

Seismograph Station
University of Washington
Geology Department
Seattle, Washington 98105

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington
May, 1964

All locations and magnitudes are from U. S. Coast & Geodetic Survey
Latitude: 46°45.0' N Elevation: 2800 ft.
Longitude: 121°48.6' W Foundation: Volcanic Breccia

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>	
May 1	e P Z	03 17 37	Alaska aftershock 57.4 N., 150.0 W.	Mag. 5.3 h about 30 km
1	e P Z	03 44 53	Alaska aftershock 59.7 N., 144.1 W.	Mag. 4.4 h about 20 km
1	i P 7 e S Z i S P e S N	06 06 23.3 10 06 10 09 06 10 11	Alaska aftershock 60.5 N., 145.6 W.	Mag. 5.4 h about 20 km
1	e P Z	07 12 54	Alaska aftershock 57.5 N., 150.6 W.	Mag. 4.5 h about 20 km
2	i P Z i S F i S N e L F e N e L Z	16 20 50.9 28 48 28 51 32 30 35 20 16 37 57	Kurile Islands 45.5 N., 150.3 E.	Mag. 5.7 h about 35 km
2	e P Z	17 13 29	Alaska aftershock 59.7 N., 147.0 W.	Mag. 4.5 h about 30 km
2	i P ZN i S N	19 45 46.3 19 45 50.7	Local 50.4 N., 144.8 W.	Mag. 4.5 h about 25 km
3	e P Z i S N	07 17 47 07 17 58.8	Local 40.5 N., 139.0 E.	Mag. 5.9 h about 30 km
3	e P N i S N	11 17 50 11 18 01.5	Local	
4	i P Z e S Z e S N	12 09 35.5R 13 38 12 13 48	Alaska aftershock 58.2 N., 152.3 W.	Mag. 5.3 h about 30 km
5	e L Z	08 28 36	Kurile Islands 45.5 N., 150.1 E.	Mag. 4.9 h about 40 km
5	e Z	12 24 .1	Alaska aftershock 59.7 N., 154.0 W.	Mag. 5.3 h about 25 km
5	e P Z e S Z	16 18 21 16 23 42	Alaska aftershock 59.2 N., 149.7 W.	Mag. 5.0 h about 25 km

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>		
May 5	i P Z i S N	19 04 21.5 19 04 30.2	Local	
6	e P ZF e N	08 34 07 08 34 09		
6	i P Z e S E e S N e L N	15 31 19.5 35 19 35 21 15 38 42	Alaska aftershock 56.7 N., 152.1 W.	Mag. 5.4 h about 21 km
7	i P Z e L ZNE	04 09 29.0 04 17 36	Andreanoff Islands, Aleutian Islands 51.6 N., 177.3 W.	Mag. 5.0 h about 25 km
7	e P Z i Z e N e F e F	06 04 42 04 44.0 07 08 07 11 06 24 .4		
7	e P Z i P Z e S ? e F e N e F	08 09 07.5 09 08.4 18 05 26 12 26 40 08 29 53	Off coast of Northern Honshu, Japan 40.4 N., 139.0 E.	Mag. 6.2 h about 33 km
7	i P Z	11 21 58.6	Off coast of Northern Honshu, Japan 30.6 N., 137.7 E.	Mag. 5.1 h about 469 km
7	i P ZNE i S ZNE	18 47 02.1 18 47 04.0	Local	
7	i P Z	19 17 03.6	Alaska aftershock 60.4 N., 144.8 W.	Mag. 4.5 h about 15 km
7	i P Z e Z e NE e L Z	20 23 42.6C 31 30 31 52 20 44 32	Off west coast of Honshu, Japan 40.5 N., 139.0 E.	Mag. 5.9 h about 33 km
8	e P Z e S E e S N	09 27 52 31 37 09 31 40	Alaska aftershock 59.4 N., 145.4 W.	Mag. 4.5 h about 20 km
8	i P Z i S NE	10 05 28.6 10 06 25.2	Off coast of Oregon 43.4 N., 126.6 W.	Mag. 4.3 h about 33 km
8	i P Z e S E e S N e L Z	16 26 45.0R 30 51 30 53 16 32 35	Alaska aftershock 56.7 N., 154.0 W.	Mag. 5.3 h about 25 km

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Re</u>	
May 8	i P Z	21 39 00.3R	Alaska aftershock	Mag. 5.4
	e S E	42 39	60.8 N., 143.6 W.	h about 35 km
	e S Z	42 43		
	e L E	21 47 22		
8	e P Z	23 47 05	Andreanoff Islands, Aleutian Islands	Mag. 5.2
			52.2 N., 169.5 W.	h about 20 km
9	e P Z	02 08 48.5	Andreanoff Islands, Aleutian Islands	Mag. 5.1
	e L N	16 40	52.2 N., 169.6 W.	h about 25 km
	e L E	02 22 12		
9	i P Z	15 21 05.6	Sea of Japan	Mag. 5.1
			40.7 N., 139.0 E.	h about 25 km
9	i P Z	20 15 23.2		
9	i P Z	21 11 16.0R	Alaska aftershock	Mag. 5.0
			61.7 N., 152.0 W.	h about 25 km
9	e Z	22 31 51		
10	i P Z	05 51 11.5	Bonin Islands region	Mag. 5.3
	e L Z	06 13 .6	29.0 N., 141.5 W.	h about 62 km
10	e Z	07 08 .7		
10	e P Z	13 45 41.0	Vancouver Island region	Mag. 4.1
	e L ZNE	13 47 .4	51.4 N., 129.2 W.	h about 33 km
10	e Z	14 50 50	Alaska aftershock	Mag. 4.5
			59.9 N., 147.1 W.	h about 15 km
10	e Z	15 45 26	Alaska aftershock	Mag. 4.3
			60.1 N., 146.3 W.	h about 15 km
11	e P Z	02 21 17	S. E. Alaska	Mag. 4.7
	e S ZNE	02 24 49	60.8 N., 142.2 W.	h about 33 km
11	e P Z	09 24 30		
11	e P Z	20 15 05	Alaska aftershock	Mag. 4.0
	e S Z	20 18 46	60.3 N., 146.1 W.	h about 33 km
12	e P Z	11 52 05		
	e NF	11 55 54		
12	e P Z	17 00 04	Alaska aftershock	Mag. 4.9
	e S NE	17 03 38	59.5 N., 144.8 W.	h about 33 km
12	e P Z	18 21 30	Alaska aftershock	Mag. 5.3
	i P Z	21 30.3	56.6 N., 152.4 W.	h about 10 km
	e S E	25 29		
	e S N	25 32		
	e N	18 26 11		

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
May 12	e P Z	23 46 32	Alaska aftershock 59.5 N., 143.1 W. h about 25 km
13	e P Z eSKSN eSKSE	05 38 44 49 14 05 49 19	Kermadec Islands region Mag. 5.3 32.8 S., 178.3 W. h about 33 km
13	e P Z	17 16 25	
13	i P Z i S NE	17 35 02.1 17 35 03.5	Local
14	e P Z	12 00 39	Alaska aftershock Mag. 4.6 62.8 N., 152.3 W. h about 15 km
14	e Z	14 05 36	
14	i P Z	14 23 21.4	Svalbard region Mag. 4.9 77.7 N., 18.3 W. h about 33 km
14	e P Z i Z	23 49 42 23 49 44.9	
15	i P ZNE i S ZNE	09 04 17.4 09 04 19.5	Local
15	e P Z	13 58 12	
15	e Z e Z	19 44 20 19 50 47	
16	e P Z	00 18 53	
16	e P Z i Z i N	02 00 22.5 24.7 02 00 49.5	Alaska aftershock Mag. 4.9 57.0 N., 152.3 W. h about 25 km
16	e P Z i Z	05 04 05 05 04 06.0	Near coast of Ecuador Mag. 5.4 0.7 S., 80.2 W. h about 54 km
16	e P Z i Z	06 13 22 06 13 22.7	Kazakh S.S.R. Mag. 5.6 49.9 N., 78.3 E. h about 0 km
16	e P Z i Z	06 18 00 06 18 02.5	
16	i P Z e S N e S E	14 49 34.0 53 30 14 53 34	Alaska aftershock Mag. 5.4 57.6 N., 151.0 W. h about 33 km
16	i P Z e Z e Z e N e Z	16 10 00.0 21 08 31 36 31 40 16 51 04	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>	
May 17	e P Z	00 54 24	Alaska aftershock 59.4 N., 142.7 W.	Mag. 5.1
	e S E	57 51		h about 35 km
	e S N	00 57 56		
18	e S E	13 55 08	Alaska aftershock 59.6 N., 145.0 W.	Mag. 4.6
	e S N	13 55 10		h about 20 km
18	e E	21 20 10	Alaska aftershock 60.4 N., 145.9 W.	Mag. 4.6 h about 15 km
19	e Z	00 06 14		
19	e P Z	01 49 11	Alaska aftershock 60.4 N., 147.5 W.	Mag. 4.3 h about 15 km
19	e S Z	02 32 47	Alaska aftershock 59.4 N., 145.2 W.	Mag. 4.3 h about 20 km
19	i P Z	06 18 22.0C	Svalbard region 77.7 N., 18.3 E.	Mag. 4.9
	i P Z	06 18 22.6R		h about 33 km
19	i P Z	06 32 16.7		
19	i P Z	08 22 42.3	Alaska aftershock 59.0 N., 153.3 W.	Mag. 4.3
	i N	22 44.6		h about 15 km
	i Z	08 22 45.4		
19	e P Z	10 49 14	Kurile Islands 45.4 N., 150.3 E.	Mag. 5.4
	e S NE	10 57 10		h about 33 km
19	e P Z	14 47 09	Alaska aftershock 60.2 N., 146.3 W.	Mag. 4.2
	e S N	51 00		h about 33 km
	e S E	14 51 02		
19	e P Z	15 42 25	Alaska aftershock 57.0 N., 152.8 W.	Mag. 4.9
	i P Z	42 25.2		h about 25 km
	e S NE	15 46 26		
19	e P Z	23 13 41.3	Near coast of Ecuador 0.7 S., 80.2 W.	Mag. 5.4
	e S E	21 53		h about 54 km
	e S ZN	21 54		
	e L N	25 44.7C		Mag. 5.1
	e L Z	35 27		h about 409 km
	e L NE	36 52		
	e Z	23 37 16		
20	e P Z	03 50 08	Local	
	i Z	03 50 14.6		
20	e P Z	05 36 50	Alaska aftershock 58.0 N., 149.6 W.	Mag. 4.9
	e S N	05 40 45		h about 20 km

