

PORT. MORESBY.

COMMONWEALTH OF AUSTRALIA

DEPT. OF NATIONAL DEVELOPEMENT. BUREAU OF MINERAL RESOURCES.

PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases No. 1/61.

1960?

29 Dec.	eP	EN	Z	06	09	27	
	e		E		11	(10)	
	iS		EN		15	34	
	e(P)			Z	10	56	11
	e(PS)		N		11	06	(05)
	e(PS)		E			06	(10)
	e(SS)		E			12	(04)
	e		N			12	(20)
	eL		N			30.0	
	iP		EN ^{SWZ}		13	43	35
	i		NS			43	46
	eS					44.4	
	iP			Z	19	20	55. deep?
	iP			Z	19	54	26
	e		E			58.0	
30 Dec.	eP		Z	00	29	(31)	
	i		Z		29	43	
	e(S)		E		33	(07)	
	eL		N			36.0	
	e			Z	00	42	29
	e(P)			Z	04	19	41
31 Dec.	eP		Z	05	35.0		
	eL		E		46.1		
	iP		Z	14	44	16	
1 Jan.	iS		Z		45	23	
	eP		Z	16	11	(19)	
	eS		E		16.2		
	eL		N		19.2		
	eP			Z	16	32.3	
	eP			Z	18	27	(39)
	eS		E			35	30
	M		N		19	10.0	
	iP		E	Z	20	03	15
	iS		E	Z		06	38
	iP		E	Z	21	07	20
	iS			Z		08	33
	iS		E S			08	35
	1961	e		Z	12	11	25
		eP		Z	13	13	37
e(S)			E		17	17	
M			N		20.5		

1 Jan. cont.	e	Z	13	15	47
	iP	Z	16	44	31
	eP	Z	20	30	22
	eL	E		44.0	
	eP	Z	21	57	(20)
2 Jan	iP	EN Z	10	16	13
	iS	EN		19	48
	iS	Z		19	(55)
	eiP	Z	20	53	02
	iS	EN		53	(48)
	iS	SW		53	51
	iP	Z	22	08	39
	eP	Z	23	10	37
	iS	E		13	17
3 Jan	iP	Z	10	23	38 deep
	iS	SW		24	26
	iS	Z		24	27
	iP	ENSWZ	11	44	50 deep
	iS	EN Z		48	05
	M	E		55.0	
	iP	Z	18	04	02
	iS	E Z		04	58
	iP	EN Z	19	30	54
	iS	E		34	07
	eL	E		38.0	
	eP	Z	20	10	(56)
	i(S)	N		15	38
	Confused by microseisms			1000 - 2400	
4 Jan	eP	Z	11	35	(20)
	iS	E		40	00
	iS	N		40	15
	M	E		48.2	
	eiP	Z	19	20	33
	iS	EN Z		23	52
	Confused by microseisms				

(J. A. BROOKS)
Observer-in-charge.

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Preliminary Earthquake Phases No. 2/61

5th Jan.	eP		Z	03	05	44	
	iP		Z	06	20	06	
	eS		SW		20	(49)	
	iP	EN	Z	14	17	31	
	iPcP		Z		17	48	
	iS	EN			26	31	
	iScS		N		27	24	
	iSSS	E			34	03	
	iP'P'		Z		45	46	
	i		Z		46	42	
	iP	ENSWZ		15	55	36	
	iS		W		56	46	
	iS		S		56	48	$M_L = (6\frac{1}{2})$
	eP	ENSWZ		18	03	10	
	i(S)	EN	Z		07	33	
	eP		Z	18	19	56	
	Confused by preceding ; possibly same location						
	eP		Z	20	10	00	
	Confused by preceding						
6th Jan	eP		Z	00	04	47	
	iP		Z	22	20	47	
7th Jan	iP		Z	11	36	15	
8th Jan	iP	EN	Z	01	20	19	
	i		Z		21	39	
	iS		N		24	29	
	iS		E		24	32	
	ieP	EN	Z	03	01	26	
	i		Z		01	27	
	iS		N		05	35	
	iS		E		05	38	
	eP		Z	07	36	(27)	
	i		Z		37	11	
	e	EN			39	05	
	e	EN			41	21	
	iP		Z	10	07	17	
9th Jan	No time marks 0442 - 0952 Record confused by microsisms						
	eP		Z	10	18	33	
	e	EN			22.9		
	eP		Z	21	59	58	
10th Jan	eP		Z	09	16	58	

10th Jan	iP	N	Z	14	32	23
	i(pP)		Z		32	43
	eS	N			40	30
	iS	E			40	31
	iS	N			40	33
	e(PS)	N			41	04
	e(SSS)	E			47	06
	i(G)	E			47	24
	eLR	N			50.2	
	e(P'P')		Z	15	02.0	

11th Jan	iP		Z	12	11	11
	i		Z		11	39
	iS	EN			20	26

Record confused by microcrossisms 20 - 24 h

e	N	21	51.9
L _{max}	E	22	04.1

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Preliminary Earthquake Phases No. 2/61

5th Jan.	eP	Z	03	05	44	
	iP	Z	06	20	06	
	eS	SW		20	(49)	
	iP	EN Z	14	17	31	
	iPcP	Z		17	48	
	iS	EN		26	31	
	iScS	N		27	24	
	iSSS	E		34	03	
	iP'P'	Z		45	46	
	i	Z		46	42	
	iP	ENSWZ	15	55	36	
	iS	W		56	46	
	iS	S		56	48	$M_L = (6\frac{1}{2})$
	eP	ENSWZ	18	03	10	
	i(S)	EN Z		07	33	
	eP	Z	18	19	56	
	Confused by preceding ; possibly same location					
	eP	Z	20	10	00	
	Confused by preceding					
6th Jan	eP	Z	00	04	47	
	iP	Z	22	20	47	
7th Jan	iP	Z	11	36	15	
8th Jan	iP	EN Z	01	20	19	
	i	Z		21	39	
	iS	N		24	29	
	iS	E		24	32	
	ieP	EN Z	03	01	26	
	i	Z		01	27	
	iS	N		05	35	
	iS	E		05	38	
	eP	Z	07	36	(27)	
	i	Z		37	11	
	e	EN		39	05	
	e	EN		41	21	
	iP	Z	10	07	17	
9th Jan	No time marks 0442 - 0952 Record confused by microsisms					
	eP	Z	10	18	33	
	e	EN		22.9		
	eP	Z	21	59	58	
10th Jan	eP	Z	09	16	58	

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Preliminary Earthquake Phases. No. 3/61

12th Jan	Nil recorded. High microseismic activity 00-07h					
13th Jan	Nil recorded.					
14th Jan	eP		Z	05	34	27
	iS	EN	Z		35	46
	eP		Z	15	43	16
	e(S)	E			47	30
	eP		Z	16	50	38
	iS	EN		17	00	18
15th Jan	eP		Z	01	11	03
	e(S)	E			17	39
	L _{max}	E			26.3	
	iP		Z	07	56	58
	iP	EN	Z	16	49	46
	i(pP)	EN			50	30
	eS	EN			53	(59)
	e(sS)	N			55	(07)
	iP		Z	20	40	43 deep
	i		Z		42	50
	i		Z		45	44
i	E			45	49	
16th Jan	eP		Z	04	20	35
	eS	N			25	06
	e	E			25	25
	eP	EN	Z	07	28	31
	iS	EN	Z		35	11
	eP		Z	11	27	56
	iS	EN			34	34
	eP		Z	12	20	48
	iS	EN			27	(27)
	eP		Z	13	17	(39)
	eP		Z	14	12	(16)
iS	EN			18	(56)	
eP		Z	15	49	32	
iS	EN			56	12	
17th Jan	Heavy microseismic activity 0630 - 2400					
eP		Z	13	33	00	
eS	E			36	46	
L _{max}	E			40.2		
L _{max}	N			40.5		
eP		Z	23	10	50	
iS	N			15	17	
L _{max}	N			19.5		
L _{max}	E			20.5		

18th Jan	eP		Z	09	10	00
	e(S)	E			13	35
	eP		Z	15	17	07
	L _{max}	N			31.3	

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PORT MORESBY GEOPHYSICAL OBSERVATORY.

Preliminary Earthquake Phases No. 4/61

19th Jan.	iP		Z	04	25	47	
	iS	EN			29	33	
	eP		Z	05	59	48	
	iP		Z	17	32	22	
	iS	E			40	28	
	iS	N			40	30	
	e(P)		Z	19	59	46	
20th Jan.	eP		Z	01	40	27	
	iP		Z	05	29	02	
	eP		Z	07	41	00	
	e		Z		41	11	
	e(S)	N			44	24	
	eP		Z	08	21	54	
	e(S)	N			26	06	
	eP		Z	14	02	25	
	iP		Z	14	24	16	
	eP		Z	17	21	37	
	iPcP		Z		21	41	
	i(sP)		Z		21	55	
	iS	EN			31	51	
	eP		Z	20	06	(14)	
L _{max}	E			08½			
L _{max}	N			09			
21st Jan	Nil recorded.						
22nd Jan.	iP	EN	Z	03	28	24	
	i		Z		28	35	
	eS		W		32	12	(M _L = 7½)
	M		Z		37.0		(m = 6¾)
	eP		Z	06	20	53	
	e		Z		21	09	
	Confused by preceding.						
	eP		Z	12	29	03	
	eS		SW		30	06	
	eP		Z	13	44	58	
eS	N			48	32		
eS	E			48	34		

22nd Jan	iP		Z	16	17	16	
	e(S)	EN			23	16	
	iP		Z	19	09	15	
23rd Jan	iS	N			12	50	
	iS	E			12	52	
	iP		Z	04	57	35	
	eP		Z	20	16	04	
	eP		Z	20	33	07	
	i eS		Z SWZ		33 33	17 45	
24th Jan	iP	E	Z	07	29	35	
	i(PP)		Z		29	59	
	iS	N			33	24	
	iS	E			33	25	
	eP		Z	08	11	37	
	confused by preceding						
	e(P)		Z	15	41	(14)	
	iP		Z	22	51	43	
	Long Period records obscured by microseisms 16-24 h.						
	25th Jan	iP	EN	Z	05	25	48
iS		EN			29	27	
Long Period record confused by microseisms.							
eP			Z	06	11	10	
i			Z		11	33	
eP			Z	07	16	33	
eP			Z	07	26	19	
eP			Z	12	09	49	
e(P)			Z	16	56	(49)	
e(S)		EN		17	01.2		
iP		N	Z	17	26	22	
eS		N			31	31	
eS		E			31	32	
iP			Z	18	50	08	
L _{max}		E			56.8		
L _{max}	N			57.0			
iP		Z	19	14	20 deep		
iP		Z	19	18	37		
eS	SW			19	29		
eP		Z	20	49	20		
L _{max}	N			56.4			

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases. No. 5/61

26th Jan	eP		Z	06	06	40	
	eS		N		10	(16)	
	M		E		13.3		
	M		N		13.7		
	eP		Z	07	47	31	
	eP		Z	10	31	11	
	eS		E		34	48	
	iP		Z	13	17	38	
	i		Z		18	09	
	iP		Z	16	18	38	
	i		Z		18	40	
	e(S)		EN		22	(49)	
	eP		E	18	54	08	
	i		Z		54	10	
	i		Z		54	19	
	iS		N		58	25	
	eP		Z	21	26	40	
27th Jan	eP		Z	00	04	28	
	iP		Z	00	25	45	
	iP		ENSWZ	00	54	15	
	iS		W		55	46	
	iS		S		55	48	
	Deeper than normal?						
	eP		Z	03	02	20	
	i		Z		02	23	
	eS		W		03	05	
	iP		EN Z	13	56	44	
eS		SW		57	54		
Deeper than normal?							
eP		Z	14	52	08		
i		Z		52	39		
eS		EN		56	(30)		
eP		Z	15	11	08		
i		Z		11	09		
i ScP		Z		18	04		
Confused by preceding.							
28th Jan	e(PP)		Z	03	43	56	
	e(PKS)		E		47	20	
	e(SKS)		E		51	11	
	e(L)		E	04	03	::	
	L _{max}		EN		30	::	

28th Jan.	iP		Z	05	17	55	
	i(pP)		Z		18	18	
	i(sP)		Z		18	26	
	iS	E			22	12	
	eP		Z	14	26	(16)	
	e		Z		26	22	
	iS	EN			30	00	
	eP		Z	14	39	12	
	S confused by preceding.						
	eP		Z	14	58	36	
S confused by preceding.							
29th Jan	eP		Z	17	39	38	
	eS	EN			44	02	
	eP		Z	19	48	16	
	i	EN	Z		48	18	
	iS	E			52	37	
	iS	N			52	38	
	eP		Z	23	52	10	
	eP		Z	00	22	23	
	i		Z		22	24	
	eP	EN	Z	00	54	48	
iS	EN			58	26		
30th Jan	eP	EN	Z	03	21	23	
	eS	EN			25	05	
	e(P)		Z	11	23	13	
	i		Z		23	19	
	iP		Z	12	25	26 deep?	
	31st Jan	eP		Z	00	10	15
		eP		Z	01	00	53
		iS	EN			11	03
		eP		Z	06	18	44
		e(S)	E			23	11
e(S)		N			23	21	
L _{max}		EN			28.9		
eP			Z	07	50	(59)	
eL		EN			58.3		
iP			Z	13	30	02 deep?	
1st Feb	eP		Z	14	03	20	
	eP		Z	22	31	(29)	
	e(S)	E			35	27	
	eP		Z	04	58	29	
	eS	EN			02	28	
	eP		Z	06	58	07	
	e(S)	E			59	59	
	e(S)	N		07	00	20	
	iP		Z	17	36	01	
	iP		Z	20	15	18 deep	

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Preliminary Earthquake Phases No. 6/61

2nd February	eP		Z	00	47	29	
	e(pP)	E	Z		48	01	
	e(S)	E			51	53	
	e(S)		N		52	01	
	e(ss)	E			53	03	
	e(ss)		N		53	06	
	i(PcS)	E			54	27	
	eP		Z	08	05	07	
	eL	EN			11.4		
	eiP		Z	11	18	28	deep
3rd February	iS	EN			22	30	
	iP		Z	12	40	21	
	ipP		Z		41	24	
	esP		Z		41	57	
	e(SS)	E			49.0		
4th February	iS	EN			45	54	
	eP		Z	01	02	04	
	iP	ENSWZ		09	01	50	
	i		Z		02	20	
	i		Z		02	26	
	eP		Z	12	59	23	
	eP		Z	15	36	08	
	e(S)	E			41	(54)	
	iP		Z	19	15	59	deep?
	iS	EN			23	10	
L _{max}	E			33.2			
5th February	No record 0015-0436, 0732-2400 due to power cut.						
6th February	No record 0000-0838 due to power cut						
	iP		Z	19	31	32	deep?
	iS	EN			33	10	
	iP	ENSWZ		21	47	22	M ₁ =(7)
	iS		W		48	(57)	deep?
	iS		S		49	00	
7th February	eP	E	Z	01	48	02	
	iS	E			51	37	
	iS		N		51	(38)	
	L _{max}		N		55.3		
	L _{max}	E			57.1		
	eP		Z	03	02	10	
	iS	E			05	48	
	eL		N		08	25	
	eP		Z	04	04	09	
	iS	E			07	46	

7th February.

eP Z 05 30 55
Possibly same location as previous 3 shocks

eP Z 06 06 31
Probably same location as preceding shocks

eP Z 06 20 32
eS E 26 12

No time marks 1256 - 2400, so following times doubtful

iP Z 20 40 (56)
S ← P = 67 sec.

