

1
OBSERVATORY

21 FEB 1961

RICHMOND
SURREY.

SEISMOLOGICAL BULLETIN

KINGS COLLEGE OBSERVATORY, ABERDEEN

Oct - ~~Nov~~ Dec. 1960

Lat. 57°10' N. Long. 2°6' W. Height above M.S.L. 12M. Lithologic Foundation: Glacial deposit over boulder clay.

OCTOBER - DECEMBER 1960

Instruments: Milne-Shaw Seismographs, Photographic Registrations, Two Components.

Compt.	Mass	To	Damping Ratio	Magnification	1" Tilt	Date from which constants apply		
N	1 lb.	10 sec.	20 : 1	150	18.1 mm.	E-W	4.11.60	
E	1 lb.	10 sec.	20 : 1	150	18.1 mm.	N-S	4.11.60	
Date	Compt.	Phase	Time G.M.T. h. m. s.	Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion	Remarks Time of origin
Oct. 1	E NE N	i e, i i F	05 37 50 42 57 45 05 59 -				N E + + - -	B.C.I.S.: 35.5°N, 26.5°E Effects very slight
1	N N N E	e iS L LM	16 26 55 32 10 46 10 47 -) 17 15 -) 16 54 50	25	4		- -	U.S.C.G.S.: 52.2°N, 172.6°W
2	NE	LM	08 39 - 09 00 -					U.S.C.G.S.: 39°S, 91.6°W
2	E N	LM LM	12 57 -) 13 04 -) 13 00 - -04 -					U.S.C.G.S.: 38.7°S, 91.5°W
6	E E NE E NE N E	iP iPP iS iSS L M M F	19 59 24 59 39 20 02 39 03 09 03 24 04 50 05 30 41 -	13 13	14 18	17.7° 1965 Km	+ - + - - - - -	U.S.C.G.S.: 58.2°N, 31.6°W T ₀ = 19h 55m 20s
7	E E NE E N E	eP i eiS L M M F	03 19 18 22 28 22 28 23 35 24 56 25 21 43 -	13 14	4 8.5	17.3° 1920 Km	+ - + - - - - -	U.S.C.G.S.: Repeat of preceding T ₀ = 03h 15m 21s
7	NE E NE NE N E N N NE	iPP iSKP iSKS i, e iPPS i eSS i L	15 38 39 40 24 44 09 46 59 49 05 51 08 55 00 58 09 16 13 10			118.4° 13155 Km	+ - + + + + - + +	U.S.C.G.S.: 7.4°S, 130.7°E iN 40m 30s

No. 2

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

Date	Compt.	Phase	Time G.M.T.			Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion		Remarks Time of origin
Oct.											
7	contd.								N	E	
	N	M ₁	16	18	04	30	25				
	E	M ₁		18	06	35	64				
	E	M ₂		20	46	30	56				
	N	M ₂		25	09	25	26				
		F		44	-						
8	NE	iP	06	03	48			74.9°	-	-	U.S.C.G.S.: 40°N, 129.7°E
	NE	i		05	50			8320 Km	+	+	Deep focus 0.1R
	N	iPP		06	47				+		
	N	iPPP		08	47				-		T ₀ = 05h 53m 10s
	NE	iS		12	34				-	+	
	E	iPS		14	34				-	-	iN 14m 09s
	E	i		16	34				+	+	eN 16m 25s
	NE	eSSS		21	46				+	+	
	NE	L		31	54						
	E	M		40	04	15	6.5				
	N	M		40	24	15	5.5				
		F	07	31	-						
8	E	eS	21	03	14			85.3°		+	U.S.C.G.S.: 7.9°N, 92.9°E
	N	iPS		03	59			9480 Km	+		
	N	i		06	19				+	+	iE 06m 26s
	E	i		09	29					+	
	E	L		27	20						
	E	M		34	14	20	2.5				
	N	M		35	09	20	2.5				
		F	22	04	-						
9	E	iPP	09	15	21			76°		+	U.S.C.G.S.: 40.8°N, 141.2°E
	N	e		15	49			8445 Km	-		
	E	ePPP		17	01					-	T ₀ = 09h 00m 41s
	E	i		19	02				+	-	eN 18m 54s
	NE	iS		22	10				+	-	
	NE	iSS		27	14				+	+	
	E	eSSS		30	29				+	+	
	E	L		37	09						
	N	M		43	04	25	6.5				
	E	M		44	13	21	9				
		F	10	25	-						
13	N	i	15	03	53			67.6°	+		U.S.C.G.S.: 54.8°N, 161.2°E
	N	iPP		06	07			7490 Km	-		
	N	e		07	49				-		T ₀ = 15h 52m 36s
	NE	iS		12	27				+	+	
	NE	iPS		12	54				-	-	
	NE	i		13	29				-	+	
	N	iSS		17	05				+		
	E	e		20	54					+	
	E	L		33	30						
	E	M		41	08	18	13				
	N	M		42	02	16	9				
		F	16	20	-						
14	N	eP	21	30	38			71.1°	+		U.S.C.G.S.: 51.7°N, 172.1°W
	N	i		31	56			7900 Km	+		
	N	iPPP		34	48				+		
	E	e		37	15					-	
	NE	iS		39	47				-	-	
	NE	i		40	36				+	-	
	NE	e, i		47	59				+	-	
	N	L		54	00						
	E	L	22	02	00						

