P. Moresby. Jan Copied

COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

203 Collins Street,
MELBOURNE VIC.

716

S E I S M O L O G I C A L B U L L E T I N.

P O R T M O R E S B Y.

For the month of JAN. 1960

Latitude : 09° 24.5' S Longitude: 147° 09.1' E

Height: 70 metres Foundation: Eocene Cherts

Instruments:

1) 2 Sprengnether Horizontal Seismometers
N-S component: period 15.8 sec., damping critical (N)
E-W " " 14.8 " , " " (E)

1 Wilson-Lamison Vertical Seismometer
period 1.1 sec., damping critical (Z)

1 Sprengnether 3-component Recorder
N-S component: Glavo. period 15.8 sec., damping critical
E-W " : " " 14.8 " " "

2) 2 Wood-Anderson Seismometers
N-S comp.: period 0.8 sec., damping 0.7, magnification 2500(S)
E-W " : " 0.8 " , " 0.7, " 2700(W)

1 Kew Vertical Seismometer
period 1.0 sec., damping 0.5 (V)

1 Sprengnether 3-component Recorder

Further information or copies of seismograms may be obtained by writing to: -

Observer-in-Charge,
Geophysical Observatory,
P.O. BOX 323.,
PORT MORESBY. PAPUA.

No	Date 1960	Phases		Time (GMT) h	m	s	per sec		Remarks
1	Jan 1	iP	Z	00	43	11		4.0	Mag M_L= 3½
		eS	SW		43	57		445 Km	H = 00 42 11
2		eP	Z	06	03	(18)			USCGS 18½N 147E
3		eX	Z	06	50	..			Minor near activity
4		eP	Z	10	11	10			Minor near activity
		e(S)	Z		11	47			
5		eX	Z	16	18	..			Minor near activity
6		eP	Z	18	29	04		6.1 680 Km	H = 18 27 34
7		iP	ENSWZ	21	04	56		2.9	Compression
		iX	Z		05	01		321 Km	Mag M_L = 5
		iX	Z		05	08			H = 21 04 11
		iS	ENSWZ		05	30			Approx 6½S 147½E
		iX	EN WZ		05	38			
8		eP	Z	23	23	23			USCGS 56N 162½E
9	Jan 2	eP	Z	02	02	54			USCGS 54N 257½E
10		iP	Z	03	40	52	2		Dilatation
		iX	Z		44	09			Approx 18S 164E
									H = 03 36 (54)
									h about 200 Km
11		iP	Z	04	44	40			
12		iP	Z	05	16	11		52.5	H = 05 06 59
		iX	Z		16	36		5830 Km	USCGS 54N 157½E
		eS	N		23	34			
			E		23	38			
		eScS	N		26	00			
		eX	EN		27	54			
13		eP	Z	07	10	26			USCGS 56½N 163½E
14		eP	Z	09	28	11			Approx 12S 138E
		eX	SW		29	47			H = 09 26 (04)
		iX	Z		30	47			Probably Arafura Sea
15		ePPP	Z	12	42	(24)		(110)	West of Bouvet Is.
		e(SKP)	Z		43	20		(12225Km)	
		$eSKS_1$	E		46	14			
		$eSKS_2$	N		46	46			
		ePS	E		49	16			
		iPPS	N		50	08			
		eX	N		51	54			
		eX	E		56	30			
		eX	N		56	38			
		eL	E	13	(08.5)				
		Lmax	E	13	26.0		19		
		Lmax	E		34.0		17		
16		iP	Z	16	09	55	1½	(18) (2000 Km)	Compression Approx 1N 133E H = 16 05 (51)
17		iP	Z	19	20	43		3.1	Mag M_L = 3½
		iX	Z		20	47		340 Km	H = 19 19 55
		iS	SWZ		21	19			
18		iP	Z	21	24	35			USCGS 5S 152½E
		iX	Z		24	58			
		i(S)	SWZ		25	45			

No	Date 1960	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
19	Jan 3	eP	Z	07	56	..			Probably minor near activity.
20		e(P)	Z	10	45	52			
21		eP	Z	11	35	59			USCGS 44N 84½E
22		eL	N	13	16	49			
		eL	E		17	..			
23		eL	N	15	03	..			
			E		03.6				
24		iP	Z	21	29	30	1.8		USCGS 45N 148E
		eS	E		36.8				
25		eP	Z	21	59	19		2.1	Mag M_L= 2¾
		eS	SWZ		59	44		233 Km	H = 21 58 46
26		eX	Z	22	51	..			Minor near activity
27		eX	Z	23	20	..			Minor near activity
28	Jan 4	iP	Z	02	39	30		(3.6)	Dilatation
		iX	S ZV		39	35		(400 Km)	Mag M_L= 4¾
		e(S)	S Z		40	11			H = 02 38 (35)
29		iP	Z	04	12	37			Probably Nth of New Caledonia
30		eP	Z	06	21	42		7.5	Approx 4½S 153E
		iX	Z		22	07		830 Km	H = 06 19 52
		iS	SWZ		23	07			USCGS 4½S 153½E
31		iP	Z	10	31	18			Dilatation Deep, Sth East of Fiji
32		eL	E	12	17.8				
		eL	N		24	..			
33		eX	Z	12	48	16			Minor near activity
34		eX	Z	15	43	..			Minor near activity
35		eP	Z	06	31	41			
		eX	E		37	(36)			
		eX	E		45	18			
		eX	N		46	08			
		eX	E		46	38			
36		iP	Z	06	46	39			
37		eP	Z	09	39	(34)			USCGS 15S 173W
		e(L)			49	26			
		Lmax	EN		51.6				
38		e(P)	Z	11	13	36			
39		iP	Z	11	44	14		2.3	Mag. M_L= 3½
		eS	WZ		45	41		250 Km	H = 11 43 31
40		eP	Z	14	27	39		(5.1)	H = 14 26 (23)
		e(S)	S		28	37		(570Km)	
		eX	Z		28	56			
41		iP	SWZ	20	24	18		3.2	Mag M_L= 3¾
		iS	SWZ		24	55		360 Km	H = 20 23 30

	1960			Time (GMT) h	m	s	per sec	degrees	Remarks
42	Jan 6	eX	Z	06	29	..			Minor near activity
43		eP	Z	07	42	14		(19.7)	H = 07 37 (45)
		e(S)	N		45	48		(2190 Km)	Santa Cruz Islands
			E		45	52			
		eL_R	E		46.9		24		
			N		47.0		24		
		M	EN		50.3		12		
44		eP	Z	13	15	30		19.8	H = 13 11 00
		eS	N		19	06	11	2200 Km	USCGS 10½S 167E
		eS	E		19	07	9		
		eL_Q	N		19.5				
		eL_R	EN		20	24	25		
		M	EN		23.5		11		
45		eP	Z	15	01	07		19.7	Approx 11S 167E
		eS	EN		04	42		2190 Km	H = 15 56 38
		eL_Q	N		05	06			Santa Cruz Area
		M	E		08.8		13		
		L_{max}	N		09.1		12		
46		eP	Z	16	25	14		3.5	Mag M_L= 4
		iS	SWZ		25	57		390 Km	H = 16 24 21
47		eiP	SWZ	20	20	00		(15.3)	H = 20 16 (25)
		e(S)	N		22	49		(1700 Km)	6½S 133E
		iX	N		22	54			
		iX	E		22	56			
		$e(P_cP)$	Z		24	48			
		iX	EN		26	30			
48		eP	Z	23	56	55			Mag M_L= 2¾
		eS	SWZ		57	21			H = 23 56 20
49	Jan 7	eX	Z	00	17	..			Minor near activity
50		eP	Z	08	17	13		3.8	Mag M_L= 4¼
		iX	SWZ		17	15		420 Km	H = 08 16 15
		iX	SWZ		17	20			
		iS	SWZ		17	57			
51		eP	Z	08	25	00			6N 94E
		eP_cP	Z		25	49			
		$e(L_Q)$	E		37.2				
		L_{max}	E		51.7				
		L_{max}	N		52.2				
52		ePP	Z	13	48	04		(116)	Mag m = 6½
		eX	E		49	35		(12890 Km)	Analysis doubtful
			N		49	38			Sandwich Islands
		e(SKKS)	N		55	19			
		eX	E		55	41			
		ePS	N		57	58			
		eSS	E	14	03	53			
		eX	N		05	40			
		L_{max}	N		39.6		17		
		L_{max}	E		43.9		16		
53		eP	Z	17	27	03		27.2	Approx 16S 174E
		e(PP)	Z		27	46		3020 Km	H = 16 21 20
		eX	Z		28	14			Nth West of Fiji
		eS	EN		31	38			
		L_{max}	N		35.9		15		
		L_{max}	E		37.2				
54		iP	Z	21	10	56		3.8	Dilatation
			ENSWZ		11	40		420 Km	M_L= 4¾
									H = 21 09 58
									Vitiaz Straight area
									N.E. Coast of New Guinea.

	1960			Time (GMT) h	m	s	per sec	degrees	Remarks
	Jan 7								
55	cont.	eP	Z	23	27	(57)			6½N 94E
		e(L)	N		35.5				
		e(L)	E		39.3				
		L_{max}			53.7		18		
56	Jan 8	e(P)	Z	06	03	23			
57		eX	EN	07	58.0				
		L_{max}	N	08	08	..			
58		eP	Z	08	22	27			Near shock
59		eX	Z	10	13	11			Near shock?
60		M	E	12	34.5				USCGS 55S 27½W
61		ePS	N	15	15.0				USCGS 55½S 27½W
		eSS	E		21.2				
		eLQ	E		36	..			
		M	E		50.0				
62		eP	Z	21	48	10			Near shock
63		eX	EN	22	55	..			
64	Jan 9	eP	Z	02	04	04			Fiji Area -probably deep
65		iP	Z	03	03	06			Minor near shock
66		iP	Z	04	52	33			Dilatation Fiji area ; deep
67		iP	Z	07	36	15	1½		Compression
		iP_cP	Z		36	17			h about 150 Km
		isP	Z		37	13	2		USCGS 36N 69E
		eSKS	EN		46	24			
68		iP	Z	07	47	23		25.8	Dilatation
		i(pP)	Z		47	31	1½	2870 Km	H = 07 41 53
		iX	Z		47	44	2		
		iX	Z		47	51	1		
		iPPP	EN		48	06			
		eS	N		51	48			
		eX	E		51	57			
69		e(P)	Z	18	00	58			
70		e(P)	Z	18	08	45			
71	Jan 10	eX	Z	02	01	..			Minor near activity
72		e(P)	Z	03	45	24			
73		eP	Z	06	30	32			
74		eX	Z	08	15	..			
75		eP	Z	08	57	50		3.5	M_L= 4
		eS	W		58	31		390 Km	H = 08 56 57
		eS	S		58	32			
76		eX	Z	11	28	..			Minor near activity
77		e(P)	Z	13	17	20			
78		eX	Z	16	28				Minor near activity
79	Jan	iP	Z	17	18	06		2.9	Compression
		iX	Z		18	16		320 Km	M_L= 4½
		iS	SWZ		18	40			H = 17 17 21
		iX	Z		19	01			

No.	Date 1960	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
80	Jan 11	eP Z	01	41	13		5.6	M_L= 4
		eS SW		42	17		620 Km	H = 01 39 50
81		iP Z	02	35	21			Dilatation USCGS 28½N 131E
82		eP Z	02	58	(00)			USCGS 13½N 120½E
83		eP Z	03	20	00			USCGS 16N 96½E
84		eP Z	05	41	22			
85		iP Z	06	58	33			
86		eP Z	14	58	07		20.4	H = 14 53 30
		iX Z		59	14		2270 Km	USCGS 9S 127E
		eS EN	15	01	49			
		L_{max} E		07.9				
87		eP Z	17	57.5				USCGS 29S 176W
		eS E	18	03	13			
		eL_Q E		06.6				
		M N		12.8				
88		eP Z	17	16	25		3.8	M_L= 4¼
		iX Z		16	29		420 Km	H = 17 15 28
		eS S		17	09			
		eS W		17	15			
89		e(P) Z	22	35	(54)			
90		iP Z	22	51	05		8.1	H = 22 49 07
		iX Z		51	09		900 Km	New Britain-Bougainville area. Possibly deeper than normal
		eS SW		52	37			
		iS Z		52	39			
91		eP Z	22	56	29		(10.4)	H = 22 53 (59)
		ePPP Z		56	45		1160 Km	USCGS 2S 140½E
		eX Z		56	57			
		e(S) N		58	25			
		eL EN		59.0				
92	Jan 12	eP Z	02	00	21			USCGS 23½N 122E
		eS EN		06.5				
		$e(L_Q)$ EN		09.7				
93		$e(L_Q)$ E	03	59				USCGS 55½S 27W
		M E	04	14.2				
94		eP Z	08	53	15		(20.4)	H = 08 48 (38)
		e(S) N		56	57		(2270Km)	Banda Sea
		M N	09	00.6				
		L_{max} E		02.8				
95		eP Z	13	00	57		3.6	M_L= 4¼
		eiS SWZ		01	39		400 Km	H = 13 00 55
96		eP Z	16	36	33		4.3	M_L= 3½
		eS Z		37	23		480 Km	H = 16 35 28
97		eP Z	19	57	49		8.0	5S 154E
		eS SW		59	19		890 Km	H = 19 55 52
								Possibly deeper than normal
98		eP Z	22	30	(16)		(40.7)	H = 22 22 (37)
		eS E		36	24		(4520 Km)	
		$e(L_Q)$ N		39	26			
		L_{max} E		43½				

	1960	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
99	Jan 13	eP	Z	04	00	49			
100		eP	Z	05	02	50			
		eX E			12.1				
101		eP	Z	06	41	06			
102		e(P)	Z	07	27	00			USCGS 3½S 140E
		iX	Z		27	15			
103		iP	Z	02	28	43			
		iX	Z		28	46		9.0	M_L= 5½
		iX	Z		28	59		1000 Km	H = 07 26 32
		eS	W		30	24			
		eS	S		30	27			
104		ePKIKP	Z	15	59	24			USCGS 16S 72W
		iX	Z	15	59	40	2		
		eX	Z		59	58	2		
		iX	Z	16	00	08	1½		
		ipPKIKP	Z		00	17	1½		
		iX	Z		00	27	2		
		iX	Z		00	38	2		
		iPP	EN		02	03	(20)		
		iX	Z		02	28	2		
		eSKIKP	Z		02	52	8		
		iX	Z		02	59	1½		
		iPKIKS	E		03	02	12		
		iPKIKS	N		03	04	11		
		i(pSKIKP)	Z		03	45	3		
		e(SKKP)	Z		12	11	1		
		e(SKKP)	Z		12	22			
		iX	E		13	10			
		eX	E		13	58			
		e(SKKS)	Z		15	38	6		
		eSPS	N	16	19	56	(24)		
		iX	E		20	06	18		
		iPSS	N		20	20	20		
		iX	N		21	02	19		
		eP'P'P'	Z		40	38			
		iP'P'P'	Z		40	48	2		
		iP'P'P'	Z		40	54	1½		
		eP'P'P'	Z		41	25	1½		
		eX	Z	17	09	19			
105		eX	Z	22	02	..			Minor near activity
106	Jan 14	iP	Z	00	11	33			Small near shock
		iX	S		12	12			
		eX	Z		12	37			
107		iP	Z	02	50	41			Sumatra.
108		iP	SWZ	06	24	55		8.9	H = 06 22 46
		iS	SWZ		26	35		990 Km.	
		iX	E		28	01			
109		iP	Z	08	11	06		2.0	Mag M_L= 3
		iS	S		11	29		222 Km	H = 08 10 34
		iS	Z		11	30			

No.	Date 1960	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
110	Jan 14 cont	iP	Z	10	34	09		45.7	h about 75 Km
		ipP	Z		34	28		5078 Km	H = 10 25 52
		i(PcP)	Z		35	48			USCGS 37N 140 E
		iS	EN		40	46			
		eS	Z		40	54			
		e(ScS)	N		44	(03)			
111		iP	Z	16	03	35		(22.4)	H = 15 58 (38)
		iX	Z		03	59		(2490 Km)	3S 127½E
		iS	E		07	(34)			
		iX	N		08	15			
112		eL	EN	23	..	..			
113	Jan 15	e(P)	Z	03	06	13			
		eX	Z		06	47			Minor activity
114		eiPKIKP	Z	09	49	27	1½		USCGS 15S 75W
		eX	Z		49	46	1½		
		ipPKIKP	Z		50	06			
		ePP	E		51	54			
		iPKS	Z		52	52	4		
		iPKS	EN		52	53	(9) E 7 N		
		iPKS	E		53	07	12		
		i(SKS)	E		56	40	10		
		i(SKKS)	E		58	43	14		
		eSKKP	Z	10	01	54			
		eX	Z		02	33	3		
		iSKKS	Z		05	40	6		
		iSKKS	E		05	43	(10)		
		i(SKKS)	N		05	55	(10)		
		e(SS)	EN		09½		(33)	(35)	
		i(SPS)	E		09	40	17		
		i(SPS)	N		09	53			
		M	EN		37	..	20		
		Lmax	N		45	..	17		
		Lmax	E		46½		17		
115		iP	Z	14	38	40		(36)	h ~~about~~ uncertain
								(4000 Km)	About 300 miles SW of Tonga
116		eP	Z	20	42	05			
		iX	W		43	38			
117		iP	Z	23	44	21			N. Celebes region
118	Jan 16	eP	Z	01	13	52		1.5	M_L = 3
		eP	S		13	53		~~170~~ Km	H = 01 13 27
		eS	SW		14	11			
		eX	Z		14	25			
119		iP	Z	07	07	57		(51.7)	Compression
		eS	EN		15	(15)		(5750 Km)	H = 06 58 (52)
		eL	E		22.5				USCGS 59½S 149½E
120		eX	Z	10	42.5				Minor near activity
121		iP	SWZ	12	37	05		35.1	Dilatation
		iS	N		41	58		3900 Km	h about 600 Km
		i(ScP)	Z		42	15			H = 12 31 00
									USCGS 20½S 178W
122		i(P)	Z	12	42	15		(3)	
		iP	SWZ		42	25		(333 Km)	M_L = (4)
		iX	Z		42	53			Initial P confused by preceding.
		iS	SW		43	00			
		iX	S Z		43	03			S.W. New Britain?
		eX	EN		45	18			

