UNIVERSITETET I BERGEN
JORDSKJELVSTASJONEN
(Seismological Observatory)

Seismological Bulletin
Kongsberg, Norway

Sept. 1, 1962 – Dec. 31, 1963

By
SVEIN HALLE

BERGEN - NORWAY 1965

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Latitude: 59° 38' 57'' N

Longitude: 9° 37' 55'' E

Elevation: 216 meters

Foundation: Gneiss

The station is part of the World-wide Standardized Seismograph Network. The station has a three-component (NS, EW, Z) short and longperiod system as follows:

Instruments	Period sec.		Magnification at T_s	Damp. ratio
	T_g	T_s		
Sp Benioff	0.75	1	50.000	17:1
LP Sprengnether	100	30	1.500	critical

The station is located in an abandoned silver mine, 340 meters down and 2200 meters into the side of the hill. It has been in normal operation since September 1962. The arrival time given for each phase is the earliest onset of that phase on any component. The epicenters listed in this bulletin are the preliminary epicenters reported by the U.S. Coast & Geodetic Survey, except where another source is given.

The logarithm of the amplitude/period ratio, $\log \frac{A}{T}$, is given when it is possible. The amplitude A is read from the vertical short-period component and given in millimicrons as the maximum center to peak displacement within the first few cycles of the initial arrival of P or PKP. The predominant period T in the seismogram where A is observed, is given in seconds.

			$\log \frac{A}{T}$			
September		h m sec			h m sec	
1	iP	19 27 35.3				35.6N 50.0E
	iP	20 34 33.2		PP	20 35 51.9	35.3N 49.6E
2	iP	03 13 36.5C				51.3N 179.8W
4	iP	23 05 19.2		LQ	23 12 21	39.9N 44.2E
	pP	05 29.4		Lg_1	14 08	
	S	10 10.2		Lg_2	16 09	
10	iP	09 42 07.0		Lg_1	09 49 18	35.0N 27.1E
	S	46 42		Lg_2		
	LR	47 41				
	iPKP	16 02 15.1				21.1S 179.2W
12	iP	21 05 06.2		S	21 11 35	36.5N 69.2E
	PP	06 50.6		SS	14 22	
14	iPKP	17 42 06.7				26.6S 178.5W
22	iP	07 02 19.5C		S	07 11 03	26.5N 97.0E
	PP	04 43.2				
	iP	08 14 34.5		pP	08 14 44.4	36.4N 69.0E
23	iP	16 00 43.4				60.1N 151.2W
24	iP	14 49 42.5		PP	14 52 17.2	42.8N 145.3E
25	iPKP	07 49 41.4				24.0S 176.6W
	iP	13 07 30.1				73.3N 55.0E
28	iP	19 08 24.8				5.2N 76.2W
29	iPKP	15 35 04.4				27.0S 63.6W
30	iP	22 09 51.8				18.6N 120.9E
October						
1	iP	12 22 06.5		PP	12 23 50.6	27.9N 54.9E
	pP	22 20.7				
4	eP	07 29 55	1.2	S	07 34 21	42.0N 35.9E
	i	30 04.6				
	iPKP	09 56 17.9	1.5			23.3S 179.0E
	iP	19 51 12.8		PcP	19 54 37.4	38.3N 22.7E
	PP	52 04		S	55 23	
5	iP	17 11 35.3				Explosion Nevada

October		h m sec	$\log\frac{A}{T}$		h m sec	
5	eP	20 10 01		PP	20 11 32	35.2N 58.8E
6	eP	03 23 22	1.5			40.8N 29.5W
	iPKP	04 42 42.2	1.3	PKS	04 46 21	17.4S 167.7E
	eP	05 50 25	1.0		05 50 40.1	26.2N 126.9E
	iPKP	08 22 46.7				17.2S 168.0E
	iPKP	11 19 40.5	1.9	SKP	11 22 49.8	13.3S 167.3E
8	eP	14 31 06		i	14 31 10.5	41.9N 24.3E
	iP	15 15 42.4				41.9N 24.3E
	eP	22 08 27		PPP	22 13 20.7	24.3N 121.7E
	e	08 36		S	28 46	
	PP	11 36.6				
9	iP	16 07 13.8	1.9	PcP	16 08 58.1	36.4N 71.3E
	i	07 19.7		PP	09 02.8	
	i	08 05.7				
	ePs	20 43 32				3.2S 148.4E
	ePKP	09 39 06				22.2S 179.6W
10	iPKP	22 11 56.8	1.2			15.1S 173.3W
12	iPKP	19 23 26.3	1.2			28.9S 177.1W
	iPKP	20 58 17.9				27.2S 178.0W
13	iP	10 30 31.1		S	10 36 07	35.5N 49.8E
	PP	31 54.3				
14	ePKP	00 49 49	1.5			33.4S 179.3W
15	ePPP	03 00 04				74.8N 5.0E
18	iP	10 36 15.3				60.9N 11.9E H=10 35 41 (Uppsala)
	ePn	11 53 08		e	11 53 42	59.4N 21.6E H=11 50 25 (Uppsala)
21	iP	02 15 11.8		PcP	02 15 41.2	61.1N 149.7W
	i	15 33.2				
22	iP	15 34 30.4		PcP	15 35 14.6	49.8N 155.8E

