RIVERVIEW COLLEGE OBSERVATORY

SEISMOLOGICAL BULLETIN

1962 & 1963

RIVERVIEW, SYDNEY, AUSTRALIA

RIVERVIEW COLLEGE OBSERVATORY

RIVERVIEW, N. S. W.

SEISMOLOGICAL BULLETIN 1962

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Lat. 33°49'46"S. Long. 151°09'30"E. h 25m. Foundation : Triassic Sandstone.

INSTRUMENTS:

Galitzin Aperiodic Seismometer, Galvanometer registration, NS, EW, Vert.
Sprengnether Short-period Vertical Seismometer.= V
Wiechert Vertical Seismometer (80 kilo.) Adapted for Galvanometer registration:
Tp 4.5s, Tg 1.0s. = V'
Wiechert Astatic Pendulum Seismometer (1000 kilo.) NS, EW. (Not operating)
Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW.

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N.B. Amplitudes are from the Galitzin, unless stated otherwise.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
1	Jan. 1	(iP)	VV'	12 22 04	1½			+		Masked by microseisms.
		M	N	32.8	12	½				USCGS: 27.1S, 175.4W, H 12 15 51.2,
		M	E	33.3	16		½			h 48 km.ca.
2	1	i(P)	V	15 35 58	1½			+		Masked by microseisms.
		e(S)	NE	39 53	5					USCGS: 22.3S, 171.6E, H 15 31 10.5,
		e	Z	39 55	5					h 83 km.ca.
	2	(i)	VV'	02 21 17	1½			-		Masked by microseisms.
3	2	iP	ZVV'	11 52 08	3			-3	(2340)	Dilatation.
		ipP	NEZ	52 17	4	+2	+2	-7	(21°2)	h 0.00
		i	NZ	52 38	3	+2		-2		
		e(S)	E	55 57	7					USCGS: 21.8S, 169.8E, H 11 47 31.0,
		e	E	56 03	6					h 56 km.ca.
		i	N	56 05	7	+4				
		i	Z	56 08	4			+4		
		isS	E	56 09	6		+3			
		iPcP	Z	56 12	5			+6		
		iSSS	N	56 47	6	+3				
		eL	N	57.3	21					
		eL	E	57.5	25					
		M	EZ	59.1	18		2	3		
		M	N	59.4	14	3				
4	2	eL	E	12 33.4	18					
5	3	iP	VV'	02 09 34	1			-		Dilatation. Microseisms present.
		e	Z	13 39	8					USCGS: 22.2S, 168.7E, H 02 05 12.3,
		eL	E	15.0	21					h 118 km.ca,
		M	N	16.8	14	1				
6	3	iP	VV'	06 54 25	1½			-		Dilatation. Microseisms present.
		i	V	54 37	1½			+		USCGS: 21.7S, 170.0E, H 06 49 50.9,
		i	N	58 22	6	+3				h 120 km.ca.
		eL	N	58.9	21					
		M	E	07 01.3	16		1			
		M	N	01.7	13	2				
7	3	iP	VV'	06 57 59	1			+		Compression.
		i	Z	58 02	3			+3		
		i	Z	58 30	3			+2		
8	3	e	VV'	11 29 42						Masked by microseisms.
		i	N	33 34	6	+2				Repetition of no.6 ??
		e	Z	33 37	9					
		eL	N	34.1	21					(USCGS: 20.6S, 174.4W, H 11 20 53.5
		eL	Z	34.9	22					h 32 km.ca,)
		M	E	36.6	16		½			
		M	N	36.9	14	1				
9	3	iP	VV'	11 44 30	1			+		Compression. Microseisms present.
										Galitzin record masked by coda of
										no.8.
10	3	eL	E	13 50.6	15					Masked by microseisms.
										USCGS:9.9S, 159.7E, H 13 36 20.5,
										h 75 km.ca.

No.	Dato	Phaso & Componont		Timo (G.M.T.)	Por.	Amplitudo AN	Amplitudo AE	Amplitudo AZ	Δ	Romarks
	1962			h m s	s	μ	μ	μ	km.	
11	Jan. 3	(oP)	V	23 55 05	1½					Microsoisms prosont.
		i	VV'	55 07	1½			+		USCGS: 21.5S, 169.9E, H 23 50 28.8,
		i	ZVV'	55 09	1½			+		h 75 km.ca.
		i	V	55 17	1½			+		
		i	E	58 59	7		+3			
		i	N	59 04	8	+13				
		i(PcP)	Z	59 10	6			+8		
		i(SS)	E	59 20	10		+5			
		oL(Q)	N	59.6	21					
		oL	EZ	24 00.4	24					
		M	EZ	01.9	18		6	6		
		M	N	02.4	14	9				
12	4	oP	VV'	04 46 44					7710	h 0.00
		ipP	ZVV'	46 54	3			+3	69°4	
		iS	NE	55 47	6	+2	+3			USCGS: 33.9N, 135.2E, H 04 35 42.6,
		isS	NE	56 05	7	-1	-3			h 56 km.ca.
		i	N	56 25	6	+1				
		i	E	57 10	8		+7			
		o	E	58 48	16					
		oL	E	05 04.0	22					
		o	E	06.3	26					
		M	E	08.6	24		6			
		oL	Z	10.0	34					
		M	NEZ	14.6	22	3	1	5		
13	4	iP	Z	07 41 17½	2			+2		Compression.
		iP !	VV'	41 18	1			-		Dilatation.
										USCGS: 5.0S, 130.4E, H 07 34 44.4,
										h 222 km.ca.
	4	(oL)	E	20 33.8	19					
14	5	iP	ZVV'	00 30 19	4			+5	37l0	Compression. Largo microsoisms
		iPP	EZ	31 30	5		+3	-3	33°4	prosont,
		iPPP	E	31 44	5		+6			
		i	Z	31 48	5			+8		USCGS: 15.5S, 177.7W, H 00 23 32.1,
		iS	E	35 40	11		-7			h 24 km.ca.
		i	N	35 49	7	+6				
		o	E	38.5	22					
		i	N	38 59	7	+6				
		oL	E	39.4	30					
		M	EZ	41.5	19		25	30		
		M	N	43.2	13	17				
15	5	(iP)	Z	08 15 05	3			+2		Maskod by largo microsoisms.
		o	Z	15 19	?					USCGS: 15.5S, 172.5W, H 08 08 07.5,
		o(S)	E	21 01	?					h 60 km.ca.
		oL(Q)	N	24.0	20					
		oL	E	26.0	27					
		oL	Z	26.3	26					
		M	N	29.0	13	7				
		M	EZ	29.8	18		6	7		
16	5	iP	VV'	11 56 38	1½			+		Compression. Largo microsoisms
		iP	Z	56 38½	2			+2		prosont.
		i	VV'	56 40	1½			+		USCGS: 15.1S, 167.6E, H 11 51 35.4,
										h 133 km.ca.
17	5	o(L)	N	14 24.5						Maskod by largo microsoisms.
		oL	E	33.6	28					USCGS: 1,6S, 100.0E, H 14 01 41.7,
		M	E	35.7	22		2			h 25 km.ca.
	5	(iP)	V	15 57 32	1½			+		Maskod by largo microsoisms.
										USCGS: 1.5S, 100.1E, H 15 47 48.0,
										h 25 km.ca.
	6	o	V	03 32 26						Local. Soismic ??
	7	i	Z	02 08 27	3			-3		Microsoisms prosont.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
18	Jan. 8	ePKP	Z	01 19 55						Masked by microseisms.
		i	Z	23 00	4			-3		
		i	Z	23 06	4			+5		USCGS: 18.5N, 70.5W, H 01 00 24.2,
		i	Z	23 14	3			+3		h 63 km.ca.
		i	Z	23 23	3			+3		
		ePS	E	33 12						
		e(PPS)	Z	35.4						
		eSS	N	44.2	13					
		eLQ	N	59.8	(34)					
		eLR	E	02 06.0	(30)					
		M	EZ	08.6	25		3	7		
		M	NEZ	14.4	19	2	1	4		
19	8	(iP)	Z	05 48 42	3			+2		Masked by microseisms.
		e	N	55.0	10					USCGS: 24.2S, 177.7W, H 05 43 02.2,
		M	N	57.7	15	1				h 133 km.ca.
20	8	(iP)	VV'	17 08 56	1½			-		Masked by large microseisms.
		i	VV'	09 17	1½					USCGS: 6.4S, 147.3E, H 17 03 18.9,
		M	E	18.7	?					h 104 km.ca.
21	9	iP	ZVV'	12 52 52	3			+7	8200	Compression. Preceded by large
		iS	E	13 02 22	4		-2		7398	microseisms.
		e	N	02 24	6					
		e	N	03 01	6					USCGS: 42.9N, 144.8E, H 12 40 49.3,
		e	N	03 07	16					h 78 km.ca.
		eSS	N	07 13	18					
		eL	E	14.3	24					
		eL	Z	18.3	28					
		M	E	19.6	22		2			
		M	N	20.4	22	2				
		M	Z	23.8	21			6		
	10	e(P)	V	05 41 05	(½)					Victoria.
22	10	i	VV'	19 41 28½	1			+		Victoria.
		i	V	41 33½	1			-		
		e	E	41 33½	?					
		e	N	41 34½	?					
23	12	eL	N	08 43.0	13					
24	13	e(S)	N	08 33 03						Masked by microseisms.
		i(SS)	N	36 22	6	+1				USCGS: 2.9N, 124.8E, H 08 18 18.7,
		e	E	36 27	9					h 25 km.ca.
		M	E	44.9	19		1			
		M	N	48.7	18	1				
25	13	e	N	11 15 28						Masked by microseisms.
		eL	E	17.7	18					USCGS: 37.5S, 178.7E, H 11 05 20.1,
		M	E	20.4	15		1			h 25 km.ca.
		M	N	20.8	13	1				
26	14	e	Z	09 19.8	16					
		M	NEZ	34	16	½	¼	¾		
27	15	M		18 38						USCGS: 6S, 146.8E, H 18 21 12.8,
										h 140 km.ca.
	16	i	V	06 17 04	¾			+		Local.
28	16	iP	EZVV'	11 41 18½	5		-3	+7		Compression.
		ipP	EZ	41 28½	7		-6	+12		h 0.00
		i	EZ	41 38½	7		-6	+12		
		i	N	41 53	4	+2				USCGS: 30.5S, 177.9W, H 11 35 41.3,
		e	Z	42.2	15					h 39 km.ca.
		i	E	42 15	6		+7			
		i	Z	42 50	7			-8		
		e	E	44.3	19					
		i	E	45 53	7		+12			
		i	Z	45 57	7			+12		
		i	EZ	46 13	9		+16	+19		
		i	N	46 34	8	+9				