No. 3

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

Date	Compt.	Phase	Time G.M.T. h. m. s.	Period sec.	Ampl. "	Δ° km.	Dir ⁿ of Motion	Remarks Time of origin
Oct 14	contd.						N E	
	N	M	22 02 45	16	9			
	E	M ₁	08 41	20	16.5			
	E	M ₂	12 50	15	13			
		F	Lost in succeeding shock					
14	E	iP	22 59 56			19.0 ^o	-	U.S.C.G.S.: 55.5 ^o N, 35.2 ^o W
	NE	iS	23 03 26			2110 Km	+	T _o = 22h 55m 41s
	E	M	07 10	15	14.5			
	N	M	07 26	10	9			
		F	41 -					
14	E	e	23 56 -				+	
	N	e	24 00 45				-	
		F	10 -					
15	E	iP	01 58 23			19.0 ^o	-	U.S.C.G.S.: 55.6 ^o N, 35.6 ^o W
	N	iS	02 01 53			2110 Km	+	T _o = 01h 54m 08s
	E	L	02 51					
	E	M	04 22	15	3			
	N	M	04 50	13	2.5			
		F	23 -					
17	E	e	22 56 45				-	U.S.C.G.S.: 14.6 ^o N, 92.8 ^o W
	E	L	59 50					
	E	M	04 00	15	1.5			Very slight effect on N-S
		F	17 -					
22	N	i	08 44 55				-	U.S.C.G.S.: 10.3 ^o S, 161.2 ^o E
	N	e	55 35				+	No E-W record available
	N	L	09 24 -					
	N	M	38 48	24	4			
		F	53					
23	N	e	06 40 48				-	U.S.C.G.S.: 31.2 ^o N, 40.7 ^o W
	N	e	44 53				+	
	NE	e	50 48				-	Phases doubtful:
	E	e	55 33				+	Building shaking.
		F	07 07 -					
27	N	iP	15 42 45			14.3 ^o	+	B.C.I.S.: 71 ^o N, 6 ^o W
	NE	eS	45 40			1590 Km	+	
	E	M	47 57	15	6			
	N	M	48 03	12	2			
		F	56 -					
28	NE	iP	04 22 07			14.6 ^o	-	U.S.C.G.S.: 71.3 ^o N, 8.6 ^o W
	E	i	22 35			1620 Km	+	Jan Mayen Is.
	NE	e, iS	24 57				-	T _o = 04h 18m 39s
	N	eSS	25 25				+	
	E	L	26 10					
	E	M	27 37	15	37			
	N	M	28 58	11	17.5			
		F	05 45 -					
28	N	iP	07 50 00				+	U.S.C.G.S.: 71.3 ^o N, 8.4 ^o W
	N	e	52 40				+	After shock of No. 20
	E	e	53 10					
	E	L	54 45				-	
	E	M	55 45	15	3			
	N	M	56 52	12	2			
		F	08 15 -					

