

DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, JANUARY 1951

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when both the instruments have not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns	Distance degrees.	Time of origin
Jan.1	ME	03 49	15	4		
Jan.6	iPE	05 26 05				
	iE	05 27 18				
	iE	05 29 44				
	iE	05 30 04				
	iSNE	05 34 34			60.3	05 16 00
	iNE	05 38 06			?deep.	
	iNE	05 38 24				
Jan.6	eNE	08 13 09				
	iNE	08 18 58				
	ME	08 43	14	13		
Jan.8	iNE	15 39 28	Artificial			
Jan.11	N	01 52 06				
	N	01 52 14				
	N	01 54 05				
Jan.15	?iN	04 34 40				
	?iN	04 35 37				
Jan.23	ME	08 20	20	17		
Jan.28	MN	14 16				
Jan.30	ME	23 35				

Any further January readings will be given in the February list.

February 3, 1951.



7 MAR 1951

DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS , FEBRUARY 1951

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20: 1, magnification 250.

Position:- latitude 54°46' N, longitude 01°35' W, height above M.S.L. 103 metres.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns.	Distance degrees	Time of origin To
12 Feb.	eN	17 37 39	19	20		
	iN	17 39 28				
	MN	18 00				
13 Feb.	eN	12 15 56				
	iN	12 18 26				
	iN	12 19 33				
	iN	12 24 26				
13 Feb.	iPNE	22 24 00	19	100	68	22 13 02
	iPPNE	22 26 31				
	iNE	22 26 44				
	iSNE	22 32 57				
	iS SNE	22 33 53				
	iSKSNE	22 34 10				
	MN	22 55				
14 Feb.	iNE	08 59 21				
27 Feb.	iNE	13 44 53				Artificial
		13 45 04				

Any later February readings will be given in the March list

4th March, 1951.



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, MARCH 1951.

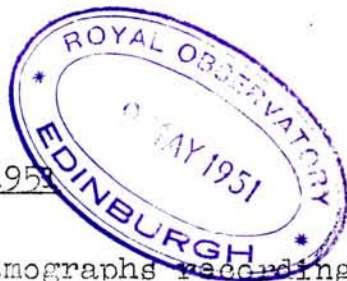
Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when both of the instruments have not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns.	Distance degrees.	Time of origin To
Mar.1.	iE	11 09 43	Artificial.			
Mar.2.	MN	01 45				
Mar.5.	iNE	20 28 29				
	iN	20 32 05				
	iN	20 34 22				
Mar.9..	MN	20 51	30	46		
Mar.10.	iE	10 45 53				
	iE	10 46 13				
	iE	10 47 55				
	iE	10 48 13				
	iE	10 48 23				
	iE	10 48 33				
	iE	10 48 45				
Mar.10.	eNE	22 16 54				
	iNE	22 20 00				
	iNE	22 20 25				
	iN	22 20 51				
Mar.12.	MN	15 39				
Mar.17.	MN	05 07				
Mar.29.	iNE	14 12 23	Artificial.			

April 4, 1951.

DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAPHS - APRIL 1951


Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. $T = 12$ secs., damping ratio 20 : 1, magnification 250.

Position:- latitude $54^{\circ}46'N$, longitude $01^{\circ}35'W$, height above M.S.L. 103 metres.

There have been times when one of the instruments has not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns.	Distance degrees	Time of origin To
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Correction and addition to the readings of 1951 January 11.

Jan. 11	P ₁ N	01 51 24				
	S ₁ NE	01 52 06				
	S ₂ N	01 52 14			03	01 50 34
Apl. 2	eE	00 35 49				
	MN	01 08				
Apl. 8	eE	21 46 01				
	iE	21 49 45				
	ME	22 00	12	5		
Apl. 14	ME	04 44				
Apl. 14	iNE	13 51 19				
	MN	14 13	15	24		
Apl. 15	iN	00 01 22				
	iNE	00 02 14				
	MN	00 28	12	14		
Apl. 22	MN	12 56	15	3		
Apl. 30	eNE	15 49 30				
	iN	15 50 39				
	iE	15 50 45				
	MN	16 38	21	10		

May 3, 1951.



