S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for January 1 to March 31, 1954

Rathfarnham

Co. Dublin, Ireland

Date	Comp.	Phase	G. M. T.	Type	Remarks
1954			h. m. s.		
Jan. 1	Z	iPP	13 24 53	D	In column 'Type' C is compression, D is dilatation.
	Z	ipPP	25 11		
	Z	ePS	34 09		8½S 124E 13 04 17
					h = 100 km (D = 13,000 km)
5	Z	e	07 23 51		
6	Z	iP	15 59 09	D	
	Z	i	59 24		D = 2600 km.
	Z	i	16 03 04		76N 7E
	ZN	eLR	11 40		15 53 59
7	Z	e	07 07 35		
	Z	e	18 33 38		
11	Z	e	17 24 40		
12	Z	ePKP	14 40 35		D = 19,000 km.
	Z	ePP	45 38		
	Z	e	46 42		
	Z	e	52 41		
13	Z	iPKP1	00 33 21		D = 19,000 km.
	Z	iPKP2	33 30		
	Z	e	33 47		49S 165E
	Z	e	35 18		
	Z	ePP	38 18		
	Z	e	51 06		
	NEZ	eSS	59 30		
	NEZ	eSSS	01 07 30		
15	Z	e	23 50 36		Microseisms
17	Z	e	03 22 52		Microseisms
	Z	eP	12 58 57		
	Z	i	18 07 48		
	Z	e	20 56 21		Doubtful
18	Z	iP	14 21 39	D	
	Z	i	22 17		D = 2,700 km.
	Z	eS	26 17		
	ZNE	eL	29 30		

Note: Determination of epicentre etc. are by U.S.C.G.S. unless otherwise stated.

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Jan. 22	Z	eP(?)	12	21	02		Seismic?
	Z	e		21	47		
	Z	e		23	13		
	Z	iPKP(?)	21	42	17	C	
	Z	i		42	38		(D = 16,200 km)
	Z	e		43	01		
	Z	i		43	15		20S 169E
	Z	i		43	38		H = 21 23 04
	Z	e		44	11		h = 100 km (?)
	Z	e		45	49		
23	Z	eP	06	51	49		
	Z	iP	16	16	02	C	
	Z	e		17	14		
	Z	e		21	26		
	Z	iP	17	21	28		
24	Z	iP	13	37	42		Microseisms
	Z	i		41	20		
25	Z	e	16	09	(00)		Microseisms
26	Z	e(PKP?)	09	18	39		Small
	Z	e		19	13		
29	Z	e	16	17	15		Microseisms
31	Z	i	12	23	33		Seismic
	Z	i		23	40		
	Z	iPKP	14	21	44		
	Z	e		22	00		
	Z	e		26	01		
	Z	e		27	12		
Feb. 1	ZNE	iP	01	20	34	C	
	Z	i		20	54	C	
	ZNE	iPP		24	29	C?	
	Z	i!		24	35		
	Z	i		25	05		D = 11,000 km
	Z	i		27	41		24½N 142½E
	N	iSKS		31	03		H = 01 06 51
	NE	ePS		33	16		
	NE	e		36	27		
	NE	iSS		38	57		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Feb. 1	NE	eSSS	01	43	02		
(contd.)	NE	e		46	30		
	NE	eL		55	00		Very regular
	NE	M	02	04	00		25s.
	Z	iP	02	37	02		
	Z	iPP		40	05		
	Z	i	04	20	06		
	Z	iP	04	44	45		
	Z	i		50	09		
	Z	i	06	33	03		
	Z	i		34	10		
2	Z	eP	17	51	31		
	Z	e		53	04		
3	Z	e	16	04	59		
	Z	iP	18	35	52	C	
5	Z	iPKP	09	38	59	C	
	Z	i		39	11		D = 14,700 km
	Z	i		39	33		
	Z	ePP		41	22		Interrupted $4\frac{1}{2}$S 153E
							H = 09 19 42
	Z	eP	15	29	37		
	Z	i		29	43		
	Z	e	21	26	31		
7	Z	iPKP	06	34	43	C	15S $167\frac{1}{2}$E
	Z	i		35	11	C?	
	Z	ipPKP?		35	17	D	(D = 15,300 km)
	Z	e		36	04		
	Z	ePP		38	00		
8	Z	iP	14	32	08	D?	
	Z	ipP		32	38	C	
9	Z	iP	17	51	03	D	Microseisms
	Z	i		51	15	D?	
	Z	i		51	21	C	
	Z	e(P)	23	33	33		Microseisms
	Z	i(S)		37	16		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Feb. 11	ZNE	iP	00	41	21	C	D = 7,750 km.
	Z	i		41	30	C	39½N 101E
	Z	i		41	41	C	H = 00 30 16
	Z	i		43	20	D	
	ZNE	ePP		44	06	D	
	ZNE	i		46	00	C	
	NE	iS		50	24		
	NE	ePS		52	07		
	NE	eSS		54	47		
	NE	eSSS		57	58		
	N	eLQ	01	00	00		
	EZ	eLR		03	55		
	E	M		09	00		21s. 200μ
	N	M		14	00		14s. 180μ
12	Z	eP	01	58	47	C?	
	Z	i		59	27	D	
	Z	i		01	49	D	
14	Z	eP	06	54	29	D	Microseisms
	Z	e		55	20	C	
17	Z	e	09	09	56		
	Z	iP	11	48	14	C	46½N 151E
	Z	e		49	01	C	H = 11 36 18
18	Z	i(P?)	00	51	06		Maybe earlier
19	Z	iP	00	52	27	D?	
	Z	e		53	27		
	NE	eL	01	18	30		
	NE	M		22	00		
	Z	eP	13	38	(20)		Time by measurement. Minute marks failed
	Z	iPKP	19	28	(20)		" " "
	Z	i		28	(40)		" " "
	NE	eL	20	32	-		
	Z	iP	21	46	(50)		" " "
	Z	i		48	(50)		" " "
20	Z	iP	18	49	44		" " "
	Z	e		52	42		7S 124½E
	Z	e		53	56		H = 18 35 05
	Z	ePP		54	20		h = 600 km
	NE	iS(?)	19	00	15		(D = 13,000 km)
	NE	eSP		03	15		
	NE	e		04	20		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Mar. 9	Z	i	02	31	22	D	1½N 30½W
	Z	i		31	27	D	H = 02 21 43
	Z	i		31	51		D = 6,300 km
	Z	i		32	21	C	
	Z	iPP		33	32		
	Z	i	05	51	13	C?	(D = 8,500 km)
	Z	i		51	19	D	50N 157E
	Z	i		51	34	D	H = 05 39 20
	ZNE	e	06	01	34		
	ZNE	eL		23	-		
	Z	ePKP1	10	44	04		19½S 178W
	Z	ePKP2		44	17		H = 10 25 02 h = 350 km
10	Z	e	07	42	(50)		Interrupted
14	Z	ePKP?	09	12	46		
	Z	iP	17	56	26	D	D = 8,500 km
	Z	i		57	28	D	51½N 160E
	Z	e		58	57		H = 17 44 28
	Z	e(S)	18	06	56		
16	Z	iP	01	13	40	D?	
19	Z	ePKP	08	30	58	D?	Small
	Z	e		31	16		
21	Z	iP	06	20	59	C	52N 158½E
	Z	i		21	41	C	H = 06 09 23
	NEZ	iP	23	53	50	C	D = 8,650 km
	Z	ipP		54	34	D?	24½N 95E
	Z	isP		54	51		H = 23 42 05
	NEZ	iPP		56	47	D?	h = 150 km
	NEZ	ePPP		58	45		
	NE	iS	00	03	26		
	NE	i(ScS)		03	41		
	NE	i(pS)!?		04	40		
	NE	i		05	18		
	NE	eSS		08	07		
	NE	e		08	42		
	NE	eSSS		12	15		
	N	eLQ		14	00		
	E	eLR		18	05		
	Z	iPKPPKP		20	57		
	NE	M		23	40		35s.
	NE	M		26	15		25s.

