TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

TOOLANGI
January 1970

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

7	iP	NEZ	04	59	10.7	
7	eP	NEZ	05	00	01	
7	eP(KP)	NEZ	08	15	56	
	i	NEZ		16	03.7	
	e	Z		16	27	
7	iP	NEZ	09	01	15.0 dil	
7	eP	NEZ	09	44	27	
7	eP	NEZ	14	03	(23)	
7	eP	NEZ	22	00	45	
8	eP	NEZ	02	33	30	
	eS	NEZ		33	37	
8	eP	NEZ	03	32	54	
	eS	NE		33	11	
8	eP	NEZ	05	42	17	
	eS	NEZ		42	53	
8	e(P)	Z	06	46	31	
8	eP	Z	08	40	27	
	e	NEZ		40	31	
	e	Z		40	43	
	eS	N		50	(40)	
8	eP	NEZ	09	03	04	
	e	Z		03	09	
8	iP	NEZ	17	18	07.3 comp.W.2.9	
	e	NEZ		18	12	
	e	EZ		19	10	
	e	Z		21	22	
	e(S)	NE		23	48	
	e	Z		24	40	
	e	Z		29	00	
8	eP	NEZ	23	11	52	
	eS	NEZ		12	09	
9	eP	NEZ	00	52	24	
	eS	NEZ		52	41	
9	eP	NEZ	04	48	58	
	e(S)	E		54	17	
	e	E		55	38	
9	eP	NEZ	05	49	32	
	eS	NEZ		49	48	
9	eP	NEZ	08	12	49	
	eS	NEZ		12	59	
9	eP	NEZ	10	03	58	
	eS	NEZ		04	12	
9	eP	EZ	20	05	28	
	e	NEZ		05	30	
9	iP	NEZ	23	23	35.0 dil 2.3	
	e	NEZ		23	56	
	e	NEZ		23	59	
	e(PcP)	Z		25	51	
	e	Z		26	12	
	eS	NE		29	22	
10	eP	EZ	06	18	19	
10	iP	NEZ	12	15	38.9 comp.	
	e	Z		16	00	
	e	Z		16	12	
	e(S)	E		22	34	
	e	N		22	45	
10	eP	NEZ	13	17	59	
	e	Z		18	05	
	e	Z		21	34	
10	eP	NEZ	13	37	54	
10	eP	NEZ	14	08	08	
	e	NEZ		08	20	
10	eP	NEZ	14	25	00	
	e	NEZ		25	15	
10	eP	NEZ	15	02	41	
	e	Z		03	41	
10	eP	NEZ	15	22	28	
10	eP	Z	15	35	17	
10	eP	NEZ	16	19	55	
	eS	E		20	36	
10	iP	NEZ	16	39	25.0 comp. S	
10	eP	NEZ	17	21	07	
10	eP	EZ	17	49	00	
10	eP	Z	21	41	09	
10	eP	NEZ	23	51	47	
11	eP	NEZ	01	38	46	
11	eP	EZ	03	25	58	
11	eP	Z	05	10	41	
	e	Z		10	43.5	
	e	Z		10	55	
	e	Z		16	14	
	eS	E		17	34	
	eSS	NE		21	00	
11	eP	NEZ	05	25	16	
11	eP	NEZ	06	24	53	
	e	Z		25	02	
11	iP	NEZ	11	37	27.0 dil N.	
11	eP	NEZ	12	28	25	
11	eP	NEZ	21	10	49	
11	eP	NEZ	23	48	23	
12	eP	NEZ	00	27	27	
	e	E		27	42	
12	eP	NEZ	04	33	31	
	e	Z		33	53	
12	eP	NEZ	08	06	27	
12	eP	NEZ	18	44	32	
13	eP	NEZ	06	56	21	
13	eP	NEZ	20	57	00	
	eS	NE		21	03.9	
	e	NE			07.3	

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TOOLANGI

January, 1970 contd

14	iP	NEZ	02	29	16.4	comp
	eS	NE		34	44	
	e	NE		38	30	
	e	NEZ		43	44	
14	eP	NEZ	04	22	41	
	eS	NEZ		22	57	
14	eP	NEZ	08	20	35	
14	eP	NEZ	08	30	50	
15	iP	NEZ	03	40	47.7	comp.
15	eP	NEZ	04	47	21	
	eS	NEZ		47	37	
15	iP	NEZ	06	07	00.8	dil.
15	iP	NEZ	07	10	31.7	
	iS	NEZ		10	37.2	
15	eP	NEZ	17	11	43	
15	eP	NEZ	19	45	38	
	eS	NEZ		45	52	
16	eP	NEZ	01	18	00	
	eS	NEZ		18	37	
16	eP	EZ	02	47	43	
16	eP	NEZ	03	48	24	
	eS	NEZ		48	40	
16	eP	NEZ	04	09	41	
	eS	EZ		09	46	
16	e(P)	Z	08	35	36	
16	eP	NEZ	12	20	07	
18	iP	NEZ	00	28	20.7	dil N. 2.6
	eS	E		36	20	
18	eP	NEZ	04	18	01	
19	eP	NEZ	02	09	21	
	e(S)	NEZ		09	32	
20	eP	NEZ	04	56	08	
	e	NEZ		56	23	
20	iP	NEZ	07	26	26.0	comp. W
	e	N Z		26	59	
	e	EZ		28	09	
	eS	NEZ		31	(40)	
20	eP	NEZ	08	44	09	
	e	NEZ		44	32	
20	iP	NEZ	15	19	09.2	dil. N.E.
	eS	NE		24	13	
	e(ScP)	Z		25	15	
	e	E		26	40	
20	eP	NEZ	17	14	04	
	eS	NE		19	15	
	e	Z		20	19	
	e	N		21.8		
20	eP	NEZ	17	45	10	
	i	Z		45	11.0	
	eS	NE		55	12	
	e	E	18	00	16	
	e	E		05.5		
	e	E		06.5		
	e	NE		07	21	

MAWSON

January, 1970

6	eP	05	23	20	
6	eP	05	48	07	
	eS		58	16	
7	eP	09	37	49	
8	eP	17	23	10	
	eS		31	51	
9	eP	23	27	18	
10	eP	11	37	27	
10	eP	12	19	45	
	eS		30	12	
10	eP	14	12	11	
10	eP	14	29	07	
11	eP	05	31	22	
11	eP	11	14	57	
16	iP	08	26	20.0	
17	iP	08	35	37.4	
18	iP	09	26	20.0	
18	iP	16	11	11.9	
20	iP	07	31	45.6	
	eS		41	17	

MACQUARIE ISLAND

January 1970

6	eP	09	01	24	
8	eP	17	17	36	
9	eP	20	13	29	
10	iP	12	17	57.5	
11	eP	01	00	50	
14	iP	05	30	47.5	
17	iP	01	37	12.8	
17	iP	22	23	26.6	
20	iP	07	25	25.9	

NORFOLK ISLAND

December 1969

25	eP	21	51	59	
27	eP	14	11	26	
31	eP	06	55	46	
31	eP	23	47	18	

January 1970

1	eP	17	14	06	
1	eP	18	10	45	
5	eP	12	57	37	
6	eP	05	41	17	
6	eP	11	47	08	
	e(S)		48	13	

International Seismological Centre

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NORFOLK ISLAND
January 1970 contd

7	iP	03	47	55.6 dil.
7	eP	04	56	05
8	eP	08	37	30
8	iP	17	15	16.0 comp.

International Seismological Centre

C.A. van der WAAI
OBSERVER-IN-CHARGE

27.1.70

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

January, 1970

21	iP	NEZ	03	44	49.7 dil
21	eP	NEZ	04	41	33
	eS	NEZ		41	38
	e	NEZ		41	43
21	eP	NEZ	11	25	22
	e	NEZ		25	27
	e(S)	NEZ		25	43
	e	NEZ		25	47
21	eP	NEZ	15	58	(27)
21	eP	NEZ	18	10	34
	e	EZ		10	50
	eS	NEZ		20	22
	e	Z		21	13
	e	Z		21	17
	e	NEZ		26.3	
	e	EZ		42.5	
21	e(P)	Z	18	21	13
21	e(P)	EZ	23	50	47
	e	Z		51	05
22	eP	NEZ	03	40	16
	eS	NEZ		40	32
22	eP	NEZ	05	45	31
	eS	NEZ		46	06
22	eP	NEZ	06	45	17
	eS	NEZ		45	27
22	eP	NEZ	08	00	46
	e	Z		00	52
	e(S)	EZ		00	56
22	eP	EZ	09	21	34
22	eP	Z	16	25	18
23	eP	Z	02	28	14
23	eP	Z	03	26	44
	e(S)	NE		27	03
23	eP	NEZ	06	19	25
	e(S)	NE		19	30
23	eP	EZ	07	05	26
23	eP	EZ	09	38	13
23	eP	Z	22	35	13
	e	Z		35	44
24	eP	NEZ	02	40	37
24	iP	NEZ	03	57	32.0 comp. S.E
24	eP	NEZ	04	19	16
	eS	NEZ		19	29
24	eP	EZ	05	00	18
24	eP	Z	07	31	40
24	eP	Z	11	07	56
24	eP	NEZ	11	26	55
	eS	NEZ		27	31
24	eP	EZ	15	02	52
24	iP	Z	17	34	46.0 comp.

TOOLANGI

January, 1970

24	eP	NEZ	18	15	15
	e	Z		16	58
	e(S)	EZ		25	04
24	eP	NEZ	19	09	54
	e	Z		10	05
24	eP	Z	22	01	20
24	eP	Z	23	45	32
25	eP	NEZ	11	23	00
25	eP	Z	16	54	24
26	eP	NEZ	00	25	35
	e	Z		27	41
26	iP	NEZ	00	44	20.0 dil.
26	eP	N Z	05	04	29
26	eP	N Z	10	07	35
	e	NEZ		07	37
	e(pP)	NEZ		07	44
	e(PP)	NEZ		08	30
	eS	NE		12	40
26	e(P)	Z	18	00	35
26	eP	EZ	23	24	(58)
27	eP	NEZ	08	16	22 local
	eS	NEZ		16	32
27	iP	NEZ	09	09	18.6 comp
	i	Z		09	29.4
	e	EZ		12	04
	eS	NE		14	29
	e	NE		16	56
	e	N		18.4	
27	iP	NEZ	18	31	29.0 comp
28	iP	NEZ	23	12	08.2 dil S.E. 2.4
	e	Z		14	22
	eS	NE		17	00
	eScP	Z		17	13
	e	NE		20	22
29	e(P)	NEZ	00	24	02
29	eP	NEZ	03	00	18
	eS	N		06	18
	e	N		09.5	
29	eP	NEZ	06	14	47
29	eP	NEZ	10	40	30
29	eP	EZ	11	11	54.
29	iP	NEZ	11	57	15.0
29	iP	NEZ	13	04	10.0 comp. 2.0
	e	NEZ		04	19
29	eP	NEZ	21	21	18
30	eP	EZ	00	05	53.
30	iP	NEZ	05	01	02.7 local
	eS	NEZ		01	18

TOOLANGI

January, 1970

30	iP	NEZ	08	34	17.0 comp. S.W. 2.5
	i	NEZ		34	50
	i	NEZ		35	10
	i	NEZ		37	17
	eS	NE		38	56
	e	E		40	16
30	eP	NEZ	16	25	34
	e(S)	EZ		26	10
30	eP	NEZ	17	48	57
31	eP	NEZ	08	04	12
31	eP	NEZ	11	52	10
31	eP	EZ	20	43	34

MACQUARIE ISLAND

January, 1970

15	eP	04	05	06
15	iP	04	14	27.8
20	iP	07	25	25.2
20	iP	15	20	20.9
22	eP	07	05	56
25	iP	07	57	42.4
25	iP	18	25	50.0
26	eP	10	09	11
30	iP	08	35	45.7

MAWSON

January, 1970

23	eP	09	43	23
25	iP	11	29	03.2
25	iP	17	06	09.8
26	iP	00	02	00.4
27	iP	09	15	23.2
28	eP	19	12	34
28	iP	23	17	16.3

NORFOLK ISLAND

January, 1970

9	eP	20	02	33
10	eP	01	28	12
10	eP	12	16	23
	e		16	27
	e		16	44
11	eP	05	21	17
	e(S)		22	29
13	eP	08	29	19
	e(S)		30	29
13	eP		22	35 39
14	eP		13	18 47
14	eP		14	09 05
14	eP		15	05 06
15	eP		14	34 06
	e(S)			35 20
18	eP	00	27	48
18	eP	03	23	55
18	eP	04	14	53
19	eP	02	35	06
19	eP	09	24	57
20	eP	07	23	08
	e		23	18
20	eP	08	40	51
	e		40	55
20	eP	17	10	46
	e		10	50
	e		10	53
20	eP	17	44	45
22	eP	00	36	31
	e(S)		37	50

International Seismological Centre

C.A. van der WAAL)
OBSERVER-IN-CHARGE

3.2.1970

TOOLANGI GEOPHYSICAL OBSERVATORY Box 2831AA, G.P.O.
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS MELBOURNE, VIC.

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

February, 1970

1	Nil				
2	eP	NEZ	13	52	20
	e	EZ		53	17
	e	Z		53	57
	eS	N		58	08
	e	E	14	02.2	
	e	N Z		07.9	
2	iP	NEZ	15	49	40.7 dil
2	eP	NEZ	17	34	20
2	eP	NEZ	18	02	(06)
2	eP	NEZ	23	29	11
3	iP	NEZ	04	44	14.2 comp
3	eP	NEZ	06	58	32
	e	NEZ		58	41
	e(S)	NEZ		58	46
3	eP	NEZ	08	04	33
3	eP	NEZ	11	15	08
	e	E		15	14
	e(S)	E		15	30
3	eP	NEZ	13	40	27
	eS	N		45.2	
	e	N		46	33
3	eP	NEZ	19	00	58
	e	NEZ		01	14
	e	Z		01	21
	eS	N		05	38
	e	NE		07	15
3	eP	NEZ	19	29	39
4	iP	NEZ	00	23	00.2
	eS	NEZ		23	16
4	eP(KP)	Z	05	28	(56)
	ePS	EZ		38	56
	eSS	NE		45	28
	eSSS	NE		49	22
	eLQ	N		58.6	
	eLR	EZ	06	04.0	

MACQUARIE ISLAND

February, 1970

1	eP	11	22	25
1	iP	13	13	41.9
3	eP	05	05	57

MAWSON

January, 1970

30	eP	08	40	25

February, 1970

1	iP	00	51	36.3
1	iP	15	12	49.4
2	iP	01	22	50.1
2	iP	03	35	47.8
2	iP	05	38	45.1
2	eP	12	43	27
2	eP	13	57	45
2	eP	15	10	46
2	iP	16	40	45.4
3	iP	00	43	31.8
3	iP	05	40	31.3
3	eP	05	58	59
3	iP	12	27	03.9
3	iP	15	19	54.2
3	iP	21	35	16.0
3	iP	22	26	50.0
3	eP	23	18	43

NORFOLK ISLAND

January, 1970

24	eP	21	58	01
	e		58	26
	e(S)		59	45
26	eP	10	05	17
	e		05	20
27	eP	09	07	03
28	eP	23	09	08
29	eP	09	57	55
29	eP	13	01	04
29	e(P)	13	38	44

C.A. van der WAAL
OBSERVER-IN-CHARGE

9.2.1970

TOOLANGI GEOPHYSICAL OBSERVATORY

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-

TOOLANGI- MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

February 1970

4	e(P)	NEZ	22	50	(26)	
	eS	NE		56	14	
5	eP	NEZ	03	51	36	
5	eP	NEZ	12	59	15	
	e	Z		59	23	
	eS	NE	13	09	36	
5	eP	NEZ	21	15	10	
	eS	NEZ		15	26	
5	eP	NEZ	22	15	28	
	e	NEZ		16	20	
	e	NEZ		47	29	
	eS	NEZ		23	07	
	e	Z		27	07	
	e	NE		31.7		
	e	NEZ		32.1		
5	eP	NEZ	22	55	07	
	e	NEZ		55	10	
	e	NEZ		55	26	
	e	NEZ		55	37	
6	eP	EZ	01	55	02	
	eS	EZ		55	18	
6	iP	EZ	02	26	58.7	
	e	Z		27	12	
	e	EZ		27	17	
	eS	NE		34	37	
6	iP	EZ	08	49	04.3	
6	iP	EZ	18	55	33.4	
	e	Z		55	59	
6	eP	Z	22	22	12	
	e	EZ		22	15	
	e(S)	NE		31	47	
7	iP	NEZ	00	37	00.3	
	eS	NEZ		37	05.5	
7	eP	NEZ	06	50	37	
	eS	NEZ		50	43.5	
7	eP	EZ	09	04	38.3	
7	eP	NEZ	19	17	(05)	
	e(S)	NEZ		18	41	
8	eP	NEZ	16	36	02	
8	iP	NEZ	22	18	49.5	
9	eP	NEZ	04	39	32 local	
	eS	NEZ		39	48	
9	eP	NEZ	05	38	16 local	
	eS	NEZ		38	30	
9	eP	EZ	06	29	43 local	
	eS	NEZ		29	52	
9	eP	EZ	07	56	05 local	
	eS	NEZ		56	12	
9	eP	Z	11	46	(15)	
	e	NEZ		46	19	

TOOLANGI

February 1970.

9	eP	NEZ	23	38	40 local	
	e	NEZ		38	50	
	e	NEZ		38	56	
10	eP	NEZ	02	34	15	
10	eP	NEZ	14	15	13	
	e	N Z		15	19	
10	eP	NEZ	17	51	57	
	e	Z		53	31	
10	iP	NEZ	19	40	41.5 dil N.W.	
	e	Z		41	17	
	e	Z		41	52	
10	iP	NEZ	21	42	21.0 comp	
	e	Z		42	31	
	e	Z		42	38	
11	eP	NEZ	02	07	14	
	e	EZ		07	46	
	e(S)	N		16.3		
	e	N		19.2		
11	eP	NEZ	06	59	26 local	
	e(S)	NEZ		59	41	
11	eP	NEZ	07	45	23.7 local	
	e(S)	N Z		45	30	
	e	NEZ		45	35	
11	eP	NEZ	17	24	12.7	
	e	Z		24	17	
	e	EZ		37.7		
12	eP	NEZ	01	35	04	
	e	N Z		35	10	
	e	NEZ		35	17	
12	eP	NEZ	05	06	53 local	
	e(S)	NEZ		07	11	
12	iP	NEZ	06	31	07.7 local	
	iS	NEZ		31	12.7	
	e	EZ		31	16.5	
12	iP	NEZ	07	48	38.8 local	
	eS	NEZ		48	45	
	e	NEZ		48	49	
12	iP	NEZ	10	51	38.7 comp	
12	eP	NEZ	14	26	03	
	e	Z		26	18	
12	iP	NEZ	17	48	43.3	
12	eP	NEZ	21	41	50 local	
	e(S)	EZ		42	05	
13	iP	EZ	03	22	53.8 comp 1.9	
	e	Z		23	14	
13	e(P)	EZ	05	03	35	
13	eP	EZ	06	14	53 local	
	eS	EZ		15	09	

FEB 25 1970

TOOLANGI (contd)

February 1970

13	iP	NEZ	15	50	37.1	comp. S.E. 3.0
	ipP	NEZ		51	17.0	
	e	NEZ		52	22	
	e	NEZ		52	29	
	iSeP	Z		55	04	
	e	EZ		55	44	
	iS	NEZ		56	21	
	e	NE		59	25	
	e	N	16	06	20	
14	iP	NEZ	02	28	58.3	local
	iS	NEZ		29	03.3	
	e	NEZ		29	07	
14	eP	EZ	04	00	00	
14	eP	NEZ	04	25	45	
14	eP	NEZ	07	31	10	
14	eP	NEZ	11	36	03	
	e	Z		36	10	
14	eP	NEZ	11	52	55	local
	eS	NEZ		53	09	
14	eP	NEZ	13	14	19	local
	eS	NEZ		14	33	
15	eP	NEZ	06	58	27	local
	eS	NEZ		58	42	
15	iP	NEZ	12	44	21.2	comp S.E. 2.2
	e(pP)	NEZ		44	57	
	e	NEZ		45	08	
	e(SeP)	Z		49	49	
	eS	NE		50	22	
15	eP	NEZ	15	26	41	
15	iP	NEZ	16	54	34.7	dil.

