



CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY
BULLETIN

JANUARY - MARCH 1947

(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
Palomar	33 21' 3	116 51' 6	1700	Pr
La Jolla	32 51' 8	117 15' 2	8	LJ
Santa Barbara	34 26' 5	119 42' 9	100	SB
Haiwee	36 08' 2	117 57' 9	1100	H
Tinemaha	37 05' 7	118 15' 5	1180	T

In the columns headed "Sta." P denotes readings for short-period instruments, and PX for long-period instruments, all at Pasadena. The three components are indicated by N, E, Z. Where no such letter is given, the motion is recorded in the vertical component only.

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.

All stations except Palomar are equipped with a pair of horizontal component Wood-Anderson torsion seismometers and a short-period Benioff vertical component seismometer. Pasadena also has long-period Benioff seismometers, and other instruments of several types. Palomar has a three-component short-period Benioff seismometer unit.

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

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

Pasadena and auxiliary stations, 1947

Date	Sta	Phase	h	m	s	Remarks
Jan. 1	R	eP	06	10	57	
	Pr	iP			55	
	T	iP			07	
Jan. 2	P	iP	11	02	51	Tu iP 11 01 57
	R	iP			45	
	Pr	iP			39	
Jan. 2	P	eP	17	07	22	
	MW	iP			23	
	R	eP			25	
	Pr	iP			26	
	LJ	eP			25	
Jan. 3	P	iP	00	16	54	Tu iP 00 17 30
		ipP			17 07	41
	MW	iP			16 55	
		ipP			17 07	
	R	iP			16 57	
	Pr	ipP			17 09	
	H	iP			16 49	
		eP			17 02	
	T	iP			16 44	
Jan. 3	P	ipP	02	28	13	Tu iP 02 28 48
		iNEZ			19	
		i			27	Overlaps the next, which is larger.
	PX	iSNE			37 22	
		eGN			44 9	
	P	eP P			56 26	USCGS: 44° N. 144° E.
	MW	iP			28 14	O=02:17.1
		eP P			56 28	USSR: 41.6° N. 148.0° E.
	R	eP			28 16	
	Pr	eP P			56 18	
		iP			28 22	PH 1 3
		i			35	SH 2 5
		iP P			56 22	
	LJ	eP			28 22	Magnitude 6 3/4
	SB	eP			09	
	H	eP			08	
		eSN			37 08	
	T	eP			28 01	
		eSNE			37 07	
Jan. 3	P	iPNEZ	02	31	38	Tu iP 02 32 13
		ipP			49	26
	PX	iSN			40 42	
	MW	iP			31 39	
		ipP			51	
	R	eP			41	
		ipP			53	A T
	Pr	iP			46	
		ipPNZ			59	P 1 1/2 3
	LJ	eP			46	
		ipP			59	Magnitude 7?
	H	eP			32	
		ipP			44	
	T	iP?			23	
		i			32	
		i			40	
Jan. 3	P	eP	03	06	34	Tu iP 03 07 09
	MW	eP			33	
	R	eP			34	
	Pr	iP			40	
	H	eP			28	

Date	Sta	Phase	h	m	s	Remarks
Jan 3	P	eP	04	09	22	Tu iP 04 09 55
	MW	eP			23	
	R	eP			26	
	Pr	iP			30	
	H	eP			19	
Jan. 3	P	iPNEZ	09	21	42	Tu iP 09 22 18 c
		ipNEZ			56	
	MW	iP			44	
		ipP			57	
	R	iP			46	
		ipP			58	
	Pr	iP			52	USSR: 41.4° N. 148.0° E.
		ipP	22	04		
	SB	iP	21	35		
		eP			48	
	H	eP			37	
		e			50	
Jan. 3	MW	iP	12	29	19	Tu iP 12 29 43
	R	eP			17	Near Apia
Jan. 4	MW	iP	04	37	59	Tu iP 04 37 09
	Pr	iP			49	
Jan. 4	MW	eP	05	39	59	
		i			40	
	R	eP			02	
		i			12	
	Pr	eP			04	
Jan. 4	P	iP	17	32	19	Solomon Islands
	PX	eL	18	02	4	BCIS: 7° S. 156° E., O=17:19.3
	MW	iP	17	32	19	
Jan. 5	P	eP	05	38	16	
		i			22	
	MW	eP			12	
		i			23	
	R	eP			19	
	SB	eP			13	
	H	eP			37	
	T	iP			52	
Jan. 5	P	eP	09	06	31	
		ipP			56	
	MW	iP			33	
	R	eP			34	
	H	eP			28	
	T	eP			25	
Jan. 5	P	iP	14	57	23	Tu iP 14 57 46
	MW	iP			24	
	R	iP			26	
	T	iP			31	
Jan. 6	P	eP	11	29	09	Tu iP 11 28 40
	MW	iP			09	
		i			25	
	R	eP			50	
Jan. 6	MW	eP	15	01	17	Tu iP 15 01 43
	R	eP			16	
	Pr	eP			21	
		e			42	
	T	eP			28	
		e			49	
Jan. 8	P	eP	00	18	40	Tu e 00 23 45
	PX	eL			54.2	
	MW	eP			18	USSR: 10.5° N 127.5° E.
		e			23	BCIS: 9.8° N. 126.2° E., O=00:04.6
		eP			18	
	R	eP			43	
	Pr	eP			46	
	H	eP			50	
	T	eP			42	
Jan. 8	MW	e	19	40	01	Tu eP 19 40 47
	R	e(L)			00	
	Pr	e			04	
	T	e			39	
		e			54	

Date	Sta	Phase	h	m	s	Remarks
Jan. 9	P	eP	12	27	04	Tu iP 12 27 43
		i			25	
		eL			28	
		eP			49	USSR: 43° N. 150° E.
		eP			27	
	MW	e			10	
	R	e			10	
	SB	e			10	
	H	e			05	
Jan. 9	P	iPNEZ	22	10	34	Tu iP 22 10 58 c
	MW	iPNEZ			36	
	R	iP			37	
	Pr	iPEZ			38	
		iNEZ			52	
	SB	eP			27	
	H	iPNEZ			41	
	T	iPNEZ			45	
Jan. 10	P	iPNEZ	02	25	15	Tu iP 02 24 17 d
		i			29	
	MW	iP			25	
		e			29	
	R	eP			25	
		e			29	
	Pr	iPNZ			25	
		e			29	
	LJ	ePNEZ			24	
	SB	ePNZ			25	
	H	iPNEZ			31	
		i			29	
	T	iPNEZ			25	
		e			30	
Jan. 10	P	e	21	48	18	Tu eP 21 47 19
		e			25	
	MW	eP			00	
		e			19	
		e			26	
	R	eP			47	
		e			48	
		e			15	
		e			23	
	Pr	e			18	
	H	e			26	
	T	e			31	
		i			39	
Jan. 11	MW	eP	12	58	48	Tu eP 12 59 34
	R	eP			59	
	Pr	iP			58	
		i			59	
	H	eP			59	
Jan. 11	P	iP	14	29	44	Tu iP 14 29 11 d
	MW	iP			44	
	R	iP			40	
	Pr	iPNEZ			37	
	H	eP			51	
	T	iPNEZ			56	
Jan. 11	MW	eP	16	58	19	Tu iP 16 57 39
	R	eP			15	
	Pr	iP			16	
Jan. 11	MW	iP	20	44	25	
	R	eP			26	
	T	iP			29	

Date	Sta.	Phase	h	m	s	Remarks
Jan. 13	P	iP	06	06	49	Tu iP 06 06 13
	MW	iP			47	
	R	iP			44	
	Pr	eP			41	
Jan. 14	T	iP	04	07	00	Tu iP 04 48 53
	P	iPNEZ	48	04	04	49 02 05
		i			09	
	PX	eL	51	4		
	MW	iPNEZ	48		05	
	R	iP			09	
	Pr	iPNEZ			18	d
		i			25	
	SB	eP	47		56	
	H	eP			48	
	T	iPNEZ			36	
		i			42	
Jan. 15	P	iP	15	08	09	Tu iP 15 08 34
	MW	iP			11	50
	R	iP			12	c
	Pr	iPEZ			13	c
Jan. 15	P	iPNEZ	18	30	15	Tu eP 18 29 16
	PX	eLNEZ			32	01 c
	MW	ePNEZ			30	17
	R	iPNEZ			10	
	Pr	iPEZ	29		54	USCGS: 27°N, 111°W, O=18:28.0
	LJ	ePNEZ			57	
		i(S)NE	31		44	
	SB	eP	30		17	A T
	H	ePNEZ			35	PH 2 5
	T	ePNEZ			51	MH 90 12
Jan 15	P	iPNEZ	19	55	08	Tu iP 19 55 30
		epP			17	47
	MW	iP			55	08 42
		i			11	
		epP			57	20
	R	iP			55	11
	Pr	iPEZ			10	
		iP			57	21
	LJ	ePNEZ			55	09
	H	iP			14	
	T	iP			16	
Jan. 16	P	eP	15	30	22	Tu iP 15 29 30
	Pr	iP			11	38
Jan. 18	P	iP	10	35	08	Tu iP 10 35 33 d
	R	eP			09	
	Pr	iP			11	
Jan. 19	P	iPNEZ	01	23	00	Tu iP 01 23 24
		e			26	03
	MW	iP			23	01
		i			26	08
		i			26	05
	R	iP			23	03
		e			26	07
	Pr	iPNZ			23	03
		e			25	02
	SB	iP			22	55
	H	iPNEZ			23	07
	T	iPNEZ			09	
		i			33	
		e	26		17	

Date	Sta	Phase	h	m	s	Remarks
Jan. 19	R	eP	02	39	12	Tu iP 02 39 32
	Pr	iP			14	
	T	iP			20	
Jan. 19	MW	eP	08	45	45	
		e			46	43
	Pr	eP			45	52
	H	eP			43	43
	T	iP			41	
Jan. 20	P	eP	00	44	15	Tu iP 00 44 49
		e			26	45 02
	MW	eP			14	
		i			27	
	R	iP			17	
	Pr	eP			23	
		i			35	
	H	eP			06	
		e			18	
	T	eP			03	
		i			15	
Jan. 20	P	iP	01	40	40	Tu iP 01 40 55
	MW	iP			39	USSR: 6 5°S, 55°E.
	R	iP			37	
	Pr	i			49	
Jan. 20	P	iP	08	24	21	Tu iP 08 23 27
	MW	eP			21	
	R	iP			15	
	Pr	iP			10	c
	T	iP			34	
Jan. 20	P	ePNEZ	10	43	16	Tu eP 10 42 43
	PX	eSNEZ			44	30
	MW	eP			43	15
	R	eP			11	
	Pr	eP			42	54
	LJ	ePNE			43	01
	H	eP			42	
	T	eP			57	
Jan. 21	P	iPNEZ	20	18	21	Tu iP 20 17 47 c
		i			38	18 02
		i			55	46 02
	PX	iSNE			27	52
		eL			42	3
	MW	iPNEZ			18	21
		i			32	c
		eSE			27	51
	R	iPNEZ			18	17
		i			28	c
		eSN			27	44
	Pr	iPNEZ			18	16
		i			24	c
		iN			46	
		e			24	27
		eSN			27	39
	LJ	iPNEZ			18	12
	SB	iPNEZ			27	
		eSNE			28	11
	H	iPNEZ			18	29
		eSE			28	06
	T	iPNEZ			18	34
		i			51	
		eSNE			28	15

Magnitude 7?

Date	Sta	Phase	h	m	s	Remarks
Jan. 22	P	iP	07	16	48	Tu iP 07 16 13
		i		17	19	
		i			33	
	MW	iP		16	45	
		i		17	16	
	Pr	eP		16	41	
	H	eP			54	
	T	eP		17	00	
Jan. 22	P	e	09	09	33	Tu iP 09 08 58 d
	MW	iP			29	
	R	iP			29	
		iP			26	
		i			40	
	Pr	iPNEZ			23	
		i			36	
	LJ	eP			21	
	SB	eP			40	
	H	eP			37	
	T	iP			43	
Jan. 22	P	eP	10	58	08	Tu iP 10 58 30
	MW	iP			08	
	R	iP			10	
	Pr	iP			11	
	H	eP			14	
Jan. 22	P	iP	11	38	43	Tu iP 11 39 24
	MW	iP			44	
	R	iP			47	
	Pr	iP			55	c
	LJ	eP			57	
	H	iP			31	
	T	iP			23	
Jan. 23	P	iP	00	02	05	Tu iP 00 02 26
	MW	iP			05	
	R	iP			06	
	H	iP			11	
Jan. 23	P	eP	13	07	50	Tu iP 13 08 23
	MW	iP			51	
	Pr	ePN		08	02	
	T	eP		07	39	
Jan. 23	P	iPNEZ	16	04	51	Tu iP 16 05 38 d
		iPcP		07	11	
	PX	eSE		10	37	
		eLNZ		13	2	
	MW	iPEZ		04	51	d
		i		05	05	
		i			12	
		iPcP		07	12	
	R	iP		04	57	d
		iPcP		07	13	
	Pr	iPNE		04	53	
		iN		05	22	
		eSNE		10	58	
	LJ	ePNEZ		05	01	
		iPcP		07	12	
	SB	iP		04	42	
	H	ePNEZ		04	41	
		ePcP		07	09	
	T	iPNEZ		04	35	
		iPcP		07	07	

USCGS: 53° N. 164° W.,

O=15:57.5

BCIS: 52.7° N. 163.7° W.,

O=15:57:38

Date	Sta	Phase	h	m	s	Remarks
Jan. 24	P	e(P)	17	00	29	Tu eP 17 01 03
	PX	eL		28	6	
	MW	eP		00	25	
		i			30	
		i			39	
	Pr	ePNE			35	USSR: 34 0° N. 137.5° E.
	H	eP			24	
	T	eP			18	
Jan. 25	P	eP	03	18	37	Tu iP 03 17 27
Jan. 25	P	eP	03	57	42	Tu eP 03 56 45
	MW	eP			43	
	R	eP			36	
	Pr	ePE			33	
	H	eP			49	
	T	eP			54	
Jan. 25	P	ePNEZ	03	59	29	Tu eP 03 58 36
		eNEZ	04	00	54	
	PX	eLNEZ		09	9	
	MW	eP	03	59	29	USCGS: 13° N. 88° W.,
		e	04	00	53	O = 03:52.6
	R	eP	03	59	24	A T
	H	eP			39	MH 50 14
	T	eP			42	Tu eP 04 52 57
Jan. 25	P	eP	04	53	50	
		e		55	13	
		eLNE	05	05	8	Aftershock
	MW	eP	04	53	50	
	R	eP			45	
	H	eP			59	
	T	eP			54	
		e		55	29	
Jan. 26	P	eP	10	13	39	Tu iP 10 12 45
		iPNEZ			44	c
		i(P)			57	
		i		14	33	
		iPPNEZ		15	09	USCGS: 13° N. 86.5° W.
		iPcP		16	04	
		i			34	O = 10:06 7
		iSNE		19	13	BCIS: 12.6° N. 86.0° W.,
		iScP			37	
		eEZ		20	10	O = 10:06 8,
		eGN		22	1	h = 100 km.
	PX	iScSNE		22	42	
		ePKKKP		55	57	A T
	P	eP		13	39	PH 4 4
	MW	iPNEZ			43	PPH 6 3 1/2
		iPcP		16	04	SH 25 6
		eSNE		19	14	ScSH 45 6
		iScSNE		22	40	
		ePKKKP		55	56	
	R	iP		13	34	
		iPcPNEZ		16	03	
		eSNEZ		19	35	Magnitude 7 1/4 to 7 1/2
		iScSNE		23	39	
		ePKKKP		55	49	This is the first shock for
	Pr	iPNEZ		13	28	which seismograms clearly
		iNEZ			33	establish the existence of
		iSNZ		18	53	PKKKP.
		iScSN		23	36	
		iPKKKP		55	51	
	LJ	ePNEZ		13	31	
		iPcP		15	58	
		iSNE		18	52	
		iScSNEZ		23	36	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
(Continued)						
Jan. 26	SB	eP	10	13	50	
		iPcPNZ		16	08	
		eSNEZ		19	30	
	H	iScSNEZ		23	50	
		eP		13	47	
		eSNE		19	28	
		iScP			40	
		eScSNE		23	48	
	T	ePEZ		13	53	
		iPEZ			57	
		iP		16	10	
		iSEZ		19	38	
		iScSE		23	53	
Jan. 26	Pr	iP	12	04	01	Tu iP 12 04 22
Jan. 26	P	iP	14	07	13	Tu iP 14 07 51
	MW	e		48		i 08 06
		iP		14		
	R	eP		17		
		e		32		
	Pr	iP		23		
		i		38		
	T	iPEZ			00	
		i		12		
Jan. 26	P	iP	19	53	14	Tu iP 19 53 05
	MW	eP			13	i 55 03
	R	iP			14	
	T	iP			20	
Jan. 29	P	iPNEZ!	08	29	02	Tu iP! 08 28 30 d
	PX	ipP		31	05	
		isP		32	01	
		iSNEZ		38	18	
		eN		41	9	
	P	iP!P!		55	45	USCGS: 27° S. 63° W.,
		e		56	10	
		i		58	30	O = 08:17.8
	MW	iPNEZ!		29	01	d BCIS: 26.5° S. 63.7° W.,
		ipP		31	02	
		eSNE		38	18	
	R	iP!		28	59	d O = 08:17:52,
		ipP		31	02	
		eSNEZ		38	14	h = 600 km.
		e		58	19	
	LJ	iPNEZ		28	54	
		eSNEZ		38	05	
	Pr	iPNEZ!		28	55	d
		i		30	35	
		ipP			59	A T
		iSNE		38	06	PH 3 2
	SB	iPNEZ!		29	08	SH 20 5
		iSNEZ		38	32	Magnitude 7 1/2
	H	iPNEZ!		29	08	d
		ipP		31	13	
		eSNEZ		38	33	
		e		55	35	
		e		58	05	
	T	iPNEZ!		29	12	d
		i		30	45	
		ipP		31	17	
		eSNEZ		38	40	
		e		55	42	
		i		58	14	

Date	Sta.	Phase	h	m	s	Remarks
Jan. 31	MW	iP	17	28	26	Tu iP 17 27 55
	R	eP			23	
	T	iP			39	
Feb. 1	MW	iP	01	18	18	Tu iP 01 17 42
		ipP			44	ipP 18 09
	R	iP			14	
		ipP			40	
	H	e			25	
	T	iP			30	
Feb. 1	MW	ipP	10	45	41	Tu iP 10 46 07
		i		46	29	
	R	eP		45	43	
		e		46	30	
	Pr	iPEZ		45	44	
	T	iP		45	46	
		e		46	32	
Feb. 1	P	iPNZ	13	40	42	Tu iP 13 41 06 c
	MW	iPNZ			43	i 27
	R	iP			44	
		e		41	19	
	Pr	iPNZ		40	43	c
		i		41	21	
	H	eP		40	51	
	T	iPEZ			52	
Feb. 1	R	iP	23	22	38	Tu eP 23 22 16
	T	iP?		23	25	
Feb. 2	P	eP	01	47	48	Tu eP 01 47 17
		e		48	04	e 34
	MW	eP		47	49	
		e		48	08	
	R	iP		47	45	
		e		48	04	
	Pr	iP		47	40	
		e			55	
	H	eP			56	
	T	iP		48	02	
		e			16	
Feb. 2	P	eP	04	11	21	Tu iP 04 12 07
		eScP		17	46	i 14
	PX	eL		20	6	iScP 18 06
	MW	eP		11	23	
		i		17	47	
	R	eP		11	26	
		i			33	
		eScP		17	49	
	Pr	iPNEZ		11	31	
		iNEZ			40	
		iScP		17	51	
	H	eP		11	09	
	T	eP			02	
		i			09	
		iScP		17	40	
Feb. 2	P	iP	19	02	54	Tu iP 19 03 20
		ipP		03	27	ipP 53
		ipP		06	15	ePP 06 57
	MW	iP		02	56	
		ipP		03	29	
	R	iP		02	57	
		ipP		03	29	
		ipP		06	21	

h = 130 km.
BCIS: 15 1/2° S. 168° E.
O = 18:50:16

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
(Continued)						
Feb. 2	Pr	eP	19	02	59	
		ipP		03	31	
		iPP		06	21	
	SB	eP		02	49	
	H	eP			58	
		epP		03	33	
Feb. 2	Pr	eP	20	35	54	Tu eP 20 36 15
Feb. 3	P	eP	10	06	17	
	MW	eP			17	
		i		35		Pacific
	R	eP		21		
		e		43		
	Pr	eP		21		
Feb. 3	P	iPNZ	16	52	16	Tu iP 16 51 34 d
		iNZ			47	i 52 20
		iNZ		53	01	
	MW	iP		52	16	d
		i			48	
		i		53	03	South America?
	R	iP		52	11	d
		e			43	
		i			58	
	Pr	ePNEZ		53	14	
		i		52	06	d
		i			39	
		i		53		
	SB	iP			22	
	H	eP			24	
Feb. 4	P	eP	06	54	14	Tu eP 06 53 35
	MW	eP			11	
	Pr	eP			09	
	T	eP			06	
Feb. 4	P	iPNZ	23	50	02	Tu iP 23 50 35
		i			12	
	MW	iPNEZ			03	
		i			44	
	R	iP			05	USSR: 41° N. 141° E.,
		i			20	
		i			30	BCIS: 42.5° N. 142° E.,
	Pr	iPNEZ			01	O = 23:38:28
		iNZ			25	
	LJ	ePNE			12	
	SB	iP		49	55	
	H	iP			56	
		i		50	38	
	T	iPNEZ		49	51	
		i		50	09	
Feb. 5	MW	iP	05	19	32	Tu iP 05 20 21
	Pr	iP			45	
	T	iP			16	
Feb. 5	P	ePNEZ	06	15	08	Tu eP 06 16 34
		iSN			45	Felt sharply in the Coast
	MW	eP			08	Range, Maximum reported intensity
	R	eP			15	VI at Lonoak, near 36.3° N. 120.9°
	Pr	iP			26	Epicenter 36.2° N. 120.5° W.,
	SB	iP		14	55	O = 06:14:23
		iSNE		15	26	
	H	eP		14	59	Magnitude 5.0
		iSNE		15	29	
	T	iPNEZ		14	58	c
		iSNE		15	27	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 5	P	eP	17	51	14	Tu iP 17 52 01
	MW	eP			14	
	R	eP			19	
	Pr	iP			25	
	SB	eP			18	
	H	eP			06	
		iP		50	58	
Feb. 5	P	eP	21	56	44	Tu iP 21 55 43
	MW	eP			42	
	R	eP			37	
	Pr	eP			31	Mexico
	H	eP			57	
		iP			05	
Feb. 6	P	eP	08	03	58	Tu iP 08 04 42
		epP			04	ipP 05 12
	MW	iP			03	
		i			04	
		e			53	
	R	eP			04	
		epP			34	
	Pr	iPNEZ			08	
		ipPNEZ			39	
		i			05	
		eP			03	
		epP			04	
	T	iP			03	
		i			04	
		i			05	
Feb. 6	P	iPNEZ	15	06	20	Tu iP 15 06 39
		ipP			36	ipP 56
		ipP			09	
		eLZ			30.7	
	MW	iP			06	21 c
		ipP			38	
		e			52	
		iPP			09	
	R	iP			06	
		iP			22	
		ipP			39	
	Pr	iPNEZ			21	c
		ipP			40	
	LJ	eP			33	
	SB	eP			34	
	H	iPEZ			27	
		ipP			44	
	T	iPNEZ			06	29 c
		epP			44	
Feb. 6	P	iPNEZ	17	21	08	Tu iP 17 22 21
		iSNE			31	i 52
	MW	iPNEZ			07	d iS 24 18
		iSNE			26	
	R	iPNZ			11	d Strong in the region of Walker
		iSNE			33	Pass
	Pr	iPNEZ			22	d 35° 40' N. 118° 04' W.,
	LJ	ePNZ			29	
	H	iPNEZ			50	d O=17:20:40
		iSNE			57	
	T	iPNEZ			21	06 Magnitude 4.6
		iSE			25	
Feb. 6	P	eP	18	26	48	Tu iP 18 27 20
	MW	iP			48	
	R	eP			50	
	Pr	iP			55	
	T	iP			37	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 6	P	iP	20	20	19	Tu iP 20 20 44
	MW	iP			20	
	Pr	iP			23	
	T	iP			27	
Feb. 7	MW	eP	02	19	05	Tu iP 02 18 12
	Pr	eP		18	50	i 40
		eP		19	19	
Feb. 7	T	eP			04	
	P	iPEZ	08	53	23	Tu iP 08 53 50
		i			50	
	PX	eSNE	09	03	49	
		eSN		04	08	
		eLN		16.2		
	MW	iPNEZ	08	53	24	c
		i			40	
		i			51	
		eSNE	09	03	53	
	R	iPNEZ	08	53	26	c BCIS: 9 1/2° S. 161 1/2° E.,
		i			40	
		i			48	
		eSE	09	03	58	O=08:40:35
	Pr	iPNEZ	08	53	27	c
		eSE	09	03	50	
		eNE		04	03	
		eP'P'		24	07	
	LJ	ePNEZ	08	53	24	P 2 2
		eSN	09	04	07	S 3 4
	SB	ePNZ	08	53	18	L 80 20
	H	iPNZ			26	Magnitude 7 1/4
		iEZ			31	
		i			42	
		eSN	09	04	11	
	T	iPNEZ	08	53	27	
		i			32	
		i			42	
		eSE	09	03	49	
		eSN		04	17	
Feb. 8	P	e	06	47	39	Tu eP 06 47 04
	MW	e			44	
	R	eP			39	
		e			53	
	Pr	iP			35	
	T	eP			56	
Feb. 8	P	eP	10	41	31	Tu iP 10 42 42
	PX	eL		45.1		
	MW	eP		41	33	
	R	eP			38	
	Pr	iPNEZ			48	
	H	eP			15	
	T	iPNEZ			05	
Feb. 8	P	eP	10	58	12	Tu iP 10 59 20
		e			17	
		e	11	00	10	
	PX	eLZ		01	24	
	MW	eP	10	58	14	
	R	eP			15	
	Pr	iPNEZ			25	
	LJ	eP			38	
	H	eP		57	54	
	T	iPNEZ			41	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 8	P	eP	11	38	53	Tu iP 11 39 55
	MW	eP			46	
		i			56	
	R	eP			52	
	Pr	iPNEZ		39	01	
	H	eP		38	32	
	T	eP			18	
Feb. 8	P	eP	11	54	24	Tu iP 11 55 26
	PX	eL		57.6		
	MW	eP		54	18	
		i			26	
	R	eP			25	
	Pr	iPNEZ			32	
	H	eP			17	
	T	eP		53	49	
Feb. 8	P	i	18	09	47	Tu iP 18 10 48
		i			52	
	MW	eP		09	37	
		i			47	
		i			52	
		eP			45	
		i			54	
	Pr	iPNEZ			54	
	H	eP			22	
	T	iPNEZ			11	
Feb. 9	MW	iP	01	10	31	Tu iP 01 10 52
	R	eP			31	
	Pr	iPNEZ			33	c
	T	eP			40	
Feb. 9	P	eP	04	40	37	Tu iP 04 39 58
		e			50	
	PX	eL	05	04.4		
	MW	eP	04	40	35	
	R	eP			32	
	Pr	eP			27	
	H	eP			49	
	T	eP			49	
Feb. 9	MW	eP	05	26	35	Tu iP 05 25 35
	R	eP			29	
	Pr	iPNEZ			21	
		i			38	
	T	eP			53	
Feb. 9	MW	iP	09	14	40	Tu eP 09 15 41
	R	eP			45	
	Pr	iP			54	
	T	eP			05	
Feb. 9	P	iP	11	18	14	Tu iP 11 19 02
	Pr	iPNEZ			26	d
	H	iP			05	
	T	iP		17	58	
Feb. 9	P	iP	12	46	24	Tu iP 12 45 49
		e			47	
		e			15	
	MW	iP		46	23	
	R	eP			21	
		e		47	11	
	Pr	iP		46	16	
	T	iP			35	
		e		47	25	
Feb. 9	R	eP	12	16	00	Tu eP 12 15 22
	T	eP			15	
Feb. 9	R	eP	15	15	59	Tu iP 15 15 30
	T	iP		16	21	
Feb. 9	R	eP	19	04	26	Tu eP 19 04 51

Date	Sta	Phase	h	m	s	Remarks
Feb. 10	PX	eL	04	48		Tu e 04 20 44
	T	e		20	59	ePKKP 04 31 21
Feb. 10	P	eP	11	58	58	Tu iP 11 57 37
Feb. 10	P	iP	20	28	01	Tu iP 20 28 48
	R	iP		15		
	T	iP		27	59	
Feb. 11	R	iP	08	30	39	Tu eP 08 30 07
	T	iP		54		
Feb. 11	P	iPNZ	10	15	08	Tu iP 10 15 38
	e			17	06	i 17 52
	MW	ePNE		15	10	e 17 39
	R	iP		11		Deep?
	Pr	iP		14		c
	i			17	41	USSR: 32.5° N 133.5° E
	SB	iP		15	02	BCIS: 30 1/2° N 139° E
	H	iPNEZ		04		
	T	iPNEZ		00		c O=10:02:45
Feb. 11	R	eP	18	48	48	Tu 18 48 03
Feb. 12	R	eP	04	49	14	Tu iP 05 00 08
	Pr	iPNEZ		49		d
	H	iP		52		
	T	iPEZ		54		
Feb. 12	P	eP	20	20	20	Tu iP 20 20 48
	R	eP		22		e 24 37
	Pr	iPNEZ		26		USSR: 30.5° N 132° E
	i			21	10	BCIS: 30° N 128° E,
	i			24	08	O=20:07.2
Feb. 13	T	iP	00	24	17	Tu iP 00 23 44 d
	P	ePNE		16		d
	MW	iP		14		d
	R	iPNEZ		24		d
	H	iPNEZ!		30		d
Feb. 14	T	eP	05	56	21	Tu eP 05 56 33
Feb. 14	R	eP	06	50	10	Tu iP 06 50 27
	T	eP		17		
Feb. 15	P	e	01	15	20	Tu iP 01 15 50
	PX	eL		26		i 16 05
	MW	eP		15	02	
	i			19		
	R	e		22		
	Pr	iPNZ		17		
	i			30		
	H	eP		14	55	
	T	eP		48		
	i			05		
Feb. 15	P	iP	18	56	34	Tu iP 18 56 57
	MW	iP		33		
	R	iP		36		
	T	eP		39		
Feb. 16	P	iP	01	34	34	
	i			46		
	MW	iP		35		
	i			47		
	R	iP		36		
	i			48		
	Pr	iP		39		
	T	iP		35		
	i			46		