October		h m sec	$\log\frac{A}{T}$		h m sec	
23	iP	00 58 40.5				46.2N 153.2E
	iP	12 50 08.0				
29	ePKP	13 39 52	1.4			6.5S 156.3E
November						
1	eP	13 54 40		PP	13 56 27	37.2N 70.0E
	iP	23 32 02.6	1.3			43.9N 145.2E
4	iP	11 03 28.1	1.5			40.3N 77.6E
	PKP	23 12 31.4	1.7			43.2S 75.6W
5	iPn	11 47 54.6		iSn	11 48 11.0	66.3N 8.0E H=11 46 17 (Uppsala)
6	iP	00 17 56.2	1.7	PP	00 19 39.1	28.0N 55.6E
	pP	18 06.5		SS	27 52	
7	22 37 34.9		1.4			51.5N 176.1E
8	iPKP	17 37 36.9	1.5			31.5S 180.0W
9	iP	01 18 02.9	1.4	PP	01 19 26.2	33.5N 47.2E
	iP	02 18 41.7				45.7N 26.7E
	iP	09 33 18.2	1.6			35.8N 140.3E
10	iP	01 44 33.8		S	01 53 49	43.8N 147.3E
	PP	47 11.8				
11	iP	11 40 35.6	1.6	LQ	11 51 37	55.8N 113.1E
	PP	42 28.6				
	iP	15 24 10.7	1.5	Lg_1	15 39 25	17.2N 40.7E
	S	31 11.0		Lg_2	40 50	
	iPKP	16 29 00.8		iPKS	16 32 22.4	12.9S 166.5E
	iPKP	22 33 14.7		Lg_1	23 19 06	43.2S 76.0W
	SS	35 01		Lg_2	23 09	
12	iP	13 01 22.8	1.4	Rg	13 38 11	26.0N 128.4E
13	iP	09 05 55.1				42.0N 141.9E

November		h m sec	$\log\frac{A}{T}$		h m sec	
14	iP	07 59 52.1				35.7N 140.8E
16	iP	21 21 43.5	1.9	SS	21 36 13	13.5N 93.2E
	pP	21 51.9		SSS	39 29	
	PcP	21 54.5		Li	46 29	
	PP	24 30		Lg_2	50 39	
	S	31 36		Rg	55 03	
17	iP	11 19 52.0	1.7			16.3N 98.2W
20	iP	07 04 25.9	1.5			56.1N 159.1E
	iP	07 43 00.8				56.2N 159.1E
22	iPKP	20 52 40.9	1.5			30.2S 178.6W
23	iPKP	23 24 05.2	1.9	SKP	23 26 50.9	21.5S 179.3W
26	iP	05 37 53.0		Lg_1	05 53 43	39.8N 77.2E
	PP	39 36.8				
	iPKP	16 18 20.0	1.9			23.8S 175.8W
27	iP	07 04 48.8	1.9			25.1N 122.9E
28	iP	05 15 03.1				22.4S 10.5W
	eP	05 21 38				22.5S 10.7W
29	iPKP	04 18 04.3	1.1			29.4S 177.9W
30	iP	22 03 54.5	1.7	LQ	22 31 57	17.6N 99.7W
	pP	04 08.9		Lg_1	35 53	
	iS	14 21.9				
December						
1	iP	02 01 19.4	1.7	LQ	02 18 23	52.4N 170.1W
	eS	10 52				
	iPKP	04 36 43.6				29.7S 177.7W
6	iP	04 15 01.5				49.0N 154.4E
7	iP	14 15 14.8D	2.8	isS	14 27 46.8	29.2N 139.2E
	S	24 51.3		SS	30 13	
8	iP	09 10 08.7	1.4			36.5N 55.0E
	iPKP	21 44 25.3		SS	21 58 51	25.8S 63.4W
	S	51 18.2				
	iP	23 06 13.0	1.9	pP	23 06 26.8	50.5N 176.8W

December		h m sec	$\log\frac{A}{T}$		h m sec	
10	iPKP	17 15 38.5	2.0			27.2S 176.8W
11	iPKP	18 11 23.6	1.7			24.8S 177.6W
12	iP	23 09 04.7	1.8			4.6N 96.5E
13	iP	15 07 14.8	1.7			61.4N 147.2W
	iP	22 51 10.6	1.2			34.9N 27.8E
15	iPn	03 50 42.7		Sn	03 51 57.6	67.2N 13.7E
	Pg	51 09.5		Sb	52 41.8	
21	iP	06 38 49.0	1.3			52.5N 168.7W
	iP	08 53 48.1	2.1	ScS	09 03 02.2	52.4N 168.5W
	iP	09 11 40.8	2.1			52.4N 168.5W
	iP	09 21 02.5				52.5N 167.5W
	iP	09 44 34.0	2.7			42.4N 142.3E
22	iP	15 31 29.5				52.5N 168.8W
24	iP	11 16 48.2	1.5			73.6N 57.5E
26	iP	09 03 23.4	1.3	S	09 07 55.2	39.3N 10.6W
	PP	04 04.6		SS	08 52	
	iP	22 35 58.2		PP	22 38 38	53.9N 168.7E
	PcP	36 31.4		S	44 52	
	iP	23 34 28.8	1.5	PcP	23 35 35.1	23.9N 65.4E
	pP	34 31.8		PP	36 04	
	iP	23 56 57.0	2.4	PcP	23 57 26.7	54.0N 168.8E
27	iP	18 30 11.5	1.9			39.9N 142.0E
29	iP	08 13 37.7	1.0			
	iPKP	10 58 52.8		SS	11 13 30	20.2S 70.3W
	S	11 06 53.4				
	iPKP	15 07 30.6	1.5	ePP	15 11 10	31.2S 177.9W
	ePKP	18 33 51				31.6S 177.8W
	iPKP	18 39 31.6	1.1	PP	18 43 10.5	31.5S 177.6W
31	iP	08 11 06.3	1.2			52.8N 160.7E
	iP	21 00 03.2	1.2			47.1N 122.0W

