

NESA BULLETIN

January 1 - 15, 1941

Bulletin No. 61

***** (January 2) *****

Weston

eP1 03 43 05
iS2 21.6 $\Delta = 173$ km. (108 mi.) from S1-S2 (see notice at end).
i 22.7 H = 03 42 33
iS1 24.0 Lake Ossipee district, New Hampshire; aftershock
of December 24^d 13^h 43^m, NESA No. 60.

***** (January 2) *****

Fordham

eZ? 17 10 01
eZ 33
iZ 43 (sharp)
eN 13 24
eN 14 26
eN 16 42

Weston

e 17 10 01
e 20
i 40.7 (max. double
amplitude in the
group beginning
i 42.7 here is 72.5 mm.)

***** (January 2) *****

Weston

eP? 18 19 30.8 $\Delta = 68$ km. (43 mi.)
iP1 33.1 H = 18 19 21.8
eS? 40.0 Cf. NESA No. 60, December 20^d 19^h
iS1 41.5
iL 45.5

***** (January 4) *****

Weston

iz 02 08 41
iz 47
iz 58

Fordham

ez 02 08 44 Probably P phases of deep
iz 53 focus teleseism.

***** (January 4) *****

Weston

Williamstown

iP2?	11 10 42.1		iP	11 10 47.5	
iP1	43.8		iS2?	11 08.5	$\Delta = 210 \text{ km. (131 mi.)}$
iSn	11 00.2	$\Delta = 173 \text{ km. (108 mi.)}$			
iS2	01.4	from S1 - S2			
iS1	03.8	(see notice at end)			

H = 11 10 13 Aftershock from Lake Ossipee district,
N.H.

***** (January 4) *****

Fordham

Weston

iP2	20 09 02		eS	20 10 17	
iS2	27		iS2?	26	$\Delta = \text{ca. } 440 \text{ km.}$
			eS1	37	(275 mi.)

$\Delta = \text{ca. } 210 \text{ km. (131 mi.)}$

Probably blast in northeastern Pennsylvania, ca. $\phi = 41^{\circ}2 \text{ N.}$
 $\lambda = 76^{\circ}4 \text{ W.}$

***** (January 6) *****

Fordham

Weston

iP2	14 28 49.0		iP2	14 28 58.4	
iP1P1	50.2		iP1	59.3	
iSn	29 07.3		iS	29 20	
i	10.0		iS3	21.5	
			iS2	22.1	
			i	23.6	

$\Delta = 155 \text{ km. (97 mi.)}$

H = 14 25 24.0

Probably blast at Hudson, N.Y. $\Delta = 206 \text{ km. (129 mi.)}$
H = 14 28 26.0

***** (January 7) *****

Weston

Fordham

i	10 56 43.5		i	10 56 49	Deep focus?
i	50				

***** (January 7) *****

Weston

iP1	16 58 49.7	
iP1P1	50.7	
iS1	58	
iS1S1	59.8	
iL	59 02.0	
Δ	$= 68 \text{ km. (43 mi.)}$	
H	$= 16 58 38.4$	

eP1	18 51 06	
iS1	14.4	
iL	18	
Δ	$= 68 \text{ km. (43 mi.)}$	
H	$= 18 50 54.8$	

International
Seismological
Centre

Cf. above, 02 18 . These disturbances were first reported in Bulletin No. 60, as probably natural shocks off the coast of Massachusetts near Newburyport, because an inquiry failed to reveal any heavy blasting at the southern intersection of the Harvard-Weston arcs in Rhode Island. But a reinterpretation of the Harvard and Weston records, especially for a shock in the same series to be reported in the next issue of NESA, allows both the southern and northern intersection to be moved westward, to the Rhode Island-Connecticut state line, and into the southern end of New Hampshire, respectively. The disturbances are quite certainly blasts, though probably not in rock. S phases are exceptionally weak, and L phases exceptionally strong; and in that respect the records resemble those from the earth-compaction blasting at Franklin Dam (cf. Notice in NESA No. 32) where the charges were relatively small and distributed throughout a large area in water-saturated sand.

***** (January 8) *****

Weston

iN 14 48 27

iN 14 48 59.3 S or L phases?
iN 49 09.5

***** (January 8) *****

Fordham

iP	21 40	18.5	
iP ₁		19.5	
iS		47.5	$\Delta = 240 \text{ km. (150 mi.)}$
iS ₁		50.5	H = 21 39 40.5
i2S ₁ S ₁ ?		53.0	

***** (January 8) *****

Weston

eP ₂	21 41	39.5	
iP ₁		40.7	$\Delta = \text{ca. } 215 \text{ km. (134 mi.)}$
iS?		59.6	H = 21 41 05.5
iS ₂	42 04.5		Apparently not connected with the preceding.

***** (January 8) *****

Fordham

iP ₂	22 09	00.0
i		01.5
i		03.0
iS ₂		17.5
i		20.5
$\Delta = 145 \text{ km. (91 mi.)}$		
H = 22 08 36.2		

Weston

eS ₃ ?	22 09	35.5
iS		38.6
iS ₁		41.6
$\Delta = \text{ca. } 225 \text{ km. (140 mi.)}$		

Probably blast ca. $\phi = 42^{\circ}2 \text{ N. } \lambda = 74^{\circ} \text{ W.}$
near Quarryville, N.Y.

***** (January 9) *****

Weston

i	14	38	40.5	L phases?	On this day, at 16 ^h 40 ^m and 20 ^h 05 ^m , additional blasts of the type discussed above, 07 ^d 16 ^h .
e			52.5		
e			55.5		

***** (January 9) *****

Fordham

i 19 58 07 S phases.

***** (January 9) *****

Weston

eP ₂	19	58	56.0	
iP ₁			57.0	
i	59		20.0	$\Delta = 215$ km. (134 mi.)
i			22.8	H = 19 58 22
iS ₁			24.8	Cf. above 08 ^h 21 ^m 41 ^s

***** (January 14) *****

Weston

eL?	16	45	41	iS	17	17	19
				iS			27

***** (January 15) *****

Weston

iS? 16 38 25.3

NOTICE From:

Weston The two shocks reported above on January 2 and 4 are quite definitely aftershocks from the Lake Ossipee district, but Δ as reckoned from S₁-P₁ falls short of that required. This is also true of the two principal shocks from that region in the latter half of December, and in the study being jointly made by Harvard and Weston it is tentatively interpreted as a measure of the depth of focus, on the basis of Jeffreys' suggestion that all or most of the energy radiated from the focus leaves in the form of shear waves. These on reaching the surface generate compressional waves, and the apparent source of these F

waves is that emergent point which lies upon the path of least time. For a first approximation then, Δ (apparent) will be read from S_1-P_1 , Δ (true) from S_1-S_2 or S_1-S_n . Δ (apparent) in these aftershocks is about 150 to 155 km. for Weston, making a difference of about 20 km., which corresponds to a depth of about 30 km.

Laurence C. Langguth, S.J.

NESA BULLETIN

January 16 - 31, 1941

Bulletin No. 62



***** (January 17) *****

Fordham

iP 12 41 02.5
i 06.0
i 24.0
iS 45 22
i 26
i 13 04 31.5
i 05 08

Weston

eP 12 41 03
iP 35
eS 45 27
iS 41.5
e 13 04 40
i 05 05

Williamstown

iP 12 41 10.7
i 34.2
iS 45 50.2
i 46 04.7 max.

Δ order of 24° ; Caribbean Sea? Cf. Supplement to NESA No. 17

***** (January 18) *****

Weston

eP 23 25 28
eS 45.3
iS 46.6

Amplitude very small.
New Hampshire aftershock?

***** (January 19) *****

Weston

i 08 39 28
e 44
e 50

***** (January 21) *****

Harvard

eP 02 28 09.8
iP 10.3
iP₁ 11.3
iS_n 28.2
iS₂ 29.0
iS₁ 30.8

$\Delta (S_1 - S_n) = 167 \text{ km.}$

$\Delta (S_1 - P_1) = 150 \text{ km.}$

Weston

eP 02 28 11.7
iP₁ 13.3
i 16.8
iS_n 31.0
iS₂ 31.9
iS₁ 34.3

$\Delta (S_1 - S_n) = 178 \text{ km.}$

$\Delta (S_1 - P_1) = 164 \text{ km.}$

Williamstown

iP 02 28 16.2
iP₁? 18.3
iS₂? 38.7
i 40.0

$\Delta = 205 \text{ km.}$

Fordham

iS 02 29 36
 $\Delta = \text{ca. } 410 \text{ km.}$
H = 02 27 44
Depth about 25 km.
New Hampshire aftershock.