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>
May 20	e P Z	06 14 46	Near north coast of western New Guinea 2.7 S., 139.3 E. Mag. 5.8 h about 61 km
	e Z	17 44	
	eSKSE	25 18	
	ePS F	27 33	
	e F	43 45	
	e L E	06 46 28	
21	i P Z	01 15 55.7	Alaska aftershock 60.4 N., 145.9 W. Mag. 4.6 h about 15 km
	e S N	19 36	
	e S E	01 19 39	
21	e Z	05 30.5	
21	e Z	09 16 .1	
	i NE	16 12.5	
	i Z	09 16 14.1	
21	e Z	12 13 .4	
	i N	13 55.0	
	i E	13 57.6	
	i Z	12 14 02.4	
21	e P Z	15 41 03	Alaska aftershock 59.0 N., 153.5 W. h about 15 km
	i P Z	41 03.4	
	e S E	45 15	
	e S N	15 45 17	
21	e P Z	22 40 29	Caribbean Sea 17.5 N., 83.9 W. Mag. 4.9 h about 33 km
	i P Z	40 30.3	
	e S E	46 57	
	e L N	50 07	
	e L F	50 11	
	e L Z	50 14	
	e Z	22 53 33	
22	e Z	12 58 40	
	e N	13 04 21	
23	e P Z	06 34 02	Alaska aftershock 57.3 N., 150.7 W. Mag. 4.5 h about 20 km
23	i P Z	11 33 34.7C	Bonin Island region 28.6 N., 139.4 E. Mag. 5.1 h about 409 km
23	e Z	12 59 51	
23	e P Z	16 57 46	Local
	i S N	16 58 02.8	
23	i P Z	18 32 48.4	Local
	i S N	33 04.8	
	i S E	18 33 05.2	
24	i P Z	00 45 01.4	Alaska aftershock 60.2 N., 148.0 W. Mag. 4.9 h about 15 km
	e S E	00 49 14	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Rems</u>
May 24	i P Z e E e N e T	04 25 31.7 35 58 36 19 04 50 35	
24	e Z	06 21 .5	Kurile Islands 44.7 N., 149.4 E. Mag. 4.7 h about 30 km
24	e Z e N e E	10 20 48 24 23 10 24 26	Alaska aftershock 60.2 N., 146.3 W. Mag. 5.6 h about 5 km
24	e P Z	10 42 35	Near east coast of Honshu, Japan 34.3 N., 141.1 E. Mag. 5.2 h about 33 km
26	i P Z	09 52 58.3	Mariana Island region 16.5 N., 145.9 E. Mag. 5.5 h about 94 km
26	i P ^o Z i Z epP ^o ZR ePP NE epPPE esPPE eSKPZ eSKSN e E	11 17 57.7 18 08.2 18 23 20 23 20 57 21 00 21 13 25 00 11 28 57	Sandwich Islands 56.2 S., 27.8 W. Mag. 7.5(BRK) h about 120 km
26	i P Z	18 28 12.7	Near east coast of Honshu, Japan 35.2 N., 141.1 E. Mag. 5.4 h about 49 km
26	e P Z	21 56 17	
27	e p Z i P Z e E i Z	01 15 37 15 38.6 18 22 01 18 46.3	Sandwich Islands 56.1 S., 27.6 W. Mag. 5.6 h about 105 km
27	i P ^o Z	06 49 52.7R	Sandwich Islands 56.2 S., 27.4 W. Mag. 5.8 h about 116 km
27	e P Z	20 44 48	
28	i P Z	02 09 50.1	Near east coast of Taiwan 24.5 N., 122.0 E. Mag. 5.9 h about 41 km
28	e Z	13 01 18	
28	i P Z	16 22 45.3	Alaska aftershock 58.3 N., 150.6 W. Mag. 5.4 h about 25 km
28	e P Z	18 00 11	About 1300 km. west of Galapagos Islands 1.8 S., 103.3 W. Mag. 4.2 h about 33 km
29	e P Z e E	03 39 23.7 03 43 18	

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>	
May 29	e Z	05 18 09	Kurile Islands 44.7 N., 149.4 E.	Mag. 4.7 h about 50 km
29	i P Z	09 23 30.2		
29	e P Z	10 22 06.4	Alaska aftershock	Mag. 5.6
	i P Z	22 07.6	60.2 N., 146.3 W.	h about 5 km
	e S E	25 51		
	e S N	25 59		
	i S ZN	26 00.0		
	e Z	10 27 14		
29	i P ZNE	23 10 12.2	Local	
	i S NE	23 10 19.4		
30	i P Z	03 22 46.7	Alaska aftershock	Mag. 5.5
	e S N	26 36	59.5 N., 148.5 W.	h about 5 km
	e S E	03 26 41		
30	i P Z	11 24 30.3		
30	i P Z	14 41 48.9	Near east coast of Honshu, Japan	Mag. 5.4
	e S Z	50 29	36.2 N., 141.1 E.	h about 49 km
	e S E	50 50		
	e S N	50 51		
	i S NE	50 52		
	e L E	58 33		
	e L N	14 58 40		
30	i P Z	22 39 39.5	Alaska aftershock	Mag. 4.7
	e L E	22 49 24	56.6 N., 152.3 W.	h about 15 km
31	i P Z	00 50 45.80	Kurile Islands	Mag. 6.3
	i S E	59 00	43.5 N., 146.8 E.	h about 48 km
	i S N	00 59 02		
	i L NE	01 05 47		
	e L Z	01 05 54		
31	e P Z	17 27 51		
	e N	35 .5		
	e E	35 55		
	e Z	39 13		
	e Z	52 .5		
	e R	17 53 .4		



SEISMOGRAPH STATION
UNIVERSITY OF WASHINGTON
DEPARTMENT OF GEOLOGY
SEATTLE, WASHINGTON

98105
June, 1964

LON

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>	<u>Remarks</u>
1	i P Z	01 38 51.7R	
1	i S NE	01 39 08.8	
1	i P Z	21 11 58.7	
2	i P ZNE	00 28 07.6	Local
	i S N	28 08.3	
	i S Z	28 08.6	
	i S E	00 28 09.1	
2	e P Z	15 41 03.7	
2	i P Z	16 13 42.6 R	Alaska aftershock 59.7 N, 144.4 W
	e S N	17 24	
	e S E	16 17 27	
2	e P Z	16 34 01	Alaska aftershock 59.7 N, 144.2 W
3	e S NE	11 53 00	Off coast of Jaliaco, Mexico Mag. 4.1 19.5N, 108.3 W
	e L Z	11 56 50	
3	i P Z	13 52 00.0	Near coast of northern California mag. 5.4 40.3 N, 126.1 W
3	i P Z	14 08 08	Alaska aftershock 59.9 N, 143.9 W
	e S E	11 38	
	e S N	11 42	
	e L Z	14 13 45	
4	i P Z	04 35 38.8	Near coast of Guerrero, Mexico mag. 4.7 17.5 N, 100.8 W
	e S N	41 08	
	e S E	04 41 15	
4	e P Z	07 32 41	
	e ZNE	07 33 02	
4	e P Z	11 56 58	Central Peru 9.6 S, 76.1 W
	e PPZE	11 59.4	
5	e P Z	09 55 05	Alaska aftershock 58.1 N, 152.1 W
	e S E	58 50	
	e S N	58 52	
	e S Z	58 54	
	e L Z	09 59 44	
5	i P Z	19 56 38.9	
5	i P Z	22 11 45.9	
	e R	15 45	
	e N	22 15 47	

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>		
June 6	e L E e L Z	02 57.3 03 00.4	South Pacific Ocean 89 S, 108.7 W	Mag. 4.4 h about 33 km
" 6	i P Z e S E	19 19 22.1 19 28 55	Easter Island region 26.6 S, 114.4 W	Mag. 5.8 h about 33 km
" 7	i P Z e N e E	20 23 32.1 33 53 20 34 12	South Pacific Ocean 85.5 S, 178.3 W	Mag. 5.3 h about 33 km
" 8	i P Z i Z	03 54 19.5 03 54 26.6	Local	
" 8	e P Z e S E e L Z	04 29 23 34 56 04 38.7	Near Andreanof Islands Alutian Islands 53.6 N, 175.9 W	Mag. 4.9 h about 27 km
" 8	e P Z	05 33 38		
" 8	e P Z	07 05 49 00	Alaska aftershock 57.4 N, 141.2 W,	Mag. 4.6 h about 33 km
" 8	e Z	16 05 55 49	Local	
" 8	i P Z e E	19 23 05 09.3 R 23 14 52	Local	
" 9	e Z	04 58 34	Marshall Islands region 22.6 S, 170.2 W	Mag. 5.2 h about 33 km
" 9	i P Z e S NE	09 28 39.1 09 32 10	Alaska aftershock 59.6 N, 145.1	Mag. 4.8 h about 33 km
" 9	e P Z	18 26 16	Ecuador 0.2 S., 78.9 W	Mag. 4.6 h about 48 km
" 10	i Z	01 22 20 40.4	Local	
10	e P Z e S E e L E e L N e N e E e E e Z e N e E	12 22 30 22 34.0 40 46 40 48 57 40 23 58 10 00 02 46 02 57 00 25 34 10 00 34 27	South Alaska aftershock 38.0 N, 153.8 W	Mag. 5.1 h about 33 km
11	eSKSE e L Z	00 17 25 20 45 20	Near N. coast of W. New Guinea 2.0 S., 140.8 E	Mag. 5.3 h about 18 km
11	i P Z i S ZN i S E	04 18 01 25.5 01 39.5 18 01 40.0	Near west coast of Honshu, Japan Mag. 5.5 h about 33 km	
11	i P Z i Z	21 47 00.9 21 47 32.9	Near west coast of Honshu, Japan 35.7 N, 139.0 E	Mag. 5.6 h about 33 km

