

REPUBLIC OF THE PHILIPPINES
Department of Commerce and Industry
WEATHER BUREAU
GEOPHYSICAL DIVISION
Manila

No. 21

September, 1950
Tuff
International
Seismological
Centre

$\phi = 14^{\circ} 40' N$

$\lambda = 121^{\circ} 05' E$

$h = 70.4 m.$

----- oOo -----

INSTRUMENTS

3 Sprengnether horizontal seismometers, Series H (for microseismic work).
Sprengnether Seismometers, Series D-H, Three components. 1 Wood-Anderson
Torsion Seismometer. 1 Sprengnether Strong-Motion Seismometer.

Constants of Sprengnether, Series D-H

Component	T Galvanometer	T Seismometer	kg
E - W	8.0	8.0	28.2
N - S	7.5	7.5	32.1

Data taken from Sprengnether, Series D-H, unless otherwise stated.

No.	DATE	PHASE	Greenwich Time			DISTANCE Kms.	REMARKS
			h	m	s		
366	Sept. 1	ePN ISN	07	41	15 28	100	Very small on the record.
371	10	iPNE ePPE ePPPE eSE eLE iMNE F	15	25	30 58 09 44 57 56 16 30	2600 or 23.4°	Japan. Ambulong has the same M - P.
372	12	iPNE ISNE	03	54	12 55 51	360	Felt at Laoag, Int.V; compres- sional; Probable epicenter at 17.7°N, 120.2°E.
376	14	ePNE eSNE F	09	09	18 10 27 09 47	650?	
378	17	ePNE eSNE iM	21	59	34 22 01 21 02 24	925? or 8.4	Compressional; Felt at Surigao Int. II and Hinatuan, Int.II.
382	19	iPNE eSNE iMN F	20	35	01 39 11 43 26 22 45	2545 or 22.9°	
383	20	iPN ISN F	11	22	15 22 56.5 11 35	380	Epicenter tentatively placed at 16.3°N, 118.05°E.
386	23	iPNE eSNE F	18	27	12 28 28 39	820	Felt at Surigao, Int II; Hina- tuan, Int. II.
387	23	iPNE ISNE F	18	40	35 42 01 19 36	820	Compressional; Felt at Surigao Int. IV; Hinatuan Int. II. Probable epicenter at 9.8°N, 126.8°E.
388	24	ePNE eSNE	08	21	36 23 02	820	Felt at Surigao, Int. II.

SEISMOLOGICAL BULLETINCont'd



No.	DATE	PHASE	Greenwich Time			DISTANCE kms.	REMARKS
			h	m	s		
389	Sept. 24	ePNE eSNE	08	52 53	45 38	495	Ambulong record undecipherable
391	24	iPNE iSNE	21	24 25	27.5 27.5	560	
395	25	iPE	02	51 53	50 15	810	Felt at Surigao, Int. III; Hinatuan, Int. III.
396	25	iPNE iSNE	23	18 19	05 28	820	Felt at Surigao, Int. III. Pro bable epicenter at 9.8°N, 126.8 East, Hinatuan, Int. II.
404	28	iPNE iSNE F	03 04	01 03 02	51 17	820	
408	30	iPNE eSNE eLE F	07 07 08	35 39 41	16 31 16	2610? or 23.5°	
409	30	iPNE iSNE eLE F	08 09	40 43 44	56 24 19	1380 or 12.4°	
410	30	iPNE iSNE	14	00 00	16 36	170	Epicenter tentatively placed a 14.6°N, 119.5°E

Note: Insignificant or undecipherable disturbances on the following days of Sept.: 1st, 2nd (2), 5th, 10th, 12th, 13th (2), 16th, 17th (3), 21th, 23rd, 24th, 25th (2), 26th (5), 27th (2), 29th (3).

The Weather Bureau Geophysical Station at Ambulong, Tanauan, Batangas:
 $\phi = 14^{\circ} 15' N$ $\lambda = 121^{\circ} 03' E$ $h = 10.5$ m. Soil underlain by tuff.