MACQUARIE ISLAND

February 1970

9	iP	11	52	23.7
10	iP	20	18	38.8
13	iP	15	52	43.4

MAWSON

February 1970

4	iP	05	27	51.0
4	iP	13	23	06.3
6	iP	06	04	13.3
6	iP	06	44	00.8
7	Nil			
10	iP	19	45	37.6
13	iP	15	53	40.7
	eS	16	02	02

NORFOLK ISLAND

January 1970

30	eP	08	31	41
	e		31	44
	e		34	21

February 1970

1	eP	11	26	59
1	eP	16	24	09
	e		24	59
	e		25	33
4	eP	22	47	37
	e(S)		48	43
5	eP	18	25	14
	e		26	32

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TOOLANGI GEOPHYSICAL OBSERVATORY
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TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

TOOLANGI

February 1970

16	eP	NEZ	05	44	49	
	eS	NEZ		44	52	
16	eP	NEZ	16	03	20	
	e	N		10	30	
16	iP	NEZ	21	41	51.0	
	e	Z		42	02	
	e	Z		47	21	
	e	NE		49	10	
	e	Z		49	22	
17	iP	NEZ	03	27	10.0 comp	
	e	EZ		27	22	
	eS	NE		33	46	
	e	N Z		45.2		
17	iP	NEZ	05	54	56.3 dil N.W. 2.4	
	e	EZ		55	07	
	e	Z		55	13	
	e	Z		55	19	
	e	Z		55	27	
17	eP	NEZ	07	53	18 local	
	eS	NEZ		53	24.5	
	e	NEZ		53	29	
17	eP	NEZ	17	30	34	
	e	N Z		31	12	
	e(S)	NE		35	09	
	e	NE		35	31	
17	eP	NEZ	19	19	57	
	e	EZ		20	06	
	e	NEZ		20	11	
	e	Z		20	28	
	eS	E		24	30	
	e	NE		24	48	
	e	E		27.0		
17	iP	NEZ	19	25	58.0	
18	eP	NEZ	04	50	50 local	
	eS	NEZ		51	06	
18	eP	NEZ	07	06	05	
18	iP	NEZ	15	30	17.0 comp 2.6	
	e	Z		30	32	
	iS	NE		35	39	
	e(ScP)	Z		35	59	
	e	NE		37	12	
	e	NE		38	50	
18	iP	NEZ	16	30	28.2 dil	
	e	Z		30	43	
19	eP	NEZ	04	17	24 local	
	eS			17	40	
19	eP	NEZ	05	13	07	
19	eP	NEZ	06	12	44	
19	eP	NEZ	06	59	39 local	
	eS	NEZ		59	45	

TOOLANGI

February 1970

19	eP	Z	07	22	15	
19	iP	NEZ	10	53	56.0 comp w 2..	
	e	Z		54	02	
	e	Z		56	48	
	e(S)	E		59	(30)	
19	eP	NEZ	17	18	53	
	e	Z		19	07	
19	eP	Z	23	01	(43)	
	e	Z		01	51	
	e	Z		02	48	
	e(S)	E		12	34	
	e	N		16	10	
20	eP	NEZ	00	20	33 local	
	eS	NEZ		21	09	
20	eP	NEZ	03	10	13 local	
	eS	NEZ		10	29	
20	eP	NEZ	05	47	02	
20	eP	NEZ	18	48	58	
	eS	NEZ		49	11	
20	eP	Z	19	03	22	
21	eP	EZ	11	16	48 local	
	eS	NEZ		17	29	
21	iP	NEZ	16	43	45.8 comp S..	
	e	Z		44	07	
	e	Z		47	08	
	e	NE	17	04	08	
21	eP	Z	17	50	22	
21	eP	Z	22	00	28	
21	eP	NEZ	23	06	13	
22	eP	NEZ	19	39	52	
23	eP	NEZ	00	00	47	
23	eP	NEZ	03	52	31	
23	eP	NEZ	05	26	13 local	
	eS	NEZ		26	29	
23	eP	NEZ	07	02	45	
23	iP	NEZ	07	50	42.7 local	
	i(S)	NEZ		50	48.7	
	i	NEZ		50	53.7	
23	iP	NEZ	09	10	35.0 comp ZM 2.2	
23	iP	NEZ	17	47	42.1 dil NE 2.8	
	i	EZ		47	53.0	
	eScP	Z		52	41	
	eS	NE		52	49	
	e	E		56	16	
23	eP	NEZ	18	35	36	
23	eP	NEZ	19	20	31	
	e	EZ		20	37	

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TOOLANGI contd

23	eP	NEZ	20	58	29	
	e	Z		58	39	
	e	N Z		58	47	
24	eP	NEZ	00	43	36	
24	iP	NEZ	02	19	37.0	comp.
	eS	NE		29	34	
24	e(P)	Z	07	41	03	
24	eP	EZ	07	52	(24)	local
	eS	EZ		52	36	
24	eP	NEZ	15	14	57	
	e(S)	N		20.0		
25	eP	NEZ	02	21	36	local
	eS		21	44		
	e		21	50		
25	eP	NEZ	07	43	35	local
	e	NEZ		43	42	
	e	NEZ		43	52	
25	eP	NEZ	07	53	20	local
	eS	NEZ		53	26	
	e	NEZ		53	31	
25	eP	NEZ	10	31	38	
	e	N Z		31	44.5	
	e	N Z		31	47.5	
	eS	NE		40	22	

NORFOLK ISLAND

February 1970

10	eP	17	49	00	
13	eP	15	52	16	
	e		52	41	
	e		52	16	
16	iP	21	38	45	dil
	e		38	56	
17	eP	17	26	41	
	e(S)		27	56	
17	eP	18	58	42	
17	eP	19	11	05	
17	eP	19	16	00	
	e(S)		17	20	
17	eP	20	18	39	
17	eP	20	41	33	
17	eP	21	25	14	
	e(S)		26	33	
17	eP	21	35	30	
18	eP	03	09	29	
18	eP	04	00	23	
18	eP	07	03	07	
18	eP	07	25	12	
18	eP	09	07	12	
18	eP	13	21	52	

NORFOLK ISLAND contd

18	eP	15	27	10	
	e		27	28	
18	eP	16	27	10	
18	eP	16	27	17	
18	eP	22	04	03	
19	e(P)	10	50	35	
	e		50	41	

MAWSON

February 1970

15	iP	12	48	25.4	
16	eP	21	47	11	
17	iP	05	32	39.5	
17	iP	05	59	52.1	
18	iP	00	55	43.7	
18	iP	15	35	24.6	
18	eP	15	36	25	
18	iP	16	35	35.8	
19	eP	08	36	34	
19	eP	10	59	01	

MACQUARIE ISLAND

February 1970

15	iP	12	46	41.2	
22	eP	22	24	58	

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TOOLANGI

February 1970

26	iP	NEZ	00	03	45.3	
26	eP	NEZ	02	07	40	
26	eP	NEZ	02	34	02	local
	eS	NEZ		34	18	
26	iP	NEZ	04	16	00.5	
	e	NEZ		17	47	
26	eP	NEZ	06	45	13	local
	eS	NEZ		45	18	
	e	NEZ		45	22	
26	eP	NEZ	08	29	04	local
	eS	NEZ		29	20	
26	iP	NEZ	15	59	43.6	comp.
	e	Z	16	00	05.6	
	e	N Z		01	41	
	e	Z		01	47	
26	eP	NEZ	23	18	12	
	e	NEZ		18	18	
	e	Z		18	24	
26	eP	NEZ	23	31	32	
	e	Z		32	40	
	eS	NE		36	50	
	e	N		39	40	
		EZ		40.2		
26	eP	NEZ	23	41	16	
	e	N Z		41	35	
27	eP	NEZ	07	21	09	
	e	Z		21	11	
	e	EZ		21	30	
	eS	N Z		31	40	
	e	NE		32	16	
	e	NE		33	28	
	e	NE		38	20	
	e	NE		38	36	
	e	NE		50.4		
27	iP	NEZ	07	47	29.5	local
	e(S)	NEZ		47	35	
27	iP	NEZ	09	52	40.3	
27	iP	NEZ	10	54	52.8	comp.S.E.2.4
	e	NEZ		56	19	
	iPcP	NEZ		56	21.7	
	iS	NE	11	00	29	
	eScP	Z		00	34	
27	iP	NEZ	11	49	31.1	comp.S.W.
27	eP	NEZ	13	11	04	
	e	EZ		11	20	
28	iP	NEZ	01	01	43.0	comp.
28	iP	NEZ	05	06	10.0	comp.
	e	Z		06	41	

TOOLANGI

28	iP(KP)	NEZ	11	05	41.7	
	i	NEZ		05	46	
	e	NEZ		06	26	
	e	N Z		09	40	
	e(S)	N		15	20	
	e	N		16	02	
	i	E		16	53	
	i	E		17	52	
	e	E		23	27	
	e	E		27.0		
	e	E		35.0		
	e	Z		37.1		

March 1970

1	iP	NEZ	05	28	08.2	dil N.E.
1	eP	NEZ	21	31	35	
2	eP	NEZ	00	13	41	
2	iP	NEZ	01	03	05.7	comp.
	e	Z		06	07	
2	eP	NEZ	01	58	11	
2	eP	Z	02	05	46	
2	eP	EZ	07	01	59	
	e(S)	NEZ		02	14	
2	eP	NEZ	07	05	12	
	eS	NEZ		05	18	
2	eP	EZ	08	02	38	
	eS	NEZ		02	44	
2	eP	NEZ	08	34	53	
2	eP	Z	11	02	12	
2	eP	EZ	15	32	24	
	e	EZ		32	30	
2	iP	NEZ	15	36	32.1	dil E.
2	eP	NEZ	22	20	24	
	eS	NE		20	41	
3	eP	NEZ	06	59	18	
	e	Z		59	33	
3	eP	NEZ	07	48	30	local
	eS	NEZ		48	36	
3	iP	NEZ	16	46	29.6	
	i	NEZ		46	37.6	
	e	N Z		46	44.3	
	e	EZ		48	03	
3	eP	NEZ	23	02	16	local
	e(S)	NEZ		02	33	
4	eP	NEZ	00	52	33	
4	iP	NEZ	01	27	19.3	comp.
4	iP	NEZ	03	39	25.0	dil. N.2.2
	i	N Z		39	37.0	
	eS	NE		46	32	
	e	N		50.6		
	e	E		52.2		
	e	E		54.6		

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TOOLANGI

March 1970

4	eP	NEZ	03	57	04	local
	e(S)	N Z		57	12	
	e	NEZ		57	17	
4	eP	NEZ	06	20	03	local
	eS	NEZ		20	19	
4	iP	NEZ	06	38	07.7	comp. 2.3
	eS	NE		43	01	
	eScP	Z		43	06	
	e	NE		46	13	
	eScS	NE		47	14	
	e	N		51	27	
4	iP	NEZ	08	30	48.0	comp.
4	eP	NEZ	14	36	26	
	e	NEZ		36	37	
	e	Z		37	10	
	eS	NE		43	18	
	e	NE		46	42	

MACQUARIE ISLAND

March 1970

1	iP	19	48	11.6

NORFOLK ISLAND

February 1970

20	eP	05	59	11
21	eP	18	23	31
23	eP	17	44	45
26	eP	00	00	03

MAWSON

February 1970

26	iP	15	49	50.9
26	iP	16	03	08.2
27	iP	07	27	33.8
27	iP	10	58	49.7
27	iP	10	59	31.4
28	eP	11	11	55
	eS		34	32

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March 1970

5	eP	NEZ	02	55	57	local
	e	NEZ		56	03	
5	eP	NEZ	06	15	18	local
	e(S)	NEZ		15	23	
	e	NEZ		15	27	
5	eP	NEZ	07	58	00	local
	eS	NEZ		58	06	
	e	NEZ		58	13	
5	iP	NEZ	19	02	08.6	dil E.
5	eP	NEZ	19	37	14.5	local
	e(S)	NEZ		37	46.3	
6	eP	NEZ	07	47	56	local
	eS	NEZ		48	07	
6	eP	NEZ	11	58	42	
6	eP	NEZ	19	18	(43)	
	e	N		26.5		
	e	EZ		28.2		
6	eP	NEZ	20	59	05	
	e	Z		59	13	
	e	N Z	59	17		
	e(S)	EZ	21	02	39	
7	eP	N Z	11	20	52	regional
	e(S)	NEZ		21	28	
7	eP	NEZ	17	19	(05)	
	e	Z		19	07	
7	iP	NEZ	22	37	50.3	comp
	e	Z		38	04	
8	eP	NEZ	00	16	06	
	e	Z		16	09	
8	iP	NEZ	07	00	12.2	dil
8	iP	NEZ	11	59	17.6	comp
	e	N Z	12	00	55	
	e	NEZ		01	01	
	eS	E		05	40	
8	eP	NEZ	16	54	10	
8	iP	NEZ	18	07	59.4	dil NE 2.2
	iS	NE		13	03.5	
8	iP	NEZ	19	40	10.8	dil
	e	NEZ		41	07	
9	iP	NEZ	01	01	56.7	
9	iP	NEZ	03	01	00.3	dil NE
9	iP	NEZ	03	57	10.5	
9	iP	NEZ	05	45	35.6	dil
9	eP	NEZ	15	14	45	
	e	Z		15	00	
9	iP	NEZ	16	06	54.2	dil.NE 2.4
	eS	E		11	32	
9	iP	NEZ	16	32	47	
9	iP	NEZ	18	36	28.7	dil
	e	W	41.	41.5		
	e	E		41	44	
10	iP	NEZ	02	19	41.6	comp.SE 1.8

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March 1970

10	iP	NEZ	05	10	44.3	comp S 2.1
	e	Z		11	01	
	eS	NE		20	57	
	e	E		32.5		
10	iP	NEZ	05	32	11.4	dil
	e	Z		32	24	
10	eP	NEZ	06	05	32	
	e	NEZ		06	21	
10	iP	NEZ	06	21	23.5	comp
	e	Z		21	38	
10	e(P)	NEZ	06	47	07	
10	eP	NEZ	15	15	56	
10	eP	NEZ	17	20	33	
	e(S)	E		24	54	
	e (SoS)	NEZ		30	08	
11	iP	NEZ	03	24	14.5	local
	iS	NEZ		24	19.6	
	e	NEZ		24	23	
11	iP	NEZ	03	46	23.2	local
	eS	NEZ		46	38	
11	iP	NEZ	07	06	15.5	local
	eS	NEZ		06	21	
11	iP	NEZ	07	28	46.3	local
	eS	NEZ		29	01	

MACQUARIE ISLAND

March 1970

9	iP	16	08	13.4
10	eP	06	23	30
11	iP	09	55	23.1

NORFOLK ISLAND

February, 1970

27	eP	07	20	07
	e		20	15
27	eP	10	56	33
27	eP	11	46	56
	e(S)		49	32
28	eP	11	04	36
	e		04	44
	e		05	17

March 1970

2	eP	01	00	27
3	eP	11	11	43
	e(S)		13	00
4	eP	06	35	15
	e		35	26

MAWSON

March, 1970

1	eP	10	15	59
4	eP	06	43	13
5	eP	10	59	56
5	eP	17	13	45
9	iP	07	35	03.2
9	iP	16	13	09.4
	eS		23	13
9	eP	16	52	18
9	iP	18	42	53.6
10	iP	05	17	30.5

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March, 1970

12	i(P)	NEZ	06	58	22.7	
12	eP	NEZ	07	01	33	
12	eP	NEZ	10	59	(05)	
12	iP	NEZ	12	50	36.7	dil
12	iP	NEZ	16	36	43.7	comp. W. 1.8
12	eP	NEZ	21	26	49	
13	eP	NEZ	04	58	41.5	
13	eP	NEZ	05	58	02	local
	eS	NEZ		58	08	
13	eP	NEZ	08	00	25	local
	e(S)	E		00	30	
13	eP	NEZ	18	16	14	
	e	N Z		16	18	
	e	EZ		16	27	
14	eP	NEZ	00	42	19	local
	eS	E	00	42	24	
14	eP	EZ	01	31	16	
	e	Z		31	33	
14	eP	NEZ	01	37	30	local
	eS	E		37	36	
14	iP	NEZ	02	37	03.5	comp.
14	iP	NEZ	02	43	41.0	dil N. 1.9
	e	Z		43	51	
	e	Z		45	15	
	e	Z		45	28	
14	e(P)	NEZ	04	26	50	
	e	NE		26	53	
14	iP	NEZ	20	56	01.3	comp. SW. 2.3
14	eP	EZ	22	18	22	
14	eP	NEZ	22	42	47	
15	eP	N Z	05	40	37	
	e	NEZ		40	47	
15	eP	NEZ	15	40	45	
15	eP	NEZ	20	48	10	
16	iP	NEZ	05	27	03.0	
	e	NEZ		27	15	
16	e(P)	Z	06	44	46	
16	eP	NEZ	08	14	33	
	e	NEZ		14	38	
	eSKS	N		24	56	
16	eP	NEZ	16	31	09	
	e	Z		33	13	
	eS	NE		35	48	
	e	E		36	08	
	e	NE		37	06	
	e	EZ		38	46	
16	eP	NEZ	22	42	31	local
17	eP	NEZ	01	24	05	
	e	NEZ		24	46	

TOOLANGI

March, 1970

17	e(P)	EZ	01	30	34	
17	iP	NEZ	01	37	46.5	
17	eP	NEZ	02	08	10	local
	eS	NEZ		08	17	
17	eP	NEZ	03	37	41	local
	eS	NEZ		37	57	
17	iP	NEZ	04	05	02.2	dil
17	eP	NEZ	05	26	26	local
	eS	NEZ		26	(42)	
17	eP	NEZ	06	41	12	
	e	Z		41	23	
17	eP	NEZ	06	46	55	local
	eS	NEZ		47	05	
17	eP	NEZ	07	51	25	local
	eS	NEZ		51	36	
17	eP	NEZ	09	06	26	regional
	e(S)	NEZ		06	(53)	
17	iP	NEZ	14	23	56.0	
17	iP	NEZ	17	18	14.2	comp.
	e	Z		18	43	
17	eP	NEZ	17	33	55	

18 no record from 10 23 hrs till 03 10 hrs on 19/3 (due to lightning strike)

19	eP	NEZ	06	32	45	local
	eS	NEZ		32	50	
19	eP	NEZ	07	00	31	local
	eS	NEZ		00	47	
19	iP	NEZ	12	48	36.2	
	e	Z		48	50	
19	eP	NEZ	17	39	18	local
	eS	NEZ		39	31	
19	eP	NEZ	19	19	27	

MACQUARIE ISLAND

March, 1970

12	eP	07	10	17
20	eP	11	18	15

MAWSON

March, 1970

15	iP	12	50	57.2
17	iP	11	06	41.6

24.3.70.

C.A. van der WAAL
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TOOLANGI GEOPHYSICAL OBSERVATORY

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Box 2831AA, G.P.O.
MELBOURNE, VIC.

PRELIMINARY EARTHQUAKE PHASES AT:-

TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

March 1970

19	eP	NEZ	23	46	(33)	
	e	Z		46	38	
	e(S)	NE		56.5		
	e	NE		57	11	
	e	NE		58	56	
	e	N Z		64	05	
20	iP	NEZ	11	15	58.5	comp SE 2.7
	iS	N		22	44	
	e	E		26	05	
20	eP	NEZ	22	47	(04)	
21	eP	NEZ	02	26	19	local
21	eP	Z	06	14	(48)	
21	iP	NEZ	12	04	38.4	comp
21	eP	EZ	22	39	47	
22	eP	NEZ	08	31	43	
22	eP	NEZ	23	05	12	
	e	NEZ		05	16	
	e	Z		05	22	
	e	Z		05	28	
	e	EZ		09.0		
23	iP	NEZ	00	32	35.8	comp
23	iP	NEZ	02	06	02.8	comp
23	iP	NEZ	02	56	38.9	local
	iS	NEZ		56	43.7	
23	iP	NEZ	12	25	42.7	comp S 1.8
	e	EZ		26	21	
	eS	N		34	36	
24	iP	NEZ	04	03	03.0	local
24	eP	EZ	04	25	13	
24	eP	NEZ	07	54	53	local
	eS	NEZ		54	58	
24	iP	NEZ	10	40	18.4	comp SE 2.9
	e	NE		44	17	
	iS	NEZ		44	27	
	e	NEZ		46.7		
24	eP	NEZ	11	23	45	
24	eP	NEZ	11	39	12	
	e	Z		39	25	
24	eP	NEZ	12	28	17	
	e	Z		28	32	
24	iP	NEZ	13	11	50.3	
24	eP	NEZ	16	14	49	
24	eP	NEZ	20	28	20	
24	iP	NEZ	23	10	22.5	
24	iP	NEZ	23	58	39.6	comp
25	eP	NEZ	02	04	20	
25	eP	NEZ	03	36	36	local
	eS	NEZ		36	53	

TOOLANGI

March 1970

25	iP	NEZ	06	27	35.3	local
	iS	NEZ		27	40.4	
25	eP	NEZ	06	57	03	local
	eS	NEZ		57	18	
25	iP	NEZ	07	06	14.5	comp
25	eP	NEZ	15	56	20	
26	iP	NEZ	11	43	14.5	
	e	NEZ		43	25	
26	eP	NEZ	12	24	22	
26	iP	NEZ	19	18	46.3	comp
	e	NEZ		19	54	
27	eP	NEZ	04	39	50	
27	iP	NEZ	08	24	24.4	
27	ePKP	NEZ	18	45	02	
	e	NEZ		45	03	
	e	NEZ		45	15	
	ePP	NEZ		46	47	
	eSKS	NE		51	39	
	e	NEZ		54	55	
	ePS	E		57	05	
	e	Z		58	05	
27	i(P)	Z	18	58	05	
28	iP	NEZ	07	52	24.4	comp SM 2.2
	e	Z		55	12	
	e	Z		55	25	
	eS	NE		57	35	
	e	E		60	03	
	e	N Z		61.8		
28	eP	NEZ	11	30	16	
28	eP	Z	21	21	29	
	e	Z		21	37	
	e	Z		23	57	
	e	NE		25	02	
	e	E		35	52	
29	iP	NEZ	10	13	59.1	
	e	EZ		14	43	
	e	Z		14	51	
	e(S)	NE		19	52	
	e	E		20.4		
29	eP	NEZ	12	07	08	
	i	NEZ		08	47.5	
	i	Z		12	12	
29	eP	NEZ	17	14	53	
29	eP	NEZ	22	10	45	
	eS	NE		17	22	
	e	NE		20	44	
30	iP	NEZ	04	49	19.7	
30	iP	NEZ	12	46	03.6	comp
30	iP	NEZ	15	28	53.6	dil

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TOOLANGI

March 1970

30	iP	NEZ	16	55	15.0
	e	NEZ		55	24
	e	NEZ		55	35
	e	NEZ		57	17
	eS	NE		62	02
	e	NE		65	33
30	iP	NEZ	20	44	59.2
	i	NEZ		45	23.0
	eS(LQ)	NE		48	27
	T max	NEZ		62.5	
31	eP	NEZ	15	33	18
31	eP	NEZ	18	30	14
	eS	N		40	04
	e	N		50.1	

MAWSON

March 1970

19	eP	15	40	31
19	eP	15	53	00
20	iP	11	20	02.9
20	eP	17	41	25
21	iP	12	08	58.2
23	iP	23	09	50.5
24	iP	10	45	20.9
24	eP	17	09	55
25	eP	17	26	25
25	eP	20	31	34
25	iP	22	58	45.0
26	iP	19	19	51.5
27	eP	18	48	47
28	iP	07	58	30.0
28	eP	20	48	17
29	eP	10	20	06
29	iP	12	11	03.4
29	eP	20	32	25
29	eP	20	49	13
29	eP	21	17	50
29	iP	22	14	53.0
30	iP	13	12	55.3
30	eP	16	59	22
	eS		69	43
31	iP	13	18	07.8

MACQUARIE ISLAND

March 1970

24	eP	10	43	01
27	iP	14	47	03.1
27	iP	19	47	21.3
30	iP	16	57	32.4
30	iP	16	57	51.1
30	eP	20	42	14

NORFOLK ISLAND

March 1970

8	eP	12	00	11
9	eP	16	03	34
	e(S)		05	23
9	eP	16	16	38
9	eP	16	18	28
9	eP	16	22	01
9	eP	16	28	08
9	eP	16	29	23
9	eP	18	33	16
	e(S)		35	05
10	eP	06	02	20
10	eP	08	37	25
12	eP	16	33	44
14	eP	20	53	03
16	eP	16	27	44
19	eP	05	44	55
20	eP	01	22	54
20	eP	11	16	50
20	eP	11	20	48
20	eP	20	08	39
20	eP	20	15	32
21	eP	12	05	30
21	eP	14	50	50
21	eP	15	49	52
22	eP	20	09	55
	e(S)		10	18
22	eP	20	16	24
24	eP	10	42	37
24	eP	13	23	47
24	eP	14	20	46
	e(S)		22	02
25	eP	04	03	56

C.A. van der WAAL
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3.4.1970

TOOLANGI GEOPHYSICAL OBSERVATORY

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PRELIMINARY EARTHQUAKE PHASES AT:-