READINGS FROM SEISMOGRAMS, MAY, 1951.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when both the instruments have not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude Microns.	Distance degrees	Time of origin To
May 1	eE	05 23 04				
	iN	05 23 11				
	iE	05 23 30				
	iN	05 47 35				
	MN	06 26	30	30		
May 2	MN	17 36				
May 4	ME	19 54	10	1		
May 6-7	eN	23 25 05				
	iE	23 33 07				
	MN	00 03	16	3		
May 10	iNE	09 30 37				
	iN	09 40 58				
	MN	10 10	15	8		
May 10	ME	22 43	17	2		
May 12	eE	22 27 38				
	MN	22 42	12	3		
May 15	iNE	10 27 22	Artificial.			
May 15	eNE	22 59 13				
	iNE	22 59 25				
	iE	22 59 43				
	iNE	23 00 18				
	iE	23 00 27				
	iNE	23 00 40				
	iNE	23 01 08				



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, MAY 1951 continued.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when both the instruments have not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns.	Distance degrees.	Time of origin To
May 19	iPN	15 38 30				
	iSE	16 01 45			17	15 54 39
	iN	16 01 50				
	iN	16 02 01				
	ME	16 05	8	9		
May 21	iE	08 46 29				
	iN	08 46 42				
	iNE	08 48 24				
	iNE	08 49 36				
May 29	iN	05 27 00	Artificial, ? Easington Pit accident.			
May 29	MN	07 16				
May 31	PNE	21 08 07				
	NE	21 08 22				
	E	21 10 14				
	NE	21 12 43				
	iSNE	21 19 29			96	20 54 41
	MN	21 58	13	4		

Any later May readings will be given on the June list.

3rd June 1951.



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, June, 1951.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when one of the instruments has not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns	Distance degrees.	Time of origin To
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Correction to May list:- for May 19 iPN read 15 58 30.

June 2	ME	07 55				
June 3	MN	19 28				
June 5	ePNE	17 10 24				
	iP PNE	17 10 36				
	iNE	17 10 44				
	iN	17 10 49				
	iPPE	17 14 00				
	iSKSNE	17 20 55				
	iSNE	17 21 16			89	16 57 31
	iPSN	17 22 16				
	MN	17 51	20	40		
June 6	iPN	16 14 44				
	iPPN	16 15 12				
	iPPPN	16 15 24				
	iSE	16 18 41			21.7	16 09 57
	iN	16 19 36				
	ME	16 24	10	64		
June 9	iPN	11 32 08				
	iN	11 33 39				
	iSNE	11 36 15			23	11 27 10
June 20	MN	22 47	15	4		

Any later readings will be given in the July list.

July 1, 1951.

DURHAM UNIVERSITY OBSERVATORY

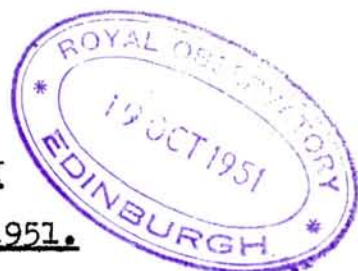
READINGS FROM SEISMOGRAMS, JULY 1951.



Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- Latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns.	Distance degrees.	Time of origin To.
Correction to June list:- for June 5 17 10 36 read iP _c PNE..						
June 30	iNE	10 59 22	Artificial			
June 30	iNE	17 05 36	Artificial			
July 3	oNE	05 41 25				
July 7	iNE	11 01 36	Artificial			
July 8	iNE	06 08 42				
	ME	06 50	21	13		
July 11	oN	18 36 39				
	iNE	18 40 18				
	iNE	18 43 51				
	iNE	18 47 36				
	iNE	18 48 36				
	ME	19 10	24	12		
July 16	iNE	10 42 46	Artificial			
July 18	iPNE	09 16 09				
	iNE	09 19 29				
	iNE	09 19 49				
	iSNE	09 24 12			58.5	09 06 16
	MN	09 36	14	100		
July 21	iN	01 53 05				
July 25	iE	10 51 48				
	MN	10 58				
July 28	iNE	11 02 54	Artificial			
July 28	ME	23 56	18	3		



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, AUGUST, 1951.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. $T = 12$ secs., damping ratio 20 : 1, magnification 250.

Position:- latitude $54^{\circ}46'N$, longitude $01^{\circ}35'W$, height above M.S.L. 103 metres.