***** (January 22) *****

Weston

iP₁ 15 30 57.1
iP₁P₁ 57.8 $\Delta = 67$ km. (42 mi.)
iS₁ 31 05.2 H = 15 30 45.8
iL 09

Harvard

iP₁ 15 30 57.6
iP₁P₁ 58.6 $\Delta = 71$ km. (44 mi.)
iS₁S₁? 31 08
eL 10.5

eP₁ 21 24 44.4
eP₁P₁ 45.3 $\Delta = 69$ km. (43 mi.)
eS? 51.8 H = 21 24 32.8
i 52.1
iS₁ 52.8
iL 56.8

eP₁ 21 24 44.6
eP₁P₁ 45.5 $\Delta = 71$ km. (44 mi.)
iS 55.0
eL 58

Cf. NESA No. 61, Jan. 7^d16^h. Dr. Leet notes the similarity of these shocks with those recorded at Harvard in 1937, June 30, July 7, 28, 30, and August 2 and discussed by him in Bull. S.S.A., Vol. 28, pp. 171 and 176 (1938). An additional shock in the same series was recorded at Weston on January 30^d18^h40^m.

***** (January 23) *****

Harvard

iP₂ 00 15 23.4
iP₁ 25.2
eS_n 40.0
i 41.5
iS₁ 42.2
i 44
i 45.5

Weston

eP 00 15 23.6
iP 24.2
iP₁ 25.7
i 41.7
iS_n 42.2
i 43.7
iS₁ 44.9

Williamstown

iP 00 15 28.1
iP 30.2
iS_n 51.3
iS₂ 53.2
i 55.2

Δ (S₁-S_n) = 163 km. Δ (S₁-S_n) = 172 km.
 Δ (S₁-P₁) = 130 km. Δ (S₁-P₁) = 148 km.

Δ (S₂-H) = 212 km.

H = 00 14 57

Depth about 30 km.?

New Hampshire Aftershock.

***** (January 24) *****

Weston

iP 05 52 17.5
ipP? 44 Deep focus?

***** (January 29) *****

<u>Fordham</u>	<u>Williamstown</u>	<u>Weston</u>
iP ₁ 17 59 58	iP 18 00 20.1	e 18 01 11
i 18 00 00	iP ₁ 22.5	e 12.8
i 02	i 50.3	iS 23.2
iS ₁ 11	iS ₁ 53.9	
i 16	i 01 02.9	
i 19		
	$\Delta = 248 \text{ km. (155 mi.)}$	$\Delta = \text{ca. } 370 \text{ km. (230 mi.)}$
$\Delta = 101 \text{ km. (64 mi.)}$		
H = 17 59 42	Probably blast in N. E. Pennsylvania (Lackawanna County?).	

Laurence C. Langguth, S.J.

NESA BULLETIN

February 1 - 15, 1941

Bulletin No. 63

***** (February 1) *****

Weston

iP ₁	17 07	40.0	
iP ₁ P ₁		40.7	
eS ₁		47.9	$\Delta = 67$ km. (42 mi.)
iS ₁		48.3	H = 17 07 28.7
iL ₁		52.1	Cf. NESA No. 62, Jan. 22 ^d 15 ^h .

***** (February 6) *****

Weston

iP ₁	18 21	02.1	
iP ₁ P ₁		02.8	
eS ₁		09.5	$\Delta = 67$ km. (42 mi.)
iS ₁		10.5	H = 18 20 50.9
iL ₁		14.4	Cf. above.

***** (February 8) *****

Weston

i	14 25	52
i	27 44	

***** (February 10) *****

Weston

i	18 26	50.5	
i		51.9	S phases ?
i		54.0	

***** (February 12) *****

Weston

eP ₁	22 24	20.8	$\Delta (S_1 - P_1) = \text{ca. } 142$ km. (89 mi.)
iS		37.2	H = 22 23 57.5
iS ₁ ?		39.5	New Hampshire aftershock ? Amplitude very small.

***** (February 13) *****

Ottawa

e	18	24	54
e		25	20
F		25.6	

***** (February 13) *****

Weston

iP ₁	18	58	39.5	iP ₁	20	34	26.9
iP ₁ P ₁			40.2	iP ₁ P ₁			27.6
eS			47.5	eS			34.3
iS ₁			47.9	iS ₁			35.1
iL			51.5	iL			39.0

H = 18 58 28.5

H = 20 34 15.8

Δ = 67 km. (42 mi.). Cf. above February 1.

Laurence C. Langguth, S.J.

NESA BULLETIN

February 16 - 28, 1941

Bulletin No. 64

***** (February 17) *****

Ottawa

e 11 37 04
e 23
F 38

Weston

eS? 11 38 12

***** (February 24) *****

Weston

i 14 02 57.1
e 03 00

***** (February 24) *****

Fordham

iP₂ 20 43 56
iS₂ 44 13
i 15
i 16 max.
 $\Delta = 140$ km. (88 mi.)
H = 20 43 33

Weston

eS 20 45 09
eS₁? 21
 Δ ca. 370 km. (231 mi.)
Prob. blast in Northeastern Pennsylv-
ania, ca. $\phi = 41^{\circ}2$ N.
 $\lambda = 75^{\circ}5$ W.

***** (February 25) *****

Harvard

eS₂? 07 30 54
 $\Delta =$ ca. 250 km. (156 mi.)

Weston

iP₁? 07 30 30.6
eS 55.5
iS 57.5
iS₂? 59.7
i 31 04.0
 $\Delta =$ ca. 270 km. (169 mi.)
H = 07 29 46

***** (February 25) *****

Harvard

e 13 45 54
i 46 33 Teleseism?

***** (February 28) *****

Weston

eP	19 50	21.5
iP ₂		22.3
iP ₁		23.0
eSn		44.4
iS ₃		44.9
iS ₂		46.2
iS ₁		49.5

Δ = 207 km. (129 mi.)

H = 19 49 49

Blast at S. Bethlehem, N.Y. ?

Daniel Linehan, S.J.

***** (March 4) *****

Ottawa

eP₁ 18 01 56
iS₁ 02 08 H = 18 01 36
F 03 00 Δ = 105 km.

***** (March 5) *****

Ottawa

iP₁ 07 29 39
iS₁ 29 51 H = 07 29 19
F 32 Δ = 105 km.

***** (March 5) *****

Fordham

iP 13 00 23

***** (March 5) *****

Weston

eS₁ 19 15 12

***** (March 6) *****

Weston

iP₁ 19 46 08.5
iS₁ 46 17.0

Dilatation to northeast
Δ = 70 km. Quarry blast.

***** (March 6) *****

Weston

iP 20 55 26.0
i 56 11.0
L 56 23

Fordham

i 20 54 52.5
i 54 55.0
i 55 03.5
i 55 14 (max.)

***** (March 6) *****

Weston

iP 21 54 57

Same as Blast of 19th hour. Δ = 70 km.

***** (March 7) *****

Fordham

i 01 17 10

***** (March 12) *****

Fordham

i 02 59 30
i 03 04 03

Weston

i 02 59 37
i 03 04 00
i 03 24 35

This is similar to the Caribbean Quakes mentioned in the supplement of bulletin No. 17. Recording weak.

***** (March 15) *****

Fordham

i 17 09 52
i 18 39 54

Daniel Linehan, S.J.

