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THE MINERAL INDUSTRIES EXPERIMENT STATION
College of Mineral Industries
THE PENNSYLVANIA STATE UNIVERSITY

DEPARTMENT OF GEOPHYSICS AND GEOCHEMISTRY

SEISMOGRAPH REPORT XXVII

May - August

1958



University Park, Pennsylvania

PENNSYLVANIA'S COLLEGE OF MINERAL INDUSTRIES

Division of Earth Sciences

Geology - Mineralogy - Geophysics - Geochemistry - Meteorology - Geography

Division of Mineral Engineering

Mineral Economics - Mining - Mineral Preparation - Petroleum and Natural Gas

Division of Mineral Technology

Ceramic Technology

Fuel Technology

Metallurgy

THE PENNSYLVANIA STATE UNIVERSITY
MINERAL INDUSTRIES EXPERIMENT STATION
GEOPHYSICAL LABORATORY
Project C-19

Seismograph Report XXVII
May-August 1958
College of Mineral Industries
Department of Geophysics and Geochemistry
University Park, Penna., U.S.A.

Locality: The station is located in a vault under the central wing of the School of Mineral Industries Building. The instruments are mounted on a concrete pillar separated from the foundations and anchored to bedrock (dolomite). The geographic coordinates are:

$\phi = 40^{\circ} 48' N$ $\lambda = 77^{\circ} 52' W$ $H = 354 m$

The geocentric coordinates are (courtesy of Gutenberg and Richter):

$A = 40^{\circ} 36' N$ $\lambda = 77^{\circ} 52' W$ $H = + 3 km.$

Please address all communications to:

Geophysical Laboratory
220 Mineral Sciences Bldg.
University Park, Pennsylvania

During May to August 1958 three seismographs were in continuous operation except for brief intervals during repairs, adjustments and record changing. All components were recorded photographically at a rate of 1.56 cm/min. The east-west component was also recorded by a pen galvanometer at a rate of 1.70 cm/min. The free periods of the instruments when last measured (Seis. 3 June; Galv. 26 Aug.; Damp. 31 Aug. 1958) were:

<u>Component</u>	<u>Seismometer Period</u>	<u>Galvanometer Period</u>	<u>overall damping A₁/A₂ cycle</u>
North-South	11 sec	2.3 sec	1.9
East-West	12 sec	3.65 sec	3.7
Vertical	2.6 sec	4.0 sec	3.1

The time is controlled by a Stromberg clock, which is compared daily with signals from radio station WWV. The time accuracy of the records is estimated to be about + 2 seconds.

Date	Phase and component	G.M.C.T.	Remarks
2 May, 1958	eS N,E	20:40:44	Epicenter 17°N,99.5°W Mexico O = 20:29:20 Courtesy U.S.C.G.S. Δ = 3300 km.
6 May, 1958	eS N	00:07:31	Epicenter 57.5°N,136.5°W Near coast of southeastern Alaska O = 23:53:29 Courtesy U.S.C.G.S. Δ = 4400 km.
8 May, 1958	iP N,Z e? N,E eS Z	12:51:56 12:59:41 13:01:04	Epicenter 24°S,67°W Salta Province, Argentina O = 12:40:46 h = 200 km. Courtesy U.S.C.G.S. Δ = 8000 km.
10 May, 1958	N,E,Z		Epicenter 65°N,152.5°W Central Alaska O = 22:54:40 Courtesy U.S.C.G.S. Seismic activity observed between the hours of 23:14 and 24:00
11 May, 1958			Epicenter 65°N,152.5°W Central Alaska O = 05:23:54 Courtesy U.S.C.G.S. Δ = 5300 km. Seismic activity starting at 05:36
18 May, 1958	N,E		Seismic activity observed between the hours of 03:33 and 04:10
18 May, 1958	N,E		Seismic activity observed between the hours of 13:20 and 13:54
24 May, 1958	N		Seismic activity observed between the hours of 23:20 and 23:30