(Continued on next page)

No.	Dato	Phase & Componont		Time (G.M.T.)	Per.	Amplitudo A_N	Amplitudo A_E	Amplitudo A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
28	Jan.16	i	N	11 47 00	7	+7				
cont.		eLR	Z	48.1	28					
		M	N	49.9	18	19				
		M	Z	50.5	18			61		
		M	E	50.6	18		33			
29	16	(i)	V	17 29 11	1½			+		Masked by microseisms.
		eL	E	35.1	18					
		M	EZ	37.4	16		¼	1		
		M	N	37.5	14	½				
30	17	(i)	V	13 26 18	1½			+		Masked by microseisms.
		e	N	32 00						
		M	NE	40.9	13	5	5			
		M	Z	41.2	13			7		
31	17	(i)	Z	15 37 16	3			-2		Masked by microseisms.
		e	N	44 18	10					
		i	Z	47 52	3			+3		USCGS: 4.3N, 128.3E, H 15 29 06.6, h 25 km.ca.
		M	N	56.6	17	2				
		M	EZ	57.7	18		1	3		
32	17	M	NEZ	16 12	18	2	2	5		Masked by coda of no.31. USCGS: 3.9N, 126.6E, H 15 43 18.3, h 74 km.ca.
33	18	eL	NEZ	16 00.7	22					Masked by largo microseisms. USCGS: 4.2S, 153.6E, H 15 45 40.9, h 127 km.ca. Or 5.3S, 153.7E, H 15 42 25.5, h 83 km.ca.
34	18	M	N	20 35.7						
35	19	i	VV'	13 29 40	1½			+		Largo microseisms present.
		M	N	41.4	13	1				USCGS: 21.5S, 174.6W, H 13 22 37.0, h 25 km.ca.
36	19	M	E	21 38.2	13					Masked by microseisms. USCGS: 2.9S, 139.0E, H 21 18 58.5, h 76 km.ca.
37	19	iP	NZ	22 11 59	3	+2		+3		Compression. Largo micros. present.
		e(L)	E	15 21	16					USCGS: 49.8S, 163.0E, H 22 07 47.7, h 53 km.ca.
		M	NE	16.2	13	2	3			
		M	Z	17.6	11			3		
		eT	V	29 57	½					
38	20	e(SSS)	N	20 26.4	10					Masked by largo microseisms.
		eL	E	27.5	24					USCGS: 6.6S, 152.1E, H 20 14 32.7, h 33 km.ca.
		M	E	29.9	15		2			
		M	N	31.1	12	2				
39	21	iP	ZVV'	12 57 31½	3			-7		Dilatation. Largo microseisms present.
		i(pP)	Z	59 03	3			-3		USCGS: 17.7S, 178.8W, H 12 51 52.1, h 588 km.ca.
		i	Z	59 11	3			-4		
		i	VV'	13 00 14	1½			+		
	23	iPg	V	02 03 02	½			(+)		Local.
		(Sg)	V	03 05	½					
40	23	e	E	06 58 23						Masked by microseisms.
		M	NE	07 01.2	12	1	½			
41	23	(eL)	N	18 24.8						Masked by microseisms.
		eL	E	26.3						
		M	E	29.5	17		½			
42	24	iP	VV'	04 51 29	1			-		Dilatation.
		e(S)	N	55 32	6					USCGS: 15.6S, 167.6E, H 04 46 29.1, h 133 km.ca.
		e	E	55 38	10					
		e	Z	55 42	8					
		M	E	59.3	14		1			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1957			h m s	s	μ	μ	μ	km.	
43	Jan.25	iP	VV'	01 55 31½	1½			+		Compression.
		iP	Z	55 32	3			+1		
		i	VV'	55 34	1½			+		USCGS: 10.7S, 161.8E, H 01 50 11.4,
		i	NVV'	55 40	4	+2		-		h 80 km.ca.
		i	Z	55 43	3			+6		
		i	V	56 15	1½			+		
		i	V	56 58	1½			+		
		o(S)	E	59 50	?					
		i	N	59 58	4	-3				
		o	Z	02 00 15	12					
		o	E	00 18	10					
		i	N	00 18	10	+7				
		i	Z	01 10	4			+3		
		M	E	03.7	16		3			
		M	NZ	04.0	16	4		2		
44	26	(P)	V	01 27 50						Local. Large microseisms present.
		o	VV'	27 52½						
		i !	VV'	28 10	¾			+		
45	26	(i)	VV'	11 54 24	2					Masked by large microseisms.
		oL	N	12 00.5	19					USCGS: 35.0S, 179.3E, H 11 48 32.3,
		M	E	02.7	15		1			h 167 km.ca.
		M	N	02.9	12	1				
46	27	oL	E	12 16.0	(21)					Masked by large microseisms.
	27	i	V	20 33 34	1½			+		Masked by large microseisms.
										USCGS: 5.1S, 144.2E, H 20 28 04.0,
										h 145 km.ca.
	28	(iP)	ZV	03 59 57	3			+2		Microseisms present.
										USCGS: 4.6S, 144.0E, H 03 54 17.1,
										h 157 km.ca.
47	28	iP	EZV	05 47 16	3		+2	+3	4150ca.	Compression.
		i(pP)	Z	47 28	4			-2	37°4ca.	h (0.00) H 05 40 05 ca.
		o(PP)	Z	48 47	6					
		o	E	48 52	5					USCGS: 17.2S, 172.0W, H 05 40 08.2,
		i	Z	48 56	4			+3		h 25 km.ca.
		iPPP	NZ	49 06	4	-1		-3		
		oS	N	53 02	9					
		iS	E	53 04	7		+5			
		o	E	53 17	(12)					
		o(LQ)	NZ	55.7	18					
		oLR	E	57.3	25					
		M	EZ	59.4	20		3	4		
		M	N	06 02.1	15	1				
48	28	i	VV'	16 49 16	1½			+		Masked by microseisms.
		i(S)	N	55 14	4	-1				USCGS: 0.1S, 123.9E H 16 41 13.3
		o	E	55 16	4					h 101 km.ca.
		o(SS)	N	58 32	5					
		o	E	58 34	4					
		oL	E	17 03.2	?					
49	29	(i)	VV'	05 08 09	1½			+		Masked by microseisms.
		o(L)	N	13.5	?					USCGS: 22.6S, 174.5W, H 04 56 41.9,
										h 25 km.ca.
	29	i	VV'	06 44 20	1½					Microseisms present.
50	29	o(S)	N	11 53 04	9					Masked by microseisms.
		o	E	53 06	9					USCGS: 9.1S, 157.5E, H 11 43 12.6,
		oL	N	55.8	16					h 114 km.ca.
		M	E	58.9	11		2			
		M	N	59.8	11	1				
51	30	oL	N	09 40.5	19					Masked by microseisms.
		M	NE	42.2	14,16	1	½			
		M	Z	42.4	16			1		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
52	Jan.30	e N	15 45 04						Masked by microseisms.
		M Z	56.4	16			½		USCGS: 20.7N, 144.5E, H 15 22 49.4, h 187 km.ca.
53	30	iP VV'	18 35 37	1			+	2440	Compression.
		i ZVV'	35 40	3			+2	2199	h 0.00, H 18 30 42
		i(pP) NEZ	35 46	5	+2	+2	-3		
		iPPP V'	36 13	2					USCGS: 18.8S, 168.5E, H 18 30 52.3, h 79 km.ca.
		iS N	39 32	5	+2				
		iPcP E	39 35	6		-3			
		iPcP Z	39 36	5			-2		
		i N	39 38	6	+3				
		i E	39 58	6		+3			
		m N	40 01	12	5				
		eL E	40.3	22					
		eL Z	40.6	24					
		M EZ	42.3	21		2	3		
		M N	44.6	15	2				
	31	i VV'	03 50 03½	1½			-		Microseisms present.
		i VV'	50 19½	1½			+		
	31	e V	06 03 03						Local. Quarry blast ??
		i V	03 05½	½			-		
	31	e V	07 13 02½	¼					Local. Seismic ??
		i V	13 06	¾			+		

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A. Fynn, S.J.
Director.

