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STATION CONSTANTS AND INSTRUMENTS

Latitude — 40° 26.7′ North

Longitude — 79° 57.2′ West

Lithological foundation — Birmingham Shale — Pennsylvania age.

Elevation — 273 meters above sea level.

Instruments

Two Wenner horizontal seismographs (Orientation N 30° W and N 60° E)

One Benioff verticle seismograph (long-period recording only)

(The above instruments operate with photographic recording.)

Time Service and Control

Time marks are given by two Observatory master clocks. One is a special astronomical type (used as stand-by) while the other is a Frodsham astronomical clock (used for routine work).

Time signals are recorded automatically (or manually, depending on weather conditions) several times daily. These signals are transmitted from Washington, D.C. via Stations NSS and WWV.

The average clock drift is one-half second per day.

Instruments Constants

Magnification curves for the Wenner seismographs were given in No. 1, Vol. 1 of this Bulletin. The magnification curve for the Benioff is not yet completed. The "nominal" magnification for this instrument is approximately 24,000.

New Instrument Vault

A new instrument vault has been built in the Cathedral of Learning to house the mechanically recording pendula. Included in this vault will be an interferometer-type tiltmeter and a well-gage recorder.

Visual Recorder

A visual recorder, adapted to the Wenner seismometer, is being used currently on an experimental basis.

These data have been evaluated according to the following scale:

HORIZONTAL AMPLITUDE	DESIGNATION
Less than 2 microns	Below normal
Between 2 and 3 microns	Normal
More than 3 microns	Above normal

	DATE	EVALUATION
January	1 — 8	Above normal
	8 — 13	Considerably above normal
	13 — 19	Above normal
	19 — 22	Slightly above normal
	22 — 24	Above normal
	24 — 25	Considerably above normal
	25 — 30	Above normal
	30 — February 1	Slightly above normal
February	1 — 2	Normal
	2 — 10	Slightly above normal
	10 — 12	Above normal
	12 — 13	Considerably above normal
	13 — 16	Above normal
	16 — 20	Slightly above normal
	20 — 22	Above normal
	22 — 23	Considerably above normal
	23 — 24	Above normal
	24 — 28	Slightly above normal
	28 — March 1	Above normal
March	1 — 13	Above normal
	13 — 15	Slightly above normal
	15 — 20	Normal
	20 — 21	Slightly above normal
	21 — 25	Above normal
	25 — April 1	Slightly above normal
April	1 — 5	Above normal
	5 — 6	Considerably above normal
	6 — 7	Slightly above normal
	7 — 8	Normal
	8 — 9	Slightly above normal
	9 — 17	Above normal
	17 — 18	Slightly above normal
	18 — 22	Normal
	22 — 23	Slightly above normal
	23 — 25	Above normal
	25 — 26	Slightly above normal
	26 — 30	Normal
	30 — May 1	Slightly above normal

	DATE	EVALUATION
May	1 — 3	Normal
	3 — 6	Above normal
	6 — 7	Normal
	7 — 14	Slightly below normal
	14 — 15	Normal
	15 — 17	Slightly above normal
	17 — 19	Above normal
	19 — 21	Normal
	21 — 22	Slightly above normal
	22 — 24	Normal
	24 — June 1	Below normal
June	1 — 8	Below normal
	8 — 10	Normal
	10 — 12	Above normal
	12 — 13	Slightly above normal
	13 — 14	Normal
	14 — 18	Below normal
	18 — 20	Normal
	20 — July 1	Below normal
July	1 — 4	Normal
	4 — 12	Below normal
	12 — 29	Station closed
	29 — August 1	Below normal
August	1 — 6	Below normal
	6 — 8	Normal
	8 — 19	Below normal
	19 — 29	Normal
	29 — 30	Above normal
	30 — 31	Normal
	31 — September 1	Below normal