Date	Phase and component	G.M.C.T.	Remarks
25 May, 1958	eS N	00:54:48	Epicenter 51°N, 177°W Andreanof Islands, Aleutian Islands O = 00:35:23 Courtesy U.S.C.G.S. Δ = 7100 km.
25 May, 1958	N,E		Seismic activity observed between the hours of 15:29 and 16:00
25 May, 1958	iP N,Z ePP N,Z eS N,E eSS E	21:19:50 21:21:39 21:26:14 21:29:50	Epicenter 3°S, 77°W Ecuador-Peru border region O = 21:11:45 h = 100 km. Courtesy U.S.C.G.S. Δ = 5000 km.
30 May, 1958	iP N eS N,E	18:15:08 18:23:04	Epicenter 52.5°N, 169°W Fox Islands, Aleutian Islands O = 18:04:50 Courtesy U.S.C.G.S. Δ = 6600 km.
31 May, 1958	e N,E,Z eSKS N,E e E e N,E	19:52:34 19:58:18 19:59:38 20:02:22	Epicenter 15°S, 169°E New Hebrides Islands O = 19:32:30 Courtesy U.S.C.G.S. Δ = 13,400 km.
1 June, 1958	N		Seismic activity observed between the hours of 18:43 and 19:12
3 June, 1958	N		Seismic activity observed between the hours of 20:00 and 21:30
4 June, 1958	iP N,E,Z eS N,E	14:39:54 14:47:49	Epicenter 52.5°N, 167°W Fox Islands, Aleutian Islands O = 14:29:50 Courtesy U.S.C.G.S. Δ = 6600 km.
6 June, 1958	iP N,E,Z eS N,E,Z	09:18:00 09:23:23	Epicenter 8°N, 85°W Off coast of Costa Rica O = 09:11:18 Courtesy U.S.C.G.S. Δ = 3800 km.

Date	Phase and component	G.M.C.T.	Remarks	
6 June, 1958	iP iPP eS	N,E,Z N,Z N,E	19:22:36 19:23:49 19:28:17	Epicenter 5.5°N, 82.5°W South of Costa Rica O = 19:15:28 Courtesy U.S.C.G.S. Δ = 4000 km.
6 June, 1958		N		Seismic activity observed between the hours of 23:53 and 24:00
8 June, 1958	iP eS	Z N	00:48:47 00:56:43	Epicenter 53°N, 167°W Fox Islands, Aleutian Islands O = 00:38:52 Courtesy U.S.C.G.S. Δ = 6600 km.
12 June, 1958		N,E		Seismic activity observed between the hours of 12:06 and 12:24
12 June, 1958	iP eS	N,Z N,E	21:02:58 21:11:00	Epicenter 53°N, 167°W Fox Islands, Aleutian Islands O = 20:52:57 Courtesy U.S.C.G.S. Δ = 6600 km.
17 June, 1958		N,E		Seismic activity observed between the hours of 19:27 and 20:03
18 June, 1958		N,E		Seismic activity observed between the hours of 01:34 and 02:10.
19 June, 1958	iP eS	N,Z N,E	05:30:02 05:40:16	Epicenter 49.5°N, 156°E Kurile Islands O = 05:18:00 Courtesy U.S.C.G.S. Δ = 8900 km.
24 June, 1958		N,E		Seismic activity observed between the hours of 03:43 and 04:15
25 June, 1958		N,E,Z		Seismic activity observed between the hours of 09:55 and 11:20
30 June, 1958		N,E		Seismic activity observed between the hours of 18:44 to 20:20

Date	Phase and component		G.M.C.T.	Remarks
- 1 July, 1958	eP eS	N,Z N,E	06:03:45 06:12:23	Epicenter 51.5°N, 176.5°W Andreanof Islands, Aleutian Islands O = 05:53:07 Courtesy U.S.C.G.S. Δ = 7000 km.
3 July, 1958		N,E		Seismic activity observed between the hours of 06:55 and 07:20
3 July, 1958		N,E		Seismic activity observed between the hours of 19:13 and 19:33
6 July, 1958		N,E,Z		Seismic activity observed between the hours of 16:23 and 17:01
6 July, 1958		N,E		Seismic activity observed between the hours of 18:46 and 19:01
9 July, 1958		N,E		Seismic activity observed between the hours of 15:25 and 16:04
- 10 July, 1958	iP iPP eS	N,E N N,E	06:23:34 06:25:25 06:30:04	Epicenter 58.5°N, 136°W S.E. Alaska O = 06:15:20 Courtesy U.S.C.G.S. Δ = 4900 km.
12 July, 1958		E,Z		Seismic activity observed between the hours of 08:31 and 08:42
- 17 July, 1958	iP eS	N,Z E	19:12:55 19:21:28	Epicenter 51°N, 176°W Andreanof Islands, Aleutian Islands O = 19:02:10 Courtesy U.S.C.G.S. Δ = 7000 km.
- 17 July, 1958	iP eS	N,Z E	21:09:59 21:18:39	Epicenter 51°N, 177.5°W Andreanof Islands, Aleutian Islands O = 20:59:17 Courtesy U.S.C.G.S. Δ = 7000 km.

