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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 vertical 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.

Instrument 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.

MICROSEISMIC ACTIVITY

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 – 5	Above normal
	5 – 7	Considerably above normal
	7 – 9	Above normal
	9 – 11	Considerably above normal
	11 – 29	Above normal
	29 – Feb. 1	Slightly above normal
February	1 – 4	Slightly above normal
	4 – 7	Above normal
	7 – 9	Considerably above normal
	9 – 18	Above normal
	18 – 19	Considerably above normal
	19 – 23	Above normal
	23 – 26	Slightly above normal
	26 – March 1	Above normal
March	1 – 16	Above normal
	16 – 20	Considerably above normal
	20 – 21	Above normal
	21 – 22	Slightly above normal
	22 – Apr. 1	Above normal
April	1 – 2	Slightly above normal
	2 – 5	Normal
	5 – 8	Slightly above normal
	8 – 12	Above normal
	12 – 13	Considerably above normal
	13 – 14	Above normal
	14 – 19	Slightly above normal
	19 – 24	Normal
	24 – 28	Slightly above normal
	28 – May 1	Normal

	DATE	EVALUATION
May	1 – 2	Slightly above normal
	2 – 4	Above normal
	4 – 12	Slightly above normal
	12 – 19	Normal
	19 – 20	Below normal
	20 – 22	Normal
	22 – 23	Below Normal
	23 – 24	Normal
	24 – June 1	Slightly above normal
June	1 – 2	Normal
	2 – 7	Below normal
	7 – 8	Normal
	8 – 10	Slightly above normal
	10 – 11	Normal
	11 – 19	Below normal
	19 – 20	Normal
	20 – 28	Below normal
	28 – July 1	Normal
July	1 – 4	Normal
	4 – 10	Below normal
	10 – 11	Normal
	11 – 13	Below normal
	13 – 30	Station closed
	30 – 31	Below normal
	31 – Aug. 1	Normal
August	1 – 2	Normal
	2 – 5	Below normal
	5 – 9	Above normal
	9 – 11	Normal
	11 – 14	Below normal
	14 – 17	Normal
	17 – 19	Above normal
	19 – 20	Normal
	20 – 23	Normal
	23 – 29	Above normal

	DATE	EVALUATION
	29 – 30	Below normal
	30 – 31	Normal
	31 – Sept. 1	Above normal
September	1 – 7	Slightly above normal
	7 – 8	Normal
	8 – 14	Above normal
	14 – 19	Slightly above normal
	19 – Oct. 1	Above normal
October	1 – 2	Slightly above normal
	2 – 4	Normal
	4 – 10	Above normal
	10 – 11	Normal
	11 – 16	Slightly above normal
	16 – 17	Above normal
	17 – 20	Considerably above normal
	20 – 22	Above normal
	22 – 25	Normal
	25 – 27	Above normal
	27 – Nov. 1	Slightly above normal
November	1 – 2	Slightly above normal
	2 – 9	Above normal
	9 – 10	Slightly above normal
	10 – 21	Above normal
	21 – 22	Slightly above normal
	22 – 27	Above normal
	27 – 29	Slightly above normal
	29 – Dec. 1	Above normal
December	1 – 8	Above normal
	8 – 10	Slightly above normal
	10 – 20	Above normal
	20 – 25	Slightly above normal
	25 – Jan. 1	Above normal

SECTION ON SEISMIC DATA

Earthquakes for which preliminary phases have been identified or for which preliminary epicenters have been worked out are numbered in the left-hand column as of No. 1, September 8, 1939. It was on this date that our new station was placed in operation.

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Jan. 7	NE,Z	i	17-01-32	
	Jan. 8	Z	iP?	07-14-37	
422		Z	iP	20-04-21	Δ(S-P) = 57.8 = 6420Km
		H	iS	20-12-26	H = 20-54-33
	Jan. 10	Seismic activity centering about 09h 15m G.C.T.			
	Feb. 1	Seismic activity centering about 14h 32m G.C.T.			
423	Feb. 9	NE	iP	14-38-57	Δ(S-P) = 30.5° = 3390Km
		Z	i	14-38-58R	H = 14-32-40
		H	iS	14-44-06	U.S.C.G.S. gives H = 14-32-48 32 N, 116 W
424	Feb. 14	Z	iP	18-39-51	Δ(S-P) = 29.7° = 3300Km
		H	iS	18-43-21	H = 18-33-41
425	Feb. 15	NE	iP	01-26-54	Δ(S-P) = 29.8° = 3310Km
		H	iS	01-31-58	H = 01-20-43
	Feb. 18	Z	i	07-51-43	
		Z	i	07-59-53	
		Other phases obscured by microseisms.			
	Feb. 19	Z	eP?	02-25-15?	U.S.C.G.S. gives H = 02-18-00 52 N; 131½ W
		Other phases obscured by microseisms.			
		Z	e	04-22-01	U.S.C.G.S. gives H = 04-13-16
		Z	i	04-22-03R	58½ N., 154 W
		Other phases obscured by microseisms.			
	Mar. 2	Seismic activity centering about 12h 26m G.C.T.			
	Mar. 3	Seismic activity centering about 00h 59m G.C.T.			
	Mar. 13	Z	i	13-19-55	U.S.C.G.S. gives
		H	i	13-25-07	H = 13-13-10 7 N, 82 W.
	Mar. 22	Z	iP	06-41-56	U.S.C.G.S. gives
		Z	ipP	06-42-16	H = 06-33-55
		H	i	06-44-12	3 ½ S., 79 W.
		H	i	06-48-21	

