No. Records 510-513 From January 1,1916 to January 13, 191 6

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time h. m. s.	Periods s.	Amplitudes μ.	Δ Kms.	REMARKS
	1916						Damping: N,4/1..E,0/0.
510	Jan.1	C?	13 24 55			9800?	But vd.Ottawa 13000.
		i	13 41 30				E records were changed
		S_N	13 48 26	6			between 13h 46m and 13h 50m
		eL?	13 58 30E				N records were changed
		L_E	14 1[illegible] 10	44			between 13h 54m and 14h 06m
		L_N	14 1[illegible] 12				E times after 13-50 inter-
							polated from hour mark
		M_E	14 27 20	24			because of failure of min-
							ute ticks.
		C_E	14 52 ca.				E stylus left drum, return-
							ing at 14-45-40?
		F	16 13				
511	Jan.6	iL_N	3 32 50	0.37		0	Local frost crack.A 90 micra
		F	3 32 53				Freezing after rain on snow.
512	Jan.6	iL_N	11 13 12	0.44		0	Similar to No.511.A, 37 micra.
513	Jan.13	i?	6 08 ca.			12850?	and i from eL -C? but
		e_N	6 40 30				eS may be earlier among
		e_E	6 41 53				microseisms.
		e	6 41 21				
		e_N	6 41 29				
		S_E?	6 47 41	7			
		eL E	7 13 11	40			
		L E	7 15 02	48			
		L	7 26 06	30			
		M_E	7 34 59	20			Undamped pendulum.
		L	7 38 23	18			
		F?					F merged in following record.

Issued February 12,191

J.B. Woodworth

No. From to 191

Records January 13,1916 January 26, 6.

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
			h. m. s.	s.	μ.	Kms.	
514	1916						
514	Jan.13	?	8 33 30			7020?	
		eP_E	8 43 59				
		eP_N	8 44 01				
		i_N	8 49 30	6			
		S_N	8 52 29				
		eS_N	9 01 08	48			
		eL_E	9 01 23	46			
		M_{1E}	9 35 06	21			
		M_{2E}	9 39 41	21			
		M_N	9 43 50	20			
		M_{3E}	9 47 28	20			
		F	11 34 ca.				
514a	Jan 19	L_E	20 05 25	20			Emerged from heavy microseisms-
		F	20 50				
515	Jan.24	?	6 55 30		8250		Press reports 1500 miles from Pulkovo.
		F	7 07 05				
		S_E	7 16 36	14			N stylus thrown against rim of drum by cyclonic tilt.
			7 21 38				
		eL_E	7 30 40				
			7 34 30	26			
		M_E	7 42 08	17			A trace 3mm.
		F	8 57 ca.				
516	Jan 26	?	7 19 22		6500?		P in microseisms.
		S_N?	7 57 25	6			A very small.
		eL_N	8 06 48?				
		eL_N	8 08 56	30			
		L_E	8 13 46	16			
		F	8 47 ca.				

Issued February 12,1916.

J. B. Woodworth.

No. Records 517,518,519, 498a,509a. From January 26,1916 to January 31, and December,1915 addenda. 1916

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
517	Jan 26	O?	12 26 50			12,420?	
		eP?	12 45 02	4			P and S doubtful; difficult to read.
		S?	12 54 37	10			
		i?	12 58 10	8			
		eL?	13 19 39				
		L	13 23 14	24-20			Well defined.
		L	14 04 41	15			Changed records 15h 43m.
		to	14 10 39				
		F	14 58 ca.				
518	Jan 30	O?	20 57 01?				
		eP	21 09 28			9380?	
		S	21 19 52	24			
		eL	21 24 37	28			
		L	21 39 08	18-16			Sinusoidal to F. No M.
		to	21 55 07				
		L	22 00 05	15			
		F	22 06				
519	Jan 31	O?	18 11 05			4930	
		eP?	18 19 55				Masked by microseisms.
		eP	18 23 10	4			
		S	18 26 13				
		S?	18 28 43	8			
		eL	18 53 55	24			
		L	18 54 59				
		L	19 36 05				
		L	19 44 30	15			
		L	19 45 49	20			S waves.
		L	19 52 44				
		L	19 18 20	16-12			
		F	19 50 ca.				
	1915						
498a	Dec 3	L	3 42 10	25-20			Ref. Ottawa, LaPaz.
		F	3 47 ca.				
			4 06				
509a	Dec 31	O?	23 07 04			3390?	Minutes ticks failed; times interpolated. Not registered in N component.
		eP	23 18 36?	2			
		S	23 18 46	6			
		SR	23 20 00	8			
		eL	23 23 59	14-16			
		L	23 28 ca.				