Date	Phase and component		G.M.C.T.	Remarks
- 18 July, 1958	iP eS	Z E	00:49:56 00:58:34	Epicenter 51°N, 176.5°W Andreanof Islands, Aleutian Islands O = 00:39:18 Courtesy U.S.C.G.S. Δ = 7000 km.
19 July, 1958		E		Seismic activity observed between the hours of 18:52 and 19:05
23 July, 1958		E		Seismic activity observed between the hours of 10:58 and 12:10
- 26 July, 1958	iP ePcP ePP e? eScP ePcS eS	N,E,Z N,Z N,Z N,Z N,Z N,Z N,E,Z	17:45:41 17:46:40 17:47:53 17:48:27 17:49:32 17:50:36 17:52:39	Epicenter 13.5°S, 69°W Peru-Bolivia border O = 17:37:09 h = 650 km. Courtesy U.S.C.G.S. Δ = 6000 km.
12 Aug., 1958		N,Z		Seismic activity observed between the hours of 16:39 and 16:45
- 14 Aug., 1958	iP eS	N,Z N,E,Z	15:05:45 15:14:17	Epicenter 52°N, 175°W Andreanof Islands, Aleutian Islands O = 14:55:10 Courtesy U.S.C.G.S. Δ = 7000 km.
- 15 Aug., 1958	iP	N,Z	20:07:13	Epicenter 53°N, 160.5°E Near east coast of Kamchatka h = 60 km. O = 19:55:39 Courtesy U.S.C.G.S. Δ = 8200 km.
- 15 Aug., 1958	i	N	22:49:31	Epicenter 1.5°N, 125°E Celebes O = 22:29:17 h = 200 km. Courtesy U.S.C.G.S. Δ = 14,900 km.

Date	Phase and component	G.M.C.T.	Remarks	
30 Aug., 1958	N,E,Z		Seismic activity observed between the hours of 18:53 and 19:05	
✓ 31 Aug., 1958	iP ePP	N,Z N,Z	23:08:26 23:11:47	Epicenter 63°N, 144.5°W Central Alaska O = 23:00:16 Courtesy U.S.C.G.S. Δ = 4850 km.

We acknowledge with thanks receipt of the following bulletins and other publications between 11 August and 13 October 1958:

Australia, Bur. Min. Res., Geophys. Obs. Report	Vol. 6, No. 4
Bucarest, Bull. Seis.	June, 1958
Agitation Microseismique	April, 1958
California Univ., Bull. Seis. Sta.	Vol. 27, No. 1
Cheb, Bull. Seis.	May-June, 1958
Granada, Boletin Sismico Provisional	July-August, 1958
Japan, Science Council	Vol. 4, No. 1
Jerusalem, Geol. Survey Bull.	No. 51, April-June, 1958
Ksara, Annales Seis.	No. 2, April-June, 1957
La Plata, Boletin Sismologico	July, 1957
Manila, Mon. Seis. Bull.	No. 111-113, March-May, 1958
Melbourne, Provisional Seis. Bull.	No. 58, 5-7
Nord, Bull. Seis. Sta.	No. 1, Sept.-Dec., 1957
Praha, Bull. Seis.	May-June, 1958
Agitation Microseismique	April-June, 1958
Pruhonice, Bull. Seis.	May-June, 1958
Rome, Bollettino Sismico Mensile	Feb.-Apr., 1958
Schweizerischen, Bull.	July-August, 1958
Sofia, Bull. Seis.	1947-1948, 1954-1956, 1955-1957
Strasbourg, Annales Institut Physique	XVII, 1952
Bull. Seis.	April-July, 1958
Bull. Mensuel	Sept., Nov., Dec., 1958
Stuttgart, Microseismische Bodenunruhe	December, 1957
Vorlaufiger Seismischer Bericht	January, 1957
Tacubaya, Servicio Sismologico	May-June, 1958
Tannarive, Bull. Seis.	No. 2, April-June, 1957
Tokyo, Meterological Research Institute	Vol. VIII, No. 2-3
Trieste, Bollettino Sismico	Jan. 1956-Sept. 1957, May-June, 1958
Microsismi Luglio	Sept., Oct., Dec., 1957
U.S.C.G.S., Seis. Bull.	Dec. 1957, Jan., Apr., May, June, 1958
Prelim. Det. Epi.	35-58 to 79-58
Elast announcements	24 Sept. '58, 30 Sept. '58
Vedurstofa Islands, Seis. Bull.	1957
Prelim. Seis. Bull.	May-June, 1958