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Mar. 9	Z	i	02	31	22	D	1½N 30½W
	Z	i		31	27	D	H = 02 21 43
	Z	i		31	51		D = 6,300 km
	Z	i		32	21	C	
	Z	iPP		33	32		
	Z	i	05	51	13	C?	(D = 8,500 km)
	Z	i		51	19	D	50N 157E
	Z	i		51	34	D	H = 05 39 20
	ZNE	e	06	01	34		
	ZNE	eL		23	-		
	Z	ePKP1	10	44	04		19½S 178W
	Z	ePKP2		44	17		H = 10 25 02 h = 350 km
10	Z	e	07	42	(50)		Interrupted
14	Z	ePKP?	09	12	46		
	Z	iP	17	56	26	D	D = 8,500 km
	Z	i		57	28	D	51½N 160E
	Z	e		58	57		H = 17 44 28
	Z	e(S)	18	06	56		
16	Z	iP	01	13	40	D?	
19	Z	ePKP	08	30	58	D?	Small
	Z	e		31	16		
21	Z	iP	06	20	59	C	52N 158½E
	Z	i		21	41	C	H = 06 09 23
	NEZ	iP	23	53	50	C	D = 8,650 km
	Z	ipP		54	34	D?	24½N 95E
	Z	isP		54	51		H = 23 42 05
	NEZ	iPP		56	47	D?	h = 150 km
	NEZ	ePPP		58	45		
	NE	iS	00	03	26		
	NE	i(ScS)		03	41		
	NE	i(pS)!?		04	40		
	NE	i		05	18		
	NE	eSS		08	07		
	NE	e		08	42		
	NE	eSSS		12	15		
	N	eLQ		14	00		
	E	eLR		18	05		
	Z	iPKPPKP		20	57		
	NE	M		23	40		35s.
	NE	M		26	15		25s.

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Mar. 22	Z	iP	17	22	34	D	
	Z	ipP		22	53	C	
	Z	e		23	01		
25	Z	i	09	46	09		Seismic?
26	Z	eP	04	47	56		Small
	Z	e		48	13		
27	Z	e(P?)	18	33	23		Doubtful
	Z	e		33	57		
28	Z	iP	20	48	10	C	52N 176E
	Z	i		48	21	D	H = 20 36 22
	Z	i		48	27		
	Z	iP	21	09	50	C	
	Z	i		09	56		
	Z	i(P?)		11	03	C	
29	Z	iP	00	36	27·5	C	50N 16W North Atlantic
	Z	e		36	33·5		H = 00 34 48
	Z	iS		37	35·5		D = 665 km
	Z	i		37	42		H = 00 34 58
	Z	eLR		37	58		
	Z	i		38	33		
	Z	i		38	48		
	Z	i		38	56		
	Z	e		39	38		
	Z	eP	04	14	34		
		e		14	45		
	ZN	iP	06	20	28	C	D = 1,835 km
	ZN	i		20	34	D	37N 31¼W
	ZNE	i		20	50	C	H = 06 17 09
	ZNE	i		21	56		h = 500-600 km (BCIS)
	ZNE	i		22	05		
	N	i		22	55		
	ZNE	iS		23	10		
	ZNE	i		23	35		
	ZNE	i		24	06		
	Z	iPcP(?)		24	45	D?	
	Z	i		25	00		
	Z	e	14	17	38		
31	ZNE	iP	18	36	26	C	D = 7,100 km
	Z	i		36	41	C	13½N 58W
	Z	e		37	06		H = 18 25 48

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Mar. 31	Z	ePP	18	39	01		
(contd.)	ZNE	e		40	43	D	
	ZNE	e		41	56	D	
	NE	iS		45	09		
	E	i		47	11		
	NE	eSS		49	16		
	NE	i		50	15		
	N	e		53	38		
	N	eLQ		54	00		
	E	eLR		56	45		
	E	M!		59	30		43s. (300μ ?)
	NE	M	19	03	30		25s.
	NE	M		09	00		20s.
	NE	M		11	30		20s. 65μ
	Z	e	19	30	49		

R. E. Ingram, S.J.

S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for April 1 to June 30, 1954