Date	Sta	Phase	h	m	s	Remarks
Feb. 16	P	iP	02	21	12	Tu iP 02 20 21 d
	ipP			27		
	MW	ipP		12		ipP 35
	R	ipP		26		i 26 44
	Pr	ipP		06		
	i			20		
	Pr	iPNZ		29		
	ipP			00		d
	i			16		Mexico
	H	eP		24		
	epP			22		h = 90 km.
	eN			37		
	T	iP		30	21	
	i			21	30	
	i			33		
	i			52		
	eNEZ			30	21	
Feb. 16	P	iPEZ	09	32	08	Tu iP 09 32 38
	MW	iPNEZ		09		c
	R	iP		10		c
	Pr	iPNEZ		15		c
	H	iN		32		USSR: 25° N 125° E
	T	iPNEZ		02		
	ePNE			00		
Feb. 18	P	iP	06	46	48	Tu iP 06 47 12
	MW	iP		48		
	R	iP		50		
	Pr	iP		51		c
	H	eP		53		
	T	iP		53		
Feb. 18	P	iPEZ!	13	42	06	Tu iP 13 42 36
	ipP			43	45	epP 44 17
	i			45	17	
	PX	iSN		51	50	
	eE			54	45	USSR: 32° N 138° E
	MW	eL		14	04.3	h = 420 km.
	R	ePNE		13	42	
	eSNE			51	08	BCIS: 33° N 136° E
	iPNEZ			42	09	O = 13:30:27
	i			29		h = 450 km.
	ipP			43	48	
	eSE			51	22	
	Pr	iP		42	12	P A T
	ipP			43	56	S 1 1/2 3
	i			44	02	
	i			45	35	
	LJ	ePNEZ		42	14	Magnitude 6 3/4
	SB	iPNEZ		42	00	
	ipP			43	39	
	i			50		
	eSE			51	40	
	H	iPNEZ		42	02	
	eSN			51	42	
	T	iPNEZ		41	58	
	ipP			43	41	
	eSE			51	39	
	eN			52	00	
Feb. 19	T	iP	09	26	43	Tu iP 12 06 38
Feb. 19	T	iP	12	07	04	Tu eP 18 25 28
Feb. 19	R	i?	18	24	17	
	i			59		
	T	iP		25	00	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 19	T	iP	22	19	42	Tu eP 22 18 31
Feb. 20	T	eP	05	57	56	Tu eP 05 58 06
Feb. 20	P	iP	17	26	07	Tu iP 17 25 41 c
	R	iP			07	
	Pr	iP			01	c
	H	iP			14	
Feb. 20	P	eP	18	25	14	Tu eP 18 24 40
	R	eP			23	05
	H	iP			25	19
	T	iNEZ			24	58
		iP			23	19
Feb. 21	P	iEZ	14	09	46	Tu iP 14 09 10
	MW	iP			43	
	R	iP			43	
	H	eP			40	
	T	iP			50	
		iP			55	
Feb. 21	P	eP	22	13	35	
	PX	eL		44	0	USSR: 31° N 133° E
	MW	iP		13	36	BCIS: 36° N 133° E,
	R	eP			32	0 = 22:01.2
	H	iP			31	
	T	eP			19	
Feb. 22	P	iNEZ	02	15	27	Tu iP 02 16 17
	MW	eP			29	
	R	iPEZ			26	
	Pr	iP			32	
	LJ	iPNEZ			40	
	SB	ePNEZ			50	
	H	eP			20	
	T	iPNEZ		14	55	
		iNEZ		15	00	
Feb. 22	P	iP	04	19	00	Tu iP 04 18 07
	PX	eL		37	9	
	MW	eP		18	59	
	R	eP			47	
	Pr	eP			46	
	T	eP			57	
Feb. 22	T	eP	04	28	54	Tu iP 04 27 23
Feb. 22	T	eP	04	42	07	Tu iP 04 43 25
Feb. 22	MW	eP	05	18	39	Tu iP 05 19 30
	R	eP			45	
	Pr	iPNEZ			55	
	H	iP			25	
		e		20	13	
	T	iP		18	13	
		i		19	52	
Feb. 22	Pr	iP	18	30	03	Tu iP 18 29 20
	T	iP			30	
Feb. 22	MW	eP	22	59	22	Tu eP 22 58 24
	R	iP			16	46
	H	iP			37	
	T	iP			44	
Feb. 23	P	iP	17	55	14	
	MW	iP			14	c
	R	iP			15	
	T	iP			14	c
Feb. 24	T	eP	10	11	27	Tu iP 10 12 43
		i			39	

Date	Sta.	Phase	h	m	s	Remarks
Feb. 24	P	ePNEZ	17	42	31	Tu iP 17 41 30
		i			38	eP'P' 18 11 13
	PX	eSNE		51	32	
	P	eL	18	09	0	
	MW	eP'P'		10	57	Bolivia.
	R	ePNEZ	17	42	36	According to La Paz, VI
	H	iP'P'	18	10	56	locally; damage near the
	T	eP	17	42	35	epicenter, placed at 15° 30' S,
		eP			41	68° 40' W.
		iP			43	
Feb. 25	P	i	23	54	05	
	MW	iP		36	32	Tu iP 23 36 45
	R	iP			14	
	Pr	iP			32	
		iP		35	15	
		i		36	07	
		i			32	
	H	iP			07	
	T	iP			06	
		i			21	
Feb. 26	P	iPNEZ	01	57	34	Tu eP 01 56 40
	PX	eLNE	02	11	0	i 44 54
	MW	iP	01	57	34	
	R	iP			44	
		e			29	
	Pr	iPNEZ	02	00	10	
		iNZ	01	57	23	c
		iN		58	42	
	H	eP		57	43	
	T	iPNEZ			49	
		i	02	00	17	
Feb. 26	MW	iP	14	46	35	Tu iP 14 47 11
	T	iP			21	
		i		47	02	
Feb. 27	R	eP	01	37	47	Tu iP 01 38 41
		i			55	
		i			59	
		eP			16	
		i			21	
		i			26	
		i			38	
Feb. 27	MW	iP	17	35	05	Tu iP 17 35 29
	T	iP			13	
Feb. 27	T	eP	20	10	45	Tu eP 20 10 34
Feb. 27	T	iP	20	48	55	Tu iP 20 49 57
Feb. 28	R	iP	04	00	46	Tu eP 04 00 00
	T	iP			55	
Feb. 28	R	iP	09	46	40	Tu iP 09 46 09
		i			05	
		iP			46	
		i			47	
		i			21	
Feb. 28	P	iP	10	24	39	Tu iP 10 25 02 c
	MW	iP			40	05
	R	iP			41	20
	Pr	iPNZ			43	c
	H	iP			47	c
	T	iPNEZ			48	c
Feb. 28	MW	iP	19	39	54	Tu iP 19 40 30
	R	iP			40	
	H	iP			39	
	T	iP			47	
		iP			43	

Date	Sta.	Phase	h	m	s	Remarks
March 1	P	eP	03	30	16	Tu eP 03 30 15
	MW	eP			16	e 29
		i			31	i 33 15
				32		
	R	eP			30	09
	H	iP			14	
	T	iP			13	
		i			28	
March 1	T	eP	04	30	21	Tu eP 04 29 46
March 1	MW	eP	12	02	08	Tu iP 12 02 08
	R	eP			08	
	H	eP			25	
	T	eP			18	
March 1	T	iP	19	07	38	Tu iP 19 07 06
March 1	P	i	21	31	20	Tu iP 21 31 10
	MW	i			11	
	R	e			10	Part of next?
	Pr	e?			23	
	T	iP			07	
March 1	P	iP	21	34	36	Tu iP 21 34 46
	MW	iP			27	
	R	iP			27	
	Pr	iPNEZ			30	c
	T	iP			20	
		iEZ			52	
March 2	P	iP	14	26	30	Tu iP 14 26 55 c
	MW	iP			32	c
	R	iP			34	c
	Pr	iP			34	c
	T	iP			37	
March 2	P	eP	19	23	05	Tu eP 19 23 43
	PX	e			26	08
		ePP			27	51
		ePPS			37	04
		iPKKP			39	33
		i			34	08
		ePSEZ			35	49
		eGN			50	4
		iLEZ			54	34
	MW	iP			23	08
		eSKSNE			33	42
	R	eP			23	08
		eSKSNE			33	41
	Pr	iPNEZ			23	12
		eE			26	57
		ePP			27	18
		iSKSNE			33	47
	H	eP			23	07
		eSKSE			33	41
	T	eP			23	05
		eSKSE			33	38
March 2	MW	eP	22	15	47	Tu eP 22 16 08
March 4	MW	iP	08	02	49	Tu iP 08 03 12
	R	iP			53	
	Pr	iP			53	
March 4	MW	eP	17	45	53	Tu eP 17 46 18
	R	eP			55	
	Pr	eP			58	
	T	eP			46	01
March 6	R	eP	00	41	20	Tu eP 00 41 38
	Pr	iP			24	

USSR: 5° S 143° E eP P 47 16
 BCIS: 5° S 143 1/2° E
 O = 19:09:23
 A T
 PZ 1/4 2
 PPZ 1/2 2.5
 SKS 4 1/2 5
 ME 15 20
 MZ 10 14
 Magnitude 6 3/4

Date	Sta.	Phase	h	m	s	Remarks
March 7	P	e	04	34	44	Tu eP 04 35 38
		e			56	
	PX	eLNEZ			37	2
	MW	eP			34	22
		i			32	
		i			53	
	Pr	iP			56	
		i			35	10
	H	eP			34	17
	T	iP			33	56
March 7	P	iP	16	57	35	Tu iP 16 58 20
	MW	iP			34	c
	Pr	iPNEZ			46	c
		iZ			58	
		iN			57	01
	H	eP			27	
	T	iP			22	
		i			34	
March 8	P	eP	09	10	49	Tu iP 09 11 25
		e			59	
	MW	eP			50	
		i			11	01
	R	iP			10	53
	Pr	iP			11	09
		i			10	43
	H	eP			10	43
	T	iP			38	
March 8	P	iP	13	54	39	Tu iP 13 55 04
	MW	iP			39	
	Pr	iP			42	
	T	iP			48	
March 8	P	ePEZ	15	08	42	Tu iP 15 09 18
		iEZ			46	
	MW	iP			42	
		i			58	
	R	iP			45	
		i			09	05
	Pr	iP			08	50
		i			54	d
	SB	eP			36	
	H	eP			36	
	T	iPNEZ			29	
		i			52	
March 11	P	iP	05	28	28	Tu eP 05 29 10
		e			38	
	MW	iP			27	
		i			40	
	R	i			43	
	Pr	i			46	
March 11	P	eP	23	07	41	Tu eP 23 07 57
	MW	iP			45	
	R	iP			45	
March 12	P	iP	18	55	46	Tu iP 18 56 11
	MW	iP			47	
		i			56	09
		i			55	55
March 13	T	iP	06	14	13	Tu iP 06 13 38
	P	iP			12	
	MW	iP			09	
	R	iP			05	
	Pr	iP			05	
	T	eP			23	

Near Apia, which reports:

P 13 44 35
 S 45 07

Felt at Apia, which reports:

P 18 44 56
 S 45 18

Date	Sta.	Phase	h	m	s	Remarks
March 14	MW	eP	08	11	48	Tu iP 08 12 34
	Pr	eP			59	
	T	eP			31	
March 14	T	iP	08	23	15	Tu iP 08 24 17
	Pr	eP			43	
March 14	P	iP	11	37	30	Tu iP 11 37 55
	MW	iP			44	Near Apia, which reports:
		iP			31	P 11 26 53
		iP			46	S 28 26
	Pr	iP			33	
	T	iP			40	
March 14	P	iP	13	26	27	Tu iP 13 26 11 c
	MW	iP			27	
	R	iP			26	
	Pr	eP			21	c
March 14	P	iP	17	12	18	Tu iP 17 12 35
	MW	iP			19	
	Pr	iP			20	
	T	iP			29	
March 14	P	iP	22	36	03	Tu iP 22 36 43
	MW	iP			02	
	R	iP			07	
	Pr	iP			13	c
	T	iP			42	
March 15	P	iP	05	35	46	Tu iP 05 37 17
	MW	iP			47	
	R	iP			49	
	Pr	iP			54	
	T	iP			37	
March 15	P	iP	06	27	03	Tu iP 06 27 17
	MW	iP			06	
	R	iP			05	
	Pr	iP			02	
March 15	P	eP	08	14	29	Tu iP 08 13 23
	PX	eL			17	8
	MW	iP			14	29
	R	eP			21	Mexico?
	Pr	eP			11	
		iL			16	36
	T	eP			15	03
March 15	P	eP	14	16	39	Tu iP 14 16 35
		iP			59	
		iP			17	18
		ePcP			19	37
		e			58	
	MW	iP			20	16
		iP			16	40
		iP			17	58
	R	eP			17	18
		e			16	35
		iPcP			19	37
		iP			56	
	Pr	iPNEZ			16	30
		iNEZ			47	
		iEZ			17	08
		iP			19	18
		iPNEZ			19	36
	T	iPNEZ			16	57
		iP			17	15
		iPcP			19	44
		iP			20	03

Date	Sta.	Phase	h	m	s	Remarks
March 16	T	iP	09	45	05	
March 16	T	iP	18	07	55	Tu iP 18 08 10
March 17	P	eP	06	35	52	Tu iP 06 36 29
		iP			36	20
	MW	iP			35	52
		iP			36	21
		iP			38	38
		iP			38	17
	R	iP			35	55
		e			36	11
		e			36	24
	Pr	iPNEZ			36	02
		iP			19	
		iP			32	
	T	iP			35	30
		iP			36	59
		e			36	42
		iP			38	49
		iP			38	11
March 17	P	eP	08	33	39	Tu eP 08 34 05
		eP			37	16
		iPPNEZ			52	38 05
		ePPP			39	50
		ePKKP			49	26
	PX	eSSNE			52	51
	P	eP			57	43
	PX	eLNE	09	03	8	USSR: 35° N 102° E
	MW	iP	08	33	40	USCGS: 29° N 100° E
		iP			37	15
		ePPNEZ			49	54
		ePKKP			49	26
		iP			57	44
	R	eP			33	46
		eP			37	22
		ePPNEZ			49	59
		ePKKP			49	24
		eP			57	40
	Pr	eP			33	44
		iP ^h NZ			37	49
		iPPNZ			38	05
		eP			57	40
		ePPNE			38	08
	LJ	ePPNEZ			37	48
	SB	ePPNE			33	26
	H	eP			37	10
	T	eP			33	26
		eP			37	10
		iPP			34	
		eP			57	47
March 17	MW	iP	11	35	10	Tu iP 11 35 35
	R	iP			13	
		e			21	
	Pr	iP			13	
	T	iP			15	
March 17	P	iP	13	54	36	Tu iP 13 55 22
	MW	iP			36	
	R	eP			39	
	Pr	iPNEZ			47	
		iP			55	
		iPEZ			18	d
March 17	T	iP	14	22	01	Tu iP 14 23 04

Date	Sta.	Phase	h	m	s	Remarks
March 18	T	eP	05	57	43	Tu eP 05 57 07
March 18	P	iP	15	28	02	Tu iP 15 27 11
	PX	eL		32.7		
	MW	iP		28	05	
	R	eP		27	57	
	Pr	eP			47	
	SB	iP		28	05	
	H	ePN			24	
	T	iPEZ			34	
March 19	MW	iP	05	18	09	Tu iP 05 18 51
	Pr	iP			17	
	T	iPNEZ			52	
		i			18	
March 19	T	eP	05	56	46	Tu eP 05 56 25
March 20	P	iP	03	55	22	Tu iP 03 55 54
	MW	iP			23	
	R	eP			25	
	T	iPEZ			18	
March 20	MW	iP	06	37	30	Tu iP 06 37 51
	R	eP			31	
	Pr	iP			32	
	T	eP			37	
March 20	MW	iP	09	44	07	Tu eP 09 44 48
	T	eP			13	
March 20	P	e	10	11	50	Tu iP 10 07 07
	MW	iP			07	
		i			52	
		i			11	
	R	iP			07	
	Pr	iP			41	
	T	iP			08	
March 20	T	iP	10	38	05	Tu eP 10 36 38
		i				53
March 21	Pr	iP	04	09	21	Tu iP 05 37 21
March 21	P	e	05	38	03	
		e			48	
	R	iP			37	
		e			38	
	Pr	iP			37	
		e			55	
	T	iP			38	
		e			43	
		i			14	
		e			57	
March 21	P	iP	16	38	32	Tu iP 16 37 42
	R	eP			11	
		i			28	
		i			36	
	Pr	i			07	
		i			24	
		i			32	
	T	iP			25	d
		e			31	
		i			43	
		i			52	
March 21	P	iP	23	09	53	Tu iP 23 10 18 d
		i			10	
	MW	iP			09	
		i			05	Pacific?
	Pr	iPNZ			09	European stations report a
	T	iPNEZ			10	Mediterranean shock
		i			09	

Date	Sta	Phase	h	m	s	Remarks
March 22	P	iPEZ	09	53	05	Tu iP 09 52 31 d
		i			18	
	MW	iPNEZ			06	d
	R	iPNE			02	
	Pr	iPNZ			52	
		i			53	
		i			23	
		eSE	10	02	32	h = 60 km?
	SB	iPNZ	09	53	12	
	H	ePNE			13	Andes about 32° S.
	T	iPNZ			17	d
		eSE	10	02	52	
		eP'P'?			19	
March 23	P	iP	01	24	15	Tu iP 01 23 21
		i			37	
		ePcP			26	
		e			27	
	MW	iP			24	
		i			32	
		eScP			30	
	R	iP			24	
		i			25	
		i			26	
		i			30	
	Pr	iPNEZ			24	c
		iPcP			26	
		i			30	
	T	iP			24	
		e			45	
		iPcP			26	
		i			27	
		i			30	
March 23	MW	eP	04	32	48	Tu eP 04 31 55
	Pr	eP			31	
March 23	P	iP	11	02	56	Tu iP 11 02 15
	MW	iP			55	
	R	eP			52	
	Pr	iPNEZ			50	c
		e			03	
		iP			02	
March 24	R	eP	05	42	32	Tu eP 05 43 43
	T	eP			00	
March 24	MW	iP	16	30	52	
	R	eP			54	
	T	eP			54	
March 24	P	iPEZ	16	48	49	Tu iP 16 49 34 c
	MW	iP			49	
	R	iP			53	c
	Pr	iPNEZ			49	c
		e			20	
		i			42	
	H	ePNE			48	
	T	iPNEZ			35	
		i			59	
		i			49	
		i			50	
March 25	P	iP	02	27	46	Tu e 02 29 47
		i			58	
		e			30	
	MW	iP			27	
		i			47	Two shocks?
		i			58	
		i			30	

(Continued)

Date	Sta	Phase	h	m	s	Remarks
(Continued)						
March 25	R	eP	02	27	50	
		e		28	00	
		e		30	30	
	Pr	iP		27	53	
		i		30	31	
		i		30	49	
March 25	T	eP?	09	32	38	Tu eP 09 33 13
	P	eP			26	
	MW	eP		31	58	
March 25	T	eP?	04	00	34	Tu eP 04 00 06
	P	eP			33	
	MW	eP			33	
	R	eP			28	
	Pr	eP		01	01	
	T	iP	16	59	37	Tu iP 16 58 57
	Pr	iP			25	
March 25	T	eP	18	12	59	
	MW	eP		13	01	
March 25	R	eP	20	45	30	Tu eP 20 45 50
	P	i			44	i 20 46 11
	PX	eSKSE		56	07	
		e		26		USCGS: 39° S. 178.5° E.
		iSNE		57	02	O = 20:32.2
		eSS	21	03	5	
		eLN		10	39	Wellington: 38.8° S. 178.5° E.
		eP	20	45	31	O = 20:32.2
	R	eP			27	
	Pr	iNZ			39	
		iNZ			55	LH A T
		eSNE		56	14	15 20
		eP		45	41	Magnitude 6 1/2 to 6 3/4
March 26	T	eP	00	45	05	Tu iP 00 45 35
	P	iP			07	
	MW	eP			09	c
	R	iPEZ			10	
	Pr	iP			20	
March 26	T	iP	08	42	20	Tu iP 08 43 07
	P	iP			21	d
	MW	iP			25	
	R	iP			32	d
	Pr	i			42	
		ePNE			10	
	H	iPNEZ			03	d
March 26	T	iP	19	26	34	Tu iP 19 27 08 c
	R	i			51	ipP 28
	Pr	iP			40	c
		ipP		27	00	
	T	iP		26	19	c Japan?
		ipP			39	
March 26	R	eP	21	54	40	
	Pr	eP			42	
	T	eP			34	
March 26	R	eP	22	23	52	Tu iP 22 23 28
	Pr	eP			52	
	T	eP		24	13	
March 27	R	eP	05	41	58	Tu iP 05 42 20
	Pr	iP			00	
	T	iP			42	

Date	Sta	Phase	h	m	s	Remarks
March 27	P	iP	06	18	28	Tu iP 06 19 02
	T	iPEZ			04	
March 27	P	eP	19	28	56	
	PX	eL		51	28	
	MW	eP		28	57	
	R	eP			58	
	Pr	iP			59	
	T	eP			43	
		i		29	06	
March 29	R	eP	06	45	12	Tu iP 06 45 24
	T	iP			09	
March 29	MW	iP	08	00	55	Tu eP 08 00 52
	R	eP		01	02	
	Pr	eP		01	02	
	T	eP		00	45	
March 29	P	iPEZ	17	12	00	Tu iP 17 12 22
	MW	iP			01	c
	R	iP			03	
	Pr	iPNEZ			04	c
	T	iPNEZ			07	
March 29	MW	eP	18	12	21	Tu eP 18 13 08
	R	eP			28	
	Pr	eP			33	
March 29	P	e	18	49	49	Tu iP 18 48 41
	MW	iP			36	ipP 49 02
		iP			52	
	R	iP			34	
		ipP			52	
		i			50	
	Pr	iP		49	03	P much smaller than pP at all
		ipP			26	these stations
		ipP			45	
March 30	MW	eP	03	38	28	Tu iP 03 37 30
	R	iP			36	
		i			22	
	Pr	iP			29	
		iP			17	
		iNEZ			24	
March 30	T	e			48	
	P	iP	07	45	29	Tu iP 07 46 50
		iS		47	01	
		iP		45	29	
	MW	iP			36	Strong (VI) in Mendocino
	R	iP			48	County, California
	Pr	ePE			15	
	H	eSE		47	05	
		e		45	04	
	T	iP		46	44	
		iSNZ			42	
March 30	P	iP	07	51	42	Tu iP 07 51 07
	MW	iP			42	
	R	iP			38	d
	Pr	iP			35	
	T	iP			54	
March 30	P	eP	15	50	15	Tu iP 15 50 35
		epP			33	ipP 32
		eP			17	
	MW	ipP			34	
		iP			18	
	Pr	eP			27	
	T	ipP			40	

Date	Sta	Phase	h	m	s	Remarks				
March 31	MW	iP	05	02	17	Tu	iP	05	03	03
	R	iP			21					
	Pr	iP			27					
	T	iP			02					
		ipP			19					
March 31	T	iP	14	13	13					

C. F. Richter

September 4, 1947

31 MAR 1948

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

APRIL - JUNE 1947

(PASADENA AND AUXILIARY STATIONS)

Date	Sta.	Phase	h	m	s	Remarks				
April 1	T	eP	10	23	31	Tu	iP	10	22	38
April 1	P	iP	14	28	12	Tu	iP	14	27	35
	R	iP			09					
	Pr	iPNZ			03					
	H	eSE		37	42					
	T	ePNE		28	22	South America				
		iPNEZ			23					
		i			56					
		eSNE		37	34					
April 1	Pr	i	19	29	46	Tu	i	19	30	22
	T	iP		29	08					
		i			19					
April 2	P	iP	02	06	21	Tu	iP	02	05	46.
	MW	iP			21					
	R	iP			17					
		i			45					
	Pr	iP			13					
	T	eP			33					
		e		07	09					
April 2	P	eP	05	53	11	Tu	eP	05	53	44
		i			17		i			48
	PX	iPPEZ		57	21		e	06	17	25
		iSKSEZ	06	03	49	USCGS: 1°S. 141°E.,				
		i		04	30	O=05:39.3				
		iPSE		06	04					
		i			21	BCIS: 2°S. 137 1/2°E.,				
		eSS		11.2		O=05:39.2				
		iNZ		12	03					
		eSSS		15.2						
		eLN		20.7						
	R	eP	05	53	14	PZ	1	1/2	1	1/2
		e			20	PPZ	2	1/2	5	
		eSKSE	06	03	56	PPH	2		3	
	Pr	iP	05	53	23	SKSH	8		7	
	T	eP			09	PSH	15		10	
		e			17	MH	120		20	
		eSKSNE	06	03	51	Magnitude 7 1/4 - 7 1/2				
April 2	P	iP	14	54	06	Tu	iP	14	54	24
	MW	iP			08					
	R	iP			08					
	Pr	iP			08					
	T	iP			16					
April 2	P	iPNEZ	15	16	29	Tu	eP	15	16	44
		iSNEZ			58		i			53
	MW	eP			24		i(S)		17	54
		iPNE			29	Felt in Imperial Valley.				
	R	iPNEZ			14	Epicenter near Mexicali.				
		iSEZ			43	32° 35' N. 115° 32' W.				
	Pr	iPNEZ!			04	O=15:15:39. Magnitude 4.2				
	T	eP			59					
April 2	P	eP	20	58	48	Tu	iPP	21	03	28
		ePP	21	02	44					
	PX	eL		31	17	USSR: 25° N. 123° E.				
	MW	eP	20	58	48	BCIS: 24.1° N 122.0° E.,				
		iPP	21	02	43	O= 20:45:08				
	R	eP	20	58	50					
		ePP	21	02	48					
	T	eP	20	58	38					

Date	Sta	Phase	h	m	s	Remarks
April 3	T	eP	00	12	55	Tu eP 00 12 20
April 3	T	iP	04	59	47	
April 5	R	i	14	35	13	Tu e 14 35 40
April 5	T	iP		34	54	
April 5	MW	eP	23	08	35	Tu eP 23 09 15
		i		48		e 25
	T	eP		18		
		i		33		
April 6	T	iP	03	41	20	Tu eP 03 42 20
April 6	P	ePEZ	08	11	50	Tu eP 08 12 00
		iSNE		12	39	
	MW	eP		11	51	31° 49' N, 115° 27' W
	R	eP		45		O=08:10:59
		iSNEZ		12	23	
	Pr	eP		11	32	Magnitude 4.9
April 9	MW	iP	23	35	01	Tu iP 23 34 27
	R	iP		34	57	
	T	iP		35	12	
April 10	P	iP	04	41	01	Tu iP 04 41 33
	MW	iP		01		
	R	iP		03		
	H	iP		40	56	
	T	iP		52		
April 10	P	iP	15	58	07	Tu iP 15 58 24 d
		i		23		
	MW	eP		08		North of New Zealand. At
		i		28		these stations motion im-
	R	iP		09		mediately precedes that of
		i		26		the following large shock in
	Pr	iP		08		d California. Auckland gives
		i		22		h = 700-800 km.
		i		25		
	T	eP		16		
		i		34		
April 10	P	iPNEZ	15	58	32	Tu iP 15 59 26 c
		eSNE		59		
	MW	iPNEZ		31		34° 58' N, 116° 32' W
	R	iPNEZ		27		O=15:58:04
	Pr	iPNEZ		34		Magnitude 6.8
	LJ	iPNEZ		41		
	SB	iPZ		47		
	H	iPNEZ		33		
	T	iPNEZ		46		
		i		34		
		i		27		
		i		29		
		i		29		
April 10	P	iPN	16	03	27	Aftershock
	MW	iPN		26		Seismograms confused by the
	R	iPNE		20		main shock. Magnitude 5.1
		iSNE		36		
	H	iPNE		29		
April 10	P	iPNEZ	17	18	50	Tu iP 17 19 41
		iSNE		19		
	MW	iPNE		18		
	R	iPNE		43		Aftershock
		iSNE		58		
	Pr	iP		48		Magnitude 5.0
	LJ	iP		19		
	H	iP		18		
	T	iPNEZ		19		

Felt widely in Southern California. Damage to ranch houses and other building within a few miles of epicenter. Evidence of strike-slip of about 8-10 centimeters found along about 5 kilometers of a known fault passing close to the instrumentally determined epicenter. Aftershocks very numerous the larger included here.