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>	<u>REMARKS</u>
June 11	i P Z	22 20 04.5R	Off coast of N. Calif. Mag. 5.4 40.3 N., 126.5 W. h about 33 km
12	i P Z	16 43 06.4	
12	i P Z	18 24 16.7	South Fiji Island Mag. 5.3 26.5 S, 178.3 E h about 648 km
13	i P Z	00 23 54.8	Local
	i S NE	00 24 05.7	
13	e P Z	04 28 39	Near Islands, Aleutian Islands Mag. 5.1 53.6 N, 172.1 E h about 33 km
	e S E	35 03	
	e L E	38 10	
	e L N	38 13	
	e E	04 40 50	
13	e P Z	07 24 03	Near west coast of Honshu, Japan Mag. 5.6 h about 30 km
13	i P Z	16 31 37.2	Local
	i F	16 31 39.5	
13	i P Z	19 58 02.3	Local
	i S ZNE	19 58 29.6	
13	e P Z	22 44 44	Kermadec Island region Mag. 5.2 27.6 S, 178.3 W h about 94 km
	e SKSE	22 55 13	
	e N	23 08 08	
	e F	23 08 .3	
13	e P Z	23 31 38	
14	i P Z	01 48 06.2	Local
	i S N	01 49 02.7	
14	i P Z	12 28 51.5	Southern Turkey h about 8 km 38.0 N, 38.5 E
	e SKSN	39 29	
	e S E	39 59	
	e ScSScSE	52 .3	
	e Z	12 53 .5	
14	e Z	22 33 01	
15	ePP Z	00 25 26	Northern Sumatra Mag. 5.5 5.4 N, 97.0 E h about 33 km
	e F	35 20	
	ePS N	35 22	
	eSS NE	00 41 .9	
16	i P Z	04 12 42.0	Near west coast of Honshu, Japan Mag. 6.1 38.3 N, 139.1 E h about 57 km
	i P Z	12 44.5	
	e P E	15 47	
	e S E	20 45	
	e S N	04 20 47	
16	e P Z	07 04 09	Near west coast of Honshu, Japan Mag. 5.6 38.7 N, 139.0 E h about 15 km

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>	<u>REMARKS</u>
June 16	i P Z	07 26 00.8	Honshu, Japan, aftershock 38.5 N, 139.2 E Mag. 5.9 h about 16 km
16	e Z	13 40 21.5	
17	e P Z	01 30 09	
17	i P Z	02 20 48.1	
17	e P ZNE i S E i S N	02 23 03.5 23 26.0 02 23 26.5	Local
18	i P Z	07 50 59.2	
18	i P Z	01 00 12.0	
19	i P Z	06 46 43.0	
19	i P Z	10 16 36.2	Near west coast of Honshu, Japan Mag. 5.6 38.8 N, 139.3 E h about 30 km
20	i P Z e S ZNE	18 17 41.3 18 18 02	Local
20	e Z	21 35 33	
20	e Z	23 19 26	
21	i P Z e S E	01 42 09.30 01 49 .4	Kamchatka Mag. 5.7 51.0 N, 157.0 E h about 51 km
21	e P Z	14 19 35	
21	e P Z e E e E	22 34 48 44 10 22 59 .1	
22	e P Z e S E e S N e L N e L E	00 28 20.6 38 12 38 13 48 34 00 48 36	Samoa Islands Mag. 5.1 15.7 S, 172.8 W h about 33 km
22	e P Z e SKSNE e E	03 16 25 26 30 03 44 .2	Solomon Islands Mag. 5.4 10.4 S, 161.1 E h about 70 km
22	i P N i Z i E i N	03 32 28.6 32 29.0 32 30.3 03 32 30.5	Local
22	e P Z i S N i S E	22 58 00 58 20.2 22 58 21.2	Local

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>	<u>REMARKS</u>
June 22	e F	23 24 37	
23	i P Z	01 36 47.10	Kurile Island 43.3 N, 146.1 E Mag. 6.2 h about 77 km
	e S N	45 00	
	e S E	45 02	
	e S N	45 05	
	e G NE	01 51 57	
23	i P Z	02 14 54.6	Ecuador 2.7 S, 80.0 W Mag. 5.2 h about 58 km
23	e P Z	05 31 17	
23	e Z	06 55 03	
23	e P Z	17 59 55	
23	e P Z	19 44 34	
23	i P Z	23 36 23.5	
	i Z	23 36 28.8	
24	eScSE	15 30 .0	Off coast of Guerrero, Mexico 17.3 N, 100.4 W Mag. 4.4 h about 33 km
24	i P Z	18 45 17.30	Local
	i S NE	18 45 32.1	
24	i P Z	21 28 38.7	
24	i P ZNE	23 04 32.8	Local
	i S ZNE	23 04 36.4	
25	e P Z	10 55 43	
	i S ZN	56 08.0	
	i S E	10 56 08.3	
25	i P Z	17 26 34.4	
	i S ZNE	17 27 36.0	
26	e P Z	12 25 41	
	i Z	26 45.2	
	i N	12 26 57.1	
26	i P Z	15 21 17.5	Local
	i S N	15 21 18.4	
27	e Z	02 57 09	
27	e P Z	05 35 32	
27	i P Z	05 52 49.4	
28	e P ZN	12 21 27	
28	e P Z	13 04 37	New Ireland region 1.7 S, 149.6 E Mag. 6.4 h about 7 km
	e S Z	13 08 .0	

<u>DATE</u>	<u>PHASE</u>	<u>TIME</u>	<u>REMARKS</u>
June 28	e Z	15 04 09	New Hebrides Islands 13.2 S, 167.1 E Mag. 5.4 h about 215 km
28	i P Z	17 26 35.7	
28	e Z	17 40 42	
28	i P Z	18 28 22.0	Unimak Island, Aleutian Islands 53.2 N, 162.0 W Mag. 5.1 h about 39 km
28	i P Z	19 13 45.0	Alaska aftershock 58.3 N, 150.2 W Mag. 5.5 h about 23 km
	i Z	19 13 46.0	
28	i P Z	23 30 51	
29	e P Z	04 48 20	Gulf of California 26.7 N, 110.8 W Mag. 5.3 h about 33 km
	e S N	52 20	
	e F	52 31	
	e Z	04 52 38	
29	i P Z	05 18 10.0	Gulf of California 27.1 N, 110.5 W Mag. 4.7 h about 33 km
29	i P Z	07 26 40.8C	Southern Alaska 62.7 N, 152.0 W Mag. 5.6 h about 33 km
	e S ZNE	30 57	
	e L N	07 36 37	
29	e S N	10 51 23	Alaska Aftershock 56.7 N, 151.4 W Mag. 5.1 h about 33 km
	e S E	10 51 26	
30	e Z	14 00 18	
	e E	00 41	
	e Z	04 39	
	e ZN	05 12	
	e E	11 16	
	e N	11 23	
	e E	14 21	
	e ZN	14 27	
	e Z	14 30	
	e N	14 40	
	e N	31 03	
	e Z	36 17	
	e E	14 36 29	
30	e P Z	15 57 25	Kurile Islands 44.7 N, 150.4 E Mag. 5.1 h about 33 km
	e Z	58 32	
	e Z	15 58 44	
30	i P Z	20 17 59.0C	
	e N	20 25 28	
30	i P Z	20 58 24.9R	
	i Z	58 47.6	
	i E	20 58 49.0	

Seismograph Station
University of Washington
Geology Department
Seattle 5, Washington

Preliminary Readings: World-Wide Standard Seismograph Station, Longwire, Washington
July, 1964

All locations are from U.S. Coast & Geodetic Survey

Latitude: 46° 45.0'N

Elevation: 2800 ft.