January

		h m sec	$\log\frac{A}{T}$		h m sec	
1	iP	23 49 34.6C	2.8	S	23 58 04.5	56.6N 157.5W
	pP	49 49.8		LQ	00 05 52	
	PcP	50 10.6		LR	09 21	
5	iP	00 01 21.8				46.9N 153.8E
	iP	07 16 32.8		PcP	07 17 22.4	47.0N 153.8E
6	eP	21 32 06		PcP	21 32 35.7	47.8N 156.0E
	pP	32 09.0				
9	iPKP	02 22 18.2		pPKP	02 22 35.2	29.0S 177.3W
10	iP	12 39 37.9				
11	ePKP	12 31 15		pPKP	12 31 22.7	44.9S 75.9W
12	iP	06 28 18.6		PPP	06 30 31.8	36.1N 69.9E
14	eP	18 37 18		PPP	18 37 52.4	45.9N 26.7E
	PP	37 42.1				
15	iP	05 26 37.7		PP	05 26 49.3	69.1N 16.6W
	iP	15 09 36.1				36.0N 23.9E
	ePKP	19 45 00D	1.9			20.6S 177.9W
17	iP	19 11 14.0				local
19	iP	19 55 25.6		(S)	19 55 45.4	local
24	iP	15 50 24.9				28.2N 57.0E
27	eP	01 19 13				25.5N 128.4E
	P	11 57 40.7		PcP	11 58 21.0	59.4N 153.3W
	iP	19 41 28.9C	2.3	PcP	19 44 24.1	40.9N 49.7E
	i	41 45.9		S	46 30.2	
	PP	42 28.1				
28	iP	13 11 34.8C	2.9	PcP	13 12 05.6	54.7N 161.7W
	pP	11 38.3		PP	13 04.9	
	iPKP	16 27 07.6		pPKP	16 27 18.6	31.2S 177.7W
29	iP	09 31 56.9C	2.2	PcP	09 32 24.9	49.8N 155.0E
31	iP	05 18 45.4		eLR	05 44 00	27.1N 126.7E
	eS	28 44				
	iP	15 12 24.2D	1.7	pP	15 12 37.6	36.0N 22.0E
	iP	17 12 18.2		PPP	17 13 34.8	41.0N 49.8E
	pP	12 28.8				

February

		h m sec	$\log\frac{A}{T}$		h m sec	
4	iP	23 32 05.4		PcP	23 32 31.0	48.7N 155.1E
5	PKP	19 49 16.3		i	19 49 18.6	32.2S 178.9W
10	iP	15 10 38.8		i	15 10 52.1	53.6N 33.4W
12	iP	12 51 36.3		i	12 51 39.1	
13	iP	09 02 08.1C	3.6	iS	09 12 05.2	24.5N 122.1E
	PcP	02 13.0		LQ	21 38	
	PP	05 11.1		LR	25 33	
	PKP	18 33 05.6		PP	18 34 50.2	9.9S 160.7E
14	eP	07 18 58		PP	07 23 32.1	7.4S 128.2E
	PKP	23 12.4		PPP	26 10.2	
	iP	12 19 59.0		eS	12 29 12	0.8N 30.2W
	P	13 22 40.1				44.3N 15.4E
15	iPKP	01 08 42.8D	1.6			33.3S 179.3W
	iP	10 23 02.3				40.5N 20.1E
16	iP	12 27 24.9		PP	12 30 10.6	36.5N 70.4E
	PcP	29 13.2				
17	iP	08 33 41.6D	1.6	iPP	08 34 16.5	42.3N 37.1E
	iPKP	19 45 05.5C	1.8			23.8S 179.9E
	iP	20 16 04.5D	1.6			43.6N 17.0E
18	iP	14 33 12.8		PP	14 35 02.5	36.4N 70.8E
21	P	17 20 26.5		i	17 20 53.0	32.6N 21.0E
	eP	20 32 27				32.6N 21.0E
22	eP	07 16 44		eS	07 21 48	85.0N 100.4E
	i	16 51.5				
	iP	14 17 29.5		PP	14 17 48.2	40.5N 20.1E
	i	17 32.7		Lg_1	24 08	
	iP	21 25 15.4				18.1N 71.4W
23	iP	17 23 46.3				49.5N 158.5E
24	iP	13 46 27.7C	2.0	eS	13 56 39	14.7N 91.3W
	PP	49 39.5				
26	PKP	20 32 39.5		SKS	20 39 13.8	07.5S 146.1E
	PP	33 53.9				
28	P	12 52 12.1		i	12 52 17.6	local

March

		h m sec	$\log\frac{A}{T}$		h m sec	
2	eP	09 37 08				46.4N 153.1E
3	iP	17 13 06.6		pP	17 13 46.7	36.7N 71.4E
4	iP	07 47 02.9		PPP	07 47 50.5	83.0N 06.4W
	iPP	47 36.0				
	eP	13 50 48				24.5N 121.8E
	iP	15 15 53.4		eS	15 20 31	34.9N 25.2E
	PPP	16 45				
7	iPn	04 27 52.4		Rg	04 28 58	61.7N 4.8E
	iSn	28 33.4				H=04 27 02 (Uppsala)
	iPKP	12 35 24.5C	1.7			44.2S 75.4W
	iP	21 57 34.1C	1 8	PPP	21 59 52	36.5N 71.3E
10	iP	01 36 35.3C	2.0	PcP	01 37 09.4	56.3N 153.6W
	pP	36 44.3				
11	iP	07 32 44.1C	2.5	PPP	07 33 34	37.9N 29.0E
	ipP	32 53.1		eS	37 10	
12	iP	08 16 25.0				53.9N 160.5E
	iP	15 21 04.0				72.0N 0.9W
15	eP	00 29 15		i	00 29 28.5	8.3N 126.7E
16	iP	08 56 02.2		iS	09 05 21.3	46.6N 154.8E
	iPP	58 41.0				
17	iP	14 22 08.5		PPP	14 22 39.5	39.4N 20.9E
	PP	22 31.4				
20	iPKP	05 04 03.6		iSKP	05 06 38.5	20.0S 179.1W
22	iP	12 32 17.0				
23	eSn	22 55 08		eSg	22 56 00	67.0N 14.1E
	eSb	55 38				H=22 51 35 (Uppsala)
24	iP	12 50 58.1D	1.6	eS	12 56 42	34.3N 47.8E
	pP	51 06.0		LQ	59 04	
	ePP	52 18		LR	13 00 14	
	PPP	52 32		Rg	04 32	
	iP	21 46 24.5D	1.8	pP	21 46 40.1	51.8N 178.1W
25	iP	22 59 04.2D	2.4	pP	22 59 14.9	0.8N 96.6E

