

## GEODÆTISK INSTITUT

Proviantgården · Copenhagen · Denmark



Bulletin of the seismological station

**NORD** $\varphi = 81^{\circ}36' \text{ N.} \quad \lambda = 16^{\circ}41' \text{ W.} \quad h = 35 \text{ m.}$ 

Lithologic foundation: marly shale

**Instruments**Willmore. Z.  $T_p = 1 \text{ sec.}$   $T_g = 1/4 \text{ sec.}$  No attenuation.Strobach. N and E.  $T = 6 \text{ sec.}$   $\nu = 4:1,$   $V_0 = 500.$  (Belongs to Geophysikalisches Institut, Hamburg.)**Seismological Readings**

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are most often due to USCGS. The periods given are periods of full oscillations. For N and E the amplitudes given are single ground amplitudes. For Z trace amplitudes are given. + indicates ground motion towards the north, towards the east, or upwards. - indicates the opposite direction.

**Microseismic Readings**

The microseismic readings will be published in a later bulletin.

August

30 *e*-Z 00<sup>b</sup>44<sup>m</sup>33<sup>s</sup>  
*i*-Z 44 35  
*i*-Z 44 43  
 Near.

30 *iP*-Z 16 27 03  
 No *N* and *E* records.  
 $\Delta = 52^\circ$ . Tadzhik SSR.

September

2 *eP*-Z 00 12 07 -  
 No *N* and *E* records.  
 $\Delta = 80^\circ$ . Mariana Islands.

2 *iP*-Z 07 01 39  
 $\Delta \sim 2^\circ$ . Greenland Sea.  
 H: 07<sup>h</sup>01<sup>m</sup>10<sup>s</sup>  
 82°N 0°

2 *iP*-Z 21 36 40 +  
 No *N* and *E* records.  
 $\Delta = 53^\circ$ .  $h = 200$  km. Hindu Kush.

5 *eP*-Z 11 46 06 +  
 $\Delta = 60^\circ$ . Iran.

7 *ePPP*-N 10 16 27  
*iPPP*-N 17 20  
*eS*-N 22 16  
*eSSS*-N 26 00  
*L*-N 30  
 No *Z* record.  
 $\Delta = 47^\circ$ . Aleutian Islands.

7 *eP*-Z 23 25 29  
*iS*-Z 26 01  
 Near.

8 *iP*-Z 10 28 13 -  
*L*-N 48  
 $\Delta = 43^\circ$ . Aleutian Islands.

9 *L*-N 01 34.6

10 *eP*-Z 03 13 48  
*e(S)*-Z 14 15  
 Near?

12 *eP*-Z 00 39 15  
*i*-Z 39 28  
*iS*-N 48 22  
*L*-N 01 05  
*L*-E 11  
 $\Delta = 70^\circ$ . Honduras.

September

15 *eP*-Z 03<sup>b</sup>55<sup>m</sup>23<sup>s</sup> Seismic?

15 *eP*-Z 04 35 49  
*ePP*-Z 40 04  
 $\Delta = 101^\circ$ .  $h = 300$  km. Java.

15 *iP*-Z 06 31 43

16 *eP*-Z 01 38 20  
 $\Delta = 16^\circ$ . Arctic Ocean.

17 *e*-Z 23 21 18

18 *eP*-Z 01 07 45  
 $\Delta = 46^\circ$ . Kamchatka.

18 *iP*-Z 07 31 50  
 Near?

18 *e*-Z 10 21 00

19 *iP*-Z 13 50 31  
 $\Delta = 46^\circ$ . Aleutian Islands.

19 *iP*-Z 17 30 03  
*iS*-Z 30 42  
 $\Delta = 4^\circ$ . West of Svalbard.

20 *iP*-ZE 06 28 40 Track disappeared.  
 $\Delta \sim 0^\circ$ .

20 *eP*-Z 07 22 00

20 *eP*-Z 07 48 37

20 *eP*-Z 08 30 35

20 *eP*-Z 08 47 06

20 *eP*-Z 11 34 55

20 *eP*-Z 14 08 43  
 Svalbard repetition?

28 *iS*-EN 00 45 56  
*iScS*-EN 46 49  
*eSS*-E 50 32  
 No *Z* record.

$\Delta = 67^\circ$ .  $h = 500$  km. Japan.

28 *eP*-Z 07 06 23  
*iP<sub>g</sub>*-Z 06 26  
*eS*-Z 06 48  
 Near.