Longitude: 121° 48.6'W

Foundation: Andesite Breccia

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>	
July 1	i P Z	02 57 33.0	Kurile Island 46.3N, 146.9E	Mag. 5.4 h about 33 km
1	i P ZNE	03 11 43.4		
	i ZNE	03 11 47.9		
1	e Z	09 38 41		
	i E	09 39 09.9		
1	e P Z	09 56.5	Kurile Islands	Mag. 4.8
	e S E	10 04 38	45.2N, 150.3E	h about 75 km
	e S N	04 40		
	e L N	10 11 39		
1	i P Z	20 32 46.9	Peru-Bolivia Border region 17.1S, 69.1W	Mag. 5.1 h about 145 km
1	e Z	21 32.0		
1	e P Z	22 03 09		
1	i P Z	22 37 55.7		
2	e P Z	01 23 31	Alaska aftershock	Mag. 5.1
	e S N	01 27 19	60.1N, 146.0W	h about 14 km
2	e P Z	05 30 33.5	Local	
	i E	30 50.3		
	i ZN	05 30 50.7		
2	e P Z	09 08 05		
2	i P Z	15 10 23.7	Off coast of Washington	Mag. 4.0
	e S N	15 11 32	47.6N, 128.7W	h about 33 km
2	e P ZNE	17 03 37	Off coast of Washington	Mag. 3.8
	i S ZE	04 50	47.4N, 127.9W	h about 33
	i S E	04 50.9		
	i S Z	04 51.0		
	i L N	04 04 58		
	i L Z	17 05 53		
2	i P Z	17 18 48.9	Off coast of Washington	Mag. 5.0
			47.7N, 128.8W	h about 14 km
3	e P Z	02 00 47		

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>
July 3	i P Z	05 11 42.3	Jalisco, Mexico 19.4N, 104.3W Mag. 4.4 h about 102 km
4	i P Z	11 01 57.6	
	i Z	01 59.3	
	i Z	11 05 10.3	
4	i P Z	12 25 30.6	Southern Peru 15.5S, 72.5W Mag. 5.3 h about 148 km
4	e Z	13 38.8	
5	i P Z	03 18 59.0	Alaska aftershock
	e S N	22 46	60.8N, 144.9W Mag. 4.9 h about 30 km
	e S Z	03 22 48	
5	e Z	12 43.7	Est Island, Aleutian Islands 51.2N, 179.1E Mag. 4.9 h about 33 km
5	i P Z	18 03 28.7	Alaska aftershock 60.2N, 146.2W Mag. 4.9 h about 27 km
5	i P Z	19 12 55.5R	Gulf of California
	e S E	17 02	26.2N, 110.2W Mag. 6.0 h about 29 km
	e S N	17 10	
	e S Z	17 20	
	e Z	19 11	
	e E	19 14	
	i L Z	19 22 15.3	
5	e P Z	23 45 56	Kurile Islands
	i Z	46 05.5	44.8N, 149.6E Mag. 5.5 h about 54 km
	i P P Z	49 17.4	
	e S E	53 59	
	e S N	23 54 00	
6	e G N	00 00.4	
6	a E	00 00.30	
6	e Z	01 17 31	Gulf of California
	e S Z	01 17 38	26.6N, 110.1W, Mag. 4.4 h about 33 km
6	i P Z	02 13 13.4	Gulf of California 26.2N, 110.4W Mag. 5.4 h about 33 km
6	e P Z	02 15 37	Gulf of California
	i P Z	02 15 38.3	26.2N, 110.2W Mag. 5.1 h about 33 km.
6	e P Z	02 19 31.4	Gulf of California
	i P Z	19 32.3	26.2N, 110.4W Mag. 5.4 h about 33 km
	e S N	23 48	
	e S E	23 49	
	e L N	24 52	
	e L Z	02 26 58	
6	e P Z	03 11 03	Gulf of California 26.5N, 110.3W Mag. 5.2 h about 33 km

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>	
July 6	e P Z	03 25 44	Alaska aftershock 56.7N, 152.3W	Mag. 4.8 h about 80 km.
6	i P Z e S E e S S E e S S H e S c S H	07 28 44.8 33 59 36 30 36.5 07 38.6	Guerrero, Mexico 18.3N, 100.4W	Mag. 6.3 h about 100 km
6	e P Z	10 27 01	Hindu Kush 37.1N, 71.4E	Mag. 5.9 h about 100 km
6	i P Z	10 45 07.5	Guerrero, Mexico 18.7N, 100.5W	Mag. 4.7 h about 108 km
6	i P Z	14 06 46.4	Gulf of California 26.9N, 110.1W	Mag. 4.8 h about 33 km
6	i P Z	17 20 34.5	Alaska aftershock	Mag. 5.3 h about 33 km.
6	i P Z	18 21 22.6	59.7N, 146.2W	
6	i P Z i S Z N E	23 58 58.6 23 59 03.4	Local	
7	e Z	03 34 58		
7	i P Z	07 51 02.20	Fiji Island region 23.6S, 179.9W,	Mag. 5.5 h about 462 km
7	i P Z Z	10 20 07.9	Alaska aftershock	Mag. 5.6 h about 40 km
7	i P Z	11 24 19.3	59.7N, 146.2W	
7	e Z	13 40 40		
7	i P Z	13 45 59.30	Near west coast of Honshu, Japan 38.0N, 139.2E	Mag. 6.0 h about 13 km.
12	e N e N e Z e N	18 46 12 46 54 46 57 46 59	Near coast of northern California 40.3N, 126.1W	Mag. 4.7 h about 33 km
13	i E e Z N E	06 47 00 13 49.6	Off coast of Oregon 44.7N, 129.9W	Mag. 5.5 h about 33 km
8	e P Z e Z e E e N e W	12 09 36 14 52 14 53 11 14 57 22 21	Near coast of Oregon 42.5N, 126.7W	Mag. 5.4 h about 33 km.
14	e W	12 39 21	Near Islands, Aleutian Islands 33.0N, 172.0E	Mag. 4.9 h about 33 km
9	E Z	05 30 25	Alaska aftershock	Mag. 4.5 h about 33 km
9	e P Z e S E	11 34 38 11 45 00	Tonga Islands 23.3S, 175.7W	Mag. 5.7 h about 43 km
14	e P Z	12 08 20	12.0N, 66.7W	Mag. 4.5 h about 46 km

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>	
July 9	i P Z	16 52 28.40	New Hebrides Islands	Mag. 6.6
	i P P Z N	16 56 00.4	15.5S, 167.6E	h about 121 km
	e S Z	17 03 05		
	e S E	17 03 10		
9	e N	17 15 54		
9	i P Z	22 50 17.7		
10	i P Z	11 55 41.90	Gulf of California	Mag. 4.5
			26.5N, 109.7W	h about 33 km.
10	i P Z NE	22 12 45.10	Local	
	i S N	12 47.7		
	i S E	22 12 47.9		
11	i P Z	09 48 43.4	Alaska aftershock	Mag. 5.3
	e S N	52 23	59.7N, 146.1W	h about 33 km.
	e N	09 57 58		
11	i P Z	10 00 08.6		
11	e P Z	10 06 09		
11	i P Z	14 34 27.2	Local	
	i Z	34 29.0		
	e N	14 35 47		
11	i P Z	20 30 05.00	Alaska aftershock	Mag. 5.6
	e L N	34 06	59.7N, 146.2W	h about 40 km.
	e L N	20 34 18		
12	e P Z	01 56 300	Near west coast of Honshu, Japan	Mag. 6.0
	i P Z	01 56 30.30	38.6N, 139.2E	h about 13 km.
12	e P Z	12 20 23	Near coast of northern California	Mag. 4.7
			40.3N, 126.1W	h about 33 km
13	i P Z	06 49 23.10	Off coast of Oregon	Mag. 5.5
			44.7N, 129.9W	h about 33 km
13	i P Z	11 56 21.4	Near coast of Oregon	Mag. 5.4
	i Z	56 22.3	42.5N, 126.7W	h about 33 km.
	e S E	57 14		
	e S N	11 57 15		
14	e P Z	04 12 05	Near Islands, Aleutian Islands	Mag. 4.9
			53.6N, 172.0E	h about 33 km
14	e P Z	05 26 39	Alaska aftershock	Mag. 4.8
			60.4N, 142.9W	h about 10 km
14	e P Z	10 04 36	Puerto Rico	Mag. 4.8
			19.0N, 66.5W	h about 46 km

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
July 14	i P Z e S E e S N	12 48 47.2 49 46.6 12 49 50	Near coast of northern California Mag. 5.4 41.8N, 125.7W, h about 33 km.
14	i P ZNE e E i S N e Z e N e E	15 50 42.9RW 51 10 51 11.7 51 15 51 18 15 51 19	Canadian-Washington State border area 48.9N, 122.5W h about 20 km Mag. 5.9 h about 33 km Mag. 5.9 h about 65 km
14	e P Z	22 12 49	
14	e P Z e S NE e S Z	23 03 28 07 05 23 07 06	Alaska aftershock Mag. 5.1 59.5N, 144.8W h about 20 km
15	e Z i Z	14 50 37 14 50 41.0	Mag. 4.9 h about 33 km.
15	e Z i Z	15 59 45 15 59 48.5	Mag. 5.3 h about 10 km.
17	i P Z	02 47 09.5C	Southern Greece Mag. 5.4 38.2N, 23.7E h about 150 km
17	e P Z	04 50 03	Kurile Island Mag. 5.4 49.3N, 158.6E h about 50 km.
18	e P Z	23 40 33	Alaska aftershock Mag. 4.9 60.0N, 143.4W h about 33 km
19	e P N	12 07 29	
20	i P N	05 41 24.4	
20	i P N i S N	22 54 28.6 22 54 30.0	Local
21	e P N	01 15 14	Off coast of Jalisco, Mexico Mag. 4.9 19.8N, 108.8W h about 31 km.
21	e P N	04 01 25	Fiji Island region Mag. 5.8 26.0S, 178.0W h about 222 km
21	e P N	04 11 35	
21	e P N	06 38 02	
21	e P N	08 38 07	
21	i P N	16 36 51.3	
22	i P N	08 32 31.9	

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>	
July 22	i P N	10 38 03.2	Gulf of California 31.7N, 114.1W	Mag. 4.6 h about 33 km
31	e P Z	03 18:07		
31	e P Z	04 14 53	Kurile Islands 44.6N, 151.6E	Mag. 5.5 h about 53 km
31	e P Z	06 05 35	New Britain	Mag. 5.9
	e S N	16 53	6.1S, 149.4E	h about 63 km
	e S S S Z	27.8		
	e L N	30.7		
	e S K P P 'E	06 35.0		
31	i P Z	16 41 02.5		
31	i P Z	21 30 53.0	Arctic Ocean 86.4N, 38.5E	Mag. 4.9 h about 33 km.
31	i P Z	23 54 28.30	Arctic Ocean 86.3N, 40.5E	Mag. 5.3 h about 10 km.