Date	Sta	Phase	h	m	s	Remarks
April 11	R	eZ?	00	21	56	Tu eP 00 21 43
April 11	P	iP	02	13	53	Tu iP 02 14 23
	MW	iP			53	
	R	iP			57	
	Pr	iP		14	01	
	H	iP		13	50	
	T	iP			45	
April 11	P	iPNEZ	07	47	36	Tu iP 07 48 29 c
		iSNE			57	
	MW	iPNEZ			35	d Aftershock of April 10, 15h
	R	iPNEZ			31	d
		iSNE			46	Recorded at temporary station
	Pr	iPZ			37	d at Old Woman Springs (34° 25' N,
	LJ	ePNEZ			47	116° 44' W); iP 07:47:20
		iSE		48	15	
	H	iP		47	37	c Magnitude 5.0
	T	iPNZ			50	
		iSNE			48	
April 11	PX	eL	15	18		Tu ePP 14 48 26
	MW	e	14	47	34	USSR: 19° N, 120° E
	Pr	e			57	BCIS: 20.4° N, 121.7° E
April 13	P	iP	02	28	05	Tu iP 02 28 35 O=14:29:31
	MW	iP			06	
	Pr	iP			11	
	H	iPEZ			00	
	T	iP		27	57	c
April 13	P	iP	03	58	48	Tu iP 03 58 16 c
	MW	iP			48	
		i		59	02	
	LJ	eP		58	40	
	SB	iP			54	
	H	iPNEZ			56	
	T	iPNEZ		59	01	c
		i			17	
April 13	P	iP	13	31	28	Tu iP 13 31 50 d
	Pr	iP			30	d
	SB	iP			23	
	T	iP			37	
April 13	P	iP	17	44	15	Tu iP 17 44 46
	MW	iP			16	
	SB	iP			09	
	H	iP			08	
	T	iP			05	
April 14	P	iPNEZ	07	26	40	Tu iP 07 27 17 c
		i			53	
	PX	eSNE		35	38	e 26
		eLNE		43	4	i 31
	P	eP		54	49	
	MW	iP		26	42	c USCGS: 45.0° N, 146.5° E
	R	eP		54	48	O=07:15:5
	Pr	ePN		27	03	
		iPNEZ		26	50	c BCIS: 44.8° N, 148.5° E
		iNZ		27	03	O=07:15:35
		i		28	07	
		iSE		36	05	A T
		eP		54	44	PZ 1/2 1 1/2
	LJ	eP		26	51	PH 3/4 1
		e		27	05	SH 5 5
						MH 40 18

(Continued)

Magnitude about 7

Date	Sta	Phase	h	m	s	Remarks
(Continued)						
April 14	H	iPNEZ	07	26	35	
					48	
	T	eP		54	57	
		iP		26	31	c
		i			42	
		eSE		35	32	
April 14	P	eP	07	34	25	Tu iP 07 35 02
	MW	iP			26	
		eP			36	Aftershock
	Pr	eP			34	
April 15	T	iP	13	08	21	Tu iP 13 07 27
	P	eP			15	
	Pr	iP			07	
	H	eP			43	
April 15	T	eP	16	54	37	Tu iP 16 55 08
	P	eP			51	
	Pr	eP			41	
	H	eP			27	
April 15	T	iP	22	39	24	Tu iP 22 41 08
	P	eP			56	
	Pr	eP			40	
	H	eP			21	
April 16	P	eP	06	39	40	Tu iP 06 53 02
		eP		52	26	
	Pr	epP			37	
	H	eP			33	
	T	ipP			45	
		iP			18	
		ipP			30	
April 16	T	iP	10	59	14	Tu iP 10 59 58
	P	eP			26	
	Pr	iPNEZ			54	d
	LJ	iP			39	
	H	iPNEZ			36	
	T	iPNEZ			42	
April 17	Pr	eP	05	54	01	Tu iP 05 53 15
April 17	T	iP	16	32	39	Tu iP 16 31 52
April 17	P	iP	16	44	12	Tu iP 16 44 38 d
	Pr	iP			16	
April 18	T	iP	12	53	21	Tu iP 12 53 39
	P	iP			18	
	Pr	iP			21	
April 18	T	iP	14	37	27	Tu eP 14 38 08
	Pr	iP			49	
	T	iP			54	
April 19	P	i	10	38	12	Tu iP 10 42 26
	Pr	iP			05	
	H	iP			07	
April 20	T	iP	05	08	14	Tu iP 05 07 47
	P	ipP			16	
	Pr	iP			49	
	T	ipP			09	
		ipP			43	
		iPEZ			26	
		e			48	
		ipP		09	01	

Date	Sta	Phase	h	m	s	Remarks
April 20	P	iP	06	53	36	Tu iP 06 53 59 d
	Pr	iP			38	
	T	iPNEZ			44	
April 21	Pr	e	15	07	04	Tu e 15 07 09
		i		08	12	08 08
	T	e			04	
April 23	T	eP	02	41	19	Tu iP 02 40 38
April 23	P	iP	04	57	09	Tu iP 04 56 18
	MW	iP			09	
	R	iP			04	
April 24	T	iPNEZ	04	48	14	
	P	iP			58	
	MW	eP			55	
	R	eP			58	
	Pr	eP		49	05	
	H	eP		48	40	
April 24	T	iP	19	47	23	Tu iP 19 46 30
	P	iPEZ		47	05	eP: P 20 14 42
	PX	ePPZ		49	57	USCGS: 8°N, 37.5°W, O=19:35.1
		iSNZ		56	52	BCIS: 7.5°N, 38.7°W, O=19:35.06
		iZ		57	31	
		eLNZ	20	05	8	
		iP	19	47	04	PH 3/4 3
	MW	iPNEZ			02	PPH 1 3
	Pr	iP			02	LH 15 20
	LJ	ePNEZ			06	Magnitude 6 3/4
April 25	P	iP	09	58	28	Tu iP 09 58 51 c
	MW	iP			30	
	R	eP			29	
	Pr	iP			30	c
	T	iP			40	
		e			59	
April 26	P	iP	08	11	27	Tu iP 08 11 52 c
	MW	iPNEZ			28	
		i			50	
	R	iP			30	c
	Pr	iPNZ			30	c
	LJ	iRNEZ			29	
	SB	iP			24	
	H	iP			35	
	T	iPNEZ			36	c
April 26	P	e	11	12	00	Tu iP 11 38 57
	MW	eP		39	54	
	R	eP			56	
	Pr	eP			48	
	T	eP			43	Mexico
April 26	P	eP	13	40	18	Tu iP 13 23 33
	PX	eLEZ		24	33	
	MW	eP		32	4	Mexico
	R	iP		24	33	
	Pr	eP			27	
	T	eP			19	
April 26	MW	e	17	43	56	Tu e 17 44 42
	Pr	e		44	02	USSR: 6°N, 125.5°E
		e			04	

Date	Sta	Phase	h	m	s	Remarks
April 27	P	eP	08	06	08	Tu iP 08 06 58
	PX	eL		14	6	
	R	eP	08	06	20	
	Pr	iP			28	
		i			36	
	H	eP		07	04	
	T	iP		06	01	
April 27	P	iP	11	14	33	Tu iP 11 15 02
	R	iP			28	
	Pr	eP			40	
	H	eP			09	
	T	iP		13	58	
		i		14	05	
April 27	P	iP	12	33	47	Tu iP 12 34 13
	R	iP		34	00	
	Pr	iPNEZ		33	50	c
		i		34	03	
	LJ	eP			01	
	H	eP		33	52	
	T	iPEZ			52	
April 27	R	eP	22	24	14	Tu eP 22 24 46
	Pr	eP			04	
	T	eP		23	43	
		i		24	19	
April 28	P	iP	13	50	52	Tu iP 13 50 58 c
		i			57	
	PX	eL	14	15	6	
	MW	iP	13	50	52	
		i			57	
	R	iP			52	
	Pr	iPNEZ			58	
		i		51	02	
	LJ	eP			00	
	H	iPNEZ		50	39	
		i			44	
	T	iPNEZ			33	
		i			39	
April 29	P	iP	05	47	20	Tu eP 05 47 48
	MW	iP			21	
	R	eP			16	
	Pr	eP			27	
	H	iP			13	
	T	eP			05	
		i			14	
April 29	P	iP	07	47	50	Tu eP 07 48 19
	MW	iP		48	07	
		i		47	51	
	R	iP		48	08	
	Pr	iP		47	53	
		i		48	10	
	H	eP		47	55	
	T	eP		48	10	
		iP		47	52	
		e		48	07	

Date	Sta	Phase	h	m	s	Remarks
April 29	P	iP	07	51	41	Tu iP 07 52 07 d
	MW	iP			42	
		ipP		52	02	
	R	iP		51	44	Near Apia, which reports:
	Pr	iP			44	d P 07 40 53
		i			55	S 07 41 15
		ipP		52	01	
	LJ	iP		51	40	
	H	iP			49	
	T	iP			51	
		ipP		52	09	
April 29	P	eP	08	10	11	Tu iP 08 10 16
	PX	eL		17	7	
	MW	iP		10	11	
	R	iP			11	
	Pr	iP			15	
	H	iP		09	57	
	T	iP			51	
April 29	P	iP	09	25	43	Tu iP 09 26 07 d
		ipP			01	
	PX	eL		51	6	
	MW	iP		25	44	d
		ipP		26	03	Near Apia, which reports:
	R	iP		25	46	P 09 14 55
	Pr	eP		26	04	S 09 15 20
		ipP		25	46	d
		ipP		26	07	
	H	iP		25	51	
	T	iPNEZ			53	d
		ipP		19	26	08
April 29	P	eP	19	38	33	Tu eP 19 39 00
	MW	eP			36	Near Apia, which reports:
	R	eP			36	P 19 27 49
	Pr	eP			38	S 19 28 12
	T	eP			46	
April 30	P	iP	04	55	44	Tu iP 04 56 26
		i		56	09	
	PX	eLEZ	05	03	8	
	MW	iP	04	55	44	BCIS: 60°N, 138 1/2°W,
	R	eP			48	O=04:49:44
	Pr	iPNZ			55	
	H	iP			30	
	T	eP			21	
April 30	P	eP	14	12	53	Tu iP 14 12 35
	PX	eL		30	7	
	MW	iP		12	55	
	R	iP			52	
	Pr	eP			47	
	H	iP		13	07	
	T	iP			13	
April 30	P	eP	17	25	49	Tu eP 17 25 38
April 30	P	iP	23	55	43	Tu iP 23 56 07 d
		ipP			41	
	MW	iP		55	43	d
		i		56	10	
		ipP		56	40	
	R	iP		55	45	
		ipP		56	43	
	Pr	iPNEZ		55	46	
		ipP		56	42	Region of Samoa; Apia reports:
	eS		24	05	14	P 23 45 47
	iP		23	55	40	S 23 46 56
	H	iP			50	d
		e		56	47	
	T	iP		55	52	d
		ipP		56	51	
	eS		24	05	27	

Date	Sta	Phase	h	m	s	Remarks
May 2	P	iP	00	52	34	Tu iP 00 51 40
	MW	iP			34	
	R	iP			29	
	Pr	iP			23	
	T	iPEZ			47	
May 2	P	eP	01	36	53	Tu iP 01 35 59
	MW	iP			54	
	R	eP			47	
	Pr	iPNEZ			39	Central America
	H	eP		37	02	
	T	eP			10	
May 2	PX	iP	02	26	26	Tu iP 02 27 02
		iSEZ			32	i 13
		eLNZ			35	
	MW	iP			26	
	R	eSE			32	
		iP			26	
	Pr	eSE			32	
		iP			26	
		iNZ			40	
		iNEZ			49	
		e(S)E		32	25	M A T
	LJ	iP		26	31	
	H	eP		26	06	Magnitude 6
	T	eSNE		31	36	
May 2	Pr	eP	07	39	56	Tu iP 07 40 31
	T	eP			33	
		i		40	01	
May 2	P	iP	08	35	11	Tu iP 08 35 57
	MW	iP			12	iPcP 37 48
	R	iP			15	
	Pr	iPNEZ			22	
	LJ	iPNEZ			24	
	SB	iPEZ			03	
	H	iPNEZ			01	
		iPcP		37	25	
	T	iPNEZ		34	54	
		i		41	00	
May 2	P	iP	13	25	38	Tu iP 13 24 38
	MW	iP			39	i 58
	R	iP			33	
	Pr	iP			24	
	H	eP			54	
May 2	T	eP	14	54	12	Tu iP 14 54 29
May 3	T	eP	01	05	43	Tu iP 01 06 46
		i			54	i 56
		i		06	10	
May 3	P	eP	09	47	31	Tu iP 09 48 05
		i			40	i 17
		i			43	
	PX	eL	10	11	3	
	MW	iP	09	47	32	
		i			40	
		i			45	
	R	iP			35	
		i			42	USSR: 35.5°N, 141.0°E.
		i			48	BCIS: O=09:35:27
	Pr	eP			38	
		i			49	
	SB	eP?			26	
		i			38	
	H	eP			33	
	T	iP			23	
		iNEZ			35	

Date	Sta	Phase	h	m	s	Remarks
May 4	P	iP	14	33	41	Tu eP 14 34 11
	MW	iP			42	Near Guam, which reports:
	R	iP			43	P 14 20 20
	Pr	iP			46	S 47
	T	iP			38	
May 5	MW	iP	04	28	11	Tu eP 04 28 33
	R	eP?			09	
	T	eP			18	
		e			25	
May 5	Pr	iP	05	06	54	Tu iP 05 06 08
		e			07	
May 5	R	iP	12	59	15	Tu iP 12 59 21
	Pr	eP			05	
	T	eP			13	
May 6	P	iP	01	13	15	Tu iP 01 12 47
		ePP			45	ipP 13 12
	MW	iP			16	i 19
		iPP			45	
	R	iP			13	
	Pr	ePP			46	
		iP			09	
	LJ	ePP			40	
	T	eP			08	
		ePP			28	
		ePP			57	
May 6	P	eP	11	59	08	Tu eP 20 44 33
	MW	iP			08	ePP 48 40
	R	eP			10	iPKKP 21 01 05
	Pr	eP			13	i 22
	P	iP	12	38	26	Tu iP 12 38 54
	MW	iP			28	
	R	iP			31	
	Pr	iP			32	
	T	eP			33	
May 6	PX	iP	20	44	03	Tu eP 20 44 33
		ePPEZ			47	ePP 48 40
		eSKSE			54	iPKKP 21 01 05
		iS			55	i 22
		eSS	21	01	7	e(P:P) 08 40
		eSSS			05	
		eGN			09	
	MW	iPNEZ			44	USCGS: 7°S, 150°E, O=20:30.7
		eSKSE			54	BCIS: 6 1/2°S, 148 1/2°E.,
	R	iP			44	O=20:30:34
	Pr	iPEZ			09	A T
		eSKSNE			54	PH 2 4
	LJ	iP			44	MH 100 20
	SB	ePNEZ			43	Magnitude 7 1/4
		eSKSE			54	
	H	ePE			44	
	T	iP			05	
		eSKSN			54	
		eE			48	
May 6	P	iP	20	52	25	Tu iP 06 04 11
	MW	iP			26	Aftershock?
	R	eP			28	
	Pr	iP			30	
May 7	Pr	iP	06	04	56	Tu iP 06 04 11

Date	Sta.	Phase	h	m	s	Remarks
May 7	P	iP	14	21	15	
	MW	epP			43	BCIS: 0°156°E., O=14:08.5
	R	iP			16	
	Pr	epP			40	
	T	iP			19	
May 8	MW	epP	07	09	55	Tu eP 07 10 26
	R	iP			10	CMO: 41.9°N. 143.3°E.
	T	epP			09	
May 8	MW	iP	07	22	16	Tu iP 07 22 58
	R	epP			20	
	T	ep(?)			21	
May 8	P	iP	19	03	43	Tu i 19 03 23
	MW	i			45	USSR: 27.0°N. 99.5°E. h=65 km.
	R	i			44	
May 8	P	iP	24	00	16	Tu iP 23 59 32
	PX	eL			11.5	
	MW	iP			00	USCGS: 3°N. 95°W., O=23:52.9
	R	iP			12	
	T	epP			35	
May 9	P	iP	13	39	03	Tu iP 13 38 07 c
	R	iP			38	
	T	epP			39	
May 10	P	iP	00	18	05	Tu iP 00 18 37
	MW	iP			05	USSR: 59.0°N. 145.0°E.
	R	iP			08	
May 11	P	iPEZ	05	06	49	Tu iP 05 07 36
	MW	iSNE			07	i 56
	R	iPNEZ			06	
	LJ	iSNE			07	
	SB	iPEZ			06	34°14'N. 116°20'W., O=05:06:20
	H	iSNE			53	Magnitude 4.9
	T	iPNE			50	Felt strongly at Twenty-nine Palms
	P	iSNE			07	Palomar station not operating
	R	epN			08	
	H	iSE			49	
	T	epN			06	
	P	iSN			07	
	R	iPNZ			12	
	T	iSNE			08	
May 11	R	iP	11	24	05	
	T	epP			05	
May 12	P	epP	13	52	26	Tu eP 13 52 22
	MW	epP			24	
	R	epP			25	Southeast Pacific?
	T	epP			39	
May 14	P	iP	02	20	35	Tu eP 02 20 57
	PX	eL			53.2	
	MW	iP			20	Southwest Pacific
	R	iP			38	BCIS: 22 1/2°S. 169 1/2°E., O = 02:07.7
	T	iP			41	
	P	iP			52	
May 15	P	iP	01	39	18	Tu iP 01 39 37
	MW	iP			19	
	R	iP			21	Wellington gives: 31.7°S 179.5°W., O=01:27:14, h=400 km.
	Pr	iP			21	
	T	iP			27	

Date	Sta.	Phase	h	m	s	Remarks
May 15	P	iP	02	26	24	Tu iP 02 26 48
	MW	iP			25	
	R	iP			26	
	Pr	iP			28	
	T	iP			30	
May 15	P	iP	22	22	17	Tu iP 22 22 48
	MW	iP			17	
	Pr	iP			24	USSR: 27.5°N. 130.0°E.
	H	iP			15	
	T	iP			10	
May 16	P	epP	05	58	48	Tu eP 05 58 48
	P	e(S)			06	
	P	e(S)			00	
	P	e(S)			02	
	P	e(S)			07	
	P	e(S)			12	
	P	e(S)			30	
	P	e(S)			42	
	P	e(S)			53	
	MW	iP			32	
	Pr	iP			34	
	T	iP			41	
May 16	P	iP	22	08	37	Tu iP 22 07 50
	MW	iP			36	
	R	iP			32	
	Pr	iP			29	
	H	epP			42	
	T	iP			39	
May 17	P	iP	07	19	07	Tu iP 07 19 31
	MW	iP			08	
	R	iP			10	
	Pr	iP			11	Sharp impulses, apparently not belonging to the following.
	H	iP			30	
	T	iP			16	
	P	iP			15	
May 17	P	epP	07	19	53	Tu eP 07 20 23
	P	i			20	
	PX	iPP			23	
	PX	eSKSN			30	
	PX	eSE			38	
	PX	i			31	
	PX	ePPS			32	
	PX	eSSN			43	
	PX	eSSSN			37.1	
	PX	eSSSN			41.2	
	PX	eGN			45.2	
	PX	e(P)			19	
	MW	i			44	
	R	epP			55	
	Pr	ep?			56	
	P	i			49	
	P	i			55	
	P	eSE			30	
	LJ	epP			19	
	H	epP			20	
May 18	P	iP	01	25	37	Tu iP 01 26 00
	MW	iP			38	
	R	ipP			27	
	P	iP			25	
	Pr	epP			27	
	T	epP			25	
	P	iP			25	
	MW	iP			24	
	R	iP			25	
	T	iP			21	
	P	iP			06	

Date	Sta.	Phase	h	m	s	Remarks
May 18	P	iP	05	06	57	Tu iP 05 07 29
	MW	iP			57	
	R	eP		07	00	
	Pr	iP			04	
	H	iP		06	52	
	T	iP			48	
May 19	P	eP	04	43	22	Tu iP 04 43 42 c
	MW	iP			22	
	R	iP			23	
	Pr	iP			24	c
	H	eP			27	
	T	eP			30	
May 19	MW	iP	17	07	26	Tu iP 17 08 14
	Pr	iP			38	
	T	iP			10	
May 19	MW	iP	21	53	04	Tu iP 21 53 25
	R	iP			06	
	Pr	iP			06	
	H	iP			11	
	T	iP			13	
May 20	MW	iP	20	07	03	Tu iP 20 07 34
	R	iP			05	
	Pr	eP			10	
	T	iP		06	54	
May 20	P	iP	20	52	00	Tu iP 20 52 18
	MW	epP			13	ipP 31
		iP			01	i 38
		ipP			15	
		i			43	
	R	eP			02	
		epP			14	
		e			28	
	Pr	iPNEZ			02	c
		ipP			16	
	T	eP			10	
		epP			24	
May 21	MW	iP	08	19	22	Tu iP 08 19 46
	Pr	iP			24	
May 22	MW	iP	06	49	00	Tu iP 06 48 06
May 22	P	eP	08	34	52	Tu eP 08 35 22
	MW	ep			52	
	R	eP		35	04	
May 22	MW	eP	10	18	31	Tu iP 10 17 50
	R	eP			27	
May 22	P	eP	11	16	09	Tu iP 11 16 54
	MW	eP			08	
	R	eP			14	
	Pr	ePNE			20	
May 22	MW	eP	13	27	00	Tu iP 13 26 10
	R	eP			26	
	T	eP			27	
May 22	P	iP	14	26	49	
	MW	iP			49	
		i			33	
		iP			26	
	R	iPNEZ			52	
May 22	P	iP	17	20	04	Tu iP 17 20 26 d
	MW	iP			03	dd
	R	iP			05	
	Pr	iPNE			07	
	H	ePE			11	
	T	iPNEZ			12	d

Date	Sta.	Phase	h	m	s	Remarks
May 22	P	iP	22	52	05	Tu iP 22 52 44
	MW	iP			06	
	R	iP			09	
May 23	P	iP	02	15	18	Tu iP 02 14 47
	MW	iP			18	
	R	iP			15	
	Pr	ePN			11	
	T	eP			30	
May 23	P	iP	05	12	48	Tu iP 05 12 11
	MW	epP			13	d
		iP			12	
		ipP			13	Andes?
		i			30	
	R	iP			12	d
		ipP			13	
	Pr	ePN			12	
	T	iPEZ			13	
		epP			30	
May 24	MW	e	00	29	44	Tu e 00 29 41
	Pr	e			47	
May 24	P	eP	11	12	06	USSR: 12.5°N, 49.5°E. 11 12 06
	MW	ep			08	
	Pr	iP			05	
May 24	P	iP	18	18	27	Tu iP 18 17 28
	MW	iP			25	
	R	iP			20	Mexico
	Pr	iP			14	
	T	iP			42	
May 25	R	eP	03	04	09	Tu eP 03 03 15
	Pr	eP			03	
	T	eP			38	
May 25	P	eP	16	02	29	Tu iP 16 03 17
	R	eP			34	
		e			51	
	Pr	iPNEZ			41	Aleutian Islands
		i			49	BCIS: 50 1/2° N. 167° W. O=15:54.7
		e(S)E			58	
		ePEZ			59	
	T	ePEZ			02	
May 25	P	eP	16	40	35	Tu iP 16 40 55
	R	eP			35	epP 41 12
		epP			51	
	Pr	eP			36	
May 25	P	eP	19	23	26	Tu iP 19 23 47
	R	iP			28	
	Pr	iP			28	
	T	eP			20	
May 26	P	iP	00	12	51	Tu iP 00 11 57
		ipP			13	12 11
		i			27	
		iPcP			15	23
		ipPcP			16	07 34
		i			24	13 07
	MW	iP			12	i(PcP) 15 54
		ipP			13	
		i			18	
		i			27	
	R	iP			12	
		ipP			13	
		i			21	
		iPcP			15	
		i			16	
		i			05	
		i			23	

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
(Continued)						
May 26	Pr	iPNE	00	12	41	
		ipPNE			56	
		iNE		13	15	
	LJ	eP		12	55	Depth about 80 km.
	H	ePNE		13	05	
	T	iP			08	
		epP			22	
		i			44	
		iPcP		15	54	
		e		16	11	
May 26	P	eP	11	10	57	Tu eP 11 10 40
	MW	eP			58	
	R	eP			50	
		i			57	
	Pr	ePN			59	
	T	eP			54	
May 26	P	iP	13	11	25	Tu iP 13 12 01 d
	MW	iP			25	d USSR: 46°N, 152.5°E., h=200 km.
	R	iP			28	
	Pr	ePNE			35	BCIS: 47 1/2°N, 151°E., O=13:00:9
	T	iP			13	d
May 26	P	iP	17	45	57	Tu epP 17 48 20
		ipP		47	54	
	MW	iP		45	58	
		ipP		47	53	
	R	iP		46	00	
		ipP		48	03	Foreshock of next? h=550 km.
	T	iP		46	01	
		ipP		47	57	
May 26	P	iPEZ	19	52	56	Tu eP 19 53 26
		i		58	18	ipP 55 22
	PX	eSKSE	20	02	39	
		eSE		03	07	
	MW	iP	19	52	57	
		i		58	15	Very deep
	R	eP		52	58	No surface waves
		e		58	20	
	Pr	ePN		53	07	BCIS: 7°S, 158 1/4° E.,
		iNE		58	23	O=19:40.0
		iSKSNE	20	02	46	Pasadena: 8 1/2°S, 158°E.,
	SB	iP	19	52	55	O=19:40:55, h=560 km.
		ipP		54	53	
	H	ePE		53	03	
	T	iPNEZ			02	
		eSKSE	20	02	42	
May 27	P	iP"	03	53	35	Tu iP" 03 53 48
		e		54	15	e 54 16
	MW	iP"		53	35	USSR: 9°S, 123.5°E.,
		e		54	18	h = 100 km.
	R	eP"		53	37	BCIS: 8 1/2°S, 124 1/2°E.,
	Pr	iP"			35	O = 03:34.9
		e		54	10	
May 27	P	eP	06	13	00	Tu eP 06 13 35
		e		16	40	i 18 15
		ePPEZ		17	22	ipPKP 28 38
	PX	eSKSE		23	55	USCGS: 2°S, 141°E.,
		eN		24	53	O = 05:59.2
		iN		25	43	BCIS: 1 3/4°S, 135 1/2°E.,
		eN		31	40	O = 05:58.9
		eSSN		32	23	
		eLN		41.2		
(Continued)						

Date	Sta.	Phase	h	m	s	Remarks
(Continued)						
May 27	MW	eP	06	13	01	
	R	eP			04	
	Pr	eP			06	PZ A T
		iPKKP		29	01	PH O.1 1
	SB	eP		13	04	PPH 1 3
	H	ePE			09	MZ 80 20
	T	eP			07	MH 50 18
May 27	P	iP	17	41	24	Magnitude 7
	MW	iP			25	
		i			31	
	R	eP			30	
		i			37	
		e			52	
	Pr	eP			24	
		i			49	
	T	eP		40	58	
		i		41	13	
May 27	P	eP	21	00	41	Tu iP 21 02 02 c
		iSEZ		02	12	i 08
	PX	eLNE			34	Felt in Humboldt County, Calif.
	MW	iPNEZ		00	41	
	R	iPNEZ		01	00	
	Pr	iPNEZ			09	MH A T
		iZ			09	8 11
	SB	iP		00	26	Magnitude 5
	H	ePNE			27	
	T	eP			14	
		iNEZ			17	
May 28	P	iNZ	15	01	40	Tu iP 15 00 38
		iP		00	18	ipP 01 55
		ipP			36	i 13
	MW	iP			19	
		ipP			37	
	R	iP			20	
		ipP			34	
	Pr	iPNEZ			21	
		iNEZ			37	BCIS: about 24°S, 179°E.,
		i			58	O = 14:47.9
	LJ	eP			18	
		epPNZ			34	
	SB	iP			15	
		e			33	
	H	ePNE			23	
	T	iPNEZ			29	
		i			47	
May 28	MW	iP	21	37	32	
		epP			55	
	R	iP			34	
		epP			57	
	T	iP			34	
May 29	P	eP	00	35	13	Tu iP 00 34 14
	MW	iP			11	
	R	eP			03	
	Pr	iP		34	55	
May 29	MW	iP	01	39	54	Tu iP 01 40 18
	R	iP			55	
	Pr	iP			56	
May 29	P	iP	03	28	03	Tu iP 03 27 29
	MW	iP			03	
		epP			26	
	R	iP			27	
		ipP			28	
(Continued)						

Date	Sta	Phase	h	m	s	Remarks
(Continued)						
May 29	H	eP	03	28	10	
	T	iP			15	
		ePP			39	
May 29	P	eP	11	12	57	Tu iP 11 13 42
	MW	eP			56	
		ipP		13	09	
		i			13	
	R	eP?			03	
		e			11	
	Pr	eP			06	
		ipP			19	
		iNZ			22	
	T	eP		12	43	
		ipP			59	
		i		13	06	
		i		14	37	
May 29	P	iP	21	25	48	Tu iP 21 25 17
	R	eP			43	e? 27 26
		e		27	54	
	Pr	iP		25	40	
May 30	PX	eL	13	38.7		Tu eP 13 11 48
	MW	eP		12	07	
		e			20	
	R	eP		11	55	
	Pr	eP			56	
	T	eP		12	13	
		e			23	
June 1	MW	iP	03	57	51	Tu iP 03 58 14
	R	iP			52	
	Pr	iP			54	
	T	iP			59	
June 1	P	iP	04	21	57	Tu iP 04 22 45 d
		ipP			22	07 55
	MW	iP		21	58	
		ipP		22	08	
	R	eP		22	02	
	Pr	iP		22	10	d
		ipP			20	
	T	iP		21	41	
June 1	MW	ePM	07	48	06	Tu iP 07 48 52
	Pr	iP			16	e 49 01
	T	iP		47	49	
June 1	MW	eP	18	29	06	Tu eP 18 28 15
	R	eP			16	e 31 05
	T	eP			52	
June 1	MW	eP	22	09	30	
		e			45	
	T	eP		10	16	
		i		13	14	
June 1	P	eP	22	30	22	Tu iP 22 29 40
		e			55	i 30 16
		e		31	03	
	MW	iP		30	22	
		i		31	02	
	R	iP		30	18	USSR: 39°N, 90°E.,
		e			53	h 55 km.
		i		31	05	
	Pr	iP		30	13	
	T	iP			35	
		i		31	52	
		i			15	

Date	Sta	Phase	h	m	s	Remarks
June 2	P	eP	01	02	10	Tu eP 01 01 20
	MW	eP			09	i 01 25
	R	eP			04	
	Pr	iP			02	
		i			16	
June 2	P	ePP	06	59	02	Tu ePP 06 59 08
	MW	iPP			03	USSR: 41°15'N, 72°10'E.
	R	ePP			01	
	Pr	ePP			00	BCIS: O=06:40.6
	T	ePP		58	38	
June 2	P	i(P)	13	57	22	Tu i(P) 13 57 32
	R	i(P)			22	i 14 00 51
	Pr	i(P)			24	
		e			40	
		e			54	
June 2	T	e(P)			17	
June 2	P	eP	14	16	14	
		i			39	
	MW	iP			15	
		i			34	Near Apia, which reports:
	R	iP			16	P 14 05 20
		e			29	S 37
	Pr	iP			37	
		i			16	
		eP			36	
June 3	T	i	04	59	29	Tu i 04 58 40
	MW	i			28	
	R	i			23	
	Pr	i?			58	
		i			59	
		e			34	
June 4	R	eP	04	55	59	Tu iP 04 56 18
	Pr	iP			00	
June 4	P	eP	14	16	26	
	R	eP			27	
	Pr	iP			23	
		i			42	
	H	eP			41	
	T	eP			47	
June 5	P	eP	08	10	58	Tu iP 08 11 42
	MW	iP			58	
	Pr	eP			11	
	T	iP			10	
June 5	P	eP	12	08	46	Tu eP 12 09 07
		e			55	i 12 09 25
	MW	eP			45	BCIS: 15°S, 166°E.
		i		09	00	O=11:56.0
	R	eP			08	
		e			09	
	Pr	eP			09	
		i			08	
		i			09	
	T	eP			08	
		e			09	
		i			07	
June 5	Pr	iP	13	03	43	Tu iP 13 03 36
	T	eP			04	

Date	Sta	Phase	h	m	s	Remarks	
June 5	P	iPNEZ	23	04	44	c Tu iP 23 03 57	
		iPcP		07	31		06 15
		iScP		11	08		10 49
	PX	eLN		14	1		
		eL		14	5		
	MW	iPNEZ		04	45	c	
		iPcP		07	30		
		iScP		11	08		
	R	iP		04	39	c USCGS: 14°N. 90°W.	
		iPcP		07	28		
		iScP		11	06		
	Pr	iPNEZ		04	34	c	
		i		05	55		
		iPcP		07	27		
	LJ	iScP		11	04		
iP		04		34			
ePcP		07		27			
SB	iPNEZ		04	57			
	iPcP		07	34			
	eScP		11	13			
T	iP		05	00			
	iPcP		07	33			
	iScP		11	13			
June 6	P	i	04	16	12		
				15	58		
				16	14		
R	eP			02	17		
				15	59		
				16	11		
June 7	P	eL	19	06	24	Tu e 19 05 55	
				36	1		07 05
				06	25		USCGS: 11°N. 127°E.
June 9	P	e	06	21	58	L Tu 10 19 06 20 54	
				37			21 06
				06	21		
June 9	P	iP	10	58	57		
				57			
				59			
June 10	P	eP	07	56	23	Tu iP 07 56 45 c	
				58	21		58 43
				58	24		
R	iP			56	26		
				58	26		
				58	26		
Pr	iP			56	27	Tonga region, depth about 550 km.	
				58	28		
				58	28		
H	iP			56	32		
				58	32		
				56	33		
T	eP			58	33		
				56	33		
				58	33		

Date	Sta	Phase	h	m	s	Remarks
June 10	PX	eL	12	00	6	Tu e 11 31 34
		Pr		11	30	
June 10	P	eP	19	51	39	Tu iP 19 51 15 d
		iP		40	25	
		iP		38		
June 11	P	iPNEZ	02	38	04	Tu iP 02 37 29 d
		Pr		04		
		iP		00		
June 11	R	iP	19	24	05	Tu iP 19 24 28 d
		ePNE		37	57	
		iP		38	16	
June 12	P	eP	09	16	58	Tu eP 09 17 30
		iPP		21	00	
		eSNE		28	37	
June 12	PX	iNE	09	29	07	i 22 27
		iPPS		30	59	
		i		31	26	
June 12	P	ePKKP	09	32	14	USCGS: 1°N. 127°E. O=09:02.4
		eSS		36	09	
		eSSS		41	0	
June 12	MW	eGN	09	47	2	BCIS: 3/4°N. 126 1/4°E. O=09:02.4
		iP		17	02	
		iPP		21	00	
June 12	R	eSNE	09	28	37	USSR: 2.3°N. 125.5°E
		e		31	59	
		eP		17	01	
June 12	Pr	iPP	09	21	01	A T 3/4 2 1/2
		eSNE		28	41	
		e		31	56	
June 12	P	iP	11	00	19	SH 3 3 1/2
		iPP		21	02	
		iSNE		28	47	
June 12	SB	i	11	32	10	GH 18 60
		iP		16	56	
		ePP		21	00	
June 12	H	ePP	11	12	12	MH 30 20
		eP		16	54	
		i		17	12	
June 12	P	i	11	22	03	Magnitude 7
		e		32	15	
		iP		11	00	
June 13	P	iP	20	37	16	Tu iP 20 37 50 d
		iPP		40	35	
		eSNE		47	37	
June 13	PX	iE	20	48	01	i 41 25
		eSSE		52	5	
		eGN		58	4	
June 13	P	eRE	21	02	1	
		eSKPP		07	07	
		(Continued)				