	1960	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
123	Jan 16 cont	eP Z	13	36	24			Minor near activity
		eX Z		36	33			
124		eP Z	15	06	28		(1.9)	$M_L = 3\frac{1}{2}$
		iS SW		06	51		(210 Km)	H = 15 05 57
125		iP Z	15	38	52			USCGS $22\frac{1}{2}$S $173\frac{1}{2}$E
		e(L) N		45	29			
126		eP Z	18	08	12			Minor near activity
		eX Z		08	22			
127		iP Z	18	43	06		(22.1)	Dilatation
		iS E		46	42		(2460 Km)	H = 18 38 (20)
								Possibly deep
								USCGS 13S, $167\frac{1}{2}$E
128		iP Z	21	02	00			USCGS 63N 151W
129		eX Z	21	42.5				Minor near activity
130		eP Z	21	45	12		15.5	8S 163E app.
		iP Z		45	13		(1720 Km)	h about 100 Km
		iS EN		48	01			USCGS 10S $161\frac{1}{2}$E
		L_{max} EN		50.5				
131		e(P) Z	22	14	(42)			Near activity?
132		eP Z	23	34	16		6.5	$M_L = 5\frac{1}{2}$
		eP SW		34	17		720 Km	H = 23 32 40
		iP Z		34	18			USCGS $4\frac{1}{2}$S 152E
		iX Z		34	28			
		iX Z		35	20			
		iS SWZ		35	30			
133	Jan 17	eP S Z	00	44	22		2.9	$M_L = 3\frac{1}{2}$
		iS Z		44	54		320 Km	H = 00 43 37
		eS W		44	58			Near activity
		iX Z		45	13			
		eX S		45	15			
134		iP SWZ	02	28	18		(8.0)	M_L= (4)
		eS SW		29	47		(890 Km)	H = 02 26 24
		iS Z		29	49			Near Rabaul?
								Possibly deeper than normal
135		iPKIKP Z	03	16	59			h about 150 Km
		ipPKIKP Z		17	39			USCGS $24\frac{1}{2}$S $74\frac{1}{2}$W
		eX Z		20	23			
		L_{max} N	04	12.5				
		L_{max} E		14.5				
136		i(P) Z	05	05	00			
137		iP Z	05	18	(11)			
		i(S) N		22	06			
138		iP Z	06	37	44		(5.4)	M_L= (4)
		i(S) Z		38	46		(600 Km)	H = 06 36 (24)
139		iP Z	09	58	55			
		iX S		59	06			
		iX WZ		59	07			
140		eP Z	11	11	(11)			
		i(S) Z		12	29			

No	Date 1960	Phases	Time (GMT) h m s	per sec	degrees	Remarks
141	Jan 17 cont.	iP Z	12 13 26		6.9	$M_L = 4\frac{3}{4}$
		eS S	14 43		770 Km	H = 12 11 45
		eS E	14 44			
		eS W	14 44			
		eS W	14 45			
		iS Z	14 47			
142	Jan 18	iP [illegible]S Z	09 10 32		27.3	Compression
		iX Z	11 01		3030 Km	[illegible] 7N 125E
		i(PP) Z	11 24			USCGS 5N 126½E
		eX E	15 41			
		eX N	15 45			
		L_{max} N	20.0			
		L_{max} E	20.5			
143		i(P) S Z	10 16 06			
144		e(P) Z	14 41 (57)			Possibly Solomon Is.
145		iP S Z	16 45 02		8.2	
		iP S	46 33		910 Km	$M_L = 5\frac{1}{2}$
		iS WZ	46 35			H = 16 43 02
146	Jan 19	iP Z	02 27 11		62	H = 02 16 52
		i(pP) S	27 23		6890 Km	USCGS 52N 158E
		i(pP) Z	27 24			
		iS N	35 30			
		iS E	35 31			
		eL N	45.8			
		eL E	48.0			
147		iP Z	03 49 45		2.0	$M_L = 3$
		iP W	49 46		222 Km	H = 03 49 13
		iS Z	50 09			
		iS W	50 10			
148		eX Z	05 44.5			Minor activity
149		iP Z	09 21 04		33.9	Dilatation
		ipP Z	22 36		3760 Km	$m = 5\frac{3}{4}$
		iS ENS Z	25 50			H = 09 15 07
		iS W	25 52			h about 550 Km
						USCGS 23S 180
150		eX S	15 16 21			Near activity
151		iP Z	16 17 (15)			USCGS 24N 142E
152		eP Z	23 34 (33)			
		eP S	34 (36)			
		e(L) N	38 (45)			
		e(L) E	39 (35)			
153	Jan 20	eL EN	11 56 ..			Day's record masked by microseisms.
154		iP Z	19 58 15	1½	8.0	Compression
		iX Z	58 30		890 Km	Mag. $M_L = 5\frac{3}{4}$
		iS Z	59 39			H = 19 56 16
		iX W	59 47			USCGS 4½S 153½E
		iX Z	20 00 00			
155		eX EN	22 51 ..			
		eL N	57.3			
156	Jan 21	eP Z	09 46 29		(4.1)	Mag $M_L = (4)$
		eS NS	47 (16)		(460 Km)	H = 09 45 (27)
						USCGS 16S 179½E
157		eL EN	10 38.6			

No	Date 1960	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
158	Jan 21 Cont.	eP Z	10	49	18		34.0	H = 10 42 30
		eX Z		49	38		3780 Km	
		eS E		54	43			
		e(L_Q) E		57	..			
		M E	11	00	..			
159	Jan 22	e(S) S Z	03	28	23			Minor near activity
		e(S) W		28	24			
		eX S		28	38			
160		eX Z	05	07	22			Minor near activity
		iS Z		07	39			
		eS S		07	40			
161		eL N	07	40.8				
162		iP Z	13	41	12		24.8	Dilatation
		iP SW		41	13		2750 Km	h about 100 Km
		i(pP) Z		41	28			H = 13 35 52
		eS N		45	30			USCGS 0 125E
163	Jan 23	eP Z	02	43	41			Dilatation
164		eP Z	04	45	35	1½	20.8	4S 127½E
		iP Z		45	39		2310 Km	
		eS S		49	23			
		eS W		49	28			
165		iP Z	06	30	35		35.6	h about 400 Km
		iP Z		30	37		3960 Km	H = 06 24 13
		iS E Z		35	41			
166		iP Z	07	26	16			
167		eP Z	07	35	53	1½	20.8	H = 07 31 14
		iP Z		35	38		2310 Km	
		eS S		39	41			
		eS W		39	46			
168		iP Z	07	45	25			Confused by preceding
169		eP Z	08	08	46			Confused by preceding
170		e(P) Z	08	33	58			Confused by preceding
171		i(P) SWZ	08	38	37			Confused by coda of
		iX Z		38	43			preceding.
172		eX Z	09	59	21			Minor local shock
		eX SWZ		59	25			
173		eP Z	18	01	(09)		(21.7)	H = 17 56 (15)
		eP Z		1	13		(241 Km)	USCGS 4S 127½E
		eS W		5	(15)			
174		eP Z	18	53	37		5.9	Mag M_L= 4¼
		eS S		54	14		66 Km	H = 18 51 4
		eS W		54	15			
175		eP Z	21	58	49		(6.)	H = 21 57 (19)
		iP SWZ		58	51		(67 Km)	Deep
		eS SW		59	59			USCGS 5½S 152E
176		eP Z	22	2	47		(5.9)	H = 22 19 (19)
		eX Z		21	33		(66 Km)	Possible aftershook
		e(S) W		21	56			
		e(S) S		21	58			
		eL E		23.8				
		eL N		24.				

No	Date 1960	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
177	Jan 23 cont.	eP Z	23	23	07		6.2	H = 23 21 35
		eS Z		24	(07)		690 Km	Possible aftershock
		eX Z		24	19			
178		eP Z	23	39	11		6.0	Mag M_L= 4½
		eS EN Z		40	20		670 Km	H = 23 37 42
179		e(P) Z	23	42	20			Minor activity; in coda of preceding
180		eP Z	23	52	33			Confused with preceding
		eX Z		52	53			
		eX Z		54	(41)			
		eX EN		56	(25)			
		eX N		56	54			
181		eP Z	01	03	10			Record confused: probably two near shocks
		eP Z		03	54			
		iS Z		04	05			
		e(S) E Z		05	(08)			
182		eP Z	01	11	44			
		eX E		15	40			
		e(S) N		16	01			
183	Jan 24	eP SWZ	03	20	33		6.2	Mag M_L= 4¾
		iX Z		20	38		690 Km.	H = 03 19 01
		iS S		21	43			
184		eP Z	04	28	23		34.4	Mag. m = 6⅓
		eX Z		28	41		3820 Km	H = 04 21 37
		ePP Z		29	46			USCGS 15⅓S 179W
		eS N		33	48			
		eX N		34	23			
		eX E		36.0				
185		eP Z	06	28	47		5.1	H = 06 27 31
		eS S		29	45		570 Km	
		eS Z		29	49			
186		eP SWZ	09	24	04			USCGS 20⅓S 180
		eX E		32.0				
187		iP Z	12	17	54		5.7	Mag M_L= 5
		iX N Z		18	09		630 Km	H = 12 16 30
		iX Z		18	45			USCGS 4⅓S 143⅓E
		iX Z		18	55			
		iS W		18	59			
		iS S		19	00			
		eX E Z		19	24			
		eX E Z		19	339			
188		iP Z	17	01	21			USCGS 14⅓S 166⅓E
		eX E		05	(10)			
		eX N		05	(25)			
		Lmax N		07⅓				
189		eP Z	19	50	18		1.6	Mag. M_L= 3
		iX Z		50	23		180 Km	H = 19 49 52
		eS S		50	39			
		eS W		50	40			
		eS Z		50	41			
190		eX Z	21	49	30			
191	Jan 25	eP Z	02	03	17		3.4	Mag. M_L= 4
		iX Z		03	23		380 Km	H = 02 02 25
		eS SWZ		03	56			
192		eX Z	02	28	(55)			Minor Activity
		eX Z		29	27			

No	Date 1960	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
193	Jan 25 cont.	eP	Z	02	46	44		6.5	Mag. M_L= 4¾
		eS	S		47	58		720 Km.	H = 02 45 05
194		eX	Z	03	16	42			Minor local activity
		eX	S		16	43			
		eX	S Z		16	49			
195		eX	SW	03	18	56			Minor activity
		eX	Z		18	57			
196		eP	Z	04	27	35		6.0	Mag. M_L= 4½
		eS	S		28	44		670 Km.	H = 04 26 26
		eS	Z		28	46			
197		eP	Z	13	50	20		8.2	H = 13 48 22
		eS	Z		51	53		910 Km.	
		eL	N		52.4				
198		eP	Z	16	36	07		34.7	H = 16 29 18
		iX	Z		36	30		3860 Km	
		eS	EN		41	(34)			
		iX	N		42	16			
		eX	E		42	42			
		eX	E		43	54			
		eL	EN		44	..			
		M	N		45½				
		M	E		46.0				
199	Jan 26	eX	Z	03	36	(51)			
200		e(S)	Z	05	31	(34)			
		e(S)	SW		31	35			
201		iP	SWZ	07	03	04			
202		eP	Z	08	52	(26)			
		eX	WZ		54	04			
		e(S)	S		54	26			
		i(S)	Z		54	27			
203		iX	Z	09	22	(23)			
		eX	Z		22	(55)			
204		eX	Z	11	38.9				Near ?
		iX	S		38	56			
		iX	Z		39	06			
205		e(P)	Z	12	03	05			
		eX	SWZ		03	46			
206		i(S)	Z	14	48	12			
		e(S)	E		48	17			
207		eX	S	15	03	(03)			Minor near activity
		eX	Z		03	(04)			
208		eX	Z	18	35.5				USCGS 13N 87½W
		eX	E		37	46			
		eX	Z		38	37			
209		eX	S	20	18	(54)			
		iX	Z		19	14			
210		iX	Z	20	27	(29)			
		iX	S		27	(33)			
211		e(P)	S	21	20	05			Near ?
		e(P)	Z		20	06			
212		iP	Z	22	28	47			USCGS 30S 178W
		e(L)	N		37	58			
		e(L)	E		38	06			

No.	Date 1963	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
213	Jan 26 cont.	eX Z	23	20	55			
214	Jan 27	iP S Z	12	39	52			Near ?
215		eL E	18	27	..			
216		eL EN	19	28	..			
217		iP Z	19	54	49			Minor near activity
218	Jan 28	eL EN	02	00	..			
219		i(P) Z	08	05	37			
220		iP S Z	10	00	05			Minor near activity
221		iP Z	21	56	10			Near activity -
		eL N	22	03.5				possibly Solomon Is.
222	Jan 29	iP SW	08	12	09		6.0	Dilatation
		iP Z		12	10		670 Km	4⅓S 143⅓E
		iPP WZ		12	23			H = 08 10 41
		iS W		13	19			h about 150 Km
		iS S		13	20			
		iX NS		13	23			
		iX S V		13	34			
		iX E		13	44			
		iX NS		13	45			
		iX W		13	46			
		iX V		13	47			
223		iP SWZ	11	26	51			Aftershock of
		iS W		28	09			previous
		iX Z		28	13			
		eX N		28	(15)			
		eX E		28	(39)			
224		e(P) Z	14	24	..			Minor near activity
225		eP Z	22	53	38		32.1	H = 22 47 12
		eS FN		58	47		3570 Km	Mariana Is. (USCGS)
226	Jan 30	iP S Z	01	06	29			
		iP W		06	30			
		i(S) Z		07	45			
227		iP S Z	02	51	18			USCGS 22N 144⅓E
		eS N		56.3				
228		eL EN	09	09	..			
229		iP Z	11	00	03			H = 10 52 (35)
		iP SW		00	04			Tonga Is?
		e(L) E		07	001)			Confused by
		e(L) N		07	43			microseisms
		eX E		08	29			
230		iP S Z	11	13	34		4.4	M_L= 3¼
		iS W		14	24		490 Km	H = 11 12 28
		iS S Z		14	25			
231		i(P) WZ	11	28	12			
232		eL E	15	39	..			
233		iP Z	18	02	28			USCGS 21⅓N 142⅓E

No.	Date 1960	Phases	Time (GMT) H	m	s	per sec	degrees	Remarks
234	Jan 30 cont	iP SWZ	18	17	25		3.5	$M_L = 4\frac{3}{4}$
		iS S Z		18	06		390 Km	H = 18 17 32
		iS W		18	07			
235		iP S Z	18	44	33		31.1	H = 18 38 15
							3460 Km	USCGS 22N 144E
236	Jan 31	eP Z	03	41	03		31.4	H = 03 34 42
		eS N		46	07		3490 Km	Mariana Is. (USCGS)
237		iP Z	04	07	32		19.5	Dilatation
		iP SW		07	33		2170 Km	H = 04 03 18
		eS EN		11	05			USCGS $12\frac{1}{2}$S $167\frac{1}{2}$E
		e(SS)E		11	54			
		e(L) EN		14	07			
238		iP Z	05	08	11		1.2	$M_L = 2\frac{1}{4}$
		iP S		08	12		130 Km	H = 05 07 50
		iS S		08	28			
239		eP EN	05	16	26		44.0	H = 05 08 20
		iX Z		17	03		4890 Km	USCGS $33\frac{1}{2}$N $134\frac{1}{2}$E
		eX N		22	55			
		eS E		23	08			
		L_{max} N		37	(00)			
		L_{max} E		37	(45)			
		L_{max} EN		38	(06)			
240		iP Z	15	32	37		4.4	$M_L = 4\frac{1}{4}$
		iP SW		32	38		490 Km	H = 15 31 31
		iS SWZ		33	29			
241		eP Z	16	41	31			
		eX N		42	49			
		eX E		42	51			
		eX SW		44	01			
242		iX WZ	17	05	03			
		iX S		05	04			
		iX W		05	14			
		iX S		05	22			
243		iP Z	19	14	57			USCGS 165 $172\frac{1}{2}$W
		$e(L_R)$E		25	39			
		$e(L_R)$ N		26	14			

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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

203 Collins Street,
MELBOURNE VIC.

716

S E I S M O L O G I C A L B U L L E T I N.

P O R T M O R E S B Y.

For the month of FEB. 1960

Latitude : 09° 24.5' S Longitude: 147° 09.1' E

Height: 70 metres Foundation: Eocene Cherts

Instruments:

1) 2 Sprengnether Horizontal Seismometers
N-S component: period 15.8 sec., damping critical (N)
E-W " " 14.8 " , " " (E)

1 Wilson-Lamison Vertical Seismometer
period 1.1 sec., damping critical (Z)

1 Sprengnether 3-component Recorder
N-S component: Glavo. period 15.8 sec., damping critical
E-W " : " " 14.8 " " "

2) 2 Wood-Anderson Seismometers
N-S comp.: period 0.8 sec., damping 0.7, magnification 2500(S)
E-W " : " 0.8 " , " 0.7, " 2700(W)

1 Kew Vertical Seismometer
period 1.0 sec., damping 0.5 (V)

1 Sprengnether 3-component Recorder

Further information or copies of seismograms may be obtained by writing to: -

Observer-in-Charge,
Geophysical Observatory,
P.O. BOX 323.,
PORT MORESBY. PAPUA.