No. 4

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

Date	Compt.	Phase	Time G.M.T.			Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion	Remarks Time of origin
			h.	m.	s.					
Oct 28	N	iP	13	29	20			68.3° 7590Km	N E + -	U.S.C.G.S.: 52°N, 157.4°E T _o = 13h 18m 21s
	NE	ipP		29	35				+ +	
	NE	iS		38	20				+ +	
	NE	iPS		39	09				- -	
	E	i		39	52				- +	
	NE	eSSS		46	15				- -	
	NE	L	14	02	40					
	N	M		08	47	15	3			
28	E	M		08	55	15	2			
		F		40	-					
	NE	e, iS	22	52	10			83.0° 9220Km	+ -	U.S.C.G.S.: 34.6°N, 141.1°E
	E	eSS		57	40				+ +	
	NE	e	23	04	45				- +	
	E	e		11	25				+ +	
	NE	L		18	-					
	E	M		24	00	18	4.5			
	N	M		26	15	15	3			
		F		53	-					
29	N	e	04	44	45				+ -	U.S.C.G.S.: 15.4°N, 46.4°W
	E	M		46	05	15	1.5			
5 29		F		48	-					
	E	iP	13	30	37			24.4° 2710Km	- -	
	N	i		33	57				+ +	
	NE	eS		34	55				- +	
	NE	e		35	45					
	E	M		39	05	11	1			
	N	M		39	55	11	1			
		F		47	-					
6 30	NE	e, i	08	37	02				- -	
	N	e		40	20				+ +	
	E	e		41	45					
	E	M		45	55	10	1			
	N	M		46	15	10	1			
		F		55	-					
7 30	NE	eSKS	12	38	49			99.0° 11,000Km	- -	N 39m 36s T _o = 12h 14m 37s
	NE	e, iSKS		39	40				+ -	
	NE	e		40	34				+ +	
	N	ePPS		41	54				- +	
	NE	eSS		46	29				- -	
	E	eSSS		50	50					
	N	L	13	00	29					
	N	M ₁		05	44	20	2.5			
	E	M ₁		05	49	20	4			
	N	M ₂		13	54	20	2.5			
	E	M ₂		14	31	17	4			
		F		55	-					
8 30	NE	i, eSKS	21	56	46				+ +	U.S.C.G.S.: 22.8°S, 68.0°W
	N	i		57	30					
	E	e		59	02					
		F	22	05	-					

No. 5

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

Date	Compt.	Phase	Time G.M.T. h. m. s.	Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion	Remarks Time of origin
Nov. 1	E N E E E	i i i L M F	06 36 43 37 18 42 03 52 - 07 05 00 07 -	15	1.0		N E - + +	U.S.C.G.S.: 11.1°S, 12.7°W Phases doubtful through shaking of building.
1	N N E NE E N E N N E	i i iSS e, iSSS i L M M ₁ M ₂ M ₂ F	09 12 41 20 42 21 21 25 30 28 40 40 25 50 55 53 58 55 23 58 31 11 10 -	19 17 18 17	27 24 33 32	113° 12555Km	+ + + +	U.S.C.G.S.: 38.4°S, 74.4°W
2	E N	LM LM	18 35 - -44 - 36 - -51 -					U.S.C.G.S.: 10.9°S, 164.9°E Obscured by microseisms
5	NE N NE E NE NE N E	iP e iS i i M ₁ M ₂ M ₂ F	20 25 58 26 51 30 14 30 34 31 45 36 15 39 06 39 33 21 02 -	15 10 10	2 1 1.5	24.3 2700Km	+ + + +	U.S.C.G.S.: 39.3°N, 20.5°E T ₀ = 20h 20m 42s
6	N E N E E N	iS i e e M M F	04 58 25 58 37 05 15 26 21 36 29 41 29 48 54 -	15 16	1.5 2		- - - +	U.S.C.G.S.: 53.0°N, 159.8°E
6	E N E N	e e M M F	07 39 30 42 35 47 40 49 56 08 27 -	16 15	3 1.5		- +	U.S.C.G.S.: 31°S, 177.7°W
6	N E NE N E	e e L M M F	22 39 40 45 35 52 - 55 56 56 00 23 15 -	15 18	4 4.5		- +	U.S.C.G.S.: 52.7°N, 168°W
9	N N N NE E E N	i i i i, e i L M M F	03 42 12 48 00 48 37 54 40 58 10 04 10 - 22 10 25 50 05 04 -	20 17	5.5 4		+ + + - - -	U.S.C.G.S.: 60.7°S, 24.8°W