Date	Sta	Phase	h	m	s	Remarks	
June 13	MW	(Continued)	20	37	18	d BCIS: 21 3/4°N, 146 1/4°E O=20:24:53	
		iP			21		
		iNEZ			33		
		ePP		40	37		
		eSNE		47	37		
		eSKPP	21	07	04		
		R	iP	20	37	19	d USCGS: 19°N, 146°E O=20:24.7
			i		40	34	
			i		47	42	
		Pr	eSNE	21	07	03	USSR: 21.0°N, 146.5°E
			eSKPP	20	37	24	
			iPNEZ		47	47	A T
		LJ	iPP		40	46	PH 4 4
			eSEZ		47	47	SH 7 6
			ePNEZ		37	24	MH 16 20
SB	eSNE		47	49			
	iP		37	11	Magnitude 7 to 7 1/4		
	iPNEZ		47	15			
H	eSNE		47	32			
	iPNEZ		37	12			
	i			29			
T	eSNE		47	24			
	eSKPP	21	07	09			
	iP	21	13	00	Tu iP 21 13 32		
June 13	P	iP			00		
		iP			03		
		iP			06	Aftershock	
June 14	P	iPNEZ			12		
		iP			54		
		iP			57		
June 14	P	iPNEZ	00	02	46	Tu iP 00 03 18	
		eP			46		
		iP			46	Aftershock	
June 14	P	iPNEZ			54		
		i			34		
		iSN			23	USCGS: 19°N, 146°E O=23:50.3	
June 14	P	eP			02		
		eP			41	USSR: 24.0°N, 148.0°E	
		eP			46	BCIS: O=23:50.22	
June 14	P	iP	00	43	12	Tu iP 00 43 46	
		iPEZ			53		
		eSNE			26		
June 14	P	iPEZ			43		
		iSNE			31		
		iPNEZ			20	d Aftershock	
June 14	P	iSNE			53		
		eP			19	USSR: 21.0°N, 146.5°E	
		iP			08	BCIS: O=00:30.8	
June 14	P	iP			12		
		iPNE			09		
		eSN	02	13	09	Tu iP 02 13 43	
June 14	P	iP			10	Aftershock	
		iP			11		
		iP	04	09	37	Tu iP 04 10 06	
June 14	P	iP			31	Aftershock	
		iP			27		
		iP	05	34	34	Aftershock Tu iP 05 35 07	
June 14	P	iP			34		
		iP			29		
		iP			29		

Date	Sta	Phase	h	m	s	Remarks
June 14	MW	iP	06	59	40	Tu iP 07 00 13
		H			46	Aftershock
		T			32	USSR: 23°N, 150°E
June 14	MW	T	07	23	00	
		iP	07	34	44	Tu iP 07 35 14
		iP			37	USSR: 21.0°N, 145.5°E
June 14	MW	iP	09	22	18	Tu iP 09 22 51
		T			14	Aftershock
		P	11	14	12	Tu iP 11 14 46
June 14	MW	H			14	Aftershock
		T			12	
		P	13	09	40	Tu iP 13 10 12
June 14	MW	H			40	Aftershock
		T			38	
		P	14	42	23	Tu iP 14 42 55
June 14	MW	H			23	Aftershock
		R			27	
		H			22	
June 14	P	T	14	53	44	
		iP	16	42	33	Tu iP 16 43 06
		P			33	
June 14	MW	iP			37	USSR: 20.5°N, 146.0°E
		R			42	BCIS: O=16:30:09
		LJ			27	
June 15	P	H			31	
		T			29	
		eP	05	28	14	Tu eP 05 29 08
June 15	P	e			26	
		iP	11	16	58	Tu iP 11 18 11
		i			17	
June 15	P	R			05	
		Pr			16	
		H			16	
June 15	P	T			30	
		ePNE	13	41	39	Tu eP 13 42 10
		eP			36	Aftershock of June 13, 20th
June 15	P	H			36	BCIS: O=13:29.2
		T			33	
		iP	20	34	02	Tu iP 20 34 33
June 15	P	R			05	Aftershock
		Pr			09	USSR: 20.5°N, 145.0°E
		T			56	BCIS: O=20:21.6
June 16	P	Pr	00	37	24	Tu eP 00 37 24
		eP	10	44	13	Tu e 10 44 54
		P	11	08	57	Tu iP 11 09 12
June 16	MW	iP			58	Wellington: 38.4°S, 178.4°E
		R			59	O=10:55.7, M=5 - 5 1/2
		Pr			59	
June 16	MW	iPNEZ	14	14	41	Tu eP 14 15 02
		R			43	
		T			50	
June 16	P	Pr	17	44	08	Tu iP 17 43 27
		eP	18	34	57	Tu iP 18 35 24
		P			58	
June 16	P	Pr			02	
		eP?	21	35	02	
		eP			23	Tu eP 21 24 13
June 16	P	i			31	
		i			30	
		e			29	

Date	Sta.	Phase	h	m	s	Remarks
June 16	P MW	e e	21	54	30	Tu e(P) 21 55 04 Part of preceding?
June 17	T P MW Pr	e iP iP iP	01	12	07	BCIS: 23°S, 170°E, O=00:59.2
June 17	P MW R Pr LJ H T	iP iP iP iP eP iP iP	12	34	00	Tu iP 12 34 22 ipP 50
June 17	P PX	iP eSE	13	59	17	Tu eP 13 59 45 BCIS: 6 1/2°S, 150 1/2°E, O=13:45.9
June 17	MW R Pr	iP iP iPNZ	13	59	18	
June 17	LJ T P MW H T	eP iP eP iP iP iP	13	59	21	
June 17	MW T	iP iP	20	45	09	Tu iP 20 45 40
June 17	MW T	iP iP	23	57	59	Tu iP 23 58 18
June 18	PX MW Pr	eL eP eP	03	57	01	Tu eP 03 01 42
June 18	Pr	eP	03	58	59	Tu iP 03 59 40
June 18	P MW Pr	e iP iP	11	05	21	Tu iP 11 06 00 i 07
June 18	MW R Pr	iP iP iP	18	11	21	Tu iP 18 11 44
June 19	P MW Pr H T	eP iP iP eP iP	02	26	58	Tu iP 02 27 30 i 36
						USSR: 20.5°N, 145°E. BCIS: O=02:14.6

Date	Sta.	Phase	h	m	s	Remarks
June 19	P PX MW Pr H T	iP eL iP eP iP iP	06	51	04	Tu iP 06 51 25 e 44
June 19	P PX	iPNEZ iPP	07	47	03	Tu iP 07 47 35 d
		iSNEZ iN eSSE eGN	08	02	8	USCGS: 22°N, 146°E, O=07:34.6
	P MW R Pr	eSKEPP iPNEZ ePE iPNEZ	07	47	04	USSR: 21.5°N, 145.5°E BCIS: O=07:34.39 A T PH 1 3 1/2 PPZ 3 6 SH 5 5 MH 30 20
	LJ SB H T	ePNEZ iPNEZ iPNEZ ePNE	07	47	09	Magnitude 7 - 7 1/4
June 19	Pr	eP	10	28	08	Tu iP 10 28 53
June 19	Pr	eP	11	41	14	Tu eP 11 41 44
June 19	H T P MW Pr	eP eP eP eP eP	11	51	34	Tu iP 11 51 55
June 19	H P MW R Pr H T	eP iP iP iP iP iP	15	57	12	Tu iP 15 57 50
June 19	MW R Pr	iP iP iP	20	24	46	
June 19	P PX MW Pr LJ H P MW Pr T	iPNEZ iL iP iP iPNEZ iP ePNE iP iP iPNZ iP	22	54	07	Tu iP 22 53 27 d i 56 39 JSA: 3.5°N, 101.7°W O=22:47:44
June 20	P MW Pr T	iP eL iP iP	07	38	27	

Date	Sta.	Phase	h	m	s	Remarks
June 20	P	iP	13	44	46	Tu iP 13 44 10
	PX	eL	14	04		
	MW	iP	13	44	47	
	R	iP			43	BCIS: 28°N, 43 1/2°W.,
	Pr	iPNEZ			41	d O=13:34.3
	LJ	iP			43	
	T	iP			43	
June 20	MW	iP	17	15	26	Tu iP 17 14 48
	R	eP			21	
	Pr	iP			18	
	T	eP			21	
June 20	P	iP	18	44	49	Tu iP 18 45 14 c
	MW	iP			50	c
	R	eP			52	
	Pr	iP			52	c
	T	iP			58	
June 20	P	eP	19	07	27	Tu eP 19 07 54
	MW	eP			28	e 08 05
	R	eP			30	USSR: 22°N, 145.5°E.,
	Pr	eP			34	BCIS: O=18:55.1
	T	e			46	
June 20	P	iP	22	41	49	Tu eP 22 40 45
	MW	iP			50	
	R	eP			42	
		eP			41	
		e			59	
June 20	T	iP	23	20	30	Tu iP 23 20 07
June 21	MW	iP	03	38	10	Tu iP 03 38 53 c
	Pr	iP			19	
June 21	P	iPNEZ	08	10	25	Tu iP 08 10 35
	MW	iSEZ			11	
		eP			10	
		i			25	32.5°N, 115.5°W.,
		iSNEZ			11	O=08:09:37
	R	iP			10	Magnitude 4.8
		iNZ			21	
		iSE			58	
	Pr	iP!			07	
	LJ	ePNZ			05	
		iSN			25	
June 22	MW	iP	00	22	55	Tu eP 00 23 00
	Pr	i			56	
June 22	P	eP	01	24	28	Tu iP 01 24 54
		i			30	
	MW	ipP			43	
		iP			29	Near Apia, which reports:
	Pr	ipP			43	P 01 13 48
		iPNEZ			31	S 14 04
		ipP			45	
		e			57	
June 22	Pr	iP	10	40	08	Tu iP 10 40 28
	H	iP?			12	
June 22	P	eP	11	48	41	Tu iP 11 47 47 c
	MW	iP			42	
	R	iP			36	
	Pr	iPNEZ			30	c

Date	Sta	Phase	h	m	s	Remarks
June 22	P	iP	18	13	41	Tu iP 18 14 05
	MW	iP			41	
	R	iP			42	
	Pr	iPNEZ			43	Deep, according to Wellington
		i			53	
	H	iP			48	
June 22	P	eP	23	30	32	Tu eP 23 31 59
		i			33	d
		i(S)E			31	c
	MW	iPNEZ			30	Felt in and near San Francisco;
	R	iP			41	d stronger at Santa Cruz
	SB	eP			18	Magnitude 5
	H	eP			22	
		iS			31	
June 23	MW	iP	05	01	39	Tu iP 05 00 43
	R	iP			34	
June 23	P	iP	15	52	11	Tu iP 15 51 40 c
	MW	iP			11	c
	R	iP			08	
	Pr	iPNEZ			04	c
	H	iP			18	
June 24	P	eP	02	22	10	Tu eP 02 22 43
	MW	eP			17	Marianas
	Pr	eP			11	
June 24	P	iP	11	04	43	Tu iP 11 05 15
	MW	iP			44	
	R	iP			46	
	Pr	iP			51	
	H	eP			38	
June 25	Pr	eP	03	54	07	Tu eP 03 54 42
June 25	P	iP	16	49	10	Tu iP 16 48 38
		ipP			25	
		i			32	
	MW	iP			11	
		ipP!			25	
		i			32	Andes?
	R	iP			08	
		ipP!			23	
		i			30	
	Pr	iPNZ			03	
		iNEZ			17	
		e			24	
	H	ipP			33	
		i			39	
June 25	P	iP	22	56	20	Tu iP 22 55 26
	PX	eL			23	
	MW	iP			22	
	R	iP			20	
	Pr	iPNEZ			14	c
	T	iP			08	c
		i			36	
June 26	MW	iP	06	01	07	Tu eP 06 01 23
		i			14	
	R	eP			08	
		i			16	
	Pr	eP			09	
	T	iP			17	
		i			25	
June 28	PX	eL	02	38	4	Tu i 02 06 10
	MW	e			06	
	R	e			25	
	Pr	e			35	USSR: 1.5°N, 125°E.
		e			40	

Date	Sta.	Phase	h	m	s	Remarks	
June 28	MW	iP	13	12	56	Tu iP 13 13 30	
	R	iP			56		
June 28	Pr	iP	13	43	02	Tu iP 13 44 17	
	Pr	eP			52		
June 29	P	iP	10	00	53	Tu iP 10 00 22	
	MW	iP			00		
	R	iP			02		
	Pr	iPEZ			02		
	T	iP			08		
June 30	P	e	08	11	06	Tu i 08 10 22	
	PX	eL			36.8		
	MW	e	10	05	USSR: 2.5°N, 128.3°E. BCIS: O=07:51.6		
	R	e		40			
	Pr	e		47			
		e		50			
		e		11			
		e		10			
		e		16			
		e		45			
June 30	P	iPNEZ	23	53		47	Tu iP 23 54 12 c
	MW	iPNEZ				49	
		iPP			13		
	R	iPNEZ			57		
	Pr	iPNEZ			53		
		iPNEZ			50		
		i			51		
		i			54		
	LJ	iPNEZ			53		
	SB	iP			50		
H	iP	44	Southwest Pacific				
T	iPNEZ	53	c				
		55	c				

C. F. Richter

November 12, 1947



CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY

BULLETIN

JULY - SEPTEMBER 1947

(PASADENA AND AUXILIARY STATIONS)

Date	Sta	Phase	h	m	s	Remarks				
July 1	P	iP	13	48	48	Tu	iP	13	49	13
	MW	iP			50					
	R	iP			51					
July 1	T	iP	20	47	58					
	T	eP			49					
	T	eP			12					
July 2	MW	eP	01	27	29	Tu	eP	01	27	49
	R	eP?			34					
	R	e			28					
July 2	T	eP	21	32	48	Tu	eP	21	31	39
	MW	eP			43					
	T	iP			33					
July 3	P	iP	02	41	22	Tu	iP	02	40	27
	PX	ePcP			39					
	MW	eL			46.2					
	R	eP			41					
	R	iP			19					
	R	ePcP			15					
	R	eP			44					
	LJ	eP			37					
	T	iP			41					
	T	iP			11					
	T	iPcP			41					
	T	iPcP			44					
July 3	R	eP	06	02	30	Tu	iP	06	01	30
July 3	R	eP	07	34	29	Tu	eP	07	34	54
	T	eP			49					
July 3	R	eP	08	11	34	Tu	eP	08	11	05
	T	eP			59					
July 5	P	iP	10	59	42	Tu	iP	11	00	07
	MW	iP			44					
	R	eP			46					
	Pr	iP			47					
	H	eP			49					
	T	iP			51					
July 5	MW	eP	14	33	30					
	R	eP			13					
	R	i			25					
July 5	T	eP	16	03	35	Tu	iP	16	03	59
	P	iP			36					
	MW	iP			35					
	R	eP			07					
	Pr	eP			03					
	T	iP			38					
July 6	Pr	iP	11	14	09	Tu	iP	11	13	24
	P	iP			12					
	P	iP			54					
	MW	ipP			21					
	MW	iP			18					
	MW	iP			20					
	MW	ipP			55					
	R	ipP			21					
	R	iP			19					
	R	iP			20					
	R	i			56					
	R	i			21					
July 6	Pr	iPNEZ	20	59	59	c				
	Pr	ipPNEZ			22					
	T	eP			20					
	T	eP			58					
July 6	R	e	18	05	15	Tu	iP	18	06	02
	R	i			47					
	T	i			06					

Near Apia, which reports:
 eP 15 53 06
 iS 47

Date	Sta.	Phase	h	m	s	Remarks
July 7	P	iP	04	41	29	Tu eP 04 43 58
	MW	iSE		42	19	
	R	iP		41	29	
	Pr	eP			37	California Coast Range
	H	eP			47	
	T	iP			40	Magnitude 4.7
		iSNE			57	
		iP			15	
		iNEZ			17	
		iSNE			51	
July 7	P	iP	13	37	36	Tu iP 13 37 02 d
	MW	iP			37	
	R	iP			33	
	Pr	iP			29	
	T	eP			49	
July 7	MW	iP	17	45	05	Tu iP 17 44 11
	R	iP			44	17
		e			45	
		eP			44	
July 7	Pr	iP	18	35	11	Tu iP 18 35 33
	MW	iP			14	
	R	iP			14	
	T	iP			20	
July 8	MW	iP	01	18	07	Tu iP 01 17 21
July 8	MW	iP	05	26	27	Tu eP 05 25 32
	R	iP			21	46
	Pr	iP			17	
		e			38	
		iP			41	
July 10	P	iP	02	01	03	Tu iP 02 01 28
	MW	iP			05	
	R	eP			06	
	Pr	iP			07	
	T	iP			13	
July 10	P	ePP	10	38	40	Tu e 10 39 13
	MW	e			19	USSR: 34.0 N. 76.5 E.
	Pr	e			31	BCIS: O=10:19.4
	T	e			14	
July 10	P	iPNEZ	10	57	13	Tu iP 10 57 12 c
		e			58	
	PX	eE	11	12	52	
	MW	iPNEZ	10	57	13	c USCGS: 73 N. 70 W.
	R	iP			12	O=10:48.8
	Pr	iPNEZ			15	c BCIS: 73 N. 69 W.
		eN	11	13	27	O=10:48:44
	LJ	iPNEZ	10	57	21	A T
	H	iPZ			58	PZ O.4 2
	T	iPNEZ			51	c Magnitude 6
July 10	P	iP	11	07	18	Tu iP 11 06 24
	MW	iP			18	
	R	iP			12	Central America?
	Pr	iPNEZ			05	c
	H	eP			28	
	T	iPZ			34	
July 10	P	iP	12	17	16	Tu iP 12 17 36 c
	MW	iP			16	
	Pr	iP			18	c
	T	iP			24	

Date	Sta.	Phase	h	m	s	Remarks
July 10	P	eP	16	11	20	Tu iP 16 10 23 c
	PX	eL			19.9	
	MW	eP			11	21
	R	eP			18	USCGS: 14N. 93 W.,
	Pr	ePNEZ			03	O=16:0511
	H	eP			30	JSA: 13.9 N. 92.9W.,
	T	eP			34	O=16:05:10, h=100 km
		iP			40	
July 10	P	iP	20	32	21	Tu iP 20 32 54
	MW	iP			21	
	R	iP			24	
	T	iP			15	
July 11	R	eP	02	23	35	Tu iP 02 23 58 d
	Pr	iP			35	
	T	iP			42	
July 11	MW	iP	19	22	30	Tu iP 19 21 56
	R	iP			27	
	T	iP			42	
July 11	Pr	iP	20	06	28	Tu iP 20 06 57
	T	eP			44	
		i			52	
July 11	MW	iP	20	41	42	Tu iP 20 41 02
	R	iP			40	11
	T	iP			57	18
July 12	P	iP	02	09	53	Tu iP 02 10 29
		ipP			10	03
		iP			09	55
	MW	ipP			10	06
		iP			09	57
	R	iP			10	02
	Pr	ipP			15	57
	H	iP			09	46
	T	iP			43	55
		ipP			01	55
July 12	P	iPNEZ	12	41	29	Tu iP 12 41 50
		i			41	52
		i			54	09
	PX	eSNEZ			51	09
		eL	13	05.8	30	USCGS: 20 S. 176 W.,
	MW	iPNEZ	12	41	30	O=12:29.6
		i			40	
	R	eP			30	BCIS: 21 S. 173 1/4 W.,
	Pr	iNEZ			32	O=12:29:35
		iPNEZ			30	
		i			32	
		eSNE			51	16
	LJ	iPNEZ			41	30
	SB	iPEZ			26	26
	H	eP			37	37
	T	eP			36	36
		iNEZ			41	41
July 12	P	e	14	24	05	Tu iP 14 23 14
	MW	iP			01	i 20
		i			07	
	R	i			23	56
	Pr	iP			51	
		i			55	
	T	eP			15	
		i			22	

Date	Sta	Phase	h	m	s	Remarks
July 13	P	iP	06	26	14	Tu iP 06 25 15
	PX	eL		34	8	i 23
	MW	iP		26		i 30
	R	eP			07	i 52
	Pr	iP			00	
	LJ	eP			00	
	H	eP			25	
	T	iP			34	
July 13	P	iP	12	55		Tu iP 12 55 58
	MW	iP			33	
	Pr	iP			36	
	T	iP			41	
July 13	P	iP	13	09		Tu iP 13 09 37
	PX	eSN			18	ipP! 10 08
	MW	eNE			19	eP! 36 25
	R	iP			09	USCGS: 19 S. 179 W.,
	Pr	iPNEZ			13	O=12:57.3, h=100 km.
	LJ	iPNEZ			13	BCIS: 20 1/4 S. 175 1/2 W.,
	SB	iP			16	O=12:57:30, h=150 km.
	H	iP			16	Pasadena: 19 S. 175 W.,
	T	iP			16	O=12:57:35, h=120 km.
	P	iP			19	PZ 1/4 1
	LJ	eP			09	PPZ 1/2 1 1/2
	SB	iP			10	SH 1 1/2 9
	H	iP			21	Magnitude 6 1/4
	T	iP			22	
	P	eP			10	
July 14	T	eP	07	07		Tu eP 07 06 45
July 15	P	eP	14	27		Tu eP 14 27 30
	MW	eP			14	
	R	eP			21	
	H	eP			22	
	T	eP			09	
July 16	P	iP	11	31		Tu iP 11 30 38 d
	R	iP			11	d
	Pr	iP			07	Andes?
	H	iP			22	
	T	iP			27	
	P	iP			54	
July 16	P	iP	15	38		Tu iP 15 37 35
	R	iP			11	ipP 38 23
	Pr	iP			59	d
	H	iP			57	
	T	iP			52	Andes?
	P	eP			17	
	R	eP			39	
	H	eP			38	
	T	eP			39	
July 16	P	iP	16	47		Tu iP 16 47 19
	R	iP			52	d 43

Date	Sta	Phase	h	m	s	Remarks
July 16	P	iPEZ	19	33	09	Tu eP 19 33 37
	R	eP			10	e 34 25
	Pr	iP			16	CMO: 33 40 N 135 70 E
	SB	iP			06	BCIS: 32 1/4 N 135 1/4 E
	T	iP			00	O=19:20.5, M= 5 3/4
July 17	P	iP	04	45	53	Tu iP 04 50 11
	PX	eLE			05	USSR: 10 S 150 E
	R	eP			04	BCIS: 5.0 S. 147 1/2 E.
	Pr	eP?			49	O=04:32:16
	T	eP			48	
July 17	P	iPNEZ	06	39	29	Tu iP! 06 39 53 c
	MW	epP			41	i 40 09
	R	iPNE			42	epP 41 54
	Pr	iP			39	e 43 07
	H	epP			41	
	T	iPNEZ			39	
	LJ	iPNEZ			41	Tonga region, h=550 km.
	H	iP			42	
	T	iPNEZ			39	
	P	iP			40	
	R	eP			41	
	Pr	eP			42	
July 17	P	iP	10	51	55	Tu iP 10 52 20
	R	iP			58	ipP 53 20
	Pr	epP			53	
	T	iP			51	
	P	epP			53	
	R	eP			54	
	Pr	eP			41	
	T	iP			52	
July 17	P	ipP	14	39	05	Tu eP 14 39 29
	T	eP			15	i 42 49
	P	eP			29	
July 18	T	iP	05	45	50	Tu iP 05 46 02
	P	eP			46	
July 18	T	eP	18	30	33	Tu eP 18 31 37
	P	eP			46	
July 19	P	iP	11	09	38	Tu iP 11 10 11 d
	R	iP			12	i 17
	Pr	iP			09	i 25
	H	iP			57	i 12 55
	T	iP			12	i 15 52
	P	iP			09	
	R	iP			12	
July 19	P	iP	13	59	44	Tu iP 14 00 03
	R	eP			50	e 14 00 25
	Pr	iP			51	
	T	iP			53	
July 20	P	eP	10	37	33	Tu eP 10 37 03
	Pr	eP			10	
July 20	P	eP	10	44	28	Tu eP 10 44 30
	R	eP			48	e 49 06
	Pr	eP			48	
	H	eP			07	
	T	eP			10	
	PX	eL			2	
	R	eP			26	
	Pr	eP			29	
	H	iNEZ			45	
	T	e			48	
					56	
					12	

Date	Sta.	Phase	h	m	s	Remarks
July 20	P	iP	12	29	27	Tu iP 12 29 51
	R	eP			32	Near Apia, which reports:
	Pr	iPNEZ			32	iP 12 20 03
	H	ePE			35	iS 21 08
	T	iP			39	
July 21	P	iPNEZ	00	45	25	Tu iP 00 45 46 d
	PX	epP			46	54
	MW	iSN			54	58
	R	ePN			45	28
	Pr	iP			27	d
		epP			46	54
		iPNEZ			45	27 d
		iN			46	05
		epPNZ			46	55
	SB	iP			45	20 Southwest Pacific
	H	iPNE			33	
	T	eSN			55	11
		iPNEZ			45	34 d
		epP			47	03
		eSNE			55	16
July 21	R	eP	02	08	35	Tu iP 02 07 53 d
	Pr	iP			35	epP 02 10 30
	T	iP			41	Aftershock
July 21	R	iP	04	14	47	Tu iP 04 15 19
	Pr	epP			15	00
		epP			14	53
		ipP			15	07
		e			14	
July 21	Pr	iP	06	35	02	Tu iP 06 35 19
	T	iP			08	
July 21	R	iP	10	15	49	Tu e 10 16 02
	Pr	iP			50	19 24
		e			52	BCIS: 9 1/4 S. 118 E.
		iP			48	O=09:56.8
July 22	P	ipP	12	30	56	Tu epP 12 30 08
	R	iP			38	23
	Pr	epP			53	
		ipP			33	
	T	ipP			48	
		iP			53	
July 23	P	iP	05	22	03	Tu iP 05 22 03
	MW	iP			14	USCGS: 17N. 68.5 W.,
	R	iP			03	O=05:13.4
		iP			21	59
		iP			22	12
	Pr	iPNEZ			21	57
		iNZ			22	07
	T	iPEZ			09	
July 23	P	ipP	17	32	08	Magnitude 6 1/2 Tu iP 17 31 53
	PX	ipP			33	17
	MW	eL	18	16	6	USCGS: 54 S. 30 W., e 36 08
	R	epP	17	32	09	O=17:13.4 ePKKP 42 55
	Pr	ipP			33	16
		ipP			32	10
		epP			33	09
		epP			32	07
		e			33	12
	T	epP			32	12
July 23	P	iP	21	34	08	Tu iP 21 34 30
	MW	iP			09	

Date	Sta.	Phase	h	m	s	Remarks
July 24	MW	e	08	58	37	Tu e 08 58 27
	R	e			37	South Atlantic aftershock
July 24	P	iP	10	52	41	New Hebrides foreshock of 12h
	MW	iP			43	Tu iP 10 53 04
	R	iP			42	
	Pr	iP			41	
	T	epP			47	
July 24	R	epP	11	01	52	Tu eP 11 02 13
	Pr	iP			53	New Hebrides?
July 24	P	iP	11	13	53	Tu iP 11 14 17
	MW	iP			55	24
	R	iP			56	New Hebrides, foreshock of 12h
	Pr	iPNEZ			57	
		i			14	04
		eP			00	
July 24	MW	eP	12	23	37	Tu eP 12 24 03
	R	e(P)			42	New Hebrides, small foreshock
	Pr	epP			39	of next.
July 24	P	epP	12	29	36	Tu iP 12 30 00
	PX	iPP			32	57
		eN			38	32
		iSE			40	08
		eE			41	02
		eLNE			56	2
	MW	iPNEZ			29	37
	R	iP			38	38
	Pr	eSE			40	12
		iPNEZ			29	40 d
		epP			33	05
		iSNE			40	14
	LJ	ePNZ			29	39
	H	ePNE			46	Magnitude 6 1/2
	T	ePNEZ			41	
		eSE			19	
July 24	P	epP	16	40	48	Tu iP 16 41 15
	MW	iP			51	
	R	iP			54	Pacific
	Pr	iP			54	
	T	epP			58	
July 24	P	iPNEZ	22	11	12	Tu eP 22 12 01
	MW	iSNE			32	34° 01' N. 116° 30' W.
		iPNEZ			10	c O=22:10:46
		iSNE			30	
	R	iPNEZ			00	c Magnitude 5.5
		iSNE			11	Felt widely in Southern
	Pr	iP			01	California, including
	LJ	iPNEZ			10	Los Angeles and San Diego.
		iSNE			26	Aftershocks numerous.
	SB	iP			31	c
	H	eP			26	
		iSN			12	03
	T	iP			11	40
		iSNE			12	34
July 24	P	iPNE	22	54	53	Aftershock: magnitude 4.9
	MW	iSN			55	11
		iPNE			54	52
		iSNE			55	12
	R	iPNE			54	40
		iSNE			51	
	LJ	iP			50	

Date	Sta.	Phase	h	m	s	Remarks
July 25	P	iP	00	46	57	c Tu eP 00 47 46
	MW	iSNE		47	16	
		iPNEZ!		46	55	c
		iSE		47	15	
	R	iPNEZ!		46	45	c
		iSNE		56		After shock: magnitude 5.0
	LJ	iPNEZ!		55	d	
		iSZ		47	13	
	Pr	iP!		46	46	
	H	iPNE		47	11	c
		iSNEZ		48		
	T	iP		24		
July 25	P	iP	01	11	27	Tu iP 01 11 56
		epP		13	29	
	MW	iP		11	33	
		ipP		13	29	
	R	epP		11	31	BCIS: 17S. 179 W.,
	Pr	iP		11	36	O=01:00.5,
		ipP		13	32	h=600 km. ca.
	H	iP		11	39	
		epP		13	38	PZ A T
	T	iP		11	40	pPZ 1/2 2
		epP		13	39	
July 25	MW	iP	04	52	10	Tu iP 04 52 32
	Pr	iP		13		
	T	iP		20		
July 25	P	iPNEZ!	06	20	15	c Tu eP 06 21 05
		iSNE		35		
	MW	iPNEZ!		14	c	
		iSE		33		After shock of July 24, 22h,
	R	iPNEZ		04		Magnitude 5.2
		iSNE		14		
	Pr	iP!		04		
	LJ	iPNEZ		14	d	
July 25	P	iPEZ!	19	19	53	c Tu iP! 19 19 22
		ipPEZ		21	56	
		e		23	02	
		iSNE		29	05	Pasadena 23 1/2 S. 64 W.,
	MW	iPNEZ!		19	54	c O=19:08:53, h=580 km.
		ipP		21	56	
		iSN		07		BCIS: 26 1/2 S. 63 1/4 W.,
	R	iPNEZ		19	50	c O=19:08:39, h=600 km.
		ipP		21	53	
		i		22	12	
		eSNEZ		29	00	PZ A T
	Pr	iP!		19	47	c SH 3 5
		ipP		21	49	
		eS		28	51	Magnitude 6 1/4
	LJ	iP		19	43	
		e		21	51	
		eSNE		28	49	
	SB	iP		20	01	
		epP		22	05	
	H	iPNEZ		20	00	c
		epP		22	04	
		iSNE		29	18	
	T	iPNEZ		20	05	c
		epP		22	08	
		iSNE		29	30	