September

28 *iPKP*-Z 14<sup>b</sup>37<sup>m</sup>42<sup>s</sup>

*ePP*-ZNE 39 07

*epPP*-Z 41 20

*iPPP*-E 41 47

*eSKS*-N 43 41

*i*-NE 46 07

*ePS*-N 49 02 in the time-break.

*isPS*-NE 51 50

*e*-N 54 12

*iSS*-E 54 38

*eSSS*-E 57 52

*e*-N 58 12

$\Delta = 118^\circ$ .  $h = 650$  km. Fiji Islands.

28 *eP*-Z 16 38 49

*i*-Z 38 54

Near.

29 *iPKP*-Z 08 31 16

$\Delta = 122^\circ$ .  $h = 600$  km. Fiji Islands.

29 *iP*-Z 08 45 30

*i*-N 45 58

Near.

October

1 *eP*-Z 03 12 47

*iP*-Z 12 48

*iS*-Z 14 43

*iS*-Z 14 48

$\Delta = 11^\circ$ . Jan Mayen.

H: 03 10 13

71°N 8°W

1 *iP*-Z 05 23 55

*i(S)*-NE 24 23

Near.

2 *iP*-Z 12 39 29

*L*-N 13 06

$\Delta = 74^\circ$ . Venezuela.

3 *i*-Z 15 43 20 Seismic?

4 *iP*-Z 00 30 17

$\Delta = 52^\circ$ . Atlantic Ocean.

4 *iP*-Z 05 37 41

*iSKS*-N 47 43

*iPPS*-N 48 20

*L*-NE 06 03.5

$\Delta = 73^\circ$ .  $h = 60$  km. Venezuela.

5 *iP*-Z 00 04 10

$\Delta = 46^\circ$ . Aleutian Islands.

October

5 *iP*-Z 03<sup>b</sup>52<sup>m</sup>12<sup>s</sup>

Near.

5 *iP*-Z 11 45 38

$\Delta = 50^\circ$ . Crete.

5 *iP*-Z 21 07 30

*iS*-Z 07 43

Near.

5 *iP*-Z 22 49 58

$\Delta = 53^\circ$ . Afghanistan-Tadzhik border.

9 *iP*-Z 14 52 37

Near.

9 *i*-Z 15 42 42 Instrumental?

9 *iP*-Z 20 21 20

Near.

10 *iP*-Z 01 51 23

$\Delta = 46^\circ$ . Aleutian Islands.

10 *iP*-Z 06 58 57 -

*iPP*-Z 59 04 +

$\Delta = 18^\circ$ . Novaya Zemlya.

10 *iP*-Z 07 46 46 +

*iPP*-Z 48 20 -

$\Delta = 46^\circ$ . Aleutian Islands.

10 *eP*-Z 19 02 05 - 0.2 mm.

*i*-Z 02 08 - 1.5 mm.

*i*-Z 02 09 - 1.5 mm.

*iPP*-Z 03 52 +

*L*-NE 17.5

$\Delta = 45^\circ$ . Aleutian Islands.

13 *eP*-Z 04 27 53

*L*-NE 45

$\Delta = 46^\circ$ . Kamchatka.

15 *iP*-Z 13 37 15

Near.

15 *iP*-Z 22 59 47

*i*-Z 59 49

Near.

16 *eP*-Z 09 46 27

*i*-Z 47 17

Near.

16 *i*-NE 18 15 20

Near. No *Z* record.