Rathfarnham

Co. Dublin, Ireland

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Apr. 4	Z	iP	23	26	17	C	
	Z	c		26	39	C	
	Z	c		29	21		
6	Z	i	16	22	31	C	Seismic?
10	Z	e	03	19	(50)		Indistinct
	Z	e	13	35	46		
	Z	e		36	42		
11	Z	iP	10	36	08	D	12N 58E
	Z	i		36	09	C	H = 10 25 27
	Z	ipP!		36	19	C	D = 7,200 kms.
	Z	ePP		38	32	C?	
	Z	ePPP		39	50	D?	
	ZNE	eS		44	19		
	Z	iP	11	02	41	C	37N 80½E
	Z	ipP		02	59	D	H = 10 53 20
	Z	esP		03	25		D = 6,200 kms.
	Z	ePP		04	41		h = 60 kms.
	NE	eS		10	30		
14	Z	iP	13	37	35	D	
16							No Z record.
17	ZNE	iP	20	22	23	C	D = 8350 kms.
	Z	i		22	29		51½N 179W
	NE	eS		32	05		H = 20 10 37
	E	eSS		37	33		
	NE	e		42	25		
	NE	eL		53	00		
	NE	M		56	00		17S
	NE	M	21	03	30		17S
19	Z	e	20	07	18		Microseisms
21	Z	iP	10	04	39	C	43N 46E
	Z	i		04	55	C	H = 09 57 40
	Z	e		05	04	C	
	Z	e		09	28		
	Z	e		12	21		
22	Z	e	15	06	23		Microseisms

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Apr. 24	Z	eP	08	43	10		
	Z	i		43	57		
25	Z	iP	00	37	28	D	D = 6,100 kms.
	Z	i		37	39	C	00N 15½W
	Z	iPP		39	34	C??	H = 00 27 54
	Z	ePPP		40	30		
	Z	eS		45	02		
	Z	eLR		54	40		
26	Z	iP	20	36	22	C	D = 8,3500 km.
	Z	e		30	32		51N 158½E
	Z	ipP?		36	49	D?	H = 20 24 44
	Z	isP?		37	01	D	
	Z	i		38	16		
	Z	e		40	04		
27	Z	iP	10	18	24	C	6N 82½W
	Z	e		19	00		H = 10 06 24
	Z	ePP		21	40		D = 8,800 kms.
	ZNE	eS		28	39		
	NE	L		40			
	Z	$ePKP_1$	21	41	43	C?	56S 147E
	Z	$ePKP_2$		42	33	D?	H = 21 21 35
	Z	e		42	57		D = 18,400 kms.
	Z	ePP		46	42		
28	Z	iP	05	02	39	D	
		i		02	43	D	
29	ZNE	eP	11	01	16	C	29½N 112½W
	Z	ePcP?		01	23	D	H = 10 49 27
	Z	i		01	39	C	D = 8,400
	Z	i		02	23		Foreshock
	ZNE	ePP		04	25	D?	
	NE	eS		11	00		
	NE	eSS		17	00		
	N	eLQ		23	30		
	E	eLR		26	00		
	N	M		29	30		
	E	M		33	00		
	ZNE	eP	11	46	23	C	
	Z	iPcP?			32	D	29½N 112½W
	ZNE	iPP		49	20	D	H = 10 49 27
	NE	eS		56	05		D = 8,400 kms.
	N	e	12	05	01		
	N	eLQ		06	55		
	EZ	eLR		09	10		Long train of LR

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Apr. 29	N	M	12	14	00		20S 200
(contd.)	E	M		18	15		17S 200
30	Z	iP	00	14	47		Small
	ZNE	iP	13	07	51	D	39·3N 22·2E B.C.I.S.
	ZEN	i		07	57		H = 13 02 35
	ZE	iPP		08	21	D?	D = 2700 kms.
	ZE	ePPP		08	53		
	ZE	i		09	05		
	NE	iS!		12	12		
	NE	iSS		13	17		
	N	eLQ?		14	00		
	EZ	eLR		15	00		
	N	iLg?		15	10		
	N	M		16	00		40S 250
	NE	M		18	30		15S 400
	Z	i	13	30	33		
	Z	iP	19	38	45	D	Aftershock
	Z	i			50		
	Z	iPP		39	21	D	D = 2700
	Z	ePP		39	32		
	NE	eS		43	06		
	NE	eL		46	00		
	Z	e	21	20	23		Seismic?
	Z	iP	23	13	59	C?	½N 19W
	Z	i		14	28		H = 23 04 30
	Z	e		16	23		D = 6200 kms.
	NE	eS		21	35		
	NE	e		26	40		
	NE	e		31	20		
	NE	eL		35	00		
	NE	M		44	00		
May 1	Z	e	18	19	00		
	Z	i	19	30	53		Seismic
	Z	iP	20	59	(11)		Microseisms
2	Z	iP	15	18	49	C	
	Z	i		18	54		
	Z	iP	20	37	46	C	
	Z	e	21	42	37		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
May 3	Z	iP	01	32	32	C	
	Z	i	05	30	42		Microseisms
	Z	e	08	57	06		Microseisms
	Z	e	13	38	00		"
	Z	eP	15	41	48		"
	NE	eS		52	(02)		
	NE	eL	16	14	00		
4	Z	e	00	10	27	D	Seismic ?
	Z	ePI	16	48	(28)	C?	At edge of paper
	Z	i		49	00	D	Two shocks
	Z	iPII		50	42	C	40N 22E
	Z	i		50	57	D	H I = 16 43 25
	Z	eSI		52	40		H II = 16 45 33
	Z	e		53	53		(D = 2,700 kms.)
	Z	e		56	46		
	Z	e		58	09		
	Z	eP	17	46	45	C	
	Z	i		47	06		
5	Z	iP	13	21	46	C?	Microseisms
	Z	i		22	41		27½N 112½E
	NE	e		29	55		H = 13 09 46
	NE	eS		31	37		D = 8,700 kms.
	NE	e		36	38		
	NE	eL		52	20		
	NE	M		54	30		
	E	M		56	00		
6	Z	iP	09	13	50	C	
	Z	i		14	06	C	
	Z	e		14	43		
	Z	e		22	27		
7	Z	iP	02	31	39	D?	
9	Z	iP	14	18	45	C	71N 12W
	Z	i		18	51	D	H = 14 14 32
	Z	eLR		23	58		D = 2,000 kms.
	Z	e		25	35		
10	Z	iPKP!	14	49	10	C	17½S 179W
	Z	i		49	13	D	H = 14 30 48
	Z	e		49	34		h = 600 kms.