8th February

No record 0316-0548 due to power cut

No time marks 0000-0608 so early times doubtful

iP Z 02 41 (14)
iS EN Z 45 (00)
Possibly deeper than normal

eP Z 09 49 01

iP! Z 17 57 58 deep
i N 18 01 53
e(ScP) Z 02 10
iS EN 05 (17)

eiP Z 19 27 18 deep?
iS SWZ 28 23
L_{max} E 31.3

9th February

eP Z 00 01 (13)
iS Z 02 49

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Preliminary Earthquake Phases No. 7/61

9th February	iP	EN	Z	02	15	40	deep
	iS	EN			17	32	
	eP		Z	02	27	50	
	e ^P e(S)	EN	Z	09	08 11	22 (53)	
	eP		Z	11	19	50	
	eP eS L _{max} L _{max}	N N E	Z	20	28 33 43.7 43.8	17 50	
10th February	eP		Z	13	24	02	
	eS	N			27	51	
11th February	iP		Z	01	31	34	deep
	i		Z		32	01	
	eP		Z	06	19	20	
	eP eS	E E	Z	06	24 28	45 40	
	eP eS		Z SW	08	13 14	18 02	
	iP i iS		Z Z E	08	49 52 53	36 52 02	
	eP		Z	11	50	09	
	iP eS	EN E	Z	16	53 58	13 40	
	iP iS	EN EN	Z	21	08 10	25 23	
	12th February	eP		Z	06	08	
iP eS		E E	Z	12	16 21	14 47	
iP i i eS iS		EN N E	Z Z Z	13	01 01 03 05 05	52 59 14 29 30	
eP i eS			Z Z N	15	25 25 29	27 41 11	

12th February	iP	N	Z	22	03	00	
	i(pP)		Z		03	13	
	iPcP		Z		03	58	
	iS	EN			10	25	
	iP		Z	23	35	52.7	
	i		Z		36	04	
	i		Z		36	43	
	S confused by preceding						
13th February	eP		Z	03	56	10	
	iP	E	Z	06	52	41	
	i		Z		53	04	
	iS	N			58	34	
	iS	E			58	36	
	eP		Z	13	48	14	
	iP		Z	16	21	(42)	
	i		Z		21	58	
	iS	N			25	02	
	iS	E			25	05	deep
	eP	N	Z	16	36	40	
	i		Z		36	51	
	e(S)	N			43	29	
	e	E			43	40	
	e	N			44	06	
	eP		Z	23	31	12	
	e(S)	N	Z		32	18	
14th Feb	eP		Z	00	18	29	
	eS	SW			19	29	
	eP		Z	01	58	54	
	eS	W		02	00	20	
	eS	S			00	22	
	eP		Z	03	31	20	
	e		Z		31	36	
	eS	E			38	52	
	i	E			39	16	
	i	E			41	32	
	iP		Z	13	42	43	
	eS	SW			43	17	
15th Feb	iP		Z	02	14	56	
	iP		Z	10	54	30	
	i		Z		54	43	
	iPcP		Z		55	31	
	iS	EN		11	01	56	
	isS	N			02	34	
	isS	E			02	35	

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COMMONWEALTH OF AUSTRALIA

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases No. 8/61

16th Feb	eS	N	14	11	34
	P confused by preceding near shock				
17th Feb	eiP	Z	15	41	41
	eS	EN Z		45	(04)
	Possibly deeper than normal				
18th Feb	iP	Z	12	11	16
	epP	Z		11	31
	i(PP)	E		12	37
	e(S)	EN		15	59
	e(sS)	E		16	29
	L _{max}	EN		22.2	
19th Feb	Nil recorded				
20th Feb	eP	Z	09	17	21
	iP	EN Z	14	19	16
	iS	E		20	43
	iS	N		20	44
	eP	Z	18	44	36
	e	Z		45	10
	eP	Z	23	06	14
	L _{max}			12.0	
21st Feb	Power off, no record 0741 - 1200 Nil recorded				
22nd Feb.	Power off, no record 0327 - 0349, 0408 - 0445				
	eP	Z	22	00	52
	e(PcP)	Z		02	(42)
	i	EN		02	47
	L _{max}	E		14.6	
	L _{max}	N		14.9	

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PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases No. 9/61

23rd Feb.	eP		Z	03	03	24	
	e		Z		03	29	
	eS	E			06	05	
	eP		Z	03	50	13	
	eS		SW		50	54	
	eP		Z	04	24	53	
	i		Z		25	53	
	iS	E			31	47	
	iS	N			31	49	
	eP		Z	05	19	(29)	
24th Feb	eP		Z	01	32	(04)	Days record confused by microseisms
	eS	E			35	12	
	M	EN			38.1		
	eP		Z	03	12	10	
	e(PcS)	N			17	59	
	iS	E			18	40	
	iP		Z	14	35	54	
	iS		W		36	21	
	iS		S		36	22	
25th Feb	iP		Z	01	23	16	
	i		Z		23	38	
	eS	E			26	54	
	eS	N			26	56	
	iP	E	Z	05	01	28	deep
	iP		Z	08	30	38	deep
	iP		Z	15	09	09.7	
	i		Z		09	12	
	iS	N			14	58	
	i(L _Q)	E			17	49	
26th Feb	eP		Z	05	13	04	
	eS	N			16	45	
	eS	E			16	48	
P confused by microseisms?							
	i(S)	N		06	19	59	
	e(S)	E			20	01	
	iP	EN	Z	18	18	52	
	i		Z		19	02	
	iS	EN			25	16	
	i		Z		25	24	
	i		Z	25	40	m = 7	
	eP		Z	21	08	05	
	eP		Z	21	29	29	
	i		Z		29	34	
	eS	SW			30	10	

2.

27th Feb	eP	Z	03	00	14
	iP	Z	05	47	41
	i(P)	Z	(11)	34	40
	eP	Z	(16)	51	27
	iP	Z		51	32
	e(S)	E		55	(52)
Intermittant power cuts between 0800-2400 rendering identification of hour marks uncertain in some cases					
28th Feb	eP	Z	05	51	00
	iP	Z		51	05 deep
	eP	Z	23	02	20
	iP	Z		02	24
	eP	Z	23	24	46
	iP	Z	23	28	24
Intermittant power cuts.					
1st Mar	iP	Z	00	28	30
	iP	Z	06	47	56
	e(P)	Z	10	29	44
	iP	Z	13	21	12
	iP	Z	13	51	38
	iS	N		54	46
	iS	E		54	51
	iP	Z	14	10	32
	eS	N		14	59
	iP	Z	14	51	04
	eP	Z	19	31	15
	iS	E		35	22
	iS	N		35	23

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Preliminary Earthquake Phases No. 11/61

9th Mar	eP		Z	04	24	(34)
10th Mar	eP		Z	03	08	54
	eS		N		15	(28)
	e		E		19	30
	e(L _R)		EN		21.3	
	iP		Z	20	58	20
	iP		Z	23	39	26
	iS		E		42	11
	iS		N		42	15
11th Mar	iP		N Z	01	41	30
	ipP		N		41	43
	ipP		Z		41	45
	iS		EN		49	31
	i(PS)		E		49	57
	i		N		50	13
	eSS		N		53	32
	iG		E		56	09
	M		N	02	00.5	
	eP		Z	08	59	(41)
	eS		E	09	06	04
	eP		Z	12	30	59
	eS		W		32	34
	iS		Z		32	35
	eP		Z	13	18	09
	eS		S		19	21
	eS		W		19	23
	eP		Z	14	59	14
	eP		Z	16	56	22
	eS		SWZ		57	56
12th Mar	eP		Z	04	11	14
	eS		SWZ		12	46
	eP		Z	23	29	07
	e		Z		29	48
	e(PP)		Z		30	44
	eS		E		34	56
	i		E		38	27
M		E		47.5		
M		E		51	..	
13th Mar	eP		Z	04	40	09
	eS		EN		42	42
	L _{max}		E		47	..
	iP		Z	04	52	57
	eS		W		54	12
	e(SKS)		E	08	28	49
	e(SS)		E		38	01
	e(L _q)		N		48	..
M		N		56	..	
M		E		59	..	

*March 3d - 5d
p out of order
(see later)*

11/11/61

13th Mar	iP	Z	10	07	55
	i	Z		07	59
	iS	W		08	32
	eP	Z	11	32	51
	eS	W		33	35
	e(S)	E	21	20	19
	e(G)	E		28	03
	L _{max}	EN		35	..

P masked by microseisms

14th Mar	e(S)	E	01	24	39
	e(S)	N		24	47
	L _{max}	EN		31 $\frac{1}{2}$	

P masked by microseisms

eP	Z	05	55	41
eS	S		56	49
eS	W		56	50

15th Mar	eP	Z	00	59	25
	eS	SW	01	00	31

eP	Z	03	48	18
eS	SW		49	07

iP	EN Z	10	16	42
iS	E		17	57
iS	N		18	02

iP	N Z	13	02	48
iS	SW		04	09

eP	Z	16	13	55
eS	SW		15	13

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Preliminary Earthquake Phases No. 10/61

2nd Mar.	eP		Z	07	38	(11)
	eP		Z	09	22	36
	iP		Z	11	03	19 near
	iP		Z	19	26	49 near
3rd Mar.	eP		Z	06	31	21
	iS	E			35	56
	iS	N			36	02
	M	E			42.3	
	M	N			42.7	
	iP		Z	09	47	21
	iS	ENSW			47	(57)
	e(P)		Z	16	02	59
	e		Z		03	11
	e		Z		04	14
	e		Z		04	40
	Heavy microseisms. Possibly 2 near shocks.					
4th Mar.	Nil recorded. Heavy microseisms.					
5th Mar.	iP		Z	01	29	46 deep?
	iS	EN			32	31
	eP		Z	05	33	(08) near
	iP		Z	19	44	54 deep?
	iP		Z	21	33	06 deep
6th Mar.	Nil recorded.					
7th Mar.	iP	EN	Z	10	18	11
	eS		W		24	(07)
	L _{max}		Z		38.1	
	iP		Z	19	19	36
	iS	N			28	37
	e(L _q)	N			37.0	
	L _{max}	N			47.3	
	iP	EN	Z	23	13	49
	iS	ENSWZ			15	14
8th Mar	eP		Z	00	29	30
	iP		Z	03	29	02 deep?
	e(S)	EN			30	(39)
	i	E			32	(01)

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 12/61

16th Mar.	iP		Z	04	36	49	deep?
	iP		Z	07	23	10	deep
	iP	E	Z	11	23	34	
	iP		SW		23	35	
	eS	EN			26	(30)	
	eP		Z	13	50	54	
	eS	E			55	15	
	eS	N			55	20	

Power cut 1557-1709

eP	EN	Z	18	26	36
eS	EN			31	05
eP		Z	20	12	38

17th Mar.	Heavy microseismic background.						
	eP		Z	04	56	(39)	
	e(S)	E		05	01	04	
	e(S)	N			01	17	
	eP		Z	14	14	03	
	e(S)	EN			20	21	
	eP		Z	16	24	17	
	iP		Z	20	17	52	
	iS		N		24	03	
	iS	E			24	10	
	L _{max}		N		30.7		
	L _{max}	E			33.1		

18th Mar.	Heavy microseismic background						
	iP		Z	01	59	00.	deep?
	eP		Z	02	14	(12)	
	e(S)	E			18	24	
	e(S)	N			18	48	
	L _{max}	E			26.5		
	iP		Z	07	49	45	
	iS		SW		51	16	
	iS		Z		51	18	
	Moderate depth?						
	eP		Z	08	34	06	
	iP		Z	11	25	36	
	iS		SWZ		26	20	
	Moderate depth?						
	eP		Z	15	02	57	
	iS	E	SW		09	24	
	Moderate depth?						

19th Mar. Heavy microseismic background

iP	Z	05	06	59	deep
iP	Z	07	19	42	
eS	N		23	39	
eS	E		23	43	
eP	Z	07	56.7		
eP	Z	12	10	35	
eS	EN		14	34	
eP	Z	12	52.8		

20th Mar. Heavy microseismic background

eP	S Z	07	31	11	
near					
iP	ENSWZ	16	00	14	deep
epP	Z		01	01	
isP	EN		01	23	
ePP	SWZ		01	(50)	
esPP	EN		02	(50)	
e	Z		04	(20)	
eS	E		05	(45)	
eS	W		05	(50)	
iScP	Z		06	00	
e	Z		07	28	
L _{max}	EN		10.3		
L _{max}	E		12.5		
eP	Z	23	49	55	
i	Z		49	58	
e	EN		50	02	
e	EN		51	36	
e(L)	EN		55.4		

21st Mar

eP	Z	06	32	11	
iP	Z	09	28	35	deep
eP	Z	20	00	29	
i	N		07	14	
i	E		07	19	
L _{max}	N		11.2		
L _{max}	E		11.5		

22nd Mar.

eP	Z	04	16	38	
e	N		18	44	
iP	Z	04	23	47	
Long period records confused by preceding shock					
eP	Z	07	10	(18)	
i	Z		10	24	
eS	Z		11.3		
iP	Z	14	03	04	deep
eP	Z	16	55	01	
iS	Z		55	52	
eP	Z	17	42	20	
e	N		44	34	

3.

22nd Mar	eP	Z	18	(36.6)		
	iP	Z	21	34	48	deep
	e	E		43	06	

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Preliminary Earthquake Phases 13/61

23rd Mar.	iP		Z	01	53	23		
	eS	E			58	18		
	eP		Z	05	23	21		
	eS	S			24	(43)		
	eP		Z	12	55	33		
	e(S)		Z		57	08		
	eP		Z	20	58	25		
	eS	ENSW			59	58		
24th Mar.	eP		Z	00	08	56		
	eS	ENSWZ			10	16		
	eP		Z	05	19	32		
	eS	S			21	01		
	eP		Z	13	08	37		
	i		Z		08	44		
	eS	SW			09	28		
	eP		Z	13	21	53		
	eP		Z	14	58	10		
	eS	SW			59	(03)		
	•	eP		Z	23	05	26	
iS		E			12	03		
iS		N			12	04		
e		EN			12	28		
eSS		EN			15	19		
25th Mar		iP		Z	14	21	33	deep
	eP		S	23	39	15		
	e(S)	E			41	55		
Z Component off during record change.								
26th Mar.	eP		Z	14	34	44		
	i(PP)		Z		35	25		
	iS	N			39	03		
	eScP		Z		41	44		
	iP		Z	20	30	40		
	i		Z		31	01		
	eP		Z	22	07	21		
	eS	SW			08	07		
	27th Mar	eP		Z	04	27	44	
		eS	EN			31	45	
eP			Z	05	48	04		
i			Z		48	09		
eS		S			48	45		
eP			Z	07	28	00		
eP		Z	16	36	19			

28th Mar	iP	Z	09	41	18	
	i	Z		41	27	
	i(pP)	V		41	52	
	iS	WVZ		45	52	E component jammed at 0946
	i	SW		46	27	
	i(sS)	S		46	55	
	eP	Z	11	30	56	
	iP	Z	12	40	13	
	ipP	Z		40	26	
	iPcP	Z		40	37	
	iS	N		49	13	
	iP'P'	Z	13	08	27	
	eP	Z	21	00	00	
	eS	N		04	44	
28th Mar	iPKIKP	Z	21	21	07	
	ipPKIKP	Z		21	37	
	iPP	Z		24	10	
	iPKS	N		24	36	
	i(sPKS)	Z		25	17	
	i(sPKS)	N		25	19	
	ePS	N		34	20	
	e	N		35	44	
	iSS	N		41	59	
	e(P)	Z	21	52	33	

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Preliminary Earthquake Phases 14/61

29th Mar.	eP		Z	09	40	21
	eP		Z	12	27	30
	iP		Z	13	16	26
	eS		SW		17	19
30th Mar.	iP		Z	01	15	23
	e(S)		SW		16	(11)
	eP		Z	01	27	32
	e		Z		28	20
	e(S)		E		31	(48)
	eP		Z	08	57	16
	i		Z		57	17
	iS		N	09	03	23
	iS		E		03	25
	i(G)		E		06	35
	i(ScS)		N	07	07	09
31st Mar	eP		Z	02	14	04
	eS		SWZ		15	(08)
1st Apr	iP		EN Z	15	30	39
	i		Z		31	38
	i		Z		33	15
	iS		E		40	48
2nd Apr	eP		Z	18	51	(12)
3rd Apr	Nil observed.					
4th Apr	eP		Z	04	58	53
	eS		Z		59	38
	e		Z	05	02	06
	e(P)		Z	09	58	56
	i(S)		E	10	09	04
	iP		EN Z	10	36	12
	iS		EN		36	58
	iS		S		36	59
	Felt Moresby I MM					
	eP		Z	22	19	38
	eS		Z		21	04
5th Apr	eP		S Z	11	31	57
	iP		S Z		32	01
	Near.					

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Preliminary Earthquake Phases 15/61

6th Apr.	iP		Z	14	14	05	
	e(S)	EN			21	13	
	iP		Z	15	38	46	
	S confused by microseisms						
7th Apr.	N I L						
8th Apr.	iP		Z	16	04	44	
	iS	EN			08	50	
	iSKS	EN		18	25	34	
	ePS	EN			29	54	
	e	E			34	49	
	eSS	N			36	38	
	L _{max}	E		19	04	..	
	iP		N Z	21	41	47	
	iPP		Z		42	26	
	iPPP		Z		42	38	
	iS	EN			45	54	
	i		Z		46	24	
	isS	EN			46	35	
	i	EN			47	(58)	
	9th Apr.	iP		Z	09	27	25
ipP			Z		27	40	
iS		E			32	06	
i(sS)		N	Z		32	33	
eP			Z	15	42	54	
i			Z		42	57	
i			Z		43	09	
i			Z		43	22	
iPP			Z		43	35	
iS		EN			49	09	
i		E			49	27	
iScS		N			52	53	
i		E			53	00	
i		E			53	21	
L _{max}		EN			59.9		
iP			Z	17	19	33	
10th Apr		eP		Z	08	20	(39)
		iP		Z	11	22	09 Deeper than normal?
	iS	SW			22	50	
	iP	EN	Z	19	44	15 Deeper than normal?	
	eS	EN			47	25	
11th Apr.	e(P)		Z	16	44	42	
12th Apr.	iP		Z	07	52	33	
	iP		Z	09	05	50	
	eP		Z	15	41	12	
	eS	SWZ			42	42	

12th Apr.	iP		Z	17	23	15
	i		Z		23	48
	i		Z		24	06
	eS	E			27	36
	eS	N			27	40
	iP		Z	17	37	38
	iP		Z	22	39	28
	e		Z		39	48
	e		Z		41	14
	e		Z		42	42
	e(S)	E			46	31
	e	E			47	06
	L _{max}	EN		23	22	..