Errata: In last month's Seismic Bulletin (No. 20) the date column should have been headed August instead of September.

Department of Commerce and Industry
WEATHER BUREAU
GEOPHYSICAL DIVISION
Manila

No. 22

October, 1950

$\phi = 14^{\circ} 40' N$

$\lambda = 121^{\circ} 05' E$

$h = 70.4 m.$

Tuff

--- ooo ---

INSTRUMENTS

3 Sprengnether horizontal seismometers, Series H (for microseismic work). Sprengnether Seismometers, Series D-H, Three components.
1 Wood-Anderson Torsion Seismometer. 1 Sprengnether Strong-Motion Seismometer

Constants of Sprengnether, Series D-H

Component	T Galvanometer	T Seismometer	kg
E - W	8.0	8.0	28.2
N - S	7.5	7.5	32.1

Data taken from Sprengnether, Series D-H, unless otherwise stated

No.	DATE	PHASE	Greenwich TIME			DISTANCE kms.	REMARKS
			h	m	s		
411	Oct. 2	oPNE eSNE	03	33	15 40	300	
412	5	iPNE iSNE	08	29	41.5 30 01.5	170	
413	5	iP' (?) iPR ₁ (?) eSR ₁ (?) F	16	20	09 31 25 49 02 18 30	14,700 or 132°	
414	6	ePNE iSNE	01	43	31 44 01	270	
415	6	ePNE eSNE	04	50	00 25	220	
416	6	oPNE iSNE	20	05	29 06 30	575	Felt at Borongan Int. IV, Tacloban Int. IV.
417	6	ePNE oSNE	23	22	10 23 11	575	Probable aftershock.
419	8	iPNE F	03 05	27 30	44		Fussy Record. Vertical and torsion not operating.
425	9	ePN oSNE	04	35	43 36 13	265	
428	10	oPNE iSNE	16	52	28 53 28	560	Felt at Laoag Int. II; Aparri Int. IV; Tuguegarao Int. IV; Vigan Int. III.
429	12	iP oS iL F	23	54	07 56 33 57 17 24 25	1350 or 12.2°	
431	13	iPNE iSNE	20	19	13 20 53	960	
435	23	iPNE iSNE	02	51	34 51 51	140	Epicenter tentatively placed at $14^{\circ} 08' N$ $122^{\circ} 15' E$

SEISMOLOGICAL BULLETIN ... Cont'd



No.	DATE	PHASE	Greenwich TIME			DISTANCE kms.	REMARKS
			h	m	s		
438	Oct. 25	eP eS	11	52	20 48	250	
439	29	iPE iSE	01	00	25 51	230	Epicenter tentatively placed at 14°40'N 123°45'E. Felt at Aurora Int. V; Daet Int. IV; Laguna Int. III; Manila Int. I.
440	29	iPNE iSNE	04	28	01 27	220	Probable aftershock.
441	29	iPNE iSNE	09	03 04	59 24	220	Probable aftershock.

Note: Insignificant or undecipherable disturbances on the following days of October:
7th, 8th (5), 9th (2), 13th, 15th (2), 21st, 23rd (2).

REPUBLIC OF THE PHILIPPINES
Department of Commerce and Industry
Weather Bureau
Geophysical Division
Manila

No. 23

$\phi = 14^{\circ} 40' N$

$\lambda = 121^{\circ} 05' E$

$h = 70.4 m.$

November, 1950

Tuff

--- 606 ---

INSTRUMENTS

3 Sprengnether Horizontal seismometers, Series H (for microseismic work). Sprengnether Seismometers, Series D-H, Three components.

