THE UNIVERSITY OF PITTSBURGH

PITTSBURGH PENNSYLVANIA

SEISMOLOGICAL OBSERVATORY BULLETIN FOR January, 1941 19____

Lat. 40 26.7'N. Long. 79°57.2'W. Elevation – 273 meters

Lithologic Foundation – Birmingham shale

INSTRUMENTS

Two Wenner horizontal seismographs (Orientation N30W and N60E)

One Benioff vertical seismograph

Two special horizontal seismographs (mechanical recording) (Orientation NS and EW)

COMPONENT	DATE FROM WHICH CONSTANTS APPLY	GALVANOMETERS FREE PERIOD T_1	PENDULUM FREE PERIOD T_o	DAMPING CONSTANT	V
Wenner N60E	January 1, 1941	12.1 secs.	10 secs.	critical 566	
Wenner N30W	January 1, 1941	12.0 secs.	10 secs.	critical 710	
Benioff Z	To be determined	12.5 secs.	1 secs.		
Special NS	To be installed				
Special Ew	To be installed				

TIME SERVICE: U. S. Naval Observatory signals automatically recorded several times daily. Secondary signals manually recorded from land line to radio station KDKA, Pittsburgh.

GNWCH DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
Jan. 3	NE	e	09h-27m-18s				
	NE	eS	09h-27m-20s				
	NE	eL	09h-33m-50s				
Jan. 6	Z	e	09h-54m-36s				
	NE-NW	eL	10h-06m-02s				
Jan. 11	Seismic activity centering about		09h-07m- (GMT)				

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GNWCH. DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
Jan. 14	Z	eP'_1	16h-47m-61s		U.S.C.G.S gives H = 16h-27.7m (GMT) Epicenter = 3° S. Lat., 144° E. Long. Depth = 100 K Δ = 13,990 kms.		
Jan. 17	Possible seismic activity of high frequency centering about 12h-45m (GMT)						
Jan. 19	Seismic activity centering about 03h-07m (GMT)						
Jan. 21	Seismic activity centering about 13h-59m (GMT)						

Donald C. Bradford
Director

Eugene L. Sulkowski
Assistant

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COMPONENT	DATE FROM WHICH CONSTANTS APPLY	GALVANOMETERS FREE PERIOD T_1	PENDULUM FREE PERIOD T_0	DAMPING CONSTANT	V

TIME SERVICE: U. S. Naval Observatory signals automatically recorded several times daily. Secondary signals manually recorded from land line to radio station KDKA, Pittsburgh.

GNWCH DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS

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GNWCH. DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
Feb. 9	Z	i	19h-27m-32s				
	Seismic activity centering about 20h-28m (GMT)						
Feb. 11	NW-NE	eP	14h-41m-26s	Δ(S-P) = 28.8° = 3200kms.			
	NW-NE	eS	14h-46m-17s	H = 14h-35m-24s (GMT)			
				U.S.C.G.S. gives			
				Δ = 3200 kms.			
				H = 14h-35.4m (GMT)			
				Epicenter = 14.5° N. Lat.			
				94.0 W. Long.			
Feb. 13	Seismic activity centering about 15h-12m (GMT).						

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SEISMOLOGICAL OBSERVATORY BULLETIN FOR March 19 41

Lat. 40 26.7'N. Long. 79°57.2'W. Elevation – 273 meters

Lithologic Foundation – Birmingham shale

INSTRUMENTS

Two Wenner horizontal seismographs (Orientation N30W and N60E)

One Benioff vertical seismograph

Two special horizontal seismographs (mechanical recording) (Orientation NS and EW)

COMPONENT	DATE FROM WHICH CONSTANTS APPLY	GALVANOMETERS FREE PERIOD T_1	PENDULUM FREE PERIOD T_o	DAMPING CONSTANT	V
Wenner N60E	March 1, 1941	12.1 secs.	10 secs.	Critical	565
Wenner N30W	March 1, 1941	16 secs.	10 secs.	Critical	710
Benioff Z	To be determined	12.3 secs.	1 secs.		
Special NS	To be installed				
Special EW	To be installed				

TIME SERVICE: U. S. Naval Observatory signals automatically recorded several times daily. Secondary signals manually recorded from land line to radio station KDKA, Pittsburgh.