March

		h m sec	$\log\frac{A}{T}$		h m sec	
26	iPKP	10 08 04.5C		iPP	10 11 42.3	29.7S 177.9W
	iPKS	11 14.3			31 00	
	iPKP	12 05 48.0				30.0S 177.3W
	iPKP	13 11 23.6D		i	13 11 32.5	29.9S 177.6W
	iPKP	13 44 44.8	2.8	SS	14 07 40	29.9S 178.0W
	iPP	48 32.9				
	iP	19 58 51.8D	1.9			44.3N 147.3E
	iP	21 46 21.2D	2.0	PP	21 49 02.2	35.9N 135.7E
28	eP	00 19 17	2.1	iPPP	00 19 39.0	66.1N 20.1W
	iPP	19 27.9		S	22 03	
	iP	00 30 42.1	2.1	PPP	00 31 02	66.3N 20.2W
	PP	30 53.6	2.1			
	iP	01 03 06.9				66.3N 19.6W
	iPKP	11 32 16.8C	2.1			30.2S 177.9W
	iPKP	23 48 56.9D	2.1	i	23 49 12.5	29.6S 177.7W
29	iP	03 14 07.9				40.4N 26.6E
30	iP	17 03 13.4D	2.4	ePcP	17 03 34	44.1N 148.0E
31	iPKP	05 50 32.1		ePKS	05 54 10	29.9S 177.9W
	iPKP	08 32 24.3				29.8S 176.9W
	iPKP	09 27 05.1C	2.1	i	09 27 08.0	30.2S 177.8W
	iP	17 41 40.0D		pP	17 41 49.3	0.7N 96.6E
	iPKP	19 42 38.0C	3.6	ePKS	19 46 12	30.1S 178.2W

April

1	iP	05 39 21.5		pP	04 40 16.7	44.8N 141.2E
	PcP	40 14.2		eS	48 01	
	eP	09 30 59		pP	09 31 28.9	35.5N 69.8E
	iP	21 36 26.0C		i	21 36 29.5	local
2	iP	02 12 32.5				
	iP	02 15 49.4				
3	iPKP	11 41 32.8		i	11 41 37.8	29.4S 177.1W
4	iPKP	22 20 49.5				29.8S 178.1W

April		h m sec	$\log\frac{A}{T}$		h m sec	
6	iP	11 29 00.9D	2.1			63.4N 149.6W
	eP	17 58 10				33.5N 82.4E
	iPKP	18 22 08.1				32.8S 178.8W
7	iPKP	04 16 53.6D	2.5			24.8S 176.6W
	iP	15 38 35.3		epP	15 39 20	53.7N 170.0W
12	iP	00 50 40.6C	1.7			32.0N 78.8E
	iP	19 52 22.0C		eS	19 56 06	79.5N 4.0E
13	iP	02 34 01.0D	1.9	S	02 45 08	6.3S 76.7W
	i	35 17.0				
14	iPKP	05 52 23.6D	1.7	pPKP	05 52 34.6	31.3S 177.7W
16	eP	01 43 26		PP	01 47 10.6	0.9S 128.2E
	iP	18 53 36.0C				35.9N 44.3E
17	iPKP	02 30 46.2		i	02 30 53.0	19.7S 178.3E
19	iP	07 45 17.8D	2.2	iS	07 53 27.8	35.7N 96.9E
	iPP	47 30.0				
21	iP	04 50 29.3		eSS	05 06 00	24.2N 122.3E
	S	05 00 40				
	iP	09 29 15.4				26.5N 128.7E
22	iPKP	07 45 17.1C	1.7			30.0S 177.8W
23	iP	03 00 36.9		Lg_1	03 24 30	46.7N 103.5E
	Lg_2	22 15				
	iP	10 06 06.4				25.7N 99.5E
	iP	14 07 08.6				42.2N 19.4E
24	iP	13 44 22.5				26.6N 129.1E
	iPKP	22 01 05.3C	1.5	iSKP	22 03 51.9	20.8S 179.0W
25	eP	04 44 07				
	iP	11 20 28.6				4.1N 62.3E
28	iP	19 58 12.0D	1.3			36.3N 71.3E
29	iP	21 55 18.5C	1.6	ePS	22 05 01	51.3N 178.7E
	PcP	55 43.8		LR	17 09	
	S	22 04 24		Lg_1		

April		h m sec	$\log\frac{A}{T}$		h m sec	
30	iP	03 37 06.2				51.2N 178.6E
	iP	07 18 55.9				51.3N 178.6E
May						
1	iPKP	10 22 26.8	1.9	SKP	10 25 44.6	19.0S 168.9E
	pPKP	23 06.7				
6	iP	19 35 16.0				39.3N 20.4E
8	iP	10 33 55.2C	1.8	iS	10 43 38.6	36.4N 141.0E
	ipP	34 06.9		SS	48 29	
	PP	36 43				
10	iP	22 35 43.5		eS	22 46 18	2.1S 77.6W
	PP	39 16				
12	iPKP	10 03 49.3				57.5S 159.4E
	iP	20 18 00.1D	2.5	eS	20 27 24	57.3N 154.0W
	ipP	18 17.8				
15	iP	12 14 28.4C	1.6			38.0N 26.5W
17	iP	04 17 48.6D	1.9	PcP	04 18 04.8	45.5N 150.9E
	iP	06 21 51.1D		S	06 32 18	15.7N 120.1E
	pP	22 09.9				
	iPKP	07 52 23.9C	1.8	i	07 52 33.8	31.2S 179.7W
	iPKP	22 59 31.0D	2.3	SKP	23 02 30	24.7S 177.3W
26	iP	23 17 20.3C		PP	23 19 44	55.2N 160.1E
	i	17 41.0		eS	25 55	
27	iP	04 09 11.9C	2.0	PP	04 11 26	55.2N 160.1E
	i	09 30.7		SS	21 48	
28	iP	00 19 54.4D	1.7			51.7N 177.6E
	iP	21 15 05.9C	2.2	pP	21 15 22.2	47.5N 152.6E
29	iP	00 55 45.0D		PP	00 57 20.6	28.1N 52.4E
	iP	08 43 32.8		S	08 50 18	27.0N 59.4E
	pP	43 49.8		eSS	53 53	
30	iP	03 55 46.1D	1.5			50 0N 157.4E
	iSg	06 53 38.4				67.5N 32.2E H=06 49 04 (Uppsala)
	ePKP	07 16 26				54.3S 144.1E