October	
17 <i>iP·Z</i>	15 <sup>b</sup> 33 <sup>m</sup> 10 <sup>s</sup>
<i>i·Z</i>	33 21
$\Delta = 87^\circ$ . Philippine Islands.	
18 <i>iP·Z</i>	01 59 09
Central Greece.	
19 <i>iP·Z</i>	18 40 20 +
$\Delta = 73^\circ$ . Formosa.	
19 <i>iP·Z</i>	21 51 08 +
<i>i·Z</i>	51 20 +
20 <i>eP·Z</i>	12 15 47 +
<i>eS·E</i>	25 15
<i>L·NE</i>	36
$\Delta = 71^\circ$ . Atlantic Ocean.	
21 <i>iP·Z</i>	12 24 54
<i>iS·Z</i>	25 18
Near.	
21 <i>iP·Z</i>	14 34 31 +
$\Delta = 49^\circ$ . Atlantic Ocean.	
21 <i>eP·Z</i>	17 52 36
Greenland Sea?	
21 <i>iP·Z</i>	23 33 32
<i>i·Z</i>	35 21
Near. (Possibly two shocks.)	
22 <i>iP·Z</i>	20 54 08
$\Delta = 56^\circ$ . Japan.	
23 <i>iP·Z</i>	06 05 12
<i>L·NE</i>	19
$\Delta = 46^\circ$ . Aleutian Islands.	
23 <i>iP·Z</i>	11 39 13
<i>i·Z</i>	39 50
Near.	
23 <i>i·Z</i>	17 50 53
Instrumental?	
24 <i>eP·Z</i>	02 41 24
$\Delta = 45^\circ$ . Turkey.	
24 <i>eP·Z</i>	21 55 22
<i>ePPP·Z</i>	22 00 14
<i>LQ·N</i>	19.5
<i>LR·E</i>	24
$\Delta = 66^\circ$ . Gulf of California.	
24 <i>e·Z</i>	22 32 43
25 <i>iP·Z</i>	06 30 48 +
$\Delta = 75^\circ$ . Formosa.	

October	
25 <i>eP·Z</i>	10 <sup>b</sup> 12 <sup>m</sup> 13 <sup>s</sup>
<i>iS·N</i>	19 10
<i>L·N</i>	28
$\Delta = 48^\circ$ . Kamchatka.	
25 <i>iP·Z</i>	22 56 58 +
$\Delta = 83^\circ$ . $h = 200$ km. Luzon.	
26 <i>eP·Z</i>	04 44 36
$\Delta = 97^\circ$ . Molucca Passage.	
26 <i>eP·Z</i>	14 30 33
$\Delta = 97^\circ$ . Borneo.	
27 <i>e·Z</i>	13 19 15
27 <i>iP·Z</i>	22 40 24
<i>i·N</i>	42 57
<i>eS·E</i>	46 35
$\Delta = 43^\circ$ . Kamchatka.	
31 <i>eP·Z</i>	10 20 07
<i>iPcP·Z</i>	20 20
<i>L·N</i>	41.5 12 <sup>s</sup> . 15 $\mu$ .
<i>L·E</i>	56 10 <sup>s</sup> . 6 $\mu$ .
$\Delta = 80^\circ$ . Panama.	
31 <i>ePKP2·Z</i>	15 20 11
$\Delta = 154^\circ$ . Tasmania.	
31 <i>eP·Z</i>	16 36 57
$\Delta = 86^\circ$ . Galapagos Islands.	
31 <i>iP·Z</i>	19 40 26
Near.	
November	
2 <i>iP·Z</i>	01 26 39 -
$\Delta = 47^\circ$ . Aleutian Islands.	
2 <i>iP·Z</i>	07 32 24
$\Delta = 74^\circ$ . $h = 100$ km. Mexico.	
2 <i>iP·Z</i>	10 34 07
<i>i·Z</i>	34 27
Near.	
2 <i>i·Z</i>	23 07 48
Instrumental?	
3 <i>i·Z</i>	09 48 33
Near.	
4 <i>e·Z</i>	04 36 17
4 <i>iP·Z</i>	09 10 02
Near.	
4 <i>iP·Z</i>	13 37 45
Near.	

November	
4 <i>e·Z</i>	20 <sup>b</sup> 25 <sup>m</sup> 06 <sup>s</sup>
4 <i>i·Z</i>	22 25 10
Near?	
5 <i>iP·Z</i>	04 33 25
<i>iS·Z</i>	33 47
Near.	
7 <i>ePKP·Z</i>	06 41 48
<i>ePP·Z</i>	45 51
$\Delta = 152^\circ$ . South Pacific Ocean.	
7 <i>iP·Z</i>	19 37 41 +
Near.	
8 <i>e·Z</i>	16 22 17
9 <i>e·Z</i>	03 42 31
<i>i·Z</i>	42 40
9 <i>eP·Z</i>	22 15 37
<i>eS·Z</i>	17 28
$\Delta = 10^\circ$ . Jan Mayen (given by Uppsala).	
10 <i>eP·Z</i>	00 04 12
$\Delta = 45^\circ$ . Greece.	
10 <i>eP·Z</i>	10 33 11
$\Delta = 78^\circ$ . Colombia.	
10 <i>iP·Z</i>	19 30 39 +
$\Delta = 64^\circ$ . Japan.	
11 <i>iP·Z</i>	02 38 57
<i>iS·Z</i>	39 18
Near.	
11 <i>e·Z</i>	11 24 51
11 <i>e·Z</i>	17 27 21
11 <i>iP·Z</i>	18 32 12 +
<i>iPcP·Z</i>	32 19 +
Mexico.	
13 <i>iPKP·Z</i>	17 41 52 +
$\Delta = 131^\circ$ . Kermadec Islands.	
14 <i>iP·Z</i>	03 00 39
<i>iS·Z</i>	01 05
Near.	
15 <i>e·Z</i>	03 59 27
15 <i>iP·Z</i>	06 15 24
<i>L·N</i>	35
$\Delta = 47^\circ$ . Aleutian Islands.	

