPNEZ	23	51	20		Tu	iP	23	50	41
		iZ			29			i			54
		iZ		54	32						
	PX	eLNE		58.6							
	MW	iPZ		51	21						
	R	iPZ			16						
	T	ePNE			47						
	H	ePNE			39						
	Pr	iPNZ			10						
Dec. 30	R	ePZ	04	16	00		Tu	iP	04	15	18
Dec. 30	MW	ePZ	05	08	58		Tu	eP	05	08	18
	R	ePZ			56						
	Pr	ePZ			47						
		iZ			52						
Dec. 30	P	iPZ	08	52	28						
	MW	iPZ			29						
	R	iPZ			31						
	Pr	iPZ			34						
Dec. 30	P	iPZ	19	58	40		Tu	iP	19	59	25
	MW	iPZ			37						
	R	ePZ			30						
		iZ			49						
	T	eZ		59	00						
	Pr	ePZ		58	49						
		iZ			50						
Dec. 30	R	iPZ	05	16	08						
	Pr	ePZ			13						
Dec. 30	P	iNEZ	22	06	02		Tu	eP	22	07	11
		iZ			11		Coast of Oregon?				
		iZ			33						
	PX	iZ		07	39						
		eLN		08.1							

(Continued)

Date	Sta.	Phase	h	m	s		Remarks				
					(Continued)						
Dec. 30	MW	iPEZ	22	05	59						
	R	ePZ		06	05						
	T	ePZ		05	26						
		iNZ			34						
	H	iPNZ			47						
	Pr	ePZ		06	18						
Dec. 31	R	iPZ	03	04	37		Tu	iP	03	04	15
		iZ		05	18			i			40
	T	iPZ			02						
Dec. 31	MW	iPZ	13	39	41		Tu	iP	13	39	58
	R	iPZ			42						
	T	iPZ			51						
	H	iPZ			48						
	Pr	iPZ			42	c					
Dec. 31	P	ePZ	21	47	55		Tu	iP	21	48	44
	MW	iPZ			56						
	R	ePZ		48	02						
	T	ePZ			03						
	Pr	iPZ			03						
Dec. 31	P	ePZ	22	02	00		Tu	iP	22	01	08
	PX	eLN		10.2							
	MW	ePZ		02	01						
	R	ePZ		01	55						
	T	ePEZ		02	18						
	Pr	ePZ		01	47						

C. F. Richter
June 6, 1945

Appendix

Larger shocks of 1944

Epicenters, origin times, depths and magnitudes revised by B. Gutenberg.

	O	Lat.	Long.	Depth	Magnitude
Jan. 7	02 49 16	4 1/2 S.	142 E.	120 km.	7.1
Jan. 15	23 49 30	31 1/4 S.	68 3/4 W.	50 km.	7.4
Feb. 1	03 22 36	41 1/2 N.	32 1/2 E.	normal	7.5
Feb. 29	03 41 53	14 1/2 S.	70 1/2 W.	200 km.	7
Feb. 29	16 28 07	1/2 N.	76 E.	normal	7.3
Mar. 9	22 13 05	46 N.	83 1/2 E.	normal	7.2
Mar. 22	00 43 18	8 1/2 S.	123 1/2 E.	220	7.2
Apr. 26	01 54 15	1 S.	135 E.	50 km.?	7.2
Apr. 27	14 38 14	1 S.	134 1/2 E.	50 km.?	7.3
May 25	12 58 13	3 S.	153 E.	normal	7.5
June 21	10 58 20	22 S.	169 E.	50 km.?	7.0
June 28	07 58 54	15 N.	92 1/2 W.	normal	7.0
July 19	10 21 00	28 N.?	144 E. ?	normal	7
July 27	00 04 23	54 N.	165 1/2 W.	70 km.	6.9
Aug. 15	11 47 45	13 N.	146 E.	110 km.	6.9
Sept. 3	19 11 25	58 S.	120 W.	normal	7
Sept. 11	09 45 25	1 N.	127 E.	40 km.?	7.2
Sept. 23	12 13 20	54 N.	160 E.	40 km.	7.1
Oct. 2	20 29 55	44 1/2 N.	143 E.	70 km.	6.9
Oct. 5	17 28 27	22 1/2 S.	172 E.	120 km.	7.2
Nov. 15	20 47 01	4 N.	128 E.	normal	7.1
Nov. 16	12 10 58	12 1/2 S.	167 E.	normal	7.5
Nov. 24	04 49 03	19 S.	169 E.	170 km.	7.2
Dec. 7	04 35 42	33 N.	136 E.	normal	8
Dec. 10	16 24 58	18 S.	168 E.	60 km.?	7.2
Dec. 12	04 17 10	51 1/2 N.	179 1/2 E.	50 km.?	7.0
Dec. 27	15 25 49	6 1/2 S.	152 E.	90 km.	7.0