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TOOLANGI

April 1970

1	eP	Z	00	38	40	
1	eP	NEZ	05	28	58	local
	eS	NE		29	07	
1	eP	NEZ	05	30	59	
1	eP	NEZ	06	05	01	local
1	eP	Z	11	28	48	
1	iP	NEZ	14	35	11.8	dil
1	eP	NEZ	16	17	06	
	e	NEZ		17	09	
	e	Z		19	42	
2	iP	NEZ	01	36	11.9	
	e	N Z		36	31	
2	iP	NEZ	11	19	07.0	dil 2.0
	e	Z		19	37	
	eS	NE		25	09	
	e	N		28	31	
2	eP	Z	18	03	51	
2	iP	NEZ	20	38	26.2	comp.
3	iP	NEZ	06	59	56.5	comp.
	e	N	07	05	49	
	e(S)	N		06	01	
	e	NE		08	47	
3	eP	Z	08	32	20	
	e	NEZ		32	24	
	e	Z		34	09	
3	eP	NEZ	14	48	03	
	e	Z		48	11	
	e	NEZ		48	13	
	Tmax	NEZ		65.4		
3	iP	NEZ	21	42	31.8	
	e	NEZ		42	52	
	e	NEZ		42	56	
4	iP	NEZ	02	04	15.4	comp.
4	eP	EZ	13	09	16	
	e	Z		09	24	
4	iP	NEZ	13	26	02.3	comp
	e	Z		27	33	
4	e(P)	Z	13	27	33	
4	iP	NEZ	14	14	45.6	comp.
4	iP	NEZ	22	53	42.1	comp. 2.1.
	e	Z		53	51	
5	eP	NEZ	11	16	21	
	e	EZ		16	44	
	eS	NE		21	06	
	e	N		22	27	
	e	N Z		24.3		
6	eP	Z	01	04	07	
	e	N Z		04	30	
6	eP	N Z	04	19	49	

TOOLANGI

April 1970

6	eP	N Z	05	12	25	
6	eP	NEZ	05	19	30	
	eS	NEZ		19	46	local
6	eP	EZ	06	15	45	
6	eP	NEZ	07	07	13	
	eS	NEZ		07	19	local
6	eP	EZ	16	44	48	
6	eP	Z	19	41	52	
7	eP	NEZ	05	22	06	local
	eS	NEZ		22	11	
7	iP	NEZ	05	43	53.2	comp. S.E. 2.8
	i	NEZ		43	57.0	
	eS	NE		51	50	
7	iP	NEZ	06	03	41.0	com. S. 2.4
7	eP	NEZ	06	21	41	
7	eP	NEZ	06	59	05	
7	iP	NEZ	07	04	21	local
	eS	NEZ		04	26	
7	eP	NEZ	07	38	28	
7	eP	Z	08	08	45	
	e	Z		08	54	
7	eP	NEZ	08	09	73	
	e	NEZ		09	51	
7	eP	NEZ	08	35	17	
7	eP	NEZ	09	48	57	
7	eP	NEZ	10	41	21	
7	eP	NEZ	13	19	57	
7	eP	NEZ	14	06	16	
	e	Z		07	16	
7	eP	NEZ	16	06	12	
8	eP	NEZ	03	08	40	local
	eS	NEZ		08	45	
8	eP	NEZ	04	36	51	local
	eS	NEZ		37	07	
8	eP	NEZ	05	23	26	
8	iP	NEZ	05	58	02.8	local
	iS	NEZ		58	06	
8	eP	NEZ	08	39	55	
8	eP	NEZ	08	59	03	
	e	N Z		59	08	
8	eP	NEZ	10	02	47	
	e	Z		02	53	
8	iP	NEZ	13	18	31.3	
	e	N Z		18	41	
	e	Z		18	53	
	eS	NE		22	00	
	T max	NEZ		35.8		

TOOLANGI

April 1970

8	eP	EZ	14	09	45	
	e	Z		09	51	
	e	Z		10	03	
8	eP	NEZ	14	13	18	
	e	EZ		13	23	
8	iP	NEZ	14	47	16.0	comp S. 1.7
	e	N Z		47	30	
	e	Z		47	40	
	eS	NE		52	14	
	e	NE		53.9		
	e	NEZ		55.7		
8	iP	NEZ	15	04	37.3	dil S.E. 2.4
	e	NEZ		04	46	
	e	N Z		04	53	
	e	NEZ		07	40	
	e	Z		07	44	
	T max	NEZ		21.7		
8	eP	NEZ	18	04	18	
	e	NEZ		04	22	
	e	Z		04	26	
8	eP	NEZ	21	33	42	
	eS	NE		41	42	
8	eP	NEZ	21	40	52	
	e	Z		41	09	
8	eP	EZ	21	43	39	
8	eP	NEZ	22	17	24	
8	eP	Z	22	56	57	
8	iP	NEZ	23	41	09.4	local
	iS	NEZ		41	14.4	
8	eP	NEZ	23	43	26	
	e	NEZ		43	31	
	e	NEZ		43	43	
9	eP	NEZ	00	12	29	
9	eP	NEZ	00	34	44	
9	eP	NEZ	02	05	13	local
	eS	NEZ		05	(19)	
9	eP	NEZ	04	38	59	local
	eS	NEZ		39	(06)	
9	eP	NEZ	04	47	54	
	e	NEZ		48	03	
9	eP	NEZ	04	59	46	local
	eS	NEZ	05	00	02	
9	eP	NEZ	05	15	50	Local
	eS	NEZ		16	06	
9	eP	NEZ	10	17	50	
9	iP	NEZ	11	48	23.6	
9	eP	Z	21	53	28	
	e	EZ		53	35	
9	iP	NEZ	22	24	33.5	

MACQUARIE ISLAND

April 1970

1	iP	00	44	40.9
2	iP	01	09	19.4

MACQUARIE ISLAND

April 1970

3	iP	09	52	40.5
4	iP	04	24	02.5
4	iP	10	35	29.5
4	iP	15	46	26.3
4	eP	20	01	41

MAWSON

April 1970

7	eP	05	47	17
	eS		57	34
7	eP	17	26	17
8	iP	21	37	09.8

NORFOLK ISLAND

March 1970

26	eP	14	31	25
26	iP	14	42	00.4
	e(S)		43	23
27	eP	00	39	52
27	eP	04	36	27
27	eP	05	09	32
28	eP	07	51	28
28	iP	09	59	37.2
	iS	10	01	25.0
29	eP	10	11	04
	e(S)		13	23
30	eP	04	21	04
30	eP	16	56	01
	e		56	08
	e		56	20

April 1970

2	eP	11	16	00
2	eP	12	57	11

C.A. van der WAAL
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13-4-1970

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TOOLANGI GEOPHYSICAL OBSERVATORY

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April 1970

10	eP	NEZ	00	11	03	
10	eP	NEZ	07	47	36	
	e(S)	NEZ		47	54	
10	eP	N Z	13	27	45	
	e	Z		29	02	
10	eP	NEZ	14	15	31	
	e	EZ		16	11	
	e(S)	N		21	40	
10	eP	EZ	20	55	17	
10	eP	Z	22	14	14	
11	iP	NEZ	06	28	48.7 dil E	
11	eP	EZ	07	23	23	
	e(S)	EZ		24	46	
11	iP	NEZ	16	28	54.0	
11	eP	EZ	23	42	42	
12	eP	NEZ	04	11	27	
	e	NEZ		11	32	
	e(S)	NE		19	25	
12	eP	NEZ	04	25	15	
	e	N Z		25	21	
12	iP	Z	04	35	14	
12	eP	NEZ	04	36	21	
	e	NEZ		36	27	
12	eP	NEZ	05	27	51	
12	eP	NEZ	05	37	36	
12	eP	Z	05	44	35	
12	eP	Z	06	33	15	
12	eP	NEZ	06	39	40	
	e			39	47	
12	eP	NEZ	07	08	09	
12	eP	Z	07	13	33	
12	eP	Z	07	39	11	
	e	Z		39	17	
12	iP	NEZ	09	11	29.9 comp.	
12	eP	Z	09	15	40	
12	eP	Z	13	45	21	
12	eP	NEZ	14	05	23	
	e	Z		05	29	
12	iP	NEZ	14	32	21.0 dil N.W. 2.3	
	e	NEZ		32	27	
12	eP	Z	15	43	30	
	e	Z		43	38	
12	eP	Z	17	11	45	
12	eP	NEZ	17	36	59	

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13	eP	NEZ	00	01	50	
	e	NEZ		01	54	
13	eP	NEZ	03	37	16	local
13	eP	NEZ	08	38	09	1.5
	e	EZ		38	15	
13	eP	Z	13	01	40	
	e	Z		01	58	
13	eP	NEZ	16	59	49	
13	eP	NEZ	18	51	36	
13	iP	Z	19	44	32.0	
13	eP	Z	21	08	24	
14	eP	NEZ	02	11	22	
	e(S)	NEZ		11	27	local
14	eP	NEZ	02	31	12	
	e	Z		31	16	
14	eP	EZ	07	56	15	
14	eP	NEZ	08	36	31	
14	eP	EZ	13	53	49	
14	e(P)	Z	19	21	36	
14	eP	NEZ	20	52	42	
14	iP	NEZ	22	14	44.0 comp.	1.2
15	e(P)	Z	00	00	31	
15	eP	NEZ	02	13	54	
	e(S)	NEZ		13	59	local
15	eP	NEZ	03	45	23	
15	e(P)	NEZ	06	36	58	
15	eP	NEZ	07	03	57	
15	eP	Z	10	52	52	
15	eP	EZ	12	12	09	
15	iP	NEZ	13	24	06.0 comp.	2.1
	e	Z		25	33	
	e(S)	NE		32	01	
15	eP	NEZ	13	34	12	
15	eP	NEZ	13	40	35	
	e	Z		41	09	
15	eP	Z	14	26	14	
	e	Z		26	23	
15	eP	EZ	17	30	50	
	e	Z		30	57	
15	eP	NEZ	17	43	28	
		Z		43	36	
16	eP	NEZ	02	07	17	
16	eP	NEZ	11	01	31	

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April 1970

7	eP	05	44	43
8	eP	14	10	20
8	eP	14	44	41
	e		44	48

MACQUARIE ISLAND

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12	iP	02	31	25.3

MAWSON

April 1970

9	eP	20	23	11
10	iP	14	20	41.9
11	eP	06	33	44
11	eP	13	59	22
12	iP	02	30	12.7
12	eP	02	59	12
12	eP	04	14	55
12	iP	14	35	49.8
12	eP	22	55	19
14	eP	10	28	13
14	eP	19	16	14
15	iP	13	27	36.2
15	eP	14	06	55
16	iP	14	44	12.2
17	eP	05	47	53
17	eP	06	31	51
17	iP	16	57	42.8
17	iP	20	27	30.9
18	iP	09	11	19.9
18	iP	21	04	18.6

TOOLANGI GEOPHYSICAL OBSERVATORY
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TOOLANGI

April 1970

17	iP	NEZ	01	01	17.7	local
	iS	NEA		01	24.0	
17	iP	NEZ	08	40	56.2	comp.
17	iP	NEZ	10	25	30.6	comp.
17	iP	NEZ	12	44	06.5	dil.
17	eP	NEZ	13	24	38	
17	eP	NEZ	14	43	41	
17	iP	NEZ	22	00	59.2	dil.
18	eP	NEZ	01	08	07	local
	eS	NEZ		08	15	
	e	NEZ		08	19	
18	eP	NEZ	01	39	34	
	e	EZ		39	50	
	e	Z		40	37	
	e(S)	NE		50	32	
	e	NEZ		54	23	
18	eP	NEZ	09	03	13	
18	eP	NEZ	09	23	49	
18	eP	NEZ	18	24	24	
19	eP	NEZ	13	48	48	
19	iP	NEZ	13	56	55.7	dil
19	iP	NEZ	14	06	45.3	comp.
19	iP	NEZ	17	09	17.3	comp. 2.2
	i	N Z		09	26.3	
	e	EZ		10	57	
	e	EZ		11	03	
	eS	NE		14	19	
	e	NE		17.8		
19	eP	Z	17	15	09	
19	eP	EZ	18	25	21	
20	iP	NEZ	02	14	25.7	
	e	Z		14	32	
	eS	NE		19	08	
	e	E		20	17	
	eScP	Z		20	53	
	e	N		21	08	
20	eP	NEZ	03	49	06	
20	eP	NEZ	04	01	57	regional
	eS	NEZ		02	30	
20	eP	NEZ	07	02	50	local
	eS	NEZ		02	55	
20	iP	NEZ	10	44	42.7	dil N.E.2.5
	e	NEZ		45	32	
	e	NEZ		45	37	
	e	NEZ		45	49	
	eS	NE		49	09	
	e	NE		49	52	
	e	Z		50	57	
	i(ScP)	Z		51	11	
	e	N		51	30	

TOOLANGI

April 1970

20	eP	EZ	14	13	33	
20	eP	NEZ	15	54	23	
20	eP	NEZ	21	50	02	
	e	NEZ		50	13	
21	eP	NEZ	01	52	47	local
	eS	NEZ		53	02	
21	eP	NEZ	03	26	51	
21	eP	NEZ	05	13	48	local
21	eP	NEZ	06	13	09	local
	eS	NEZ		13	14	
21	eP	EZ	07	10	31	
22	iP	NEZ	11	44	52.7	dil N 1.9
	i	NEZ		45	03	
	i	EZ		47	26	
	e(S)	E		50.4		
	e	Z		50	47	
	e	N Z		59.2		
22	eP	NEZ	12	12	56	
	e	NEZ		14	17	
	e	N Z		14	20	
	e	NEZ		14	29	
22	eP	NEZ	13	58	40	
	e	Z		58	48	
22	iP	NEZ	15	47	36.4	dil
23	iP	NEZ	01	08	56.6	local
	eS	NEZ		09	04	
23	i(P)	NEZ	06	33	03.7	
23	iP	NEZ	07	18	51.6	

MAWSON

April 1970

19	iP		06	31	34.7
19	iP		10	59	01.6
20	iP		02	19	35.2
20	eP		10	50	50
	eS		11	00	27
22	iP		16	08	19.3
23	eP		01	15	38
23	iP		17	13	15.4
23	eP		17	29	26

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MAWSON

April 1970

23	iP	19	57	41.6
24	eP	00	29	58
24	iP	16	40	06.6
24	eP	17	23	21
25	eP	03	53	42
25	eP	23	43	19
26	eP	00	51	31

NORFOLK ISLAND

April 1970

10	eP	14	12	15

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TOOLANGI

APRIL 1970

23/24 no record from 22 hrs 25 min on 23/4 to 07 hrs 20 mins. on 24/4. Adjustment to instruments.

25	iP	NEZ	03	55	09.7	dil
25	iP	NEZ	22	58	53.8	comp.
26	eP	NEZ	14	33	42	
	e(S)	NE		44	50	
	e	N		46.0		
26	eP	NEZ	15	47	02	2.0
27	eP	Z	03	55	59	
	eS	N Z		56	06	local
27	eP	N Z	05	24	39	
27	iP	N Z	06	03	22.8	dil 1.6
28	eP	NEZ	00	35	42	
	eS	N		40	44	
	e	N		42	38	
	e	N		45.3		
28	eP	NEZ	01	56	57	local
	eS	NEZ		57	02	
28	eP	NEZ	07	57	36	local
	eS	NEZ		57	42	
28	eP	NEZ	13	11	19	local
	eS	NEZ		11	32	
28	iP	NEZ	53	55	20.8	comp.S. 1.6
29	eP	NEZ	03	33	40	local
	eS	NEZ		33	46	
29	iP	EZ	05	20	42.5	
29	eP	NEZ	06	07	12	
	e	NEZ		07	30	
29	eP	NEZ	09	56	(35)	
	eS	NE	10	01.2		
	e	E		02	16	
	e	NE		02	42	
29	eP	NEZ	11	41	35	
	e	E		50	08	
	e	EZ		53	07	
	e	E	12	00.2		
29	ePKP	EZ	14	20	14	
	e	Z		20	23	
	e	NEZ		20	28	
	ePP	EZ		22	12	
	eSKS	E		27	36	
	eSKKS	E		29.0		
	e(PS)	EZ		32.2		
	eSS	E		39.0		
	eLQ	N		53	22	
	eLR	E		59.0		
	M	NEZ	15	08.8		
29	eP	NEZ	16	44	54	2.0

TOOLANGI

APRIL 1970

29	iP	NEZ	18	11	35.4	dil
	e	NEZ		12	20	
	e	N		20.3		

MACQUARIE ISLAND

APRIL 1970

26	iP	18	16	46.1
29	eP	03	27	14

MAWSON

APRIL 1970

26	eP	14	39	59
26	iP	15	52	09.0
26	eP	20	44	35
27	iP	04	30	32.8
28	iP	00	20	43.6
28	eP	00	41	53
28	eP	01	24	46
28	iP	08	12	41.0
29	eP	01	56	08
29	iP	12	20	11.1
29	iP	14	20	28.0
29	eP	18	11	14.2

NORFOLK ISLAND

APRIL 1970

16	eP	19	47	45
16	eP	23	01	16
19	eP	17	06	20
20	eP	02	11	19
	e		11	29
20	eP	06	46	58
20	eP	10	41	36
22	eP	07	31	47

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4-5-1970

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30	iP	NEZ	06	47	35.1	dil E
	e	EZ		47	48	
30	iP	NEZ	07	13	08.3	local
	eS	NEZ		13	14	
30	ePKP	EZ	08	51	56	
	ePP	EZ		53	38	
	eSKS	E		59	00	
	eSKSP	Z	09	03	20	
	ePS	EZ		03	34	
	ePSP	Z		05.1		
	eSS	E		10	55	
	e	E		13	42	
	e	EZ		30.1		
30	eP	NEZ	09	31	31	
	e	Z		31	50	
30	iP	NEZ	10	36	17.0	dil
30	iP	NEZ	14	27	44.7	dil
30	iP	NEZ	14	51	04.0	dil
30	eP	NEZ	16	47	18	
30	eP	NEZ	18	20	45	
	e	NEZ		21	10	

May 1970

1	iP	NEZ	03	32	01.0	comp.S 2.0
	i	Z		32	16.8	
	e	Z		47	13	
1	eP	NEZ	06	54	24	
1	eP	NEZ	07	50	55	local
	eS	NEZ		51	06	
1	eP	NEZ	15	29	06	
1	iP	NEZ	23	38	57.0	comp.
2	iP	NEZ	09	34	13.2	comp.
2	eP	NEZ	11	55	46	
2	iP	EZ	17	58	46.6	
	e	EZ		58	53	
2	eP	NEZ	23	32	56	
3	iP	NEZ	05	20	52.0	comp.S 2.3
4	e(P)	NEZ	00	43	52	
4	e(P)	Z	01	12	31	
4	eP	NEZ	07	46	58	
	e	Z		47	34	
	e	NE		51	58	
	e	N		53.4		
4	iP	NEZ	11	30	15.0	dil N.E.2.2
4	eP	EZ	12	18	31	
	e	EZ		18	40	
4	eP	NEZ	19	02	08	
	e	Z		02	16	
	e	EZ		02	26	
	eS	NEZ		09	19	
	e	E		13	00	
	e	Z		16.8		

TOOLANGI

May 1970

5	iP	NEZ	00	15	40.4	dil N.W.
5	eP	NEZ	01	44	30	
5	eP	NEZ	11	58	20	local
	eS	NEZ		58	25	
	eL	NEZ		58	29	
5	iP	NEZ	20	11	55.2	dil
5	eP	NEZ	20	57	04	
6	iP	NEZ	02	45	04.7	dil
6	eP	NEZ	15	32	54	

MAWSON

April 1970

30	iP	09	37	44.2	
30	iP	16	52	25.1	

May 1970

1	eP	04	32	20	
1	iP	05	46	11.5	
1	iP	08	54	19.4	
1	iP	23	45	06.5	
2	iP	05	03	39.1	
2	iP	06	44	03.0	
2	eP	07	11	55	
3	iP	05	25	15.6	
3	iP	06	42	01.8	
3	eP	07	49	32	
3	iP	16	09	23.4	
4	iP	10	05	08.8	
4	iP	11	36	20.8	
4	iP	18	59	02.0	
4	iP	20	50	12.7	
5	iP	15	15	51.5	
5	iP	15	28	39.2	
5	eP	15	39	26	
5	iP	15	49	50.6	
5	iP	16	36	16.9	
5	iP	17	14	18.6	
5	iP	20	18	04.7	
6	iP	01	03	55.5	
6	iP	14	54	08.0	
6	iP	19	34	05.5	
6	iP	16	25	10.0	

.../2.

