SEISMOLOGICAL INSTITUTE
BOX 517
S-751 20 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å,

U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

J U L Y 1 - 31, 1971

1971 July	1	Up	iP		01 30 15.2	
			iPP		01 34 40.9	
			iSKS		01 40 38	
		Ki	iP		01 30 01.5	
			iPP		01 34 21.2	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iPKP		01 34 28.8	
			i		01 37 49.8	
		Um	iP		01 30 06.1	C
			iPKP		01 34 22.6	
			iSKS		01 40 30	
			iPKKP		01 45 52.9	
		Ud	iP		01 30 24.6	C
			iPP		01 34 59.5	
		De	iPKP		01 34 32.6	
		Banda Sea (h = 130 km).				
"	1	Up	i(Sgl)		04 07 39.3	
"	1	Ki	iP		04 45 26.1	
		Sk	iP		04 44 59.4	
		Ud	iP		04 44 29.3	
"	1	Ki	i(Sgl)		08 56 06.8	
		Sk	i(Sgl)		08 56 26	
			i(Rg)		08 56 29.1	
"	1	Up	iPgl		10 18 44.6	
			iSn		10 19 16.6	
			iSgl		10 19 28.9	
					micr	sec
			Sgl	Z'	0.1	0.7
		Ki	eSgl		10 21 54	
		Sk	ePgl		10 18 32	
			iSgl		10 19 07.6	
		Um	iSgl		10 20 22.1	
		(cont.)				

1971 July	1	(cont.)			
		Ud	iPgl	10 18 10.4	C
			iSgl	10 18 30.3	
		De	iS*	10 20 06.5	
			iSgl	10 20 10.8	
		South Norway, 60.9°N, 11.4°E.			
		Origin time = 10 17 46.			
		Felt near Hamar.			
"	1	Up	iSgl	11 55 31.2	
		Sk	eSgl	11 57 21	
		Um	iSgl	11 55 59.7	
		Ud	eSgl	11 56 34	
		De	eSgl	11 56 57	
		Esthonia, 59.5°N, 25.8°E.			
		Origin time = 11 53 21.			
		Explosion.			
"	1	Ki	iP	12 20 12.3	
				micr	sec
			P	Z' 0.1	1.0
			Mx	E 0.5	12
			Mx	N 0.4	13
			Mx	Z 0.4	9
		Sk	eP	12 20 03	
		Um	iP	12 19 46.0	
		Ud	iP	12 19 41.2	
		De	eP	12 19 20	
		Iraq (h = 15 km).			
"	1	De	i(Pgl)	12 35 39.8	
			i(Sgl)	12 36 06.3	
"	1	Ud	i(P)	14 03 26.6	
"	1	Ud	i(P)	14 08 29.5	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	1	Um	iP		14 13 38.1	
		Sakhalin.				
"	1	Up	iP		14 44 54.4	
			iPP		14 46 25.5	
		Ki	eP		14 45 06	
			ePP		14 46 51	
					micr	sec
			Mx	E	0.4	12
			Mx	N	0.2	10
		Sk	iP		14 45 22.2	
		Um	iP		14 44 54.4	
		Ud	iP		14 45 11.9	
			iPP		14 46 47.1	
		De	eP		14 45 04	
		Hindu Kush (h = N).				
"	1	Up	e(Pgl)		15 17 02	
			i(Rg)		15 17 06.0	
"	1	Ki			micr	sec
			Mx	E	0.5	12
		Um	iP		15 46 24.8	
		De	i(P)		15 44 40.0	
		Hungary (h = N).				
"	1	Ki	iSgl		16 24 04.3	
		Sk	iSgl		16 24 08.8	
		Um	iSgl		16 24 30.9	
		Nordland, Norway,				
		66.5°N, 14.1°E.				
		Origin time = 16 22 35.				
		Explosion.				
"	1	Um	i(P)		17 18 26.1	
"	1	Up	i(P)		17 49 56.4	
"	1	Ki	iPgl		18 09 26.8	
			iSgl		18 09 31.7	
			iRg		18 09 33.2	
		Sk	eSgl		18 12 12	
		Um	iSgl		18 11 20.4	
		Lapland, Sweden,				
		67.6°N, 20.9°E.				
		Origin time = 18 09 22.				
		Explosion.				
		Events in this area,				
		probably mining operations,				
		occur frequently, especially				
		around 09h. They will not be				
		reported here.				
"	1	Up	iP		19 12 18.7	
		Ud	iP		19 12 25.8	
		De	eP		19 12 42	
		Kurile Islands (h = 60 km).				

1971 July	1	Ud	iP		21 32 42.9	
"	1	Um	iP		23 06 43.6	
		Ud	iP		23 06 56.1	
"	1	Up	iP		23 20 38.0	
		Ki	iP		23 21 35.1	
		Um	iP		23 21 05.1	
		Ud	iP		23 20 49.2	
		De	iP		23 20 17.8	
		Turkey (h = N).				
"	2	Up	iP		01 33 53.6	
		Ki	iP		01 33 37.6	
		Sk	iP		01 34 01.3	
		Um	iP		01 33 43.5	
		Ud	iP		01 34 05.3	
		Luzon (h = 60 km).				
"	2	Up	iP		03 43 41.7	
		Ki	eP		03 44 07	
		Sk	eP		03 43 38	
		Um	iP		03 43 58.5	
		North Atlantic Ocean (h = N).				
"	2	Up	iP		05 47 12.2	
			i		05 47 15.0	
			iSKS		05 57 32	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	4.9	21
			Mx	N	16	21
			Mx	Z	6.0	20
		Ki	iP		05 46 53.4	
			iSKS		05 57 12	
					micr	sec
			P	Z'	0.1	1.5
			Mx	E	5.7	19
			Mx	N	12	22
			Mx	Z	7.4	18
		Sk	iP		05 47 20.1	
		Um	iP		05 47 00.4	
			iSKS		05 57 17	
		Ud	iP		05 47 20.1	
		Luzon (h = 35 km).				
		m = 6.0, M = 6.0 (Up,Ki).				
	2	Up	iP		06 45 24.8	
					micr	sec
			P	Z'	0.1	1.0
		Ki	iP		06 44 30.9	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		06 45 05.3	
		Um	iP		06 44 56.7	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 2 (cont.)

	Ud	iP	06 45 26.5
	De	iP	06 45 48.4

Aleutian Islands (h = 40 km).
m = 6.0 (Up,Ki).

" 2

Ki	iPn		10 53 09.6
	iSn		10 54 08.6
	eSgl		10 54 34
Sk	eSgl		10 57 00
Um	i		10 55 02.6
	iSgl		10 55 23.6
Ud	eSgl		10 57 53

Northwest Russia,
67.8°N, 34.1°E.
Origin time = 10 51 51.
Explosion.

" 2

Ud	iP		12 17 49.0
De	eP		12 17 18

Dodecanese Islands.

" 2

Sk	iSgl		13 58 37.9
Um	iSgl		13 56 49.9

" 2

Ud	e(P)		14 45 34
De	e(P)		14 45 55

" 2

Up	iP			17 04 46.3
Ki	iP			17 03 43.1
	iS			17 06 38.1
			micr	sec
	P	Z'	0.1	1.0
Sk	iP			17 04 45.0
Um	iP			17 04 05.3
	i			17 04 10.8
Ud	iP			17 05 01.3
	i			17 05 05.7
De	iP			17 05 24.9
	i			17 05 32.7

Ural Mountains.
Origin time = 17 00 00.
Probably underground explosion.

" 2

Ki	eP		21 18 12
Um	iP		21 17 49.3

Morocco (h = 5 km).

" 2

Sk	ePKP		21 24 01
Um	iPKP		21 23 56.4
Ud	iPKP		21 24 08.9

South of Kermadec Islands.

1971 July 3

Um	iPKP		01 09 46.0
Ud	ePKP		01 09 50
De	ePKP		01 10 02

Tonga Islands (h = N).

" 3

Up	iP			04 11 21.1
			micr	sec
	Mx	E	0.6	11
	Mx	N	1.7	14
	Mx	Z	3.0	14
Ki	eP			04 12 27
			micr	sec
	Mx	E	0.9	12
	Mx	N	0.5	14
	Mx	Z	0.6	15
Sk	eP			04 12 01
Um	iP			04 11 53.8
Ud	iP			04 11 29.3
De	iP			04 10 58.7

Dodecanese Islands (h = 35 km).
M = 4.8 (Up,Ki).

" 3

Up	iPKP		04 25 58.6
Ki	ePKP		04 25 51
Sk	i(PKP)		04 25 45.2
Um	iPKP		04 25 52.7
	i		04 25 58.5
	iSKP		04 28 34.5
Ud	iPKP		04 25 59.1
De	iPKP		04 26 10.7

Fiji Islands (h = 600 km).

" 3

Up	iP			04 34 09.6 C
			micr	sec
	P	Z'	0.1	1.3
	Mx	N	0.7	15
	Mx	Z	0.2	9
Ki	iP			04 34 03.8 C
			micr	sec
	P	Z'	0.1	0.7
	Mx	E	0.4	9
	Mx	N	0.8	14
	Mx	Z	0.4	11
Sk	iP			04 34 33.8 C
Um	iP			04 34 00.0
Ud	iP			04 34 26.1 C
De	iP			04 34 27.5 C

Kirghiz-Sinkiang (h = 15 km).
m = 5.6, M = 4.9 (Up,Ki).

" 3

Up	iP		08 23 39.5 D
Ki	iP		08 23 34.6 D
Sk	iP		08 23 50.2

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 3 (cont.)

Um	iP	08 23 33.7	D
Ud	iP	08 23 48.6	D
	i	08 24 04.9	
De	eP	08 23 52	

Java (h = 80 km).

" 3

Um	iPKP2	10 23 27.0
Ud	ePKP2	10 23 46

South of Kermadec Islands.

" 3

Up	iSgl	10 31 27.1
Ki	iPn	10 26 49.8
	iSn	10 27 38.9
	iS*	10 27 52.9
Sk	iSgl	10 30 35.3
Um	iSgl	10 29 21.7
Ud	eSgl	10 31 49

Northwest Russia, 69.3°N, 31.3°E.
Origin time = 10 25 45.
Explosion.

" 3

Ki	iPn	11 23 43.5
	iPgl	11 23 51.9
	iSn	11 24 28.7
	iS*	11 24 41.9
Um	iSgl	11 26 14.7

Northwest Russia-Norway border region.
Explosion.

" 3

Um	iPKP	12 07 23.2
Ud	e(PKP)	12 07 50

South of Kermadec Islands.

" 3

Up	iPKP	12 30 56.6	
	iSKP	12 33 48.1	
Ki	iSKP	12 33 27.3	
Sk	ePKP	12 30 51	
	iSKP	12 33 42.3	
Um	iPKP	12 30 51.1	
	iSKP	12 33 37.1	
Ud	iPKP	12 30 58.8	C
	iSKP	12 33 50.1	
De	iPKP	12 31 09.6	C
	ipPKP	12 33 18.8	
	iSKP	12 33 58.3	

Tonga-Kermadec Islands.
h = 540 km (De).

" 3

Um	iPKP	14 20 31.8
Ud	iPKP	14 20 44.6

South of Kermadec Islands.

1971 July 3

Um	iPKP	15 33 34.0
Ud	ePKP	15 33 45

South of Kermadec Islands.

" 3

Um	iPKP	16 42 53.0
Ud	e(PKP)	16 43 12

South of Kermadec Islands.

" 3

Um	iSgl	17 19 55.0
Ud	iSgl	17 21 32.7

Lake Ladoga.
Explosion.

" 3

Um	iP	18 39 52.9
	i	18 40 05.0
Ud	i(P)	18 40 33.9

Japan (h = 35 km).

" 3

Um	iPKP	22 18 25.0
Ud	iPKP	22 18 37.2

South of Kermadec Islands.

" 3

Up	ePKP	23 03 18
Um	iPKP	23 03 13.0
Ud	iPKP	23 03 19.8
De	iPKP	23 03 31.6

Fiji Islands (h = 580 km).

" 4

Um	ePP	00 04 00
	iPKKP	00 14 10.1
	i	00 14 37.6
Ud	i(PP)	00 03 46.6
	iPKKP	00 14 37.8

Chile-Argentina (h = 100 km).

" 4

Up	iPKP	03 49 27.3 D
Um	ePKP	03 49 16
Ud	iPKP	03 49 29.6
De	iPKP	03 49 39.8

" 4

Um	iP	04 06 15.5
Ud	eP	04 06 44

" 4

Um	iP	07 33 08.6
Ud	iP	07 33 28.4

Tadzhik-Sinkiang (h = 90 km).

" 4

Up	eP	09 15 17		
Ki	iP	09 14 49.1		
		micr		sec
	Mx	E	0.8	16
	Mx	N	0.6	16
	Mx	Z	1.2	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 4 (cont.)

	Sk	eP		09 15 16
	Um	iP		09 15 01.9
	Ud	iP		09 15 23.9
	De	iP		09 15 38.1

Mariana Islands (h = 70 km).

" 4

	Up	iP		09 15 25.8
	Ki	iP		09 14 57.7
	Ud	iP		09 15 34.8

Ryukyu Islands (h = 120 km).

" 4

	Ki	iPKP		09 44 59.8
	Um	iPKP		09 44 52.0

South Sandwich Islands (h = N).

" 4

	Ki	eP		09 57 26
				micr sec
		Mx	E	0.7 16
		Mx	N	0.7 18
	Sk	eP		09 57 57
	Um	iP		09 57 41.0
	Ud	iP		09 58 09.7
	De	eP		09 58 21

Japan (h = 5 km).

" 4

	Up	iP		11 43 17.1
		iS		11 53 30
				micr sec
		P	Z'	0.1 1.0
		Mx	E	2.5 19
		Mx	N	2.9 23
		Mx	Z	3.8 16
	Ki	iP		11 42 58.8
				micr sec
		P	Z'	0.2 1.5
		Mx	E	1.8 14
		Mx	N	1.7 17
		Mx	Z	1.6 14
	Sk	iP		11 43 22.0
	Um	iP		11 43 04.7
		ipP		11 43 15.5
		iS		11 53 06
	Ud	iP		11 43 26.3
		ipP		11 43 36.9
	De	iP		11 43 31.5

Luzon.
h = 40 km (Um,Ud).
m = 5.9, M = 5.7 (Up,Ki).

" 4

Ki	iPKP		12 59 48.5
Sk	ePKP		13 00 03
Um	iPKP		12 59 57.0

New Zealand.

1971 July 4

Ki	iP		13 01 41.2
Ud	iP		13 00 46.3

Turkey.

" 4

Up	iP		14 53 30.3 C
Ki	iP		14 52 37.8
Um	iP		14 53 03.9
Ud	iP		14 53 32.0 C
De	iP		14 53 52.6

Aleutian Islands (h = 25 km).

" 4

Ki	iP		15 39 40.4
Um	iP		15 40 00.5
Ud	iP		15 40 31.5

Kurile Islands (h = N).

" 4

Um	iP		18 24 05.2
Ud	iP		18 24 31.5

South of Japan (h = 410 km).

" 4

Up	iP		18 44 22.5
Ki	iP		18 43 37.9
Sk	iP		18 44 12.3
Um	iP		18 43 57.5
Ud	iP		18 44 28.4 C

Kurile Islands (h = N).

" 4

Up	iP		18 52 38.5
Ki	eP		18 51 46
Um	iP		18 52 12.1
Ud	iP		18 52 37.5 C
De	iP		18 53 00.3

Aleutian Islands (h = 30 km).

" 4

Up	iP		19 16 07.2
Ki	iP		19 16 06.1
Sk	iP		19 16 19.3
Um	iP		19 16 03.7
Ud	iP		19 16 16.3

Sunda Strait (h = 70 km).

" 4

Um	iP		19 34 43.8
Ud	iP		19 35 14.6

Kurile Islands.

" 4

Ki	iP		22 48 32.4
Um	iP		22 48 41.9 C
Ud	eP		22 49 08

West Caroline Islands (h = N).

" 4

Um	iPKP		23 10 03.5
Ud	iPKP		23 10 12.5

Solomon Islands (h = 60 km).

" 5 Up iP 00 49 36.0
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	5	(cont.)			
		Ki	iP	00 48 57.9	
		Sk	eP	00 49 30	
		Um	iP	00 49 14.1	C
		Ud	iP	00 49 43.0	
		De	iP	00 49 58.5	
		Japan (h = 35 km).			
"	5	Up	iPKP	01 40 53.8	
		Ki	iPKP	01 40 33.3	
		Sk	iPKP	01 40 49.1	
		Um	iPKP	01 40 43.7	
		Ud	iPKP	01 40 55.6	
		De	iPKP	01 41 04.8	
		South of Kermadec Islands (h = N).			
"	5	Um	iPKP	03 10 59.7	
		Ud	iPKP	03 11 12.1	
"	5	Up	ePKP	03 40 45	
		Um	iPKP	03 40 33.8	
		Ud	iPKP	03 40 47.7	
"	5	Um	iPKP	03 54 25.3	
			i	03 54 36.9	
		Ud	iPKP	03 54 37.7	
"	5	Um	iPKP	04 01 12.3	
		Ud	iPKP	04 01 24.5	
"	5	Ki	iP	07 27 47.0	
		Um	iP	07 27 56.3	
		Ud	iP	07 28 20.2	
		West Caroline Islands (h = 20 km).			
"	5	Up	iSgl	14 29 52.6	
		Ki	eSgl	14 30 44	
		Sk	iPgl	14 27 27.3	
			iSgl	14 28 06.6	
		Um	iSgl	14 29 56.3	
		Ud	iSgl	14 28 58.4	
		Off west coast of Norway, 62.9°N, 6.2°E.			
		Origin time = 14 26 36.			
"	5	Um	iP	15 37 21.6	
		Ud	iP	15 37 08.7	
		Botswana (h = 20 km).			
"	5	Up	iP	16 57 24.8	
			eS	17 01 03	
				micr	sec
			P Z'	0.1	1.0
		(cont.)			

1971 July	5	(cont.)			
		Ki	iP	16 58 32.2	
				micr	sec
			P Z'	0.1	1.1
			Mx N	0.3	14
			Mx Z	0.5	14
		Sk	iP	16 58 15.4	
		Um	iP	16 57 56.4	
			i	16 58 00.3	
		Ud	iP	16 57 40.6	
			iS	17 01 36.0	
		De	eP	16 57 07	
		Turkey (h = 5 km).			
		m = 5.4 (Up,Ki).			
"	5	Um	eP	20 02 12	
		Ud	iP	20 01 46.4	
		De	iP	20 01 13.8	
		Aegean Sea.			
"	5	Up	iP	22 29 15.1	
		Um	iP	22 28 53.8	
		Ud	iP	22 29 22.0	
		Off Pacific coast of Japan.			
"	5	Um	iPKP	23 34 16.1	
		Ud	iPKP	23 34 27.6	
"	6	Up	iP	00 41 46.2	
"	6	Up	i(P)	01 06 33.5	
		Ud	i(P)	01 06 35.6	
		De	i(P)	01 06 46.3	
"	6	Um	iPKP	04 47 55.2	
		Ud	iPKP	04 48 07.9	
		South of Kermadec Islands.			
"	6	Up	iP	06 47 53.8	
			i	06 48 03.5	
		Ki	iP	06 47 35.2	
		Um	iP	06 47 40.9	C
			i(pP)	06 47 59.4	
		Ud	iP	06 48 03.7	
			i	06 48 14.7	
		De	eP	06 48 08	
		Luzon (h = 70 km).			
"	6	Ud	i(P)	12 43 04.5	
"	6	Up	iPKP	17 21 57.2	
		Sk	iPKP	17 21 47.7	
		Um	iPKP	17 21 41.7	
		Ud	iPKP	17 21 57.1	
		De	ePKP	17 22 14	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	6	Up	iP	20 39 51.3 C	
		Ud	iP	20 40 00.6	
"	6	Ki	i(P)	22 45 28.7	
"	7	Ud	iP	00 22 45.8	
"	7	Ud	iP	02 16 33.9	
"	7	Ki	iP	04 00 31.2	
		Ud	iP	04 00 43.3	
		De	iP	04 00 41.7	
		Tadzhik-Sinkiang (h = 60 km).			
"	7	Ud	epP	05 48 18	
		Mexico (h = 90 km).			
"	7	Ki	ePn	09 17 56	
			iSn	09 18 42.1	
			eSgl	09 18 56	
		Um	iSgl	09 20 29.3	
		Northwest Russia-Norway border region. Explosion.			
"	7	Ki	iPn	10 52 39.8	
			iSn	10 53 39.1	
			iSgl	10 54 02.4	
		Sk	eSgl	10 56 34	
		Um	iSgl	10 54 56.8	
		Ud	eSgl	10 57 22	
		Northwest Russia, 67.9°N, 34.3°E. Origin time = 10 51 21. Explosion.			
"	7	Ki	iP	11 37 33.8	
		Um	iP	11 37 26.2	
		Ud	iP	11 36 59.2	
		North Atlantic Ocean (h = N).			
"	7	Up	iSn	12 48 03.5	
			iSgl	12 48 16.6	
		Ki	iSg2	12 50 54.1	
		Um	iSgl	12 48 49.8	
		Ud	iSgl	12 49 19.4	
		De	iSgl	12 49 46.4	
		Esthonia, 59.6°N, 24.8°E. Origin time = 12 46 20. Explosion.			
"	7	Ud	eP	13 17 46	
"	7	De	iP	17 03 03.6	
		Kurile Islands.			
1971 July	8	Ki	iP	06 05 32.9	
		Sk	iP	06 05 13.4	
		Um	iP	06 05 35.0	
		Ud	eP	06 05 17	
		North Atlantic Ocean (h = 50 km).			
"	8	Ud	iP	06 40 46.1	
		Turkey (h = 25 km).			
"	8	Sk	iP	06 59 01.0	
		Kurile Islands.			
"	8	Ki	eP	07 41 20	
		Ud	iP	07 42 19.6	
		Kurile Islands (h = 120 km).			
"	8	Ki	iSgl	10 05 44.7	
		Sk	iSgl	10 05 47.6	
		Um	iSgl	10 06 12.0	
		Nordland, Norway, 66.5°N, 13.9°E. Origin time = 10 04 14. Explosion.			
"	8	Ud	iSgl	11 07 52.5	
		De	ePgl	11 05 51	
			iSgl	11 06 02.2	
		Probably south Sweden. Origin time = 11 05 37.			
"	8	Ud	iP	11 56 02.8	
		Japan (h = 250 km).			
"	8	Ki	eP	12 02 08	
"	8	Ki	i(P)	12 17 19.1	
		Um	i(P)	12 18 20.4	
"	8	Up	iP	14 08 28.4	
		Ki	iP	14 07 37.7	
		Um	iP	14 08 01.2	
		Ud	iP	14 08 32.8	
		De	eP	14 08 54	
		Okhotsk Sea (h = 520 km).			
"	8	Up	iP	14 11 48.6 C	
				micr sec	
			P Z'	0.1 1.0	
		Ki	iP	14 11 14.7 C	
				micr sec	
			P Z'	0.1 1.0	
		Sk	iP	14 11 22.6 C	
		Um	iP	14 11 34.4 C	
		Ud	iP	14 11 40.9 C	
		De	iP	14 11 57.5 C	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 8 (cont.)

Nevada.
m = 5.9 (Up,Ki).
Underground explosion.

" 8	Up	iPKP	16 04 38.4 C
	Ud	iPKP	16 04 40.1
" 8	Um	iPKP	16 57 36.2
	Ud	iPKP	16 57 47.9
" 8	Ud	iP	17 28 11.8
" 8	Up	e(PKP)	17 29 55
	Sk	ePKP	17 29 42
	Um	iPKP	17 29 32.2
	Ud	iPKP	17 29 44.2

Kermadec Islands.

" 8	Up	i(PKP)	17 32 27.1
	Sk	ePKP	17 32 17
	Um	iPKP	17 32 05.7
	Ud	iPKP	17 32 17.9

Kermadec Islands.

" 8	Um	iPKP	18 22 15.1
	Ud	iPKP	18 22 26.7
" 8	Um	iP	18 33 23.6
	Ud	iP	18 33 06.3

Turkey.

" 8	Up	iPKP	18 57 15.7
	Sk	ePKP	18 57 09
	Um	iPKP	18 57 04.7
	Ud	iPKP	18 57 16.5
" 8	Up	iP	19 21 13.1
		i	19 24 37.9
		iSKS	19 31 42

		micr	sec
P	Z'	0.2	1.5
Mx	E	1.0	14
Mx	N	2.3	21
Mx	Z	3.5	20

Ki	iP	19 20 58.5
	iPP	19 25 18.9
	iSKS	19 31 28

		micr	sec
P	Z'	0.3	1.1
Mx	E	3.3	18
Mx	N	2.8	21
Mx	Z	4.4	20

Sk	iP	19 21 19.0
	iPKP	19 25 27.2

(cont.)

1971 July 8 (cont.)

Sk	iPP	19 25 52.0
Um	iP	19 21 02.4
	iPP	19 25 18
	iSKS	19 31 32.5
Ud	iP	19 21 21.7
	i	19 24 34.2
	iPKP	19 25 27.6
	iPP	19 25 56.9
De	iP	19 21 26.9
	i	19 24 30.0

Banda Sea (h = N).
m = 7.1, M = 6.0 (Up,Ki).

" 8	Um	iPKP	22 05 50.8
	Ud	iPKP	22 06 02.5
" 8	Um	iP	22 57 04.8
	Ud	iP	22 57 09.9
" 8	Up	iP	23 47 39.2
	Ki	iP	23 48 38.1
	Sk	iP	23 48 17.5
	Um	iP	23 48 05.3
	Ud	iP	23 47 49.6

Red Sea (h = 30 km).

" 8	Up	iPKP	23 55 18.0
	Um	iPKP	23 55 07.0
	Ud	iPKP	23 55 20.0

South of Kermadec Islands (h = N).

" 9	Up	iP	03 18 13
		iPKP	03 21 56.9
		iPP	03 23 06.1
		ePKKP	03 32 31

		micr	sec
PKP	Z'	0.1	1.2
PP	Z'	2.1	1.9
Mx	E	150	20
Mx	N	110	20
Mx	Z	300	21

Ki	eP	03 18 30
	iPKP	03 22 03.0
	iPP	03 23 28.9

		micr	sec
PKP	Z'	0.3	1.4
PP	Z'	6.0	3.2
Mx	E	400	21
Mx	N	110	22
Mx	Z	450	21

Sk	iP	03 18 19.0
	iPKP	03 21 56.5
	iPP	03 23 03.5
	ePKKP	03 32 37

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	9	(cont.)				
		Um	iP		03 18 24	
			iPKP		03 22 00.8	
			iPP		03 23 19	
		Ud	iP		03 18 14.2	
			iPKP		03 21 53.2	
			iPP		03 22 53.6	
			iPKKP		03 32 35.2	
		De	iP		03 18 06.7	
			iPKP		03 21 50.6	
			ePKKP		03 32 41	
		Chile (h = 60 km).				
		m = 7.7, M = 7.9 (Up,Ki).				
"	9	Up	eP		05 01 21	
		Um	iP		05 00 59.6	
		Ud	iP		05 01 11.7	
"	9	Ud	iPKP		05 04 54.0	
		Chile (h = 70 km).				
"	9	Up	iP		06 50 49.3	C
				micr	sec	
			P	Z' 0.1	1.0	
		Ki	iP		06 50 03.8	
				micr	sec	
			P	Z' 0.1	1.0	
		Sk	eP		06 50 39	
		Um	iP		06 50 24.2	
		Ud	iP		06 50 55.3	
		Kurile Islands (h = 50 km).				
		m = 6.0 (Up,Ki).				
"	9	Um	iP		07 18 06.1	
"	9	De	i(P)		07 21 13.5	
"	9	Ud	i(P)		07 54 15.8	
"	9	Ud	i(P)		08 16 36.2	
"	9	Up	iP		08 17 36.9	
				micr	sec	
			P	Z' 0.1	1.0	
		Ki	iP		08 16 51.5	
				micr	sec	
			Mx	E 0.6	15	
			Mx	Z 1.0	17	
		Sk	eP		08 17 27	
		Um	iP		08 17 12.8	
		Ud	iP		08 17 43.2	
		De	iP		08 18 01.2	
		Kurile Islands (h = 50 km).				
"	9	Up	iP		08 49 28.4	
		(cont.)				

1971 July	9	(cont.)				
		Up			micr	sec
			P	Z'	0.1	1.0
		Um	iP		08 49 01.0	
		Ud	iP		08 49 29.8	
		Aleutian Islands (h = 40 km).				
"	9	Up	ePKP		08 57 35	
		Ki	e(PKP)		08 57 13	
		Um	ePKP		08 57 36	
		Ud	iPKP		08 57 40.1	
		De	iPKP		08 57 48.5	
		Fiji Islands (h = 500 km).				
"	9	Ud	i(P)		09 27 13.0	
"	9	Ud	e(P)		10 09 24	
"	9	Ki	Mx		10 54	
					micr	sec
			Mx	E	1.0	20
			Mx	N	0.7	20
			Mx	Z	2.3	23
		Solomon Islands (h = 60 km).				
"	9	Up	iSKP		12 48 34.4	
		Sk	iSKP		12 48 26.5	
		Um	iSKP		12 48 23.1	
		Ud	ePKP		12 45 44	
			iSKP		12 48 35.9	
		De	iPKP		12 45 53.1	
			iSKP		12 48 45.2	
		Fiji Islands (h = 550 km).				
"	9	Ud	i(P)		14 22 01.5	
"	9	Up	i(P)		15 05 39.1	
			i		15 05 44.3	
"	9	Um	i(P)		15 24 30.6	
		Ud	i(P)		15 24 53.3	
"	9	Ud	e(P)		15 29 29	
"	9	Ud	iP		15 52 07.9	
		Kurile Islands.				
"	9	Up	iP		16 55 18.6	
			iX		16 55 25.0	
		Ki	iP		16 54 33.4	
			iX		16 54 39.8	
					micr	sec
			P	Z'	0.1	1.1
			X	Z'	0.1	1.0
			Mx	E	1.6	20
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 9 (cont.)

			micr	sec
Ki				
	Mx	N	0.9	20
	Mx	Z	1.2	17
Sk	eP		16 55 08	
Um	iP		16 54 54.8	
	iX		16 55 00.2	
Ud	iP		16 55 25.0	
	iX		16 55 31.8	
De	iP		16 55 42.9	
	iX		16 55 48.9	

Kurile Islands (h = 50 km).
The phase X, if interpreted as pP, gives a focal depth of 25 km.

" 9	Up	iP	17 23 00.0
	Ki	iP	17 22 14.3
		i	17 22 20.2
	Um	iP	17 22 35.1
	Ud	iP	17 23 06.3

Kurile Islands (h = N).

" 9	Ki	iSgl	17 35 13.7
	Sk	iSgl	17 35 16.6
	Um	iSgl	17 35 40.2
	Ud	iSgl	17 35 51.1

Nordland, Norway, 66.5°N, 14.0°E.
Origin time = 17 33 44.
Explosion.

" 9	Up	iP	18 05 54.4
	Ki	iP	18 05 06.7
	Ud	iP	18 06 01.0

Kurile Islands (h = 40 km).

			micr	sec
" 9	Up			
	Mx	E	0.9	19
	Mx	N	0.7	19
	Mx	Z	1.1	17
	Ki			
	Mx	E	1.5	17
	Mx	N	0.4	15
	Mx	Z	1.1	18
	Ud	ePKP	19 34 19	

Chile (h = 55 km).
M = 5.7 (Up,Ki).

" 9	Um	i(P)	20 52 22.6
" 9	Um	e(P)	21 02 45
" 9	Up	iP (cont.)	22 33 07.4

1971 July 9 (cont.)

			micr	sec
Up				
	Mx	E	0.6	16
	Mx	N	0.7	16
	Mx	Z	1.3	16
Ki	iP		22 33 50.3	
			micr	sec
	P	Z'	0.2	1.4
	Mx	E	1.6	20
	Mx	N	0.9	15
	Mx	Z	0.9	16
Um	iP		22 33 32.0	
Ud	iP		22 33 00.9	
De	iP		22 32 42.9	

North of Ascension Island (h = N).
M = 5.3 (Up,Ki).

" 9	Um	iP	23 12 21.0
	Ud	iP	23 12 46.3
	De	iP	23 13 09.2

Aleutian Islands (h = 40 km).

" 10	Up	e(P)	01 40 04
" 10	Um	i(P)	02 31 14.6
" 10	Up	iP	03 16 04.0
	Ki	iP	03 15 18.0
	Sk	iP	03 15 53.6
	Um	iP	03 15 38.8
	Ud	iP	03 16 09.8
	De	eP	03 16 29

Kurile Islands (h = 40 km).

" 10	Up	iSgl	04 13 38.9
	Sk	iSgl	04 14 57.5
	Um	eSgl	04 15 32
	Ud	iPgl	04 12 43.0
		i	04 12 49.0
		iSgl	04 13 06.9
	De	iPgl	04 12 46.3
		i	04 12 51.6
		iSgl	04 13 12.2

Västergötland, Sweden, 58.3°N, 13.2°E.
Origin time = 04 12 13.

" 10	Up	iP	05 42 58.8
	Ud	iP	05 43 16.8
	De	iP	05 43 06.2

			micr	sec
" 10	Ki	Mx	06 34	
		Mx N	0.7	18
		Mx Z	1.1	18

Solomon Islands (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	10	Up	i(P)	12 29 16.1	
		Um	i(P)	12 29 15.9	
"	10	Um	iP	13 22 31.9	
		Yugoslavia.			
"	10	Up	iP	14 39 58.3	C
		Um	iP	14 39 33.6	
		Ud	iP	14 40 04.8	
		Kurile Islands (h = 60 km).			
"	10	Up	iP	17 04 05.6	
			i	17 04 11.2	
			iS	17 07 17.8	
				micr sec	
			P Z'	0.1 0.7	
		Ki	iP	17 03 21.7	
			iPP	17 03 31.8	
			iS	17 05 54.4	
				micr sec	
			P Z'	0.3 0.8	
		Sk	iP	17 04 16.1	
			iS	17 07 36.9	
		Um	iP	17 03 31.5	
			iPP	17 03 41.0	
			iS	17 06 10.8	
		Ud	iP	17 04 26.6	
			i	17 04 33.3	
			iS	17 07 56.1	
		De	iP	17 04 49.1	
			iS	17 09 09.1	
		Ural Mountains.			
		m = 5.3 (Up,Ki).			
		Underground explosion.			
"	10	Up	iPKP	17 49 07.7	
		Um	iPKP	17 48 58.8	
		New Zealand.			
"	10	Ki	i(P)	18 04 07.1	
"	10	Up	e(P)	18 36 28	
			i	18 39 37.6	
"	10	Um	i(P)	19 44 19.0	
		Ud	i(P)	19 46 41.4	
"	11	Up	iP	03 09 30.2	
		Sk	eP	03 09 26	
		Um	iP	03 09 05.5	
		Ud	iP	03 09 36.6	
		Kurile Islands-Japan.			
"	11	Up	iP	05 41 33.4	
			ipP	05 41 42.2	
		(cont.)			

1971 July	11	(cont.)			
		Up		micr	sec
			Mx E	0.7	18
			Mx Z	1.3	19
		Ki	iP	05 42 19.4	
				micr	sec
			Mx N	0.5	17
		Sk	iP	05 41 45.9	
		Um	iP	05 41 59.0	
			ipP	05 42 07.7	
		Ud	iP	05 41 27.7	
			ipP	05 41 36.2	
		North of Ascension Island.			
		h = 30 km (Up,Um,Ud).			
		M = 5.0 (Up,Ki).			
"	11	Up	i(P)	07 09 34.1	
		Um	i(P)	07 11 04.0	
"	11	Up	eP	10 20 41	
		Ud	iP	10 20 54.8	
		These phases could be PKKP to the Chile earthquake with origin time = 09 51 38 (following event).			
"	11	Up	Mx	11 00	
				micr	sec
			Mx E	4.0	19
			Mx N	3.8	18
			Mx Z	6.5	20
		Ki	Mx	11 00	
				micr	sec
			Mx E	4.7	20
			Mx N	2.3	18
			Mx Z	5.5	20
		Chile (h = 35 km).			
		M = 6.3 (Up,Ki).			
"	11	Ud	iP	11 55 16.8	
		Ryukyu Islands (h = 35 km).			
"	11	Ud	iP	16 24 20.1	
		Hindu Kush.			
"	11	Up	iP	17 14 04.7	
		Um	iP	17 13 41.3	
		Ud	iP	17 14 11.1	
		Japan (h = 50 km).			
"	11	Um	iP	18 58 26.5	
		Ud	iP	18 58 59.7	
		Japan (h = 50 km).			
"	11	Up	i(P)	20 16 38.6	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 11 (cont.)

	Ki	i(P)		20 17 38.3
	Ud	iP		20 16 41.7

Turkey.

" 11	Up	iP		20 18 29.0
		i		20 18 35.3
			micr	sec
		P	Z' 0.1	1.0
		Mx	E 1.9	17
		Mx	N 4.4	19
		Mx	Z 4.3	16
	Ki	iP		20 19 23.1
		i		20 19 32.2
			micr	sec
		P	Z' 0.1	1.0
		Mx	E 6.8	18
		Mx	N 2.4	16
		Mx	Z 3.5	17
	Um	iP		20 18 52.9
	Ud	iP		20 18 44.2
		i		20 18 49.8
	De	iP		20 18 17.6

Turkey (h = 10 km).
m = 5.6, M = 5.2 (Up,Ki).

" 12	Up	iP	02 22 56.8
	Ki	iP	02 22 02.4
	Um	iP	02 22 28.3
	Ud	iP	02 22 59.9
	De	iP	02 23 21.9

Kamchatka (h = N).

" 12	De	iP	07 12 42.5

Germany (h = N).

" 12	Up	eP	08 26 51
	Um	iP	08 27 46.2

" 12	Up	iP	08 43 02.3
	Ki	iP	08 42 33.6
	Ud	iP	08 43 09.6

Volcano Islands (h = 220 km).

" 12	Up	iP	09 14 50.2
	Ki	iP	09 14 24.6
	Um	iP	09 14 41.6

Baja California (h = N).

" 12	Ud	iP	12 29 04.3

" 12	Ki	Mx		14 09
			micr	sec
		Mx	E 1.0	18
		Mx	N 1.0	19
		Mx	Z 1.3	18

New Britain (h = 35 km).

1971 July 12

	Um	i(P)		14 21 58.0
	Ud	i(P)		14 23 11.4
" 12	Up	iP		16 00 00.9
		ipP		16 00 10.7
			micr	sec
		pP	Z' 0.2	0.9
	Ki	iP		15 59 07.9
		ipP		15 59 17.7
			micr	sec
		P	Z' 0.2	1.0
		pP	Z' 0.2	0.9
		Mx	E 0.7	14
		Mx	N 0.4	16
		Mx	Z 0.8	14
	Sk	iP		15 59 41.6
		ipP		15 59 52.2
	Um	iP		15 59 33.9
		i		15 59 37.0
		ipP		15 59 43.5
	Ud	iP		16 00 03.3
		ipP		16 00 13.5
	De	iP		16 00 24.5
		ipP		16 00 35.1

Aleutian Islands.
h = 35 km (Up,Ki,Sk,Um,Ud,De).
m = 6.3 (Up,Ki).

" 12	Ud	iP	16 47 55.9

Aleutian Islands (h = 45 km).

" 12	Ki	iPKP	19 08 26.6

South Atlantic Ocean (h = N).

" 12	Up	iP		23 08 08.6
		i		23 08 21.2
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP		23 07 15.5
	Um	iP		23 07 43.3
	Ud	iP		23 08 08.8
		i		23 08 22.6
	De	iP		23 08 31.5

Aleutian Islands (h = 15 km).

" 13	Ki	eP	03 04 39
	Ud	iP	03 04 54.0

Sinkiang (h = 60 km).

" 13	Ud	e(P)	09 54 23

" 13	Ki	iPKP	10 44 09.4
	Um	iPKP	10 44 17.9
	Ud	iPKP	10 44 27.4
	De	iPKP	10 44 38.6

Fiji Islands (h = 520 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
July	13	Up	iSgl	13 01 26.7	
		Ki	iSgl	13 04 17.1	
		Um	iSgl	13 02 16.2	
		Ud	eSgl	13 02 24	
		Gulf of Finland,			
		59.6°N, 23.2°E.			
		Origin time = 12 59 56.			
		Explosion?			
"	13	Ki	i(P)	13 28 25.6	
		Um	i(P)	13 29 01.9	
"	13	Um	i(P)	13 43 49.6	
"	13	Um	iP	14 09 12.7	
			epP	14 09 51	
		Ud	iP	14 09 33.1	
		Hindu Kush.			
"	13	Up	iP	15 19 00.2	
		Ud	eP	15 19 18	
"	13	Ki	iSgl	16 52 54.1	
		Sk	iSgl	16 52 58.6	
		Um	iSgl	16 53 22.8	
		Ud	iSgl	16 54 48.2	
		Nordland, Norway,			
		66.5°N, 13.9°E.			
		Origin time = 16 51 24.			
		Explosion.			
"	13	Ud	eP	17 34 25	
		Kamchatka.			
"	14	Up	iP	00 14 47.5	
				micr	sec
			P Z'	0.1	1.0
		Ki	iP	00 14 27.2	
		Sk	iP	00 14 50.3	
		Um	iP	00 14 33.5	
		Ud	iP	00 14 54.1	
		Mindanao (h = 70 km).			
"	14	Up	iP	02 45 17.6	
		Ki	eP	02 44 30	
		Um	iP	02 44 53.0	
			i	02 45 00.3	
		Ud	iP	02 45 23.4	
		Japan (h = 5 km).			
"	14	Ki	iP	03 10 37.3 D	
		Ud	iP	03 11 02.3 D	
		Halmahera (h = 240 km).			
"	14	Ud	iP	03 27 16.9	

1971					
July	14	Ki	eP	04 45 12	
		Um	iP	04 45 01.3	
		Ud	iP	04 45 13.5	
		Iran.			
"	14	Up	iP	06 26 20	
			iPKP	06 30 10.5	
			iPP	06 31 09.2	
			i	06 37 45.3	
			iPKKP	06 40 41.4	
				micr	sec
			PP Z'	0.2	1.0
			Mx E	450	36
			Mx N	830	39
			Mx Z	320	21
		Ki	iP	06 25 55	
			iPP	06 30 36.3	
				micr	sec
			PP Z'	0.2	1.1
			Mx E	370	23
			Mx N	140	18
			Mx Z	270	20
		Sk	iP	06 26 26.1	
			iPKP	06 30 14.3	
		Um	iP	06 26 09.6	
			iPKP	06 30 06.5	
			iPP	06 30 53	
		Ud	iP	06 26 23.6	
			iPKP	06 30 15.5	
		De	iP	06 26 47.2	
			iPKP	06 30 18.4	
		New Ireland (h = 50 km).			
		m = 6.8, M = 8.1 (Up,Ki).			
"	14	Um	iPKP	07 35 25.7	
		New Ireland (h = N).			
"	14	Up	ePKP	07 56 02	
			i	07 56 23.4	
		Ki	ePKP	07 55 50	
		Sk	ePKP	07 56 03	
		Ud	ePKP	07 56 02	
		De	iPKP	07 56 05.9	
		New Ireland (h = N).			
"	14	Ki	i(P)	07 59 01.2	
"	14	Up	iPP	08 00 50.6	
			iPKKP	08 10 22.6	
		Sk	ePKP	07 59 54	
			iPKKP	08 10 30.4	
		Ud	iPP	08 00 53.3	
			iPKKP	08 10 16.2	
		De	iPKP	08 00 00.7	
		New Ireland (h = N).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	14	Up	i(P)		08 06 52.5		
		Ki	i(P)		08 07 07.3		
"	14	Up	i(P)		08 09 20.1		
"	14	Um	i(P)		09 33 50.1		
"	14	Ud	iPKP		10 38 25.7		
		New Britain.					
"	14	Up	i(P)		10 56 58.1		
		Ud	i(P)		10 56 16.5		
		De	i(P)		10 57 07.6		
"	14	De	iPKP		12 02 18.6		
		New Ireland (h = N).					
"	14	Up			micr	sec	
			Mx	E	1.1	19	
			Mx	N	1.0	19	
			Mx	Z	2.6	19	
		Ki			micr	sec	
			Mx	E	1.1	19	
			Mx	N	1.2	18	
			Mx	Z	2.2	18	
		Um	iPKP		12 08 54.2		
		Ud	iPKP		12 09 04.2		
		De	iPKP		12 09 08.4		
		New Ireland.					
		M = 5.5 (Up,Ki).					
"	14	Up	iPKP		12 46 12.9		
		Ud	iPKP		12 46 15.7		
		De	iPKP		12 46 22.6		
		New Ireland (h = N).					
"	14	De	ePKP		12 49 06		
		Solomon Islands (h = N).					
"	14	Ud	i(PKP)		12 59 10.8		
		New Ireland.					
"	14	Ki	iP		13 04 49.9		
		Um	iP		13 04 35.1		
		Ud	iP		13 04 35.0		
		De	iP		13 04 28.7		
"	14	Ud	i(P)		13 46 41.1		
			i		13 47 05.5		
"	14	Up	iP		13 48 05.7		
		Sk	iP		13 48 20.5		
		De	eP		13 48 03		
"	14	Ud	iP		13 51 21.5		

1971 July	14	Up	Mx		13 59		
					micr	sec	
			Mx	E	0.7	19	
			Mx	N	0.9	20	
			Mx	Z	2.0	21	
		Ki	Mx		13 57		
					micr	sec	
			Mx	E	1.0	18	
			Mx	N	0.8	19	
			Mx	Z	1.5	19	
"	14	Up	iSgl		14 15 15.7		
		Ud	eSgl		14 14 54		
			iRg		14 14 57.5		
"	14	Um	iPKP		15 17 32.7		
		New Ireland.					
"	14	Up	Mx		16 14		
					micr	sec	
			Mx	E	0.9	18	
			Mx	N	1.4	19	
			Mx	Z	2.0	19	
		Ki	Mx		16 10		
					micr	sec	
			Mx	E	2.1	19	
			Mx	N	1.4	20	
			Mx	Z	2.4	19	
"	14	Up	iP		16 27 34.7		
"	14	Um	iP		17 28 33.3		
"	14	Um	iP		17 37 23.0		
"	14	Up	ePKP		17 57 28		
		Ki	e(PKP)		17 57 26		
					micr	sec	
			Mx	E	1.8	19	
			Mx	N	1.2	18	
			Mx	Z	2.6	18	
		Sk	e(PKP)		17 57 24		
		Um	iPKP		17 57 23.8		
		Ud	ePKP		17 57 34		
		De	iPKP		17 57 39.3		
		New Ireland (h = N).					
"	14	Up	iP		18 42 41.6		
			iPKP		18 46 30.2		
			ePKKP		18 56 56		
					micr	sec	
			Mx	E	6.5	18	
			Mx	N	6.8	21	
			Mx	Z	14	19	
		Ki	iP		18 42 12.4		
			ePKP		18 46 12		

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	14	(cont.)				
		Ki			micr	sec
			PKP	Z'	0.1	1.4
			Mx	E	10	19
			Mx	N	8.1	22
			Mx	Z	12	19
		Sk	eP		18 42 38	
			iPKP		18 46 27.0	
		Um	iP		18 42 28.4	
			iPKP		18 46 23.1	
		Ud	iP		18 42 45.7	
			iPKP		18 46 31.0	
		De	ePKP		18 46 33	
		New Ireland (h = N).				
		M = 6.5 (Up,Ki).				
"	14	Up	i(P)		20 13 38.5	
"	14	Up	i(P)		21 27 19.0	
		Ki	e(P)		21 26 41	
"	14	Ki	Mx		21 36	
					micr	sec
			Mx	E	1.6	18
			Mx	N	0.6	18
			Mx	Z	0.9	16
		New Ireland (h = N).				
"	14	Ki	iP		23 13 22.3	
			ipP		23 13 33.7	
					micr	sec
			P	Z'	0.3	1.6
			Mx	E	0.8	18
			Mx	N	0.6	18
			Mx	Z	1.0	17
		Sk	iP		23 13 44.6	
		Um	iP		23 13 29.6	
			ipP		23 13 39.3	
		Ud	iP		23 13 48.0	
		Halmahera.				
		h = 40 km (Ki,Um).				
"	14	Up	iP		23 51 18.0	
"	15	Up	iP		00 34 33.3	
			iX		00 34 43.0	
					micr	sec
			P	Z'	0.1	1.4
		Ki	eP		00 33 39	
			iX		00 33 50.8	
		Sk	eX		00 34 11	
		Um	iX		00 34 17.2	
		Ud	iP		00 34 23.9	
		Queen Charlotte Islands (h = N).				
		Interpreting X as pP, we get h = 40 km (Up,Ki).				

1971 July	15	Ud	eP		00 58 08	
"	15	Up	iP		01 37 07.1	
			i		01 37 10.1	
			iS		01 40 02	
					micr	sec
			P	Z'	0.3	0.9
			Mx	E	6.5	10
			Mx	N	14	12
			Mx	Z	23	12
		Ki	iP		01 38 35.3	
			i		01 38 36.8	
			iLgl		01 46 08	
					micr	sec
			P	Z'	0.4	1.4
			Mx	E	6.5	11
			Mx	N	11	12
			Mx	Z	14	12
		Sk	eP		01 37 44	
			i		01 37 46.5	
		Um	iP		01 37 55.1	
			iS		01 41 30	
		Ud	iP		01 37 01.8	
		De	iP		01 36 14.7	
			i		01 36 16.4	
		Italy (h = 10 km).				
		m = 5.6, M = 5.6 (Up,Ki).				
"	15	Up	i(P)		02 01 32.6	
"	15	Ki	i(P)		02 18 18.6	
			i(S)		02 21 00.7	
		Um	e(P)		02 19 03	
"	15	Up	iP		06 21 01.2	
		Ki	iP		06 21 55.2	
		Sk	eP		06 21 42	
		Um	iP		06 21 24.6	
		Ud	iP		06 21 10.0	
		Turkey (h = N).				
"	15	Ud	iP		08 50 07.7	
		Sumatra.				
"	15	Um	iP		11 07 44.9	
		Ud	iP		11 08 11.4	
		Japan (h = 55 km).				
"	15	Up	i(P)		11 27 31.8	
			i		11 28 12.4	
"	15	Ud	iPgl		12 18 57.1	
			iSgl		12 19 16.7	
		De	eSgl		12 19 36	
"	15	Ud	eP		14 10 34	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	15	Ki			micr	sec
			Mx	E	0.7	18
			Mx	N	0.5	16
			Mx	Z	0.8	17
		Um	iPKP		14 15	24.5
		Ud	iPKP		14 15	35.9
		De	iPKP		14 15	41.5
		New Ireland (h = N).				
"	15	Ud	i(P)		16 21	37.3
"	15	Up	iPKP		18 34	09.0 D
			i		18 34	19.2
					micr	sec
			PKP	Z'	0.2	0.6
		Ki	ePKP		18 33	41
			i		18 33	59.6
		Sk	iPKP		18 34	01.5
		Um	iPKP		18 33	56.7
			i		18 34	06.6
		Ud	iPKP		18 34	12.1 D
			i		18 34	22.6
		De	iPKP		18 34	22.0
			i		18 34	31.4
		Tonga-Kermadec Islands (h = 590 km).				
"	15	Um	iPKP		20 50	57.4
		South of Kermadec Islands.				
"	15	Ki	eP		21 06	32
"	16	Ki	eP		02 48	18
		Ud	iP		02 48	43.3
		Mindanao.				
"	16	Ki	eP		05 29	12
		Um	iP		05 29	27.3
			i		05 29	38.9
"	16	Up	iP		05 55	45.9
			iPP		05 56	28.1
		Ki	eP		05 56	56
					micr	sec
			Mx	E	0.4	9
			Mx	N	0.3	12
			Mx	Z	0.4	10
		Sk	iP		05 56	25.2
		Ud	iP		05 55	50.3
		De	iP		05 55	18.8
		Crete (h = 40 km).				
"	16	Ki	Mx		09 00	
					micr	sec
			Mx	E	0.8	18
			Mx	N	0.5	18
			Mx	Z	0.8	17
		New Ireland (h = 40 km).				