No	Date 1960	Phases	Time (GMT) h	m	s	per sec	degrees	Remarks
	Feb							
1	1	iP Z	04	48	03		1.4	M_L = 3
		eS SW		48	20		160 Km	H = 04 47 40
		iS Z		48	22			
2		eP Z	14	06	23	2		USCGS 50½N 160E
3		eX Z	15	58	..			Minor near activity
4		eX Z	16	33	..			Minor near activity
5		eX Z	17	46	..			Minor near activity
6		eP Z	20	50	29		6.1	M_L= 4¼
		eS SW		51	39		680 Km	H = 20 48 58
7		eP Z	22	47	38			Small near shock
		iX Z		48	17			
8	2	eP Z	01	37	42		3.9	M_L= 3½
		eS SW		38	27		430 Km	H = 01 36 43
9		eP Z	02	03	20			Minor near shock
10		eP Z	06	37	26		(38.9)	H = 06 30 (02)
		eS EN		43	(22)		4320 Km	USCGS 33½S 179W
		eL_Q E		46.5				
		M EN		51.5				
11		iP Z	23	45	19		(24.4)	H = 23 40 (03)
		eS E		49	(34)		2710Km	
12	3	iP Z	02	28	21	2	39.8	Compression
		ipP Z		28	45	2	4420 Km	H = 02 21 02
		iPP Z		30	07	3		[illegible]
		iS EN		34	31			h about 50 Km
		eL_Q EN		37.5				USCGS 37S 179E
		M EN		43.0				
13		eP Z	03	57	08		5.9	M_L = 4¾
		eiS SWZ		58	15		660 Km	H = 03 55 41
14		eX Z	05	03	..			Minor near activity
15		eP Z	05	34	40			Small near shock
16		iP Z	07	06	24			Small near shock
17		iP Z	10	49	21			Tonga-Fiji region
18		eP EN Z	11	52	35		6.8	Dilatation
		iX EN Z		52	38		760 Km	M_L= 5¾
		iX Z		52	48			H = 11 50 56
		iX Z		52	56			USCGS 5S 153E
		eS W		53	51			
		eS S		53	52			
19		eP Z	13	10	31			Small near shock
20		iP Z	13	30	31		7.9	Compression
		eS SW		32	00		880 Km	M_L= 5½
		iX Z		32	05			H = 13 28 36
		L_{max} N		34.0				USCGS 7S 154½E
21		eP Z	14	36	08			USCGS 19S 173½W
		iX Z		36	17			
		e(S) EN		42.6				
22		eP Z	17	58	17		25.2	H = 17 52 54
		eX Z		58	31		2800 Km	USCGS 19½S 169½E
		eS E	18	02	37			

No.	Date 1960	Phases		Time (GMT) per h	m	s	sec	degrees	Remarks
23	Feb. 3rd (Cont)	e(P)	Z	18	16	37			
24		iP	Z	19	35	42		2.5	Compression
		iS	ENSW		36	11		280 Km	$M_L = 4\frac{3}{4}$
		iS	Z		36	12			Approx 8S 149E
									H - 19 35 04
25		iP	Z	20	27	39		2.5	Compression
		eS	SW		28	09		280 Km	$M_L = 4\frac{1}{4}$
									H = 20 27 00
26	4th	eP	Z	00	37	35		7.9	H = 00 35 40
		eS	SW		39	04		880 Km	h about 100 Km (possibly)
27		iP	ENSWZ	03	48	38		8.4	Dilatation
		iS	SW		50	(12)		930 Km	H = 03 46 36
									h about 100 Km
									USCGS $4\frac{1}{2}$S 153E
28		eX	Z	03	55	..			Aftershock of No 27
29		e(P)	Z	04	12	47			" " "
30		eP	Z	04	31	34			" " "
31		eP	Z	04	50	34			" " "
32		iP	Z	04	52	58			" " "
33		iP	Z	05	08	46			" " "
34		eX	Z	05	45	07			" " "
35		iP	Z	05	52	30			(probable) Aftershock of No.27
36		eP	Z	05	56	44			" " "
37		eP	Z	06	10	50			" " "
38		eP	Z	06	19	09			" " "
39		iP	Z	06	22	24			" " "
40		iP	Z	06	32	24			" " "
41		iP	Z	07	07	38			" " "
42		i(P)	Z	07	10	24			" " "
43		iP	Z	07	19	11			" " "
44		eP	Z	07	51	14			" " "
45		iP	Z	08	27	56			" " "
46		iP	Z	08	59	22			" " "
47		eP	Z	09	06	03			" " "
48		eX	Z	09	21	..			Minor near activity
49		eP	Z	09	23	07			Aftershock of No 27
50		eP	Z	09	29	25			USCGS 5S "154E"
51		eP	Z	09	40	38			Aftershock f No.27
52		eP	Z	09	50	54			" " "

No.	Date 1960	Phases		TIME (GMT) h	m	s	per sec	degrees	Remarks
53	4th Feb (Cont)	eP	Z	09	56	04			Aftershock of No 27
54		eP	Z	10	01	44			" " "
55		eP	Z	10	05	57			" " "
56		eX	Z	10	09	..			Minor near activity
57		e(P)	Z	10	21	(06)			
58		eP	Z	10	50	25			Aftershock of No. 27
59		eP	Z	11	02	46			" " " (Probable)
60		iP	Z	11	03	28			Aftershock of No.27
61		eX	Z	11	20	..			Minor near activity
62		iP	Z	11	24	04			Aftershock of No.27
63		eP	Z	11	27	55			" " "
64		eP	Z	11	42	38			
65		eP	Z	11	55	06			Aftershock of No.27
66		eX	Z	12	14.5				
67		eP	Z	12	24	34			Aftershock of No.27
68		eP	Z	12	30	52			" " "
69		iP	Z	12	35	23			" " "
70		eP	Z	12	50	56			" """ "
71		eX	Z	13	05.4				
72		eP	Z	13	20	22			Aftershock of No. 27
73		eP	Z	13	25	58			" " "
74		eP	Z	13	58	35			" " "
75		eX	Z	15	08	20			Minor near activity
76		eP	Z	15	26	06			Aftershock of No.27
77		eP	Z	15	31	39			" " "
78		eP	Z	15	34	29			" " "
79		iP	Z	15	39	34			" " "
80		eP	Z	15	59	00			" " "
81		eX	Z	16	58	01			Minor near activity
82		eP N	Z	16	59	10		47.9	H = 16 50 33
		iX	Z		59	15		5320 Km	USCGS 39N 143E
		iS E		17	06	04	8		
		iS N			06	05	10		
		ePS EN			06	13			
		eX N			06	26			
		eX N			07	(06)			
		eScS E			09	00			
		ex E			06	24			
83		iP	Z	17	03	47			Aftershock of No. 27

No.	Date	Phases		Time (GMT) h	m	s	per sec.	degrees	Remarks
84	1960 Feb.4th cont.	eP	Z	17	06	07			Aftershock of No. 27 (probable)
85		eP	Z	17	18	44			Aftershock of No.27
86		eP	Z	17	38	16			" " "
87		eP	Z	17	48	02			" " "
88		eP	Z	18	19	28			" " "
89		eP	Z	18	24	54			" " "
90		eP	Z	18	43	21			" " "
91		eX	Z	18	46	47			
92		eP	Z	19	33	20			Aftershock of No 27
93		eP	Z	19	42	54			" " "
94		eP	Z	20	12	44			" " "
95		eP	Z	20	20	54			" " "
96		eP	Z	20	35	43			
97		iP	Z	20	44	31			USCGS 18⅓S 178W
		eS	E		49	(25)			
98		eP	Z	20	59	42			Aftershock of No27
99		eP	Z	21	06	33		48.2	H = 20 57 54
		eS	E		13	29		5360 Km	USCGS 39⅓N 142⅓E
		eS	N		13	31			
100		eP	Z	21	48	13			Aftershock of No.27
101		eP	Z	22	39	50			" " "
102		iP	Z	22	54	56			" " "
103		eP	Z	23	08	46			" " "
104		eP	Z	23	14	26			" " "
105		eP	Z	23	55	53			" " "
106	5th	eP	Z	00	28	09			" " "
107		eP	Z	01	39	42			" " "
108		eP	Z	02	21	36			" " "
109		eSS	EN	02	36.1				USCGS 37S 95⅓W
110		eX	Z	02	42	..			Minor near activity
111		eP	Z	03	13	57			Aftershock of No.27
112		eP	Z	03	32	47			" " "
113		eP	Z	03	35	14			" " "
114		eP	Z	03	44	39			" " "
115		eP	Z	03	51	47			" " "
116		eP	Z	05	11	21			" " "

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
117	1960 Feb 4th cont.	eP	Z	05	40	(02)			Aftershock of No. 27 (probable)
118		iP	Z	05	41	(57)			Aftershock of No. 27 USCGS 4½S 153½E
119		iP	Z	06	36	10			Fiji Tonga Region Deeper than normal
120		eP	Z	07	13	04			Aftershock of No. 27
121		eP	Z	07	18	26			" " "
122		eP	Z	07	23	18			" " "
123	5th	eP	Z	07	28	04			" " "
124		eP	Z	07	44	49			" " "
125		eP	Z	09	12	44			" " "
126		eP	Z	09	33	59			" " "
127		eP	Z	09	51	24			" " "
128		eX	Z	09	54½				Minor near activity
129		eX	Z	10	05	54			" " "
130		e(P)	Z	10	25	(47)			Aftershock of No. 27
131		eP	Z	10	54	23			" " "
132		eP	Z	11	00	38			" " "
133		eP	Z	12	17	26			" " "
134		eX	Z	12	29	..			Minor near activity
135		iP	Z	12	45	18			Aftershock of No. 27
136		eP	Z	13	27	09			" " "
137		eX	Z	13	55½				Minor near activity
138		eP	Z	14	34	50			Aftershock of No. 27
139		eP	Z	16	48	50			" " "
140		eP	Z	18	12	10			" " " (probable)
141		eP	Z	18	44	39			" " " (possible)
142		eP	Z	19	13	05			Aftershock of No. 27
143		eP	Z	19	30	15			" " "
144		eP	Z	19	41	25			Near ?
145		eP	Z	19	48	03			Aftershock of No. 27
146		eP	Z	19	50	42			" " "
147		iP	Z	19	57	31			" " "
148		eP	Z	20	29	51			" " "
149		eP	Z	20	52	24			" " "
150		eP	Z	21	25	23			" " "

No	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
	Feb 1960								
151	5th cont.	iP	Z	21	37	01			
152		iP	Z	22	07	02			Aftershock (double) of No. 29
153		eP	Z	22	38	(18)		(4.0)	$M_L = 4\frac{1}{4}$
		eS	SW		39	05		(440 Km)	H = 22 37 (18)
154		e(P)	Z	23	21	07			Near
155		eP	Z	23	26	35			Aftershock of No 27
156	6th	eP	Z	00	19	09			" "
157		eP	Z	01	00	18			" "
158		eP	Z	01	05	33			" "
159		eP	Z	01	15	00			" "
160		iP	Z	01	22	09			" "
161		eP	Z	03	06	01			" "
162		eX	Z	04	17	..			Minor near activity
163		eX	Z	04	$28\frac{1}{2}$				" "
164		iP	Z	04	35	27		0.9	H = 04 35 11
		iS	EN		35	39		100 Km	
165		iP	Z	04	54	47			
166		eX	Z	06	51	..			Minor near activity
167		iP	Z	07	42	53			Aftershock of No. 27
168		eP	Z	08	00	19			" "
169		eP	Z	08	10	57		0.9	
		eS	SW		11	09		100 Km	
170		eP	Z	09	50	08			
171		eP	Z	09	54.9				Near
172		eP	Z	10	02	53			Near - probably same area as No.29
173		e(P)	Z	10	30	24			Near
174		e(S)	SWZ	10	32	37			Near
175		eP	Z	11	28	33			Aftershock of No. 27 (probable)
176		iP	Z	11	31	05			" " "
177		iP	Z	11	37	48			Dilatation; aftershock of No 27
178		e(P)	Z	12	06	37			
179		eP	Z	12	37	55			Aftershock of No. 27
180		eX	Z	13	51	..			Minor near activity
181		eP	Z	15	14	03			Aftershock of No 27 (probable)

No.	Date	Phase		Time (GMT) h	m	s	per sec	degrees	Remarks
	1960								
182	Feb 6 cont	e(P)	Z	16	12	13			
183		eP	Z	17	06	26			
184		eP	Z	17	13	16			Aftershock of No.27
185		eP	Z	17	18	18			
		i(S)	Z		18	40			
186		eX	Z	17	36	..			Minor near activity
187		eP	Z	17	43	25			Aftershock of No.27 (probable)
188		eP	Z	18	06	17			" "
189		eP	Z	18	23	30			
190		eP	Z	18	49	49			Aftershock of No.27
191		eX	Z	19	10	..			Minor near activity
192		eP	Z	19	13	37			Aftershock of No.27 (probable)
193		eP	Z	19	27	52			" "
194		eX	Z	19	27	..			Minor near activity
195		eP	Z	19	27	52			Aftershock of No.27 (Probable)
196		eP	Z	20	07	23			" "
197		eP	Z	20	48	31			" "
198		e(P)	Z	20	59	(31)			Aftershock of No.27 (possible)
199		eP	Z	21	28	27			Near ?
200		eP	Z	21	29	15			Aftershock of No.27 (probable)
201		eP	Z	21	56	01			" "
202		e(P)	Z	22	09	53			Near ?
203		eP	Z	22	22	49			Aftershock of No 27 Probable)

No.	Date 1960	Phases			Time h	m	s	per sec	degrees	Remarks
204	Feb 7	eP		Z	00	25	18			Aftershock of No. 27
205		eP		Z	01	56	36			" "
206		e(P)		Z	02	21	24			
207		iP		Z	02	30	26			Aftershock of No. 27
208		eP		Z	02	40	56			" "
209		eP		Z	02	55	07			" "
210		eX		Z	04	44	..			Minor near activity.
211		eX		Z	07	14	..			Minor near activity
212		e(P)		Z	08	00	38			Probable aftershock of No. 27
213		eX		Z	09	33	..			Minor near activity
214		iP	EN	Z	10	13	01	2	27.8	Compression m= $5\frac{3}{4}$-6 H = 10 07 57 USCGS 5 N 123 E
		eX	EN			14	34		3090 Km	
		ePPP		Z		14	38			
		iPcP		Z		15	57			
		iS	EN			17	04	8		
		iScP		Z		18	40			
		iX	E			19	54			
		eScS	EN			22.5				
		eX		Z		23	05			
215		eP		Z	11	24	28		38.9	H = 11 16 59 USCGS 15$\frac{1}{2}$S 173$\frac{1}{2}$W
		ePcP		Z		26	38		4320 Km	
		eS/PcS	E			30	27			
		eX	E			31	09			
		e(ScS)	EN			34.6				
216		eP		Z	11	41	16			Aftershock of No. 27 (probable)
217		eP		Z	12	21	00			Same area as No. 27 but possibly deeper
218		eX		Z	12	35	..			Minor near Activity
219		iP		Z	12	57	22			Same area as No. 27 but possibly deeper
220		eX		Z	13	23	..			Minor near activity
221		eP		Z	13	45	(28)			Aftershock of No. 27
222		eX		Z	14	09	..			Minor near activity
223		eX		Z	14	34	..			Minor near activity
224		eP		Z	15	07	26			Aftershock of No. 27
225		eP		Z	15	39	46			" "
226		eX		Z	16	38	..			Minor near activity
227		eP		Z	17	04	35			Aftershock of No. 27
228		eP		Z	17	22	07			" "
229		eP		Z	17	28	13			" "
230		eX		Z	18	39	..			Minor near activity
231		eP		Z	19	38	27			Aftershock of No. 27
232		eP		Z	19	48	39			" "
233		eP		Z	19	55	11			" "
234		eP		Z	21	14	03			
235		iP	ENSWZ		22	34	55	3.7		M_L= 5
		iS	EN			35	38		410 Km	H= 22 33 59
		eS	SWZ			35	39			USCGS 6S 148$\frac{1}{2}$E
236	Feb 8	eP		Z	00	45	03			Aftershock of No. 27
237		eX		Z	01	18	..			Minor near activity
238		eP		Z	02	58	46			Possible aftershock of No. 27
239		eP		Z	03	06	18			Aftershock of No. 27
240		eP		Z	03	22	16			" "

No.	Date.	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
241	Feb 8	eP	Z	04	07	39			Aftershock of No. 27 USCGS Solomon Is.
242		eP	Z	06	25	21			Aftershock of No. 27
243		eP	Z	06	33	59			" "
244		iP	ENSWZ	09	21	47		8.0	Dilatation
		iX	Z		21	51		890 Km	4½S 154E
		iS	ENSW		23	17			H = 09 19 52
									Probable aftershock of No. 27
									USCGS 5S 155E
245		eP	Z	09	36	08			Probable aftershock of No. 27.
246		iP	Z	09	38	07			" "
247		eP	Z	10	05	13			" "
248		eP	Z	10	16	00			Minor near shock
249		e(P)	Z	11	16	(41)			" "
250		iP	Z	11	55	52			Probable aftershock of No. 27
251		eP	Z	12	10	29			" "
252		e(P)	Z	13	00	18			USCGS 58S 67W
		ePP	E Z		04	22			
		e(PP)	N		04	27			
		e(PP)	Z		04	29			
		eX	Z		06	28			
		e(S)	E		11	59			
		ePS	N		13	(39)			
		eSS	E		19	42	19		
		eSS	N		19.8		24		
		eSSS	N		(24.0)				
		eL_Q	E		38	43	(60)		
		eL_R	N		35.[illegible]				
		M_L	N		41.[illegible]		22		
253		eP	Z	13	23	10			Probable aftershock of No. 27
254		iP	Z	13	28	21			" "
255		eP	Z	14	06	23			" "
256		iP	Z	14	13	27			USCGS Solomon Is.
									Probable aftershock of No. 27
257		eP	Z	14	24	[illegible]			Probable aftershock of No. 27
258		eP	Z	14	34	45			" "
259		iP	Z	14	58	40		2.7	M_L= 3½
		eS	SW		59	12		300 Km	H= 14 57 58
260		eP	Z	15	20	07			Probable aftershock of No. 27
261		eP	Z	16	31	40			" "