NESA BULLETIN

March 16 - 31, 1941

Bulletin No. 66

***** (March 16) *****

Ottawa

e	20	25	28.5
e		25	34
e		25	50
M		25	58
F		26.7	

***** (March 20) *****

Fordham

i 18 07 38

Weston

iP	18	07	24
i		07	46

***** (March 21) *****

Harvard

iP ₁	01	58	50
i		59	15
iS ₁		59	16.4

Weston

i	01	58	51
iS		59	21

Fordham

i	01	59	10
i		59	13

dist. = 200 km. (124 mi.) Preliminaries disturbed
by R.R. train

***** (March 21) *****

Harvard

iP ₁	16	31	39.5
iS ₁		31	55.2

dist. = 128 km. (80 mi.)
H = 16 31 18

***** (March 22) *****

Fordham

e	01	57	43
i		58	07

Weston

iS₁? 01 58 18

***** (March 22) *****

<u>Weston</u>	<u>Harvard</u>	
iP ₁ 18 53 38.5	e 18 53 41.5	This disturbance and the following one are evidently two quarry blasts differing by 6 seconds.
iS ₁ 53 53.5	e 53 43	
dist. = 123 km. (77 mi.)	i 53 56.5	
H = 18 53 25	iS ₁ 53 58	

***** (March 22) *****

<u>Weston</u>	<u>Harvard</u>
iP ₁ ? 18 53 54.5	iS ₁ 18 54 12.6
iS ₁ 54 08	

***** (March 24) *****

The following four disturbances are evidently quarry blasts from the same location presenting the same characteristics. For the latter three only the P₁ phases are given.

<u>Weston</u>	<u>Harvard</u>
iP ₁ 16 12 47.5	iP ₁ 16 12 50.8
i 12 48.1	iS ₁ 13 01
iS ₁ 55.0	i 13 02.8
i 55.9	e 13 05
i Max 59.5	i Max. 13 10.8
dist. = 61.5 km. (38 mi.)	dist. = 82 km. (51 mi.)
located near East Taunton, Mass, H = 16 12 37.3	

<u>Weston</u>	<u>Harvard</u>
(a) iP ₁ 17 50 01.0	iP ₁ 17 50 04.3
(b) iP ₁ 18 55 24.0	iP ₁ 18 55 27.2
(c) iP ₁ 19 56 03.7	iP ₁ 19 56 07.1

***** (March 24) *****

<u>Harvard</u>	<u>Weston</u>
iP ₁ 21 15 28	iS ₁ ? 21 15 34
iS ₁ 15 28.7	
dist. = 5.7 km. (3.5 mi.)	
Fort Devens ?	

***** (March 24) *****

Fordham

i 21 59 06

***** (March 27) *****

Fordham

(a) i 18 32 43

(b) i 18 41 21

(c) i 20 04 19

***** (March 28) *****

Weston

(a) i 15 08 13

(b) i 16 47 53

Harvard

i 15 07 57

This disturbance lasted about one minute,
but there were no phase characters determinable.

***** (March 28) *****

Weston

i 17 28 54.2
iS₁? 29 30

Harvard

e 17 28 54.3
iS₁? 29 29

***** (March 29) *****

Fordham

(a) i 14 24 51

(b) 21 26 31

Quarry Blasts?

Daniel Linehan, S.J.

NESA BULLETIN

April 1 - 15, 1941

Bulletin No. 67

***** (April 1) *****

Harvard

iP 16 58 12
iS 22.2
L 26
 $\Delta = 83$ km. (52 mi.)
H = 16 57 58.5

Weston

iP 16 58 11.0
iS 18.5
L 23
 $\Delta = 61.5$ km. (39 mi.)

Harvard

iP 18 40 36.5
iS 48
L 51
 $\Delta = 92$ km. (57 mi.)
H = 18 40 21.8

Weston

eP 18 40 35.5
iP 35.8
iS 42.5
L 47
 $\Delta = 57.4$ km. (36 mi.)

Harvard

iP 20 37 06
iS 16.8
iSS 17.8
L 20
 $\Delta = 88$ km. (55 mi.)
H = 20 46 51.7

Weston

eP 20 37 03
iP 05.4
iS 12.5
L 17.0
 $\Delta = 78$ km. (49 mi.)

Evidently a group of blasts, but location not yet determined.

***** (April 3) *****

Weston

iP 06 53 09
iS 18
L 26
 $\Delta = 73.8$ km. (46 mi.)

***** (April 3) *****

Weston

iP 19 21 14.0
iS 30.5

***** (April 3) *****

Ottawa

iP₁ 19 53 23.5
iS₁ 42.0
L? 53

Δ = 150 km. (94 mi.)
H = 19 52 56

Weston

iS₁? 19 54 22
i max. 27

***** (April 3) *****

Williamstown

iP 21 30 06.1
iS 15.2

Δ = 75 km. (47 mi.)
H = 21 29 45

Harvard

iP 21 30 11.5
iS 24

Δ = 102 km. (64 mi.)

Weston

iP 21 30 12.5
iS 26.5

Δ = 113 km. (71 mi.)

Evidently a blast west of Springfield, Mass.

***** (April 4) *****

Ottawa

iP 08 11 09.5
iS 29
L? 36

Δ = 166 km. (103 mi.)

Williamstown

iP 08 11 19.2
iP₁ 20.2
iS₁ 46.4
i 47.5
iS₁ 49.2

Δ = 248 km. (154 mi.)

Harvard

iP 08 11 33.2
i 35.6
iS 12 03
iS₁ 07

Δ = 338 km. (210 mi.)

Weston

iP 08 11 31.8
i 37
iS 12 08.2
iS 14

Δ = 348 km. (217 mi.)

Fordham

i 08 12 39
i 43

Δ = meas. 450 km. (280 mi.)

φ = 44°34' N. ca.

λ = 73°48' W. ca.

Located tentatively in Clinton County, N.Y. A questionnaire has been sent to this locality. Two answers to date have been negative.

***** (April 7) *****

Fordham

i 20 20 01

***** (April 8) *****

Weston

iP 23 40 04.5
iS 25

iP 23 40 11 Double blast 6.5 secs.
iS 31.5 apart. $\Delta = 168$ km.
(105 mi.)

***** (April 10) *****

Williamstown

iP 13 17 50.2
i 51.7
iS 18 00.2
i 04.4
L 08.4

$\Delta = 82$ km. (51 mi.)

Harvard

iP₁ 13 17 54
iS₁ 18 07.7
 $\Delta = 112$ km. (70 mi.)
H = 13 17 35.5

Weston

iP 13 17 56.3
iS 11.5
L 12.5
 $\Delta = 126$ km. (78 mi.)

Fordham

i 13 18 20 Blast located at Southwick, Mass.
i 29
i 35

***** (April 10) *****

Weston

eP 16 38 55
iP 57
iS 39 04.5
L 09.5
 $\Delta = 75$ km. (46.5 mi.)
H = 16 38 42.7

Harvard

iP 16 38 58
i 39 08.3
iS 09.5
L 12
 $\Delta = 94$ km. (58.5 mi.)

Weston

eP 18 46 21.2
iP 23.2
iS 30.5
L 34.5
 $\Delta = 75$ km. (46.5 mi.)

Harvard

iP 18 46 24
i 34.5
iS 35.5
L 38
 $\Delta = 94$ km. (58.5 mi.)

Two blasts located near Fall River, Mass.

***** (April 11) *****

Fordham

i 18 31 49 S₁ phases ?

***** (April 11) *****

Weston

iP 16 16 43.6
i 17 01.5

May 1, 1941.

Daniel Linehan, S.J.

April 15 - 30, 1941

Bulletin No. 68



(Addendum)

***** (April 12) *****

Ottawa

iP₁ 00 47 03.5
iS₁ 18.0
i 22 max.
F 47.7

Δ = 120 km. (75 mi.)
H = 00 46 41

***** (April 15) *****

Fordham

i 16 43 53

i 19 52 34

***** (April 15) *****

Weston

iP₁ 21 06 45
iS₁ 59

Δ = 115 km. (72 mi.)

***** (April 15) *****

Fordham

i 23 49 37

***** (April 16) *****

Fordham

i 01 44 57

i 05 35 12

i 15 41 07

i 16 41 08

i 18 42 08

***** (April 18) *****

Fordham

iP₁ 15 13 26
i 27.5
iS₁ 39.0
Δ = 105 km. (67 mi.)

Harvard

iP₂ 15 13 35.6
iP₁ 36.4
iS₂ 53.7
iS₁ 56.1
Δ = 161 km. (100 mi.)