MACQUARIE ISLAND

April 1970

30	eP	16	14	46

May 1970

4	iP	22	27	01.2

NORFOLK ISLAND

April 1970

26	eP	06	45	38
26	eP	15	43	52
27	eP	12	21	06

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8-5-1970

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May, 1970

7	iP	NEZ	05	00	47.7	dil.
7	eP	NEZ	05	01	34	local
	eS	NEZ		01	39	
7	eP	NEZ	05	04	58	local
	eS	NEZ		05	14	
7	eP	NEZ	07	04	56	local
	eS	NEZ		05	02	
7	eP	NEZ	12	15	07	
7	eP	NEZ	17	40	39	
7	iP	NEZ	19	24	49.0	comp.
	e	Z		26	26	
	e	NEZ		26	31	
	e	NEZ		26	36	
8	eP	NEZ	04	02	40	local
8	eP	NEZ	04	53	33	local
	eS	NEZ		53	49	
8	eP	NEZ	05	54	08	local
	eS	NE		54	11	
8	e	Z	12	45	48	
	e	Z		48	18	
8	eP	Z	18	01	14	
8	eP	EZ	23	16	55	
	e	N Z		17	00	
	e	Z		18	33	
9	eP	EZ	04	18	13	
9	eP	NEZ	05	56	54	
9	eP	Z	07	53	39	
9	eP	Z	08	31	02	
9	eP	Z	10	37	23	
9	eP	NEZ	11	34	38	
9	eP	Z	16	26	47	
	e	EZ		26	53	
9	iP	NEZ	18	07	12.1	dil 2.8
	epP	Z		07	44	
	eS	E		12	23	
	eScP	Z		13	17	
10	iP	NEZ	10	45	33.6	dil 1.7
10	eP	NEZ	20	14	00	
	e	Z		14	24	
	e	Z		15	50	
	e	Z		17	51	
11	eP	NEZ	02	36	17	local
	eS	NEZ		36	25	
11	iP	NEZ	03	04	20.5	dil
	e	Z		04	30	
11	eP	NEZ	07	42	12	local.
11	eP	NEZ	09	09	29	

TOOLANGI

May 1970

11	iP	NEZ	15	12	37.8	comp S.W. 2.
	e	Z		12	47	
	e	Z		14	09	
	eS	NE		17	45	
11	eP	NEZ	20	38	45	
12	eP	NEZ	01	59	15	local
	eS	NEZ		59	22.5	
12	eP	NEZ	03	19	23	
	e	Z		19	44	
	e	N Z		19	51	
12	eP	NEZ	04	14	33	
12	eP	NEZ	06	58	37	
	e	Z		58	51	
	e(S)	NE	07	02	48	
12	eP	NEZ	07	25	24	local
	eS	NEZ		25	39	
12	eP	NEZ	07	39	32	
12	eP	NEZ	09	33	53	
	e(S)	N		41	52	
12	eP	NEZ	10	01	34	
	e	EZ		01	43	
12	iP	NEZ	13	54	33.7	
	i	Z		54	37.2	
12	iP	NEZ	17	05	16.0	
13	eP	NEZ	07	20	14	
	eS	E		25	22	
13	iP	NEZ	16	04	04.5	dil
13	eP	NEZ	20	32	30	

MAWSON

May, 1970

7	eP		09	18	21
7	iP		12	20	46.5
7	iP		19	29	10.4
8	eP		12	52	06
9	iP		05	51	34.5
9	iP		07	48	30.8
9	eP		10	43	27
9	iP		11	24	21.2
9	eP		11	40	52
9	iP		18	13	06.0
10	iP		19	46	54.8
11	eP		10	29	29
11	iP		15	17	45.3
12	iP		01	13	46.5

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MACQUARIE ISLAND

May, 1970

11	iP	01	35	17.0
12	iP	06	54	31.0
12	iP	14	01	47.6
12	iP	21	50	12.4

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May, 1970

14	iP	NEZ	01	47	01.1	
14	eP	NEZ	07	35	16	local
	eS	NEZ		35	27	
14	iP	NEZ	08	39	26.0	comp.
	e	Z		39	31	
	e	NEZ		39	34	
	e(S)	E		44	29	
	eLQ	NE		44	51	
	eLR	NEZ		49.1		
	M	E		54.3		
14	eP	EZ	09	39	13	
14	eP	EZ	12	45	27	
14	eP	EZ	15	31	41	
14	eP	NEZ	18	31	17	
	e	Z		33	45	
14	eP	NEZ	21	17	14	
15	iP	NEZ	10	46	56.0	dil
	e	Z		47	54	
15	e(S)	E	17	38	31	
	e	NEZ		40	00	
16	NIL					
17	eP	EZ	03	41	44	
17	eP	Z	04	19	04	
17	eP	EZ	06	00	25	
18	iP	NEZ	03	13	31.6	comp. S.W.
18	eP	NEZ	04	48	49	local
	eS	NEZ		49	05	
18	eP	NEZ	09	05	19	local
	eS	NEZ		05	24	
19	eP	Z	02	39	31	
19	eP	NEZ	05	56	15	
19	eP	Z	14	55	05	
	e	EZ		55	30	
20	eP	NEZ	05	05	39	local
	eS	NEZ		05	55	
20	eP	NEZ	07	37	20	
	e	Z		37	43	
20	eP	NEZ	20	16	19	2.1
	e	NEZ		19	22	
	e(PP)	Z		19	46	
	eS	E		26.8		
	eSS	E		32.7		
	eLQ	E		39.1		

NORFOLK ISLAND

May, 1970

4	eP	07	43	12
4	eP	11	26	35
7	eP	06	40	49

NORFOLK ISLAND (CONT'D)

May, 1970

12	eP	09	57	18
	e		57	31

MACQUARIE ISLAND

May, 1970

14	iP	21	13	04.3

MAWSON

May, 1970

12	eP	17	10	16
13	eP	15	54	21
14	iP	01	53	06.7
14	iP	08	09	21.1
14	iP	08	45	11
14	iP	16	16	31.5
14	iP	18	31	00.5
14	iP	21	19	27.0
15	iP	10	50	03.7
15	iP	13	49	50.6
16	iP	04	28	30
17	eP	07	48	57
17	iP	09	24	07.6
17	iP	17	04	49.5
18	iP	03	19	37.6
19	eP	12	08	17
19	eP	14	01	52
19	eP	14	38	26
19	iP	15	01	15.6
19	iP	15	20	02.7
20	iP	16	15	46.5
20	iP	16	37	49.4
20	iP	20	11	17.2
20	eP	20	50	30
20	eP	22	26	50

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25.5.1970

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21	iP	NEZ	00	43	00.2 dil E.
	i	EZ		43	20.4
21	eP	NEZ	03	37	17 local
	eS	NEZ		37	33
21	iP	NEZ	17	00	12.2 comp. E.
22	eP	NEZ	07	06	40 local
	eS	NEZ		06	45.5
22	iP	NEZ	10	44	05.7 dil
22	eP	NEZ	14	27	58
22	eP	N Z	15	09	43
	e	N Z		10	59
22	e(P)	N Z	15	10	59
22	eP	NEZ	18	13	17
23	eP	NEZ	07	44	(36)
23	eP	NEZ	13	12	32
23	eP	NEZ	18	58	51
23	iP	NEZ	19	18	31.1 dil
23	iP	NEZ	20	23	51.0 dil
24	eP	NEZ	01	10	26
	e	EZ		13	03
24	e(P)	EZ	01	13	03
24	eP	NEZ	02	24	52
24	eP	NEZ	13	41	34
24	eP	NEZ	15	46	10
24	iP	NEZ	22	00	35.7 dil
24	iP	NEZ	23	50	11.2 dil
25	eP	NEZ	05	43	02
25	eP	NEZ	06	31	46
25	eP	NEZ	06	58	28 local
	eS	NEZ		58	43
25	eP	EZ	16	53	55
	i	NEZ		53	56.0
	e	Z		55	45
	e	Z		56	45
	e(S)	N		59.6	
	e	E		61.2	
25	eP	NEZ	22	58	05
26	iP	NEZ	12	35	45.5 dil
26	iP	NEZ	15	50	37.0 dil
27	iP	NEZ	12	15	05.6 comp. S.
	i	NEZ		15	09
	e	Z		15	28
	e	Z		15	36
	e	Z		16	28
	eS	NE		23	12
	e	Z		28	48
	e	E		30.8	

TOOLANGI (CONT'D)

May 1970

27	eP	NEZ	19	17	35
	e	NEZ		17	39
	e	Z		18	08
	eS	NE		27	22
	eLQ	E		38	15
	eLR	Z		42.7	

MACQUARIE ISLAND

May 1970

25	iP	11	57	46.6

MAWSON

May 1970

20	iP	16	52	49.4
21	eP	14	34	50
22	eP	11	15	05
22	eP	10	50	10
22	eP	18	35	53
23	eP	07	43	07
23	iP	21	18	03.4
24	eP	01	16	20
24	eP	09	09	34
24	eP	13	47	24
24	eP	22	01	45
25	iP	05	48	17.7
25	eP	16	36	51
25	iP	16	59	01.7
25	iP	22	52	53.5
25	iP	22	55	05.3
26	iP	10	13	40.2
26	eP	10	26	39
26	iP	12	41	47.6
26	eP	15	19	46

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29.5.1970

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27	eP	NEZ	22	47	40	
	eS	NE		57	32	
28	eP	NEZ	00	08	34	
	e	NEZ		08	44	
28	iP	NEZ	07	03	34.4	local
	eS	NEZ		03	40	
28	eP	NEZ	11	39	12	
28	eP	NEZ	21	05	25	
29	eP	NEZ	00	04	52	
29	eP	NEZ	04	09	32	
29	eP	NEZ	05	22	32	
	e	EZ		22	41	
	e	EZ		22	46	
	eS	NE		28	50	
	e	NE		32	30	
	e	EZ		35	30	
29	iP	NEZ	10	45	53.7	comp.
	e	Z		46	12	
29	iP	NEZ	19	08	42.1	comp. S.W. 2.5
	e	NEZ		08	59	
	eS	NE		13	49	
	e	E		15.7		
	e	N Z		17	40	
29	eP	NEZ	20	36	53	
30	eP	Z	03	30	45	
	e	NEZ		30	48	
	e	Z		31	05	
	eS	NE		35.5		
	e	E		35	42	
30	iP	NEZ	11	00	14.0	comp.
30	iP	NEZ	13	25	38.3	
	e	NEZ		26	04	
	eS	NEZ		33	01	
31	iP	NEZ	01	50	21.7	strong local
	iS	NEZ		50	36	
31	e(P)	N Z	20	38.5		
	e	Z		42.0		
	e(PKP)	Z		42	12	
	ePP	NEZ		43	20	
	e	Z		52	28	
	ePS	E		53.3		
	eSS	E		59.8		
	eLR	E	21	18.0		

June 1970

1	eP	EZ	01	55	07	
	e	EZ		56	03	
1	eP	Z	03	05	09	
1	eP	NEZ	08	21	55	
1	eP	Z	18	03	20	
	e	Z		03	26	

TOOLANGI

June 1970

2	e(P)	Z	01	57	13	
2	eP	NEZ	03	31	11	local
	eS	NE		31	28	
2	eP	NEZ	05	38	35	
	e(S)	NE		39	05	
2	eP	NEZ	08	04	49	
	e	N Z		06	29	
2	eP	Z	21	07	33	
	e	EZ		07	58	
	T max	NEZ		25.8		
2	eP	Z	21	31	16	
2	eP	NEZ	21	37	02	
	e	Z		37	47	
	e	Z		38	19	
3	eP	NEZ	04	45	18	local
3	eP	NEZ	09	28	06	local
	e(S)	NEZ		28	20	

MAWSON

May 1970

27	eP	12	22	53
29	eP	04	15	40
29	iP	05	27	26.7
29	eP	10	47	14
29	eP	15	10	39
29	iP	19	14	47.0
29	iP	20	42	00.3
29	eP	22	04	44
30	eP	16	03	31
31	iP	16	11	17.5
31	iP	16	20	32.0
31	eP	20	37	02

June 1970

1	eP	01	49	45
1	eP	02	58	49
1	iP	04	31	46.8
2	iP	00	17	09.7
2	eP	01	50	53
2	iP	02	54	05.5
2	eP	03	19	21
2	eP	08	09	08
2	eP	13	59	10
2	iP	21	13	08.6

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MAWSON

June 1970

2	iP	21	42	10.0
2	eP	21	43	34
2	iP	23	52	40.5

MACQUARIE ISLAND

May 1970

28	iP	10	59	24.7

June 1970

2	iP	21	04	17.3

NORFOLK ISLAND

May 1970

15	eP	10	43	50
15	eP	15	20	07
25	eP	16	50	38
27	eP	12	14	48
28	eP	11	35	44
	e(S)		37	20

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5-6-1970

NORFOLK ISLAND

May 1970

29	eP	05	19	34

June 1970

2	eP	07	11	10
	e		11	20
2	eP	21	03	46
	e(S)		05	39
2	eP	21	33	59
3	eP	02	24	52

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16.6.1970

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TOOLANGI GEOPHYSICAL OBSERVATORY
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TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND.

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TOOLANGI

June 1970

4	eP	NEZ	02	27	47	local
	eS	NEZ		27	53	
4	e(P)	EZ	04	28	07	
4	eP(KP)	EZ	04	28	07	
	ePP	Z		29	19	
	e	Z		29	37	
	ePS	NE		39	02	
	eSS	NE		45.5		
	eLR	NEZ		63.5		
4	iP	NEZ	20	10	09.4	comp.
5	eP	NEZ	00	33	04	local
	eS	NEZ		33	09	
5	eP	NEZ	05	06	53	
	ePP	Z		11	01	
	eSKS	N		17	29	
	e	NE		18	30	
	ePS	NEZ		19	58	
	eSS	NE		25.7		
	eLR	NE		37.2		
5	eP	NEZ	06	23	18	local
	eS	NEZ		23	23	
	e	NEZ		23	27	
5	eP	NEZ	07	09	48	
	eS	N		17	13	
	ePS	E		17	25	
	eLR	EZ		24	51	
5	eP	NEZ	07	34	46	
	Tmax	NEZ		53.1		
5	eP	NEZ	22	53	22	
6	eP	NEZ	06	25	20	
	e	Z		25	25	
	e	N Z		25	37	
6	eP	NEZ	06	40	42	
6	eP	NEZ	10	34	07	
6	eP	N Z	13	08	38	
	e	N Z		09	05	
	e	N Z		10	35	
6	eP	N Z	14	42	51	
6	eP	N Z	17	50	03	
8	iP	NEZ	04	05	19.8	comp S 2.0
8	eP	NEZ	21	27	02	
9	iP	NEZ	06	07	38	local
	iS	NEZ		07	43	
	eL	NEZ		07	47	
9	eP	NEZ	07	05	00	local
9	eP	NEZ	11	02	50	
	e	EZ		02	58	
	eS	N		09.0		
	e	NE		09	25	
	e	NE		12.8		
	e	NE		13	02	

TOOLANGI

June 1970

9	iP	NEZ	16	21	17.8	dil
10	eP	NEZ	06	03	32	
10	eP	NEZ	15	30	10	
10	eP	NEZ	16	30	05	
	e	Z		30	14	
	e	N Z		30	19	
	e	EZ		30	30	
	eS	E		40	20	

MAWSON

June 1970

3	eP	10	08	56	
3	eP	16	49	21	
3	iP	22	49	49.8	
4	eP	04	22	56	
4	eP	17	31	45	
4	eP	19	17	34	
4	iP	20	14	15.1	
5	eP	05	11	37	
5	eP	07	06	50	
5	eP	07	17	32	
5	iP	07	38	45.3	
5	eP	10	51	21	
5	eP	11	24	55	
5	iP	14	14	29.5	
5	iP	17	16	55.0	
5	eP	21	09	20	
5	eP	22	59	37	
6	eP	06	23	01	
6	iP	14	47	57.4	
6	iP	23	11	43.7	
7	iP	22	24	04.1	
7	eP	22	47	47	
8	eP	10	21	33	
9	eP	11	07	47	
10	eP	16	36	50	
10	eP	19	57	33	
10	eP	23	25	22	
11	iP	01	56	54.3	

MACQUARIE ISLAND

June 1970

5	eP	07	30	52
8	eP	05	18	18

TOOLANGI GEOPHYSICAL OBSERVATORY
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TOOLANGI

June 1970

11	eP	EZ	06	21	(13)
	e	NEZ		21	46
	e	NEZ		22	32
	e	N Z		31	05
	e	NE		31	42
	e	NE		37	36
	e	N Z		54	28
11	iP	NEZ	11	28	47.1 comp
	e	Z		28	58
11	eP	NEZ	16	51	45
	e	EZ		52	14
	e	EZ		52	34
	e(S)	E		56	17
	e	NE		59.3	
	Tmax			67.8	
11	iP	NEZ	17	03	27.7 dil
12	eP	NEZ	00	17	04
	e	NEZ		17	10
12	eP	NEZ	05	44	06 local
	eS	NEZ		44	11
	eL	NEZ		44	16
12	eP	NEZ	08	13	09
	eS	NE		18	46
	e	NEZ		21	30
	e	N Z		23.3	
12	iP	NEZ	12	58	02.3
12	eP	NEZ	13	45	09
12	eP	NEZ	21	02	50
12	eP	NEZ	21	39	42 local
	e(S)	NEZ		40	08
12	eP	NEZ	21	42	34
13	eP	NEZ	02	03	(14)
	e(S)	NEZ		03	30
	e	NE		03	38
13	eP	NEZ	21	31	39
14	iP	NEZ	00	12	41.8 dil
	e	Z		13	06
	eS	NE		23	06
	ePPS	NE		24	32
	eSS	NE		28	36
	eLQ	NE		35	16
14	iP	NEZ	21	39	04.1
15	iP	NEZ	07	07	15.8 comp.S
15	iP	NEZ	09	48	53.0 comp.S.E.1.9
15	eP	NEZ	11	27	27
	eS	NEZ		37	52
	eSS	N		43	08
	eSSS	N		46.7	
	eLQ	E		50.3	
	e	E		51	36
	e	N Z		54.1	

TOOLANGI

June 1970

15	eP	NEZ	15	39	43
16	iP	NEZ	02	38	33.7 comp.
16	iP	NEZ	05	58	31.0 dil
16	iP	NEZ	08	18	59.8 dil
17	eP	N Z	00	54	(30)
	e	NEZ		54	39
17	eP	N Z	05	02	55
	e	NEZ		04	34
	e	N		09.7	
	e	Z		13.5	
17	iP	NEZ	08	04	33.0 dilNW
	e	Z		05	34
17	eP	NEZ	09	15	05
	i	Z		15	08.5
17	eP	NEZ	11	00	12
	e	E		05	27
	e	NE		06	12
17	eP	NEZ	21	42	54
	eS	N		53	06
	ePPS	NE		54	24
	eSS	NE		58.5	
	eLR	NEZ		69.7	

MACQUARIE ISLAND

June 1970

11	eP	06	15	51
11	eP	16	47	36
11	iP	18	03	18.3
11	iP	18	11	38.3
11	eP	19	12	20
12	eP	00	14	06
13	eP	07	20	26
13	eP	23	21	38
14	iP	08	09	20.4
15	eP	11	25	38
15	eP	21	08	51
16	eP	10	18	40
16	eP	12	59	08
16	iP	17	45	33.7
16	iP	21	12	35.8

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NORFOLK ISLAND

June 1970

9	eP	01	16	07
	e		16	54
	e		17	27
11	eP	16	53	29

MAWSON

June 1970

11	iP	06	15	00.8
11	eP	11	34	51
11	eP	16	54	04
12	iP	08	18	36.6
12	iP	09	16	00.7
12	eP	13	47	13
12	iP	19	20	57.3
12	eP	21	08	03
12	eP	21	48	40
13	eP	04	09	04
13	eP	05	47	28
13	eP	12	49	42
13	eP	16	27	14
14	eP	00	09	47
14	eP	00	22	04
14	eP	09	51	04
14	eP	09	58	59
14	eP	15	12	37
14	eP	16	53	40
14	eP	17	00	43
14	eP	20	12	24
14	iP	21	45	05.8
15	iP	07	13	11.5
15	iP	09	52	46.5
15	eP	11	24	00
15	eP	15	45	35
15	iP	22	50	00.6
16	eP	02	43	51
16	eP	09	06	27
16	eP	18	06	31
17	iP	01	00	28.5
17	eP	02	10	48

DARWIN

June 1970

7	iP	13	40	29.0
7	eP	22	15	23
9	iP	16	27	47.0
9	iP	19	47	06.8
9	eP	21	06	57.5
10	eP	01	57	44.5
10	eP	06	51	23
10	eP	11	29	12
10	eP	12	03	42.5
10	eP	16	55	38

C.A. van der WAAL
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22-6-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
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PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

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TOOLANGI

JUNE 1970

17	eP	NEZ	23	29	55	
18	eP	NEZ	04	25	26	
	i	N Z		25	31.3	
	i	Z		25	37.3	
18	eP	NEZ	06	44	30	
	eS	NE		49	04	
	eLQ	NE		50	10	
	eLR	EZ		51	52	
18	iP	NEZ	12	36	04.5	
18	eP	NEZ	20	35	06	
	e	Z		35	18	
	e	Z		35	22.5	
	eS	NE		39	52	
	eLQ	E		41	13	
	eLR	E		42.5		
19	iP	NEZ	10	54	11.1	dil
19	iP	NEZ	12	54	45.1	comp.
	e	N Z		54	57	
	e	N Z		55	18	
19	iP	NEZ	14	45	37.5	
	e	N Z		45	48.5	
19	iP	NEZ	16	34	05.5	
	e	NEZ		34	20	
19	eP	NEZ	16	48	54	
19	eP	NEZ	18	46	01	
	e	N		55.2		
	e	N		55	34	
	e	NE		57	15	
19	iP	NEZ	18	57	23.6	comp.
	e	NEZ		57	38	
	e	NEZ		59	09	
	eS	NE		67	18	
20	eP	NEZ	01	22	56	local
	eS	NEZ		23	01	
	e	E		23	05	
20	iP	NEZ	04	10	21.3	dil
20	iP	NEZ	13	12	55.2	dil
	i	EZ		13	04	
20	eP	NEZ	18	34	57	local
	e(S)	NEZ		35	20	
20	eP	NEZ	20	27	11	local
	eS	NEZ		27	25	
21	eP	NEZ	03	02	14	
21	eP	NEZ	16	03	29	
21	iP	NEZ	16	19	03.0	dil N.W.
	e	EZ		20	27	
	e	EZ		21	21	
	e(S)	E		23	22	
21	eP	NEZ	18	29	25	

TOOLANGI

JUNE 1970

22	eP	Z	02	15	43	
22	eP	Z	03	30	34	
22	eP	NEZ	04	22	18	local
	eS	NEZ		22	34	
22	eP	NEZ	05	53	26	
	i	NEZ		54	01.0	
22	iP	NEZ	05	54	01.0	
22	eP	EZ	09	27	50	
22	eP	Z	11	44	42	
22	eP	Z	12	31	36	
22	iP	NEZ	14	51	10.9	dil. N.
	e	Z		52	52	
22	eP	Z	17	19	59	
22	eP	Z	21	45	45	
23	eP	NEZ	03	50	51	
	e	NEZ		50	55	
23	eP	N Z	04	12	53	
	e	NEZ		12	59	
	e	NEZ		14	05	
	e(S)	E		17	08	
23	eP	NEZ	06	37	27	
23	iP	NEZ	08	20	54.2	dil
23	eP	NEZ	16	14	59	
23	iP	NEZ	16	32	58.0	comp. 1.2
	e	EZ		32	08	
23	eP	NEZ	17	50	14	
23	eP	EZ	19	30	55	
	e	Z		31	11	
24	eP	NEZ	12	51	08	
	e	NEZ		51	44	
24	eP	NEZ	14	52	09	
	eS	NE		52	33	
25	eP	NEZ	00	57	38	
25	iP	NEZ	05	20	18.9	comp. S.W. 2.6
	e	Z		20	32	
	eS	NE		25	27	
	eScP	Z		26	46	
	e	NE		27	56	
	e	NE		28	57	
25	iP	NEZ	05	30	54.1	comp.
25	eP	NEZ	13	13	02	
	e	N Z		13	13	
25	eP	NEZ	16	28	51	
	e	Z		29	05	

MAWSON

JUNE 1970

17	iP	04	57	10.7
17	iP	08	09	26.6
17	eP	11	02	52
17	eP	17	46	30
17	eP	18	04	22
17	eP	21	41	57
18	eP	04	29	00
18	eP	06	46	20
19	iP	11	08	40.3
19	eP	11	26	53
19	iP	19	02	29.2
19	eP	19	12	06
19	iP	21	05	07.0
19	eP	23	42	37
20	eP	04	15	29
20	eP	05	26	08
20	eP	08	49	33
20	eP	11	53	20
20	eP	13	16	22
20	eP	18	15	00
20	eP	21	16	48
21	eP	03	08	26
21	eP	08	10	09
21	eP	12	17	51
21	iP	13	16	28.7
21	eP	15	27	09
21	iP	16	22	50.0
21	iP	18	34	22.0
21	eP	19	58	23
22	eP	08	22	34
22	eP	14	59	09
22	eP	22	23	12
23	eP	03	06	32
23	eP	03	45	33
23	eP	04	15	11
23	eP	08	26	41
23	eP	12	48	13
23	eP	16	20	07
23	eP	17	55	07
23	eP	20	19	29