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
263	Feb 8	eP	Z	19	12	33			Minor near activity?
265		eP	Z	19	23	27			Probable aftershock of No. 27
266		iP	Z	21	03	30		(2.1)	M_L = (3¾)
		eS	ENSW		03	55		(230 Km)	H = 21 02 (57)
		e(S)	E SW		04	46			Double Shock?
267		eP	Z	21	28	24			
268		eP	Z	21	46	05			Probable aftershock of No. 27.
269	Feb 9	eX	Z	00	00	26			Probable aftershock of No. 27
270		iP	Z	00	02	42			" "
271		iP	EN Z	01	58	24		(17.3)	Dilatation
		epP	Z		58	33		(1920 Km)	H = 01 54 (25)
		eX	Z		59	52			USCGS 6½S 129½E
		eS	Z	02	01	34			
		e(S)	N		01	38			
		e(S)	E		01	44			
272		iP	EN Z	03	01	52			Dilatation USCGS 5S 155E Aftershock of No. 27 Deeper than normal?
273		eP	Z	03	09.9				Aftershock of No. 27
274		iP	Z	04	23	40			Aftershock of No. 27
275		iP	Z	04	27	34			Aftershock of No. 27
276		eP	Z	06	01	15			Aftershock of No. 27
277		eX	S Z	06	35	05			
278		eP	Z	06	52	25			Aftershock of No. 27
279		iP	Z	07	26	04			Aftershock of No. 27
280		iP	Z	09	08	26			Aftershock of No. 27
281		eP	Z	09	24	10			Probable aftershock of No. 27
282		eP	Z	10	14.2				Probable aftershock of No. 27
283		iX	Z	10	20	39			Probably 2 shocks
		iX	Z		21	24			
284		eP	Z	12	00	47			USCGS 4S 128E
		e(S)	E		04	38			
		eX	N		05	11			
285		eP	Z	13	53	02			

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
286	Feb 9	eP	Z	14	08	44		2.0	H = 14 08 12
		eS	W		09	07		220 Km	
		eS	Z		09	08			
287		eP	Z	15	22	(19)		(7.0)	
		eS	S Z		23	38		(780)Km	
		eS	W		23	39			
288		eX	Z	16	00.5				
289		iP	SWZ	16	35	42		(3.7)	H = 16 34 46
		iP	EN		35	44		(410 Km)	USCGS 6S 147E
		i	SW		35	47			
		eW	W		36	(34)			
290		iP	Z	16	50	21			Aftershock of No. 27
291		eP	Z	17	42	00			" "
292		eP	Z	20	12	59		3.7	H = 20 12 03
		iS	W		13	42		410 Km	
		iS	Z		13	43			
293		eP	Z	22	17	38		2.7	H = 22 16 56
		eS	S		18	10		300 Km	
294		eP	Z	22	36	11			Aftershock of No. 27
295	Feb 10	iP	Z	00	00	22			Long period records
		iP	ENSW		00	23			very confused.
		iX	SWZ		00	30			USCGS 4S 128E
296		eP	Z	01	20	(20)			USCGS 3½S 128E
		eP	SW		20	22			
		iPP	Z		20	44			
297		iX	Z	01	37	39			
298		iP	Z	02	03	40			USCGS 3½S 128E
		eP	SW		03	44			
299		iP	Z	02	35	51			Aftershock of No. 27
300		iX	Z	02	44	44			
301		eP	SW	02	45	54			
		eP	Z		45	(55)			
302		i(S)	Z	05	25	24			
303		eP	W	07	36	00			Aftershock of No. 27
304		eP	Z	09	09	41			Aftershock of No. 27
305		iP	Z	09	50	(09)			Aftershock of No. 27
306		eP	Z	10	17	(19)			Near Activity
		eP	S		17	(24)			
307		e(P)	Z	10	30	08			
308		e(S)	Z	10	47	(08)			
309		eX	Z	12	35.3				Near activity
310		.eP	ENSWZ	15	46	58			Aftershock of No. 27

No.	Date.	Phases.		Time (GMT) h	m	s	per sec	degrees	Remarks
311	Feb 10	iP	ENSWZ	15	46	58			Dilatation Aftershock of No. 27 deep USCGS 4½S 154½E
312		eP	Z	15	59	46			Aftershock of No. 27
313		iP	Z	16	23	39			" "
314		eP	Z	19	37	10		3.5	H = 19 36 18
		eS	W		35	51		390 Km	M_l " 3¾
		iS	Z		37	52			
315		iX	W	21	34	04			Near activity
		iX	S Z		34	08			
		iX	Z		34	19			
316		iP	SWZ	21	52	23		6.9	H = 21 50 52
		i(P)	E		53	48		770 Km	USCGS 3½S, 151½E
		iS	N		53	53			
		eL	EN		54	49			
317		eP	SWZ	22	20	11			Aftershock of No. 27
318		eP	Z	23	09	29			" "
319		eP	EN Z	23	27	29		39°	H = 23 20 04
		e(PPP)	N		29	57		4340	USCGS 15½S, 173W
		iS	EN		33	26		Km	
		e(ScS)			37	00			
		e(ScS)			37	07			
320	Feb 11	eX	Z	01	01	..			Near activity?
321		i(P)	Z	03	45	15			Near activity.
322		iP	Z	04	05	39		35	H = 03 .59 .38
		ePcP	Z		07	57		3890	h about 500 ca
		eS	EN		10	35		Km	USCGS 25S, 179W
		i(sS)	E		13	51			
		iScS			15	08			
323		iP	Z	04	32	02			USCGS 14S, 170½E
		e(S)	E		35	33			Deep
324		eP	Z	04	41	10			Aftershock of No. 27
325		eP	Z	04	45	52			" "
326		iP	Z	05	32	44			" "
327		eP	Z	06	39	(11)		(20)	
		e(S)	E		43	09		(2220)	
		eL	E		49.5			Km	
328		iP	Z	07	32	49			Aftershock of No. 27
329		iP	ENSWZ	08	31	04			Dilatation USCGS 6S, 155E
330		iX	SW	08	33	44			Aftershock of No. 27 Deep
		i(S)	E S		34	00			Confused by preceding
		e(S)	W		34	02			shock

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
331	Feb. 11	eX	Z	08	58.5				Near activity
332		eP	Z	09	50	23			Aftershock of No. 27
333		eP	Z	10	31	55			Aftershock of No.27
334		iP	Z	10	37	47			Dilatation Aftershock of No.27 Deep
335		eP	Z	12	56	57			Aftershock of No.27
336		iX	Z	13	17	50			USCGS 34S,70½W?
		eX N			23.2				
		eX E			26.1				
337		eX	Z	13	48	34			Near
338		iP	Z	16	43	16			Near
339		iP	Z	18	22	45			Aftershock of No.27
340		iP	Z	18	39	56			Aftershock of No.27
341		iP	Z	21	00	38			
		iS E			04	13	19.8		Dilatation
		iS N			04	17	2200		H = 20 56 08
		e(L) N		06	20		Km		USCGS 11½S, 166½E
		e(L) E		06	30				
342		iP	Z	21	30	04			
343	Feb 12	eX	SWZ	00	43	10			
344		iP	Z	01	07	19			
345		eP	ENSWZ	01	31	52			Aftershock of No. 27
346		eP	S Z	04	45	18			Aftershock of No.27 USCGS 4½S 153½E
		iP	SWZ		45	21	5.0		H = 04 44 03
		iX	ENS Z		45	28	560 Km		$M_1 = 5\frac{1}{4}$
		iS	NS		46	14			
		iS	E W		46	16			
347		iP	Z	05	37	56			
348		iP	Z	05	39	55			Deep -Fiji Tonga area
		eS	Z		40	(41)	(4.0)		H = 05 38 (55)
							(450 Km)		$M_1 = (3\frac{3}{4})$
349		eP	Z	06	21	10			
		e(S)	Z		22	(51)	(9.0)		H = 06 19 (00)
							(1000) Km		$M_1 = (4\frac{3}{4})$
350		i(S)	Z	06	54	27			
351		iP	Z	08	53	46			
		iS S			55	06	7.1		H = 08 52 02
		iS	Z		55	07	790 Km		$M_1 = 5$
352		iP	Z	08	59	52			
353		iP	Z	09	03	13			Aftershock of No.27
									" "

No.	Date.	Phases.		Time (GMT) h	m	s	per sec	degrees	Remarks
354	12th Feb	iP	Z	11	53	03		3.2	H = 11 52 14
		iS	ENSW		53	40		360 Km	M_l = 4¼
		iX	Z		53	48			
		iX	Z		54	26			
355		iP	Z	14	13	06			Aftershock of No. 27
356		iP	Z	16	34	39			Aftershock of No. 27
357		iP	Z	16	40	32			Aftershock of No. 27
358		iP	SWZ	20	13	18		6.0	H = 20 11 49
		iS	SWZ		14	26		670 Km	M_l = 5
359		iP	Z	20	22	19			Aftershock of No. 27
360		eL	EN	23	38.8				
361	13th Feb	eP	Z	01	10	04			Aftershock of No. 27
362		eP	Z	03	20	45		4.5	H = 03 19 37
		iS	W		21	37		500 Km	M_l = 4½
		iS	S		21	38			
		iS	Z		21	39			
363		eP	Z	04	49	41			Aftershock of No. 27
364		eP	Z	05	23	(50)		(2.9)	H = 05 23 (05)
		iS	SWZ		24	24		(320)	M_L = 3¾
		iX	Z		24	28		Km	
365		iP	SWZ	06	09	31			Aftershock of No. 27
366		iP	Z	08	41	55		1.8	H = 08 41 26
		iS	SW		42	16		200 Km	M_l = 3
		iS	Z		42	18			
367		iP	EN Z	15	46	11		(22.7)	Possibly deeper than
		iP	SWZ		46	13		(2520)	normal.
		iS	N		50	08		Km	USCGS 1½N 127½E
368	14thFeb	eX	Z	00	24	31			
369		iP	SWZ	00	34	52			Aftershock of No. 27
370		eP	Z	01	21	51		1.8	H = 01 21 22
		iS	SW		22	13		200 Km	M_l = 3¼
		iS	Z		22	16			
371		iP	Z	03	16	52			Aftershock of No.27
372		iP	Z	03	24	51			Aftershock of No. 27
373		eP	Z	08	23	41			Aftershock of No. 27
374		iP	Z	12	59	13			USCGS 23½S, 179E
375		i(PcP)	Z	15	49	26			USCGS 29S 177W
		eL	N		58.8				
		L_{max}	N	16	02.3				
		L_{max}	E		04.7				
376		iP	SWZ	18	52	40			USCGS Solomon Is.area
		iP	SWZ		52	43			
377		iP	Z	20	28	08			Aftershock of No. 27

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
378	14th Feb	iP	ENSWZ	20	32	54			Dilatation
379		eP	Z	20	47	20			Aftershock of No.27 Deep USCGS 5S, 154½E
380		iP	Z	21	10	10			Aftershock of No. 27 USCGS 18½N 145½E
381		i(P)	Z	22	59	14			
382	15th Feb	iS iS	W S Z	02	59 59	32 34			
383		eP	Z	03	35	47			Aftershock of No. 27
384		e(S)	Z	06	58	08			
385		iP	Z	07	14	09			Aftershock of No. 27
386		eL	EN	07	18.3				
387		eP eS	Z SWZ	11	02 03	(40) 03		(1.8) (200 Km)	H = 11 02 (11) M_l = 3
388		eP eS	Z Z	16	43 43	(00) 37		(3.2) (360 Km)	H = 16 42 (10) M_L = (3¾)
389		eP eS	Z Z	16	46 47	(22) 00		(3.3) (370 Km)	H = 16 45 (32) M_l = (3¾)
390		e(S)	SWZ	17	19	27			
391		e(S)	Z	17	33	(31)			
392		iP	Z	18	23	01			Aftershock of No. 27
393		i(S)	SW	21	12	27			
394		iP	Z	21	18	15			Aftershock of No. 27
395		eL	N	22	38.3				USCGS 29½S, 176½W
396		iP	Z	23	31	31			Aftershock of No. 27
397	16th Feb	eX L_{max} L_{max}	Z N E	01	16 31.8 34.3	(35)			USCGS 29½S, 176½W
398		iP	Z	03	38	33			Aftershock of No. 27
399		i(P)	Z	03	47	17			
400		i(P)	S Z	04	01	14			
401		iP i(pP) i(S) i(S) iX	SWZ Z E N Z	05	06 Ø6 10 10 11	08 23 44 47 36		(27.7°) (3080) Km	Compression H = 05 00 (24) h about 60 Km USCGS 18½N 146E
402		iP iPcP	SWZ Z	05	29 31	16 24			Compression Deep? USCGS 32½S 179½W
403		i(S) i(S)	Z SW	07	07 07	14 15			Near?
404		iP	Z	08	09	(42)			Aftershock of No.27
405		iP	Z	10	35	39			Aftershock of No. 27

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
406	Feb 16	iP	Z	10	37	31			Aftershock of No. 27 USCGS 6⅓S, 154⅓E
407		iP	Z	13	15	00			Aftershock of No. 27
408		iP	Z	15	25	39			Dilatation Aftershock of No.27
409		iP	Z	16	57	54			" "
410	Feb 17	iP	Z	02	33	12			Possibly deep
411		i(P)	N	10	10	04			
		L_{max}	N		22.6				
		L_{max}	E		25.1				
412		iP	Z	12	45	39		(95)	USCGS 30S, 112⅓W
		i(SKS)	E		56	22		(10560)	
		i(S)	EN		57	04		Km	
		i(PS)	N		58	12			
		e(PS)	E		58	15			
		iSS	N	13	03	20			
		iSS	E		03	27			
		iX	N		11	00			
		eL_r	N		16.8				
		L_{max}	EN		22.8				
413		eP	Z	16	51	16		(6.0)	H = 16 49 47
		iP	Z		51	20		(670)	M_L = 5¾
		iP	SW		51	21		Km	USCGS 5S, 142⅓E
		iX	Z		51	34			
		iX	S		51	57			
		i(S)	Z		52	20			
		iX	SW		52	26			
		iX	Z		52	31			
		eX	N	16	52	(37)			
		eX	E		52	(40)			
		iX	W		52	52			
		iX	Z		53	16			
		iX	E		53	(32)			
		iX	S Z		53	33			
		iX	W		53	51			
		eX	S		53	52			
		iX	E		(53)	58			
		iX	N		(54)	(03)			
414		eX	Z	19	17	26			Near activity
415		i(P)	Z	20	32	38			
		iX	Z		32	50			
416		i(P)	Z	21	14	31			
417	Feb 18	iP	Z	03	01	07			
		iP	SW		01	09			
418		eX	Z	05	14	31			
		iX	Z		17	10			
		iX	S		17	29			
419		iP	Z	06	19	21			
420		iP	Z	07	06	34			Aftershock of No.27
		iS	SWZ		07	47		6.4	H = 07 05 00
		e(L)	E		09.4			710 Km	M_L = 4¾
421		i(S)	Z	13	08	13			
		i(S)	S		08	14			

No.	Date.	Phases.		Time (GMT) h	m	s	per sec	degrees	Remarks
422	Feb 18	iP	Z	13	09	35		2.3	
		iS	SWZ		10	03		260 Km	
423		iP	Z	14	38	52			
		iX	Z		39	08			
424		eX	SWZ	15	36	..			Minor near activity
425		iP	Z	16	52	(06)			Aftershock of No.27
426		eX	Z	21	49	(44)			Minor near activity
427		iP	SWV	23	40	(44)		(2.3)	H = 23 40 (08)
		iS	SWZ		41	11		(260 Km)	M_L= (4)
428	Feb 19	i(S)	SW	01	36	56			Near
		i(S)	Z		36	(58)			
429		iP	Z	05	58	29			Aftershock of No.27
430		iP	Z	10	49	03		84.8	Compression
		iP	EN		41	04		9420 Km	H = 10 36 53
		ipP	Z		49	57			h about 220
		isP	Z		50	19			USCGS 36N 70½E
		i(SKS)	E		59	04			
		iS	EN		59	10			
		iX	E	11	00	18			
		isS	E		00	43			
		iX	E		04	31			
		iX	E		07	40			
		iX	E		08	15			
		iX	E		10	50			
431		iP	Z	11	12	11		5.0	Dilatation
		iS	SWZ		13	08		560 Km	H = 11 10 53
									M_L= 5
432		i(P)	SW	12	04	34			
		e(P)	Z		04	36			
433		iX	S	15	58	22			Near?
		iX	Z		58	23			
		iX	W		58	25			
434		iP	Z	20	11	06			Afterhsock of No. 27
435		iP	Z	22	21	03		8.6	H = 22 18 58
		iS	Z		22	40		960 Km	M_L= 4¾
436		iP	SWZ	22	41	28		(4.1)	H = 22 40(26)
		i(S)	SW		42	16		(460 Km)	M_L= (4)
		i(S)	Z		42	23			
437		i(S)	SW	22	44	02			Near
		i(S)	Z		44	07			
438	Feb 20	eX	Z	00	21	47			
		eL	EN		31.0				
439		eL	N	01	48.7				
440		eP	Z	03	23	(03)		(1.7)	
		iS	SWZ		23	24		(190 Km)	
441		iP	SW	06	12	10			Probably Fiji
		iP	Z		12	11			Deep.

No.	Date.	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
442	Feb 20	iP	SWZ	07	26	02			Aftershock of No. 27
443		iX	E	18	23	16			
		eL	N		(25.7)				
		eL	E		(26.9)				
444	Feb 21	iP	SWZ	00	54	27		40.3	Compression
		iP	EN		54	28		4480 Km	H = 00 46 52
		ipP	Z		54	41			h about 50
		iS	EN	01	00	31			USCGS 42S,173E
		isS	EN		00	52			
		eX	E		03	38			
		eL_r	N		06	19			
445		EP	Z	06	51	56			Aftershock of No. 27
446		iP	Z	09	45	34		34.5	Dilatation
		ipP	Z		47	13		3840 Km	H = 09 39 33
		iS	N		50	23			h about 600
		i(sS)	E		53	44			USCGS 20S, 178½W
		iScS	N		54	47			
		iX	E		55	56			
447		eP	Z	10	44	43		1.9	H = 10 44 12
		iP	SWZ		44	44		210 Km	M_L = 3
		iS	Z		45	06			
		iS	SW		45	07			
448		iX	Z	16	42	10			
449		iP	Z	22	48	10		23.3	Compression
		ipP	Z		48	18		2590 Km	H = 22 43 04
		iS	N		52	16			USCGS 2½N 128⅓E
		iS	E		52	17			
		i(sS)	E		52	35			
		e(L)	E		55.9				
450	Feb 22	iP	Z	01	00	38		34.7	H = 00 54 36
		iS	N		05	28		3860 Km	USCGS 20S,178⅓W
		iScP	Z		05	43			
		iX	EN		08	48			
		iScS	N		09	51			
		iX	E		11	05			
451		iP	Z	02	19	53		(5.7)	H = 02 18 (28)
		i(S)	Z		20	58		630 Km	M_L = (4¼)
452		iP	Z	03	15	29			
		iX	Z		15	42			
		iX	Z		16	27			
		i(S)	Z		16	37			
453		eP	Z	04	44	52			Aftershock of No. 27
454		eX	Z	05	03	39			Minor near activity
455		iX	Z	05	29	27			
		iX	N		37	06			
		iX	E		37	15			
456		eX	Z	06	02.2				Near activity
457		i(P)	SWZ	07	04	20			Compression.