GNWCH DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
Mar. 10	Seismic Activity centering about 04h-28m. (G.M.T.)						
Mar. 15	Z	eP	05h-52m-30s				(S_e-P_e) = 33.6° = 3735 Km.
	Z	iP	05h-52m-31s				H : 05h-05m-46 s (GMT)
	NW-NE	eS	05h-58m-01s				U.S.C.G.S. gives
							Δ = 5955 km.
							H = 05h-46.3 m
							Epicenter = 28.1° N. Lat.
							113.6° W. Long.
Mar. 16	Z	e	07h-54m-15s				
	NE	i	08h-03m-58s				

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GNWCH. DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
Mar. 21	Z NW-NE	iP iS	08h-07m-17s 08h-14m-45s		Δ(S-P) = 51.9° ; 5765 km. H = 07h-58m-10s (GMT) U.S.C.G.S. gives Δ = 5955 km. H = 07h-58.4m Epicenter = 7.3° N. Lat. 36.6° W. Long. Depth = 100 kms. (uncertain)		
Mar. 23	Seismic activity centering about 09h-19m (GMT)						
Mar. 28	Seismic activity centering about 23h-11m (GMT)						

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SEISMOLOGICAL OBSERVATORY BULLETIN FOR April 19 41

Lat. 40 26.7'N. Long. 79°57.2'W. Elevation – 273 meters

Lithologic Foundation – Birmingham shale

INSTRUMENTS

Two Wenner horizontal seismographs (Orientation N30W and N60E)

One Benioff vertical seismograph

Two special horizontal seismographs (mechanical recording) (Orientation NS and EW)

COMPONENT	DATE FROM WHICH CONSTANTS APPLY	GALVANOMETERS FREE PERIOD T_1	PENDULUM FREE PERIOD T_o	DAMPING CONSTANT	V
Wenner N60E	April 1, 1941	12.1 secs	10 secs.	Critical	565
Wenner N30W	April 1, 1941	16.0 secs.	10 secs.	Critical	710
Benioff Z	To be determined	12.6 secs.	1 secs.		
Special NS	To be installed				

Special EW: To be installed

TIME SERVICE: U. S. Naval Observatory signals automatically recorded several times daily. Secondary signals manually recorded from land line to radio station KDKA, Pittsburgh.

GNWCH DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
April 1	Z	iP	10 h-49m-50s			Δ(S-P) = 47.1° = 5235 km.s	
	NW-NE	eS	10h-56m-48s			H = 10h-41m-19s (GMT)	
April 1	Seismic activity centering about 22h-37m (GMT)						
April 3	Z	iP	15h-31m-44s			Δ(eS-iP) = 60.7° (calc)	
	Z	ipP	15h-32m-02s			Distance = 6745 kms.	
	NW-NE	eS	15h-40m-04s			H = 15h-21m-37s (GMT)	
	NW-NE	iS	15h-40m-08s			Depth = 100 kms.	
	NW-NE	isS	15h-40m-28s			U.S.G.S. gives	
						H = 15h-21m	
						Distance = 7550 km.s	
						Depth = 200 kms. (approx.)	
						Epicenter = 25° S. Lat.	
						69° W. Long.	

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GNWCH. DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
April 6	Seismic activity centering about 23h-15m (GMT)						
April 7	Z NW-NE	iP iS	23h-34m-21s 28h-04m-09s		Δ(S-P) = 22.8° H = 23h-29m-18s Distance = 2535 kms. U.S.C.G.S. gives H = 23h-29.3 m. Distance = 2530 km.s Epicenter = 17.6° N. Lat. 78.3° W. Long.		
April 8	Seismic activity centering about 10h-20m (GMT)						
April 15,	Z	iP	19h-15m-55s		After the first phase, the amplitudes were too large to read. U.S.C.G.S. gives H = 19h-09m-53.0s Distance = 3280 km.s Epicenter = 18.8° N. Lat. 103.0° W. Long.		
April 15	Seismic activity centering about 23h-48m (GMT)				U.S.C.G.S. gives Epicenter = 19° + N. Lat. 103° + W. Long. After shock 23h-42.6m.		
April 16	Z	i	01h-14m-22s		U.S.C.G.S. gives after-shock 01h-37.9m Epicenter = 19° ± N. Lat. 103° ± W. Long.		
April 19	Seismic activity centering about 08h-53m (GMT)						
April 20	NW-NE	iS_cP_cS	18h-02m-31s		Δ = 11,010 kms. (Calc) U.S.C.G.S. gives H = 17h-38.3m (GCT) Distance = 10900 km.s Epicenter = 37° N. Lat. 69° E. Long		

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GNWCH. DATE	COMPNT.	PHASE	GMT	PERIOD	AMPLITUDE	Δ	REMARKS
April 21		Seismic activity centering about	02h-32m	(GMT)			U.S.C.G.S. gives
		Seismic activity centering about	22h-44m	(GMT)			H = 02h-54.1m
							Distance = 6300 kms.
							Epicenter = 53° N. Lat.
							166° W. Long.
April 24		Seismic activity centering about	01h-15m	(GMT)			
April 27		Seismic activity centering about	01h-43m	(GMT)			
		Seismic activity centering about	09h-45m	(GMT)			
April 28	Z	iP	01h-50m-31s			Δ(S-P) = 27.2°	= 3020kms.
	NW-NE	eS	01h-55m-16s			H = 01h-44m-44s	(GMT)