1971 July	16	Ki	iPn		10 55	03.8
			iSn		10 56	02.8
			iSgl		10 56	26.0
		Sk	iSgl		10 58	50.4
		Um	iSn		10 56	42.3
			iSgl		10 57	17.3
		Ud	eSgl		10 59	45
		Northwest Russia, 67.8°N, 34.0°E. Origin time = 10 53 45. Explosion.				
"	16	Up	i(P)		11 24	39.4
"	16	Ki	iP		15 10	13.8
		Japan (h = 35 km).				
"	16	Up	iSgl		15 51	43.4
		Ki	eSgl		15 53	37
		Sk	iSgl		15 53	31.9
		Um	iSgl		15 51	58.5
		Ud	iSgl		15 52	45.9
		Western Russia, 59.2°N, 28.6°E. Origin time = 15 48 49. Explosion?				
"	16	Ud	iP		20 27	29.2
		Hindu Kush.				
"	16	Up	eP		21 53	08
		Ki	eP		21 52	57
		Sk	eP		21 52	52
		Um	iP		21 52	59.7
		Mexico (h = 15 km).				
"	16	Up	iP		22 27	00.8
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	1.0	18
			Mx	N	0.9	17
			Mx	Z	1.8	19
		Ki	iP		22 26	19.5
					micr	sec
			Mx	E	2.8	20
			Mx	N	1.4	20
			Mx	Z	2.2	14
		Sk	eP		22 26	55
		Um	iP		22 26	38.0
		Ud	iP		22 27	07.8
		Japan (h = 20 km). M = 5.4 (Up,Ki).				
"	17	Ki	iP		04 51	20.4
		Ud	iP		04 52	09.4
			ipP		04 52	18.5
		Japan. h = 35 km (Ud).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 17

Up	iP		05 44 23.5	C
	i		05 44 25.3	
	ipP		05 44 57.9	
	iS		05 53 58.1	
			micr	sec
	P	Z'	0.6	0.9
	Mx	E	1.1	19
	Mx	N	1.0	22
	Mx	Z	1.7	21
Ki	iP		05 44 25.1	C
	i		05 44 26.8	
	iS		05 54 03.6	
			micr	sec
	P	Z'	1.1	0.9
	Mx	E	1.9	22
	Mx	N	1.7	20
	Mx	Z	1.0	16
Sk	iP		05 44 40.1	C
	i		05 44 41.6	
	iS		05 54 33.5	
Um	iP		05 44 20.9	C
	ipP		05 44 56.1	
	iS		05 53 52	
Ud	iP		05 44 35.2	C
	i		05 44 37.1	
	ipP		05 45 09.8	
	iS		05 54 22.3	
De	iP		05 44 33.0	
	i		05 44 34.7	
	ipP		05 45 07.6	
	iS		05 54 14.4	

Nicobar Islands.
h = 140 km (Up,Um,Ud,De).
m = 6.4, M = 5.4 (Up,Ki).
M uncorrected for focal depth.
Double P-phases, in average 1.7 sec apart.

" 17 Ki Mx 07 50

		micr	sec
Mx	E	0.7	18
Mx	N	0.4	17
Mx	Z	0.9	18

New Ireland (h = N).

" 17 Ki iPn 10 25 26.5
i 10 25 41.7
iSn 10 26 15.4
iS* 10 26 30.0

Northwest Russia.
Explosion.

" 17 Up iP 15 10 59.9 C
isP 15 11 18.0

		micr	sec
P	Z'	0.1	0.6

(cont.)

1971 July 17 (cont.)

Up			micr	sec
	Mx	E	1.7	22
	Mx	N	2.4	22
	Mx	Z	3.2	23
Ki	iP		15 10 53.9	
	ipP		15 11 05.8	
	isP		15 11 11.2	
			micr	sec
	P	Z'	0.1	0.6
	Mx	E	1.9	16
	Mx	N	3.5	21
	Mx	Z	2.3	17
Sk	iP		15 11 16.3	
	isP		15 11 33.8	
Um	iP		15 10 52.5	
	ipP		15 11 05.7	
	isP		15 11 10.0	
	iS		15 18 55	
Ud	iP		15 11 14.1	
	isP		15 11 30.7	
De	iP		15 11 16.6	

India.
h = 50 km (Up,Ki,Sk,Um,Ud).
m = 6.0, M = 5.6 (Up,Ki).

" 17 Ki eP 16 31 15
Halmahera (h = 110 km).

" 17 Ki iP 17 56 47.4

" 17 Ki Mx 18 00

		micr	sec
Mx	E	0.4	9
Mx	N	0.3	12
Mx	Z	0.4	10

" 17 Up iP 19 41 10.8
Ki iP 19 40 32.5

		micr	sec
Mx	E	0.6	14
Mx	N	0.3	14
Mx	Z	0.5	14

Um iP 19 40 49.9
Ud iP 19 41 20.2
Japan (h = 25 km).

" 17 Ud ePP 20 28 31
Chile-Bolivia (h = 120 km).

" 17 Up eP 21 50 58
Ki iP 21 51 42.8
Ud iP 21 51 07.3
De iP 21 50 44.1
Turkey (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	18	Ki	iP	00 09 32.1	
		Ud	iP	00 09 01.7	
		De	iP	00 08 42.6	
		Iran-Iraq (h = N).			
"	18	Um	iP	01 25 23.7	
		Ud	iP	01 25 45.9	
"	18	Ud	iP	05 33 18.3	
		Italy.			
"	18	Up	iSgl	07 12 39.8	
		Ki	ePn	07 08 25	
			iSn	07 09 22.1	
			iSgl	07 09 45.8	
		Sk	iSgl	07 12 09.6	
		Um	iSn	07 10 02.7	
			iSgl	07 10 36.1	
		Ud	eS*	07 13 00	
			iSgl	07 13 12.1	
		Northwest Russia,			
		67.8°N, 33.7°E.			
		Origin time = 07 07 08.			
		Explosion.			
"	18	Up	e(Sgl)	07 31 30	
		Ud	e(Sgl)	07 31 23	
		De	i(Pgl)	07 29 02.0	
			i(Sgl)	07 29 27.9	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	e(Sgl)	08 13 01	
		Ud	e(Sgl)	08 12 54	
		De	e(Pgl)	08 10 28	
			i(Sgl)	08 10 55.1	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	e(Sgl)	08 51 05	
		Ud	i(Sgl)	08 50 57.3	
		De	i(Pgl)	08 48 31.0	
			i(Sgl)	08 48 59.7	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	ePKP	08 59 46	
		Ki	iPKP	08 59 20.8	
		Sk	iPKP	08 59 33.2	
		Um	iPKP	08 59 28.5	
		Ud	iPKP	08 59 40.4	
"	18	Up	i(Sgl)	09 30 13.7	
		Ud	i(Sgl)	09 30 08.3	
		De	e(Pgl)	09 27 48	
			i(Sgl)	09 28 14.5	
		Southern Baltic Sea.			
		Explosion.			

1971 July	18	Up	e(Sgl)	10 10 35	
		Ud	e(Sgl)	10 10 38	
		De	e(Pgl)	10 08 12	
			i(Sgl)	10 08 38.6	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	iPKP	11 22 48.0	
		Ud	ePKP	11 22 48	
		De	iPKP	11 23 00.0	
		Fiji Islands (h = 630 km).			
"	18	Up	i(Sgl)	13 08 59.6	
		Ud	e(Sgl)	13 08 52	
		De	e(Pgl)	13 06 30	
			i(Sgl)	13 06 57.3	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	i(Sgl)	14 25 11.5	
		De	e(Pgl)	14 22 46	
			i(Sgl)	14 23 14.3	
		Southern Baltic Sea.			
		Explosion.			
"	18	Up	iP	14 46 10.6	
			iPKP	14 49 55.0	
			ePKKP	15 00 29	
				micr	sec
			PKP Z'	0.1	0.9
			Mx E	7.3	21
			Mx N	7.9	22
			Mx Z	17	22
		Ki	iP	14 45 41.2	
			i	14 49 20.5	
			iPKP	14 49 45.7	
			ePKKP	15 01 04	
				micr	sec
			Mx E	8.9	23
			Mx N	12	23
			Mx Z	8.8	19
		Sk	eP	14 46 08	
			iPKP	14 49 55.7	
		Um	iP	14 45 52.8	
			iPKP	14 49 48.6	
		Ud	eP	14 46 14	
			iPKP	14 49 58.0	
			iPP	14 51 07.8	
			ePKKP	15 00 36	
		De	iP	14 46 16.8	
			iPKP	14 50 03.4	
		New Ireland (h = 45 km).			
		M = 6.5 (Up,Ki).			
"	18	Um	iP	15 43 06.3	
		Ud	iP	15 43 34.5	
"	18	Up	iP	16 21 47.9	
			iPP	16 22 02.1	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	18	(cont.)				
		Up			micr	sec
			P	Z'	0.1	0.7
		Ki	iP		16 23	10.9
			iPP		16 23	38.1
					micr	sec
			P	Z'	0.1	0.9
		Sk	iP		16 22	41.3
			i		16 22	44.0
		Um	iP		16 22	29.6
			i		16 22	46.5
			iPP		16 22	57.1
		Ud	iP		16 22	03.9
			iPP		16 22	19.5
		De	iP		16 21	25.4
		Rumania (h = 140 km).				
		m = 5.3 (Up,Ki).				
"	18	Up	i(Sgl)		17 34	56.3
		Ud	i(Sgl)		17 34	48.3
		De	e(Pgl)		17 32	29
			i(Sgl)		17 32	57.4
		Southern Baltic Sea.				
		Explosion.				
"	18	Up	i(Sgl)		18 25	22.3
		Ud	i(Sgl)		18 25	16.0
		De	e(Pgl)		18 22	56
			i(Sgl)		18 23	22.8
		Southern Baltic Sea.				
		Explosion.				
"	19	Up	iPKP		00 33	30.5
			iPP		00 34	41.6
			iPKKP		00 43	53.1
			i		00 44	05.8
					micr	sec
			PP	Z'	0.2	1.4
			Mx	E	9.8	19
			Mx	N	12	20
			Mx	Z	23	19
		Ki	ePKP		00 33	22
			ePKKP		00 44	24.8
					micr	sec
			Mx	E	20	21
			Mx	N	19	21
			Mx	Z	28	22
		Sk	ePKKP		00 43	56
		Um	iPKP		00 33	28.6
			iPKKP		00 44	11.6
		Ud	iPKP		00 33	31.0
			ePP		00 34	45
			iPKKP		00 43	48.1
		De	ePKP		00 33	35
			ePKKP		00 43	52
		New Ireland (h = 40 km).				
		M = 6.8 (Up,Ki).				
1971 July	19	Up	iSgl		01 00	57.9
		Sk	eSgl		01 00	38
		Um	iSgl		01 01	57.5
		Ud	iPgl		00 59	36.3
			iSgl		00 59	57.0
		De	eSgl		01 01	35
		Hedmark, Norway,				
		60.9°N, 11.1°E.				
		Origin time = 00 59 15.				
"	19	Um	e(P)		05 52	38
"	19	Up	iP		06 27	37.2
		Ki	iP		06 27	38.0
		Sk	eP		06 27	57
		Um	eP		06 27	32
		Ud	e(P)		06 28	02
		De	eP		06 27	52
		Sinkiang.				
"	19	Um	i(P)		06 55	08.2
"	19	Up	iPKP		09 33	32.4
		Ud	iPKP		09 33	34.0
		De	ePKP		09 33	47
"	19	Up	eP		12 34	28
		Ki	eP		12 33	47
		Um	iP		12 34	05.0
			ipP		12 34	16.7
		Ud	eP		12 34	35
		Japan.				
		h = 45 km (Um).				
"	19	Ud	e(Sgl)		14 56	56
		De	i(Pgl)		14 54	34.9
			i(Sgl)		14 55	00.5
		Southern Baltic Sea.				
		Explosion.				
"	19	Up	iPKP		15 07	09.2
					micr	sec
			Mx	E	1.3	23
			Mx	N	1.3	23
			Mx	Z	2.1	22
		Ki	eP		15 02	49
			iPKP		15 07	00.7
			ePKKP		15 18	19
					micr	sec
			Mx	E	1.3	23
			Mx	N	1.4	25
			Mx	Z	1.9	23
		Sk	ePKP		15 07	09
		Um	iPKP		15 07	03.6
		Ud	iPKP		15 07	13.8
			iPKKP		15 17	57.0
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 19 (cont.)

		De	iPKP	15 07 17.3

New Guinea (h = 70 km).
M = 5.7 (Up,Ki).

"	19	Up	iPKP		15 56 20.3
			i		15 57 15.2
			iPP		15 57 29.4
				micr	sec
			PP	Z' 0.3	1.7
			Mx	E 5.3	21
			Mx	N 4.5	21
			Mx	Z 6.3	21
		Ki	iPP		15 56 49.0
				micr	sec
			PP	Z' 0.3	1.7
			Mx	E 5.7	23
			Mx	N 4.3	20
			Mx	Z 13	25
		Sk	iPP		15 57 23.6
		Um	ePKP		15 56 09
			iPP		15 57 02.4
		Ud	ePP		15 57 39

New Britain (h = N).
m = 6.7, M = 6.2 (Up,Ki).

"	19	Ud	i(Sgl)	16 59 23.6
		De	e(Pgl)	16 57 04
			i(Sgl)	16 57 29.4

Southern Baltic Sea.
Explosion.

"	19	Up	iP		17 09 52.5
				micr	sec
			P	Z' 0.1	1.2
			Mx	E 1.2	20
			Mx	N 0.8	17
			Mx	Z 1.8	19
		Ki	iP		17 09 27.0
				micr	sec
			P	Z' 0.1	1.0
		Sk	iP		17 09 56.5
		Um	iP		17 09 36.7
		Ud	iP		17 10 02.1

Formosa (h = 60 km).
m = 5.9 (Up,Ki).

"	19	Up	iP	19 35 16.2

"	19	Ud	eP	20 46 08

Turkey.

"	19	Up	iP	21 50 09.7
		Ki	eP	21 49 47
		Ud	iP	21 50 18.0

1971 July 19

Ki	iP		23 54 36.1
Ud	iP		23 53 39.7

Turkey.

"	20	Up	iP	05 04 55.4
		Ki	eP	05 04 04

"	20	Up	iPn	08 36 04.0
			iSn	08 37 47.4
		Ki	ePn	08 37 11
		Sk	iPn	08 36 02.1
		Um	iPn	08 36 42.2
		Ud	iPn	08 35 38.7
			i	08 35 45.9
			iSn	08 37 04.2
		De	iPn	08 35 34.0
			iSn	08 36 52.5

North Sea.
Underwater explosion.

"	20	Up	iP		10 46 34.6 D
				micr	sec
			P	Z' 0.1	0.9
		Ki	iP		10 46 16.5 D
				micr	sec
			P	Z' 0.2	1.0
		Um	iP		10 46 21.9 D
		Ud	iP		10 46 43.7 D
		De	iP		10 46 49.9

Luzon (h = N).
m = 6.0 (Up,Ki).

"	20	Up	iPgl	12 26 31.7
			iSgl	12 26 58.5
		Um	iSgl	12 28 11.3
		Ud	iSgl	12 28 02.1
		De	iPn	12 27 14.3
			iSgl	12 28 33.2

Baltic Sea, 59.4°N, 21.3°E.
Origin time = 12 25 57.
Explosion.

"	20	Up	iPgl	12 26 41.9
			iSgl	12 27 09.9
		Um	iSgl	12 28 21.7
		Ud	iSgl	12 28 14.6
		De	iPn	12 27 24.9
			iSgl	12 28 43.3

Baltic Sea, 59.4°N, 21.3°E.
Origin time = 12 26 07.
Explosion.

"	20	Up	i(P)	13 28 18.6
		Um	i(P)	13 26 10.6
			i	13 26 20.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	20	Up			micr	sec
			Mx	E	0.8	20
			Mx	N	1.0	22
			Mx	Z	2.0	21
		Ki			micr	sec
			Mx	E	1.3	23
			Mx	N	1.3	21
			Mx	Z	2.0	22
		Ud	iPKP		17 53 40.5	
			ipPKP		17 53 50.9	
		De	ePKP		17 53 49	
			ipPKP		17 53 55.6	
		Fiji Islands (h = N).				
		M = 5.7 (Up,Ki).				
"	20	Ki	eSn		18 08 57	
			iSgl		18 09 07.5	
		Sk	iSgl		18 09 12.1	
		Um	iSgl		18 09 35.2	
		Ud	iSgl		18 11 01.1	
		Nordland, Norway,				
		66.5°N, 14.0°E.				
		Origin time = 18 07 37.				
		Explosion.				
"	20	Up	iPKP		20 10 35.8 C	
			ipPKP		20 10 43.5	
		Ki	ePKP		20 10 22	
		Sk	iPKP		20 10 32.8	
		Um	iPKP		20 10 26.4	
			ipPKP		20 10 36.3	
		Ud	iPKP		20 10 39.7	
			ipPKP		20 10 46.2	
		De	ePKP		20 10 48	
			i		20 10 48.7	
		Kermadec Islands.				
		h = 30 km (Up,Um,Ud).				
"	20	Up	iPKKP		21 55 02.9	
			i		21 55 12.5	
		Ki	ePKKP		21 55 23	
		Um	ePKKP		21 55 17	
			i		21 55 22.8	
		Ud	ePKP		21 44 39	
			ePKKP		21 54 58	
		New Ireland (h = 50 km).				
"	21	Up	iPKP		00 51 37.0	
		Ud	iPKP		00 51 38.8 C	
			i		00 51 45.6	
		De	iPKP		00 51 49.4	
		Tonga-Kermadec Islands				
		(h = 210 km).				
"	21	Ud	i(P)		01 39 17.9	
1971 July	21	Um	i(P)		03 11 47.1 C	
			i		03 12 51.1	
		Ud	iP		03 11 11.9	
			i		03 11 15.2	
		North of Ascension Island				
		(h = N).				
"	21	Ki	iP		04 14 20.9	
		Ud	iP		04 15 13.5	
		Aleutian Islands (h = N).				
"	21	Up	iP		11 04 36.2	
		Ki	iP		11 04 08.2	
		Sk	eP		11 04 37	
		Ud	iP		11 04 45.4	
		Ryukyu Islands (h = 25 km).				
"	21	Up	iP		12 14 39.7	
		Ki	iP		12 13 46.3	
					micr	sec
			P	Z'	0.1	1.1
		Um	iP		12 14 13.0	
		Ud	iP		12 14 38.9	
		De	eP		12 15 02	
		Aleutian Islands (h = 40 km).				
"	21	Up	iPKP		12 22 11.4	
					micr	sec
			Mx	E	0.8	21
			Mx	N	0.8	21
			Mx	Z	0.9	21
		Ki			micr	sec
			Mx	E	1.1	21
			Mx	N	0.9	22
			Mx	Z	1.5	21
		Um	iPKP		12 22 05.2	
		Ud	iPKP		12 22 10.5	
		De	iPKP		12 22 19.0	
		Solomon Islands (h = 25 km).				
		M = 5.5 (Up,Ki).				
"	21	Ki	i(P)		14 34 19.4	
		Sk	e(P)		14 35 09	
		Um	i(P)		14 34 57.2	
"	22	Ki	eP		07 32 26	
		Mindanao.				
"	22	Up	iP		10 40 46.8	
		Ki	iP		10 42 06.3	
		Sk	iP		10 41 38.3	
		Um	iP		10 41 24.4	
		Ud	iP		10 41 01.2	
		De	iP		10 40 27.2	
		Rumania (h = 130 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	22	Up	iSgl	14 01 12.9	
		Ki	eSgl	14 03 41	
		Um	iSgl	14 01 46.5	
		Ud	eSgl	14 02 19	
		De	iSgl	14 02 45.2	
		Esthonia, 59.6°N, 24.6°E.			
		Origin time = 13 59 21.			
		Explosion.			
"	22	Sk	i(P)	21 16 57.9	
		Ud	i(P)	21 16 41.0	
"	22	Ki	iP	21 18 44.6	
		Sk	eP	21 19 00	
		Um	iP	21 18 44.6	C
		Ud	iP	21 18 57.2	
		Java (h = 100 km).			
"	22	Up	iP	22 18 50.3	
			ipP	22 18 57.4	
				micr	sec
			P Z'	0.1	1.1
			pP Z'	0.2	1.2
			Mx N	0.6	16
			Mx Z	0.6	18
		Ki	iP	22 18 12.1	
			ipP	22 18 19.8	
				micr	sec
			P Z'	0.1	1.0
			Mx E	0.7	17
			Mx N	0.5	15
			Mx Z	0.9	15
		Sk	iP	22 18 44.8	
			ipP	22 18 52.6	
		Um	iP	22 18 28.5	
			ipP	22 18 36.0	
		Ud	iP	22 18 57.6	
			ipP	22 19 05.2	
		De	iP	22 19 12.0	
			ipP	22 19 19.4	
		Japan.			
		h = 30 km (Up,Ki,Sk,Um,Ud, De).			
		m = 6.0, M = 5.0 (Up,Ki).			
"	22	Um	eP	23 07 00	
		Ud	iP	23 07 29.9	
		Japan (h = 170 km).			
"	23	Um	iPKP	00 13 55.3	
		De	iPKP	00 14 09.4	
		New Ireland (h = 60 km).			
"	23	Ki	ePKP	07 03 49	
			iSKP	07 06 21.5	
		Sk	eSKP	07 06 39	
		(cont.)			

1971 July	23	(cont.)			
		Um	iPKP	07 03 50.0	
			iSKP	07 06 34.4	
		Ud	ePKP	07 03 53	
			iSKP	07 06 48.7	
		De	iPKP	07 04 04.5	
		Fiji Islands (h = 550 km).			
"	23	Up	iP	08 07 20.4	
		Sk	iP	08 07 01.3	
		Um	iP	08 06 41.7	
		Ud	iP	08 07 12.5	
			i	08 07 20.3	
		De	eP	08 07 51	
"	23	Up	iP	08 11 54.8	
			i	08 12 14.9	
		Ki	iP	08 11 00.7	
				micr	sec
			P Z'	0.1	0.9
		Sk	iP	08 11 38.1	
		Um	iP	08 11 26.9	
		Ud	iP	08 11 57.6	
		De	iP	08 12 19.6	
		Kamchatka (h = N).			
"	23	Up	i(P)	14 20 57.7	
"	23	Sk	iP	15 11 24.5	
		Turkey.			
"	23	Ud	iP	23 11 58.0	
"	24	Up	iP	00 56 57.1	C
		Ki	iP	00 57 24.0	C
		Sk	iP	00 57 29.2	C
		Um	iP	00 57 05.1	C
		Ud	iP	00 57 13.3	C
		De	iP	00 57 01.2	C
		Iran (h = 55 km).			
"	24	Up	iP	02 12 50.4	
		Ki	iP	02 12 07.1	
		Sk	eP	02 12 43	
		Um	iP	02 12 26.0	
		Ud	iP	02 12 56.6	
		De	eP	02 13 13	
		Japan (h = 70 km).			
"	24	Ki	iPn	09 56 12.4	
			iSn	09 57 01.6	
		Sk	iSgl	10 00 00.2	
		Um	iSgl	09 58 44.5	
		Northwest Russia, 69.3°N, 31.3°E.			
		Origin time = 09 55 07.			
		Explosion.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	24	Up	ePKP		10 34 57	
		Ki	ePKP		10 34 36	
		Sk	iPKP		10 34 51.5	
		Um	iPKP		10 34 46.3	
		Ud	iPKP		10 35 00.1	
		South of Kermadec Islands (h = N).				
"	24	Up	iPn		11 17 05.2	
			iSgl		11 18 36.1	
		Ki	eSgl		11 22 23	
		Sk	eSgl		11 20 57	
		Um	iSgl		11 20 18.8	
		Ud	iSgl		11 19 20.4	
		De	eSgl		11 18 13	
		Lithuania, 54.8°N, 22.2°E.				
		Origin time = 11 15 40.				
		Explosion?				
"	24	Up	iP		11 51 09.4	
			iPP		11 52 37.4	
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	1.7	13
			Mx	N	1.0	8
			Mx	Z	3.5	14
		Ki	iP		11 51 13.9	
					micr	sec
			P	Z'	0.4	1.0
			Mx	E	3.5	13
			Mx	N	1.1	9
			Mx	Z	3.2	13
		Sk	iP		11 51 33.9	
			iPP		11 53 15.2	
		Um	iP		11 51 04.8	
			iPP		11 52 35.3	
			iS		11 57 08	
		Ud	iP		11 51 26.2	
			iPP		11 52 58.5	
		De	iP		11 51 24.9	
			iPP		11 52 58.0	
		Tadzhik-Sinkiang (h = N).				
		m = 6.0, M = 5.4 (Up,Ki).				
"	24	Ki	ePKP		13 08 17	
		Um	iPKP		13 08 25.6	
		Ud	i(PKP)		13 08 23.6	
		Tonga Islands (h = N).				
"	24	Ki	iP		17 22 35.8	
		Hindu Kush.				
"	24	Up	iP		22 21 33.7	
"	25	Up	iP		01 22 57.0	C
		(cont.)				

1971 July	25	(cont.)				
		Ki	iP		01 23 06.1	C
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		01 23 22.6	C
		Um	iP		01 22 55.4	C
		Ud	iP		01 23 13.5	C
		De	iP		01 23 09.7	C
		Hindu Kush (h = 210 km).				
"	25	Up	iP		03 55 36.1	
					micr	sec
			P	Z'	0.1	1.2
			Mx	N	0.6	16
			Mx	Z	0.6	16
		Ki	iP		03 54 42.9	
					micr	sec
			P	Z'	0.1	1.2
			Mx	E	0.6	15
			Mx	N	0.5	16
			Mx	Z	0.8	15
		Sk	iP		03 55 19.0	
		Um	iP		03 55 08.1	
		Ud	iP		03 55 39.3	
		De	eP		03 56 01	
		Kamchatka (h = N).				
		m = 5.8, M = 5.0 (Up,Ki).				
"	25	Ud	i(P)		04 22 27.7	
"	25	Ki	ePn		05 01 20	
			eSn		05 02 19	
			iSgl		05 02 40.8	
		Um	iSgl		05 03 34.2	
		Northwest Russia.				
		Origin time = 05 00 02.				
		Explosion.				
"	25	Ud	iPKP		10 26 09.2	
		Chile (h = 45 km).				
"	25	Up	iP		13 04 25.6	
			iPP		13 07 50.6	
					micr	sec
			P	Z'	0.4	1.5
			Mx	E	16	20
			Mx	N	47	21
			Mx	Z	22	20
		Ki	iP		13 04 07.0	
			ipP		13 04 21.4	
			iS		13 14 28	
					micr	sec
			pP	Z'	0.5	1.7
			Mx	E	17	19
			Mx	N	37	23
			Mx	Z	23	17
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 25 (cont.)

	Sk	ePP		13 08 04
	Um	iP		13 04 14.7
		ipP		13 04 27.7
		iS		13 14 43
	Ud	iP		13 04 34.0
		iPP		13 08 04.6
	De	iP		13 04 41.9

Luzon.
h = 50 km (Ki,Um).
m = 6.5, M = 6.6 (Up,Ki).

" 25

	Up	iP		14 28 17.9
	Ki	iP		14 28 03.2
	Sk	iPKP		14 32 28.6
	Um	iP		14 28 08.5
	Ud	iP		14 28 26.4

Banda Sea (h = 150 km).

" 25

	Up	iP		15 44 50.5
	Ki	iP		15 43 56.9 C
			micr	sec
		P	Z' 0.1	1.0
	Sk	iP		15 44 31.2
	Um	iP		15 44 22.6 C
	Ud	iP		15 44 52.1 C

Aleutian Islands (h = 15 km).

" 25

	Up	iP		15 52 09.2 C
		ipP		15 52 20.8
		iS		16 00 59
			micr	sec
		P	Z' 0.5	1.0
		Mx	E 6.5	21
		Mx	N 7.9	22
		Mx	Z 11	19
	Ki	iP		15 51 15.3 C
		iS		15 59 19
			micr	sec
		P	Z' 0.4	1.0
		Mx	E 12	17
		Mx	N 11	20
		Mx	Z 18	20
	Sk	iP		15 51 49.8 C
		ipP		15 52 02.0
	Um	iP		15 51 41.6 C
		iS		16 00 08
	Ud	iP		15 52 10.9 C
		ipP		15 52 22.8
	De	iP		15 52 32.8 C
		ipP		15 52 44.7

Aleutian Islands.
h = 45 km (Up,Sk,Ud,De).
m = 6.6, M = 6.1 (Up,Ki).

1971 July 25

	Up	iP		15 53 15.8
			micr	sec
		P	Z' 0.2	1.0
	Ki	iP		15 52 23.4
			micr	sec
		P	Z' 0.2	0.8
	Um	iP		15 52 49.3
	Ud	iP		15 53 17.4
	De	iP		15 53 40.5

Aleutian Islands.
Origin time = 15 42 28.
m = 6.3 (Up,Ki).

" 25

	Up	ipP		16 02 04.1
			micr	sec
		pP	Z' 0.1	1.0
	Ki	iP		16 01 00.2
		ipP		16 01 09.6
			micr	sec
		pP	Z' 0.1	1.0
	Sk	eP		16 01 35
		ipP		16 01 44.6
	Um	ipP		16 01 37.5
	Ud	iP		16 01 56.0
		ipP		16 02 05.7

Aleutian Islands.
h = 35 km (Ki,Sk,Ud).
m = 5.9 (Up,Ki).

" 25

	Up	eP		16 06 55
		ipP		16 07 04.3
	Ki	iP		16 06 01.4
		ipP		16 06 10.9
			micr	sec
		pP	Z' 0.1	1.0
	Sk	epP		16 06 47
	Um	ipP		16 06 36.8
	Ud	iP		16 06 57.1
		ipP		16 06 06.6
	De	epP		16 07 27.1

Aleutian Islands.
h = 35 km (Up,Ki,Ud).
In both this and the preceding case, the pP-waves have larger amplitudes than the P-waves; an alternative explanation could be in terms of multiple P-waves.

" 25

	Up	ePKP	16 24 55
	Ki	iPKP	16 24 39.1
		iSKP	16 27 17.3
	Sk	ePKP	16 24 50
		iSKP	16 27 36.7

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 25 (cont.)

	Um	iSKP	16 27 32.1	
	Ud	e(PKP)	16 24 44	
		iPKP	16 24 56.4	
		iSKP	16 27 46.5	
	De	e(PKP)	16 24 56	
		iPKP	16 25 03.6	
		iSKP	16 27 57.7	

Fiji Islands (h = 450 km).

" 25	Up	iP	16 50 10.9	
	Ki	eP	16 49 23	
	Sk	eP	16 50 00	
	Ud	iP	16 50 16.5	C

Kurile Islands.

" 25	Ud	ePKP	17 03 19	

New Ireland (h = 50 km).

" 25	Up	iP	17 20 43.3	
		ipP	17 20 57.0	
	Ki	iP	17 20 24.4	
		ipP	17 20 38.0	
			micr sec	
		pP Z'	0.1 1.0	
	Um	iP	17 20 31.3	
	Ud	iP	17 20 51.7	
		ipP	17 21 06.5	

Philippine Islands.
h = 50 km (Up,Ki,Ud).

" 25	Ki	iP	18 23 23.7	
	Ud	iP	18 24 17.8	

Aleutian Islands (h = 35 km).

" 25	Ki	eP	18 36 34	
	Ud	iP	18 37 27.6	
	De	iP	18 37 50.4	

Aleutian Islands (h = 80 km).

" 25	Ud	iP	20 15 52.8	

Albania-Yugoslavia.

" 25	Up	iP	21 00 41.9	
			micr sec	
		P Z'	0.1 1.0	
	Ki	iP	20 59 49.3	
	Sk	eP	21 00 24	
	Um	iP	21 00 15.5	
		i	21 00 27.4	
	Ud	iP	21 00 44.5	
	De	iP	21 01 06.4	

Aleutian Islands (h = 25 km).

1971 July 25

	Ud	iP	21 39 28.4	

Mindanao.

" 25	Um	iPKP	22 43 01.3	
	Ud	iPKP	22 43 09.7	
	De	iPKP	22 43 15.3	

New Ireland (h = 35 km).

" 25	Up	eP	23 31 50	
	Ki	iP	23 30 56.5	
	Um	iP	23 31 22.4	
	Ud	iP	23 31 51.1	
	De	eP	23 32 13	

Aleutian Islands (h = 25 km).

" 25	Up	eP	23 58 07	
	Ki	iP	23 57 12.8	
	Sk	eP	23 57 46	
	Ud	iP	23 58 06.3	

Aleutian Islands (h = 35 km).

" 26	Up	iP	01 38 11	
		i	01 38 17.6	
		iPKP	01 42 00.2	
		i	01 42 07.4	
		iPP	01 43 00	
		iSKS	01 48 46	
		iPKKP	01 52 34.0	
			micr sec	
		P Z'	0.2 1.5	
		Mx E	260 23	
		Mx N	280 21	
		Mx Z	320 19	
	Ki	iP	01 37 45	C
		i	01 37 47.8	
		iPP	01 42 21	
		iPKKP	01 53 00.7	
			micr sec	
		P Z'	0.2 1.0	
		Mx E	280 19	
		Mx N	250 22	
		Mx Z	400 19	
	Sk	iP	01 38 09.4	
		iPKP	01 42 00.1	
		iPKKP	01 52 43.7	
	Um	iP	01 37 55.5	
		i	01 37 59.6	
		iPKP	01 41 53.4	
		iPP	01 42 35	
		iPKKP	01 52 51.5	
	Ud	iP	01 38 20.4	
		ePKP	01 42 04	
		iPKKP	01 52 35.4	

New Ireland (h = 50 km).
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 26 (cont.)
m = 7.7, M = 8.0 (Up,Ki).
PP on LP-records is preceded by smaller oscillations for all these cases, probably due to early PP.
An earthquake of comparable magnitude (M) occurred in the same area on July 14 at 06 11.

" 26

Up	iP		01 56 18.7	
			micr	sec
	P	Z'	0.6	1.2
Ki	iP		01 56 16.3	
			micr	sec
	P	Z'	0.7	1.5
Sk	iP		01 56 41.0	
Um	iP		01 56 12.3	
Ud	iP		01 56 36.6	

Sinkiang (h = N).
m = 6.2 (Up,Ki).

" 26

Up	eP	02 08 44
Ki	iP	02 08 13.4

New Ireland (h = N).

" 26

Up	iPKP	02 21 25.3
Ki	ePKP	02 21 13
Um	iPKP	02 21 19.1
Ud	iPKP	02 21 27.2
De	iPKP	02 21 27.5

New Ireland.
Origin time = 02 02 46.

" 26

Up	iP	02 23 02.4
	i	02 23 16.6

North Atlantic Ocean.

" 26

Up	iPKP	02 43 37.1
Ki	iPKP	02 43 25.7
Sk	iPKP	02 43 36.4
Um	iPKP	02 43 31.0
Ud	iPKP	02 43 40.1
De	ePKP	02 43 45

New Britain (h = N).

" 26

Up	iP		02 47 15.6	
Ki	iP		02 47 16.4	C
			micr	sec
	P	Z'	0.1	0.7
Sk	iP		02 47 39.8	C
Um	iP		02 47 10.3	
Ud	iP		02 47 34.9	C
De	eP		02 47 35	

Sinkiang.
Origin time = 02 39 33.

1971 July 26

Up	ePKP	02 48 18
Ud	iPKP	02 48 23.1
De	iPKP	02 48 28.5

New Britain (h = N).

" 26

Ki	iPKP	03 35 41.9
De	iPKP	03 35 56.5

New Britain (h = N).

" 26

Ud	iPKP	04 37 57.4
De	iPKP	04 38 02.9

New Ireland.

" 26

Up	iPKP	06 47 03.3
	iSKP	06 49 53.8
Ki	ePKP	06 46 54
	iSKP	06 49 29.1
Sk	ePKP	06 47 00
	iSKP	06 49 46.5
Um	iPKP	06 46 57.0
	iSKP	06 49 41.3
De	iPKP	06 47 16.3
	iSKP	06 50 04.6

Tonga Islands.

" 26

De	iPKP	07 11 48.9

New Britain (h = N).

" 26

Up	ePKP		07 18 15	
			micr	sec
	Mx	E	0.9	16
	Mx	N	1.7	19
	Mx	Z	2.9	21
Ki	ePKP		07 18 07	
			micr	sec
	Mx	E	1.6	20
	Mx	N	0.8	19
	Mx	Z	2.0	19
Sk	ePKP		07 18 10	
Um	iPKP		07 18 07.0	
Ud	ePKP		07 18 15	
De	ePKP		07 18 19	

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

De	iPKP	09 25 54.9

New Britain (h = N).

" 26

Up			micr	sec
	Mx	E	0.9	19
	Mx	N	1.6	22
	Mx	Z	1.5	19
Ki			micr	sec
	Mx	E	1.0	18
	Mx	N	0.7	18
	Mx	Z	2.0	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 26 (cont.)

	Ud	iPKP		09 53 32.6
	De	iPKP		09 53 38.6

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

	Ud	ePKP		09 55 54
	De	iPKP		09 56 00.1

New Britain (h = N).

" 26

Up			micr	sec
	Mx	E	0.7	18
	Mx	N	1.4	20
	Mx	Z	1.5	19
Ki			micr	sec
	Mx	E	1.3	18
	Mx	N	0.6	17
	Mx	Z	1.2	17
Ud	ePKP		11 15 23	
De	iPKP		11 15 28.5	

New Ireland (h = N).
M = 5.7 (Up,Ki).

" 26

Um	iP		12 23 06.5

" 26

Up	ePKP		12 23 36
Ki	ePKP		12 23 28
Um	iPKP		12 23 32.1
Ud	iPKP		12 23 40.6
De	iPKP		12 23 45.5

New Britain (h = N).

" 26

Ud	iP		13 14 47.7

" 26

Ki			micr	sec
	Mx	E	0.7	18
De	iPKP		13 15 37.2	

New Britain (h = N).

" 26

Ud	iSgl		13 24 43.7

" 26

Up	iPKP		15 54 18.4	
			micr	sec
	Mx	E	2.7	20
	Mx	N	2.8	22
	Mx	Z	5.9	19
Ki	iPKP		15 54 05.5	
			micr	sec
	Mx	E	6.8	23
	Mx	N	2.9	20
	Mx	Z	7.5	23
Sk	iPKP		15 54 16.8	
Um	iPKP		15 54 11.8	
Ud	iPKP		15 54 20.2	
De	iPKP		15 54 25.9	

New Britain (h = N).
M = 6.1 (Up,Ki).

1971 July 26

Up	ePKP		17 03 41	
			micr	sec
	Mx	E	0.9	18
	Mx	N	1.4	20
	Mx	Z	2.3	19
Ki	iPKP		17 03 29.9	
			micr	sec
	Mx	E	1.4	19
	Mx	N	1.0	19
	Mx	Z	1.1	18
Sk	iPKP		17 03 40.5	
Um	iPKP		17 03 34.2	
Ud	iPKP		17 03 43.2	
De	iPKP		17 03 47.4	

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

Up			micr	sec
	Mx	E	0.9	18
	Mx	N	1.1	20
	Mx	Z	1.8	19
Ki			micr	sec
	Mx	E	0.8	18
	Mx	N	0.9	18
	Mx	Z	1.6	20
Um	iPKP		18 08 33.6	
Ud	iPKP		18 08 42.7	
De	iPKP		18 08 48.1	

New Ireland (h = N).
M = 5.6 (Up,Ki).

" 26

Up	iP		18 17 16.4
Ki	iP		18 17 14.2 C
Sk	eP		18 17 29
Um	iP		18 17 12.6
Ud	iP		18 17 25.4
De	eP		18 17 25

" 26

Ud	iPKP		19 18 55.5

New Britain (h = N).

" 26

Up			micr	sec
	Mx	E	1.5	20
	Mx	N	2.5	20
	Mx	Z	2.3	19
Ki	iPKP		19 33 59.0	
			micr	sec
	Mx	E	1.6	18
	Mx	N	2.1	22
	Mx	Z	4.5	23
Sk	e(PKP)		19 34 04	
	ePKP		19 34 10	
Um	iPKP		19 34 02.8	
Ud	ePKP		19 34 12	
De	iPKP		19 34 17.4	

New Britain (h = N).
M = 5.9 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
July 26 De iPKP 21 19 24.1
New Ireland (h = 70 km).

" 26 Up Mx 21 24
micr sec
Mx E 0.9 19
Mx N 0.7 19
Mx Z 0.8 19
Ki Mx 21 21
micr sec
Mx Z 1.1 18
New Ireland (h = N).

" 26 Up iP 21 27 58.6
i 21 28 16.7

" 26 Ud iP 22 28 57.6
De iP 22 28 23.4

" 26 Up iP 23 20 05.7
ipP 23 20 26.6
Ki iP 23 19 26.9
Sk iP 23 20 00.5
Um iP 23 19 43.6 C
Ud iP 23 20 12.3
ipP 23 20 33.9
De iP 23 20 26.6
Japan.
h = 80 km (Up,Ud).

" 27 Up micr sec
Mx E 0.9 18
Mx N 0.9 20
Mx Z 1.5 19
Ki micr sec
Mx E 0.8 18
Mx N 0.6 18
Mx Z 1.1 18
Um iPKP 00 40 59.0
Ud iPKP 00 41 08.3
De iPKP 00 41 12.4
i 00 41 27.6
New Britain (h = N).
M = 5.5 (Up,Ki).

" 27 Ud iP 00 52 28.7

" 27 Ud iPKP 01 22 58.2
De iPKP 01 23 02.6
New Ireland (h = 70 km).

" 27 Up iP 02 15 58.8 D
i 02 16 10.9
iPP 02 19 52.0
iSKS 02 26 21
(cont.)

1971
July 27 (cont.)
Up iPS 02 28 24.9
iP'P' 02 41 03.5
iX2 02 41 44.3
micr sec
P Z' 0.8 1.5
Mx E 34 22
Mx N 25 22
Mx Z 52 20
Ki iP 02 15 59.5
iPP 02 19 55.1
iSKS 02 26 30
iPKKP 02 32 56.6
iX1 02 33 33.0
iP'P' 02 41 06.2
iX2 02 41 39.6
micr sec
P Z' 1.0 1.7
Mx E 18 19
Mx N 9.8 19
Mx Z 22 22
Sk iP 02 15 45.8
iPP 02 19 28.0
iPKKP 02 33 04.5
iX1 02 33 40.4
iP'P' 02 41 10.9
iX2 02 41 49.8
Um iP 02 16 01.1
iPP 02 19 55.8
iSKS 02 26 30
iPKKP 02 32 54.5
iX1 02 33 31.1
iP'P' 02 41 05.5
iX2 02 41 35.7
Ud iP 02 15 47.7
iPS 02 27 55.6
iP'P' 02 41 11.3
De iP 02 15 49.1
iPP 02 19 32.1
i 02 26 55.3
iPKKP 02 33 01.4
iX1 02 33 39.2
iP'P' 02 41 06.9
iX2 02 41 41.7
Peru-Ecuador (h = 140 km).
m = 6.9, M = 6.8 (Up,Ki).
The phases X1 and X2 are in average about 36 sec delayed with respect to PKKP and P'P', respectively, suggesting that they could be the corresponding depth phases, pPKKP and pP'P'.

" 27 Up iP 03 28 34.0
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 27 (cont.)

Ki	iP	03 27 41.0	
Sk	eP	03 28 13	
Um	iP	03 28 06.6	
Ud	iP	03 28 35.9	
De	iP	03 29 06.1	

Aleutian Islands (h = 40 km).

" 27

Up	iPKP	04 22 44.9	
Um	iPKP	04 22 37.4	
Ud	iPKP	04 22 47.6	
De	iPKP	04 22 54.0	

New Britain (h = 55 km).

" 27

Up	Mx	04 23	
		micr	sec
	Mx E	1.8	19
	Mx N	1.7	19
	Mx Z	2.0	19

New Britain (h = 45 km).

" 27

Ki	iSgl	05 21 40.8
Sk	eSgl	05 22 15
Um	iSgl	05 20 24.0
Ud	eSn	05 21 10
	iSgl	05 21 56.7
De	eSgl	05 22 43

Lake Ladoga, 61.3°N, 30.4°E.
Origin time = 05 17 36.
Explosion.

" 27

Ud	ePKP	05 52 42
De	iPKP	05 52 47.6

New Britain (h = N).

" 27

Ki	iP	06 19 07.4
Ud	iP	06 18 39.0
De	iP	06 18 21.4

" 27

De	ePKP	06 50 36

New Britain (h = N).

" 27

Up		micr	sec
	Mx E	1.1	19
	Mx N	1.0	18
	Mx Z	2.0	19
Ki		micr	sec
	Mx E	1.6	18
	Mx N	0.9	18
	Mx Z	1.2	17
Ud	ePKP	07 54 28	
De	iPKP	07 54 31.5	

New Britain (h = 40 km).
M = 5.7 (Up,Ki).

1971 July 27

Ki	Mx	08 04	
		micr	sec
	Mx E	0.8	16
	Mx N	0.6	18
	Mx Z	1.0	17

New Britain (h = 35 km).

" 27

Ki	iPn	09 01 49.5
	iSn	09 02 35.6
	iS*	09 02 48.5
Sk	eSgl	09 05 33
Um	iSgl	09 04 24.5
Ud	iSgl	09 06 54.6

Northwest Russia-Norway border region, 69.7°N, 30.1°E.
Origin time = 09 00 49.
Explosion.

" 27

Up		micr	sec
	Mx Z	0.8	19
De	iPKP	09 37 22.3	

New Britain (h = N).

" 27

Up	iSgl	12 03 42.9
Ki	eSgl	12 06 09
Sk	eSgl	12 05 36
Um	iSgl	12 04 16.1
Ud	iSgl	12 04 45.5
De	iSgl	12 05 11.8

Esthonia, 59.5°N, 25.0°E.
Origin time = 12 01 44.
Explosion.

" 27

De	i(P)	12 11 21.8

" 27

Ud	i(Sgl)	12 37 34.1
De	i(Sgl)	12 37 53.9

" 27

Up	iP	12 56 21.1	
	iPP	12 57 57.8	
		micr	sec
	Mx E	0.7	14
	Mx N	0.5	9
	Mx Z	0.9	14
Ki	iP	12 56 18.8	
		micr	sec
	Mx E	0.4	9
	Mx N	0.7	12
	Mx Z	0.7	14
Sk	iP	12 56 42.1	
	iPP	12 58 25.6	
Um	iP	12 56 14.8	
	i	12 56 18.5	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 27 (cont.)

	Um	iPP	12 57 47.9
	Ud	iP	12 56 37.6
		i	12 56 42.3
		iPP	12 58 17.4
	De	iP	12 56 38.0
		iPP	12 58 23.7

Sinkiang.
M = 4.9 (Up,Ki).

" 27

	Ud	iPKP	13 01 33.6

New Britain (h = N).

" 27

	Up	iSgl	13 20 31.1
	Ud	iSgl	13 20 35.4
	De	iPgl	13 18 31.0
		iSgl	13 18 48.3

Baltic Sea, south of Sweden, 55.5°N, 15.0°E.
Origin time = 13 18 10.
Explosion.

" 27

	Up	iSgl	13 20 40.1
	Ud	iSgl	13 20 44.6
	De	iPgl	13 18 40.1
		iSgl	13 18 57.1

Baltic Sea, south of Sweden, 55.5°N, 15.5°E.
Origin time = 13 18 19.
Explosion.

" 27

	De	ePKP	13 37 30

New Britain (h = N).

" 27

	Ud	i(P)	13 38 10.1

" 27

	De	ePKP	13 50 38

New Britain (h = N).

" 27

	Ud	i(P)	13 56 19.5

" 27

	Um	iSgl	14 02 52.0

Esthonia.
Explosion.

" 27

	De	iPKP	14 21 11.7

New Britain (h = 55 km).

" 27

	Ud	i(P)	14 22 17.3

" 27

	Up	iP		14 36 54.0
		ipP		14 37 14.2
		iS		14 46 17
			micr	sec
		P	Z' 0.1	1.0

(cont.)

1971 July 27 (cont.)

Up			micr	sec
	Mx	E	3.1	20
	Mx	N	4.3	20
	Mx	Z	4.1	20
Ki	iP			14 36 52.5
	iS			14 46 15
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	4.9	18
	Mx	N	7.4	23
	Mx	Z	6.1	18
Sk	iP			14 37 09.3
	ipP			14 37 30.0
Um	iP			14 36 48.7
	ipP			14 37 08.7
	iS			14 46 08
Ud	iP			14 37 05.7
De	iP			14 37 05.2
	i			14 37 29.6

Andaman Islands.
h = 80 km (Up,Sk,Um).
m = 5.7, M = 5.9 (Up,Ki).

" 27

	De	e(P)	18 05 32

" 27

	Up	iPKP		18 27 19.7
			micr	sec
	Mx	Z	0.6	17
	Ki	ePKP		18 27 07
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.5	19
	Mx	Z	0.8	17
	Sk	ePKP		18 27 18
	Um	iPKP		18 27 12.5
	Ud	iPKP		18 27 21.2
	De	iPKP		18 27 26.1

New Britain (h = 45 km).

" 27

	Ud	iP	19 24 20.9

Ionian Islands.

" 27

	Up	iP	20 39 49.6
	Sk	eP	20 39 28
	Ud	iP	20 39 50.5 C

Aleutian Islands (h = 40 km).

" 27

	Up	iP	20 46 24.2
	Ud	iP	20 46 24.9
	De	eP	20 46 48

Hudson Bay.

" 27

	Up	eP	21 02 53
		iPKP	21 06 35.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	27	(cont.)				
		Up	ipPKP		21 06 47.8	
			iPKKP		21 17 10.1	
					micr	sec
			Mx	E	4.3	19
			Mx	N	6.4	22
			Mx	Z	8.1	20
		Ki	eP		21 02 29	
			iPKP		21 06 28.0	
			iSKS		21 13 03	
					micr	sec
			Mx	E	6.3	23
			Mx	N	4.7	21
			Mx	Z	6.1	21
		Sk	iPKP		21 06 35.8	
		Um	eP		21 02 44	
			iPKP		21 06 29.6	
			i		21 06 38.5	
			i		21 07 05.5	
			iPKKP		21 17 27.8	
		Ud	iP		21 03 00.1	
			iPKP		21 06 39.2	
			ePKKP		21 17 08	
		De	iPKP		21 06 43.3	
			ipPKP		21 06 55.9	
			iPKKP		21 17 02.7	
		New Ireland.				
		h = 45 km (Up,De).				
		M = 6.3 (Up,Ki).				
"	27	De	i(P)		21 15 09.7	
"	27	Up	Mx		23 11	
					micr	sec
			Mx	E	1.0	18
			Mx	N	0.9	17
		Ki	Mx		23 14	
					micr	sec
			Mx	E	1.3	18
			Mx	N	0.9	18
			Mx	Z	1.7	18
"	27	Up			micr	sec
			Mx	N	0.8	19
			Mx	Z	1.3	19
		Ki	ePKP		23 53 50	
					micr	sec
			Mx	E	1.4	19
			Mx	N	0.5	17
			Mx	Z	1.3	18
		Sk	ePKP		23 54 01	
		Um	iPKP		23 53 54.3	
		Ud	ePKP		23 54 06	
		De	iPKP		23 54 08.3	
		New Britain (h = N).				
		M = 5.6 (Up,Ki).				