No.	Date.	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
458	Feb 22	iP	Z	08	40	17			Dilatation
		iP	SW		40	18			USCGS 18S, 179½W
459		iP	Z	18	37	25		3.6	H = 18 36 30
		iS	Z		38	07		400 Km	M_L = 4½
		iS	S		38	08			
		iS	W		38	10			
460		i(P)	Z	18	51	20			Aftershock of No. 27
461		eX	Z	19	01	..			Minor activity.
462		eP	Z	21	31	(29)		(4.0)	H = 21 30 (28)
		iS	SW		32	15		(440 Km)	M_L = (4¼)
		iS	Z		32	16			
463	Feb 23	iP	Z	02	22	00			USCGS 36N, 70E
464		iP	Z	08	18	(18)		(41.6)	H = 08 10 (35)
		i(pP)	Z		18	36		(4620)	h about (70)
		iS	N		24	29		Km	USCGS 23½N 121½E
		eX	N		27.8				
		L_{max}	E		35.2				
465		iP	Z	11	37	23			Dilatation
		iS	EN Z		42	21			USCGS 19S, 178W
466		iP	Z	15	01	47			Aftershock of No. 27
467		iP	EN WZ	16	06	47			Dilatation
									Aftershock of No. 27
									USCGS 6S, 154½E
468		iX	Z	18	13	58			
469		eL	EN	19	(21	..)			
470	Feb 24	iP	WZ	06	38	30			Dilatation
471		iP	SWZ	07	08	33			Aftershock of No. 27
472		iP	Z	08	45	54		22.7	H = 08 40 54
		iS	EN		49	56		2520	USCGS 17½S, 168E
		L_{max}	N		55.5				
		L_{max}	E		55.7				
473		iP	SWZ	08	56	23		[illegible]	Dilatstion
		iS	SW		56	48		230 Km	H = 08 55 50
									M_L = 4½
474		iP	Z	12	30	06			Aftershock of No.27
475		iP	E SWZ	21	39	19		(8.5)	Dilatation
		i(S)	N		40	54		(940)	H = 21 37 (15)
		iX	W		41	03		Km	M_L = (6½)
		iX	S		41	05			USCGS 7½S, 156E
		iX	W		41	13			
		iX	S		41	14			
		iX	W		41	18			
		iX	E		41	(19)			
476	Feb 25	eX	Z	01	32	(06)			High miscroseismic activity
477		iP	WZ	03	55	(05)			
478		eX	Z	05	47	26			Possibly aftershock of No. 27.

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
479	Feb 25	iP	Z	06	51	(03)			
		iX	E		52	19			
		iX	Z		52	26			
		iX	E		52	51			
		iX	Z		53	33			
		iX	N		53	49			
		iX	N		54	49			
		iX	E		59	41			
480		eP	Z	20	57	57			
		eX	EN	21	00.0				USCGS 7S, 154E
481		i(P)	WZ	23	35	03			
482	Feb 26	iP	SWZ	01	11	04		(18.7)	Dilatation
		i(PPP)	E Z		11	34		(2080) Km	USCGS. 2½S, 128E
		iX	SW		14	21			
		i(S)	N		14	28			
		i(S)	E		14	31			
483		iP	Z	02	11	30	1	(12.4)	H = 02 08 (33)
		iP	E S		11	31		(1380) Km	USCGS 1S, 138E
		iX	N		11	39			
		i(PPP)	Z		11	50	2		
		eX	Z		12	00			
		i(S)	N		13	48			
		iX	E		14	(37)			
		iX	N		15	08			
		iX	E		15	32			
		iX	N		15	44			
		iX	E		16	24			
		iX	N		16	48			
		L_{max}	E		19.6				
484		i(P)	Z	06	14	18			
		eL	EN		22.0				
485		iP	Z	06	40	07			
		iPcP	Z		42	17			Compression
		iX	E		45	42			Possibly deeper than normal
		iX	N		45	46			
		iL	N		53	32			USCGS 20S, 174W
		L_{max}	N		56.3				
		L_{max}	E		56.8				
486		eL	EN	12	24	..			
487		iP	Z	12	31.1				Near shock? No time marks on record from here to 2330 ca
488		eP	Z	13	44.8				
		eS	Z		45.3				Near S-P = 30 sec
489		eP	Z	14	55.2				
		i(S)	Z		57.0				
		eL	EN		58	..			
490		iP	Z	21	51.1				Near shock

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
491	Feb 26	iP	Z	23	40	(00)			USCGS 51½N, 178W
		i(S)	EN		49	(20)			
		eL	E		01.3				
		eL	N		02.2				
		L_{max}	N		08.1				
492	Feb 27	eL	EN	02	11	..			
493		eX	Z	08	21	(11)			Confused by ... microseisms.
		iS	EN		29	56			USCGS 51½N, 178W
		eL	E		38.0				
		eL	N		39.2				
494		iP	Z	09	03	17			Confused by microseisms and preceding shock
		eX	Z		04	26			USCGS 30½S, 179½W
		e(L)	EN		11.9				
		L_{max}	EN		21.6				
495		iP	Z	09	13	41			Compression confused by preceding USCGS 6½S, 102½E
496		eP	Z	14	00	(04)			USCGS 7S, 156½E
		iL	N		03.3				
		iL	E		03	35			
497		eP	Z	14	25	31		(9.1)	H = 14 23 (19)
		eS	W		27	14		(1010)	USCGS 7S, 156½E
		iX	Z		27	21		Km	
		eX	E		27	23			
		eL_Q	N		27.9				
		eL_r	E		28.4				
498		eP	Z	14	58	(38)			USCGS 7S 156½E
499		iP	Z	18	23	53		(9.1)	H = 18 21 (41)
		i(S)	N		25	35		(1010)	
		i(S)	E		25	39		Km	
		Power off 2149 - 0730/28							
500	Feb 28	iP	SWZ	11	35	04			
		eX	Z		37	08			
		e							
501		iP	Z	16	51	(01)			Near activity
		i(S)	W		51	27			
		i(S)	Z		51	28			
502		iP	SWZ	22	16	30			Aftershock No. 27 Possibly moderate depth.
503		iP	SWZ	23	07	39			USCGS 3S, 142E
		iX	SWZ		07	51			
		iX	S		09	21			
		eX	EN		09	23			
504		eP	Z	23	54	24			USCGS 3S, 142½E
		iX	Z		54	43			
		eX	N		56	22			
		eX	E		56	50			
		Day's record for 28th confused by heavy microseisms							
505	Feb 29	Very heavy microseismic background							
		eP	Z	03	31	(08)			
		i(S)	W		31	50			
		i(S)	Z		31	51			
		eX	Z		32	02			

No.	Date	Phases		Time (GMT) h	m	s	per sec	degrees	Remarks
505	Feb 29	eX	N	04	06	24			
		eX	E		06	32			
507		eX	S	17	53	58			Near activity
		eX	W		53	59			

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Provisional Earthquake Phases — No.20/60

May I9	eP				Z	IO	24	18
	eS	E	N				34	08
	iP							
	i				Z	13	05	03
	i				Z		06	I4
	i(S)	E	N	S	Z		06	30
	i			S W	Z			33
	e(P)				Z	20	52	(12)
					Confused by microseisms			
May 20	eP							
	e(S)			S W	Z	00	25	(16)
	L Max	E					26	(30)
	L Max		N				28.3	
							28.6	
	i				Z	06	36	53
	iP	E	N	S W	Z V	II	18	21
	iS	E					23	02
	iP							
	i(S)		N	S W	Z	19	39	25
					Z		40	34
May 21	ePKIKP				Z	IO	22	06
	ePP				Z		23	26
	e(SKKS)	E					28	41
			N				28	49
	e(PS)						30	53
	e(PPS)	E					32	13
					Magnitude= m = 7¼			
	e				Z		3I	46
					possible aftershock			
	e(PKIKP)				Z		34	59
					possible aftershock			
	e(PP)				Z		36	21
	e(PP)				Z		39	36
					possible aftershock			
May 22	eP				Z	OI	03	5I
	eS	E	N				08	(34)
	L max	E	N				13.5	
	M	E	N				I6.2	

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Provisional Earthquake Phases — No.20/60

May 22
(continued)

ePKIKP		Z	IO	5I	43	
ePP	E N	Z		53	05	
eSKS	E			58	(45)	
e	N			59	(08)	
eSKKS	E N			00	(08)	
ePS	E N			02	(59)	

Magnitude = m = 7¼

ePKIKP					
e PP	N	Z	19	15	02
eSKS	E N	Z		16	20
eSKKS	E N			21	(44)
ePS	E			23	(09)
				26	(15)

Magnitude = m = 7¼+

e		Z	19	29	..

Record confused. P onset .. of following shock

eLQ	S W		19	59.5	Period = 60 secs.

Ground amplitude 3.5 mms.
Possible following shocks.
Records too confused for analysis.

May 23

eP		Z	00	35	07
i		Z		35	13
i(P)		Z	00	41	48

Several aftershocks 00h to 07 h. Records too confused for analysis

e(PKIKP)		Z	07	27	24
e(PP)		Z		28	44
e(SKS)	E N			34	(28)
e(SKKS)	E N			36	(08)

Probable aftershock Chile 'quake

M	N				
M	E		II	40.5	
				42.5	

Probable aftershock

eP		Z	16	16	06
e		Z		17	11
e	E			19	(44)

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Provisional Earthquake Phases No.20/60

May 23 (continued)								
	e		N			19	(58)	
	L max	E				23.5		
May 24	iP			Z	06	34	20	
	e(S)	E	N			38	(22)	
	iP			Z	14	54	05	
	e	E			15	00	16	
	e		N	Z		00	18	
	e	E				00	42	
	eL	E	N		20	45.0		
	Probably Chilean aftershocks							
	eP			Z	23	38	09	
	eS	E	N			42	06	
May 25	eP			Z	02	45	13	
	e	E	N			51	12	
	L max		N		03	05.2		
	L max					05.5		
	e(PP)	E	N	Z	08	54	11	
	ePPS	E	N		09	03	55	
	eSS	E	N			IO	14	
	iP			Z	13	43	15	
	ipP					43	44	
	iS		N			47	11	
	iS	E				47	13	
	isS					48	08	
	eP			Z	14	32	31	
	epP			Z		33	02	
	iS		N			36	28	
	eS	E				36	30	
	iP			Z	I5	05	20	
	i		N			IO	07	
	i			Z		IO	31	
	i			Z		11	19	
	e	E				13	(14)	
	e		N			13	(17)	
	iP			Z	17	32	11	

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Provisional Earthquake Phases — No.21/60

May 26	iP				Z	V	02	31	44
	eS	E	N					32	19
	e				Z		05	29	12
	Time - marking out of order from 0730 until 0630 27th.								
May 27	eP				Z	V	19	46	(03)
	iS	E	N	S W					48
	e(P)				Z		20	02	04
								near shock.	
	iP			S	Z	V	20	11	33
	iS			S W	Z			12	54
	eP				Z		22	22	40
	eS			S				23	58
	iS	E	N	W				24	01
May 28	e(P)				Z		01	00	30
	e(S)			S				01	47
	e(P)				Z		07	11	35
	e				Z			13	13
								near activity.	
	eL	E	N				12	01.9	
May 29	Clock out of order: Interpretations doubtful								
30	Clock out of order 0000-0402 Interpretations not possible.								
	e(P)				Z		08	37	13
	eL	E	N					49.5	
	eP				Z		09	49	54
	eL	E	N					55.7	
	e(P)				Z		10	38	(03)
May 31	e(P)				Z		02	59	31 Distant
	eP				Z		04	57	30
	iP				Z		11	22	07
	i				Z			22	12
	eP	E			Z		13	13	23
	e			S W	Z			13	27
	e	E						15	00
	L Max	E	N					16.5	
	iP				Z		21	07	05
	iS	E	N					12	11
June 1	eP				Z		22	16	41

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Provisional Earthquake Phases. No.22/60

June 2	iP			Z		01	57	54	
	e			Z		06	17	15	
	e	E					24	48	
	e	E	N				33	(12)	
	Lmax	E	N				57.5		Distant
	iP			Z		07	26	17	
	i			Z			26	30	
	iP	E	N S W	Z	V	07	48	39	
	iS	E	N S W	Z	V		49	41	
	iP			Z		19	05	16	
	i		N				10	10	
	e	E	N				13	28	
	iP			Z		21	31	11	
	i			Z			32	06	
	iP	E	N S W	Z	V	25	20	57	
	i	E	N				21	37	
	iS		S W	Z	V		21	40	
June 3	iP	E	N S W	Z	V	07	39	43	
	i	E	N				40	40	
	iS		S W	Z			40	44	
	iP		S W	Z		13	20	36	
	i			Z			22	30	
	e	E	N W	Z			25	18	
	e	E					28	31	
	iP	E	N S W	Z		13	29	36	
	i			Z			31	28	
	e	E					33	00	
	i		N S W	Z			34	17	
	e	E	N				37	14	
June 4	iP	E	N S W	Z		07	55	36	
	iS	E	N S W				56	15	
June 5	iP			Z		19	38	(09)	
	e	E	N				39	(57)	
	e	E	N				44	(14)	
	e	E					48	(10)	
June 6	e(PKIKP)			ZZ		06	11	12	
	e		N				11	18	
	iPKS	E	N	Z			15	22	
	iPPP		N	Z			16	06	
	e(SKS)	E	N				19	06	
	e(SKKS)		N				20	54	
	e	E					21	04	
	ePS	E	N				23	14	
	e(PPS)		N				25	20	
	i			Z		23	36	15	
	i			Z			36	29	

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June	7	i(P)					Z	02	24 54
		iP					Z	20	43 41
		iS			S	W	Z		44 54
June	8	iP					Z	00	38 41
		i	E	N	S	W	Z		39 09
		i(S)	E	N	S	W	Z		39 22
		iP					Z	05	15 17
		i					Z		15 59
		i					Z		16 07
		e(S)		N			Z		19 09
		e	E						19 15
								Deep?	
		iP	E	N	S	W	Z	21	13 56
		iS			S	WW			14 19
		i	E				Z		14 42

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Provisional Earthquake Phases. No. 23/60.

June 9	iP	E	N	Z	11	28	57	
	i			Z		29	04	
	i			Z		29	19	
	iS		N			33	02	
	iS	E		Z		33	04	deep
	eP			Z	15	11	41	
	i			Z		11	56	
	i		N			15	19	
June 10	iP	E		Z	12	02	58	
	i			Z		03	11	
	iS		N			06	00	
	iS	E				06	05	deep
	eP	E		Z	21	19	31	
	iS	E				25	34	
June 11	i(PKIKP)			Z	00	53	40	
	i(PP)			Z		56	20	
	i			Z		56	45	
	i(PKS)	E				57	15	
	e(PKS)		N			57	(17)	
	eP			Z	15	15	30	
	iP	E				15	31	
	iP		N	Z		15	33	
	i(S)		S			16	42	
	e			W		16	46	
	iP			Z	16	31	00	
	e(S)		S			32	05	probable
	e			W		32	08	aftershock
	iP			Z	16	39	05	probable
	i(S)		S			40	20	aftershock
	eP			Z	17	10	(17)	probable
	i(S)		S			11	36	aftershock
	iP			Z	20	56	25	
	e(S)		S			57	33	
	iP			Z	21	49	57	
	e(S)		S			51	17	
June 12	iP	E		Z	04	02	39	
	e(pP)			Z		04	20	
	iS	E	N			07	22	
	i(sS)	E	N			10	38	
	e(PKP)			Z	07	22	33	
	e	E	N			24	07	
	e			Z		24	14	
	e		N		07	45	55	
	e	E				45	57	
	e	E	N			47	17	
	e	E	N			48	10	
	e	E	N			53.I		distant

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Provisional Earthquake Phases No. 23/60.

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June 12 cont.	eP				Z	14	30	50
	eP				Z	21	02	(32)
June 13	iP				Z	02	31	11
	i				Z		31	57
	i				Z	03	25	47
	i(P)				Z	06	59	(11)
	i				Z	07	00	33
	e(S)	E	N				00	(22)
	Lmax	E	N				02.0	
	e(P)				Z	08	43	14
	i				Z		43	45
	i(S)				Z		44	19
	e(S)		N				44	(20)
	Lmax	E	N				45.5	
	Days record confused by heavy microseisms							
June 14	iP			S	W	Z	14	37 38
	iS			S	W	Z		38 59
	iP			S	W	Z	19	35 43
	iS					Z		36 21
	iS			S	W			36 22
	Record confused by microseisms							
June 15	iP					Z V	02	59 45
	eP					Z	08	10 (49)
	iS		N	S	W	Z		12 08
	i(P)					Z	12	01 58
	i(S)			S	W	Z		03 13
	eP					Z	22	53 20
	eS			S	W			54 37
	iP					Z	23	31 40
	eS		N					34 47
	eS	E			W			34 51

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Provisional Earthquake Phases — No.24/60.

June 16	eP			Z	03	29	21	
	e	E		Z		34.1		
	eP			Z	10	00	14	
	i			Z		00	28	
	eP			Z	15	11	(08)	
	e			Z		11	34	
	eS	E	W	Z		12	10	
	i			Z		12	36	
June 17	iP			Z	02	51	00	
	iP			Z	05	08	45	
	iP			Z	16	46	47	
	i(P_cP)			Z		46	58	
	eS	E	N			56	54	Distant
June 18	eP	E	N S W	Z V	03	20	26	
	eS	E	N S W			21	40	
June 19	i			Z	09	17	33	
	iP			Z	09	47	03	
	e(S)	E	N			49	50	
	iP			Z	12	28	01	
	iP		S W	Z	14	31	48	
	iS		S W	Z		32	37	
	e(P)				17	24	44	
June 20	e(PP)		N	Z	02	21	28	
	e(SKS)	E				27	04	
	e	E	N		13	25	28	
	e	E				29	39	
	Record confused by microseisms							
June 21	eP			Z	12	48	47	
	e		N			53	(4I)	
	e	E				54	(45)	
June 22	iP			Z	04	20	19	
	i			Z		20	23	
	iS		S W			21	07	
	i		W			21	13	
	eP			Z	21	40	40	

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Provisional Earthquake Phases. No.25/60.