P.F.Rheinberger.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
54	Feb. 1	eL	E	00 30.3	17					Masked by microseisms.
55	1	iP	Z	00 45 37	3			+3		Compression. Microseisms present.
		i	VV'	45 38	1½			-		
		e	Z	46 00	12					USCGS: 31.7S, 177.3W, H 00 39 54.6,
		iPP	EZ	46 12	7		+4	-4		h 30 km.ca.
		i(PcP)	Z	48 59	4			+5		
		e(S)	N	50 05	10					
		i	N	50 36	8	+4				
		eL	E	52.2	24					
		eL	EZ	52.9	30					
		M	N	55.3	13	7				
		M	EZ	56.4	16		6	6		
56	1	(P)	V	02 07 10	?					Regional? Obscured by microseisms.
57	1	(i)	V	19 03 02	1			+		Obscured by microseisms.
		e(L)	E	11.9	19					
58	1	(i)	VV'	20 26 03	2			-		Masked by microseisms.
		i	V	26 42	1½			+		
		eL	E	34.7	21					
59	2	(i)	Z	06 32 06	3			+2		Masked by microseisms.
		i	VV'	32 10	1½			+		
	2	i	V'	10 25 32	1½			+		Large microseisms present.
		i	VV'	27 38	1½			+		
		i	V'	29 20	2			+		
		i	VV'	30 20	1½			+		
60	3	iP	NEZVV'	00 44 47	4	-3	+2	+12	3940	Compression.
		i	VV'	44 52	1½			-	35°4	h 0.00, H 00 37 52
		i	VV'	44 54	1½			+		
		ipP	Z	44 57	4			+27		USCGS: 1.2S, 137.8E, H 00 37 53.6,
		ipP	NE	44 58	4	-11	+2			h 17 km.ca.
		i	N	46 12	3	+3				
		i	NZ	46 19	4	-5		+6		
		iS	NE	50 19	5	-4	-6			
		i	E	50 27	6		+9			
		i	N	50 28	6	+5				
		i	N	50 40	7	+19				
		i	N	51 30	9	+20				
		i	N	52 57	5	+4				
		i	E	52 58	6		-11			
		i	N	54 11	8	+19				
		i	E	54 36	7		-19			
		M	E	59.0	17		105			
		M	NZ	01 00.3	13,16	59		110		
		M	EZ	01.4	16,12		105	83		
61	3	i	Z	13 33 11	3			+3		P obscured by microseisms.
		eL	N	39.9	19					USCGS: 21.2S, 175.5W, H 13 25 12.2,
		eL	E	41.1	(20)					h 25 km.ca.
		M	EZ	43.7	16		½	1		
62	4	iP	V'	03 02 25	1			-		Dilatation. Microseisms present.
		i	Z	02 26	4			+2		
		i(pP)	VV'	02 45	1½			+		USCGS: 4.6S, 119E, H 02 54 42.1,
		e(S)	E	08 48	7					h 89 km.ca.
		e	N	08 52	(10)					
		eL	NE	17.3	25					
		M	N	21.6	18	4				
		M	EZ	21.8	18		4	6		
63	4	eL	Z	13 14.9	22					Masked by microseisms.
		M	E	16.3	19		1			USCGS: 5.3S, 151.6E, H 12 59 51.8,
		M	NZ	16.5	19	1		2		h 81 km.ca.
64	4	(iP)	V'	16 22 34	1			-		Masked by microseisms.
		M	N	33.4	15	½				USCGS: 5.7S, 152.1E, H 16 16 40.9,
										h 85 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
65	Feb. 4	e	E	22 17.9						Masked by microseisms.
		e(LQ)	E	29.3	30					USCGS: 0.5S, 20.2W, H 21 29 33.2,
		M	NE	50.5	18	½	½			h 17 km.ca.
66	5	e(S)	E	01 18 09						Masked by microseisms.
		e(SS)	N	19 47						USCGS: 5.2S, 150.9E, H 01 07 44.7,
		M	NEZ	25.4	15	1	1	2		h 82 km.ca.
67	5	M	N	02 56						USCGS: 14.0S, 168.0E, H 02 30 24.9,
										h 91 km.ca.
68	8	M	E	01 48.3	13		1			
69	8	P	V	05 26 05½	½					Felt at Bowral, N.S.W.
		i	V	26 20	½			+		
70	8	iP	ZV'	11 55 37	3			+2	3600	Compression. Microseisms present.
		i	N	55 39	4	+2			32°4	H 11 49 02
		i	VV'	55 41	1½			+		
		iPP	Z	56 42	4			-3		USCGS: 3.2S, 141.3E, H 11 49 13.9
		i	NZ	56 51	6	-3		+6		h 87 km.ca.
		e	Z	12 00 50	25					
		iS	E	00 51	8		+4			
		e	E	01 00	19					
		e	N	01 08	25					
		iSS	E	02 45	7		+5			
		eL	E	04.0	33					
		eL	Z	05.3	31					
		i	N	05 49	6	+8				
		M	E	07.3	16		24			
		M	N	07.5	15	19				
		M	Z	09.1	15			19		
		M	E	09.4	18		34			
		M	NZ	11.2	10	18		19		
71	8	i	VV'	16 47 00	1			+		Obscured by microseisms.
		e	NE	50 56	7					USCGS: 19.2S, 169.1E, H 16 42 04.4,
		eL	E	53.5	18					h 43 km.ca.
72	8	eL	E	20 15.1	23					Obscured by microseisms.
										USCGS: 0.7N, 98.6E, H 19 40 27.7,
										h 43 km.ca.
	9	i	V	06 00 10				(-)		Quarry blast ??
73	9	iP	VV'	21 59 07½	1			+		Compression. Microseisms present.
		iS	E	22 05 24	4		+1			USCGS: 0.6N, 123.9E, H 21 51 13.2,
										h 50 km.ca.
74	10	iPKP	V	19 51 32	1			+		Compression.
										USCGS: 17.9N, 62.2W, H 19 31 56.2,
										h 70 km.ca.
75		iP	V	02 52 32	1			-	7120	Dilatation. Microseisms present.
		iS	NE	03 00 35	6	+2	+3		64°1	h 0.06, H 02 42 39
		e(ScS)	E	01 45	7					USCGS: 29.6N, 139.0E, H 02 42 36.1,
		isS	N	03 12	7	-2				h 400 km.ca.
		i	E	03 17	7		+6			
		e	E	04 41	10					
		eL	E	12.8	24					
76	11	iP	NZVV'	19 01 26	5	-5		+12	3290ca	Compression.
		ipP	NZ	01 50	4	-3		+6	29.6ca.	h 0.01 ca., H 18 55 28 ca.
		isP	NZ	02 01	4	+6		-14		
		i	N	02 17	5	-6				USCGS: 4.5S, 153.5E, H 18 55 32.0,
		i	N	02 46	6	+9				h 100 km.ca.
		e	N	02 54	15					
		e	E	03 13	13					
		i	N	03 52	7	+6				
		i	Z	04 13	6			+16		
		i	Z	05 08	5			-11		
		i	N	05 31	5	-6				
		e	N	05 59	15					
		i	Z	06 00	6			+10		