Analysis uncertain : possibly two superimposed teleseisms.

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Preliminary Earthquake Phases 16/61

13th Apr	iP			16	46	53
	iP	ENSW			46	54
	iS	E			57	01
	iS	N			57	03
					possibly deep	
	eP	Z		16	56	(03)
	eS	Z			57	11
	eP	Z		21	52	27
	iS	Z			54	05
14th Apr.	eP	Z		00	07	11
	eS	Z			08	15
	No record 0413 - 0510, power off.					
	eP	Z		12	08	(47)
	L _{max}	EN			16.7	
	iP	Z		12	45	36 deep.
	e	E			49	15
	eP	Z		13	08	20
	eS	E			09	24
	eS	Z			09	25
15th Apr.	iP	EN	Z	01	22	31
	eS	E			26	07
	eS		Z		26	10
	L _{max}	N			29.5	
	L _{max}	E			30.0	
16th Apr	eP	Z		12	07	27
	eS	EN			08	35
	iP	Z		23	15	57
	i	E			18	33
17th Apr.	iP	Z		04	43	36 deep?
	eiP	Z		15	56	08
	e	Z			56	53
	e	Z			57	32
	Near. Possibly deeper than normal.					
	eP	Z		20	54	23
18th Apr	eP	Z		04	19	14
	eP	Z		13	47	49
	i	Z			47	53
	eS	N			50	50
	eS	E			50	53
19th Apr.	eP	Z		05	58	56
	eS	Z		06	00	(19)
	eP	Z		07	44	(05)
	eS	EN			48	10

19th Apr.	eP	Z	16	22	04
	e(S)	E		29	44
	e(S)	N		30	10
	L _{max}	N		39.5	

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Preliminary Earthquake Phases ~~16~~/61

20th Apr	iP	EN	Z	00	19	16	
	eS	EN			22	33	
	Possibly deep						
	eP		Z	12	12	49	
	eS	EN			14	02	
	eS		Z		14	04	
	eP		Z	19	26	54	
	e(S)	E			32	(52)	
	L _{max}	EN			44.2		
	eP	E		21	46	45	
	eP		Z		46	47	
	eX	E			50	02	
	i(S)	N			52	43	
i(S)	E			52	47		
i(SS)	N			56	18		
e(SS)	E			56.4			
L _{max}	EN			58.8			
21st Apr	iP		Z	02	54	49 deep?	
22nd Apr	eP		Z	00	31	27	
	e	N			31	55	
	e	EN			32.6		
	eS	EN			33	(10)	
	i	N			33	45	
	iP		Z	19	00	56	
	eS	N			01	59	
	eS	E			02	02	
	23rd Apr	iP	EN	Z	05	21	48
		iS	N			27	47
L _{max}		N			35.5		
L _{max}		E			36.0		
eP			Z	09	11	07	
iS		EN			18	44	
24th Apr	Nil recorded.						
25th Apr	iP		Z	02	36	56	
	eP		Z	11	24	11	
	L _{max}	E			41.5		
	L _{max}	N			41.8		
26th Apr	eP		Z	02	28	53	
	eP		Z	06	21	49	
	eS	ENS			22	49	
	eP		Z	07	48	(21)	
	eS	EN			55	56	
	e(L)	E		08	00	19	
	iP		Z	16	58	43	
	e(S)	E		17	03	06	

J.A. BROOKS
(Observer-in-Charge).

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 18, 19/61

27th April	Nil				
28th April	Nil				
29th April	e(SKS)	E	09	43	27
	e(SKS)	N		43	28
	i(PS)	EN		45	14
	e	N		48	50
	e	E		48	53
	e(SS)	N		50	09
	e(SS)	E		50	31
	L _{max}	E	10	06	..
	iP	Z	13	19	52
	iS	SW		20	27
	iP	Z	21	52	31
	eS	SW		52	50
	30th April	iP	Z	05	12
iS		SW		12	40
M _L = 3½		Azimuth = N 45°E			
e(S)		N	11	32	21
e(S)		E		32	23
e(SKS)		E		33	09
e		EN		34	34
e		E	38	03	
e(SSS)		N		40	06
L _{max}		E		49	..
L _{max}		N		50	..
eP		Z	14	55	31
iS		E	15	01	25
1st May	iP	Z	17	20	34
	iS	SW		20	41
	M _L = 3	Azimuth = N45°E			
	eP	Z	02	13	29
1st May	eS	SW		14	04
	eP	Z	18	33	(00)
	iP	Z	19	08	33
	iP	Z	23	08	49
	2nd May	i(P)	Z	01	36
eP		Z	06	44	(09)
es		SW		45	(29)
eP		Z	12	16	49
eS		W		17	33
eP		Z	19	45	36
iPP		Z		47	01
e(S)		E		51	(29)
i	N		56	18	

2nd May	iP		Z	20	00	44
	i		Z			51
	iS		S		01	27
	iS		W			28
3rd May	iP		Z	22	52	08
	i		Z		53	51
	iS		E		58	00
	iP		Z	15	44	42
3rd May	eS		S		45	07
	eP		Z	16	10	46
	eS		SW		11	37
	iP		Z	17	00	35
3rd May	i		Z		00	47
	4th May Nil					
5th May	iP		Z	13	50	46
	eS		E	14	00	02
	eS		N		00	04
	i(P)		Z	18	17	31.9
	e(P)		Z	21	09	23
Record confused by microseisms						
6th May	eP		Z	22	38	17
	e(S)		EN		42	31
	eP		EN	Z	23	18
6th May	iS		E		22	19
	eS		N		22	23
	iP		ZV	00	27	32
7th May	i		V		27	36
	i		Z		27	54
	iS		S		29	02
	iS		W		29	04
	iP		ZV	04	39	06
	e(S)		E		44	32
	e		N		45	00
	e		Z		45	15
	e		Z		45	47
	iP		Z	06	56	04
7th May	iS		SWZ		57	56
	eP		Z	10	28	15
	i		E		28	18
	iS		E		33	35
	iP		Z	14	52	19
	iS		S		53	24
	iS		W		53	25
	e(P)		Z	22	43	(12)
	e		WZ	-	44	09
	e		S		44	10
8th May	iP		ZV	00	35	54
	iS		SW		37	10
	i		E	Z	37	13

8th May	eP		ZV	08	27	52
	i		Z		27	59
	i	N			32	28
	i(S)	E			33	17
	e	N		20	24	21
	e	N			27	40
	i		ZV	22	57	30
9th May	i		Z	02	32	00
	e		Z	03	20	13
	eL	EN		08	37.2	
	eP		Z	11	08	21
	i	ENSW	ZV		03	22
	i		Z		09	08
	eS	EN W			09	49
	i		Z		09	50
	i	NS			09	52
	i(P)		Z	11	46	11
	i(P)	S	Z		46	24
	iS	NS	Z		46	32
	iP	S	ZV	13	28	18
	i		ZV		28	23
	e(S)	N			32	43
	iP		ZV	17	05	08
	e	S	Z		06	37
	10th May	iP	N	Z	08	47
iP			Z	10	12	49
eL		N			22.2	
eL		E			25.5	
iP			Z	22	38	43
iS		EN	ZV		40	03

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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 20/61

11th May	iP		Z	07	12	37
	i	N	Z		12	48
	e(S)		Z		13	(08)
	iS	ENSW			13	11
	e		Z	11	40	(48)
12th May	eP		Z	01	15	06
	e		Z		15	20
					near	
	iP		Z	06	30	24
	i		Z		30	37
	eP		Z	16	52	25
13th May	eP		Z	14	26	(13)
	L _{max}	N			46.0	
	iP		Z	14	58	58 deep
	e		Z	15	00.5	
	eP		Z	18	09	24
	eS		Z		10	13
	eP		Z	19	27	08
14th May	eP		Z	00	20	11
	eP		Z	02	50	48
	iP		Z	03	12	04
	iP	ENS	Z	12	25	28
	i	E		26	01	
	i(S)	EN		26	11	
	eP		ZV	13	34	08
	iS	NS			34	39
15th May	No record	0501-0702, power cut				
	eP		Z	19	16	(40)
	i(pP)	EN	Z		16	53
	e	N			17	30
	e(S)	EN			20	24
	L _{max}	N			22.9	
	L _{max}	E			23.4	
	eP		ZV	19	53	43
	iP		Z	21	00	04
16th May	eP?		Z	17	36	55
	L _{max}	E			59.0	
	L _{max}	N			00.2	
	eP		Z	21	53	19½
	e(S)	E			59	50
17th May	eP		Z	19	40	07
	iS	N			48	51
	iS	E			48	52

J.A. BROOKS
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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 21/61

18th May	eP		Z	20	43	19
	i(pP)		Z		43	39
	i		Z		44	19
	iS	EN			47	31
19th May	iP		Z	16	45	04
	eS	EN			51	04
20th May	iP		Z	19	54	09
21st May	iP		Z	21	45	31
	i(pP)		Z		45	44
	eS	EN			50	(12)
22nd May	iP		Z	00	45	30
	eS	S			47	02
	iP		Z	13	51	55
	i(pP)		Z		52	04
	i	E			57	33
	i(S)	E			57	59
	i	N			58	19
	iP		Z	17	39	36
	ipP		Z		39	58
	isP		Z		40	08
	e		Z		44	39
	i(S)	E			45	14
	i	N	Z		45	26
	i	N			45	45
23rd May	iP		Z	23	53	30
	iP		Z	03	04	04
	i		Z		04	24
	e	EN			05.5	
	e	N			11	12
	e	N			13	22
24th May	e	EN			15	10
	eP		Z	17	23	42
	e(S)	E			28	01
	e(S)	N			28	02

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110-21/61

Preliminary earthquake Report



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 22/61

25th May	e	Z	01	19	41
	i	SW		19	43
	i	Z		20	01
26th May	e	Z	17	41	03
	iP	Z	06	11	53
	iP	Z	08	37	50
27th May	e	Z		38	31
	iS	S		38	33
	i	N		38	53
	e	N Z	13	48	23
	e	ENS Z	01	21	27
	iP	Z	17	01	10
	eS	EN		08	18
28th May	iP	Z	17	35	23
	e	Z	22	45	28
	iP	ENS Z	02	31	35
	i	N Z		31	49
	iS	S		32	27
	i	ENS		32	30
	i	E S		32	51
	iP	Z	02	58	23
	eS	ENSWZ		59	14
	iP	Z	04	08	01
	e(S)	EN		14	31
	iP	S Z	10	48	35
	i	EN Z		48	50
i(S)	ENSWZ		49	31	
i	(E)N		49	45	
i	Z		49	49	
iP	S Z	18	38	20	
i	Z		39	02	
iS	EN W		39	24	
i(S)	S Z		39	26	
29th May	iP	S Z	20	32	56
	iS	ENSWZ		33	34
29th May	iP ?	Z	17	53	28
30th May	NIL RECORDED				
31st May	iP	Z	05	17	08
					Deep

22(61)

2.

31st May

eP Z
iS SW

15

04
05

31
01

P ENSWZ
S-P = 70^S

18

47

?

Pendulum clock faulty; no time marks

P SWZ
S-P = 70^S

22

31

?

Pendulum clock faulty; no time marks

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GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 23/24- /61

1st June Mistake in timing last 2 shocks of 31st May 1961.
They should read:

eiP	ENSWZ	19	17.5 ca
(S-P = 70 sec)			
iP	SWZ	23	02.0 ca
(S-P = 70 sec)			

No time marks due to fault in pendulum clock between 1554 on 31st May and 0244 on 2nd June, therefore timing during this period is doubtful.

e	E	Z	23	48.3
e(PKS)	E			54.7
i(SKS)	E			57.8
e(PS)	E		00	03.6

2nd June

eP		Z	02	14	(52)
e(S)		Z		15	(00)

iP	EN	Z	04	32	56.0
i	N	Z		33	06
iS	ENSW			33	35

eP	E		05	05	(08)
e	E			11	36
i(S)	E			14	34
i(S)	N			14	38

eP		Z	18	10	44
e(S)	N			19	24

eP		Z	18	49	09
eS		Z		49	57

3rd June

eP		Z	01	19	21
eS	E			28	18

eP		Z	03	18	27
iS	EN			22	29
L _{max}	N			25.5	

eP		Z	03	40	13
iS	EN			44	18
L _{max}	N			47.4	

eP	EN	Z	05	51	51
i		Z		51	56
eS	EN			53	(03)

eP Z 06 03 (33) near.
(Confused by preceding shock)

eP	N	Z	09	11	12
eS	EN			12	(23)

iP	Z		11	38	26
eS	ENSW			39	16

e(P) Z 17 43 44 probably near

eP		Z	21	51	(07)
e(S)	E			55	06
e(S)	N			55	08

f 5m
see note
end of June

4th June	eP	EN	Z	07	39	49
	e(S)	EN			49	29
	eP		Z	08	45	32
	i		Z		45	34
	e	EN	Z		49	45
	eP		Z	22	54	16
5th June	eP		Z	06	34	(03)
	eS	E			35	31
	i(S)		Z		35	33
	eP		Z	17	31	46
	i		Z		31	49
	i		Z		32	16
	iS	EN			33	14
	iS		Z		33	18
6th June	eP		Z	08	19	13
	eP		Z	23	45	25
7th June	iS	E			48	54
	eP or P' ✓		Z	14	35	13
	e	N			37	37
	e	N			39.1	
	e	E			39	20
	e	E			49	52
	e	E			50	47
e	E			55	07	
	eP		Z	15	42	22
	eP		Z	19	22	05
8th June	eP		Z	15	49	25
	i(pP)		Z		49	39
	i(sP)		Z		49	48
	iS	EN			53	58
	i(sS)	N			54	22
9th June	eP		Z	18	56	48
	i		Z		56	59
	i		Z		57	08
	eS	EN		19	00	20
	e(P)		Z	22	11	17
10th June	e	E		20	56	17
	e	E			57	52
	i	N			58	04
	i	N		21	03	14
	L _{max}	EN			22	..
11th June	ePKP		Z	05	24	01
	e SKP, PKS		Z		27	50
	i PKS	EN	Z		27	57
	e (SKP)		Z		28	00
	e(SKS)	E			31	43
	iPS	E			34	45

f 5m
See note
at end
of June

11th June	iP		Z	16	27	46.	
	iS		Z		28	52	
	eL	E			30.9		
	iP		Z	22	28	28 deep	
12th June	iP		Z	07	43	22	
	i(pP)		Z		43	34	
	e(P) or (PcP)		Z		45	14	
	eS	N			49	49	
	iP		Z		09	16	58
	i		Z		10	07	20
	iP		Z		14	00	56
	i(pP)	SW	Z		15	01	08
	iP		Z		15	45	40
	i	N	Z			46	15
i		Z	47	02			
i		Z	47	23			
12th June	eP	E	Z	17	55	21	
	i		Z		55	56	
	i		Z		56	07	
	i		Z		56	26	
	iS(L)	N	Z		56	59	
13th June	eP		Z	12	01	29	
	e	E			06	25	
	iP!	ENSWVZ			21	44	57
	i	E	Z			45	06
	i	E(N)				45	42
	i		Z			46	28
	i	E	Z			47	14
	i		Z			48	21
	i		Z			50	49
	esS	E(N)				54	39
14th June	eS	EN		00	24	13	
	eL	EN			26.2		
	iP	SWVZ		03	01	18	
	i(PP)	Z			01	25	
	i(PPP)	Z			01	33	
	iS	E SWZ			02	25	
	i(SS)	Z			02	35	
	iP		Z	04	01	53	
	iS	ENSWZ			02	46	
	eL	E		21	29	..	