May		h m sec	$\log\frac{A}{T}$		h m sec		
31	iPKP	14 27 50.3				30.7S	178.2W
June							
1	iP	10 58 10.0D	1.9	iPP	10 59 55.5	36.1N	71.2E
	i	58 15.5					
	iP	20 40 33.5C	1.7			39 0N	15.0E
ePKP		21 33 19		PKS	21 36 46	15.3S	173.4W
2	iPKP	21 27 04.8C				33.6S	178.6W
3	eP	07 47 50				34.1N	138.7E
	eP	12 42 39		PP	12 44 20	39.2N	70.3E
	iPKP	19 08 40.8C	1.3	i	19 08 44.0	29 6S	177.8W
4	iPKP	12 13 59.8D	1.8	PKP_2	12 14 06.8	30 5S	177.8W
	iPKP	13 25 47.6D				30.6S	177.4W
	iP	22 16 26.9D	1.7			39.0N	20.5E
5.	iPKP	05 26 51.2C		e	05 28 02.7	30 7S	177.6W
6	iP	05 31 21.9D		eS	05 41 17	19 9N	120.5E
	iPcP	31 32.2					
	iP	08 33 32.5		pP	08 33 53.7	6.5N	94 6E
	iPKP	11 45 01.1D				30.5S	177.6W
	iPKP	18 01 42.7		SKP	18 05 02.1	14.3S	167.3E
7	iP	16 02 32.1		iS	16 12 32.1	18.9N	121.9E
	pP	02 52.9					
9	iP	20 48 17.9				10.6N	41.8W
	iSg	21 34 42.4				H=21 31 03 (Uppsala)	
10	iPKP	04 37 08.1C		ePP	04 40 52	55.3S	146.2E
	ePKP	06 59 02		PP	07 03 15	55 2S	146.1E
	i	59 31.0		SS	23 05		
	eP	10 58 03		PP	11 00 21.7	51.0N	160.1E
11	iP	03 33 52.3C	1.7	PP	03 35 36.3	37 1N	70 1E
	iP	13 18 18.2				63.2N	151 4W
	iPKP	17 32 09.8				23 2S	179 7W
17	iP	18 42 14 0D		eS	18 50 20	60 5N	140 8W
	PcP	42 50.4					

June		h m sec	$\log\frac{A}{T}$		h m sec		
17	iP	23 15 29.3C		iPP	23 19 22 9	4.1S	102.2E
18	iP	04 14 40.9D				28.8N	130 0E
19	iP	09 22 46.7				4 7N	126.5E
	iP	10 58 09.9C	2.2			25 0N	92.1E
	Sg	17 02 21.5				H=17 00 14 (Uppsala)	
July							
10	iP	02 20 15.3D		pP	02 20 24.8	36.5N	71 8E
	iP	03 25 54.0C		pP	03 26 04.5	46.3N	153.4E
	iPKP	04 49 12.1				29.7S	177.2W
	iP	05 34 09.1		iS	05 43 33.2	46.3N	152.9E
	pP	34 11.6		eSS	47 52		
	iPP	36 40.7					
	iP	09 59 41.1C				13.4N	44.9W
	iPKP	17 08 30.4		i	17 08 46.9	30.2S	177.8W
	i	08 34.8					
13	iP	14 09 43.4				44.3N	148.8E
	iPn	23 33 27.4		Sn	23 34 13	West coast of Norway H=23 32 (Uppsala)	
14	iPKP	00 22 11.5C		$iPKP_2$	00 22 23.5	30.5S	177.2W
	iPKP	04 19 00.0		PKP_2	04 19 11.0	30.5S	177.3W
	iP	05 53 09.1		iSS	06 07 10.6	10.4N	62.2W
	iS	06 02 12.2					
	iP	10 59 43.3				36.1N	70.6E
	iPKP	14 48 09.3		$ePKP_2$	14 48 26	30.2S	177.4W
	iPKP	17 26 46.0				39.4S	174.9E
16	iP	18 32 44.9C		iS	18 37 05.3	43.1N	41.5E
	iPP	33 15.8		Lg_1			
	iPKP	19 28 16.2				30.6S	177.2W
	iP	22 16 51.3				43.3N	41.6E
17	iP	12 02 34.2D		Lg_2	12 10 59	43.1N	41.5E
	eS	07 09		Lg_1	11 32		

July			h m sec	$\log\frac{A}{T}$		h m sec		
19	iP		05 49 21.1		iS	05 52 30.6	43.4N	8.2E
	iPPP		49 56.2		SS	52 57		
	iP		09 12 29.3				36 3N	141.0E
20	iP		00 57 22.3		iPP	00 57 57.9	43.4N	41.2E
	ePKP		06 56 08		eSS	07 20 25	57.6S	148.5E
	eSS		07 20 25					
August								
3	iP		10 31 56.8C	2.7	iS	10 40 24.8	7.7N	35.8W
	iPP		34 15.3					
	iP		16 40 41.5C		pP	16 40 53.4	52.0N	174 3W
	iPKP		20 45 52.0C	2.2			30.7S	178.3W
4	ePn		12 52 09.3		iSg	12 52 59.3	61.7N	5.4E
							H=12 51 16 (Uppsala)	
5	iPKP		00 12 30.3				17.5S	179.1W
6	iP		13 41 35.6		LR	13 47 08.4	57 0N	33.6W
	iS		45 46.6					
8	iP		02 25 34.6C	2.3	iS	02 34 18.3	54.2N	168.1E
	pP		25 47.8		Lg_2	46 03		
	iPP		28 10.5					
	iP		11 53 26.2		eSS	12 08 41	27.3N	129.2E
	pP		53 50.9					
9	iP		06 08 11.4		Lg_1	06 13 03.2	44.5N	11.9E
	i		08 17 4					
12	iP		07 27 57.9				27.7N	53.2E
13	iP		03 37 25.9		pP	03 37 38.2	55.0N	156.4W
	iP		07 11 43.8C		ePP	07 13 28	36.6N	70.9E
	pP		12 32.6					
	iP		13 32 03.9				76.2N	6.4E
	iP		23 12 09.5				27.2N	140.1E
15	iP		06 23 12.7C		eS	06 32 45	37.9N	141.6E
	pP		23 25.5		ePS	33 30		
	iPn		09 27 06.0		Sg	09 27 36.0	local	