No. 6

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

	Compt.	Phase	Time G.M.T. h. m. s.	Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion	Remarks Time of origin
9	E N N N E	e e L M M F	11 09 50 10 05 18 40 22 56 23 05 56 -	21 20	55 33		N E +	U.S.C.G.S.: 32.7°N, 103.4°E
9	E E	e M F	20 51 - 59 05 21 20 -	20	2.5			U.S.C.G.S.: 23.2°S, 70.6°W No definite phase on N-S
13	E NE N E NE N E	i e i i L M M F	06 56 39 07 05 55 14 13 15 13 33 10 40 43 44 46 54 -	20 20	1.5 2.5		- - - - +	U.S.C.G.S.: 1.4°N, 127.2°E Effects slight: phases doubtful
13	NE E N NE NE E N E N E N	iP i iPP iS iPS i iSS i iSSS L M ₁ M ₂ M F	09 31 58 33 47 34 30 41 18 42 04 45 13 46 03 47 48 48 57 54 38 10 06 58 11 23 11 33 12 13 -	17 15 15	38 32 18	71.9° 7990Km	+ + + + + - + - + - + + -	N 09h 31m 54s U.S.C.G.S.: 51.1°N, 168.8°W N 41m 14s T ₀ = 09h 20m 36s
20	E N E NE E N E N N E E	eP ePPP e i, eSKKS iS iPS eSS i M L M F	22 15 01 20 32 24 37 25 47 26 09 26 54 32 04 32 18 43 34 54 15 23 00 46 25 16 -	30 17	62 22	89.6° 9955Km	+ + - - + - - + - +	Ne 15m 31s U.S.C.G.S.: 6.8°S, 80.7°W T ₀ = 22h 02m 05s
22	E E N	e M ₂ M ₂ F	07 20 29 24 39 30 45 40 -	15 15	1 .1			U.S.C.G.S.: 35.9°S, 52.3°E
22	N E N N E	e e e M M F	13 28 52 30 32 34 32 40 38 43 03 52 -	18 15	4.5 2.5		- - - -	
23	N E E	iPKP ₁ iPKP ₂ i	14 32 09 32 19 33 45			147° 16335Km	+ - +	U.S.C.G.S.: 24.2°S, 176.1°W

No. 7

SEISMOLOGICAL BULLETIN

KING'S COLLEGE OBSERVATORY, ABERDEEN

	Compt.	Phase	Time G.M.T. h. m. s.			Period sec.	Ampl. μ	Δ° km.	Dir ⁿ of Motion		Remarks Time of origin
23	contd.								N	E	
	N	eSKP	15	36	00				-		Phases doubtful
	E	e		12	43					+	
	N	eL		21	45						
	E	M ₁		34	33	22	16				
	E	M ₁		38	36	20	11				
	E	M ₂		39	53	20	19				
		F	16	39	-						
24	N	iPKP	07	12	38			147°	-		U.S.C.G.S.: 24.2°S, 176.1°W
	N	iPP		15	39			16335Km	-		
	N	i		18	04				-		
	N	iSKKS		22	43				+		T ₀ = 06h 52m 50s
	N	iPSKS		26	18				+		
	N	iPPS		28	45				-		Obscured by microseisms on E-W
	E	i		33	39					+	
	N	iSS		34	53				-		
	N	iSSS		40	06				+		
	N	i		44	43				+		
	E	i		52	05					+	
	E	eL	08	01	48						
	E	L		09	23						
	E	M ₁		20	05	19	49				
	E	M ₂		23	35	18	49				
	E	M		34	21	16	31				
	N	F	09	33	-						
December											
1	N	iS	21	09	15			65.5°	-		U.S.C.G.S.: 48.8°N, 129.3°W
	E	i		11	15					+	
	E	iSSS		16	05			7280Km		+	
	N	L		21	10						
	E	M		24	34	20	27				
	N	M		25	39	19	22				
		F		45	-						
	E	iPP	09	28	42			99°		-	U.S.C.G.S.: 24.5°S, 69.9°W
	E	iSKS		35	25			11000Km	+	-	iN 35m 31s
	NE	iPS		37	34				+	+	
	E	iSS		43	05				-	-	iN 43m 09s
	N	eSSS		46	30				-		T ₀ = 09h 11m 05s
	N	L		52	40						
	E	M	10	05	20	18	227				
	N	M		06	00	18	89				
		F	11	10	-						
3	E	iP	04	34	47			63°		+	U.S.C.G.S.: 42.8°, 104.5°E
	E	i		39	47			7000 Km		-	
	N	iS		43	26				+		T ₀ = 04h 24m 27s
	NE	iSSS		50	02				+	-	
	NE	L		57	30						
	N	M	05	04	18	14	100				
	E	M		04	44	15	150				
		F		45	-						
6	E	e	09	45	10						U.S.C.G.S.: 21.4°S, 69°W
	E	M		48	22	20	14				No readable effect on N-S
		F		54	-						