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
May 10 (contd.)	Z	e	14	49	42		
	Z	e		55	19		
	Z	e		57	18		
12	Z	iP	02	22	00		
	Z	e		22	18		
13	09 h. 12 m. – 19 h. 28 m. no Z record						
	E	eP	14	58	25	C?	D = 8,500 kms.
	E	ipP?		58	42	D?	17N 95½W
	NE	iS	15	08	06		H = 14 46 38
	NE	e		08	48		h = 100
	E	e		14	27		
	NE	eL		22	30		
	N	M		28	00		
14	Z	eP	04	47	18		
	Z	iP	22	51	39	D	D = 9500 kms.
	Z	i		51	52	D	36N 137E
	Z	ipP		52	36	C	H = 22 39 25
	Z	isP		53	02	D	h = 250 kms.
	Z	e		53	29		
	Z	e		54	35	C?	
	Z	ePP		55	28		
	NE	eS	23	01	32		
	NE	e		03	56		
15	Z	iP	12	30	13		
	Z	e		30	26		
	Z	e		31	12		
	Z	e		34	44		
16	Z	e	05	31	30		
17	Z	eP	06	06	22		
18	Z	i	10	25	26	C	Seismic?
19	Z	iP	09	37	35		D = 1250 kms.
	Z	i		37	38	C	46·4N 7·3E B.C.I.S.
	Z	iPP?		37	41	D	H = 09 34 56
	Z	i		38	00		
	Z	i		38	23	C	
	Z	i		39	34		
	Z	i(S?)		39	41		
	Z	iLg		40	58		
	Z	eL		41	18		
21	Z	iP	16	24	21	C	

1954		Phase	G. M. T. h. m. s.	Type	Remarks
May 25	Z	iP	22 08 49	C	40N 22¼E
	Z	i!	08 53	D	H = 22 03 35
	Z	i	09 02		D = 2700 kms (P-H)
	Z	i(PP)	09 22	C?	
	Z	e	10 46		
	Z	i	12 54		
	Z	i(S)	13 24		
	Z	eL	17 14		
26			01.30 to 07.50 no Z record		
	Z	iP	19 09 29	D	
	Z	epP	09 41	C?	
	Z	e	12 44		
	Z	e	23 07 24		
28	Z	i	07 48 (00)		Changing records
	Z	iP	08 13 20	C	Seismic?
	Z	i	13 42 09		
	Z	i	13 42 19		
29	Z	iPKP	05 55 58	C	
	Z	i	56 04	C	
	Z	e	56 15		
31	Z	e	16 08 15		
	Z	e	16 09		
	Z	e	30 00		
June 3	Z	e	12 04 01	C	Seismic?
4	Z	e	00 57 27	D	
	Z	e	57 40	C	
	Z	iP	07 03 31	C	D = 9,800 kms
	Z	i	03 35	D	
	Z	e	03 53		
5	Z	iP	02 00 32	C	
	Z	e	01 30		
	Z	iP	13 27 02	C	
	Z	i	27 07		
	Z	e	27 13	D	
	Z	e	29 55		
	Z	e	14 10 45		Doubtful
	Z	iP	10 55		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
June 5	Z	e	14	11	04		
(contd.)	Z	e		11	20		
6	Z	ePKP	17	09	29	D?	$3\frac{1}{2}$S $136\frac{1}{2}$E
	Z	i		09	32	C	H = 16 50 33
	Z	i		09	48	D?	D = 13,500 kms
	Z	iPP		10	55	C	
	Z	e		12	47		
	NE	e(SKKS)		18	05		
	N	ePS		21	00		
	NE	ePPS		22	36		
	NE	eSS		27	45		
	NE	eSSS		33	05		
	NE	eLQ		40	40		
	NE	eLR		48	40		
	NE	M		54	00		20 s.
	N	M	18	03	00		28 s.
	N	LM	19	05	00		20 s.
7	Z	iPKP	10	33	51	D	$3\frac{1}{2}$S $152\frac{1}{2}$E
	Z	i		34	05	C	H = 10 15 33
	Z	iPP		35	43	C	h = 450 kms.
	Z	i(SKP)		36	04		(D = 14,100 kms)
	Z	e(PKS)		36	20		
	Z	e		36	55		
	Z	ePPP		38	38		
	ZNE	e		40	07		
9	Z	$iPKP_1$	11	12	44		
	Z	$ePKP_2$		12	47		
	Z	e		13	20		
10	Z	e	04	47	22		
	Z	$iPKP_1$	18	55	15	D?	In minute mark
	Z	$iPKP_2$		55	24	D	19S 179W
	Z	e		56	33	C	H = 18 36 49
	Z	epPKP		57	58		h = 750 kms
	Z	i		58	04	C	
	Z	i		58	08	C	
	Z	e		58	20		
	Z	iPP		58	45		
	Z	e(PPP)	19	03	58		
11	Z	iP	17	07	23	C	
	Z	ipP		07	35	C	
	Z	e		07	45		
12	Z	$iPKP_1$	05	53	48	D	18S 179W
	Z	$iPKP_2$		53	52	C	H = 05 35 13

		Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
June 12 (contd.)	Z	e	05	53	54		h = 550 kms
	Z	e		54	11		D = 16,200
	Z	epPKP		55	07		
	Z	ePP?		57	06		
	Z	i(SKS)		58	20		
15	Z	iP	13	42	08	D	Time by measurement
	Z	i(PcP?)		42	19	D	(Possible error of ±1 s.)
	Z	e(pP?)		42	43		
	Z	e		42	53		5S 77W
	Z	e		43	10		H = 13 29 59
	Z	e		43	30		h = 100 kms (Deeper?)
	Z	e		44	28		
	ZNE	e		51	12		
	Z	i		57	04		
	Z	i	14	34	05	D	Seismic?
	Z	i		35	02	C	
	Z	i		35	12		
	Z	i		35	36		
17	Z	iP	01	53	22	C	56N 159½W
	Z	e		53	32		H = 01 42 22
	Z	i		54	25	C	D = 7,500
	Z	ePP		56	26		
	NE	eS	02	02	18		
	Z	i		13	33		
	NE	eL		18	00		
	Z	iP	16	24	34		
19	Z	e	02	20	22	C	
	Z	e		21	06	D	
20	Z	i	04	02	05		
	Z	iP	22	17	28	C	
	Z	e(PP)		19	30		
	Z	e		19	48		
21	Z	iP	02	01	44	D	23S 68½W
	Z	ipP		02	24	C?	H = 01 48 44
	Z	esP		02	29		h = 150 kms
	Z	e		02	55		D = 10,200 kms
	Z	e		03	34		
	Z	iPP		05	06		
	Z	e		05	31		
	Z	e		05	48		
25	Z	iP	05	25	08	C	D = 2,300 kms
	Z	iPP		25	28	C	73½N 8E