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 College of Mineral Industries
 University Park, Penna., U.S.A.
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 J. A. Ryan, Graduate Assistant
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 13 October, 1958

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THE MINERAL INDUSTRIES EXPERIMENT STATION

College of Mineral Industries

THE PENNSYLVANIA STATE UNIVERSITY

DEPARTMENT OF GEOPHYSICS AND GEOCHEMISTRY

SEISMOGRAPH REPORT XXVIII

September-December

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University Park, Pennsylvania

THE PENNSYLVANIA STATE UNIVERSITY
MINERAL INDUSTRIES EXPERIMENT STATION
GEOPHYSICAL LABORATORY
Project C-19

Seismograph Report XXVIII
September-December 1958
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Component	Seismometer Period	Galvanometer Period	overall damping A_1/A_2 cycle
North-South	11 sec	2.3 sec	1.9
East-West	12 sec	3.65 sec	3.7
Vertical	2.6 sec	4.0 sec	3.1

The time is controlled by a Stromberg clock, which is compared daily with signals from radio station WWV. The time accuracy of the records is estimated to be about ± 2 seconds.

Date	Phase and component	G.M.C.T.	Remarks
2 Sept., 1958	N, E, Z		Seismic activity observed between the hours of 20:21 and 20:42
✓ 4 Sept., 1958	iP N, E, Z iPP N, Z iS N, E	22:02:56 22:05:31 22:12:22	Epicenter 33.5°S, 69.5°W Chile-Argentina border O = 21:51:08 Courtesy U.S.C.G.S. $\Delta = 8260$ km.
✓ 8 Sept., 1958	iP N, E, Z i? N, E, Z i? N, Z iPP N, Z eS E	05:37:13 05:37:28 05:37:45 05:40:11 05:46:40	Epicenter 53.5°N, 159°E Near east coast of Kamchatka O = 05:25:37 h: slightly greater than normal Courtesy U.S.C.G.S. $\Delta = 8240$ km.
9 Sept., 1958	E		Seismic activity observed between the hours of 22:59 and 23:20
20 Sept., 1958	E, Z		Seismic activity observed between the hours of 18:01 and 19:14
✓ 22 Sept., 1958	eP? Z iPP E, Z	19:24:30 19:25:49	Epicenter 33.5°S, 177.5°W Kermadec Islands Region O = 19:05:44 Courtesy U.S.C.G.S. $\Delta = 13070$ km.
✓ 24 Sept., 1958	eP N, Z ePP N, E, Z eS E	03:52:39 03:54:34 03:59:21	Epicenter 59 1/4°N, 143.5°W Gulf of Alaska O = 03:44:14 Courtesy U.S.C.G.S. $\Delta = 4900 +$ km.

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Date	Phase and component	G.M.C.T.	Remarks	
✓ 25 Sept., 1958	iP	N, E, Z	07:28:38	Epicenter 9°N, 39.5°W Atlantic Ocean O = 07:20:01 Courtesy U.S.C.G.S. Δ = 5160 km.
	iPP	E, Z	07:30:33	
	ePPP	E	07:31:11	
	iS	N, E, Z	07:35:46	
7 Oct., 1958	E		Seismic activity observed between the hours of 13:36 and 14:00	
✓ 9 Oct., 1958	eSS	E	11:53:38	Epicenter 55.5°S, 27.5°W Sandwich Islands region O = 11:20:17 Courtesy U.S.C.G.S. Δ = 11670 km.
✓ 10 Oct., 1958	iP	N, Z	08:41:53	Epicenter 53.5°N, 160.5°E Near east coast of Kamchatka O = 08:30:26 Courtesy U.S.C.G.S. Δ = 8230 km.
	eS	E	08:51:16	
11 Oct., 1958				Seismic activity starting at 01:01:40 Epicenter 65.5°N, 132.5°W Yukon Territory O = 00:41:35 Courtesy U.S.C.G.S. Δ = 4360 km.
28 Oct., 1958	E			Seismic activity observed between the hours of 11:30 and 12:30
29 Oct., 1958	E			Seismic activity observed between the hours of 00:16 and 00:50
✓ 29 Oct., 1958	iP	N, E, Z	07:55:02	Epicenter 51.5°N, 179.5°E Andreanof Islands, Aleutian Islands O = 07:44:10 Courtesy U.S.C.G.S. Δ = 7350 km.
	iPP	N, Z	07:57:28	
	eS	E	08:03:46	
	eScS	N, E	08:04:57	
31 Oct., 1958	E			Seismic activity observed between the hours of 07:22 and 08:05
✓ 1 Nov., 1958	e?	Z	03:58:07	Epicenter 3°S, 150°E Bismarck Sea O = 03:38:35 Courtesy U.S.C.G.S. Δ = 13920 km.
	e?	Z	03:59:17	
	ePP	N, Z	03:59:40	
	i?	Z	04:02:11	
	e?	Z	04:07:02	