November	
15 <i>iP·Z</i>	07 <sup>b</sup> 57 <sup>m</sup> 44 <sup>s</sup>
<i>iS·Z</i>	58 16
Near.	
15 <i>eP·Z</i>	08 05 19
$\Delta = 89^\circ$ . Mindanao Island.	
15 <i>iP·Z</i>	16 39 03
$\Delta = 48^\circ$ . Kamchatka.	
16 <i>iP·Z</i>	22 44 48
<i>iS·Z</i>	45 13
Near.	
17 <i>iP·Z</i>	06 06 10 +
$\Delta = 50^\circ$ . $h = 350$ km. Sea of Okhotsk.	
17 <i>iP·Z</i>	18 05 17 +
$\Delta = 68^\circ$ . $h = 450$ km. Japan.	
18 <i>eP·Z</i>	10 20 34
$\Delta = 48^\circ$ . Aleutian Islands.	
18 <i>iP·Z</i>	15 22 22 -
$\Delta = 55^\circ$ . Kurile Islands.	
19 <i>eP·Z</i>	16 22 25
<i>e·Z</i>	30 14
$\Delta = 52^\circ$ . Kurile Islands.	
23 <i>eP·Z</i>	01 06 52
$\Delta = 46^\circ$ . Aleutian Islands.	
23 <i>eP·Z</i>	18 25 42
<i>eS·Z</i>	26 09
Near.	
23 <i>e·Z</i>	18 49 14
24 <i>iP·NE</i>	09 44 32
<i>iS·NE</i>	45 04
<i>iS·NE</i>	45 11
<i>i·E</i>	45 59
$\Delta = 4^\circ$ . Eastern Greenland.	
26 <i>eP·Z</i>	05 23 38
$\Delta = 98^\circ$ . Borneo.	
26 <i>eP·Z</i>	08 23 37
$\Delta = 44^\circ$ . Greece.	
26 <i>i·Z</i>	11 10 31
Instrumental?	
26 <i>eP·Z</i>	11 44 17
$\Delta = 46^\circ$ . Aleutian Islands.	
26 <i>eP·Z</i>	11 58 17
$\Delta = 44^\circ$ . Greece.	