Seismograph Station
University of Washington
Geology Department
Seattle, Washington 98105

Preliminary Readings: World-Wide Standard Seismograph Station, Longwire, Washington
August, 1964

All locations and magnitudes are from U. S. Coast & Geodetic Survey
Latitude: 46° 45.0' N Elevation: 2800 ft.
Longitude: 121° 48.6' W Foundation: Volcanic Breccia

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
August 1	i P Z	15 07 04.7	
2	i P Z	02 45 43.4	Local
	i S Z	45 46.4	
	i S N	02 45 47.5	
2	e P Z	03 09 30	Alaska aftershock Mag. 5.6 56.1N, 156.1W h about 5.6 km
2	e P Z	08 40 41	Alaska aftershock Mag. 5.4
	i Z	40 49.1	56.2N, 149.9W h about 31 km
	e S NE	44 34	
	e L Z	08 45.5	
2	i P Z	19 31 54.2	
3	e P Z	01 57 15	Dominican Republic region Mag. 5.2
	i Z	01 57 18.5	19.8N, 70.7W h about 7 km
	e S N	02 04 23	
	e S E	04 24	
	e S S E	02 07.9	
3	e P Z	07 57 45.3	Near south coast of Taiwan Mag. 5.4 22.6N, 121.3E h about 33 km
3	e E	08 08 13	
	e Z	08 09 51	
3	e P Z	18 57 15	
	e E	59 36	
	e Z	18 59 41	
4	e P Z	07 52 50.7	
4	i P Z	17 34 03.60	Kurile Islands Mag. 5.9
	e S NE	41 50	46.5N, 151.1E h about 101 km
	e Z	48.13	
	e E	48.3	
	e Z	17 50.7	
6	i P Z	18 29 33.5	Alaska aftershock Mag. 5.6
	i P P Z	29 51.0	56.9N, 152.1W h about 39 km
	e Z	33 23	
	i S E	33 31.8	
	e S Z	18 33 35	

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>
August 7	e P Z	05 42 10	Alaska aftershock Mag. 5.2 56.8N, 152.3W h about 33 km.
	e S E	46 06	
	e S N	05 46.2	
7	e P Z	06 10 46.5	
	e Z	10 50.2	
	i E	06 10 54.5	
7	e P Z	08 48 51	
	i Z	08 49 05.7	
7	i P Z	11 18 36.1	
	i N	11 18 39.3	
7	e P Z	13 29 10	
7	i P Z	15 38 55.3	Near south coast of Guatemala Mag. 5.0 14.0N, 91.9W h about 89 km
	e S E	15 45 22	
8	i P Z	15 53 17.10	Off west coast of Nicaragua Mag. 5.8 12.5N, 87.8W h about 63 km
	iScPZ	58 48.0	
	e S E	15 59 49	
8	i P Z	19 23 15.9R	Local
	i S E	19 23 30.1	
8	e Z	20 15 35	
	i Z	15 41.5	
	e E	26 26	
	e Z	26 40	
	e Z	20 31.3	
8	i Z	23 08 11.6	
9	e Z	01 41 29	
	i Z	01 41 35.5	
10	i P Z	01 19 21.10	Mona Passage Mag. 5.5 19.1N, 67.3W h about 33 km
10	i P Z	14 09 15.8	Off coast of Central America Mag. 4.0 12.4N, 88.3W h about 71 km
10	i P Z	17 09 06.0R	Near coast of Venezuela Mag. 5.5 9.2N, 62.0W h about 51 km
10	e P Z	20 51 49.5	
12	e P Z	12 41 22.7	
	i Z	12 41 40.1	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
August 13	e Z	00 43 31	
	e Z	43 32	
	i P Z	43 32.5	
	e Z	44 57	
	i Z	45 00.0	
	e N	45.0	
	e N	53 25	
	e E	53 27	
	e ZN	53 28	
	e Z	00 54 59	
13	e Z	02 44 40	
13	i P Z	06 37 01.3	Off coast of Oregon Mag. 4.9
	i S E	38 02.2	42.2N, 126.1W h about 33 km
	i S Z	06 38 05.5	
13	e P Z	08 52 02.9	Off coast of Oregon Mag. 4.9
	i S N	53 05.0	42.3N, 125.5W h about 33km
	i S Z	08 53 05.5	
16	e Z	16 14 19	
17	e P Z	01 02 22	
	e ZN	01 02 25.5	
17	i P Z	11 56 17.1	Fiji Island area Mag. 5.1
	esP Z	12 01 06	18.0S, 178.3W h about 648 km
17	i P Z	15 04 32.0	Hokkaido, Japan region Mag. 5.1
			42.6N, 142.8E h about 33 km
17	i P Z	15 24 48.2	Norwegian Sea Mag. 5.4
	e E	15 43 05	72.2N, 1.7E h about 33 km
17	e P Z	16 46 06	Rat Island, Aleutian Islands Mag. 5.4
	i Z	16 46 07.7	51.5N, 177.8E h about 42 km
18	i P Z	00 37 37.8	Peru-Brazil border region Mag. 5.3
			7.2S, 74.4W h about 156 km
18	e P Z	02 15 22	Off coast of northern California
	i Z	02 15 23.2	40.3N, 125.7W h about 15 km
18	i P Z	04 57 38.80	Off coast of northern Chile Mag. 6.4
	e N	07.6	26.4S, 71.5W h about 8 km
	e S E	07 52	
	e S E	14.0	
	e S N	04 14 10	
18	i P Z	07 59 30.0	
18	i P Z	11 23 04.5R	
18	e P Z	20 16 39	
19	e Z	00 38 11	

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>
August 19	e P Z	11 43 43	Local
	i S Z	11 43 47.5	
19	i P Z	13 25 06.4	
19	i P Z	20 08 02.8	
20	e ZN	02 25.4	
20	i P Z	02 45 47.9	Local
	i S N	02 45 54.1	
20	e ZNE	04 13.5	Mag. 6.1 h about 50 km
	e ZN	04 21.5	
20	i P Z	07 31 53.6	Central Mexico 18.0N, 98.4W, Mag. 4.4 h about 60 km
20	i P Z	08 47 46.7	Windward Islands 14.9N, 60.4W Mag. 5.5 h about 65 km
20	i P Z	12 59 19.7	Local
20	e Z	14 03.8	
21	e L Z	19 52 26	Gulf of California 30.6N, 113.8W, Mag. 4.7 h about 15 km
	e Z	19 58.3	
	e E	20 02 40	
	e Z	03 23	
	e E	20 03 56	
22	i P Z	02 14 33.0	
22	i P Z	03 07 14.7C	Gulf of California 31.5N, 114.3W Mag. 5.3 h about 15 km
	e S E	10 12	
	e L E	12 17	
	e E	03 16 14	
22	e P Z	05 29 59.2	Gulf of California 31.4N, 114.4W Mag. 4.4 h about 33 km
	e L E	05 34 53	
22	i P Z	07 38 04.4C	Gulf of California 32.0N, 113.8W Mag. 4.6 h about 15 km
	e L E	07 43 14	
22	i P Z	22 59 31.0	
23	e P Z	14 31 39	Mag. 3.6 h about 23 km
	i Z	14 31 41.0	
23	e P Z	15 37 14	New Britain region 6.1S, 149.4E Mag. 4.9 h about 63 km
	e SKSE	15 47.5	
	e E	16 07 20	
24	i P N	04 27 25.0	Local Mag. 3.2 h about 35 km
	i P ZE	27 25.2	
	i S N	27 27.0	
	i S ZE	04 27 27.4	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>		<u>REMARKS</u>
August 24	i P Z	10 47 23.7	Ecuador 1.5S, 78.1W	Mag. 5.1 h about 173 km
24	i P Z	22 33 17.6		
24	e P ZN e Z e E e W e Z	23 01 35 05 36 05 37 05 42 23 07 23		
25	e P Z i Z i S ZE e S Z e S NE e L Z e W e Z e L Z	13 56 02.9 13 56 03.5 14 03 06.0 03 10 03 12 06 57 08 21 09 05 14 10 28	East of Severnaya Zemlya Mag 6.1 78.2N, 126.6E	h about 50 km
26	i P ZN i S W i S ZE	02 33 06.9 33 13.3 02 33 13.6	Local	
26	e P Z i Z esPZ	05 49 47.8 49 48.4 05 50 52	Northwest of Kurile Islands 47.2N, 148.4E	Mag. 5.3 h about 308 km
26	e P Z	07 44 31		
26	i P Z	19 00 47.0		
26	i P Z	23 49 55.1	Kodiak Island region 57.3N, 152.7W	Mag. 4.9 h about 18 km
27	e E	08 34.3		
27	e P W	09 58 21.5	Northern Yukon Territory 65.3N, 133.8W	Mag. 4.6 h about 33 km
27	e S S Z	12 46 46	Columbia 4.8N, 76.2W	Mag. 4.8 h about 112 km
27	e Z	20 14.0		
30	i P Z	21 56 5.6	Fiji Islands regions 19.9S, 176.0W	Mag. 5.6 h about 253 km
31	e P Z e L E	02 26 43 02 49 26	Easter Island Cordillera 35.2S, 106.0W	Mag. 5.2 h about 33 km
31	e Z	21 39 10		
31	e P Z e P P ZNE e S E	23 26 43 29 29.5 23 31 46	Fox Islands, Aleutian Islands 52.4N, 170.7W	Mag. 5.2 h about 33 km

Seismograph Station
 University of Washington
 Geology Department
 Seattle 5, Washington

Preliminary Readings: World-Wide Standard Seismograph Station, Longaire, Washington
 September, 1964

All locations are from U.S. Coast & Geodetic Survey

Latitude: 46° 45.0'N

Elevation: 2800 ft.