August			h m sec	$\log\frac{A}{T}$		h m sec		
15	iP		17 37 37.1		SKS	17 47 10.5	13.8S	69.3W
	i		37 55.0		iS	48 05.3		
	PP		41 42 0		SP	49 32.1		
	iP		23 59 31.0		S	00 01 23.4	69.8N	8.9E
17	iP		11 24 38.8D		S	11 34 46.7	30.6N	130.9E
18	iP		18 54 27.9D	2.2	eS	19 03 37	50 3N	176 9W
	pP		54 42.0					
	iPKP		20 47 32.1				32.1S	178.1W
19	iPKP		04 43 55.7				32.0S	177.9W
22	iPKP		20 11 24.6		PP	20 13 15.8	9.4S	158.0E
25	iP		06 17 31.2		eS	06 22 33.0	38.9N	38.4E
	iPKP		12 36 24.2		eSKS	12 43 20	17 5S	178.8W
	SKP		39 14.4					
29	iP		09 01 57.3C	2.1	S	09 08 22.0	39.6N	74.2E
	iPP		03 42.0		Lg_1	14 24.0		
	iP		15 44 05 3		iSKS	15 54 23.0	7.1S	81.6W
	PP		48 13.5					
30	iP		04 54 27.3		Li	05 09 17	44.8N	80.1E
	PP		56 08.0		Lg_1	11 13		
September								
2	eP		01 43 16.0		ePP	01 45 07	33.9N	74.7E
	iP		23 56 13.7		PcP	23 56 40.3	45 4N	150.8E
3	iP		05 40 53.8				45.4N	150.9E
4	iP		05 11 56.5D		LR	05 19 03	36.1N	5.3E
	iPP		12 49.9		Lg_1	21 51		
	S		16 23.0					
	iP		13 38 49.1D		S	13 44 16	71.3N	73.1W
	pP		38 59.1		LR	47 42		
	iPP		39 58.4					
6	iP		06 15 19.5		i	06 15 26.4	36.4N	130.6E
	iPKP		10 35 16.4C	1.9	SKP	10 38 09.4	24.0S	179.9E
7	iP		01 28 21.7		LR	01 51 13	36.4N	130.6E
	eS		37 47.0					
	iP		07 24 55.0				45.4N	150.8E
	iP		12 54 28.5C				54.0N	160.3E

		h m sec	$\log\frac{A}{T}$		h m sec	
September						
8	iPKP	01 07 08.4C				28.1S 176.8W
	iPKP	20 09 00.0C		SKP	20 11 53.4	23.6S 179.8E
	i	09 10.3				
11	ePKP	22 40 34				33.1S 178.2W
12	iP	08 24 52.2		ePP	08 26 05	34.9N 32.2E
13	iP	17 11 36.0C	1.9			Nuclear expl. H=17 00 00.1 Nevada
17	iPKP	19 39 14.3		SKSP	19 51 40	10.1S 165.3E
	iPP	41 25.6				
18	iP	17 03 08 7C		S	17 07 39	40.9N 29.2E
	PP	03 41.7		Lg_1	10 34	
20	iP	03 07 31.1		i	03 07 36.6	76.5N 7.9E
22	iP	22 37 15.3				37.5N 20.6E
23	iP	09 12 52.4C				16.6S 28.8E
	iP	17 13 41.0D				51.3N 179 2W
	iP	18 41 26.8				29.6N 50.9E
24	iP	02 15 40.0C		Lg_1		41.0N 29.0E
29	iP	13 41 19.6				36.6N 29.2E
	iP	22 21 51.3		PP	22 22 13.5	36.1N 18.0E
	pP	22 02.0		S	26 08	
October						
2	iP	21 10 45.1	1.5			35.1N 23.5E
3	iSg	02 09 38.6				65.0N 22.2E H=02 05 28 (Uppsala)
	iP	23 36 24.5D	1.8	iS	23 46 24.9	32.2N 131.6E
	pP	36 34.7		Lg_1	00 02 06	
	PP	39 17.1				
5	iP	15 07 13.6	1.4	iS	15 14 42.3	11.6N 42.8E
7	iPKP	13 32 55.3D	1.2	SKP	13 35 45	23.6S 179.9E
8	iPKP	00 36 10.3	0.8			15.1S 173.2W
	iP	05 45 18.1	1.1			39.0N 20.4E
11	iPg	16 40 21.4		Sg	16 40 47.2	58.8N 13.0E H=16 39 39 (Uppsala)