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Jan. 2	Z	i	00-49-20	
		Z	i	02-38-00?	
		H	i	02-35-38	
		H	i	02-37-02	
		Z	i	03-23-50	
		Overlapping trace			
435	3	Z	iP	13-00-36 compression	Δ (S-P) = 79.9° = 8880Km
		H	iS	13-10-41	H = 12-48-29
	9	Seismic activity centering about 08h 40m G.C.T.			
	Feb. 5	Z	iP?	04-56-56 compression	
	9	Seismic activity centering about 16h 10m G.C.T.			
	10	Seismic activity centering about 23h 50m G.C.T.			
	11	Seismic activity centering about 02h 35m G.C.T.			
436	21	Z	iP	14-40-03 compression	Δ (S-P) = 57.2° = 6355Km
		NE	iS	14-48-04	H = 14-30-19
		NE	i	14-49-42	
	23	Seismic activity centering about 21h 10m G.C.T.			
437	Mar. 2	Z	eP	00-32-29	Δ (S-P) = 22.1° = 2455Km
		H	iS	00-36-31	H = 00-27-33
	5	Seismic activity centering about 12h 45m G.C.T.			
438	8	Z	iP	12-32-50 Rarefaction	Δ (S-P) = 70.1° = 7790Km
		H	iS?	12-42-05	H = 12-21-42
	9	Z	i	14-32-56	
		Z	i	15-21-03	
		Z	i	15-52-24	
		Z	e	19-46-52	
		Z	i	20-49-19	
		Other phases indiscernible because of microseisms and overlapping trace.			
	10	Z	i	03-16-35	
		Z	i	03-19-24	
		H	i	03-25-11	
		Z	i	04-47-04	
		Z	i	07-33-51	
		Z	e	11-30-55	
		Z	iP	15-36-41	
		H	i	15-45-00? (microseisms)	

	GNWCH DATE	COMPNT.	PHASE	GMT	
439	Mar. 11	Z	iP	03-23-17	Δ (S-P) = 63.00 = 7020Km
		H	iS	03-31-56	H = 03-12-54
		Z	i	04-15-57	
		Z	i	07-18-35	
440		Z	iP	10-08-45	Δ (S-P) = 58.1° = 6455Km
		H	iS	10-16-52	H = 09-56-42
441		Z	iP	15-05-58	Δ (S-P) = 62.1° = 6900Km
		H	iS	15-14-30	H = 14-55-42
		Z	i	15-47-33	
		Z	i	20-28-46	
442	Mar. 12	Z	iP	07-39-09	Δ (S-P) = 60.8° = 6755Km
		H	iS	07-47-33	H = 07-29-01
		Z	i	07-49-56	
		Z	e	08-13-52	
443		Z	iP	11-55-26	Δ (S-P) = 64.2° = 7135Km
		H	iS	12-04-11	H = 11-44-56
		Overlapping trace			
		Z	e	12-56-00	
		Z	e	17-10-57	
		Z	i	23-55-45	
	Mar. 13	Z	i	02-35-57	
		Z	e	02-58-33	
		Z	i	03-43-48	
444		Z	iP	15-52-44	Δ (S-P) = 62.7° = 6965Km
		H	iS	16-01-20	H = 15h 42m 24s
		H	i	16-02-35	
		Z	e	17-29-18	
		Z	e	18-53-56	
		Z	e	19-35-57	
		Z	e	23-00-06	

	GNWCH DATE	COMPNT.	PHASE	GMT	
445	Mar. 14	Z	iP	14-58-11 compression	Δ (S-P) = 62.2° = 6910Km
		H	iS	15-08-58	H = 14-48-11
		Z	i	15-15-43	
		Z	e	22-18-57	
	15	H	i	03-09-54	
		H	i	03-11-50	
		Z	i	04-23-27	
446	16	Z	iP	02-44-55	Δ (S-P) = 64.6° = 7180Km
		H	iS	02-53-42	H = 02-34-22
	17	Z	eP?	08-04-14	
		Seismic activity centering about 16h 50m G.C.T.			
		Z	e	22-54-25	
		NE	i	23-04-15	
	18	Z	e	02-35-35	
		Seismic activity centering about 06h 25m G.C.T.			
447	19	Z	iP	13-01-18 compression	Δ (S-P) = 63.2° = 7020Km
		H	iS	13-09-57	H = 12-50-58
	20	Seismic activity centering about 01h 10m G.C.T.			
448	22	Z	iP	14-30-53	Δ (S-P) = 57.5° = 6390Km
		H	iS	14-38-56	H = 14-21-07
	23	Z	i	05-31-20	
		Z	i	05-35-07	
	24	Seismic activity centering about 08h 45m G.C.T.			
	28	Z	e	18-20-50	
		Z	i	18-22-00	
		Z	e	20-43-50	
		Z	e	20-59-58	
449	29	Z	eP	05-20-16	Δ (S-P) = 55.8° = 6200Km
		H	iS	05-28-08	H = 05-10-42
		Seismic activity centering about 23h 30m G.C.T.			
	Apr. 2	Z	e	00-50-01	
		Z	i	20-27-15	
		Z	i	21-38-13	