1971 July	27	Um	i(P)		23 57 07.7	
"	28	Um	iPKP		00 34 33.8	
		Ud	ePKP		00 34 42	
		De	ePKP		00 34 43	
		New Britain (h = 55 km).				
"	28	Up	eP		01 25 15	
			i		01 25 25.2	
			iPKP		01 29 05.9	
			iSKS		01 35 53	
			iSKKS		01 37 02	
			iPKKP		01 39 36.4	
					micr	sec
			PKP	Z'	0.1	1.4
			Mx	E	6.1	21
			Mx	N	5.4	20
			Mx	Z	9.0	18
		Ki	iP		01 24 51.7	
			iPKP		01 28 50.2	
			iSKS		01 35 29	
			iSKKS		01 36 26	
					micr	sec
			PKP	Z'	0.1	1.3
			Mx	E	9.5	21
			Mx	N	7.0	22
			Mx	Z	10	19
		Sk	eP		01 25 26	
			iPKP		01 29 08.3	
			ePKKP		01 39 41	
		Um	iP		01 25 02.7	
			i		01 25 10.5	
			iPKP		01 28 59.6	
			iSKS		01 35 38	
		Ud	eP		01 25 21	
			i		01 25 29.7	
			iPKP		01 29 08.8	
			iPKKP		01 39 37.0	
		De	iPKP		01 29 12.8	
		New Britain (h = N).				
		M = 6.4 (Up,Ki).				
"	28	Up	iP		01 43 09.9	
"	28	Ud	i(P)		02 02 25.1	
"	28	Ud	iPKP		02 48 14.9	
			iSKP		02 51 31.8	
		Fiji Islands (h = 410 km).				
"	28	Ud	iP		02 51 00.8	
		Kurile Islands.				
"	28	Um	iPKP		03 06 02.5	
		New Britain (h = 60 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	28	Up	iP	04 45 45.0	
		Ki	iP	04 44 51.8	
		Sk	eP	04 45 26	
		Um	iP	04 45 17.6	
		Ud	iP	04 45 46.9	
		Aleutian Islands (h = 55 km).			
"	28	Um	iP	06 00 37.3	
"	28	Up	iPKP	06 01 51.9	
		Um	iPKP	06 01 52.0	
		Ud	i(PKP)	06 01 52.0	
			iPKP	06 01 54.7	
			iSKP	06 04 46.3	
		De	iPKP	06 02 04.0	
		Fiji Islands (h = 550 km).			
"	28	Ud	i(P)	06 32 03.6	
		De	i(P)	06 32 14.8	
"	28	Um	i(P)	08 04 01.7	
"	28	Up		micr	sec
			Mx E	0.7	18
			Mx N	0.6	18
			Mx Z	1.0	19
		Ki		micr	sec
			Mx E	0.6	17
			Mx N	0.4	16
			Mx Z	0.7	16
		De	iPKP	08 07 44.2	
		New Britain (h = N).			
		M = 5.4 (Up,Ki).			
"	28	Up		micr	sec
			Mx Z	0.6	19
		Ki		micr	sec
			Mx E	0.5	16
		De	ePKP	10 15 51	
		New Britain (h = 40 km).			
"	28	Up	Mx	11 30	
				micr	sec
			Mx Z	0.5	16
		New Britain (h = N).			
"	28	Up	iSgl	13 28 36.8	
		Ki	eSgl	13 30 32	
		Sk	eSgl	13 30 18	
		Um	iSgl	13 28 52.4	
		Ud	iSgl	13 29 35.5	
		De	iSgl	13 30 02.3	
		Western Russia,			
		59.3°N, 27.8°E.			
		Origin time = 13 25 52.			
		Explosion?			

1971 July	28	Ki	ePKP	14 21 19
		Ud	iPKP	14 21 34.5
		De	iPKP	14 21 39.1
		New Britain (h = 35 km).		
"	28	Up	eSgl	14 57 25
		Ki	eSgl	14 56 25
		Sk	iPgl	14 54 26.0
			iSgl	14 55 06.7
		Um	iSn	14 56 05.9
			iSgl	14 56 37.4
		Ud	iSn	14 56 17.7
			iSgl	14 56 48.0
		Norwegian Sea,		
		65.7°N, 7.4°E.		
		Origin time = 14 53 33.		
"	28	Ud	i(Sgl)	15 09 15.5
		De	e(Sgl)	15 09 55
"	28	Up	iSgl	15 15 40.7
		Sk	ePgl	15 12 37
			iSgl	15 13 18.8
		Um	i	15 15 01.9
		Ud	eSgl	15 14 57
		Probably Norwegian Sea,		
		from the same focal area		
		as the event on July 28,		
		14 53 33.		
"	28	Ud	i(P)	15 27 20.1
"	28	Ud	iP	15 47 01.0
"	28	Up	iPKP2	15 55 19.3
		Ki	ePKP2	15 55 16
		Um	iPKP2	15 55 21.8
		Ud	iPKP2	15 55 38.4
		De	iPKP2	15 55 39.2
		Macquarie Islands (h = N).		
"	28	Ud	e(Sgl)	17 29 00
		De	i(Pgl)	17 26 44.3
			i(Sgl)	17 27 24.6
"	28	Ud	ePKP	18 03 32
		New Britain (h = N).		
"	28	De	e(Sgl)	18 22 52
"	28	Up	iS*	18 58 39.9
			iSgl	18 58 45.4
		Sk	eSgl	19 00 03
		Um	iSgl	18 58 16.6
		Ud	iSgl	18 59 44.3
		Lake Ladoga.		
		Explosion.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	28	Up	iSgl	19 29 27.5	
		Sk	eSgl	19 32 43	
		Um	iSgl	19 31 06.7	
		Ud	iSgl	19 30 27.2	
		Baltic Sea, off coast of Esthonia, 58.3°N, 21.8°E.			
		Origin time = 19 28 11.			
		Explosion.			
"	28	Ki	e(P)	20 45 45	
"	28	Up	iP	21 34 13.6	
		Ud	iP	21 34 20.4	
		De	iP	21 33 45.7	
		Greece.			
"	28	Up	iPgl	23 25 33.1	C
			iSgl	23 26 02.7	
			eRg	23 26 16	
		Ki	iSgl	23 27 55.7	
		Sk	ePgl	23 25 41	
			iSgl	23 26 16.8	
		Um	iPgl	23 25 30.1	
			iSgl	23 25 58.1	
		Ud	ePgl	23 25 40	
			iSgl	23 26 14.0	
		De	eSgl	23 27 56	
		Medelpad-Hälsingland, Sweden, 62.1°N, 17.3°E.			
		Origin time = 23 24 54.			
		Felt.			
"	29	Ki	eP	01 15 29	
		Um	iP	01 16 10.0	
		Ud	iP	01 16 46.6	
		Arctic Ocean.			
"	29	Ud	iP	03 00 43.7	
"	29	Ud	iP	05 43 38.5	
		Japan.			
"	29	Um	e(PKP)	09 16 35	
		Ud	ePKP	09 16 36	
		De	iPKP	09 16 41.2	
		New Britain (h = N).			
"	29	Up	iPKP	09 28 17.7	
		Sk	ePKP	09 28 04	
		Um	ePKP	09 27 59	
		Ud	iPKP	09 28 10.8	
		South of Kermadec Islands.			
"	29	Up	iP	10 29 41.5	
		Sk	eP	10 30 16	
		(cont.)			
1971 July	29	(cont.)			
		Um	eP	10 30 27	
		Italy (h = N).			
"	29	Um	iPKP	10 37 10.3	
		De	iPKP	10 37 25.1	
		New Ireland (h = 45 km).			
"	29	Ud	i(Sgl)	11 40 47.5	
		De	i(Pgl)	11 38 32.8	
			e(Sgl)	11 39 08	
		Southern Baltic Sea.			
		Explosion.			
"	29	De	i(Pgl)	12 24 31.5	
			e(Sgl)	12 25 04	
"	29	Up	i(P)	13 15 36.5	
"	29	Up	iP	13 40 12.3	
		Ud	eP	13 40 25	
"	29	De	iPKP	14 20 01.6	
		New Ireland (h = 70 km).			
"	29	Um	iPKP	15 04 08.2	
		De	ePKP	15 04 22	
		New Britain (h = 60 km).			
"	29	Ud	e(Pgl)	15 12 25	
			i(Sgl)	15 12 48.1	
"	29	Ud	eP	16 22 38	
		Aleutian Islands (h = 40 km).			
"	29	Up	e(PKP)	16 37 23	
		Sk	iPKP	16 37 12.1	
		Um	iPKP	16 37 07.3	
			iPKP2	16 37 22.2	
		Ud	iPKP	16 37 18.9	
		De	iPKP	16 37 22.7	
		South of Kermadec Islands (h = 15 km).			
"	29	Ki	eSgl	18 03 08	
		Sk	eSgl	18 03 13	
		Um	iSgl	18 03 35.7	
		Nordland, Norway, 66.5°N, 14.1°E.			
		Origin time = 18 01 39.			
		Explosion.			
"	29	Um	iP	19 45 29.4	C
		Ud	iP	19 45 09.8	C
		De	iP	19 44 36.1	
		Turkey.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	29	Ud	eP		22 10 46	
		Greece.				
"	29	Up	iP		22 29 07.6	C
			i(PP)		22 31 25.1	
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	0.8	20
			Mx	N	0.8	18
			Mx	Z	1.2	18
		Ki	iP		22 28 14.4	C
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	1.1	16
			Mx	N	1.0	19
			Mx	Z	2.2	20
		Sk	iP		22 28 48.3	C
			ipP		22 28 59.0	
			i(PcP)		22 29 16.2	
		Um	iP		22 28 40.1	C
			iS		22 37 06	
		Ud	iP		22 29 09.6	C
			ipP		22 29 19.8	
		De	iP		22 29 31.4	C
			ipP		22 29 41.5	
		Aleutian Islands.				
		h = 40 km (Sk,Ud,De).				
		m = 6.4, M = 5.1 (Up,Ki).				
"	29	Um	iP		22 40 04.5	
		Ud	iP		22 39 35.6	
"	29	Up	ePKP		23 12 59	
		Um	iPKP		23 13 06.2	
		Ud	iPKP		23 12 56.1	
		South Sandwich Islands				
		(h = N).				
"	30	Up	iP		00 18 09.8	
			ipP		00 18 18.4	
					micr	sec
			pP	Z'	0.1	1.1
		Ki	iP		00 17 16.5	
			i		00 17 36.6	
		Sk	eP		00 17 48	
		Um	iP		00 17 42.1	
			ipP		00 17 53.2	
		Ud	iP		00 18 11.4	
			ipP		00 18 21.2	
		Aleutian Islands.				
		h = 40 km (Up,Um,Ud).				
"	30	Ud	iP		01 49 08.9	
"	30	Up	iP		03 18 54.4	
		(cont.)				

1971 July	30	(cont.)				
		Um	iP		03 18 26.9	
		Ud	iP		03 18 56.0	
"	30	Up	eP		04 11 34	
		Ki	iP		04 11 18.7	
					micr	sec
			P	Z'	0.1	1.0
		Sk	eP		04 11 40	
		Um	iP		04 11 24.0	
		Ud	iP		04 11 43.1	
		Halmahera (h = 50 km).				
"	30	Up	iP		05 22 27.4	
		Sk	eP		05 22 19	
		Um	eP		05 22 15	
		Ud	iP		05 22 29.0	
		De	iP		05 22 37.8	
			i		05 22 44.2	
"	30	Up	iP		06 31 02.4	
"	30	Up	iPKP		06 36 51.0	
					micr	sec
			Mx	E	1.3	23
			Mx	N	1.2	22
			Mx	Z	1.4	20
		Ki	iP		06 32 33.7	
			iPKP		06 36 39.6	
					micr	sec
			Mx	E	1.2	20
			Mx	N	0.9	21
			Mx	Z	1.4	20
		Sk	ePKP		06 36 48	
		Um	iPKP		06 36 43.5	
			iPP		06 37 26.3	
		Ud	iPKP		06 36 53.1	
		De	iPKP		06 36 58.1	
		New Britain (h = 40 km).				
		M = 5.7 (Up,Ki).				
"	30	Ud	iP		10 44 40.6	
		Kurile Islands.				
"	30	Ki	iPn		10 51 13.1	
			iSn		10 52 11.9	
		Sk	eSgl		10 55 00	
		Um	iSn		10 52 51.6	
			iSgl		10 53 26.5	
		Ud	eSgl		10 56 00	
		Northwest Russia,				
		67.8°N, 34.0°E.				
		Origin time = 10 49 55.				
		Explosion.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	30	Um	iP		12 06 58.7	
		Japan (h = 35 km).				
"	30	Ud	iP		12 21 33.2	
		Hindu Kush.				
"	30	Ki	iP		13 13 40.9	
		Ud	iP		13 12 46.1	
		Turkey.				
"	30	Um	e(P)		13 31 01	
"	30	Up	iPP		13 43 31.4	
				micr	sec	
			Mx	E 0.6	16	
			Mx	N 0.7	19	
			Mx	Z 1.2	18	
		Ki		micr	sec	
			Mx	E 0.8	18	
			Mx	N 0.5	16	
			Mx	Z 1.1	18	
		De	iPKP		13 42 46.5	
		New Britain (h = N).				
		M = 5.4 (Up,Ki).				
"	30	Ki	i(P)		16 44 58.3	
"	30	Um	i(P)		18 49 11.9	
"	30	Up	eP		20 20 58	
		Ki	iP		20 20 54.4	
				micr	sec	
			Mx	E 0.3	11	
			Mx	N 0.3	13	
			Mx	Z 0.4	10	
		Sk	eP		20 21 20	
		Um	iP		20 20 51.2	
		Ud	iP		20 21 16.6	
		De	eP		20 21 19	
		Kirghiz-Sinkiang (h = N).				
"	30	Up		micr	sec	
			Mx	E 0.7	18	
			Mx	N 0.6	18	
			Mx	Z 0.7	18	
		Ki		micr	sec	
			Mx	E 0.7	18	
			Mx	N 0.4	16	
			Mx	Z 0.8	17	
		Sk	iPKP		21 05 36.7	
		New Ireland (h = N).				
		M = 5.4 (Up,Ki).				
"	31	Um	i(P)		00 23 34.3	
"	31	Ki	e(P)		05 07 41	
		Ud	i(P)		05 08 42.0	
1971 July	31	Ud	i(PKP)		09 14 51.9	
		De	e(PKP)		09 15 03	
"	31	Ki	i(Sn)		10 34 44.7	
			i(Sgl)		10 35 00.9	
		Northwest Russia.				
		Explosion.				
"	31	Ki	iSn		13 13 17.2	
			iSgl		13 13 36.6	
		Sk	eSgl		13 16 00	
		Um	i		13 13 58.1	
			iSgl		13 14 27.0	
		Northwest Russia.				
		Explosion.				
"	31	De	iPKP		15 36 47.9	
		New Britain (h = 35 km).				
"	31	Um	e(P)		18 53 15	
"	31	Up	iP		19 09 02.1	
"	31	Up	iP		19 09 43.0	
		Ki	e(P)		19 09 35	
		Sk	iP		19 09 58.6	
		Um	iP		19 09 29.8	
			i		19 09 38.7	
		Ud	iP		19 09 58.9	
		De	eP		19 10 04	
		Sinkiang.				
"	31	Ud	iPKP		21 40 54.8	
		De	iPKP		21 41 06.1	
		New Britain.				
"	31	Ki	iP		22 15 55.5	
		Ud	iP		22 16 06.5	
		Hindu Kush.				
"	31	Up		micr	sec	
			Mx	Z 0.7	20	
		Um	iPKP		22 27 32.5	
		Ud	iPKP		22 27 23.5	
		Chile (h = 45 km).				
"	31	Ud	ePKP		23 34 40	
		New Britain (h = 30 km).				

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January 18, 1974

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E; h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E; h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E; h = 150 m

A U G U S T 1 - 31, 1971

1971							
Aug.	1	Up	iP		02 16 46.9	C	
			iP'P'		02 45 17.1		
					micr	sec	
			Mx	E	1.2	20	
			Mx	N	2.3	21	
			Mx	Z	3.7	21	
		Ki	iP		02 15 55.5	C	
			ipP		02 16 08.5		
					micr	sec	
			P	Z'	0.1	0.6	
			Mx	E	2.0	20	
			Mx	N	1.1	20	
			Mx	Z	1.6	20	
		Sk	iP		02 16 31.9	C	
			ipP		02 16 44.5		
		Um	iP		02 16 19.5	C	
		Ud	iP		02 16 51.3	C	
			ipP		02 17 03.8		
			iP'P'		02 45 17.1		
		De	iP		02 17 11.6		
			ipP		02 17 20.8		
		Kurile Islands.					
		h = 45 km (Ki,Sk,Ud,De).					
		M = 5.4 (Up,Ki).					
"	1	Up	i(P)		03 37 19.0		
		Ud	iP		03 37 12.2		
		De	eP		03 36 39		
		Crete.					
"	1	Um	ePKP		08 40 00		
		Ud	ePKP		08 40 11		
		Solomon Islands					
		(h = 60 km).					
"	1	Up	eP		10 54 47		
			i		10 55 00.2		
		(cont.)					

1971							
Aug.	1	(cont.)					
		Ki	iP		10 55 11.2		
		Um	iP		10 54 55.5		
		Ud	eP		10 54 54		
		De	iP		10 54 43.3		
		Indian Ocean (h = N).					
"	1	Um	ePKP		16 22 17		
			i(pPKP)		16 22 26.2		
		Ud	e		16 22 45		
		De	ePKP		16 22 28		
			i(pPKP)		16 22 41.6		
		New Britain (h = N).					
"	1	Up	iP		19 06 12.0		
		Ki	e(P)		19 05 37		
			e		19 05 55		
		Um	iP		19 05 49.0		
			e		19 06 11		
		Ud	iP		19 06 17.3		
		Kurile Islands (h = N).					
"	1	Up	iP		20 32 50.0		
		Um	iP		20 32 25.6		
		Ud	iP		20 32 56.4		
		Japan (h = 55 km).					
"	1	De	i(P)		21 03 54.7		
"	1	Up			micr	sec	
			Mx	Z	0.8	19	
		Ki			micr	sec	
			Mx	E	0.7	18	
			Mx	N	0.5	18	
			Mx	Z	0.9	18	
		Um	iPKP		22 08 19.2		
		De	iPKP		22 08 30.4		
		New Britain (h = 40 km).					

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971							
Aug.	2	Up	iPKP		00 38 34.2		
					micr	sec	
			Mx	E	1.0	17	
			Mx	N	1.3	18	
			Mx	Z	1.5	16	
		Ki	iP		00 34 20.4		
			i		00 35 20.2		
					micr	sec	
			Mx	E	0.8	18	
			Mx	N	0.6	18	
			Mx	Z	1.0	17	
		Um	iPKP		00 38 28.0		
			iSKS		00 45 09		
		Ud	ePKP		00 38 39		
		De	iPKP		00 38 41.6		
		New Britain (h = 35 km).					
		M = 5.6 (Up,Ki).					
"	2	Ki	iPKP		04 41 11.1		
		Um	iPKP		04 41 08.7		
		Ud	iPKP		04 41 00.3		
			iPKKP		04 51 37.8		
		Chile (h = 10 km).					
"	2	Up	iP		07 36 01.6	D	
			iS		07 45 01		
			iP'P'		08 04 05.2		
					micr	sec	
			P	Z'	8.4	1.6	
			Mx	E	160	25	
			Mx	N	250	23	
			Mx	Z	400	24	
		Ki	iP		07 35 19.3	D	
			iS		07 43 45		
			iP'P'		08 04 17.0		
					micr	sec	
			P	Z'	8.5	1.8	
			Mx	E	210	19	
			Mx	N	110	20	
			Mx	Z	160	20	
		Um	iP		07 35 38.3	D	
			iS		07 44 20		
		Ud	iP		07 36 08.8	D	
			iS		07 45 18.5		
			iP'P'		08 04 07.7		
		De	iP		07 36 25.1	D	
			iS		07 45 50.4		
		Japan (h = 50 km).					
		m = 7.6, M = 7.4 (Up,Ki).					
"	2	Ki	iP		09 14 27.1		
		Um	iP		09 14 32.4		
		Ud	eP		09 14 50		
		Molucca Passage (h = N).					

1971							
Aug.	2	Up	iP		13 11 06.4	C	
			ipP		13 11 13.5		
					micr	sec	
			P	Z'	0.1	1.1	
			pP	Z'	0.2	0.8	
			Mx	E	0.9	18	
			Mx	N	1.3	23	
			Mx	Z	1.9	23	
		Ki	iP		13 10 24.2	C	
					micr	sec	
			P	Z'	0.2	1.1	
			Mx	E	1.6	23	
			Mx	N	1.0	23	
			Mx	Z	1.0	17	
		Um	iP		13 10 43.1	C	
			ipP		13 10 48.3		
		Ud	iP		13 11 13.6	C	
			ipP		13 11 18.4		
			i		13 11 29.9		
		De	eP		13 11 31		
			ipP		13 11 37.2		
		Japan.					
		h = 20 km (Up,Um,Ud,De).					
		m = 6.3, M = 5.3 (Up,Ki).					
"	2	De	iPKP		13 15 34.2		
		New Britain (h = N).					
"	2	Um	iP		17 07 11.4		
		Yellow Sea.					
"	2	Up	iP		19 27 24.9	C	
		Ki	iP		19 28 37.8		
		Um	iP		19 28 02.0		
		Ud	iP		19 27 32.1	C	
		De	iP		19 26 56.2		
		South of Greece.					
"	2	Um	ePKP		20 28 38		
			ipPKP		20 28 47.3		
		De	ePKP		20 28 52		
			ipPKP		20 29 01.0		
		New Britain.					
		h = 35 km (Um,De).					
"	3	Up	iP		05 43 13.9		
			ipP		05 43 20.6		
					micr	sec	
			P	Z'	0.1	1.1	
		Ki	iP		05 43 39.3		
			ipP		05 43 46.2		
					micr	sec	
			P	Z'	0.1	1.3	
		Sk	eP		05 43 04		
		Um	iP		05 43 30.0		
		(cont.)					

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971						
Aug.	3	(cont.)				
		Um	ipP	05 43 37.5		
		Ud	iP	05 43 00.4		
		De	iP	05 42 52.7		
			ipP	05 43 00.3		
		North Atlantic Ocean.				
		h = 25 km (Up,Ki,Um,De).				
		m = 5.7 (Up,Ki).				
"	3	Ud	i(P)	07 33 50.6		
"	3	Um	eP	11 31 00		
		Japan (h = 20 km).				
"	3	Up	iP	11 42 30.1	D	
		Ki	iP	11 41 58.4	D	
		Sk	iP	11 42 27.1		
		Um	iP	11 42 12.1	D	
		Ud	iP	11 42 37.0		
		De	iP	11 42 48.7		
		Bonin Islands (h = 400 km).				
"	3	Up	eP	15 44 05		
		Um	iP	15 43 43.0		
		Ud	iP	15 44 12.5		
		De	eP	15 44 27		
		Japan (h = 80 km).				
"	3	Up	iSg1	16 11 07.5		
		Ud	iSg1	16 11 20.4		
		De	iPg1	16 09 05.5		
			eSg1	16 09 46		
		Northern Poland.				
"	3	Up	Mx	17 55		
				micr	sec	
			Mx	N	0.7	20
			Mx	Z	0.5	18
		Ki	Mx	17 52		
				micr	sec	
			Mx	E	0.7	18
			Mx	N	0.7	20
			Mx	Z	1.2	21
		Bismarck Sea (h = 10 km).				
		M = 5.4 (Up,Ki).				
"	3	Um	iP	18 05 13.4		
"	3	Up	iP	21 08 16.7		
			ipP	21 08 23.7		
		Ki	eP	21 08 42		
		Sk	eP	21 08 11		
		Um	eP	21 08 33		
		Ud	iP	21 08 03.5		
		North Atlantic Ocean.				
		h = 25 km (Up).				

1971						
Aug.	3	Um	i(P)	23 04 50.9		
"	4	Up	iP	00 32 00.4	C	
			isP	00 33 06		
			i	00 34 33.8		
			iS	00 37 55		
			isS	00 39 08		
				micr	sec	
			P	Z'	1.6	1.0
			Mx	E	1.6	11
			Mx	N	3.0	13
			Mx	Z	3.2	11
		Ki	iP	00 32 09.5	C	
			iS	00 38 13		
				micr	sec	
			P	Z'	2.0	1.1
			Mx	E	1.6	10
			Mx	N	2.1	8
			Mx	Z	2.4	12
		Sk	iP	00 32 26.0	C	
			iPP	00 34 11.2		
			i	00 35 13.9		
		Um	iP	00 31 58.7	C	
			iS	00 37 53		
			isS	00 39 06		
		Ud	iP	00 32 17.0	C	
			ipP	00 33 03.1		
			isP	00 33 23.2		
		De	iP	00 32 13.0	C	
			iPP	00 34 01.6		
		Hindu Kush.				
		h = 210 km (Up,Ud).				
		m = 6.5, M = 5.5 (Up,Ki).				
		M not corrected for focal depth.				
"	4	Up	Mx	01 06		
				micr	sec	
			Mx	E	1.8	23
			Mx	N	2.6	21
			Mx	Z	2.1	22
		Ki	Mx	01 10		
				micr	sec	
			Mx	E	1.2	15
			Mx	N	1.3	17
			Mx	Z	2.6	18
		Japan (h = 20 km).				
		M = 5.5 (Up,Ki).				
"	4	Up	iP	02 06 26.9	C	
			ipP	02 07 12.1		
		Ki	iP	02 06 36.2	C	
				micr	sec	
			P	Z'	0.1	0.5
		Sk	iP	02 06 52.4	C	
		Um	iP	02 06 25.4	C	
		(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 4 (cont.)

Ud	iP		02 06 43.5	C
	ipP		02 07 29.4	
De	iP		02 06 39.6	

Hindu Kush.
h = 220 km (Up,Ud).

" 4

Ki	iPn		10 51 17.8	
	iSn		10 52 16.6	
	iS*		10 52 35.7	
Sk	eSg1		10 55 07	
Um	i		10 53 12.9	
	iSg1		10 53 31.8	

Northwest Russia,
67.8°N, 34.0°E.
Origin time = 10 50 00.
Explosion.

" 4

Ki	iPn		11 00 32.2	
	iSn		11 01 32.1	
	iS*		11 01 50.2	
Sk	eSg1		11 04 18	
Um	iSg1		11 02 44.9	

Northwest Russia,
67.6°N, 34.3°E.
Origin time = 10 59 12.
Explosion.

" 4

Up	iSg1		12 11 10.7	
	eRg		12 11 27	
Sk	iSg1		12 11 11.7	
Um	iSg1		12 10 52.1	
	iRg		12 11 05.3	

Medelpad, Sweden,
62.4°N, 17.3°E.
Origin time = 12 09 50.

" 4

Up	iP		14 15 59.3	
			micr	sec
	P	Z'	0.1	1.2
Ki	iP		14 16 25.2	
			micr	sec
	P	Z'	0.1	1.2
Sk	eP		14 15 50	
Um	iP		14 16 16.3	
Ud	iP		14 15 41.6	
De	iP		14 15 43.3	

North Atlantic Ocean
(h = N).
m = 5.6 (Up,Ki).

" 4

Up	iP		18 35 02.0	
Ki	iP		18 34 08.7	
Um	iP		18 34 35.4	

(cont.)

1971
Aug. 4 (cont.)

Ud	iP		18 35 01.2	

Aleutian Islands
(h = 35 km).

" 4

Ki			micr	sec
	Mx	E	0.7	19
	Mx	N	0.6	18
	Mx	Z	1.2	19
Um	iPKP2		19 27 38.4	
Ud	iPKP2		19 27 43.9	

Balleny Islands (h = N).

" 4

Up	iP		21 09 02.1	
Ki	iP		21 08 07.2	
	i		21 08 18.3	
			micr	sec
	P	Z'	0.1	0.6
Sk	iP		21 08 44.4	
Um	iP		21 08 32.6	
Ud	iP		21 09 05.5	
De	iP		21 09 27.3	

Kamchatka (h = 90 km).

" 4

Ki	iP		21 36 26.9	

Mindanao.

" 4

Um	iPKP		23 27 26.7	
Ud	i(pPKP)		23 27 57.0	

Kermadec Islands
(h = 60 km).

" 5

Up	iP		02 09 48.3	
	iS		02 18 49	
			micr	sec
	P	Z'	0.5	1.5
	Mx	E	24	21
	Mx	N	79	29
	Mx	Z	70	28
Ki	iP		02 10 29.0	
	iX		02 10 56.4	
			micr	sec
	P	Z'	1.6	2.4
	Mx	E	43	16
	Mx	N	35	19
	Mx	Z	44	18
Sk	iP		02 09 57.2	
	iX		02 10 24.1	
Um	iP		02 10 11.3	
	iS		02 19 36	
Ud	iP		02 09 40.5	
De	iP		02 09 24.5	
	iX		02 09 48.2	

Atlantic Ocean (h = N).
m = 6.6, M = 6.9 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug. 5 Ki i(P) 04 14 18.9
Um e(P) 04 15 12

" 5 Ki eP 05 04 02
micr sec
Mx E 0.9 17
Mx N 0.6 17
Mx Z 2.0 22
Um iP 05 04 02.8
Ud iP 05 04 19.0
Celebes (h = 15 km).

" 5 Ki i(P) 06 13 52.8

" 5 Up iPg1 09 18 00.0
iSg1 09 18 15.5
iRg 09 18 20.8
Ud iSg1 09 19 08.4
De iSg1 09 19 32.2
Off coast of Södermanland, Sweden, 58.9°N, 18.6°E.
Origin time = 09 17 41.
Explosion.

" 5 Up iPg1 09 35 48.7
iSg1 09 36 04.5
iRg 09 36 10.6
De iSg1 09 37 25.3
Off coast of Södermanland, Sweden.
Origin time = 09 35 29.
Explosion.

" 5 Up iPg1 09 51 09.0
iSg1 09 51 24.4
iRg 09 51 29.9
De iSg1 09 52 41.4
Off coast of Södermanland, Sweden.
Origin time = 09 50 50.
Explosion.

" 5 Up iPg1 10 07 45.5
iRg 10 08 05.2
De iSg1 10 09 19.5
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iPg1 10 26 35.1
iSg1 10 26 50.6
iRg 10 26 55.9
Ud iSg1 10 27 47.9
De iSg1 10 28 10.3
Off coast of Södermanland, Sweden, 59.0°N, 18.9°E.
Origin time = 10 26 16.
Explosion.

1971 Aug. 5 Ki eP 10 52 06
Um iP 10 51 49.0
Atlantic Ocean (h = N).

" 5 Up iSg1 11 01 34.7
iRg 11 01 40.3
De iSg1 11 02 58.3
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iSg1 11 03 29.5
iRg 11 03 34.3
De iSg1 11 04 51.3
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iP 11 06 49.5
Ki iP 11 06 02.7
Sk iP 11 06 38.4
Um iP 11 06 24.5
Ud iP 11 06 56.4
De iP 11 07 13.6
Kurile Islands (h = 60 km).

" 5 Up iSg1 12 00 58.4
Ki e(Sg1) 12 03 33
Sk iSg1 12 02 48.4
Um iSg1 12 01 30.2
De eSg1 12 02 26
Esthonia, 59.5°N, 25.1°E.
Origin time = 11 58 59.
Explosion.

" 5 Up i(PP) 12 48 29.8
De ePP 12 49 03
New Britain.

" 5 Up iP 13 36 13.6
Ki iP 13 26 12.1
Sk eP 13 36 32
Um iP 13 36 09.3
Ud iP 13 36 25.8
De iP 13 36 24.8
Andaman Islands (h = N).

" 5 Ud e(P) 13 48 05

" 5 Up iP 14 01 45.1
Ki iP 14 00 50.4
micr sec
P Z' 0.1 0.9
Mx E 1.2 22
Mx N 0.5 16
Mx Z 0.7 14
Sk eP 14 01 21
(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971 Aug.	5	(cont.)			
		Um	iP	14 01 18.6	
		Ud	iP	14 01 43.9	
		De	iP	14 02 06.8	
			iPcP	14 02 32.7	
		Aleutian Islands (h = N).			
"	5	Up	iP	15 20 38.3	
		Um	iP	15 20 20.0	
		Ud	iP	15 20 46.2	
		South of Japan (h = 460 km).			
"	5	Up	iP	16 18 43.2	
		Um	iP	16 18 37.8	
"	5	Up	iP	16 19 35.8	
		Ki	iP	16 19 34.9	
		Um	iP	16 19 31.8	
		Ud	iP	16 19 40.6	
		De	eP	16 19 46	
"	5	Ki	i(P)	17 46 36.8	
"	5	Up	iP	22 48 34.7	
			ipP	22 48 44.0	
				micr sec	
			pP Z'	0.1 1.1	
			Mx E	1.0 21	
			Mx N	0.8 17	
			Mx Z	1.1 21	
		Ki	iP	22 48 35.9	
			ipP	22 48 44.7	
				micr sec	
			Mx E	1.6 18	
			Mx N	2.0 20	
			Mx Z	2.0 19	
		Sk	iP	22 49 00.6	
		Um	iP	22 48 32.9	
			ipP	22 48 40.8	
		Ud	eP	22 48 50	
			ipP	22 48 57.1	
		De	iP	22 48 47.2	
		Andaman Islands. h = 30 km (Up,Ki,Um,Ud). M = 5.3 (Up,Ki).			
"	5	Up	ePKP	22 55 42	
			ipPKP	22 55 51.3	
		Sk	ePKP	22 55 41	
			ipPKP	22 55 50.7	
		Um	iPKP	22 55 34.5	
			ipPKP	22 55 45.0	
		Ud	iPKP	22 55 47.3	
		De	iPKP	22 55 53.9	
		Kermadec Islands. h = 35 km (Up,Sk,Um).			

1971 Aug.	5	Up	iP	23 10 50.9	
		Ki	iP	23 10 48.4	
		Um	iP	23 10 54.3	
		Ud	eP	23 10 44	
		De	iP	23 10 50.3	
		Costa Rica (h = N).			
"	6	Ud	i(P)	00 08 35.3	
"	6	Um	eP	02 26 24	
"	6	Ki	iPn	10 51 01.4	
			iSn	10 51 59.6	
			eS*	10 52 20	
		Sk	iSg1	10 54 48.4	
		Um	iSn	10 52 38.7	
			iSg1	10 53 14.1	
		Northwest Russia, 67.8°N, 33.9°E. Origin time = 10 49 44. Explosion.			
"	6	Ki	i(P)	19 48 05.1	
"	6	Up	iPKP	23 10 31.7	
			iSKP	23 13 27.5	
		Ki	iX	23 10 24.4	
		Sk	iPKP	23 10 24.0	
			iX	23 10 36.0	
		Um	iPKP	23 10 20.0	
			iX	23 10 33.0	
		Ud	iPKP	23 10 34.5	
		De	iPKP	23 10 44.5	
		Fiji Islands (h = 530 km). Double PKP, in average about 12.5 sec apart. The phase X denotes the second arrival.			
"	7	Ki	iP	03 48 12.5	
		Sk	iP	03 48 34.5	
		Ud	eP	03 48 38	
"	7	Up	iPKP	07 12 13.7	
			eSKP	07 15 21	
				micr sec	
			PKP Z'	0.1 0.9	
		Ki	iPKP	07 12 00.4 C	
				micr sec	
			PKP Z'	0.2 0.9	
		Sk	iPKP	07 12 11.1 C	
			eSKP	07 15 21	
		Um	iPKP	07 12 06.6 C	
		Ud	iPKP	07 12 15.7 C	
			iSKP	07 15 25.7	
		De	iPKP	07 12 22.0 C	
			iSKP	07 15 36.4	
		New Hebrides Islands (h = 180 km).			

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971 Aug.	7	Ki	i(Pg1)		10 16 15.0	
			i(Sg1)		10 16 44.2	
"	7	Ki	i(Pg1)		10 16 29.4	
			i(Sg1)		10 16 58.0	
"	7	Up	iP		15 30 03.2	
					micr	sec
			P	Z'	0.1	1.0
		Ki	e(P)		15 29 51	
			iP		15 30 01.8	
					micr	sec
			P	Z'	0.1	0.5
			Mx	E	0.6	13
			Mx	N	0.8	12
			Mx	Z	0.5	12
		Sk	iP		15 30 25.1	
		Um	iP		15 30 00.1	
		Ud	iP		15 30 18.6	
		De	iP		15 30 18.2	
		Kashmir-Sinkiang (h = N).				
		m = 5.9 (Up,Ki).				
		(P) at Ki denotes early arrival of P.				
"	7	Up	eP		17 12 32	
			i		17 12 41.2	
		Ki	eP		17 13 21	
					micr	sec
			Mx	E	0.6	14
			Mx	N	0.5	16
			Mx	Z	0.6	15
		Sk	eP		17 13 09	
		Um	iP		17 12 54.9	
		Ud	iP		17 12 40.1	
		Turkey (h = 20 km).				
"	7	Um	iP		22 46 45.6	
"	8	Um	iP		02 33 12.0	
"	8	Ud	iP		02 52 35.2	
		Indian Ocean (h = N).				
"	8	Up	iPg1		03 52 40.4	
			iSg1		03 53 52.6	
		Ki	iSg1		03 56 23.7	
			i		03 56 29.0	
		Sk	ePg1		03 52 28	
			iSn		03 53 11.5	
			iSg1		03 53 35.5	
			i		03 53 41.3	
		Um	eSn		03 54 21	
			i		03 54 48.3	
			iSg1		03 55 03.6	
		(cont.)				

1971 Aug.	8	(cont.)					
		Ud	e(Pn)		03 51 50	
			iPg1		03 52 02.1	
			i(Sn)		03 52 33.4	
			iSg1		03 52 51.4	
		De	ePn		03 52 10	
			i(Sn)		03 52 56.2	
			iSg1		03 53 22.0	
		Southern Norway, 59.3°N, 6.8°E.				
		Origin time = 03 50 59.				
"	8	Sk	iP		04 02 25.7	
			iPcP		04 02 53.4	
		Atlantic Ocean (h = N).				
"	8	Up	iPKP		06 50 51.4	
					micr	sec
			PKP	Z'	0.1	1.0
		Ki	ePKP		06 50 27	
		Sk	iPKP		06 50 45.5	C
		Um	iPKP		06 50 40.5	C
		Ud	iPKP		06 50 54.1	C
		De	iPKP		06 51 02.0	
		Kermadec Islands (h = 50 km).				
"	8	Um	iP		16 51 03.9	
		Banda Sea (h = 160 km).				
"	8	Up	iP		19 44 13.6	
		Ki	eP		19 45 30	
		Sk	iP		19 44 55.5	
		Um	iP		19 44 54.0	
		Ud	iP		19 44 20.9	
		De	iP		19 43 49.5	
		Greece (h = 55 km).				
"	8	Um	iP		21 21 45.9	
		Japan Sea. Deep.				
"	9	Ud	iP		01 11 32.3	
		Sinkiang (h = N).				
"	9	Up	iP		03 01 08.1	
			i		03 01 12.9	
			ipP		03 01 17.0	
			iS		03 06 21	
			i		03 07 22.3	
					micr	sec
			pP	Z'	0.2	1.0
			Mx	E	3.4	18
			Mx	N	2.6	15
			Mx	Z	4.1	20
		(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 9 (cont.)

Ki	iP		03 01 40.6	
	ipP		03 01 50.1	
	iPn		03 02 52.6	
			micr	sec
	pP	Z'	0.2	1.0
	Mx	E	3.6	17
	Mx	N	3.5	18
	Mx	Z	3.3	14
Sk	iP		03 01 42.4	
	ipP		03 01 52.3	
	iPP		03 03 05.8	
Um	iP		03 01 18.6	
	ipP		03 01 27.0	
	iPn		03 02 21.9	
	iS		03 06 37	
Ud	iP		03 01 24.7	
	ipP		03 01 33.2	
De	iP		03 01 11.0	
	ipP		03 01 20.7	

Iran.
h = 35 km (Up,Ki,Sk,Um, Ud,De).
m = 5.9, M = 5.3 (Up,Ki).
Clear Pn were found only for Ki,Um, which are those of our stations with the least disturbed paths.

" 9 Ud eP 04 46 11
Turkey (h = 10 km).

" 9

Up	iPKP		12 30 42.0	
	iPP		12 31 43	
			micr	sec
	Mx	E	2.4	21
	Mx	N	3.0	21
	Mx	Z	4.6	21
Ki	iPKP		12 30 30.7	
	i		12 31 27.8	
			micr	sec
	Mx	E	9.7	24
	Mx	N	6.7	22
	Mx	Z	21	26
Sk	iPKP		12 30 42.0	
Um	iP		12 26 37	
	iPKP		12 30 36.6	
	iPP		12 31 25.1	
Ud	iPKP		12 30 44.9	
	iPP		12 31 58.6	
De	iPKP		12 30 50.4	

Solomon Islands
(h = 60 km).
M = 6.2 (Up,Ki).

" 9 De i(P) 16 31 04.4

1971
Aug. 9

Up	iPP		20 21 28	
			micr	sec
	Mx	E	2.9	19
	Mx	N	3.8	18
	Mx	Z	6.5	18
Ki	eP		20 16 10	
	ePKP		20 20 12	
	iSKS		20 26 45	
	iSKKS		20 27 39	
			micr	sec
	Mx	E	4.1	17
	Mx	N	2.5	17
	Mx	Z	5.1	17
Sk	iPKP		20 20 22.9	
Um	iPKP		20 20 16.5	
	ipPKP		20 20 23.3	
Ud	e(PKP)		20 20 29	
De	iPKP		20 20 25.5	

New Britain.
h = 25 km (Um).
M = 6.1 (Up,Ki).

" 9 Up iP 20 25 43.3

" 10

Ki	eP		04 38 25	
	iPKP		04 42 25.3	
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.5	17
	Mx	Z	1.2	19
Um	iPKP		04 42 30.0	
De	iPKP		04 42 44.2	

New Britain (h = N).

" 10 Um iP 10 40 01.3
Ionian Sea.

" 10

Up			micr	sec
	Mx	E	1.3	17
	Mx	N	1.4	19
	Mx	Z	2.9	18
Ki	ePKP		14 56 26	
			micr	sec
	Mx	E	1.6	16
	Mx	N	1.1	16
	Mx	Z	2.2	18
Um	iPKP		14 56 30.8	
De	iPKP		14 56 43.5	

New Ireland (h = 40 km).
M = 5.8 (Up,Ki).

" 10

Ki	eP		15 10 30
Ud	iP		15 10 49.5

Baja California (h = N).

" 10 De iP 19 27 43.3

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971					
Aug. 11	De	iPKP		00 19 43.7	
	Fiji Islands (h = N).				
" 11	Up	iP		05 06 55.1	
	Ki	iP		05 06 35.2	C
		ipP		05 06 48.6	
				micr	sec
		P	Z'	0.1	1.0
	Um	iP		05 06 40.8	
	Ud	iP		05 06 59.0	
	De	e(P)		05 07 14	
	Molucca Passage.				
	h = 50 km (Ki).				
" 11	Up	iP		05 42 26.0	
		ipP		05 42 49.6	
				micr	sec
		pP	Z'	0.1	0.7
	Ki	iP		05 43 35.3	
		ipP		05 44 00.2	
	Sk	iP		05 43 05.2	
		ipP		05 43 27.9	
	Um	i		05 43 14.7	
		ipP		05 43 25.4	
	Ud	iP		05 42 32.9	
		ipP		05 42 56.0	
		iS		05 46 46.3	
	De	iP		05 41 59.0	
		i		05 42 02.8	
		ipP		05 42 20.0	
		iS		05 45 27.2	
	Greece.				
	h = 120 km (Up,Ki,Sk,Ud,De).				
" 11	Ud	i(P)		10 53 37.2	
	De	i(P)		10 53 56.9	
" 11	De	e(Sg1)		11 23 17	
		i(Rg)		11 23 20.2	
" 11	Up	iP		13 25 21.9	
				micr	sec
		P	Z'	0.1	0.8
	Ki	iP		13 24 47.7	
				micr	sec
		P	Z'	0.1	0.9
	Sk	iP		13 25 19.1	
	Um	iP		13 25 02.5	
	Ud	iP		13 25 29.9	
	De	iP		13 25 42.6	
	South of Japan				
	(h = 390 km).				
	m = 5.5 (Up,Ki).				
" 11	Up	iPKP2		14 44 07.6	
	(cont.)				

1971					
Aug. 11	(cont.)				
	Up			micr	sec
		PKP2	Z'	0.2	1.7
		Mx	E	2.8	21
		Mx	N	2.1	17
		Mx	Z	5.7	21
	Ki	iPKP2		14 44 12.1	
				micr	sec
		PKP2	Z'	0.1	1.2
		Mx	E	3.3	18
		Mx	N	2.3	18
		Mx	Z	3.9	19
	Sk	iPKP2		14 44 25.3	
	Um	iPKP2		14 44 09.4	
	Ud	iPKP2		14 44 16.7	
	De	iPKP2		14 44 12.5	
	Balleny Islands (h = N).				
	M = 6.3 (Up,Ki).				
" 11	Up	iP		16 43 15.1	
		i		16 43 23.1	
	Ki	iP		16 42 57.6	
	Sk	iP		16 43 20.3	
	Um	i(P)		16 43 15.6	
	Ud	iP		16 43 24.4	
	Luzon.				
" 11	Up	iPKP2		17 57 54.4	
				micr	sec
		Mx	E	0.8	20
		Mx	N	0.7	20
		Mx	Z	1.9	20
	Ki	e(PKP2)		17 57 47	
				micr	sec
		Mx	E	0.8	18
		Mx	N	0.7	18
		Mx	Z	1.3	18
	Ud	e(PKP2)		17 57 57	
	De	iPKP2		17 58 05.5	
	Balleny Islands (h = N).				
	M = 5.8 (Up,Ki).				
" 11	Up	iP		19 13 34.3	
	Ki	iP		19 12 56.4	
	Sk	iP		19 13 29.0	
	Um	iP		19 13 12.9	
		ipP		19 13 29.3	
	Ud	iP		19 13 42.2	
	Japan.				
	h = 60 km (Um).				
" 11	Sk	eP		21 10 16	
	Ud	eP		21 10 16	
	Tibet.				
" 12	Ud	iP		00 42 10.9	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Aug. 12 Ud eP 01 35 23
North Atlantic Ocean
(h = N).

" 12 Up iP1 04 28 31.1
iP2 04 28 38.3

		micr	sec
P1	Z'	0.1	1.0
P2	Z'	0.3	1.3
Mx	E	0.6	15
Mx	N	0.6	17
Mx	Z	1.1	16

Ki iP1 04 28 29.9
iP2 04 28 36.6

		micr	sec
P2	Z'	0.1	1.5
Mx	E	1.7	21
Mx	N	1.6	21
Mx	Z	2.0	19

Sk eP1 04 28 47
iP2 04 28 54.4
Um iP1 04 28 26.9
iP2 04 28 33.5
Ud iP1 04 28 43.5
iP2 04 28 50.3
De iP1 04 28 43.1
iP2 04 28 49.3
Andaman Islands
(h = 40 km).
m = 6.0, M = 5.3 (Up,Ki).
Double P, in average
6.7 sec apart.

" 12 Up i(P) 11 41 40.4

" 12 Um iSg1 14 17 02.0

" 12 Up eP 14 33 39
iPP 14 36 59.7

		micr	sec
P	Z'	0.1	1.2
Mx	E	1.4	15
Mx	N	1.4	16
Mx	Z	4.5	22

Ki iP 14 33 13.7
ipP 14 33 22.9
iPP 14 36 26.9

		micr	sec
pP	Z'	0.2	1.5
Mx	E	3.9	21
Mx	N	2.9	20
Mx	Z	4.4	20

Sk iP 14 33 13.5
ipP 14 33 23.5
Um iP 14 33 27.1
ipP 14 33 35.2
iPP 14 36 49.9
(cont.)

1971
Aug. 12 (cont.)
Ud iP 14 33 26.4
De iP 14 33 35.7
Mexico.
h = 35 km (Ki,Sk,Um).
m = 6.1, M = 5.8 (Up,Ki).

" 12 Ud iP 15 12 24.5
Kurile Islands.

" 12 Ki eSn 16 34 44
iSg1 16 34 57.3
Sk iSg1 16 35 00.4
Um iSg1 16 35 23.6
Nordland, Norway,
66.5°N, 14.0°E.
Origin time = 16 33 28.
Explosion.

" 12 Ki iP 16 46 57.4
Um iP 16 47 16.2
Ud iP 16 47 47.9
Japan.

" 12 Sk iP 22 35 48.0
Japan.

" 12 Ki iP 23 17 42.4

		micr	sec
P	Z'	0.1	1.4

Sk eP 23 18 30
Um iP 23 18 29.7
Ud iP 23 19 09.5
Arctic Ocean (h = N).

" 13 Ki eP 02 42 54
Ud iP 02 42 41.2
Mascarene Islands (h = N).

" 13 Ki ePn 10 51 18
iSn 10 52 15.4
iSg1 10 52 35.7
Sk iSg1 10 55 02.5
Um iSg1 10 53 32.1
Northwest Russia,
68.0°N, 33.8°E.
Origin time = 10 50 00.
Explosion.

" 13 Up eSg1 11 07 36
Ki e(Sg1) 11 10 06
Sk iSg1 11 09 21.9
Um iSg1 11 08 04.3
De eSg1 11 09 01
Esthonia, 59.6°N, 25.1°E.
Origin time = 11 05 32.
Explosion.

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971 Aug.	13	Up	i(Rg)		12 23 44.6	
		Sk	eSg1		12 25 32	
		Um	eSg1		12 25 32	
		Ud	iSg1		12 23 56.7	
		Södermanland, Sweden.				
		Explosion.				
"	13	Up	iSg1		13 52 03.8	
		Sk	iPg1		13 51 23.6	
			iSg1		13 52 16.4	
		Um	iPg1		13 50 32.4	
			iSg1		13 50 43.9	
			iRg		13 50 49.9	
		Ud	iPg1		13 51 34.6	
			iSg1		13 52 33.3	
		Gulf of Bothnia,				
		63.0°N, 20.2°E.				
		Origin time = 13 50 18.				
"	13	Up	iPKP2		15 03 01.9	
			i		15 03 05.1	
					micr	sec
			PKP2	Z'	0.1	1.0
			Mx	N	0.7	20
			Mx	Z	0.8	20
		Ki	ePKP		15 02 25	
			i		15 02 29.6	
					micr	sec
			PKP	Z'	0.1	1.1
			Mx	E	0.7	18
			Mx	N	0.6	19
			Mx	Z	1.2	19
		Sk	e(PKP)		15 02 44	
			iPKP2		15 03 00.8	
		Um	iPKP		15 02 34.3	
			i		15 02 38.9	
		Ud	iPKP2		15 03 08.0	
			i		15 03 11.1	
		De	iPKP2		15 03 21.2	
		New Zealand (h = 20 km).				
		M = 5.6 (Up,Ki).				
"	13	Up	ePP		17 08 39	
					micr	sec
			Mx	E	1.8	19
			Mx	N	1.8	20
			Mx	Z	3.6	18
		Ki	ePP		17 08 00	
					micr	sec
			Mx	E	3.2	20
			Mx	N	2.8	22
			Mx	Z	4.9	21
		Sk	ePP		17 08 42	
		Um	iPP		17 08 13.0	
		Ud	ePP		17 08 52	
		De	ePKP		17 07 45	
		Solomon Islands				
		(h = 20 km).				
		M = 5.9 (Up,Ki).				

1971 Aug.	13	Ud	iP		21 30 39.4	
"	14	Up	iPKP		00 34 14.2	
			iSKP		00 37 26.0	
			ipSKP		00 38 18.9	
			i		00 46 38.3	
					micr	sec
			PKP	Z'	0.3	1.1
			Mx	E	0.9	19
			Mx	N	1.1	20
			Mx	Z	2.4	22
		Ki	iPKP		00 33 59.5	
					micr	sec
			PKP	Z'	0.2	0.6
			Mx	E	0.8	18
			Mx	N	1.0	19
			Mx	Z	1.2	17
		Sk	iPKP		00 34 11.2	
			ipPKP		00 34 41.8	
			iSKP		00 37 21.1	
		Um	iPKP		00 34 05.8	
			ipPKP		00 34 37.2	
			iSKP		00 37 14.3	
			i		00 46 33.2	
		Ud	i(PKP)		00 34 06.5	
			iPKP		00 34 15.7	
			ipPKP		00 34 47.6	
			iSKP		00 37 30.1	
			ipSKP		00 38 25.0	
			i		00 46 27.6	
		De	i(PKP)		00 34 08.0	
			iPKP		00 34 20.4	
			ipPKP		00 34 53.3	
			iSKP		00 37 40.5	
		New Hebrides Islands.				
		h = 120 km (Sk,Um,Ud,De).				
		M = 5.7 (Up,Ki).				
		M not corrected for focal depth.				
"	14	Um	i(Sg1)		02 27 36.3	
"	14	Ki	ePKP		09 20 31	
		Um	iPKP		09 20 40.1	
		Fiji Islands (h = N).				
"	14	Up	iPKP		09 22 04.5	
					micr	sec
			Mx	E	4.3	22
			Mx	N	9.9	22
			Mx	Z	11	23
		Ki	ePKP		09 21 49	
					micr	sec
			Mx	E	12	21
			Mx	N	10	20
			Mx	Z	15	21
		Um	iPKP		09 21 58.5	
		Ud	ePKP		09 22 06	
		(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 14 (cont.)
De ePKP 09 22 16
Fiji Islands (h = N).
M = 6.6 (Up,Ki).

" 14 Ki iPn 10 34 29.7
iSn 10 35 18.3
iSg1 10 35 36.0
Um iSg1 10 37 04.1
Northwest Russia-Norway border region,
69.5°N, 31.0°E.
Origin time = 10 33 26.
Explosion.