Date	Sta.	Phase	h	m	s	Remarks
July 26	P	iP	00	58	19	Tu iP 00 58 43
	R	iP			21	i 00 58 50
	T	iP			25	
July 26	P	iPEZ	02	50	07	Tu eP 02 51 38
		iSNE			25	
	MW	iPNE			06	c
		iSN			26	After shock of July 24, 14 h
	R	iPEZ		49	56	Magnitude 5.1
		iSNE		50	07	
	LJ	iP			05	
	Pr	iP!			56	c
July 26	P	iP	12	06	09	Tu iP 12 06 46 c
		ipP			24	
	R	iP			13	c
		ipP			29	USSR: 47.5 N. 152.5 E.,
		iP			42	BCIS: 48 N. 152.5 E.,
	Pr	iP			18	c O=11:55.3, magnitude 5 1/4
		ipP			37	
		i			42	Pasadena: 46 N. 152 E.,
	LJ	eP			17	O=11:55:17, h = 80 km.,
	H	iP			02	magnitude 6 1/4
		i			32	A T
	T	iP		05	58	PZ 1/4 1 1/2
		ipP		06	18	
		i			34	
July 28	P	i	03	55	48	Tu iP 03 56 20 c
	MW	eP			42	i 03 56 25
		i			49	i 03 56 37
	R	eP			53	USCGS: 62.5 N. 151 W.,
	Pr	iP			54	O=03:48.7
	H	iP			30	
		i			34	BCIS: 64 N. 148 W.,
	T	eP			21	O=03:48.8
July 29	P	iPNZ	02	49	27	Tu iP 02 48 51
	MW	iPNEZ			26	i 02 48 53
	R	iP			25	
	Pr	iPNEZ			19	
		i			10	
	SB	iP		50	49	
	H	iP			34	
	T	iP			40	
July 29	MW	e	06	45	16	Tu i 06 44 08
		i			35	i 06 44 47
July 29	P	iP	10	10	15	
	MW	eP			16	
	R	eP			19	
	Pr	eP			22	
	H	eP			14	
July 29	P	e	12	57	56	Tu eP 12 57 10
	MW	eP			51	i 12 57 16
		e			59	
		eP			55	
	R	eP			49	
	Pr	eP			13	
	T	eP		58	13	
July 29	PX	eP	13	57	54	Tu eP 13 58 21
		ipP			02	iP 14 02 06
	PX	iPPNEZ			29	iPKKP 12 44
		iSKSN		08	29	iSKKP 16 21
		iSPN		11	47	

(continued)

Date	Sta	Phase	h	m	s	Remarks
(continued)						
July 29	P	iPKKP	14	12	59	
	PX	ePPS		13	16	
	P	eSKKP		16	54	USCGS: 29.5 N. 97 E.,
	PX	eSSN		17.7		O=13:43.5
		eSSSN		18.7		USSR: 30 N. 95 E.
		eGN		32		BCIS: 28.8 N. 93.5 E.,
	MW	eP"	13	57	59	O=13:43:20
		iPKKP	14	02	02	
		e		12	54	A T
	R	eP"		19	46	PPH 2 4
		ePKKP		01	58	MH 70 20
	Pr	eSKKP		12	58	
		eP		16	56	Magnitude 7 1/2
	Pr	eP"	13	58	04	
		iPKKP	14	02	00	
		iP"		12	57	
	SB	iP"		02	29	
	T	iP"		10	10	
		iPKKP		13	11	
July 31	MW	iP	08	07	44	Tu iP 08 07 33
	R	iP		42		BCIS: 39.5 N. 15 E.,
	T	eP		38		O=07:54:48 h=250-380 km.
July 31	P	iP	10	08	21	Tu iP 10 08 21
	MW	iP		09	38	
		iP		08	21	
	R	iP		09	38	
		iP		08	25	
	H	iP		09	41	
	T	iP		08	31	
July 31	P	iPNEZ	14	09	46	Tu iP 14 20 48
		eP		21	37	
		e		22	00	
	PX	eL		35.7		
	MW	eP		21	37	Roughly 2 N. 82 W.,
	R	eP		33		O=14:13.2
	T	eP		50		A T
Aug. 1	MW	eP	00	23	36	PZ 1/2 4
	T	iP		22	22	Tu iP 00 46 31
Aug. 1	P	iP	01	01	20	Tu iP 01 00 47
		iPP		02	01	
	MW	iP		01	19	
		iP		02	01	
	R	iP		01	16	
		iPP		57		
	Pr	iPNZ		12		
		iPNEZ		55		South America
	SB	ePP		02	04	
	T	iP		01	31	
Aug. 1	MW	eP	03	10	12	Tu eP 03 10 44
	R	eP		02	14	
	Pr	eP		24		
	T	eP		28		
		eP		04		

Date	Sta	Phase	h	m	s	Remarks
Aug. 1	P	eP	04	36	07	Tu eP 04 36 30
		i		12		
	PX	eLEZ	05	02.8		i 37 06
	MW	eP	04	36	09	
		i		13		
	R	eP		07		
		i		18		
	Pr	eP		09		
		i		14		
	H	eP		11		
		i		17		
	T	eP		11		
		i		16		
Aug. 1	P	eP	13	41	51	Tu eP 13 40 18
		iSNEZ		43	13	i 32
	MW	eP		41	46	iS 41 29
		iS		43	13	
	Pr	eP		41	53	
		iSE		43	34	
	LJ	iSNEZ		42	30	
Aug. 1	MW	iP	14	06	35	Tu iP 14 07 22
	Pr	iP		46		
	T	iP		19		
Aug. 1	P	eP	14	27	21	
	PX	eLE		28	54	
	P	eSNEZ		29	20	
	MW	eP		27	21	
	R	eP		12		
	Pr	eP		26	57	
		iSNEZ		28	52	
	LJ	eP		27	18	
		iSN		28	36	
	H	ePNEZ		27	47	
	T	ePZ		50		
		e(S)N		30	41	
Aug. 1	P	iP	14	31	49	
	MW	iP		52		
	R	iP		36		Confused by the preceding
	Pr	iP		15		
Aug. 1	P	iP2'	16	46	25	Tu eP' 16 45 48
		ePP		50	05	
	MW	iP1'		45	45	iP2' 46 37
		iP2'		46	25	iPP 50 23
		iPP		50	05	
	R	eP1'		45	46	
		eP2'		46	25	Pasadena distant about 157°
		ePP		50	09	
	Pr	eP1'		45	53	Indian Ocean
		iP2'		46	29	
		iPP		50	10	
	T	iP2'		46	14	
		ePP		50	17	
Aug. 3	P	iP	14	48	53	Tu iP 14 49 15
	MW	iP		53		
	R	iP		55		
	Pr	iP		02		
Aug. 3	R	iP	19	49	45	Tu iP 19 23 32
	Pr	ePNE		24		
	T	eP		39		

Date	Sta.	Phase	h	m	s	Remarks
Aug. 5	P	ipP	07	56	07	Tu eP 07 56 25
	MW	e(P) ipP		55 56	51 06	45
	R	ipP			20	
	T	eP		55	20	
Aug. 5	PX	ipP	14	40.5		Tu ipP 14 43 09
	P	eP		43	07	44 24
	PX	ipPNZ		44	33	43
		eSP		54.1		47 23
		iPSN		54.4		53 06
	P	eSKKP		56	56	USCGS: 25°N. 62°E., e 54 23
	PX	eSSN	15	02.0		O=14:24.2
		eLN		15.2		
	MW	eP	14	43	07	BCIS: 27°N. 65°E.,
		iPKKP		54	14	O=14:24.1
		eSKKP		56	47	
	R	eP		43	05	
	H	eP			03	PPH 2 4
	T	eP			00	MH 60 20
Aug. 5	P	ePKKP	16	53	22	Magnitude 7
		eP		52	09	
	MW	ipP			22	
		eP			10	
		e			24	
Aug. 6	R	eP			12	
	P	iPNEZ!	05	56	25	Tu iP 05 55 44 d
		iPcP			57	06 06 d
		ipP		57	44	34
		ePP		58	21	34
		iScP!		59	11	57 40
		iScP	06	00	02	59 35
		iSNEZ		04	02	06 02 45
		iScSE		05	13	03 15
		eP'P'		25	19	25 03
		e			43	32
	MW	iPNEZ!	05	56	27	d
		ipP			38	
		iPP		58	23	USCGS: 9.5 S. 72 W.,
		iScPNZ	06	00	04	O=05:46.9, h=550 km.
		eSEZ		04	03	
		eScSE		05	15	BCIS: 9 S. 71 1/2 W.,
		eP'P'		25	17	O=05:46:50, h=550 km.
	R	iPNEZ	05	56	20	d
		ipP		58	19	PZ 3 1 1/2
		iScP		59	59	PH 1 1/2 2
		eSNZ	06	03	54	SH 10 5
	Pr	iPNEZ!	05	56	17	d Magnitude 6 3/4
		ipP			31	
		iPcP			54	
		ipP		58	24	
		iScPNZ		59	55	
		iSNEZ	06	03	48	
		iScSNE		05	05	
		eP'P'		25	45	
		i			58	
		(continued)				

Date	Sta.	Phase	h	m	s	Remarks
Aug. 6	LJ	(continued)				
		iPNEZ	05	56	17	
		iPcP			53	
		eScP	05	59	57	
		eSE	06	03	36	
		eScSN		05	13	
	SB	iPNZ	05	56	33	
		iPcP		57	03	
		iScP	06	00	06	
		eSZ		04	14	
	H	iPNEZ	05	56	33	
		iPcP		57	04	
		ipP			58	31
		iScP	06	00	09	
		iSN		04	19	
		eP'P'		25	18	
		i			32	
	T	iPNEZ	05	56	37	d
		ipP		58	42	
		iScP	06	00	10	
		iSNE		04	27	
		eScSE		05	26	
		eP'P'		25	07	
Aug. 6	P	ipP	06	34	55	Tu iP 06 34 21
	MW	ipP			57	epP 54
		ipP			35	34
	R	ipP			34	51
	Pr	ipP			35	28
		epP			34	47
	H	ipP			35	25
		ipP			35	04
	T	ipP			35	39
		ipP			35	08
Aug. 6	P	ipP	09	53	47	Tu eP 09 54 28
	MW	ipP			48	ipP 55 02
		epP			54	e 59 34
	R	ipP			53	51
	Pr	ipP			54	22
		epP			53	58
	T	ipP			54	29
		ipP			53	27
		e			59	39
Aug. 6	R	eP	20	13	44	Tu eP 20 13 02
	Pr	eP			43	
	T	eP			58	
Aug. 6	R	ipP	20	42	11	Tu eP 20 41 21
	Pr	epP			07	
	T	ipP			22	
Aug. 7	P	ePNEZ	00	48	02	Tu iP 00 47 06
	PX	ePP		49	44	Damage at Santiago de Cuba
		eScP		53	52	USCGS: 19.8 N. 75.8 W.
		iSNE		54	09	O=00:40.3
		eSSN		57	1	BCIS: 18 3/4 N. 75 1/2 W.,
		eGN		57	9	O=00:40:10
	MW	ePNEZ		48	03	
		eScP		53	51	
		(continued)				

Date	Sta.	Phase	h	m	s	Remarks
(continued)						
Aug. 7	R	iP	00	47	55	
	Pr	ePEZ		47	51	
		iPP		49	32	
		eSN?		53	22	A T
	LJ	ePNZ		47	57	PH 3 4
	SB	iP		48	12	PPH 3 5
	H	iPEZ			04	MH 100 17
Aug. 7	T	eP			05	Magnitude 7
	R	eP	22	24	32	
		ipP			49	
	Pr	eP			23	
		ipP			49	
	T	ipP			48	
		ipP			06	
Aug. 8	PX	eN	07	04	8	
	R	eP	06	46	53	
	Pr	eP			50	
	T	eP			47	
Aug. 9	MW	e	01	00	26	Tu iP 00 59 07
	Pr	iP	00	59	51	
Aug. 9	P	eP	01	00	15	Tu eP 03 00 48
	MW	eP	03	01	21	USCGS: 1 N. 28 W.,
	R	eP			14	O=02:48:3
	Pr	eP			15	BCIS: 1/2 N. 28 1/2 W.,
	SB	eP			32	O=02:48:13
Aug. 9	P	iP	11	22	15	Tu iP 11 22 36
	MW	iP			16	
		e			45	
	R	iP			18	
		e			49	
	Pr	iP			17	d
		i			52	
	T	eP			24	
		e			49	
Aug. 10	MW	eP	13	13	48	Tu eP 13 12 45
		i			03	
	Pr	iP			13	
		i			53	
Aug. 10	P	iPNEZ	21	59	21	Tu eP 22 01 48
		iSNE	22	00	05	
	MW	iP	21	59	21	Strong at Hollister, with
	R	iP			28	minor damage. (Cracked plaster
	SB	iPNZ			07	and concrete, goods off shelves)
		iSN			32	Magnitude 5.0
	H	iPNEZ			10	
		iSEZ			48	
	T	iPNEZ			06	c
		iSN			43	
Aug. 11	MW	iP	20	06	30	Tu iP 20 06 51 c
	Pr	iP			31	c
Aug. 12	P	iP	05	51	39	Tu iP 05 52 18 c
	MW	iP			40	c
	R	iP			43	
	Pr	iP			49	
	H	eP			30	
	T	iP			25	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 12	P	iP	21	56	00	Tu iP 21 55 27
	MW	iP			00	d
	R	iP			55	
	H	iP			56	
	T	iP			13	
Aug. 13	P	iP	14	41	36	Tu eP 14 42 09
	MW	iP			38	c
		i			51	
	R	iP			40	
	H	iP			33	
	T	iP			29	
Aug. 13	P	iP	16	39	26	Tu iP 16 39 59
	MW	iP			27	d
	R	iP			29	
	SB	iP			19	
	H	iP			25	
	T	iP			34	
Aug. 13	MW	iP	16	45	54	Tu iP 16 46 26
	R	iP			56	
	T	iP			46	
Aug. 13	P	iPNEZ!	20	09	24	Tu iP 20 10 25 c
		iSNEZ!			41	
	MW	iPNEZ!			21	d
		iSNE			38	Palomar station out of order.
	R	iPNEZ!			20	d
		iSNE!			34	35°00'N, 117°00'W.,
	LJ	iPZ			35	O=20:08:59
		iSNEZ			10	
	H	iPNEZ			09	25 c
		iSZ			42	Magnitude 4.3
	T	iPNZ			38	
		iSE			14	
Aug. 14	P	eP	01	56	30	Tu iP 01 57 11
	MW	eP			29	i
	R	eP			33	
	T	iP			46	
Aug. 14	P	iP	21	18	51	Tu iP 21 19 29
		epP			19	
	MW	iP			18	
		epP			19	
	R	iP			18	
		epP			19	
Aug. 15	P	iP	09	27	00	Tu iP 09 27 31
		ipP			13	46
	MW	e(P)			26	
		iP			27	
		ipP			01	
	R	iP			16	South of Japan,
		i			03	CMO: 29.4° N. 142.2° E.
		i			16	
	LJ	eP			07	
	SB	iP			26	
	H	eP			56	
	T	eP			55	
Aug. 16	P	iP	07	06	47	Tu iP 07 07 12 c
		i			54	Near Apia, which reports.
		epP			07	
	MW	iP			06	iP 06 56 14
		ipP			07	iS 44
	R	iP			07	
		ipP			06	
		iP			49	
		ipP			07	
		(continued)			23	

Date	Sta.	Phase	h	m	s	Remarks
(continued)						
Aug. 16	Pr	iP	07	06	51	
		ipP		07	26	
	LJ	eP		06	48	
	SB	eP?		06	48	
	H	iP			56	
		ipP		07	32	
Aug. 16	T	iP		06	58	
	P	eP	18	51	14	Tu iP 18 50 19 d
	PX	eLN	19	01	4	
	MW	iP	18	51	13	
	R	iP			09	
	Pr	iPNEZ			01	d
	LJ	eP			00	
	T	eP			32	
Aug. 16	Pr	eP	19	29	08	Tu eP 19 28 16
Aug. 17	P	e	01	28	40	Tu eP 01 27 37
	MW	eP			32	
	R	eP			26	
	Pr	eP			17	
Aug. 18	P	iP	06	16	29	Tu iP 06 16 02
		i			52	
	PX	iSNZ		22	43	Near the Galapagos Islands?
	P	iScP		24	52	
	PX	eLNZ		27	8	
	MW	eP		16	29	
	R	eP			25	
	Pr	eP			18	
		eSNE		22	29	
	LJ	eP		16	17	
	SB	iP			42	
	H	eP			46	
	T	eP			52	
Aug. 19	R	eP	02	06	06	Tu eP 02 06 53
Aug. 19	P	iP	10	19	29	Tu iP 10 19 59
	MW	iP			30	c
	R	iP			33	
	Pr	iP			36	c
	SB	iP			25	
	H	iP			25	
	T	iPEZ			22	c
Aug. 19	Pr	iP	18	48	32	Tu iP 18 48 56
Aug. 22	P	eP	02	43	56	Tu eP 02 44 24
		iNEZ			59	
		ipP		44	12	
	MW	iP		43	59	
		i		44	01	
		ipP			13	
	Pr	iP			02	
		ipPNZ			18	
	H	iP			01	
	T	ePNEZ			01	
Aug. 23	R	eP	21	37	14	Tu iP 21 36 24 d
Aug. 24	MW	eP	08	04	45	Tu eP 08 05 07
	R	eP			52	
	Pr	eP			49	
	T	eP			56	

Date	Sta.	Phase	h	m	s	Remarks
Aug. 24	P	iPNEZ	09	29	12	Tu iP 09 28 23 c
		i			27	
	MW	iPZ			13	ipP 34
		ipP			25	i 38
	R	iP			08	
		i			22	
	Pr	iPNEZ			05	c
		iNZ			23	
	LJ	ePNEZ			06	
	T	iPEZ			15	c
Aug. 24	P	eP	10	15	45	Tu iP 10 15 05
	MW	eP			43	
	R	eP			39	
	Pr	eP			37	
	T	eP			57	
Aug. 24	T	e	11	54	54	Tu e 11 55 39
	MW	e			21	
Aug. 24	MW	iP	12	12	28	Tu iP 12 12 52
	Pr	iP			31	
	T	iP			35	
Aug. 25	P	eP	05	41	05	Tu iP 05 41 41
	MW	eP			05	
	R	eP			09	
	T	eP		40	41	
Aug. 26	P	e	05	02	19	Tu e 05 02 18
	MW	e			22	
	R	e			25	BCIS: 34 1/2 S. 46E.,
	Pr	e			23	O=04:42.4
	T	e			21	
Aug. 27	P	iPNEZ	13	50	59	Tu iP 13 51 13 d
		i		51	13	e 55 15
	PX	ePPN		54	37	Felt over most of the North
		eSKSN	14	01	31	Island, New Zealand
		iN		02	08	USCGS: 42 S. 179 E.,
		eGE		14	5	O=13:37.6
	MW	iPNEZ	13	50	59	d Wellington: 39.7 S. 179.2 E.,
		i		51	11	O=13:37.8, magnitude 6
	R	eNEZ	14	01	59	d
		iPNEZ	13	51	00	
		eSKSEZ	14	02	00	
	Pr	iPNZ!	13	50	59	d PH 0.2 5
		eSKSE	14	01	54	PPH 0.6 6
	LJ	ePNEZ	13	51	02	LH 30 20
	SB	eP		50	51	
	H	eP		51	06	
	T	ePNEZ			06	
		e		55	01	
Aug. 28	MW	eP	02	43	54	Tu eP 02 43 26
	R	eP			44	
	T	eP			59	
Aug. 28	P	iPEZ	07	00	45	Tu iP 07 01 22 c
		ipNEZ			56	ipP 33
		iSNE			13	iP'P: 29 35
	PX	eN		09	30	
		eSSN		13	6	
		eGE		16	3	
	P	eP		29	58	
	MW	iPEZ		00	45	c
		ipP			56	
		iNEZ!		01	00	
		eP'P'		29	50	

(continued)

Date	Sta.	Phase	h	m	s	Remarks
(continued)						
Aug. 28	R	ePNEZ	07	00	48	c
		ipPNEZ		01	03	CMO: 48 N. 157 E.
		eSE		09	19	USCGS: 49 N. 155 E.
		eP'P'		29	29	O=06:50.3
	Pr	e		48		BCIS: 49.6 N. 154.9 E.,
		ipPNEZ		00	54	c O=06:50:18
		ipPNEZ!		01	05	
		e		03	14	
		eSN		09	26	PH 0.6 T 5
		iNEZ		31		SH 3 1/2 T 6
		eP'P'		29	36	LH 10 T 20
	LJ	eP		00	59	
	SB	ePNZ		38		Magnitude about 6 3/4
	H	ePNEZ		37		
	T	ipPNEZ		33		c
Aug. 28	P	ipPZ		48		
		ipPNEZ	14	39	32	c Tu iP 14 40 10 c
		ipP		45		iP'P' 15 08 55
	PX	eSNE		47	37	
		iSNE		41		
		eSSNE		51.7		CMO: 52 N. 163 E.
		eGNE		54.2		USCGS: 52 N. 159 E.,
	P	eP'P'	15	09	0	O=14:29.4
	MW	ipPNEZ	14	39	32	c BCIS: 52.8 N. 159.5 E.,
		eP'P'	15	09	02	O=14:29:27
	R	iP	14	39	34	
		iNZ		50		A T 5
		eSE		47	45	PH 0.2 T 5
		eP'P'	15	09	04	SH 5 T 7
	Pr	ipPNEZ	14	39	41	LH 15 T 20
		i		50		
		ipP		57		
		eSN		47	56	
		eP'P'	15	08	54	
	LJ	ePEZ	14	39	43	
	SB	ePNEZ		25		
	H	ePEZ		25		
	T	ipPNEZ		18		c
Aug. 28	MW	eSNE	14	47	16	
		iP		49	37	Tu iP 14 49 41
	R	iP		32		
	Pr	iP		30		Superposed on the preceding
Aug. 28	P	ipPNEZ	20	00	00	Tu iP 19 59 27 c
		ipP		20		i 48
	PX	eSN		09	48	
	MW	iP	19	59	59	c
		ipP	20	00	13	
		i		22		
	R	ipPNEZ	19	59	54	c
		ipP	20	00	10	USCGS: 29.5 S. 71 W.,
		i		15		O=19:48.0
	Pr	ipPNEZ	19	59	53	c
		i	20	00	07	A T
		eSN		09	37	SH 1 5
	LJ	ePN	19	59	53	
	SB	eP	20	00	06	Magnitude about 6 1/2
	H	iP		08		
	T	iPEZ		12		c
		ipP		28		

Date	Sta.	Phase	h	m	s	Remarks
Aug. 29	MW	iP	16	38	11	d Tu iP 16 38 49 d
Aug. 29	T	iP		37	49	
	P	iP	21	15	32	Tu iP 21 15 55 d
	MW	iP			33	d
	R	iP			33	d
	Pr	iP			36	d
	SB	iP			29	
Aug. 30	T	iP			40	
	P	eP	22	39	42	Tu iP 22 35 24
	MW	eP		35	32	
		e		38	40	
		e		39	40	
		e		48	45	
		e		35	32	
	R	eP		39	14	
	Pr	eP		35	22	
Aug. 30	T	iP	22	51	36	Tu iP 22 52 07
Aug. 31	MW	ipPNEZ	01	36	07	PKKP of preceding?
Aug. 31	R	eP		35	33	Tu eP 01 36 27
Aug. 31	T	eP		35	50	
Aug. 31	P	ipPNEZ	06	29	00	d Tu iP 06 28 24 d
		i		30	08	i 44
	MW	ePNEZ		28	59	d
	R	iP			54	d
	Pr	ipPNEZ			52	d
	LJ	eP			51	
	SB	iP		29	05	
	H	iP			06	
	T	ipPNEZ			11	c
Sept. 1	MW	i		21		
Sept. 1	R	iP	22	31	46	Tu iP 22 31 37 d
Sept. 2	P	iP		45		Off Italy - deep
		ipPNEZ	14	44	02	Tu iP 14 44 26 d
		iPcP		13		ipP 45 21
		ipP		45	03	i 29
		esP		31		
	PX	ePP		47	00	eP'P' 15 12 17
		epPP			58	
		iSNE		53	31	Felt at Apia, which reports:
		iSPNE		54	06	iP 14 34 11
		eLN	15	04.3		iS 35 21
	MW	iP	14	44	03	
		iNEZ!			05	USCGS: 20S 179 W.,
		ipPNEZ			16	O=14:32.3
		i			32	h=200 km.
		ipP		45	03	
		eSNE		53	31	Pasadena: 19 S 176 W.,
	R	ipPNEZ		44	04	O=14:32:40
		iPcP		14		h=250 km.
		ipP		45	06	A T
	Pr	eSNE		53	34	PH 1/2 2
		ipNE		44	06	SH 6 6
		ipPE		45	04	
		iSNE		53	38	
		iE		54	09	
	LJ	ePNEZ		44	03	
	SB	iPEZ		43	59	
		ipP		45	01	

(continued)

Date	Sta	Phase	h	m	s	Remarks
(continued)						
Sept. 2	H	iPNEZ	14	44	10	
		ipP		45	12	
		eSNE		53	46	
	T	ePEZ		44	12	
		iNEZ			14	
		iNEZ			19	
		i			41	
		ipP		45	15	
		iSNE		53	51	
Sept. 3	P	eP P	15	12	27	Tu iP 15 38 O3 c
		iPNZ	15	37	28	ipP 33
		ipP			55	
	PX	iSN		46	04	
	MW	iPNZ		37	28	c Kurile Islands, h = 120 km.
		ipP			54	BCIS: 48 N. 153 1/2 E.,
		eSN		46	04	O=15:26.9, h=150 km.
	R	iP		37	30	c
		ipP			59	CMO 46 N. 153 E.
	Pr	ePNE			36	
		iSE		46	19	A T
	LJ	eP		37	35	SH 1 1/2 3
	SB	iP			20	
	H	iP			20	Magnitude about 6 3/4
		epP			49	
	T	iPNEZ			15	c
		ipP			40	
Sept. 3	P	iPEZ	19	09	12	Tu iP 19 09 38
	PX	iSN		19	54	USCGS: 11 S. 162 E.,
		eLE		36		O=18:56.4
	MW	iPEZ		09	13	
	R	iP			14	
	Pr	iPNE			18	A T
		iSN		19	48	PH 1/2 2
	LJ	eP		09	14	SH 1 5
	SB	eP			08	MH 12 20
	H	eP			16	Magnitude 6 1/2
	T	ePEZ			16	
		eSE		19	39	
Sept. 4	P	eP	00	41	37	Tu iP 00 42 01
	PX	e(S)E		52	00	Near Apia, which reports:
		eN		59.7		iP OC 30 40
		eLNEZ	01	01.8		iS 31 03
	MW	eP	00	41	37	USCGS: 15 S. 174 W.,
	R	eP			38	O=00:30.2
	Pr	iPNE			39	
		iN		42	45	A T
	LJ	ePNZ		41	35	SH? 1/2 10
	H	iPEZ			44	MH 10 20
	T	iPEZ			47	Magnitude 6 1/4
Sept. 4	MW	eP?	06	38	40	Tu iP 06 39 03
	T	eP			42	
Sept. 5	P	eP	05	48	14	Tu iP 05 47 17
	MW	iP			12	ipP 31
		ipP			24	
	R	eP			06	
		ipP			20	
	Pr	iPNE			00	
	T	iP			28	(continued)

Date	Sta	Phase	h	m	s	Remarks
Sept. 5	MW	eP	06	13	37	Tu eP 06 12 13
	R	eP			26	e(S) 14 32
	Pr	ePNE			06	
Sept. 5	P	iP	20	16	17	Tu eP 20 15 21
	MW	iP			17	ipP 27
	R	eP			16	
	Pr	ePNE			14	
	T	eP			32	
Sept. 5	MW	iP	21	28	11	Tu iP 21 27 18
	R	iP			06	i 57
	Pr	iPE			02	
	T	iP			28	
Sept. 7	P	iPNEZ	00	31	59	Tu iP 01 32 30 c
	MW	iPNE!			59	c c c
	R	iP			32	03 c
	Pr	ePN			06	
	SB	eP			31	54
	H	ePE			57	
	T	iPNEZ			53	
Sept. 7	P	eP	05	53	15	Tu iP 05 53 41 d
	MW	iP			16	
	R	iP			17	
	Pr	ePNE			19	
	T	iP			25	
Sept. 7	MW	eP	06	15	08	Tu iP 06 14 14
	R	eP			03	
	Pr	ePE			14	58
	T	iP			15	23
Sept. 7	MW	eP	10	21	49	Tu iP 10 21 10
Sept. 7	P	iP	22	02	40	Tu iP 22 01 46
	MW	iP			40	
	R	eP			36	
	T	eP			55	
Sept. 8	P	eP	05	53	25	Tu eP 05 55 19
		eSE			54	e(L) 57 35
	MW	eP			53	
	R	eP			30	Felt at Reno, Nevada
	SB	eP			28	
	H	ePNE			09	Magnitude 4.4
		eSN			55	
	T	eP			52	46
		iNEZ!			52	
		iSEZ			27	
Sept. 8	P	eP	07	13	53	Tu eP 07 15 07
		iSE			15	e(L) 18 05
		eP			13	
	MW	eP			52	
	R	eP			56	Felt at Reno, Nevada
	SB	eP			57	
	H	ePNE			34	Magnitude 4.6
		iSNE			14	22
	T	eP			13	15
		iNEZ!			18	
		iSNE			56	
Sept. 8	P	iP	22	59	29	Tu iP 22 58 54
	MW	iP			27	
	R	iP			26	
	T	iP			41	
		e			54	

Date	Sta	Phase	h	m	s	Remarks
Sept. 9	MW	iP	18	30	04	Tu eP 18 30 41
		e			18	58
Sept. 9	T	iP	22	29	50	Tu eP 22 42 12
	P	iP		41	48	44
		e		42	28	50
		i		39	39	19
	MW	iP	41	48		
		epP	42	20		
	R	iP	41	52		
		epP	42	24		
		e		38		
	SB	e		36		
	HT	eN		44		
	T	eP	41	58		
		ipP	42	29		
		i		39		
Sept. 10	MW	iP	16	31	38	Tu iP 16 32 03
	R	eP			38	
	T	iP			47	
Sept. 11	MW	iP	02	59	05	Tu iP 02 58 33
		epP			16	45
	R	iP			02	
		ipP			14	
	T	eP			18	
		epP			30	
Sept. 11	MW	eP	17	11	34	Tu iP 17 11 57
	R	eP			37	
Sept. 11	P	eP	19	50	48	Tu iP 19 51 12
	MW	eP			38	33
		i			48	
		i			57	
	R	eP			41	
	T	eP			21	
		i			28	
Sept. 12	P	eP	11	50	28	Tu eP 11 49 33
		e			36	52
		ePcP			53	
	MW	eP			50	
		ePcP			53	
	R	eP			50	
		ePcP			53	
	Pr	iPNE			50	
	T	eP			44	
		iPcP			53	
Sept. 13	P	eP	08	38	21	
	MW	iP			22	
	R	eP			23	
	T	eP			24	
Sept. 14	MW	iP	05	24	59	Tu iP 05 25 20
	R	iP			25	
	T	eP			09	
		e			23	
Sept. 14	MW	eP	17	53	38	Tu eP 17 54 18
	R	eP			40	44
	T	eP			46	
Sept. 14	R	iP	19	34	56	Tu iP 19 35 15

Near Apia, which reports:
iP 22 31 10
iS 41

Mexico

Date	Sta	Phase	h	m	s	Remarks
Sept. 15	MW	i	03	40	17	Tu eP 03 40 39
	R	eP			59	44
		i			40	17
	Pr	eP			39	45
		i			40	19
	T	eP			39	47
		e			40	19
Sept. 15	P	eP	09	27	49	Tu eP 09 28 04
	MW	eP			49	
	R	eP			50	
	Pr	iP			51	
	T	eP			28	
Sept. 15	P	e	12	03	42	Tu eP 12 03 02
		eSNE			04.6	14
	MW	eP			03	26
		e			39	50
	R	eP			24	
	Pr	eP			04	
	LJ	eP			11	
Sept. 15	P	eP	12	40	14	Tu iP 12 39 52
		i			24	
	MW	i			19	
		i			26	
	R	eP			39	
		i			40	
		e			39	
Sept. 15	LJ	iP	15	04	34	Tu iP 15 03 43 c
	P	iPNZ			35	47
	MW	iP			29	
	R	eP			23	
	Pr	iPNEZ			24	
	LJ	eP			47	
	SB	eP			42	
	H	eP			47	
	T	eP			55	
		iEZ			52	
Sept. 16	MW	iP	21	32	52	Tu iP 21 33 13
	T	iP			59	
Sept. 16	MW	iP	21	50	28	Tu eP 21 50 54
		e			51	05
	R	iP			50	31
		e			51	02
	T	iP			50	33
Sept. 17	MW	iP	01	58	09	Tu eP 01 58 49
	R	iP			13	
	Pr	iP			14	
	T	eP			14	
Sept. 19	P	iPNEZ	10	35	04	Tu iP 10 34 30 d
		ipP			30	
		iSPEZ			41	
	MW	iPNEZ!			05	
		ipP			31	
		iSP			41	
		i			36	
	R	iPNEZ!			35	
		ipP			28	
		iSP			38	
	Pr	iPNEZ!			34	
		ipP			35	

Wellington gives:
41.0 S. 176.2 E. O=09:14.2
Magnitude 5 - 5 1/2

First of a swarm of shocks

Largest of the swarm. Later shocks at 16:48, 19:01, and on Sept. 16 at 02:00, 02:07, 06:25.