Weston

iP₂ 15 13 36.3
iP₁ 37
iS₁ 59.5
Δ = 168 km. (105 mi.)
Blast near Chesire, Conn.
H = 15 13 09

***** (April 18) *****

Fordham

iP₁ 19 03 53.5 Δ = 85 km. (53 mi.)
iS₁ 04 14.0 H = 19 03 39.2

***** (April 18) *****

Fordham

Harvard

Weston

iP ₂ 19 58 40	iP ₂ 19 58 44.9	iP ₂ 19 58 47
iS ₂ 58.5	iP ₁ 45.9	iP ₁ 48.8
Δ = 156 km. (97 mi.)	iS ₂ 59 05.4	iS ₂ 59 11.8
	iS ₁ 07.7	iS ₁ 13
	Δ = 187.5 km. (117 mi.)	Δ = 198 km. (123 mi.)
Blast near Hudson, N.Y.	H = 19 58 16	

***** (April 19) *****

Harvard

iS_i (L ?) 10 36 47.7

***** (April 21) *****

Fordham

i 17 06 32

***** (April 22) *****

Fordham

Harvard

Weston

iP ₂ 19 03 43	iS ₁ 19 04 08.3	iS ₁ 19 04 13
iS ₂ 04 03		
Δ = 170 km. (106 mi.)		

***** (April 22) *****

Fordham

Harvard

Weston

iP ₂ 19 04 55	iS ₁ 19 05 19.8	iS ₁ 19 05 25
iS ₂ 05 15		
Δ = 170 km. (106 mi.)		

***** (April 22) *****

Fordham

i 20 11 11

i 22 03 03
i 13

***** (April 23) *****



Fordham

Weston

iP₂ 18 07 32.5
iS₂ 50

iS 18 08 08
iS₁ 10

Δ = 146 km. (92 mi.)

***** (April 23) *****

Harvard

Weston

iP₁ 21 36 45.5
iP₁P₁ 46.5
iS₁ 58.5
iS₁S₁ 37 00

iP₁ 21 36 47.8 Blast near Southwick, Mass.
iP₁P₁ 48.7
iS₁ 37 02.5 H = 21 36 28
iS₁S₁ 03.5

Δ = 106 km. (66 mi.) Δ = 121 km. (75 mi.)

***** (April 23) *****

Fordham

iP₁ 21 37 15.5
iS₁ 18.0

Δ = 21 km. (13 mi.)

***** (April 26) *****

Harvard

Weston

iP₂ 19 18 32.7
iP₁ 34.2
iS₂ 53.5
iS₁ 55.7

Δ = 177 km. (110 mi.) iS₁ 19 18 58
H = 19 18 04
Near Castleton, Vt.

***** (April 26) *****

Harvard

Weston

iP₁ 19 20 38.5
iS₁ 21 00.5

Delay shot from the
above blast.

iS₁ 19 21 02

***** (April 29) *****

Fordham

Harvard

Weston

iP₁ 14 05 54.0
iS₁ 06 09.0

iP₂ 14 06 13
iS₃ 40.3
iS₂ 43
iS₁ 48

iP₂ 14 06 12
iP₁ 13.5
iS₂ 40.5

Δ = 120 km. (75 mi.)

Δ = 245 km. (152 mi.)

Δ = 235 km. (146 mi.)

About 25 miles south of Long Island at

40°30' N. H = 05 34.5
72°30' W.

***** (April 29) *****

Harvard

iL 14 10 25.4

i 17 27 16

iL 14 53 30

Explosions at Ft. Devens ?

i 16 40 27.6

May 19, 1941.

Daniel Linehan, S.J.

NESA BULLETIN

May 1 - 15, 1941

Bulletin No. 69

***** (May 1) *****

<u>Harvard</u>	(I) 5950 lbs,	<u>Weston</u>	(I)
iP ₂ 19 29	56.5	iP ₂ 19 29	58.3
iP ₁	57.2	iP ₁	59.2
iS ₂ 30	13.7	iS ₂ 30	17.3
iS ₁	14.5	L	25.5
A group of three blasts in Plainville, Conn. 41°40'13" N. 72°49'58" W.			
Δ = 139 km. (86.5 mi.) H = 19 29 33.7		Δ = 147 km. (91 mi.)	

	(II) 6700 lbs.		(II)
iP ₂ 19 30	01.8	H = 19 29 39	iP ₂ 19 30 03.6
iP ₁	02.5		iP ₁
iS ₂	19.0	Time between I and II	iS ₂
iS ₁	19.8	observed by Leet =	iS ₁
	5.35 secs.		L
			30.5

	(III) 5300 lbs.		(III)
iP ₂ 20 04	22.2	H = 20 03 59.4	iP ₂ 20 04 24.2
iS ₂	39.4		iP ₁
iS ₁	40.2		iS ₂
			iS ₁
			43.0

***** (May 7) *****

<u>Fordham</u>	<u>Harvard</u>	<u>Weston</u>
iP ₁ 20 25	iP ₂ 20 25	iP ₂ 20 25
iS ₁	iS ₂	iP ₁
Δ = 99 km. (62 mi.)	Δ = 145 km. (90 mi.)	iS ₂
		Δ = 148 km. (94 mi.)

H = 20 24 59.5 Blast near Chester, Conn. The distance from Fordham does not tie in with the Harvard-Weston intersection

***** (May 8) *****

<u>Fordham</u>	<u>Weston</u>
i 17 56 20	iP 17 57 02
	iS 43
	$\Delta = 370$ km. ca.
i 19 01 07	iS? 19 02 27

Off New Jersey Coast ?

***** (May 10) *****

<u>Fordham</u>	<u>Harvard</u>	<u>Weston</u>
iP ₁ 11 57 43.0	iP ₂ 11 57 39.8	iP ₂ 11 57 42
iS ₁ 56.5	iS ₂ 58 01.7	iS ₂ 58 06
$\Delta = 110$ km. (69 mi.)	$\Delta = 188$ km. (118 mi.)	$\Delta = 204$ km. (124 mi.)

Blast near Millbrook, N.Y. Absolute times at Fordham do not check. H = 11 57 09.6

***** (May 15) *****

Fordham

i 16 03 46
i 04 21.5
i 30.5

Daniel Linehan, S.J.

NESA BULLETIN

May 16 - 31, 1941

Bulletin No. 70

***** (May 16) *****

<u>Harvard</u>	<u>Weston</u>	<u>Fordham</u>
iP ₁ 18 22 52.8	iP ₂ 18 22 55	iP ₂ 18 22 59.5
iS ₁ 23 06.8	i 59.5	i 23 02.0
dist. = 115 km. (72 mi.)	e 23 09.5	iS ₂ 18.0
	iS ₂ 11.5	iS ₁ S ₁ 20.5
	dist. = 129 km. (80 mi.)	dist. = 158 km. (98 mi.)

Blast near North Bloomfield, Conn. H = 18 22 34

***** (May 17) *****

<u>Ottawa</u>	<u>Weston</u>	
i 21 18 03	i 21 20 40.0	Doubtful whether these two disturbances were of same origin.
i 05.5	iS ₁ 06.5	
i 19 19.7	i 11	

***** (May 18) *****

<u>Fordham</u>	<u>Weston</u>
iP ₂ 01 46 53	i 01 46 47.5

***** (May 19) *****

<u>Harvard</u>	<u>Weston</u>
iP ₂ 11 59 59.5	iP ₂ 12 00 02.5
iS ₂ 12 00 17.3	iS ₂ 21.5
iS ₁ 18.3	
dist. = 150 km. (93 mi.)	dist. = 170 km. (106 mi.)
Near N.H.-Vt. line north of Hanover, N.H. H = 11 59 35	

***** (May 19) *****

<u>Fordham</u>
i 15 00 00

***** (May 19) *****

Harvard

iP₁ 20 20 16.4
iP₁P₁ 17.2
F 29
iS₁ 29.5
iS₁S₁ 30.5

Weston

iP₂ 20 20 18.4
iP₁ 19.3
i 25
i 31.5
iS₁ 33.5

dist. = 106 km. (66 mi.) dist. = 120 km. (75 mi.)
Near Southwick, Mass. H = 20 19 59

***** (May 20) *****

Harvard

iP₁ 16 59 21
iS₁ 38

Weston

iP₁ 16 59 23
iS₁ 41

dist. = 140 km. (87 mi.) dist. = 148 km. (92 mi.)
Meridan, Conn. H = 16 58 58.5

***** (May 20) *****

Fordham

e 21 39 18

Weston

eS₁? 21 40 30

***** (May 20) *****

The following group are evidently blasts, but were too weakly recorded at the mentioned stations for location

Weston

I) eS₂? 22 20 28
iS₁ 38
II) iS₁ 23 27 10
III) iS₁ 23 32 37

Harvard

i 22 20 34.5
i 23 27 06.8
i 23 32 28.7

***** (May 21) *****

Fordham

iS₁ 16 02 36

***** (May 21) *****

A group of evidently same origin as those of 20th day 22nd
and 23rd hr.