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
June 25 (contd.)	Z	e	05	25	45		H = 05 20 11
	Z	e(S)		28	53		
	Z	e		46	15		
30	Z	iP	11	48	23	D	
	Z	iP	13	36	52	C	D = 6,800
	Z	i!		36	56	C	
	Z	e		37	10		
	Z	ePP		38	02		
	NE	eS		45	19		
	NE	eL	14	02	00		
	Z	iP	15	17	07	D	

R. E. Ingram, S.J.

S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for July 1 to September 30, 1954

Rathfarnham

Co. Dublin, Ireland

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
July 1	Z	eP	03	26	56		
	Z	i		27	22		
2	Z	iPP	03	03	23	C	D = 11,300 km
	Z	ePPP		05	27		Microseisms
	Z	e		09	15		13½N 123E
	NE	eSKS		10	34		H = 02 45 09
	NE	eS		10	59		
	NE	eL		35	-		
3	Z	iP	00	43	32		
	Z	e		44	52		
	ZNE	e		53	38		
	Z	i(P?)	22	45	58		Doubtful
	Z	i(pP?)		46	18		Microseisms
	Z	e		47	04		6½S 106E
	ZNE	i(PKP?)		50	02		H = 22 31 28
	Z	i		50	10		h = 100 km
	ZNE	ePP		51	10		D = 12,400 km
	ZNE	ePPP		52	20		
	NE	eSKS		56	28		
	NE	eL	23	23	-		
5	Z	iP	12	31	46	C	
	Z	iP	14	03	58	C	
	Z	ipP		04	18		D = 8,600 km
	Z	e		04	30		50½N 156E
	Z	e		05	22		H = 13 52 18
	ZNE	eS		13	40		h = 100 km
	NE	eL		31	-		
6	Z	iP	08	16	39	C	
	Z	i		16	43		D = 8,800 km
	Z	ipP		16	58		46½N 153½E
	Z	ePP		19	42		H = 08 04 42
	NEZ	eS		26	30		h = 100 km
	NE	e		26	37		
	NE	eSS		32	34		
	NE	eL		49	40		
	E	MQ		56	-		
	N	MR	09	00	-		
	Z	iP	11	23	43	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
July 6	ZNE	iP	11	24	35	C	
(contd.)	Z	i		24	42		D = 7,800 km
	Z	i		25	20		39½N 118½W
	Z	e		25	58		H = 11 13 19
	Z	i		26	44		Deeper than normal?
	Z	e		27	20		
	NE	eS		33	58		
	N	eLQ		49	(10)		
	E	eLR		52	-		
	N	MQ		56	-		
	E	MR		58	-		
	Z	eP	15	51	21		
	Z	iP	22	19	02	D	Repetition
	Z	i		19	12		
	Z	i		19	24		
	Z	i		21	37		
	Z	e		25	12		
	NE	eL		45	-		
7	Z	e	00	29	18		
	Z	iP	00	50	22		
	Z	i		50	24		D = 1100 km
	Z	ePP		50	34		59·8N 5·8E
	Z	iS?		52	02		H = 00 48 02
	Z	e		52	10		(B.C.I.S.)
	Z	eL		52	32		
	Z	e		53	30		
	Z	e	01	33	45		
	Z	i	17	18	05		
9	Z	e	12	40	04		
	Z	iP	15	50	34	C	
	Z	i		50	42		
	Z	e		51	04		
	Z	iP	18	40	42	C	
	Z	i		41	46		
10	Z	iP	03	15	41	D	
	Z	iP	23	06	01	C	
	Z	e		06	21		D = 6100 km
	Z	ipP		06	50	C	37N 70½E
	Z	i		07	02		H = 22 56 53