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
76 cont.	Feb.11	iS	E	19 06 07	7		-8			
		i	N	06 27	10	-20				
		i(sS)	E	06 44	9		+10			
		i	N	06 48	8	-19				
		i	N	07 07	9	+38				
		i	Z	07 14	9			+27		
		i(SS)	E	07 56	7		+14			
		eL	E	08.2	28					
		M	Z	11.5	15			40		
		M	N	11.6	13	24				
		M	E	11.9	15		31			
77	12	M		05 13						Masked by microseisms. USCGS: 4.5S, 153.8E, H 04 56 13.5, h 107 km.ca.
78	12	M		19 36						Masked by microseisms.
	13	i(Pg)	V	05 59 29	½			+		Quarry blast ??
		i(Sg)	V	59.32.3	½			+		
79	13	M	E	12 29.8	12		½			Masked by microseisms.
		M	NZ	30.6	11	1		1		
80	14	e	N	02 04 51						Masked by microseisms.
		eL	E	08.7	23					USCGS: 4.3S, 153.5E, H 01 53 33.9, h 119 km.ca.
81	14	(eP)	Z	06 49 41	?					P confused by microseisms.
		iP	NZ	49 49	7	+4		+16		Compression.
		i	Z	53 09	6			+7		
		i	N	53 10	6	+4				USCGS: 38.1S, 73.1W, H 06 36 01.3, h 44 km.ca.
		iPP	NZ	53 47	7	+8		+13		
		i	Z	07 00 10	9			+13		
		iSKS	NE	00 11	9	-10	+7			
		iSKKS	E	00 32	7		+16			
		iSKKS	N	00 33	7	-16				
		e(S)	E	01 01	(21)					
		iS	E	01 06	(15)		+(26)			
		iPS	N	02 33	13	+33				
		eiPS	EZ	02 36	13		-28	+28		
		i	N	04 03	6	+11				
		iSS	E	07 49	17		+32			
		m	EZ	08.3	22		37	27		
		m	N	08.4	21	22				
		iSSS	E	11 29	15		+17			
		eLQ	NE	16.9	35					
		eL	Z	20.3	34					
		LR	NZ	21.0	27					
		LR	E	21.1	27					
		M	E	24.9	19		60			
		M	NZ	25.9	19	64		150		F 10.5h
82	15	i(P)	Z	15 31 09	3			+4		Masked by large microseisms.
		i(S)	NE	36 22	5	+4	+4			
		i	N	36 58	6	+7				USCGS: 4.4S, 153.8E, H 15 25 29.5, h 109 km.ca.
		e	N	37 04	17					
		eL	E	37.8	28					
		M	Z	41.5	22			13		
		M	NE	41.6	14	3	6			
83	15	eL	E	21 10.4						Masked by large microseisms. USCGS: 23.9S, 176.5W, H 20 55 59.7, h 25 km.ca.
84	17	(iP)	Z	03 49 43	2			+2		Masked by large microseisms.
		eL	NE	56.0	17					USCGS: 61.6S, 162.9E, H 03 43 45.1, h 25 km.ca.
		M	Z	57.7	18			7		
		M	E	58.1	12		3			
		M	N	58.5	18	4				
85	17	(i)	Z	11 14 33	4			+5		Masked by very large microseisms.
		e(L)	E	27.2	15					USCGS: 2.7S, 130.2E, H 11 07 01.6, h 54 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Feb.18	(i)	Z	17 41 25	3			+3		Large microseisms present.
86	18	(iP)	V'	22 31 24	1½			+		Masked by large microseisms.
		i	V'	31 40	1½			+		USCGS: 15.5S, 166.8E, H 22 26 06.5,
		o	NE	35 38	10					h 45 km.ca.
		i	N	35 56	4	-3				
87	19	M	NE	05 33.5	14	1	2			USCGS: 4.2S, 153.3E, H 04 57 40.2,
										h 81 km.ca.
	20	(Pg)	V	06 00 34	½					Quarry blast ??
88	20	o	E	09 44 02						Masked by microseisms.
		oL	NE	53.3	(25)					USCGS: 6.8N, 92.5E, H 09 15 55.1,
		M	Z	10 00.6	19			4		h 29 km.ca.
89	20	iP	VV'	10 12 03	1			-	2720	Dilatation. Microseisms present.
		iS	NE	15 43	4	-4	+3		2495	h 0.09 ca., H 10 07 27 ca.
		i(ScP)	ZV	17 59	3			+3		
		iScS	N	21 45	4	-2				USCGS: 25.9S, 178.4E, H 10 07 26.6,
		iScS	E	21 46	4		+3			h 655 km.ca.
90	20	iP	Z	16 17 31	4			+3	8400	Compression. Confused by microseisms.
		i	VV'	17 47	1½			+	7596	H 16 05 43 ca.
		eS	E	27 12	6					
		i	N	27 17	4	-2				USCGS: 43.0N, 144.9E, H 16 05 44.6,
		e	Z	27 59	7					h 55 km.ca.
		eSS	N	32 05	18					
		eL	Z	42.0	27					
		M	NZ	45.3	23	1		4		
		M	E	45.7	21		1			
	20	(i)	V'	16 33 24	2			+		Large microseisms present.
	20	(i)	V'	17 15 53	2			+		Large microseisms present.
										USCGS: 4.0S, 104.2E, H 17 05 38.9,
										h 25 km.ca.
91	20	e(S)	N	20 23 08						Masked by microseisms.
		eL	E	26.5						USCGS: 50.6S, 110.8E, H 20 11 13.7,
		M	EZ	29.0	15		2	2		h 31 km.ca.
		M	N	29.2	15	1				
92	20	iP	V	22 14 47	1			+		Compression.
		e(S)	E	24 43						Masked by microseisms.
		e	N	25 11						USCGS: 26.1N, 96.8E, H 22 02 38.2,
		e(L)	E	33 56	24					h 25 km.ca.
		eL	N	39.2	(27)					
		M	N	50.3	24	4				
		M	EZ	53.8	24		5	9		
93	21	eL	Z	00 20.3						Masked by microseisms.
										USCGS: 24.8S, 177.1W, H 00 06 02.4,
										h 38 km.ca.
94	21	(i)	Z	09 54 56	2			+2		Masked by microseisms.
		i	V'	55 08	1½			+		
		i	V	55 13	1			+		USCGS: 56.8S, 146.7E, H 09 50 05.4,
		i.	V	55 23	1			-		h 25 km.ca.
		e	E	59 34	12					
		eL	Z	10 01.1	19					
95	21	i	V'	11 31 40	1½			-		Masked by microseisms.
		e	NE	36 20	12					
	21	e	V	11 49 32	½					Small local tremor ??
	22	i	V	02 00 36	1½			-		
96	22	eL	Z	06 33.4	30					Masked by microseisms.
		M	NZ	38.3	18	1		2		
97	23	(P)	N	11 46 33						Masked by large microseisms.
		i	N	51 38	5	-2				USCGS: 6.3S, 147.0E, H 11 40 52.8,
		eL	E	54.2	(24)					h 80 km.ca.
		M	Z	57.4	22			10		
		M	NE	57.9	21,15	7	5			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
98	Feb.23	i	Z	18 11 49	3			+3		Masked by large microseisms.
		o	N	16 38	20					
		o	E	18 12	17					USCGS: 4.0S, 152.6E, H 18 05 27.1,
		oL	E	20.4	23					h 25 km.ca.
		oL	Z	20.6	26					
		oL	N	20.8	23					
		M	NZ	23.5	16	7		6		
		M	E	23.8	14		10			
99	23	iP	Z	20 27 35	4			+6	3320	Compression. Large microseisms
		oPP	N	28 37	6				29??	present.
		o	Z	28 39	7					
		iS	N	32 32	7	+6				USCGS: 3.8S, 152.0E, H 20 21 28.6,
		i	E	32 38	6		-5			h 25 km.ca.
		i	N	32 41	6	-10				
		o	E	34 37	15					
		oL	N	36.4	28					
		oL	Z	36.7	25					
		M	NZ	39.5	16	26		21		
		M	E	40.0	15		51			
100	24			14.4 Wavos, masked by large microseisms.						(USCGS: 9.5N, 120.9E, H 13 48 44.8, h 25 km.ca.)
101	24	o	N	14 36 58						Masked by microseisms. USCGS: 10.7S, 161.3E, H 14 27 01.4, h 50 km.ca.
102	24	oL	E	19 49.0	23					Masked by large microseisms.
		M	NE	51.4	19	5	6			USCGS: 5.5S, 146.1E, H 19 34 33.6, h 40 km.ca.
	25	(i)	Z	14 03 36	3			+2		Masked by microseisms.
		(i)	Z	04 06	3			+2		
103	25	o(S)	N	14 09 40	7					Masked by microseisms.
		i	N	10 01	7	+2				USCGS: 17.1S, 168.4E, H 14 00 43.9,
		o(L)	Z	10.0	17					h 24 km.ca.
		oL	E	11.0	19					
		M	EZ	12.0	16		1	3		
		N	N	13.8	11	½				
	25	o	V	15 17 30	¾					Local tremor ??
104	26	(P)	V	02 22 53						Masked by microseisms.
		o	E	27 33						USCGS: 9.3S, 152.9E, H 02 17 38.6,
		oL	E	30.0	19					h 47 km.ca.
		M	NE	32.6	12	2	6			
105	26	i(P)	Z	02 37 06	4			+3		Masked by microseisms and coda of
		oL	E	43.7	19					no.104. USCGS: 33.0S, 178.4W
		M	EZ	45.7	16		1	3		H 02 30 37.6. h 25 km.ca.
106	26	(P)	V'	08 52 49						Masked by large microseisms.
		o	N	09 00 05	12					USCGS: 0.1S, 122.3E, H 08 44 48.8,
		o	E	02 53	18					h 25 km.ca.
		M	NE	08.1	18	4	5			
		N	Z	13.2	15			3		
107	26	oL	E	16 57.6	19					Masked by large microseisms.
108	27	o	N	01 27.1	13					Masked by large microseisms.
		o	N	30.3	15					
		o	E	31.1	18					
		oL	NE	44.8	30					
109	27	(iP)	Z	12 54 19	?					Masked by microseisms.
		iSKS	N	13 04 55	5	-2				USCGS: 37.4S, 73.2W, H 12 40 48.9,
		o(S)	E	05 44	(10)					h 40 km.ca.
		oPS	N	07 12	15					
		o	N	08 20	15					
		oSS	E	12 29	(18)					
		i	N	13 27	4	-2				

(Continued on next page)