Near Panama.
Balboa Heights reports:
P 14 57 28
S 58 09

Depth 100 km.
Andes about 22 S.

(continued)

Date	Sta.	Phase	h	m	s	Remarks
(continued)						
Sept. 19	LJ	eP	10	34	56	
	SB	iP		35	12	d
	H	iPNEZ			12	d
	T	iPNEZ			17	d
		iP			27	
Sept. 20	MW	iP	06	27	26	Tu eP 06 28 07
	R	eP			32	
	Pr	iP			39	
Sept. 20	P	eP	23	33	12	Tu 23 33 58 c
	MW	iP			13	c
		iP			21	
	R	iP			15	c
	Pr	iP			24	c
	H	eP			00	
	T	iP			32	c
Sept. 21	P	iP	04	36	09	Tu e 04 36 28
	MW	iP			00	
		iP			08	
	R	iP			11	
	Pr	e(P)			35	
		iP			36	
		iP			08	
	T	e(P)			12	
		iP			08	
Sept. 21	P	iP	05	34	31	Tu eP 05 34 40
	MW	eP			19	49
		iP			31	53
	R	eP			20	
	Pr	eP			34	
		iP			26	
		iP			33	
		iP			45	
Sept. 21	P	iP	09	27	24	
	MW	iP			25	
	R	iP			27	
	Pr	iP			29	
	T	iP			25	
Sept. 22	P	iPNEZ	02	19	02	Tu iP 02 20 15
	MW	iPNEZ			09	
	R	iPNEZ			20	
	Pr	iPNEZ			33	
	LJ	eP			18	
	SB	eP			50	
	H	ePNEZ			45	
	T	ePEZ			33	
Sept. 22	MW	iP	04	00	30	Tu iP 03 59 49
	R	iP			26	
	Pr	iP			26	
	T	iP			44	
Sept. 22	MW	iP	04	05	18	Tu iP 04 04 36
	R	iP			13	
	Pr	iP			08	
	T	iP			31	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 22	MW	iP	04	22	55	Tu iP 04 22 19
	R	iP			50	
	Pr	iP			46	
	T	iP			07	
Sept. 22	R	eP	23	08	10	Tu eP 23 07 27
	Pr	iP			07	
	T	eP			23	
Sept. 23	P	ePNZ	07	48	55	Tu iP 07 49 41 d
		iP			49	51
	MW	iP			48	d
		iP			49	
	R	eP			48	
	Pr	ePP			49	
		iPNEZ			06	d
		iP			15	
		iP			51	
	LJ	eP			49	USCGS: 54 N. 164 W.,
	H	iP			48	O=07:41.7
		iP			45	
	T	iPNEZ			54	
		iP			37	d
		iP			45	
Sept. 23	P	e	12	46	51	Tu e 12 46 54
		e			47	41
	PX	e			49	50
		e			53	
		eNZ			57	
		eN			03	
	P	e(PKKP)	13	03	00	Readings given as (FKKP) may
	PX	iN			04	belong to another shock.
		eN			09	BCIS: 33 1/2 N. 59 E.
		eLN			17	O=12:28:08,
	MW	e	12	46	10	magnitude 6 1/2
		e			50	
		e			53	
		i(PKKP)	13	03	26	MH A T
	R	e	12	47	14	50 20
	Pr	e(PKKP)	13	03	25	Magnitude 6 3/4
		e	12	46	36	
		e			47	
		e			49	
		e			53	
		e(PKKP)	13	03	24	
	T	e	12	46	14	
		e			47	
		e			52	
		e(PKKP)	13	03	37	
Sept. 23	P	iPNZ	13	55	06	Tu iP 13 56 19
		iEZ			09	
		iSEZ			56	
	MW	iP			55	
		iS			56	
	R	iP			55	Felt at Eureka, California
	Pr	eP			25	USCGS: 41 N. 125 W.
	SB	iP			54	O=13:53.1
		iSN			56	
	H	iPNEZ			54	MH A T
		iPNZ			53	85 15
	T	iPNZ			42	
		eSNE			56	Magnitude 5.6

Date	Sta.	Phase	h	m	s	Remarks
Sept. 24	P	eP	09	40	35	
	MW	iPP			52	
		iP			36	
	R	iPP			53	
	Pr	ePP			39	
		iP			55	
	T	iPP			48	
		ePP			37	
Sept. 24	MW	ePP	16	16	06	Tu eP 16 16 32
		iP			06	
	R	eP			42	
		iP			03	
	T	eP			36	
		iP			18	
Sept. 24	R	eP	22	37	36	Tu iP 22 37 58 c
		ePP			39	
	Pr	iP			37	
Sept. 25	P	eP	01	37	08	Tu eP 01 37 39
		iP			37	
		e			55	
	MW	e(S)			40	
		e(S)			37	
	R	eP			40	
		iP			50	Strong at Boise, Idaho
	Pr	e(S)			40	
		iP			37	
	H	eP			38	
		iP			00	
	T	e(S)			40	
		eP			36	
		e(S)			39	
		eP			36	
Sept. 25	MW	iSNEZ	23	38	33	Tu iP 23 38 47
		eP			39	
	R	ePP			25	
		iP			44	
	T	iPP			21	
		eP			38	
Sept. 25	P	iPP	23	50	09	Tu e 23 49 53
	PX	eLN	24	15	5	e 51 09
	MW	e	23	47	37	e(PKKP) 24 15 28
		e			49	
		e			11	
	R	e			50	
		e			15	
		e			49	
		e			37	
		e			50	
Sept. 26	T	eP	06	19	20	Tu eP 06 19 27
		e			49	
	P	e			20	
	MW	e			56	
		e			58	
	R	eP			44	
		e			54	
	T	eP			50	
		e			20	
		e			03	

Date	Sta.	Phase	h	m	s	Remarks
Sept. 26	P	eP	06	59	32	Tu eP 06 59 16
		e			42	
	MW	iP			43	
	R	eP			28	
		e			59	
	T	eP			34	
		iPP			51	
Sept. 26	P	ePP	08	27	33	Tu eP 08 27 58
	MW	ePP			34	ipP 28 10
	R	eP			11	
		iPP			22	
Sept. 26	P	eP	09	11	59	Tu eP 09 11 50
	MW	iP			12	
	R	eP			11	
	T	eP			12	
Sept. 26	P	iPNEZ	16	15	23	Tu iP 16 15 50 c
		i(PcP)			32	
		e(pP)			52	
		e			16	
		i			07	
		e			18	
	PX	iPP			19	
		iSKS			14	
		iSNE			20	
		i			51	
	P	iPKKP			28	IV - V at Ishigakishima (CMO)
	PX	eSSN			32	BCIS: 24.5 N. 122.3 E.
		eGN			40	O=16:Ol:55, h=100 km.
	MW	iPNEZ			15	
		i			24	
		i			32	
		iPP			18	
		iSNE			18	
		iPKKP			19	
		iSNE			25	
		iPKKP			32	
	R	iP			15	
		iPP			19	
		eSNE			51	
		ePKKP			25	
	Pr	ePNE			32	Magnitude 7.4
		iPPE			15	
		iSNE			29	
	LJ	iP			19	
		e			33	
		iPP			26	
		iSNE			01	
		iPNEZ			15	
	H	iPP			19	
		iSNE			10	
		iPNEZ			25	
		iSNE			15	
		ePKKP			47	
		iP			15	
Sept. 27	P	eP	01	26	42	Tu iP 01 27 05
	MW	iP			42	
	R	iP			31	
	H	iP			48	
	T	iPNEZ			48	
Sept. 27	P	eP	07	41	21	Tu eP 07 42 21
		iSE			43	Region of Eureka, California
		iP			41	Aftershock of Sept. 23, 13h
	MW	eSNE			43	Magnitude 5.1
		e			06	

(continued)

Date	Sta.	Phase	h	m	s	Remarks		
(continued)								
Sept. 27	R	iP	07	41	27			
	SB	iSNZ		43	21			
	H	iP		41	12			
		iPNZ			08			
	T	iSE		42	13			
		eP		40	40			
		iNEZ			51			
Sept. 27	R	e	14	47	16	Tu	eP	14 46 19
	T	e			38			34
Sept. 27	P	eP	22	21	39	Tu	eP	22 21 43
		e			52			
	MW	eP			40			01
		e			55			
	R	eP			28			
	Pr	eP			24			
	T	eP			42			
Sept. 28	P	iP	06	15	34			
	MW	iP			34			
	R	iP			30			
	Pr	iP			24			
	T	iP			47			
Sept. 28	MW	iP	06	45	30	Tu	iP	06 46 09
	R	iP			35			
	Pr	iP			41			
	T	iP			16			
Sept. 28	P	eP	11	56	59	Tu	iP	11 56 08
		e		57	11			24
	MW	eP			01			28
		e			10			
	R	eP		56	54			
		i		57	07			
	Pr	eP			12			
		i			47			
	T	eP			02			
		i			11			
		i			24			
		i			29			
Sept. 28	P	iP	17	33	59	Tu	iP	17 33 08
	MW	iP			34			15
	R	iPNEZ			00			
	Pr	iPNEZ			54			
	T	iPNEZ			47			
		iP			34			
		i			13			
		i			23			
		i			36			
Sept. 30	P	eP	14	12	49			
	MW	eP			52			
	R	eP			01			
	Pr	iP		13	00			
	T	eP			08			

C. F. Richter

March 1, 1948



CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY
BULLETIN

OCTOBER — DECEMBER 1947

(PASADENA AND AUXILIARY STATIONS)

Date	Sta	Phase	h	m	s	Remarks
Oct. 1	P	eP	12	36	37	Tu iP 12 35 55 d
	MW	eP			38	iP 12 36 06
		i			47	iP 12 37 24
	T	iP			52	Tu iP 12 44 34
Oct. 1	P	iP	12	44	07	
	MW	ipP			39	ipP 45 07
		iPNEZ			09	e 48 39
		epP			39	
		i			43	
	LJ	eP	47	03		BCIS: 13 S, 157 E, O=12:31.6, h=100 km.
	SB	eP	44	12		
	H	eP			13	
		epP			42	
	T	i			17	
Oct. 1	P	e	17	40	09	Tu eP 17 39 24
	MW	eP			02	
		e			08	
	T	eP			17	
Oct. 1	P	e(P)	21	36	18	Tu eP 21 35 26
	MW	iP			15	e 48
		i			34	
		i			46	
	R	eP			14	
	Pr	iP			10	
		iP			23	
Oct. 2	R	eP	05	03	33	Tu eP 05 04 02
	Pr	epP			41	i 06 04
	T	i			02	
		iP			04	
Oct. 2	P	iP	09	59	55	Tu iP 10 00 27
	MW	ipP	10	00	36	epP 01 05
		iP	09	59	56	e 04 03
	R	iP	09	58	38	
	Pr	epP	10	00	38	
		iP			01	
		epP			42	
	SB	iP	09	59	48	
	T	iP			51	d
		epP	10	00	24	
Oct. 2	P	iP	22	49	29	Tu iP 22 48 30
	MW	iP			30	
	R	iP			25	
	T	iPNEZ			51	
Oct. 3	MW	eP	05	13	03	Tu iP 05 13 23
	R	eP			05	
	Pr	eP			05	
	T	eP			26	
Oct. 3	P	iPNEZ	06	32	41	Tu iP 06 32 42
		ipP			34	i 33 11
	PX	ePP			36	ipP 34 38
		iSNEZ			42	i 43 50
		iSP			43	iPP 36 47
		iSSN			48	eS 43 10
	MW	eSKPP	07	01	56	South of Japan
		iPNEZ	06	32	42	CMO: 31.5°N, 139.0°E, h=350 km.
		ipP			34	
		ipP			36	
		iSNEZ			42	
					28	

(continued)

Date	Sta	Phase	h	m	s	Remarks
						(continued)
Oct. 3	R	iP	06	32	44	c Location of this shock is rendered difficult by confusion at European stations with that noted below.
		ipP			34	
		i			26	
		ipP			36	
		eSEZ			42	
	Pr	iPNEZ			32	c
		i			33	
		ipPEZ			34	
		ipPEZ			36	
		e			41	Magnitude about 6 3/4
		iSNZ			42	
		i			43	
		eP P?			56	
		iSKPP	07	01	51	
	LJ	iPNEZ	06	32	48	
		ipP			34	
		eSNE			42	
	SB	iPNEZ			32	c
		ipP			34	
		iSNE			42	
	H	iPNEZ			32	PH 0.7 2
		iSNE			42	PZ 1 2
	T	iP			32	c pPZ 1 5
		ipP			34	SH 1 5
		iSNEZ			42	
Oct. 3	PX	eLN	07	02	1	
						These surface waves, and possibly some of the other readings, are due to an earlier shock at shallow depth in the region of Baluchistan. Using the data of Indian stations (courtesy of Dr. Banerji) and all available bulletins, we find: 27 1/2 N, 59 E, O=06:13:50, magnitude about 6 3/4. Maximum at Pasadena 5 microns, period 20 seconds.
Oct. 3	P	iP	08	16	21	Tu iP 08 15 21
		ipP			33	ipP 32
		iNEZ			37	
	PX	iSN			20	
		eLN			22	
		iScSN			25	
	MW	iPNEZ			16	USCGS: 16.5 N, 99 W, O=08:11.0
		ipP			32	
		i			48	
	R	iPNEZ			14	
		ipP			28	
	LJ	ePNEZ			08	
	SB	e			48	
	H	ePEZ			32	
	T	iPNEZ			40	
		ipP			54	
Oct. 3	MW	iP	09	25	47	Tu iP 09 26 08
	T	iP			56	
Oct. 3	P	iPNEZ	23	36	58	c Tu iP 23 35 56 c
		ipPNZ			37	
		iSPNZ			26	
	PX	iN			39	
		iSNZ			40	
		iSE			57	
		eGNE			40.9	USCGS: 19 N, 102 W, O=23:32.2 h=100 km.
		i(pPcP)			41	
		i			20	

(continued)

Date	Sta.	Phase	h	m	s	Remarks
Oct. 3	MW R	(continued)	23	36	58	c
		iPNEZ!				
		iPNEZ!				
		ipP				
		i(pPcP)				
		i				
		i				
		iPNEZ!				
		iPNEZ				
		iPNEZ				
		iPNEZ!				
		ipP				
		i				
		i(pPcP)				
		i				
Oct. 4	P MW	eP	00	10	55	Tu eP 00 11 20
		eP				
		e				
Oct. 4	Pr	iP	08	43	01	Tu iP 08 43 20
		eP				
		eP				
Oct. 4	T P MW	eP	10	18	06	Tu eP 10 19 19
		eP				
		eP				
Oct. 4	Pr T P	ePNZ	15	43	15	Tu iP 15 43 32
		eP				
		eP				
Oct. 4	PX MW	eL	15	43	13	i 43
		eP				
		eP				
Oct. 5	R Pr	eP	06	28	16	Tu iP 06 29 02
		eP				
		eP				
Oct. 5	T P	eP	06	34	43	Tu iP 06 35 20
		epP				
		i				
Oct. 5	MW	eP	35	14	58	i 32
		eP				
		i				
Oct. 5	R	iP	35	01	58	i 35
		ipP				
		iP				
Oct. 5	Pr	eP	35	03	58	e 35
		epP				
		eP				
Oct. 5	H T	eP	34	36	43	eP 34
		eP				
		eP				

Magnitude 6 3/4 - 7
 A 8 T 5
 PH 8 5
 SH 20 10
 MH 40 20

Date	Sta.	Phase	h	m	s	Remarks
Oct. 5	P PX	eP	18	55	02	Tu e(PP) 18 59 29
		eSSN				
Oct. 5	MW R Pr T P Pr P PX P PX MW R LJ SB Pr	iN	19	09	53	USCGS: 3 S. 140 E., O=18:41.0 A T BCIS: 4 S. 138 1/2 E. M 20 20 O=18:41.0 Mag. about 6 3/4 Tu e 19 10 30 May be PKKP of the preceding
		eLN				
		eLEZ				
		eP				
		eP				
		iP				
		eP				
		iP				
		e				
		eP				
		eP				
		eP				
		iP				
		eP				
		eP				
Oct. 6	Pr P	iP	20	09	25	Tu eP 20 09 14
		eP				
		e				
Oct. 6	P PX	iPPNZ	20	09	10	iPP 13 19
		iEZ				
		ePKKP				
Oct. 6	P PX MW R	iSKSN	20	09	26	ePKKP 25 47
		iN				
		iPSN				
Oct. 6	P PX MW R	ePKKP	25	43	26	USCGS: 37 N. 21 E., O=19:55.6
		i				
		eSSN				
Oct. 6	PX MW R	eP'P'	34	08	34	BCIS: 36.9 N. 22.0 E., O=19:55:31
		eLN				
		iP				
Oct. 6	LJ SB Pr	eP	09	28	36	PPH A 1 T MH 4 4 Magnitude 7 20
		ePKKP				
		eP				
Oct. 7	T P MW R	ePKKP	00	16	19	Tu eP 00 16 43
		iP				
		eP				
Oct. 7	Pr P	eP	02	00	21	Near Apia, which reports iP 00 05 29, iS 00 05 49
		iPNZ				
		iP				
Oct. 7	PX MW	iNEZ!	02	00	26	Tu iP 02 00 58 c
		iPcP				
		eS				
Oct. 7	P PX MW	iScP	06	06	37	iPcP 03 08
		eLN				
		i				
Oct. 7	R	iPNEZ	00	20	24	c
		iPcP				
		i				
Oct. 7	R	iScP	06	36	53	c
		iPNEZ				
		iPcP				
Oct. 7	H T	iScP	02	52	37	c
		iPcP				
		iScP				

(continued)

Date	Sta	Phase	h	m	s	Remarks
(continued)						
Oct. 7	Pr	iPNEZ	02	00	31	c
		i		01	12	
		i		02	05	USCGS 64 5 N 146 W
		i		34	0=01:53.4	
		iPcP		46	BCIS 64 5 N 147 5 W	
		iScP		41	O=01:53:23	
		e	06	08	42	
		i((ScS)NZ		16	39	A T
	LJ	iPNEZ		00	33	c PH 1 3
	SB	iP		15		
	H	iPNEZ		07	c	Magnitude 6 1/2
	T	iP		00		
		iPcP		02	44	
Oct. 7	P	eP	03	04	27	Tu eP 03 05 03
		eScP		10	42	
	MW	eP		04	25	
		i(PcP)		07	48	
		eScP		10	42	
		e		12	00	USCGS Aftershock of pre-
	R	iP		04	30	O=02:57.5 ceding.
		e		12	12	
	Pr	eP		04	36	
		i		10	46	
	T	eP		04	06	
Oct. 7	P	eP	04	48	30	Tu iP 04 49 09
	MW	iP		33		
Oct. 8	Pr	eP		43	43	Tu iP 15 43 24
	P	eP	15	43	51	
	MW	eP		48	48	
	R	eP		47	47	
	T	iP		59	59	
Oct. 8	R	eP	18	08	20	Tu eP 18 07 34
	T	eP		09	03	
Oct. 9	MW	eP	00	38	28	Tu eP 00 37 40
	R	eP		25	25	Balboa Heights reports:
	Pr	iP		22	P 00 30 49	
	T	eP		41	S 31 14	
Oct. 9	MW	iP	03	38	09	Tu iP 03 38 34
	R	eP		11	11	Near Apia, which reports:
	Pr	iP		13	eP 03 27 25	
	T	iP		19	iS 27 55	
Oct. 10	P	iP	02	51	30	c Tu iP 02 51 48 c
	MW	iP		30	c	
		i		41		
		i		46		
	R	iP		31	c	
		i		44		
	Pr	iPNEZ		32	c	
		i		46		
Oct. 10	H	eP		37		
	P	iPNZ	07	43	23	Tu iP 07 43 57
		iEZ!		44	29	c
	PX	i		44	42	
		e		45	30	
		e		52	35	
		iSN		44		
		eLN	08	02	.1	
(continued)						

Date	Sta	Phase	h	m	s	Remarks
(continued)						
Oct. 10	MW	iP	07	43	22	c
		iNEZ			27	c
		eSN		52	43	
	R	iP		43	25	
		iNEZ			33	c
	Pr	eP P	08	14	43	
		iPNZ	07	43	30	
		iNEZ			36	USCGS 40 N. 144 E.
		i			48	O=07:32.3 h=300 km.
		i			53	
		e		44	18	
		iSN		53	01	
	LJ	ePEZ		43	32	(PcP) H A T
		iEZ			38	SH 2 3
	SB	iP		43	16	
		iNEZ			22	
	H	eP			16	Magnitude 6 3/4
		iNEZ			22	
		eSN		52	29	
	T	iPNEZ		43	11	
		iNEZ			18	
		i			46	
		i		44	32	
		eSN		52	25	
		eP P	08	11	28	
Oct. 10	P	eP	13	55	20	Tu eP 13 55 37
	PX	eN	14	05	53	i(pP) 49
		e(L)N		34	7	
	MW	eP	13	55	22	
		i(pP)			36	USCGS 30 S 180.
	R	eP			22	O=13:42.6
		i(pP)			37	BCIS 31 S 177 W.
	Pr	eP		15	15	O=13:42.7
		i(pP)			28	A T
	H	eP		36	36	MH 15 20
	T	iP		29	29	Magnitude 6 3/4
		e		56	10	
Oct. 10	MW	eP	17	43	57	Tu eP 17 44 13
	T	eP			38	e 26
Oct. 10	MW	eP	21	41	53	Tu eP 21 41 09
	R	eP			48	
	T	eP		42	04	
Oct. 11	P	iP	04	15	48	Tu eP 04 14 54
	MW	iP			47	
	R	iP			43	
	Pr	iP			38	
Oct. 13	P	iP	01	13	15	Tu iP 01 13 52
	MW	iP			16	
	Pr	eP?			17	
		i(P)			22	
		eP?			00	
Oct. 13	PX	eLN	08	22		Tu eP? 08 01 35
Oct. 13	R	iP	18	22	58	Tu iP 18 22 30
	T	iP		23	14	
Oct. 14	P	eP	01	54	00	Tu eP 01 54 15
	PX	e(S)N	02	04	49	i 18
		eGN		17	5	i 26
	R	iP	01	54	01	
	Pr	ePNEZ			01	USCGS 32 S 180.
		i			15	O=01:41.1
	H	ePE			09	
	T	eP			11	
		i			24	

Date	Sta.	Phase	h	m	s	Remarks
Oct. 15	P	eP	04	16	26	Tu iP 04 17 03
	MW	iP			24	
		i			48	
	R	iP			27	
	Pr	i			37	
	SB	e			30	
	H	eP			12	
	T	eP			03	
Oct. 15	P	eP	08	58	41	Tu iP 08 59 54
		i			50	
	PX	eLNEZ	09	02	0	
	R	eP	08	58	49	
		i			57	
	Pr	iPNEZ		59	02	
		i			11	
		i			39	
	SB	iP		58	31	
		i			41	
	H	eP			26	
	T	iP			15	
		i			30	
		i			43	
Oct. 15	P	iP	19	41	38	Tu iP 19 42 12
		iScP		47	50	
	PX	eLNEZ		57	1	
	R	iP		41	39	
	Pr	iP			48	
		iScP		47	55	
	LJ	eP		41	51	
	H	ePNE			25	Foreshock of next
	T	iP			14	
		iScP		47	42	
Oct. 16	P	iPNEZ	02	16	43	Tu iP 02 17 19 c
		iNEZ			55	
	PX	iN		18	50	
	P	i		19	15	Damage at Fairbanks, Alaska
	PX	iSNE		22	23	
	P	eScP			59	
	PX	iGE		25	09	
	MW	iPNEZ		16	43	c
		i		19	17	
		eSNE		22	25	
		iScP		23	02	USCGS: 64.5 N. 148.8 W.,
	R	ePN		16	47	O=02:09:45
	Pr	iPNEZ			52	c
		iScP		23	05	A T
	LJ	iPNEZ		16	57	c PH 8 3
		iNEZ		17	07	PZ 5 5
		eSE		22	47	SH 250 30
		eScP		23	06	MH 500 20
	SB	iPNEZ		16	38	
		iSNE		22	17	Magnitude 7
		iScP			59	
	H	iPNEZ		16	29	c
		i			41	
		i		19	11	
	T	iPNEZ		16	21	c
		i			32	
		i		17	53	
		i		18	26	
		i		19	12	
		eSN		21	44	
		iScP			54	

Date	Sta.	Phase	h	m	s	Remarks
Oct. 16	P	eP	09	29	14	Tu eP 09 29 47
	MW	eP			14	
	Pr	iP			23	
	T	eP		28	47	
Oct. 16	P	eP	11	29	40	Tu eP 11 30 14
	MW	eP			40	
	Pr	eP			47	
	T	eP			18	
Oct. 17	P	eP	00	49	02	Tu eP 00 49 37
	MW	eP			02	
	R	eP			05	
	Pr	iP			13	
Oct. 17	P	eP	04	15	30	Tu iP 04 14 46 d
		epP			16	
	MW	iP		15	29	epP 15 50
		epP			16	
	R	iP		15	25	
		i		16	02	BCIS: 10 S. 75 W. h=200 km
		epP			17	
	Pr	iPNEZ		15	20	d
		epP		16	09	
	T	iPEZ		15	13	
		epP		16	05	
Oct. 17	P	eP	10	30	03	Tu eP 10 30 39
	MW	eP			03	
	R	eP			03	
	Pr	iP			14	
	H	eP		29	50	
	T	eP			41	
Oct. 17	P	eP	14	03	46	Tu iP 14 03 14
		epP			55	Andes
	MW	eP			47	
		epP			56	
	R	iP			43	
		ipP			52	
	Pr	iPNEZ			39	c
	SB	eP			53	
		e		04	44	
	H	iP		03	55	
	T	iPNEZ			59	
		ipP		04	07	
		e			32	
Oct. 18	P	iP	01	13	05	Tu iP 01 13 24 c
		ipP			21	ipP 40
	MW	iP			06	
		ipP			23	
	R	iP			08	
		ipP			23	Kermadec Islands?
	Pr	iPNZ			08	
		ipP			24	
		i			43	
	H	iP			14	
		ipP			29	
	T	iPEZ			14	
		ipP			31	
Oct. 18	P	e	13	00	58	Tu e(P) 13 01 18
		e			22	
	MW	e			59	
	R	e?		12	59	
		e		13	00	
		i			01	
	Pr	i			01	

Date	Sta	Phase	h	m	s	Remarks					
Oct 19	P	iP	12	49	47	Tu	iP	12	50	24	d
		iPcP		52	16		iPcP		52	29	
	MW	iP		49	47		iScP		56	19	
		iPcP		52	16	Alaska					
	R	eScP		56	03						
	Pr	iPNEZ		49	58	c					
	LJ	eP		50	01						
	H	iP		49	33						
	T	iP		49	25						
Oct. 20	P	iPNEZ	01	50	14	Tu	iP	01	50	49	c
	PX	eSN		52	47		i			54	
	MW	iPNEZ		50	14						
	R	iP		50	17	c					
	Pr	iPNEZ		50	24	c	Alaska				
	LJ	eP		50	27		USCGS; aftershock of				
	SB	eP		50	08		Oct. 16, 02 ^h				
	H	iPNEZ		49	59	c	PH 5 4	A	T		
	T	iPNEZ		49	52	c	PZ 4 3				
		iPcP		52	09		SH 30 25				
		iPcP		52	09		MH 50 20				
		iScP		54	36		Magnitude 6 3/4 - 7				
Oct. 20	R	iP	02	02	38						
	Pr	iP		02	38						Aftershock?
Oct. 20	R	eP	02	39	15						
Oct. 20	R	iP	02	40	27						Aftershock?
Oct. 20	R	iP	02	40	47				02	41	20
	Pr	iP		02	54						Aftershock
	H	iP		02	29						
	T	iP		02	21						

Date	Sta	Phase	h	m	s	Remarks					
Oct. 20	P	iP	03	05	32	Tu	iP	03	06	07	c
	MW	iP			32						
	R	iP			35						
	Pr	iP			42						Aftershock
	H	iP			17						
	T	iP			10						
Oct. 20	R	eP	04	11	52						Aftershock?
	H	iP			35						Aftershock?
Oct. 20	R	iP	04	15	15						
Oct. 20	R	iP	04	21	12	Tu	eP	04	21	45	
	H	iP			55						Aftershock?
Oct. 20	P	eP	12	27	43	Tu	iP	12	28	20	c
	MW	eP			43						epP
		ipP			58						
		iP			21						
	R	iP			27						
		epP			28						
	Pr	iP			27						
	H	eP			28						
	T	iP			27						
		ipP			31						
Oct. 21	P	iP	09	56	57	Tu	iP	09	57	31	
	MW	ipP			06						Alaska
	R	eP			57						
		ipP			56						
	R	iP			57						
	Pr	ipP			00						
	SB	ipP			09						
	H	eP			56						
	T	ipP			45						
Oct. 22	R	iP	01	57	14	Tu	iP	01	57	33	
Oct. 22	Pr	iP	17	36	04	Tu	e(PP)	17	40	32	
Oct. 23	P	eP	11	55	28	Tu	iP	11	54	41	
	MW	iP			28						46
	R	iP			36						57
	Pr	iP			23						
	H	iPNEZ			37						d
	T	eP			30						
Oct. 24	P	iPEZ	06	59	28	Tu	iP	06	58	34	
	Pr	iPNEZ			18						c
		i(PcP)			08						
Oct. 24	T	iP	06	59	44						
	P	eP	07	15	49	Tu	eP	07	16	22	
	Pr	eP			58						33
	H	eP			55						43
	T	iP			53						
Oct. 24	P	e	22	39	35	Tu	e	22	44	48	
	R	e			41						
		e			44						
		e			04						

Date	Sta.	Phase	h	m	s	Remarks
Oct. 25	P	eP	14	48	26	Tu eP 14 46 41
	MW	eP		46	01	e 14 49 05
	R	eP		48	29	
	Pr	eP		46	00	
	H	eP		47	04	
	T	eP		48	53	
		iPNEZ		47	40	
		i(S)NEZ		45	50	
Oct. 26	P	iP	13	06	19	Tu iP 13 06 56
	MW	ipP		54	10	ipP 13 07 10
	R	eP		39	39	
	Pr	eP		40	40	
	H	iP		40	49	
Oct. 27	R	iP	02	07	53	Tu eP 02 08 26
	Pr	iP		08	06	
	T	eP		07	26	
Oct. 27	P	eP	04	17	02	Tu iP 04 16 32
	MW	iS		18	31	i(S) 04 17 18
		eP		16	54	
		iS		17	13	
		eP		18	20	
	R	iPEZ		16	53	Shock felt in Arizona at
	Pr	iNEZ!		17	08	Flagstaff, Sunset Crater
		iNEZ		17	49	National Monument, etc.
		i(S)NEZ		18	13	
	H	i		17	15	
	T	eSNZ		18	21	
		i		17	21	
		eSE		18	32	
Oct. 27	P	iP	05	02	17	Tu iP 05 02 34
	MW	eP		16	16	
	R	eP		16	16	
	Pr	iPNZ		19	19	
	H	eP		24	24	
Oct. 27	P	eP	11	23	31	Tu iP 11 23 10
	MW	i		25	38	i 11 24 04
		eP		23	29	
	R	eP		48	26	
		i		41	41	
	Pr	ePNZ		49	49	
	H	i		23	39	
	T	eP		41	41	
		i		57	57	
		eP		46	46	
Oct. 28	R	iP	00	24	01	Tu eP 00 43 26
Oct. 28	R	eP	03	17	14	Tu eP 03 16 29
	Pr	eP		15	15	
Oct. 28	P	eP	09	48	16	Tu eP 09 47 51
	PX	eLNZ		58.5	58	e 09 47 58

(Continued)

Date	Sta.	Phase	h	m	s	Remarks
		(continued)				
Oct. 28	MW	eP	09	48	18	
		eP			24	
	R	eP			15	
		i			21	
	Pr	iPNEZ			10	
	H	eP			34	
	T	iP			50	
Oct. 28	MW	iP	10	10	51	Tu iP 10 10 05 c
	R	iP			47	
	Pr	iP			46	c
	H	iP			53	
Oct. 28	Pr	iP	12	24	36	Tu iP 12 23 55
Oct. 28	MW	eP	15	46	46	Tu iP 15 47 32 d
	R	iP			50	
		e			47	
	Pr	iPNZ			46	
	T	iP			31	
Oct. 29	P	iP	12	10	15	Tu i(P) 12 10 49 c
		e			23	
		i(pP)			42	
		i			53	
		i			11	
		iP			10	
	MW	eP			23	
	R	iP			18	
		i			27	
		i(pP)			45	
		i			59	
		e			11	
	Pr	iP			10	
	T	i(pP)			03	
Oct. 30	P	eP	03	56	33	Tu eP 03 55 59
	MW	eP			33	
	R	eP			29	
Oct. 31	R	eP	00	44	54	Tu eP? 00 45 04
		e			14	
Oct. 31	R	eP	01	41	42	Tu eP 01 42 04
		e			06	
	Pr	eP			41	
Oct. 31	P	iP	12	19	12	Tu iP 12 20 06 d
	MW	iP			14	
		i			19	
	R	iP			17	
	Pr	iP			21	c
		i			26	
	SB	iP			03	
	T	iP			20	
Oct. 31	P	iP	13	21	33	Tu eP 13 22 56
	MW	eP			35	
	R	eP			42	
	Pr	eP			51	
	H	iP			21	
	T	iP			12	
		i			18	
Oct. 31	MW	iP	23	12	30	Tu eP 23 13 10
		e			45	
		i			51	
	R	iP			32	
		e			47	
		i			55	

CMO: 47.7 N. 145.4 E.,
h= 60 km.