June 23	eP		Z	I2	12	49
	e		Z		I3	(34)
	iS	N			I6	I9
	iS	E			I6	24
June 24	eL	E N		I5	38	..
	Lmax	N			43.2	
June 25	e(P)		Z	02	09	(49)
	Lmax	N			25.9	
	Lmax	E			27.3	
	eP		Z	I4	49	I9
	i(pP)		Z		49	58
	ePP		Z		50	53
	iPP	E N			5I	00
	e		Z		5I	29
	iS	E			55	II
	i	N			55	26
	e		Z		55	30
	i(G)	N			58	25
	e(ScS)	E			59	(03)
	i(ScS)	N			59	07
	Depth possibly 200 Km					
	eP		Z	21	I5	27
	eS	S			I7	20
June 26	e(P)		Z	I5	55	37
	iP		Z	22	I3	58
	eS	S W			I4	36
	Record confused by microseisms					
June 27	e(P)		Z	02	48	31
	e	W			50	49
	e		Z		50	5I
	e(P)		Z	I6	58	(02)
	e(S)	E N		I7	04	06
	eLmax	N			I5.I	
	eLmax	E			I5.4	
	Day's record masked by microseisms					
June 28	e	S	Z	I6	I3	48
	eL	N			29.8	
	eL	E			33.I	
	Day's record masked by microseisms					
June 29	eL	E N		02	52.0	
	eP		Z	04	36	32
	e		Z		38	I9
	eL	E N			45.9	
	eLmax	N			5I.8	
	eLmax	E			53.8	
	Confused by microseisms Possibility of two shocks					
	e(P)		Z	I0	30	25
	iP	S W	Z	I6	58	59
	eS	E N S W			59	47
	Day's record masked by microseisms					

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Provisional Earthquake Phases No.26/60

June 30	Nil						
July 1	iP		Z	10	14	20	
	iP		Z	17	45	21	
	i		Z		45	36	
	i		Z		46	00	
July 2	iP		Z	07	57	59	
	i		Z		58	03	
	iS	S W			58	35	
	i(PKP)		Z	12	15	19	
July 3	eP	N	Z	20	31	42	
	i	E	Z		31	44	
	i		Z		31	47	
	i		Z		32	00	
	iS	E N			40	35	
	e	E			41	51	
	iP		Z	23	03	20	
July 4	eP		Z	04	41	45	
	e(PP)		Z		45	14	
	e(S)	E			52	54	
	e(S)	N			52	58	
July 5	Nil						
July 6	iP		Z	05	29	00	Possibly deep
	iP		Z	05	38	10	Near
	iP		Z	23	22	12	
	ipP		Z		22	20	
	e(S)	E N			26	17	
	iP		Z	23	38	13	
	iS	S W			39	44	

Day's record confused by microseisms

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Provisional Earthquake Phases. No.27/60

July 7	Nil Recorded								
July 8	eP				Z	11	17	(49)	
	e		S	W			17	50	
	eS	N	S	W	Z		18	36	
	iP				Z	14	48	57	
	eP		S	W			48	58	
	iP	E	N				48	58	
	eS		S				51	59	
	eS			W			52	01	
	e(S)	E	N				52	12	Microseisms present
July 9	iP				Z	00	50	17	
	eS	E	N				56	25	
	iP				Z	06	45	01	
	eS			W	Z		46	03	
	iP			W	Z	09	20	17	
	e			W			20	38	
	e				Z		20	42	
	eS		S	W	Z		21	36	
	eP		S			14	14	49	
	i		S		Z		14	53	
						Small near shock?			
July 10	iP	E	N		Z	00	14	16	
	iS		N				21	25	
	e	E					21	42	
	i		N				21	44	
	i		N				24	27	
July 11	eP				Z	07	43	(30)	
	eS	E	N				48	36	
	iP	E		W	Z	12	02	52	
	e(pP)				Z		03	22	
	iPcP				Z		04	56	
	i(S)	E	N	S			09	05	Confused by near quake
July 12	Nil recorded								
July 13	Microseisms present								
	eP				Z	14	33	35	
	eS	E					37	(45)	
	i(P)				Z	16	04	37	
	eP			W	Z	17	05	20	
	iS			W	Z		06	34	
	i(P)				Z	17	10	52	

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PORT MORESBY GEOPHYSICAL OBSERVATORY.

Provisional Earthquake Phases. No.28/60

July 14	eP					Z	10	32	(16)
	i					Z		32	55
	e		N					36	(30)
	i	E						36	59
	eP					Z	11	14	39
	eS	E	N	S	W	Z		15	59
	iP					Z	17	40	08
	iS	E	N		W			40	52
	eP					Z	20	24	(15)
July 15	iP					Z	10	53	50
	eS			S	W	Z		54	54
	eP					Z	21	53	37
	eS			S	W	Z		55	05
July 16	iP					Z	04	12	17
	i					Z		12	39
	e		N			Z	17	28	24
	i					Z		28	30
July 17	iP	E	N	S	W	Z	23	36	46
	i	E	N	S	W	Z		37	23
	i(S)	E	N	S	W	Z		37	28
July 18	iP	E	N	S	W	Z	01	44	57
	iS			S	W			46	17
19	iP					Z	14	12	54
	eS	E	N	S	W			13	59
	eiP					Z	18	34	26
	i(pP)					Z		34	47
	e			S				38	13
	e	E	N					38	29
July 20	iP					Z	09	40	40
	eS	E	N					48	44
	iP			S	W	Z	21	04	31
	e(S)	E	N					09	06

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PORT MORESBY GEOPHYSICAL OBSERVATORY.

Provisional Earthquake Phases. No. 29/60

July 21	iP		Z	16	59	27
July 22	Nil recorded					
July 23	eP		Z	00	08	48
	e		Z		09	20
	e(S)	E			12	(57)
	eLmax	N			17.9	
	iP		Z	07	37	42
July 24	Nil recorded					
July 25	i(P)		Z	03	52	(03)
	i(P)		Z		52	12
	i(P)	N			52	20
	iS	E N		04	00	44
	Confused by microseisms					
	e(P)		Z	05	37	(54)
	Lmax	N			35	
	eP		Z	11	22	26
	iPcP		Z		23	02
	iS	E N			30	49
	i	N			31	45
	iSS	E			34	55
	i(SSS orG)	E			38	05
	i(SSS or G)	N			38	10
	iP'P'		Z		51	23
	eP		Z	21	38	30
	e(S)	E			39	39
	eS	N W			39	(40)
July 26	e(P)	S W		00	06	41
	e(S)	S W			08	13
	eP		Z	06	13	25
	e		Z		15	03
	Day's record masked by microseisms.					
July 27	i(P)		Z	03	53	18
	i(P)		Z	03	59	00
	i(P)		Z	04	35	25
	eP		Z	09	04	15
	e		Z		04	30
	e(PP)	N	Z	10	24	24
	e(PS)	N			34	05
	eSS	N			40	33
	eLmax	N		11	07.1	
	iP		Z	14	11	08
	iS	W			11	53
	iS	S			11	54

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Provisional Earthquake Phases. No.30/60

July 28	iP			Z	10	40	12	
	i(S)	E				44	10	
	e(S)	N				44	14	
	eP			Z	16	36	12	
	i			Z		36	23	
	iS	E N	W	Z		37	21	
July 29	iP	E N S	W	Z	00	29	30	
	i(pP)			Z		29	48	
	iS	E N				34	05	
	eP			Z	01	55	46	
	e		V			56	00	Confused by
	e(pP)			Z		56	08	preceding
	i(S)	E			02	00	(11)	
	i(S)	N				00	(20)	
	i(L)	N				03	44	
	iP		S W	Z	03	03	(01)	
	iP			Z	13	30	(51)	
	e(pP)			Z		31	11	
	e(S)	E				35	30	
	e	N				35	44.	
	eP			Z	15	33	21	
	i			Z		33	27	
	e(S)	E N				37	55	
	L max	N			15	41.8		
	eP			Z	17	40	32	
	e	N				40	33	
	e	E	S	Z		40	36	
	i			Z		40	43	
	i			Z		41	24	
	i	N		Z		41	53	
	iS	E				47	32	
	iS	N				47	34	
July 30	iP			Z	00	44	28	
	eP			Z	04	57	05	
	eS		S W			57	46	
	i			Z		57	48	
	eP			Z	05	50	08	
	Lmax	E			05	58.3		
	eP			Z	14	34	18	
	eS		S W			35	(25)	

Power off 2300/30th to 0310/31st.

Continued...

Provisional Earthquake Phases (Cont)

July 31	iP			Z	07	05	43
	iS		S			06	31
	iS		W			06	34
	iP			Z	07	46	00
	Probable aftershock						
	iP			Z	09	07	48
	eS		S W			08	38
	iP			Z	09	22	03
	i(S)	E				25	18
	i(P)			Z	13	02	54
	L max	N				11.0	
	eP			Z	13	23	01
	eS		S W			23	51
	Probable aftershock of 07 05						
	eP			Z	16	31	(31)
	eP			Z	18	47	54
	eS		S W			49	(09)
	eP			Z	22	35	49
	eS		S W	Z		36	58
Aug 1	iP	N	S W	Z	16	30	38
	iS	E		Z		31	53)
		N	S W				54)
	i			Z	21	34	01
Aug 2	iP	E N		Z	05	12	54
	i	E		Z		13	24
	e(S)	N				17	20
	e	E				17	53
	i(ScP			Z		19	50
	eiP			Z	09	37	49
	eS	N				43	26
	e	E				43	42
Aug 3	iP			Z	05	49	38
	iP	E		Z	21	33	23
	i(S)			Z		34	09
	i(S)		W			34	10
	i(S)		S			34	12

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Provisional Earthquake Phases. No.31/60

Aug 4	eP			Z	05	51	19
	iS		S W	Z		52	28
	eP			Z	07	45	37
	i			Z		45	50
	iS	E N				54	27
	i	E N				55	30
Aug 5	e(P)			Z	01	15	06
	e	E				23	40
	e	N				24	07
	eP			Z	02	37	51
	i(P)			Z	16	16	45
	eP			Z	22	39	(06)
	eS	E N				47	14
Aug 6	Nil Recorded						
Aug 7	Nil Recorded						
Aug 8	iP			Z	16	50	09
	i(S)		S W	Z		51	18
Aug 9	e(S)	E N			08	03	20
	e	E N				04	59
	eP			Z	16	53	35
	i			Z		54	03
	e(PP)	E N		Z		55	02
	eS	E N				59	14
	e	N				59	27
	iP			Z	23	41	10
	e		S W			44	(42)
Aug 10	i			Z	00	00	10
	eP			Z	10	30	(42)
	e			Z		31	(07)
	e(P)			Z	20	02	(17)
	e	E				04	46

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Provisional Earthquake Phases. No.32/60.

August 11	iP		Z	02	48	11	
	eP		Z	02	59	00	
	e(S)	EN		03	03	40	
	e	EN			03	50	
	eP		Z	04	56	15	
	e(S)	N		05	00	51	
	e	E			01	13	
August 12	iP		Z	00	54	27	
	eP		Z	13	20	54	
	iS	EN			27	34	
	iP		Z	23	26	20	
August 13	eP		Z	07	19	54	
	eS	E			26	57	
	eS	N			26	58	
	ePKIKP		Z	14	30	49	
	ePP		Z		33	41	
	e(PKS)	E			34	21	
	e(PKS)	N			34	33	
	e(PKS)		Z		34	49	
	e	E			35	13	
	e(SKS)	N			37	49	
	e	N			38	48	
	e	E			40	29	
	e	EN			44	37	
	e	N			45	01	
	M	N		15	18.2		
August 14	eP	S	Z	00	26	03	
	e(S)	W			27	00	
	e(S)	S			27	02	
	e	S	Z		27	22	
	iP	NSW	Z	14	41	47	
	iS	W			42	19	
	iS	S			42	20	
August 15	Nil recorded. Day's record masked by microseisms						
August 16	eP		Z	02	47	41	
	eS		Z		49	14	
	eP		Z	08	14	26	
	eS	EN			15	01	
	eP		Z	09	00	37	
	e	E			01	50	
	e	N			01	54	
	iP		Z	22	32	04	
	i(pP)		Z		32	17	
	iS	EN			35	24	
	i(sS)	EN			35	43	Deep?
August 17	e(P)		Z	11	43	43	
	e(P)		Z	11	57	55	
	eP		Z	18	11	22	
	e	E			14	11	
	e	N			15	21	

Day's record masked by microseisms.

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Provisional Earthquake Phases. No.33/60.

August	18	iP	S	Z	09	26	57	
		i(S)	ENS			27	45	
		i(S)	S	Z		27	48	
		eP		Z	22	48	05	
		i	EN	Z		48	13	
		i(S)	N			51	38	
		i(S)	E			51	40	
August	19	eP		Z	01	38	25	
		i(S)	ENSW			39	46	
		iP		Z	16	49	22	
		e	NS			50	45	
		eP		Z	17	14	14	
August	20	eP		Z	04	39	31	
		i	SWZ			39	34	
		iS	ENSWZ			41	03	
		iP		Z	06	36	04	
		i		Z		36	18	
		eP		Z	22	28	22	
		i		Z		28	36	
		iS	N			33	17	
August	21	iP	SWZ		00	19	38	
		iS	W			20	43	
		eS	S				44	
		iP	SWZ		01	00	33	
		iS	N			01	29	
		iS	S				(31)	
		iP	SWZ		12	54	56	
		iS	N			59	13	
		e(S)	E				19	Deep
		i		Z	13	01	42	
		i(P)		Z	14	04	04	
		i		Z	14	41	15	
August	22	No record on Z E N Between 0353 and 0619 Nil recorded.						
August	23	eP		Z	22	51	55	
		iS	N		22	57	36	
		eL_Q	N		22	59	51	
		i	E		23	24	55	
August	24	eP		Z	01	55	16	
		e(S)	E		02	03	54	
		iP		Z	04	28	03	
		iS	ENSW			28	54	

(Continued next page)

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases. No.33/60 (Cont).

PAGE TWO.

August 24 (Cont)	iP		Z	05	56	28	
	e(S)	E		06	02	(35)	
	e	N			03	04	
	L_{max}	EN			12.5		
	i(P)	S	Z	19	37	58	
August 25	e(P)		Z	17	53	(26)	
	e(S)	EN		18	02	40	
August 26	eP		Z	04	28	08	
	iS	SW	Z		29	39	Deep?
	eP		Z	11	52	(44)	
	iP		Z	18	31	36	
	i		Z		31	57	
	e	E			35	09	
	e	N			35	13	
	i	N			35	47	
	M	EN			38.2		
	e(P)		Z	20	48	(26)	
	e	E			51	58	Possible aftershock?
	e	N			52	01	
August 27	iP	SW	Z	19	26	10	
	iS	ENSW			26	48	
	i		Z	12	57	39	
August 28	iP		Z	00	30	54	
	i(pP)		Z		31	27	
	iP	SW	Z	03	14	58	
	iS	ENSW			15	35	

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases. No.34/60.

August	29	e		Z	12	03	(39)
		i		Z		04	(25)
							Confused by microseisms
August	30	iP		Z	08	58	41
		eP		Z	10	14	50 Confused by microseisms
		e(L)	N		19	32	
		e(L)	E			19	35
		eiP		Z	19	13	02
August	31	iP		Z	11	41	56
		iP		SWZ	16	13	58
		iS		SWZ		14	44
		iP		SWZ	16	16	24
		e(S)		SWZ		17	00

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases No. 35/60

September 1	eP		Z	07	42	00
	iP		Z	09	33	01
	e(S)	EN	W		36	58
	iP		Z	10	39	48
	e(S)		W		43	46
		Confused by preceding				
	eP		Z	11	19	44
	eS		W		53	45
		Confused by preceding				
	eP		Z	15	49	34
	i		Z		49	42
	i		Z		50	02
	iS	EN			59	44
	i	EN		16	00	01
	eP		Z	18	47	56
	eP		Z	20	08	40
	eS	EN			14	07
September 2	iP		Z	10	56	53
	iS	E		11	00	42
	eS	N			00	45
	eP		Z	22	14	05
	iS	EN			23	16
September 3	eP		Z	05	49	02
	iP	SWZ		12	43	33
	iS	SW			45	11
	iP		Z	15	23	33
	eP		Z	23	55	48
	i		Z		56	05
	eS	EN		00	03	20
	i	E			05	40
September 4	eP		Z	05	01	10
	e(S)	EN			04	47
September 5		Nil Recorded				
September 6	eP		Z	03	52	24
	eS	S			53	42
	eS	W			53	43
	eP	S	Z	04	34	38
	eS	SW			35	24
	iP		Z	12	36	31
	iS	SW			37	23
	iP		Z	14	08	15
	i(pP)		Z		08	25
	i		Z		08	36
	e(S)	EN			12	48
	e(S)	EN			13	01
September 7	eP		Z	03	55	13
	i		Z		55	38
	eS	EN			59	34

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Provisional Earthquake Phases No.36/60.