MAWSON

JUNE 1970

24	eP	19	29	12
25	eP	05	26	25
25	eP	05	37	02
25	iP	13	16	44.2
25	eP	13	19	09
25	eP	15	49	11
26	eP	02	08	20
26	eP	03	15	29
26	eP	03	49	33
26	eP	06	32	33
26	eP	07	05	47
26	eP	13	19	50
26	eP	16	05	53
26	iP	21	32	23.7
26	iP	22	51	02.2
27	eP	13	25	22
27	eP	18	26	55
28	eP	01	41	29

MACQUARIE ISLAND

JUNE 1970

18	eP	06	40	35
18	iP	11	32	49.1
18	iP	19	56	03.0
23	eP	04	08	50
23	eP	08	34	30
27	iP	15	00	26.0

NORFOLK ISLAND

JUNE 1970

14	eP	21	38	06
16	eP	02	35	27

C.A.van der WAAL
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30.6.1970

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TOOLANGI GEOPHYSICAL OBSERVATORY
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PRELIMARY EARTHQUAKE PHASES AT:-
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TOOLANGI

June 1970

26	eP	NEZ	21	28	03	
27	eP	NEZ	13	21	11	
	e	N Z		23	28	
	eS	NE		27	45	
	e	NE		31	03	
28	eP	NEZ	01	37	00	
	eS	NE		42	21	
28	e(P)	EZ	06	49	50	
28	eP	NEZ	10	05	24	
28	eP	NEZ	11	15	08	
28	iP	NEZ	11	15	50.9	dil N.E. 2.6
	e	NEZ		17	30	
	e	N Z		18	38	
	iS	NEZ		20	34.7	
	e	NE		23	42	
	e	NE		25	02	
29	eP	N Z	05	53	58	
	i(FcP)	Z		56	54.0	
	e(ScP)	Z	06	00	01	
	e(PcS)	N		00	27	
	e(S)	N		00	34	
	e	N		01	28	
29	eP	Z	10	50	56	local
	e(S)	N		51	30	
29	eP	N Z	21	02	16	
30	eP	NEZ	03	56	03	
	e	Z		56	33	
30	eP	NEZ	05	52	17	local
	eS	NEZ		52	22	
	e	NEZ		52	26	
30	eP	NEZ	07	08	23	local
	eS	NEZ		08	28	
	e	NEZ		08	32	

July 1970

1	eP	NEZ	04	33	46
1	eP	NEZ	06	35	14

MACQUARIE ISLAND

June 1970

28	iP	01	39	31.6
28	eP	10	01	25
29	eP	05	12	20
30	eP	04	49	29

MAWSON

June 1970

28	iP	11	21	01.5
28	eP	22	50	56
29	eP	05	59	06
29	eP	10	55	42
29	iP	12	58	48.5
29	eP	18	48	58
30	eP	06	31	18
30	eP	19	43	07
30	eP	21	47	45
30	eP	22	58	10

July 1970

1	iP	04	38	13.8
1	eP	06	39	31
1	eP	17	54	01
2	iP	01	03	42.8

C.A. van der WAAL.
OBSERVER-IN-CHARGE

7-7-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

July 1970

2	iP	NEZ	00	59	35.0	comp. N
	e	N Z		59	42	
	e	EZ		59	47	
	e(S)	NE	01	02	07	
2	eP	NEZ	05	59	28	local
	eS	NEZ		59	36	
2	iP	NEZ	07	24	20.3	dil 2.1
	e	NEZ		26	02	
2	eP	NEZ	19	24	15	
	e	Z		24	19	
3	iP	NEZ	10	02	41.7	
3	eP	NEZ	10	27	40	
4	eP	NEZ	18	58	49	local
	e(S)	NEZ		59	02	
4	iP	NEZ	19	08	51.7	comp.
	e	NEZ		09	00	
	e	NEZ		10	18	
	eS	NE		14	42	
	e	NE		21	50	
5	iP	NEZ	14	20	52.3	comp.
	e	Z		20	58	
	e	Z		21	05	
	e(S)	N		27	36	
	e	N		28	05	
	e	NE		31	10	
5	iP	NEZ	23	54	02.0	comp.
	e	Z		56	56	
6	iP	Z	02	49	08.9	dil
6	eP	Z	04	15	09	
6	iP	EZ	17	55	46.9	comp. 1.2
6	eP	NEZ	23	31	30	
7	iP	EZ	01	58	57.8	dil
	e	Z		59	03	
8	eP	NEZ	05	08	36	2.2
	i	Z		08	42.3	
	e	Z		09	19	
	e	EZ		12	02	

MAWSON

July 1970

2	eP	07	29	31
2	eP	08	49	20
2	eP	18	37	18
2	eP	19	25	48
3	eP	06	40	36
3	eP	10	12	01
3	eP	10	32	46
3	eP	13	45	51
3	eP	16	34	03

MAWSON

July 1970

4	eP	01	11	20
4	eP	01	27	51
4	eP	11	16	51
4	eP	15	42	39
4	eP	19	13	32
5	eP	02	56	14
5	eP	07	27	14
5	eP	12	37	12
5	eP	14	24	57
6	eP	14	52	47
6	eP	19	45	35
6	eP	20	28	02
7	eP	10	46	13
8	eP	02	34	45

MACQUARIE ISLAND

July 1970

2	eP	00	59	12
2	iP	13	40	31.9
2	iP	18	30	55.0
3	iP	00	13	18.8
5	iP	11	40	51.4
5	iP	11	41	49.3
8	iP	18	55	47.2

NORFOLK ISLAND

June 1970

27	eP	13	22	02
28	eP	01	38	34
28	eP	11	12	49
29	eP	05	50	55

July 1970

2	eP	07	21	18
5	eP	14	21	41

C.A. van der WAAL
OBSERVER-IN-CHARGE

10-7-1970

TOOLANGI GEOPHYSICAL OBSERVATORY Box 2831AA, G.P.O.
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS MELBOURNE. VIC.

International Seismological Centre

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

TOOLANGI

July 1970

9	eP	NEZ	06	25	10	
10	eP	NEZ	07	31	58	
10	iP	NEZ	09	31	36.3	comp.S 2.0
	i	EZ		32	18.5	
	eS	N		36	36	
	e	NE		39	43	
10	eP	NEZ	16	27	50	
	e	Z		28	07	
10	iP	NEZ	21	16	12.7	dil
	i	N Z		16	18.8	
	c	NEZ		16	35	
11	eP	EZ	04	28	20	
11	eP	NEZ	11	35	33	
12	iP	NEZ	03	41	59.2	dil.
	i	NEZ		42	07.4	
12	iP	NEZ	06	58	43.5	regional
	e(S)	NEZ		59	12	
12	eP	NEZ	09	27	04	
	i	NEZ		27	06.0	
	e	N Z		27	26	
	eS	N		34	22	
	e	N		38	26	
13	eP	NEZ	02	00	06	local
	eS	NEZ		00	22	
13	iP	NEZ	06	19	46.3	comp.
	i	NEZ		19	56.7	
13	eP	NEZ	17	56	46	
14	eP	NEZ	03	52	54	
14	iP	NEZ	13	29	43.6	comp.
15	eP	NEZ	05	26	54	local
	eS	NEZ		27	09	
15	eP	NEZ	05	33	29	local
15	eP	NEZ	06	11	28	
15	eP	NEZ	14	59	19	

MACQUARIE ISLAND

July 1970

12	iP	01	33	05.8
12	iP	09	29	16.0
13	iP	15	57	19.9

NORFOLK ISLAND

July 1970

10	eP	09	29	16
12	iP	15	40	28.4
13	eP	18	07	01

MAWSON

July 1970

9	eP	04	54	07
9	eP	10	27	37
9	eP	16	51	33
9	eP	17	01	51
9	eP	18	23	17
10	eP	07	08	22
10	eP	09	37	40
10	eP	13	33	54
10	eP	21	19	35
11	eP	06	48	33
11	eP	11	39	07
11	eP	21	01	39
12	eP	00	35	12
12	eP	08	18	34
12	eP	09	30	54
12	eP	14	31	20
12	eP	18	26	26
12	eP	20	31	00
13	eP	05	50	00
13	eP	06	21	06
13	eP	11	46	33
13	eP	14	24	43
13	eP	16	21	21
13	eP	17	17	46
13	eP	18	00	46
14	eP	03	58	00
14	eP	13	33	33
14	eP	15	25	51
14	eP	16	15	04
14	eP	18	26	12

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20.7.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - NORFOLK ISLAND - MACQUARIE ISLAND - MAWSON

International Seismological Centre

TOOLANGI

July 1970

16	iP	NEZ	07	44	18.0	dil
	e	Z		45	08	
16	eP	Z	21	25	17	
	e	NEZ		25	19	
	e(S)	N		31	30	
	e	E		35.0		
	e	N		35	10	
16	eP	Z	23	31	56	
17	eP	Z	18	02	03	
17	eP	NEZ	20	12	00	
	e	Z		12	13	
	e	Z		14	21	
	e(S)	E		18	00	
	e	NE		20	46	
18	eP	Z	02	01	54	
	e	E		13	06	
18	eP	Z	03	01	09	
	e	Z		01	21	
	e	N Z		04	31	
19	iP	NEZ	09	29	26.2	comp S.
	e	Z		32	35	
	iS	N		34	47	
19	eP	Z	15	54	25	
19	eP	Z	18	54	41	
20	eP	NEZ	04	36	29	regional
20	iP	NEZ	16	06	46.7	
	i	NEZ		06	48.3	
	e	NEZ		07	11	
20	iP	NEZ	20	35	48.0	
21	eP	NEZ	06	29	27	
	e	NEZ		29	42	
	e(S)	N		39	42	
21	eP	NEZ	07	13	40	
	e	NEZ		13	56	
21	eP	NEZ	07	24	04	
21	eP	NEZ	08	50	35	
21	eP	EZ	18	51	59	

22 no time marks from 01 hours

NORFOLK ISLAND

July 1970

15	iP	14	55	47.6
	e		57	18
16	iP	07	41	02.7
16	iP	09	24	17.7
	e		25	34
16	eP	21	22	12
17	eP	20	08	49

MACQUARIE ISLAND

July 1970

15	eP	06	07	12

MAWSON

July 1970

15	eP	07	39	10
15	iP	15	05	28.7
15	eP	23	23	38
16	eP	07	49	29
16	eP	11	43	14
16	eP	15	06	11
16	eP	15	55	02
16	eP	16	39	31
16	iP	18	15	45.3
16	eP	21	30	13
16	eP	23	36	50
17	iP	07	05	41.5
17	eP	07	51	54
17	eP	17	39	17
17	iP	20	17	01.3
18	eP	02	08	14
18	iP	09	07	21.6
18	eP	17	42	24
19	iP	09	35	21.1
19	eP	15	58	24
20	iP	03	04	15.8
20	eP	09	19	47
20	eP	16	11	51
20	eP	21	06	02
21	eP	00	58	33
21	eP	04	34	19
21	eP	06	34	19
21	eP	06	46	15
21	eP	08	56	50
21	iP	11	08	09.8
21	eP	13	02	22
21	iP	18	56	53.0
21	eP	23	24	57
22	iP	02	36	31.1
22	eP	02	44	22
22	iP	05	34	56.0

MAWSON

July 1970

22	eP	05	53	52
22	eP	13	07	19
22	eP	13	21	46
22	iP	16	45	16.5

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27-7-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON



TOOLANGI							MAWSON				
July 1970							July 1970				
23	e(P)	NEZ	13	46	57		23	eP	03	40	39
24	i(P)	EZ	10	38	34.4	comp.	23	eP	15	57	51
25	iP	NEZ	14	05	49.0	comp. S.E. 1.9	23	eP	16	58	28
25	eP	NEZ	22	52	25		24	eP	08	21	51
	ePeP	NEZ		52	40		25	iP	14	09	40.8
	ePP	N Z		55	13		25	eP	19	11	28
	eS	NE	23	01	39		25	eP	22	59	43
	eSS	NE		06	27		26	eP	02	04	46
	eSSS	E		09	20		26	iP	07	14	32.1
	eLQ	E		11.7			26	eP	07	29	08
26	eP	NEZ	07	21	51		26	eP	07	40	00
	e	N Z		21	56		26	eP	08	39	45
	e	EZ		22	01		26	eP	15	17	11
	eS	NE		31	06		26	eP	16	55	08
	e(SeS)	NE		31	50		27	eP	12	41	45
	eSS	N		35.6			28	iP	00	41	48.2
27	iP	NEZ	05	15	41.7	regional	28	eP	05	00	03
27	eP	NEZ	12	36	41	1.7	28	eP	07	52	48
	e	N Z		36	49		28	iP	09	11	58.4
	e	NEZ		36	55		28	eP	16	45	26
27	iP	NEZ	12	43	37.7	comp.	28	eP	19	48	00
27	eP	NEZ	18	59	12		28	eP	21	33	50
	e	N Z		59	20		29	iP	05	18	09.7
27	iP	NEZ	21	26	22.0	dil	29	eP	07	59	25
28	iP	NEZ	00	46	51.7		29	eP	10	29	09
28	eP	NEZ	04	11	40		29	eP	10	29	40
	e	N Z		11	43		29	eP	10	46	26
28	e(P)	EZ	04	55	02						
29	eP	NEZ	02	28	48	local					
	e	NEZ		28	55						
	e	NEZ		28	58						
29	eP	NEZ	05	12	10						
29	eP	NEZ	06	04	38						
	e	Z		04	43						
29	eP	NEZ	06	57	59	local					
	e(S)	NE		58	14						
	e	NE		58	17						
29	eP	NEZ	07	02	15						
29	iP	NEZ	10	28	17.5	comp. S.E. 2.3					
	e	NEZ		28	44						
	e	Z		31	19						
	eS	NEZ		38	08						
	e	NE		42.9							
	e	E		51.1							
	e	N Z		55	08						
29	eP	EZ	10	42	49						
	e	EZ		43	12						
29	eP	Z	10	55	16						

C.A. van der WAAL
OBSERVER-IN-CHARGE

3-8-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS Box 2831AA, G.P.O.
MELBOURNE, VIC.

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

July 1970

30	i(P)	NEZ	01	11	08.7	
	e	NEZ		11	40	
	e(S)	NEZ		21	06	
	e	NEZ		39.7		
30	eP	NEZ	02	43	37	local
	eS	NEZ		43	47	
30	e(S)	N	05	24	10	
30	eP	NEZ	05	48	44	
30	iP	NEZ	08	59	07.9	dil
	i	NEZ		59	43	
	eS	NE		04	22	
	e	Z		04	28	
30	e(P)	Z	09	04	28	
30	eP	NEZ	18	51	57	
	eS	N		59	13	
31	eP	NEZ	03	48	38	
31	eP	NEZ	13	22	37	
31	eP	NEZ	15	28	40	
31	eP	NEZ	17	05	42	
31	e(P)	Z	17	25	45	
31	iP	NEZ	17	26	00.7	dil 3.0
	e	Z		26	24	
	e	E		26	27	
	e	NEZ		28	15	
31	e(P)	NEZ	17	28	15	
31	eP	NEZ	20	23	40	

August 1970

1	eP	NEZ	01	26	58	
1	eP	NEZ	06	30	40	
1	iP	NEZ	17	19	15.7	dil.
2	eP	NEZ	19	31	47	
	eS	N		41	56	
	e	N		42	50	
3	iP	NEZ	00	41	32.6	dil E
	i	EZ		41	41.6	
	e	EZ		42	00	
	eS	N		51	33	
	e	NE		52.5		
	e	EZ		54	04	
3	iP	NEZ	03	41	15.3	dil
	e	Z		41	20	
	e(S)	N		51.2		
	e	EZ		52	38	
3	iP	NEZ	07	07	32.2	comp.SE 2.2
	e	Z		07	46	
	e	EZ		07	48	
	eS	N		12	37	
	e	E		15	11	
	e	N Z		16	14	

TOOLANGI

August 1970

3	eP	EZ	14	50	41	
	e	Z		52	31	
3	iP	NEZ	22	40	04.2	dil
	e	Z		40	17	
	e	Z		40	27	
	e	EZ		40	33	
	e	Z		40	50	
4	iP	NEZ	00	38	53.3	
	i	NEZ		38	55.3	
4	eP	NEZ	03	22	25	
4	eP	NEZ	04	09	17	local
	eS	NEZ		09	22	
4	eP	NEZ	06	59	19	local
	eS	NEZ		59	34	
4	eP	NEZ	19	42	11	
5	eP	NEZ	04	13	40	local
	eS	NEZ		13	56	
5	eP	NEZ	09	05	01	

NORFOLK ISLAND

July 1970

25	eP	22	52	25	
	e		52	31	
30	eP	02	50	41	
30	eP	18	48	58	
31	eP	17	25	36	
	e		26	01	
	e		28	57	

August 1970

3	iP	00	38	33.7	
3	eP	03	38	13	
	e		38	28	
3	eP	07	06	09	
	e		06	24	
	e		07	10	
3	iP	13	17	00.0	
	e		18	18	

MAWSON

July 1970

30	iP	05	11	03.6	
30	eP	05	53	47	
30	iP	09	04	53.2	
30	eP	10	42	47	
30	eP	18	56	53	

International Seismological Centre

MAWSON

July 1970

31	iP	03	35	43.7
31	eP	03	53	32
31	eP	12	00	03
31	eP	15	28	54
31	iP	17	21	03.8
31	eP	19	04	12

August 1970

1	iP	01	28	55.9
1	eP	17	24	30
2	eP	01	59	18
2	eP	07	35	36
2	eP	09	20	42
2	eP	09	33	32
2	eP	13	20	49
2	iP	13	29	03.5
2	iP	19	36	39.5
2	eP	23	21	37
3	iP	00	46	28.1
3	eP	03	46	14
3	eP	06	02	48
3	eP	07	13	40
3	eP	14	54	34
3	eP	21	30	10
3	iP	22	41	36.8
4	eP	00	44	07
4	eP	03	26	56
4	eP	04	34	10
4	eP	07	07	56
4	iP	11	49	50.4
4	eP	14	57	05
4	iP	19	47	06.1
4	eP	20	03	27
4	eP	20	48	51
4	iP	22	02	56.7
5	eP	00	31	03
5	eP	05	39	29
5	eP	13	40	30
5	iP	16	05	11.3

MACQUARIE ISIAND

August 1970

2	eP	02	27	09

(C.A. van der WAAL)
OBSERVER-IN-CHARGE

10-8-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - NORFOLK ISLAND - MAWSON

TOOLANGI

AUGUST 1970

6	eP	NEZ	00	26	35	
6	eP	EZ	21	28	47	
	eS	N		37	24	
	e	N		41	37	
6	eP	Z	21	58	43	
7	iP	NEZ	01	11	19.0	dil
	e	Z		11	28	
7	iP	NEZ	06	42	21.7	local
	eS	NEZ		42	27	
7	iP	NEZ	07	57	40.1	dil N.E. 2.9
	e(PP)	NEZ		59	29	
	iScP	Z	08	02	42	
	iS	NE		02	48.3	
	e	E		06	52	
7	eP	NEZ	08	22	17	
7	¬	NEZ	13	35	28.4	dil N.
	e	Z		37	52	
7	eP	NEZ	13	40	53	
7	iP	NEZ	16	44	06.0	dil
	e	Z		44	09	
	e	Z		44	14	
	e	N Z		44	29	
7	iP	NEZ	19	12	34.6	comp.
8	eP	NEZ	01	30	43	
8	iP	EZ	03	57	56.6	
8	eP	EZ	06	30	37	
8	eP	NEZ	07	13	54	
8	iP	NEZ	08	03	48.5	
8	iP	NEZ	09	12	04.0	comp.
8	iP	NEZ	12	41	51.2	dil.
8	eP	NEZ	16	07	57	
8	iP	NEZ	17	04	56.0	comp.
8	iP	NEZ	21	12	02.7	comp. S.
	e	NEZ		13	39	
	eS	NE		18	24	
	e	N Z		21	26	
	e	N		21	38	
	e	E		21	44	
8	e(P)	NEZ	21	13	39	
9	eP	NEZ	11	59	07	
10	iP	NEZ	03	36	34.5	local
10	eP	Z	11	41	36	1.9
	e	NEZ		41	37	
10	iP	NEZ	11	59	18.7	dil
10	iP	NEZ	15	21	29.5	comp.
	e	NEZ		21	34	
	e	NEZ		21	40	
	eS	NE		26	25	
	e	NE		28	13	
	e	NEZ		29	54	
10	eP	NEZ	20	06	11	local
	eS	NEZ		06	24	
11	eP	NEZ	04	08	21	
11	eP	NEZ	04	49	53	
	e	NEZ		50	41	
11	e(P)	NEZ	04	50	41	
11	eP	NEZ	04	57	36	
11	eP	NEZ	06	10	57	
11	eP	EZ	08	41	22	
11	eP	EZ	10	15	37	
	eS	NE		20	34	
	e	N		22	27	
11	eP	NEZ	10	28	31	
	e	NEZ		28	33	
	i	NEZ		28	40.8	
	eS	NE		33	29	
	e	NE		35	12	
11	eP	NEZ	13	15	50	
11	eP	NEZ	16	22	30	
11	eP	NEZ	20	23	10	
	e	Z		26	20	
	eS	N		33	30	
	e	N		34	15	
12	eP	NEZ	00	46	51	
	e	Z		47	00	
	eS	NE		51	50	
	e	NE		53.5		
	e	NEZ		55.2		
12	iP	NEZ	01	03	39.7	
12	iP	NEZ	01	45	45.2	2.5
	i	Z		46	00.3	
	e	Z		46	34	
	eS	NE		50	45	
	e	E		52.7		
	e	NEZ		54.1		
12	e(P)	NEZ	05	45	54	
12	e(P)	NEZ	06	58	45	
12	eP	Z	08	16	01	
	e	NEZ		16	08	
12	eP	NEZ	08	27	35	
	e	EZ		27	51	
	e(S)	NE		32	33	
	e	NE		34	32	
	e	NEZ		36.3		
12	eP	Z	09	11	59	
	e	NEZ		12	02	
	e	Z		12	06	
	e(S)	NE		16	52	
	e	N		19	14	
	e	NEZ		20.7		
12	iP	NEZ	09	43	13.6	dil
	e	NEZ	10	02.7		
12	eP	NEZ	10	43	26	
12	iP	NEZ	18	53	49.2	dil

International Seismological Centre

MACQUARIE ISLAND

AUGUST 1970

6	eP	00	34	02
11	iP	03	40	50.8
11	eP	10	30	02
12	eP	01	06	18

NORFOLK ISLAND

AUGUST 1970

7	iP	07	54	42.5
7	iP	09	39	17.3
	e		40	36
7	e(P)	09	40	36
8	eP	21	13	00
10	iP	15	19	01.5
	e		21	00
11	eP	10	26	04
	i		26	05.0