" 14 Ki i(Sn) 11 23 40.5
i(Sg1) 11 23 53.8
Um i(Sg1) 11 24 52.5

" 14 Up micr sec
Mx E 0.8 21
Mx N 1.0 19
Mx Z 2.0 21
Ki ePKP 11 42 26
micr sec
Mx E 1.3 21
Mx N 0.9 20
Mx Z 1.8 21
Um iPKP 11 42 36.3
Fiji Islands (h = N).
M = 5.6 (Up,Ki).

" 14 Ki iPP 15 19 20.8
Chile-Bolivia
(h = 190 km).

" 14 Ud iP 19 24 22.2
De iP 19 24 33.4

" 14 Up Mx 20 12
Weak surface waves recorded on Up Press-Ewing LP seismographs from the French atmospheric nuclear explosion at Tuamotu.

" 14 Ki eP 22 24 46
Sk eP 22 24 54
Um iP 22 24 29.5
Ud iP 22 24 39.9
De iP 22 24 30.2
Pakistan.

" 15 Ki eP 06 24 45
Sk eP 06 24 22
Um iP 06 24 50.0
Ud eP 06 24 29
North Atlantic Ocean
(h = N).

1971
Aug. 15 Ki iP 06 59 01.3
Japan.

" 15 Up iP1 12 26 26.1
iP2 12 26 29.2
micr sec
P2 Z' 0.1 0.9
Mx E 0.6 17
Mx N 1.4 16
Mx Z 0.9 12
Ki iP1 12 26 02.6
iP2 12 26 06.5
micr sec
P2 Z' 0.1 0.8
Mx E 0.6 13
Mx N 0.7 15
Mx Z 0.6 13
Sk iP2 12 26 33.3
Um iP1 12 26 11.1
iP2 12 26 14.3
Ud iP1 12 26 36.1 C
iP2 12 26 38.8
De eP1 12 26 45
Formosa (h = 30 km).
m = 5.9, M = 5.3 (Up,Ki).

" 15 Ki iPKP 15 12 09.0
Fiji Islands (h = N).

" 15 Ki ePn 15 48 41
iSn 15 49 26.9
iSg1 15 49 42.9
Um iSg1 15 51 13.3
Northwest Russia-Norway border region,
69.6°N, 30.2°E.
Origin time = 15 47 39.
Explosion.

" 15 Sk iP 17 46 31.7

" 15 Ki iP 21 13 54.3
i 21 14 00.0
Um iP 21 14 47.1
i 21 14 51.4
Ud iP 21 15 32.3
i 21 15 36.9
Svalbard.
Approximate origin time = 21 11 36.

" 16 Ud iP 01 17 26.3

" 16 Up iP 05 08 28.9 C
micr sec
P Z' 0.4 1.0
Mx E 1.2 16
Mx N 2.5 20
(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 16 (cont.)

			micr	sec
Up				
	Mx	Z	2.4	18
Ki	iP		05 08 12.0	C
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	2.4	11
	Mx	N	4.6	18
	Mx	Z	3.1	11
Sk	iP		05 08 39.3	
Um	iP		05 08 15.9	C
Ud	iP		05 08 41.4	C
De	iP		05 08 46.8	

China (h = N).
m = 6.5, M = 5.6 (Up,Ki).

" 16

			micr	sec
Up	iP		05 38 38.2	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	0.6	13
	Mx	N	1.0	14
	Mx	Z	2.3	17
Ki	eP		05 38 15	
	ipP		05 38 25.4	
			micr	sec
	Mx	E	1.0	13
	Mx	N	0.6	17
	Mx	Z	1.1	14
Sk	eP		05 38 46	
Um	iP		05 38 25.5	
	ipP		05 38 36.6	
Ud	iP		05 38 48.8	

Formosa.
h = 40 km (Ki,Um).
M = 5.4 (Up,Ki).

" 16

Up	iP	09 24 39.9
Um	iP	09 24 22.7
Ud	iP	09 24 48.6

Bonin Islands (h = 90 km).

" 16

Up	iP	13 39 53.8
Ki	eP	13 39 36
Sk	iP	13 40 03.0
Um	iP	13 39 40.8
Ud	iP	13 40 05.1

China (h = N).

" 16

Up	iP	15 50 40.4
Ki	iP	15 49 57.8
Um	iP	15 50 16.7
Ud	iP	15 50 46.4

Japan (h = 30 km).

" 16

			micr	sec
Up	iP		15 52 30.5	
			micr	sec
	P	Z'	0.1	1.0

(cont.)

1971
Aug. 16 (cont.)

			micr	sec
Up				
	Mx	E	1.8	19
	Mx	N	1.6	18
	Mx	Z	1.1	16
Ki	eP		15 51 47	
			micr	sec
	P	Z'	0.1	1.2
	Mx	E	3.2	20
	Mx	N	2.0	20
	Mx	Z	2.2	15
Sk	eP		15 52 21	
Um	iP		15 52 05.8	
Ud	iP		15 52 36.5	
De	eP		15 52 55	

Japan (h = N).
m = 5.9, M = 5.6 (Up,Ki).

" 16

Up	iP	17 34 48.8
Um	iP	17 34 23.2
Ud	iP	17 34 55.0

Kurile Islands.

" 16

			micr	sec
Up	iP		19 04 23.2	
			micr	sec
	P	Z'	0.2	0.7
	Mx	E	1.4	15
	Mx	N	2.3	16
	Mx	Z	2.1	16
Ki	iP		19 04 06.4	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	3.4	11
	Mx	N	8.3	20
	Mx	Z	5.7	12
Sk	iP		19 04 33.5	
Um	iP		19 04 10.0	
	iS		19 12 32	
Ud	iP		19 04 35.5	
De	eP		19 04 42	

China (h = N).
m = 6.3, M = 5.7 (Up,Ki).

" 16

			micr	sec
Up	iP		19 06 31.8	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		19 06 16.8	
Sk	eP		19 06 41	
Um	iP		19 06 19.1	
Ud	iP		19 06 43.8	
De	eP		19 06 47	

China.
Origin time = 18 56 03.

" 16

Up	iP	19 08 30.1
Ki	iP	19 08 13.0
Sk	iP	19 08 40.3

(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 16 (cont.)

	Um	iP	19 08 17.4
	Ud	iP	19 08 42.6

China.
Origin time = 18 58 02.

" 16

Up	iP		19 11 10.3
Ki	iP		19 10 57.7
Sk	iP		19 11 22.7
Um	iP		19 10 57.5
Ud	iP		19 11 22.8

China.
Origin time = 19 00 44.

" 16

Up	iP		19 43 14.3
Ki	eP		19 42 57
Sk	iP		19 43 25.3
Um	iP		19 43 00.7
Ud	eP		19 43 28

China.
Origin time = 19 32 46.

" 16 Um i(P) 19 46 45.7

" 16 Um e(P) 19 49 12

" 16

Up	eP		20 01 20
Ud	iP		20 01 21.6

" 16

Up	iP		20 03 27.1
Ki	iP		20 03 09.7
Sk	iP		20 03 37.0
Um	iP		20 03 13.6
Ud	iP		20 03 39.0 C

China.
Origin time = 19 52 59.

" 16 Um iP 20 03 51.7

" 16

Up	iP		22 48 01.8
	ipP		22 48 08.6
		micr	sec
	P	Z' 0.1	1.0
Ki	iP		22 47 45.1 C
	ipP		22 47 52.4
		micr	sec
	P	Z' 0.1	1.0
	Mx	E 0.9	12
	Mx	N 1.0	19
	Mx	Z 1.1	14
Sk	iP		22 48 12.1 C
	ipP		22 48 19.8
Um	iP		22 47 48.9
	ipP		22 47 55.8
Ud	iP		22 48 14.7
	ipP		22 48 21.1

(cont.)

1971
Aug. 16 (cont.)

De	iP		22 48 19.7

China.
h = 25 km (Up,Ki,Sk,Um,Ud).
m = 6.0 (Up,Ki).

" 16

Up	iP		22 50 56.2
		micr	sec
	P	Z' 0.1	1.1
Ki	iP		22 50 40.0
		micr	sec
	P	Z' 0.1	1.2
Sk	iP		22 51 07.4
Um	iP		22 50 43.8
Ud	iP		22 51 08.8

China.
Origin time = 22 40 28.
m = 6.0 (Up,Ki).

" 16

Ud	iP	23 58 08.7
De	iP	23 58 19.6

" 17 Um iP 00 05 53.6

" 17

Up	iP		00 59 49.2
Ki	iP		00 59 32.4
Sk	eP		01 00 03
Um	iP		00 59 36.4 C
Ud	iP		01 00 01.6

China.
Origin time = 00 49 21.

" 17

Um	iP	02 16 45.0
Ud	iP	02 17 09.8

Probably China.
Origin time = 02 06 30.

" 17

Up	iP1		04 35 02.5
	iP2		04 35 04.6
		micr	sec
	P2	Z' 0.1	1.0
	Mx	E 0.7	14
	Mx	N 1.1	13
	Mx	Z 1.0	15
Ki	iP1		04 35 58.6
	iP2		04 36 00.4
		micr	sec
	P2	Z' 0.1	0.9
	Mx	E 0.7	12
	Mx	N 0.7	12
	Mx	Z 0.9	12
Sk	iP2		04 35 44.7
Um	iP1		04 35 26.7
	iP2		04 35 28.6
Ud	iP1		04 35 15.6
	iP2		04 35 18.3

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	17	(cont.)			
		De	iP1	04 34 50.4	
			iP2	04 34 52.9	
		Turkey (h = N).			
		m = 5.6, M = 4.7 (Up,Ki).			
		The amplitudes of the second phase P2 are considerably larger than those of the first onset.			
		P2-P1 = 2.2 sec.			
"	17	Up	iP	09 46 43.9	C
				micr	sec
			P Z'	0.1	1.0
		Ki	iP	09 46 27.5	
		Sk	iP	09 46 54.4	
		Um	iP	09 46 31.3	C
		Ud	iP	09 46 56.7	
		De	eP	09 47 05	
		China (h = N).			
"	17	Ud	i(P)	10 33 47.9	
"	17	Ki	iPg1	11 29 59.1	C
			iSg1	11 30 05.7	
		Sk	eSn	11 32 10	
			iSg1	11 32 36.1	
		Um	iPg1	11 30 54.6	C
			iS*	11 31 38.2	
			iSg1	11 31 43.2	
		Ud	iSg1	11 34 00.1	
		Lapland, Sweden, 67.4°N, 20.6°E.			
		Origin time = 11 29 52.			
		Explosion, probably in the ore-mines of Malmberget.			
"	17	Ud	iP	14 34 54.2	
"	17	De	iP	15 33 26.0	
"	17	Up	iP	17 18 09.2	C
				micr	sec
			P Z'	0.1	1.0
		Ki	iP	17 17 52.2	
		Sk	iP	17 18 21.4	C
		Um	iP	17 17 56.3	C
		Ud	iP	17 18 21.5	
		China (h = N).			
"	17	Up	iP	18 58 54.6	
		Ud	iP	18 59 08.2	
"	17	Up	i(P)	21 51 57.3	
		Ud	i(P)	21 51 45.2	

1971 Aug.	18	Ki	iPKP	00 05 37.6	
		Um	iPKP	00 05 44.4	
		Ud	iPKP	00 05 53.7	
		De	iPKP	00 05 57.6	
		Tonga Islands (h = 70 km).			
"	18	Ud	iP	04 31 44.9	
		Tadzhik-Sinkiang.			
"	18	Ud	iP	08 06 17.0	
		De	iP	08 06 40.3	
"	18	Ud	iP	09 55 10.4	
"	18	Ud	iP	09 58 02.2	
"	18	Um	iPKP	10 31 42.5	
		Ud	iPKP	10 31 55.8	
		Kermadec Islands.			
"	18	Ud	i(P)	13 59 33.5	
		De	i(P)	13 59 21.5	
"	18	Up	iP	14 11 48.9	C
				micr	sec
			P Z'	0.1	1.0
		Ki	iP	14 11 14.9	C
				micr	sec
			P Z'	0.1	1.0
		Sk	iP	14 11 20.1	C
		Um	iP	14 11 34.4	C
		Ud	iP	14 11 41.4	C
		De	iP	14 11 57.5	
		Nevada.			
		m = 5.9 (Up,Ki).			
		Underground explosion.			
"	18	Um	iP	14 51 51.1	
"	18	Ki	iSg1	18 27 02.2	
		Sk	eSg1	18 27 06	
		Um	iSn	18 27 15.5	
			iSg1	18 27 30.8	
		Nordland, Norway, 66.5°N, 13.8°E.			
		Origin time = 18 25 31.			
		Explosion.			
"	18	Up	iP	20 09 20.3	
		Ki	eP	20 08 30	
			ipP	20 08 46.8	
		Ud	iP	20 09 26.6	
		De	iP	20 09 44.2	
		Kurile Islands (h = 60 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	18	Ud	iP		23 38 26.6	
		Kurile Islands.				
"	19	Up	iP1		08 40 41.5	C
			iP2		08 40 56.2	
					micr	sec
			P1	Z'	0.1	1.4
			P2	Z'	0.2	1.0
			Mx	E	6.1	18
			Mx	N	15	22
			Mx	Z	11	18
		Ki	iP1		08 40 17.2	
			iP2		08 40 33.1	
					micr	sec
			P1	Z'	0.1	1.5
			P2	Z'	0.1	1.2
			Mx	E	6.1	19
			Mx	N	5.7	20
			Mx	Z	7.0	17
		Sk	iP1		08 40 45.1	C
			iP2		08 41 01.5	
		Um	iP1		08 40 26.0	C
			iP2		08 40 42.1	
		Ud	iP1		08 40 51.3	C
			iP2		08 41 07.0	
		De	iP1		08 41 00.8	
			iP2		08 41 16.4	
		Formosa (h = 25 km).				
		m = 5.7 (P1), 6.0 (P2),				
		M = 6.0 (Up,Ki).				
		The second phase is larger than P1 and arrives 16 sec later. Either it is pP, suggesting a focal depth of 60 km, or it is P of another shock in the same place.				
"	19	Ki	iPn		11 16 41.6	
			iSn		11 17 30.3	
			iS*		11 17 45.7	
		Um	iSg1		11 19 14.8	
		Northwest Russia-Norway border region,				
		69.5°N, 31.1°E.				
		Origin time = 11 15 37.				
		Explosion.				
"	19	Up	iP		11 24 40.9	
		Ki	iP		11 24 18.3	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		11 24 45.3	
		Um	iP		11 24 26.7	
		Ud	iP		11 24 51.1	
		De	iP		11 24 58.7	
		Formosa (h = 15 km).				

1971 Aug.	19	Um	iPKP		12 05 43.7	
		Ud	iPKP		12 05 53.6	
		De	iPKP		12 05 59.1	
		Santa Cruz Islands				
		(h = 80 km).				
"	19	Um	iPg1		13 09 07.4	
			iSg1		13 09 38.2	
"	19	Up	iP		13 24 10.0	
		Ud	iP		13 24 23.9	
		De	iP		13 24 26.8	
"	19	Up	iP		13 45 50.3	
					micr	sec
			P	Z'	0.1	0.8
		Ki	iP		13 45 15.1	
		Sk	iP		13 45 48.6	
		Um	iP		13 45 30.6	
		Ud	iP		13 45 58.1	
		De	iP		13 46 10.3	
		South of Japan				
		(h = 390 km).				
"	19	Ud	iP		17 37 04.4	
		Okhotsk Sea.				
		Deep.				
"	19	Ki	i(Sg1)		17 41 24.8	
		Sk	e(Sg1)		17 41 21	
"	19	Up	iP		22 26 20.5	C
					micr	sec
			P	Z'	0.4	1.2
			Mx	E	12	22
			Mx	N	24	22
			Mx	Z	40	23
		Ki	iP		22 25 30.4	C
					micr	sec
			P	Z'	0.3	1.1
			Mx	E	18	19
			Mx	N	12	18
			Mx	Z	18	17
		Sk	iP		22 26 08.0	
			iPcP		22 26 44.5	
		Um	iP		22 25 54.0	
		Ud	iP		22 26 25.9	C
		De	iP		22 26 46.4	
		Kurile Islands (h = N).				
		m = 6.4, M = 6.3 (Up,Ki).				
"	20	Ud	ePKP		02 15 52	
		De	iPKP		02 16 01.9	
		Tonga Islands (h = 50 km).				
"	20	Ud	iP		07 27 05.7	

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 20 Up iP 10 46 41.8
Um iP 10 46 27.6
Ud iP 10 46 51.2
Formosa (h = N).

" 20 Up iSg1 10 53 00.9
Um iSg1 10 53 29.0
Ud iSg1 10 54 04.1
De eSg1 10 54 30
Esthonia, 59.6°N, 25.5°E.
Origin time = 10 50 56.
Explosion.

" 20 Up iP 11 32 09.3 C
Sk iP 11 32 15.0
Um iP 11 31 57.4 C
Ud iP 11 32 18.1 C
De eP 11 32 24
Mindoro (h = 140 km).

" 20 Sk i(Sg1) 11 39 11.5

" 20 Um iSg1 12 09 15.3
Northwest Russia.
Explosion.

" 20 Sk eP 13 29 42
Japan.

" 20 Up iPn 19 08 04.6
iSn 19 09 16.3
iSg1 19 09 50.6
micr sec
Sg1 Z' 0.4 0.6
Sk iPn 19 07 30.3
iPg1 19 07 40.3
iSg1 19 08 27.5
Um iPn 19 08 15.5
iSn 19 09 36.1
iSg1 19 10 17.9
Ud iPn 19 07 37.7
iPg1 19 07 48.4
iSn 19 08 29.6
iSg1 19 08 51.3
De iPn 19 08 10.5
iSn 19 09 26.7
iSg1 19 10 03.8
Near west coast of Norway,
61.8°N, 5.0°E.
Origin time = 19 06 28.

" 20 Ud iP 21 15 31.5

" 20 Up iP 21 48 58.5
iSKS 21 59 24
(cont.)

1971
Aug. 20 (cont.)
Up micr sec
P Z' 0.1 1.2
Mx E 4.1 21
Mx N 3.1 24
Mx Z 8.7 22
Ki iSKS 21 59 13
micr sec
Mx E 6.1 21
Mx N 4.9 22
Mx Z 11 23
Sk iP 21 48 41.8
Um iP 21 48 56.2
iSKS 21 59 25
Ud iP 21 48 49.9
ipP 21 48 58.0
De iP 21 48 55.8
ipP 21 49 05.2
iPP 21 52 19.0
Mexico.
h = 30 km (Ud,De).
M = 6.0 (Up,Ki).

" 21 Up iP 04 03 07.3
Sk eP 04 03 41
Um iP 04 03 45.1 C
Ud iP 04 03 07.3 C
De iP 04 02 33.0 C
Tyrrhenian Sea
(h = 480 km).

" 21 Up iP 10 38 31.2
Ud iP 10 38 25.6

" 21 Ud iP 10 46 33.3

" 21 Ki iPn 10 50 38.9
iSn 10 51 27.0
iS* 10 51 40.9
Um iSg1 10 53 12.8
Northwest Russia-Norway
border region,
69.5°N, 30.9°E.
Origin time = 10 49 35.
Explosion.

" 21 Ud iP 14 14 54.1
Kurile Islands.

" 21 Up iP 17 14 59.1
micr sec
P Z' 0.1 1.3
Mx N 0.6 16
Mx Z 1.1 20
Ki eP 17 15 30
(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971					
Aug. 21	(cont.)				
	Sk	eP		17 14 47	
	Um	iP		17 15 17.6	
	Ud	iP		17 14 42.8	
	Azores Islands (h = N).				
" 21	Ud	iP		17 54 39.2	
" 21	Up	iP		19 40 52.3	
	Ki	e(P)		19 39 32	
		iPn		19 39 57.6	
		iSn		19 44 21.3	
	Sk	iP		19 40 27.9	
	Um	iPn		19 40 45.7	
	Ud	iP		19 40 55.6	
	De	iP		19 41 25.7	
	Arctic Ocean (h = N).				
	Pn at Ki,Um and Sn at Ki correspond to the relatively homogeneous structure of the shelf zone north of Eurasia - apparently the first observations at our stations of Pn, Sn from this region.				
" 21	Um	iPKP		20 56 14.3	
	Ud	iPKP		20 56 23.1	
	De	iPKP		20 56 28.6	
	New Ireland (h = 80 km).				
" 21	Um	iP		22 37 29.8	
" 21	Up	iP		22 54 22.5	
				micr	sec
		P	Z'	0.1	1.0
	Ki	iP		22 53 29.5	
				micr	sec
		P	Z'	0.1	1.0
	Sk	eP		22 53 59	
	Um	iP		22 53 57.0	C
	Ud	iP		22 54 21.9	C
	De	iP		22 54 45.2	
	Alaska (h = N).				
	m = 5.9 (Up,Ki).				
" 22	Ki	iP		11 11 08.3	D
				micr	sec
		P	Z'	0.4	1.4
	Sk	iP		11 11 53.0	
		ipP		11 12 02.8	
	Um	iP		11 11 53.6	
		ipP		11 12 02.0	
	Ud	iP		11 12 23.5	
		i		11 12 36.5	
	Arctic Ocean.				
	h = 40 km (Sk,Um).				

1971					
Aug. 22	Sk	iP		11 14 19.9	
	Guatemala (h = 70 km).				
" 22	Up	iP		18 01 24.0	
				micr	sec
		P	Z'	0.1	0.9
	Ki	iP		18 02 04.0	
		iPP		18 03 47.4	
				micr	sec
		Mx	E	1.1	21
		Mx	N	0.8	21
	Sk	iP		18 01 59.6	
	Um	iP		18 01 39.4	
	Ud	iP		18 01 37.5	
		iPP		18 03 09.7	
	De	iP		18 01 22.3	
	Iran (h = N).				
" 23	Up			micr	sec
		Mx	E	12	23
		Mx	N	14	22
		Mx	Z	21	19
	Ki	eP		04 22 29	
		iPP		04 26 51.6	
				micr	sec
		Mx	E	13	21
		Mx	N	11	20
		Mx	Z	21	21
	Um	ePKP		04 26 38	
	Ud	iPP		04 27 30.5	
	New Guinea (h = N).				
	M = 6.6 (Up,Ki).				
" 23	Ki	e(P)		05 25 23	
" 23	Up	iP		05 46 40.1	
				micr	sec
		P	Z'	0.1	1.0
		Mx	E	1.7	18
		Mx	N	1.9	18
		Mx	Z	2.6	19
	Ki	iP		05 46 23.0	
				micr	sec
		Mx	E	2.3	18
		Mx	N	1.2	18
		Mx	Z	2.2	18
	Sk	iP		05 46 52.6	
	Um	iP		05 46 26.4	
	Ud	iP		05 46 52.3	
	De	iP		05 46 58.9	
	China (h = N).				
	M = 5.5 (Up,Ki).				
" 23	Up	iP		05 48 04.5	
	Ki	iP		05 47 47.7	
	Sk	iP		05 48 16.1	
	Um	iP		05 47 52.1	
	(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971 Aug. 23	(cont.)					
	Ud	iP		05 48 16.7		
	China.					
	Origin time = 05 37 37.					
" 23	Up	iP		05 56 53.7		
				micr	sec	
		P	Z'	0.2	1.7	
	Ki	eP		05 56 37		
	Sk	iP		05 57 03.7	C	
	Um	iP		05 56 41.1	C	
		i(pP)		05 56 48.0		
	Ud	iP		05 57 06.2		
	China (h = N).					
" 23	Ki	eP		10 09 28		
	Sk	eP		10 09 56		
	Um	iP		10 09 32.3		
	Ud	iP		10 09 56.8		
	China.					
	Origin time = 09 59 17.					
" 23	Ud	iPKP		10 32 02.3		
	De	iPKP		10 32 13.2		
" 23	Ki	eP		11 45 24		
	Sk	eP		11 45 18		
	Um	iP		11 45 03.3		
" 23	Um	iSKP		16 01 32.8		
	Ud	iPKP		15 58 57.4		
		iSKP		16 01 46.2		
	De	iPKP		15 59 09.1		
	Fiji Islands (h = 620 km).					
" 23	Up	iP		22 06 14.6		
		ipP		22 06 26.2		
		iPcP		22 06 41.3		
				micr	sec	
		P	Z'	0.1	0.6	
		Mx	E	4.1	18	
		Mx	N	7.5	21	
		Mx	Z	11	20	
	Ki	iP		22 05 27.9		
		ipP		22 05 39.8		
				micr	sec	
		P	Z'	0.1	0.8	
		Mx	E	4.3	20	
		Mx	N	7.6	18	
		Mx	Z	14	19	
	Sk	iP		22 06 03.1		
		iPcP		22 06 31.6		
	Um	iP		22 05 49.5		
		ipP		22 06 00.6		
	Ud	iP		22 06 20.1		
		ipP		22 06 31.6		
	(cont.)					

1971 Aug. 23	(cont.)					
	De	iP		22 06 38.8		
	Kurile Islands.					
	h = 40 km (Up,Ki,Um,Ud).					
	m = 6.1, M = 6.0 (Up,Ki).					
" 24	Ud	ePKP		01 45 46		
	De	iPKP		01 46 00.2		
	Tonga-Kermadec Islands					
	(h = 350 km).					
" 24	Ud	iP		03 47 20.5	C	
" 24	Up	Mx		04 41		
				micr	sec	
		Mx	Z	0.7	20	
	Indian Ocean (h = N).					
" 24	Um	iP		08 22 31.2		
" 24	Up	iP		10 03 51.7		
	Ki	iP		10 03 04.9		
	Um	iP		10 03 26.0		
	Ud	iP		10 03 57.2		
	Kurile Islands (h = N).					
" 24	De	iPKP		13 48 01.3		
	New Britain (h = 35 km).					
" 24	Ud	iPKP		15 56 26.0		
	De	iPKP		15 56 37.3		
	Tonga-Kermadec Islands					
	(h = 180 km).					
" 24	Up	iP1		16 40 53.9		
		iP2		16 40 58.7		
				micr	sec	
		P2	Z'	0.2	1.0	
		Mx	E	3.3	11	
		Mx	N	2.3	11	
		Mx	Z	6.1	11	
	Ki	iP1		16 40 23.4		
		iP2		16 40 27.8		
				micr	sec	
		P2	Z'	0.1	1.0	
		Mx	E	4.1	13	
		Mx	N	4.2	17	
		Mx	Z	4.7	14	
	Sk	iP1		16 41 01.4		
	Um	iP1		16 40 33.5		
		iP2		16 40 38.2		
	Ud	iP1		16 41 08.1		
		iP2		16 41 12.9		
	De	iP1		16 41 20.1		
		iP2		16 41 24.7		
	(cont.)					

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971 Aug.	24	(cont.) Siberia-Mongolia (h = N). m = 5.6, M = 5.6 (Up,Ki). Double P-phases at Up,Ki, Um,Ud and De, about 4.7 sec apart. If the second phase is interpreted as pP, the focal depth would be 15 km.			
"	24	Up	iP	16 45 51.8	C
		Ki	iP	16 45 21.1	C
		Sk	eP	16 46 00	
		Um	iP	16 45 31.0	C
		Ud	iP	16 46 06.2	
		De	iP	16 46 18.0	
		Siberia-Mongolia. Origin time = 16 38 21.			
"	24	Ud	iP	17 25 04.0	
		De	iP	17 25 19.2	
"	24	Up	iP	17 30 54.2	C
		Um	iP	17 30 34.4	C
		Ud	iP	17 31 01.9	
		De	eP	17 31 15	
		Japan (h = 420 km).			
"	24	Ki	iPKP	22 32 55.5	
		New Hebrides Islands (h = N).			
"	24	Um	iP	23 12 46.1	
		Ud	iP	23 13 13.2	
		South of Japan (h = 160 km).			
"	25	Up	iP	00 38 11.4	
		Ki	iP	00 38 48.1	
		Um	iP	00 38 25.5	
		Ud	iP	00 38 26.8	
		De	eP	00 38 10	
		Iran (h = N).			
"	25	De	iP	09 12 02.5	
		Turkey.			
"	25	Ki	i(pP)	10 52 15.7	
		Ud	iP	10 52 46.9	
		Japan (h = 70 km).			
"	25	Up	iSg1	13 10 11.2	
		Um	iSg1	13 10 30.5	
		Ud	iSg1	13 11 12.8	
		De	eSg1	13 11 37	
		(cont.)			

1971 Aug.	25	(cont.) Esthonia, 59.4°N, 27.3°E. Origin time = 13 07 37. Explosion.			
"	25	Ud	iPKP	14 35 33.1	
		Tonga-Kermadec Islands (h = 430 km).			
"	25	Ki	iPn	15 37 05.0	
			iPg1	15 37 12.9	
			iSn	15 37 51.1	
			iS*	15 38 03.9	
		Sk	eSg1	15 40 57	
		Um	iSg1	15 39 40.9	
		Northwest Russia-Norway border region, 69.7°N, 30.0°E. Origin time = 15 36 04. Explosion.			
"	25	Up	iP	20 21 13.7	
		Um	iP	20 22 08.4	
		Ud	eP	20 21 14	
"	25	Up	iPKP2	20 27 17.2	
		Ud	ePKP2	20 27 18	
		De	ePKP2	20 27 37	
		Tonga-Kermadec Islands (h = 60 km).			
"	26	De	iPKP	00 05 30.5	
		New Ireland (h = 55 km).			
"	26	Um	iP	02 31 52.9	
"	26	Um	iP	02 59 11.7	
		De	iP	02 58 55.8	
		Mona Passage (h = 55 km).			
"	26	Um	i(P)	06 05 30.9	
		De	i(P)	06 06 14.8	
"	26	Um	iP	06 36 15.0	
		Ud	iP	06 36 45.3	
		Japan (h = 35 km).			
"	26	Up	iP	07 02 16.9	
		Um	iP	07 02 29.3	
		Ud	iP	07 02 30.6	
		De	iP	07 02 15.3	
		Iran (h = 45 km).			
"	26	Up	i(P)	08 18 21.6	
		Ud	e(P)	08 18 37	
		De	i(P)	08 18 19.7	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	26	Um	iPKP		09 51 06.2
		De	iPKP		09 51 14.6
		Tonga Islands (h = 280 km).			
"	26	Up	ePKP		11 09 28
				micr	sec
			Mx N	1.1	21
			Mx Z	1.1	21
		Ki		micr	sec
			Mx E	1.1	19
			Mx N	1.1	20
			Mx Z	2.4	21
		Um	iPKP		11 09 35.9
			i		11 09 52.5
		Ud	iPKP		11 09 26.4
			i		11 09 44.6
			ePP		11 11 04
		South Sandwich Islands (h = N).			
		M = 5.7 (Up,Ki).			
"	26	Um	iSg1		11 59 02.9
		Esthonia.			
		Explosion.			
"	26	Up	iPg1		14 55 53.8
			iSg1		14 56 53.1
		Sk	iSg2		14 59 18.1
		Um	iSg1		14 58 13.3
		Ud	eSg1		14 57 48
		De	ePg1		14 56 15
			iSg1		14 57 33.7
		Latvia, 57.1°N, 24.0°E.			
		Origin time = 14 54 35.			
		Explosion?			
"	26	De	iP		15 16 42.8
"	26	Up	iSg1		15 26 39.7
			i		15 26 43.4
		Um	iSg1		15 28 47.7
		Ud	iPg1		15 26 28.4
			iSg1		15 26 55.7
		De	iSg1		15 27 07.5
		Östergötland, Sweden, 58.6°N, 16.1°E.			
		Origin time = 15 25 52.			
"	26	Ud	i(P)		16 22 04.7
		De	e(P)		16 22 40
"	26	Up		micr	sec
			Mx N	0.6	18
			Mx Z	1.2	22
		Sk	i(PKP)		17 52 52.6
			ePKP		17 53 03
		(cont.)			

1971 Aug.	26	(cont.)			
		Um	i(PKP)		17 53 06.6
			iPKS		17 56 23.4
		Ud	ePKP		17 53 11
		De	i(PKP)		17 53 07.7
			iPKP		17 53 20.3
		Loyalty Islands (h = 15 km).			
"	27	Up	iP		02 23 01.1
		Sk	iP		02 23 43.6
		Um	iP		02 23 52.0
		Ud	iP		02 23 07.2
			i		02 23 12.3
		De	iP		02 22 40.1
		Greece.			
"	27	Sk	i(P)		02 43 23.5
		Um	i(P)		02 43 43.9
"	27	Sk	i(P)		02 45 04.6
		Um	i(P)		02 45 40.6
"	27	Up	iPKP		04 02 19.8 C
			i		04 02 24.0
		Sk	iPKP		04 02 13.7
			i		04 02 18.1
		Um	iPKP		04 02 08.4 C
			i		04 02 12.5
		Ud	iPKP		04 02 21.5 C
			i		04 02 25.8
		De	iPKP		04 02 29.8 C
			i		04 02 34.3
		Kermadec Islands (h = 570 km).			
		Double PKP, about 4.3 sec apart.			
"	27	Up	iP		05 27 20.3
			i		05 27 24.5
				micr	sec
			P Z'	0.1	0.9
		Sk	iP		05 28 00.6
			iPP		05 29 29.1
		Um	iP		05 27 34.8
			i		05 27 39.2
		Ud	iP		05 27 35.6
			i		05 27 40.0
		De	iP		05 27 18.8
			i		05 27 22.8
		Iran (h = 55 km).			
		Double P (Up,Um,Ud,De), small and large, in average 4.2 sec apart.			
"	27	Sk	eP		06 48 59
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	27	(cont.)			
		Um	iP	06 49 17.9	
		North Atlantic Ocean (h = N).			
"	27	Sk	eSg1	07 17 52	
		Um	iPg1	07 16 54.2	
			i	07 16 56.2	
			iSg1	07 17 14.2	
		Ud	iSg1	07 18 19.3	
		Ångermanland, Sweden, 62.9°N, 17.9°E.			
		Origin time = 07 16 29.			
"	27	Ud	iP	08 06 33.2	
		Iran (h = 60 km).			
"	27	Um	eP	09 34 53	
		Ud	eP	09 34 40	
		De	iP	09 34 50.6	
		Central America (h = N).			
"	27	Up	iPKP	09 44 59.4	C
			ipPKP	09 45 08.3	
				micr sec	
			PKP Z'	0.1 1.1	
		Sk	iPKP	09 44 52.8	C
		Um	iPKP	09 44 48.0	
			ipPKP	09 44 55.6	
		Ud	iPKP	09 45 01.1	C
		Kermadec Islands.			
		h = 30 km (Up,Um).			
"	27	Up	iSg1	11 13 44.2	
		Sk	eSg1	11 15 37	
		Um	iSg1	11 14 17.9	
		De	eSg1	11 15 04	
		Esthonia.			
		Explosion.			
"	27	Up	iSg1	11 17 12.5	
		Um	iSg1	11 19 23.1	
		Ud	eSg1	11 17 14	
		De	iPg1	11 15 14.8	
			iSg1	11 15 31.4	
		Off coast of south Sweden, 55.5°N, 15.1°E.			
		Origin time = 11 14 54.			
		Explosion?			
"	27	De	i(P)	11 24 41.6	
"	27	Up	iSg1	11 39 58.8	
		Ud	eSg1	11 40 00	
		De	iPg1	11 37 59.8	
		(cont.)			

1971 Aug.	27	(cont.)			
		De	iSg1	11 38 19.6	
		Off coast of south Sweden, 55.4°N, 15.3°E.			
		Origin time = 11 37 35.			
		Explosion?			
"	27	Up	iSg1	12 09 16.6	
			iRg	12 09 23.0	
		Sk	eSg1	12 11 11	
		Ud	iSg1	12 09 32.7	
			iRg	12 09 38.4	
		Central Sweden.			
		Explosion?			
"	27	Ki	iP	14 00 18.1	
		Um	iP	14 00 46.9	
		Ud	iP	14 01 17.1	
		Japan (h = N).			
"	27	Ud	i(P)	16 03 43.6	
"	28	Up	iPKP	03 23 52.3	
		Ki	iPKP	03 23 43.3	
		Um	ePKP	03 23 49	
		Ud	iPKP	03 23 52.6	
		De	iPKP	03 24 02.9	
		Fiji Islands (h = 520 km).			
"	28	Up	iPKP	04 28 12.3	
		Ki	ePKP	04 28 00	
			iSKP	04 31 12.8	
		Um	iPKP	04 28 03.4	
		Ud	i(PKP)	04 28 05.8	
			iPKP	04 28 13.5	
		De	iPKP	04 28 17.7	
		Tonga Islands (h = 150 km).			
"	28	Um	i(P)	06 13 08.1	
"	28	Up	iRg	10 02 15.9	
		Ud	iRg	10 02 02.3	
		De	iRg	10 02 04.7	
		Probably Östergötland, Sweden.			
		Explosion?			
"	28	Ud	iP	12 27 13.2	
		De	iP	12 26 42.7	
		Dodecanese Islands.			
"	28	Up	iP	16 09 35.1	
			ipP	16 09 41.5	
				micr sec	
			P Z'	0.1 0.9	
			pP Z'	0.3 1.3	
		(cont.)			

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 28 (cont.)

Up			micr	sec
	Mx	E	1.1	15
	Mx	N	1.0	14
	Mx	Z	2.4	14
Ki	iP		16 09	04.6
	ipP		16 09	11.1
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	2.0	15
	Mx	N	1.0	15
	Mx	Z	2.5	14
Sk	iP		16 09	34.8
	iPcP		16 09	45.9
Um	iP		16 09	16.6
	ipP		16 09	23.3
	iS		16 18	45
Ud	iP		16 09	43.7
	ipP		16 09	49.8
De	iP		16 09	55.5

Ryukyu Islands.
h = 25 km (Up,Ki,Um,Ud).
m = 6.2, M = 5.5 (Up,Ki).

" 28

Up	iP		16 41	16.5
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		16 41	44.9
	iPP		16 43	03.5
Sk	iPP		16 43	06.4
Um	iP		16 41	23.4
Ud	iP		16 41	31.6

Iran-USSR (h = N).

" 29

Up	iP		03 48	28.6
	ipP		03 48	44.4
			micr	sec
	P	Z'	0.1	0.9
Ki	iP		03 48	11.1 D
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	1.2	17
	Mx	N	0.6	19
	Mx	Z	1.1	18
Sk	iP		03 48	32.6
Um	iP		03 48	16.8
	ipP		03 48	30.7
Ud	iP		03 48	36.8
	ipP		03 48	50.4

Mindanao.
h = 50 km (Up,Um,Ud).
m = 6.3 (Up,Ki).

" 29

Up	iSg1	05 24	30.7
Ki	ePn	05 20	17
	iSn	05 21	15.3
	iSg1	05 21	39.0

(cont.)

1971
Aug. 29 (cont.)

Sk	iSg1	05 24	03.2
Um	iSn	05 21	55.1
	iS*	05 22	23.4
	iSg1	05 22	31.6

Northwest Russia,
67.8°N, 33.9°E.
Origin time = 05 19 00.
Explosion.

" 29

Up	iP	09 42	33.7
Ki	eP	09 42	16
Sk	iP	09 42	38.5
Um	iP	09 42	23.4
Ud	iP	09 42	42.9

Mindanao (h = 70 km).

" 29

Up			micr	sec
	Mx	E	1.2	20
	Mx	N	2.1	15
	Mx	Z	3.4	17
Ki	iP		10 59	48.5
			micr	sec
	Mx	E	4.1	15
	Mx	N	2.2	15
	Mx	Z	3.7	15
Sk	iP		10 59	30.4
Um	iP		11 00	05.8
Ud	iP		11 00	03.7
De	iP		11 00	33.4

Iceland (h = N).
M = 4.6 (Up,Ki).

" 29

Ki	iP	15 25	10.7
Ud	eP	15 25	26
De	iP	15 25	24.8

Kashmir-Sinkiang (h = N).

" 29

Up	iSg1	16 34	41.8
Ki	iPn	16 30	25.9
	iSn	16 31	24.1
	iSg1	16 31	48.0
Um	i	16 32	19.7
	iSg1	16 32	42.4
Ud	iSg1	16 35	08.7

Northwest Russia,
67.9°N, 34.0°E.
Origin time = 16 29 08.
Explosion.

" 30

Ud	iP	02 37	19.6

Japan (h = N).

" 30

Ki	iPKP	03 46	20.6
Sk	iPKP	03 46	27.0
Um	iPKP	03 46	23.2
Ud	iPKP2	03 46	37.3

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	30	(cont.)		
		De	iPKP	03 46 25.4
		Macquarie Islands (h = N).		
"	30	Ki	iP	08 13 16.8
		Sk	iP	08 13 46.4
		Mariana Islands (h = 160 km).		
"	30	Ki	iP	08 47 21.1
		Arctic Ocean.		
"	30	Ki	iP	09 52 44.2
		Hindu Kush.		
"	30	Up	iP	12 51 59.6
"	30	Um	i(P)	15 23 54.9
"	30	Ki	e(Pg1)	18 38 56
			iSg1	18 39 33.2
		Sk	iSg1	18 39 36.1
		Um	i(Pg1)	18 39 12.6
			iSn	18 39 46.7
			iSg1	18 40 00.4
		Ud	i(Sg1)	18 41 33.0
		Nordland, Norway, 66.5°N, 13.8°E.		
		Origin time = 18 38 02.		
		Explosion.		
"	30	Ud	iP	19 44 39.0
		Hindu Kush.		
"	30	Ki	iPKP	21 31 34.4
		Sk	ePKP	21 31 46
		Um	iPKP	21 31 41.2
		Ud	iPKP	21 31 50.5
		New Hebrides Islands (h = 120 km).		
"	30	Ud	i(P)	23 07 13.8
"	30	Ud	iP	23 27 08.7
"	30	Up	Mx	23 55
				micr sec
			Mx E	0.8 20
			Mx N	0.7 20
			Mx Z	0.8 20
		Ki	Mx	23 54
				micr sec
			Mx E	0.8 18
			Mx Z	1.0 17
		South Pacific Ocean (h = N).		
		M = 5.6 (Up,Ki).		

1971 Aug.	31	Up	eP	01 59 55
		Ki	iP	02 00 06.6
		Sk	eP	02 00 23
		Um	eP	01 59 51
		Ud	eP	02 00 08
		Hindu Kush (h = 90 km).		
"	31	Um	e(P)	15 29 05
"	31	Ki	iPg1	18 10 28.1
			iSg1	18 10 33.1
			iRg	18 10 35.1
		Sk	iSg1	18 13 14.1
		Um	iSg1	18 12 22.1
		Lapland, Sweden, 67.7°N, 21.2°E.		
		Origin time = 18 10 22.		
		Explosion.		
"	31	Up	iP	20 38 53.9
		Um	iP	20 38 34.5
		De	iP	20 39 12.1
		South of Japan (h = 360 km).		
"	31	Ud	iP	21 25 34.3
"	31	Ki	eP	23 10 26

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January 20, 1974

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

Remark. Since September 23, 1971, Kiruna operates also a long-period vertical-component Press-Ewing seismograph with photographic recording (seismometer period = 15 sec, galvanometer period = 100 sec). This replaces the same system with visible ink recording, whose operation was discontinued in June, 1970. In the monthly bulletins, these records are used only for supplementary time readings.

S E P T E M B E R 1 - 30, 1971

1971 Sep.	1	Ki	iSgl	00 46 41.2	
		Sk	iSgl	00 46 55.9	
		Um	iSgl	00 47 15.5	
		Nordland, Norway, 66.7°N, 14.1°E.			
		Origin time = 00 45 15.			
		Explosion.			
"	1	Ki	i(P)	00 47 58.2	
		Sk	i(P)	00 48 33.4	
"	1	Up	iPKP	00 51 02.5	
		Ki	iPKP	00 51 08.9	
		Ud	iPKP	00 51 01.1	
		South Sandwich Islands (h = N).			
"	1	De	i(Sgl)	06 18 47.9	
"	1	Ud	iP	06 56 03.0	
"	1	Ud	iP	10 37 18.1	
"	1	Ud	iP	11 04 56.1	
		Kurile Islands (h = 50 km).			
"	1	Ki	iP	12 22 16.8	
		Sk	iP	12 22 34.1	
			i	12 22 51.9	
		Um	i(pP)	12 22 59.8	
		Hindu Kush.			

1971 Sep.	1	Up	iSKP	14 21 58.7	
		Um	iPKP	14 18 39.4	
		Ud	iSKP	14 22 03.3	
		De	eSKP	14 22 15	
		New Hebrides (h = 130 km).			
"	1	Ki	iSgl	16 22 41.7	
		Sk	iSgl	16 22 48.5	
		Um	iSgl	16 23 09.0	
		Nordland, Norway, 66.5°N, 14.2°E.			
		Origin time = 16 21 14.			
		Explosion.			
"	1	Um	iSgl	16 24 06.3	
		Near Lake Ladoga.			
		Explosion.			
"	1	Up	iPKP	17 30 32.0	
				micr	sec
			PKP Z'	0.1	0.8
		Ud	iPKP	17 30 34.3	
		De	iPKP	17 30 44.2	
		Tonga-Kermadec Islands (h = 490 km).			
"	1	Sk	ePKP	20 36 23	
		Um	iPKP	20 36 12.3	
		Ud	iPKP	20 36 25.1	
		De	iPKP	20 36 30.7	
		New Britain (h = N).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 2 Ki ePgl 04 28 34
iSgl 04 29 23.6
Sk ePgl 04 28 06
iSgl 04 28 33.3
Um iSgl 04 29 24.9
Nordland, Norway,
65.7°N, 12.6°E.
Origin time = 04 27 26.

" 2 Up iPKP 06 52 01.9
Ki iPKP 06 51 48.6
Sk iPKP 06 51 59.2
Um iPKP 06 51 54.4
Ud iPKP 06 52 04.4
De iPKP 06 52 10.6
Santa Cruz Islands
(h = 180 km).

" 2 Up iP 12 31 27.1
Ki iP 12 32 06.8
Um eP 12 31 40
Ud iP 12 31 43.3
ipP 12 31 50.0
De iP 12 31 24.5
Iran.
h = 25 km (Ud).

" 2 Up iP1 18 31 54.0
iP2 18 31 56.9
iPP 18 33 19.2
micr sec
P2 Z' 0.1 0.6
Ki eP1 18 32 33
Sk iP1 18 32 30.8
Um iP1 18 32 10.1
iPP 18 33 34.7
Ud iP1 18 32 09.4
iP2 18 32 12.2
De iP2 18 31 53.3
Iran (h = 45 km).
Double P, in average 2.8 sec apart.

" 2 Ud iP 22 29 04.1
i 22 29 33.0
Iran (h = 40 km).

" 2 Sk iPKP 23 28 41.9 C
New Hebrides Islands
(h = 50 km).

" 3 Up iPKP 00 07 20.6
micr sec
PKP Z' 0.1 1.0
Ki ePKP 00 07 10
Um iPKP 00 07 15.7
(cont.)

1971
Sep. 3 (cont.)
Ud iPKP 00 07 22.3
De iPKP 00 07 32.6
Tonga-Kermadec Islands
(h = N).

" 3 Ki eP 02 09 56
Um iP 02 10 03.8
Ud iP 02 10 21.0
Mindanao (h = 110 km).

" 3 Ud iP 13 22 26.6
Turkey.

" 3 Up iP 18 52 45.2
Ki iP 18 52 28.5
Um iP 18 52 32.4
Ud iP 18 52 58.0
China (h = N).

" 3 Ki ePKP 23 56 30
South Sandwich Islands
(h = N).

" 4 Ki iP 00 58 53.0
Mariana Islands (h = 140 km).

" 4 Up iP 01 21 02.2
Ki eP 01 20 46
Ud iP 01 21 16.5
China (h = N).

" 4 Ki iP 02 06 08.2
Mariana Islands (h = 230 km).

" 4 Up iPgl 06 54 29.9
iSgl 06 54 38.0
iRg 06 54 41.2
Um iSgl 06 56 45.3
Ud iSgl 06 55 28.8
Södermanland, Sweden,
59.3°N, 17.5°E.
Origin time = 06 54 21.
Explosion?

" 4 Ud iP 13 49 48.0
Iran (h = 30 km).

" 4 Ki iP 14 23 13.2
Um iP 14 23 22.5
Ud iP 14 23 45.9
Luzon (h = 70 km).

" 4 Up iP 15 21 12.9
Um iP 15 20 48.9
Ud iP 15 21 18.1
Kurile Islands (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 4 Up iP 16 03 57.6 C
iScP 16 08 20.0
iP'P' 16 32 33.4
micr sec
P Z' 0.6 1.3
Ki iP 16 03 03.3 C
iPcP 16 03 56.4
iScP 16 07 43.9
micr sec
P Z' 0.8 1.3
Sk iP 16 03 32.9 C
Um iP 16 03 31.1 C
iPcP 16 04 11.9
iScP 16 08 01.9
iP'P' 16 32 44.0
Ud iP 16 03 55.5 C
iPcP 16 04 27.7
iScP 16 08 19.1
De iP 16 04 19.0 C
Unimak Island (h = 110 km).
m = 6.5 (Up,Ki).

" 4 Up iP 17 21 59.1
Ki iP 17 21 34.8
Ud iP 17 22 09.0
Formosa (h = 130 km).

" 4 Up iP 22 42 32.0
Ki iP 22 41 38.4
Um iP 22 42 03.9
Ud iP 22 42 35.9
De iP 22 42 57.3
Kamchatka.

" 5 Ud iP 02 25 19.4
North Atlantic Ocean.

" 5 Ki iP 09 25 46.7
Um eP 09 25 54
Mexico (h = 50 km).

" 5 Um iP 10 09 55.1 C
Ud iP 10 10 18.5
Mariana Islands.

" 5 Up i(P) 12 08 17.5
Ud i(P) 12 08 55.8

" 5 Ki iP 12 26 22.3
Um iP 12 25 44.4
Ud iP 12 25 32.8
Turkey (h = 20 km).

" 5 Up iX 15 05 44.1
micr sec
X Z' 0.1 1.1
(cont.)

1971
Sep. 5 (cont.)
Ki iP 15 04 40.8
iX 15 04 48.5
micr sec
P Z' 0.1 1.1
Mx E 0.7 15
Mx N 0.7 15
Mx Z 1.5 21
Sk iX 15 05 26.3
Um iP 15 05 07.7
iX 15 05 14.5
Ud iP 15 05 39.2
iX 15 05 47.8
Komandorsky Islands (h = N).
m = 5.9 (Up,Ki).
The phase X can either be interpreted as a second P-phase, in average 7.7 sec after the first onset, or as pP for a focal depth of 30 km.

" 5 Ki iPn 16 03 12.2
iSn 16 03 59.6
iSgl 16 04 16.1
Um iSgl 16 05 44.9
Ud iSgl 16 08 15.0
Northwest Russia-Norway border region.
69.5°N, 30.7°E.
Origin time = 16 02 10.
Explosion.

" 5 Up iP 18 46 02.2 C
iS 18 54 45
micr sec
P Z' 2.0 1.5
Mx E 420 20
Mx N 350 19
Mx Z 310 20
Ki iP 18 45 16.8 C
micr sec
P Z' 1.9 1.5
Mx E 470 20
Mx N 320 19
Mx Z 250 15
Sk iP 18 45 54.4 C
i(PPP) 18 49 52.2
Um iP 18 45 37.5 C
iS 18 53 58
Ud iP 18 46 09.5 C
De iP 18 46 26.2 C
Sakhalin (h = 10 km).
m = 7.0, M = 7.7 (Up,Ki).

" 5 Up iP 19 44 24.1 C
iPcP 19 44 58.3
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 5 (cont.)

Up			micr	sec
	P	Z'	0.1	1.0
Ki	iP		19 43 39.3	C
			micr	sec
	P	Z'	0.1	1.1
Sk	iP		19 44 15.8	C
Um	iP		19 43 58.9	C
Ud	iP		19 44 31.4	C
De	iP		19 44 49.0	

Sakhalin (h = 15 km).
m = 5.9 (Up,Ki).

" 5

Ki	iP		20 09 30.0
Um	iP		20 09 50.8
Ud	iP		20 10 21.8

Sakhalin (h = N).

" 5

Up	iP		20 47 34.1
Ki	iP		20 46 48.6
Um	iP		20 47 08.7
Ud	iP		20 47 39.5

Sakhalin (h = N).

" 5

Ud	iP		20 53 38.3

Sakhalin (h = N).

" 5

Ud	iP		21 24 38.5

Sakhalin (h = N).

" 5

Ki	iP		21 50 39.6

China-USSR.