Date	Comp.	Phase	G. M. T.	Type	Remarks
1954			h. m. s.		
July10	Z	iPP	23 08 01	D?	h = 200 km
(contd.)	Z	i	08 09	D	
	Z	iPPP	09 23	C	
	Z	eS?	13 06		
12	Z	eP	17 44 31		
13	Z	iPKP	08 24 02		Disturbed when changing records.
	Z	e	22 19 32		
	N	eL	23 27 00		
	NE	eL	36 00		
	E	M	41 -		
	N	M	45 -		
18	Z	iP	06 45 59	D	
	Z	e	48 09		
	Z	iP	09 20 15	D?	
	Z	i	20 21		
	Z	i	20 32		
	Z	e	22 36		
	Z	iP	14 48 (10)		Inaccurate clock correction
	Z	i	48 (15)		
	Z	i	48 (30)		38N 21E
	Z	eLR	55 10		H = 18 42 39
23	Z	iP	04 47 21		
	Z	iPP	51 23		D = 11300 km
	NE	eSKS	58 45		31S 71½W
	NE	eS	59 10		H = 04 33 26
	NE	eL	05 34 -		
			13 hrs. - July 24, 9 hrs. No Z record		
24	Z	i	22 03 43		
25	Z	i	11 11 18		Seismic?
	Z	iP	16 13 03		
	Z	i	13 37		
26	Z	e(PKP?)	20 34 49		Microseisms
	Z	i	35 33		
	Z	e	41 23		
	Z	iP	22 19 03		
	Z	i	20 02		
	Z	e	21 35		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Jul.28	Z	eP	23	52	01	D	
				52	11		
29	Z	iP	03	46	14	C	Microseisms
	Z	i			31		
	Z	i			49	C	
	Z	ePP		49	16	C	
	Z	e		55	41		
	Z	e		58	20		
	Z	iP!	04	45	08	C?	46·3N 7·5E
	Z	i		45	23		H = 04 42 27
	Z	i		45	56		D = 1240 km
	Z	i		46	18		
	Z	iS!		47	08		
	Z	i		47	16		
	Z	i		48	01		
	Z	iLg		48	33		
	Z	M		49	00		
30	Z	ePKP	09	04	(43)		Doubtful first reading
	Z	e		04	55		D = 13,500
	Z	ePPP?		09	09		36½S 97W
	N	eS		14	12		H = 08 46 00
	N	e		20	01		
	NE	e		20	46		
	NE	eSS		23	07		
	NE	eSSS		26	14		
	NE	eL		45	40		
	NE	M		50	20		18 s.
	NE	M		59	30		20 s.
31	Z	iP	01	11	14	C?	39N 104E
	Z	i		11	21		H = 00 59 57
	Z	iPcP		11	28		D = 7800 km
	Z	i		11	40		
	Z	i		12	10		
	Z	ePP		13	58		
	Z	ePPP		15	01		
	NE	eS		20	29		
	NE	ePS		20	41		
	N	eLQ		28	05		
	NE	eLR		32	20		
	NE	iLg		40	00		
	NE	M		42	00		15 s.
	NEZ	MR		45	00		20 s.
	NEZ	M		50	00		
Aug. 1	Z	iP	01	26	22	D	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Aug. 1 (contd.)	Z	iP	01	33	39	D	
	Z	i	23	34	52	D	
2	Z	e	23	47	57		
3	Z	e	01	04	09		
	ZE	iP	18	23	36	C	40N 25E (B.C.I.S.)
	Z	i		23	40		H = 18 18 05
	Z	i		23	45		D = 2,800 km
	Z	i		23	55		
	Z	ePP		24	08	D?	
	Z	iPPP		24	30	C	
	NE	iS		28	05		
	NE	e		28	41		
	N	eLQ		31	55		
	ZE	eLR		33	00		
	ZNE	M		34	30		20 s.
5	Z	iP	03	53	40		
	Z	i		53	49		
	Z	i		54	12		
	Z	e	04	06	36		
	Z	eP	04	18	21		Small
	Z	iP	04	42	57		
	Z	i		43	07		
	Z	i		43	21		
	Z	eL		52	00		
	Z	iP	09	01	32		52N 175E
	Z	ipP		01	41		H = 08 49 52
	Z	e		02	26		
	NEZ	e		10	24		
	Z	e	13	08	29		Seismic?
	Z	iP	20	45	26	C	
	Z	e		51	12		
6	Z	eP	11	39	27		
	Z	e	16	07	46		
	Z	iP	16	29	31		
	Z	e		29	43		
	Z	i		31	47		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Aug.6	Z	i	19	28	(49)		
(contd.)	Z	i		29	(02)		Disturbed
9	Z	iP	19	28	19	C	53N 161E
	Z	i		28	25		H = 19 16 48
	Z	ipP		28	37	C	h = 60 km
	Z	isP		28	44		D = 8,200 km
	Z	i		29	19	C	
	Z	e		33	30		
	ZNE	eS		37	56		
	Z	e		39	06		
	Z	e	21	36	05		
	Z	e		37	59		
10	Z	e	05	47	50		
	Z	e		48	27		
	Z	iPKP	14	05	09		
	Z	e		05	57		
	Z	e		08	58		
12	Z	e	11	49	46		
	Z	e	12	06	50		
	Z	iP	23	29	49	C	
	Z	e		30	22		
	Z	e	23	59	14		
	Z	e		59	20		
14	Z	e	14	19	34		
15	Z	iP	05	51	45		
16	Z	i	14	45	31		
	Z	iPKP	23	54	53		
18	Z	iPKP	05	01	27	D	21½S 176W
	Z	i		01	35		H = 04 42 20
	Z	i		01	45		h = 150 km
	Z	i		02	01		
	Z	i		02	49		
	Z	e		04	10		
19	Z	e	21	09	17		Microseisms

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Aug.20	Z	iP	19	25	57	C	Microseisms
	Z	e		26	02		
	NE	eL		34	00		
	Z	iP	20	28	28		
	Z	iP	20	46	34	C	
	Z	iP	20	50	47		
	NE	eL		57	30		
	N	eL	21	19	00		
	Z	e(P)	21	51	31		
	N	eL	22	09	00		
	Z	iP	22	13	(20)		Indistinct
	Z	iP	22	44	05	D	
	NEZ	iP	23	03	30	C	
	Z	e		04	48		
	N	eL		10	30		
21	NZ	iP	00	29	47	D	71N 13½W
	Z	i		29	52	D	H = 00 25 35
	Z	i		30	15	C	D = 2,000 km
	E	eS		33	12		
	E	eL		35	15		
	NE	M		37	00		11 s.
	NE	M		39	00		11 s.
	ZNE	iP	07	23	(55)		Changing records
	NE	eL		29	-		
	Z	iP	13	09	20	C?	
	Z	iP	13	27	42	C	
	Z	e		29	57		
	Z	i	14	05	59		Seismic?
	Z	iP	17	44	31	C	
	Z	e		45	06		
	NE	eL		49	50		
	ZN	iP	22	55	18	C	
	Z	e		55	32		72N 13W