J.A. BROOKS
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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 25/61

15th June	eP		Z	06	57	27	
16th June	eP?		Z	10	51	09	
	e		Z		51	16	
	e		Z		55	(38)	
	e	E			55	(48)	
	eP		Z	16	02	20	
	eS		Z		03	20	
17th June	eiP		Z	15	26	47 deep	
	eP	EN			26	48	
	e(S)	EN			28	48	
18th June	iP!		Z	03	18	33 deep	
	iS	EN			23	16	
	iP		Z	03	23	41	
	iS	N			27	45	
	eP		Z	08	20	01	
	e	E			22	48	
	iP		Z	13	27	16	
	eP		Z	14	01	54	
	e	EN			03	35	
	e		Z		03	36	
	i(S)	N			07	10	
	i(P)	EN	Z		07	11	
	confused with S of preceding shock						
	e	E			10	28	
i(S)	EN	Z		11	22		
	eP		Z	22	22	(46)	
	e(S)	EN			34	10	
	e	E			47	41	
	L _{max}	N			55.5		
19th June	iP		Z	00	53	46	
	eP		Z	01	52	(01)	
	e	E			57	(17)	
	e	E			59	40	
	e	E		02	01	38	
	eP		Z	02	48	35	
	e(S)	S	Z		49	22	
	eP		Z	06	03	54	
	eS	SW			04	33	
	eS		Z		04	34	
	iP		Z	06	35	09	
	e(P)		Z	07	47.0		
	e(S)	EN			54	05	
e	N		08	00.9			

2.

19th June	iP		Z	17	16	49
	e		Z		17	37
	i(S)	EN			28	26
20th June	eP		Z	08	55	32 near
	eP		Z	14	32	20
	e	E			36	22
	i	E			37	00
	eP		Z	14	49	10
	eS		Z		49	54
21st June	iP		Z	16	36	20
	eP		Z	02	46	39
	iP	EN	Z	07	34	08
	i	SW			34	10
	eS	SW			34	34
	eP		Z	14	07	25 near
	iP		Z	15	04	57
	iS	ENSW			05	23
	iS		Z		05	25
	eP		Z	16	41	34 $\frac{1}{2}$
	iP		Z	20	31	58 $\frac{1}{2}$
	ePP		Z		33	21
	e		Z		34	18
iS	EN			37	34	
eScP		Z		37	54	
e	N			38	09	
i	E			38	13	
eSS	EN			40	12	
eScS	E			42	02	
i	N			42	07	
eP		Z	21	24	(13) near	
i		Z		24	45	

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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOFYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 26/61

22nd Jun	iP	Z	04	10	16
	iS	W		10	38
	e(S)	N VZ		10	40
	i	Z		10	43
	i	Z		10	52
	eL	EN	05	44.3	
	e(P)	VZ	22	37	20
	i(S)	WV		38	11
23rd Jun	eP	Z	07	30	14
	e	W		30	34
	iP	VZ	10	11	06
24th Jun	iP	Z	12	26	02
	eS	W		26	23
	iP!	ENSWVZ	16	20	42
	iS	E SW		21	39
	iP	Z	19	38	43
	iS	E N		42	04
25th Jun	e(S)	SWVZ		31	24
	iP	Z	16	52	55
	i	Z		52	14
	e(S)	EN		57	58
26th Jun	iP	Z	07	08	20
	e(S)	E		13	(00)
	e(S)	N		13.1	
Confused by microseisms. No time marks 0745-2400					
27th Jun	iP	N Z	07	13	45
	i	Z		14	12
	i	Z		14	37
	iS	EN		21	55
28th Jun	eP	Z	07	28	53
	eS	SW		29	(47)
	iP	Z	13	23	33 deep
	iP	Z	17	47	27
	eS	SW		48	08

J.A. BROOKS
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ERRATUM: 5 minutes exactly should be added to times of all phases listed on the 2nd, 3rd and 4th June, 1961.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 27/61

29th June	eP		Z	01	16	02	
	i		Z		16	13	
	iS	EN			19	01	
	Deeper than normal						
	eP		Z	03	20	06	
	iP	EN	Z	09	27	19	
	i		Z		27	29	
	iS	EN			30	56	
	i(P)		Z	10	29	58	
	eP		Z	15	44	00	
	e(S)	N			47	34	
	eP		Z	16	47	29	
	iP		Z	23	44	09	
	30th June	iP		Z	18	55	14
		i		Z		55	30
e(S)		EN			58.5		
1st July	iP	EN	Z	11	40	23	
	e(S)	SW			40	(53)	
	eP		Z	13	29	51	
	eP		Z	18	49	(52)	
	iP		Z	18	57	02	
	eP		Z	20	10	13	
	iS	SW			11	03	
2nd July	eP		Z	05	17	59	
	e(S)	E			22	25	
	iP	EN	Z	16	51	46	
	i		Z		51	57	
	eS	EN			55	22	
	e P		Z	18	33	43	
	eS	SW			34	18	
	eP		Z	11	20	46	
3rd July	eP		Z	00	41	36	
	e		Z		41	41	
	iS	NSWZ			42	09	
	i		Z		42	17	
	i		Z	07	14	41	
	eP		Z	09	27	51	
	e	SW			28	34	
	i(P)		Z	15	53	05	
	e(S)	E			59	(48)	

2.

4th July	iP	E	Z	02	24	42
	eS	EN			28	47
	eL	EN			30	37
	iP		Z	04	55	23
	iS	EN	WZ		56	29
	iP		NSVZ	06	16	19
	i		Z		16	24
	i		Z		16	47
	i(PP)		Z		17	11
	iS	E			20	52
	i		Z		21	11
	i	E			21	31
	iScP		Z		23	14
	e	E			27	06
	eL	EN		08	46	..
eP		Z	11	50	37	
e		WZ		50	47	
e	EN		19	33	06	
e	E			36	34	
eL	E			38	09	
eL	N			40	..	
eP		Z	21	51	19	
eS		Z		52	31	
5th Jul	e(P)		Z	02	37	(20)
	e(S)	E			44	26
	e	E			48	43
	eL	EN			52	..

J.A. BROOKS
(Observer-in-Charge)

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases. 28/61

1961

July

5	e(P) L _{max}	E	Z	23	34 39.9	39
6	iP eP eS	EN SW E	Z	22	14 14 19	45 46 (00)
	eP e e i		Z Z Z Z	23	36 36 37 38	20 near? 52 (17) 17
	Possibly 2 shocks					
7	eP e e	E EN	Z	03	25 29 30	43 23 08
	eP e iS e	E N E	Z	07	44 46 46 46	15 06 33 35
	iP e(S) e(S)	N E	Z	12	38 43 43	55 26 34
	iP eS	ENSWZ SW		13	11 12	50 (41)
	eP e	N	Z	14	47 51	03 39
	(E seismometer jammed by previous shock)					
	iP iS		Z SW	21	55 56	46 30
	iP e(S)		Z Z	22	00 00	06 49
	iP iS	N	WZ	22	24 29	42 02
8	eP i(S)	N	Z	02	40 44	28 42
	eP e		Z	03	09 13	02 00
	eP iP		Z Z	03 09	30 17	43 33 deep?
	iP e	SWZ Z		10	51 53	46 deep? 05

July

8	iP	Z	12	16	24
	eP	SW		16	26
	(iS	S		17	26
	eP	Z	15	13	45
	e	E		15	13
	eS	EN		18	07
	iP	Z	15	39	50
	i(S)	E		43	53
	i(S)	N		44	04
	eP	Z	15	45	25
	Probably same location as previous shock				
	eP	Z	21	19	(13)
	i(S)	N		23	34
	i(S)	E		23	39
	iP	Z	21	53	57
	i(S)	E		58	11
	i(S)	N		58	17
	iP	Z	22	39	13 near
9	iP	Z	07	35	23
	iS	SWZ		36	05
	eP	S Z	17	50	44 near
10	iP	Z	12	00	56
	iS	EN		01	41
	iS	ENSW		01	43 (shorter period than 0
	eP	Z	22	23	35
	i	Z		23	40
	e	Z		23	56
	e	W		24	06
	e	Z		24	07
	e	SW		24	10
	near (possibly 2 shocks)				
11	e(P)	Z	09	41	26
	eS	N		49	23
	eS	E		49	24
	e(P)	Z	18	40	05
12	eP	Z	00	55	34
	eS	SW		56	14
	e(P)	Z	04	53	07
	e(P)	Z	05	31	34

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July

13	iP	Z	01	23	37.8
	i	SWVZ		23	44
	i	Z		24	18
	iS	E		24	28
	i(P)	Z	03	29	56.7
	iP	Z		30	00.7
	i	Z		30	13
	iS	E WVZ		30	48
	i	Z		30	56
	Small aftershock				
	iP	Z	10	33	29.4
	i	SWVZ		33	32
	iS	EN		34	36
	i(S)	SW Z		34	38
	eP	S	11	16	29.4
	e(P)	Z		16	30.4
	e			17	00
	eS	N		17	03
	e(S)	E S		17	07
	Felt Lae				
	eL	N	15	09.2	
	eL	E		12	(15)
	e(P)	Z	21	52	(16)
	e(L)	E	22	01	11
14th	eP	WZ	01	08	38.7
	i		09	05	
	iS	ENSWVZ		09	46
	L _{max} ^E			14.5	
15th	eP	Z	00	24	38.3
	Record change obscures later phases				
	iP	N VZ	04	54	41.3
	e	E Z		55	13
	i	W		55	14
	iS	S		55	15
	i	N		55	23
	i	Z	08	16	14.1
	eL	E		21.4	
	i(P)	Z	11	58	04.9
	e	E		05	..
	eL	N		07.7	
	iP	Z	14	00	54.8
	iS	E		05	15
16th	No sprengnether or Wilson-Lamison records until 0616 Z				
	iP	VZ	06	54	20.3
	i	deep Z		55	08
	eP	Z	14	07	17.5
	i	Z		08	00
	eS	E		12	00
	L _{max}	EN		18.5	

16th	eP	Z	16	30	25.3
	iS	ENSWVZ		31	09
	e(L)	E	20	17.3	
	eL	EN		21.5	
	iP!	E VZ	23	09	33.1 deep
17th	e	Z	04	48	03
	i	SW		48	53
	i	Z		49	10
	i	Z		49	19
	eL	E	12	38	..
	eL	E	13	37.6	
	eL	E	13	53.2	
	i	Z	15	06	49.5
	i	Z		06	58
	i	E		08	32
	iL	ENS		09	26
	L _{max}	E		11.2	
	e?	Z	15	35	06
	iL	E		37	37
	iP	Z	16	28	33.3
	e	VZ		29	25
	iS	E(N)		35	05
	i(sS)	E		36	13
		Surface waves small			
iP	Z	17	09	55.3	
i	N Z		10	04	
iS	S		11	08	
i(S)	EN W		11	09	
i	WVZ		11	10	
i	N W Z		11	15	
i	VZ		11	22	
L _{max}	E		14.1		
e	Z	18	05	10	
iP	Z	23	50	15.5	
i	W		51	01	
i	E VZ		51	02	
e	S		51	12	
18th	iL	E	01	11	05
	iP	Z	13	07	55.6
	e	Z		08	21
	i	Z		08	40
	iP	ENS VZ	14	11	25.5
	i	V		11	44
	i	W		11	56
	i(PcP)	E		13	33
	i	E		15	19
	i(PcS)	E		17	17
	iS	EN		17	30
	i(SP)	Z		17	49
	i	Z		19	24
	L _{max}	Z		28	..
	Azimuth N 24° W				

3.

18th	iP	S VZ	14	41	50.0
	i	Z		44	54
	Obscured by surface waves of previous				
	iP	Z	15	54	02.0
	Obscured by continuing surface waves.				
19th	Power failure : No records 18/2219 till 19/0449				
	No E record after 19/0640				
	iP	Z	12	06	32.6
	i(S)	N		13	00
	iP	Z	18	07	53.3
	eL	N		23	20
	iP	Z	18	32	41.7 deep
	i?	Z		34	38

↑ Page omitted See later

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Preliminary Earthquake Phases 30/61

Out of order

20th July	eL	EN	07	00.2	
<i>✓</i>	iP	SWVZ	15	16	29
	eL	EN	15	25.0	<i>earlier</i>
<i>✓</i>	eP	E	20	06	34
	e(S)	N		12	00
	e(SS)	EN		15	26
	e(LR)	N	20	17	52
	M	E		22.0	
21st July	e(S)	E	07	51	58
	eL	EN		55	
	iP	Z	13	12	24
	i	Z		12	30
	i	Z		12	53
	e(S)	E		16	47
	Lmax	N		20.5	
	Lmax	E		22.8	
	eP	SW Z	17	29	37
	i	Z		29	41
	e	S		29	46
	e(S)	S		30	11
	Small local shock				
<i>✓</i>	e(P)	Z	19	00	22
	e(S)	N		04	57
	e	N		08	16
	e	N		09	24
	iP	ENSWVZ	22	00	34
	iS	Z		01	20
	i	W Z		01	33
	i	W Z		01	35
	Small local shock				
22nd July	e(P)	Z	13	21	04
	e	Z		21	40
	Small local shock				
	e(P)	Z	14	11	39
	eL	E		14.1	
<i>✓</i>	eP	Z	18	20	41
	eS	EN		27	22
	eSS	E		30	48
	eL	EN		35.0	
23rd July	L	EN	06	59	
	iP	Z	11	15	32
	i	N		16	20
	i	E		16	22
	i(S)	SW		16	27
	i	S		16	30
	Small local shock				
<i>✓</i>	iP	EN Z	14	08	37
	i	Z		08	45
	i	EN Z		08	59
	i	Z		09	09
	eS	W		12	44

23rd July	i	Z		13		19	
	eP	Z	14	21		37	
	e	Z		22		07	
	in coda of preceding shock						
	iP	Z	14	50		59	
	in coda of previous shocks						
	iP	Z	15	34		30	
	i	Z		35		15	✓ YES
	i(S)	Z		35		19	
	Small local shock						
	eP	Z	15	39		15	No
	i	Z		39		28	
	iP!	Z	21	56		06	dilatation
	iS	SW		00		14	
	i	V		00		23	
	i	W		02		04	
	i	S		02		17	
	i	V		02		25	
	i	W		02		39	
	i	S		02		52	
	i	W		04		10	deep?
	e(P)	Z	22	45		54	
	e	Z		46		03	
	e	Z		46		07	
	Obscured in coda						
	e(P)	Z	23	27		07	
	e	Z		27		27	
	e	Z		27		41	
	Obscured in coda						
	eP	Z	23	51		17	
	i	Z		51		31	
	e	Z		52		36	
	e(S)	W		55		25	
	Obscured in coda						
24th	i(P)	Z	01	36		57	
	e	Z		37		23	
	iP	Z	06	45		27	
	e	Z		45		55	
	iP	Z	08	53		24	deep?
	e	Z		53		40	
	e	Z		53		55	
	eS	N		57		38	
	e(S)	E	13	22		20	
	L(max)	E		26			
25th	eP	Z	01	35		42	
	e	Z		36		09	
	eS	EN		39		36	
	eL	E		41.0			
	e(P)	Z	08	11		56	
	eP	Z	12	08		14	
	e	Z		08		27	
	e	N	11	17		16	
	e	N		20		00	
	iP	Z	18	44		37.9	dilatation
	e	Z		44		47	

25th July	i		Z		45	02	
	i		Z		45	24	
	iS				48	50	
	i	E			49	00	
	i	N			49	30 deep?	
	eP		Z	08	55	34	
	e		Z		55	41	
	e		Z		55	52	
	iS	EN			59	36	
	i	N			04	18	
	i	E			04	28	
	iP		Z	19	10	10	
	i	S	V		10	14	
	i	S			10	16	
	i	S			10	21	
	iS		W		10	34	
	i		W		10	36	
	i		W		10	38	
	i		W		10	41	
	Small local shock						
26th July	eP		Z	00	03	36	
	eS		SW		03	43	
	Small local shock						
	e(P)		Z	03	00	16	
	e		Z		00	38	
	e		Z		01	03	
	iP		Z	09	26	18.0 dilatation	
	i		Z		27	04	
	iS	E			32	02	
	i	N			32	06	
	deep?						
	iP		Z	10	36	06	
	eS		S		37	36	

No time marks from 1115 to 2400 G.M.T.