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Apr. 5	Z	e	02-59-58	
	8	Seismic activity centering about 20h 43m G.C.T.			
	9	H	i	00-47-35	
450	10	Z	e	05-18-12	Δ (S-P) = 29° = 3220Km
		H	iS	05-23-11	H = 05-12-09
	13	Seismic activity centering about 04h 14m G.C.T.			
	14	H	iS?	19-12-38	
		Z	i	21-09-44	
	16	Z	i	04-22-39	
		NE	i	04-23-39	
		Z	i	04-24-54	
		Z	i	04-25-21	
		NW	i	04-26-09	
		H	iS	04-28-32	
	17	Seismic activity centering about 14h 05m G.C.T.			
		Seismic activity centering about 17h 59m G.C.T.			
	19	Z	i	14-54-44 Rarefaction	
		Z	iP?	22-19-08 Rarefaction	
		H	i	22-36-59	
451	21	Z	iP	21-19-21?Rarefaction	Δ (S-P) = 33.5° = 3720Km
		Z	i	21-20-04?	H = 21-12-38?
		H	iS	21-24-51?	
	24	Seismic activity centering about 19h 35m G.C.T.			
	25	Seismic activity centering about 02h 56m G.C.T.			
452	May 2	Z	eP	04-02-01	Δ (S-P) = 31.6° = 3510Km
		H	iS	04-07-18	H = 03-55-34
		Seismic activity centering about 12h 20m G.C.T.			
	20	Seismic activity centering about 02h 50m G.C.T.			
	21	H	i	01-30-22	
		H	i	01-36-27	
453	22	Z	iP	13-40-22	Δ (S-P) = 64.1° = 7120Km
		H	iS	13-49-06	H = 13-29-53

	GNWCH DATE	COMPNT.	PHASE	GMT	
454	May 24	H	iP	02-44-50	Δ (S-P) = 35.1° = 3900Km
		H	i	02-46-30	H = 02-37-54
		H	iS	02-50-31	
	26	Seismic activity centering about 07h 40m G.C.T. (time marks absent)			
	June 5	Seismic activity centering about 07h 42m G.C.T.			
	10	Z	i	01-19-32?	
		Z	i	01-22-59?	
	11	Seismic activity centering about 15h 56m G.C.T.			
		Seismic activity centering about 19h 40m G.C.T.			
	12	Z	i	00-04-22	
		Z	i	00-09-36	
455	14	Z	eP	10-51-09?	Δ (S-P) = 60.6° = 6735Km
		Z	iP	10-51-11?	H = 10-41-03
		H	iS	10-59-32?	
		Z	iP	16-30-24	
	15	H	e	18-36-41	
	18	Seismic activity centering about 15h 59m G.C.T.			
		Seismic activity centering about 18h 58m G.C.T.			
	19	Seismic activity centering about 09h 02m G.C.T.			
456	22	H	eP	06-24-57	Δ (S-P) = 29.8° = 3310Km
		H	iS?	06-30-01	H = 06-18-46
	24	Seismic activity centering about 10h 09m G.C.T.			
457	27	Z	iP	00-21-54	Δ (S-P) = 81.7° = 9080 Km
		H	iPPP	00-26-54	H = 00-09-38
		H	iS	00-32-08	
		H	iSS	00-37-43	
	July 1	H	i	19-56-21	
	2	Z	i	00-55-37	
		H	i	01-06-13	
		H	i	01-07-43	
	3	Seismic activity centering about 13h 10m G.C.T.			