Sept 8th	eiP	SWZ	11	13	13	
	i	N		13	53	
	iS	N		17	36	
		E SW		17	37	
		Deep?				
Sept 9th	e(P)	Z		08	37	34
Sept10th	i	Z		04	37	15
	iP	SWZ		10	49	57
	i	Z			50	15
	i	Z			50	25
	ePPP	Z			53	00
	iS	N			53	59
	i(ScP)	EN			55	02
	i	Z			55	39
	iS	N			56	46
	i(PS)	EN			56	58
	i(ScS)	E			59	08
	e(ScS)	N			59	(23)
		Deep? Heavy microseisms				
	eP	Z		14	08	16
	i(S)	E			11	14
		N			11	17
	i	N			12	10
	L_{max}	E			17	..
		N			18	..
Sept 11th	Nil recorded - heavy microseismic background					
Sept 12th	i?	Z		06	55	53
	iP	Z		12	24	51
	ipP	Z			25	01
	i	Z			25	31
	iS	EN			30	59
	i	N			34	03
	L_{max}	N			39	(45)
		E			40	(00)
	eP	SWZ		16	07	30
	iS	Z			11	(41)
		S			11	(43)
		EN W			11	45
	iP	SWZ		22	38	19
	i	Z			38	27
	i(S)	S			41	09 Deep?
		Heavy microseisms				
Sept 13th	Power off - no records 0018+ - 0631 Nil recorded					
Sept 14th	Power off - no records 0020+ - 0806+					
	iP	Z		16	01	11
	iS	S Z			02	47
		W			02	49
	i	Z			03	02
	eP	S		17	01	04
		WZ			01	06
	iP	WZ		17	13	53
	iS	S Z			15	27
		W			15	28

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PORT MORESBY GEOPHYSICAL OBSERVATORY.
Provisional Earthquake Phases No.36/60

Sept 14th Continued.	iP		Z	23 26	02
	eS	E		32	28
	L_{max}	EN		41	(35)

Heavy microseisms.

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases. No.37/60.

Sept. 15th	iP	SWZ	03	35	59
	i(S)	N		39	56
		E		39	58
	eP	Z	11	56	42
		SW		56	44
	i	Z		56	55
	iS	N		57	44
	i(S)	E		57	55
	iP	SWZ	18	03	32
	iS	ENSWZ		08	12
	i	Z		09	33
	i(L)	N		09	58
		Deep?			
Sept. 16th	eP	SWZ	03	09	57
	eS	S		11	14
		WZ		11	16
	i	SW	12	36	28
		Z		36	30
	i(P)	Z	14	00	37
	e	S	17	31	(16)
	e	W		31	(19)
	e	Z		31	(27)
	e(P)	Z	19	12	59
	iS	E		16	31
	e(P)	Z	21	33	(33)
Sept. 17th	No record 2017-2145				
	e	Z	05	00	12
	iP	Z	07	18	29
	iS	E		21	29
		N		21	30
	eP	Z	08	02	50
	iS	E		10	53
		N		10	54
	iP	Z	08	16	29
	iS	E		23	34
	i	Z	08	46	(13)
	eP	Z	13	00	48
	iP	SWZ		00	51
	iS	SW		02	21
	i	Z		02	24
	eP	Z	15	13	50
	i(S)	EN		14	44
	i	E		15	25
	iP	SWZ	15	55	30
	iS	SW		56	10
	eP	WZ	20	03	35
	iS	E		09	46

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases No.37/60.

Power off - no records 0029+ - 0539+

Sept. 18th	eP		Z	00	11	(33)
	i		Z		12	21
	i		Z		13	44
	eP		Z	08	41	57
	eP		Z	09	44	36
X ✓	iP		SWZ		44	40
	iS	EN	Z		47	51
	eP		Z	15	42	(01)
	iS		WZ		43	30
Sept. 19th	eP		Z	03	46	44
X ✓	eS	EN			52	32
	eP		Z	04	06	00
X ? ✓	eP		Z	19	06	57
X ? ✓	eP		Z	19	20	55
Sept. 20th	eP		Z	03	12	13
X ? ✓	eP		Z	03	42	53
X ? ✓	eS	E			48	41
	eS	N			48	50
Sept. 21th	iP		Z	02	49	20
	iS	EN			49	50
	iS	W			49	51
	iS	S			49	52
X ✓	eP		Z	16	16	48
	eS	N			21	49

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COMMONWEALTH OF AUSTRALIA

DEPT. NATIONAL DEVELOPMENT. BUREAU OF MINERAL RESOURCES

PORT MORESBY GEOPHYSICAL OBSERVATORY

Provisional Earthquake Phases No.38/60.

Sept. 22nd	e(PP)	Z	09	34	53	
	e(PP)	EN		35	22	
	i(PS)	E		44	45	
	e(PS)	N		44	46	
	e(SS)	E		51	33	
	Lmax	E	10	21	..	
	Lmax	EN		27	..	
Sept. 23rd	eP	Z	01	23	12	
	Lmax	EN		31	..	
	iP	Z	21	20	58	
	iS	S		21	40	
	iS	W		21	41	
	iP	Z	23	09	48	
	Lmax	EN		25	..	
	Power off 0400 - 0818					
Sept. 24th	eP	Z	09	18	57	
	e	E		22	03	
	iP	Z	11	14	46	
	eP	Z	12	31	(47)	
	eP	Z	13	55	59	
	i	E		56	56	
	iS	E	14	00	01	Deep?
	e(P)	Z	14	23	(54)	
Sept. 25th	eP	Z	11	48	18	
	eP	Z	15	46	46	
	iP	Z	17	36	01	
Sept. 26th	eP	Z	15	24	40	
	iP	Z	17	17	22.	
Sept. 27th	eP	Z	04	00	09	
	iP	Z	17	21	28	
	i(pP)	Z		21	44	
	iS	EN		24	26	deeper than normal
	iP	Z	18	40	55	
	i(pP)	Z		41	18	
	eS	EN Z		45	(20)	deep
Sept. 28th	iP	Z	09	06	03	
	i	Z		07	34	
	eP	Z	16	48	18	
	iP	Z	17	40	55	deep

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DEPT. NATIONAL DEVELOPMENT. BUREAU OF MINERAL RESOURCES
PORT MORESBY GEOPHYSICAL OBSERVATORY.
Provisional Earthquake Phases No. 39/60.

Sept. 29th	eiP		Z	11	24	13
	i(S)		ENSWZ		28	35
	i		S Z		30	19
	i(L)		N		30	42
	i(L)		E		30	46
	e		SW		34	10
Sept 30th	e(P)		Z	13	52	46
	eP		Z	21	08	09
	e(L)		N		12.1	
	e(L)		E		12.5	
Oct. 1st.	eP		Z	05	25	50
	i		Z		26	58
	eP		Z	11	45	53
	eS		W		47	(13)
	iS		Z		47	14
	iS		S		47	15
	eP		Z	16	22	05
	i(PcP)		Z		22	22
	iS		EN		31	21
	i		E		32	27
	eP		Z	16	50	11
		Confused by preceding				
	eP		Z	23	59	45
Oct. 2nd.	eP		Z	12	10	(17)
	eS		E		21	49
	eP		Z	16	37	(31)
	eP		Z	18	18	04
	iS		EN		26	03
	eP		Z	20	18	21
Oct. 3rd.	e(S)		E	00	33	03
	e(L)		E		15.8	
	eP		Z	00	54	(13)
	e(S)		E		55	01
	eiP		EN Z	10	14	(49)
		S-P = 1m 56s.				
	eP		Z	16	06	(44)
		S-P = 42s.				
	eP		Z	19	18	(29)
		S-P = 53s.				
	iP		Z	19	58	(53)
		S-P = 6m 26s.				
		(SS) -P = 10m 00s				

Time - Mark mechanism faulty 0546 on Oct.3- 0217 on Oct. 4th.
thus P arrival times doubtful.

Oct. 4th.	eP		Z	09	53	(08)
	e	N			54	15
	eS	SW		09	54	45
	eL	EN			54	57
	eP		Z	21	51	01
	i		Z		56	07
	e(S)	E			52	(15)

Oct. 5th Nil Recorded

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DEPT. NATIONAL DEVELOPMENT. BUREAU OF MINERAL RESOURCES.
PORT MORESBY GEOPHYSICAL OBSERVATORY.
Preliminary Earthquake Phases No.40/60

OCT 5th cont.	i(P)		Z	23	50	02
OCT 6th	e(P)		Z	01	31	18
	e(P)		Z	09	43	(34)
	eP		Z	11	21	41
	i		Z		22	12
	iS		S Z		22	37
	e(P)		Z	13	54	(35)
	eL	N		14	19	..
	e(P)		Z	15	06	(15)
✗ ✓	eP		Z	16	28	26
	e		Z		30	31
	iP		Z	16	53	03
	eP		Z	18	20	35
	i	S			21	03
✗ ✓	eP		Z	20	14	54
OCT 7th	eP		Z	11	55	(12)
	i		Z		56	(00)
	iP		SWZ	15	22	(17)
✗ ✓	iS		SW		25	(09)
	e		S		25	(26)
	e		W		25	(35)

e(P) Z 15 57½
Confused by preceding

i	Z	23	43	(50)
i	Z		44	(07)

Times uncertain because of abnormal clock rate during day.

OCT 8th iP	Z	00	47	45
i	S V		48	27
iS	Z		48	50
eP	S Z	01	22	(24)
iS	Z		23	(34)
iP	S Z	06	01	18
✗ ✓ e(pP)	Z		01	(42)
e	N		04	13
iScP	Z		06	19
iS	ENS Z		07	56
i	N		10	04
iScS	N		10	(57)
i	E		11	(15)
i(P)	Z	15	00	51.
e(P)	Z	17	41	(07)
i	N		42	45
Lmax	N		55.5	
e(L)	N	19	43	..
✗ ✓ iP	Z	20	49	46

moderate depth?

COMMONWEALTH OF AUSTRALIA
DEPT. NATIONAL DEVELOPMENT. BUREAU OF MINERAL RESOURCES.
PORT MORESBY GEOPHYSICAL OBSERVATORY.
Preliminary Earthquake Phases. No.40/60.

Power off 2215/8th - 0859/9th

OCT 9th	iP		Z	09	09	27
	iS	N			16	35
		Deep?				
	iP		Z	09	58	37
OCT 10th		Nil recorded				
OCT 11th	iP		Z	04	50	26
	L_{max}	E			57.5	
	L_{max}	N			58.5	
	i(P)		Z	14	35	35
	iP		Z	20	55	26
OCT 12th	iP	S	Z	04	51	54
	iS	S	Z		52	15
	eP		Z	22	52	25
	iP	S	Z		52	28
	i		Z		52	33
	iS	S	Z		53	57

Power off 1233 - 1919 - no records

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COMMONWEALTH OF AUSTRALIA

DEPT. NATIONAL DEVELOPMENT BUREAU OF MINERAL RESOURCES

PORT MORESBY GEOPHYSICAL OBSERVATORY. No.41/60

OCT	13	eP		Z	01	00	52
		iP		Z	15	03	14
		i		Z		03	15
		iS	N			11	56
		iS	E			11	57
		eP'P'		Z		32	00
		iP		Z	18	42	19
		eS	SW			43	43
OCT	14	eP		Z	01	04	03
		e(P)		Z	10	24	(14)
		e(P)		Z		24	36
		eP		Z	12	24	26
		iP		Z	15	34	10
		eP		Z	19	37	(12)
		iP		Z	21	30	22
		i		Z		30	27
		i(PcP)		Z		30	34
		iS	E			39	32
		iS	N			39	35
		iScS	N			40	17
		iScS	E			40	25
		eP'P'		Z		58	24
OCT	15	eP		Z	02	57	15
		i	E	Z		57	48
		Lmax	E		03	06	..
		eP		Z	12	14	26
		(eP)		Z	13	31	24
OCT	16	e(P)		Z	13	35	16
		iP		Z	19	06	21
		eS	SW			06	46
		iP		Z	19	57	26
		eS	S			58	03
OCT	17	eP		Z	05	49	31
		Lmax	E			52½	
		eP		Z	16	04	52
		iP		Z	22	18	26
		iS	SW			19	06
OCT	18	eP		Z	04	53	23
		iP		Z	14	09	23
		eS	SW			10	15
		eP		Z	16	10	24
		eS	SWZ			12	(07)
		iP		Z	17	42	32
		iS	S			42	56
		eS	W			42	57
OCT	19	iP		Z	07	15	16

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DEPT. NATIONAL DEVELOPMENT BUREAU OF MINERAL RESOURCES.
PORT MORESBY GEOPHYSICAL OBSERVATORY
Preliminary Earthquake Phases No.42/60

OCT	20th	iP	EN	Z	11	10	03	
		i(S)	E			13	(23)	
		i	N			13	(46)	
		i	N			14	(42)	
		i(L)	E			15	(10)	
		i(L)	N			16	(21)	
OCT	21st	iP		Z	06	29	42	
		iS	EN	Z		33	05	
			Deep?					
		iP		Z	11	59	32	
		eS	SW	Z	12	00	18	
		iS	EN			00	20	
OCT	22nd	iP		Z	08	25	18.0	
		iS	E			27	51	
		iS	N			27	54	
			Deeper than normal					
		iP	S	Z	22	23	40	
		iS	SW			24	45	
OCT	23rd	eX		Z	09	54	37	
		e(L)	EN		10	01.2		
OCT	24th	i(P)		Z	02	56	56	
		iP		Z	05	16	37	
		iS	E	Z		20	23	
		iS	N			20	24	
		L_{max}	N			24.1		
		L_{max}	E			26.3		
			Deeper than normal					
OCT	24th cont.	e(P)	S	Z	09	19	(37)	
		eP		Z	10	42	22	
		eP	S			42	23	
		iP		Z		42	24	
		iS		Z		43	(54)	
		iP		Z	10	55	23	
		eS	SW			55	58	
		iP	ENSWZ		17	10	18	
		iS	E			11	06	
		iS	N			11	07	
		iS	SW			11	08	
		eP		Z	19	45	20	
		eS	S			46	(23)	
OCT	25th	iP		Z	01	13	40	
		eP	S		09	38	47	
		eP		Z		38	49	
		iS		Z		40	22	
OCT	26th	iP	SW	Z	17	40	33	
			Deep					
		iP	SW	Z	19	56	52	
		i(S)	N		20	00	58	
		i(S)	E			01	03	Deep

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DEPT. NATIONAL DEVELOPMENT — BUREAU OF MINERAL RESOURCES.

PORT MORESBY GEOPHYSICAL OBSERVATORY
Preliminary Earthquake Phases — No.43/60.

~~Oct 27~~ See Next Page 4/5

OCT	28	iP			Z	12	58	11	
		i	E				59	02	
		i(S)	E				59	09	Short Period
		i(S)		N			59	10	horizontals not recording
		iP		N	Z	13	28	27	
		ipP			Z		28	50	
		iS	E	N			36	43	
		isS	E	N			37	26	
		iScS	E				38	08	
		eP			Z	22	37	32	
		e			Z		39	22	
		iS	E	N			44	04	
		i(sS)		N			44	37	
		i(sS)	E				44	38	
OCT	29	eP			Z	09	45	09	
		e			Z		45	26	
		eS	E	N			51	(08)	
		iP			Z	11	26	42	
		eP			Z	21	49	37	
		i			Z		49	47	Deeper than normal?
		iS		N			53	41	
OCT	30	e(P)			Z	12	09	58	
		ePKIKP			Z	12	33	47	
		ePP			Z		36	01	
		e(PKS)			Z		37	08	
		e(PKS)	E	N			37	11	
		e	E				38	59	
		e(PS)	E				44.5		
		e(SS)	E	N			53	45	
		iP			Z	13	50	20	
		iP			Z	15	55	43	
		iS	E	N			59	48	
		i	E			16	00	05	
		i	E				00	50	
		iP			Z	16	18	03	
		iS	E	N			18	(17)	
		e(PKIKP)			Z	21	51	59	
		e(pPKIKP)			Z		52	27	
		e(PP)			Z		54	21	
		e			Z		54	29	
		e			Z		54	57	
		e			Z		55	04	
		e(PKS)	E	N			55	29	
		e			Z		56	06	
		i(sPKS)	E	N			56	08	
OCT	31	iP			Z	01	50	05	
		iS	E	N			50	45	
		eP			Z	12	54	47	

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DEPT. OF NATIONAL DEVELOPMENT BUREAU OF MINERAL RESOURCES.

PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases. No.43/60.
(Cont.)

NOV	1	eP			Z	06	35	26
		ePKIKP			Z	09	04	44
		ePP			Z		06	03
		e			Z		06	12
		i			Z		06	34
		e(PKKP)			Z		15	04
		ePS	E				16	00
		ePS	E	N			16	17
		e			Z		18	12
		e			Z		19	02
		eSS		N			22	41
		eG		N			36	11
		iG	E				36	16
		e(P)			Z	10	02	35
		iP			Z	10	32	05
		iP			Z	20	48	05
NOV	2	iP			Z	17	18	55
		i			Z		19	07
		i			Z		19	27
		i(S)		N			22	22
		i(L)		N			22	37
		i(L)	E				22	39
		iP			Z	18	20	44
OCT	27	i(P)			Z	05	06	22
		eP			Z	09	09	46
		iP			Z	14	10	50
		eP			Z	14	54	43
		i			Z		54	58
		iP			Z	19	44	54
		i			Z		44	56
		eS		S W			46	22
		iP			Z	22	34	50
		i			Z		34	55
		iPcP			Z		37	02
		iS	E	N			40	23
		e(G)	E				42	12 h about 100 km?
		iP			Z	23	48	07

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DEPT. NATIONAL DEVELOPMENT BUREAU OF MINERAL RESOURCES
PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases. 44/60

NOV.3	eP		Z	02	06	16
	i(S)	N			09	41
	i(S)	E			09	55
	L_{max}	E			14.6	
	iP		Z	02	50	19
	L_{max}	E		03	00	..
	iP		Z	20	55	08
	iS		Z		56	17
NOV.4	e(P)		Z	07	53	31
	eP		Z	14	23	03
	iP		Z		23	06
NOV.5	iP		Z	05	30	(10)
	e	N			34	16
	iP		Z	22	35	10
	iS		Z		36	40
NOV.6	iP		Z	04	49	45
	i(pP)		Z		49	55
	iS	EN			57	15
	i(sS)	E			57	47
	iP	EN	Z	06	22	18
	i		Z		23	14
	i		Z		24	27
	i		Z		28	18
	i(S)	E			28	35
	L_{max}	N			38.6	
	L_{max}	E			39.5	
	iP		Z	22	21	33
	iS	EN			30	57
NOV.7	e(P)		Z	13	31	18
	iP		Z	16	30	26.
	iS	N			33	23
	iS	E			33	26
	L_{max}	N			38.2	
	L_{max}	E			38.9	Deeper than normal?
NOV.8	iP		Z	20	30	36
	i(S)	E			33	52
	Record disturbed by microseisms					
NOV.9	ePKIKP		Z	03	36	10
	ePP	N	Z		37	05
	iPS	N			46	28
	iPPS	N			47	38
	eSS	N			52	30
	eL_Q	N		04	11.0	..
	M	E			20	..
	iP		Z	10	53	43
	iS	N		11	01	54
	iS	E			02	00
	e(P)		Z	18	31	(59)
	e(L)	EN			35.9	
	e(F')		Z	20	25.4	
	i		Z		28	51
	e	N			46	..