There have been times when one of the instruments has not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns	Distance degrees	Time of origin To
Aug. 2	iNE	14 42 01	Artificial			
Aug. 10	ME	06 01				
Aug. 13	eN	18 39 11				
	ePNE	18 39 15				
	iNE	18 39 28				
	iN	18 43 48				
	iSN	18 44 08			29	18 33 19
	iE	18 44 12				
	iE	18 47 28				
	iE	18 49 16				
	iN	18 49 56				
	MN	18 58	13	175		
Aug. 14	ME	19 05	15	1		
Aug. 15	iNE	17 10 32	{ Artificial			
	iN	17 10 42				
Aug. 17	PE	00 08 10				
	ME	00 29				
Aug. 17	iNE	16 11 05	{ Artificial			
	iNE	16 11 15				
Aug. 21	iNE	11 00 58	Artificial			
Aug. 21	iNE	11 21 42				
	ME	12 07	16	6		
Aug. 23	iNE	11 50 32	Artificial			
Aug. 24	NE	10 35 20				
	iE	10 41 21				
	ME	10 45				
Aug. 31	iN	12 39 38				
	iN	12 40 13				
	MN	13 44				
Aug. 31	iN	20 28 52				
	MN	20 36				

7th September, 1951.



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, SEPTEMBER 1951

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. $T = 12$ secs., damping ratio 20 : 1, magnification 250.

Position:- latitude $54^{\circ}46'N$, longitude $01^{\circ}35'W$, height above M.S.L. 103 metres.

There have been times when one of the instruments has not recorded.

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns	Distance degrees	Time of origin To
5 Sept.	iNE	15 30 37	Artificial			
5 Sept.	iNE iN	16 41 26 16 41 36	{Artificial			
18 Sept.	iN	15 06 37	Artificial			
20 Sept.	iNE iE	16 20 07 16 20 27	{Artificial			
22 Sept.	iNE iE	10 02 24 10 02 43	{Artificial			
26 Sept.	iNE iNE	11 50 27 11 50 31	{Artificial			
27 Sept.	eN iN ME	19 40 24 19 44 41 20 01				17 10

2 October 1951.

BRHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, OCTOBER 1951.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. $T = 12$ secs., damping ratio 20 : 1, magnification 250.

Position:- latitude $54^{\circ}46'N$, longitude $01^{\circ}35'W$, height above M.S.L. 103 metres.

There have been times when both the instruments have not recorded. (08 - 12 hrs. on 23rd).

Date	Phase and component	Time G.M.T.	Period Secs.	Amplitude microns	Distance degrees	Time of origin To
1 Oct.	iE ME	01 37 48 01 44	15	2		
1 Oct.	iE ME	10 47 36 10 58	14	2		
5 Oct.	eNE iE ME	12 06 47 12 11 02 13 02	20			
6 Oct.	iNE iN	11 02 30 11 02 35				
8 Oct.	ME	04 48	30	4		
10 Oct.	iNE	14 58 53 (Artificial)				
10 Oct.	iNE	17 22 36 (Artificial)				
11 Oct.	ME	02 54	20	10		
13 Oct.	ME	23 32	17	3		
18 Oct.	iNE	11 53 29 (Artificial)				
21 Oct.	eE iE iNE ME	21 40 20 21 47 35 21 58 01 22 25	20	500		
22 Oct.	iNE ME	03 53 04 04 27	15	250		
22 Oct.	iE iE ME	06 06 39 06 06 51 06 32	21	280		



DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, OCTOBER 1951, cont.

Date	Phase and component	Time G.M. T.	Period Secs.	Amplitude microns	Distance degrees	Time of origin To
22 Oct.	ME	12 08	15	30		
22 Oct.	ME	13 46	12	20		
	ME	13 58	15	20		
22 Oct.	ME	16 27	15	55		
22 Oct.	ME	19 40	15	12		
22 Oct.	iE	21 48 49				
23 Oct.	ME	02 17	15	45		
23 Oct.	eE	19 02 33	16	5		
	ME	19 16	16	5		
24 Oct.	MN	04 36	14	17		
24 Oct.	ME	14 39	14	2		
25 Oct.	iN	12 43 17				
	iN	12 57 54				
	MN	13 17	15	32		
28 Oct.	ME	02 53	12	5		
28 Oct.	ME	08 34	15	4		
29 Oct.	eE	00 21 51				
	ME	00 31				
30 Oct.	ME	14 57				
30 Oct.	ME	16 18	15	2		
30 Oct.	ME	16 48	15	2		
31 Oct.	eE	07 10 00				
	iE	07 13 44				
	iNE	07 20 27				
	ME	08 01	19	13		

2 November 1951.



DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, NOVEMBER, 1951

Will recipients please destroy the November, 1951 list sent out in December and substitute this.