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Mar. 28	Seismic activity centering about 22h 33m G.C.T.			
	Apr. 2	Seismic activity centering about 07h 20m G.C.T.			
	Apr. 6	H	i	07-39-09	
	Apr. 7	Seismic activity centering about 00h 20m G.C.T.			
	Apr. 18	Seismic activity centering about 11h 46m G.C.T.			
	May 7	Seismic activity centering about 00h 17m G.C.T.			
		Seismic activity centering about 08h 32m G.C.T.			
	May 19	Seismic activity centering about 02h 43m G.C.T.			
		Seismic activity centering about 20h 35m G.C.T.			
	May 22	Seismic activity centering about 04h 07m G.C.T.			
	May 23	NE	iP?	21-02-01	U.S.C.G.S. gives
		H	iPP?	21-06-26	H = 20-48-30
		NE	iPPP?	21-08-44	25½ S., 179 W.
		H	i	21-12-00	
		H	iS?	21-13-26	
		H	i	21-15-10	
	May 24	Seismic activity centering about 03h 45m G.C.T.			
	May 26	H	i	20-46-10	
	June 3	Seismic activity centering about 05h 52m G.C.T.			
	June 4	Z	e?	07-19-29	U.S.C.G.S. gives
		H	i	07-27-41	H = 07-07-13 (foreshock)
		H	i	07-29-19	H = 07-09-18
					52 N., 170½ W.
	June 5	Seismic activity centering about 07h 05m G.C.T.			
426	June 9	Z	eP	10-19-45?	Δ(S-P) = 70.7° = 7745Km
		H	iS	10-29-03	H = 10-08-33
					U.S.C.G.S. gives
					H = 10-08-32
					30½ S., 70½ W.
		H	i	23-31-34	U.S.C.G.C. gives
		H	i	23-36-44	H = 23-13-51
		H	i	23-38-18	35½ N., 67½ E.

	GNWCH DATE	COMPNT.	PHASE	GMT	
	June 12	Seismic activity centering about 09m 34s G.C.T.			
427	June 23	Z	iP?	02-29-11C	Δ(S-P) = 68.5° = 7610Km
		H	iS	02-38-18	H = 02-18-13
	June 28	H	i	03-05-51	
		H	iS?	03-11-32	
	July 3	Seismic activity centering about 16h 12m G.C.T.			
	July 4	Seismic activity centering about 05h 02m G.C.T.			
	July 6	Seismic activity centering about 02h 45m G.C.T.			
428	July 9	Z	iP	03-23-37	Δ(S-P) = 76.8° = 8535Km
		Z	i	03-23-46	H = 03-56-07
		NE	iPP	03-26-35	
		NE	iPPP?	03-28-11	
			over lapping trace		
		Z	iP?	03-35-40	after shock
429		Z	iP	10-00-57	Δ(S-P) = 21.5° = 2390Km
		H	iS	10-04-54	H = 09-56-07
	July 14—July 29—station closed.				
	Aug. 9	Seismic activity centering about 17h 21m G.C.T.			
		H	i	23-24-37	
	Aug. 12	Seismic activity centering about 17h 46m G.C.T.			
	Aug. 20	Seismic activity centering about 05h 02m G.C.T.			
430	Aug. 23	NW	iP	13-58-25	Δ(S-P) = 53.9° = 5990Km
		H	iS	14-05-55	H = 13-48-54
	Aug. 24	Z	iP?	04-38-34	
		H	i	04-47-33	
	Aug. 25	Seismic activity centering about 16h 19m G.C.T.			
	Aug. 30	Z	i	04-31-53?	

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Sept. 10	Seismic activity centering about 14h 31m G.C.T.			
	Sept. 11	Seismic activity centering about 10h 19m G.C.T.			
	Sept. 15	Seismic activity centering about 08h 10m G.C.T.			
	Sept. 16	Seismic activity centering about 09h 50m G.C.T.			
431	Oct. 11	Z	iP	02-36-51	Δ(S-P) = 80.6° = 8955Km
		NW	iPP	02-40-01	H = 02-24-41
		H	iS	02-47-00	
		Z	iP	16-55-45	
	Oct. 12	NE	i	02-57-09	
	Oct. 24	H	iP	14-49-08?	
	Oct. 31	Seismic activity centering about 15h 18m G.C.T.			
431	Nov. 9	Z	iP	13-11-38	Δ(S-P) = 25.1° = 3790Km
		Z	iPP	13-12-09	H = 13-06-12
		H	iS	13-16-06	U.S.C.G.S. gives
		H	iSS	13-17-13	H = 13-06-10
					17 N., 94 W.
	Nov. 17	Seismic activity centering about 21h 02m.			
433	Dec. 4	H	iP	23-07-43	Δ(S-P) = 30.1° = 3345Km
		H	iS	23-12-49	H = 23-01-20
	Dec. 8	Seismic activity centering about 16h 58m.			
434	Dec. 18	Z	iP	02-41-51	Δ(S-P) = 64° = 7100Km
		H	iS	02-50-34	H = 02-31-22
	Dec. 21	Z	eP	09-06-04	U.S.C.G.S. gives
					H = 08-58-53
					51 N., 131 W.
	Dec. 25	H	i	09-40-54	U.S.C.G.S. gives
		H	i	09-41-21	H = 09-33-37
					48½ N., 28 W.
	Dec. 27	Seismic activity centering about 01h 20m G.C.T.			