" 5

Up	Mx		23 33
			micr sec
	Mx	E	1.5 25
	Mx	Z	1.6 20
Ki	Mx		23 34
			micr sec
	Mx	E	1.0 18
	Mx	N	1.1 20
	Mx	Z	1.7 22

Easter Island region
(h = N).
M = 5.6 (Up,Ki).

" 6

Up	iP		00 41 29.0
	i		00 43 26.1
			micr sec
	Mx	N	0.8 16
	Mx	Z	1.1 16
Ki	eP		00 41 44
			micr sec
	Mx	E	0.7 11
	Mx	N	0.4 15
	Mx	Z	0.7 10

(cont.)

1971
Sep. 6 (cont.)

Sk	iP		00 41 51.5
Um	iP		00 41 28.8
Ud	iP		00 41 43.4
De	eP		00 41 39

Afghanistan (h = 35 km).
M = 4.9 (Up,Ki).

" 6

Up	iP		03 10 11.9 C
			micr sec
	P	Z'	0.1 1.0
	Mx	E	1.0 17
	Mx	N	0.9 17
	Mx	Z	1.0 15
Ki	iP		03 09 26.4
			micr sec
	P	Z'	0.1 1.0
	Mx	E	1.0 11
	Mx	N	0.9 12
	Mx	Z	0.7 10
Sk	iP		03 10 02.4 C
Um	iP		03 09 46.7 C
Ud	iP		03 10 18.5 C
De	iP		03 10 36.5 C

Sakhalin (h = N).
m = 5.9, M = 5.2 (Up,Ki).

" 6

Up	iP		06 56 36.4
	ipP		06 56 40.8
			micr sec
	P	Z'	0.1 1.0
	pP	Z'	0.2 1.1
	Mx	E	2.5 19
	Mx	N	3.6 20
	Mx	Z	1.9 20
Ki	iP		06 55 51.5
	ipP		06 55 55.8
			micr sec
	P	Z'	0.2 1.1
	pP	Z'	0.2 1.0
	Mx	E	4.3 22
	Mx	N	2.3 18
	Mx	Z	2.0 13
Sk	iP		06 56 28.1
Um	iP		06 56 11.6
	ipP		06 56 15.6
	iS		07 04 29
Ud	iP		06 56 43.9
	ipP		06 56 48.0

Sakhalin.
h = 15 km (Up,Ki,Um,Ud).
m = 6.1, M = 5.6 (Up,Ki).

" 6

Sk	iP		10 11 17.4
	i		10 11 25.5

Mexico (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Sep.	6	Up			micr	sec
			Mx	E	1.0	18
			Mx	N	0.7	13
			Mx	Z	1.6	15
		Ki			micr	sec
			Mx	E	1.2	13
			Mx	N	0.7	12
			Mx	Z	0.7	16
		Um	iP		10 58 43.2	
		Ud	iP		10 59 15.4	
		Sakhalin (h = 40 km).				
		M = 5.2 (Up,Ki).				
"	6	Ud	iP		12 11 18.7	
"	6	Ud	i(P)		12 11 47.4	
			i		12 11 50.8	
		De	i(P)		12 12 07.2	
"	6	Up	iP		13 47 44.1 C	
			ipP		13 47 51.8	
			iPcP		13 48 18.2	
			iS		13 56 20	
					micr	sec
			P	Z'	0.3	1.1
			Mx	E	3.1	18
			Mx	N	3.7	19
			Mx	Z	7.0	15
		Ki	iP		13 46 59.0 C	
			ipP		13 47 06.6	
					micr	sec
			P	Z'	0.2	1.1
			Mx	E	7.8	23
			Mx	N	3.5	13
			Mx	Z	4.8	18
		Sk	iP		13 47 35.7 C	
		Um	iP		13 47 19.4 C	
			ipP		13 47 26.2	
			iS		13 55 34	
		Ud	iP		13 47 51.4 C	
			ipP		13 47 59.1	
			iPcP		13 48 18.7	
		De	iP		13 48 09.2 C	
			ipP		13 48 16.4	
		Sakhalin.				
		h = 30 km (Up,Ki,Um,Ud,De).				
		m = 6.3, M = 5.8 (Up,Ki).				
"	6	Ud	i(P)		14 57 48.5	
		De	i(P)		14 57 53.1	
"	6	Ki	iP		18 30 23.0	
		Sk	iP		18 30 46.8	
		Um	iP		18 30 41.0	
		Mariana Islands (h = 60 km).				

1971				
Sep.	6	Ud	iP	20 21 29.0
		Sakhalin (h = N).		
"	6	Up	iPKP	20 22 40.8
		Ud	iPKP	20 22 42.0
		De	iPKP	20 22 52.5
		Fiji Islands (h = 360 km).		
"	6	Um	iP	23 29 47.7
		Ud	iP	23 30 19.0
		Kurile Islands.		
"	6	Up	iPKP	23 35 57.1
		Ud	iPKP	23 35 58.8
		De	iPKP	23 36 08.4
"	7	Up	iPgl	02 41 56.0
			i	02 42 09.3
			iSgl	02 42 15.4
		Sk	iSgl	02 43 03.9
		Um	eSn	02 42 52
			iSgl	02 42 57.2
		Ud	iPgl	02 42 05.9
			iSgl	02 42 28.7
		Hälsingland, Sweden, near 61.3°N, 16.8°E.		
		Origin time = 02 41 32.		
		Felt.		
"	7	Up	iP	02 48 00.4
		Um	iP	02 48 38.5
		Ud	iP	02 48 07.1
		De	iP	02 47 31.9
		Greece.		
"	7	Up	iP	03 38 29.2
"	7	Ud	eP	04 05 51
		De	iP	04 04 54.0
		Italy (h = 25 km).		
"	7	Ud	iP	09 34 32.4
		Kurile Islands.		
"	7	Up	iPgl	11 41 24.1
			iSgl	11 41 39.4
			iRg	11 41 46.6
		Sk	eSgl	11 43 59
		Um	iSgl	11 43 39.8
		Ud	iPgl	11 41 50.4
			iSn	11 42 20.5
			iSgl	11 42 26.5
		De	i(S*)	11 42 43.9
			iSgl	11 42 50.9
		Baltic Sea, near coast of Södermanland, Sweden, (cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	7	(cont.) 58.9°N, 18.1°E. Origin time = 11 41 05. Explosion.			
"	7	Up	iSgl	11 42 02.9	
			iRg	11 42 09.8	
		Um	iSgl	11 44 04.2	
		Ud	iSgl	11 42 50.7	
		De	iSgl	11 43 14.3	
		Baltic Sea, near coast of Södermanland, Sweden, 58.7°N, 18.1°E. Origin time = 11 41 29. Explosion.			
"	7	Up	iPgl	11 43 21.5	
			iSgl	11 43 36.6	
			iRg	11 43 43.2	
		Sk	eSgl	11 45 56	
		Um	iSgl	11 45 37.8	
		Ud	iSgl	11 44 24.0	
		De	i(S*)	11 44 42.4	
			iSgl	11 44 48.1	
		Baltic Sea, near coast of Södermanland, Sweden, 58.9°N, 18.1°E. Origin time = 11 43 03. Explosion.			
"	7	Up	iSgl	13 01 48.4	
		Ki	eSgl	13 04 45	
		Sk	iSgl	13 03 46.8	
		Um	iSgl	13 02 38.8	
		Ud	iSgl	13 02 51.3	
		De	eSgl	13 03 18	
		Esthonia, 59.1°N, 24.1°E. Origin time = 13 00 00. Explosion.			
"	7	Ud	iP	15 40 40.6	
		Ryukyu Islands (h = N).			
"	7	Ki	iSgl	17 36 22.7	
		Sk	iSgl	17 36 27.9	
		Um	iSn	17 36 35.7	
			iSgl	17 36 48.9	
		Nordland, Norway, 66.5°N, 14.2°E. Origin time = 17 34 54. Explosion.			
"	7	Ud	i(Sgl)	17 41 43.1	
"	8	Up	iP	03 28 01.1	
		(cont.)			

1971 Sep.	8	(cont.)			
		Up		micr	sec
			Mx E	2.5	19
			Mx N	3.0	19
			Mx Z	3.0	15
		Ki	iP	03 27 15.5	
				micr	sec
			Mx E	2.0	15
			Mx N	2.1	18
			Mx Z	3.4	19
		Sk	e(P)	03 27 57	
		Um	iP	03 27 35.9	
		Ud	iP	03 28 08.1	
		De	iP	03 28 25.3	
		Sakhalin (h = 15 km). M = 5.6 (Up,Ki).			
"	8	Up	iP	04 13 46.2	
			i	04 13 58.0	
		Ki	iP	04 15 14.0	
		Sk	eP	04 14 40	
			e	04 14 56	
		Um	eP	04 14 27	
			i	04 14 44.6	
		Ud	eP	04 14 01	
		De	iP	04 13 21.6	
		Rumania (h = 140 km).			
"	8	Up	iP	07 36 38.0 C	
			ipP	07 36 50.3	
				micr	sec
			P Z'	0.1	0.9
			pP Z'	0.2	1.1
		Ki	iP	07 35 58.6 C	
			ipP	07 36 11.3	
				micr	sec
			pP Z'	0.1	0.7
			Mx E	0.7	17
			Mx N	0.3	13
			Mx Z	0.9	18
		Sk	iP	07 36 31.8 C	
			ipP	07 36 44.3	
		Um	iP	07 36 16.0 C	
			ipP	07 36 28.3	
		Ud	iP	07 36 45.2 C	
			ipP	07 36 57.6	
		De	iP	07 37 00.0 C	
			ipP	07 37 12.7	
		Japan. h = 45 km (Up,Ki,Sk,Um,Ud,De). m = 6.1 (Up,Ki).			
"	8	Ki	iPn	11 48 30.1	
			iSn	11 49 29.3	
			iS*	11 49 49.5	
		Sk	eSgl	11 52 18	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 8 (cont.)

Um	iSn	11 50 08.2	
	iSgl	11 50 43.3	

Northwest Russia,
67.8°N, 34.2°E.
Origin time = 11 47 11.
Explosion.

" 8

Up	iP	11 59 03.1	
	iPP	12 01 35.8	
	iS	12 07 39	
		micr	sec
	P Z'	0.1	1.0
	Mx E	42	19
	Mx N	46	19
	Mx Z	24	18
Ki	iP	11 58 17.6	
	iS	12 06 19	
		micr	sec
	P Z'	0.1	1.0
	Mx E	37	18
	Mx N	29	12
	Mx Z	30	14
Sk	iP	11 58 54.5	
Um	iP	11 58 36.8	
	ipP	11 58 38.8	
	iS	12 06 56	
Ud	iP	11 59 09.6	
	ipP	11 59 11.1	
De	iP	11 59 29.2	

Sakhalin.
h = 5 km (Um,Ud).
m = 5.9, M = 6.8 (Up,Ki).
The relatively low value of m compared to M is probably connected with the shallow focal depth, at least in part.

" 8

Up	iP	12 49 31.6
Ki	iP	12 48 45.3
Sk	iP	12 49 23.8
Um	iP	12 49 06.9
Ud	iP	12 49 39.0
De	iP	12 49 57.3

Sakhalin (h = 20 km).

" 8

Up	iP	13 01 25.5	C
	ipP	13 01 28.8	
		micr	sec
	P Z'	0.1	1.0
Ki	iP	13 01 51.7	
		micr	sec
	P Z'	0.1	1.1
Sk	iP	13 01 59.9	
Um	iP	13 01 33.4	C

(cont.)

1971
Sep. 8 (cont.)

Um	ipP	13 01 37.2	
Ud	iP	13 01 41.2	C
	ipP	13 01 44.6	
	iPP	13 03 28.1	
De	iP	13 01 29.1	
	ipP	13 01 32.9	

Iran.
h = 15 km (Up,Um,Ud,De).
m = 5.5 (Up,Ki).

" 8

Ki	eP	13 08 51
Ud	iP	13 09 39.3

Sakhalin (h = N).

" 8

De	i	14 34 30.7
	i	14 34 34.1

Probably sonic boom.
Felt.

" 8

Up	eP	15 12 48	
		micr	sec
	Mx E	1.0	17
	Mx N	1.1	20
Ki	eP	15 12 03	
		micr	sec
	Mx E	0.7	12
	Mx N	0.7	12
	Mx Z	0.8	14
Um	iP	15 12 23.2	
Ud	iP	15 12 54.9	

Sakhalin (h = N).
M = 5.1 (Up,Ki).

" 8

Up	iP	17 06 26.2	C
Ki	iP	17 07 29.6	
Sk	eP	17 07 11	
Um	iP	17 06 54.0	
Ud	iP	17 06 39.0	
De	eP	17 06 07	
	ipP	17 06 10.0	

Turkey (h = 5 km).

" 8

Up	iP	17 10 30.6	
	iPP	17 12 52.9	
	iS	17 19 10	
	iP'P'	17 39 16.7	
		micr	sec
	P Z'	0.2	1.0
	Mx E	18	20
	Mx N	23	20
	Mx Z	11	17
Ki	iP	17 09 46.8	
	iPP	17 11 56.1	
		micr	sec
	P Z'	0.2	1.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep. 8 (cont.)

Ki			micr	sec
	Mx	E	20	20
	Mx	N	11	12
	Mx	Z	14	14
Sk	iP		17 10 21.8	
Um	iP		17 10 05.2	
	iS		17 18 24	
	iP'P'		17 39 30.6	
Ud	iP		17 10 36.8	
	iP'P'		17 39 19.5	
De	iP		17 10 55.2	

Sakhalin (h = 15 km).
m = 6.2, M = 6.5 (Up,Ki).

" 8

Ki	iSg1	18 28 29.3
Sk	iSg1	18 28 36.4
Um	iSg1	18 28 57.4
Ud	iSg2	18 30 28.8

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 18 27 01.
Explosion.

" 8

Up	iP		19 32 51.6	
			micr	sec
	Mx	E	1.0	20
	Mx	N	1.1	20
Ki	eP		19 32 08	
			micr	sec
	Mx	E	0.8	16
	Mx	N	0.4	12
Sk	eP		19 32 44	
Um	iP		19 32 26.8	
Ud	iP		19 32 59.0	

Sakhalin (h = 20 km).
M = 5.1 (Up,Ki).

" 8 Ud iP 19 54 53.0

" 8 Ud i(P) 20 10 24.8

" 8

Up	iP		20 38 25.9	
			micr	sec
	P	Z'	0.1	1.3
	Mx	E	1.2	20
	Mx	N	1.0	19
	Mx	Z	2.2	20
Ki	iP		20 38 30.3	
			micr	sec
	Mx	E	1.1	16
	Mx	N	0.4	13
	Mx	Z	1.0	16
Sk	iP		20 38 01.2	
Um	iP		20 38 27.2	
Ud	iP		20 38 08.3	

North Atlantic Ocean (h = N).
M = 4.7 (Up,Ki).

1971 Sep. 8 Ud iP 20 55 42.0
Sakhalin.

" 8

Ki	eP	22 22 53
Sk	ePKP	22 27 20
Um	iP	22 22 58.2
	iPKP	22 27 12.2
Ud	iPKP	22 27 21.6

Banda Sea (h = N).

" 8

Up	iP		22 40 37.3	
	i		22 40 41.6	
	iX		22 40 54.6	
			micr	sec
	P	Z'	0.1	1.4
	Mx	E	1.2	20
	Mx	N	2.1	20
	Mx	Z	1.2	18
Ki	iP		22 41 18.9	
	i		22 41 24.9	
			micr	sec
	P	Z'	0.1	0.9
	Mx	E	1.6	16
	Mx	N	0.8	13
	Mx	Z	1.9	14
Sk	eX		22 41 40	
Um	iP		22 40 54.8	
Ud	iP		22 40 52.3	
	i		22 40 56.4	
De	eP		22 40 35	

Turkey-USSR (h = 35 km).
m = 5.5, M = 4.8 (Up,Ki).

" 9 Ud iP 01 50 32.5
Peru-Brazil (h = 150 km).

" 9

Um	iP	03 05 43.5
Ud	iP	03 06 06.7

Mariana Islands (h = 320 km).

" 9

Up	iP	06 56 01.4
	ipP	06 56 03.5
Um	eP	06 56 41
Ud	iP	06 56 10.1
	ipP	06 56 12.4

Greece.
h = 10 km (Up,Ud).

" 9

Um	iP	10 35 54.6
Ud	iP	10 36 25.8

Kurile Islands (h = 45 km).

" 9 Ud iP 10 57 33.0
Sakhalin (h = N).

" 9 Ud i(P) 11 34 00.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Sep.	9	Ki	ePgl		12 10 24	
			iSgl		12 10 49.0	
		Um	iSgl		12 12 35.2	
		Probably Lofoten area, Norway.				
"	9	Ki	ePgl		12 30 07	
			iSgl		12 30 31.4	
		Um	iSgl		12 32 16.5	
		Probably Lofoten area, Norway.				
"	9	Ki	iP		13 35 01.0	
					micr	sec
			P	Z'	0.1	0.8
		Um	iP		13 34 59.1	
		Ud	iP		13 35 11.7	
		Sumatra (h = 100 km).				
"	9	Up	iP		15 15 18.0	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	1.0	11
			Mx	N	2.3	13
			Mx	Z	3.2	12
		Ki	iP		15 16 21.9	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	1.4	13
			Mx	N	1.0	11
			Mx	Z	1.7	12
		Um	iP		15 15 47.1	
		Ud	iP		15 15 28.5	
		De	iP		15 14 56.9	
		Turkey (h = 25 km).				
		m = 5.8, M = 5.0 (Up,Ki).				
"	9	Ud	i(P)		17 02 16.5	
"	9	Up	iP1		23 12 14.9 C	
			iP2		23 12 22.6	
			iP3		23 12 32.9	
			iP4		23 12 45.8	
			iS		23 21 14	
			iScS		23 22 16.6	
					micr	sec
			P1	Z'	0.2	0.7
			P3	Z'	0.3	0.8
			Mx	E	4.5	23
			Mx	N	8.2	20
			Mx	Z	6.3	23
		Ki	iP1		23 11 28.0 C	
			iP2		23 11 35.5	
			iP3		23 11 44.7	
			iS		23 19 50	
					micr	sec
			P1	Z'	0.2	0.8
		(cont.)				

1971						
Sep.	9	(cont.)				
		Ki			micr	sec
			P3	Z'	0.3	0.8
			Mx	E	8.9	17
			Mx	N	5.3	18
			Mx	Z	9.4	16
		Sk	iP1		23 12 03.8 C	
			iP2		23 12 11.4	
			iP3		23 12 22.0	
		Um	iP1		23 11 49.2 C	
			iP3		23 12 04.7	
			iP4		23 12 18.8	
			iS		23 20 24	
		Ud	iP1		23 12 20.6 C	
			iP2		23 12 27.4	
			iP3		23 12 37.0	
			iP4		23 12 48.4	
		De	iP1		23 12 39.0	
			iP2		23 12 46.1	
			iP3		23 12 56.6	
		Kurile Islands (h = 5 km).				
		m = 6.4 (P1), 6.6 (P3),				
		M = 6.1 (Up,Ki).				
		The phases P1, P2, P3 and P4 denote multiple P-phases.				
		In average:				
		P2 - P1 = 7.2 sec,				
		P3 - P1 = 17.1 sec,				
		P4 - P1 = 29.4 sec.				
"	10	Ud	i(PKP)		00 15 50.3	
		De	i(PKP)		00 16 01.6	
"	10	Ud	iP		04 21 18.1	
"	10	Up	iPKP		06 48 15.4	
					micr	sec
			Mx	E	0.9	19
			Mx	N	2.1	20
			Mx	Z	3.0	20
		Ki	iPKP		06 48 02.3	
					micr	sec
			Mx	E	0.9	17
			Mx	N	0.8	17
			Mx	Z	1.7	16
		Sk	iPKP		06 48 12.5	
		Um	iPKP		06 48 08.6	
		Ud	i(PKP)		06 48 09.0	
			iPKP		06 48 17.5	
		De	iPKP		06 48 20.9	
		Tonga Islands (h = N).				
		M = 5.8 (Up,Ki).				
"	10	Ki	iPgl		11 04 40.4	
			iSgl		11 05 07.6	
		Sk	iSgl		11 05 54.3	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 10 (cont.)

	Um	iSgl	11 05 44.9

Lapland, Sweden,
66.6°N, 16.4°E.
Origin time = 11 04 06.

" 10	Up	iSKP	14 13 22.9
	Ki	ePKP	14 10 34
		iSKP	14 12 57.6
	Sk	ePKP	14 10 36
		iSKP	14 13 15.3
	Um	iPKP	14 10 37.5
		iSKP	14 13 10.3
	Ud	iPKP	14 10 42.0
		iSKP	14 13 24.3
	De	iPKP	14 10 51.8
		iSKP	14 13 34.5

Fiji Islands (h = 670 km).

" 10	Up	iP	16 04 36.7
	Um	iP	16 04 08.6
	Ud	iP	16 04 40.3
		ipP	16 04 54.8

Kurile Islands.
h = 55 km (Ud).

" 11	Up	iP		02 07 57.0	C
				micr	sec
		P	Z'	0.1	0.7
		Mx	E	0.4	11
		Mx	N	0.5	12
		Mx	Z	0.6	12
	Ki	iP		02 09 11.7	
				micr	sec
		Mx	E	0.4	14
		Mx	N	0.3	10
		Mx	Z	0.5	9
	Sk	iP		02 08 39.2	
	Um	iP		02 08 34.9	
	Ud	iP		02 08 04.1	
		ipP		02 08 06.0	
	De	eP		02 07 26	

Greece.
h = 5 km (Ud).
M = 4.4 (Up,Ki).

" 11	Ki	iP	06 00 38.1
	Um	iP	06 00 30.5
	Ud	iP	06 00 53.4

Burma (h = N).

" 11	Up	iP	06 39 29.8
		i	06 39 33.9
	Ki	iP	06 39 25.4
		i	06 39 30.2
	Sk	iP	06 39 44.9

(cont.)

1971
Sep. 11 (cont.)

	Sk	i	06 39 49.2
	Um	iP	06 39 23.8
		i	06 39 28.2

Burma (h = 30 km).
The second phase is in average 4.4 sec delayed. It can either be interpreted as another event from the same area or as pP for a focal depth of 15 km.

" 11	Ki	iPn	10 58 02.7
		iSn	10 58 52.0
		iS*	10 59 05.7
	Sk	eSgl	11 01 49
	Um	i	11 00 13.6
		iSgl	11 00 34.8

Northwest Russia-Norway border region,
69.4°N, 31.2°E.
Origin time = 10 56 58.
Explosion.

" 11	Um	iS*	11 46 08.1
		iSgl	11 46 13.6

Northwest Russia.
Explosion.

" 11	Um	iS*	11 46 39.2
		iSg	11 46 45.3

Northwest Russia.
Explosion.

" 11	Up	iSgl	14 02 23.6
	Ki	iSgl	14 04 56.0
	Um	iSgl	14 02 58.6
	Ud	eSgl	14 03 30

Esthonia,
Origin time = 14 00 17.
Explosion.

" 11	Up	iSn	14 17 45.2
		iSgl	14 17 49.1
	Sk	iSgl	14 18 51.5
	Um	eSgl	14 19 33
	Ud	iPgl	14 16 47.7
		iSgl	14 17 05.6
	De	iSn	14 17 38.6
		iSgl	14 17 42.1

Dalsland, Sweden,
58.9°N, 12.8°E.
Origin time = 14 16 25.

" 11	Ki	iP	15 05 51.8
	Sk	iP	15 06 11.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 11 (cont.)
Um iP 15 05 49.9
Ud iP 15 06 08.7
Burma (h = 35 km).

" 11 Ki iP 22 57 45.2

" 12 Ki eP 03 44 56
Sk iP 03 45 16.8
Arctic Ocean.

" 12 Up iPKP 04 35 06.2
Sk iPKP 04 35 11.1
South Atlantic Ocean
(h = N).

" 12 Up iP 05 10 55.6 C
Ud iP 05 11 11.7
Afghanistan-USSR (h = 130 km).

" 12 Ki iP 05 51 39.3
micr sec
Mx E 0.4 13
Mx N 0.3 15
Mx Z 0.5 14
Sk iP 05 51 54.8
Ud iP 05 52 40.8
Norwegian Sea.

" 12 Up iSn 06 02 42.3
iSgl 06 03 47.5
Ki iPn 05 59 32.1
iSn 06 00 29.5
iSgl 06 00 52.0
Sk iSgl 06 03 18.2
Um iSn 06 01 11.1
iSgl 06 01 46.6
Ud iSgl 06 04 11.4
De eSgl 06 05 41
Northwest Russia,
68.0°N, 33.8°E.
Origin time = 05 58 16.
Explosion.

" 12 Up iPKP 08 26 19.0
ipPKP 08 26 46.3
micr sec
PKP Z' 1.2 1.3
Ki iPKP 08 26 02.2
Sk iPKP 08 26 12.6
Um iPKP 08 26 08.4
Ud iPKP 08 26 20.6
De i(PKP) 08 26 26.1
iPKP 08 26 30.4
Tonga-Kermadec Islands.
h = 100 km (Up).

1971
Sep. 12 Up iPKP 14 53 39.1
Sk iPKP 14 53 32.7
Um iPKP 14 53 28.1
i 14 53 34.2
Ud iPKP 14 53 41.0
Kermadec Islands (h = N).

" 12 Up iPKP 17 01 11.2
i 17 01 18.3
micr sec
PKP Z' 0.1 0.9
Um iPKP 17 01 04.3
Ud iPKP 17 01 12.8
i 17 01 20.2
De iPKP 17 01 23.1
Tonga-Kermadec Islands
(h = 130 km).

" 12 Up iP 19 20 36.6
Ki iP 19 20 08.8
micr sec
P Z' 0.1 0.7
Sk iP 19 20 34.9
Um iP 19 20 19.6
Mariana Islands (h = 80 km).

" 12 Up iSKP 20 35 52.1
Ki iPKP 20 32 31.2
Sk iSKP 20 35 46.3
Um iSKP 20 35 38.1
Ud iSKP 20 35 55.4
De iSKP 20 36 04.5
New Hebrides Islands
(h = 230 km).

" 13 Up iP 01 21 08.3 D
micr sec
P Z' 0.2 0.8
Ki iP 01 20 32.3 D
iPP 01 23 04.7
micr sec
P Z' 0.2 0.9
Sk iP 01 21 04.1 D
iPP 01 23 49.0
Um iP 01 20 47.6 D
Ud iP 01 21 15.6 D
De iP 01 21 29.2 D
Japan (h = 250 km).
m = 5.9 (Up,Ki).

" 13 Up iP 01 53 09.1
Sk iP 01 53 35.4
Um iP 01 53 08.4
Ud iP 01 53 25.2
Hindu Kush (h = 120 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep. 13 Up iP 04 29 29.8
micr sec
P Z' 0.1 1.0
Mx E 0.9 22
Mx Z 1.2 22
Ki iP 04 29 31.8
micr sec
P Z' 0.2 1.0
Mx E 1.0 22
Mx Z 1.4 22
Sk iP 04 29 14.4
Um iP 04 29 34.2
Ud iP 04 29 18.3
De iP 04 29 20.4
Dominican Republic
(h = 50 km).
m = 6.1, M = 5.1 (Up,Ki).

" 13 Sk iSn 15 04 53.6
iSgl 15 05 02.1
Um iSn 15 04 55.9
iSgl 15 05 13.6
Ud eSgl 15 06 55
Nordland, Norway,
near Bodö, 67.3°N, 14.3°E.
Origin time = 15 03 02.

" 13 Ud iPKP 16 29 58.4
De iPKP 16 30 07.7

" 13 Up iPKP 23 17 40.2
Sk ePKP 23 17 44
Um iPKP 23 17 48.5
Ud iPKP 23 17 38.9
South Sandwich Islands
(h = N).

" 14 Ud iP 03 19 03.1
Greece.

" 14 Up iP 03 21 56.8
micr sec
P Z' 0.3 1.5
Mx E 4.2 17
Mx N 11 21
Mx Z 7.5 18
Sk iP 03 22 08.1
Um iP 03 21 47.0
iS 03 30 33
Ud iP 03 22 08.0
De iP 03 22 13.0
Burma-China (h = N).
m = 6.3, M = 6.1 (Up).

" 14 Up iPKP 03 22 22.1
micr sec
PKP Z' 0.1 0.9
(cont.)

1971 Sep. 14 (cont.)
Ud iPKP 03 22 28.7
De iPKP 03 22 31.4
Solomon Islands (h = 45 km).

" 14 Up iPKP 05 39 09.8
micr sec
Mx E 3.2 21
Mx N 6.8 21
Mx Z 8.2 23
Sk iPKP 05 39 09.0
Um iPKP 05 39 03.4
Ud iPKP 05 39 12.1
De iPKP 05 39 17.2
New Britain (h = N).
M = 6.3 (Up).

" 14 Up iP 07 07 35.3
Ud iP 07 07 41.7
Japan (h = 40 km).

" 14 Up iSgl 10 44 35.2
Ud eSgl 10 44 38
De iPgl 10 42 35.2
iSgl 10 42 51.4
Baltic Sea, south of Sweden,
55.5°N, 15.0°E.
Origin time = 10 42 16.
Explosion?

" 14 Ud i(P) 14 14 10.7

" 14 Ud iPKP 14 27 11.9
De ePKP 14 27 24
Tonga Islands (h = 35 km).

" 14 Sk eSgl 16 57 03
Um iSgl 16 55 33.1
Norrbotten, Sweden.

" 14 Up iP 20 04 17.9
iS 20 13 22
micr sec
Mx E 1.3 23
Mx N 1.6 22
Mx Z 2.2 23
Ki eP 20 05 05
Sk iP 20 04 22.8
Um eP 20 04 41
iS 20 14 05
Ud eP 20 04 11
Atlantic Ocean (h = N).

" 14 Up iP 20 18 23.9
Ki eP 20 19 19
Sk eP 20 19 18
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep. 14 (cont.)

Um	iP	20	18 47.2
	iS	20	23 28.7
Ud	iP	20	18 31.5
De	eP	20	18 17

Turkey.

" 15

Sk	eP	00	39 09
Um	iP	00	39 03.5
Ud	eP	00	39 36

" 15

Up	iP	03	46 36.3
	i	03	46 54.9
Ki	iP	03	45 52.3
Ud	iP	03	46 40.8

Japan (h = 90 km).

" 15

Um	iP	07	20 21.0
Ud	iP	07	20 51.5

China.

" 15

Up	iP	09	18 51.7
Ud	eP	09	19 01

Chagos Islands (h = N).

" 15

Up	eP		10	10 33.4
	i(PcP)		10	10 57.8
			micr	sec
	(PcP)	Z'	0.1	1.2
Sk	iP		10	10 27.5
Um	iP		10	10 11.0
Ud	iP		10	10 42.7
	ipP		10	11 03.1
De	iP		10	11 00.9

Japan.
h = 80 km (Ud).

" 15

Ud	i(PKP)	11	45 18.8
De	i(PKP)	11	45 29.7

" 15

Up	iP	12	57 29.5

" 15

Up	iSgl	13	12 28.5

Probably Esthonia.
Explosion.

" 15

Up	iP		13	41 26.2
			micr	sec
	Mx	E	1.7	18
	Mx	N	3.6	20
	Mx	Z	3.8	19
Sk	iP		13	41 18.7
Um	iP		13	41 03.1
	iS		13	50 33
Ud	iP		13	41 29.5
De	eP		13	41 46

South of Japan (h = 70 km).

1971 Sep. 15

Ud	i(P)	14	23 52.8
De	i(P)	14	23 40.2

" 15

Up	iP		15	06 27.3 C
	i		15	06 36.5
	iPP		15	09 06.4
			micr	sec
	P	Z'	0.9	1.5
	Mx	E	14	20
	Mx	N	14	17
	Mx	Z	19	19
Sk	iP		15	06 19.1
	i		15	06 28.7
Um	iP		15	06 04.7 C
	i		15	06 13.5
	iS		15	15 01
Ud	iP		15	06 33.5 C
	i		15	06 43.0
De	iP		15	06 49.9 C
	i		15	06 59.9
	iPP		15	09 38.4

Japan (h = 15 km).
m = 6.7, M = 6.4 (Up).
Two onsets with about the same amplitude in average 9.6 sec apart. If the second arrival is interpreted as pP, it gives a focal depth of about 35 km. It is not unlikely that the onsets belong to two shocks from the same area.

" 15

Ud	eSgl	15	16 22
De	eSgl	15	14 33

Probably Baltic Sea, south of Sweden.
Explosion?

" 15

Um	i(P)	16	21 41.6
Ud	i(P)	16	22 11.3

" 15

Up	iSgl	17	19 48.6
Ud	eSgl	17	19 50
De	iPgl	17	17 26.5
	iSgl	17	17 55.2

Baltic Sea, near coast of Germany, 54.4°N, 14.4°E.
Origin time = 17 16 49.
Explosion?

" 16

Up	iP		06	36 38.7 C
	i		06	38 12.7
	iPP		06	40 49.9
	iPKKP		06	52 26.5
			micr	sec
	P	Z'	0.1	0.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep. 16 (cont.)

Up			micr	sec
	Mx	E	1.0	20
	Mx	N	1.8	20
	Mx	Z	1.9	20
Sk	iP		06 36 43.4	C
	iPKKP		06 52 21.6	
Um	iP		06 36 28.1	C
	iPP		06 40 42.7	
	iSKS		06 46 53	
	i(PKKP)		06 52 16.9	
Ud	iP		06 36 46.8	C
	iPKKP		06 52 18.4	
De	iP		06 36 52.3	C
	iPP		06 41 27.1	

Banda Sea (h = 120 km).

" 16

Um	iP	08 53 10.0
Ud	eP	08 53 41

Japan (h = 40 km).

" 16

Up	eP	12 49 28
Um	iP	12 49 52.0

" 16

Up	iP	14 27 33.7
Um	eP	14 27 40
Ud	iP	14 27 50.6

Iran.

" 16

Up	iS*		17 44 42.8	
	iSgl		17 44 51.6	
Ki	iPgl		17 41 34.1	
	iSgl		17 42 07.2	
			micr	sec
	Sgl	Z'	0.2	0.4
Um	iPn		17 41 59.6	
	iSn		17 42 49.1	
	iSgl		17 43 06.9	
Ud	eSgl		17 44 46	

Nordland, Norway, near Bodö, 67.3°N, 14.3°E.
Origin time = 17 40 54.

" 16

Up	iP		19 03 03.4	C
	iPcP		19 03 26.8	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	0.7	15
	Mx	N	0.8	18
	Mx	Z	0.9	17
Ki			micr	sec
	Mx	E	2.0	18
	Mx	N	1.3	19
	Mx	Z	1.6	17
Um	iP		19 02 40.2	
Ud	iP		19 03 09.7	

(cont.)

1971 Sep. 16 (cont.)

Japan (h = 45 km).
M = 5.3 (Up,Ki).

" 16

Ud	iP	23 38 39.8

Aleutian Islands (h = 60 km).

" 17

De	iPKP	14 40 20.5

Tonga Islands (h = N).

" 17

Up	iPgl	16 19 31.9
	iSgl	16 20 13.8
Um	iSgl	16 20 55.7
Ud	iSgl	16 21 15.0
De	iSgl	16 21 46.4

Gulf of Finland, 59.7°N, 23.6°E.
Origin time = 16 18 37.
Explosion.

" 18

Ud	iP	02 23 24.3
	ipP	02 23 54.9

Aleutian Islands.
h = 130 km (Ud).

" 18

Ud	iP	10 37 06.5

Venezuela.

" 18

Up	iSgl	17 11 51.2
Ud	iSgl	17 12 04.9
De	ePgl	17 09 44
	iSgl	17 10 17.3

Baltic Sea, near coast of Poland.
Origin time = 17 09 01.
Explosion?

" 18

Up	iP	17 24 32.6
Sk	iP	17 24 14.7
Ud	iP	17 24 22.9

Guatemala (h = 80 km).

" 18

Ki	eP	18 23 14
Ud	iP	18 24 04.6

Japan (h = N).

" 19

Ki	iP	06 50 38.0
Ud	iP	06 50 24.7

Caucasus.

" 19

Up	iP	07 36 54.8
Ud	iP	07 37 02.8

Greece.

" 19

Up	iPKP	10 18 38.0	C
Sk	iPKP	10 18 34.4	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	19	(cont.)			
		Um	iPKP	10 18 31.4	
		Ud	iPKP	10 18 39.0	
		De	iPKP	10 18 50.8	
		Fiji Islands (h = 550 km).			
"	19	Up	iP	11 03 03.8	
			iS	11 05 25.0	
			iLg2	11 06 57.3	
		Sk	iP	11 03 40.5	
		Um	iP	11 02 57.7	
			iS	11 05 07.2	
		Ud	iP	11 03 28.6	
			iS	11 06 05.4	
		De	iP	11 03 34.6	
		Western Russia.			
		Origin time = 11 00 00.			
		Probably underground explosion.			
"	19	Ki	iP	22 57 29.8	
		Um	iP	22 57 52.9	
		Ud	iP	22 58 22.3	
		Kurile Islands.			
"	20	Ki	iP	02 05 53.5	
		Um	iP	02 06 13.7	
			ipP	02 06 22.8	
		Ud	iP	02 06 43.1	
		Japan.			
		h = 35 km (Um).			
"	20	Up	iP	02 55 53.8	
				micr sec	
			P Z'	0.1 1.0	
		Ud	iP	02 56 03.1	
		Indian Ocean (h = N).			
"	20	Um	iP	03 33 13.5	
		Ud	iP	03 33 43.6	
		Japan (h = 35 km).			
"	20	Um	iP	05 26 14.9	
		Ud	iP	05 26 44.7	
		Japan.			
"	20	Up	i(P)	06 21 27.9	
			i(PP)	06 21 43.7	
			i(S)	06 24 54.4	
		Ki	iP	06 22 26.3	
		Sk	i(P)	06 22 15.7	
		Um	iP	06 21 51.5	
		Ud	iP	06 21 36.1	
		De	eP	06 21 10	
		Black Sea.			
1971 Sep.	20	Up	iP	06 54 45.5	
			ipP	06 54 52.0	
				micr sec	
			P Z'	0.1 0.8	
		Ki	iP	06 53 49.4	
				micr sec	
			P Z'	0.1 1.0	
		Sk	iP	06 54 17.2	
		Um	iP	06 54 19.4	
		Ud	iP	06 54 42.1	
			ipP	06 54 49.8	
		De	iP	06 55 06.1	
		Kodiak Island.			
		h = 25 km (Up,Ud).			
		m = 6.0 (Up,Ki).			
"	20	Up	iP	08 07 14.2	
			i	08 07 23.2	
			iS	08 11 12.5	
		Ki	eP	08 08 22	
		Sk	iP	08 08 11.6	
		Um	iP	08 07 48.8	
			iS	08 12 20.9	
		Ud	iP	08 07 34.7	
			iS	08 11 31.8	
		Black Sea.			
"	20	Up	iP	11 02 18.6	
			i	11 02 28.1	
			iS	11 05 50.9	
		Sk	eP	11 03 01	
		Um	iP	11 02 45.5	
		Ud	iP	11 02 31.0	
			iS	11 06 40.4	
		De	iP	11 01 56.3	
		Black Sea.			
"	20	Sk	iP	17 17 24.2	
		Mexico.			
"	20	Sk	iP	21 04 16.2	
		Um	iP	21 04 18.8	
		Ud	eP	21 04 42	
		Kodiak Island (h = 35 km).			
"	20	Ki	eP	23 00 06	
		Kodiak Island (h = N).			
"	21	Ki	iP	01 10 50.2	
		Um	iP	01 10 24.4	
			iPP	01 11 15.0	
		Turkey (h = 20 km).			
"	21	Up	iPKP	05 22 46.8	
		Ud	iPKP	05 22 49.7	
		De	iPKP	05 22 59.3	
		Tonga-Kermadec Islands (h = 80 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Sep.	21	Up	iP		08 54 33.7
			ipP		08 55 20.3
			iPP		08 57 03.1
					micr sec
			P	Z'	0.4 1.2
		Sk	iP		08 54 29.0
			ePP		08 56 57
		Um	iP		08 54 12.3
		Ud	iP		08 54 41.3
		De	iP		08 54 56.9
		Japan.			
		h = 190 km (Up).			
"	21	Up	iP		09 23 19.7
					micr sec
			Mx	N	2.2 18
		Sk	eP		09 23 33
		Um	iP		09 23 07.7
		Ud	iP		09 23 34.1
		Tibet (h = N).			
"	21	Ki	iPn		12 38 06.0
			iPgl		12 38 13.5
			iSn		12 38 52.1
			iS*		12 39 05.4
		Um	iSgl		12 40 36.6
		Northwest Russia,			
		69.4°N, 30.3°E.			
		Origin time = 12 37 05.			
		Explosion.			
"	21	Up	iP		16 54 04.3 C
					micr sec
			P	Z'	0.1 1.1
			Mx	E	1.2 20
			Mx	N	1.6 15
			Mx	Z	1.7 13
		Ki	iP		16 55 07.5
					micr sec
			P	Z'	0.2 1.5
		Um	iP		16 54 33.5
		Ud	iP		16 54 14.6
		De	iP		16 53 45.3
		Turkey (h = 35 km).			
		m = 5.7 (Up,Ki).			
"	21	Up	ePKP		19 03 23
		Sk	ePKP		19 03 14
		Um	iPKP		19 03 05.4
		Ud	iPKP		19 03 17.0
			i		19 03 24.9
		South of Kermadec Islands.			
"	21	Ki	iP		20 43 28.3
		Sk	iP		20 43 11.8
		Ud	iP		20 43 13.9
		(cont.)			

1971					
Sep.	21	(cont.)			
		De	iP		20 43 16.3
		Colombia (h = 150 km).			
"	21	Ki	ePKP		21 28 10
		Chile (h = 90 km).			
"	22	Ki	iP		06 38 49.3
		Ud	iP		06 38 12.2
		North Atlantic Ocean			
		(h = N).			
"	22	Up	i		09 30 50.0
			iSgl		09 31 03.7
		Um	iSgl		09 31 36.3
		Ud	eSgl		09 32 10
		Esthonia.			
		Explosion.			
"	22	Up	eP		14 27 06
					micr sec
			Mx	E	2.7 18
			Mx	N	3.0 19
			Mx	Z	5.1 19
		Um	iP		14 27 05.9
		Ud	iP		14 26 57.1
		De	iP		14 27 06.5
		Mexico (h = N).			
"	23	Ud	iP		00 58 42.4
		Turkey.			
"	23	Up	iP		01 01 29.3
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		01 00 45.6
					micr sec
			P	Z'	0.1 0.7
		Sk	eP		01 01 22
		Um	iP		01 01 05.2
		Ud	iP		01 01 37.9
		De	iP		01 01 54.2
		Sikhota Alin (h = 290 km).			
		m = 5.5 (Up,Ki).			
"	23	Ud	iP		01 34 31.2
		Greece.			
"	23	Ki	eP		03 03 52
		Um	iP		03 04 06.2
		Ud	iP		03 04 36.8
		De	iP		03 04 52.5
		Japan (h = 60 km).			
"	23	Up	iP		13 42 01.3
		Ki	iP		13 41 06.9
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 23 (cont.)

			micr	sec
Ki	P	Z'	0.1	0.9
Sk	eP		13 41	38
	iPcP		13 42	15.4
Um	iP		13 41	34.6
Ud	iP		13 41	59.0
De	iP		13 42	22.8

Unimak Island (h = 45 km).

" 23

Sk	iSgl	18 10	49.8
Um	iSn	18 10	57.5
	iSgl	18 11	10.3
Ud	iSgl	18 12	38.0

Nordland, Norway.

" 24

				micr	sec
Up	iP		01 21	19.4	
	P	Z'		0.4	1.3
	Mx	E		7.2	18
	Mx	N		8.5	16
	Mx	Z		13	19
Ki	iP		01 20	32.1	
	P	Z'		0.3	1.2
	Mx	E		24	20
	Mx	N		19	22
	Mx	Z		12	15
Sk	iP		01 21	13.1	
Um	iP		01 20	56.0	
	iS		01 29	55	
Ud	iP		01 21	26.3	
De	iP		01 21	42.6	
	iPP		01 24	32.1	

Japan (h = 20 km).
m = 6.4, M = 6.4 (Up,Ki).

" 24

Ud	iP	03 40	38.7

Iran.

" 24

			micr	sec
Ki				
	Mx	E	1.4	20
	Mx	N	0.9	17
	Mx	Z	1.1	18
Um	iP	04 47	12.5	
Ud	eP	04 47	03	

Peru (h = 30 km).

" 24

Um	iP	07 00	59.2

Japan.

" 24

Up	iSgl	10 42	40.7
	i	10 42	51.5
Ud	iPgl	10 41	19.5
	iSgl	10 41	52.9
	i	10 42	01.6

(cont.)

1971
Sep. 24 (cont.)

De	iPgl	10 41	19.9
	iSgl	10 41	50.0
	i	10 42	00.4

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 40 36.
Explosion.
See note to Sep. 28, 14 37 30.

" 24

Up	iSgl	10 51	41.4
Ud	iPgl	10 50	20.0
	iSgl	10 50	53.5
	i	10 51	02.3
De	iPgl	10 50	20.3
	iSgl	10 50	50.4

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 49 37.
Explosion.

" 24

Up	iSgl	10 55	10.0
Ud	iPgl	10 53	48.7
	iSgl	10 54	22.2
	i	10 54	31.1
De	iPgl	10 53	49.1
	iSgl	10 54	17.9

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 53 05.
Explosion.

" 24

Up	iSgl	11 08	08.7
Ud	iPgl	11 06	47.2
	iSgl	11 07	21.3
	i	11 07	30.4
De	iPgl	11 06	46.7
	iSgl	11 07	16.1

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 11 06 03.
Explosion.

" 24

Up	iP	12 11	53.2

" 24

Ud	iP	14 48	41.6

Turkey.

" 24

Up	i(P)	15 18	26.8
Ud	i(P)	15 18	42.2

" 24

Ki	eP	19 21	29
Um	iP	19 21	48.9
Ud	iP	19 22	19.7

Japan (h = 70 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 24 Ud iPKP 19 38 47.1
De iPKP 19 38 58.4
Tonga-Kermadec Islands
(h = 430 km).

" 24 Um iP 19 49 49.7
Ud iP 19 50 19.8
i 19 50 30.9
Japan (h = 20 km).

" 25 Up iPKP 03 42 23.7
i 03 42 40.0
Sk iPKP 03 42 16.3
Um iPKP 03 42 11.5
Ud iPKP 03 42 25.2
De iPKP 03 42 34.1
Kermadec Islands (h = 45 km).

" 25 Up iPKP 04 54 40.1
ipPKP 04 55 11.6
iPP 04 55 42.4

		micr	sec
PKP	Z'	0.1	1.3
PP	Z'	0.6	1.6
Mx	E	3.4	18
Mx	N	6.0	17
Mx	Z	3.6	18

Ki iP 04 50 25.7
i 04 54 05.9
iPKP 04 54 27.6
iPP 04 55 02.2

		micr	sec
P	Z'	0.3	1.5
PKP	Z'	0.1	1.1
Mx	E	3.7	17
Mx	N	5.9	18
Mx	Z	3.0	19

Sk iPKP 04 54 41.4
ipPKP 04 55 13.0
iPP 04 55 39.9
Um iPKP 04 54 34.8
ipPKP 04 55 05.8
Ud iPKP 04 54 42.7
De iPKP 04 54 48.2
iPP 04 56 06.4
New Guinea.
h = 120 km (Up,Sk,Um).
M = 6.3 (Up,Ki).
M uncorrected for focal depth.

" 25 Sk iP 10 38 40.5
Ud iP 10 37 57.3
Italy (h = 20 km).

" 25 Ki iPn 11 28 55.8
(cont.)

1971
Sep. 25 (cont.)
Ki iSn 11 29 44.8
iSgl 11 30 02.1
Um iSgl 11 31 27.2
Northwest Russia-Norway border region,
69.4°N, 31.2°E.
Origin time = 11 27 51.
Explosion.

" 25 Ud iP 12 54 10.9
Greece.

" 25 Ki iPKP 13 24 48.7
Ud iPKP 13 24 38.9
Chile (h = N).

" 25 Ki iP 15 38 24.0
Um iP 15 38 14.0
Azores Islands (h = N).

" 25 Ud iP 19 36 26.6
Yugoslavia-Albania.

" 25 Ki eP 19 41 42
Um iP 19 41 58.4
Japan (h = 360 km).

" 25 Up e(PKP) 22 36 39
Ki iPKP 22 36 32.5
Sk ePKP 22 36 42
Um iPKP 22 36 38.7
Ud i(PKP) 22 36 39.5
iPKP 22 36 48.6
De iPKP 22 36 50.5
Fiji Islands (h = 370 km).

" 26 Up iPKP 01 51 51.7
ipPKP 01 52 18.6

		micr	sec
PKP	Z'	0.1	0.8

Ud iPKP 01 51 53.5
ipPKP 01 52 20.3
De iPKP 01 52 03.6
ipPKP 01 52 31.9
Tonga-Kermadec Islands.
h = 100 km (Up,Ud,De).

" 26 Ki iP 03 32 56.9

		micr	sec
P	Z'	0.1	0.7

Sk iP 03 33 18.6
Um iP 03 33 04.5
Ud iP 03 33 22.3
Mindanao (h = 120 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 26 Ki eSn 04 21 35
eSgl 04 21 56
Um iSgl 04 22 44.6
Probably northwest Russia.
Explosion.

" 26 Ud iP 04 30 11.0
Pakistan.

" 26 Ud iPKP 05 27 59.4
De iPKP 05 28 08.6
Fiji Islands (h = 620 km).

" 26 Up iP 05 49 22.0
micr sec
P Z' 0.1 1.2
Sk iP 05 50 02.2
Ud iP 05 49 29.5
De iP 05 48 53.5
Greece (h = 110 km).

" 26 Up iSgl 08 26 27.0
Ki ePn 08 22 11
iSn 08 23 10.0
iSgl 08 23 32.5
Sk eSgl 08 25 58
Um iSgl 08 24 24.1
Ud eSgl 08 26 58
Northwest Russia,
67.9°N, 34.3°E.
Origin time = 08 20 51.
Explosion.

" 26 Up iPKP 11 21 29.5 C
i 11 21 39.2
Ki iPKP 11 21 44.6 C
ipPKP 11 22 28.8
iSKP 11 24 48.4
micr sec
PKP Z' 0.3 1.1
Sk iPKP 11 21 34.7
Um iPKP 11 21 38.0 C
Ud iPKP 11 21 28.1
South Sandwich Islands.
h = 170 km (Ki).

" 26 Ki iP 15 38 25.1
micr sec
P Z' 0.1 1.0
Sk iP 15 38 47.0
Um iP 15 38 30.8
Ud iP 15 38 49.7
Talaud Islands (h = 50 km).

" 26 Up eSgl 15 47 52
Ki ePn 15 43 37
(cont.)

1971
Sep. 26 (cont.)
Ki iSn 15 44 34.4
iSgl 15 44 55.1
Sk eSgl 15 47 20
Um iSgl 15 45 44.6
Northwest Russia.
Origin time = 15 42 20.
Explosion.

" 26 Ud iP 16 38 44.8
Pamir.

" 26 Up iP 16 46 35.0 C
iPP 16 50 40.7
micr sec
P Z' 0.1 1.2
Mx E 1.1 22
Mx N 1.1 21
Mx Z 2.2 23
Ki iP 16 46 20.8
iPP 16 50 12
micr sec
P Z' 0.2 1.1
Mx E 1.4 18
Mx N 2.6 20
Mx Z 1.1 18
Sk iP 16 46 41.9
iPP 16 50 49.7
Um iP 16 46 25.9
iPP 16 50 21.8
Ud iP 16 46 43.7
iPP 16 50 54.8
De iP 16 46 49.2
Molucca Sea (h = 70 km).
m = 6.5, M = 5.7 (Up,Ki).

" 26 Up iP 17 07 43.5
Ki iP 17 07 52.4
Sk iP 17 08 11.1
Um iP 17 07 43.3
Ud iP 17 08 02.4
Pakistan.

" 26 Ki iP 23 55 54.4
Sk iP 23 56 11.6
Um iP 23 55 44.0
Ud iP 23 56 01.5
ipP 23 56 49.7
Hindu Kush.
h = 240 km (Ud).

" 27 Sk ePKP 02 40 05
Solomon Islands (h = 60 km).