Weston

I) iS₁ 21 25 24

II) S₁ 21 47 30

III) S₁ 21 51 50

***** (May 29) *****

A series of five disturbances recorded on this date on the
15th hour will be reported in a later bulletin pending
the arrival of more data from stations other than Harvard
and Weston.

June 13, 1941.

Daniel Linehan, S.J.

NESA BULLETIN

June 1 - 15, 1941

Bulletin No. 71

(Addenda)

***** (May 29) *****

<u>Harvard</u>	<u>Weston</u>	<u>Williamstown</u>
P ₂ 15 12 05.5	P ₂ 15 12 05.3	i 15 12 20.7
i 07	iP ₁ 05.8	
iS ₂ 23.8	iS ₂ 23.0	
Δ = 152 km. (95 mi.)	Δ = 152 km. (95 mi.)	

<u>Fordham</u>	
i 15 12 31.5	A series of five (5) blasts with best location near South Portland, Me.
	H (I) = 15 11 40.8 H (II) = 15 13 20.5
	H (III) = 15 14 37.8 H (IV) = 15 15 00.3
	H (V) = 15 19 45.8

***** (June 3) *****

<u>Harvard</u>	<u>Weston</u>	
iP 15 12 57.5	iP 15 12 56	Caribbean quake about
i 16 57.5	eS 16 50	21.3 from Weston.

***** (June 3) *****

<u>Harvard</u>	<u>Weston</u>	
iP ₁ 21 50 50.7	Quarry Blast iS ₁ 21 51 01	
iS ₁ 53.5	H = 21 50 47	
iL 55		
Δ = 23 km. (14.5 mi.)		

***** (June 4) *****

<u>Harvard</u>	<u>Weston</u>	
iP ₁ 21 28 12	iP ₁ 21 28 15.5	Blast near Sterling,
iS ₁ 14.4	iS ₁ 19.7	Mass.
i Max. 16	H = 21 28 08.8	
Δ = 19.6 km. (12 mi.)	Δ = 25.2 km. (15.5 mi.)	

***** (June 6) *****

<u>Harvard</u>	<u>Weston</u>	
iP ₂ 14 54 37.2	iP ₂ 14 54 36.5	Series of blasts similar to those of May 29th (cf. addend to this Bulletin)
iS ₂ 55.5	iS ₂ 54.4	
Δ = 152 km. (95 mi.)	Δ = 152 km. (95 mi.)	
	H (I) = 14 54 12.4	
	H (II) = 14 54 29.2	
	H (III) = 14 58 24.2	
	H (IV) = 15 01 48.7	

***** (June 6) *****

<u>Harvard</u>	<u>Weston</u>	
iP 19 14 10	iP 19 14 12.5	Δ = 195 km. ca. (120 mi.)
iS ₁ ? 31	iS ? 35	
Δ = 178 km. (110 mi.)		

***** (June 6) *****

Fordham

iP₂ 19 29 06.5
iS₂ 26.5 Δ = 169 km. (105 mi.)

***** (June 7) *****

<u>Harvard</u>	<u>Weston</u>
iS ₁ 15 59 10	iS ₁ 15 59 07
iR 13	

***** (June 10) *****

Fordham

iP₂ 16 16 52
iS₂ 17 11 Δ = 163 km. (101 mi.)

***** (June 11) *****

Weston

eS 20 27 08 Appears to be in the order of 4°

***** (June 11) *****

Fordham

Weston

iP₂ 17 54 57.5
iS₂ 55 17.5
Δ = 170 km. (105 mi.)

iS₂ 17 55 22

***** (June 12) *****

Fordham

Weston

iP₂ 18 18 42
iS₂ 19 00
Δ = 153 km. (95 mi.)

iS 18 20 10

***** (June 12) *****

Fordham

Harvard

Weston

iP₁ 21 53 21
iS₁
Δ = 99 km. (61 mi.)
H = 21 53 04.5

eP 21 53 56.5
e 54 35
e 47.5

eP? 21 53 57
eS 54 40
eS 50

***** (June 13) *****

A series of six (6) blasts resembling the Ones of May 29th (cf. above) were reported by Harvard and Weston. H (calculated) for these blasts is given below.

H (I) = 17 53 55.6
H (II) = 17 55 35.1
H (III) = 17 56 25.6

H (IV) = 17 57 05
H (V) = 17 58 49.3
H (VI) = 18 00 15.6

June 28, 1941.

Daniel Linehan, S.J.

NESA BULLETIN

June 16 - 30, 1941

Bulletin No. 72



***** (June 16) *****

Weston

iP₁ 11 46 33.7
 iS₁ 37.5 Blast
 Δ = 33 kms. H = 11 46 29.2

***** (June 17) *****

Weston

iP₁ 21 20 12.8
 iS₁ 18.2
 i 22.0
 Δ = 45 kms.
 H = 21 20 05.0

Harvard

iP₁ 21 20 15.5
 iS₁ 23.5
 iS₁S₁ 25.5
 eR 28.0

Blast in vicinity
 of N. Attleboro,
 Mass.

Δ = 63 kms.

H = 21 20 05.0

***** (June 18) *****

Fordham

i 10 37 56

Fordham

i 11 33 46

Ottawa

P 14 48 42
 S 49 04.5
 i 10
 F 14 49.5

Fordham

i 20 21 47

Fordham

i 20 44 42

Δ = 195 kms.

H = 14 48 12

***** (June 19) *****

Weston

eS? 18 30 52

***** (June 20) *****

Weston

iP₁ 16 24 23.5
 iP₁P₁ 24.4
 iS₁ 32.7
 iS₁S₁ 35.0
 Δ = 76 kms.
 H = 16 24 11.2

Harvard

iP₁ 16 24 24.4
 iP₁P₁ 25.0
 iS₁ 34.5
 iS₁S₁ 36.0
 Δ = 81 kms.
 H = 15 24 11.2

Blast near Forest
 Centre, R.I.

***** (June 20) *****

Fordham

i 21 57 37

***** (June 21) *****

Weston

iS? 17 17 42

Weston

iP₁ 19 24 54.5
iP₁P₁ 55.5
iS₁ 25 07.2
iS₁S₁ 08.5

$\Delta = 100$ kms.

Blast

H = 19 24 38.2

***** (June 26) *****

Ottawa

i 04 06 23
i 26
i 41
F 04 14

Weston

i 04 08 32.5
i 56.5
i 09 02.7
i 08.7

Fordham

i 04 09 15

***** (June 27) *****

Fordham

e 08 15 37
i 15 43

Fordham

i 08 24 42

Fordham

i 15 50 52

Weston

i 15 52 06

***** (June 30) *****

Weston

iP₁ 20 08 18.5
iP₁P₁ 19.3
iS₁ 32.0
iS₁S₁ 33.5
 $\Delta = 107$ kms.
H = 20 08 01.5

Blast

James J. Devlin, S.J.

NESA BULLETIN

July 1 - 15, 1941

Bulletin No. 73

***** (July 1) *****

Weston

iP₂ 17 00 01.5
iP₁ 02.4
iS₂ 18.4
iS₁ 20.0

Harvard

iP₂ 17 00 01.6
iP₁ 02.2
i 03.0
iS₂ 19.0
iS₁ 19.6

$\Delta = 143$ kms.

$\Delta = 145$ kms.

H = 16 59 38 Epicenter, N. $43^{\circ}21'$, W. $70^{\circ}12'$.

***** (July 3) *****

Fordham

i 08 46 58

Fordham

iP₂ 19 59 10.0
iS₂ 32.5

$\Delta = 192$ kms.

***** (July 5) *****

Fordham

iP₂ 22 54 55.0
i 57.0
iS₂ 55 12.5
i 16.0

Weston

iS₁ 22 55 28.5
i 37.5

$\Delta = 196$ kms.

$\Delta = 146$ kms.

H = 22 54 31.4

Probably a Hudson, N.Y., Blast.

***** (July 7) *****

Fordham

i 21 28 51
i 59
i 29 24

Weston

iP₂ 21 30 15.8
iP₁ 16.2
iS₂ 36.3
iS₁ 37.9

$\Delta = 187$ kms.