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 31/61

July						
27th	eP		Z	02	14	22
	iP		Z	08	33	52
	eP		Z	15	41	13
	iP		Z	15	53	42
	iS	SW	Z		54	05
	iP		Z	19	29	37
	iS		W		30	23
	iP		Z	23	12	48
	eS		W		13	33
28th	eP		Z	00	✓ 41	52
	iP		Z	01	✓ 24	36
	eS	EN			✓ 28	07
	iP	E	Z	06	✓ 16	36
	iS	N			20	37
	iS	E			✓ 20	38
	e	E		11	03	07
	iP		Z	13	26	09
	i		Z		26	14
	iS	N			30	51
	iP		Z	17	22	15
	i		Z		22	36
	iP	EN	Z	23	57	52
	iS	EN			58	23
29th	eP		Z	07	24	31
	eS	SW	Z		25	59
	eP		Z	10	37	27
	e(S)	E			41	(51)
	i(S)	N			42	12
	iP		Z	16	✓ 34	37
	eS	EN			✓ 40	19
30th	iP		Z	08	08	52
	iS	SW			09	22
	iP		Z	11	08	19 deep

30th July	eP		Z	14	11	15
	e		Z		11	31
	eS	EN			15	25
	eP		Z	17	46	(03)
31st July	iP		Z	00	23	11
	i		Z		25	15 deep
	iP		Z	01	25	23
	i		Z		25	28
	eS	SW			26	08
	eP		Z	10	25	17
	eP		Z	16	28	05
1st Aug	eP		Z	19	29	(56)
	eS	SW			30	42
	iP		Z	01	22	18
	i		Z		22	47
	e(S)	E			26	04
	L _{max}	E			29.0	
	L _{max}	N			29.2	
	iP	ENSW	Z	05	43	04
	iS	E			45	44
	iS	N			45	46
	e(P)		Z	07	40	(43)
	Confused by preceding					
	eP		Z	09	54	06
	eP		Z	10	29	59
	eP		Z	19	30	02
	e(S)	N			32	37
	i	E			32	43
	eP		Z	22	16	41
	i(S)	E			20	36
	iP		Z	23	13	03
	eS	SW			13	44
2nd Aug	eP		Z	01	28	(56)
	eP		Z	02	08	57
	eP		Z	20	18	58

S wave onsets masked by microseisms

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Preliminary Earthquake Phases 32/61

Aug. 3rd	No record all day on ENZ				
	eP	SW	06	55	42
	No time marks 1030-2400 on SWV				
	eP	SW	23	38	?
4th	eP	Z	18	54	31 deep
5th	eP	Z	01	12	(13)
	eS	EN		15	48
	High microseismic background from about 1400 -				
6th	Very high microseismic background all day				
	iP?	Z	17	09	31
7th	High microseismic background				
	e(P)	Z	16	20	57
8th	e(S)	N	07	22	45
	e(S)	E		22	50
	eP		12	29	36
	iS!	EN		38	50
	i(L)	E		47	37
9th	eP	Z	01	26	(18) near
	iP	Z	16	07	40.3
	iS	EN		11	50
	eP	Z	23	02	03
	eS	EN W		03	07

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(Observer-in-Charge)

COMMONWEALTH OF AUSTRALIA

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GEOFYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 33/61

August

10th	iP		Z	00	35	07.3
	i		Z		35	42
	iS	EN			36	20
	i	E	V		36	38
	i	N			37	18
	iP		N	03	46	09.4
	i		W	05	54	26.6
	i		Z		54	28
	iP		WVZ	06	43	31.9
	i(P)		Z	07	40	46.6
	eL		N	08	26	37
	L _{max}	EN			28	49
	iP		Z	17	25	50.0
	iS	E			28	13
	eL	EN			29	31
11th	iP?		Z	06	16	31.0
	iS		N		22	51
	iP		ENSWVZ	10	29	58.0
	i		Z		30	07
	iS		N		34	06
	L _{max}	EN			37.5	
	iP		S Z	11	09	50.9
	i(S)	EN			10	18
	i		Z		10	52
	e	E			13	06
	iS	EN			14	02
	eP		SW Z	12	53	2(3)
	iS	ENS			53	30
	i(S)	S			53	32
	i(S)	W			54	34
	i		Z	55	33	
	eP		Z	16	00	40
	i		N		00	43
	i		Z		00	47
	i	E SW	Z		08	03
	iP		Z	17	01	10.0
	In Coda of Preceding					
	iP		ENSWVZ	22	42	54.2
	i		E		44	43
	iS		E		47	17
	i(S)		N		47	21
	Azimuth - N 60° W					

12th	eP		Z	22	35	08
	i	ENSW			36	31
	i		Z		36	37
13th	iP		Z	02	37	01.4
	ipP		VZ		37	13
	eS	N			40	08
	e	EN			43	15
	eP		S	02	39	57
	iP		VZ	06	08	49.9
	ipP		VZ		09	04
	e(S)	EN			14	52
	iP		W Z	12	50	10.9
	iP		Z	23	42	41.2
	iS		NSWVZ		44	12
14th	iP	EN	WVZ	18	58	10.7
	i		Z		58	23
	i	E		19	00	26
	i	E			03	39
	L _{max}	EN			13.2	
	eP?		Z	22	13	03
	eL	N			19	26
	iP	EN	Z	23	33	56.8
	i		VZ		33	59
	i		Z		34	07
	iS	EN	Z		38	20
	i(S)	N			38	26
	L _{max}	E			39.7	
	L _{max}	N			41.0	
15th	iP		Z	17	16	34.6
	i		SWVZ		16	40
	iS		SW		17	08
	i		VZ		17	10
	i	S	Z		17	15
	i		W		17	18
	eP		Z	17	56	06
	iS	EN		18	00	06
	L _{max}	EN			03.9	
	iP	N	Z	19	11	48.2
	ipP		Z		12	20
	iPP	N			13	35
	i(PcP)		Z		13	44
	i(PcS)	N			17	09
	iS	N			18	01
16th	eP		Z	03	41	20
	e		Z		41	33
	e	N			52	03
	iP		Z	16	36	01.3
	eL	(E)N		17	32.7	
	iP		SW Z	21	43	46.8
	iP		Z		44	51.9
	iS		SW		44	53
	i	E	Z		44	56

May be two shocks.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

PORT MORESBY GEOPHYSICAL OBSERVATORY
PRELIMINARY EARTHQUAKE PHASES 34/1961

17th August	iP	SWZV	04 17 06.2	
	i!	ENSWVZ	17 11	
	e	Z	17 26	
	i	Z	17 42	
	e	W	17 43	
	e(S)	Z	17 47	
	e(S)	S	17 50	
	iP!	NSW Z	08 36 59.0	
	i	S VZ	37 06	
	iS	N Z	37 31	
	iS	E SW	37 32	
	eP	S Z	11 00 14	near
	eP	SW Z	18 36 37	near
	iP	N Z	21 25 51	
	e	N Z	26 27	
	e	N	27 33	
	i	Z	30 34	
	e	N	31 16	
	e	N	33 10	
	iS	E SW	33 25	
	iS	N Z	33 26	
	e	VZ	33 37	
	e	E	36 33	
	e	N	36 57	
18th August	iP	Z	11 07 37.4	deep?
	iS	EN	12 30	
	iP	ENSW Z	12 52 09.6	deep?
	iS	SW	52 42	
	iS	EN	52 43	
	iP	Z	13 45 46.4	deep?
	iS	EN	46 08	
	eP	SW Z	17 58 51	near
19th August	eP	Z	05 27 56	
	i(P)!	EN VZ	28 08	
	e	S	28 10	
	e	Z	30 32	
	i(S)	ENSWVZ	30 44	
	i	EN	31 44	
	e(S)	SW	36 52	
	i	Z	36 54	
	e	Z	38 (07)	
	i	S Z	41 59	
	2 or more shocks?			
	eP	Z	14 25 06	
	iP	Z	15 11 54.0	
	iP	Z	21 27 37.8	
	iP	Z	21 51 24.0	
20th August	e?	Z	01 35 15	
	e(P)	Z	35 21	
	eS	EN	39 22	

20th iP! WVZ 05 10 17.0 deep?
 e N 10 21
 iPcP Z 12 39
 e N 14 08
 iS ENSW 15 08
 e E 17 49
 iScS EN 19 39

eP Z 07 44 01
 e Z 44 36
 iS EN W Z 44 44

iP Z 10 22 00.2 deep?
 e SW 23 34
 i Z 23 36

21st iP SW Z 02 12 50.9 deep?
 e(pP) Z 13 27
 e(PcP) Z 14 27
 e(ScP) ENSW Z 17 42

iP ENSWZ 06 07 44.0
 eS ENSW Z 08 28

eP Z 07 40 08
 eS ENSW 40 49
 eS Z 40 50

eP Z 09 59 39
 eS ENSW 10 00 52

iP Z 16 14 14.2
 iP! ENSW Z 14 34
 ePP E 15.9
 eS E 20 06
 eScP Z 20 12
 ePcS E 20 19
 esS E 20 38
 e(L) E 22.8

eP? Z 16 43 04

eP Z 17 09 35
 e Z 09 57

22nd eP Z 09 03 54
 e E Z 04 04
 iS EN 07 35
 M N 10.7
 M E 10.9

23rd eP Z 04 25 21

eP Z 14 38 44
 eS SW Z 39 08

eP Z 16 01 (29)
 eS Z 02 (31)

eP Z 21 10 36
 eS SW Z 11 26

eP Z 22 56 (48)
 eS E 23 00 34
 Lmax N 03.5
 Lmax E 03.8

(A/g P.E.MANN Observer-in-Charge).

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 35/61

23rd August	e(P)		Z	13	25	35
	e				25	43
24th August	eP		Z	01	18	20
	e(S)		Z		18	39
					small local shock	
	eP		Z	02	47	28
	e		Z		47	35
	eP		Z	09	15	56
	e		Z		16	06
	eP		Z	13	07	37
	e		Z		07	42
	iP!		Z	17	26	45.6 comp.
iS	N			27	34	
eP		Z	21	04	16	
eS	N			08	54	
eP		Z	22	01	11	
eS	N			02	15	
				small local shock		
iP	S	Z	23	59	06.2	
iS	SW	Z		59	44	
i	S			59	46	
i		Z	59	53		
25th August	eP	S	Z	05	53	50
	i		Z		53	55.3
	i		Z		54	26
	eS	N			56	17
	e(S)	E			56	30 deep?
	iP!	WVZ		06	26	31.0
	eS?	N			31	18 deep
	e(P)		Z	06	35	05
	iP	NS	VZ	07	11	17.8
					surface waves very small	
eP		Z	21	31	30	
iP		Z		31	41.4	
i	WVZ			33	11	
i(S)	E			35	33	
26th August	eP		Z	00	34	33
	i		Z		34	48
	i	N			34	57
	iS	N			35	26
					small local shock	
	e(P)	SW		07	35	24
	eS	E			36	07
					small local shock	
	eP		Z	08	17	33
	e(S)		Z		18	50

26th August	e(P)	Z	16	19	19
	iP	Z	18	06	56.9
	eS	N		10	39
	eSS	N		11	05
	L _{max}	EN		14.0	
	eP	Z	18	55	29
	i	Z		55	31
	i	Z		55	46
	eS	N	19	00	03
	e	N		02	44
	e	N		03	27 deep?
27th August	e(P)	Z	02	11	39
	i	Z		11	45
	e(P)	Z	03	00	23
	e(S)	N		05	07
	iP	Z	16	32	04.4
	i	Z		32	12
	i	Z		32	16
	e	N		36	13
	eS	N		39	45
	e	N		43	01
	e	N		44	03
	iP!	N VZ	16	53	30.5 dilatation
	i	Z		53	38
	i	WV		54	08
	eS	W		58	01
					in coda of preceeding shock
	eP	Z	17	07	52
					in coda of preceeding shock
	e(P)	Z	18	03	55
	e	Z		04	07
					in coda of preceeding shock
28th August	iP	Z	07	45	41.0 dilatation
	i	Z		45	47
	iS	ENSW		49	03
	i	N		49	24
	i	E		49	26
	i	E		51	43 deep?
	iP!	VZ	09	50	23.8 dilatation
	iS	E W		55	20 deep?
	eP	Z	12	05	42
	e(P)	Z	21	04	(18)
	eS	EN		07	14
	iP	Z	21	46	23.9
	e	Z		46	52
29th August	e(P)	Z	04	20	20
	eL	E		25.4	
	eL	N		26.1	

29th August	eP	Z	07	51	31
	i	Z		51	34
	iS	N		52	10
	small local shock				
	eP	Z	10	48	54
	e	Z		49	09
	eP	Z	15	02	27
	i	Z		02	36
	eS	EN		11	47
	e(PS)	N		12	28
	iP	Z	21	38	29.5
					compression
	i	Z		38	42
	i	Z		38	56
	eS	N		42	16 deep?
30th August	iP!	Z	02	26	34.6
					dilatation
	eP	Z	03	50	27
	e(S)	Z		51	39
	small local shock				
Vertical components and short period horizontal components out of action from 0611 to 2342 GMT					
	eP	EN	22	19	11
	e	EN		19	26
	e(S)	N		23	(10)
	deeper than normal.				

P.E. MANN
(A/g Observer-in-Charge).

TABLE 11

SUMMARY OF ANNUAL MEAN VALUES

YEAR	D	H	Z
1955	0	1	

All days

Ten least disturbed days.

Five international quiet days

Five international disturbed days

COMMONWEALTH OF AUSTRALIA

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 36/61

Aug 31st	eP	EN	01	33	57	
	e(S)	EN		39	49	
	iP	EN	03	06	56.9	
	iS	E		09	08	
	i	N		09	53	
	i	EN		10	35	
	eP	ENSWV	03	15	(12)	
	eS			17	(55)	
	e			18	59	
	s-P = 2 : 44s by direct measurement on W and S confused by coda of foreshock					
	No Z trace or S,W, V timemarks 00-0430 Z					
	iP	ENSWVZ	09	55	36.7 comp	
	i	Z		55	41	
	iS	ENSW Z		57	05	
	deep					
eP	Z	21	08	27		
e	EN Z		09	49		
No surface waves						
iP	Z	23	27	02.5		
eS	EN		30	51		
No surface waves						
1st Sept	i	Z	00	27	57.9	
	e	Z		28	41	
	i	Z		29	13	
	i	N		34	28	
	i G		01	03.3		
	iP		00	38	58 new shock	
	Possibly 2 or 3 shocks					
	iP	WVZ	16	43	17.5 comp	
	iP!	ENSWVZ	18	47	35.5 comp	
	iS	ENSW Z		52	24	
	Deep					
	e(P)	Z	19	09	27	
e(P)	Z	19	23	36		
2nd Sept	iP	Z	00	37	38.0	
	eS	EN		46	38	
	eL	EN	01	00	..	
	iP	Z	03	55	11.1	
	eS	EN	04	02	07	
	L _{max}	N		12.7		
	eP	Z	06	10	42	
	e	Z		10	57	
	eP	Z	06	55	19	
	i(S)	EN Z		56	37	

2nd Sept	iP		Z	11	02	30.6 rare
	e		Z		02	44
	iS	E			06	13
	No surface waves					
	iP	E	WVZ	18	00	17.8
	i		Z		00	46
	i		Z		00	56
3rd Sept	eP		Z	08	26	35
	i		Z		26	55
4th Sept	iP	NS	VZ	10	00	08.2 comp (South)
	i(pP)		Z		00	18
	i(PcP)		Z		00	28
	i		Z		01	10
	e	S	Z		05	03
	eS	EN			09	04
	eSS	E			13	20
	eLq	E			16	39
	e?		Z	15	05	55
	i(P)	ENSW	Z		06	01.3
i		Z		06	23	
	iP?		VZ	22	40	34.7
5th	eP		Z	00	54	01
	e		Z		54	11
	eS	E		01	00	08
	e	E			07	35
	iP		Z	06	25	19.2
	i		Z		25	53
	i		Z		34	38
	iS	EN			35	31
	i(PS)	E			36	21
	i	EN			48	02
e	E			50.5		
	iP		Z	11	47	09.2
	i		Z		47	23
	i		Z		48	14
	e(PP)		Z		50	37
	iSKS	EN			57	28
	iS	EN			57	31
	iP	N	Z	21	12	27.0
	i		Z		12	34
	eS	EN			16	25
	eL	E			19	24
6th Sept	e(P)		Z	01	39	51
	e(S)	SW			40	41
	iP	EN	WVZ	06	58	45.5
	i	SW			59	14
	iS	E	SW		59	31
	i		Z		59	32
	i		Z		59	44
	eP		Z	07	23	40
	i	E	SWV		24	27
		iP	N	VZ	08	19
	iS	ENS	Z		23	48 Observer-in-Charge.)