MAWSON

AUGUST 1970

6	eP	09	35	28
6	eP	13	59	32
6	iP	21	33	50.4
7	iP	08	02	45.3
7	eP	08	26	46
7	eP	08	46	54
7	eP	09	30	24
7	eP	09	49	08
7	iP	13	41	16.6
7	eP	16	52	02
7	iP	19	17	52.3
7	eP	23	19	39
8	iP	04	03	51.8
8	iP	08	08	13.4
8	eP	08	48	23
8	eP	17	17	48
8	iP	21	16	21.9
9	eP	10	24	28
9	eP	13	42	24
9	eP	23	32	45
9	eP	23	47	55
10	eP	02	44	34
10	eP	05	37	46
10	iP	07	53	58.5
10	iP	11	46	33.4
10	eP	12	02	56

MAWSON (Cont'd)

AUGUST 1970

10	iP	15	27	38.7
11	eP	04	01	22
11	eP	04	51	40
11	iP	06	17	02.7
11	eP	10	21	46
11	eP	10	34	39
11	iP	12	55	24.1
11	iP	13	14	14.5
11	eP	13	22	01
11	eP	14	03	06
11	eP	14	05	07
11	iP	16	28	40.2
11	iP	20	17	51.2
11	iP	20	20	18.0
11	eP	21	05	56
12	eP	00	51	51
12	iP	00	53	01.8
12	eP	01	51	54
12	eP	02	18	10
12	eP	06	22	39
12	eP	08	33	43
12	eP	09	18	07
12	eP	09	43	00
12	eP	10	43	13
12	eP	12	47	10
12	eP	17	50	09
13	iP	00	34	27.3

International Seismological Centre

C.A. van der WAAL
OBSERVER-IN-CHARGE

17.8.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - NORFOLK ISLAND - MAWSON - MACQUARIE ISLAND



TOOLANGI

August 1970

13	iP	NEZ	04	29	45.0	dil 2.7
	e	EZ		31	08	
	e	EZ		31	59	
	eScP	Z		35	39	
13	eP	NEZ	06	07	45	local
	eS	NEZ		07	50	
13	eP	EZ	09	31	10	
13	eP	NEZ	22	52	47	
14	eP	NEZ	02	25	47	local
	eS	NEZ		25	58	
14	eP	NEZ	05	49	20	local
	eS	NEZ		49	24	
14	eP	NEZ	13	15	23	
15	eP	EZ	01	49	11	
15	eP	NEZ	04	50	18	
	e	Z		50	24	
15	eP	NEZ	21	13	(35)	
16	eP	NEZ	05	38	27	
16	iP	NEZ	07	21	49.7	
16	eP	EZ	08	53	02	
17	iP	NEZ	00	30	28.9	comp.
	e	Z		30	36	
18	iP	NEZ	17	00	07.3	comp. S.E.2.1
	eS	NE		06	19	

NORFOLK ISLAND

August 1970

14	eP	19	18	42
16	iP	22	56	13.2
	e		56	25

MAWSON

August 1970

13	iP	04	33	32.0
13	eP	05	01	30
13	eP	06	28	50
13	eP	07	36	59
13	eP	09	02	41
13	eP	09	35	59
13	eP	22	57	52
14	iP	11	02	12.0
14	iP	18	26	59.5
14	eP	18	36	22
14	eP	23	14	42

MAWSON

August 1970

15	eP	02	59	22
15	eP	06	41	52
15	eP	06	48	29
15	eP	07	12	14
15	eP	07	45	31
15	eP	11	38	38
15	eP	12	06	45
15	eP	21	17	45
17	eP	05	33	46
17	eP	12	10	56
17	eP	23	11	02
18	iP	01	36	46.4
18	eP	17	03	53
19	iP	02	23	35.2

MACQUARIE ISLAND

August 1970

17	eP	00	50	19
19	iP	02	37	09.4
19	eP	20	30	54

C.A. van der WAAL
OBSERVER-IN-CHARGE

24.8.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

AUGUST, 1970

19	No S.P. records, recorder being serviced.					
20	S.P. recording commenced at 06 00 hours.					
20	eP	EZ	06	57	27	local
20	eP	EZ	07	13	20	local
20	iP	NEZ	12	58	48.0	comp S.
21	iP	NEZ	03	55	50.3	comp.
21	eP	NEZ	08	46	07	
22	eP	NEZ	~~01~~	~~30~~	(24)	local
	eS	NEZ		30	40	
22	eP	NEZ	02	13	24	local
	eS	NEZ		13	35	
22	eP	NEZ	12	53	52	
22	eP	NEZ	13	04	43	
23	iP	NEZ	05	04	55.8	dil N.E. 2.4.
23	eP	NEZ	15	49	31	
23	iP	NEZ	21	09	41.7	
24	eP	NEZ	06	43	23	local
24	iP	NEZ	06	58	20.3	comp.
	i	NEZ		58	22.7	
	e	NEZ		01	20	
	e	E		02	18	
	e	E		03	00	
24	eP	NEZ	09	39	30	
24	eP	NEZ	10	20	38	
24	iP	NEZ	12	39	13.7	dil
	e	NEZ		39	19	
	e	Z		39	23	
	e	NEZ		44	14	
	eS	NEZ		46	30	
	e	NE		50.4		
	e	E		51	20	
	e	NEZ		53.1		
24	e(P)	NEZ	12	44	14	
24	e(P)	NEZ	12	49	32	
24	iP	NEZ	13	01	44.3	comp.
24	eP	EZ	18	10	46	
24	eP	NEZ	04	56	46	
	e	Z		56	52	
25	eP	NEZ	06	09	24	
25	iP	NEZ	07	16	16.2	local
25	eP	NEZ	11	52	27	
25	eP	NEZ	15	11	39	
25	eP	Z	20	05	48	

TOOLANGI (Cont'd)

25	eP	NEZ	23	56	32	local
26	eP	NEZ	02	00	48	local
	eS	NEZ		00	53	
26	eP	Z	02	29	46	
26	No time marks after 05 45 hrs, clock failure.					

MAWSON

AUGUST, 1970

20	iP	13	04	52.0
20	eP	13	27	47
20	eP	15	31	12
20	eP	15	31	47
20	eP	20	08	31
21	eP	22	37	16
22	eP	07	58	19
22	eP	12	58	27
22	eP	13	08	36
22	eP	13	10	35.8
22	eP	21	58	42
23	eP	05	10	04
23	eP	08	07	20
23	eP	12	25	47
23	eP	15	54	19
24	iP	03	38	41.7
24	eP	04	37	14
24	eP	07	01	39
24	eP	08	17	42
24	iP	09	44	38,5
24	eP	12	39	47
24	eP	13	05	47
26	eP	11	42	59
26	eP	18	25	50
27	eP	00	16	01

MACQUARIE ISLAND

AUGUST 1970

24	eP	05	24	31
24	iP	06	55	11.5
24	iP	11	54	39.6
26	eP	14	16	55

NORFOLK ISLAND

AUGUST, 1970

20	eP	10	57	53
20	iP	12	55	00.5
	e		56	21
24	eP	09	36	12
	e		36	18
24	eP	12	38	27
25	eP	11	49	17

C.A. van der WAAL
OBSERVER-in-CHARGE

31.8.1970

International Seismological Centre

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

August, 1970

27	eP	NEZ	16	30	20	
	e	EZ		30	24	
	e	N Z		30	30	
28	eP	NEZ	01	09	23	
	eS	NEZ		14	36	
	eScP	Z		15	43	
28	eP	NEZ	05	51	42	local
28	eP	NEZ	06	01	51	
	e	E		06	00	
	e	E		07	00	
28	eP	NEZ	10	11	59	
	e	NEZ		12	41	
	e	EZ		15	05	
	e(S)	N		18.7		
	e	EZ		19.7		
28	e(P)	EZ	10	15	05	
28	eP	NEZ	14	09	24	
28	eP	NEZ	14	24	20	
28	eP	NEZ	16	09	09	
	e	NEZ		10	47	
28	e(P)	NEZ	16	10	47	
28	eP	NEZ	18	32	13	
29	eP	NEZ	01	54	22	
	e	Z		55	31	
29	eP	NEZ	15	12	15	
29	eP	NEZ	20	30	02	
30	eP	NEZ	00	51	40	
	e	Z		51	51	
	e	Z		52	01	
30	iP	NEZ	17	58	01.7	dil N3.0
	e	Z	18	00	18	
	e	Z		00	27	
	e	Z		01	15	
	eS	NEZ		07	26	
	e	NEZ		08	02	
	e	N Z		09	14	
	e	N Z		12	54	
	e	E		14.2		
31	eP	NEZ	05	07	28	local
	eS	NEZ		07	44	
31	eP	NEZ	06	44	36	local
	eS	NEZ		44	41	
31	eP	EZ	13	39	06	

September 1970

1	e(P)	NEZ	00	10	33	
1	iP	NEZ	00	17	49.3	comp.
1	eP	NEZ	00	51	13	

TOOLANGI

September 1970

1	iP	NEZ	05	20	46.0	dil 2.3
	e	Z		21	08	
	eS	N		28	20	
	e	EZ		28	29	
	e	N		29	08	
	e	E		34	36	
	e	Z		38.5		
1	e(P)	EZ	17	12	41	
	e	N Z		12	54	
1	eP	NEZ	21	52	24	
2	e(P)	NEZ	06	27	06	
2	eP	NEZ	06	56	58	
2	eP	EZ	07	53	03	
	e	NEZ		53	13	

MAWSON

August 1970

27	eP	13	12	44	
27	eP	13	54	33	
27	eP	16	35	14	
27	eP	16	52	06	
27	eP	17	01	35	
27	eP	20	03	41	
27	eP	20	24	41	
28	iP	01	15	20.4	
28	eP	02	58	46	
28	eP	06	04	03	
28	iP	10	17	02.4	
28	eP	13	22	19	
28	iP	14	14	18.4	
28	eP	14	29	11	
28	eP	16	13	29	
28	eP	22	58	40	
29	eP	00	42	43	
29	eP	02	01	25	
29	eP	05	32	52	
29	eP	15	18	30	
29	eP	16	11	21	
30	eP	00	36	05	
30	iP	00	41	34.5	
30	iP	00	56	42.4	
30	eP	07	00	58	

International Seismological Centre

MAWSON

August 1970

30	eP	11	49	09
30	eP	16	34	14
30	iP	18	04	07.0
30	iP	18	06	51.8
30	iP	21	06	24.9
30	eP	22	10	06
31	iP	09	49	50.7
31	eP	20	51	36

September 1970

1	eP	05	25	18
1	eP	05	48	57
1	eP	08	12	09
1	iP	15	39	00.5
1	eP	16	18	24
1	eP	16	30	23
1	eP	23	14	57
2	eP	01	11	29
2	eP	07	54	16
2	eP	17	26	29
2	eP	23	57	08

NORFOLK ISLAND

August 1970

27	eP	16	27	22
	e		27	28
27	iP	20	36	56.7
28	eP	01	08	34
	e		08	48
	e		08	52
28	eP	10	08	52
	e		08	55
	e		08	58
29	iP	00	17	20.3
29	iP	04	32	27.3

C.A. van der WAAL
OBSERVER-IN-CHARGE

7.9.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

September 1970

2	eP	NEZ	23	51	32	
	e	N Z		51	41	
3	eP	NEZ	06	41	08	local
	eS	NEZ		41	14	
3	eP	NEZ	09	38	17	
	e	NEZ		40	10	
	eS	NE		43	03	
	e	NE		44.2		
	e	NE		45.9		
3	eP	EZ	19	17	21	
4	eP	NEZ	08	57	26	
5	eP	N Z	04	15	49	
5	eP	NEZ	05	40	25	regional
5	eP	NEZ	08	04	25	
	i	NEZ		04	29.0	
	e(pP)	Z		06	32	
	e	NEZ		06	36	
	e(pp)	Z		08	15	
	e(ppp)	N Z		10	23	
	iS	E		14	34	
	e(sS	E		13	12	
	e(SS)	E		20	44	
	e	E		24	16	
5	iP	Z	17	15	44.0	dil
5	eP	Z	17	23	08	
6	eP	NEZ	03	00	16	
6	eP	NEZ	10	54	02	
6	eP	EZ	18	51	44	
6	iP	NEZ	21	20	49.0	
7	eP	NEZ	03	38	22	
7	eP	NEZ	06	56	53	local
	eS	NEZ		57	00	
7	eP	NEZ	06	35	40	
	e	EZ		35	56	
7	eP	NEZ	09	28	31	
7	eP	EZ	10	54	29	
7	eP	NEZ	18	26	11	
7	e(P)	Z	18	48	55	
	e	N Z		49	30	
8	eP	NEZ	02	41	25	local
	eS	NEZ		41	45	
8	eP	NEZ	03	26	36	local
	eS	NEZ		26	(52)	
8	iP	NEZ	11	42	05.0	dil
	e	NEZ		42	14	
8	iP	NEZ	14	33	05.7	dil
9	eP	NEZ	06	13	39	local
	eS	NEZ		13	44	
9	iP	NEZ	19	29	47.4	dil

MAWSON

September 1970

3	eP	04	54	37
3	eP	09	44	29
3	eP	12	22	33
3	eP	19	22	24
3	eP	21	23	53
4	eP	19	29	27
4	iP	19	29	52.7
5	eP	04	17	49
5	eP	08	10	32
5	eP	08	13	25.2
5	eP	09	10	48
5	eP	11	51	08
5	iP	17	20	31.6
5	iP	17	27	56.6
7	eP	05	48	49
7	eP	09	23	54
7	eP	18	16	00
8	iP	14	38	24.4
8	eP	17	09	27
8	eP	21	52	58
9	eP	00	48	49
9	eP	05	14	21
9	iP	12	05	52.7
9	eP	17	42	52

NORFOLK ISLAND

August 1970

30	iP	17	57	26.7
	e		57	31
	e		57	47
	e		57	52
	eS	18	06	58

September 1970

2	eP	06	24	13
2	e(P)	06	53	43
2	eP	09	53	19
3	eP	09	35	15
	e		37	28
5	eP	05	25	05
5	iP	16	26	16.3
7	iP	12	54	18.8
	e		54	27
8	eP	14	29	57

C.A.van der WAAL
OBSERVER-IN-CHARGE

11.9.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

International Seismological Centre

TOOLANGI

September 1970

10	iP	NEZ	03	24	04.2	dil N.W. 2.5
11	eP	NEZ	01	15	11	
	eS	NE		24.2		
	e	NE		24	38	
	e	NEZ		35.7		
12	iP	NEZ	04	29	12.8	
12	eP	NEZ	11	50	41	
12	eP	NEZ	13	26	50	
12	eP	NEZ	18	43	20	
	eS	E		52	15	
	e	E		54.0		
	e	NE		54	38	
12	eP	EZ	20	35	21	
13	eP	NEZ	03	47	46	
13	iP	NEZ	05	13	29.8	comp.
13	eP	NEZ	07	06	26	
13	e(P)	Z	08	20	21	
13	eP	NEZ	08	38	23	
13	eP	NEZ	13	58	23	
14	iP	NEZ	01	01	03.0	dil
	e	Z		01	08	
	e	NEZ		01	20	
	e	NEZ		02	46	
14	e(P)	NEZ	04	51	23	
14	eP	NEZ	06	46	53	local
	eS	NEZ		46	59	
14	eP	EZ	09	56	39	
	e	Z		56	42	
	e	Z		56	52	
	e	Z		57	03	
	eS	NEZ	10	06	18	
	e	N		11.2		
	e	N Z		21.4		
15	iP	NEZ	07	28	22.3	dil
15	iP	NEZ	11	04	06.4	dil
	e	N Z		04	20	
	eS	N		14	44	
	e	NEZ		24.3		
15	eP	NEZ	20	40	28	
15	eP	NEZ	20	49	20	
	e	Z		49	29	
	e(S)	E		54.9		
	e	N		56.5		
	e	EZ		58.0		
15	eP	NEZ	22	02	52	
16	iP	NEZ	00	41	51.3	dil
	eS	E		51	08	

TOOLANGI

September 1970

16	iP	NEZ	01	58	15.3	dil N 2.6
	e	Z		58	23	
	e	NEZ		58	28	
	e	Z		58	34	
	eS	E	02	05	28	
	e	N		05	36	
	e	E		11.0		
	e	N Z		13.2		
16	iP	NEZ	03	15	36.1	dil
	e	Z		15	45	
16	eP	NEZ	04	07	02	
	eS	E		12	30	
	e	NE		18	40	
16	eP	NEZ	15	01	46	
16	iP	NEZ	17	42	08.1	comp. region
	eS	NEZ		43	28	
	eL	Z		44	05	

MAWSON

September 1970

10	eP	03	29	10
10	eP	06	05	34
10	eP	15	03	42
10	eP	18	20	37
10	iP	19	52	31.6
11	eP	01	14	36
11	eP	13	02	34
12	eP	11	45	31
12	eP	14	50	33
12	eP	18	48	42
13	eP	03	22	25
13	iP	05	17	53.5
13	eP	18	39	30
14	eP	00	36	37
14	eP	01	05	02
14	eP	05	20	13
14	eP	10	03	41
14	eP	12	33	07
14	eP	15	29	27
14	iP	15	34	33.2
14	iP	15	48	20.3
14	iP	18	17	54.1
15	eP	04	22	02
15	iP	07	33	28.5
15	iP	20	54	24.9
16	iP	00	46	55.5
16	iP	02	02	56.5

International Seismological Centre

MACQUARIE ISLAND

September 1970

13	eP	06	57	37
13	iP	21	18	51.6
15	eP	14	31	22
16	iP	18	54	08.3

NORFOLK ISLAND

September 1970

11	iP	10	46	10.0
	e(S)		47	28
15	eP	20	46	05

C.A. van der WAAL
OBSERVER-IN-CHARGE

21-9-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - NORFOLK ISLAND - MACQUARIE ISLAND - MAWSON

International Seismological Centre

TOOLANGI

September 1970

17	eP	NEZ	01	02	09	local
	eS	NEZ		02	25	
17	eP	NEZ	04	49	19	
	eS	NE		54	16	
	e	EZ		56.9		
17	eP	NEZ	07	04	48	
	e	NEZ		04	57	
18	eP	NEZ	03	51	27	local
	eS	NEZ		51	43	
18	eP	NEZ	04	20	52	
18	eP	NEZ	19	51	49	
19	iP	NEZ	00	54	36.3	comp.
19	eP	NEZ	02	10	31	
	e	EZ		10	56	
19	eP	N Z	14	39	30	
20	iP	NEZ	06	02	36.6	dil.
20	eP	NEZ	09	18	30	
20	eP	NEZ	10	48	39	1.6
21	eP	EZ	02	58	10	
21	eP	NEZ	15	45	38	
21	eP	NEZ	23	32	56	local
	eS	NEZ		23	01	
23	eP	NEZ	12	11	19	
	e	NEZ		11	22	
	e	NEZ		11	32	
	e	Z		14	08	
	eS	N		16	27	
	e	EZ		16	43	
	e	E		18.7		
	e	N Z		22.2		

NORFOLK ISLAND

September 1970

16	eP	00	38	36	
	e		38	45	
17	e(P)	11	29	37	
21	iP	15	42	36.2	
22	e(P)	13	16	15	

MACQUARIE ISLAND

September 1970

17	iP	03	33	23.6	
18	eP	04	27	00	
21	iP	10	43	52.9	
21	iP	13	25	46.0	
22	iP	14	35	47.2	

MAWSON

September 1970

16	eP	04	11	58	
17	eP	10	05	26	
17	iP	23	26	30.1	
18	eP	04	26	52	
18	eP	07	57	28	
18	iP	17	39	29.7	
18	iP	19	46	45.5	
18	eP	23	00	33	
18	eP	23	05	36	
19	iP	03	59	57.4	
19	iP	06	49	00.3	
19	eP	17	03	08	
19	eP	18	53	19	
19	eP	23	51	27	
20	eP	00	02	07	
20	eP	08	19	50	
20	iP	09	11	44.6	
20	eP	12	03	13	
20	eP	18	08	58	
21	eP	01	23	08	
22	eP	14	29	37	
23	eP	06	26	24	
23	eP	12	17	24	
23	eP	12	29	29	
23	eP	13	31	53	
23	eP	13	42	57	
23	eP	19	48	27	
23	eP	21	22	29	
23	iP	23	24	28.8	

C.A. van der WAAL
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28.9.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
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PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MAWSON - MACQUARIE ISLAND - NORFOLK ISLAND

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TOOLANGI

September 1970

23	eP	NEZ	23	18	23	
	e	NEZ		18	34	
	e	N Z		21	12	
	eS	N		23	32	
	e	E		25.7		
	e	N		27	16	
	e	Z		29.3		
24	eP	EZ	06	36	(12)	
	eS	N		41	10	
	e	N		45	06	
24	eP	NEZ	18	01	36	
24	eP	NEZ	23	51	18	local
25	eP	NEZ	02	16	17	
	e	EZ		16	26	
25	eP	NEZ	04	41	22	local
	eS	NEZ		41	41	
25	eP	NEZ	07	00	08	
	e	NEZ		00	19	
25	eP	NEZ	22	54	40	local
	eS	NEZ		55	05	
25	eP	NEZ	23	12	41	
26	eP	N Z	11	33	24	local
	eS	N Z		33	44	
26	eP	NEZ	12	21	43	
	e	Z		23	57	
	e	Z		25	00	
	e	NEZ		25	12	
	eS	NE		31	50	
	e	NEZ		34	04	
	e	NE		41	30	
26	eP	N Z	17	04	00	
	eS	NE		09	30	
27	eP	NEZ	03	57	49	
	e	Z		58	11	
	e	Z	04	00	07	
	e	NEZ		01	09	
	e	NEZ		17.6		
	e	NEZ		39.3		
28	eP	NEZ	07	13	37	
	e	EZ		13	44	
	eS	N		23	59	
28	eP	NEZ	12	12	09	regional
	e(S)	NEZ		12	49	
	eL	NEZ		13	02	

TOOLANGI

September 1970

28	eP	EZ	14	39	18	
28	eP	NEZ	17	35	36	
28	eP	NEZ	19	06	22	
	e	Z		06	29	
29	eP	NEZ	01	17	16	local
	eS	NEZ		17	30	
29	eP	NEZ	03	20	34	local
	eS	NEZ		20	52	
29	eP	NEZ	04	08	22	local
	eS	NEZ		08	36	
29	eP	NEZ	05	01	30	
	e	Z		02	17	
29	iP	NEZ	06	09	35.2	comp.S.W.2.8
	e	E		12	30	
	e	E		13	14	
	eS	N		14	36	
	e(ScP)	Z		16	15	
	e	NE		16	29	
	e	NEZ		18.1		
29	eP	NEZ	09	15	45	
29	iP	NEZ	11	59	48.8	
29	iP	NEZ	12	17	40.8	
29	eP	Z	16	55	19	
	e			55	22	
29	iP	NEZ	20	01	10.3	
29	iP	NEZ	23	15	04.0	dil N. 1.9
30	eP	NEZ	04	56	57	local
	eS	NEZ		57	13	
30	iP	NEZ	10	02	40.7	
	e	EZ		02	49	
30	iP	NEZ	10	12	55.0	comp.S.W.1.7
	e	Z		13	09	
	e	Z		13	18	
	e	NEZ		13	50	
30	eP	NEZ	21	04	06	