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Date	Phase and component		G.M.C.T.	Remarks
1 Nov., 1958	E,Z			Seismic activity observed between the hours of 12:46 and 14:10
1 Nov., 1958	E			Seismic activity observed between the hours of 16:50 and 17:25
✓ 2 Nov., 1958	iP eS	Z N,E,Z	10:55:32 11:03:56	Epicenter 51.5°N, 175°W Andreanof Islands, Aleutian Islands O = 10:44:47 Courtesy U.S.C.G.S. Δ = 7040 km.
✓ 6 Nov., 1958	iP or PcP iS	N,E,Z N	23:10:46 23:20:59	Epicenter 44.5°N, 148.5°E Kurile Islands O = 22:58:06 h = about 60 km. Courtesy U.S.C.G.S. Δ = 9500 km.
7 Nov., 1958	E			Seismic activity observed between the hours of 05:45 and 06:20
7 Nov., 1958	E			Seismic activity observed between the hours of 12:07 and 12:40
✓ 8 Nov., 1958	iL	N	02:45:27	Epicenter 38.5°N, 88°W Illinois-Indiana border O = 02:41:09 Courtesy U.S.C.G.S. Δ = 905 km.
✓ 8 Nov., 1958	iP	N,Z	09:34:37	Epicenter 52°N, 159.5°E Off southeast coast of Kamchatka O = 09:22:53 Courtesy U.S.C.G.S. Δ = 8340 km.
10 Nov., 1958	E			Seismic activity observed between the hours of 10:48 and 10:59
11 Nov., 1958	E			Seismic activity observed between the hours of 11:35 and 11:50

Date	Phase and component		G.M.C.T.	Remarks
✓ 12 Nov., 1958	iP	N, E, Z	20:36:10	Epicenter 44.5°N, 148 1/2°E Kurile Islands O = 20:23:26 Courtesy U.S.C.G.S. Δ = 9500 km.
	e?	N, E	20:30:32	
	ePP	N	20:39:35	
	ePPP	N, E, Z	20:41:28	
	e?	N, Z	20:42:22	
	iS	N, E, Z	20:46:34	
	e?	N, E	20:50:15	
✓ 14 Nov., 1958	iP	N, Z	05:52:38	Epicenter 14.5°N, 91.5°W Guatemala O = 05:46:34 h = about 150 km. Courtesy U.S.C.G.S. Δ = 3200 km.
	iPP	N	05:53:37	
14 Nov., 1958		E		Seismic activity observed between the hours of 15:32 and 15:54
✓ 15 Nov., 1958	iP	N, Z	09:13:30	Epicenter 44°N, 149°E Kurile Islands O = 09:00:45 Courtesy U.S.C.G.S. Δ = 9520 km.
	iPP	N, Z	09:16:50	
	eS	N, E	09:23:44	
16 Nov., 1958		E		Seismic activity observed between the hours of 18:36 and 18:52
16 Nov., 1958		E		Seismic activity observed between the hours of 22:58 and 23:06
17 Nov., 1958		E		Seismic activity observed between the hours of 10:55 and 11:12
18 Nov., 1958		E		Seismic activity observed between the hours of 08:20 and 08:50
✓ 19 Nov., 1958	eP	N, Z	09:36:40	Epicenter 44°N, 149°E Kurile Islands O = 09:23:45 Courtesy U.S.C.G.S. Δ = 9520 km.
20 Nov., 1958		E		Seismic activity observed between the hours of 06:15 and 06:45
✓ 1 Dec., 1958	eL	N, Z	03:37:46	Epicenter 32.3°N, 115.8°W California-Mexico border O = 03:21:17 Courtesy U.S.C.G.S. Δ = 3495 km.