		h m sec	$\log\frac{A}{T}$		h m sec	
October						
12	iP	11 38 14.2		iS	11 47 07.0	44.8N 149.0E
13	iP	01 37 51.2				44.4N 149.3E
	iP	05 29 09.2		PcP	05 29 35.9	44.8N 149.5E
	pP	29 18.0		S	39 14	
	iP	07 14 37.1	1.5			45.5N 150.6E
	iP	08 22 49.0	1.4			44.5N 151.6E
	iP	09 23 10.6	1.1			43.8N 150.8E
	iP	12 40 50.6	1.7			45.9N 151.8E
	iP	12 53 27.9	1.8	pP	12 53 40.8	44.4N 149.4E
	iP	13 09 37.1	1.3	pP	13 09 48.8	45.0N 150.1E
	iP	16 11 04.4	1.8			45.6N 150.5E
14	eP	00 13 05.4		iS	00 23 17.6	45.0N 150.9E
	iP	13 32 59.9C	2.1	iS	13 42 11.3	44.8N 151.0E
	pP	33 09.3				
15	iP	10 02 54.3		eS	10 05 43	67.2N 18.4W
	PP	03 13.0				
	iP	18 35 13.3	1.3			45.3N 151.0E
	iP	20 52 44.0	1.1			45.4N 151.1E
16	iP	15 51 10.3D	1.5	SS	16 00 27	38.6N 73.4E
	PP	52 54.2		LQ	02 16	
	iS	57 42.7		Lg_1	06 04	
	iP	21 41 07.2D	1.7			44.4N 150.9E
17	iP	23 35 49.5	1.1	S	23 45 19.0	44.6N 149.0E
	pP	36 07.5		Lg_1	00 04 18	
18	iP	09 04 47.3	1.6	eS	09 14 08	44.8N 150.2E
	iP	20 16 19.4	1.5			47.6N 154.3E
	iP	21 34 06.8	1.5	pP	21 34 17.2	45.2N 151.1E
19	iP	02 29 46.9D	2.1	Lg_1	02 52 42	46.8N 153.7E
	eSS	44 14				
	iP	03 26 13.9D	1.6	pP	03 26 26.2	46.5N 153.9E
	iP	03 45 13.6C	2.0	LR	04 08 26	46.6N 153.8E
	iS	54 44.4		Lg_1	10 22	
	SS	04 00 48				

October		h m sec	$\log\frac{A}{T}$		h m sec		
19	iP	03 58 18.9D	2.1	Lg_1	04 19 56	46.8N	153.8E
	LR	04 17 52					
	iP	16 26 32.2	1.8	pP	16 26 44.9	44.4N	150.9E
20	iP	01 04 26.0	1.5	PP	01 07 08.4	44.7N	150.7E
	PcP	04 46.9		iS	13 44.3		
	iP	01 17 49.2	1.2			47.4N	151.1E
	iP	01 32 49.7	1.7			45.9N	153.6E
	iP	09 22 01.1D		iS	09 31 19.4	44.4N	150.0E
	iP	12 02 35.3C	1.8	SS	12 17 41.0	44.7N	150.2E
	iS	12 57.8		Lg_2	32 58		
	ScS	13 43.6					
	iP	13 06 59.9	1.8			24.1N	5.1E
						Nuclear expl.	
	iP	13 32 27.1	1.7			45.1N	150.5E
	iP	17 52 44.4	1.4	pP	17 52 53.6	44.2N	149.0E
21	iP	13 20 20.0	1.4	pP	13 20 32.5	45.2N	151.6E
	iP	17 32 05.1	1.5	pP	17 32 18.6	44.1N	150.3E
22	iP	03 36 58.6				43.9N	150.3E
	iP	04 40 16.6	1.1	pP	04 40 28.5	51.0N	179.4E
23	iP	09 58 33.3	1.2	pP	09 58 45.5	41.2N	144.2E
24.	iP	01 17 43.1	1.5	eS	01 27 05	44.5N	150.3
	iP	07 39 46.4		iPP	07 43 44.6	4.9S	102.9E
25	iP	06 12 58.6				52.0N	174.8E
	iP	22 59 25.1				36.9N	95.2E
26	iP	04 06 55.5		Rg	04 37 07	44.5N	150.1E
	Lg_1	33 25					
	iP	06 10 59.2	0.2			44.5N	149.8E
	iP	11 33 02.6	0.9			44.7N	149.7E
	iP	11 43 08.4	0.9			44.6N	149.8E
27	iPKP	18 44 15.5	1.5			24.3S	176.1W
28	iPKP	08 14 44.7	2.5			24.3S	176.0W

October		h m sec	$\log\frac{A}{T}$		h m sec		
28	iP	12 14 01.1	1.9	LR	12 36 12	52.8N	159.8E
	iS	22 48.0		Lg_1	38 31		
	iPKP	20 17 49.7	1.5			24.5S	179.9E
29	iPKP	17 15 25.0	0.9			26.5S	177.5W
	eSg	18 32 52.1				65.8N	21.5E
						H=18 28 28 (Uppsala)	
	iPKP	20 41 51.1				26.2S	177.8W
	iP	22 32 30.1	1.7	i	22 34 23.1		
	iP	22 42 11.0	1.4				
November							
1	iPn	00 29 04.9		iSg	00 29 53.7	62.9N	4.7E
						H=00 28 26 (Uppsala)	
	iPn	01 35 20.5		iSn	01 36 30.7	62.9N	3.3E
	iP	04 03 08.6	1.4			51.7N	159.8E
	iPKP	21 18 49.2	1.3			22.5S	176.8W
	iP	22 52 34.5D	1.4			44.9N	148.9E
2	iSb	22 56 22.5		iSg	22 56 25.4	57.2N	12.2E
						H=22 54 57 (Uppsala	
3	iP	03 23 19.7	1.5	SSS	03 41 45	3.5S	77.8W
	PP	26 55		LR	47 25		
	SKS	33 04		Rg	57 47		
	iP	14 40 53.1				39.2N	21.1E
4	iP	01 31 32.8	1.6	SKS	01 42 31	6.8S	129.6E
	pP	31 49.6		PS	45 43		
6	iPKP	06 47 58.0	1.7			30.8S	179.9E
	iP	09 36 02.9	1.5	PcP	09 36 24.8	46.3N	154.8E
	iPKP	18 43 47.2	1.3				
7	iPKP	16 13 13.9	1.4			24.2S	176.4W
9	iP	02 51 48.4	1.7			56.8N	34.6W