Longitude: 121° 48.6'W

Foundation: Volcanic Breccia

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
Sept. 1	e P Z	09 47 02	
1	e P Z	10 17 06.5	
1	e E	14 47.0	
1	e P Z	17 23 05	Fox Island, Aleutian Islands Mag. 5.5
	i Z	17 23 06.9	51.2N, 170.6W h about 25 km
1	i P Z	21 11 31.0	Local
	i S ZNE	21 11 35.2	
2	i P Z	03 03 09.4	
	i Z	03 03 13.4	
2	i P Z	10 49 01.0	
	i Z	10 49 03.4	
2	i P Z	14 48 32.8	Local
	i S E	14 48 49.5	
2	i P Z	15 02 49.9	
2	i P Z	18 22 01.10	Northern Columbia Mag. 4.8
			7.8N, 73.3W h about 112 km
2	i P Z	21 45 14.4	New Hebrides Islands Mag. 4.9
			18.6S, 169.4E h about 218 km
3	i P Z	05 32 48.9R	Vancouver Island region Mag. 5.0
	i Z	32 50.8R	50.5N, 129.5W h about 29 km
	e L N	34 12	
	e L E	34 53	
	i L Z	05 35 31.5	
3	i P Z	11 49 50.0C	Off coast of Oregon Mag. 4.4
	i S E	50 47.5	43.5N, 127.1W h about 33 km
	i S N	11 50 49.3	
3	e P Z	21 08 36	Gulf of Alaska Mag. 4.5
	e Z	21 20 00	59.7N, 144.0W h about 33 km
	i Z	20 02.8	
	i ZN	20 06.5	
	i E	20 07.0	
	e E	24 22	
	e N	21 24 32	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G. C. T.</u>	<u>Remarks</u>
Sept. 3	i P Z	23 47 20.50	Gulf of California Mag. 4.6 24.2W, 108.8W h about 15 km.
4	e P Z	03 40 46	Central Mid-Atlantic Ridge Mag. 5.4 7.6W, 36.9W h about 22 km
4	i Z	04 14 43.0	Southeastern Alaska Mag. 3.8 59.2N, 138.1W h about 33 km.
4	i P Z i Z	08 14 00.0 08 14 01.8	Northern Chile Mag. 3.0 18.3S, 69.0W h about 33 km
4	i P Z	09 49 00.6R	Northern Chile Mag. 5.4 18.3S, 69.0W h about 101 km
4	i Z	09 55 29.6	Gulf of California Mag. 4.6 24.2W, 108.6W h about 33 km
4	eSKSE ePS Z e L Z	10 58 57 11 01 42 11 22 14	West New Guinea region Mag. 5.9 4.0S, 131.4E h about 33 km
4	e Z i N i Z	21 57 30 57 30.6 21 57 32.6	South of Honshu, Japan Mag. 3.6 39.0N, 142.0E h about 77 km
4	i P Z i Z	22 58 05.0 22 58 06.3	Near north coast of New Guinea 1.4N, 144.0E h about 100 km
5	e Z i Z e E e NE e E e Z	03 06 16 07 04.0 16 33 17 38 35 08 03 35 13	
5	e P Z	04 11 36	
5	e P Z i Z	05 05 44 05 05 44.5	
5	e Z	07 19 40	
5	e Z	08 24 50	
5	i P Z	11 12 19.4	
5	i P Z eSKSE	12 40 45.20 12 51 12	Central Mid-Atlantic Ridge Mag. 4.7 0.6N, 25.9W h about 33 km
5	i Z	14 26 03.7	
6	e P Z i Z	13 46 55 13 46 58.6	

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
Sept. 6	i P Z	17 41 40.0	Central Alaska 63.1N, 147.7W h about 33 km Mag. 4.8
6	e Z	18 53 50	West Caroline Islands Mag. 5.1 10.0N, 140.2E h about 33 km.
	i Z	18 54 11.3	
	e S E	19 04 35	
6	e P Z	21 15 11	Northern Easter Island Cordillera Mag. 5.0 6.0S, 107.1W h about 33 km
	e S N	22 46	
	e S E	22 49	
	e E	28 41	
	e Z	32 08	
	e N	21 32 13	
7	e S N	07 50 53	Kodiak Island region Mag. 5.1 58.3N, 152.0W h about 33 km
	e S E	07 51 00	
7	e Z	12 23 18	
8	i P Z	13 51 27.4	South of Honshu, Japan Mag. 5.6 29.6N, 142.0E h about 77 km
11	e P N	02 37 45	Phoenix Islands region Mag. 5.3 12.0S, 172.9W h about 33 km
	e P E	02 37 48	
11	e N	04 36 10	
12	e P E	12 56 34	Near north coast of New Guinea 4.4S, 144.0E h about 120 km
	e Z	12 56 35	
	e P Z	13 00 30	
	e E	06 02	
	e S Z	13 09 04	
12	i P N	15 30 47.2	Phoenix Islands region Mag. 5.2 8.5S, 93.1E h about 37 km
	i P E	15 30 47.7	
12	i P E	20 09 04.3	Local
	i S NE	20 09 20.2	
12	e N	21 32 22.5	
12	e E	22 10 21	
12	e N	22 25 20	Local
	e Z	26 41	
	e E	22 26.6	
12	e E	22 29 52	Local
	e Z	22 34 36	
12	e E	22 36 25	Local
	e N	22 54 30	
13	e P Z	04 40 43	Phoenix Islands Mag. 5.5 29.2S, 129.7W h about 20 km

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Sept. 13	e P Z	16 41 39	Local
	e E	16 41 57	
14	e P Z	10 22 57	Alaska Peninsula
	i Z	10 22 58.2	56.7N, 157.4W h about 61 km
14	e P Z	10 56 21	
	i Z	10 56 22.7	
14	e P Z	13 41 01C	Near coast of Chiapas, Mexico, Mag. 4.9
	i Z	41 01.4R	15.0N, 93.2W h about 64 km
	e SE	47 07	
	e SN	13 47 08	
14	i P Z	15 53 03.8	Guatemala
	e E	16 02 15	15.5N, 90.8W
	e N	16 02 18	h about 38 km
14	e E	22 59.1	
	e Z	22 59 08	
15	i P Z	11 14 34.3	
15	i P Z	12 56 07.0C	Samoa Islands region
			16.0S, 172.9W h about 33 km
15	i P Z	14 48 15.2	
	i ZE	49 21.3	
	e ZN	49 23	
	e E	49 25	
	e N	55 03	
	e E	59 02	
	e Z	59 05	
	e N	14 59 06	
15	e PPSZ	15 57 19	Nicobar Islands region
			8.9N, 93.1E h about 37 km
16	e P Z	01 16 27	
	i Z	01 16 29.3	
16	i P Z	01 55 04.8R	
	e NE	58 53	
	e Z	58 54	
	e ZE	01 58 47	
	e Z	02 01 50	
16	e P Z	04 58 18	
16	i P Z	08 46 40.6R	Local
	i SE	08 46 42.7	
17	i P Z	15 12 05.1C	
	e E	20 14	
	e Z	15 20 26	
18	e P Z	13 23 15	Azores Islands
	e SZ	15 32.2	39.8N, 29.7W
			Mag. 5.5 h about 20 km

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Sept. 19	e P Z	05 15 39	Near coast of Oaxaca, Mexico Mag. 6 Mag. 15.3N, 94.0W h about 42 km.
	i Z	15 40.0	
	e S E	21 46	
	e S N	21 48	
	e E	30 08	
	e N	05 30 10	
19	e P Z	23 59 47	
20	e P Z	13 31 15	
	i Z	13 31 17.1	
21	e Z	23 08 29	
23	e P Z	05 05 34.6	Unimak Island region Mag. 5.5 53.6N, 163.9W h about 29 km.
	e S NE	10 16	
	e N	10 39	
	e Z	05 10 44	
24	e P Z	05 06 30.5	
24	i PZNE	14 00 54.8C	Off coast of Oregon 43.5N, 127.5W h about 14 km.
	e N	01 51	
	e NE	02 09	
	e Z	14 02 28	
25	i P Z	09 59 25.3	
25	e P Z	15 49 53	Rat Island, Aleutian Islands Mag. 5.5 50.3N, 176.6E h about 30 km
26	e Z	23 35.5	
	e E	23 36.7	
27	e P Z	03 58 36	Kurile Islands Mag. 4.7 44.1N, 149.0E h about 35 km
27	i P Z	15 55 38.2C	Kodiak Island region Mag. 5.4 56.6N, 152.0W h about 27 km.
	e S E	59 38	
	e S N	15 59 39	
28	e N	05 43 44	
28	e P Z	12 33 34	Local
	i N	33 34.6	
	i S ZE	33 38.3	
	i S N	33 38.5	
	i Z	12 33 40.4	
28	i P Z	15 44 37.7C	Off coast of Oregon Mag. 4.8 43.5N, 127.1W h about 33 km
	e N	45 23	
	e N	45 27	
	e Z	45 34	
	e S E	15 45 36	
28	e P Z	18 34 53	Southern Alaska Mag. 4.5 61.0N, 147.4W h about 89 km.