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Aug.21	E	eS	22	58	40		H = 22 51 00
(contd.)	E	eLQ		59	45		D = 2050 km
	N	eLR	23	01	00		
	Z	eLR		01	50		
22	Z	iP	02	55	55		
	Z	e		56	10		
	Z	iP	10	12	16	C	
	Z	e		12	36		
	Z	iP	12	43	53	C	
	Z	iP	18	25	22	C	
	Z	eP	23	56	25		
24	ZE	iP	06	02	45	D	D = 7850 km
	Z	i!		02	53	C	39½N 118½W
	Z	iPP		05	23	C	H = 05 51 31·5
	NE	iS		12	08		
	N	e		13	30		
	NE	e		15	22		
	NE	eSS		16	30		
	N	eSSS		19	15		
	N	eLQ		26	20		
	E	eLR		27	45		
	Z	i		29	47		
	Z	i		32	37		
	N	M		33	10		20s. 280 μ
	EZ	M		33	40		26s. 200 μ
	EZ	M		35	30		24s.
	NZ	iP!	06	22	21		In previous shock
27	Z	eP	11	08	52		
	Z	e		09	52		
	Z	i		12	32		
	Z	e		19	21		
	Z	iP	12	25	42	C	
	Z	i		25	50	D	
	Z	i		26	08		
28	Z	e	04	01	58		
31	Z	iP	22	01	57		
	NE	eS		11	23		D = 8000 km
	NE	eL		55	-		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Sept.1	Z	iP	12	37	42	D	
2	Z	e	01	59	22		Microseisms
	Z	i	06	28	36		Seismic?
4	Z	ePP	03	48	43		
	Z	e		51	04		
	Z	i		57	07		
	Z	i		01	29		
	Z	iP	06	54	51	C	
	Z	iP	06	56	16	C	
	Z	i(pP?)		56	22	D	
	Z	e	07	09	17		
	Z	i	09	34	38		
5	8.00 - Sept.6 8.00 no records.						
6	Z	e	14	19	03		
	Z	i	17	06	41	C	
	Z	iP	18	42	28	C	51N 158E
	Z	i		42	37		H = 18 30 48
	Z	i		42	57		h = 60 km
	Z	i		43	10		D = 8,400 km
	Z	ePP		45	34		
	Z	eS		52	01		
	NZ	eL	19	13	-		
9	ZNE	iP	01	08	52	D	$36\frac{1}{2}$ N $1\frac{1}{2}$E
	Z	iPP!		09	01	C	H = 01 04 37
	Z	iPPP		09	12		D = 1950 km
	Z	i		09	58		
	Z	i		10	22		
	NE	iS		12	15		
	NE	i		12	54		
	NE	eLQ		13	15		
	ZNE	eLR		14	00		
	ZNE	iLg		14	15		
	E	M		15	00		14s. 700μ
	NZ	M		16	30		16s. 600μ
	Z	iP	01	21	57		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Sept.9 (contd.)	Z	iP	01	53	52		
	Z	iP	02	56	40		
	Z	e	09	33	03		
	Z	iP	18	29	14		
10	Z	iP	05	48	13	D	
	Z	i		49	53		
	Z	i		50	40		
	NZ			51	36		
	Z	iP?	05	51	39		
	NEZ	eL		54	20		
	ZNE	M		56	-		
	ZNE	M		59	-		
	Z	iP?	05	51	11		
12	ZNE	eL	08	25	-		Changing records
13	Z	i	02	19	29		
	Z	i		19	39		
	Z	iPKP	02	29	25	D	21S 175½W
	Z	i			36		H = 02 09 55
	Z	i			39		h = 150 km
	Z	i			48		D = 16300 km
	Z	ipPKP!		30	10	D	
	Z	isPKP		31	37	D	
	Z	i		32	49		
	Z	iPP		33	31		
	Z	epPP		34	19		
	Z	ePPP		37	41		
	Z	e		47	46		
	Z	e		50	44		
	Z	e	18	32	34		
14	Z	i	00	59	03		
	Z	i		59	45		
	Z	i	01	05	29		
	Z	i		07	50		
	Z	i	05	37	40		
15	Z	iPKP	18	14	42	C	18S 178½W
	Z	i		15	11		H = 17 56 08

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Sept.15	Z	i	18	15	37		h = 600 km
(contd.)	Z	ePP		18	13		D = 16000 km
	Z	ePPP		21	36		
	Z	iSKKP		25	39		
17	Z	iPKP	11	22	31	D	(D = 16000)
	Z	e		23	24		Microseisms
	Z	e		25	07		4S 177W
	Z	iPP		25	58	C	H = 11 03 19
	Z	e		27	23		h = 250 km
	Z	e		29	09		
18	Z	e	15	43	44		Seismic?
19	Z	e	00	54	55		
20	Z	i	03	08	05		
	Z	i	17	25	19	D	Microseisms
	Z	i		25	41		
23	Z	iP	21	55	30		49N 156E
	Z	i		55	46		H = 21 43 36
	NE	eS	22	05	06		(D = 8300)
	NE	eL		33	-		Microseisms
28	Z	i(PKP?)	23	43	13		
29	Z	iP	14	45	44	C	

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S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for October 1 to December 31, 1954

Rathfarnham

Co. Dublin, Ireland

Seismological Bulletin

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Oct. 1	Z	ePKP	03	15	21	C?	
	Z	i		15	24	C	
	Z	ePP		17	58	C?	
	Z	e		19	48		
	Z	e		33	44		
2	Z	e	10	13	23		
3	Z	iPKP	03	06	45	D	
	Z	e		06	56	C	D = 15,000 km
	Z	ePP		10	42		
	Z	i		11	04		
	NE	e		39	20		
	NE	eL		43	30		
	NE	eL		55	00		
	NZ	iP	11	29	04	D	60½N 151W
	Z	i!		29	06	D	H = 11 18 46
	Z	epP		29	28	D	h = 100 km
	Z	iPcP		29	47	C	
	Z	iPP		31	25	D?	
	Z	ipPP		31	48	C	
	E	iS		37	35		
	NE	i!		38	00		
	NE	eSS		41	49		
	E	e		43	07		
	E	eLQ		47	05		
	N	eLR		50	10		
	Z	iP	11	58	20	D	
4	Z	iPKP	22	59	02	D?	
5	Z	i	11	38	38		
7	Z	e	08	10	20		
8	Z	iP	10	58	15		
	Z	e		58	34		
11	Z	iP	16	23	35	C	
	Z	e		26	55	C	
	Z	iPKP	17	30	42	C	
	Z	i		30	47		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Oct.11	Z	e	17	31	26		
(contd.)	Z	i		33	30	C	
12	19 hrs. - 13th 10 hrs. no record.						
13	Z	i	22	22	32	C	Microseisms
	Z	i		25	22	C	
14	Z	ePP	01	55	20	D?	
	Z	e		56	14		
	Z	ePPP		58	06		
	Z	i	02	05	38		
16	Z	iP	00	32	19	C?	D = 1950 km
	Z	i		32	26	D	71N 14W
	Z	iPP		32	38	C	H = 00 28 11
	Z	eLR		37	20		
17	Z	iP	23	09	35	C	Microseisms
	Z	i		11	56	D	
19	EZ	iP	17	52	02	C	D = 1800 km
	Z	i		52	07	D	57½N 32½W
	Z	iPP		52	12	C	H = 17 48 14
	Z	e(PPP)		52	27	D	
	Z	i		53	04	C	
	NEZ	e		53	24	C	
	N	eLQ		55	15		
	E	eLR		56	01		
	N	M		57	15		
	E	M		59	10		15s.
	E	M	18	00	30		10s.
21	Z	eP	03	40	32	C	Small
	Z	e	20	16	00		
24	Z	e	9	55	24		Small
	Z	e		57	08		
	Z	e	22	34	38		
25	Z	e	12	01	58		
27	Z	e	10	40	04		Seismic?
	Z	e	10	41	33		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Oct.28	Z	e	00	03	29		
30	Z	e	16	17	11		
	Z	iP	23	50	44	C	
	Z	i		51	23	C	
31	Z	$iPKP_1$	23	32	30	C	
	Z	$iPKP_2$!		32	33	D	
	Z	e		32	47		
	Z	e		34	06		
	Z	$iPKP_1$		53	30		
	Z	$iPKP_2$		53	33		
Nov. 2	Z	iPKP?	08	43	08	C	$7\frac{1}{2}$S 119E
	Z	iPP		44	02	D?	H = 08 24 08
	Z	e		48	02		D = 13000 km
	NE	e		50	06		
	NE	ePS		53	36		
	Z	e		54	30		
	NEZ	eSS		59	54		
	Z	e(SSS)	09	04	35		
	NEZ	eL		32	-		
3	Z	i	10	32	57	D	Seismic?
	Z	i	18	24	37	C	
4	Z	e	09	24	22		
5	Z	iP	22	58	18	C	
	Z	i		58	31		
	Z	i		59	40		
6	Z	i	13	19	56		Microseisms
11	Z	iP	05	23	23	C	
	Z	i		23	26	D	
	Z	i	05	56	42	C	
12	Z	i	12	09	23	C	
	Z	iP	12	38	20	C	Microseisms
	Z	ePP		40	00		$31\frac{1}{2}$N 116W
	Z	i		40	50	D	H = 12 26 47
	NE	eL	13	03	-		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Nov.14	Z	iPKP	18	44	31	C	
	Z	i		44	37	D	
18	Z	eP	05	31	45		Small
	Z	epP		32	03		D = 8500 km (approx.)
	NE	eS		40	50		
	Z	eL		58	-		
	Z	iP	20	57	27	D	D = 9300 km
	Z	i		57	36	C	39N 142E
	Z	ePP	21	01	00	C?	H = 20 44 55
	Z	ePPP		02	47		
	Z	eS		07	46		
	Z	e		08	51		
	NEZ	eL		26	-		
19	No record from 04 hrs - 08 hrs.						
21	Z	e	07	57	36		Indistinct
	Z	e		59	06		
	Z	i		59	42		
	Z	e	08	02	27		
22	Z	iPKP	18	59	09	C	Microseisms
	Z	e		59	11		
	Z	ipPKP?	19	01	25		
	Z	i		09	23		
23	Z	e	02	44	23		Microseisms
	Z	i	04	26	23		Microseisms
	Z	eP	10	30	26	D	
	Z	i		30	39	C	
	Z	e	11	33	20		
	Z	iP	13	04	32	C	39½N 15E
	Z	i(pP?)		04	44	C	
	Z	e		04	53		D = 2200 km (approx.)
	Z	e		05	08		
	Z	i		05	28	D	
	Z	e(S?)		08	21		
	Z	eL		10	00		
	Z	e	21	24	20	D	Microseisms
	Z	e		24	31		
	Z	e		25	39		
	Z	e		31	50		
24	Z	iPKP	00	53	31	D	20S 169E