Issued February 12,1916.

K. O. Wood

No. 522b From For Feb. 8 to 191

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
			h. m. s.	s.	μ.	Kms.	
522b	Feb8	e_E	15 39 14	13			
		L^E	15 40 14	15			
		to	15 40 47				
		i	15 52 17				
		L	16 14 46	20			
		L	16 21 20	13			
		F?	16 35				

Memorandum:

The reduction of observed phases to Δ and O are made in accordance with the SEISMOLOGICAL TABLES of Dr. Otto Klotz: Publications of the Dominion Observatory, Ottawa, vol. iii, No.2, (March), 1916.

H. B. Woodworth

No. 528-533 From March 1 to March 20 19P

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.
TIME: Mean Greenwich, midnight to midnight.
INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	1916	Phase	Time	Periods	Amplitudes	Δ	REMARKS
			h. m. s.	s.	μ.	Kms.	
528	Mar4	O?	7 39 14			8130?	P and S heavily masked by microseisms, 5 to 6 secs.
		eP_E?	7 50 48	?			
		S?	8 00 08	7?			
		eL?	8 15 10				i? 8-08-12
		L	8 17 40	20			
		C	8 22				
		F?	8 45 30				F in microseisms 5 to 6s.
529	Mar 7	L_E	19 38 06	17		?	3 waves
		L_E	19 38 59	20			1 wave. e to F in micro.
530	Mar 8	O	3 46 26			0	Minute local shock.
		i_E	3 46 26	10			
		F	3 46 36				
531	Mar12	O?	7 31 15			3490?	P and S in microseisms
		eP_E	7 37 55				Record of dubious interpretation; may be much more distant...
		S	7 43 11	9			
		eL_E	7 46 31	8			
		L	7 49 35	20			
		L	7 49 68				
		F	8 25 ca				
532	Mar16	O	22 50 ca				
		$eL?_E$	23 02 50	16			P and S masked by microseisms. Short period nearby record. N component out of commission.
		L	23 04 06	12			
		F?	23 28 30				
533	Mar 20	O	21 04 33			290	Local shock; not reported as felt.
		P	21 05 15				
		L	21 05 47				
		M	21 05 51				A_E 62 micra
		F	21 06 17				

J. B. Woodworth

No. 534-535 Also 519, 522a. From March 21 to Ma 191

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	1916 Date	Phase	Time h m. s.	Periods s.	Amplitudes μ.	Δ Kms.	REMARKS
534	Mar25?	0?	23 ca				Day of 0 undetermined.
	26	eL_E?	0 50 02				
		L	0 50 49	27		Small	
		L	0 55 43	20			
		F	1 06 ca				
535	Mar 31	0?	11 10 50			4220?	
		eP?	11 18 24				
		S?	11 24 24				
		eL_E?	11 27 17	11			
		L	11 30 38	8			
		e_N	11 31 07	6			
		eL_E?	11 31 36				Amplitudes diminish except for M_E (slight).
		eL_N	11 31 42	8.5			
		M_E	11 32 38	15			
		M_E	11 35 ca	13			
		F_E	12 15				
519	Jan31	e_N	18 19 35				Revised readings.
		e_E	18 23 10	4			P and S masked by microseisms.
		i_N	18 26 13				
		e_E	18 28 43	8			
		eL_N	18 33 55	24			
		eL_E	18 34 59				
		L_N	18 36 05				
		L_N	18 44 30	15			
		L_E	18 45 49	20			3 waves
		L_E	18 53 44				
		L_E	19 18 20	16-12			
		F_E	19 50 ca				
	1916						Please insert in February Report.
522a	Feb.6	i	11 14 39	10			e and F uncertain among waves of ca.7 secs pd. on E(undamped) component. Microseisms on N 2.6 secs period.
		L?	11 15 40	15			