Distant. Analysis doubtful. Record confused by heavy microseisms.

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases No.45/60.

Nov. 10	iP	EN	Z	14	47	18	
	iS	EN			48	(55)	
	iP		Z	16	32	24.	
	eP		Z	21	38	11	
	eP		Z	23	42	02	
Nov. 11	eP		Z	01	58	(53)	
	i(S)		Z	02	01	26	
	i(S)	E			01	33	
	eP		Z	04	51	39	
	i		Z		53	19	
	L_{max}	N			54.5		
	iP		Z	06	20	39	
Nov. 12	eP		Z	10	55	51	
	eS	N			57	38	
	iS	E	Z		57	40	
Nov. 13	eP		Z	06	42	02	
	i	EN			42	04	
	i		Z		42	05	
	iS	EN			46	04	deep
	iP	EN	Z	09	31	54	
	e	E			34	00	
	iS	E			41	13	
	e(P'P')		Z		59	38	
	i(P'P')		Z		59	45	
Nov. 14	eP		Z	02	16	21	
	eS	EN			22	55	
	L_{max}	E			31.6		
	eP		Z	12	09	21	
	iP		Z	17	59	40	
Nov. 15	eP	E	Z	02	33	23	
	eS	N			36	52	
	eS	E			36	55	
	eP		Z	05	31	(15)	
	eP		Z	06	34	04	
	eS	EN			42	50	
	eP		Z	09	16	07	
	eP		Z	21	47	33	
	L_{max}	EN		22	02	..	
Nov. 16	iP		Z	01	29	12	deep
	e(P)		Z	03	39	(28)	
	eP		Z		39	32	
	iP		Z	18	01	21	
	e		Z		01	27	
	iP		Z	19	36	31	
	iS	EN	Z		37	25	deep
	iP		Z	21	56	05	
	iS	EN	Z		56	49	deep
	eP		Z	22	11	12	

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DEPT. NATIONAL DEVELOPMENT BUREAU OF MINERAL RESOURCES
PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases 46/60.

NOV.16 CORRECTION: 1 hour should be added to times of all phases reported after 1230 hours for this day.

NOV.17	iP		Z	02	43	33
	i		Z		44	09
	i(S)		Z		44	37
	eP		Z	04	15	(25)
	i		Z		17	47
	i	E			18	47
	L_{max}	N			31.5	
	L_{max}	E			33.9	
	iP		Z	05	31	45
	iP		Z	13	57	48.4
	i	N	Z		58	(50)
	i		Z		59	47
	i	E		14	00	58
	i	N			01	(05)
	i	E			02	12
		near				
	i(P)		Z	19	58	(08)
	e	E		20	07	27
	e(L)	N			15	33
	e(L)	E			15	38
	e(P)		Z	21	15	(21)
	i	EN			21	58
	eP		Z	21	35	07
	eS	EN			45	41
NOV 18	eP		Z	07	31	(07)
	e	E			32.1	
	i(S)		Z		32	33
	e	N			33.0	
	iP		Z	08	36	03
		near				
	iP		Z	15	26	57
		deeper than normal				
	eP		Z	17	55	16
NOV 19	iP		Z	07	10	57
		deeper than normal				
	iP		Z	12	21	19
	iS	N			25	07
	iS	E			25	13
NOV 20	iP		Z	11	19	33
	iS	EN			20	26
	iP		Z	16	41	22
	i		Z		41	26
	i(S)	E			42	08
	eP'		Z	22	21	10
	i		Z		21	31
	i		Z		24	25
	i	EN			24	51
	i	E			29	00
	i	E			30	29

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NOV 20 cont.	i	E		33	30	
	i	EN		34	14	
	i(SSS)	E		41	17	
	M	EN	23	06	..	
		distant				
NOV 21	iP	Z	04	31	00.1	
	i(S)	N		32	28	
	i(S)	E		32	34	
	i(S)	Z		32	38	
NOV 22	eP	Z	03	39	23	
	i	E		45	26	
	e(S)	EN		45	53	
	i	E		48	39	
	i	N		48	52	
	i(SSS)	N		50	05	
	i	E		50	57	
	M	EN		56.5		
	iP	Z	06	34	39	
	iS or SKS	EN		45	10	
	L_{max}	E	07	11	..	
	eP'	Z	12	47	39	
NOV 23	eP	Z	01	26	19	
	i	Z		27	35	
	iS	W		27	42	
	iS	S Z		27	43	
	iP !	ENSWZ	04	13	30.0	
	iS	E W		15	08	
	iS	NSW		15	16	
		deep				
	eP	Z	09	44	(02)	
	i	Z		44	18	
	iS	S		45	26	
	iS	WZ		45	28	
	iP	Z	14	19	38	
	i	EN		19	44	
	i(S)	EN		25	28	
	iP	Z	16	57	34	
	i(S)	N	17	01	47	
	i(S)	E		01	50	
	e	Z		04	27	deep
	e(P)	Z	17	36	10	
	iP	Z	18	03	54	
	i	E		05	49	
	eS	E		10	09	
	eS	N		10	11	deep
	iP	Z	20	18	25	
	L_{max}	N		33.5		
	L_{max}	E		34.5		
	iP	Z	20	34	56	
	iS	Z		35	11	
		deep?				
	iP	Z	21	20	29	
	i(S)	Z		22	07	

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Prelininary Earthquake Phases No.47/60.

Nov.24	eP		Z	04	52	04	
	eS	EN			53	(27)	
	eP		Z	06	59	59	
	i	EN	Z	07	01	43	
	i(S)	E			05	(59)	
	eP		Z	07	37	48	Confused by preceding
	eP		Z	07	40	09	Confused by preceding
	eP		Z	08	24	03	
	eP		Z	08	33	33	
	eP		Z	09	35	31	
	eP		Z	19	20	29	
	eP		Z	20	06	38	
Nov.25	eP		Z	09	51	55	Near shock
	eP		Z	22	02	43	
	iS	E			09	27	
Nov.26	eP		Z	01	50	02	
	eP		Z	12	22	32	
	eP		Z	14	42	17	
	iP		Z	18	28	37	
	eS	E			35	16	
	eP		Z	21	43	01	
Nov.27	iP		Z	07	25	06	deep?
	iP	EN	Z	13	11	08	
	iS	E			12	04	
	iS	N			12	08	
	iP		Z	15	26	18	
	eP		Z	15	55	27	
	i		Z		55	32	near
	iP		Z	22	36	34	
	iS	E			37	29	
	eS	N			37	31	
Nov.28	eP		Z	02	42	22	
	e(S)	N			46	(04)	
	iP		Z	05	42	38	
	eP		Z	06	20	17	
	iP		Z	21	11	00	
Nov.29	eP		Z	06	04	16	
	eP		Z	07	20	43	
	iP		Z	11	02	15	
	e		Z		03	46	
	iP		Z	14	14	35	
	e(S)	N			20	41	
Nov30	eP		Z	04	09	40	

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Dec. 1st	iP	ENSWZ	09	42	29.0	deep?
	i	Z		42	42	
	i	Z		43	01	
	iS	E		45	(48)	
	iP	ENSWZ	10	12	47.7	
	iS	SW		13	26	
	eP	Z	10	47	47	
	e(L)	N	11	00	20	
	L_{max}	N		02.8		
	L_{max}	E		04.3		
	eP	S Z	20	51	50	
	eS	S Z		53	20	
	e	EN	21	15	19	
	e	EN		15	39	
	L_{max}	EN		37.5		
Dec. 2nd	iP	Z	04	39	00.2	
	iS	EN Z		40	07	
	iS	SW		40	10	
	e(L)	EN		40.4		
	iP'	Z	09	29	55.1	
	i	Z		30	14	
	iPP	E		32	22	
	iPKS	Z		33	16	
	ePKS	N		33	27	
	ePKS	E		33	(32)	
	e	E		41	(08)	
	e	Z		42.3		
	i	E		42	48	
	iSS	N		50	09	
	iSS	E		50	12	
	L_{max}	E	10	20.0		
	L_{max}	N		23.9		
	iP' !	Z	09	56	47.2	
	i	Z		57	05	
	i !	Z	10	00	08	
	e	Z		09.5		

Long period records confused by preceding shock

	iP	Z	19	51	18.4	
	eL	E	20	10.7		
	eL	N		11.0		
	L_{max}	EN		(17.0)		
Dec. 3rd	iP	EN Z	04	34	58.2	deep?
	i !	Z		35	02	
	e	Z		35	(25)	
	iS	EN		43	44	
	i	N		44	53	
	eSS	N		47	47	
	eSS	E		47	50	
	eP'P'	Z	05	03	48	
	iP !	Z	07	18	41.9	deep?
	e(P)	Z	09	19	(52)	
Dec.4th	iP	Z	13	29	09.0	
	iS	SW		30	02	
	iP	Z	15	53	16.8	

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Dec 5th	iP !		Z	00	01	42.3	deep
	i		Z		03	23	
	i(S)	N			06	28	
	e	N			09	47	
	eP		Z	04	27	(03)	
	eS		Z		28	(03)	
		near					
Dec. 6th	e		Z	03	41	(32)	
	e(P)		Z	03	46	10	
	e(L)	E			52.8		
	e(L)	N			53.8		
	iP '		Z	09	15	26.8	
	i(pP ')		Z		15	41	
	i(SKP)		Z		18	49	
	e(PKS)	EN			18	56	
	e(SKS)	E			22	33	
	e(L)	N			57.7		
	L_{max}	E		10	03.5		
	eP	S	Z	10	41	01	
	iS	S	Z		42	15	
	iP		Z	12	23	44.3	deep
	iP		Z	20	22	32.8	Deep?
	eP		Z	21	42	29	
	e(S)	N			49	15	
	e(S)	E			49	30	
Dec. 7th	eP		Z	03	07	09	
	iS	E			13	51	
	L_{max}	N			25.5		
	L_{max}	N			28.3		
	iP		Z	16	24	55	
	e(S)	E			31.1		
	e	N			39	14	
	e	N			41	38	
	e(P)		Z	16	34	28	

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Preliminary Earthquake Phases No.49/60

Dec 8th	eP		Z	01	08	48
	iP		Z	01	30	17
	i(S)		Z		35	26 deep
	iP		Z	21	40	28
	Record confused by microseisms 05-16h Dec 8th					
Dec 9th	iP		Z	00	43	21
	iP		Z	06	48	59
	eS	SW			49	45
	eP		Z	19	30	(47)
	iP		Z	21	43	25
	e	S			43	36
	e(S)	W			44	10
Dec 10th	eP		Z	07	40	35
	i		Z		40	40
	e(S)	S			41	11
	e	S			41	21
	iP		Z	11	51	00
	eS	SWZ			51	46
	e	EN		13	46.3	
	eL	EN			50.0	
	iP	EN	Z	14	00	17
	S identification confused by preceding					
	iP		Z	18	29	36
	eP		Z	22	06	58
Dec 11th	iP	E	Z	00	06	39
	e	E	Z		07	13
	eS	EN			11	50
	e(ScP)		Z		13	35
	eP		Z	03	23	20
	eS	E			27	(26)
	eS	N			27	(29)
	L_{max}	E			35.1	
	iP	E	Z	18	57	39
	iS	EN		19	01	32
Dec 12th	eP		Z	04	22	34
	e		Z		22	54
	eS	N			26	(00)
	eS	E			26	02
	L_{max}	E		10	19½	
Dec 13th	eP		Z	07	44	27
	i(pP)	E	Z		44	47
	i		Z		45	21
	i		Z		46	44
	iS	N			51	19
	iS	E			51	23
	eP		Z	09	10	(26)

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Preliminary Earthquake Phases No.49/60

Dec 13th cont.	iP		Z	10	12	37	
	e		Z		12	45	
	iS	E			18	18	Confused by preceding
	e		Z		18	19	
Dec 14th	eP	E		00	25	02	
	e		Z		25	22	
	e(S)	EN			28	30	
	eP	E	Z	01	01	34	
	i		Z		01	36	
	iS	N			04	58	
	iS	E			05	02	
	iP		Z	13	13	00	
	eS	SW			14	06	
	eP		Z	14	31	(30)	
	eS	E			38	(08)	
	eS	N			38	10	
	iP	EN	Z	23	56	40	
	i		Z		56	42	
Dec 15th	iS	N		00	00	49	
	iS	E			00	50	

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Preliminary Earthquake Phases No. 50/60.

15 Dec.	e(P)	Z	09	33	40	
	iP	Z	18	39	43	deep
	eP	Z	22	03	(15)	
	e	E		07	(53)	
	e	N		11.1		
16 Dec.	eP	Z	01	31	(18)	
	eP	Z	05	10	58	
	iP	Z		10	59	
	e	E		12	(49)	
	e	N		12	59	
	i	Z		13	54	
	e	E		14.6		
	eP	Z	08	58	34	
	e(S)	E	09	03	36	
	e(S)	N		03	44	
	Lmax	E		08.8		
	Lmax	N		09.6		
	e(P)	Z	10	21	08	
	e(P)	Z	13	24	27	
X'	iP	Z	18	41	11	deep
	e	Z		41	53	
	eP	Z	21	06	(15)	
	e	E		11.4		
	e	N		12.4		
17 Dec.	eP	Z	02	15	21	
	e	E		35.4		
	e	N		36.4		
	e	E		39.7		
	e(P)	Z	04	03	(17)	
	iP	ENSWZ	10	44	05	
	i	Z		44	13	
X	e	E Z		45	26	
	i	Z		45	44	
	i(PcP)	E Z		46	19	
	i	E		46	52	
	i	Z		47	23	
	iS	EN		49	34	
	i(S)	Z		49	41	
	e	E		51.1		
	h about 200 km.?					
	iP	Z	13	30	02	deep
	iS	EN Z		33	58	
	Lmax	N		38.4		
	eP	Z	16	11	34	
	e	E		16	(43)	
	e(L)	N		19.1		
	e(L)	E		19.8		
	eP	Z	17	51	20	
	e(S)	N		55	08	
	e(S)	E		55	25	
	eP	Z	21	59	15	

18 Dec.	iP		Z	05	15	57	
	i		Z		16	21	
	eS	EN	Z		19	43	
	Lmax	N			23.9		
	Lmax	E			25.0		
	e(P)		Z	08	03	(05)	
	eP		Z	18	26	35	
	e(S)	EN			31	22	
	e	N			31	51	
	e	E			32.4		
	e	N			32.9		
	eP		Z	20	56	12	
	iS	E W			57	29	
	iS	NS	Z		57	30	
	Lmax	E		21	00.9		
	Lmax	N			03.0		
	iP		Z	22	31	13	
	e(P)		Z	23	08	25	
	e(S)	E			12	01	
	i(P)		Z	23	26	16	
19 Dec.	eP		Z	01	47	08	
	eS		Z		48	(39)	
	eP		Z	07	05	14	
	e(S)	E			10	01	
	eL	N			12.5		
	eP		Z	09	46	(06)	
	eP		Z	13	04	33	
	iS	E			08	08	
	iS	N			08	12	
	eP		Z	14	28	17	deep?
	iP		Z		28	20	
	iS		SWZ		29	24	
	e(P)		Z	14	42	57	
	eP		Z	14	53	42	
	iP		Z	19	04	26	deep?
	eS	N			08	27	
	i	N			10	51	
	eP		Z	22	18	(13)	
	iS	EN			21	(51)	
	eP		Z	22	50	(43)	long period records confused by preceding shock

No time marks during last 2 shocks, therefore measured times are only approximate.

20 Dec.	eP		Z	04	28	(26)	
	e	E			30	(46)	
	eP		Z	05	13	47	
	e	N			18	..	
	iP		Z	11	48	07	
	e(P)		Z	22	24	47	P doubtful, confused by small near shock preceding.
	e(L)	E			30.0		
	Lmax	E			34.8		

21 Dec.	iP		Z	00	03	05
	e(P)		Z	04	56	(33)
	e		Z		56	51
	iS	E		05	00	08
	iP		Z	20	58	36.
	iS	E		21	02	34
	iS	N			02	37
	eL	EN			05.9	
	iP		Z	22	39	28.
	iS	EN			47	17

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22 Dec.	eP		Z		01	24	(32)
	eP		Z		02	32	13
	e(S)	E				37	34
	eP		Z		03	12	04
✗ ✓	e(S)	E				19	45
	eP		Z		06	38	54
✗ ✓	e(S)	EN				45	00
	eP		Z		14	19	42
	e(S)	E				25	(28)
	e	N				25	42
	iP	EN	SWZ		21	04	43
	iS	N				06	21
✗ ✓	iS		S			06	22
	iS		W			06	23deep
23 Dec.	iP		Z		09	49	56
	i		Z			50	18
✗ ✓	eS	EN				56	31
	eP		Z		10	53	(43)
✗ ✓	L max.	EN			11	00	
	eP		Z		13	32	(24)
	eP		Z		16	18	19
	e(L)	EN				21	30
	iS	EN				21	39
	L max.	E				25.3	
	eP		Z		19	14	(07)
	eP		Z		19	37	39
24 Dec.		Confused by microseisms					
	e(P)		Z		04	07	28
	eL	E			16	57.5	
	L max.	E				59.5	
25 Dec. ✗ ✓	eP		Z		05	28	07
	eP	E	Z		05	54	03
26 Dec.	eP	EN	Z		01	03	26
	e(S)	E				09	(10)
	eP		Z		01	52	53
✗ ✓	e	E			02	02	50

26 Dec. cont.	eP		Z	04	51	11
	e		Z		52	01
	e		Z		52	23
	e(S)	E			59	33
	eP		Z	13	51	11
	eS	EN			57	39
27 Dec.	iP		Z	00	16	34
	i		Z		16	38
	iS	E	W		17	12
	iS	N	S		17	13
	eSKS	EN		11	01	22
	e	E			02	00
	e(PS)	N			06	38
	e(PS.)	E			06	46
28 Dec.	eP		Z	09	30	(00)
	iP		Z	18	07	55
	iP		Z	22	26	54

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