November		h m sec	$\log\frac{A}{T}$		h m sec		
9	iP	21 27 44.3D	1.5	PP	21 31 37.9	9.0S	71.5W
	pP	29 59		SKS	39 31		
10	iP	01 12 52.3	1.2	PP	01 16 45.0	9.2S	71.5W
	pP	15 05.1					
	iP	17 29 00.9	1.8	LR	17 51 30	44.4N	149.0E
	pP	29 10.9		Lg_1	54 17		
	iPP	31 35.0		Rg_1	57 11		
	S	38 08					
	eP	18 42 15	1.1			37.3N	20.9E
	iPKP	19 39 09.9C	1.7			26.2S	178.3E
12	iP	07 12 11.0	1.7	PP	07 13 16.6	35.5N	29.7E
15	iP	21 17 48.9	1.6	LR	21 38 09	44.3N	149.0E
	iS	27 05.8		Lg_2	44 02		
	SS	32 04					
16	iP	11 18 44.5	1.2			26.7N	97.2E
	iPKP	23 02 54.0	1.3			22.3S	175.0W
17	iP	00 58 28.6	2.3	SS	01 11 02	7.6N	37.4W
	PP	01 00 46.2		LR	16 12		
	S	06 27		Lg_2	23 50		
19	iP	11 12 11.4	1.8			44.4N	149.2E
23	iP	22 38 42.8				79.9N	0.9E
24	iP	11 17 56.3		iPP	11 21 11.0	28.2N	140.1E
27	iP	21 20 00.1	1.3			30.8N	79.1E
28	iP	15 24 06.9	1.8			52.2N	174.2E
	iPKP	18 32 55.0	1.5			27.4S	179.1E
29	iSg	09 19 06.7				60.4N	21.0E
						H=09 16 02	
						(Uppsala)	
30	iP	21 52 35.9	1.2			6.6N	94.2E
December							
1	iP	04 34 17.9	1.2			56.1N	11.8E
2	eP	06 52 08	1.3	eS	06 54 40	47.9N	16.5E
	iP	11 56 40.2				48.1N	154.7E

December		h m sec	$\log\frac{A}{T}$		h m sec		
2	iP	21 00 28.5	1.8	iS	21 04 34.7	80.1N	0.6W
	iPP	01 07.8		SR	05 56		
	PPP	01 16.8					
3	iP	00 03 41.4				51.5N	174.0W
	eP	03 55 52	1.1			45.4N	151.6E
	iP	05 20 34.7	1.4			46.2N	153.0E
	iP	08 50 19.4	1.1			46.1N	152.9E
	iPKP	23 22 04.5		LR	23 52 50	22.4S	69.3W
	PPS	32 08		Lg_1	56 48		
	LQ	47 11		Lg_2	59 05		
4	iPKP	01 04 31.1				34.0S	179.3W
	iP	01 38 49.0				46.2N	153.1E
	iP	02 38 00.8				31.3N	55.4E
	iP	02 54 41.8	1.3	pP	02 54 56.3	45.9N	153.2E
	iP	08 35 29.4	1.7			46.1N	152.9E
	iPg	13 15 26.5		iSg	13 15 53.5	58.3N	10.8E
						H=13 14 44	
						(Uppsala)	
	iP	15 56 00.9	1.7	pP	15 56 18.9	46.0N	153.2E
6	iP	03 26 43.0				43.8N	134.9E
	iP	07 03 05.3	1.3			46.5N	152.6E
7	iPKP	04 26 18.6	1.8	SKP	04 29 06	22.1S	179.4W
	iPKP	17 56 48.9D	1.6			29.3S	178.5W
8	iP	08 04 27.3				46.4N	153.0E
9	iP	05 49 10.9	1.6			54.9N	159.4W
	iP	08 44 50.0				44.0N	150.4E
	iPKP	11 12 14.6	1.3	iSKP	11 15 17.4	21.1S	178.0W
	iP	12 33 55.7	1.3			45.2N	151.2E
11	iPKP	01 07 10.0	1.3	Lg_1	01 59 46	15.1S	173.6W
	LR	51 07		Lg_2	02 05 04		
	Li	54 36					

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December		h m sec	$\log\frac{A}{T}$		h m sec	
11	iPKP	02 49 33.6	1.2	SKP	02 52 26 5	17.8S 178.6W
	iPKP	11 31 03.9	1.6			24.2S 179.3E
	iP	17 19 18.9C	1.5	pP	17 19 34.7	51.2N 179.3W
	iP	17 23 51.3	1.2	LQ	17 42 54.5	51.1N 179.4W
	iP	17 36 17.0	1.2			51.3N 179.5W
	iP	19 24 02.7	1.3			51.3N 179.5W
14	iP	08 00 48.9	1.4	pP	08 01 09.5	62.7N 149.5W
15	iP	19 47 16.5D	2.6	PPP	19 53 40	4.8S 108.0E
	pP	49 40.1		S	57 37	
	PP	51 19.2				
16	iP	02 05 07.4	1.1	Li	02 40 53	6.4S 105 4E
	LQ	34 51		Lg_2	48 45	
	iP	13 53 08 2	2.9	S	13 57 29.8	37.1N 20.9E
	PP	53 42.9				
17	iP	23 33 08.7	1.3			52.9N 165 4W
18	iPKP	00 49 33.4	1.9	PKS	00 53 03.1	24.8S 176.6W
	iP	03 01 46.0	1.8			45.8N 151.7E
	iP	06 48 35.7	1.7	PP	06 50 33.8	41.7N 82.5E
21	iPKP	12 53 38.4	1.1			21.2S 175.8W
	iP	13 21 45.8	1.4	Lg_2	13 56 07	16.1N 119.7E
	eS	32 18				
26	iP	08 02 23.8	1.7	S	08 05 53	76..5N 22.4E
	PP	02 32.6		PcP	07 03	
28	iPKP	09 23 44.8	2.3	PKP_2	09 24 07	32.7S 178.9W
30	iP	13 40 37.8	1.6			45.5N 150.6E