1 Wood-Anderson Torsion Seismometer. 1 Sprengnether Strong-Motion Seismometer

Constants of Sprengnether, Series D-H

Component	T Galvanometer	T Seismometer	kg
E - W	8.0	8.0	28.2
N - S	7.5	7.5	32.1

Data taken from Sprengnether, Series D-H, unless otherwise stated

No.	DATE	PHASE	Greenwich TIME			DISTANCE kms.	REMARKS
			h	m	s		
442	Nov. 1	eP	02	50	21	.	
443	2	eP	07	10	30	1100	
		iS		12	34	or	
		eL		13	04	10°	
444	2	iP	15	33	01	2350	Mag. 7.7+; Data taken from Weichert Inverted Pendulum Seismograph at Ambulong* and Torsion Seismometer at Manila. Depth - 100 kms. + .
		isP			34	or	
		eS		36	40	21.2°	
		iSR ₁		37	51		
445	2	eP	18	19	16		
446	3	iP	10	39	32	300	Epicenter probably at 17.2°N, 120.6°E; Condensational.
		eS		40	05		
447	3	eP	11	00	08		
455	5	iPN	14	07	00	480	
		iP*		07	10.8		
		eS		07	52		
		iS*		08	06		
456	5	eP	17	42	08	2450	Normal.
		ePR ₁			33	or	
		iS		46	09	22°	
		iL		48	00		
457	6	eP	14	08	38		Data taken from Weichert Inverted Pendulum Seismograph at Ambulong.*
		eS?		09	45		
462	11	eP	19	49	33.2		
465	15	eP	08	00	09		
467	17	eP?	08	30	01		
469	21	eP	02	39	46		
471	24	iP	01	09	47	310	Dilational; Mag. 5+; Felt at Coron, Int. IV. Epicenter tentatively placed at 12° 10'N
		iS		10	21		



International
Seismological
Centre

SEISMOLOGICAL BULLETINCont'd



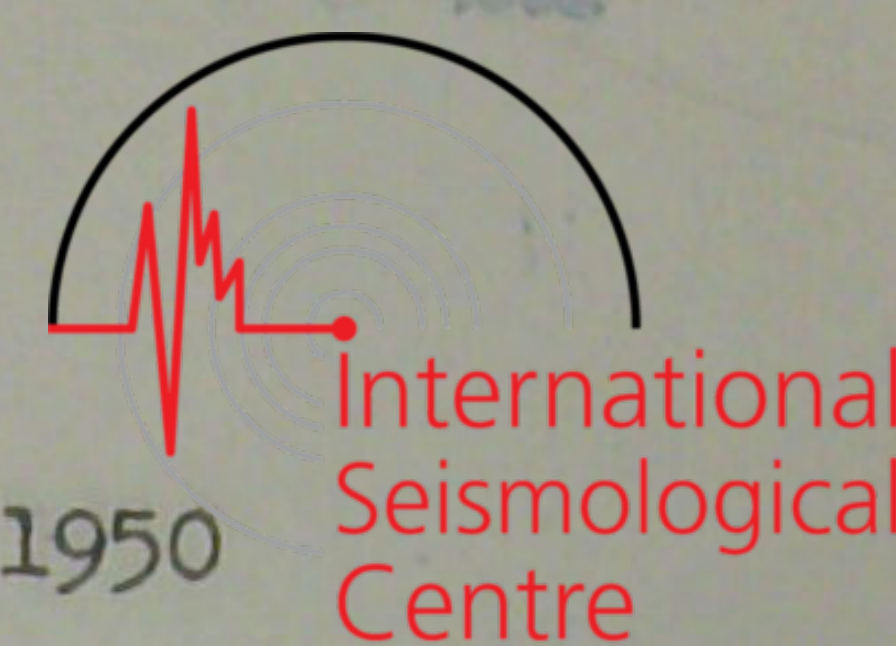
No.	DATE	PHASE	Greenwich			DISTANCE kms.	REMARKS
			h	TIME m	s		
472	Nov. 24	iP iS	21	45	10 43	300	
473	25	iP eS	01	18 19	15 00	415	Felt at Cuyo, Int. III. Mag. 4.6 $\pm$.
474	25	eP	09	30	04		
475	25	eP iS	21	30 31	37 13	330	
476	27	eP iS	04	29 29	00 30	270	Mag. 4.7.
479	29	eP	18	39	38		

Note: A total of 18 insignificant or undecipherable disturbances were recorded on the following days of November: 3rd (6), 4th, 7th (2), 9th, 11th, 12th, 14th, 16th, 20th, 23rd, 28th, and 29th.