P.E.MANN
Observer-in-Charge.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT - BUREAU OF MINERAL RESOURCES

PORT MORESBY GEOPHYSICAL OBSERVATORY

Preliminary Earthquake Phases 37/61

Sept						
7th	Nil recorded					
8th	i(P)		Z	00	25	32.6
	iP		Z	04	35	20.0
	eS	S			36	04
	iP		Z	08	35	19.0
	i(P)		Z	11	41	11
	i(R)	N			41	12
	e(P)		Z		44	37
	i(pP')		Z		44	59
	e	N			45	22
	e(PP)		Z		45	52
	i	N			45	58
	eP?		Z	14	56	21
	e _i P		Z	19	53	14
	eS	SW			54	02
	e _s S		Z		54	03
9th	eP		Z	15	27	(59)
	iS	N			01	20
	i	E			01	30
10th	eP		Z	00	56	04
	e		Z		57	27
	e	N			57	58
	i	E			58	12
	i	E			58	42
	iP		Z	05	06	34.2 deep
	e(S)	N			10	14
	e	N			11	09
	e	E			11	29
	eP		Z	08	59	59
	e		Z	09	01	23
	e	E			02	43
	May be same location as 10th / 00 56 08 above					
	eP		Z	11	47.0	
	iP		Z	18	22	10.3 deep
	eP?		Z	23	47	51
11th	eP		Z	02	57	36
	iP	S	Z	04	27	33.0
	iS	ENSW	Z		27	56
	eP	S	Z	07	12	03 probably near
	eP		Z	11	42	43.0 deep?
	e(P)	S	Z	17	45	03 near

Sept						
11th	eP		Z	20	01	15
	e		Z		02	07
	e		Z		05	38
	e(S)	EN			05	(40)
	M	E			08.3	
	iP		Z	22	34	43.7 deep?
12th	iP		Z	00	23	21.9 deep?
	iP		Z	01	19	22.1
	e		Z		20	00
	i	N			23	22
	iP		Z	02	17	(03)
	iP	S	Z	12	27	01.1
	eS		Z		27	54
	e(P)	SW	Z	13	16	01 near
	iP		Z	23	15	52.7
	eS	SW			17	22
13th	e(P)		Z	14	19	47
	i(S)	E			24	25
	deeper than normal? but confused by microseisms					
	eP		Z	17	30	52
	i		Z		31	38
	i		Z		31	49
	eP		Z	18	07	22
	i		Z		08	07
	i(P)		Z	20	48	42.9
	eL	E		21	56	
	eL	E		22	28	

P.E. MANN
(A/g Observer-in-Charge).

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 38/61

Sept

14th iP Z 18 50 52.6 compression
 e Z 51 05
 Wilson-Lamison out of action 00 hrs - 07 hrs

15th iP Z 10 09 44.8 dilatation
 e Z 09 58
 eS N 12 21
 iS E 12 23
 e(L) N 12.7
 e(L) E 13.1
 deeper than normal?

*Additional eP SW 01 22 38
 e(S) W 24 09

*Additional e(P) SW 00 34 08

16th eP Z 11 35 27
 e(S) Z 36 35

eP Z 11 50 32
 e Z 50 41
 eS E 51 08

e(P) Z 12 21 54
 e Z 21 58

17th iP Z 00 15 56.6
 i Z 16 04
 i Z 16 13
 i Z 16 37
 eS EN 19 13
 eP Z 02 36 33
 iS Z 36 59
 Small local shock

eP Z 02 52 51
 iS Z 53 01
 Small local shock

eiP Z 08 49 39.1 dilatation
 i(pP) Z 49 51
 i Z 49 59
 i Z 50 15
 i Z 50 41
 iS N 55 51
 iLQ N 59 27

iP Z 09 31 37
 iS S Z 32 07
 small local shock

eP Z 15 45 18
 e Z 45 45

Sept

17th	e(P)	Z	17	16	38
	e	Z		17	23
	e	Z		18	03
	iP	S ZV	19	12	03.6
	iS	N		12	47
	small local shock				
	iP!	ZV	23	23	00.7 dilatation
	i	V		23	09
	i(S)	W		23	(37)
18th	eP	Z	01	13	39
	eS	SWZ		14	02
	eP	Z	03	15	42
	i!	ENSWZV		15	46
	i	Z		16	08
	e(S)	ENSW		16	21
	e	E SWZ		16	29
	Possibly 2 shocks. Apparently near.				
	e(P)	S Z	13	23	58
	e	S		24	07
	e	SWZ		24	15
	e	S Z		24	28
very small					
	eP	E Z	15	43	29
	e(S)	E		48	(06)
	e	N		50	(05)
	e(P)	W ZV	16	34	30
	e	Z	23	11	40
	19th	e(P)	ZV	02	44
e		Z		44	13
e		SWZV		44	16
	i	Z		46	55
	e	SW V		46	57
	i	EN		47	53
	i	N		53	45
	e	Z		55	43
	e	E		04	41
	eP	Z	06	15	09
	eS	E		19	29
	eS	N		19	31
	e	Z		19	59
	eP	Z	09	24	05
	e	E		28	35
	e	N		29	06
	eP	Z	13	49	41
	eS	E		54	00
	iP	Z	18	31	29.2 deen
	iS	E		36	16
	eP?	Z	22	26	03
	i!	ZV		26	08
	e	Z		26	41

P. F. MANN
(A/g Observer-in-Charge)

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 39/61

Sept.

20th	iP	Z	07	32	14.3 deep?
	iP	Z	19	05	20.7
	iS	EN		06	36
21st	iP	WZ	17	10	33.4
	i	ZV		10	47
	eS	S		11	01
	iS	E SWZ		11	05
	i	Z		11	14
22nd	iP	Z	06	11	51.5
	probably artificial				
	e(P)	ZV	15	06	34
	i(L)	E		26	31
	iP	ZV	18	42	18.6
	i(S)	N		49	47
23rd	Nil. Earthquakes				
24th	eL	EN	18	26	..
	eP	Z	21	48	57
	eS	E		55	09
	e(S)	N		55	21
	iP	ZV	22	01	35.6
	i	ENSWZV		01	38
	iS	E W		02	39
25th	eL	EN	06	55.5	
	iP!	SWZV	09	54	45.8
	e	W Z		55	28
	i(S)	N		55	32
	i	W Z		55	48
26th	Nil earthquakes				
27th	iP	Z	00	53	36.0
	iP	NSWZV	02	51	04.3
	iS	SW		51	47
	i(S)	N WZV		51	50
	iP!	ENSWZV	06	40	07.0
	dil	Az. 115°			
	ipP	E ZV		41	37.1
	i	N		43	47
	iS	EN		44	56
	iScP	ZV		45	23
	iPcS	N(S)ZV		46	17
	isS	EN		47	53
	i(G)	E		48	05

Sept

27th

i(PP)	E	12	34	12
i(PPP)	EN		36	12
eS	N		40	37
e(PS)	E		42	09
i(SS)	N		46	54
L _{max}	EN	13	12.0	
L _{max}	EN		18.5	
L _{max}	N		20.0	
ePP	Z	19	32	16
e(SKS)	Z		38	29
e(SKS)	Z		38	38
ePS	EN		41	36
eSS	E(N)		47	41
e	EN		50.2	
e	N		53.0	
e	E		58.0	

P.E. MANN
(A/g Observer-in-Charge).

COMMONWEALTH OF AUSTRALIA

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GEOPHYSICAL OBSERVATORY - PORT MORESBY

Preliminary Earthquake Phases 40/61

Sept

28th	iP		Z	01	32	08.2
	e	e	Z		32	26
	iS		N		38	35
	iS	E	S		38	38
	i(ScS)		N		42	32
	iP		Z	03	32	16.5
	iS	EN			38	15
	e?		Z		43	42
	iP		Z	17	38	40.4
	iS	E	W		39	45
	iS	NS	Z		39	46
29th	iP		SWZV	19	11	43.2
	iP	EN			11	45
	i	N	Z		12	07
	i(S)	EN			16	14
30th	iP?		Z	06	41	34.7
	Probably artificial					
	iP		SWZV	09	53	36.9
	iS	ENSW			55	06

No record 1820-2400

Oct
1

	iP		Z	03	25	55.0
	iS	ENSW			26	16
	iS		Z		26	18
	iP		Z	04	54	44.2
	iS	ENSW			55	24
	i		Z		55	47
	iP		Z	13	16	18.4
	iS	ENSW			16	58
	iS		Z		16	59

Day	Time	Station	Phase	Time	Amplitude	Scale	
Oct	2nd	Z	eP	06	00	59	
			iPP	N	02	34	
			ePP	Z	02	36	
			eS	EN	07	(01)	
			L _{max}	E	14.0		
			L _{max}	N	15.0		
	2nd	Z	iP	06	29	01.3	
			Z	eP	07	09	58
				i	EN	10	15
				iPP	N	11	36
				eS	N	16.0	
				L _{max}	N	23.9	
L _{max}	E	25.9					
2nd	Z	iP	07	53	27.5		
		eS	SW	54	02		
		e		54	26		
	Z	eP	11	55	24		
		e(S)	N	58	12		
		Z	eP	19	03	16	
i(S)	EN		06	24			
L _{max}	E		08.7				
3rd	Z	iP	02	27	45.9		
		iP	E	27	48		
		iS	EN	31	25		
		L _{max}	E	34.7			
		L _{max}	N	34.9			
		iP	Z	10	39	14.6	
	3rd	Z	iS	SW	39	58	
			iP	Z	10	48	49.0
		Z	eS	Z	50	23	
			Z	eP	14	32	20
		eS		SW	32	57	

P.E. MANN
(A/g Observer-in-Charge)

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Oct. 5th						Oct 8th					
iP		ZV	18	13	49.2	i	EN	Z		46	58
					dilatation					50	19
i(pP)	E	ZV		13	59	i	E			50	27
e(S)	N			17	58	i	N			51	05
i	E			18	03		E				
i	E			19	01						
iP		Z	19	33	33.4	9th	eP	Z	02	32	30
					dilatation	eS	N	Z		33	11
i		Z		33	43	i	EN	Z		33	15
iP		Z	22	42	45.4						
					dilatation					No record 0400-0500 GMT	
e(pP)		Z		42	54	eP	Z	05		00	47
i(pP)	E			43	09	e(S)	Z			01	23
e(PPP)	E	Z		43	24	e	Z			01	25
e(S)	N			48	58					small local shock	
i	E			49	13	e(P)	Z	05		37	12
L _{max}	EN		23	00		e	Z			37	32
6th	eP	Z	06	50	31	eP	Z	06		28	14
	e	Z		50	47	e	Z			28	19
	eS	EN		53	39	e	Z			28	35
	deeper than normal?					e(S)	N			32	28
eP		Z	09	41	18.7	marred by artificial disturbance					
eS	E			46	08	iP	Z	10		28	36.9
					deep?					compression	
e(P)		Z	18	50	29	i!	Z			28	37.5
i		Z		50	37	i	EN			28	41
eP		Z	19	43	47	i	E			29	16
eS	E			47	33	iS	E			29	24
e	N			47	55	iP	Z	10		46	26.5
7th	e(P)	Z	07	38	40					compression	
	e(P)	Z	09	33	19	i	Z			46	28
	eP	Z	14	08	49	e	Z			46	38
	e(P)	Z	17	03	49	e	Z			46	54
						eS	E			49	46
8th	eP	Z	02	13	11	e(S)E				51	41
	i	Z		13	26	e(ScS)	E			56	15
	eP	Z	11	48	43	depth 200-300 km?					
	e	Z		48	48	10th	eP	Z	01	10	14
	eS	E		51	19	e	Z			10	20
	eL	EN		52.5		e	Z			10	56
	eP	Z	21	01	15	iP!	Z	03		50	39.8
No short period horizontal pendulums in operation 9th 10th and 11th October										dilatation	
Additional						e	Z			50	46
iP	Z		23	46	25.1	e	Z			50	52
					compression	iS	N			55	24
i!	Z			46	27.5	iS	E			55	25
					dilatation	e	E			58	34
						e	N			58	39
						e	E			58	54
										deep?	
						iP	Z	04		04	37.8
						i	Z			04	48
						e	Z			05	16
						e(S)	N			08	00
										deep?	

Oct

10th	iP!	EN	Z	08	27	52.1
					dilatation	
	i	EN			27	55
	i	EN			28	02
	i		Z		28	14
	iS	N			29	21
	iS	E			29	23
	iP		Z	08	43	52.4
	i		Z		44	10
	eP		Z	17	27	23
	i	EN	Z		27	26
	i		Z		27	41
	i		Z		27	47
	i(S)	N			29	36
	iP		Z	18	51	00.2
					dilatation	
	i		Z		51	04
	iS	N			56	15
	i	E			56	30
	i	E			58	24
					deep?	

11th	e(P)		Z	00	37	12
	e		Z		37	38
	e		Z		38	42
	e	E			47	12
	L _{max}	N		00	53	
	L _{max}	E		00	54	
	e(P)		Z	02	16	49
	eP		Z	04	04	55
	e		Z		05	13
	eS	E			07	52
	e(P)		Z	07	16	16
	i		Z		16	34
	iP		Z	09	32	38.0
					compression	
	i		Z		32	44
	i(pP)		Z		32	52
	i	E	Z		33	01
	i	N			33	03
	iS	E			36	12
	iS	N			36	15
	i	N			36	44
	L _{max}	EN		09	39	
	eP		Z	15	42	48
	e		Z		42	54
	i P		Z	16	10	19.7
	e(P)		Z	22	01	00
	e		Z		01	10

P.E. MANN
A/g Observer-in-Charge

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Oct. 12th	iP	Z	01	11	06.3 (comp)	Oct. 14th.					
	e	Z			25						
	iS E			12	33	iP W S VZ	11	17	04.2	comp	
	iLR N			13	20	e Z		17	12		
	iP	Z	01	39	03.5(dil)	iS EW NS VZ		18	12		
	i E N			39	08	e S Z		21	54		
	iS	Z		39	26	eP Z	16	18	51		
	i E N			39	42	e N		20	51		
	e	Z		39	50	eS E		22	59		
	e	Z		40	06						
	iP	Z	03	11	27.9	eP Z	18	15	14.9		
	i N			11	47	e Z		16	06		
	iS E			11	59	i Z	19	47	20		
	i	Z		12	02	i W S Z		48	08		
	eP	Z	03	48	11(dil N.)						
	eS	Z		52	30	Oct. 15th.					
	eScP	Z		55	09	e Z	01	53	17		
	e	Z	05	08	20	eP? Z	03	52	04		
	e E			09	30	e W Z		52	55		
						i W S		53	03		
	e	N Z	06	02	58	eP? Z	18	43	24		
	iL E			04	(32)	e S		44	39		
	Lmax E N			05.4		Oct. 16.	iP S VZ	04	41	34.8	
						i Z		41	48		
	eP	Z	08	25	40	e Z		42	18		
	i	Z		25	42	i Z		42	34		
	iS N			26	45	e E		08	04	34	
	i(S) E N	Z		26	51	iP! W NS VZ	17	56	04.6	dil.	
	eP	Z	22	06	44	iS EW S		56	48		
						i(S) N VZ		56	49		
No records on S, W and V components for 7th to 12th October, inclusive.											
Oct. 13th	eP	Z	00	41	51	Oct. 17.	eP Z	02	59	03	
	i	Z		42	40	eS W	Z	59	52		
	confused due to record change					i	Z	03	00	02	
	e(P)	Z	02	27	36	eP EW NS VZ	03	09	24	deep	
	eP	Z	05	18	36	eS EW N Z		10	15		
	i	Z		18	43	i S		10	16		
	e N			28	51	i Z		10	27		
						i Z		11	44		
	eP S VZ		09	08	50	Lmax E N		12.9			
	i(S) N Z			09	20	i(PcP) E N Z		15	17		
	iS W S			09	23	eP? Z	04	38	28		
	e	Z	11	05	58	e E		54	22		
						e E		05	01	58	
	iP! EW NS VZ		17	35	15.9dil	iP E Z	09	56	32.0		
	ipP W VZ			36	01 E	e(S) N		10	00	24	
	iS E			40	36	e E		02	28		
	i N			43	38	Lmax E N		04.5			
						eP N Z	11	07	28		
	iP W NS VZ		17	45	06.9	i Z		08	00		
	iS EW NS VZ			45	53	i E N		11	28		
Oct 14th.	eP	Z	00	56	20						

Preliminary earthquake phases 42/61 (Cont'd). Sheet 2
Of 2

Oct. 17	eP		Z	16 33 25
	i	W	Z	33 33
	i(P)		S Z	22 13 44
Oct. 18	iP	EW	S Z	00 20 04
	eP		Z	02 57 18
	i		Z	58 59
	i		Z	59 31
	e(S)		N	03 03 22
	i(S)	E		03 47
	e PKP		Z	17 10 48
	e PP	E N	Z	12 11
	e SKS	N		17 46
	e SKS	E N		17 51
	i SKKS	E N		19 15
	i PS	E		22 16
	e PPS	E		23 31
	e PPS	N		23 49
	i SS	N		29 16
	L _{max}	N		52.0
	M _{max}	E		58.0
	L _{max}	N		18 04.7

P.E.Mann
(A/g Observer-in-Charge).

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Preliminary Earthquake Phases 43/61.