November		December	
27 <i>iP</i> ·Z	03 <sup>b</sup> 16 <sup>m</sup> 18 <sup>s</sup> -	2 <i>iP</i> ·ZE	23 <sup>b</sup> 59 <sup>m</sup> 29 <sup>s</sup> Z: + track disappeared.
$\Delta = 44^\circ$ .	Greece.	<i>iS</i> ·E	59 56
		$\Delta = 2^\circ$ .	$h = 100$ km. Northern Greenland.
27 <i>e</i> ·Z	03 49 44	3 <i>iP</i> ·Z	08 13 14
<i>e</i> ·Z	50 24	<i>iS</i> ·ZN	13 42
Near.		<i>e</i> ·NE	14 10
		Aftershock?	
28 <i>eP</i> ·Z	05 22 29 -	3 <i>iP</i> ·Z	15 33 28
$\Delta = 89^\circ$ .	Mindanao.	<i>iS</i> ·Z	33 57
		Aftershock?	
28 <i>eP</i> ·Z	07 11 25	3 <i>iP</i> ·Z	21 54 40 -
<i>eS</i> ·Z	11 58	$\Delta = 46^\circ$ .	Aleutian Islands.
Near.			
28 <i>e</i> ·Z	11 28 10	4 <i>iP</i> ·Z	00 40 33 +
		$\Delta = 97^\circ$ .	Molucca Passage.
29 <i>e</i> ·Z	15 07 00	4 <i>iP</i> ·Z	03 46 34
Near.		<i>iP</i> ·ZNE	46 40
		<i>iS</i> ·NE	53 56
29 <i>eiPKP</i> ·Z	18 03 15	<i>iSS</i> ·N	57 56
<i>i</i> ·Z	03 23	<i>M</i> ·ZNE	04 08
$\Delta = 144^\circ$ .	South India Ocean.	$\Delta = 50^\circ$ .	Outer Mongolia.
			16 <sup>s</sup> , Z: 2 mm. N: 1000 $\mu$ , E: 700 $\mu$
29 <i>eP</i> ·Z	22 33 32	4 <i>iP</i> ·Z	04 27 45
<i>epP</i> ·Z	34 32	4 <i>iP</i> ·Z	04 37 42
<i>iPP</i> ·Z	37 47		
<i>ipPP</i> ·Z	38 44 -	4 <i>iP</i> ·Z	05 09 40
<i>isPP</i> ·Z	39 02 +	Mongolia aftershock.	
$\Delta = 106^\circ$ .	$h = 200$ km. Bolivia.	4 <i>iP</i> ·Z	08 02 06
		4 <i>iP</i> ·Z	08 17 56
30 <i>iP</i> ·Z	07 18 59	4 <i>iP</i> ·Z	09 09 08
<i>iS</i> ·Z	19 19	4 <i>eP</i> ·Z	10 51 33
Near.		4 <i>iP</i> ·Z	11 28 20
		Mongolia aftershock.	
30 <i>iP</i> ·Z	17 18 46	4 <i>iP</i> ·Z	13 29 01
<i>i</i> ·Z	18 53	<i>iP</i> ·Z	29 07
<i>iS</i> ·Z	19 06	$\Delta = 50^\circ$ .	Mongolia.
$\Delta = 14^\circ$ .	Arctic Ocean.		
30 <i>eP</i> ·Z	22 03 17	4 <i>eP</i> ·Z	18 41 43
$\Delta = 52^\circ$ .	Kurile Islands.	<i>iS</i> ·Z	42 10
		Near.	
		4 <i>iP</i> ·Z	18 54 03
		4 <i>iP</i> ·Z	22 25 49 +
		$\Delta = 50^\circ$ .	Mongolia.
December			
1 <i>eP</i> ·Z	01 18 07		
$\Delta = 52^\circ$ .	Kurile Islands.		
1 <i>eiP</i> ·Z	04 43 49		
1 <i>eP</i> ·Z	19 13 54		
<i>e</i> ·Z	14 29		
$\Delta = 46^\circ$ .	Aleutian Islands.		
2 <i>iP</i> ·Z	07 35 52		
<i>iS</i> ·Z	36 13		
Near.			
2 <i>i</i> ·Z	22 30 20 +		