Seismograph Station
 University of Washington
 Geology Department
 Seattle 5, Washington

Preliminary Readings: World-Wide Standard Seismograph Station, Longacre, Washington
 October, 1964

All locations are from U.S. Coast & Geodetic Survey
 Latitude: 46° 45.0'N Elevation: 2800 ft.
 Longitude: 121° 48.6'W Foundation: Volcanic Breccia

Date	Phase	Time G.C.T.	Remarks
Oct. 1	i P Z i S N	22 08 11.3C 22 08 20.5	Local
2	e P Z eSS NE e NE	01 08 29 20 28 01 26.5	Sakhalin Island 51.9N, 142.9E Mag. 5.7 h about 33 km
2	e P Z eSSSE e S N eSSSE eSSN e G N	13 13 24 23 40 24 08 30 14 30 16 13 36 43	Solomon Islands 10.58, 162.4E Mag. 6.0 h about 68 km
2	e Z	20 05.5	
2	i P Z	22 27 49.3	Gulf of Alaska 59.7N, 144.5W Mag. 5.2 h about 22 km
3	i P Z e S Z	13 44 17.8R 13 48 12	Southern Alaska 61.4N, 147.1W Mag. 5.2 h about 48 km
6	e P Z e S NE e SS E e SS N e G E e N	07 30 29 41 00 46 39 46 42 53 15 07 54 49	Southern Pacific Ocean 36.2S, 100.9W Mag. 5.5 h about 33 km
6	e P Z	14 42 54	Turkey 40.2N, 28.1E Mag. 5.1 h about 10 km
6	i P Z e Z e PPZ e S E	14 44 16.8 44 25.2 47 59 14 55 17	Turkey 40.3N, 28.2E Mag. 6.0 h about 10 km
7	e P Z i ZNE i S ZNE	03 41 19.5R 41 20.3C 03 41 40.0	Local
7	e P Z i Z i N	17 27 32 27 32.5 17 28 32.7	

-2-

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Oct. 8	e P Z i E	04 59 44 05 00 10.4	Northern Columbia 0.8N, 121.7E Mag. 5.3 h about 33 km
8	i P Z	05 54 04.9	Local
8	i NE e Z	10 05 17.6 10 05 20	Local Islands Mag. 5.9 h about 33 km
8	i P Z i S ZNE	11 42 09.6 11 42 14.5	Local
8	e P Z	14 14 08	Off coast of Oregon 43.9N, 127.4W Mag. 3.9 h about 33 km.
8	e ZE	17 05 44	
9	e ZE	02 27 21	Montana Mag. 4.6 47.8N, 114.2W h about 33 km.
9	e P Z	13 48 38	
9	i P Z	14 02 38.2	
9	i P Z i Z	19 36 14.9C 19 36 15.3R	Northern Columbia 6.8N, 73.0W Mag. 5.3 h about 157 km
9	i P Z e N e Z	20 00 19.1 04 15 20 04 38	Local Mag. 4.6 h about 33 km
9	i P Z e Z	21 46 00.4R 22 07 22	Samoa Islands region 16.2S, 171.9W Mag. 5.8 h about 33 km.
9	i P ZNE	23 07 23.3	
10	e P Z	17 20 14	Local
10	i P Z e S Z	19 43 15.1 19 46 58	Southern Alaska 60.4N, 146.1W Mag. 5.3 h about 44 km
10	i P Z e S NE e S Z e Z	20 11 07.2 14 52 14 54 20 16 33	Southern Alaska 60.5N, 145.4W Mag. 5.4 h about 31 km
11	i P Z e NE	06 11 45.6 06 11 47	Off coast of Oregon 43.8N, 129.3W Mag. 4.6 h about 33 km
11	i P Z e N e ZE eScSZ	10 14 17.4C 23 13 23 18 10 24 21	Hawaii region 19.1N, 156.6W Mag. 4.4 h about 33 km

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>	
Oct. 11	e P' Z e PS Z e G H	21 33 22 43 16 21 59 54	Northern Celebes 0.6S, 121.7E	Mag. 6.3 h about 33 km
12	i P Z i S E	05 08 44.1 05 08 45.3	Local	
12	eSKBME e Z e L Z	16 07 25 10 03 16 30 14	Talaad Islands 3.0N, 126.7E	Mag. 5.9 h about 59 km
12	e P Z e S H e G Z e H e L E e H eP'P'Z	22 07 32 17 37 28 26 29 14 30 22 33.4 22 33 50	Easter Island region 31.3S, 110.8W	Mag. 6.0 h about 25 km
13	e N	11 16 42		
14	e ME	03 25 27		
14	e Z	04 28 10		
14	e Z	05 19 36		
14	e Z	16 02 12		
14	e P Z e L W	16 05 12 16 06 36	Montana 47.9N, 114.3W	Mag. 4.6 h about 33 km
15	i P Z i S E i S W	14 32 53.4CSW 33 04.8 14 33 05.5	Seattle area Felt: 47° 36'N, 122° 05'W	Mag. 4.1 h about 15 km
15	e P Z i S NE i S Z	14 37 05 37 18.3 14 37 18.6	Local	
15	i P Z i S E	14 45 24.0 14 45 36.8	Local	
15	e P Z	16 45 25.5		
15	e P Z e SCSZ e H e E e Z	20 36 49 44 41 44 49 44 51 20 52 09	Kurile Islands 44.7N, 149.8E	Mag. 5.2 h about 49 km
15	e P Z e S Z e S H	23 04 26.5 08 25 23 08 30	Kodiak Island region 56.8N, 151.9W	Mag. 5.2 h about 33 km
15	e P Z	23 14 07.5	Kodiak Island region 56.9N, 151.7W	Mag. 5.3 h about 33 km

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Oct. 16	e P Z i Z	03 35 21 03 35 23.3	
16	e P Z i Z	06 36 30 06 36 31.0	
16	e P Z e S Z e S E e S N e Z	07 09 36 17 33 17 39 17 41 07 25 00	Kurile Islands 44.3N, 149.5E Mag. 5.5 h about 33 km
16	e P Z	08 05 24	
16	e P Z	08 28 27	Kurile Islands 44.6N, 149.4E Mag. 5.2 h about 33 km
16	e Z	09 28 19	Kurile Islands 44.5N, 149.1E Mag. 5.4 h about 33 km
16	e P Z i S N i S ZE	20 21 53 22 05.0 20 22 06.0	Seattle aftershock
16	e P Z	20 55 27	
16	i P N i S N	22 18 47.4 22 18 59.8	Seattle aftershock
17	i P Z e S Z e Z e Z	02 04 24.20 08 09 13 25 02 19 35	Gulf of Alaska 59.5N, 145.5W Mag. 5.2 h about 33 km
17	e P Z	05 08 24	
17	e P Z	05 25 29	
17	i P Z i S N i S E	08 52 41.0 52 53.0 08 52 53.5	Seattle aftershock
17	e P Z	10 53 47	
17	i P Z i S E i S N	12 34 33.5 34 44.8 12 34 45.2	Seattle aftershock Felt: Seattle Mag. 3.7 47° 40'N, 122° 07'W h about 0 km
17	e P Z i S ZNE	12 58 14 12 58 26.7	Seattle aftershock
18	i P Z i S E i S N	07 54 47.6 54 49.4 07 54 49.8	Local
18	i P Z i S NE	12 02 54.0 12 03 05.8	Seattle aftershock. Felt Mag. 3.5 47° 51'N, 121° 54'W h about 20 km

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Oct. 18	i SPZ	12 49 56.8	Banda Sea 7.08, 124.0E Mag. 5.8 h about 574 km
	e PPE	50 47	
	e PPW	12 50 49	
	e W	13 16 39	
18	e P Z	18 50 32	
	e E	52 52	
	e W	18 53 02	
19	e P Z	02 21 08	Seattle aftershock
	i S ZE	02 21 20.3	
19	i P Z	07 36 41.2	Seattle aftershock
	i S ZNE	07 36 53.5	
19	e P Z	10 18 53	Seattle aftershock
	i S ZW	19 05.0	
	i S E	10 19 05.2	
19	e P Z	10 21 40	Seattle aftershock
	i S ZE	10 21 52.7	
19	e P Z	16 34 25	Kenai Peninsula, Alaska Mag. 4.6 59.7N, 148.7W h about 33 km
21	i P Z	07 40 16.5R	Hebgen Lake region 44.8N, 111.6W Mag. 5.8 h about 33 km
	e W	41 46	
	e E	42 04	
	e E	07 42 33	
21	e P Z	20 04 07	
21	e P Z	22 28 40	Seattle aftershock
	i S E	28 51.7	
	i S W	22 28 52.5	
21	e P Z	23 23 01	India-China border region Mag. 5.9 28.1N, 93.8E h about 37 km
	e Z	26 30	
	e PFZ	23 27 02	
23	e P Z	02 06 03	North Atlantic Ocean Mag. 6.4 19.8N, 56.0W h about 31 km
	i Z	06 03.6	
	i Z	06 15.2	
	i PPE	08 26.4	
	e S W	14 12	
	e G W	02 20 11	
23	e P Z	12 36 41	Local
	i S W	12 37 00.1	
23	e P Z	13 59 19	
23	e P Z	21 16 29	Kurile Islands 44.0N, 147.5E Mag. 5.9 h about 45 km
	e Z	24 58	
	e Z	29 40	
	e Z	21 34 06	

<u>Date</u>	<u>Phase</u>	<u>Time</u>	<u>Remarks</u>
Oct. 24	i P Z	06 46 06.9	Off coast of Oregon 44.4N, 130.0W Mag. 4.7 h about 33 km
	i Z	46 09.0	
	e Z	06 54 34	
	e E	07 16 07	
	e Z	16 08	
	e E	07 17 51	
24	i P Z	07 59 12.0	
25	i P Z	08 17 37.5	
25	i P Z	23 06 44.6	
	e E	26.5	
	e Z	23 32.0	
26	i P Z	13 11 50.4	
26	ePPZME	14 37.5	Molucca Passage 2.2N, 126.8E Mag. 6.0 h about 48 km
27	e P Z	08 11 54	
	i Z	08 11 55.2	
27	e P'ZNE	21 44.4	Southeast Indian Rise 45.6S, 96.1E h about 33 km
	e P' Z	21 44 38	
	e N	22 07 53	
	e Z	08 52	
	e E	36.2	
	e Z	36.7	
	e Z	22 44 26	
28	i P Z	15 04 47.2	
29	e P Z	12 18 19	Local
	i S ZE	12 18 31.3	
30	e P' Z	03 13 17	Mid-Indian Rise 12.1S, 65.7E Mag. 5.0 h about 28 km
30	i P Z	17 17 57.7	Kodiak Island region 56.6N, 152.2W Mag. 5.1 h about 33 km
	e S E	21 44	
	e S N	21 53	
	e L Z	17 22.9	
31	e P Z	11 09 07	
31	i P Z	13 21 56.1C	