J. B. Woodworth

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
536	Apr 3	O?	8 24 03			4840?	Δ & O quite uncertain. Pendulum began to drift E.
		$\overline{e}_E$	8 36 00				
		S_E?	8 38 54	7			
		eL_N	8 43 11				
		eL_E	8 43 14	15			
		L_E	9 04 10	12 to 15			
		F_E	9 10 24				
537	Apr 4	e	21 22 50				In microseisms.
		L?	21 25 31	20			
		F?	21 29 43				
538	Apr 5	e	3 24 27				In microseisms.
		F	3 31 51				
539	Apr 7	O	9 35 35			10500	
		$i\overline{P}_E$	9 49 11				
		S_E	10 00 31				
		R	10 06 56				
		eL_E?	10 21 13				
		LR_{1E}	11 18 53	24			
		F_E	12 07				
540	Apr 11	e?	3 58 24				Short periods masked by microseisms. Not detectible on damped component.
		i	3 58 59	4			
		eL?	4 00 00	16			
				14			
				9			
				7			
		F	4 15 25				
541	Apr 16	O?	22 40 07			2460?	
		$e\overline{P}_E$?	22 45 10				In microseisms.
		e	22 48 12				
		S_{NE}	22 49 12	6.4.			
		eL_E?	22 50 14				

J. B. Woodworth.

No. From April 2 to April 14 191

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. $h = 5.367$ M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
Supplementary corrections and additions to April Bulletin. Please insert following additional records; read after Ottawa.							
536a	Apr2	e?	19 06 07				e earlier? among
		L_E	19 11 15	15-20			irregular waves
		L_E	19 16 12	10			during morning hours
		L_N	19 16 16	10			
		F?					F very uncertain.
538a	Apr6	L_E	19 06 44				N record masked by
		L_E	19 21 31				microseisms.
		F	19 38 ca				
540b	Apr 14	L_E?	18 28 44				N.B. Between 14h and
		L_E	18 32 04				20h nearly continuous
		F?					vibrations registered
							on E component with
540a	Apr 14	L_E	15 54 05				periods from 8 to 12
		L	15 55 07	15			secs.
		L	15 58 43	10			
		F	17 01 ca				
540c	Apr 14	L_E	20 34 56				
		L	20 43 15	9			
		L	20 48 47	8			
		L	20 54 35	12			
		L	21 09 18				
		F	21 18				
540d	Apr 14	L_E	21 41 56				
		L	22 04 39	14			
		L	22 11 01	18-20			
		F	22 37 ca				

J. B. Woodworth

No. 541- 545 From April 16 to April 21 19

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
541	Apr16	L	22 51 25	12			
		L	22 55 56	9			
		F E	23 11				
542	Apr17	O	18 29 18			260	Not heard from.
		P	18 30 09				
		M N	18 30 38	1			
		F	18 31 20				
543	Apr18	O	4 01 43			6700	
		iP	4 11 54				
		iP N	4 11 57				
		iP E	4 14 25				
		PR 1N	4 20 07	6			
		S N	4 20 10				S with A large to 4-21-55.
		S E	4 21 42				
		i NE	4 31 09				
		eL E	4 34 00	11			
		L N	4 34 32	13			
		M E	4 35				E undamped.
		M	4 37				
		M E	4 40				
		F E	6 11				
544	Apr18	e	22 40 08 to 22 42 14	8-10			e earlier in microseisms.
545	Apr21	O?	11 plus				Very distant.
		e E	11 46 10	10			Undamped component.
		M?	11 56 51	18			Periods variable.
		M	12 04 52	20			Followed by L of variable periods up to 38s.
		F?	13 39 ca				Changed records. Microseisms mainly on N comp.

H. R. Woodworth

No. From **April 15** to 191

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U. S. A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
540c	Apr15	e?	12 51 17	8			
		i	13 02 24	10			
		i	13 07 22	14			Changed E record between 13h 37m and 13h 45m.
		-	-- -- --				
		L_E	13 52 09	20			
		L^E	13 54 42	28			
		L	14 17 22	15			
		F?	14 23 51				F later? in microseisms

Please make following changes in April records previously issued:

536 Apr 2 should be read instead of Apr. 3.

549 Apr 26 Read L for M in each case in phases, and N subscript for n.

J. B. Woodworth

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
546	Apr 22	O?	20 40 ca			55?	Local shock. Record shows large amplitude on side of indicator unconfined by the suspended wheel-contact with the main boom, evidently due to motion of the indicator independently of the pendulum.
		eP N	20 40 27				
		M N	20 40 34				
		F	20 40 48				
547	Apr24	O	4 26 26			2650	
		P N	4 31 49				
		eP E	4 31 56				
		S N	4 36 06				
		eL N	4 39 41	15			
		F N	5 42				
548	Apr 24	O	8 02 29			3320	
		P N	8 08 58				
		eP E	8 09 06				
		i N	8 10 23				
		i E	8 10 31				
		S N?	8 14 03				
		S E	8 14 38				
		eL E	8 19 30				
		eL N	8 20 08	20			Later 26,20
		M N	8 25 52				A_N 175 micra.
		F N	10 10				
549	Apr26	O	2 21 19			5730	
		P N	2 28 17	2			P_N strong.
		P E	2 28 22				
		i N	2 29 50	4			
		S N	2 33 48	7			S in micros.
		S E	2 33 56				
		iM E	2 36 52				Undamped component.
		eL n	2 37 40	20			