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
109	Feb.27	e	E	13 16 24	(22)					
cont.		eLQ	E	22.0	28					
		eLR	NZ	25.7	27					
		eLR	E	25.8	27					
		M	E	29.7	19		5			
		M	Z	29.9	19			12		
		M	E	30.4	19	4				
110	27	i(P)	V	14 28 36	1			+		Masked by microseisms.
		i	V	28 53	1			-		USCGS: 2.7S, 130.1E, H 14 21 24.5,
		i(PcP)	V	30 54	1			+		h 40 km.ca.
		i	N	45 17	6	+4				
		M	E	46.0	16		2			
		M	N	48.3	14	2				
111	28	eL		05 38.8	15					Masked by microseisms.
		M	E	41.5	15		1			USCGS: 2.5S,140.5E.
		M	N	42.0	15	1				H 05 19 54.1. h 25 km.ca.
		M	Z	42.6	15			2		
	28	(Pg)	V	05 59 08						Local. Quarry blast ??
		i	V	59 11	½					
	28	(Pg)	V	06 00 44	¼					Local. Quarry blast ??
		i	V	00 46½	½					
	28	iPg	V	06 15 28	¼			-		Dilatation. Quarry blast ??
		iSg	V	15 31½	½			+		
112	28	i	V	20 51 43						Masked by microseisms.
		M	E	21 05.0	18		1			USCGS: 2.9S, 140.7E, H 20 44 22.4,
		M	N	05.7	16	1				h 25 km.ca.
						**********				

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
	Mar. 1	iP V	03 28 27	¼			+		Compression. Local tremor.
		i V	28 37	½			+		
	1	i(P) V	06 47 28	¼			+		Compression. Local tremor.
		i V	47 31½	½			+		
	1	(e) V	12 30 32½	½					Local.
		e V	30 48	½					
		i V	31 03	1			+		
		i V	31 20	1			+		
113	1	iP NEZVV'	23 47 01	4	+2	+2	-6	3050	Dilatation. Preceded by micro-
		i V'	47 09	1			+	27?4	seisms.
		i VV'	47 31	1			-		
		i Z	47 41	4			+4		USCGS: 14.0S, 172.5E, H 23 41 14.5,
		iS N	51 37	7	+4				h 73 km.ca.
		i E	51 57	7		-3			
		i N	52 40	6	+4				
		i N	53 02	7	+4				
		i E	53 30	7		+7			
		i N	53 36	4	+9				
		eL N	53.7	19					
		eL E	54.8	23					
		M EZ	55.9	19		18	20		
		M N	56.6	14	17				
114	2	iP VV'	13 11 23	1½			+		Compression. Microseisms present.
		i Z	11 25	3			+3		
		i V'	11 42	1½			+		USCGS: 5.4N, 126.5E, H 13 02 59.0,
		i V'	11 47	1½			+		h 30 km.ca.
		eS E	17 57	10					
		i N	18 01	4	+2				
		e E	18 09	10					
		e N	18 14	10					
		i(SS) E	21 15	6		+3			
		i N	21 24	5	+2				
		i E	21 27	6		+5			
		i N	21 31	6	+6				
		i N	21 55	6	+6				
		M E	29.0	18		2			
		M N	30.1	13	1				
		M EZ	32.8	16		2	2		
	3	i V	02 16 51	1			+		
115	3	(i) VV'	10 09 13	1					Masked by microseisms.
		eL E	23.9	21					
		M N	28.0	20	1				USCGS: 0.1N, 126.5E, H 10 01 17.4,
		M EZ	28.4	19		1	1		h 25 km.ca.
116	3	iP VV'	12 23 22	1			+	5240	Compression. Microseisms present.
		ipP VV'	23 35	1			+	47?1	
		i(sP) V	23 47	1			+		USCGS: 7.4N, 126.5E, H 12 14 52.1,
		eS N	30 11	9					h 90 km.ca.
		i N	30 33	4	+3				
		eSS N	33 33	9					
		eSS E	33 36	10					
		e Z	34 12	(20)					
		eL E	37.7	(21)					
		eL N	38.7	(27)					
		M E	40.7	18		2			
		M Z	41.9	20			3		
		M N	43.3	18	2				
	4		06 42	Long waves, masked by microseisms.					
117	5	M NZ	11 07.2	20	2		2		USCGS: 55.9S, 27.9W, H 10 15 22.1,
									h 25 km.ca.
118	6	iP Z	06 07 10	4			+2		Compression. Masked by microseisms.
		eL NE	32.8	28					
		M N	38.8	19	1				USCGS: 13.7N, 93.7E, H 05 55 42.3,
		M EZ	41.1	20		1	2		h 18 km.ca.

No.	Dato	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Mar. 7	i	V	00 49 02½	½			+		
	7	i	V	01 32 20½	¾			-		
	7	i	V	05 42 50	¼					Explosion ?
	7	(Pg)	V	05 59 53	½					Quarry blast ?
		i(Sg)	V	59 56½	½			+		
119	7	iP	V	11 09 23½	½			+	5890	Compression.
		iP	NZVV'	09 24	2	-1		+6	53?0	h 0.105 ca., H 11 01 06
		iPcP	Z	10 20	4			-3		
		ipP	N	11 29	4	+2				USCGS: 19.3N, 145.3E, H 11 01 00.4,
		ipP	ZV'	11 30	3			-2		h 680 km.ca.
		i(sP)	Z	12 37	6			+6		
		iScP	V'	13 16	2			-		
		iS	N	16 05	6	+23				
		iS	EZ	16 06	6		-18	+10		
		iScS	NE	18 06	5	-10	-5			
		i	E	18 15	5		-5			
		i(SS)	N	20 06	5	-4				
		oG	E	22 56	16					
		o	Z	23.0	19					
120	7	oL	E	17 53.0	24					Masked by microseisms.
		M	N	57.8	11	½				USCGS: 2.1S, 133.9E, H 17 34 25.6,
		M	Z	58.0	11			1		h 89 km.ca.
121	8	o	N	10 43 37	6					Masked by microseisms.
		oL	N	44.1	18					USCGS: 35.1S, 179.7W, H 10 33 41.9,
		M	NE	46.4	16	1	1			h 25 km.ca.
122	8	o	N	18 10 47						Masked by microseisms.
		M	NE	15.4	15	½	½			USCGS: 6.6S, 154.5E, H 18 00 05.5,
										h 67 km.ca.
123	8	oL	Z	21 31.2	22					Masked by microseisms.
										(USCGS: 1.2N, 126.1E, H 20 52 38.1,
										h 43 km.ca.)
124	8	M	EZ	22 39.4	19		½	1		Masked by microseisms.
		M	N	41.6	18	1				(USCGS: 3.4S, 29.2E, H 21 38 35.4,
										h 25 km.ca.)
	9	iPg	V	06 05 17½	¼			+		Quarry blast ?
		iSg	V	05 20½	½			+		
125	9	(P)	V	07 02 55					(3450)	P masked by microseisms.
		iS	N	07 30	4	-1			(31?0)	h 0.06 ca.
		iScS	N	12 37	4	-1				USCGS: 18.4S, 178.7W, H 06 57 08.9,
										h 472 km.ca.
126	9	oL	E	12 31.0	19					Masked by microseisms.
		M	E	34.8	12		1			
		M	NZ	35.5	15	1		1		
	9	(P)	V	17 35 00						Masked by microseisms.
										USCGS: 24.5S, 179.6W, H 17 30 02.0,
										h 586 km.ca
127	9	iP	VV'	22 13 29	1			+	(3090)	Compression. Microseisms present.
		e	N	14 36	15				(27?8)	
		iS	E	18 08	5		+2			USCGS: 5.8S, 146.4E, H 22 07 35.6,
		iS	N	18 09	5	+2				h 76 km.ca.
		i(sS)	NE	18 23	6	+3	+2			
		i	N	18 55	9	+9				
		i(SSS)	N	19 42	6	+4				
		i	N	21 39	6	-3				
		oL	N	22.1	31					
		oL	Z	22.2	25					
		M	N	23.8	22	12				
		M	E	24.0	18		16			
		M	Z	24.1	22			16		
128	10	iP	VV'	01 03 53	1			+		Compression. Microseisms present.
										USCGS: 6.5S, 129.4E, H 00 57 22.3,
										h 202 km.ca.
129	10	M	NE	01 29.3	15	1	1			Masked by microseisms.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
130	Mar.10	(iP)	VV'	03 11 39	1½			+		Masked by microseisms.
		eL	N	32.8	24					USCGS: 3.8N, 97.7E, H 03 01 17.5,
		M	NE	35.2	22	2	1			h 25 km.ca.
131	10	(P)	Z	12 13 42						Masked by microseisms.
		e(S)	N	18 15	7					USCGS: 11.0S, 165.6E, H 12 08 07.1,
		i	N	18 45	4	-2				h 25 km.ca.
		M	NE	24.2	13	3	1			
		M	Z	25.3	15			2		
132	10	M	NE	22 59	15	1	1			Masked by microseisms.
133	11	i	N	07 29 25	5	+3				Masked by microseisms.
		e	N	31 10	10					
		e	E	31 14	15					USCGS: 13.9S, 172.1E, H 07 18 56.7,
		eL	EZ	32.6	22					h 133 km.ca.
		M	NEZ	34.7	13,15	5	3	3		
134	11	iP	Z	19 27 53	4			-5	5420	Dilatation. Microseisms present.
		e	N	27 57	9				48°8	h 0.00, H 19 19 09
		ipP	Z	28 05	6			+6		
		i(PP)	Z	30 01	6			-7		USCGS: 9.0N, 126.7E, H 19 19 05.6,
		i	NE	30 03	6	+4	-2			h 25 km.ca.
		e	N	33 12	9					
		iS	N	34 53	7	+11				
		iS	E	34 54	5		+3			
		i(PPS)	E	35 13	7		+7			
		i	N	36 24	6	+5				
		iScS	N	37 41	5	-2				
		iSS	N	38 25	7	+12				
		i	EZ	38 39	8		-16	+7		
		e	Z	39 02	21					
		M	E	45.9	16		14			
		M	NZ	47.0	13	13		10		
135	11	iP	ZVV'	20 07 25	4			+5		Compression. On coda of no.134.
										USCGS: 8.7N, 126.3E, H 19 58 49.6,
										h 171 km.ca.
136	12	ePP	EZ	12 01 00	7					Masked by microseisms.
		iPKS	E	02 42	4		+2			
		ePKS	N	02 45	7					USCGS: 8.1N, 83.0W, H 11 40 12.8,
		e	N	09 35	12					h 58 km.ca.
		ePS	E	11 02	12					
		iPS	NZ	11 13	7	+2		+		
		e	E	13 26	14					
		eSS	E	18 09	?					
		m	NE	18.7	27	5	9			
		e	E	21 06	27					
		eSSS	Z	22 15	29					
		m	NE	22.9	21	3	5			
		eLQ	N	32.7	30					
		eLR	E	37.7	31					
		eLR	Z	37.9	31					
		M	NEZ	46.1	18	3	6	12		
		W2 M	EZ	13 59	22		2	4		
137	12	e	N	17 30.4						Masked by microseisms.
										USCGS: 16.1S, 168.2E, H 17 20 07.8,
										h 172 km.ca.
138	13	iP	ZV'	05 39 57	2			+2		Compression. Microseisms present.
		iS	N	43 46	4	+2				Deep focus ? USCGS: 21.9S, 170.9E.
	14	(Pg)	V	06 01 25						Quarry blast ? H 05 35 12.4. h 53 km.ca.
139	14	i	Z	18 26 38	2			-2		Masked by microseisms.
		i	N	35 05	4	+2				
		M	N	41.4	12	½				
	15	i(Pg)	V	06 24 10	¼			+		Quarry blast ?
		i	V	24 11½	½			+		
140	15	(P)	V	23 03 29						Masked by microseisms. / h 100 km.
		M	N	12.8	12	½				USCGS: 10.5S, 162.6E, H 22 58 08.3