" 27 Up iP 06 04 23.2 C
iS 06 07 49
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 27 (cont.)

			micr	sec
Up				
	P	Z'	1.7	0.5
	Mx	E	27	9
	Mx	N	32	8
	Mx	Z	38	8
Ki	iP		06 02 52.3	C
	iS		06 05 06	
	e(P'P')		06 39 11	
			micr	sec
	P	Z'	5.4	0.5
	Mx	E	32	6
	Mx	N	35	5
	Mx	Z	28	6
Sk	iP		06 04 02.0	C
	iS		06 07 15.0	
Um	iP		06 03 30.7	C
	iS		06 06 15	
	i(P'P')		06 39 05.2	
Ud	iP		06 04 33.5	C
De	iP		06 05 06.2	C

Novaya Zemlya.
m = 6.7, M = 6.2 (Up,Ki).
The relatively large M-value may be influenced by the fact that we are somewhat outside the range of validity of the surface-wave magnitude formula, concerning both distances and periods involved.
Underground explosion.
(P'P') at Ki,Um is interpreted as early arrivals of P'P'.

" 27 Ud iP 10 17 07.9
Aleutian Islands (h = 70 km).

" 27

			micr	sec
Up	iPKP		10 17 23.1	
	PKP	Z'	0.1	0.8
Ud	iPKP		10 17 24.5	
De	iPKP		10 17 34.5	

Tonga-Kermadec Islands
(h = 120 km).

" 27

Up	iPKP	12 30 26.8
	ipPKP	12 30 33.4
Ki	ePKP	12 30 13
Sk	iPKP	12 30 22.8
Um	iPKP	12 30 16.5
Ud	iPKP	12 30 28.5
De	iPKP	12 30 38.6

South of Kermadec Islands
(h = N).

1971
Sep. 27

			micr	sec
Up	iP		15 48 06.2	
	iPcP		15 48 38.4	
			micr	sec
	Mx	Z	0.6	17
Ki	iP		15 47 15.0	
Ud	iP		15 48 11.2	

Kurile Islands (h = N).

" 27

Ud	iSgl	16 09 22.4
De	iSgl	16 07 32.1

Probably Baltic Sea, south of Sweden.
Explosion?

" 27

			micr	sec
Up	iP		19 12 21.3	C
	ipP		19 12 28.6	
	iS		19 20 58	
			micr	sec
	P	Z'	0.5	1.8
	Mx	E	24	19
	Mx	N	25	20
	Mx	Z	15	17
Ki	iP		19 11 35.8	
	ipP		19 11 43.4	
	iS		19 19 37	
			micr	sec
	P	Z'	0.6	1.8
	Mx	E	31	20
	Mx	N	25	12
	Mx	Z	12	14
Sk	iP		19 12 12.6	
	ipP		19 12 19.7	
Um	iP		19 11 56.1	
	iS		19 20 15	
Ud	iP		19 12 28.2	
	ipP		19 12 35.8	
De	iP		19 12 45.6	

Sakhalin.
h = 25 km (Up,Ki,Sk,Ud).
m = 6.4, M = 6.6 (Up,Ki).

" 27 Ud iP 19 19 19.6
Sakhalin.

" 27 Ud iP 21 43 04.5 C
Sakhalin.

" 27

			micr	sec
Up	i(PP)		22 39 04.0	
			micr	sec
	Mx	E	4.7	22
	Mx	N	6.0	22
	Mx	Z	6.7	24
Ki			micr	sec
	Mx	E	6.8	20
	Mx	N	5.9	18
	Mx	Z	6.8	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 27 (cont.)

Sk	e(PP)		22 39 11
De	ePKP		22 38 45

Bismarck Sea (h = N).
M = 6.4 (Up,Ki).
(PP) at Up,Sk denotes early arrivals of PP.

" 28

Up	iP		05 15 40.6
			micr sec
	Mx	E	0.7 14
	Mx	N	0.8 11
	Mx	Z	1.0 11
Ki			micr sec
	Mx	E	0.4 12
	Mx	N	0.7 14
Sk	eP		05 16 15
Um	eP		05 16 04
Ud	iP		05 15 47.5
	i		05 15 51.6
De	eP		05 15 20

Turkey (h = 35 km).
M = 4.6 (Up,Ki).

" 28

Up	iP	12 26 53.0
Ki	iP	12 26 24.7
Sk	iP	12 26 50.3
Um	iP	12 26 36.4
Ud	iP	12 26 59.4

Volcano Islands (h = 250 km).

" 28

Ud	iP	14 24 29.0

Japan (h = 45 km).

" 28

Ud	iPgl	14 29 26.1
	iSgl	14 29 59.5
	i	14 30 07.9
De	iPgl	14 29 27.7
	iSgl	14 29 57.2

Off coast of Bohuslän, Sweden, 58.2°N, 10.9°E.
Origin time = 14 28 43.
Explosion.

" 28

Ud	iPgl	14 29 42.5
	iSgl	14 30 15.8
	i	14 30 23.8
De	iPgl	14 29 44.0

Off coast of Bohuslän, Sweden, 58.2°N, 10.9°E.
Origin time = 14 29 00.
Explosion.

" 28

Ud	iSgl	14 30 39.4
	i	14 30 47.8
De	iSgl	14 30 37.5

(cont.)

1971
Sep. 28 (cont.)
Off coast of Bohuslän, Sweden.
Explosion.

" 28

Ud	iPgl	14 37 01.6
	iSgl	14 37 35.5
	i	14 37 42.1
De	iPgl	14 37 03.0
	iSgl	14 37 33.4

Off coast of Bohuslän, Sweden, 58.2°N, 10.8°E.
Origin time = 14 36 18.
Explosion.

" 28

De	iPgl	14 37 10.9
	iSgl	14 37 40.6

Off coast of Bohuslän, Sweden.
Explosion.

" 28

Ud	iPgl	14 37 16.2
	iSgl	14 37 50.9
	i	14 37 57.4
De	iPgl	14 37 17.7
	iSgl	14 37 47.7

Off coast of Bohuslän, Sweden, 58.2°N, 10.6°E.
Origin time = 14 36 32.
Explosion.

" 28

Ud	ePgl	14 37 30
	iSgl	14 38 04.6
	i	14 38 13.7
De	iPgl	14 37 24.4

Off coast of Bohuslän, Sweden.
Explosion.
The phase arriving in average 7.8 sec after Sgl at Ud in these events, is probably a T-phase (TSgl).

" 28

Ud	iSgl	16 02 18.6

Southwest Norway.
By combination with Kongsberg readings.

" 28

Ki			micr sec
	Mx	N	1.2 19
	Mx	Z	1.0 18
Ud	iPKP		20 04 08.0
De	iPKP		20 04 13.8

Solomon Islands (h = N).

" 28

Um	iPKP	21 57 47.1

South Sandwich Islands (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Sep.	28	Ki	iPKP	23 34 38.6	
		Um	iPKP	23 34 36.3	
		Ud	iPKP	23 34 27.8	
			iPKKP	23 45 15.0	
		Chile-Argentina (h = 110 km).			
"	29	Ud	iP	03 21 18.3	
		Aleutian Islands (h = 35 km).			
"	29	Up	iP	07 22 07.1	
			i(S)	07 24 50.0	
			iLg2	07 26 22.1	
		Ki	iP	07 23 42.1	
		Sk	iP	07 22 45.4	
		Um	iP	07 23 02.7	
		Ud	iP	07 22 09.4	
			iS	07 24 43.2	
		De	iP	07 21 16.1	
			i	07 22 42.8	
			iS	07 23 12.1	
			iLi	07 24 02.5	
		Switzerland (h = 25 km).			
"	29	Ki	ePn	11 55 55	
			iSn	11 56 51.0	
			iSgl	11 57 13.1	
		Um	eSgl	11 58 08	
		Ud	eSgl	12 00 40	
		Northwest Russia.			
		Origin time = 11 54 41.			
		Explosion.			
"	29	Um	iSgl	12 43 02.1	
		Ud	eSgl	12 43 46	
"	29	Up	iP	15 58 14.8	C
				micr	sec
			P Z'	0.1	1.1
		Ki	iP	15 57 19.6	
				micr	sec
			P Z'	0.1	0.8
		Sk	iP	15 57 56.5	
		Um	iP	15 57 45.6	
			iPcP	15 58 39.8	
		Ud	iP	15 58 17.6	
		De	iP	15 58 40.1	
		Kamchatka (h = N).			
		m = 6.0 (Up,Ki).			
"	29	Up	iSgl	16 23 05.3	
		Ud	iSgl	16 23 08.3	
		De	iPgl	16 21 05.5	
			iSgl	16 21 22.4	
		Off coast of south Sweden, 55.5°N, 15.0°E.			
		Origin time = 16 20 44.			
		Explosion.			
1971					
Sep.	29	Up	iSgl	16 23 11.7	
		Ud	iSgl	16 23 16.2	
		De	iPgl	16 21 11.8	
			iSgl	16 21 29.3	
		Off coast of south Sweden, 55.5°N, 15.0°E.			
		Origin time = 16 20 50.			
		Explosion.			
"	29	Um	iP	17 20 20.0	
"	29	Up	iSgl	20 10 14.8	
		Ki	iPgl	20 05 45.7	
			iSgl	20 06 08.9	
				micr	sec
			Sgl Z'	0.3	0.5
		Sk	iSgl	20 08 59.3	
		Um	iSgl	20 08 07.8	
		Ud	iS*	20 10 22.0	
			iSgl	20 10 30.0	
		Finnmark, Norway, 69.3°N, 22.8°E.			
		Origin time = 20 05 16.			
"	29	Up	eP	21 07 32	
		Sk	iP	21 08 14.5	
		Um	i(Pn)	21 08 37.1	
		Ud	iP	21 07 42.0	
		De	iP	21 07 06.4	
		Greece (h = 40 km).			
"	30	Up	iP1	08 30 28.9	
			iP2	08 30 34.4	
			iPP	08 33 44.1	
			iS	08 40 52	
				micr	sec
			P1 Z'	0.2	1.6
			P2 Z'	1.7	2.2
			Mx E	15	18
			Mx N	23	18
			Mx Z	29	19
		Ki	eP1	08 30 04	
			iP2	08 30 09.1	
				micr	sec
			P2 Z'	0.5	1.6
			Mx E	45	16
			Mx N	30	16
			Mx Z	34	16
		Sk	eP1	08 30 03	
			iP2	08 30 10.8	
		Um	iP1	08 30 18.8	
			iP2	08 30 24.5	
			iS	08 40 35	
		Ud	iP1	08 30 18.6	
			iP2	08 30 22.1	
		De	iP1	08 30 35.8	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 30 (cont.)

	De	iP2	08 30 40.2	
	Gulf of California			
	(h = 35 km).			
	m = 6.6, M = 6.9 (Up,Ki).			
	The second phase is considerably larger than the first.			
" 30	Ud	iP	08 37 32.0	
	Japan.			
" 30	Ud	iP	08 51 18.9	
	Turkey (h = N).			
" 30	Up	iP	12 03 32.6	
	Ki	eP	12 02 41	
	Ud	iP	12 03 33.3	
	Aleutian Islands (h = 40 km).			
" 30	Up	iP	12 51 19.3	
		i	12 51 22.9	
	Ki	iP	12 50 52.6	
	Um	iP	12 50 59.5	
	Ud	iP	12 51 34.0	
		i	12 51 38.4	
	De	iP	12 51 44.7	
		i	12 51 49.4	
	USSR-Mongolia.			
" 30	Up	iP	14 25 52.2	
	Ud	iP	14 25 39.6	
" 30	Up	iP	20 38 58.6	
	Ki	iP	20 39 04.7	
	Sk	iP	20 38 44.4	
	Um	iP	20 39 05.4	
	Ud	iP	20 38 46.7	
	Virgin Islands (h = 150 km).			
" 30	Up	iP	21 34 33.0	C
		ipP	21 34 39.0	
		iPcP	21 35 09.9	
		iS	21 42 57	
			micr	sec
		P Z'	0.4	1.3
		Mx E	4.4	18
		Mx N	5.1	18
		Mx Z	6.8	18
	Ki	iP	21 35 23.3	
		ipP	21 35 29.0	
		iS	21 44 32	
			micr	sec
		P Z'	0.5	1.4
		Mx E	5.5	20
		Mx N	7.3	22
		Mx Z	3.8	17

(cont.)

1971
Sep. 30 (cont.)

	Sk	iP	21 34 49.6	
		ipP	21 34 55.9	
	Um	iP	21 35 00.0	
		ipP	21 35 06.4	
		iS	21 43 51	
	Ud	iP	21 34 29.0	
		ipP	21 34 35.2	
	De	iP	21 34 06.9	
		ipP	21 34 13.2	
	Atlantic Ocean.			
	h = 25 km (Up,Ki,Sk,Um,Ud, De).			
	m = 6.4, M = 5.9 (Up,Ki).			
" 30	De	iPKP	21 37 56.0	
	Tonga-Kermadec Islands			
	(h = 590 km).			
" 30	Up	iP	21 40 25.4	
		i	21 40 44.3	
			micr	sec
		P Z'	0.3	0.9
	Ki	iP	21 39 29.3	
			micr	sec
		P Z'	0.1	0.9
	Sk	iP	21 40 12.0	
	Um	iP	21 39 55.4	
	Ud	iP	21 40 32.3	
	De	iP	21 40 54.9	
	Eastern Siberia (h = N).			
	m = 5.9 (Up,Ki).			
" 30	Ki	iP	21 49 36.1	
	South China Sea.			

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February 28, 1974

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BOX 517
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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å,

U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

O C T O B E R 1 - 31, 1971

1971 Oct.	1	Up	eP	00 46 50
		Ki	iP	00 45 53.6
		Um	iP	00 46 20.1
		Ud	iP	00 46 57.4
		Eastern Siberia.		
"	1	Ki	ePKP	05 35 23
		Um	iPKP	05 35 29.9
		Ud	iPKP	05 35 36.5
		De	iPKP	05 35 41.3
		New Britain (h = 45 km).		
"	1	Um	iP	08 10 17.9
"	1	Ki	iPKP	11 47 30.6 C
		Sk	ePKP	11 47 42
		Um	iPKP	11 47 37.5 C
			iSKP	11 50 51.3
		Ud	ePKP	11 47 49
		De	e(PKP)	11 47 45
		Loyalty Islands (h = 30 km).		
"	1	Up	eSg1	15 59 53
		Ud	eSg1	16 00 04
		De	ePg1	15 57 41
			iSg1	15 58 21.5
		Near coast of Poland. Explosion?		
"	1	Ud	iPKP	16 29 08.3
		Fiji Islands (h = 590 km).		
"	1	Up	iP	16 35 10.4
		Ki	eP	16 35 19
		Sk	eP	16 35 37
		Um	iP	16 35 08.0
		Ud	iP	16 35 27.5
		Tadzhik SSR (h = 35 km).		
1971 Oct.	1	Up	iSg1	16 44 36.4
		Ud	iSg1	16 44 50.0
		De	ePg1	16 42 30
			eSg1	16 43 08
		Near coast of Poland. Explosion?		
"	1	Ki	iPKP	22 12 03.3
		Um	iPKP	22 12 10.0
		New Hebrides Islands (h = 15 km).		
"	2	Up	iP	03 27 32.3
			i	03 27 40.9
		Ki	iP	03 26 48.3
			i	03 26 57.3
				micr sec
			P Z'	0.1 0.9
		Sk	iP	03 26 55.8
			i	03 27 05.2
		Um	iP	03 27 13.5
			i	03 27 22.3
		Ud	iP	03 27 20.7
			i	03 27 29.7
		De	iP	03 27 51.7
		Canada (h = 15 km).		
"	2	Up	iP	11 01 26.8
			iS	11 05 33.9
			i(Lg1)	11 07 48.3
		Ki	iP	11 02 13.9
			iPP	11 03 04.8
		Sk	eP	11 02 08
			iLg1	11 10 07.1
		Um	iP	11 01 41.7
		Ud	iP	11 01 45.9
			iLg1	11 09 14.3
		De	iP	11 01 28.0
			iLg1	11 08 20.8
		Caucasus.		

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 2 Up iP 19 54 32.7
Ki eP 19 53 44
Um iP 19 54 07.0
Ud iP 19 54 38.2
Kurile Islands
(h = 100 km).

" 3 Um iP 07 49 57.1
Ud iP 07 49 41.8
De iP 07 49 05.6
Turkey (h = 25 km).

" 3 Up iPKP 08 54 43.2
iPKKP 09 05 07.1
Ki iPKP 08 54 34.3
Sk ePKP 08 54 44
iPKKP 09 05 13.5
Um iPKP 08 54 37.7
iPKKP 09 05 18.1
Ud iPKP 08 54 46.9
iPKKP 09 05 00.7
De iPKP 08 54 52.4
iPKKP 09 04 53.0
Solomon Islands (h = 60 km).
The epicentral distances
are close to those where
maximum PKKP-amplitudes
are to be expected,
according to B. Gutenberg,
Trans. Amer. Geophys. Union,
vol. 32, pp. 373-390, 1951.

" 3 Up micr sec
Mx E 12 23
Mx N 16 20
Mx Z 24 20
Ki iPKP 13 43 37.3
micr sec
Mx E 24 23
Mx N 33 23
Mx Z 33 25
Sk ePKP 13 43 49
Um iPKP 13 43 43.7
Ud ePKP 13 43 51
De iPKP 13 44 02.2
New Hebrides Islands
(h = 10 km).
M = 6.9 (Up,Ki).

" 3 Um iP 14 24 29.6
Japan (h = 70 km).

" 3 Um iP 14 51 57.7
Ud iP 14 52 10.0

1971
Oct. 3 Up iP 17 13 39.1
Ki iP 17 13 27.7
Um iP 17 13 35.1
De iP 17 13 37.7 C
Gulf of Campeche
(h = 40 km).

" 3 Ki eP 17 25 16
Um iP 17 24 42.8
Ud iP 17 24 25.1
Turkey (h = 25 km).

" 3 Um e(P) 19 03 00
Luzon (h = 15 km).

" 3 Ud eP 22 04 31
Kamchatka (h = N).

" 3 Up iP 23 25 08.4
Ki iP 23 26 20.1
micr sec
Mx E 1.5 21
Mx N 0.6 14
Mx Z 0.5 15
Sk eP 23 25 52
Um iP 23 25 46.7
Ud iP 23 25 21.6
De iP 23 24 48.8
Crete (h = 40 km).

" 4 Up iP 01 45 27
i(PKP) 01 49 14.6
iPKP 01 49 22.7
iPP 01 50 21
micr sec
Mx E 10 21
Mx N 12 22
Mx Z 23 24
Ki iP 01 45 01
iPKP 01 49 06.9
iPP 01 49 39
iPKKP 01 59 58.9
micr sec
Mx E 24 22
Mx N 35 22
Mx Z 32 23
Sk iPKP 01 49 19.1
Um iP 01 45 13
i(PKP) 01 49 09.2
iPKP 01 49 17.2
iPP 01 49 59
iPKKP 01 59 54.7
Ud i(PKP) 01 49 21.0
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 4 (cont.)

Ud	iPKP	01 49 25.6	
	iPKKP	01 59 33.1	
De	i(PKP)	01 49 22.9	
	iPKP	01 49 31.8	

Solomon Islands (h = 70 km).
M = 6.9 (Up,Ki).

" 4

Up	ePKP	07 55 18	
Sk	iPKP	07 55 12.9	
Um	iPKP	07 55 02.5	
	i	07 55 06.5	
Ud	iPKP	07 55 15.5	
	i	07 55 19.5	

Kermadec Islands
(h = 70 km).

" 4

Up	iP	10 03 25.8	C
	iS	10 06 02.3	
Sk	iP	10 03 47.5	
	i	10 03 49.7	
	eS	10 06 57	
Um	iP	10 03 02.0	
	iS	10 05 21.0	
	iLg1	10 06 28.0	
Ud	iP	10 03 49.0	
	i	10 03 50.8	
	iLg1	10 08 44.6	
De	iP	10 04 06.8	

Western Russia.
Probably underground
explosion.

" 4

Um	iP	11 18 29.0	
	ipP	11 18 56.0	
Ud	i(pP)	11 19 16.1	

Mariana Islands.
h = 100 km (Um).

" 4

Up	iP	16 40 34.0	C
Ki	iP	16 41 51.5	
Sk	iP	16 41 23.4	
Um	eP	16 41 16	
Ud	iP	16 40 52.2	
De	iP	16 40 19.8	

Crete (h = 35 km).

" 4

Up	iP	16 47 34.0		
		micr	sec	
	P	Z' 0.1	1.0	
Ki	iP	16 48 58.1		
		micr	sec	
	Mx	E 0.8	11	
	Mx	N 0.4	10	
	Mx	Z 0.3	8	
Sk	iP	16 48 13.5		

(cont.)

1971 Oct. 4 (cont.)

Um	iP	16 48 19.1	
Ud	iP	16 47 32.2	

Italy (h = N).

" 4

Ud	iP	18 59 12.3	

Aleutian Islands
(h = 45 km).

" 4

Ud	iP	21 07 54.1	

Hindu Kush.
Intermediate depth.

" 4

Up	i(P)	22 26 12.0	
Ki	iP	22 27 24.1	
Sk	iP	22 26 38.3	

Italy (h = 45 km).

" 5

Ki	iP	00 19 04.3	
Ud	iP	00 20 00.4	

Aleutian Islands
(h = 20 km).

" 5

Up	iP	01 49 54.5		
Ki	iP	01 48 52.2		
	i	01 48 54.8		
		micr	sec	
	P	Z' 0.1	1.1	
	Mx	E 0.4	13	
	Mx	N 0.6	15	
	Mx	Z 0.5	14	
Sk	iP	01 49 27.0		
Um	iP	01 49 23.2		
	i	01 49 25.9		
Ud	iP	01 49 53.2		
De	eP	01 50 32		

Eastern Siberia (h = N).

" 5

Ki	iP	01 50 08.7	

Aleutian Islands
(h = 50 km).

" 5

Ud	iP	05 18 22.4	

" 5

Ki	eSg1	11 58 51	
Sk	iSg1	11 57 36.0	
Um	iPg1	11 56 39.0	
	iSg1	11 56 57.9	

Ångermanland, Sweden,
63.0°N, 17.8°E.
Origin time = 11 56 15.

" 5

Ki	iPKP	14 09 52.3	

New Zealand (h = N).

" 5

Ud	iP	16 57 23.1	

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	5	Ki	iP	17 28 56.2				
		Ud	iP	17 29 55.4				
		Kamchatka (h = 80 km).						
"	5	Up	iP	18 39 05.8				
		Ki	iP	18 39 40.0				
		Um	iP	18 39 17.2				
		Ud	iP	18 39 18.8				
		De	iP	18 39 03.6				
		Iran (h = 40 km).						
"	5	Um	iP	18 58 36.9				
		Ud	iP	18 58 13.5				
		De	eP	18 57 47				
		Turkey (h = 10 km).						
"	5	Ud	iP	22 19 13.0				
		Okhotsk Sea (h = 400 km).						
"	5	Up	iP	22 51 58.5				
		Ud	iP	22 52 13.3				
		Iran (h = 70 km).						
"	6	Up	iP	01 51 43.9				
		Um	iP	01 52 15.8				
		Ud	iP	01 51 58.0				
		De	eP	01 51 28				
		Turkey (h = 20 km).						
"	6	Ud	iP	02 21 40.4				
		Kamchatka (h = 170 km).						
"	6	Ud	iPKP	04 07 12.4				
		De	iPKP	04 07 22.4				
		Fiji Islands (h = 540 km).						
"	6	Up	ePKP	07 33 52				
		Um	ePKP	07 33 45				
		Ud	iPKP	07 33 52.4				
		Fiji Islands (h = 630 km).						
"	6	Ki	iSn	07 45 08.9				
			eSg1	07 45 37				
		Sk	iSg1	07 44 13.2				
		Um	iPg1	07 43 13.7				
			i(S*)	07 43 32.7				
			iSg1	07 43 36.7				
			iRg	07 43 43.7				
		Off coast of Ångermanland, Sweden, 62.5°N, 18.0°E. Origin time = 07 42 44.						
"	6	Ud	i(pP)	11 49 12.9				
		Aleutian Islands (h = 140 km).						
1971 Oct.	6	Um	iP	23 21 45.7				
		Turkey.						
"	6	Up	iP	23 51 01.1				
			iPP	23 52 36.5				
				micr	sec			
			Mx N	1.6	15			
		Ki	iP	23 51 07.3	C			
			ipP	23 51 26.7				
				micr	sec			
			P Z'	0.1	1.0			
		Sk	iP	23 51 25.7				
		Um	iP	23 50 58.1	C			
			ipP	23 51 19.8				
			iPP	23 52 34.2				
		Ud	iP	23 51 18.0	C			
		De	iP	23 51 18.4				
		Tadzhik SSR. h = 90 km (Ki,Um).						
"	7	Up	iSg1	09 34 33.0				
		Sk	iSg1	09 35 44.1				
		Um	iSg1	09 36 24.4				
		Ud	iPg1	09 33 35.6				
			iSg1	09 33 57.2				
		De	iSg1	09 34 13.8				
		Västergötland, Sweden, 58.6°N, 13.0°E. Origin time = 09 33 08.						
"	7	Ki	iP	11 04 41.7				
		Molucca Passage (h = 50 km).						
"	7	Sk	iSg1	13 28 15.5				
		Ud	iSg1	13 27 52.8				
		West coast of Norway, near Bergen.						
"	8	Up	iPKP	04 09 36.5				
				micr	sec			
			PKP Z'	0.1	0.7			
		Um	iPKP	04 09 32.4				
		Ud	iPKP	04 09 38.0				
		De	iPKP	04 09 49.0				
		Tonga-Kermadec Islands (h = 90 km).						
"	8	Up	iP	05 15 56.3				
		Um	iP	05 15 37.7				
		Ud	iP	05 16 03.9				
		South of Japan (h = 490 km).						
"	8	Ud	iP	05 57 27.5				
		North Atlantic Ocean (h = N).						

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	8	Ud	iP	14 41 40.6	
		Nevada.			
		Underground explosion.			
"	8	Up	i(PKP)	16 22 53.7	
			iPKP	16 23 06.7	
			iSKP	16 25 49.2	
			iPKS	16 26 38.8	
				micr sec	
			PKP Z'	0.2 1.2	
		Ki	iPKP	16 22 48.6	
			iSKP	16 25 23.3	
				micr sec	
			PKP Z'	0.6 1.5	
		Sk	i(PKP)	16 22 50.6	
			iPKP	16 22 59.9	
			iSKP	16 25 42.3	
		Um	i(PKP)	16 22 46.0	
			i(PKP)	16 22 52.5	
			iPKP	16 22 56.7	
			iPP	16 25 24.2	
			iSKP	16 25 36.8	
		Ud	i(PKP)	16 22 55.8	
			iPKP	16 23 06.2	
			iSKP	16 25 49.2	
			iPKS	16 26 42.0	
		Fiji Islands (h = 550 km).			
"	9	Ud	iP	04 11 53.0	
		Tadzhik SSR.			
"	9	Up	iP	06 09 49.2 C	
			iPn	06 10 53.3	
		Ki	iP	06 09 34.1 C	
				micr sec	
			P Z'	0.2 0.5	
		Sk	iP	06 10 05.5 C	
		Um	iP	06 09 34.7	
		Ud	iP	06 10 05.2	
			iPn	06 11 15.3	
		Kazakh SSR.			
		Underground explosion.			
"	9	Up	iP	11 15 56.6 C	
				micr sec	
			P Z'	0.2 0.9	
		Ki	iP	11 15 12.9 C	
				micr sec	
			P Z'	0.4 1.0	
		Sk	iP	11 15 48.4 C	
		Um	iP	11 15 32.5 C	
		Ud	iP	11 16 02.7 C	
			ipP	11 16 31.7	
		Japan.			
		h = 120 km (Ud).			
		m = 6.1 (Up,Ki).			
1971 Oct.	9	Up	iP	13 27 12.9 C	
			i	13 27 17.8	
			ipP	13 27 36.7	
				micr sec	
			P Z'	0.3 1.1	
			Mx E	0.7 18	
			Mx N	1.8 25	
		Ki	iP	13 26 48.7 C	
			i	13 26 54.0	
			ipP	13 27 11.5	
				micr sec	
			P Z'	0.4 1.1	
		Sk	iP	13 27 16.0	
			i	13 27 21.7	
		Um	iP	13 26 56.6 C	
			i	13 27 02.1	
			ipP	13 27 18.6	
		Ud	iP	13 27 22.5	
			i	13 27 28.1	
			ipP	13 27 45.8	
		Formosa.			
		h = 90 km (Up,Ki,Um,Ud).			
		m = 6.1 (Up,Ki).			
		Double P-phases, in average 5.4 sec apart.			
"	9	Up	iP	21 42 35.3 C	
		Ki	iP	21 42 12.4	
		Um	iP	21 42 22.5	
		Ud	iP	21 42 44.5	
		Formosa (h = N).			
"	10	Up	iSn	05 30 29.9	
			i(Sg2)	05 30 41.4	
		Ki	i(Sg1)	05 32 16.4	
		Sk	iSg1	05 31 29.2	
		Um	iPg1	05 29 42.8	
			iS*	05 30 08.6	
			iSg1	05 30 10.0	
		Ud	iPg1	05 30 21.7	
			iSg1	05 31 19.1	
		Near west coast of Finland, 62.0°N, 21.4°E.			
		Origin time = 05 29 08.			
"	10	Ud	iP	06 03 39.5	
		Tibet.			
"	10	Um	eP	09 11 40	
		Ud	iP	09 11 31.4	
		Caucasus.			
"	10	Up	iSg1	10 02 11.5	
		Ki	eSg1	10 02 57	
		Sk	eSg1	10 03 23	
		Um	iSg1	10 01 35.9	

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	10	(cont.)				
		Ud	eSg1		10 03 12	
		Lake Ladoga.				
		Explosion?				
"	10	Ki	iP		11 23 10.8	
		Ud	iP		11 22 41.5	
"	10	Ki	iP		13 34 03.2	
			i		13 34 26.6	
		Mexico (h = 70 km).				
"	10	Up	iP		16 21 17.6	
		Ki	iP		16 20 31.9	
		Ud	iP		16 21 24.2	
		Kurile Islands.				
"	10	Up	iP		18 35 49.3	
			iX		18 36 09.3	
					micr	sec
			X	Z'	0.1	1.0
			Mx	E	1.4	15
			Mx	N	5.0	20
			Mx	Z	2.2	15
		Ki	iP		18 35 43.0	
					micr	sec
			Mx	E	2.0	15
			Mx	N	3.4	17
			Mx	Z	2.0	14
		Sk	iX		18 36 23.3	
		Um	eP		18 35 39	
			iS		18 44 16	
		Ud	iP		18 36 01.9	
		Burma (h = 35 km).				
		M = 5.8 (Up,Ki).				
"	10	Up	eP1		18 43 28	
			iP2		18 43 29.9	
		Sk	iP2		18 44 14.1	
		Um	eP1		18 44 19	
			iP2		18 44 20.6	
		Ud	iP1		18 43 37.4	
			iP2		18 43 40.8	
		Greece (h = 100 km).				
		Double P-phases, about 2.5 sec apart.				
"	10	Up	iP		19 12 55.5	C
		Ki	iP		19 12 48.2	
		Sk	iP		19 13 11.3	
		Ud	iP		19 13 09.5	C
		Burma (h = 130 km).				
"	11	Ki	iP		01 39 44.1	
		(cont.)				

1971 Oct.	11	(cont.)				
		Um	iP		01 40 05.4	
		Ud	iP		01 40 37.0	
		Kurile Islands				
		(h = 60 km).				
"	11	Ud	iPKP		05 09 36.5	
		Tonga Islands				
		(h = 180 km).				
"	11	Up	eP		10 27 41	
			ipP		10 27 50.6	
					micr	sec
			pP	Z'	0.1	0.9
		Ki	iP		10 27 06.1	
					micr	sec
			P	Z'	0.1	1.0
		Um	iP		10 27 22.7	
			ipP		10 27 31.9	
		Ud	iP		10 27 51.9	
			ipP		10 28 01.5	
		Japan.				
		h = 35 km (Up,Um,Ud).				
		m = 6.0 (Up,Ki).				
"	11	Ki	iP		18 46 19.4	
		Ud	iP		18 47 26.0	
"	12	Um	iP		05 35 59.6	
			ipP		05 36 16.4	
		Ud	iP		05 36 28.9	
		Japan.				
		h = 60 km (Um).				
"	12	Up	iP		09 57 35.0	
					micr	sec
			P	Z'	0.3	1.0
		Ki	iP		09 57 23.5	
					micr	sec
			P	Z'	0.5	1.1
		Sk	iP		09 57 16.5	
		Um	iP		09 57 32.2	
		Ud	iP		09 57 25.3	
		Mexico-Guatemala				
		(h = 35 km).				
		m = 6.6 (Up,Ki).				
"	12	Up	iP		11 48 40.0	
		Ud	iP		11 48 26.8	
		Italy (h = 25 km).				
"	12	Up	iP		16 08 49.4	
			i		16 08 54.3	
		Ki	iP		16 08 31.5	
		(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	12	(cont.)			
		Um	iP	16 08 37.5	
		Ud	iP	16 08 58.2	
			i	16 09 03.4	
		Luzon (h = 40 km).			
"	12	Ud	iP	21 25 32.1	
		Ionian Islands.			
"	13	Um	iP	01 03 42.8	C
		South of Japan			
		(h = 25 km).			
"	13	Um	iP	02 05 29.3	
		Mexico-Guatemala (h = N).			
"	13	Up	iP	03 31 59.4	
				micr sec	
			P Z'	0.1 0.9	
		Ki	iP	03 33 06.7	C
		Sk	iP	03 32 39.4	
		Um	iP	03 32 31.6	C
		Ud	iP	03 32 07.1	C
		Crete (h = 25 km).			
"	13	Ki	iP	09 44 22.4	
		North of New Guinea			
		(h = 40 km).			
"	13	Ki	iPn	11 01 35.8	
			iSn	11 02 34.2	
			iS*	11 02 53.5	
			iSg1	11 02 57.1	
		Um	iSg1	11 03 47.8	
		Northwest Russia,			
		67.8°N, 33.9°E.			
		Origin time = 11 00 18.			
		Explosion.			
"	13	Ki	eP	12 04 05	
		North of New Guinea			
		(h = N).			
"	13	Ki	iPn	12 04 59.8	
			iP*	12 05 08.0	
			iSn	12 05 46.3	
			iSg1	12 06 03.2	
		Um	iSg1	12 07 34.0	
		Northwest Russia-Norway			
		border region,			
		69.6°N, 30.2°E.			
		Origin time = 12 03 59.			
		Explosion.			
"	13	Up	iP	14 12 35.1	
		(cont.)			

1971 Oct.	13	(cont.)			
		Up	ipP	14 13 00.6	
		Ki	iP	14 11 42.1	C
			ipP	14 12 07.7	
		Ud	iP	14 12 36.4	C
		Aleutian Islands.			
		h = 100 km (Up,Ki).			
"	13	Up	iPP	22 54 30.5	
		Ud	iPP	22 54 16.8	
		Chile-Bolivia			
		(h = 90 km).			
"	14	Um	iPKP	00 33 04.0	
		Ud	iPKP	00 33 16.9	
"	14	Up	iP	07 59 16.7	
"	14	Up	iP	09 20 52.6	
		Ud	iP	09 20 51.1	
"	14	Ki	ePn	11 25 42	
			i(S*)	11 26 25.1	
		North Norway.			
"	14	Up	iP	13 05 54.3	
			ipP	13 06 12.6	
			iS	13 14 30	
				micr sec	
			P Z'	0.1 1.0	
			Mx E	2.2 17	
			Mx N	6.4 20	
			Mx Z	3.4 17	
		Ki	iP	13 05 47.4	
				micr sec	
			P Z'	0.1 1.0	
			Mx E	3.0 14	
			Mx N	5.3 17	
			Mx Z	2.4 13	
		Sk	iP	13 06 09.5	
		Um	iP	13 05 46.6	
			iS	13 14 18	
		Ud	iP	13 06 07.2	
		De	iP	13 06 09.9	
		Burma.			
		h = 70 km (Up).			
		m = 6.0, M = 5.8 (Up,Ki).			
"	14	Up	eP	21 18 37	
		Ki	eP	21 17 44	
		Um	iP	21 18 10.5	
		Ud	iP	21 18 36.4	
		De	eP	21 18 58	
		Aleutian Islands			
		(h = 40 km).			

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	14	Um	iP		21 21 53.1	
		Ud	iP		21 22 22.9	
		Kodiak Island (h = 45 km).				
"	14	Up	iP		22 03 29.7	D
			ipP		22 03 52.8	
					micr sec	
			P	Z'	0.1 0.7	
		Ki	iP		22 03 38.2	D
			iPP		22 05 17.8	
					micr sec	
			Mx	N	0.5 8	
		Sk	iP		22 03 54.7	D
			ipP		22 04 19.7	
		Um	iP		22 03 27.9	D
			ipP		22 03 52.2	
		Ud	iP		22 03 46.6	D
			ipP		22 04 10.6	
			iPP		22 05 27.9	
		De	iP		22 03 43.1	D
			ipP		22 04 07.3	
		Afghanistan-USSR.				
		h = 110 km (Up,Sk,Um,Ud,De).				
"	14	Up			micr sec	
			Mx	E	8.1 20	
			Mx	N	13 22	
			Mx	Z	19 21	
		Ki	iPKP		22 55 30.4	
			iPP		22 56 55	
					micr sec	
			Mx	E	17 23	
			Mx	N	31 20	
			Mx	Z	11 20	
		Um	iPKP		22 55 25.0	
			iPP		22 56 47.2	
		Ud	iPP		22 56 07.5	
		Bouvet Island (h = N).				
		M = 6.9 (Up,Ki).				
"	15	Up	iP		02 45 21.3	
			ipP		02 45 30.7	
					micr sec	
			P	Z'	0.1 0.9	
		Ki	iP		02 45 01.0	
					micr sec	
			P	Z'	0.1 1.0	
		Sk	iP		02 45 25.5	
		Um	iP		02 45 07.7	
			ipP		02 45 15.7	
		Ud	iP		02 45 31.0	
			ipP		02 45 40.7	
		Luzon.				
		h = 35 km (Up,Um,Ud).				
		m = 5.8 (Up,Ki).				
1971 Oct.	15	Ki	iP		03 52 28.9	
		Sk	iP		03 52 43.0	
		Um	iP		03 52 26.1	
		Ud	iP		03 52 39.3	
		Sumatra (h = 190 km).				
"	15	Up	eP		08 24 12	
		Sk	eP		08 24 45	
		Um	iP		08 24 38.5	
		Ud	iP		08 24 14.8	
		De	iP		08 23 40.6	
		Crete (h = N).				
"	15	Up	i(PKP)		13 52 33.6	
		Sk	ePKP		13 52 08	
		Um	iPKP		13 52 13.4	
		Ud	ePKP		13 52 25	
		South of Kermadec Islands.				
"	15	Up	iP		14 26 11.0	
			iPn		14 27 03.2	
		Ki	eP		14 26 46	
			iPn		14 27 37.7	
		Sk	eP		14 26 47	
			iPn		14 27 46.5	
		Um	iP		14 26 20.5	
			iPn		14 27 13.0	
		Ud	iP		14 26 25.0	
			i		14 26 27.9	
		De	iP		14 26 15.0	
		Iran-USSR (h = 40 km).				
"	15	Up	iP		15 27 55.0	
		Japan.				
"	15	Up	iP		16 29 41.6	D
			i		16 29 45.9	
			ipP		16 30 17.3	
			iPP		16 31 18.7	
					micr sec	
			P	Z'	0.1 1.0	
		Ki	iP		16 29 48.5	D
					micr sec	
			P	Z'	0.1 1.0	
		Sk	iP		16 30 06.2	
		Um	iP		16 29 39.1	D
			ipP		16 30 14.5	
		Ud	iP		16 29 57.9	D
			i		16 30 02.2	
			ipP		16 30 34.3	
		De	iP		16 29 55.0	D
			iPP		16 31 37.9	
		Afghanistan-USSR.				
		h = 170 km (Up,Um,Ud).				
		m = 5.5 (Up,Ki).				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 15	Up	iP		17 13 41.4	
		iPP		17 14 18.6	
	Ki	iP		17 14 17.3	
	Sk	eP		17 14 17	
	Um	iP		17 13 53.2	
	Ud	iP		17 13 58.6	
	De	iP		17 13 48.2	
	Caucasus (h = N).				
" 15	Up	iP		18 37 20.7	
		ipP		18 37 33.0	
	Ki	eP		18 36 27	
	Um	eP		18 36 53	
	Ud	iP		18 37 21.0	
		ipP		18 37 33.2	
	De	eP		18 37 43	
	Aleutian Islands.				
	h = 45 km (Up,Ud).				
" 15	Up	iP		22 09 22.5	
				micr	sec
		Mx	E	2.0	21
		Mx	N	1.9	21
		Mx	Z	4.1	23
	Ki	iP		22 09 57.0	
		iS		22 19 19	
				micr	sec
		Mx	E	1.2	19
		Mx	N	1.0	18
		Mx	Z	1.0	17
	Um	iP		22 09 46.6	
		ipP		22 09 53.5	
		iS		22 18 46	
	Ud	iP		22 09 15.4	
		ipP		22 09 23.4	
	De	eP		22 09 06	
	Atlantic Ocean.				
	h = 30 km (Um,Ud).				
	M = 5.4 (Up,Ki).				
" 16	Up	iPP		05 35 12.9	
		iPKKP		05 44 27.8	
				micr	sec
		Mx	E	1.9	24
		Mx	N	2.2	24
		Mx	Z	2.7	22
	Ki	iPP		05 34 26.5	
				micr	sec
		Mx	E	5.6	23
		Mx	N	6.3	22
		Mx	Z	4.5	23
	Sk	e(PP)		05 34 57	
	Um	iPP		05 34 48.0	
	Ud	iPP		05 35 23.5	
	De	iPKP		05 34 11.4	
	(cont.)				
1971 Oct. 16	(cont.)				
	Solomon Islands				
	(h = 80 km).				
	M = 6.0 (Up,Ki).				
" 16	Up	iP		05 47 38.4	
" 16	Up	iP		06 19 10.5	
	Ki	eP		06 19 22	
	Um	eP		06 19 08	
		ipP		06 19 33.0	
	Ud	iP		06 19 27.7	
	De	ipP		06 19 48.0	
	Afghanistan-USSR.				
	h = 120 km (Um).				
" 16	Ki	iP		09 52 08.6	
	Ud	iP		09 51 12.4	
	De	iP		09 50 39.9	C
	Dodecanese Islands				
	(h = 60 km).				
" 16	Ki	iP		22 08 04.3	
	Ceram (h = 55 km).				
" 16	Ud	iP		22 54 32.8	
	Japan.				
" 17	Up	ePKP		07 10 38	
		i		07 10 45.0	
	Ki	ePKP		07 10 20	
	Sk	ePKP		07 10 33	
	Um	iPKP		07 10 29.0	C
		ipPKP		07 10 40.0	
	Ud	iPKP		07 10 42.8	
		i		07 10 45.4	
	De	iPKP		07 10 51.1	
	Kermadec Islands				
	(h = 45 km).				
" 17	Up	iSg1		08 35 28.6	
	Ki	iSn		08 32 15.1	
		iSg1		08 32 37.2	
	Sk	eSg1		08 35 02	
	Um	iSg1		08 33 27.8	
	Ud	eSg1		08 36 03	
	Northwest Russia,				
	67.7°N, 33.8°E.				
	Origin time = 08 30 00.				
	Explosion.				
" 17	Ud	iP		15 52 59.5	
	Mariana Islands				
	(h = 90 km).				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	17	Sk	i	16 53 19.1		
			i(Sg1)	16 53 49.0		
		Ud	i	16 53 19.6		
			i(Sg1)	16 53 51.5		
		Southwest Norway.				
"	17	Ki	iP	18 18 27.5	C	
		Ud	iP	18 18 37.2		
		Sumatra (h = N).				
"	18	Up	iPKP	04 04 17.0	C	
			i	04 04 22.1		
				micr	sec	
			PKP Z'	0.2	0.8	
		Ki	iPKP	04 03 53.8		
			i	04 04 02.6		
				micr	sec	
			PKP Z'	0.1	1.0	
		Sk	iPKP	04 04 10.9		
		Um	iPKP	04 04 05.5		
		Ud	iPKP	04 04 19.1		
			i	04 04 24.8		
		De	iPKP	04 04 27.4		
			i	04 04 38.9		
		Kermadec Islands (h = 360 km).				
"	18	Um	iPKP	12 49 46.1		
		De	iPKP	12 50 01.9		
		Loyalty Islands (h = 60 km).				
"	18	Up	ePKP	13 14 56		
				micr	sec	
			Mx E	1.5	20	
			Mx N	2.1	20	
			Mx Z	3.3	20	
		Ki	ePKP	13 14 43		
				micr	sec	
			Mx E	1.9	18	
			Mx N	2.4	18	
			Mx Z	2.6	19	
		Sk	iPKP	13 14 54.7		
		Um	iPKP	13 14 50.0		
		Ud	ePKP	13 14 51		
		De	iPKP	13 15 00.9		
		Loyalty Islands (h = 70 km). M = 6.0 (Up,Ki).				
"	19	Up	iP	11 13 33.4		
			ipP	11 13 43.3		
				micr	sec	
			P Z'	0.2	1.1	
		Ki	iP	11 12 40.5		
			ipP	11 12 49.9		
		(cont.)				

1971 Oct.	19	(cont.)				
		Ki		micr	sec	
			P Z'	0.2	1.0	
		Sk	iP	11 13 10.0		
			ipP	11 13 19.6		
		Um	iP	11 13 07.3		
			ipP	11 13 16.8		
		Ud	iP	11 13 33.1		
			ipP	11 13 42.7		
		De	iP	11 13 55.8		
			ipP	11 14 05.0		
		Aleutian Islands. h = 35 km (Up,Ki,Sk,Um,Ud, De). m = 6.3 (Up,Ki).				
"	19	Ki	iP	13 55 45.2		
		Sk	iP	13 56 18.5		
		Ud	iP	13 56 40.5		
		Aleutian Islands (h = 60 km).				
"	19	Ki	iP	15 07 15.7		
		Ud	iP	15 07 52.5		
		Mariana Islands (h = 50 km).				
"	19	Up	iP	18 45 39.6		
		Um	iP	18 45 51.7		
		Indian Ocean (h = N).				
"	20	Um	iP	00 02 40.3		
"	20	Ud	iPKP	07 46 42.0		
		Tonga-Kermadec Islands (h = 480 km).				
"	20	Ud	iP	07 51 20.0		
		Hindu Kush.				
"	20	Up	iP	08 52 13.5		
			i	08 52 27.6		
				micr	sec	
			P Z'	0.2	0.9	
			Mx E	2.5	19	
			Mx N	6.9	25	
			Mx Z	4.6	20	
		Ki	iP	08 51 51.3		
				micr	sec	
			P Z'	0.2	0.9	
			Mx E	3.1	16	
			Mx N	5.1	20	
			Mx Z	2.2	15	
		Sk	iP	08 52 17.8		
		Ud	iP	08 52 23.0		
		De	iP	08 52 32.0		
		(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 20 (cont.)
Formosa (h = 35 km).
m = 6.2, M = 5.9 (Up,Ki).

" 20 De iPKP 14 44 28.3
New Britain (h = 130 km).

" 20 Ki eP 17 23 50
Sk eP 17 23 54

" 21 Up iP 06 09 49.4
iPn 06 10 51.0
Ki iP 06 09 33.7
iPP 06 10 47.5
micr sec
P Z' 0.3 0.6
Sk iP 06 10 05.1
iPn 06 11 04.7
Um iP 06 09 34.6
Ud iP 06 10 05.9
Kazakh SSR.
Underground explosion.

" 21 Up ePKP 07 03 45
Sk iPKP 07 03 39.1
Um iPKP 07 03 33.8
Ud iPKP 07 03 44.9
South of Kermadec Islands
(h = N).

" 21 Up iP 08 34 33.4
Ki iP 08 34 06.6
Sk eP 08 34 35
Um iP 08 34 18.6
Ud iP 08 34 43.2
Ryukyu Islands
(h = 60 km).

" 21 Ud iP 22 56 11.3
Crete (h = N).

" 21 Ud iP 23 15 25.5
Central Russia.

" 22 Up iP 05 04 57.2
iS 05 08 58.8
micr sec
P Z' 0.6 1.1
Ki iP 05 05 08.5 C
iS 05 09 25.2
micr sec
P Z' 0.2 0.9
Sk iP 05 05 27.1
Um iP 05 04 52.3 C
Ud iP 05 05 17.8 C
iS 05 09 38.6
(cont.)

1971
Oct. 22 (cont.)
Ural Mountains.
m = 5.8 (Up,Ki).
Probably underground
explosion.

" 22 Ki iP 18 18 12.2
Mariana Islands
(h = 20 km).

" 22 Ki iPKP 20 57 29.1
Tonga Islands
(h = 200 km).

" 22 Ki iP 23 19 33.3
Sk iP 23 20 01.4
Alaska (h = 130 km).

" 23 Up iP 00 52 41.0
Ki iP 00 51 49.7
Kurile Islands.

" 23 Up ePKP 02 01 12
micr sec
PKP Z' 0.1 1.1
Mx E 2.4 21
Mx N 2.4 17
Mx Z 3.7 21
Ki i(PKP) 02 01 02.9
iPKP 02 01 06.6
micr sec
PKP Z' 0.1 1.0
Mx E 2.8 18
Mx N 3.0 20
Mx Z 3.3 20
Sk ePKP 02 01 13
Um iPKP 02 01 04.9
Ud iPKP2 02 01 26.9 C
West of Macquarie Islands
(h = N).
M = 6.2 (Up,Ki).

" 23 Ki iPKP 03 02 12.6
i 03 02 17.3
Um iPKP 03 02 22.6
New Zealand.

" 23 Ki iP 05 49 29.1
ipP 05 49 41.4
Um iP 05 49 46.9
ipP 05 50 01.4
Ud iP 05 50 15.0
Japan.
h = 50 km (Ki,Um).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 23	Ud	iP		11 56 48.1		
	De	eP		11 56 33		
	Iran (h = N).					
" 23	Ki	iP		13 27 42.0		
	Um	iP		13 27 59.2		
		i		13 28 08.7		
	Japan (h = 55 km).					
" 23	Up	iP		22 46 59.0		
		iSKS		22 57 29.3		
				micr	sec	
		Mx	E	11	17	
		Mx	N	13	19	
		Mx	Z	23	18	
	Ki	iP		22 46 32.3		
		i		22 46 45.4		
		iSKS		22 56 55		
				micr	sec	
		P	Z'	0.1	1.0	
		i	Z'	0.1	1.0	
		Mx	E	17	18	
		Mx	N	22	18	
		Mx	Z	17	18	
	Sk	iP		22 46 57.2		
	Um	iP		22 46 42.4		
		iSKS		22 57 12		
	Ud	iP		22 47 05.7		
	De	iP		22 47 17.8		
	Mariana Islands (h = 30 km). M = 6.7 (Up,Ki).					
" 23	Ki	i(PKP)		23 20 23.4		
		iPKP		23 20 32.2		
				micr	sec	
		(PKP)	Z'	0.1	1.0	
		PKP	Z'	0.2	1.5	
	Sk	ePKP		23 20 21		
	Um	i(PKP)		23 20 16.0		
	South Sandwich Islands (h = N).					
" 24	Ki	iP		00 31 07.1		
	Mariana Islands (h = 40 km).					
" 24	Ki	iP		01 49 53.8		
	Mariana Islands (h = 45 km).					
" 24	Up	iP		01 50 57.1		
		iPP		01 54 56.9		
		iSKS		02 01 27		
				micr	sec	
		P	Z'	0.5	1.9	
	(cont.)					