December		December	
4 <i>eP</i>	23 <sup>b</sup> 50 <sup>m</sup> 46 <sup>s</sup>	9 <i>iP</i> ·Z	22 <sup>b</sup> 13 <sup>m</sup> 49 <sup>s</sup>
$\Delta = 50^\circ$ .	Mongolia.	$\Delta = 30^\circ$ .	Yukon, Alaska.
5 <i>iP</i> ·Z	08 26 31	11 <i>iP</i> ·Z	22 04 06
		<i>i</i> ·Z	04 13
5 <i>iP</i> ·Z	14 04 10	$\Delta = 51^\circ$ .	Mongolia.
<i>iP</i> ·Z	07 00		
<i>eS</i> ·Z	08 47	11 <i>iP</i> ·Z	22 36 48 +
$\Delta = 10^\circ$ .	Jan Mayen.	Near?	
5 <i>iP</i> ·Z	18 18 22	13 <i>iP</i> ·Z	01 43 57 -
$\Delta = 50^\circ$ .	Mongolia.	$\Delta = 79^\circ$ .	$h = 100$ km. Colombia.
6 <i>iP</i> ·Z	00 04 34 +	13 <i>eP</i> ·ZNE	01 54 15
Near.		<i>iS</i> ·N	02 01 45 -
6 <i>iP</i> ·Z	03 58 49 +	L	05
$\Delta = 53^\circ$ .	Kurile Islands.	$\Delta = 53^\circ$ .	Iran.
6 <i>iP</i> ·Z	08 45 43 +	13 <i>iP</i> ·Z	20 34 44
$\Delta = 54^\circ$ .	Kurile Islands.	$\Delta = 46^\circ$ .	Aleutian Islands.
7 <i>eP</i> ·Z	08 35 31	16 L·NE	17 51
$\Delta = 73^\circ$ .	Guatemala.	17 L·NE	05 37
7 <i>iP</i> ·Z	13 22 15 +	17 <i>eP</i> ·Z	06 54 17
7 <i>iP</i> ·Z	14 20 19 +	<i>iS</i> ·ZNE	55 00
$\Delta = 52^\circ$ .	Mongolia.	17 <i>ePP</i> ·NE	14 09 22
7 <i>iP</i> ·Z	19 58 50	<i>isS</i> ·E	17 42
<i>i</i> ·Z	58 59	<i>eSS</i> ·NE	25 55
<i>iS</i> ·Z	59 18	$\Delta = 112^\circ$ .	$h = 100$ km. Santa Cruz Islands.
Near.		18 <i>iP</i> ·Z	20 48 07
8 <i>eP</i> ·Z	06 21 53 -	<i>iS</i> ·ZNE	48 34
$\Delta = 50^\circ$ .	Mongolia.	23 <i>eP</i> ·Z	12 42 35
8 <i>iP</i> ·Z	12 04 08	$\Delta = 47^\circ$ .	Atlantic Ocean.
<i>iS</i> ·Z	04 40	24 <i>iP</i> ·Z	01 05 02
Near.		<i>iS</i> ·Z	05 30
8 <i>iP</i> ·Z	12 26 59	Near.	
$\Delta = 63^\circ$ .	Honshu, Japan.	25 <i>e</i> ·Z	10 12 35
8 <i>iP</i> ·Z	14 52 04	25 <i>iP</i> ·Z	16 37 36
$\Delta = 63^\circ$ .	Honshu, Japan.	$\Delta = 74^\circ$ .	Venezuela.
8 <i>eP</i> ·Z	15 38 06	25 <i>e</i> ·Z	20 55 37
$\Delta = 50^\circ$ .	Mongolia.	26 <i>iP</i> ·Z	10 32 30
8 <i>eP</i> ·Z	16 35 35	<i>i</i> ·Z	32 43
Mongolia.		<i>iS</i> ·Z	32 45
8 <i>iP</i> ·Z	21 37 37 +	26 <i>ePKP</i> ·Z	12 28 23
$\Delta = 50^\circ$ .	Mongolia.	<i>iSKP</i> ·Z	31 43
9 <i>eP</i> ·Z	08 06 19	$\Delta = 131^\circ$ .	Kermadec Islands.
$\Delta = 17^\circ$ .	Iceland.		

Nord 1957

December

27 *iP*·*Z* 05<sup>h</sup>11<sup>m</sup>08<sup>s</sup>  
*eS*·*Z* 12 59  
 $\Delta = 10^\circ$ . Greenland Sea.  
*H*: 05 08 46  
 72°N 03°E

27 *eP*·*Z* 07 52 09 weak.

28 *iP*·*Z* 11 10 31  
 Near.

29 *iP*·*Z* 04 26 46  
*iS*·*Z* 27 12  
 Near.

30 *eP*·*Z* 10 04 52

30 *iP*·*Z* 18 46 12  
 $\Delta = 45^\circ$ . Aleutian Islands.

30 *eP*·*Z* 18 50 51  
*iP*·*Z* 51 35  
*i*·*Z* 53 21  
*eS*·*Z* 53 26  
 Near.

December

31 *iP*·*Z* 00<sup>h</sup>26<sup>m</sup>34<sup>s</sup>  
*iS*·*Z* 28 32  
 Near.

31 *e*·*Z* 00 56 48

31 *e*·*Z* 07 02 00

31 *eP*·*Z* 10 26 49  
*eS*·*N* 31 01  
*L*·*NE* 34  
 $\Delta = 24^\circ$ . Atlantic Ocean.

31 *eP*·*Z* 13 12 14  
 $\Delta = 58^\circ$ . Atlantic Ocean.

31 *ePKP*·*Z* 14 47 47 2<sup>s</sup>; 1.1 mm.  
 $\Delta = 144^\circ$ . New Zealand.

31 *iP*·*Z* 22 30 45  
*iS*·*Z* 31 05  
 Near.

July 1958.

JØRGEN HJELME