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Nov.24	Z	i	00	53	35		H = 00 33 42
(contd.)	Z	i		54	12	C	
	Z	iPKP	10	04	36		Microseisms
25	Z	iP	11	28	09	C	40½N 126W
	Z	ePP		30	59	D	H = 11 16 36
	Z	ePPP		42	31	C	D = 8200 km
	NE	eS		37	40		
	NE	eSS		42	19		
	NE	eSSS		45	59		
	N	eLQ		48	50		
	E	eLR		52	10		
	N	M		55	30		20s. 60μ
	E	M		56	30		20s. 60μ
	NE	M		59	30		20s. 140μ
	Z	$iPKP_1$	21	52	15	D	Microseisms
	Z	$iPKP_2$		52	21	C	21½S 179E
	Z	i		52	39	D	H = 21 33 38
	Z	e		53	16		h = 650 km
	Z	ipPKP		54	48	C	D = 16300
	Z	ePP		56	00		
28	Z	i	01	42	52		
Dec. 3	Z	iP	21	47	24	D	D = 5900 km
	Z	iS		54	57		41½N 74½E
	Z	eL	22	05	00		H = 21 38 12
	Z	e	22	50	23		
4	Z	iP	18	41	22	D	D = 6800 km
	Z	ipP		41	32	C	11N 61W
	Z	ePP		43	38		H = 18 31 07
	Z	eL	19	03	00		h = 60 km
10	Z	eP	13	11	18		(D = 7500 km)
	Z	i		11	22		18½N 81W
	Z	eS		20	(20)		H = 13 00 27
	Z	eLR		31	30		
11	ZEN	iP	13	00	45	C	53N 33W (BCIS)
	EZ	iPP		00	56	C	H = 12 57 01
	N	iS		03	43		D = 1700 km
	Z	i		03	54		
	N	eLQ		04	25		Long, regular surface waves
	ZE	eLR		05	30		
	N	M		05	35		15s. 150μ

Date	Comp.	Phase	G. M. T.			Type	Remarks
1954			h.	m.	s.		
Dec.11 (contd.)	E	M	13	06	20		15s. 100μ
	N	M		07	30		15s. 120μ
	EZ	M		09	50		15s. 100μ
	Z	T?		13	00		Short period on long period waves and lasting for 1m. 30s.
16	Z	iPKP	07	17	51	C	Tonga Is.
	Z	i		17	54	C	
	Z	i		18	02		
	Z	i		18	33	C	
	Z	iP	11	18	29	C	39½N 118W
	ZE	i!		18	34	C	H = 11 07 10
	Z	i		19	18		D = 7800 km
	Z	e		21	52		
	ZNE	eS		27	38		
	ZNE	i		27	49		
	N	eLQ		38	40		
	EZ	eLR		40	00		
	N	MQ		47	-		14s. 100μ
	EZ	MR		49	30		14s. 80μ
	N	M		54			14s. 200μ
	E	M		55			14s. 150μ
	Z	iP	11	22	52	D?	Aftershock
	Z	i		22	56	C?	
	Z	i	13	28	06		Microseisms
19	Z	iP	10	36	31	C	
	Z	ipP		37	30	C	
21	Z	eP	20	07	(45)		41N 124W
	Z	ePP		10	(31)		H = 19 56 25
	NE	eS		17	(32)		D = 8000 km
	NE	eL		31	00		Microseisms
	NE	M		37	00		
28	Z	iPKP	01	19	50		
	Z	i		20	02		
	Z	i		21	16		
	Z	ePP		23	10		
30	Z	e	11	12	(00)		Lines confused
	Z	eL	11	53	00		

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