1971 Oct. 24	(cont.)					
	Up			micr	sec	
		Mx	E	12	18	
		Mx	N	13	18	
		Mx	Z	24	18	
	Ki	iP		01 50 28.7		
		iPP		01 54 05.6		
		iSKS		02 00 53		
				micr	sec	
		P	Z'	0.9	2.0	
		Mx	E	15	18	
		Mx	N	21	18	
		Mx	Z	15	18	
	Sk	iP		01 50 54.4		
	Um	iP		01 50 39.0		
		iSKS		02 01 09		
	Ud	iP		01 51 04.3		
	De	iP		01 51 13.0		
	Mariana Islands (h = N). m = 6.7, M = 6.7 (Up,Ki).					
" 24	Ki	iP		02 20 08.6		
	Mariana Islands (h = 35 km).					
" 24	Up	iP		02 34 25.8		
		iSKS		02 44 57.8		
				micr	sec	
		P	Z'	0.1	1.3	
		Mx	E	3.9	17	
		Mx	N	5.4	18	
		Mx	Z	10	19	
	Ki	iP		02 34 00.3		C
				micr	sec	
		P	Z'	0.3	1.1	
		Mx	E	5.0	18	
		Mx	N	7.0	18	
		Mx	Z	5.0	18	
	Sk	eP		02 34 29		
	Um	iP		02 34 11.2		C
	Ud	eP		02 34 32		
	De	eP		02 34 52		
	Mariana Islands (h = N). m = 6.3, M = 6.2 (Up,Ki).					
" 24	Up	iP		09 08 38.6		
	Ki	iP		09 08 36.0		
	Sk	iP		09 08 57.5		
	Um	iP		09 08 31.8		
	Ud	iP		09 08 52.9		
	De	iP		09 08 53.1		
	Tibet (h = 45 km).					
" 24	Up	iSg1		10 26 42.7		
	Ki	iPn		10 22 30.8		
		iSn		10 23 28.4		
	(cont.)					

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 24 (cont.)

Sk	iSg1	10 26 16.7	
Um	iSn	10 24 09.7	
	iSg1	10 24 43.9	
Ud	iSg1	10 27 16.8	

Northwest Russia, 67.8°N, 33.8°E.
Origin time = 10 21 14.
Explosion.

" 24

Ud	iP	22 35 56.8

Philippine Islands (h = 70 km).

" 25

Up	iP	00 20 33.6	
	iPP	00 23 37.1	
		micr	sec
	P Z'	0.5	0.8
Ki	iP	00 20 01.3	
		micr	sec
	P Z'	0.3	0.8
Sk	iP	00 20 31.2	
Um	iP	00 20 14.5	
Ud	iP	00 20 41.0	
De	iP	00 20 52.9	

South of Japan (h = 510 km).
m = 6.0 (Up,Ki).

" 25

Ud	iP	00 53 22.7

" 25

Up			micr	sec
	Mx	E	3.6	23
	Mx	N	5.7	21
	Mx	Z	8.6	21
Ki	iPKP		04 05 19.9	
Um	iPKP		04 05 31.2	
Ud	ePKP		04 05 38	

New Hebrides Islands (h = 35 km).

" 25

Up	iSg1	11 56 02.5
Ud	iSg1	11 56 06.8
De	iPg1	11 54 02.8
	iSg1	11 54 19.1

Off coast of south Sweden, 55.5°N, 15.0°E.
Origin time = 11 53 43.
Explosion.

" 25

De	iPg1	11 54 14.0
	iSg1	11 54 31.8

Off coast of south Sweden, same focal area as for the preceding event.
Explosion.

" 25

Up	iSg1	11 56 23.6

(cont.)

1971 Oct. 25 (cont.)

Ud	iSg1	11 56 29.3
De	iSg1	11 54 38.7

Off coast of south Sweden, same focal area as for the preceding events.
Explosion.

" 25

Ki	iP	16 01 05.2

Mariana Islands (h = 60 km).

" 26

Ki	iP	10 08 06.0	
		micr	sec
	P Z'	0.1	1.3
Ud	iP	10 08 18.0	

Java (h = 100 km).

" 26

Ki	iP	13 02 23.7
Um	iP	13 02 43.6
Ud	iP	13 03 14.3
	ipP	13 03 31.8
De	iP	13 03 33.5

Japan.
h = 60 km (Ud).

" 26

Um	iPKP	15 33 21.1
	i	15 33 25.0

Chile (h = 45 km).

" 26

Up	iSg1	15 37 09.0
Sk	iSg1	15 37 08.2
Ud	eSg1	15 36 04
	iSg2	15 36 09.4
De	iSg1	15 36 20.3

Southwest Norway, 58.4°N, 6.7°E.
Origin time = 15 34 03.

" 26

Um	iP	18 36 24.4

Japan (h = 270 km).

" 26

Ki	iP		19 18 09.2	
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.7	18
	Mx	Z	1.0	18

Mariana Islands (h = N).

" 26

Up	i(P)	20 17 28.0

" 26

Up	iP	20 18 22.8	
Ki	iP	20 17 49.6	C
Um	iP	20 18 03.5	C
Ud	iP	20 18 30.1	

South of Japan (h = 410 km).

" 26

Um	iP	23 25 53.9
Ud	eP	23 26 19

Japan (h = 60 km).

" 26

Ud	eP	23 53 23

Molucca Passage (h = 90 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 27	Ki	iP		01 46 39.7		
	Mariana Islands (h = 55 km).					
" 27	Up	iP		02 46 58.9		
				micr	sec	
		P	Z'	0.1	1.1	
	Um	iP		02 47 13.6		
	Ud	iP		02 47 14.5		
" 27	Up	iP		09 39 29.9	C	
				micr	sec	
		P	Z'	0.1	1.0	
		Mx	E	1.3	14	
		Mx	N	1.4	20	
		Mx	Z	3.2	17	
	Ki	iP		09 39 10.4	C	
				micr	sec	
		Mx	E	2.7	14	
		Mx	N	1.5	15	
		Mx	Z	2.0	14	
	Sk	iP		09 39 35.1		
	Um	iP		09 39 16.8	C	
	Ud	iP		09 39 39.4	C	
	De	iP		09 39 45.7	C	
	Luzon (h = 50 km). M = 5.6 (Up,Ki).					
" 27	Up	eP		10 52 53		
	Ki	iP		10 51 59.2		
	Um	iP		10 52 27.6		
	Ud	iP		10 52 56.2		
	De	iP		10 53 18.4		
	Kamchatka (h = N).					
" 27	Up	iP		12 20 38.7		
" 27	Ud	iP		12 33 08.0		
	Japan (h = 50 km).					
" 27	Ud	iP		14 50 43.4		
" 27	Up	iP		18 14 32		
		e(PKP)		18 17 31		
		iPKP		18 17 47.0		
		iPP		18 19 55.0		
		iPKS		18 21 07.5		
		e		18 29 49		
		ePS		18 30 14		
				micr	sec	
		PKP	Z'	0.3	0.9	
		Mx	E	44	23	
		Mx	N	69	23	
		Mx	Z	120	23	
	Ki	iP		18 14 06		
		i(PKP)		18 17 26.0		
	(cont.)					

1971 Oct. 27	(cont.)					
	Ki	iPKP		18 17 30.0		
		iPP		18 19 11		
		iPKKP		18 27 19.1		
		ePKKS		18 30 56		
				micr	sec	
		PKP	Z'	0.9	1.0	
		Mx	E	64	22	
		Mx	N	72	22	
		Mx	Z	51	23	
	Sk	i(PKP)		18 17 33.5		
		iPKP		18 17 41.8		
		iPKS		18 21 05.1		
	Um	iP		18 14 19		
		i(PKP)		18 17 22.8		
		iPKP		18 17 36.8		
		iPP		18 19 36		
		iPKKP		18 27 06.6		
		iPKKS		18 30 45.1		
	Ud	i(PKP)		18 17 34.4		
		iPKP		18 17 48.4		
		iPP		18 20 03.5		
		iPKS		18 21 10.6		
		iPKKS		18 30 36.5		
	De	i(PKP)		18 17 38.4		
		i		18 17 43.6		
		iPKP		18 17 53.7		
		iPKS		18 21 21.4		
		i		18 29 42.9		
		iPKKS		18 30 18.0		
	New Hebrides Islands (h = 40 km). M = 7.4 (Up,Ki).					
" 27	Up	iP		22 01 59.1		
	Ki	iP		22 01 46.7		
	Sk	iP		22 01 40.8		
	Um	iP		22 01 53.5		
	De	iP		22 01 59.9		
		ipP		22 02 21.2		
	Mexico. h = 80 km (De).					
" 28	De	iPKP		01 13 07.1		
		ipPKP		01 13 25.9		
	New Ireland. h = 70 km (De).					
" 28	Up	eP		02 41 38		
	Ki	eP		02 41 24		
	Um	iP		02 41 26.5		
	Ud	iP		02 41 47.0		
	Talaud Islands (h = 90 km).					
" 28	Ud	iP		07 41 07.4		
	Kurile Islands.					

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 28 De iPKP 10 28 35.4
New Britain (h = 40 km).

" 28 Um iSg1 11 51 50.7

" 28 Ud iPKP 12 13 05.0
De iPKP 12 13 16.3
Fiji Islands (h = 260 km).

" 28 Up iP 13 38 11.6
iPn 13 39 23.3
iPP 13 39 35.0

		micr	sec
P	Z'	0.3	1.5
Mx	E	4.3	8
Mx	N	4.9	8
Mx	Z	6.6	10

Ki

		micr	sec
Mx	E	4.7	9
Mx	N	11	9
Mx	Z	4.2	9

Sk iP 13 38 34.9 C
Um iP 13 38 05.8 C
iPP 13 39 34.0
Ud iP 13 38 28.8 C
De iP 13 38 28.2 C
Kirghiz SSR (h = 20 km).
M = 5.8 (Up,Ki).

" 28 Ud iP 13 51 45.3
Kirghiz SSR.

" 28 Um iP 14 16 14.9

" 28 Up iPKP 14 39 32.6
iPKS 14 42 55.0
Ki iPKP 14 39 17.9
Sk iPKP 14 39 29.9 C
Um iPKP 14 39 24.3
Ud iPKP 14 39 34.9 C
iPKS 14 42 56.4
i 14 43 03.0
De iPKP 14 39 42.0
iPKS 14 43 08.2
i 14 43 22.0
New Hebrides Islands
(h = N).

" 28 Up e(P) 15 29 11
iPKP 15 32 15.6
ipPKP 15 32 52.9
iPKKP 15 43 10.7
i 15 45 48.9

		micr	sec
Mx	E	8.5	22
Mx	N	13	23
Mx	Z	16	23

(cont.)

1971
Oct. 28 (cont.)
Ki i(P) 15 28 45.8
ePKP 15 32 07
epPKP 15 32 42
i 15 33 06.8

		micr	sec
Mx	E	12	20
Mx	N	21	22
Mx	Z	9.6	18

Sk ePKP 15 32 14
i 15 34 20.3
Um iPKP 15 32 06.5
ipPKP 15 32 45.2
iPKKP 15 43 23.6
Ud i(P) 15 29 19.6
iPKP 15 32 17.7
iPP 15 33 44.8
iPKKP 15 43 09.0
De i(PKP) 15 32 18.4
iPKP 15 32 20.9
ipPKP 15 33 00.2
iPKKP 15 43 04.8
New Ireland.
h = 140 km (Up,Ki,Um,De).
M = 6.6 (Up,Ki).
Phases tentatively marked (P) would fit pP better.

" 28 De iP 15 46 23.9

" 28 Up eP 15 57 32
Kirghiz SSR.

" 28 Ud iP 16 21 22.7
Hindu Kush.

" 28 Up iPKP 18 19 02.9
iPP 18 21 10
i 18 21 31.1
iPKS 18 22 22

		micr	sec
Mx	E	11	22
Mx	N	18	21
Mx	Z	31	22

Ki iPKP 18 18 50.8

		micr	sec
Mx	E	12	18
Mx	N	13	21
Mx	Z	13	20

Sk iPKP 18 19 02.3
Um iPKP 18 18 57.3
Ud iPKP 18 19 07.6
iSKP 18 22 26.9
De iPKP 18 19 13.1
iSKP 18 22 40.8
New Hebrides Islands
(h = N).
M = 6.8 (Up,Ki).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	28	De	iPKP	23 16 38.0		
		New Britain (h = 55 km).				
"	28	Ud	iP	23 21 30.4		
		Japan (h = 60 km).				
"	29	Up	iPKP	01 02 35.4	C	
			i	01 02 51.0		
				micr	sec	
			PKP Z'	0.2	0.8	
		Ki	e(PKP)	01 02 14		
			iPKP	01 02 17.3		
		Sk	iPKP	01 02 29.2	C	
			iSKP	01 05 10.3		
			e(SKKP)	01 13 04		
			i	01 13 22.8		
		Um	iPKP	01 02 22.9		
			iSKP	01 05 06.4		
			i(SKKP)	01 13 18.9		
		Ud	i(PKP)	01 02 34.5		
			iPKP	01 02 37.5		
			ipPKP	01 04 58.5		
			iSKP	01 05 17.3		
			i(SKKP)	01 13 08.8		
		De	i(PKP)	01 02 41.4		
			iPKP	01 02 46.1		
		Kermadec Islands.				
		h = 640 km (Ud).				
"	29	Ud	iP	07 18 52.9		
		Kurile Islands.				
"	29	Ud	iSg1	11 14 45.2		
		De	iPg1	11 12 43.3		
			i	11 12 53.8		
			iSg1	11 12 57.9		
			iRg	11 13 04.9		
		Southern Sweden.				
		Explosion?				
"	29	Um	i(Sg1)	12 35 13.1		
"	29	Up	iSn	12 43 19.6		
			iSg1	12 43 32.6		
		Um	iSg1	12 44 06.8		
		Ud	eSg1	12 44 33		
		De	iSg1	12 45 00.5		
		Esthonia, 59.4°N, 25.3°E.				
		Origin time = 12 41 29.				
		Explosion.				
"	29	Ud	iP	13 01 23.7		
		Luzon (h = 10 km).				
"	29	Ki	eP	13 25 33		
		Ud	iP	13 26 27.0		
		Alaska (h = 140 km).				

1971 Oct.	29	Up	iP	14 16 58.7		
			iPcP	14 17 30.7		
				micr	sec	
			PcP Z'	0.1	1.0	
			Mx E	0.7	18	
			Mx N	1.8	24	
			Mx Z	2.4	25	
		Ki	eP	14 16 09		
				micr	sec	
			Mx E	1.0	20	
			Mx N	0.9	17	
			Mx Z	0.9	20	
		Sk	eP	14 16 44		
			i	14 16 48.5		
		Um	iP	14 16 31.0		
		Ud	iP	14 17 03.4		
			iPcP	14 17 33.2		
		De	iP	14 17 23.5		
			ePcP	14 17 49		
		Kurile Islands				
		(h = 100 km).				
		M = 5.2 (Up,Ki).				
"	29	Up	iP	17 25 48.6		
		Ki		micr	sec	
			Mx E	0.9	14	
			Mx N	1.0	18	
			Mx Z	0.8	15	
		Ud	eP	17 26 07		
		De	iP	17 26 06.7		
		Tibet (h = N).				
"	29	Um	iPKP	20 23 46.2		
		New Hebrides Islands				
		(h = 25 km).				
"	29	Up		micr	sec	
			Mx N	0.8	17	
			Mx Z	1.1	17	
		Sk	ePKP	20 26 13		
		Um	iPKP	20 26 07.8		
		Ud	iPKP	20 26 17.8		
		New Hebrides Islands				
		(h = N).				
"	29	Um	iP	20 36 48.6	C	
		Ud	i(pP)	20 37 33.5		
		Japan (h = 50 km).				
"	29	Um	eP	20 44 03		
			i(pP)	20 44 10.0		
		Haiti (h = N).				
"	29	Ki	iPKP	23 28 20.2		
		Sk	ePKP	23 28 31		
		(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971					
Oct. 29	(cont.)				
	Um	iPKP	23 28 26.5		
	New Hebrides Islands				
	(h = 30 km).				
" 30	Up	i(S*)	06 15 15.2		
		iSg1	06 15 23.6		
	Sk	e(Sn)	06 13 49		
		iSg1	06 13 59.0		
	Ud	iSn	06 14 10.4		
		iSg1	06 14 25.5		
	Southwest Norway,				
	62.0°N, 7.5°E.				
	Origin time = 06 12 34.				
" 30	Up	iP	14 27 28.9		
		ipP	14 28 56.6		
		iS	14 36 36.5		
			micr	sec	
		P Z'	0.6	0.9	
	Sk	iP	14 27 25.7		
		iPP	14 30 18.9		
	Um	iP	14 27 09.5		
		iS	14 35 58		
		isS	14 38 33		
	Ud	iP	14 27 36.5 D		
		ipP	14 29 06.5		
		iPP	14 30 35.0		
		iS	14 36 50.7		
	De	iP	14 27 48.7		
		iS	14 37 17.6		
	South of Japan.				
	h = 390 km (Up,Um,Ud).				
" 30	Um	iPKP	16 50 06.4		
	New Hebrides Islands				
	(h = 120 km).				
" 30	Up	iP	21 00 37.9 C		
			micr	sec	
		P Z'	0.2	1.3	
		Mx E	2.6	22	
		Mx N	6.0	22	
		Mx Z	8.4	15	
	Ki		micr	sec	
		Mx E	8.1	12	
		Mx N	4.7	12	
		Mx Z	5.9	12	
	Sk	eP	21 00 43		
	Um	iP	21 00 22.9		
	De	iP	21 00 55.7		
	Formosa (h = 35 km).				
	M = 6.2 (Up,Ki).				
" 30	Sk	ePKP	22 54 19		
		ipPKP	22 54 29.2		
	(cont.)				

1971			
Oct. 30	(cont.)		
	Um	iPKP	22 54 15.0
		ipPKP	22 54 24.3
	Ud	iPKP	22 54 34.2
		ipPKP	22 54 44.9
	New Hebrides Islands.		
	h = 35 km (Sk,Um,Ud).		
" 30	Up	iPKP	23 18 28.6
	Sk	ePKP	23 18 23
	Um	iPKP	23 18 17.0
		i	23 18 21.0
	Ud	iPKP	23 18 29.9
		i	23 18 34.5
	De	iPKP	23 18 38.8
" 31	Up	iP	05 26 39.2 C
	Sk	iP	05 26 20.9 C
	Um	iP	05 26 35.8
	Ud	iP	05 26 29.0
		i	05 26 38.4
	Mexico (h = 90 km).		
" 31	Um	iP	09 15 11.9
		i	09 15 15.9
" 31	Up	iPKP2	12 30 26.9 C
			micr sec
		PKP2 Z'	0.1 1.0
	Ki	iPKP	12 29 53.4 C
			micr sec
		PKP Z'	0.3 1.0
	Um	iPKP	12 30 01.9 C
	Ud	iPKP	12 30 11.9
		iPKP2	12 30 30.6
	De	iPKP2	12 30 43.9 C
	New Zealand (h = 90 km).		
" 31	Um	iPKP	15 13 34.5
		iPP	15 14 27.4
	Solomon Islands		
	(h = 120 km).		
" 31	Up	iP	16 04 48.4 C
		ipP	16 04 54.6
	Sk	iP	16 05 05.2
	Um	iP	16 04 41.3
	Ud	iP	16 05 01.5 C
		ipP	16 05 08.1
	De	iP	16 05 03.0
	India.		
	h = 25 km (Up,Ud).		

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BOX 517
S-751 20 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å,

U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E; h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E; h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E; h = 150 m

N O V E M B E R 1 - 30, 1971

1971
Nov. 1 Up iP 05 37 50.0
ipP 05 37 57.7
micr sec
Mx E 1.9 13
Mx N 1.0 12
Mx Z 3.8 12
Ki iP 05 37 35.3
ipP 05 37 40.3
micr sec
P Z' 0.1 0.5
Mx E 1.2 12
Mx N 2.0 16
Mx Z 1.0 14
Sk iP 05 38 05.0
Um iP 05 37 35.9
Ud iP 05 38 05.2
De iP 05 38 11.8
Sinkiang.
h = 30 km (Up,Ki).
M = 5.3 (Up,Ki).

" 1 Ud iP 09 40 01.3
Halmahera (h = 120 km).

" 3 Up iP 01 51 06.0
micr sec
P Z' 0.1 0.9
Ki iP 01 50 44.9
Luzon (h = 70 km).

" 3 Ki e(Pn) 10 26 35
i(Sn) 10 27 36.9
Probably northwest Russia.
Explosion?

" 3 Up iP 14 54 54.5
micr sec
P Z' 0.1 0.9
Ki iP 14 54 02.3
Kamchatka (h = N).

1971
Nov. 3 Ki iSg1 15 35 24.6
Southwest Norway.

" 4 Ki iP 04 18 27.1
Sk iP 04 18 30.7
Um iP 04 18 09.7
Iran (h = 50 km).

" 4 Up iP 14 31 07.5 C
Ki eP 14 32 17
De iP 14 30 41.5
Crete (h = 30 km).

" 4 Up iP 20 22 49.1
micr sec
P Z' 0.1 1.0
Ki eP 20 22 32
Um iP 20 22 36.7
China (h = 35 km).

" 5 Up micr sec
Mx E 1.0 20
Mx N 1.2 17
Mx Z 1.5 18
Ki eP 11 31 16
micr sec
Mx E 0.7 14
Mx N 0.9 17
Um iP 11 30 54.3
Atlantic Ocean (h = N).
M = 5.2 (Up,Ki).

" 5 Ki iP 15 04 43.9
Sk iP 15 04 49.3
De iP 15 04 22.9
Pakistan (h = N).

" 5 Up iP 22 22 45.5
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 5 (cont.)

Up	ipP		22 23 02.7	
			micr	sec
	P	Z'	0.6	1.2
	Mx	E	1.0	20
	Mx	N	1.4	20
	Mx	Z	2.0	21
Ki	iP		22 22 46.6	
			micr	sec
	P	Z'	0.1	0.6
	Mx	E	1.0	17
	Mx	N	1.3	17
	Mx	Z	0.9	16
Sk	iP		22 23 02.3	
Um	iP		22 22 42.2	
	ipP		22 22 57.3	
	iS		22 32 06	
De	iP		22 22 55.3	
	ipP		22 23 11.3	

Andaman Islands.
h = 60 km (Up,Um,De).
m = 6.3, M = 5.4 (Up,Ki).

" 5 Um iP 22 44 59.4
De iP 22 44 42.6
Iran.

" 6 Up iP 00 10 16.5
i 00 10 29.4
Ki iP 00 10 16.4 C

		micr	sec
P	Z'	0.1	0.8

Um iP 00 10 13.1 C
De iP 00 10 21.1
Sumatra (h = 290 km).

" 6 Sk iP 04 37 47.2
Kurile Islands.

" 6 Ki Mx 17 31

		micr	sec
Mx	E	0.8	18
Mx	N	0.8	16

Japan (h = 70 km).

" 6 Ki iP 18 50 40.7

" 6 Sk iP 18 52 32.3
Japan.

" 6 Up iP 19 48 53.8
iS 19 52 50

		micr	sec
P	Z'	0.1	0.8
Mx	E	1.1	12
Mx	N	1.8	13
Mx	Z	1.9	14

(cont.)

1971
Nov. 6 (cont.)

Ki	iP		19 49 50.8	
			micr	sec
	Mx	E	1.6	13
	Mx	N	1.5	15
	Mx	Z	1.4	15
Sk	iP		19 49 32.0	
Um	iP		19 49 16.1	
De	iP		19 48 23.7	

Turkey (h = 15 km).
M = 5.0 (Up,Ki).

" 6 Up iP 22 10 57.1 C
i(P'P') 22 39 10.6
i 22 39 17.8

		micr	sec
P	Z'	2.6	1.0
Mx	E	2.3	20
Mx	N	2.7	19
Mx	Z	3.6	18

Ki iP 22 10 04.0 C
i(P'P') 22 39 20.0
i 22 39 28.9

		micr	sec
P	Z'	1.9	1.4
Mx	E	2.8	18
Mx	N	4.5	18
Mx	Z	3.4	17

Sk iP 22 10 37.0 C
i(P'P') 22 39 14.5
i 22 39 20.7
Um iP 22 10 29.8 C
i(P'P') 22 39 13.7
i 22 39 19.5
iP'P' 22 39 28.9
De iP 22 11 19.8 C
Aleutian Islands.
m = 7.2, M = 5.7 (Up,Ki).
Underground explosion "Cannikin".
(P'P') arrivals are 12-16 sec early and i 6-10 sec, when compared with P'P' in Gutenberg-Richter tables.

" 7 Ki eP 01 10 39
Formosa (h = 140 km).

" 7 Ki eP 05 28 21
Sk iP 05 28 16.7
Um iP 05 28 31.9
Guatemala (h = 90 km).

" 7 Up iP 08 02 43.3
Ki iP 08 01 58.7
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Nov.	7	(cont.)				
		Sk	iP		08 02 37.6	
		Um	iP		08 02 18.2	
		De	iP		08 02 59.6	
		Japan (h = 80 km).				
"	7	Ki	iP		11 13 28.6	
"	7	Ki	iP		11 21 49.1	
		North Atlantic Ocean (h = N).				
"	7	Ki	Mx		15 17	
					micr	sec
			Mx	E	0.7	17
			Mx	N	1.3	17
			Mx	Z	1.0	17
		Easter Island region (h = N).				
"	7	Ki	iPKP		17 49 11.6	C
		Sk	ePKP		17 49 22	
		Um	iPKP		17 49 18.1	
		De	iPKP		17 49 34.7	
		New Hebrides Islands (h = 200 km).				
"	8	Ki	iP		00 10 44.2	
		Greece.				
"	8	Up	iP1		03 14 19.2	
			iP2		03 14 21.3	
					micr	sec
			P1	Z'	0.1	0.9
			P2	Z'	0.4	0.9
			Mx	E	4.6	20
			Mx	N	7.2	20
			Mx	Z	8.6	21
		Ki	iP1		03 14 53.8	
			iP2		03 14 56.4	
			iS		03 21 42	
					micr	sec
			P2	Z'	0.6	1.0
			Mx	E	13	18
			Mx	N	12	17
			Mx	Z	6.1	16
		Sk	iP1		03 14 53.2	
			iP2		03 14 55.7	
		Um	iP1		03 14 32.6	
			iP2		03 14 34.1	
		De	iP1		03 14 17.9	
		Iran (h = 35 km).				
		m = 6.4, M = 5.9 (Up,Ki).				
		Double P, about 2 sec apart.				
"	8	Up	iP		03 32 11.0	
		(cont.)				
1971 Nov.	8	(cont.)				
		Up			micr	sec
			P	Z'	0.1	0.9
		Ki	iP		03 32 46.0	
		Sk	iP		03 32 45.1	
		Um	iP		03 32 23.7	
		De	iP		03 32 07.7	
		Iran (h = N).				
"	8	Ki	Mx		12 33	
					micr	sec
			Mx	E	0.6	17
			Mx	N	0.8	15
			Mx	Z	0.9	17
		Aleutian Islands.				
		Cannikin collapse.				
"	8	Up	iP		22 56 02.4	
					micr	sec
			P	Z'	0.2	1.1
		Ki	iP		22 55 45.3	
					micr	sec
			P	Z'	0.3	1.0
		Sk	iP		22 56 08.1	
		Um	iP		22 55 50.6	
		Ud	iP		22 56 10.2	C
		De	eP		22 56 16	
		Mindanao (h = 160 km).				
		m = 6.3 (Up,Ki).				
"	8	Up	ePn		23 26 23	
			iSn		23 27 38.3	
			iSg1		23 28 14.3	
		Ki	ePn		23 26 43	
			eSn		23 28 11	
			i		23 28 24.1	
			iSg1		23 28 51.2	
		Sk	iPg1		23 25 37.8	
			i		23 25 55.6	
			iSg1		23 26 25.5	
		Um	iPn		23 26 26.6	
			iSn		23 27 41.6	
			iSg1		23 28 15.2	
		Ud	iPn		23 25 58.8	
			i		23 26 23.7	
			iSn		23 26 56.1	
			iSg1		23 27 21.6	
		De	iSn		23 28 02.3	
			iS*		23 28 39.7	
			iSg1		23 28 47.5	
		Norwegian Sea, 63.1°N, 5.1°E.				
		Origin time = 23 24 43.				
"	9	Ki	iP		00 25 17.5	
		(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Nov.	9	(cont.)				
		Ud	iP		00 24 57.8	
		Iran (h = N).				
"	9	Up	iP		03 51 30.6	
			ipP		03 51 43.3	
					micr	sec
			P	Z'	0.1	0.8
		Ki	iP		03 51 09.3	
			ipP		03 51 21.9	
					micr	sec
			pP	Z'	0.1	0.9
		Sk	ipP		03 51 47.7	
		Um	iP		03 51 17.2	
			ipP		03 51 29.8	
		Ud	iP		03 51 40.4	
			ipP		03 51 52.7	
		Luzon.				
		h = 45 km (Up,Ki,Um,Ud).				
		m = 5.9 (Up,Ki).				
"	9	Ki	iP		09 09 22.1	
		Ud	iP		09 09 01.9	
		Iran.				
"	9	Up	iP		12 44 41.1	
					micr	sec
			P	Z'	0.1	0.9
		Ki	iP		12 44 11.3	
		Sk	iP		12 44 42.3	
		Um	iP		12 44 23.8	
		Ud	iP		12 44 48.7	
		De	iP		12 45 04.2	
		Ryukyu Islands (h = N).				
"	9	Ud	iP		21 59 55.5	
"	10	Ki	iP		03 03 37.6	
		Japan (h = 45 km).				
"	10	Ki	iP		04 22 06.3	
		Iran.				
"	10	Ki	ePKP		06 30 53	
		New Ireland (h = 30 km).				
"	10	Ud	iP		07 48 52.9	
		Mariana Islands				
		(h = 40 km).				
"	10	Um	iP		08 48 31.2	
		Ud	iP		08 49 04.3	
		Japan (h = 5 km).				
"	10	Ki			micr	sec
			Mx	E	1.4	18
		(cont.)				

1971 Nov.	10	(cont.)				
		Ki			micr	sec
			Mx	N	1.4	23
			Mx	Z	1.0	18
		Ud	iPKP		10 41 20.5	
		De	iPKP		10 41 28.1	
		New Britain (h = 50 km).				
"	10	Ud	iP		11 06 02.6	
"	10	Ud	iP		15 00 36.3	
		De	iP		15 00 40.7	
"	10	Ki	iP		15 32 35.4	
		Um	i(P)		15 32 54.3	
		Iceland (h = N).				
"	11	Up	iP		04 51 31.6	
		Ud	iP		04 51 44.5	
			ipP		04 51 59.5	
		De	iP		04 51 45.4	
		Burma.				
		h = 55 km (Ud).				
"	11	Ud	iP		06 01 44.5	
		Kurile Islands.				
"	11	Up	iPKP		08 28 18.3	
					micr	sec
			PKP	Z'	0.2	0.7
		Ud	iPKP		08 28 20.2	
		De	iPKP		08 28 29.8	
		Tonga-Kermadec Islands				
		(h = 440 km).				
"	11	Ki	iP		10 30 09.7	
		Ud	iP		10 30 59.3	
		Japan (h = 70 km).				
"	11	Um	iPKP		18 52 27.8	D
		New Zealand (h = 110 km).				
"	12	De	ePKP		05 20 02	
		Fiji Islands (h = 360 km).				
"	12	Ud	iP		12 36 13.9	
		De	iP		12 35 41.2	
		Dodecanese Islands				
		(h = 25 km).				
"	12	De	iPKP		18 48 56.3	
"	12	Ki	iP		19 46 47.6	
		Ud	iP		19 47 42.8	
		Aleutian Islands				
		(h = 70 km).				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Nov.	13	Um	iP		07 29 20.1	
			i		07 29 32.4	
"	13	Up	eP		15 56 45	
			ipP		15 56 50.0	
					micr	sec
			pP	Z'	0.3	1.5
		Ki	iP		15 57 34.4	
			ipP		15 57 38.4	
					micr	sec
			pP	Z'	0.4	1.8
		Um	iP		15 57 08.8	
			ipP		15 57 12.4	
		Ud	iP		15 56 56.3	
		Ethiopia.				
		h = 15 km (Up,Ki,Um).				
		m = 6.1 (Up,Ki).				
"	14	Ud	e(Pg1)		11 58 35	
			iSg1		11 59 10.0	
		South Norway.				
		By combination with Bergen and Kongsberg readings.				
"	14	Ud	iPKP		14 55 23.0	
		De	iPKP		14 55 34.9	
"	14	Um	iP		22 17 50.2	
"	15	De	iPKP		00 41 33.3	
		New Ireland (h = 60 km).				
"	15	Ud	iP		09 42 57.5	
		Aleutian Islands (h = 55 km).				
"	15	Ud	iP		12 45 46.2	
		Formosa (h = 55 km).				
"	15	Um	iP		21 50 11.0	
		Ud	iP		21 50 50.1	
		Japan (h = 55 km).				
"	16	Up	iP		01 33 11.5	
		Ki	iP		01 32 24.4	
		Um	iP		01 32 46.0	
		Ud	iP		01 33 17.3	
		Okhotsk Sea (h = 580 km).				
"	16	Um	iP		01 35 30.8	
"	16	Up	iP		10 07 40.7	
			i		10 07 55.0	
		Ud	iP		10 07 46.8	
		De	iP		10 07 15.7	
		South of Greece.				

1971 Nov.	16	Ki	iPn		11 04 02.3	
			iSn		11 04 51.6	
			iS*		11 05 04.9	
		Um	iSg1		11 06 33.2	
		Northwest Russia-Norway border region.				
		Explosion.				
"	16	Up	iPKP		19 18 42.2	
		Ki	ePKP		19 18 21	
		Um	iPKP		19 18 32.0	
		Ud	iPKP		19 18 44.3	
		South of Kermadec Islands (h = N).				
"	16	Um	iP		22 34 59.1	
		Greenland Sea.				
"	17	Ki	ePn		11 26 03	
			iSn		11 26 50.8	
			iSg1		11 27 07.8	
		Um	iSg1		11 28 28.2	
		Northwest Russia-Norway border region.				
		Origin time = 11 25 00.				
		Explosion.				
"	17	Ki	eP		12 25 43	
		Ud	iP		12 26 12.5	
		Iceland-Jan Mayen (h = N).				
"	17	Ki	eP		16 23 58	
		Um	iP		16 24 29.1	
"	17	Um	iP		17 19 52.9	
		Japan (h = 340 km).				
"	18	Ki	iP		03 47 03.6	
		Svalbard.				
"	18	Up	iP		07 38 44.6	
			ipP		07 38 52.8	
			iPP		07 39 57.2	
					micr	sec
			P	Z'	0.1	0.9
			Mx	E	3.0	16
			Mx	Z	5.7	17
		Ki	iP		07 38 56.9	
			ipP		07 39 05.5	
			iPP		07 40 26.1	
					micr	sec
			pP	Z'	0.1	1.1
			Mx	E	2.7	17
			Mx	N	1.6	17
			Mx	Z	3.4	17

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Nov.	18	(cont.)			
		Um	iP		07 38 44.4
			ipP		07 38 53.3
		Ud	iP		07 39 01.5
			ipP		07 39 10.7
		De	iP		07 38 58.3
			ipP		07 39 05.6
			i(PP)		07 40 34.0
		Uzbek SSR.			
		h = 30 km (Up,Ki,Um,Ud,De).			
		m = 5.5, M = 5.2 (Up,Ki).			
"	18	De	iPKP		07 43 28.4
			i		07 43 30.5
		Tonga-Kermadec Islands			
		(h = 370 km).			
"	18	Up	iPKP		19 46 56.6
			i		19 47 24.4
		Um	iPKP		19 46 40.6
		Ud	iPKP		19 46 54.8
		Kermadec Islands (h = N).			
"	19	Ki	iP		01 07 15.6
				micr	sec
			P	Z' 0.1	0.7
			Mx	E 0.7	11
			Mx	N 2.8	12
			Mx	Z 1.4	15
		Sk	eP		01 07 37
		Um	iP		01 07 07.6
		Ud	iP		01 07 30.8
		Kirghiz SSR (h = N).			
"	19	Ki	iP		01 24 23.6
		Iceland (h = 5 km).			
"	19	Ki	iP		03 01 56.7
				micr	sec
			Mx	E 0.7	12
			Mx	N 1.4	14
			Mx	Z 0.7	14
		Sk	iP		03 01 30.6
		Ud	iP		03 01 50.9
		Iceland (h = N).			
"	19	Ki	iP		06 01 13.5
				micr	sec
			Mx	N 0.9	14
		Sk	eP		06 00 47
		Iceland (h = 15 km).			
"	19	Ud	iP		17 28 26.3
		Kurile Islands.			
"	20	Up	iPKP		07 46 24.4
		(cont.)			

1971 Nov.	20	(cont.)			
		Up	iSKP		07 49 15.6
			iPP		07 49 37.2
			iSKKP		07 57 41.2
				micr	sec
			PKP	Z' 0.5	0.9
			SKP	Z' 0.2	0.9
			PP	Z' 1.1	2.0
			SKKP	Z' 0.4	1.7
		Ki	e(PKP)		07 46 02
			i(PKP)		07 46 04.8
			iPKP		07 46 14.8
			ipPKP		07 48 27.9
			iSKP		07 48 54.2
			esSKP		07 52 41
				micr	sec
			(PKP)	Z' 0.1	0.9
			PKP	Z' 0.2	0.8
			SKP	Z' 0.7	1.3
		Sk	iPKP		07 46 17.0
			iSKP		07 49 10.3
			iPP		07 49 21.0
		Um	i(PKP)		07 46 11.4
			iPKP		07 46 19.1
			ipPKP		07 48 33.6
			iSKP		07 49 05.1
			iPKS		07 49 55
			isSKP		07 52 57
		Ud	iPKP		07 46 26.3
			ipPKP		07 48 38.8
			iSKP		07 49 17.5
			iSKKP		07 57 37.1
		De	iPKP		07 46 36.7
			ipPKP		07 48 47.6
			iSKP		07 49 26.0
		Tonga-Kermadec Islands.			
		h = 560 km (Ki,Um,Ud,De).			
"	20	Ki	iPKP		07 52 19.2
		Ud	iPKP		07 52 30.4
		De	iPKP		07 52 41.8
		Tonga-Kermadec Islands.			
"	20	Up	eP		14 10 48
			ipP		14 10 55.5
		Ki	iP		14 10 08.7
		Um	iP		14 10 30.6
			ipP		14 10 38.4
		Ud	iP		14 10 39.3
		California.			
		h = 30 km (Up,Um).			
"	20	Ki	iP		16 02 18.0
		Um	iP		16 02 08.1
		Ud	iP		16 02 26.4
		(cont.)			

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 20 (cont.)

	De	iP		16 02 23.5
	Hindu Kush.			
	Intermediate depth.			
" 20	Um	iP		16 59 06.5
	Ud	iP		16 59 32.9
	Japan (h = 80 km).			
" 20	Up	iP		21 35 42.7 C
		iS		21 44 45
			micr	sec
		P	Z' 0.3	1.5
		Mx	E 2.0	18
		Mx	N 3.0	17
		Mx	Z 2.3	16
	Ki	iP		21 34 57.6
			micr	sec
		P	Z' 0.3	1.8
		Mx	E 3.9	17
		Mx	N 4.1	17
		Mx	Z 3.4	17
	Sk	iP		21 35 14.5 C
	Um	iP		21 35 22.1 C
		iS		21 44 09
	Ud	iP		21 35 36.3 C
	De	iP		21 35 57.0 C
	Vancouver Island (h = N).			
	m = 6.2, M = 5.7 (Up,Ki).			
" 20	Sk	ePKP		23 18 19
	Um	iPKP		23 18 14.1
	New Hebrides Islands			
	(h = 35 km).			
" 20	Up	iP		23 49 53.5
	Sk	eP		23 50 28
" 21	Up	iP		06 12 43
		i(PKP)		06 15 56.5
		iPKP		06 16 02.4
		iPP		06 18 04
		i		06 28 42.4
			micr	sec
		PKP	Z' 0.3	1.6
		PP	Z' 3.0	2.8
		Mx	E 26	22
		Mx	N 69	30
		Mx	Z 76	22
	Ki	iPKP		06 15 48.5
		iPP		06 17 10.5
		i		06 29 15.1
			micr	sec
		PKP	Z' 0.5	1.3
		PP	Z' 0.4	1.6
		Mx	E 40	23

(cont.)

1971
Nov. 21 (cont.)

	Ki			micr sec
		Mx	N	31 21
		Mx	Z	27 20
	Sk	iPKP		06 15 59.2
		iPP		06 17 58.9
		i		06 29 08.2
	Um	iP		06 12 27
		i(PKP)		06 15 48.0
		iPKP		06 15 54.6
		ipPKP		06 16 27.4
		iPP		06 17 36
		iPKKP		06 25 46.1
		i		06 29 04.8
	Ud	i(PKP)		06 15 57.2
		iPKP		06 16 03.9
		iPP		06 18 08.4
		i		06 28 50.6
	De	i(PKP)		06 16 04.2
		iPKP		06 16 09.5
		iPP		06 18 27.6
	Santa Cruz Islands.			
	h = 120 km (Um).			
	m = 6.5, M = 7.3 (Up,Ki).			
	M uncorrected for focal			
	depth.			
" 21	Ki	iP		06 26 27.3
	Um	iP		06 26 17.2
	Ud	eP		06 26 23
	These phases belong			
	possibly to the preceding			
	event (pPKKP?).			
" 21	Sk	ePKP		06 38 47
	Um	iPKP		06 38 42.9
	Santa Cruz Islands			
	(h = 110 km).			
" 21	Sk	ePKP		07 44 22
	Um	iPKP		07 44 17.8
	Santa Cruz Islands			
	(h = 110 km).			
" 21	Um	iP		15 15 32.5
	Ud	iP		15 15 10.4
	North Atlantic Ocean			
	(h = N).			
" 22	Up	iP		00 56 57.7 C
		ipP		00 57 09.5
			micr	sec
		P	Z' 0.6	1.0
		Mx	N 7.5	22
		Mx	Z 4.8	18
	Ki	iP		00 56 03.6 C

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 22 (cont.)

Ki	ipP		00 56 15.7	
			micr	sec
	P	Z'	0.4	1.1
	Mx	E	5.8	18
	Mx	N	6.4	20
	Mx	Z	4.7	19
Sk	iP		00 56 37.7	
Um	iP		00 56 30.1	C
	ipP		00 56 41.6	
Ud	iP		00 56 59.0	C
De	iP		00 57 21.3	
	ipP		00 57 33.5	

Aleutian Islands.
h = 45 km (Up,Ki,Um,De).
m = 6.6, M = 5.9 (Up,Ki).

" 22

Up	iP		08 33 21.3	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		08 33 05.5	
			micr	sec
	P	Z'	0.1	1.0
Sk	iP		08 33 26.2	
Um	iP		08 33 10.4	
Ud	iP		08 33 27.7	
De	eP		08 33 34	

Celebes (h = 110 km).
m = 6.3 (Up,Ki).

" 22 Um iP 12 44 53.4
Yugoslavia.

" 22

Ki	iP		19 06 27.8
Sk	iP		19 06 41.9
Um	iP		19 06 23.9
Ud	iP		19 06 36.9

Sumatra (h = 55 km).

" 22

Um	iP		19 31 21.4
Ud	iP		19 31 41.2

Kashmir.

" 22

Up	eP		19 32 11	
			micr	sec
	Mx	E	1.2	20
	Mx	N	0.8	18
Ki	iP		19 33 15.1	
			micr	sec
	Mx	E	0.7	14
Sk	iP		19 32 48.9	
Um	eP		19 32 47	
Ud	iP		19 32 18.1	
De	iP		19 31 47.4	
	i		19 31 52.5	

Dodecanese Islands
(h = 35 km).
M = 4.5 (Up,Ki).

1971
Nov. 22

Ki	iP		22 49 21.9	
			micr	sec
	Mx	E	1.0	20
	Mx	N	1.3	15
Sk	iP		22 48 42.2	
Um	eP		22 49 10	
	iS		22 56 30	
Ud	iP		22 48 39.1	

North Atlantic Ocean
(h = N).

" 23

Ki	iPKP		00 30 44.7	
			micr	sec
	PKP	Z'	0.1	1.0
Um	iPKP		00 30 37.6	

South Sandwich Islands
(h = 180 km).

" 23 De iPKP 09 29 35.2
Fiji Islands (h = 660 km).

" 23

Um	iP		10 26 53.2
	epP		10 28 31
Ud	iP		10 27 18.7

South of Japan.
h = 450 km (Um).

" 23 Sk iP 10 30 08.1

" 23 Ud iPKP 10 30 25.7
New Britain (h = 50 km).

" 23

Up	iP		17 50 35.5
Sk	iP		17 50 46.3
Um	iP		17 50 22.7

China (h = N).

" 24

Up	iP		01 08 58.3	D
	iPcP		01 09 24.8	
			micr	sec
	P	Z'	0.1	0.8
Ki	iP		01 08 10.4	D
			micr	sec
	P	Z'	0.1	0.7
Sk	iP		01 08 45.8	
Um	iP		01 08 32.4	
	iPcP		01 09 08.4	
De	iP		01 09 22.0	D

Kurile Islands (h = 50 km).
m = 6.1 (Up,Ki).

" 24 Sk iP 02 53 18.9

" 24 Um iP 03 54 50.2

" 24 Up iP 04 45 23.4
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 24 (cont.)

	Um	iP	04 45 04.8	

South of Japan
(h = 370 km).

" 24	Up	iP	04 49 58.7	
	Um	iP	04 49 40.9	

Northeast of Formosa
(h = 150 km).

" 24	Ki	iP	07 20 50.9	
	Sk	iP	07 20 23.7	
	Um	iP	07 20 14.7	
	Ud	iP	07 19 52.9	
	De	iP	07 19 23.2	

Crete.

" 24	Ki	iP	08 31 05.8	
			micr	sec
		P Z'	0.1	1.0
	Um	iP	08 30 57.5	
	Ud	iP	08 31 17.1	

Tadzhik-Sinkiang (h = N).

" 24	Ki	iPn	11 08 40.2	
		iSn	11 09 39.2	
		iS*	11 09 58.3	
	Sk	eSg1	11 12 28	
	Um	iSg1	11 10 53.3	
	Ud	eSg1	11 13 25	

Northwest Russia,
67.7°N, 34.1°E.
Origin time = 11 07 22.
Explosion.

" 24	Up	iP	19 45 49.1	C
		iS	19 54 11.3	
		iP'P'	20 14 34.1	
			micr	sec
		P Z'	2.1	0.6
		Mx E	270	41
		Mx N	360	41
		Mx Z	570	40
	Ki	iP	19 44 55.5	C
		iS	19 52 35	
		iP'P'	20 14 45.6	
			micr	sec
		P Z'	5.4	0.6
		Mx E	290	30
		Mx N	420	42
		Mx Z	470	42
	Sk	iP	19 45 32.5	C
		iS	19 53 55.4	
	Um	iP	19 45 21.0	C
		iP'P'	20 14 38.3	

(cont.)

1971
Nov. 24 (cont.)

	Ud	iP	19 45 52.6	C
		iS	19 54 22.4	
		iP'P'	20 14 37.2	
	De	iP	19 46 13.8	C
		iS	19 55 03.0	
		iP'P'	20 14 37.3	

Kamchatka (h = 110 km).
m = 7.5, M = 7.4 (Up,Ki).
M uncorrected for focal depth.

" 24	Sk	iP	20 22 45.3	

Mariana Islands.

" 25	Ki	iSg1	10 36 55.1	
	Sk	eSg1	10 36 57	
	Um	iSg1	10 37 34.5	

Off coast of Nordland, Norway.

" 25	Ki	ePn	10 48 15	
		iSn	10 49 02.0	
		iS*	10 49 14.6	

Northwest Russia-Norway border region.
Explosion.

" 25	Ki	iPn	10 49 53.2	
		iSn	10 50 41.2	
		iS*	10 50 54.4	

Northwest Russia-Norway border region.
Explosion.

" 25	Up	iP	11 09 26.4	C
			micr	sec
		P Z'	0.2	0.9
	Ki	iP	11 08 32.1	C
		ipP	11 09 09.1	
			micr	sec
		P Z'	0.3	1.0
	Sk	iP	11 09 01.4	
	Um	iP	11 09 00.1	
		ipP	11 09 36.8	
	Ud	iP	11 09 24.5	C
		ipP	11 09 59.7	
	De	iP	11 09 48.0	C
		ipP	11 10 26.4	

Alaska.
h = 160 km (Ki,Um,Ud,De).
m = 6.0 (Up,Ki).

" 25	Ki	iPg1	13 47 11.1	
		iSg1	13 47 28.0	

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 25 (cont.)

Ki			micr	sec
	Sg1	Z'	0.1	0.6
Um	iSg1		13 48 28.7	

Lapland, Sweden.
Origin time = 13 46 50.

" 25

Up	iP		23 51 13.6	C
	i		23 51 28.9	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		23 50 26.7	
Sk	iP		23 50 51.9	
Um	i(P)		23 50 55.4	
Ud	iP		23 51 05.7	C

Vancouver Island (h = N).

" 26

Up	eP		03 06 59
Ki	iP		03 06 04.4
Um	iP		03 06 29.2
Ud	iP		03 07 02.1

Kamchatka (h = N).

" 26

Ki	iP		10 56 49.5
Sk	iP		10 57 01.3
Um	iP		10 56 35.9
Ud	iP		10 56 48.7 C

Pakistan.

" 26 Um i(P) 14 28 56.7

" 26 Ki iP 14 33 14.5
Molucca Passage
(h = 100 km).

" 26 De iP 16 27 38.0
Turkey (h = N).

" 26

Up	iP		23 12 44.5	
	i		23 12 53.4	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		23 11 25.1	
			micr	sec
	P	Z'	0.4	1.5
Sk	iP		23 11 59.4	
Um	iP		23 12 08.0	
Ud	iP		23 12 36.9	
De	iP		23 13 14.9	

Greenland (h = 20 km).
m = 5.3 (Up,Ki).

" 27

Up	iPKP	03 46 06.8
Ud	iPKP	03 46 05.3

South Sandwich Islands
(h = 55 km).

1971
Nov. 27

Up	iP	03 59 14.1
Sk	iP	03 59 57.0
Um	iP	03 59 46.1
Ud	iP	03 59 19.3
De	iP	03 58 55.0

Aegean Sea (h = 20 km).

" 27 De iP 11 08 14.5
Hindu Kush.
Intermediate depth.

" 27

Up	iP		13 56 49.7	
			micr	sec
	P	Z'	0.1	1.1
	Mx	E	4.2	15
	Mx	Z	7.0	15
Ki	eP		13 56 21	
Um	iP		13 56 32.0	
	ipP		13 56 48.6	
Ud	iP		13 56 57.9	
De	iP		13 57 09.1	

Ryukyu Islands.
h = 60 km (Um).

" 27

Up	iP	18 51 32.1
Ki	eP	18 50 56
Um	iP	18 51 11.6
Ud	iP	18 51 40.6

Japan (h = 90 km).

" 27

Um	iP	21 47 01.7
Ud	eP	21 47 16
De	eP	21 47 34

" 28

Up	iP		01 37 53.1
Um	iP		01 37 51.2 C
Ud	iP		01 38 09.1
De	iP		01 38 06.1

Hindu Kush.
Intermediate depth.

" 28

Ki	i(Sg1)	06 41 21.7
Um	eSg1	06 41 22
	iSg2	06 41 28.8

Finland.

" 28

Um	iPKP	06 59 33.9
Ud	iPKP	06 59 46.0

South of Kermadec Islands.

" 28

De	iPg1	07 36 44.8
	iSg1	07 36 58.5

" 28 Ud ePKP 09 19 01
New Ireland (h = 90 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 28 Up ePKP 11 30 29
micr sec
Mx E 0.9 18
Mx N 1.2 17
Ki iPKP 11 30 34.2
Um iPKP 11 30 32.8
Ud iPKP 11 30 23.8
iPKKP 11 41 23.8
De iPKP 11 30 22.5
iPKKP 11 41 20.0
Chile-Argentina
(h = 110 km).

" 28 Ki iP 14 24 55.9
Mariana Islands
(h = 190 km).

" 28 Ud e(PKP2) 15 18 49
Macquarie Islands (h = N).

" 28 Up eP 17 58 46
Ki iP 17 57 55.3
Sk iP 17 58 32.4
Um iP 17 58 19.9
Ud iP 17 58 52.0
Kurile Islands (h = 90 km).

" 29 De i(P) 06 06 44.6

" 29 Up iP 06 09 52.4
iPn 06 10 58.4
micr sec
P Z' 0.1 0.8
Ki iP 06 09 37.7 C
micr sec
P Z' 0.2 0.6
Sk iP 06 10 08.6 C
Um iP 06 09 38.0
i 06 10 21.1
iPn 06 10 38.3
Ud iP 06 10 09.5 C
iPn 06 11 22.1
De iP 06 10 16.4 C
Kazakh SSR.
m = 6.0 (Up,Ki).
Underground explosion.

" 29 Ud iP 11 25 08.4
Aleutian Islands
(h = 50 km).

" 29 Sk e 14 54 09
i 14 54 13.7
iSg1 14 54 50.4
(cont.)