*Ambulong, Tanauan, Batangas:

$\phi = 14^{\circ} 15' N.$ $\lambda = 121^{\circ} 03' E.$ $h = 10.5$ m. Soil underlain by tuff.

REPUBLIC OF THE PHILIPPINES
Department of Commerce and Industry
WEATHER BUREAU
Geophysical Division
Manila



No. 23

$\phi = 14^{\circ} 40' N$

$\lambda = 121^{\circ} 05' E$

$h = 70.4 \text{ m.}$

December, 1950
Tuff

--- oOo ---

INSTRUMENTS

3 Sprengnether Horizontal Seismometers, Series II (for microseismic work). Sprengnether Seismometers, Series D-II, Three components.
1 Wood-Anderson Torsion Seismometer. 1 Sprengnether Strong-Motion Seismometer.

Constants of Sprengnether, Series D-II

Component	T Galvanometer	T Seismometer	kg
E - W	8.0	8.0	28.2
N - S	7.5	7.5	32.1

Data taken from Sprengnether, Series D-II, unless otherwise stated.

No.	DATE	PHASE	Greenwich TIME			DISTANCE kms.	REMARKS
			h	m	s		
480	Dec. 1	eP	15	09	32 ca		Teleseismic.
481	1	eP	17	25	10		Local
482	2	eP	15	38	31 ca		Teleseismic.
483	2	iP	20	01	28		Mag. $6.6 \pm$ 48.20
		iPP		02	24		
		ePPP		04	25		
		eS		08	53		
		eL		14	48		
		F	22				
484	3	eP	07	43	22 ca		Teleseismic.
485	3	iP	09	16	39	450	
		iS		17	28		
486	4	iP	14	33	17	320	First of a swarm up to 06 h of Dec. 5
		iS			52		
487	4	eP	14	45	16	320	
		eS			51		
488	4	iP	16	35	15	620 $\pm$	Deeper than normal.
		iPcP		37	22		
		iS		42	31		
		eS		43	19		
		eScP		44	35		
		F	19	40			
489	4	iP	21	08	16	490	Felt at Aparri, Int. II.
		iS		09	08		
490	5	iP	00	08	11	2000	Depth about 100 kms.
		eS		11	11	or 180	
491	5	eP	05	58	00 ca		
492	9	iP	21	58	50		Traces lost due to big amplitudes and overlapping of lines.

No	Date	PHASE	Greenwich TIME			DISTANCE Kms.	REMARKS
			h	m	s		
	Dec.						
493	10	iP ipP isP i ePP? epPPP iS esS iSS eG?	13	34	08 37 48 35 36 38 42 43 47 51	69° $\pm$	Depth 100 kms. $\pm$; Mag. 7.5 $\pm$ Data blurred pm N-S Component
494	11	eP	21	11	46		
495	12	eP iS	17	44	24.5 58.5	300	
496	12	iP iS	18	44	32 58	230	Felt in Southern La Union province
497	12	eP	00	42	-- ca.		
498	14	iP epP isP ePP? esPPP i iS esS iSS esSS? eG	02	03 04 04 06 07 08 12 13 17 17 20	46 31 48 07 26 38 37 46 01 38 56	68° $\pm$	Depth 200 kms. $\pm$; Mag. 7.5 $\pm$
499	14	eP	14	29	ca		Probable aftershock of 0203
500	15	eP	01	38	ca		" " " "
501	17	eP	20	00	ca		
502	18	iPNE ipP esP? e i iS iSR ₁	15	49	07 23 45 49 50 52 53	16.2°	Depth about 200 kms. Mag. 5.5
503	19	eP iS	01	53 54	53 13	170	
504	21	iP iS	21 22	59 00	41 13	290	
505	22	eP	09	16	46		Teleseismic.
506	22	eP iS	22	47	05 37	290	
507	26	iP iS	07	17 18	48 20	290	
508	27	eP iS	05	4 45	48 10	240	
509	31	iP iS	05	01	11 22	80	Felt at Infanta, Int. II.