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when one of the instruments has not recorded

Date	Phase and Component	Time G.M.T.	Period secs	Amplitude microns	Distance degrees	Time of origin	To
<u>Correction to October list.</u>			23 Oct.	eE 19 02 33	delete Period 16 and Amplitude 5.		
2 Nov.	ME	22 20	15	15			
4 Nov.	MN	12 07					
5 Nov.	ME	05 35					
6 Nov.	iPNE	16 51 56					
	iPcPE	16 52 10					
	iSE	17 01 46			77.7	16 40 01	
	iScSNE	17 02 17					
	iPSN	17 02 31					
	iE	17 06 51					
	iN	17 07 09					
	ME	17 31	15	55			
8 Nov.	ePN	13 55 11					
	iSE	14 05 37			84	13 42 43	
	ME	14 34	15	9			
9 Nov.	ME	06 42	18	3			
12 Nov.	iPNE	08 21 30					
	iSE	08 31 07			75	08 09 50	
	ME	08 58	18	12			
12 Nov.	iNE	13 01 18	(Artificial)				

DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, NOVEMBER, 1951 (contd.)

Date	Phase and Component	Time G.M.T.	Period secs.	Amplitude microns	Distance degrees	Time of origin To
16 Nov.	iNE	16 08 28	(Artificial)			
17 Nov.	ME	05 29				
18 Nov.	iE	09 46 25				
	iPE	09 46 43				
	iPcPE	09 47 17				
	iPPE	09 49 19				
	iPPPE	09 50 48				
	iSN	09 55 28			66	09 35 58
	iPSN	09 55 55				
	iScSN	09 56 48				
	MN	10 14	20	1000		
24 Nov.	iNE	19 10 52				
	iNE	19 13 57				
	MN	19 48	10	240		
26 Nov.	ME	07 35	15	22		
29 Nov.	ME	15 17				

December 3, 1951

revised

January 3, 1952



DURHAM UNIVERSITY OBSERVATORY

READINGS FROM SEISMOGRAMS, NOVEMBER, 1951

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. T = 12 secs., damping ratio 20 : 1, magnification 250.

Position:- latitude 54°46'N, longitude 01°35'W, height above M.S.L. 103 metres.

There have been times when one the instruments has not recorded.

Date	Phase and Component	Time G.M.T.	Period secs.	Amplitude microns	Distance degrees	Time of origin To
<u>Correction to October list.</u> 23 Oct. eE 19 02 33 delete Period 16 and amplitude 5.						
2 Nov.	ME	22 20	15	15		
4 Nov.	MN	12 07				
5 Nov.	ME	05 35				
5 Nov.	iPNE	16 51 56				
	iPcPE	16 52 10				
	iSE	17 01 46			77.7	16 40 01
	iScSNE	17 02 17				
	iPSN	17 02 31				
	iE	17 06 57				
	iN	17 07 09				
	ME	17 31	15	55		
8 Nov.	ePN	13 55 11				
	iSE	14 05 37			84	13 42 43
	ME	14 34	15	9		
9 Nov.	ME	06 42	18	3		
12 Nov.	iPNE	08 21 30				
	iSE	08 31 07			75	08 09 50
	ME	08 53	18	12		
12 Nov.	iNE	13 01 18	(Artificial)			
16 Nov.	iNE	16 08 28	(Artificial)			
17 Nov.	ME	05 29				

Revised November Readings



DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, NOVEMBER, 1951 (contd.)

Date	Phase and component	Time G.M.T.	Period secs.	Amplitude microns	Distance degrees	Time of origin To
18 Nov.	iE	09 46 25				
	iPE	09 46 43				
	iPcPE	09 47 17				
	iPPE	09 49 19				
	iPPPE	09 50 48				
	iSN	09 55 28			66	09 35 58
	iPSN	09 55 55				
	iScSN	09 56 48				
	MN	10 14	20	1000		
24 Nov.	iNE	19 10 52				
	iNE	19 13 57				
	MN	19 48	10	240		
26 Nov.	ME	07 35	15	22		
29 Nov.	ME	15 17				

Revised November

December 3, 1951


DURHAM UNIVERSITY OBSERVATORY
READINGS FROM SEISMOGRAMS, DECEMBER, 1951

Readings from two Milne-Shaw (horizontal) seismographs recording North and East components respectively. $T = 12$ secs., damping ratio 20 : 1, magnification 250.

Position:- latitude $54^{\circ}46'N$, longitude $01^{\circ}35'W$, height above M.S.L. 103 metres.

Date	Phase and Component	Time G.M.T.	Period secs.	Amplitude microns	Distance degrees	Time of origin To
8 Dec.	iNE	04 32 36				
	iNE	04 39 02				
	iNE	04 41 43				
12 Dec.	iE	01 59 16				
21 Dec.	MN	09 20				
26 Dec.	MN	17 06				
28 Dec.	MN	10 11				

January 3, 1952