1971
Nov. 29 (cont.)
Ud iPg1 14 53 36.8
iSg1 14 54 35.5
iSg2 14 54 44.4
West coast of Norway, near 60.2°N, 4.9°E.
Origin time = 14 52 19.
By combination with Bergen and Kongsberg readings.

" 29 Sk e 15 08 32
Ud iPg1 15 06 53.9
iSg1 15 07 54.0
iSg2 15 08 02.0
West coast of Norway.

" 29 Ki iP 18 55 31.8
Sk eP 18 54 45
Um iP 18 54 53.9
Ud iP 18 54 08.6
Italy (h = 15 km).

" 29 Up micr sec
Mx E 1.8 23
Mx Z 3.7 24
Ki micr sec
Mx E 2.3 23
Mx Z 2.1 21
Ud iP 20 27 55.8
Peru (h = 55 km).
M = 5.6 (Up,Ki).

" 30 Up iP 06 54 54.7 C
micr sec
P Z' 0.1 0.9
Ki iP 06 54 01.5
micr sec
P Z' 0.1 0.9
Sk eP 06 54 34
Ud iP 06 54 55.1
Aleutian Islands
(h = 45 km).
m = 6.0 (Up,Ki).

" 30 Um iP 07 59 41.8
Ud iP 08 00 14.7
Aleutian Islands
(h = 40 km).

" 30 Ki iP 15 56 07.7
Nevada (h = 40 km).

" 30 Up iSg1 16 09 59.2
Ki eSg1 16 12 32
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 30 (cont.)

	Sk	iSg1	16 11 50.2
	Um	iSg1	16 10 35.5
	Ud	iSg1	16 11 03.4
	De	iSg1	16 11 28.4

Esthonia, 59.5°N, 24.7°E.
Origin time = 16 08 06.
Explosion.

"	30	Ki	iSg1	17 37 24.8
		Sk	iSg1	17 37 29.5
		Um	eSg1	17 37 55

Nordland, Norway.
Explosion.

Markus Båth
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March 1, 1974

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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E; h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E; h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E; h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E; h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E; h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E; h = 150 m

D E C E M B E R 1 - 31, 1971

1971 Dec.	1	Um	iP	00 55 48.3	
		Japan (h = 330 km).			
"	1	Ud	i(P)	04 15 01.6	
		Andaman Islands (h = 45 km).			
		P-arrival is about 15 sec late when compared with J.B. tables and could be interpreted as pP or PcP.			
"	1	Up	iP	13 36 39.3	
		Greece-Albania.			
"	1	Up	iPKP	22 43 03.3	
		De	iPKP	22 43 13.9	
"	2	De	i(Sgl)	07 58 33.6	
"	2	Ud	iP	09 45 53.5	
		Turkey (h = 35 km).			
"	2	Ud	iP	09 59 31.1	
		Kurile Islands (h = 130 km).			
"	2	Ki	iPgl	12 51 32.1	
			iSn	12 52 10.0	
			iS*	12 52 23.0	
		Sk	eSgl	12 55 15	
		Um	iSgl	12 53 59.2	
		Ud	iSgl	12 56 26.4	
		Northwest Russia-Norway border region, 69.7°N, 30.3°E. Origin time = 12 50 21. Explosion.			
"	2	Up	iP	13 27 07.5	
			i	13 27 09.3	
		Ud	iP	13 26 43.9	

1971 Dec.	2	Um	iSgl	13 43 38.3	
		Ud	eSgl	13 44 08	
		Esthonia. Explosion.			
"	2	Up	iP	17 29 28.9	D
			ipP	17 29 33.0	
			iPP	17 32 04.0	
			iS	17 38 31	
			iP'P'	17 57 30.5	
				micr	sec
			P Z'	0.4	1.0
			pP Z'	2.4	1.1
			Mx E	19	22
			Mx N	28	23
			Mx Z	45	22
		Ki	iP	17 28 42.6	
			ipP	17 28 46.0	
			iS	17 37 03	
				micr	sec
			P Z'	0.2	1.1
			pP Z'	3.4	1.3
			Mx E	54	25
			Mx N	47	21
			Mx Z	37	21
		Sk	iP	17 29 17.7	
			ipP	17 29 20.9	
		Um	iP	17 29 04.0	D
			iS	17 37 42	
		Ud	iP	17 29 34.6	D
			iP'P'	17 57 30.0	
		De	iP	17 29 53.5	
			ipP	17 29 56.1	
		Kurile Islands. h = 15 km (Up,Ki,Sk,De). m = 6.4, M = 6.8 (Up,Ki).			
"	2	Um	eP	18 36 19	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 2 (cont.)
Ud iP 18 36 48.2
Japan (h = 70 km).

" 2 Up iP 19 10 05.9
Um iP 19 09 40.4
Ud iP 19 10 11.6 D
Kurile Islands.

" 2 Up iP 23 17 13.9
Um iP 23 16 47.1
Ud iP 23 17 12.1
De eP 23 17 35
Unimak Island (h = N).

" 3 Ud iPKP 04 59 55.0
De ePKP 05 00 05

" 3 Ud iP 05 01 46.7

" 3 Ud eP 07 38 19
Aleutian Islands (h = 60 km).

" 3 Up iSgl 07 59 12.1
Ud iPgl 07 57 44.2
iSgl 07 58 18.2
Bohuslän, Sweden,
58.2°N, 10.3°E.
Origin time = 07 57 00.
Explosion.

" 3 Up i(S*) 08 00 03.7
iSgl 08 00 10.5
Ud iPgl 07 58 44.8
iSgl 07 59 18.9
De iSgl 07 59 20.8
Bohuslän, Sweden,
58.2°N, 10.3°E.
Origin time = 07 58 00.
Explosion.

" 3 Up iSgl 12 27 52.7
Um iSgl 12 28 26.3
Ud iSgl 12 28 58.4
De iSgl 12 29 25.2
Esthonia, 59.7°N, 24.6°E.
Origin time = 12 26 00.
Explosion.

" 3 De iP 13 00 29.3

" 3 Up i(Sgl) 13 34 42.2
Ud i(Sgl) 13 35 28.4

" 3 Up iP 19 24 00.3
Ud iP 19 24 05.9
Kurile Islands (h = N).

1971
Dec. 3 Ud iP 20 35 26.6
Kurile Islands.

" 4 Ki eP 02 24 11
Sk iP 02 24 37.1
Um iP 02 24 23.8
i(PcP) 02 24 29.8
Ud iP 02 24 46.7
North of Mariana Islands
(h = 60 km).

" 4 Up iPP 02 45 39.7
micr sec
PP Z' 0.1 1.0
Mx E 6.1 21
Mx N 5.7 21
Mx Z 11 21
Ki micr sec
Mx E 18 24
Mx N 19 24
Mx Z 19 25
Sk ePKP 02 44 27
Um ePP 02 45 14
Ud ePKP 02 44 33
De iPKP 02 44 34.7
Solomon Islands (h = 80 km).
M = 6.6 (Up,Ki).

" 4 Up iP 02 58 11.0

" 4 Up iP 08 47 41.0
Ud eP 08 47 55
De iP 08 47 55.6
Nepal (h = 30 km).

" 4 Ki iP 16 08 32.2
micr sec
P Z' 0.2 1.1
Um iP 16 08 38.3
Ud iP 16 08 57.8
Mindanao (h = 55 km).

" 4 Up iP 16 12 27.2
Ud iP 16 12 26.7
Kurile Islands.

" 4 Ud iP 23 20 57.9
i 23 21 03.0
Crete (h = 45 km).

" 5 Up ePKP2 02 49 28
Um iPKP 02 49 03.8
Ud iPKP2 02 49 32.7
New Zealand (h = 150 km).

" 5 Up iP 06 01 05.4
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 5 (cont.)

Up	iS		06 10 06	
			micr	sec
	P	Z'	0.5	2.0
	Mx	E	2.4	18
	Mx	N	4.8	22
	Mx	Z	7.9	23
Ki	iP		06 00 32.8	
			micr	sec
	Mx	E	6.4	19
	Mx	N	14	22
	Mx	Z	7.9	21
Sk	eP		06 00 42	
Um	eP		06 00 45	
	iS		06 09 24	
Ud	iP		06 00 57.8	
	i		06 01 08.6	

Vancouver Island (h = 5 km).
M = 6.0 (Up,Ki).

" 5 Ud iP 06 23 40.3
Vancouver Island (h = 15 km).

" 5

Up	iPKP	13 41 16.3
Um	iPKP	13 41 05.2
Ud	iPKP	13 41 16.7

South of Kermadec Islands (h = 240 km).

" 5 Ud iP 14 54 34.3
Mariana Islands (h = 35 km).

" 5

Um	iP	16 20 38.6
Ud	iP	16 20 57.6

Tadzhik SSR.

" 6

Up	iP	00 20 24.5
Ki	iP	00 19 31.3
Sk	iP	00 20 08.2
Um	iP	00 19 56.6
Ud	iP	00 20 28.0
De	iP	00 20 50.1

Kamchatka (h = 170 km).

" 6 Ud iP 01 55 03.4
Kurile Islands (h = 120 km).

" 6

Up	iPKP	02 25 57.6
	ipPKP	02 26 06.2
Ki	iPKP	02 25 43.6
	ipPKP	02 25 52.4
Um	iPKP	02 25 50.0
	ipPKP	02 25 59.0

New Hebrides Islands.
h = 35 km (Up,Ki,Um).

1971 Dec. 6

Up	iPKP	02 28 23.6
Ki	iPKP	02 28 08.8
	ipPKP	02 28 17.5
Sk	iPKP	02 28 20.7
Um	iPKP	02 28 16.1
Ud	iPKP	02 28 26.1
De	iPKP	02 28 33.0

New Hebrides Islands.
h = 30 km (Up).

" 6 Um iPKP 04 01 28.6
New Hebrides Islands (h = 30 km).

" 6

Ki	eP	05 34 32
Um	iP	05 34 55.7
Ud	iP	05 35 26.6

Kurile Islands.

" 6 Um iPKP 06 12 58.5
New Hebrides Islands (h = 30 km).

" 6 Um iP 09 16 20.6

" 6

Ud	iP	10 14 43.6
De	eP	10 14 14

Crete (h = 55 km).

" 6

Up	iP	11 15 21.4
Ki	iP	11 14 28.4
Um	iP	11 14 54.9
Ud	iP	11 15 22.4

Aleutian Islands (h = 170 km).

" 6 De iP 12 34 14.0
Crete.

" 6

Up	iP	13 28 25.9
Ud	iP	13 28 34.5

Ryukyu Islands.

" 6

Up	ePn		23 38 21
	iPgl		23 38 43.2
	iSn		23 39 41.9
	i(Sg2)		23 40 36.2
			micr sec
	Sg2	Z'	0.1 0.9
Ki	iPn		23 37 51.9
	iSn		23 38 54.2
Sk	iPn		23 37 19.7
	i		23 37 34.6
	iSn		23 37 55.0
Um	iPn		23 37 55.9
	iSn		23 39 00.1
Ud	iPn		23 38 05.0
	iSn		23 39 13.6
De	iSn		23 40 37.1

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 6 (cont.)

De	i(Sg2)		23 41 51.4

Norwegian Sea,
65.6°N, 7.6°E.
Origin time = 23 36 27.

" 7	Up		micr	sec
		Mx N	1.9	18
	Ud	iPKP	03 44 58.1	

Bouvet Island (h = N).

" 7	Up	iP	06 36 35.3	
		ipP	06 36 51.4	
			micr	sec
		P Z'	0.1	0.9
	Ki	iP	06 36 18.0	
			micr	sec
		P Z'	0.2	0.9
	Sk	iP	06 36 39.3	
	Um	iP	06 36 24.1	
	Ud	iP	06 36 43.2	
		ipP	06 36 59.4	
	De	iP	06 36 49.4	
		iPP	06 40 54.8	

Halmahera.
h = 60 km (Up,Ud).
m = 6.5 (Up,Ki).

" 7	Up	iP	12 11 32.0
	Ki	iP	12 11 14.4
		micr	sec
		P Z'	0.1	0.9
	Sk	iP	12 10 58.1
	Um	iP	12 11 25.5
		ipP	12 11 30.7
	Ud	iP	12 11 13.8
		ipP	12 11 18.6
	De	iP	12 11 27.0
		ipP	12 11 32.6

East of Labrador.
h = 20 km (Um,Ud,De).

" 8	Up	iPKP	06 28 48.0	
		i	06 29 13.0	
			micr	sec
		PKP Z'	0.2	0.9
	Ki	ePKP	06 28 35	
	Ud	iPKP	06 28 49.3	
		i	06 29 14.1	
	De	iPKP	06 29 01.0	
		i	06 29 24.5	

Tonga-Kermadec Islands
(h = 160 km).

" 8	Ud	iP	08 49 14.9

Vancouver Island (h = N).

1971
Dec. 8

Ki	iP		13 10 11.2
Ud	iP		13 11 04.7

Aleutian Islands (h = 80 km).

" 8	Up	Mx	17 04	
			micr	sec
		Mx E	4.1	21
		Mx N	2.6	18
		Mx Z	7.2	21
	Ki	Mx	17 05	
			micr	sec
		Mx E	5.0	18

Chile (h = 20 km).
M = 6.2 (Up,Ki).

" 9	Up	iP1	01 50 25.4	
		i	01 50 57.5	
		iS	01 56 37.0	
			micr	sec
		P1 Z'	0.3	1.2
		Mx E	3.6	23
		Mx N	4.0	22
	Ki	iP1	01 50 53.9	
			micr	sec
		P1 Z'	0.2	1.0
		Mx E	5.5	16
		Mx N	6.6	18
		Mx Z	5.0	18
	Sk	iP1	01 50 55.6	
		iP2	01 50 59.8	
	Um	iP1	01 50 32.8	
		iP2	01 50 35.5	
	Ud	iP1	01 50 35.9	
	De	iP1	01 50 22.7	

Iran (h = 15 km).
m = 6.1, M = 5.6 (Up,Ki).
Double P, about 3 sec apart.

" 9	Ki	eP	02 39 29	
	Um	i(P)	02 39 10.6	
	Ud	iP	02 39 08.8	
		i	02 39 16.7	

Iran.

" 9	Ki	iP	02 44 32.2
	Ud	iP	02 44 14.7

Iran (h = N).

" 9	Ki	iP	03 02 22.8
	Ud	iP	03 02 02.6
		ipP	03 02 10.2

Iran.
h = 30 km (Ud).

" 9	Um	iP	05 05 08.0

Japan (h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	9	Up	iP		11 24 33.3	
"	9	Ki	iP		12 39 09.7	
		Um	iP		12 39 02.9	
		Ud	iP		12 38 57.2	
		Indian Ocean (h = N).				
"	9	Ki	ePKP		15 20 09	
		Um	iPKP		15 20 11.7	
		Ud	ePKP		15 20 18	
		New Hebrides Islands (h = 40 km).				
"	9	Um	i(P)		15 54 48.0	
"	9	De	ePKP		19 14 08	
		New Britain (h = 45 km).				
"	9	Up	iP		22 51 07.4	C
				micr	sec	
			P	Z' 0.1	0.8	
		Ki	iP		22 50 41.2	
				micr	sec	
			P	Z' 0.1	1.1	
		Sk	eP		22 51 10	
		Um	iP		22 50 51.2	
		Ud	iP		22 51 13.9	
		De	eP		22 51 26	
		Formosa (h = 150 km).				
		m = 5.6 (Up,Ki).				
"	10	Ki	iP		07 36 44.6	
		Um	iP		07 36 48.7	
		Banda Sea (h = 110 km).				
"	10	Um	iSgl		12 28 35.9	
		Esthonia.				
		Explosion.				
"	10	Ki	iP		13 51 35.8	
		Ud	iP		13 52 26.5	
		Japan (h = 210 km).				
"	10	Up	iSgl		15 03 22.8	
		Sk	eSgl		15 03 16	
		Ud	iPgl		15 01 28.8	
			i(Sn)		15 02 04.1	
			iSgl		15 02 24.7	
		Southwest Norway.				
		58.5°N, 6.3°E.				
		Origin time = 15 00 16.				
"	10	Ki	iP		19 41 07.8	
		Um	iP		19 41 20.4	
		Ud	iP		19 41 42.4	
		Mariana Islands (h = 110 km).				
1971 Dec.	10	Up	iPKP		21 17 28.7	
		Um	iPKP		21 17 32.1	
			i		21 17 43.1	
		Chile (h = 15 km).				
"	11	Up	eP		03 43 23	
		Ki	iP		03 43 05.5	
				micr	sec	
			P	Z' 0.1	1.0	
		Um	iP		03 43 11.0	
		Ud	iP		03 43 29.5	
		Halmahera (h = 110 km).				
"	11	Up		micr	sec	
			Mx	E 3.1	20	
			Mx	N 3.6	20	
			Mx	Z 6.8	20	
		Ki	iPP		07 44 23.6	
				micr	sec	
			Mx	E 9.2	22	
			Mx	N 10	22	
			Mx	Z 11	23	
		Um	i		07 44 14.4	
			iPP		07 44 37.6	
		Solomon Islands (h = 70 km).				
		M = 6.3 (Up,Ki).				
"	11	Up	iPKP		12 04 48.0	
		Ud	iPKP		12 04 47.0	
		Chile (h = 30 km).				
"	11	Up	iP		22 43 47.7	
				micr	sec	
			P	Z' 0.1	1.3	
		Ki	iP		22 43 35.5	
			ipP		22 43 59.9	
				micr	sec	
			P	Z' 0.1	1.0	
		Sk	iP		22 43 29.7	
		Um	iP		22 43 44.3	
		Ud	iP		22 43 38.9	
		Mexico.				
		h = 100 km (Ki).				
		m = 5.7 (Up,Ki).				
"	12	Ud	iP		09 50 27.1	
"	12	Ki	iP		13 31 22.8	
		Okhotsk Sea.				
"	12	Ki	iP		13 49 18.1	
		Um	iP		13 49 14.4	
		Ud	iP		13 49 40.8	
		Kirghiz-Sinkiang (h = N).				
"	12	Um	iP		14 44 03.4	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 12 (cont.)
Ud iP 14 44 34.2
Kurile Islands.

" 12 Up iPKP 15 54 41.3
Sk iPKP 15 54 35.8
Um iPKP 15 54 29.9
Ud iPKP 15 54 42.8
i 15 54 48.0
De iPKP 15 54 51.7
Kermadec Islands (h = 310 km).

" 12 Ud eP 21 51 34
South Atlantic Ocean
(h = N).

" 12 Ki iP 22 35 14.7
Um iP 22 35 06.8
Ud iP 22 35 28.3
Tadzhik-Sinkiang (h = N).

" 13 Ki iP 01 50 56.1
Um iP 01 51 02.4
Mindoro.

" 13 Ud iP 10 10 08.3

" 14 Up iP 01 52 47.6

" 14 Ud iP 02 40 10.5
Aleutian Islands (h = 40 km).

" 14 De iPKP 18 48 44.6
Chile (h = 60 km).

" 14 Up iP 21 21 49.8 C
Ud iP 21 21 41.8
Nevada.
Underground explosion.

" 15 Ud i(P) 00 17 55.1

" 15 Up iP 05 10 02.9
micr sec
P Z' 0.1 1.3
Ki iP 05 09 08.8
Ud iP 05 10 04.9
De iP 05 10 27.6
Komandorsky Islands
(h = 35 km).

" 15 Up iPKP 07 46 41.6
i 07 46 47.6
micr sec
PKP Z' 0.2 0.9
Ki iPKP 07 46 19.7
(cont.)

1971
Dec. 15 (cont.)
Sk iPKP 07 46 36.0
Um iPKP 07 46 30.3
Ud iPKP 07 46 43.1
i 07 46 50.3
De iPKP 07 46 51.5
i 07 47 04.2
Kermadec Islands (h = 360 km).

" 15 Ki iP 07 59 36.7
Um iP 07 59 38.1
Ud iP 08 00 08.7
Kazakh SSR.
Underground explosion.

" 15 Up iP 08 40 09.0
ipP 08 40 20.2
i 08 43 01.7
iS 08 48 28
eP'P' 09 09 30
micr sec
P Z' 1.2 1.3
pP Z' 3.2 1.3
Mx E 420 19
Mx N 420 18
Mx Z 250 19
Ki iP 08 39 12.8
ipP 08 39 24.6
micr sec
P Z' 1.6 1.6
pP Z' 3.9 1.4
Mx E 370 19
Mx N 320 15
Mx Z 290 15
Sk iP 08 39 51.2
ipP 08 40 02.1
eP'P' 09 09 46
Um iP 08 39 40.3
ipP 08 39 51.3
Ud iP 08 40 11.3
De iP 08 40 34.9
ipP 08 40 44.6
Kamchatka.
h = 40 km (Up,Ki,Sk,Um,De).
m = 6.9, M = 7.8 (Up,Ki).

" 15 Ud iP 08 53 02.5
Eastern Siberia.

" 15 Ud iP 09 30 23.2
Eastern Siberia.

" 15 Ki iP 09 31 53.7
Ud iP 09 32 53.0
Kamchatka (h = N).

" 15 Ud iP 09 37 19.8

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 15 Ud iP 10 04 09.7
Kamchatka.

" 15 Ki iP 10 15 19.1
Ud eP 10 16 09
Komandorsky Islands (h = N).

" 15 Up iP 10 37 35.0
micr sec
P Z' 0.1 1.2
Ki iP 10 36 37.3
Ud iP 10 37 35.9
Kamchatka (h = N).

" 15 Ki i(P) 10 50 22.8
Um e(P) 10 51 37

" 15 Ud iP 11 19 18.1
Kamchatka (h = 25 km).

" 15 Ud iP 11 21 06.4
Kamchatka (h = N).

" 15 Up iP 11 21 22.3
micr sec
P Z' 0.1 1.0
Ki iP 11 20 28.2
micr sec
P Z' 0.1 1.0
Ud iP 11 21 26.1
De iP 11 21 49.8
Komandorsky Islands (h = N).
m = 5.9 (Up,Ki).

" 15 Up iP 12 12 02.5
micr sec
P Z' 0.2 1.4
Ki iP 12 11 07.5
micr sec
P Z' 0.3 1.4
Ud iP 12 12 05.2
Komandorsky Islands (h = N).
m = 6.2 (Up,Ki).

" 15 Ud iP 12 52 53.9
Kamchatka (h = 25 km).

" 15 Up iP 13 01 55.7
Ki i(pP) 13 01 10.3
Ud iP 13 01 57.1
Kamchatka (h = 35 km).

" 15 Up iP 13 17 58.4
micr sec
P Z' 0.3 1.4
Ki iP 13 17 02.9
(cont.)

1971
Dec. 15 (cont.)
Ki
micr sec
P Z' 0.2 1.4
Ud iP 13 18 01.0
Komandorsky Islands (h = 30 km).
m = 6.2 (Up,Ki).

" 15 Ki iP 13 27 40.3
Sk eP 13 28 23
Ud eP 13 28 36
De eP 13 29 00
Kamchatka (h = 35 km).

" 15 Ki iP 15 16 06.0
Kamchatka (h = N).

" 15 Up iP 15 32 02.8
i 15 32 44.3
micr sec
P Z' 0.1 0.7
Ki iP 15 32 41.2
Sk iP 15 32 38.7
Um iP 15 32 18.3
Ud iP 15 32 17.2
De iP 15 32 01.0
Iran (h = 40 km).

" 15 Ud iP 17 10 14.7
Komandorsky Islands (h = 25 km).

" 15 Ki iSgl 19 07 38.4
Sk iSgl 19 07 42.4
Um ePgl 19 07 18
iSn 19 07 52.2
iSgl 19 08 06.7
Ud iSgl 19 09 28.2
Nordland, Norway,
66.5°N, 13.8°E.
Origin time = 19 06 08.
Explosion.

" 15 Ud iP 20 23 40.3 C

" 15 Ki eP 22 16 22
Sk eP 22 16 16
Um iP 22 16 30.8
Mexico-Guatemala (h = 260 km).

" 16 Ki eP 00 12 34
Ud eP 00 13 35
Komandorsky Islands (h = 40 km).

" 16 Um iP 02 17 09.8
Banda Sea (h = 300 km).

" 16 Ki iP 02 47 14.5
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 16 (cont.)
Ud iP 02 48 14.6
Kamchatka (h = 25 km).

" 16 Um iP 04 38 28.5
Banda Sea (h = 460 km).

" 16 Ki iP 07 51 33.2
Kamchatka (h = N).

" 16 Up iP 08 23 56.2 C
micr sec
P Z' 0.1 1.0
Ki iP 08 23 00.9
micr sec
P Z' 0.1 0.8
Um iP 08 23 26.8 C
Ud iP 08 23 59.0 C
De iP 08 24 22.0
Kamchatka (h = 35 km).
m = 6.0 (Up,Ki).

" 16 Ud iPgl 11 19 23.8
iSgl 11 19 45.9

" 16 Ud iPKP 12 16 21.2
De iPKP 12 16 31.6

" 16 Up iP 12 36 02.3
ipP 12 36 17.1
micr sec
P Z' 0.5 1.5
Ki iP 12 35 06.6
ipP 12 35 19.2
micr sec
P Z' 0.2 1.2
Mx N 3.4 20
Sk iP 12 35 44.1
Um iP 12 35 33.9
Ud iP 12 36 04.6
De iP 12 36 27.6
Kamchatka.
h = 50 km (Up,Ki).
m = 6.3 (Up,Ki).

" 16 Up iP 12 39 45.3
micr sec
P Z' 0.2 1.4
Ki iP 12 38 50.1
micr sec
P Z' 0.1 1.1
Ud eP 12 39 46
Kamchatka (h = N).
m = 6.0 (Up,Ki).

" 16 Ud i(Sgl) 12 43 45.3

1971 Dec. 16 Ki iP 13 20 30.0
Ud iP 13 21 26.3
Kamchatka (h = 25 km).

" 16 Ki iP 14 37 37.2
Ud iP 14 38 35.7
Kamchatka (h = N).

" 16 Ki i(P) 14 46 44.7
Ud i(P) 14 45 46.1

" 16 Up iP 15 17 53.6
Ki iP 15 16 56.7
Ud iP 15 17 57.6
Kamchatka (h = 25 km).

" 16 Ki iP 15 36 02.0
Ud iP 15 36 59.9
Kamchatka (h = N).

" 16 Up iP 18 39 51.0
i 18 39 55.6
iS 18 43 00.7
micr sec
P Z' 0.1 1.0
Mx E 1.8 14
Mx N 2.2 14
Mx Z 4.4 18
Ki iP 18 38 05.6
i 18 38 07.8
iS 18 39 56.8
micr sec
P Z' 0.1 0.8
Mx E 5.2 11
Mx N 4.6 15
Mx Z 3.1 16
Sk iP 18 39 09.9
Um iP 18 38 59.9
iS 18 41 35.1
Ud iP 18 39 50.6
i 18 39 54.7
i 18 43 23.9
De iP 18 40 27.6
i 18 40 33.3
Svalbard (h = N).
m = 5.0, M = 4.7 (Up,Ki).
The second phase, following P, arrives with a delay which increases with distance over our network.

" 17 Ud iP 00 15 57.3
Alaska (h = N).

" 17 Ud iP 00 28 13.8
Komandorsky Islands.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	17	Ki	iP		01 12 14.6	
		Kamchatka (h = N).				
"	17	Up	iP		02 11 29.3	
		Ki	iP		02 12 36.9	
		Sk	iP		02 12 06.5	
		Um	iP		02 11 59.0	
		Ud	iP		02 11 35.0	
		De	iP		02 11 02.3	
		Crete (h = 35 km).				
"	17	Ki	iP		04 08 58.0	
		Ud	iP		04 09 21.9	
		Mindanao.				
"	17	Up	iP		04 17 45.6	
					micr	sec
			P	Z'	0.1	1.3
		Ki	iP		04 16 49.9	
					micr	sec
			P	Z'	0.1	1.0
		Um	iP		04 17 15.7	
		Ud	iP		04 17 48.1	
		De	eP		04 18 17	
		Kamchatka (h = 25 km).				
		m = 5.9 (Up,Ki).				
"	17	Up	iP		09 21 46.1	
		Um	iP		09 21 40.7	
		Ud	iP		09 21 55.2	C
		Java (h = 60 km).				
"	17	Up	i(P)		14 01 57.3	
"	17	Up	iP		18 11 35.6	
		Ki	iP		18 11 34.2	
			ipP		18 12 18.0	
		Sk	eP		18 11 47	
		Um	iP		18 11 32.3	
		Ud	iP		18 11 46.1	
			ipP		18 12 29.2	
		De	iP		18 11 45.2	
		Sumatra.				
		h = 180 km (Ki,Ud).				
"	17	Up	iP		18 35 42.5	
			ipP		18 35 54.0	
					micr	sec
			pP	Z'	0.1	1.0
			Mx	E	1.6	17
			Mx	N	1.7	16
		Ki	iP		18 34 46.4	
		Um	iP		18 35 13.5	
		Ud	iP		18 35 43.1	
		Kamchatka.				
		h = 45 km (Up).				
1971 Dec.	17	Sk	iP		19 01 19.3	
		Ud	iP		19 01 40.8	
		Komandorsky Islands.				
"	17	Up	iP		19 16 24.3	
			ipP		19 16 36.6	
			iS		19 24 46	
					micr	sec
			P	Z'	0.2	1.2
			pP	Z'	0.8	1.4
			Mx	E	8.7	17
			Mx	N	9.2	15
			Mx	Z	9.5	17
		Ki	iP		19 15 28.7	
			ipP		19 15 41.3	
					micr	sec
			pP	Z'	0.5	1.4
			Mx	E	8.2	20
			Mx	N	18	21
			Mx	Z	7.6	18
		Sk	iP		19 16 05.9	
			ipP		19 16 18.7	
		Um	iP		19 15 55.1	
			ipP		19 16 07.3	
		Ud	iP		19 16 26.7	
			ipP		19 16 39.4	
		De	iP		19 16 49.0	
			ipP		19 17 02.5	
		Komandorsky Islands.				
		h = 45 km (Up,Ki,Sk,Um,Ud, De).				
		M = 6.2 (Up,Ki).				
"	18	Ud	iP		00 48 26.9	
		Turkey.				
"	18	Ki	iP		00 53 51.4	
"	18	Up	i(P)		00 54 41.1	
		Um	iP		00 54 41.0	
		Ud	i(P)		00 55 19.9	
		China.				
"	18	Up	iP		02 38 34.1	
			i		02 38 39.2	
		Sk	eP		02 39 14	
		Ud	iP		02 38 40.3	
		De	iP		02 38 04.9	
		Greece (h = 5 km).				
"	18	Up	iP		06 27 21.0	
		Ki	eP		06 26 28	
		Ud	eP		06 27 28	
		Kamchatka (h = N).				
"	18	Ud	iP		06 39 42.3	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 18 Ud eP 06 42 28

" 18 Ki iP 06 53 24.0
Kamchatka (h = N).

" 18 Ki i(pP) 06 56 47.4
Ud eP 06 57 32
Kamchatka (h = N).

" 18 Up eP 07 26 26
Ki eP 07 25 32
Um iP 07 26 00.1
Ud eP 07 26 31
Kamchatka (h = N).

" 18 Um i(Sgl) 12 18 21.0

" 18 Up iP 22 08 05.9
micr sec
P Z' 0.2 1.3
Ki iP 22 07 13.0
micr sec
P Z' 0.1 1.4
Um iP 22 07 39.7
Ud iP 22 08 10.0
De iP 22 08 35.2
Kamchatka (h = N).
m = 6.0 (Up,Ki).

" 18 Ud iP 22 32 29.9
Near Lake Baikal (h = N).

" 19 Up iP 00 41 29.9
Ud iP 00 41 31.5

" 19 Up iP 05 46 32.4
Ki iP 05 46 36.5
Sk eP 05 46 58
Ud iP 05 46 47.5
Sumatra (h = 80 km).

" 19 Up iSKP 06 21 22.3
Ki iPKP 06 17 57.1
Um iPKP 06 18 03.4
Ud iPKP 06 18 13.3
iSKP 06 21 26.5
De iPKP 06 18 20.4
iSKP 06 21 37.6
New Hebrides Islands
(h = 150 km).

" 19 Up iP 08 00 39.8
micr sec
P Z' 0.1 1.0
Ki iP 07 59 44.8
micr sec
P Z' 0.1 1.1
(cont.)

1971 Dec. 19 (cont.)
Sk eP 08 00 27
Um eP 08 00 11
Ud iP 08 00 43.1
De iP 08 01 07.7
Kamchatka (h = N).
m = 5.9 (Up,Ki).

" 19 Up iPKP 14 46 46.1
Ki iPKP 14 47 00.0
Um iPKP 14 46 53.7
Ud iPKP 14 46 43.3
South Sandwich Islands
(h = 45 km).

" 19 Up ipP 15 42 42.8
Ki ipP 15 41 46.2
Sk epP 15 42 28
Ud ipP 15 42 44.0
Kamchatka (h = N).
In some of these Kamchatka earthquakes, pP is considerably larger than P, which for weaker cases like this one, may explain the presence of pP without clear P.

" 19 Um iPKP 21 02 51.7
Ud iPKP 21 03 02.8

" 19 Up iP 21 40 51.1
Um iP 21 40 32.3
Bonin Islands (h = N).

" 20 Ud iP 00 34 12.8
Kamchatka (h = 35 km).

" 20 Up iP 01 34 54.2
iSn 01 39 54.5
micr sec
P Z' 0.2 1.1
Mx E 4.5 14
Mx N 8.1 14
Mx Z 10 15
Ki iP 01 35 30.9
micr sec
P Z' 0.1 0.8
Mx E 7.4 14
Mx N 8.1 15
Mx Z 6.1 16
Sk eP 01 35 32
Um iP 01 35 05.6
i 01 35 07.4
Ud iP 01 35 12.7
De eP 01 35 00
Caucasus (h = N).
m = 5.8, M = 5.7 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	20	Up	iP		01 46 41.3		
					micr	sec	
			P	Z'	0.2	1.1	
			Mx	E	3.6	16	
			Mx	N	7.5	17	
		Ki	iP		01 47 17.0		
					micr	sec	
			P	Z'	0.3	1.1	
			Mx	E	3.2	15	
			Mx	N	6.2	14	
		Sk	iP		01 47 18.4		
		Um	iP		01 46 52.4		
		Ud	iP		01 46 58.6		
		De	iP		01 46 45.6		
		Caucasus (h = N).					
		m = 6.0, M = 5.5 (Up,Ki).					
"	20	Up	iP		05 11 04.7		
		Um	iP		05 11 13.1		
		Ud	iP		05 11 18.0		
		Caucasus (h = N).					
"	20	Up	iP		07 58 50.1		
		Ki	iP		07 59 22.5		
		Um	iP		07 59 02.5		
		Ud	iP		07 59 04.3		
		Caucasus (h = N).					
"	20	Ki	iP		10 51 56.6		
		Ud	iP		10 51 39.8		
		Caucasus.					
"	20	Ki	eP		16 32 46		
		Ud	iP		16 33 46.1		
		Kamchatka (h = N).					
"	20	Ud	iP		16 45 19.1		
		Crete.					
"	20	Ud	iPgl		18 37 26.9		
			iSgl		18 37 45.1		
"	20	Ud	eP		23 35 38		
		De	iP		23 35 23.1		
		Iran (h = N).					
"	21	Ki	iPKP		06 09 15.5		
		Um	iPKP		06 09 22.8		
		New Hebrides Islands (h = 120 km).					
"	21	Up	iP		10 02 45.2		
		Ki	iP		10 02 48.7		
		Sk	iP		10 03 09.3		
		Um	iP		10 02 41.6		
		Ud	iP		10 03 01.1		
		De	iP		10 02 56.3		
		Kashmir (h = 25 km).					
1971 Dec.	21	Ki	i(P)		11 03 31.2		
"	21	Up	iPgl		11 10 27.7		
			iSgl		11 10 40.2		
			iRg		11 10 45.8		
		Sk	iSgl		11 12 59.6		
		Um	ePgl		11 11 36		
			iSgl		11 12 40.6		
			i(Sg2)		11 12 50.8		
		Ud	iPgl		11 10 55.0		
			iSgl		11 11 29.0		
		De	iPn		11 11 05.5		
			iSn		11 11 44.7		
			iSgl		11 11 56.6		
		Near coast of Södermanland, Sweden, 59.0°N, 18.0°E.					
		Origin time = 11 10 12.					
		Explosion.					
"	21	Ki	ePn		11 49 15		
			iPgl		11 49 23.6		
			iSn		11 50 01.3		
			iSgl		11 50 16.7		
		Um	iSgl		11 51 50.9		
		Northwest Russia-Norway border region, 69.7°N, 30.0°E.					
		Origin time = 11 48 14.					
		Explosion.					
"	21	Up	iP		19 35 49.3		
			ipP		19 36 24.8		
					micr	sec	
			P	Z'	0.1	1.1	
		Ki	iP		19 35 49.2		
			ipP		19 36 24.2		
		Sk	iP		19 36 02.6		
			ipP		19 36 39.7		
		Um	iP		19 35 46.6		
			ipP		19 36 22.1		
		Ud	iP		19 36 00.3		
			ipP		19 36 35.1		
		De	iP		19 35 59.6		
		Sumatra.					
		h = 140 km (Up,Ki,Sk,Um,Ud).					
"	22	Ud	iP		00 31 03.6		
"	22	Ki	iP		04 13 12.1		
		Kamchatka.					
"	22	Up	iP		07 04 46.5		C
					micr	sec	
			P	Z'	2.1	0.9	
		Ki	iP		07 05 17.7		C
					micr	sec	
			P	Z'	3.6	1.0	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	22	(cont.)		
		Um	iP	07 04 53.1 C
		Ud	iP	07 05 07.3 C
		De	iP	07 04 58.1 C
		North of the Caspian Sea.		
		m = 6.8 (Up,Ki).		
		Underground explosion.		
"	22	Ki	iP	11 11 55.8
		Ud	iP	11 12 53.2
		Kamchatka (h = N).		
"	22	Ki	iPn	11 15 08.7
			iSn	11 16 07.4
			iSgl	11 16 35.6
		Um	iSgl	11 17 24.8
		Northwest Russia,		
		67.9°N, 33.9°E.		
		Origin time = 11 13 50.		
		Explosion.		
"	22	Um	iSgl	12 12 42.9
		Lake Ladoga.		
		Explosion.		
"	22	Up	iPgl	13 21 10.0
			iSgl	13 21 23.3
			iRg	13 21 28.5
		Um	iPgl	13 22 18.8
			iSgl	13 23 23.3
		Ud	iPgl	13 21 40.5
			iSgl	13 22 12.3
		De	iPn	13 21 47.9
			iSn	13 22 26.7
			i(Sg2)	13 22 44.8
		Near coast of Södermanland,		
		Sweden, 59.0°N, 18.0°E.		
		Origin time = 13 20 54.		
		Explosion.		
"	22	Ki	eP	20 28 14
		Um	iP	20 28 37.4
		Ud	iP	20 29 09.4
		Komandorsky Islands (h = N).		
"	23	Um	iP	00 20 28.6
		Ud	iP	00 20 00.5
		Windward Islands (h = 15 km).		
"	23	Ud	iP	01 22 03.7
		Kamchatka (h = 15 km).		
"	23	Ki	iP	03 17 23.8
		Um	iP	03 17 46.6
		Ud	iP	03 18 17.4
		Kurile Islands (h = 130 km).		
1971 Dec.	23	Ud	iP	09 09 15.4
		Komandorsky Islands (h = N).		
"	23	Up	iP	13 28 11.6
		Ki	iP	13 28 20.2
		Um	iP	13 28 20.5
		Ud	iP	13 28 00.3
		De	iP	13 27 59.0
		Leeward Islands (h = 170 km).		
"	23	Um	iPKP	17 57 07.8
			i	17 57 27.5
		Ud	ePKP2	17 57 31
		South of Kermadec Islands.		
"	23	Ki	iSgl	18 48 22.1
		Sk	ePgl	18 47 50
			iSgl	18 48 28.7
		Um	iPgl	18 48 01.4
			iSn	18 48 35.3
			iSgl	18 48 48.7
		Ud	iSgl	18 50 16.9
		Nordland, Norway,		
		66.3°N, 14.8°E.		
		Origin time = 18 47 00.		
		Explosion?		
"	23	Um	iP	20 14 06.8
		Ud	iP	20 14 30.3
		Mariana Islands (h = 60 km).		
"	23	Ud	i(P)	22 46 47.3
"	24	Ud	iPKP	00 50 27.2
		De	iPKP	00 50 38.3
"	24	Ki	iP	14 20 27.6
		Kurile Islands.		
"	24	Ud	ePKP	19 23 09
		Tonga-Kermadec Islands		
		(h = 570 km).		
"	24	Up	iP	21 24 08.3 C
		Ki	iP	21 23 45.3
		Ud	iP	21 24 16.4 C
		Formosa (h = N).		
"	24	Ud	iPKP	21 31 31.5
		Tonga Islands (h = 250 km).		
"	24	Ud	iP	22 55 18.2
"	25	Um	iP	01 34 34.6
		Ud	iP	01 35 06.6
		Kurile Islands (h = 110 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	25	Up	iP	05 24 39.5	
		Ki	iP	05 24 31.2	
		Um	iP	05 24 29.6	
		Ud	iP	05 24 51.8	
		Burma (h = N).			
"	25	Ud	iP	06 47 34.6	
		Unimak Island (h = N).			
"	25	Um	iP	11 24 38.2	
		Indian Ocean (h = N).			
"	25	Ud	iP	18 06 30.5	
		Banda Sea (h = 120 km).			
"	26	Ud	iPKP	02 58 40.5	
		De	iPKP	02 58 51.4	
"	26	Up	iP	04 40 10.8	
			iPP	04 44 14.4	
		Ki	iP	04 39 53.9	
				micr sec	
			P Z'	0.2 1.0	
		Um	iP	04 39 59.7	
		Ud	iP	04 40 19.1	
		De	iPP	04 44 38.6	
		Halmahera (h = N).			
"	26	Up	iSn	04 51 40.4	
			iSgl	04 52 39.8	
		Ki	ePn	04 48 30	
			iSn	04 49 26.9	
			iSgl	04 49 47.4	
		Sk	eSn	04 51 19	
			iSgl	04 52 12.3	
		Um	iSn	04 50 06.9	
			iSgl	04 50 40.9	
		Ud	iSn	04 52 04.5	
			iSgl	04 53 15.7	
		De	iSgl	04 54 38.9	
		Northwest Russia, 68.0°N, 33.3°E. Origin time = 04 47 14. Explosion.			
"	26	Up	eSn	05 20 54	
			iS*	05 21 41.4	
			iSgl	05 21 50.7	
		Ki	iPn	05 17 39.4	
			iSn	05 18 36.8	
			iS*	05 18 56.0	
		Sk	iSgl	05 21 25.5	
		Um	iSn	05 19 17.4	
			iSgl	05 19 51.2	
		Ud	iSn	05 21 14.4	
			iSgl	05 22 25.4	
		De	eSgl	05 23 43	
		(cont.)			

1971 Dec.	26	(cont.) Northwest Russia, 68.0°N, 33.3°E. Origin time = 05 16 23. Explosion.			
"	26	Ud	iP	07 01 29.1	
		Aleutian Islands (h = 160 km).			
"	26	Up	iS*	12 15 27.0	
			iSgl	12 15 35.7	
		Um	iSgl	12 14 57.2	
		Ud	iSgl	12 16 33.4	
		De	iSgl	12 17 14.1	
		Lake Ladoga. Explosion.			
"	26	Up	iP	13 30 07.5 C	
			ipP	13 30 20.4	
			iPcP	13 30 30.1	
				micr sec	
			P Z'	0.1 1.0	
		Ki	iP	13 29 16.3	
		Um	iP	13 29 40.4	
		Ud	iP	13 30 07.3	
			ipP	13 30 20.0	
		De	iP	13 30 29.9	
			ipP	13 30 42.3	
		Aleutian Islands. h = 45 km (Up,Ud,De).			
"	26	Up	iP	14 31 51.6	
		Ki	iP	14 31 05.7 C	
		Um	iP	14 31 26.9 C	
		Ud	iP	14 31 57.3 C	
		De	iP	14 32 15.1	
		Kurile Islands (h = 25 km).			
"	26	Ud	iP	14 39 46.0	
		Kurile Islands (h = 60 km).			
"	26	Ud	iP	14 47 39.3	
		Kurile Islands.			
"	26	Up	iPKP	16 09 36.2	
			iPKKP	16 20 01.6	
		Um	iPKP	16 09 30.3	
		Ud	iPKP	16 09 38.7	
			iPKKP	16 19 53.2	
		De	iPKP	16 09 44.2	
			iPKKP	16 19 46.3	
		Solomon Islands (h = 55 km).			
"	27	Ud	iP	00 19 59.3	
"	27	Um	iP	00 28 45.6	
		Ud	iP	00 29 21.5	
		Sakhalin (h = 40 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	27	Sk	iP	03 59 52.7	
		Ud	iP	03 59 53.2	
		De	iP	03 59 51.9	
		Windward Islands (h = 160 km).			
"	27	Up	i(PKP)	11 19 51.6	
			iSKP	11 23 13.0	
		Ki	iPKP	11 19 43.9	
			iSKP	11 22 48.0	
		Sk	ePKP	11 19 53	
			iSKP	11 23 10.3	
		Um	iPKP	11 19 49.3	
			ipPKP	11 20 49.1	
			iSKP	11 23 03.0	
		Ud	i(PKP)	11 19 51.2	
			iPKP	11 19 59.7	
			iSKP	11 23 16.7	
		De	i(PKP)	11 20 00.2	
			iPKP	11 20 07.5	
		Tonga Islands.			
		h = 230 km (Um).			
"	27	Ud	iP	12 48 41.6	
		Kurile Islands.			
"	27	Up	iP	21 07 33.3	
		Ki	iP	21 07 42.5	
		Sk	iP	21 08 00.5	
		Um	iP	21 07 33.5	
		Ud	iP	21 07 51.7	
			iPP	21 09 37.1	
		De	eP	21 07 48	
		Kashmir (h = 10 km).			
"	28	Ud	iP	09 50 03.5	
		Hindu Kush.			
"	28	Ki	iP	12 57 38.9	
		Um	iP	12 57 34.7	
		Ud	iP	12 57 48.0	
		De	iP	12 57 47.6	
		Nicobar Islands (h = N).			
"	28	Up	iSgl	16 19 54.4	
		Ud	iSgl	16 20 07.4	
		De	iPgl	16 18 14.1	
			iSgl	16 18 37.2	
			iRg	16 18 48.4	
		Off coast of south Sweden,			
		55.7°N, 16.4°E.			
		Origin time = 16 17 45.			
		Explosion.			
"	28	Ki	iP	19 45 13.8	
		Ud	iP	19 46 14.0	
		Kamchatka (h = N).			
1971 Dec.	28	Um	i(P)	19 46 00.1	
"	28	Ki	iP	22 55 40.5	C
				micr sec	
			P Z'	0.1 0.9	
		Sk	eP	22 56 02	
		Um	iP	22 55 46.0	C
		Ud	iP	22 56 04.5	C
		Talaud Islands (h = 120 km).			
"	29	Ki	iP	09 51 16.8	
		Ud	iP	09 52 14.4	
		Komandorsky Islands (h = 35 km).			
"	29	Up	iP	21 19 58.8	
		Ki	eP	21 20 35	
		Sk	iP	21 20 33.6	
		Um	iP	21 20 12.4	
		Ud	iP	21 20 14.1	C
		De	iP	21 19 57.9	
		Iran (h = 20 km).			
"	29	Um	iP	21 26 56.9	
		Ud	iP	21 27 29.1	
		Kurile Islands.			
"	29	Up	iP	22 37 21.0	
			i	22 37 21.8	
				micr sec	
			P Z'	0.1 0.6	
			Mx E	0.8 16	
			Mx N	1.2 17	
			Mx Z	0.9 16	
		Ki	iP	22 37 13.9	
			ipP	22 37 31.3	
				micr sec	
			P Z'	0.2 1.1	
		Sk	iP	22 37 36.3	
			ipP	22 37 54.9	
		Um	iP	22 37 13.2	
			ipP	22 37 31.0	
			iS	22 45 24	
		Ud	iP	22 37 34.6	D
			i	22 37 35.0	C
			ipP	22 37 52.7	
		De	eP	22 37 36	
		Burma-India.			
		h = 70 km (Ki,Sk,Um,Ud).			
		m = 6.2 (Up,Ki).			
"	29	Up	iP	23 32 10.2	
		Ki	eP	23 33 31	
		Sk	iP	23 32 52.7	
		Um	eP	23 32 50	
		Ud	iP	23 32 17.2	
		De	eP	23 31 37	
		Greece (h = 20 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 30 Ud iP 02 31 28.8
Rhodes Island.

" 30 Up iP 05 12 58.9 C
Um iP 05 13 02.5
Ud iP 05 12 48.5
Colombia (h = 45 km).

" 30 Up iP 06 27 53.1 C
iPn 06 28 58.9
iPP 06 29 11.6
micr sec
P Z' 0.2 0.9
Ki iP 06 27 37.5 C
micr sec
P Z' 0.7 0.6
Sk iP 06 28 08.4 C
Um iP 06 27 38.1 C
De iP 06 28 16.3 C
Kazakh SSR.
m = 6.4 (Up,Ki).
Underground explosion.

" 30 Ud i(Sgl) 10 52 09.5

" 30 Ud iP 10 58 28.1
China (h = N).

" 30 Um iP 11 43 43.3
Ud iP 11 44 06.7

" 30 Up iSn 12 07 11.6
iSgl 12 07 23.2
Ki eSgl 12 09 56
Um iSgl 12 07 57.0
Ud iSn 12 07 59.3
iSgl 12 08 24.9
De iSgl 12 08 54.6
Esthonia, 59.6°N, 24.7°E.
Origin time = 12 05 30.
Explosion.

" 30 Up i(P) 12 44 22.6

" 30 Up iSgl 13 05 20.9
Um iSgl 13 05 39.8
Ud eSgl 13 06 23
De eSgl 13 06 52
Probably Esthonia.
Explosion.

" 30 Up iPKP 15 58 06.2
Sk iPKP 15 58 02.7
Um iPKP 15 57 59.4
Ud iPKP 15 58 08.3
De iPKP 15 58 14.2
New Britain (h = 110 km).

1971 Dec. 30 Ud iP 17 34 38.6

" 30 Up iP 19 17 36.4
Um iP 19 17 09.9
Ud iP 19 17 34.1
De iP 19 17 58.3
Aleutian Islands (h = 25 km).

" 30 Up iP 21 58 50.5
i 21 58 59.4
micr sec
P Z' 0.1 0.7
Ki iP 21 57 58.2
Sk eP 21 58 26
Um iP 21 58 24.3
Ud iP 21 58 50.2
i 21 58 59.6
De iP 21 59 12.4
Aleutian Islands (h = 10 km).

" 30 Ud iP 23 43 28.7
Sinkiang (h = N).

" 31 Ud iPKP 01 06 51.6
Tonga Islands (h = 40 km).

" 31 Ud iP 08 55 28.4
Unimak Island (h = N).

" 31 Ud eSn 09 13 06
i 09 13 33.8
De iSn 09 11 36.7
i 09 12 41.4
Austria (h = N).

" 31 Ud iPKP 11 37 49.6
De iPKP 11 38 01.0

" 31 Ud ePgl 12 53 39
iSgl 12 53 49.8
iRg 12 53 54.9
Explosion.

" 31 Up iPKP2 14 57 29.4
Um iPKP 14 57 12.9
Ud iPKP2 14 57 38.3
De iPKP 14 57 16.9
Macquarie Islands (h = N).

" 31 Ud iP 17 59 37.9

" 31 Up iP 20 02 06.6
ipP 20 02 32.0
micr sec
P Z' 0.1 1.0
Um iP 20 01 39.7
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Dec.	31	(cont.)			
		Um	ipP	20 02 05.3	
		Ud	iP	20 02 06.6	
			ipP	20 02 33.4	
		De	iP	20 02 28.6	
			ipP	20 02 55.0	
		Aleutian Islands.			
		h = 110 km (Up,Um,Ud,De).			
"	31	Ud	iP	22 07 25.7	
		Komandorsky Islands.			
"	31	Ud	iP	22 34 29.7	
		Aleutian Islands (h = 50 km).			
"	31	Up	iP	22 41 59.3	
		Ud	iP	22 42 01.8	
		(Iran).			
"	31	Up	iP	22 49 32.0	
			ePP	22 53 28	
		Um	iP	22 49 21.5	
		Ud	iP	22 49 39.4	
			iPP	22 53 40.8	
		Mindanao (h = 610 km).			

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