J. B. Woodworth

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
549	Apr26	M_n	2 40 53				No decided M_N.
		M^E	2 44 50				
		F^E	3 43 ca.				
550	Apr26	O?	5 35 ca.			14500?	Δ from L-LR_1 .
		$\frac{i}{i_N}$	6 32 27	2.4			
		i^N	6 33 48	3.4			
		e_E	6 38 15				E pendulum drifts E.
		eL_E?	6 46 08	20			
		L^E	6 47 11				
		L_N	6 47 42	15			
		L^N	7 38 06	20			L = LR_1?
			to	16			
			7 41 46				

J. B. Woodworth.

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U. S. A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.
TIME: Mean Greenwich, midnight to midnight.
INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
555	May14	S_E?	5 32 37	6		2650?	eP?? 5-29-56.
		eL_E	5 34 36	18			L very faint on N.
				15			
		F	5 43 ca				
556	May17	O?	18 -- --			7000?	Δ & O uncertain.
		S?	18 24 01?				Much masked by micro-
		i_E	18 30 24?	9			seisms of 3 secs.
		eL_E	18 35 45?	30			period. Time un-
		L(M)	18 39 11?	25			certain: plus or
							minus 6 secs.
		F?	18 48 ca				F lost in micro-
							seisms.
557	May26	$L?_E$	21 17 16	8			Maximum A among
			to				microseisms?
		L_E?	21 20 00				Period 3 secs. on N
							damped 4/1.

H. H. Woodworth

			h.	m.	s.	s.	μ.	Kms.
553	Please	read as follows:						
	May10	0	21	37	20			3420
		eP E	21	44	04	2		
		i N	21	44	26	3		
		e E	21	46	58	6		
		S E	21	49	16	12		
		eL N	21	53	54			
		eL E	21	54	03	28		
		L N	21	56	40	20		
		M E	21	57	16	20		
		L	22	06	24	8		
		F E	22	48	ca			

HARVARD UNIVERSITY, CAMBRIDGE, MASS., U.S.A.

RECORD OF THE SEISMOGRAPHIC STATION

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

$\phi = 42° 22' 36''$ N. $\lambda = 71° 06' 59''$ W. Gr. h = 5.367 M. FOUNDATION: Glacial sand over clay.

TIME: Mean Greenwich, midnight to midnight.

INSTRUMENTS: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).

No.	Date	Phase	Time	Periods	Amplitudes	Δ	REMARKS
	1916		h. m. s.	s.	μ.	Kms.	
551	May 3	L_E	5 38 43	20			Undamped record. Not registered on N damped 4/1. A increases slightly.
		L	5 47 43	20			
		F	6 ca.				
							May 4.11h 3m. probably local disturbance.
552	May 9	e?	14 01 15	8-9			E component ran down between 7d 15h 9m and 8d 13h 50m.
		L_E?	14 04 37	10			
		L_E?	14 06 28				
		F?	14 20 ca				
553	May 10	0	21 31 30?			5130?	Δ and 0 very uncertain.
		e_N?	21 37 59				
		eP_E?	21 44 04	2			
		i_N	21 44 26	3			
		S_E?	21 46 58	6			
		i_E	21 49 16	12			
		eL_N?	21 53 54				
		eL_E	21 54 03	28			
		L	21 56 40	20			Later L_N 20 secs.
		M_E	21 57 16	20			
		L	22 06 24	8			
		F_E	22 48 ca				
554	May 11	0	10				N.B.Press reports shock felt at Houghton, Mich., U.S.A. during night. *ca. φ47°9' N. λ88° 33'W. Hour not reported. N pendulum moved east. E undamped. A?
		eP_N	10 21 08				
		S_N	10 23 30				
		S_E	10 23 31	10			
		eL_E	10 24 38	13			
		eL_N	10 24 47				
		M_E	10 26 51	14			
		L_E	10 27 01	10			
		L_E	10 28 07	6-8			
		F	10 20 ca				

H. B. Woodworth