H = 21 29 45.2

***** (July 8) *****

<u>Fordham</u>				<u>Weston</u>			
i	(?)	20	19 34.5	iP ₂	20	21	59.0
i			40.0	iP ₁		22	00.0
i			42.5	iS ₂			19.0
i		20	09.0	iS ₁			23.1
				$\Delta = 179$ kms.			
				H = 20 21 30.8			

***** (July 10) *****

<u>Fordham</u>				<u>Fordham</u>				<u>Weston</u>			
i	15	02	40	i	15	17	27	iP ₁	17	51	08.9
								i			09.6
								i			16.0
								iS ₁			17.2
								$\Delta = 64$ kms.			
								H = 17 50 58.6			

***** (July 11) *****

<u>Fordham</u>				<u>Weston</u>			
iP ₂	23	12	42	iP ₂	23	12	44.8
i		13	03.5	iP ₁			46.4
iS ₁			04.5	iS ₂		13	09.2
				iS ₁			11.0
$\Delta = 168$ kms.				$\Delta = 194$ kms.			
H = 23 12 14.8							

***** (July 12) *****

<u>Fordham</u>				<u>Weston</u>			
i	06	26	47	i	06	26	57
i			57	i		27	07
Deep focus?							

***** (July 13) *****

<u>Weston</u>				<u>Weston</u>			
i	15	35	45.6	e	21	29	12.5

***** (July 14) *****

Weston

i 13 03 40.5

Note

***** (June 29) *****

Fordham

i 09 26 19

July 28, 1941.

James J. Devlin, S.J.

NESA BULLETIN

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***** (July 16) *****

Weston

iP₁ 15 42 45.0
iP₁P₁ 45.9
i 53.0
iS₁ 56.0
iS₁S₁ 56.6

Blast

$\Delta = 93$ kms.

H = 15 42 26.0

Weston

iP₁ 17 38 19.0
iP₁P₁ 19.6
i 26.8
iS₁ 30.2
iS₁S₁ 31.2

Blast

$\Delta = 93$ kms.

H = 17 37 59.8

Weston

iP₁ 20 05 50.9
iP₁P₁ 51.6
iS₁ 06 02.2

$\Delta = 93$ kms.

H = 20 05 32.0

***** (July 17) *****

Fordham

iP₂ 15 15 50.0
i 51.6
i 16 05.0
i 07.0
i 08.5
i 09.5

***** (July 18) *****

Fordham

iP₂ 18 00 30.8
iP₁ 32.2
i 49.0
iS₂ 50.5
iS₁ 52.0

$\Delta = 155$ kms.

Weston

iP_n 18 00 38.0
iP₂ 39.1
iP₁ 40.0
iS_n 01 01.9
iS₂ 03.1
iS₁ 06.1

$\Delta = 204$ kms.

H = 18 00 06.8

***** (July 18) *****

<u>Weston</u>				<u>Weston</u>			
iP ₁	21	14	20.0	iP ₁	21	51	24.2
iP ₁ P ₁			20.8	iP ₁ P ₁			25.0
iS ₁			27.8	iS ₁			32.0
iS ₁ S ₁			28.7	iS ₁ S ₁			32.7

Both are Blasts
 $\Delta = 62$ kms.

***** (July 21) *****

<u>Fordham</u>				<u>Weston</u>			
iP ₂	16	59	52.0	i	19	37	09.5
iS ₂	17	00	10.5	i			20.8

$\Delta = 155$ kms.

Weston

iP ₁	20	40	20.7	Blast
iP ₁ P ₁			21.5	
iS ₁			28.9	
iS ₁ S ₁			29.7	

$\Delta = 63$ kms.
H = 20 40 10.4

***** (July 22) *****

<u>Weston</u>				<u>Weston</u>			
iP ₁	14	37	08.1	iP ₁	17	48	47.6
iP ₁ P ₁			09.1	iP ₁ P ₁			48.5
iS ₁			16.3	iS ₁			56.0
iS ₁ S ₁			17.2	iS ₁ S ₁			56.9

$\Delta = 63$ kms.
H = 14 36 57.8

$\Delta = 63$ kms.
H = 17 48 37.3

***** (July 23) *****

Fordham

iP ₁	21	22	09	$\Delta = 64$ kms.
iS ₁			17	

- 3 -
***** (July 24) *****

<u>Weston</u>		<u>Fordham</u>
iP ₂ 16 59 49.7		i 18 01 41
iP ₁ 50.3		
iS ₂ 17 00 05.4	Blast	
iS ₁ 06.0		
iS ₁ S ₁ 07.2		
$\Delta = 132$ kms.		
H = 16 59 24.3		

***** (July 26) *****

<u>Weston</u>		<u>Weston</u>
eP 05 59 04.8		iP ₁ 21 36 51.5
i 06 00 31.0		iS ₁ 59.6
iS ₁ 40.2		

Fordham
e 23 53 39

***** (July 28) *****

<u>Fordham</u>		<u>Weston</u>
iP ₁ 19 24 16.3		iS ₂ 19 25 08.0
iP ₁ P ₁ 18.0		iS ₁ 11.2
iS ₁ 21.5		$\Delta = \text{ca. } 213$ kms.
iS ₁ S ₁ 23.0		
$\Delta = 41.5$ kms,		
H = 19 24 09.7		

Felt in Mt. Kisco and White Plains, N.Y.

***** (July 29) *****

<u>Weston</u>	
iP ₁ 20 39 41.5	
iP ₁ P ₁ 42.7	Blast.
iS ₁ 55.3	
iS ₁ S ₁ 57.6	
$\Delta = 109$ kms,	
H = 20 39 23.6	

***** (July 30) *****

	<u>Ottawa</u>	<u>Weston</u>
i	19 43 49.0	eS 19 45 51.5
i	52.5	
i	44 03.0	

***** (July 31) *****

	<u>Ottawa</u>	<u>Ottawa</u>
e	02 40 00	e 02 48 18

These registrations of July 31 are most likely those of the Rockburst at Lake Shore Mine, Kirkland Lake, Ont.

James J. Devlin, S.J.

N E S A B U L L E T I N

August 1 - 15, 1941

Bulletin No. 75

***** (August 4) *****

<u>Williamstown</u>	<u>Weston</u>	<u>Fordham</u>
e 19 41 30.5	e 19 42 09.0	iP 19 42 26.0
iP ₁ ? 33.0	i 13.5	i 44.0
iS ₁ 42 06.0	i 16.8	i 49.0
	iS 29.6	i 51.0
	iS 33.5	i 57.0

***** (August 6) *****

<u>Fordham</u>	<u>Fordham</u>
i 15 49 14	iP ₂ 19 40 28.0
	i 29.5
	i 44.5
	i 47.0
	i 48.5
	i 49.0

***** (August 7) *****

<u>Fordham</u>	<u>Fordham</u>
(?) 13 10 23	iP ₂ 15 29 17
i 41	iS ₂ 37
	$\Delta = 170$ kms.

***** (August 9) *****

<u>Fordham</u>	<u>Fordham</u>
iP ₂ 13 56 44	iP ₂ 13 58 12.5
iS ₂ 57 04	iS ₂ 32.5
	$\Delta = 170$ kms.

<u>Weston</u>	<u>Weston</u>
iS 14 02 14.1	iS 14 03 43.4

***** (August 9) *****

Ottawa

Pn	21 19	10.0	
P ₁		11.5	
S ₂		32.0	Δ = 182 kms.
S ₁		34.7	H = 21 18 42
L		47.0	

***** (August 10) *****

Weston

iP 14 50 33

Fordham

iP 17 11 18

Fordham

iP 19 28 10

Weston

iP 17 11 26

Weston

iP 19 28 18

These are teleseismic recordings without any subsequent phases appearing on the records.

***** (August 14) *****

Weston

P ₁	14 40	56.0
S ₁	41	15.7
i ₁		23.1
i		29.8

P ₁	17 07	22.0
S ₁		40.2
i		56.0

P ₁	18 09	17.2
S ₁		36.0
i		40.0

P ₁	15 36	46.0
S ₁		59.5
i ₁	37	03.8
i		17.0

P ₁	18 08	24.0
S ₁		42.5
i		49.0

A series of blasts with very peculiar recordings at a distance of about 155 kms. The P and S phases have a very regular wave form but the periods are longer than for the usual type of blast.