Oct. 19th		Z	02	07	36	Oct. 21st		Z	16	26 (25.0)	
eP		Z	02	07	36	iP		Z	16	26 (25.0)	
i		Z		07	38	iS		Z		27 (07)	
iS		Z		09	08	i		Z		27 (13)	
			local shock deep?						small local shock.		
e(P)		Z	06	59	12	iP		Z	17	38 (44.6)	
e		Z		59	23					dil.	
e		Z		59	38	i		Z		38 (48)	
e(P)		Z	09	26	42	i(pP)	W	VZ		38 (57)	
e(S)	E			30	54	i		Z		39 (08)	
L max	E		09	37		i	E			39 (11)	
						i	W	Z		39 (19)	
eP		Z	11	39	31	iS	E	N		42 (12)	
e		Z		40	13	i	E			42 (33)	
e(S)	N			44	44	i	N			42 (37)	
e	E			45	58					may be deeper.	
iP		Z	19	34	52.5 comp.	e(S)	E	N	19	04 (27)	
ipP		Z		35	04	L max	N		19	08	
i		Z		36	14						
iS	E	N		41	40	Due to pendulum clock fault all times are probably accurate to ± second for 21st October.					
i	E			42	20	22nd	iP	Z	06	24 23.2	
e	E			43	06	i		N	Z	24 26	
eP		Z	20	10	20	iP		Z	07	34 56.4 dil.	
e		Z		10	28	i		Z		34 59	
20th	iP	Z	01	35	28.3	iP		Z	08	08 16.0	
i	SW	V		35	31	i		Z		08 46	
iS	E			36	58	iP	W	S	Z	08 47	
i	SW			36	59	eS		Z		small local shock	
i	N	Z		37	01	i		Z			
i		Z		37	07	iP		Z	09	56 08.0 dil.	
eP	E	Z	03	53	05	i	E	Z		56 22	
i		Z		53	09	e	W	S	Z	56 25	
i		Z		53	13	i		Z		56 46	
i		Z		53	20	i		Z		56 59	
i	N	Z		53	25	i	E	Z		57 14	
eS	E	N		55	37	i		Z		57 40	
e	E	N		55	58	i	E	Z		58 02	
eL	E		03	56.6		i	E	N		58 05	
L max	E		03	58.4		i	N		10	00 48	
						i	E			01 50	
	E		17	40		iP		Z	14	47 04.2	
	minor activity.									compr.	
iP		Z	21	21	13	e	W	V		47 05	
iS	E	Z		22	03	e		Z		47 20	
i	E			22	06	e		Z		47 37	
i	E	N		22	13	iP		VZ	18	45 28.0	
21st			08	47						dil.	
	minor activity.					e		Z		45 36	
iP	SW	V	11	49	(44.8) dil.	iPPP		Z		45 46	
i	W			49	(47)	e		Z		46 08	
i		Z		50	(15)	eS	E	N		49 02	
e(S)	E			57	(45)	i(SSS)	E	N		49 38	
e	N			57	(57) deep?	iL		N		50 15	

Preliminary Earthquake Phases 43/61 (Cont'd.) Sheet 2
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Oct. 23rd. eP Z 00 26 56
e Z 27 42
e(PKP) Z 00 27 42
e(PP) E 28 54
e(SKS) N 35 04
i(SKKS)E N 35 26
i N 37 23
e(PS) E 39 01
e E 43 17
e(SS) E 46 53
i(SSS)E 51 11
L max N 01 14.0

eP Z 04 18 01.9
dil.
e Z 18 26
i Z 18 35
i(S) N 19 14
i(S) E N 19 15
i E N 19 30
i Z 19 34
i Z 19 56

eP Z 06 07 09
e Z 07 16
e Z 07 22
e Z 07 41

iP Z 09 16 18.9
i Z 16 24
i Z 16 38
i(S) E 17 03
i E 17 31
i N 17 38
i Z 18 06
i Z 19 10

iP Z 14 44 (48.5)
dil.
i Z 44 (54)
i Z 45 (07)
i(S) E 45 (32)

iP Z 14 57 (43.6)
e Z 57 (56)
i Z 58 (08)
in coda of preceding shock.

eP Z 16 35 54
e Z 36 01

eP Z 20 43 44
e Z 43 59
eS E 49 08
L max E 53.6

25th Contd. e(P) Z 22 45 33
e Z 45 44
L E N 23 00

Oct. 24th eP Z 02 35 06
e(S) Z 36 28
i Z 36 32
i Z 36 34
small local shock.

Minor activity 04 00

eP Z 04 27 30
e Z 27 40
e Z 27 45
small local shock.

iP Z 07 34 35.6
e Z 34 46
e(S) E 42 06

eP Z 07 42 36
e Z 42 42
eS E 47 42
eSSS E 50 22
iL N 51 23

iP Z 07 53 59.6
dil.
in coda of preceding shock.

i(P) Z 11 03 08.6

iP Z 15 35 29.6
compr.
i(pP) Z 35 59
i(sP) Z 36 16
i(PP) Z 36 22
i Z 36 34
i Z 36 44
iS N 39 59
confused by microseisms.

Minor activity 19 07

25th i(P) Z 04 06 36.1
compr.

e Z 08 10
e Z 08 46

iP Z 09 13 39.7
dil.

eP Z 12 49 22
e Z 49 32

iP Z 14 27 48.3
dil.
i Z 27 54
i Z 28 02

eS E N 35 28
e E N 36 54
eSS N 37 28
e E N 39 06
Lmax N 14 44.0

eP Z 17 19 48
e Z 20 03

eP Z 22 00 05
e Z 00 09

(P.E.MANN)
Acting Observer-in-Charge.

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Preliminary Earthquake Phases 44/61.

Date	Phase	Time	Mag.	Other
Oct. 26th	iP	00 39	55.0	comp.
	i	Z 40	00	
	i	Z 40	11	
	i	Z 40	32	
	i	Z 40	54	
	i(S)	W S V 41	18	
	i(P)	Z 09	22 11.0	
	iP	Z 10	50 50.7	
	i	Z 10	51 26	
	iP	Z 11	16 08.7	
	i	Z 11	16 18	
	i(PcP)	Z 11	17 05	
	iS	E N 11	20 01	
	Lmax	E N 11	23.6	
	eP	Z 12	26 40	
i	Z 12	27 43		
iS	Z 12	28 02		
iP	Z 13	07 59.7		
i	Z 13	08 12		
i	Z 13	08 27		
iS	E N 13	08 33		
Lmax	E N 13	10.7		
e(P)	Z 13	44 19		
i(S)	E N 13	45 05		
Lmax	E N 13	47.5		
iP	E VZ 15	35 52.1	dil.	
i	Z 15	36 03		
i	E Z 15	37 50		
i	E Z 15	38 10		
iS	E N 15	42 51		
iScS	E N 15	45 45		
Lmax	E 16	01.6		
eP	Z 16	56 13		
i	Z 16	56 41		
i	Z 16	57 15		
i	Z 16	57 25		
iP	EW N VZ 17	34 07.9		
i	Z 17	34 18		
i	Z 17	34 36		
iS	E 17	34 48		
			local shock.	
eP	Z 18	21 49		
iP	Z 19	37 21.5	dil.	
i	Z 19	37 32		
eP	Z 02	42 01		
i(S)	E N 02	46 08		
Lmax	02	50.2		
27th	iP	Z 06	04 57.9	
	i	Z 06	05 05	comp.
	i	E Z 06	05 12	
	i	E Z 06	05 22	
	i(PPP)	E Z 06	05 26	
	iS	N Z 06	08 30	
	iS	EW Z 06	08 31	
	i	N Z 06	08 48	
	iP	S VZ 14	49 08	
	i	S Z 14	49 11	
	i	VZ 14	49 39	
	iS	S VZ 14	49 50	
	i	S 14	49 53	
				local shock.
			15 59	Minor activity
iP	Z 17	22 32		
e	Z 17	22 37		
e(P)	Z 18	27 22		
e(S)	E Z 18	31 34		
Lmax	N 18	34.5		
Lmax	E 18	35.1		
iP	VZ 22	48 52.6	dil.	
i	Z 22	48 58		
i(PP)	W Z 22	49 10		
i	Z 22	49 15		
i	Z 22	49 33		
i	W Z 22	49 48		
i	W Z 22	49 55		
i	W Z 22	50 20		
i	Z 22	50 31		
i	Z 22	50 59		
iS	W Z 22	52 29		
eSSS	W S V Z 22	53 01		
i	Z 22	53 03		
eP	Z 00	00 21		
e	Z 00	00 28		
i	Z 00	00 32		
i	Z 00	00 41		
		22 48	in coda of shock 28th Oct.	
eP	S VZ 02	14 08		
e	W Z 02	14 10		
e	W VZ 02	14 22		
e(S)	E Z 02	15 18		
Lmax	E N 02	17.5		
e(P)	Z 02	28 56		
e(S)	E Z 02	30 26		
Lmax	E N 02	33.5		

Preliminary Earthquake Phases 44/61 (Cont'd.)

Oct.
29th iP Z 04 24 45
i Z 24 49
iS W Z 25 14
i Z 25 17
local shock.

iP Z 04 28 07
eS W Z 28 54
i Z 28 56

Minor activity 05 35

e E 09 37 52
surface waves.

Further surface waves commence about 0954 GMT and arrive in groups until about 1040 GMT. Maximum wave amplitudes occur at approximately 1000, 1010 and 1021 GMT.

e E 11 33 06
Groups of surface waves follow at 1137, 1143, 1146 and 1152 GMT.

e(P) Z 20 18 09
e Z 18 17

30th eP Z 02 29 50
e Z 29 57
e E 35 13
e(SKS) E N 40 17
e(PS) E N 42 03
e E 42 22
e E 42 51
e E 43 57
e(SSP) E N 47 23
eL E N 03 00

iP S Z 08 06 27
i Z 06 28
i Z 06 32
iS W S 07 02
local shock.

eLmax E N 10 33
moderate amplitude surface waves.

eP Z 17 42 55
e Z 43 42
e Z 44 15
e(S) E 47 37
eL E 17 51.5

iP Z 19 24 24
i Z 24 43
i Z 24 57
iS EW Z 25 11
i Z 25 31
i Z 25 51
i EW Z 26 00
local shock.

30th iP Z 21 22 57.9
comp.
e(pP) Z 23 09
e Z 23 39
i Z 23 56
e Z 24 05
e(PP) Z 24 16
i(PcP) Z 25 15
iS E 28 45
i(PcS) E 29 13
i(ScS) E 33 08
e N 33 42

31st eP Z 00 17 51
i Z 18 09
i Z 18 16
i Z 18 27
i(S) E Z 19 54

eP Z 01 54 34
i Z 54 47
i(S) E 59 11
i E N 02 03 27

iP Z 03 53 05.9
dil.
i Z 53 18
i Z 53 33
i(S) E 59 13
Lmax E N 04 09.5

eL E 09 28.5

Nov. 1st. e E 02 59.5
ill defined surface waves.

eP E N Z 04 50 44
eS N Z 51 00
local shock.

eP Z 05 35 55
eS Z 36 37
e Z 36 47
local shock.

iP E Z 10 48 21.4
i Z 48 32

iP Z 20 16 43.3

(P.E. MANN)
Acting Observer-in-Charge.

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Preliminary Earthquake Phases 45/61.

Date	Phase	Time	Duration	Notes	Date	Phase	Time	Duration	Notes	
Nov. 2nd	eP	Z 02 27 18			4th	eP	Z 22 58 26			
	eS	Z 28 14				i	Z 58 31			
	e	Z 28 20				i	Z 58 52			
	small local shock						i	Z 59 06		
	iP	Z 05 28 44.4		dil.		iS	Z 59 11	E N		
	Weak surface waves 15h.56m.						i	Z 59 16	N	
							i	Z 59 24		
	iP	EW NS VZ 16 56 03.1		compr.		e(P)	Z 23 12 09			
							e(S)	Z 12 54		
							local shock			
i	Z	56 13		eP	Z 23 16 40					
i	Z	56 24		e(S)	Z 18 38	E				
iS	EW NS VZ	56 46		Lmax	Z 23 19.3	E				
i	E	56 58								
i	E	57 12		5th	eP	Z 00 08 02				
i	E	57 20			i	Z 08 07				
i	Z	57 25			iS	Z 09 15				
i	E N	58 23			i	Z 09 21				
local shock.						i	Z 09 36			
eP	E N	Z 23 12 00		eP	Z 00 24 22					
i	Z	12 13		i	Z 24 40					
eS	E N	Z 12 48		i(S)	Z 24 53					
i	Z	13 02		Lmax	Z 27.9	E				
3rd	iP	Z 15 24 57.3		dil.	6th	eP	Z 00 04 19			
	i	Z	25 08			e	Z 04 23			
	iPP	Z	25 18			eS	Z 11 21	E		
	iPPP	Z	25 45			eSS	Z 14 25	E		
	iS	E N	28 29			eL	Z 16.5	E		
	i	E N	29 03							
	Lmax	E N	32.5			eiP	VZ 05 32 47.3		dil.	
							i	Z 33 00		
	e	Z	19 08 02			i	Z 33 09			
	e	Z	08 07			i	Z 31			
i(S)	E	08 26		i	Z 34 29					
i	Z	08 34		i	Z 42					
eP	Z	22 21 11		iS	Z 36 24	E N				
i	Z	21 37		i	Z 28	EW				
i	Z	21 46		i	Z 35	W S V				
iPPP	Z	22 26		i	Z 39					
iS	E N	25 54		i	Z 38 38	W				
Lmax	E N	22 32.5								
4th	iP	Z 03 07 09.5		dil.	local shock in coda of preceding.	iP	Z 06 16 31.3			
	ipP	Z	07 12			iS	Z 17 17	W		
	i	Z	07 39			i	Z 20			
	i	Z	07 48							
	i	Z	08 14			eP	Z 09 31 17			
	i	Z	08 22			e(S)	Z 32 09			
	i(S)	N	03 11 15			local shock.				
	i	N	12 09			COMP.				
	Lmax	N	03 17.0			iP	VZ 10 14 29.3			
	E-W long period record missing.						i	Z 14 37		
eP	Z	11 30 45		i	Z 41					
eS	Z	31 14								
i	Z	31 18		iP	EW NS VZ 13 10 47.3		dil. east,north			
i	Z	31 26		i	Z 10 57	W S				
					iS	Z 11 40	W			
					strong local shock.					

Nov.
 6th eP Z 13 40 15
 e Z 40 23

 iP Z 15 40 04.3
 eS EW N 40 51
 local shock.

 iP Z 16 20 12.3
 i W S VZ 20 16
 iS EW Z 21 00
 i NS Z 21 03
 local shock.

 eP Z 21 25 35
 e Z 25 43
 e Z 25 48
 e Z 25 59

7th Record absent to 0632

eP Z 06 46 14.0
 i Z 46 35
 i Z 46 43
 Record faulty.

eP Z 12 22 17
 i Z 22 27
 i Z 22 41
 i(PcP) Z 24 34
 i(S) (E) Z 28 11
 Lmax N 12 37.0

eP Z 14 56 59
 i Z 57 20
 i Z 57 35
 i Z 57 54
 eS Z 58 18
 local shock.

eP Z 21 16 53
 i Z 17 11
 i Z 17 24
 i Z 17 33
 (Lmax) N 21 31.5

8th eP Z 03 29 06
 i Z 29 10
 i Z 29 27
 local shock.

8th eP Z 14 10 04
 i(PPP) Z 10 07
 eS E S Z 10 56

 iP! E N Z 19 31 32.8
 dil.
 i Z 31 45
 i Z 31 56
 eS E N 35 23
 Lmax E N 19 42.0

(P.E. MANN).
Acting Observer-in-Charge.

Preliminary Earthquake Phases 46/61 (Cont'd.).

Sheet 2.
Of 2.

Nov. 12th e(P) Z 09 12 35
i(S) E N Z 14 02

Cont'd. 15th eP Z 19 34 05
eS N 19 39 58
Lmax 19 48.3

Weak surface waves E N 14 hr. 27m.

13th eP Z 07 42 47
i(P) Z 42 54.9 dil.
possible additional shock.
i(PP) Z 43 16
i(S) E N 46 04
Lmax N 07 49.5

(J.A. BROOKS)
Observer-in-Charge.

eP Z 16 36 03
i Z 36 41
e(S) E N 39 48
(Lmax) N 16 42.0

eP Z 17 57 49
iS EW NS 58 12
small local shock

14th iP N Z 00 59 52.3dil.
eS E N 01 04 10
Lmax E 01 07.7

eP Z 03 10 24
small local shock.

Surface wave train
05 44commencing.

iP Z 07 27 25.8dil.
eS Z 27 53
small local shock.

eP Z 10 10 31
local shock.

eP Z 12 46 17
Lmax E 12 59.7

eP Z 16 10 06
local shock.

iP Z 17 52 00.1comp.
i Z 52 22
e(S) E N Z 58 16

iP Z 19 12 14.5dil.