Date	Sta	Phase	h	m	s	Remarks
Nov. 1	R	eP	01	51	42	Tu iP 01 50 50
	Pr	iP		52	13	i 51 17
		i		51	37	
		i		52	07	
Nov. 1	P	iP ^h NZ	06	19	00	Tu eP ^h 06 19 03
		ePP		21	17	i 19
		iSKP		22	23	iSKP 22 44
		iSKPNE		31	31	i 25 01
	PX	eNEZ			45	
		eLN		57	7	
	MW	eP ^h		19	01	
		ePP		21	20	
		iSKP		22	24	
	R	eP		18	59	
		iSKP		22	26	BCIS: 4 S. 102 1/2 E.,
	Pr	iP ^h		19	04	O=05:59.5
		i			14	
		iPPEZ		21	28	
		iSKPNEZ		22	29	
	LJ	eP ^h		19	04	SKP 1 1/2 T 6
		eSKPNEZ		22	29	
	SB	eP ^h		18	58	
		ePP		21	11	
		iSKPNEZ		22	21	
	H	eP ^h		18	57	
		iSKP		22	21	
	T	eP ^h		18	56	
		ePP		21	18	
		iSKP		22	17	
Nov. 1	P	iPNEZ	15	09	06	Tu iP 15 08 25 c
	PX	i(pP)NEZ			20	iScP 13 17
		ePP		11	47	eP ^h P ^h 38 26
		iScP		13	34	e 44
		iSNE		17	27	
		i			39	
		i		18	19	Destructive in Peru
		iGNE		25	2	
	P	eP ^h P ^h		38	15	USCGS: 11 S. 75 W.,
		i			32	O=14:58.9
		i			49	
	PX	eG2N	17	04	1	BCIS: 11.0 S. 74.5 W.,
	MW	iPNEZ	15	09	06	O=14:58:50
		iPcP			12	
		i			20	
		eSE		17	24	PH 8 8
		eP ^h P ^h		38	31	SH 15 8
		e			41	SH 120 60
		i			49	MH 150 20
	R	iP		09	01	
		iNEZ			07	Magnitude 7.3
		eSN		17	12	
		eP ^h P ^h		38	23	
	Pr	iPNEZ		08	57	
		i		09	01	
		i		12	02	
		i			40	
		i		15	35	
		i			40	
		eSNZ		17	42	
		i		19	05	
		eP ^h P ^h		38	28	

(continued)

Date	Sta	Phase	h	m	s	Remarks
		(Continued)				
Nov. 1	LJ	ePNEZ		15	08	56
		i			09	12
		eSNE			17	10
		eP ^h P ^h			38	33
	SB	eP			09	13
		i			10	02
		eSN			17	38
		eP ^h P ^h			38	37
	H	eP			09	13
		iP ^h P ^h			38	29
	T	iP			09	18
		iPcP				25
		i			10	26
		eSE			17	41
		eP ^h P ^h			38	21
		e				34
		iEZ				38
Nov. 1	P	iP		16	58	18 Tu eP 16 57 37
	MW	iP			18	
	R	iP			13	Aftershock
		i			25	
		iP			31	
Nov. 1	MW	iP		19	01	13 Tu iP 19 00 32
	R	iP			09	
	Pr	eP			07	Aftershock
		iP			26	
Nov. 2	MW	iP		00	16	10 Tu iP 00 15 29
	R	iP			06	
	Pr	iP?			02	Aftershock
Nov. 2	P	iP		01	42	23 Tu iP 01 41 44 c
	MW	iP			25	
	R	iP			21	Aftershock, Peru
	Pr	iP			16	USCGS: O=01:32.2
	T	iP			38	
Nov. 2	R	iP		06	51	44 Tu iP 06 51 07 c
Nov. 2	P	iPNZ		07	02	45 Tu eP 07 03 50
		iSNEZ			04	34
		e				58
		i			04	10
	PX	eLNE			04	8
	MW	iPZ			02	46
		eSEZ			04	39
		iPNZ			02	55
		iSNZ			04	50
	Pr	iPNZ			03	07
	SB	iPNEZ			02	34
		iSNZ			04	03
	H	ePZ			02	29
		eSNZ			04	27
	T	iPNEZ			02	27
		iSN			04	07
		eLNE			05	28
Nov. 2	P	iP		07	09	45 Tu iP 07 09 05
	MW	iP			46	
	R	iP			42	Aftershock, Peru
	Pr	iP			37	
	T	iP			59	
Nov. 2	MW	iP		08	55	10 Tu iP 08 54 33
Nov. 2	MW	iP		12	09	05 Tu iP 12 08 25
	R	iP			02	

Date	Sta	Phase	h	m	s	Remarks
Nov. 2	MW	eP	17	41	13	Tu eP 17 40 25
Nov. 2	MW	eP	21	29	47	Tu iP 21 29 06
Nov. 2	R	eP			36	Peru
Nov. 2	P	iP	21	38	55	Tu iP 21 38 19
					07	Peru?
	MW	iP		38	56	
		iP		39	07	
	R	iP		38	54	
		iP		39	02	
	Pr	eP		38	55	
		iP		39	00	
Nov. 3	P	iP	18	24	03	Tu iP 18 24 28 d
		ipP		25	11	ipP 25 41
	MW	iP		24	03	
	R	iP		24	05	
		ipP		25	16	
	Pr	iPNEZ		24	06	
		ipPEZ		25	12	
		iNZ			18	
	H	iP		24	10	iP 18 14 05
		epP		25	21	iS 14 55
	T	iP		24	12	
		ipP		25	25	
Nov. 4	P	ipPEZ	00	20	47	Tu iP 00 21 19 d
		i			56	
		i		21	40	
	PX	ePPNZ		23	38	
		iSN		30	25	
		eE			38	
	MW	eSSN		35	8	Strong a Sapporo, Japan
		eGN		40	1	USCGS: 43 N. 140 E.
		iPNZ		20	47	O=00:09.1
		i			55	
	R	eP		49		CMO: 43.1 N. 141.0 E.
		i		58		
		i	21	03		BCIS: 44.7 N. 140.7 E.
	Pr	iPNZ		20	55	O=00:09:10
		ipP		23	38	
	LJ	ePEZ		20	57	
	SB	iPNZ			42	
		i		50		PH 1 1/2 6
		iP		40		SH 5 6
		iP		40		MH 20 20
	H	iPEZ		36		Magnitude 7.1
Nov. 4	P	iP	00	31	05	Tu iP 00 31 38 c
	MW	iP			05	
	R	iP			07	Aftershock, Japan
	Pr	iP		14		d
	T	iP		30	55	
Nov. 4	MW	eP	00	47	06	Tu iP 00 47 40
	R	eP		09		Aftershock
Nov. 4	P	iP	01	40	45	Tu eP 01 41 05
	MW	iP			45	e 01 10
		i			53	
	R	iP			46	
		i			55	
	Pr	iP			48	
		i			56	
	T	iP?			49	
Nov. 4	MW	eP	06	03	33	Tu iP 06 02 45 c
	Pr	iP			30	i 06 03 08
	T	eP			40	

Date	Sta	Phase	h	m	s	Remarks
Nov. 4	MW	eP	06	25	06	Tu iP 06 25 47
		e			19	
	R	eP			16	
		iP			21	
	Pr	iP			25	
Nov. 4	R	eP?	06	46	14	Tu eP 06 45 52
	Pr	iP			30	
Nov. 4	P	iP	07	08	00	Tu iP 07 08 35
	MW	eP			02	
	R	iP			04	
	Pr	iP			09	
	T	iP			50	
Nov. 4	P	iPNEZ	09	58	13	Tu iP 09 58 34
		ipP		10	01	52
		iSN		08	02	59 06
	PX	iP		09	58	14 c 10 00 24
		i			32	02 07
	R	iPNEZ			15	c
		i			23	
		ePP		10	01	37
		eSE			07	53
	Pr	iPNEZ		09	58	16 c
		i		10	00	06
		ipP			01	40
		iSNE			07	57
		eNZ			08	08
	LJ	iPNEZ		09	58	13 c BCIS: 23 S. 180, O=09:45.8
	SB	iP			09	
	H	iPNEZ			20	c
	T	iPNEZ			22	c
		i			49	
		eSE		10	08	03
		eN			22	
Nov. 4	P	iP	10	04	15	Tu iP 10 04 36
	MW	iP			17	e 10 04 53
	R	iP			18	
	Pr	iP			18	
		e			06	08
Nov. 4	MW	iP	15	50	49	Tu eP 15 50 09
	R	iP			45	
Nov. 4	MW	iP	18	17	53	Tu eP 18 17 13
	R	iP			49	
Nov. 4	MW	eP	18	28	55	Tu eP 18 29 15
		e			29	12
	R	eP			28	57
	Pr	iP			58	
Nov. 5	R	eP	00	09	58	Tu eP 00 10 07
		e			10	08
	Pr	iP			09	50
Nov. 5	P	iP	02	15	38	Tu iP 02 16 04
	MW	eP			39	13
		epP			16	08
	R	iP			15	40
		ipP			16	11
	Pr	iPNZ			15	41
		iP			16	13
		i			19	05
Nov. 5	P	iP	02	34	10	Tu iP 02 34 42 d
	PX	eLE		59.7		e 02 35 13
	MW	iP			11	
	R	iP			12	
	Pr	iPNEZ			16	d
	H	eP			08	
	T	iP			04	

Date	Sta	Phase	h	m	s	Remarks
Nov. 5	Pr	iP	09	52	12	Tu iP 09 52 35
Nov. 5	P	iP	16	08	16	Tu iP 16 08 39 d
	MW	iP			17	
	R	iP			19	
	Pr	iPNZ			18	Apia reports:
		i			32	e 15 59 46
	H	eP			24	
Nov. 5	MW	iP	22	30	26	Tu iP 22 31 10
	R	eP			30	
Nov. 6	P	eP	13	12	45	Tu iP 13 13 11 d
		i			53	
	MW	eP			46	Felt at Apia, which reports:
	R	eP			40	iP 13 01 55
	Pr	iP			48	iS 02 13
	T	iP			56	
Nov. 7	P	iP	03	12	37	Tu iP 03 11 50
	MW	iP			37	
	R	iP			35	
Nov. 7	MW	eP	05	25	07	Tu iP 05 24 27 c
	R	iP			04	
		i			38	
	Pr	iP			24	
Nov. 7	P	eP	23	10	42	Tu iP 23 10 00 c
		eLZ			31.8	
	MW	iP			10	
	R	iP			40	
	Pr	iPNEZ			34	
		i			42	USCGS: 11 S. 75 W.,
		eSN			19	O=23:00.5
	H	eP			10	
	T	iP			55	
Nov. 8	P	iP	04	13	57	Tu iP 04 14 31 c
	MW	iP			59	
		e			14	
	R	iP			14	
	Pr	iP			06	CMO: 43.6 N. 140.4 E.
	H	eP			13	
	T	iP			43	
		i			14	
Nov. 8	P	iPNEZ	05	33	36	Tu iP 05 32 51 d
		ipPNZ			59	
	MW	iPNEZ			37	
		ipPNEZ			34	
		i			12	
	R	iP			33	
		ipP			56	
		i			07	
		i			14	
	Pr	iPNEZ			33	
		ipPEZ			50	
		i			34	
	LJ	eP			33	USCGS: 7 N. 85.5 W.,
		epP			50	O=05:25.9, h=100 km.
	SB	eP			46	
		epP			34	
	H	eP			33	
		ipP			34	
	T	iPNEZ			33	
		ipPNEZ			34	

Date	Sta	Phase	h	m	s	Remarks
Nov. 8	P	iP	06	56	39	Tu iP 06 56 52 c
		e			57	
		e			58	
		i			57	
		i			58	
	MW	iP			56	
		eP			57	
	R	eP			56	
		i			57	
		e			58	
	Pr	iP			56	
		i			57	
		iNEZ			44	
		i			58	
	LJ	e			57	
	SB	e?			56	
	H	iP			39	
	T	iP			39	
		i			57	
Nov. 8	P	iP	15	32	36	Tu iP 15 32 54
	MW	iP			38	
	R	iP			39	
	Pr	iPNEZ			39	
		i			46	
Nov. 8	MW	eP	21	01	00	Tu eP 21 01 14
	R	eP			00	
	Pr	eP			58	
Nov. 8	P	eP	22	54	29	
		e			58	
	PX	eLNE	23	24	29	
	MW	eP	22	54	29	
	R	eP			26	
	Pr	eP			20	
Nov. 9	P	eP	05	10	42	Tu eP 05 11 05
		iPNEZ			44	
		i			50	
	PX	ePPEZ	14	02	02	
		iSKSE	21	13	23	
		eSZ			23	
		iEZ			35	
		iPSE	22	31	31	
		iSSE	27	08	08	
		iLE	35	0	0	
		iNE	38	5	5	
	P	eP	36	34	34	
		e	37	26	26	
		i			33	
		eP	57	22	22	
	MW	iPNEZ	10	44	44	
		i			50	
		iP	37	32	32	
	R	iP	10	45	45	
		iNEZ			47	
		iSKSNE	21	18	18	
		iP	36	32	32	
	Pr	iP	10	45	45	
		iNEZ			47	
		i			54	
		i	14	03	03	
		i			25	
		iSKSNEZ	21	19	19	
		iP	37	30	30	
		iNE			37	

(continued)

Date	Sta	Phase	h	m	s	Remarks
Nov. 9	LJ	ePNEZ	05	10	46	(continued)
		iSKSNE		21	16	
	SB	iP		10	41	c
		iSKSE		21	09	
	H	iPNEZ		10	50	c
		i		57		USCGS: 23 S. 171 E.,
		eSKSNE		21	20	O=04:57:8
	T	iP		10	49	Magnitude 7.1
		iNEZ		52		
		i		59		
		i		12	09	PH 2 A T 6
		i		09		PPH 2 1/4 5
		iSKSE		21	23	SKSH 5 6
		iP'P'		37	36	MH 50 20
Nov. 9	P	eP	07	44	57	Tu eP 07 45 20
		i		45	04	
	MW	eP		44	57	
		e		45	05	Aftershock?
	R	eP		44	58	
		i		45	06	
	Pr	eP		00	00	
		e		03	03	
		i		07	11	
Nov. 9	T	i		11		
Nov. 9	MW	eP	09	58		
		iP		55		
	R	iP		56		
	Pr	iP		11		Tu iP 01 49 30
Nov. 10	P	iP	01	49		30
		ipP		27		47
	MW	iP		13		
		ipP		28		Addenda:
	R	iP		14		Pr iP 01 49 16
		ipP		30		30
Nov. 10	P	iPEZ!	02	23		Tu eP 02 24 13
		iSNEZ		40		i 37
	MW	iPEZ!		20		d e(S) 25 30
		iSNEZ		37		
	R	iPNEZ!		12		d
		iSNE		23		
	Pr	iPNEZ!		17		
	LJ	iPNZ		27		d 34° 24'N. 116° 25'W.,
		iSNZ		50		O=02:22:55
	SB	iPZ		39		
	H	iPEZ		30		Magnitude 4.5
		iSNZ		24	04	
	T	iPNEZ		23	44	
		iSE		24	30	
Nov. 10	P	iPEZ	06	50	59	
		eSE		52	35	
	H	iP		50	51	
	T	iP		40		
		iS		51	34	
Nov. 10	P	eP	10	04	39	Tu eP 10 05 03
	Pr	iP		45		
Nov. 11	P	e?	00	10	16	Tu i 00 14 07
		i(P)		28		
		i		47		
	MW	eP		30		
		i		48		
	H	eP		27		

Date	Sta	Phase	h	m	s	Remarks
Nov. 12	P	eP	01	41	13	Tu eP 01 40 43
	PX	iLE		42	29	Magnitude 5 1/2
	R	eP		41	05	USCGS: 29 N. 114 W., O=17:39.8
	Pr	iP		40	56	One of a swarm beginning about
		iS		41	57	00:54
	LJ	iP		05	05	
Nov. 12	P	eP	02	45	31	Tu eP 02 44 58
	PX	iLEZ		46	58	Magnitude 5 1/2
	R	iP		45	21	USCGS: 29 N. 114 W., O=02:44.0
	Pr	eP		09	09	
		i		22		Principal swarm ends about 03:15,
		iS		46	14	with a few small shocks later.
	LJ	eP		45	07	
Nov. 12	P	i	10	41	44	
	MW	eP		38		
		i		45		BCIS: 23 S. 171 E.,
	R	eP		38		O=10:28.8
		i		46		
	Pr	i		44		
	T	i(P)		50		
Nov. 12	P	iP	10	52	04	Tu eP 10 52 32
	PX	eLE	11	20	06	i 36
	R	iP	10	52	06	
	Pr	iP		07		BCIS: 23 S. 171 E.,
	T	eP		11		O=10:39.1
		i		15		
Nov. 12	P	iP	16	31	51	Tu iP 16 32 13
		i		56		18
	PX	eSE		42	20	Addendum:
		eLN		56.1		T ePNEZ 16 31 54
	MW	eR	17	00	00	
	R	iP	16	31	52	USCGS: 23 S. 171 E.,
	Pr	iP		53		O=16:18.9
		iPNEZ		53		
Nov. 12	P	iP	22	52	06	Tu iP 22 52 29
	MW	iP!		05		
	Pr	iP		08		
Nov. 13	Pr	iP	03	08	22	Tu iP 03 08 40
Nov. 13	P	iP	11	32	18	Tu iP 11 32 46
	MW	iP		21		ipP 33 26
	Pr	iP		24		
		ipP		33	06	
	LJ	eP		32	22	
	T	iP		25		
Nov. 13	P	eP	20	45	35	Tu iP 20 46 22 c
		i		52		31
	MW	iP		38		
	R	eP		41		
	Pr	iP		47		
		i		57		
	H	iP		28		
	T	iPEZ		23		
Nov. 13	R	iP	23	50	34	Tu iP 23 50 04
		ipP		51	03	32
		i		16		49
	Pr	eP		50		
		ipP		51	00	
		i		12		Andes?
	T	eP		50	50	
		e		51	20	

Date	Sta.	Phase	h	m	s	Remarks
Nov. 14	MW	eP	00	53	54	Tu iP 00 54 32 c
	R	iP			58 c	
	Pr	iP		54	05	
	H	eP		53	41	Japan?
	T	iP			33	
Nov. 14	P	iPEZ	11	01	31	Tu iP 11 02 04 c
		iP		02	16	
		iP			36	
		iP			54	
		iP			20	
	PX	iSN		03	10	
		e(SS)N		21	44	
	MW	iPNEZ		01	52	
		iP		02	17	CMO: 42.5 N. 145.0 E.
	R	iP		01	34	
		iP		02	18	USCGS: 46 N. 143 E.
	Pr	iPNEZ		01	39	O=10:50.5, h=200 km.
		iP		02	26	
		iP		45		BCIS: 42 N. 142 E.
		iP		04	24	
		eSN		11	00	O=10:50.2, h=200 km.
		iN			40	
	LJ	eP		01	40	
		eP		02	26	
	SB	iP		01	25	SH 1 5
		iP		02	10	
	H	iPNEZ		01	24	
		iP		02	18	
		eSN		10	29	
	T	iPNEZ		01	20	
		iP		02	07	
Nov. 14	MW	eP	20	21	43	Tu iP 20 20 42
	R	eP			35	
	T	iP		22	05	
Nov. 15	P	eP	07	22	52	Tu e 07 24 45
		iP		23	15	
		e		24	22	
	MW	iP		22	52	
		iP		23	15	
	R	iP		22	54	
		iP		23	16	
		e		24	20	
	Pr	iP		22	56	
		iP		23	19	
		iP		24	25	
	T	eP?		23	01	
		e		24	33	
Nov. 15	Pr	iP	10	20	54	Tu eP 10 20 08
Nov. 15	P	eP	17	21	15	Tu iP 17 20 32
	MW	iP			13	ipP 56
		eP			43	
	R	iP		05	35	South America
		eP		27		
Nov. 15	T	iP	20	29	31	Tu iP 20 30 17 d
	P	iP			39	i 27
		iP			32	d
	MW	iP			40	d
		iP			34	d
	R	iPNEZ			43	
	Pr	iPNZ			55	
		iP		30	14	
	LJ	ePNEZ		29	42	
	SB	iP			22	
		iP			30	
	H	eP			21	
	T	iPNEZ			14	
		iP			23	

Date	Sta.	Phase	h	m	s	Remarks
Nov. 15	P	eP	23	18	13	
	MW	eP			11	
	Pr	eP			19	
	H	eP			06	
	T	iP			03	
Nov. 16	P	eP	12	00	41	Tu eP 11 59 48
	R	eP			36	Balboa Heights reports
	Pr	eP			31	eP 11 53 06
	T	eP			53	eS 52
Nov. 16	P	e	13	10	12	Tu eP 13 09 12
	MW	e			12	i 17
	R	e			03	Balboa Heights reports
	Pr	e			02	eP 13 02 30
	T	e			23	eS 03 16
Nov. 16	P	iPNEZ	17	47	26	Tu iP 17 47 49 c
	MW	iP			26	c 48 35
	R	iP			29	c c
	Pr	iPNEZ			29	c c
		iP			42	
	H	ePNE			34	e Apia reports:
	T	iPNEZ			37	17 37 30
Nov. 17	R	iP	01	05	38	Tu iP 01 06 12
	Pr	eP			48	e 29
	T	eP			25	
Nov. 17	P	eP	08	18	34	Tu eP 08 19 16
		iP			42	
	MW	eP			33	
		iP			39	
		iP			51	
	R	eP			42	
	Pr	eP			45	
		iNEZ			53	
	LJ	eP?			47	
	H	eP			34	
	T	iP			23	
Nov. 17	P	eP	10	07	36	Tu eP 10 06 51
		iP			45	
	PX	eLN		24.6		
	MW	eP		07	33	
	R	iP			32	
	Pr	eP			28	USCGS: 14 N. 45 W.
		iP			37	O=09:56.5
		e			31	
	H	eP			37	
Nov. 17	T	eP?			37	
	P	eP	11	22	55	Tu eP 11 23 39
		iP			23	i 53
		eP			06	
	MW	eP			22	
	R	eP			00	
	Pr	iP			07	
		iP			19	
	H	e			22	
	T	eP			42	
		iP			50	
Nov. 17	MW	eP	14	34	00	Tu eP 14 32 57
	Pr	iP			58	i 33 06
Nov. 18	P	iP	16	47	44	Tu iP 16 47 02 c
		iP			58	i 22
		iP			44	c
	R	iP			40	c
		iP			47	
	Pr	iPNEZ			35	c South America
	T	iP			57	c

Date	Sta	Phase	h	m	s	Remarks
Nov. 18	P	iP	17	34	01 c	Tu iP 17 33 19 c
	MW	iP			02 c	
	R	iP		33	57	South America
	Pr	iP			52	
Nov. 18	T	iP		34	15 c	Tu iP 20 23 38 c
	MW	iP	20	23	18	
	R	iP			19	
	Pr	iP			20 c	
Nov. 18	T	iP			26	Tu iP 22 00 56 c
	P	iPNEZ!	21	59	31 d	
	MW	iSNE			51 d	
	R	iPNEZ!			33 d	33° 16' N, 119° 27' W.,
	Pr	iSNE			54 d	O=21:59:05
	LJ	iPNEZ!	22	00	01	Magnitude 5.0
	SB	iSN	21	59	42	
	H	iPEZ			38 c	Felt in Los Angeles, at Santa
	T	iSNZ			54 d	Barbara, and at intervening
	Pr	iPNZ!			29 d	points along the coast. VI on
	LJ	iSNE!			46 c	San Nicolas Island.
	SB	iPZ			57 c	
	H	iSN	22	00	32	
	T	iPEZ			09	
	Pr	iSN			03	
Nov. 19	P	iP	08	25	17	Tu iP 08 25 30 d
Nov. 20	P	iP	08	30	01 d	Tu iP 08 30 38 d
	PX	i			12	
	MW	i			19	
	R	eP'P'			58	
	Pr	i			59	
	LJ	i(S)N			56	
	SB	eP'P'	08	59	08	
	H	iPNEZ			03 d	USCGS: 47 N. 153 E.,
	T	eSN			38	O=08:19.3
	Pr	iPNEZ			05 d	BCIS: 49 3/4 N. 156 E.,
	LJ	iPNEZ			10 d	O=08:19.5
	SB	iNZ			24	
	H	i			29	
	T	iSNE			38	
	Pr	iNE			39	
	LJ	ePNEZ			30	(S) 2 1/2 T 5
	SB	iP			29	
	H	iPNEZ			55	
	T	iPNEZ			51	
Nov. 20	P	iPNEZ!	09	47	46 c	Tu iP! 09 48 10 c
	MW	ipP			49	
	R	isp			50	
	Pr	iPNEZ!			47	
	LJ	ipP			49	
	SB	isp			50	
	H	iPNEZ			47	
	T	ipP			49	
	Pr	isp			50	
	LJ	iPNEZ!			47	
	SB	i			48	
	H	ipP			49	
	T	ep			47	
	Pr	iPNZ			42	
	LJ	iPNEZ			56	
	SB	i			48	
	H	i			12	
	T	i			21	
	Pr	ipP			49	

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Date	Sta	Phase	h	m	s	Remarks
Nov. 20	P	iPNEZ	09	54	44 c	Tu iP 09 55 09
	MW	iP			46 c	epP 57 07
	R	iP			48 c	Aftershock
	Pr	iPNEZ			47 c	
Nov. 21	T	iP			54 c	
	P	ep	00	06	10	Tu iP 00 05 18
	MW	eP			07	
	R	eP			03	Balboa Heights reports.
	Pr	iPNZ			59	eP 23 59 18 (Nov. 20)
	T	eP	05	06	23	eS 00 00 09
Nov. 21	P	iPNEZ	03	58	22 d	Tu iP 03 57 28 d
	PX	eGN	04	01	40	i(S) 04 02 16
	MW	iPNZ	03	58	24 d	USCGS: 19 N. 107 W.,
	R	eSNZ	04	01	52	O=03:54:15
	Pr	iPNZ	03	58	17 d	A T
	LJ	iNEZ!			10	PZ 25 7
	SB	eP			07	PH 35 7
	H	ePNEZ			34	MH 400 20
	T	iPN			45	Magnitude 6.9
	Pr	ePNEZ			53	
	LJ	eSN	04	02	54	
Nov. 21	P	iP	04	21	48	Tu iP 04 20 52
	PX	i			22	i 21 09
	MW	eGN			26.8	
	R	iP			21	Aftershock
	Pr	iP			43	
	LJ	iPNEZ			32	USCGS: 19 N. 107 W.,
	SB	eP			17	O=04:17:39
	H	iP			22	
	T	ePN			13	
	Pr	iP			16	
	LJ	i			31	
Nov. 21	P	iP	04	57	39	Tu iP 04 56 43 d
	MW	iP			39	Aftershock
	R	iP			33	
	Pr	eP			22	
	LJ	eP			21	
Nov. 21	P	iP	05	58	05	Tu iP 05 36 00
	MW	eP			56	
	R	eP			56	
	Pr	iP			53	Aftershock
	LJ	iP			41	
	SB	iP			37	
Nov. 21	P	eP	09	50	30	Tu iP 09 50 11
	MW	eP			28	
	R	eP			27	
	Pr	eP			27	
	LJ	eP			17	
Nov. 21	P	iP	09	56	56	Tu iP 09 56 01
	MW	iP			56	
	R	iP			52	
	Pr	iP			41	
	LJ	eP			40	
	SB	iP			57	
Nov. 21	P	iP	19	15	17 c	Tu eP 19 15 46
	PX	eLNE			40	
	MW	iP			15	
	R	i			17	
	Pr	iP			15	
	LJ	i			17	
	SB	iP			15	
	H	i			17	
	T	iPEZ			15	