MAWSON

September 1970

24	eP	06	42	06	
25	eP	22	05	10	
25	iP	23	33	36.7	

MAWSON (CONT'D)

September 1970

26	eP	12	36	00
26	iP	13	42	51.0
26	iP	14	12	32.0
27	eP	00	04	16
27	eP	01	22	08
27	eP	09	07	41
27	eP	17	14	28
27	eP	20	28	07
28	iP	05	12	38.6
28	eP	07	08	31
28	iP	07	14	13.7
28	eP	07	26	27
28	eP	17	41	17
29	eP	05	01	14
29	eP	06	07	04
29	eP	06	15	43
29	iP	20	04	55.8
29	eP	20	46	50
30	eP	07	00	46
30	iP	07	21	55.6
30	eP	07	23	56
30	eP	10	19	03

MACQUARIE ISLAND

September 1970

28	iP	03	58	41.1
29	iP	06	11	11.4

NORFOLK ISLAND

September 1970

23	iP	13	43	06.7
25	e(P)06	48	38	
25	e(P)07	58	19	

C.A. van der WAAL
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6.10.1970

International Seismological Centre

TOOLANGI GEOPHYSICAL OBSERVATORY
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PRELIMINARY EARTHQUAKE PHASES AT:-
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October 1970

1	eP	NEZ	05	25	28	local
1	eP	NEZ	09	16	17	
1	eP	NEZ	17	03	16	
1	eP	NEZ	23	52	54	local
2	eP	NEZ	05	08	25	local
	eS	NEZ		08	32	
2	e(P)	NEZ	05	51	06	
2	eP	NEZ	06	21	55	
	eS	N		27	03	
	e	E		29.4		
	e	NE		30.5		
	e	N Z		33.1		
2	eP	NEZ	09	46	45	
	e	Z		47	28	
	e	Z		47	51	
	e	EZ		48	00	
	e(S)	E		51	52	
	e	E		52	36	
	e	N		54	18	
	e	NE		56.6		
2	eP	NEZ	11	04	44	
2	eP	NEZ	19	39	43	
		N		47.2		
3	eP	NEZ	10	40	34	
	e(S)	E		45	48	
	e	E		48.1		
	e	E		51.3		
4	eP	NEZ	11	48	36	
4	iP	NEZ	17	03	27.0	dil
	e	NEZ		04	15	
	e	NEZ		04	32	
5	iP	NEZ	11	28	50.7	
5	eP	NEZ	15	59	05	
5	eP	NEZ	19	48	46	
5	eP	NEZ	21	59	10	
6	eP	NEZ	03	57	40	
6	eP	Z	07	59	13	
	e	N Z		59	19	
6	eP	NEZ	08	02	16	local
6	eP	NEZ	14	42	24	
6	eP	NEZ	15	37	38	
6	e(P)	Z	16	00	31	
6	eP	NEZ	21	10	48	local
7	eP	NEZ	02	35	57	local
7	eP	NEZ	07	16	15	local
	eS	NEZ		16	31	

TOOLANGI

October 1970

7	iP	NEZ	14	49	09.5	
7	iP	NEZ	18	50	58.2	comp.
7	iP	NEZ	23	16	50.7	
8	eP	NEZ	03	05	22	
	e	Z		05	27	
	e	NEZ		05	34	
	e	N Z		06	00	
	e(S)	E		11	14	
8	iP	NEZ	03	55	46.3	dil
8	eP	Z	05	06	28	
8	iP	NEZ	07	05	12.8	dil. E.
	e	Z		05	22	
8	eP	NEZ	10	45	10	
8	eP	EZ	11	14	09	
8	eP	EZ	15	17	19	

NORFOLK ISLAND

September 1970

29	eP	06	07	07	
	e		07	13	
	e		10	06	

October 1970

2	eP	09	43	28	
2	eP	19	36	28	
	e		36	38	
6	eP	18	06	47	

MACQUARIE ISLAND

September 1970

30	iP	23	49	03.9	

October 1970

1	iP	04	24	41.3	

MAWSON

October 1970

1	eP	10	19	10	
1	iP	17	08	20.0	
1	iP	19	45	48.0	
2	eP	00	34	56	
2	iP	02	27	48.4	
2	iP	05	53	32.7	
2	iP	06	07	12.0	

../2

MAWSON

October 1970

2	iP	06	28	00.5
2	eP	08	14	14
2	iP	08	29	32.7
2	eP	09	51	50
29	eP	11	09	04
2	eP	15	36	42
2	iP	19	44	47.2
3	eP	06	45	35
3	iP	10	06	36
3	eP	10	40	36
3	eP	19	01	43
3	eP	19	43	22
3	iP	21	29	01.9
4	iP	17	08	28.8
5	iP	11	56	09.9
5	iP	16	01	37.7
5	eP	19	53	50
5	eP	22	04	12
6	eP	08	01	51
6	eP	16	05	33
7	eP	09	48	56
7	eP	16	20	39
8	iP	05	10	05.5
8	iP	07	10	23.6
8	eP	10	50	15
8	eP	11	19	13
8	iP	12	18	33.5
8	iP	13	21	42.4
8	iP	15	22	23.7
8	eP	23	55	14
9	eP	09	15	46
9	eP	10	29	08
9	iP	11	26	57.3
9	eP	17	40	39
9	eP	17	55	56
10	eP	00	36	22
10	eP	07	38	01
10	iP	09	03	47.5
10	iP	10	49	33.6
10	iP	15	13	58.0
10	iP	21	18	34.0

MAWSON

October 1970

10	iP	22	10	59.0
11	iP	01	06	05.0
11	eP	01	14	12
11	eP	01	47	50

International Seismological Centre

C.A. van der WAAL
OBSERVER-IN-CHARGE

13.10.1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - NORFOLK ISLAND - MAWSON

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TOOLANGI

October 1970

9	eP	NEZ	04	14	53	
9	iP	NEZ	10	25	11.7	
	e	Z		25	25	
9	eP	NEZ	12	37	25	
9	eP	NEZ	17	19	38	
9	eP	NEZ	17	52	10	
10	iP	NEZ	01	00	24.5	
10	eP	NEZ	07	36	00	
10	iP	NEZ	09	03	35.7	
	e	NEZ		03	45	
	e	Z		03	51	
	eS	NE		12	10	
	e	NE		12	30	
	e	NE		19	08	
10	eP	NEZ	15	14	44	
10	iP	NEZ	22	05	55.3	comp.
	e	EZ		06	00	
	e	Z		08	56	
	eS	E		11	10	
	i	E		11	20	
	e	EZ		12	37	
	e	N		12	48	
	e	E		14.6		
	e	Z		15.2		
11	eP	NEZ	03	23	00	
	e	Z		25	59	
	eS	E		28	13	
	e	Z		29	44	
	e	E		29	54	
11	eP	NEZ	05	44	19	
	e(S)	NE		49	16	
	e	Z		51	00	
	e	NE		51.5		
	e	N		53.4		
11	eP	NEZ	11	32	52	
12	eP	NEZ	07	06	10	
	e	E		11	07	
	e(S)	N		11	30	
	eScP	Z		12	53	
	e	N		14	20	
	e	NE		15	44	
12	e(P)	NEZ	07	08	55	
12	e(P)	EZ	07	16	47	
12	e(P)	EZ	07	18	33	
12	iP	NEZ	08	59	38.2	
12	iP	NEZ	09	44	55.7	
12	eP	NEZ	12	31	23	
12	eP	NEZ	13	29	19	regional
13	iP	NEZ	04	06	07.4	comp.
13	eP	NEZ	07	00	00	
13	eP	NEZ	08	18	14	

TOOLANGI

October 1970

13	eP	NEZ	19	00	00	
	i	Z		02	39	
	eS	NE		05	09	
	e	NEZ		14	26	
	e	N Z		14	53	
14	e(P)	Z	00	45	57	
14	iP	NEZ	06	19	00.5	2.8
	e	EZ		28	38	
14	e(P)	EZ	06	28	38	
14	iP	NEZ	07	51	54.8	comp. E.2.4
14	iP	NEZ	10	47	19.7	dil E. 2.3
14	iP	NEZ	17	03	21.6	
14	eP	NEZ	18	27	52	
	eS	NE		37	58	

NORFOLK ISLAND

October 1970

7	eP	18	47	57
8	eP	07	02	09
8	eP	10	41	56
8	eP	11	10	55
9	eP	14	08	10
	e(S)		09	31
10	eP	09	05	20
	e		05	34
10	eP	22	02	45

MAWSON

October 1970

11	eP	03	28	04
11	eP	05	49	20
11	eP	06	56	22
11	eP	11	37	54
11	eP	20	37	32
12	eP	07	11	12
12	eP	09	54	08
12	iP	11	27	33.4
12	iP	15	23	43.5
13	ip	04	51	51.0
13	eP	07	05	41
13	eP	08	23	21
13	eP	13	25	34
13	eP	13	33	58
13	eP	14	03	09
13	iP	19	05	40.0
14	eP	01	44	56
14	iP	05	01	48.3

MAWSON

October 1970

14	eP	06	19	20
14	eP	07	55	46
14	eP	08	13	35
14	eP	09	17	09
14	iP	10	52	25.0
14	iP	14	49	45.9
14	eP	18	34	39
15	iP	01	31	55.3
13	eP	04	11	48
14	eP	07	03	51

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C.A. van der WAAL
OBSERVER-IN-CHARGE

22-10-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
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October 1970

15	iP	NEZ	12	19	47.1	dil. N.E. 2.4
	i	Z		19	57	
16	iP	NEZ	05	38	03.3	comp.S
	e	N Z		40	54	
	eS	E		47	50	
	e	N		48	12	
16	iP	NEZ	06	19	20.7	local
	eS	NEZ		19	36	
16	eP	NEZ	12	19	16	
	e	Z		19	39	
16	eP	NEZ	12	25	05	
18	eP	EZ	00	49	01	
18	iP	NEZ	01	12	49.5	dil. E. 2.0
	e	EZ		18	24	
18	eP	NEZ	06	16	21	
18	eP	NEZ	09	27	28	1.8
	e	Z		27	40	
	eS	N		37	44	
	e	EZ		40	10	
18	eP	NEZ	16	21	07	
18	eP	NEZ	18	34	29	
	e	EZ		37	33	
18	e(P)	EZ	18	37	33	
18	eP	NEZ	20	28	05	
18	eP	NEZ	20	38	46	
18	eP	NEZ	21	31	30	

No S.P. record from 22 45 hours on 18-10-70 to 02 00 hours on 21-10-70

21	iP	NEZ	02	59	27.0	
21	eP	NEZ	03	12	32	local
21	eP	Z	16	09	58	
	e	NEZ		10	05	

MAWSON

October 1970

15	eP	05	18	05
15	eP	07	21	01
15	iP	12	24	55.2
16	eP	01	47	40
16	eP	04	07	28
16	eP	04	54	16
16	eP	05	11	55
16	eP	05	45	03
16	eP	12	25	28
16	eP	12	31	18
16	eP	15	42	20
16	iP	16	31	40.5

MAWSON

October 1970

16	iP	17	11	50.5
16	eP	20	51	39
16	eP	23	54	58
17	eP	01	20	46
17	eP	04	26	46
17	eP	06	05	43
17	eP	12	19	06
18	eP	01	18	08
18	eP	09	32	16
18	iP	16	26	15.6
18	iP	18	39	33.8
18	iP	20	44	46.3
18	iP	21	32	42.6
19	eP	03	22	39
19	eP	05	14	26
19	eP	10	17	53
19	eP	13	48	19
20	eP	00	33	15
20	iP	08	37	50.2
20	eP	11	21	13
20	eP	16	52	02
21	iP	08	03	00.3
21	eP	08	33	51
21	iP	11	41	41.2

MACQUARIE ISLAND

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9	eP	03	04	15
10	iP	09	04	53.1
11	eP	02	01	36
14	iP	06	19	36.8
14	iP	23	16	12.7
15	iP	18	33	00.6

NORFOLK ISLAND

October 1970

11	eP	01	06	03
	e		06	12
11	eP	03	19	52
	e		20	24
11	eP	05	41	11
12	eP	07	03	01
12	eP	07	13	41
14	eP	06	18	59

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NORFOLK ISLAND

October 1970

14	eP	09	09	03
15	eP	12	16	50
18	iP	01	09	40.7
18	eP	09	24	26
18	eP	18	31	25
20	eP	08	28	55
	e		29	00
20	e(P)	08	29	00

C.A. van der WAAL
OBSERVER-IN-CHARGE

27-10-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
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TOOLANGI

October 1970

22	iP	NEZ	01	19	56.2	
	i	NEZ		20	08	
22	iP	NEZ	02	31	28.3	
22	eP	NEZ	06	20	06	
	eS	NE		25	12	
	e	NEZ		28.8		
23	eP	NEZ	00	07	07	
23	eP	NEZ	00	45	09	
23	eP	NEZ	05	53	55	local
	eS	NEZ		53	58	
	eL	NEZ		54	00	
23	eP	NEZ	11	14	08	
	e	Z		14	16	
	e	Z		14	39	
24	iP	NEZ	03	46	22.7	
	e	NEZ		47	41	
	e	Z		48	00	
24	iP	NEZ	07	06	19.7	
24	eP	NEZ	15	41	00	
24	eP	NEZ	16	13	(19)	
25	iP	NEZ	03	22	02.3	
25	eP	Z	05	25	23	
	e	Z		25	28	
25	eP	NEZ	07	55	14	
	e	NEZ		55	39	
25	eP	EZ	10	16	18	
25	eP	N Z	10	26	07	
25	eP	NEZ	12	12	07	
	e	EZ		12	16	
	e	Z		14	48	
	eS	NE		21	40	
	e	NE		22	12	
25	eP	NEZ	15	20	40	
	e	Z		20	48	
	e	NEZ		20	54	
	eS	NE		29	32	
	e	E		30	16	
	e	N		30	40	
	e	NE		37	10	
	e	NE		39.3		
	e	E		45.2		
	e	Z		50.6		
25	eP	NEZ	15	32	41	
	e	EZ		33	05	
25	eP	NEZ	21	04	21	
25	eP	EZ	22	19	09	
25	iP	NEZ	23	15	06.0	
26	iP	NEZ	07	56	26.3	
26	iP	NEZ	08	19	21.8	dil. 2.5
	eS	NEZ		24	27	

TOOLANGI

October 1970

26	eP	NEZ	08	44	03.5	local
	eS	NEZ		44	19	
26	iP	NEZ	09	06	11.2	
26	eP	NEZ	11	56	59	
26	eP	NEZ	15	11	56	
26	eP	NEZ	17	34	55	
27	eP	NEZ	06	47	34	
	eS	NEZ		47	53	
27	eP	NEZ	22	07	35	
28	iP	NEZ	05	28	11.0	local
	iS	NEZ		28	21.3	
29	eP	NEZ	09	22	03	
	e	Z		22	11	

NORFOLK ISLAND

October 1970

24	e(P)	13	58	39
26	eP	08	16	26

MACQUARIE ISLAND

October 1970

25	iP	23	53	59.8
27	iP	00	57	46.8
27	eP	01	14	53

MAWSON

October 1970

22	iP	03	28	56.0
22	eP	06	25	40
23	eP	00	16	14
23	eP	11	13	08
24	eP	03	51	20
24	eP	06	27	36
24	eP	11	37	59
25	eP	05	26	37
25	eP	07	56	23
25	eP	10	17	32
25	eP	10	27	20
25	iP	12	09	58.0
25	eP	15	21	53
25	eP	15	33	54
25	eP	15	54	36
25	eP	18	02	10
25	eP	18	05	49

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MAWSON

October 1970

25	iP	22	20	21.8
25	eP	22	32	53
25	eP	23	20	53
26	eP	04	09	14
26	eP	08	24	24
26	iP	15	28	08.7
26	iP	21	13	21.6
27	eP	22	11	37

C.A. van der WAAL
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2.11.1970

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October 1970

30	eP	NEZ	11	00	05	
30	iP	NEZ	14	35	59.1	dil. N.
31	eP	NEZ	05	38	12	local
	e	NE		38	27	
31	eP	Z	06	26	11	
31	eP	NEZ	17	59	38	
	e	E	18	04	45	

November 1970

1	eP	N Z	00	08	10	
1	eP	Z	01	39	37	
1	eP	NEZ	09	27	12	local
	e	NEZ		27	29	
1	eP	NEZ	11	14	12	
	e	Z		14	21	
	e	Z		17	39	
	e	N		19	24	
1	eP	NEZ	13	26	37	
1	eP	Z	15	42	18	
2	eP	NEZ	10	21	14	
	e	Z		21	30	
	e	NE		27	20	
	e	NE		30.3		
2	eP	Z	13	43	05	
2	eP	NEZ	14	09	44	
3	eP	NEZ	09	34	03	
		Z		35	03	
		NE		43	09	
		NE		43	28	
		NE		47	37	
3	eP	NEZ	12	57	43	
3	iP	NEZ	15	22	18.9	dil.
	e	Z		23	06	
4	eP	N Z	04	10	28	
4	iP	N Z	06	12	32.0	comp.5
4	eP	NEZ	07	18	55	local
4	eP	N Z	17	48	51	
	e	Z		49	17	
4	iP	Z	18	44	21.8	comp.
5	eP	EZ	16	02	21	
6	eP	NEZ	06	58	22	local
	e	NEZ		58	39	
6	eP	Z	15	45	41	
	i	Z		45	54	
6	eP	Z	18	23	23	
7	eP	NEZ	07	50	43	
7	eP	Z	07	57	23	

TOOLANGI

November 1970

7	iP	NEZ	23	28	29.0	comp.
	e	Z		28	54	
	e	Z		29	13	
8	iP	NEZ	04	42	16.3	comp. W.
8	eP	Z	09	28	06	
8	iP	NEZ	15	07	46.8	comp.
	e	Z		08	00	
	e	Z		09	46	
	e	N		14	54	
	e	NE		18	25	
8	eP	NEZ	22	42	39	
9	iP	NEZ	10	59	10.0	dil. S.
9	eP	NEZ	13	38	35	
	a	N Z		39	46	
9	eP	NEZ	15	39	00	
10	iP	NEZ	00	37	11.5	comp.
	e	Z		39	52	
10	eP	NEZ	06	37	01	
10	iP	EZ	13	53	45.8	dil. E.
	e	Z		55	23	
10	iP	NEZ	15	01	51.0	dil.
10	eP	Z	16	46	49	
10	eP	NEZ	19	01	54	
11	eP	NEZ	00	28	37	
11	eP	Z	11	59	11	

NORFOLK ISLAND

October 1970

28	eP	06	18	45	
30	iP	14	35	24.6	comp.
31	eP	17	59	(36)	

November 1970

1	iP	19	12	56.3	dil
2	eP	10	18	20	
5	eP	12	09	52.0	
	e		11	10	
7	iP	07	47	44.0	dil.
8	eP	22	43	20	
10	eP	13	50	36	
			51	18	

MACQUARIE ISLAND

October 1970

31	iP	09	59	05.8	
31	iP	18	02	06.5	

MACQUARIE ISLAND

November 1970

1	iP	01	59	33.3
2	iP	07	16	18.7
3	iP	11	13	33.7

MAWSON

October 1970

28	eP	06	26	51
28	iP	12	25	18.0
28	eP	16	36	43
28	eP	22	39	42
29	eP	01	17	38
29	iP	02	29	11.5
29	eP	09	19	52
29	eP	19	00	36
29	eP	22	29	11
30	eP	11	05	12
30	eP	12	57	31
30	iP	14	41	54.8
31	eP	02	50	35
31	eP	03	37	44
31	eP	09	18	19
31	eP	09	45	19
31	iP	16	28	17.0
31	eP	18	05	29
31	eP	18	43	57
31	iP	18	55	30.8
31	iP	19	00	03.7
31	eP	19	19	21

November 1970

1	eP	00	13	52
1	eP	09	51	14
1	iP	11	20	02.6
1	eP	13	21	22
1	iP	23	50	22.8
2	eP	10	26	18
2	eP	14	15	35
3	eP	00	34	03
3	iP	00	44	04.9
3	eP	00	58	34
3	iP	04	02	52.4
3	iP	09	33	26.6
3	eP	09	56	24
3	iP	12	48	02.3
3	eP	13	03	30

MAWSON

November 1970

3	eP	15	25	33
4	eP	04	16	14
4	eP	06	18	28
4	iP	17	55	04.5
5	eP	07	42	24
5	eP	15	19	50
6	eP	00	43	38
6	eP	13	45	20
6	iP	19	09	10.5
6	eP	20	17	14
7	eP	05	12	11
7	iP	07	55	46.9
7	eP	23	31	44.0
8	eP	03	47	16
8	iP	15	11	46.6
8	eP	22	47	56
9	iP	13	43	52.2
9	eP	14	41	07
10	eP	13	58	53

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18-11-70

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November 1970

12	eP	NEZ	02	38	51	local
12	e(P)	Z	03	21	43	
12	eP	NEZ	06	13	46	
	e	NEZ		13	54	
	e	Z		16	32	
	e	Z		20	21	
12	eP	NEZ	07	36	44	
12	eP	Z	07	40	04	
12	eP	NEZ	17	13	29	
12	iP	NEZ	23	23	24.0	dil.E.
13	eP	EZ	02	17	31	
13	eP	NEZ	14	25	37	
	i	NEZ		25	48	
	e	Z		27	42	
	e(S)	NE		33	20	
13	eP	NEZ	23	55	17	
	e	NEZ		56	19	
14	iP	NEZ	00	02	10.0	dil. 1.9
14	iP	NEZ	01	05	14.1	comp. S.W.
14	eP	NEZ	03	07	47	regional
	e	NEZ		08	50	
14	iP	NEZ	05	00	24.3	dil. N
	e	E	06	02	22	
	e(S)	E		07	30	
14	eP	NEZ	08	08	54	
	e	N		17.5		
	e	E		17	46	
14	eP	NEZ	08	16	52	
15	eP	NEZ	03	19	35	
16	eP	NEZ	06	50	37	
	e	N Z		50	47	
	e	Z		53	26	
	e	Z		53	56	
	e	NE		55	42	
	e	E		58	12	
16	eP	NEZ	21	40	35	
	e	NEZ		40	44	
	e	NE		46	44	
17	eP	NEZ	07	39	39	local
	e	NEZ		39	55	
17	eP	Z	07	43	43	
17	eP	NEZ	20	20	(20)	
18	e(P)	N Z	02	03	58	
	e	N		09	08	
	e	N		12	58	
18	eP	NEZ	02	20	42	
18	iP	NEZ	06	26	38.8	comp. N.W.
18	eP	NEZ	09	52	11	
	e	N		52	31	
	e	N		57	22	

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18	iP	NEZ	16	48	41.0	dil. N.E.Z.S
	e	N		53	00	
	e	E		56	08	
	e	NE		58	09	
18	iP	NEZ	18	36	23.7	dil
18	eP	Z	20	23	13	
18	eP	NEZ	21	01	26	local
18	iP	NEZ	22	39	32.1	comp
	e	N Z		41	18	

NORFOLK ISLAND

November 1970

12	eP	06	13	49
12	eP	07	34	02
13	iP	02	14	40.2 comp.