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	.Dilatation.
141	Mar.16	iP	ZVV'	15 30 49	3			-2		
		o(PP)	Z	31 17	4					USCGS: 21.7S, 173.0E, H 15 26 00.6,
		o	E	35 06	7					h 216 km.ca.
		o	N	35 14	5					
		o	E	35 30	7					
		o	Z	35 45	7					
		o	N	35 47	10					
		oL	NEZ	36.7	21-27					
		M	Z	38.4	18			3		
		M	E	38.8	16		2			
		M	N	40.4	12	3				
142	16	iP	VV'	19 48 17	1			-		Dilatation. Galitzin record
		i	VV'	48 20	1			+		obscured by microseisms.
		i(sP)	V	48 29	1			+		
		o	E	53 05	7					USCGS: 10.8S, 165.7E, H 19 42 39.2,
		i	E	53 25	7		-5			h 25 km.ca.
		i	N	53 26	5	-2				
		oL	E	54.9	27					
		M	Z	58.5	16			2		
		M	E	58.8	15		2			
		M	N	59.1	13	4				
		i(ScS)	E	59 15	4		+3			
143	17	o	N	03 55 42						Masked by microseisms.
144	17	iPKP	V'	21 07 27	2			-		Dilatation.
		i	Z	07 47	3			-7		
		i	VV'	07 48	2			+		USCGS: 10.6N, 43.7W, H 20 47 31.7,
		i	V'	08 04	2			+		h 25 km.ca.
		i	Z	08 42	7			+5		
		oPPS	N	24.4	15					
		i	N	25 05	7	+4				
		o(SSS)	E	36.9	19					
		o	N	37 09	16					
		oLQ	NE	51.6	28					
		oLR	Z	22 00.8	33					
		M	NEZ	09.6	20	12	17	37		
		F		25.0						
										Compression.
145	18	iP	VV'	03 11 26	2			+		
		iP	NEZ	11 27	3	-2	-2	+6		
		i(pP)	Z	11 33	3			+3		USCGS: 16.5S, 168.2E, H 03 06 18.8
		i	NE	11 36	3	+1	+2			h 14 km.ca.
		i	VV'	11 47	1½			+		
		i	Z	13 39	4			+5		
		o(S)	NE	15 42						
		i	Z	15 43	5			+5		
		i	NE	15 49	7	-22	-26			
		i(SS)	E	16 13	7		+15			
		i	N	16 22	7	+7				
		oL	E	17.2	28					
		oL	Z	17.6	24					
		M	EZ	19.4	18		20	26		
		M	N	20.3	13	20				
										Masked by microseisms.
146	18	(P)	V	13 43 46	1					
		o	E	48 06	7					USCGS: 22.3S, 173.7E, H 13 38 40.8,
		o	N	48 27						h 100 km.ca.
		oL	E	49.7	24					
		M	EZ	51.2	18		½	1		
										USCGS: 9.1N, 126.4E, H 14 54 59.3,
147	18	oL	E	15 20.3						h 44 km.ca.
										USCGS: 40.6N, 19.6E, H 15 30 31.6,
148	18	o(PPS)	E	16 05.3	15					h 25 km.ca.
		o(SSS)	E	17.1	15					
		M	NEZ	53	18	¼	¼	1		
										Masked by microseisms.
149	18	o(S)	N	20 38 51						USCGS: 23.7N, 114.5E, H 20 18 54.3,
		M	N	21 01.4	15	½				h 43 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
150	Mar.19	iP NZV'	04 54 43	3	+2		+3		Compression.
		ipP Z	54.53	4			-4		h 0.00
		i N	55 06	4	+1				
		e(S) E	58 58						USCGS: 57.3S, 147.2E, H 04 49 31.7,
		i(sS) E	59 12	7		-7			h 25 km.ca.
		i N	59 19	7	+3				
		eL(Q) E	05 00.0	18					
		eL NZ	00.6	22					
		M EZ	02.1	13,16		4	5		
		M N	03.1	10	6				
151	19	iP ZVV'	06 02 21	2			-2	4820	Dilatation.
		ipP ZVV'	02 54	3			+8	43°4	h 0.02 ca., H 05 54 33
		isP Z	03 07	4			+9		
		iPcP V'	04 00	2			-		USCGS: 0.3N, 123.5E, H 05 55 24.4
		iS NEZ	08 36	4	-3	+9	-2		h 53 km.ca.
		iSS E	11 49	7		+3			
		iScS N	11 57	7	+6				
		eL Z	12.4	18					
		i E	12 39	5		-2			
		i N	13 09	5	+4				
	19	i V	06 38 22	½			-		
		i V	38 24	½			+		
152	21	eP E	02 34 56	4					
		iP Z	34 59	4			+3		Compression.
		i V'	35 00	2			+		
		ePP Z	35 20	7					USCGS: 22.2S, 170.4E, H 02 30 18.5,
		e(S) E	38 41	11					h 25 km.ca.
		e E	38 53	11					
		e Z	38 55	10					
		eLR NEZ	40.2	19-22					
		M E	42.4	16		1			
		M N	42.6	13	3				
		M Z	44.7	15			3		
	21	(Pg) V	06 01 56	¼					Quarry blast ?
		(Sg) V	01 58½	½					
153	21	iP ZVV'	23 05 16½	2			+5	5070	Compression.
		ipP Z	07 09	4			-2	45°6	h 0.10, H 22 57 51
		ipP VV'	07 11	2			+		
		iScP VV'	09 40	1½			+		USCGS: 5.9S, 113.0E, H 22 57 51.2,
		iS NEZ	11 13	4	-4	-10	+6		h 631 km.ca.
		i NZVV'	11 19	4	-7		+10		
154	22	iP NEZVV'	00 27 10	3	+1½	-2	-7	(5010)	Dilatation.
		i ! VV'	27 11	1			+	(45°1)	h (0.09), H 00 19 44
		i(PcP) VV'	28 40	1			+		
		e(PP) Z	29 09	4					USCGS: 5.9S, 112.9E, H 00 19 43.1,
		iS NE	33 07	5	+1	-7			h 611 km.ca.
		i Z	33 11	4			-5		
		i V'	33 17	2			+		
		i(sS) N	36 14	6	+2				
		e E	36 34	10					
		M N	43.4	9	5				
	22	(P) V	00 45 02						USCGS: 6.0S, 113.0E, H 00 37 36.8,
									h 595 km.ca.
	22	i(P) V	01 33 26						
	22	iPg V	05 59 55	¼			+		Noarby blasting ?
		iPg V	06 09 09	¼			(-)		" "
		iPg V	19 53	¼			(-)		" "
		iPg V	25 00	¼			+		" "
		Pg V	26 40	¼					Quarry blast ?
		iSg V	26 43	½			+		
		iPg V	31 26	½			+		Noarby blasting ?
155	22	i(P) V	12 10 10	1			+		Masked by microseisms.
		M N	17.6	13	½				USCGS: 16.3S, 167.5E, H 12 05 03.2,