	GNWCH DATE	COMPNT.	PHASE	GMT	
	July 4	Seismic activity centering about 22h 50m G.C.T.			
		Seismic activity centering about 23h 49m G.C.T.			
	5	Seismic activity centering about 01h 21m G.C.T.			
458	8	H	iP	15-36-16	Δ (Calc) = 27° = 3000Km
		H	iSS	15-41-58	H = 15-30-31
459	10	Z	iP	09-10-44 compression	Δ (S-P) = 32° = 3555Km
		H	iPPP	09-11-58	H = 09-04-14
		H	iS	09-16-03	
460	29	Z	iP	17-25-51 compression	Δ (S-P) = 62.4° = 6935Km
		H	iS	17-34-25	H = 17-15-33
	Aug. 4	Seismic activity centering about 14h 48m G.C.T.			
		Seismic activity centering about 21h 40m G.C.T.			
	11	Seismic activity centering about 22h 35m G.C.T.			
461	Aug. 16	Z	eP	23-39-06	Δ (S-P) = 36.2° = 4020Km
		H	i	23-40-23	H = 23-32-01
		H	iS	23-44-55	
	18	Seismic activity centering about 22h 20m G.C.T.			
	20	Seismic activity centering about 13h 30m G.C.T.			
462	Aug. 26	Z	i	11-39-07 compression	Δ (S-P) = 58.5° = 6500Km
		H	i	11-47-16	H = 11-29-14
		Z	e	14-06-10	
		H	i	14-13-03	
		H	i	14-16-11	
	Sept. 2	Seismic activity centering about 00h 50m G.C.T.			
		Seismic activity centering about 10h 45m G.C.T.			
		Seismic activity centering about 16h 05m G.C.T.			
463	7	Z	e	10-17-28	Δ (S-P) = 62.6° = 6955Km
		H	iS	10-26-03	H = 10-07-05
		H	i	10-27-18	
464	12	Z	iP	00-33-16 Rarefaction	Δ (S-P) = 23.7° = 2635Km
		H	iS	00-37-33	H = 00-28-04
	24	Z	eP	08-40-14	
		H	i	08-42-20	
		Z	iPPP	08-43-36 compression	

	GNWCH DATE	COMPNT.	PHASE	GMT	
465	Oct. 2	Z	eP	12-34-35	Δ (S-P) = 22.8° = 3645Km
		Z	i	12-34-40 Rarefaction	H = 12-28-07
		H	iS	12-40-00	
466	4	Z	iP	05-32-41 Rarefaction	Δ (S-P) = 32.6° = 3620Km
		H	iS	05-38-05	H = 05-26-05
		H	i	05-40-09	
	22	Z	i	20-57-26 compression	
	23	Z	i	04-44-35 compression	
		Z	iP?	06-06-57 compression	
	24	Z	i	00-03-08 Rarefaction	
		Seismic activity centering about 22h 14m G.C.T.			
	25	Z	iP?	10-15-25 compression	
467	31	Z	iP	10-14-39 compression	Δ (S-P) = 32.9° = 2270mi
		Z	i	10-14-47 compression	H = 10-08-00
		H	iS	10-20-05	
	Nov. 13	Seismic activity centering about 18h 32m G.C.T.			
	16	Z	i	01-55-57 compression (blast)	
		Z	iP?	01-59-14 compression	
	20	Seismic activity centering about 13h 20m G.C.T.			
	Dec. 4	Z	iP?	03-51-10	
		H	i	04-01-45	
		H	i	04-03-58	
	10	Seismic activity centering about 02h 29m G.C.T.			
		Seismic activity centering about 15h 50m G.C.T			
	13	Z	iP?	01-38-29 compression (strong microseisms)	
	16	Z	iP	17-34-32 Rarefaction	
	17	Seismic activity centering about 06h 05m G.C.T.			
		Z	e	14-08-51	
		H	i	14-09-53	
		H	i	14-10-23	
		H	i	14-19-37	