Pasadena and auxiliary stations, 1947

Date	Sta	Phase	h	m	s	Tu	Remarks	O5	O8
Nov. 22	MW	eP	05	04	34	Tu	iP	05	05 08
	R	iP			36				
	Pr	iP			41				
	T	eP			21				
Nov. 22	P	iP	05	48	39	Tu	iP	05	49 05 c
		iP			53		i		22
		iP			05				
	MW	iP			48				
		iP			50				
	R	eP			48				
		iP			50				
	Pr	eP			48				
		iPNEZ			43				
		iP			57				
		iP			50				
		eP			48				
		ePN			48				
		iPEZ			49				
Nov. 22	LJ	iP	08	06	49	Tu	eP	08	06 11
	H	iP			49				
	T	eP			06				
	PX	eLNE			14.2				
	MW	eP			06				
	R	eP			50				
	Pr	iP			47				
		iP			41				
		iP			45				
	T	iNZ			15				
Nov. 22	MW	iP	09	33	37	Tu	eP	09	33 57
	R	eP			41				
	Pr	iP			41				
		eP			34				
	T	iP			34				
		iP			33				
		iP			34				
		iP			01				
Nov. 22	R	eP	12	31	04	Tu	eP	12	31 15
	Pr	iP			07				
	T	eP			08				
Nov. 22	P	iP	19	30	48	Tu	eP	19	31 11
		iP			47				20
	MW	iP			50				
	R	iP			51				
	Pr	iPNZ			58				
		iP			09				
Nov. 23	P	eP	07	40	34	Tu	eP?	07	40 40
		iP			11				
	MW	eP			34				
		iP			15				
	R	eP			16				
	Pr	iP			38				
		iP			13				
		iP			09				
Nov. 23	T	iP	09	48	59	Tu	eP	09	49 09
	PX	iSNEZ			51				
	R	iP			48				
	MW	iP			57				
	R	iPNEZ			04				
	Pr	iPNZ			12				
	LJ	iP			09				
	SB	iP			09				
	H	ePNE			48				
	T	ePNE			24				
		iSNE			56				
		iP			57				
Nov. 23	P	iP	16	53	55	Tu	eP	16	53 16 40
	MW	iP			47				
	Pr	eP							

Depth about 350 km.
Near Apia, which reports:
iP 05 38 52
iS 05 39 05

BCIS: 28 S. 179 W.
O=09:21.3

BCIS: 23 S. 171 E.
O=19:17.9

Strong in Montana
USCGS: 44°47' N 112°02' W.
O=09:46:05.5

A T 5 5
PH 4 5
PZ 4 5
MH 160 12
MH 120 20 Mag. 6 1/4
Tu eP 16 53 16 40

Date	Sta	Phase	h	m	s	Tu	Remarks	O1	O5	O8
Nov. 23	P	iP	18	01	07	Tu	iP	18	01	50 d
		ipP			26					58
		iP			34					09
	MW	iPNEZ			07					
		ipP			26					
	R	iP			10					
		ipP			29					
	Pr	iPNEZ			18					
		ipP			36					
	LJ	iP			21					
	SB	iP			00					
		ipP			01					
	H	ePNE			00					
	T	ePNE			47					
Nov. 24	P	iP	14	27	11	Tu	eP	14	27	53 d
		ipP			25					56
		ipP			10					09
	MW	eP			12					19
		iP			26					
	R	iP			15					
		iP			21					
		ipP			29					
	Pr	iP			20					
		iP			23					
		iP			28					
		ipP			35					
	H	ePNE			05					
	T	ePNE			26					
		epPNE			27					
Nov. 25	Pr	iP	08	26	51	Tu	iP	08	27	09
	T	iP			57					
Nov. 25	P	iP	08	36	32	Tu	iP	08	36	58
	MW	iP			33					
	R	iP			35					
	Pr	iP			36					
	T	iP			42					
Nov. 25	Pr	iP	08	40	50	Tu	eP	08	41	54
		ipP			41					10
	T	iP			40					
		ipP			41					
Nov. 25	P	ePNZ	18	10	39					
	H	ePN			09					
		iSN			50					
	T	eP			09					
		iEZ			48					
		iS			24					
Nov. 25	P	iP	18	25	19	Tu	eP	18	24	37
	MW	iP			19					
	R	iP			15					
	Pr	iPNEZ			10					
	T	iP			33					
Nov. 25	P	eP	18	35	12	Tu	eP	18	34	29
	MW	eP			11					
	R	eP			08					
	T	iP			25					
Nov. 25	P	iP	23	34	00	Tu	iP	23	34	26 d
	MW	iP			00					37
	R	iP			03					
	Pr	iPNEZ			02					
		iP			20					
	H	ePNE			10					
	T	iP			10					

Felt sharply at Reno, Nevada
Magnitude 4.5

USCGS: 11 S. 75 W.
O=18:15.1

Apia reports:
iP 23 23 09
iS 23 31
III in Savaii and Upolo

Date	Sta.	Phase	h	m	s	Remarks
Nov. 26	P	iP	00	19	32	Tu iP 00 19 57
	MW	ep			33	20 12
	R	iP			35	
	Pr	ep			35	
Nov. 26	T	iP	01	19	41	Tu eP 01 20 17
	P	iP			35	20 26
	R	iP			39	
		iP			47	
	Pr	iP			47	
		iP			54	
Nov. 28	MW	ep	03	01	12	Tu eP 03 00 32
	R	ep			06	39
		e			12	
Nov. 28	P	iP	08	57	56	Tu eP 08 58 38
	MW	iP			58	47
		iP			57	
		iP			58	
	R	ep			03	
	Pr	eNE			07	
	T	ep			41	
		iP			49	
		iP			59	
Nov. 28	MW	ep	12	40	56	Tu eP 12 40 17
	R	ep			54	
		e			19	
Nov. 28	T	iP	14	20	15	
	MW	ep			17	
	R	ep			23	
Nov. 28	T	ep	14	25	10	
	P	ep			26	
	MW	ep			11	
		e			24	
	R	iP			13	
		iP			26	
	Pr	ePNE			18	
	T	ep			15	
Nov. 28	PX	iLE	21	59	06	Tu eP 21 55 07
	MW	e?			47	26
	R	e?			11	35
	T	e?	22	01	02	
Nov. 28	MW	iP	23	48	52	Tu iP 23 49 16
		ipP			03	26
	R	iP			48	
		ipP			49	
	T	iP			48	
		ipP			59	
		ipP			49	
Nov. 30	P	iP	01	04	31	Tu e 01 03 25
	MW	iP			44	54
		iP			02	
		iP			31	
		iP			44	
	R	iP			03	
		iP			04	
		iP			27	
	T	iP			04	
		iP			15	
		iP			43	
		iP			56	

Date	Sta.	Phase	h	m	s	Remarks
Nov. 30	P	iPNEZ	13	13	41	Tu iP 13 14 15 d
		e			49	
	MW	iP			43	
	R	iP			46	
	Pr	ePNE			52	
	H	iP			36	
	T	iPEZ			33	
Nov. 30	R	ep	13	39	57	Tu eP 13 40 17
	MW	ep			02	
Nov. 30	T	iP	14	23	38	Tu iP 14 24 04 d
	P	iP			48	Near Apia
Nov. 30	MW	ipP	21	29	15	Tu iP 21 29 46
		iP			30	31 05
		e			16	
		epP			34	
	R	iP			30	
		e			29	
		epP			30	
		iPNEZ			29	
	Pr	ipP			30	
		eP			29	
	SB	iPEZ			29	
	T	epP			30	
Dec. 1	MW	iP	00	51	04	Tu iP 00 51 50
	R	ep			09	52 04
	Pr	iPNZ			15	
	T	iP			50	
Dec. 1	MW	e	02	47	45	Tu eP 02 46 04
	R	e			39	
	Pr	eP?			45	
	H	ep?			14	
	T	ep			08	
Dec. 1	MW	ep	04	31	26	Tu eP 04 31 58
		e			34	32 07
	R	ep			27	
		e			38	
	Pr	eP			31	
	T	iP			21	
Dec. 1	P	iP	05	36	25	Tu iP 05 36 50 d
	MW	iP			27	37 08
	Pr	ep			30	
	T	iP			37	
Dec. 1	P	iP	07	06	48	Tu iP 07 07 11
	MW	epP			48	09 15
	R	ep			50	
	Pr	iP			51	
	T	epP			57	
		iP			09	
Dec. 1	MW	iP	21	48	56	Tu iP 21 48 55
Dec. 2	MW	iP	07	07	58	Tu eP 07 08 45
		i			09	
		iP(L)			40	14 17
Dec. 2	P	iP	15	58	14	Tu iP 15 58 51
		ipP			49	59 22
	R	iP			18	
		iP			34	
		iP			52	
	T	ipP			02	
		iP			37	

Tonga region, h=550 km.

Pasadena and auxiliary stations, 1947

Date	Sta.	Phase	h	m	s	Remarks
Dec. 2	P	iP	21	48	09	c Tu iP 21 48 32 c
	MW	iP			10	
	R	iP			12	c
	LJ	ep			09	
	SB	iP			05	
	H	iP			17	
	T	ep?			12	
		iPNEZ			18	
Dec. 4	R	iP	14	34	53	Tu e 14 34 51
	T	e			12	
Dec. 4	Pr	iP	15	00	17	Tu iP 15 00 49
	H	iP	14	59	56	
	T	iP			51	
Dec. 4	P	iP	20	59	21	Tu iP 20 59 38
	MW	iP			22	
	R	iP			24	
	Pr	iP			24	
	T	ep			31	
Dec. 5	MW	iP?	17	11	45	Tu iP 17 12 10
		e?			13	
		e?			18	
Dec. 5	T	iP	21	59	03	Tu iP 21 59 17
Dec. 5	P	iP	23	34	00	Tu iP 23 34 17
	MW	iP			01	
	R	iP			16	
		iP			02	
		iP			16	
		iP			02	
	Pr	iP			33	
	SB	iP			34	
	T	ep			10	
Dec. 5	R	iP	23	42	30	Tu iP 23 42 44
		e			42	
		e			30	
Dec. 7	Pr	iP	03	48	08	Tu eP 03 48 35
	MW	iP			11	
	R	iP			03	
	Pr	iP			13	
	T	iP			13	
Dec. 7	MW	iP	10	29	47	Tu iP 10 30 11 c
	Pr	iP			49	
	T	ep			54	
Dec. 7	MW	ep	11	54	31	Tu eP 11 54 56
		e			37	
	R	iP			33	
		iP			42	
	Pr	iP			33	
		iP			40	
	T	ep			30	
Dec. 7	Pr	iP?	13	27	24	Tu eP 13 27 38
	T	e			31	
		e			28	
Dec. 7	MW	ep	15	15	19	Tu iP 15 15 30
		eP			27	
		iP			01	
		e			08	
		e			19	
		e			08	

Wellington: 36.5 S. 177.9 E.,
O=20:46.6

Wellington: 35 1/2 S. 178 W.,
O=23:21.1

Pasadena and auxiliary stations, 1947

Date	Sta.	Phase	h	m	s	Remarks
Dec. 7	Pr	ep	16	34	27	Tu iP 16 33 49
	T	ep			08	
Dec. 7	P	iP	17	29	11	Tu iP 17 29 38
	MW	iP			12	
	Pr	iP			16	
	T	iP			15	
Dec. 8	P	iP	00	33	46	Tu iP 00 34 09
	MW	iP			49	
		e			03	
		eP			34	
	R	iP			33	
	T	iP			56	
		iP			01	
Dec. 8	R	ep	07	02	59	Tu eP 07 03 16
	Pr	ep			58	
Dec. 8	MW	iP	09	06	43	Tu iP 09 06 10
	R	iP			41	
		iP			07	
	T	iP			06	
		iP			07	
		iP			06	
		iP			26	
Dec. 8	T	ep	16	58	05	Tu eP 16 58 16
		e			45	
Dec. 8	PX	eL	17	58	8	Tu iP 17 32 02
	R	iP	17	31	47	
		iP			32	
		iP			03	
	T	ep			31	
		iP			32	
Dec. 9	P	i(P)	09	55	56	Tu i 09 55 56
	MW	e			49	
		e			55	
		e			36	
Dec. 10	P	iP	04	53	56	Tu iP 04 54 03
		iP			54	
	MW	ep			53	
		iP			54	
	R	ep			53	
		iP			54	
	Pr	ep			54	
	T	iP			53	
		e			58	
Dec. 10	MW	iP	23	30	31	Tu iP 23 31 04
	T	iP			21	
Dec. 13	Pr	ep	01	38	00	Tu eP 01 38 34
		iP			10	45
	T	iP			18	
		iP			30	
Dec. 13	P	iP	03	31	55	Tu iP 03 32 16
	MW	ep			54	
	Pr	iP			58	
	H	ep			32	
	T	ep			02	
		iP			04	
		e			09	
Dec. 13	P	iP	09	35	23	Tu iP 09 35 47
	MW	ep			23	
		iP			41	
		iP			26	
	R	ep			27	
	Pr	iP			45	
		iP			33	
	H	ep			35	
	T	iP			53	
		i				

Date	Sta	Phase	h	m	s	Remarks
Dec. 13	P	iP	12	15	44	Tu iP 12 15 04
	MW	iP			45	
	T	eP			59	
Dec. 13	P	iP	21	04	21	Tu iP 21 03 33
	MW	iP			20	
	R	iP			14	
	Pr	iP			10	
Dec. 13	T	iP	23	12	34	Tu eP 23 12 34
	P	eP			13	51 16
		epP			18	
		i			02	
	MW	eP			13	
		ipP			18	Japan?
		i			05	
	R	eP			15	
		ipP			21	
		i			22	
	Pr	epP			26	
		i			11	
	H	eP		11	57	
		ipP		12	08	
Dec. 14	P	iP	02	28	17	Tu iP 02 27 44
		ipP			47	28 14
		isP			29	
	MW	iP			28	
		ipP			47	
		isP			29	
		iP			28	USCGS: 26 S. 63 W.
	R	ipP			13	O=02:16.2
		isP			44	h=100 km.
		isP			56	
	Pr	iPNZ			10	
		ipPNZ			40	
		isP			55	
	LJ	epP			38	
	SB	ipP			53	
		i			29	
	H	eP		28	24	
		ipP			54	
	T	iPNEZ			28	
		ipPNEZ			59	
Dec. 15	P	e	00	20	17	
	MW	e			22	
	R	e			04	
	T	e			01	
Dec. 15	Pr	iP	01	01	54	Tu iP 01 02 13
Dec. 15	P	eP	03	20	01	Tu eP 03 19 32
		iNZ			10	43 23
		iSNE			21	i(S) 20 23
	MW	eP			20	
		i			09	
		is			21	Magnitude 5
	R	eP		19	47	
	Pr	iP			31	
		i			40	
		i			49	
	LJ	eP			40	
		iSN			20	
		e(P)			15	
	H	eP			39	
	T	i			35	
		i			36	

Date	Sta	Phase	h	m	s	Remarks
Dec. 15	P	iP	19	34	05	Tu iP 19 34 08
	PX	iPPNZ		38	10	iPP 38 14
		e(SKS)NE		44	53	ePKKP 50 34
		iPSNE		47	07	
		iSSN		52	49	Depth about 60 km
		eGN	20	05	4	
	MW	iP	19	34	06	USCGS: 59 S. 161 W.
		iPPNZ		38	10	O=19:20.5
	R	eP		34	06	
		iPP		38	11	BCIS: 60 2S. 159 W.
	Pr	iPNEZ		34	05	O=19:20:30
		iPPNZ		38	08	
		eP		34	15	A T
	H	iPPNZ		38	23	PPH 4 6
		eP		34	19	PPZ 4 5
	T	ePPNEZ		38	28	MH 15 20 Mag. 7
Dec. 16	P	eP	01	45	21	Tu eP 01 45 55
	MW	eP			21	
	R	eP			23	
	Pr	eP			27	
	H	eP			16	
	T	eP			18	
Dec. 16	P	eP	11	28	03	Tu eP 11 27 41
		iEZ			14	i 50
		iSN			29	
	MW	eP			28	Magnitude 5.2
		eSE			29	
	R	eP			27	USCGS: 30 N. 114 W.
		i			28	O=11:26.7
	Pr	iPNEZ			27	Note: small shock (magnitude 2.7)
	LJ	ePNZ			40	felt in Los Angeles, recorded at
		iSNZ			28	Pasadena at 09:02:53
	T	eP			37	
		eSNE			30	
Dec. 16	P	iP	18	25	05	Tu iP 18 25 53
		e			29	i 27 44
	MW	iP			25	e 29 59
		e			29	
	R	eP			25	
		e			29	
	T	iP			24	
		e			29	
Dec. 16	P	iP	19	40	17	Tu iP 19 40 39
	MW	iP			18	
	R	eP			18	
	Pr	iP			19	
	T	iP			26	
Dec. 16	P	iP	20	52	59	Tu eP 20 53 21
		i			53	
	MW	iP			52	
	R	iP			59	
		i			53	
	Pr	i			11	
	H	eP			52	
	T	iPNEZ			41	
Dec. 16	P	eP	21	00	15	Tu iP 21 00 57
		i			40	i 01 13
	MW	iP			15	i 01 24
		e			23	
		i			35	
		i			39	

(continued)

Date	Sta	Phase	h	m	s	Remarks
Dec 16	R	eP	21	00	17	(continued)
	Pr	iPNZ			42	
	LJ	iNZ			25	
	SB	eP			33	
	H	eP			32	
	T	eP			16	
		eP			14	
		eP			01	
Dec 17	P	iP	08	02	09	Tu eP 08 03 39
		eP			56	
	MW	eP			03	
		eP			02	
		eP			03	
	R	eP			06	
	Pr	eP			06	
		iP			14	
	T	eP			02	
		iP			42	
Dec 17	P	iP	11	01	54	Tu iP 11 02 17
		epP			17	
	MW	iP			02	
		iP			01	
		iP			54	
	Pr	iP			02	
		epP			17	Near Apia, which reports:
		epP			01	P 10 52 05
		epP			02	S 10 53 12
		iP			03	
Dec 17	T	iP	11	18	23	Tu iP 11 18 43
	P	iP			23	
	MW	iP			23	
	Pr	iP			25	
	T	iP			31	
Dec 17	MW	eP	20	29	08	Tu iP 20 28 12
	R	iP			01	
	Pr	iP			28	
	T	eP			53	
		iP			29	
Dec 18	R	iP	03	19	00	Tu iP 03 18 27
	T	iP			15	
Dec 18	P	iP	17	19	35	
	MW	iP			37	
	T	iP			36	
Dec 19	P	iP	01	27	14	Tu iP 01 27 36
	MW	iP			12	
	R	iP			15	
	Pr	iP			14	
	H	iP			21	
	T	eP			23	
Dec 19	MW	eP	16	54	39	Tu e 16 54 16
	R	eP			42	
	T	eP			44	
		eP			21	Formosa?
Dec 20	T	eP	15	55	21	Tu eP 16 00 30
Dec 21	P	iP	00	18	43	Tu iP 00 19 06
	MW	eP			41	
	R	eP			43	
		eP			51	Near Apia, which reports:
	Pr	iP			43	P 00 07 58
	LJ	eP			44	S 09 08
	T	eP			49	
		iP			57	
Dec 21	MW	iP	03	14	29	Tu iP 03 15 17
	R	iP			33	
	H	eP			11	
	T	iP			00	

Date	Sta	Phase	h	m	s	Remarks
Dec 21	R	eP	10	52	50	Tu iP 10 51 55
	T	iP			55	
		iP			03	
Dec 21	P	iP	11	47	25	
	MW	iP			25	
		iP			27	
		iP			41	
	Pr	iP			30	
		iP			44	
	H	eP			28	
	T	eP			26	
Dec 21	P	iPNEZ	16	57	03	Tu iP 16 57 30 d
		iP			20	
	MW	iP			06	
		iP			22	
	R	iP			07	d IV at Apia, which reports:
		iP			26	iP 16 46 03
	Pr	PNEZ			08	d IS 20
	H	iP			12	
	T	iP			14	
		iP			29	
Dec 22	P	iP	00	02	39	Tu iP 00 01 51 d
	MW	iP			39	
	R	iP			34	
	Pr	iP			29	
	T	iP			51	
Dec 22	MW	iP	02	39	53	Tu iP 02 40 15
	R	eP			52	
	Pr	iP			55	
	T	iP			59	
Dec 22	MW	iP	03	18	27	Tu iP 03 18 33
	Pr	iP			29	
	T	iP			33	
Dec 22	P	iPEZ	13	18	53	d Tu iP 13 19 27 d
		iP			01	
		iP			25	
	MW	iP			18	d
	R	iP			55	d
	Pr	iP			56	d Dilations at several stations
		iP			19	d preceded by small compressions
	H	iP			42	
	T	iPEZ			47	d
		iP			49	
Dec 22	T	iP	18	22	54	Tu iP 18 21 59
		eP			31	
Dec 22	P	iP	21	58	45	Tu eP 21 59 05
	MW	iP			46	
	R	iP			45	
	Pr	eP			49	
	H	eP			43	
Dec 23	P	iP	02	02	22	Tu iP 02 01 28 c
		iP			40	
		iP			04	
		iPcP			38	
		iP			05	
	MW	iP			15	
		iP			02	c
		iP			24	
		iPcP			41	
	R	iP			05	
		iP			18	
		iP			19	
		iPcPZ!			35	
		iP			05	

Date	Sta.	Phase	h	m	s	Remarks
(continued)						
Dec. 23	Pr	iPNEZ	02	02	11	
		iP			28	
	SB	iPcPNEZ		05	13	
	H	iPcP			20	
		eP		02	30	
		e			49	
	T	eScP		08	59	
		iP		02	38	
		iPcP!		05	24	
		iScP		09	01	
Dec. 23	R	eP	09	59	02	Tu eP 09 59 28
Dec. 23	T	eP	15	06	55	Tu iP 15 06 25
	P	iP			57	
		iP			52	
		e		07	03	
	Pr	iP		06	48	
		e		07	02	
	T	iP			07	
Dec. 24	P	iP	05	41	15	Tu iP 05 41 18
		iP			21	
		iPP			44	
		e			53	
		iPP		44	26	
		e			12	
		iPP		44	04	
	MW	iP		41	14	Surface waves at Pasadena small
		iP			24	
	R	iP		41	10	Roughly 55 S. 115 E.,
		ePP			21	O=05:22.0
	Pr	eP		43	53	
		eP		41	11	
		i			19	
	SB	eP			18	
	H	eP			21	
	T	eP			17	
Dec. 24	P	iPEZ	16	42	15	Tu iP 16 41 17
	MW	iP			17	
	R	iP		09	03	Mexico
	Pr	iPEZ			01	USCGS: 16 N. 98 W.,
	LJ	eP			26	O=16:36.7
	H	iP			34	
Dec. 24	T	iP	17	12	43	Tu iP 17 11 52
	Pr	iP			38	Mexico
Dec. 24	T	eP	17	26	08	Tu iP 17 25 37
Dec. 24	P	eP			41	
	MW	eP			34	
	R	eP			27	
	Pr	iPNEZ			22	
	H	eP			42	Mexico
	T	iP			53	
Dec. 24	MW	eP	17	38	55	Tu iP 17 37 53
	R	eP			45	
	Pr	iP			40	Mexico
	T	iP		39	10	
Dec. 24	P	iPNEZ	17	42	07	Tu iP 17 41 02
	MW	iP			03	
	R	iP		41	54	Mexico
	Pr	iPNEZ			48	
	LJ	eP			45	USCGS: 16 N. 98 W.,
	H	eP		42	11	O=17:36.5
	T	iP			19	

Date	Sta.	Phase	h	m	s	Remarks
Dec. 25	P	eP	02	11	28	
	MW	eP			28	
	R	eP			29	
		iP			12	
		iP			11	
Dec. 25	T	iP	06	05	48	Tu iP 06 06 23 d
	Pr	iP			00	
		iP			05	
	T	iP			20	
		iP			32	
Dec. 25	P	iPEZ	14	59	38	Tu iP 15 00 01
	R	iP			40	
	Pr	iP			41	
	H	iP			45	
	T	iP			47	
Dec. 26	P	iP	02	13	58	Tu iP 02 14 32
	MW	iP			14	
	R	iP			01	
	Pr	iP			06	
	H	iP			13	
	T	iP			50	
Dec. 26	P	iPNEZ	16	56	46	Tu iP 16 57 10
		iPP			17	
	PX	eLEZ			23.4	
	MW	iP		16	56	
		iPP			17	
	R	iP		16	56	
	Pr	iPP			17	
		iP		16	56	
	SB	ePPNZ			17	
	H	eP			16	
	T	iP			56	
		eP			57	
Dec. 26	MW	eP	19	15	47	Tu iP 19 16 09
	R	eP			47	
	Pr	iP			50	
Dec. 26	R	eP	20	00	10	Tu eP 20 00 31
	Pr	eP			11	
	T	eP			18	
Dec. 26	P	iP	20	05	08	Tu iP 20 05 29
		iP			22	
	PX	eLEZ			29.6	
	MW	iP			05	
	R	iP			11	
	Pr	iP			11	
		iP			25	
		iP			42	
		iP			48	
		eP			17	
	SB	eP			17	
	H	iP			19	
	T	iP			39	
Dec. 26	MW	iP	20	12	17	Tu iP 20 12 37
	Pr	iP			15	
	T	eP			19	
Dec. 26	Pr	eP	20	59	24	Tu eP 20 59 53
	T	eP			38	
Dec. 26	P	iP	23	28	49	Tu iP 23 29 15
	MW	iP			52	
	R	iP			53	
	Pr	iP			53	
	T	iP			56	

Date	Sta.	Phase	h	m	s	Remarks
Dec. 26	MW	eP	23	54	31	Tu eP 23 54 53
	R	eP			31	
	Pr	iP			33	
Dec. 27	P	iP	03	24	09	Tu iP 03 24 48
	MW	iP			11	
		epP			34	
	R	epP			15	
	Pr	iP			19	
		ipP			42	
	SB	epP		23	58	
	H	epP		24	03	
	T	iP		23	58	
		epP		24	22	
Dec. 27	P	epP	05	37	36	Tu eP 05 37 57
	MW	epP			37	
	R	epP			38	
	Pr	epP			38	
	T	epP			44	
Dec. 27	MW	epP	05	54	16	Tu iP 05 54 36
	Pr	epP			16	
	T	epP			26	
Dec. 27	P	iPNZ	16	50	48	Tu iP 16 51 09 c
		iP			51	
	MW	iP			50	
		ipP			50	
	R	iP			51	
		ipP			51	
	Pr	iP			50	
		ipP			51	
	T	iP			50	
		epP			51	
Dec. 27	MW	epP	17	47	13	Tu iP 17 47 36
	R	epP			13	
	T	epP			18	
Dec. 27	R	epP	18	33	14	Tu eP 18 33 44
	T	epP			27	
Dec. 28	R	epP	03	12	05	Tu eP 03 12 25
	Pr	epP			07	
Dec. 28	MW	epP	15	55	54	Tu eP 15 54 33
	Pr	iP			54	
		iP			55	
	T	iP			56	
Dec. 29	P	iP	14	43	01	Tu e(P) 14 43 16
	MW	iP			42	
		iP			55	
	R	iP			43	
	T	i(P)			42	
		iP			56	
		iP			05	
Dec. 29	R	iP	20	12	42	Tu iP 20 12 04
Dec. 30	P	iP	02	02	49	Tu iP 02 01 55
	MW	iP			48	
	R	iP			44	
		iPcP			53	
	Pr	iPNEZ			02	
		iPcP			04	
	T	iP			03	
		iPcP			05	
Dec. 30	T	iP	07	10	10	Tu iP 07 10 04
Dec. 30	T	iP	16	57	20	Tu iP 16 58 24
Dec. 30	T	iP	17	30	13	Tu iP 17 31 17
Dec. 30	R	iP	18	43	08	Tu eP 18 43 46

Date	Sta.	Phase	h	m	s	Remarks
Dec. 31	P	iPNEZ	15	17	57	Tu eP 15 18 22 d
		iP			02	
		iNEZ			10	
		iP			18	
	PX	eSE		27	3	
		eINEZ		38	5	
		iLN		39	2	
	MW	iPNEZ	17	58	c	USCGS 15 S. 176 W.,
		iP		18	04	O=15:06.5
		iP		16	04	V at Apia, which reports:
		iS		07	07	iP 15 07 06
		iP		20	50	iS 07 27
	R	iPEZ		18	00	
		iP			32	
	Pr	iPEZ			00	
	LJ	iP			17	
		e			18	
		e			28	
	H	iP	15	18	04	Magnitude about 6 3/4
		e			18	
		iP			20	
	T	iPNEZ			07	

C. F. Richter
June 15, 1948

Appendix
Larger shocks of 1947

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

			Lat.	Long.	Depth	Magnitude
Jan.	3	02 20 33	44 1/4 N.	149 E	40 km.	7
Jan.	26	10 06 46	12 1/2 N.	86 1/4 W	170 km.	7.2
Jan.	29	08 17 50	26 S	63 W	580 km.	7 1/4
Feb.	7	08 40 35	10 S	161 1/2 E	50 km.	7
Mar.	2	19 09 26	5 S	144 1/2 E	50 km.	7 +
Mar.	17	08 19 32	33 N	99 1/2 E	normal	7.6
Mar.	25	20 32 14	38 1/2 S	178 1/2 E	normal	7
Apr.	2	05 39 11	1 1/2 S	138 E	normal	7.4
Apr.	14	07 15 33	44 1/2 N	149 E	normal	7.1
Apr.	24	19 35 14	8 1/2 N.	39 W	50 km.	7
May	6	20 30 32	6 1/2 S	148 1/2 E	normal	7.6
May	27	05 58 54	1 1/2 S	135 1/4 E	normal	7 1/4
June	12	09 02 30	1 1/2 N	126 1/2 E	40 +	7.2
June	13	20 24 49	21 1/2 N	145 1/2 E	60 +	7.2
June	19	07 34 37	22 N	145 1/2 E	50 +	7 +
July	29	13 43 22	28 1/2 N	94 E	normal	7.5
Aug.	5	14 24 17	26 1/2 N	63 E	normal	7.1
Aug.	7	00 40 20	19 3/4 N	75 1/4 W	50 +	7 ±
Sept.	26	16 01 57	24 3/4 N	123 E	110-	7.4
Oct.	6	19 55 37	37 N	22 E	normal	7
Oct.	16	02 09 47	64 N	148 W	normal	7
Nov.	1	14 58 53	10 1/2 S	75 W	normal	7.3
Nov.	4	00 09 10	44 N	140 1/2 E	normal	7.1
Nov.	9	04 57 50	22 1/2 S	170 E	50 ±	7.1
Dec.	15	19 20 26	60 S	161 W	60 ±	7