15th iP Z 04 27 55.6dil.
i Z 28 08
iS EW NS Z 28 32
i Z 05 00 47
local shock.

iP Z 07 26 19.6comp.
i Z 27 04
i Z 27 38
iPP N Z 28 21
eS EW NS Z 33 42
i Z 34 09
eSS N 37 30
eSSS E 39 20
Lmax N 07 44.5

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GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 47/61.

Nov.					(Cont'd.)			
16th	eP		Z 03	19	06	20th	eP	Z 23 37 23near.
	iP		Z 16	09	36.2	21st	iP	EW Z 11 12 09.8Dil.
	i(pP)		Z	09	52		eS	N 17 18 Deep.
	i(PP)		Z	10	24			
	eS	N		14	15			
17th	iP	W S	Z 00	56	39.1Comp.		iP	Z 19 50 107Comp.
	iS	W S		57	19		eS	50 44
	eP		Z 04	34	(37)	22nd	eP	Z 02 50 49
							eS	E N 55.2
	iP		Z 08	19	53.2Dil;		eP	Z 05 48 30
					Deep.		eS	W 49 31
	iP		Z 19	10	51.6Dil.		eP	Z 11 12 03
	eP		Z 21	09	15		eS	E N 16 (30)
	eP		Z 22	17	04		eP	Z 20 19 12
18th	iP		Z 00	57	38.4Dil.		eP	Z 20 46 43.
	eS	W S		58	19			
	iP		Z 06	07	26.7Comp.			
	iS	E N		11	30			
	iP		Z 11	24	14.6Dil.			
	e	E		34	18			
	L _{max}	N		39.0				
	eP		Z 21	41	28			
	iP		Z 22	17	37.1Dil;			
	iS	N		23	50			
					Deep.			
19th	eP		Z 10	14	44			
	eS	W S		16	14			
	iS		Z	16	15			
	eP		Z 14	07	31			
	eP		Z 22	01	03			
	e		Z	02	13			
	iP	W S V	Z 23	27	05.5Dil.			
20th	eP		Z 11	49	48			
	iS	E		54	08			
	iS	N		54	(11)			
	iP		Z 13	40	08.2Dil.			
	eS	W S		40	52			
	eP		Z 17	40	04			
	e		Z	40	15			
	e(S)	E N		43	(34)			
	L _{max}	E		47.5				
	eP		Z 18	18	20			
	eP		Z 19	09	25			
	eS	W		10	22			

(J.A. BROOKS)
Observer-in-Charge.

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Preliminary Earthquake Phases - 48/61.

Nov. '61.									
23rd	eP	Z 02	31 04	27th	eP	Z 04	01 17		
					i	Z 04	02 33		
	eP	Z 12	24 14			Z 05	03 29		
	iP	Z 16	11 27.3dil.		i				
	i(S)	N	Z 12 41		eP	E N	05 21 (24)		
	i		Z 12 55		i		Z 22 00		
	e	Z 16	43 57		eP		Z 06 05 02		
	i	Z 17	06 06.7		i		Z 07 07 28		
	eP	Z 19	01 33		eS	E N	11 41		
	e(S)	Z	01 56		L _{max}	E	06 21.0		
	eP	Z 23	40 09		eP	E	10 06 (12)		
	eS	Z	41 01		eS	E	06 43		
24th	eP	Z 01	56 27		iP		Z 17 15 24.3dil,		
	e	Z	57 46				north, west.		
	eP	Z 18	24 29		iPP		Z 15 43		
	e(S)	Z	24 55		iS	E N	19 24		
25th	eP	Z 01	07 10		iPcS	E	22 37		
	i!P	E N	Z 14 13 20.8(dil),		L _{max}	E N	17 24.5		
	east, north	-	Z record not clear.		i		Z 19 19 02		
	i!S	E N	14 14 54		eP		Z 23 39 48		
	(L _{max})	E	14 16.0	28th	eS	E N	47 11		
	eP	Z 20	28 13		L _{max}	E	23 56.0		
	eP	Z 23	56 22		iP		Z 02 45 05.5		
26th	eP	Z 01	53 32		i		Z 45 36		
	e	Z	55 13		eS	E N	49 10		
	eP	Z 05	28 00		L _{max}	E	02 56.1		
	eS	E N	29 10		eP		Z 08 19 15		
	eP	Z 08	16 56		e(S)	E N	Z 20 21		
	i	Z	17 36		e	E N	Z 08 51 35		
	iP	Z 18	13 17.8dil.				Z 51 55		
	i	Z	13 29		i		Z 10 27 12		
	i	Z	13 53		eP		Z 12 10 59		
	i(S)	E N	13 56		eS	E N	Z 11 11 23		
	i	E	Z 14 19		eP		Z 17 29 31		
	eP	Z 19	05 12		e		Z 30 36		
	eS	E N	06 22		eP		Z 18 43 05		
	L _{max}	E N	19 07.6		eS	E N	50 07		
	i	Z 20	47 01		eSSS	E	53 55		
	(L _{max})	E	21 00.8	29th	L _{max}	E	19 00.8		
27th	eP	N	03 25 (06)		e		Z 02 35 55		
	i	Z	25 32		eP		Z 05 23 18		
	eP	Z 03	49 51		e(S)	E	27 30		
	eS	E N	Z 51 06		e		Z 10 58 44		
			(J.A.BROOKS)		i		Z 58 54		
			Observer-in-Charge.		eP		Z 22 01 23		
					eS	E	06 19		
					L _{max}	E N	22 11.4		

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GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 49/61.

Time	Phase	Dir	Z	1st	2nd	3rd	Phase	Dir	Z	1st	2nd	3rd
Nov. '61. 30th	eP	E N	Z 14	19	44		3rd iP		Z 20	08	10.0	
	e(S)			24	04					Comp.Deep.		
	eP	E	Z 18	32	20		eP		Z 21	05	06	
	e(S)			36	26							
	iP		Z 20	09	37.2		4th iP		Z 05	34	45.6	Dil.
							i(S)	W S		35	53	
							i(S)			35	55	
Dec. '61. 1st	iP		Z 06	57	06.4	Near	eP		Z 12	48	53	
	iP		Z 09	19	57.2	Dil.	i(pP)		Z	48	57	
	iS	N		22	59	Deep.	eS	E N		57	38	
	eP		Z 12	35	16		eP		Z 19	46	44	
							eS	W		47	38	
	iP		Z 13	36	47.2	Dil.	eP		Z 22	29	24	
						Near.						
	iP		Z 21	20	34.2	Dil.	5th eP		Z 10	14	00	
	i		Z	21	51		iS	W S		14	37	
	i(PcP)	N	Z	22	15		eP		Z 13	00	50	
	iS	E N		26	35		iP	E N	Z 13	07	10.5	Dil.
	i	E		27	53		i	N	Z	08	48	
	i(G)	N		59	47		i			10	40	
							i	E		10	52	
2nd	eP		Z 13	18	00		eP		Z 19	39	18	
							i	W S		39	52	
	eP	E	Z 14	10	48		e(P)		Z 22	22	13	
	eS			14	53							
	eP		Z 18	53	09		6th iP		Z 02	10	05.1	Comp.
	eP		Z 19	04	47	Near	iS	W		10	34	
							iS	S		10	35	
	eP		Z 19	35	49		eP		Z 05	58	29	
	i		Z	36	13		i(pP)		Z	58	42	
	eP		Z 20	41	55	Near	eS	E		06	06	10
							eP		Z 13	43	02	
3rd	eP		Z 02	02	14		i(pP)		Z	43	09	
	iS	W S		02	49		i		Z	43	15	
	eP		Z 04	43	24	Near	e(S)	N		49	03	
							e(S)	E N		48	58	
	iP		Z 08	48	04.8	Dil;	e	E N		49	15	
						Deep.	eP		Z 15	25	26	
	e(S)	E		54	09		iP		Z 16	49	32.0	
										Comp.		
	eP		Z 10	04	35		i		Z	49	45	
							i		Z	50	23	
	eP		Z 15	52	18	Near	iS	E N		57	35	
							i			58	13	
	iP		Z 16	18	47.3	Dil;	i(G)		17	04.3		
						Deep.						
	i		Z	18	55							
	i		Z	19	04							
	iS	E N		22	18							
	e(P)		Z 18	41	23							
	eP		Z 20	03	53							

(J.A. BROOKS).
Observer-in-Charge.

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GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 50/61.

Dec. 1961											
7th	iP		Z 00	25 44.1	Comp.	12th	e(P)		Z 02	14	54
	iS	N		32 00							
	iP		Z 09	13 05.8	Dil.		iP		Z 03	59	48.3
	iS	EW NS		14 34			iS	N		04	03 40
	eP		Z 14	31 19			i(P)		Z 05	01	44.5
	eP		Z 16	36 30			e(P)		Z 10	10	47
8th	eP		Z 03	53 (43)			e(P)		Z 17	29 (17)	
	iP		Z 06	10 28.2	Comp.		i		Z	29	36
	eP		Z 09	39 01			eS	E		34	14
	iS or						eP		Z 23	15	23
	Lq	E N		41 10			iP		Z 23	15	28.6
							iP		Z	23	23 46
	e(P)		Z 11	19 38		13th	eP		Z 02	47	25
	i		Z	20 01			eS	W S		48	04
	e(P)		Z 14	50 07			eP		Z 16	54	51
	i(P)		Z 15	50 21.4	Comp.		eS	E N		59	02
	e(P)		Z 16	13 40							
	iS	W		15 (10)							
9th	eP		Z 02	27 43							
	i(pP)		Z	27 53							
	iS	E		37 53							
	i(ScS)	E N		38 07							
	e(P)		Z 04	18 09							
	e(P)		Z 04	33 (32)							
	e(P)		Z 04	52 37							
	e(P)		Z 10	25 24							
	iPP	N	11	37 43							
	iPS	E N		47 23							
	iSKKS	E		44 45							
	iSS	E		53 56							
	iP		Z 19	55 38.4	Comp.						
	ipP		Z	57 10							
	iS	N		20 00 22							
	isS			03 30							
	iP		Z 22	39 59.0	Dil.						
	iS	E		40 40							
10th	Nil.										
11th	eP		Z 01	39 00							
	i		Z 10	02 23							
	eP		Z 18	58 39							
	iS	W N		59 44							
	e(P)		Z 23	19 19							

(J.A. BROOKS).
Observer-in-Charge.

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GEOPHYSICAL OBSERVATORY - PORT MORESBY.

Preliminary Earthquake Phases 51/61.

Dec. '61.

Date	Phase	EW	NS	VZ	07	12	31.2	Comp.	17th (Cont'd.)	Z	18	11	29					
14th	iP								eP									
	iS	E	N			14	30		L _{max}	E			16.0					
	Strong local shock.																	
	Record lost																	
	"	"			08	09			iP		Z	22	10	02.4				
					11	14			e(S)	N			14	25				
	eP			Z	12	20	29		iP		Z	22	20	46.7				
	eS	E				25	25		e(PcP)	E			21	54				
	L _{max}	E			12	33.0			eS	E N			27	30				
	i			Z	18	55	17		iScS	E			30	58				
	local shock.																	
	eP			Z	23	32	14		eSSS	N			31	11				
	e(S)	E				38	21		L _{max}	E			22	37.5				
	in tail of preceding shock.																	
15th	iP					37	32.9		eP		Z	23	48	23				
	iS	EW	NS			38	19		eS	E N	Z		48	39				
	Strong local shock.																	
	eP		N	Z	13	51	13.5		18th eP					Z	14	51	29	
	eS	E	N			52	07		eP		Z	15	36	23				
	local shock.																	
	e			Z	13	57	17		e	E N			37	52				
	local shock.																	
	eP			Z	16	47	18		e		Z	23	12	01				
	eS	E	N			51	01		iX		Z		12	16				
	L _{max}	N			16	53.2			19th i					Z	06	37	36	
	eP			Z	17	18	52		e		Z	15	46	48				
	eS	E				19	34		e(S)	E			52	17				
	iP			Z	19	41	11.4	Dil.	e		Z	17	37	53				
	iPP			Z		41	46		e(S)	E			43	03				
	eS	E				45	19		L _{max}	E			17	54.0				
	L _{max}	E			19	52.8			20th e					Z	00	12	35	
	e			Z	21	54	18		i		Z	01	50	41				
16th	i			Z	00	31	30		i		Z	05	33	34				
	e			Z	06	16	33		eP		Z	06	58	48				
	eP			Z	10	06	32		eP		Z	10	55	57				
	eS	E				12	10		eS	E			56	51				
	eScS	E				16	26		local shock.									
	L _{max}	E			10	22.0			ePKIKP	E	Z	13	44	31				
	eP			Z	12	08	16		iPKIKP		Z		45	41				
	i			Z	20	42	10		iPP		Z		47	58				
	e			Z		44	23		iPKS	E			48	18				
	e			Z	20	48	39		i(pPKS									
in tail of preceding shock.													or	sPKS)	E		49	05
17th	eP			Z	04	06	20		ePPP	E			50	00				
	eP			Z	14	18	22		i(SKKS)	E			54	01				
	i	EW	Z		18	18	39		(in tail of preceding shock)									
														(J.A. BROOKS).				
														Observer-in-Charge.				

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Preliminary Earthquake Phases 52/61.

Dec. '61.

20th	eP		Z 23 52 45	24th	e(PKIKP)	Z 14 44 39
	e(S)	E N	56 53		e(PKIKP)	Z 44 47
	(Lmax)	E N	59 56		e(SKP)	48 01
21st	i(P)		Z 01 09 15		e(PKS) E	48 11
	eP		Z 02 04 16 Local shock		e(PKS)	Z 48 13
	eP		Z 07 15 20		e(SS) E	15 05 01
	iP		Z 13 34 41.7 Dil.		e	E 09 (35)
	eS	N	37 54		Lmax	E 31
	i		38 10		eP	Z 16 25 19
					eP	Z 19 17 09
					Intermittent record loss.	
	eP	N	(Z) 23 39 07.6	25th	No record 0039 - 0530	
			Record faulty.		eP	Z 00 04 07
	e(S)	E	44 36		eP	Z 08 05 33
	ePcP	E	45 14		i(S) E N	09 01 Dil.
	Lmax	E	23 48.3		Confused by preceding.	
22nd	eP		Z 10 10 31		eP	Z 09 13 41
	i		Z 10 10 58		eP	Z 09 18 49
	iP(S)	E	Z 10 36 38.4 dil.		Confused by preceding.	
	e		39 00		eP	Z 09 26 03
	eP		Z 14 26 22		Confused by preceding.	
	small local shock.				eP	Z 11 57 21
	eP		Z 22 15 40		eS	S 58 17
	iP		Z 22 52 01.8 Comp.		eS	W 58 19
	i		Z 52 34		iP	Z 14 03 03.1 Dil.
	eS	E N	56 31		eS	E N 09 04 Deep.
	eL	E	58 46		eP	Z 15 15 33 near
23rd	iP		Z 03 15 36.1		eP	Z 15 54 08
	i		Z 16 24		iP	Z 21 25 15.8 (Comp)
	e(S)	E	23(05)		eP	Z 22 32 06
	i(P)		Z 16 13 58.9 Dil.		eP	Z 22 42 (44)
	iS		Z 15 08	26th	iP	Z 04 31 16.6 Comp
	eP		Z 16 27 16		i	Z 31 31
	i		Z 27 34		epP	Z 32 49
	i		Z 28 02		ePcP	Z 33 28
	eS	N	30 56		iS	E N 36 18
24th	iP		Z 02 42 20.0 Comp.		iScP	Z 36 24
	iS	N	44 15		i(sS)	N 39 13
	i(S)	E	44 16		iScS	N 40 33
	eP		Z 03 21 15		e(PKIKP)	Z 06 31 22
	eP		Z 03 53 01		e(PS)	N 41 (31)
	eP		Z 06 34 45		e(SS)	E 48 10
	iP		Z 08 50 26.6		e	E 48 (55)
	iP		Z 09 26 28.8 Dil.		eLQ	E N 57.4
	eP		Z 10 31 09		e(P)	Z 06 41 11
	eP		Z 11 27 53		Superimposed on preceding.	
	i(P)		Z 28 19		e(P)	Z 06 46 17
	e(S)	W S	28(54)	27	Superimposed on preceding.	
	i(S)	W	29 25		eP	Z 02 57 53
Possible superimposed shocks.					eP	Z 17 06 28
					e	Z 07 02
					epP	Z 17 35 30
					eS	W S 36 41
					eP	Z 21 55 (53)

(J.A. BROOKS).
Observer-in-Charge.

all set