									h 45 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
156	Mar.22	iP	NZVV'	15 19 28	4	-1		+4	3510	Compression.
		i	NZ	20 06	6	-2		+6	3196	H 15 13 02
		i(PPP)	N	20 46	9	+4				
		i	Z	20 52	9			+8		USCGS: 3.2S, 142.3E, H 15 13 03.9,
		iS	NEZ	24 37	6	-8	-5	+11		h 25 km.ca.
		i	E	24 47	7		-11			
		i	N	24 53	6	+9				
		iSS	N	26 19	8	+16				
		i	N	26 49	7	-21				
		i	N	26 56	7	+33				
		i	E	26 58	10		+31			
		oL	E	27.4	40					
		M	NE	32.4	18	140	240			
		M	Z	32.9	18			220ca.		
157	22	iP	VV'	16 23 08	1			-		Dilatation. Galitzin record obscured by coda of no. 156. h 44 km.ca.
158	22	oL	E	18 04.7	18					USCGS: 2.1S, 139.3E, H 16 16 26.4,
		M	NE	06.6	15	½	1			Masked by microseisms.
										USCGS: 2.0S, 139.4E, H 17 46 09.0,
159	23	oL	E	02 08.9	18					h 32 km.ca.
160	23	iP	V	04 29 04	½			+		Compression. Regional.
		i	V	29 25	½			+		
	23	(Pg)	V	06 10 14	¼					Quarry blast ?
		(Sg)	V	10 17	½					
	23	(Pg)	V	06 18 03	½					
		(Sg)	V	18 08	½					
161	23	o(PP)	V	14 49 10						Masked by microseisms.
		oL	N	51.9	20					USCGS: 28.5S, 167.6E, H 14 45 27.6,
		oL	Z	52.6	24					h 23 km.ca.
		M	NEZ	54.7	12-15	3	1	1		
162	24			00.3	Surface Waves.					
163	24	o	E	01 47 07						USCGS: 17.8S, 173.0W, H 01 34 07.9,
		M	NEZ	55.4	16	1	1	2		h 25 km.ca.
164	24	iP	VV'	13 05 23	1			-	3100	Dilatation.
		i	V'	05 51	2			+	2799	h 0.005, H 12 59 37.
		i	Z	05 54	6			+6		
		i	N	05 56	6	-2				USCGS: 5.7S, 145.0E, H 12 59 30.9,
		i	V'	06 00	1½			+		h 111 km.ca.
		i	V'	06 06	2			+		
		iPPP	N	06 28	7	+5				
		i	Z	06 31	8			+12		
		i	Z	07 21	5			+12		
		iS	NZ	10 00	7	+7		+8		
		o	Z	10.2	21					
		isS	N	10 27	7	+12				
		i	N	11 04	9	+30				
		i	Z	11 10	10			+40		
		iSS	N	11 29	7	+10				
		i	Z	12 00	6			-13		
		i	NZ	12 14	7	+14		+15		
		oL	Z	13.1	37					
		M	E	17.1	14		30			
		M	NZ	18.9	14	55		80		
165	24	M	NE	15 45.7	14	1	1			USCGS: 2.1S, 138.8E, H 15 25 16.1,
										h 84 km.ca.
	26	iPg	V	07 39 37	¼			(+)		
		iSg	V	39 41	¼			+		
		i	VV'	39 44	½			+		
166	26	M	NZ	13 20.0	19	½		1		USCGS: 0.5S, 19.2W, H 12 04 54.6,
										h 25 km.ca.
167	26	oL	E	15 36.6	18					USCGS: 5.5S, 148.1E, H 15 20 41.8,
										h 122 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
168	Mar.26	e	Z	16 46 11						Masked by microseisms.
		e	N	56 57	7					
		e	E	57 02	?					USCGS: 40.6S, 73.3W, H 16 32 43.6, h 32 km.ca.
		e	E	57 35	15					
		ePS	NZ	58 42	15					
		ePS	E	58 47	15					
		eSS	Z	17 03 53	22					
		eSS	N	04 00	18					
		eLQ	E	13.3	25					
		eLR	E	17.2	22					
		eLR	N	17.4	22					
		M	NEZ	19.5	20	2	2	3		
		M	NEZ	22.8	18	1	2	4		
169	27	(P)	Z	05 29 27						Masked by microseisms.
		eS	E	35 03	7					
		esS	E	35 40	7					USCGS: 3.9S, 129.1E, H 05 22 32.0, h 96 km.ca.
		e	E	37 18	12					
		i(SSS)	N	38 03	7	+2				
		M	N	43.6	10	1				
		M	E	44.1	12		1			
		M	Z	46.1	12			2		
170	28	e	E	04 34 48	12					Masked by microseisms.
		e	N	24 41	10					
		M	N	40.2	12	½				USCGS: 1.4N, 97.5E, H 04 05 24.6, h 74 km.ca.
		M	E	42.0	19		1			
		M	Z	44.0	19			1		
171	28	i	N	12 30 57	3	+1				Masked by microseisms.
		M	NE	39.7	13	½	½			
172	28	M	N	14 26.7	14	1				Masked by microseisms.
		M	EZ	27.1	18		1	2		USCGS: 32.7S, 178.0W, H 14 12 45.8, h 104 km.ca.
173	28	eL	N	18 47.9	15					Masked by microseisms.
		M	EZ	49.7	17		½	1		
	29	i(Pg)	V	06 01 15	½			-		Quarry blast ?
		i(Sg)	V	01 18	½			+		
174	29	iP	ZV'	20 16 38	4			+7	(4560)	Compression. Large microseisms present.
		e	Z	18 05	9				(41°0)	
		ePP	N	18 14	7					
		i	Z	18·17	6			+7		USCGS: 0.5S, 127.4E, H 20 09 01.9, h 25 km.ca.
		e(S)	NE	22 51	9					
		e	N	26 09	9					
		eLQ	E	26.2	22					
		eL	E	31.3	24					
		M	NEZ	34.7	17-19	6	6	12		
175	30	(P)	V	08 04 17						Masked by microseisms.
		e(S)	E	08 19	7					
		eL	N	09.3	19					
		M	N	10.8	16	3				
		M	E	11.6	16		½			
		M	Z	12.2	16			2		
176	30	iP	VV'	14 28 43	½			+		Compr. Galitzin record obscured by microseisms. h 292 km.ca. USCGS: 28.7S, 179.0W, H 14 23 33.6
	31	e	V	01 25 49	½					Local ?
177	31	(iP)	Z	07 53 45	4			+2		Masked by microseisms.
		e(S)	N	08 01 07						
		e	N	01 40	11					USCGS: 9.8N, 121.6E, H 07 44 36.0, h 156 km.ca.
		e	N	06 09	8					
		eL	E	10.0	24					
		M	E	12.5	16		1			
		M	NZ	18.7	19	4		4		