Seismograph Station
University of Washington
Geology Department
Seattle 5, Washington

Preliminary Readings: World-wide Standard Seismograph Station, Longview, Washington
November, 1964

All locations are from U.S. Coast & Geodetic Survey

Latitude: 46° 45.0'N
Longitude: 121° 48.6'W

Elevation: 2800 ft.
Foundation: Volcanic Breccia

Date	Phase	Time G.C.T.	Remarks
Nov. 1	e P Z	04 57 39	Queen Charlotte Islands region Mag. 4.9 51.8N, 130.8W h about 33 km
	e L E	59 11	
	e L N	59 13	
	e L Z	59 31	
	i L Z	04 59 56.7	
1	e Z	13 01 47	
	e E	08 08	
	e N	13 08 53	
1	i P Z	20 26 15.7R	Local
	i S E	2 26 25.4	
	i S N	20 26 27.3	
2	i P Z	07 01 25.5	Northern Peru Mag. 6.0 4.1S, 76.9W h about 91 km
	i P Z	01 54.6	
	e S N	09 57	
	e G Z	07 17 52	
2	e P Z	16 55 12	
3	i P Z	08 56 38.5	Local
	i S N	08 56 57.8	
4	e P Z	06 26 49	
5	i P Z	14 01 09.2	
5	i P Z	15 02 36.3	
6	i P Z	10 03 18.3C	Kirile Islands region Mag. 5.7 44.4N, 149.0E h about 60 km
	e S E	11 22	
	e S N	10 11 25	
6	e P Z	11 10 30	
6	i P Z	12 15 40.4C	Off coast of Oregon Mag. 4.6 43.5N, 126.6W h about 33 km
	i S N	12 16 38.9	
6	i P Z	15 47 47.1C	Local
	i E	15 47 49.7	

-2-

<u>Date</u>	<u>Phase</u>	<u>Time</u> <u>G.C.T.</u>	<u>Remarks</u>
Nov. 7	i P Z i S N	00 34 37.0 00 34 56.4	Local
7	e Z	13 39.8	
7	i P Z	14 31 29.7	
8	e N e E e N e N	03 09.2 13 18 13 20 03 30 31	
10	i P Z	06 12 04.7C	Gulf of Alaska 59.8N, 144.3W h about 42 km Mag. 5.0
11	i P Z e N e E i E e N	08 05 04.6R 09 19 09 22 09 24 08 17.1	
12	e P Z e E e N e N e E	05 45 36 52 09 05 55 46 06 06.3 06 06 32	
14	e P Z	04 07 48	Kyushu, Japan 33.6N, 131.6E h about 60 km Mag. 5.3
15	e P Z	03 38 01	
15	i P Z	16 00 15.3	
15	i P Z	16 05 13.2	Taiwan region 24.0N, 122.2E h about 42 km Mag. 5.4
15	e P Z	16 41 05	
16	i P Z e L E	02 49 06.4 02 51 20	Central California 36.9N, 121.8W h about 33 km. Mag. 5.2
16	i P Z	06 12 22.8C	
16	e P Z	07 33 03.3	Eastern Kazakh USSR 49.7N, 78.0E h about 0 km. Mag. 6.0
16	e P Z i Z	10 34 50 10 34 52.3	
16	e Z	10 50 33	
17	i P Z	00 13 15.0C	Tonga Islands 16.3S, 173.7W h about 33 km Mag. 5.4
20	e P Z	19 04 46	
30	i P Z	07 15 04.3	

-3-

	<u>Phase</u>	<u>Time</u> <u>G.C.T</u>	<u>Remarks</u>	
17	i P Z	08 28 46.20	New Britain region	Mag. 6.7
	e PPE	32 31	5.7S, 150.7E	h about 45 km
	e E	38 28		
	e S E	39 28		
	e S N	39 44		
	e PPSZ	40 32		
	e L E	57.9		
	e L Z	08 58.0		
17	i P Z	10 06 10.6		
	i Z	10 06 15.5		
17	i P Z	11 14 56.4	South of Fiji Islands	Mag. 5.5
			23.4S, 179.9W	h about 549 Km
17	e Z	19 12 47	South of Mariana Islands	Mag. 5.1
			12.7N, 144.9E	h about 43 km
19	e Z	02 26 40		
19	e P Z	23 48 21	New Britain region	Mag. 6.0
	eSKSZ	58 40	6.0S, 150.8E	h about 3 km.
	eSKKSE	59 04		
	eSKKSN	59 07		
	eSKKSZ	23 59 11		
20	i P Z	04 55 29.3	Kenai Peninsula, Alaska	Mag. 4.9
			59.6N, 148.2W	h about 33 km
20	e P Z	23 43.1	Kurile Islands region	Mag. 5.6
			44.6N, 149.7E	h about 33 km
23	e Z	10 33 13		
	e N	33 19		
	e E	33 20		
	e Z	10 33 21		
24	i P Z	22 57 33.3		
28	i P Z	16 51 47.7	Western Brazil	Mag. 5.4
	e Z	16 53 55	7.7S, 71.2W	h about 626 km
28	i P Z	16 59 43.1	Western Brazil	Mag. 5.6
			8.0S, 71.4W	h about 655 km
28	e P Z	18 47.1		
	e Z N	18 48 07		
28	e P Z	19 30 50		
28	e P Z	22 37 38		
29	e P Z	19 04 46		
30	i P Z	07 15 04.3		

Seismograph Station
 University of Washington
 Department of Geology
 Seattle, Washington 98105

Preliminary Readings: World-wide Standard Seismograph Station, Longmire, Washington
 December, 1964

All locations are from U. S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 ft.
 Longitude: 121° 48.6'W Foundation: Volcanic Breccia

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>
Dec. 2	e Z	07 00 27	
2	e G N	08 45 .7	North Atlantic Ridge Mag. 5.2
	e L Z	08 49 .5	30.6 N., 42.0 W. h about 33 km
2	e Z	11 09 18	
2	e P Z	13 24 24	Fox Island, Aleutian Islands Mag. 5.0
	e S E	29 11	53.8 N., 165.4 W. h about 35 km
	e S N	29 24	
	e S Z	13 29 29	
2	i P Z	14 43 40.3	South of Australia Mag. 5.0
			49.1 S., 121.4 E. h about 16 km
9	i P Z	13 47 44.3	
	e Z	13 49 49	
10	i P Z	15 21 59.1	Easter Island Cordillera Mag. 5.3
			36.5 S., 178.4 W. h about 635 km
11	e P Z	06 32 07	
12	i P Z	21 19 01.0	Off coast of northern California Mag. 3.5
			40.3 N., 125.1 W. h about 33 km
13	e P Z	00 39 32	Alaska Mag. 5.4
	e L N	00 45 .6	64.9 N., 165.7 W. h about 15 km
14	e P Z	02 18 33	South Atlantic Ridge
	ePSPSN	02 40 .1	54.3 S., 2.4 W. h about 33 km
15	e P Z	03 46 12	Off coast of Jalisco Mag. 5.1
			20.8 N., 106.6 W. h about 33 km
15	e P Z	12 20 55.2	Guatemala Mag. 5.4
			14.7 N., 91.7 W. h about 118 km
15	e P Z	19 42 39	
15	i P Z	23 18 11.5	
17	e P N	05 13 28	
17	i P N	12 13 14.7	Off coast of N. Calif. Mag. 4.6
			41.9 N., 126.0 W. h about 33 km

<u>Date</u>	<u>Phase</u>	<u>Time G.C.T.</u>	<u>Remarks</u>	
Dec. 17	i P N	14 06 33.2	Oaxaco, Mexico 16.0 N., 96.9 W.	Mag. 4.9 h about 36 km
17	i P Z e S E e S Z	23 51 46.5 57 17 23 57 41	Andreanoff Islands 51.4 N., 177.9 W.	Mag. 5.5 h about 57 km
21	e P Z i S N	03 29 24 03 29 47.7	Local	
21	e Z	08 10 .2		
21	e P Z	17 41 01	Southern Alaska 60.5 N., 146.8 W.	Mag. 5.0 h about 43 km
21	e P Z	18 37 01	Central Alaska 63.1 N., 150.3 W.	Mag. 4.8 h about 42 km
21	i P Z	21 55 35.4		
22	i P Z	00 35 13.0	Peru - Brazil border region 9.5 S., 71.3 W.	Mag. 5.3 h about 614 km
22	e P Z i S ZNE	03 06 14 03 06 16.4	Local	
22	i P Z	08 10 09.6	Mona Passage 18.4 N., 68.8 W.	Mag. 5.6 h about 115 km
22	i P Z	10 15 23.5		
22	i P Z e S E	20 58 14.9 21 02 56	Off west coast of Baja, Calif. 31.9 N., 117.1 W.	Mag. 6.3 h about 14 km
26	i P Z iPcPZ	08 23 23.2 08 26 01.8	Near coast of Guerrero, Mexico 16.7 N., 99.6 W.	Mag. 5.4 h about 33 km
26	i P Z	14 39 17.4C	Kamchatka 51.8 N., 156.8 E.	Mag. 5.7 h about 136 km
28	i P Z	03 05 21.5		
28	i P Z epP Z epP N epP E e S N	16 27 51.4 30 05 30 06 30 09 16 37 38	South of Fiji Islands 22.1 S., 179.6 W.	Mag. 6.2 h about 611 km
28	e Z	17 28 25	North of Franz Josef Land 86.7 N., 68.7 E.	Mag. 5.7 h about 33 km
30	e Z	10 25 .5		
30	i P Z	15 38 35.2	South of Honshu, Japan 31.3 N., 138.8 E.	Mag. 5.4 h about 261 km
30	i P Z	21 42 50.2	South of Fiji Islands 23.3 S., 179.9 W.	Mag. 5.2 h about 547 km