***** (August 14) *****

Williamstown

iP₂ 20 34 36.9
iS₂ 55.3

Δ = 158 kms.

Blast

H = 20 34 11.2

Weston

iP₂ 20 34 39.2
iP₁ 40.2
iS₂ 59.5

Δ = 177 kms.

ADDENDA

***** (July 23) *****

Williamstown

iS 20 12 20.0
i 22.5

Williamstown

i 21 22 08

Absolute times uncertain.

***** (July 29) *****

Fordham

i 19 34 29

Williamstown

iP₁ 20 39 35.3
iS₁ 44.1

Δ = 72 kms.

H = 20 39 23.6

Note: Cf. Bull. No. 74 for this date.

James J. Devlin, S.J.

August 16-31, 1941

*** (August 18) ***

Weston

iP 15 09 23

Deep Focus ?

*** (August 20) ***

Weston

iP₁ 21 44 26.5
iS₁ 31.0
iL 34

Quarry Blast
 $\Delta = 39$ km(24 mi)
H= 21 44 20.2

*** (August 22) ***

Weston

iP₁ 11 50 59.2
iP₁P₁ 51 00.1
iS₁ 07.5
i2(S₁S₁) 23.5

Quarry Blast ?
 $\Delta = 69$ km(43 mi)
H= 11 50 49.8

*** (August 26) ***

Weston

iP₁ 16 45 25.5
iS₁ 31.0
i 33.5

$\Delta = 45$ km(28 mi)
H= 16 45 18

*** (August 29) ***

Weston

I) iS 16 47 18.2
iS₁ 40.0

II) i 18 39 07
iS₁ 27

*** (August 30) ***

Weston

eP₁ 10 22 43
eS₁ 23 20
iS₁ 40

Williamstown

i 10 23 42.4
i 24 01.5
iS₁ ? 04.8

$\Delta = 467$ km (290 mi)
H= 10 21 25 Felt in Houlton, Maine.

NESA BULLETIN

September 1-15, 1941

Bulletin No. 77

ADDENDA to Bulletin No. 76

***** (August 14) *****

Fordham

iP₁ 20 34 29.0
iS₁ 41.8
i 44.0 max.

$\Delta = 105$ km. (66 mi.)

***** (August 20) *****

Fordham

i 18 34 36

***** (August 25) *****

Fordham

iP₂ 11 38 20.8
iP₁P₁ 22.5
iS₂ 41.1
iS₁S₁ 43.5

$\Delta = 171$ km. (106 mi.)

***** (September 1) *****

Weston

i 15 39 06 ?
iP₁ 17
iS₁ 41 30
i 36

$\Delta = 9^{\circ}5$

H = 15 37 33

Williamstown

iP₁ 15 39 17.5
iS₁ 41 30.2
i 34.7

$\Delta = 9^{\circ}5$

Fordham

iS₁ 15 40 43

$\Delta = (S_1 - H) \quad 7^{\circ}3$

Ca. $33^{\circ}5$ N., 76° W., 100 miles east of Charleston, S.C.

P phases very weak at both Weston and Williamstown. Distance intersection not good but early arrival of S₁ at Fordham places epicenter to the south.

***** (September 2) *****

Fordham

iP₂ 20 20 42
iS₂ 21 02

$\Delta = 170$ km. (106 mi.)

***** (September 3) *****

Weston

iP₁ 20 06 11 $\Delta = 115$ km. (72 mi.) from the northwest.
iS₁ 25 H = 20 05 52 Blast!

***** (September 5) *****

Weston

iS₁ 14 59 30

Williamstown

iS₁ 15 00 02.5

***** (September 6) *****

Shawinigan Falls

e 17 05 27
L 05 51
F 07 00

$\Delta = (L-H) = 115$ km. (72 mi.)

Ca. 47° N., 71° W.

Ottawa

iPn 17 06 07.5
iSn 50
iL 07 04
F 09

H = 17 05 12

$\Delta = 395$ km. (247 mi.)

Weston

iS₁ 17 07 13
i 32

$\Delta = (S_1-H) = 490$ km.
(306 mi.)

***** (September 6) *****

Fordham

iP₂ 18 10 39
iS₂ 59

$\Delta = 170$ km. (106 mi.)

H = 18 10 12

Quarry Blast! But times for H do not agree. H = 18 10 17.5

Williamstown

iS₁ 18 10 38.1

Weston

iP₂ 18 10 47
iP₁ 48.5
iS₂ 11 08.5
iS₁ 11

$\Delta = 185$ km. (115 mi.)

***** (September 10) *****

Fordham

i 18 30 28

***** (September 10) *****

Fordham

i 20 09 21.5
i 23.0
i 42.5

Weston

iS₁ 20 09 56

***** (September 13) *****

Fordham

i 01 30 10
i 33

Weston

iP₁ 01 30 22 $\Delta = 196$ km. (122 mi.)
iS₁ 46 H = 01 29 49.5

NESA BULLETIN

September 16-30, 1941

Bulletin No. 78

***** (September 17) *****

Williamstown

iS₁ 20 15 53.6
i 57

Preliminaries obscured
by R.R. train.

Weston

iP₂ 20 15 49.5
iP₁ 51.4
iS₁ 16 03.0

Δ = 111 km. (70 mi.)

H = 20 04 31

***** (September 17) *****

Weston

iP₂ 23 18 14.6 Δ = 205 km. (128 mi.)
iS₂ 40.0 H = 20 04 31

***** (September 20) *****

Williamstown

iP₁ 12 03 35.5
iS₁ 46.0
 Δ = 70 km. (43 mi.)

Fordham

iP₂ 12 03 55.5
iP₁ 56.2
iS₂ 04 16.5
iS₁ 18

Δ = 182 km. (103 mi.)

Weston

iP₂ 12 03 58
iP₁ 04 00.2
iS₂ 23.0
i₂(S₁S₁) 28

Δ = 201 km. (126 mi.)

Quarry blast in the vicinity of Hudson, N.Y.

***** (September 23) *****

A series of double blasts of a distance 85 km. (53 mi.) from

Weston (a)

iP₁ 18 18 53.0
iS₁ 19 07

Second

iS₁ 19 20

P₁ lost in 1st blast

(b)

iP₁ 18 52 52
iS₁ 53 08

Second

iP₁ 52 59

S₁ lost in 1st

(c)

iP₁ 18 58 02
iS₁ 15.5

Second

iS₁ 58 20

P₁ lost in 1st

***** (September 25) *****

Fordham
eP 02 50 30
eS 54 27
i 32

Weston
iP 02 50 18
eS 54 30
 $\Delta = 18^{\circ}2$ West Indian region!

***** (September 26) *****

Fordham
iP₂ 17 53 10
iS₂ 28
 $\Delta = 153$ km. (95 mi.)

Weston
iP₂ 17 53 15.5
iP₁ 17.2
iS₁ 39.5
i₂(S₁S₁) 42.0
 $\Delta = 188$ km. (117 mi.)
H = 17 52 45.5

***** (September 30) *****

Fordham
i 19 34 58
i 35 01
i 03,5

Daniel Linehan, S.J.

NESA BULLETIN

October 1 - 15, 1941

Bulletin No. 79



***** (October 1) *****

Weston

iS₁ 17 31 19 P obscured by microseisms. Order of 200 kms. ?

***** (October 1) *****

Fordham

iS₁ 18 04 45

Weston

iS₁ 18 05 53

***** (October 2) *****

Fordham

iS₁ 16 00 43

***** (October 3) *****

Harvard

i 02 49 49

Weston

i 02 49 49 Felt in San Juan, P.R.
Reported by USCGS.

***** (October 3) *****

Weston

iP 22 38 10
iS 42 31
e 23 01 25

Harvard

iS 22 42 35.5
e 23 01 32

Williamstown

eP 22 38 19
iS 42 45

Felt in San Juan, P.R. Reported by USCGS.
N.B. One other quake felt at San Juan was reported by USCGS. on
October 4th, but no trace of this one at the NESA stations.