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November 1970

12	iP	02	11	46.6
12	iP	05	04	04.3
13	iP	14	27	55.4

MAWSON

November 1970

12	eP	06	19	34
13	iP	00	21	27.9
13	eP	13	30	05
13	eP	14	29	26
14	eP	00	08	01
14	eP	01	09	35
14	eP	08	12	02
15	iP	03	24	45.8
15	eP	22	30	40
16	iP	06	56	37.6
16	eP	21	45	03
17	iP	08	08	34.7
18	eP	02	10	01
18	eP	02	25	16
18	eP	06	30	49
18	iP	07	32	34.7
18	eP	09	58	06
18	eP	10	10	20
18	eP	16	54	15
18	iP	22	43	56.0

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27.11.70

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19	iP	NEZ	02	29	48.2	dil
19	iP	NEZ	10	24	15.2	comp.
	e	EZ		24	36	
19	eP	NEZ	18	20	51	
19	eP	NEZ	19	32	37	
20	iP	NEZ	04	08	54.5	
20	eP	NEZ	13	57	34	
	e	Z	14	00	35	
	e	Z		00	50	
20	e(P)	Z	14	00	35	
21	iP	NEZ	00	35	37.7	
21	eP	NEZ	02	58	49	
	e	Z		58	56	
21	iP	NEZ	06	05	14.8	
21	eP	NEZ	12	28	25	
	e	EZ		28	55	
22	iP	NEZ	06	54	14.7	
22	eP	NEZ	06	59	26	
22	eP	NEZ	12	03	27	
	e	Z		03	51	
	eS	NE		11	38	
24	eP	NEZ	02	00	52	
	e	EZ		00	52	
24	eP	NEZ	07	29	36	local
	e(S)	N Z		29	50	
	e	EZ		29	52	
24	eP	Z	11	45	29	
24	eP	NEZ	16	26	27	
25	eP	NEZ	06	43	07	local
	eS	NEZ		43	12	
25	eP	N Z	19	04	52	
	e	N		05	23	
	e	Z		13	28	
	e	N Z		20	58	
25	eP	N Z	20	14	56	
25	eP	N Z	20	18	52	

NORFOLK ISLAND

November 1970

15	eP	03	16	22	
18	iP	16	45	33.5	
	i		45	40	
	e		45	54	

MACQUARIE ISLAND

November 1970

23	iP	02	24	39.5
23	iP	04	25	20.6
23	iP	11	31	33.1

MAWSON

November 1970

19	eP	16	20	05
19	eP	17	57	51
19	iP	18	18	45.3
19	eP	20	25	26
19	iP	23	49	47.4
20	iP	04	14	26.0
20	eP	04	52	36
20	eP	11	32	44
20	eP	12	18	07
20	eP	14	07	25
21	eP	03	03	16
21	eP	05	01	55
21	eP	05	16	01
21	iP	05	37	14.5
21	iP	06	11	12.8
21	iP	12	32	45.0
21	iP	18	05	25.6
22	eP	20	48	59
24	eP	08	32	31
24	eP	11	20	02
25	eP	02	52	28
25	eP	09	05	16
25	eP	19	09	59

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26	eP	NEZ	06	05	48	
26	iP	NEZ	08	42	46.7	local
26	eP	NEZ	19	35	22	local
	eS	NEZ		35	44	
27	eP	NEZ	06	20	44	
27	iP	NEZ	08	08	44.7	
	e	EZ		09	07	
27	iP	NEZ	09	50	01.2	comp S.E. 2.3
27	eP	NEZ	20	36	35	
28	iP	NEZ	01	03	43.8	dil.N 2.6
	i	Z		03	53.5	
	i	NEZ		03	59.5	
	eS	NE		09	50	
28	eP	NEZ	03	53	29	local
	eS	NEZ		53	34.5	
28	eP	NEZ	06	17	04	local
	eS	NEZ		17	18	
28	eP	NEZ	20	29	21	
	e	N Z		29	26	
	e	N Z		31	43	
	e	Z		32	00	
	eS	NE		34	34	
	e	E		37	10	
	e	N Z		38.8		
	e	N Z		43	40	
29	eP	NEZ	13	00	53	regional
	e(S)	N Z		01	45	
29	eP	NEZ	13	45	44	
29	eP	NEZ	16	37	27	
29	eP	NEZ	20	19	43	
	e	EZ		20	09	
29	e(P)	EZ	20	20	09	
30	iP	NEZ	20	24	02.3	dil N.E. 1.9

December 1970

1	eP	NEZ	18	20	55	
	eS	NE		26	01	
	e	NE		27	48	
	e	N Z		29.3		
1	eP	NEZ	18	57	36	
1	iP	NEZ	22	09	47.7	
	e	NEZ		09	51	
1	iP	NEZ	23	08	15.8	
2	eP	NEZ	11	22	48	
2	eP	NEZ	11	59	29	
2	eP	NEZ	13	19	30	
2	eP	NEZ	15	23	40	
2	iP	Z	15	32	02.7	
	i	NEZ		32	06.7	
	eS	N		37	09	
	e	E		39	04	

TOOLANGI

December 1970

2	eP	NEZ	16	00	36
2	eP	NEZ	16	08	25
2	eP	NEZ	17	13	14
2	eP	NEZ	17	40	07
	e	N Z		40	17
2	eP	NEZ	18	58	32
2	eP	NEZ	19	25	13

NORFOLK ISLAND

November 1970

24	iP		01	21	49.7 local

MAWSON

November 1970

26	eP	04	33	11
26	eP	06	10	45
26	iP	16	27	36.3
27	eP	08	10	01
27	eP	09	53	08
27	eP	09	57	33
27	eP	10	09	15
28	eP	01	08	10
28	eP	01	40	01
28	iP	11	21	16.5
28	iP	14	58	05.5
28	eP	20	35	00
29	eP	03	06	07
29	eP	06	12	50
29	iP	13	05	48.8
29	eP	13	49	01
29	eP	16	35	57
30	eP	05	20	52
30	iP	13	12	31.8

December 1970

1	eP	13	01	48
1	iP	18	27	07.7
1	eP	19	03	47
1	eP	21	29	14
1	iP	22	14	41.7
1	iP	23	13	09.8
2	eP	01	12	33
2	iP	02	36	19.5
2	eP	02	54	37

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2	eP	09	22	53
2	iP	15	38	16.3
2	eP	16	06	47

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7-12-1970

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3	eP	NEZ	04	19	19	
3	eP	EZ	05	22	28	
	e	Z		22	41	
3	iP	NEZ	07	10	24.0	dil. N.W. 2.4
	i	NEZ		10	33.3	
	eS	NE		16	28	
	e	E		19	23	
	e	N Z		21.9		
3	iP	NEZ	07	23	48.5	local
	eS	NEZ		24	03	
3	eP	NEZ	08	04	06	
3	eP	NEZ	09	50	22	
3	eP	NEZ	10	12	32	
3	iP	NEZ	11	20	00.3	
3	eP	NEZ	11	21	54	
3	eP	NEZ	12	00	51	
3	eP	NEZ	13	32	40	
3	eP	NEZ	15	22	21	
4	eP	NEZ	12	06	40	
5	eP	NEZ	09	59	02	
5	iP	NEZ	16	45	06.0	dil
	e	N Z		45	24	
5	iP	NEZ	22	06	32.2	dil 1.9
5	eP	NEZ	22	36	54	
6	eP	EZ	02	39	40	
	e	N Z		39	44	
6	eP	NEZ	02	55	33	
6	iP	NEZ	04	17	14.0	dil N.W. 2.4
	e	N Z		18	33	
	eS	NE		22	28	
	e	NE		23	22	
6	eP	NEZ	09	44	22	
6	eP	NEZ	11	54	33	
6	eP	NEZ	20	32	53	
	eS	NE		42	50	
7	eP	NEZ	03	52	46	local
	eS	NEZ		53	01	
7	eP	NEZ	04	56	21	local
	eS	NEZ		56	35	
7	eP	NEZ	17	48	27	
	eS	NEZ		51	37	
	Tmax	NEZ	18	05.0		
7	eP	NEZ	21	45	57	
	e	Z		46	03	
	e	N Z		46	41	
	eS	NE		54	36	
	e	N		55	24	
	e	E	22	02	20	
	e	E		03	12	
	e	E		08.9		

TOOLANGI

December 1970

8	eP	NEZ	00	48	16	
	e	NEZ		48	28	
8	eP	NEZ	04	26	09	local
	eS	NEZ		26	25	
8	eP	Z	09	09	17	
8	eP	N Z	19	44	18	
	e	Z		44	23	
	eS	NE		54	41	
	e	NEZ		57	20	
	e	NEZ	20	03.2		
9	eP	NEZ	02	06	21	local
	eS	NEZ		06	34	
9	iP	NEZ	04	25	20.7	dil
9	iP	NEZ	08	19	51.2	dil
9	eP	NEZ	11	52	01	
	e	Z		52	07	

MACQUARIE ISLAND

November 1970

28	iP	20	31	49.0	
29	iP	15	13	42.0	

December 1970

1	eP	11	09	30	
4	eP	14	16	02	
4	eP	14	41	17	
4	eP	19	03	15	

MAWSON

December 1970

3	eP	07	14	51	
3	eP	08	10	17	
3	eP	12	07	02	
4	eP	00	33	19	
4	iP	17	21	11.0	
5	eP	10	04	52	
5	iP	16	49	19.7	
5	iP	22	11	33.0	
5	eP	22	41	51	
6	iP	04	22	11.6	
6	eP	13	35	59	
6	eP	20	39	46	
7	iP	02	51	28.4	
7	eP	17	53	37	
7	eP	21	53	37	
8	eP	00	54	27	

International Seismological Centre

NORFOLK ISLAND

December 1970

2	e(p)	15	30	(32)
2	eP	15	58	36
3	eP	08	02	10
	e		02	20
5	eP	22	03	30
6	iP	04	18	22.0
	e		18	53
7	eP	21	45	39

C.A. van der WAAL
OBSERVER-IN-CHARGE

14-12-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - NORFOLK ISLAND - MAWSON - MACQUARIE ISLAND

International Seismological Centre

TOOLANGI

December 1970

10	eP	NEZ	04	53	30	
	e	NEZ		53	38	
	e	NEZ		53	42	
	e	NEZ		54	00	
	e	NEZ		55	02	
	e	NEZ		55	19	
	e	Z	05	03	43	
10	eP	NEZ	11	56	32	
10	iP	NEZ	20	13	21.3	comp. S.E.
	e	Z		15	06	
11	eP	NEZ	06	06	11	
11	iP	NEZ	09	14	13.3	dil
11	eP	NEZ	10	43	25	
	e	NEZ		44	50	
11	e(P)	NEZ	10	44	50	
12	eP	NEZ	00	01	48	local
	eS	NEZ		01	53	
12	iP	NEZ	01	17	05.0	comp. S.W. 2.5
	i	NEZ		18	27.3	
12	eP	EZ	07	30	23	
12	iP	NEZ	10	30	27.7	
12	eP	NEZ	11	30	34	
13	iP	NEZ	00	43	48.2	comp.
13	eP	EZ	00	52	08	
13	eP	NEZ	04	15	38	
13	iP	NEZ	12	55	51.0	
	e	Z		57	06	
13	eP	NEZ	23	21	02	
14	eP	NEZ	07	31	02	
	e	EZ		32	41	
	eS	N		37	16	
14	eP	NEZ	20	30	36	
	eS	N		37	07	
	e	E		40	25	
14	iP	NEZ	21	35	40.6	
15	eP	NEZ	02	15	17	
	e	Z		15	26	
15	eP	NEZ	13	26	28	
15	iP	NEZ	14	29	42.3	comp.
15	iP	NEZ	15	30	32.6	comp. S.W.
	i	EZ		33	29	
	iS	NE		35	18	
15	eP	NEZ	16	13	56	
15	eP	Z	18	13	42	
15	eP	NEZ	21	47	51	
	e	NEZ		48	20	
16	eP	NEZ	01	02	52	local
16	iP	EZ	01	19	57.5	
16	eP	NEZ	01	24	21	

TOOLANGI

December 1970

16	eP	NEZ	03	01	46	
16	eP	NEZ	05	29	10	local
	eS	NEZ		29	25	
16	eP	NEZ	08	23	51	local
	eS	NEZ		24	07	
16	iP	NEZ	20	00	35.8	comp.
	e	Z		05	42	
16	iP	NEZ	20	54	17.2	dil E.
	e	Z		54	26	
16	eP	NEZ	21	30	20	
	e	N Z		30	41	

NORFOLK ISLAND

December 1970

9	iP	11	48	01.3	
	e(S)		49	20	
12	eP	01	14	00	
	e		16	46	

MAWSON

December 1970

8	eP	19	41	47	
10	eP	04	48	47	
10	eP	19	33	34	
10	eP	20	17	43	
12	iP	01	22	14.7	
12	eP	07	19	33	
13	eP	07	10	19	
13	iP	12	57	53.8	
14	eP	07	35	21	
14	eP	09	48	02	
14	eP	15	08	00	
14	eP	20	35	00	
14	eP	21	31	27	
15	iP	15	36	39.3	
15	eP	21	52	47	
16	eP	07	51	47	
16	eP	12	26	15	
16	eP	16	19	50	
16	eP	16	44	15	
16	iP	20	05	33.7	
16	iP	20	59	25.0	

International Seismological Centre

MACQUARIE ISLAND

December 1970

8	eP	16	59	30
10	eP	06	43	02
10	eP	15	28	43
12	eP	11	13	52
12	eP	12	18	06
12	eP	18	18	17
13	eP	09	09	02
14	eP	08	17	21

C.A. van der WAAL
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22-12-1970

TOOLANGI GEOPHYSICAL OBSERVATORY
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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International Seismological Centre

PRELIMINARY EARTHQUAKE PHASES AT:-
TOOLANGI - MACQUARIE ISLAND - NORFOLK ISLAND

TOOLANGI
December 1970

17	iP	NEZ	08	54	52.7	comp.
	e	NEZ		58	17	
	eS	N	09	05	07	
	e	EZ		05	16	
	e	NE		17	30	
17	iP	NEZ	14	58	34.7	dil
18	eP	NEZ	00	40	23	
	e	Z		40	34	
18	eP	NEZ	04	23	36	
18	eP	NEZ	18	28	51	
18	eP	Z	23	58	00	2.3
	e	NEZ		58	01	
	i	NEZ		58	14.7	
	e	Z		59	38	
	eS	NEZ	00	04	16	
	e	NE		06	59	
19	eP	NEZ	02	42	23	
	e	NEZ		42	39	
	eS	NE		47.9		
	e	E		50.5		
	e	N Z		52.5		
19	e(P)	Z	02	52	20	
19	eP	NEZ	05	06	17	local
19	eP	N Z	07	34	25	
19	eP	N Z	10	43	45	
19	eP	NEZ	10	47	35	
	i	N Z		47	48	
	eS	NEZ		55	18	
	e	NE		57	22	
	e	N	11	02.5		
19	eP	N Z	20	27	16	
20	iP	NEZ	01	59	00.7	dil N
20	iP	NEZ	05	29	24.7	
20	eP	NEZ	07	42	22	
20	eP	N Z	10	47	28	
	e	NEZ		47	50	
20	iP	NEZ	12	02	09.5	dil NE 2.4
21	iP	NEZ	03	25	04.3	
21	eP	NEZ	13	02	30	
	eS	NE		09	34	
	e	E		11	18	
	e	NE		13	16	

TOOLANGI
December 1970

21	eP	NEZ	14	14	33	
21	iP	NEZ	14	48	01.4	comp.
	e	NEZ		48	24	
	e	N Z		49	30	
	eS	NE		53	52	
	e	NEZ		56	40	
22	eP	NEZ	02	07	19	
22	eP	NEZ	02	37	27	local
	eS	NEZ		37	41	
22	iP	NEZ	05	43	20.7	dil
	i	NEZ		43	46.0	
	eS	N		49	46	
22	eP	NEZ	14	14	07	
22	e(P)	N Z	18	16	02	
22	eP	N Z	19	29	26	
23	eP	NEZ	11	51	38	
	e	NEZ		51	47	
23	eP	Z	15	11	23	
23	eP	Z	15	42	27	
24	iP	NEZ	01	57	14.0	comp.SE
	e	NEZ		57	35	
	e	Z		57	44	
24	eP	NEZ	04	41	31	
24	eP	NEZ	07	33	00	
24	eP	Z	08	19	23	1.5
24	eP	NEZ	13	17	45	1.4
24	eP	NEZ	18	14	25.8	local
	e	NEZ		14	40	
25	eP	NEZ	11	07	14	
25	eP	Z	19	54	14	
26	eP	NEZ	06	33	21	
26	eP	NEZ	10	13	39	
	e	Z		13	45	
26	eP	NEZ	14	22	47	
26	eP	NEZ	15	16	39	
26	iP	NEZ	19	12	41.5	comp.
26	iP	NEZ	21	16	37.0	dil
26	eP	NEZ	21	47	28	
26	eP	NEZ	21	50	37	
	e	E		54	13	

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TOOLANGI

December 1970

27	eP	NEZ	12	24	56	
27	eP	NEZ	18	30	50	
27	eP	NEZ	20	08	37	
27	eP	NEZ	21	47	40	
27	eP	NEZ	23	25	16	
28	eP	NEZ	20	09	57	
	e	Z		12	40	
	e	E		15	14	
	e	Z		16	15	
29	iP	NEZ	02	32	19.9	comp. 2.6
	e	N		37	22	
29	eP	NEZ	03	39	37	
29	eP	NEZ	19	23	06	
29	iP	NEZ	22	04	24.2	
30	eP	NEZ	03	48	03	
	e	N Z		48	12	
	eS	NE		53	44	
	e	Z		54	24	
	e	E		56	08	
30	eP	NEZ	04	16	10	
30	eP	NEZ	05	27	55	
30	eP	NEZ	08	20	54	
	e	NEZ		21	00	
31	eP	NEZ	02	37	15	
31	iP	NEZ	07	17	14.5	
31	eP	NEZ	12	02	01	local
	e	NEZ		02	05	
	eS	NEZ		02	27	

January 1971

1	eP	NEZ	08	04	40	
	eS	NE		10	02	
	e	E		12.1		
	e	E		16.0		
1	iP	NEZ	08	37	55.4	
1	eP	NEZ	16	45	07	
1	eP	NEZ	18	05	04	
2	iP	NEZ	07	42	54.6	
	e	NEZ		43	44	
	e	Z		44	45	
2	eP	NEZ	22	30	00	
	e	NEZ		30	10	
3	eP	NEZ	01	51	38	
3	eP	N Z	03	17	54	
3	eP	NEZ	05	48	25	
3	eP	NEZ	06	30	08	
	e	N Z		30	16	
	e	N Z		30	26	
	e	NEZ		34	33	
	eS	NE		35	16	
3	e(P)	NEZ	06	34	33	

TOOLANGI

January 1971

3	eP	NEZ	10	23	05	
	e	N Z		23	21	
3	eP	NEZ	14	03	32	
3	eP	NEZ	17	48	05	
	e	Z		48	24	
	eSKS	E		58	26	
	e	N Z	18	03.5		
	e	E		07	20	
	e	NE		09.6		
	e	N Z		14.8		
3	e(P)	NEZ	19	06	41	
4	eP	NEZ	04	11	27	
	e	N Z		11	33	
	eS	NE		21	45	
4	iP	NEZ	07	09	43.3	dil
	e	NEZ		09	52	
4	iP	NEZ	08	14	19.3	local
4	iP	NEZ	11	14	54.8	dil NE
4	eP	NEZ	14	04	17	
	eS	NE		09	54	
4	eP	NEZ	21	20	16	
	eS	E		29	54	
5	eP	NEZ	02	11	12	
5	eP	NEZ	07	29	17	
5	e(P)	Z	08	16	42	
5	eP	NEZ	10	57	50	local
6	eP	NEZ	05	47	03	local
6	eP	NEZ	06	04	09	
6	eP	NEZ	06	06	45	local
	eS	NEZ		07	00	
6	eP	N Z	06	15	52	
6	eP	NEZ	13	45	18	
6	eP	NEZ	21	04	56	

NORFOLK ISLAND

December 1970

14	eP	07	31	57	
15	iP	15	28	00.0	
19	eP	07	31	09	
19	eP	10	49	17	
	e		49	27	
20	eP	02	42	46	
20	eP	11	59	30	
22	iP	05	39	48.6	
	e(S)		41	20	
23	eP	20	45	44	
25	eP	19	50	20	
26	e(P)	19	09	34	

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NORFOLK ISLAND

December 1970

28	iP	20	09	05.2
29	eP	02	30	34

January 1971

4	eP	11	11	48

MACQUARIE ISLAND

December 1970

15	iP	15	31	56.0
17	iP	08	53	17.8
17	eP	10	25	11
20	eP	13	50	24
21	iP	14	50	19.7
22	iP	13	18	17.8
24	eP	06	57	32
25	eP	09	24	37
26	iP	05	44	28.6
26	eP	06	36	00
28	eP	02	11	53
28	iP	20	12	10.9
29	eP	01	47	17
29	iP	02	34	16.4
29	eP	16	31	05
29	iP	22	06	27.9

MAWSON

December 1970

17	eP	08	49	48.1
17	iP	08	55	26.0
17	eP	16	24	45
18	eP	04	28	40
18	eP	18	23	44
19	eP	00	01	48
19	eP	02	41	24
19	eP	07	39	28
19	iP	10	49	17.4
20	eP	02	03	09
20	eP	07	47	28
20	eP	10	53	14
20	eP	11	08	02
20	eP	12	07	20
21	iP	14	51	37.5
22	iP	05	49	30.3

MAWSON

December 1970

22	eP	15	32	00
24	iP	02	00	49.9
26	eP	10	14	52
26	eP	19	13	11
27	eP	15	04	31
27	eP	18	34	54
27	eP	20	14	40
28	eP	07	51	53
28	eP	07	51	53
28	iP	20	15	57.1
29	iP	02	38	33.6
29	eP	10	44	22
29	iP	22	06	58.5
30	eP	03	53	57
30	eP	04	20	07
30	eP	05	33	43
30	iP	06	20	51.3
30	eP	08	22	34
30	eP	14	46	58
31	eP	03	01	27
31	eP	07	22	20

January 1971

1	iP	08	10	19.4
1	iP	18	10	54.6
2	iP	07	46	26.8
2	iP	08	09	21.5
2	iP	08	53	32.4
2	iP	09	38	48.8
3	iP	17	42	00.7
5	iP	05	38	41.6
5	iP	21	11	26.2
5	eP	23	18	33
6	iP	16	40	21.7
6	eP	19	19	38
7	iP	00	13	54.1
7	iP	03	09	36.8

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11.1.1971