Date	Phase and component	G.M.C.T.	Remarks
4 Dec., 1958	E		Seismic activity observed between the hours of 19:30 and 19:45
✓ 6 Dec., 1958	iP N,Z eS E	09:40:37 09:46:00	Epicenter 6.5°N, 83°W South of Panama O = 09:33:45 Courtesy U.S.C.G.S. Δ = 3830 km.
✓ 7 Dec., 1958	iP N,Z eS E	18:04:36 18:09:59	Epicenter 18°N, 105°W Off coast of Mexico O = 17:58:08 h = about 100 km. Courtesy U.S.C.G.S. Δ = 3620 km.
✓ 10 Dec., 1958	iP' N,Z ePP N,E,Z	07:21:26 07:23:12	Epicenter 37°S, 176.5°E Off North Island, New Zealand O = 07:02:59 h = about 300 km. Courtesy U.S.C.G.S. Δ = 13740 km.
✓ 10 Dec., 1958	eS? E	22:01:18	Epicenter 24.5°N, 109°W Gulf of California O = 21:49:20 Courtesy U.S.C.G.S. Δ = 3400 km.
✓ 10 Dec., 1958	i E,Z i N,E,Z i N,E	22:25:49 22:26:24 22:26:40	
10 Dec., 1958	N,E		Seismic activity observed between the hours of 23:31 and 23:37
11 Dec., 1958	N,E,Z		Seismic activity observed between the hours of 08:38 and 08:47
14 Dec., 1958	E		Seismic activity observed between the hours of 07:48 and 08:10
14 Dec., 1958	E		Seismic activity observed between the hours of 13:42 and 13:58
18 Dec., 1958	E		Seismic activity observed between the hours of 20:18 and 20:26

Date	Phase and component	G.M.C.T.	Remarks
19 Dec., 1958	i N,Z e N,E	11:24:22 11:32:15	
19 Dec., 1958	E		Seismic activity observed between the hours of 19:08 and 20:00
21 Dec., 1958	E		Seismic activity observed between the hours of 06:26 and 07:20
25 Dec., 1958	E		Seismic activity observed between the hours of 09:08 and 09:52
28 Dec., 1958	E		Seismic activity observed between the hours of 06:30 and 07:00

We acknowledge with thanks receipt of the following bulletins and other publications between 14 October 1958 and 10 April 1959.

- Athens, Prelim. Bull., Nov.-Dec., 1958; Feb. 1959
Seis. Bull., 1957
- Bucarest, Bull. Seis. Prov., Oct.-Dec., 1958
- Cartuja, Prov. Seis. Bull., Dec., 1958; Jan., 1959
- Cheb, Seis. Bull., Aug.-Nov., 1958
- Coimbra, Sumario, 1957
- Djakarta, Prelim. Seis. Bull., Nov., 1958
- Dublin, Seis. Bull., May-Aug., 1958
- Japan, Geophys. Mag., Vol. 29(1)
Records of Oceanographic Works, Vol. 4(1)
- Jerusalem, Bull., 54-56
- Jesuit Seis. Assoc., Prelim. Bull., Nov.-Dec., 1957
- Kobe, Jour. Ocean., Vol. 9(2), Vol. 10(1)
- Kobenhavn, Seis. Bull., 74
- Kuyper, Mag. Bull., Nov.-Dec., 1958
- La Plata, Seis. Bull., Jan.-Mar., 1958
- Macquarie, Prov. Seis. Bull., Dec., 1958
- Manila, Seis. Bull., 118-120
- Matsushiro, Seis. Bull., Mar.-June, 1958
- Melbourne, Prov. Seis. Bull., Nov., 1958
- Morgantown, Seis. Rpt., XV
- Nord, Seis. Bull., 2
- Ottawa, Seis. Bull., July-Sept., 1957
- Prague, Agit. Micro., Oct.-Nov., 1958
Bull. Seis., 1957
Prelim. Bull., Oct.-Nov., 1958
- Port Moresby, Seis. Bull., July, 1958
- Pruhonice, Prelim. Bull., Oct.-Nov., 1958
- Rome, Seis. Bull., June-Sept., 1958
- Strasbourg, Bull. Men., Feb., Apr., 1958
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Switzerland, Seis. Bull., Nov., 1958; Jan., 1959
Tacubaya, Seis. Bull., Dec., 1958
Tannarive, Bull. Seis., 1957
U.S.C.G.S., Blast Announcements, 13 Oct., 1958
Prelim. Det. Epic., 80-58 to 100-58, 102-58 to 106-58, 1-59 to 27-59
Seis. Bull., July-Oct., 1958
Vedurstofa Islands, Prelim. Seis. Bull., Nov.-Dec., 1958
Zurich, Reprint, 34
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