***** (October 6) *****

Weston

iP 05 20 57.5
iS₁ 05 21 06.5

local quake with azimuth to the East.
distance = 84 km. (53 mi.)
H = 05 20 43.6

***** (October 6) *****

Weston

eS 16 36 02
iS 07

***** (October 6) *****

Weston

iP₁ 22 15 46.6
i 47
iS₁ 51.3
i 54

distance = 38 km. (24 mi.)
H = 22 15 40.2
Azimuth East ?

***** (October 9) *****

Fordham

iP₂ 14 29 14.0
iP₁ 15.1
iS₂ 32.7
i 36.1

Weston

iS₁ 14 30 41.0

distance = 167 km. (104 mi.)

***** (October 9) *****

Fordham

i 21 26 30

***** (October 10) *****

Weston

iP₁ 12 28 27.0
i 29.4
iS₁ 36.0
iL 42

distance = 75 km. (47 mi.)
H = 12 28 14.5

Williamstown

iP₁ 12 28 27.7
iS₁ 36.5
i 42.5

distance = 75 km. (47 mi.)

***** (October 10) *****

Williamstown

i 17 02 59.5
iS₂ 03 31.5
iS₁ 33.5

***** (October 11) *****

Harvard

iP₁ 08 15 42
iS₁ 49
distance = 59 km.
(37 mi.)

Williamstown

iP₁ 08 15 46.0
i 47.7
i 54.1
iS₁ 56 (strong)
distance = 81 km. (50 mi.)

Fordham

iP₂ 08 16 07.5
iP₁ 09.2
iS₂ 31.4
distance = 206 km.
(128 mi.)

Weston

iP₁ 08 15 45.8
i 48.1
iS₁ 54.6
iS₁S₁ 57.2
distance = 73 km.
(46 mi.)

H = 08 15 33.5 agrees very well for all re-
porting stations. The intersection, however,
was not too good. Epicenter in the area of
Brimfield, Mass. No press reports of motion
felt there. Harvard and Weston had azimuths
to the southeast which is not in the direc-
tion of the supposed epicenter.

***** (October 12) *****

Weston

eP? 20 08 15
i 09 54
eS 10 03

Daniel Linehan, S.J.

NESA BULLETIN

October 16 - 31, 1941

Bulletin No. 80

***** (October 17) *****

Fordham

iP₂ 16 32 50
iS₂ 33 10

Dist. = 170 km. (105 mi.)

Weston

iP₂ 16 32 56
iS₂ 33 20

Dist. = 278 km. (173 mi.)

***** (October 17) *****

Fordham

i 16 42 18
i 47 40 S phases

***** (October 17) *****

Fordham

iP₂ 21 59 49
i 22 00 06
i 00 09.5

Weston

iS₂ 22 00 24

***** (October 21) *****

Ottawa

iP₁ 05 23 59
iS₁ 24 10

Dist. = 86 km. (54 mi.)

Williamstown

iP₁ 05 24 25
iS₁ 24 57

Dist. = 260 km. (162 mi.)

Harvard

iS 05 25 24

Weston

iS₁ 05 25 32

This quake is believed to be at the same location as the following. The Ottawa grams of these two show many similarities.

***** (October 21) *****

<u>Ottawa</u>	<u>Shawinigan Falls</u>
iP ₁ 06 10 54.5	iP ₁ 06 11 15
iS ₁ 11 05.5	iS ₁ 11 41.5
Dist. = 86 km. (54 mi.)	Dist. = 212 km. (132 mi.)

<u>Williamstown</u>	<u>Harvard</u>	<u>Weston</u>
iP ₁ 06 11 21	iP ₁ 06 11 39	iP ₁ 06 11 41.9
iS ₁ 11 52.9	iS ₁ 12 21.9	iS ₁ 12 25.3
Dist. = 260 km. (162 mi.)	Dist. = 335 km. (209 mi.)	Dist. = 355 km. (222 mi.)

Fordham

iP₁ 06 11 50.3 H = 06 10 42 (ca)

iS₁ 12 43 44°8 N., 74°2 W.

Dist. = 440 km. (275 mi.)

Near Malone, New York State.
Although this quake was of fair intensity
there is no record of Press reports at the
Central Station.

***** (October 24) *****

<u>Ottawa</u>	<u>Weston</u>
iP ₂ 14 14 17.5	iS ₁ 14 15 57
iS ₂ 14 31.5	
Dist. = 120 km. (75 mi.)	
H = 14 13 57	

***** (October 24) *****

Fordham

iP₂ 16 40 11.0

iS₁ 40 33

***** (October 27) *****

Fordham

iS 19 27 33

NOTICE: The readings for the quakes of the 21st day were made
at Weston. The original grams were kindly loaned the
Central Station by the Directors of the member Stations.

Daniel Linehan, S.J.

NESA BULLETIN
November 1 - 30, 1941

Bulletins Nos. 81-82

***** (November 5) *****

Fordham

iP₂ 15 47 09
iS₂ 47 29

Dist. = 172 km. (107 mi.)

Weston

iP₁ 15 47 15
iS₁ 47 39

Dist. = 202 km. (126 mi.)

H = 15 46 41.5

***** (November 5) *****

Fordham

iS 19 31 21

***** (November 7) *****

Weston

iP₁ 09 30 47.4
iS₁ 30 57
iL 31 02

Dist. = 80 km. (50 mi.)

H = 09 30 34.2

***** (November 10) *****

Fordham

eS 15 54 08

***** (November 12) *****

Fordham

iP₂ 16 35 02.5
iS₂ 35 23

Dist. = 175 km. (109 mi.)

***** (November 12) *****

Fordham

iP₁ 19 44 21.5
iS₁ 44 33.0

Dist. = 91 km. (56 mi.)

Weston

iP₂ 19 44 35
iS₂ 44 56

Dist. = 182 km. (113 mi.)

H = 19 44 06.3

***** (November 12) *****

Fordham

iP₂ 21 06 56.5

iS₂ 07 19.0

Dist. = 191 km. (119 mi.)

***** (November 15) *****

Fordham

iP₂ 19 35 37.0

iS₂ 35 58.5

Dist. = 182 km. (113 mi.)

Weston

iP₁ 19 35 40.5

iS₁ 36 06

Dist. = 210 km. (131 mi.)

***** (November 28) *****

Fordham

iP₂ 19 30 40.5

iP₁P₁ 30 41.8

iS₁ 31 00.5

iS₁S₁ 31 03.1

Dist. = 170 km. (105 mi.)

H = 19 30 13

Weston

eP₁ (?) 19 30 48.5

iS₁ 31 12

Dist. = 205 km. (128 mi.)

from S₁-H

NOTICE:- Due to lack of material for Bulletin No. 82, and for economy, Nos. 81 and 82 are published together.

Daniel Linehan, S.J.

NESA BULLETIN

December 1 - 31, 1941

Bulletins Nos. 83-84



***** (December 3) *****

Fordham

iP₁ 01 58 51

***** (December 3) *****

Fordham

iP₂ 22 11 40.0

iS₂ 12 00.5

Dist. = 174 km. (108 mi.)

Weston

iS₁ 22 12 15

***** (December 4) *****

Fordham

iP₂ 19 47 41.0

iS₂ 48 01.5

Dist. = 174 km. (108 mi.)

Weston

iS₁ 19 48 15

***** (December 6) *****

Weston

iS₁ 16 04 52

***** (December 12) *****

Weston

iS₁ 21 07 12

***** (December 12) *****

Weston

iP₁ 23 29 57

iS₁ 30 31

Dist. = 278 km. (173 mi.)

H = 23 30 11

***** (December 13) *****

Weston

iP₂ 00 37 30

iS₁ 38 04

Dist. = 266 km. (165 mi.)

H = 00 36 47

***** (December 13) *****

Weston

iP₁ 21 04 21
iS₁ 04 52

Dist. = 254 km. (158 mi.)

***** (December 17) *****

Weston

iP₂ 20 05 07.0
iP₁ 08.1
iS₁ 22.5

Dist. = 118 km.
H = 20 04 45.4

***** (December 26) *****

Weston

iS₁ 16 29 40

***** (December 30) *****

Fordham

iP₂ 20 01 13
iS₂ 01 33

Dist. = 170 km. (105 mi.)

Weston

iS₁ 20 02 42

***** (December 31) *****

Weston

eS₂ 18 54 34
eS₁ 54 55

NOTICE: - Will the member stations please check their grams
for a disturbance on January 1st, 1942 at about
05^h and 33^m.

Daniel Linehan, S.J.