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A. Fynn, S.J. Director.

P. F. Rheinborger.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
178	Apr. 1			01.8	Surface waves.					USCGS: 33.6N, 59.0E, H 00 45 14.6, h 33 km.ca.
179	1	M	NE	05 05.5	15	½	1			
180	1	e	Z	12 17 31	4					P masked by microseisms.
		i	NZ	17 42	4	+1		-2		
		i	Z	18 47	4			+3		USCGS: 4.2S, 143.6E, H 12 11 09.2, h 80 km.ca.
		i	N	18 49	7	+3				
		iS	E	22.09	6		+4			
		i	N	22 32	6	-2				
		e	N	22 45	22					
		i	Z	22 57	6			+6		
		i	N	24 18	7	+9				
		i	N	25 16	7	+13				
		eL	E	25.4	30					
		M	Z	30.0	19			22		
		M	N	30.3	15	27				
		M	E	30.5	13		17			
181	1	iP	V	15 41 52	1			+		Compression. Microseisms present.
		i	VV'	41 59	2			-		
		i	Z	42 00	3			-2		USCGS: 17.9S, 167.2E, H 15 37 02.5, h 53 km.ca.
		i	N	45 50	5	-2				
		i	E	45 52	5		-2			
		i(PcP)	Z	45 55	4			+2		
		i	NE	46 05	6	+2	-2			
		i	Z	46 13	4			+2		
		eLR	Z	47.2	21					
		M	E	49.2	16		1			
		M	NZ	49.8	15	2		1		
182	2	iP	ZVV'	00 23 43	3			+2	5940	Compression.
		ipP	V'	24 34	2			-	53.4	h 0.03, H 00 14 45
		iS	E	30 56	4		-2			USCGS: 18.6N, 145.5E, H 00 14 50.4, h 205 km.ca.
		M	NE	44.9	15	½	¼			
183	2	e	N	18 44 58	13					Masked by microseisms.
		M	NE	49.9	18	½	1			USCGS: 6.1S, 146.7E, H 18 33 52.4, h 60 km.ca.
		M	Z	50.2	17			1		
	3	iPg	V	05 59 48	½			+		Quarry blast ?
		iSg	V	59 51	½			+		
184	3	iP	VV'	16 30 34½	1			+	2900	Compression.
		i	NZVV'	30 41	4	-2		+5	26.1	h 0.00
		ipP	VV'	30 44	1			+		
		i	Z	30 45	4			-7		USCGS: 10.6S, 164.9E, H 16 24 55.6, h 36 km.ca.
		i	E	30 47	4		+3			
		isP	VV'	30 48½	1			+		
		eS	E	35 01	8					
		i	N	35 06	6	+5				
		isS	E	35 16	5		+5			
		i	N	35 23	6	+5				
		i	Z	35 27	5			+6		
		i	E	35 33	7		-7			
		i	N	35 43	6	+3				
		iSS	E	36 09	7		+10			
		eL	N	36.4	22					
		eL	Z	38.2	21					
		M	NE	38.2	16	9	7			
		i	VV'	38 21	1½			-		
		M	N	39.0	14	9				
		M	Z	41.3	16			11		
		iScS	E	41 25	5		+9			
185	3	i(P)	VV'	18 42 38½	1			+		Masked by microseisms.
		i	VV'	42 42	1			-		USCGS: 20.8S, 169.4E, H 18 37 47.5, h 40 km.ca.
		e	N	46 25						
	4	e	V	02 46 42	½					Local tremor? Superposed on large microseisms.
		i	V	46 47	¾			+		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Apr. 4	e	V	02 58 12½	½					Local tremor. Superposed on large microseisms.
	4	e	V	04 34 09						Local tremor. Superposed on large
		i	V	34 20	½			+		microseisms.
186	4	eL	E	15 03.7	19					Masked by large microseisms.
		M	E	10.0	17		1			(USCGS: 8.0N, 83.0W, H 14 02 32.2, h 23 km.ca.)
187	5	M	N	20 01.5	15	1				Obscured by large microseisms. USCGS: 16.2S, 167.5E, H 19 45 58.4, h 35 km.ca.
188	6	(P)	V	17 02 22	1					Masked by large microseisms.
		e(PS)	E	13 15						USCGS: 26.7S, 113.2W, H 16 50 14.2,
		e(SS)	E	17 44	15					h 33 km.ca.
		eLR	E	26.5	30					
		M	NEZ	30	21	3	3	5		
189	7	(iP)	ZVV'	06 29 43	2			+5		Masked by large microseisms.
		i(S)	N	36 15	4	+3				
		i	E	36 27	4		+2			USCGS: 10.0N, 144.4E, H 06 21 38.4,
		i(PS)	N	36 34	4	+5				h 50 km.ca.
		eSS	E	39 31	16					
		e	N	39 41	13					
		eL	E	41.9	23					
		M	E	45.8	17		6			
		M	NZ	47.4	18	3		8		
190	9	iP	VV'	09 01 17	1			-	3940	Dilatation. Large microseisms present.
		i	VV'	01 19	1			+	3594	H 08 54 22
		i(PPP)	N	02 58	4	+3				
		iS	E	06 49	4		+2			USCGS: 8.6S, 124.1E, H 08 54 22.7,
		i	N	09 21	4	+3				h 46 km.ca.
		i(ScS)	N	11 32	4	+4				
		M	E	15.5	12		3			
		M	N	16.4	12	4				
	9	i	Z	22 42 55	2			+2		Masked by large microseisms.
										USCGS: 12.8N, 124.9E, H 22 33 29.2, h 44 km.ca.
	10	(i)	V	13 16 21	1			+		Masked by large microseisms.
										USCGS: 30.1S, 177.7W, H 13 10 34.6, h 46 km.ca.
	10	(iP)	Z	17 13 37	3			+2		Masked by large microseisms.
										USCGS: 16.4S, 175.3W, H 17 07 11.9, h 330 km.ca.
191	10	(iPKP)	Z	21 56 41						Masked by large microseisms.
		M	EZ	23 00	18		1	3		USCGS: 37.9N, 20.1E, H 21 37 12.6, h 35 km.ca.
192	11	(eP)	VV'	11 06 15						Masked by large microseisms.
		eS	N	13 23	9					USCGS: 9.0N, 126.9E, H 10 57 37.8,
		eSS	E	16 46	15					h 31 km.ca.
		M	E	30.2	17		1			
193	11	(iP)	VV'	19 01 44	1½			(+)		Masked by large microseisms.
		eL	N	07.4	18					
194	12	ePcP	Z	01 04 07	4				8020	h 0.00, H 00 52 44
		ipP	NZVV'	04 17	5	-7		+25	7292	
		isP	NZ	04 22	4	+8		-21		USCGS: 38.2N, 142.3E, H 00 52 47.0,
		iPcP	V'	04 24	2			+		h 68 km.ca.
		i	NZ	04 50	5	+4		-13		
		i	NZ	05 02	6	+8		-16		
		i	NZ	05 27	6	+5		-14		
		iPP	N	06 48	5	+4				
		e	Z	08 10	12					
		iPPP	NZ	08 28	7	-5		+10		
		i	Z	08 59	6			+14		
		iS	E	13 26	6		-14			
		i	N	13 29	7	-12				
		i	E	13 31	6		-15			

(Continued on next page)

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
194	Apr.12	i	Z	01 13 33	7			+17		
cont.		i	N	13 44	9	-23				
		i(sS)	E	13 45	6		-42			
		i	E	13 53	7		+41			
		i	N	14 19	7	+18				
		i	E	14 22	6		+17			
		i	N	14 43	9	+19				
		i	Z	14 58	7			+17		
		i	N	15 13	9	+11				
		i	N	15 29	9	+13				
		i	E	15 57	8		+9			
		i	N	16 44	10	+18				
		i	N	17 17	9	+17				
		iSS	E	18 02	8		+16			
		eSS	Z	18 07	(28)					
		e	E	18 18	28					
		i	Z	18 31	10			-24		
		eLQ	E	23.3	35					
		eLR	Z	27.3	32					
		M	NEZ	41.8	17	36	22	74		
		M	NEZ	49.1	19	16	46	64		
		F		04.9						
	12	(i)	V	05 54 20	(¾)					Local ?
195	12	(PP)	VV'	05 59 18						Masked by microseisms.
		eL	Z	06 05.3	19					USCGS: 14.3S, 166.8E, H 05 53 29.6,
		M	NZ	07.5	15	½		1		h 104 km.ca.
	12	i(Pg)	V	06 14 52	¼			+		Quarry blast ?
		i	V	14 53½	½			+		
	12	e(Pg)	V	06 20 05						Local.
		e(Sg)	V	20 21						
196	12	i	VV'	11 28 44	1½			+		Masked by microseisms.
		M	N	47.4	13	½				USCGS: 10.4S, 105.0E, H 11 20 02.3,
										h 84 km.ca.
	14	i	VV'	01 27 09	1			+		Large microseisms present.
	16	e	V	05 11 09						Local ?
197	16	(P)	V	13 30 36	1					Masked by microseisms.
		iS	NE	39 09	5	+2	-4			
		e(PS)	E	39 55	5					USCGS: 30.6N, 140.6E, H 13 20 15.1,
		i	E	40 08	4		-2			h 176 km.ca.
		i	E	40 26	4		-2			
		e(SS)	N	43 24	10					
		eL	E	51.9	21					
	17	i	Z	16 26 39	3			+3		Microseisms present.
		i	ZVV'	29 05	4			+3		
198	17	iP	ZVV'	17 47 37½	3			+3		Compression. Microseisms present.
		i	VV'	47 40½	1½			+		
		i	NE	47 50	4	-2	+3			USCGS: 42.6S, 174.0E, H 17 43 03.4,
		i	ZVV'	47 52	3			+4		h 25 km.ca.
		i	VV'	48 00	1½			+		
		i	Z	48 01	2			-3		
		i	N	51 25	4	+2				
		i	E	51 27	4		-2			
		i(PcP)	Z	51 50	5			+6		
		eL	Z	52.6	24					
		M	N	53.5	15	1				
		M	E	53.7	17		1			
		M	Z	54.2	18			3		
	18	e(Pg)	V	06 30 25						Quarry blast ?
		i(Sg)	V	30 29½	¼			+		
		i	V	30 32	½			+		
	18	i	VV'	13 30 56	1			-		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks.
	1962			h m s	s	μ	μ	μ	km.	
199	Apr.18	iPP	NZ	19 34 21	5	+2		+3		Compression.
		i	Z	34 35	4			-2		USCGS: 10.0S, 79.0W, H 19 14 37.2,
		i	Z	34 59	5			-3		h 39 km.ca.
		e	Z	37 12	12					
		iSKS	N	40 07	6	+2				
		ePS	NE	43 57	12					
		i	NE	44 24	9	-3	+4			
		e	Z	44 48	18					
		ePPS	N	45 11	10					
		e	Z	50 03	?					
		eSS	E	50 20	13					
		i	E	50 44	19		+6			
		e	EZ	51 09	19,24					
		eLR	Z	20 08.0	30					
		eL	N	08.8	27					
		M	NEZ	12.8	19	6	7	17		
		(W_2)	E	21 25						
	18	(iP)	VV'	21 13 45	1			+		Masked by microseisms & coda of 199.
										USCGS: 13.0S, 166.8E, H 21 08 27.5,
										h 105 km.ca.
	19	iPg	V	06 00 43	¼			-		Quarry blast ?
		iSg	VV'	00 46½	½			+		
200	19	iP	VV'	22 20 16	1			+	(2620)	Compression.
		i	VV'	20 19	1			+	(2396)	h (0.02)
		i(pP)	NEZ	20 51	4	-1	-2	+2		
		i	VV'	21 06	1			+		USCGS: 15.8S, 168.0E, H 22 15 20.9,
		i	Z	21 13	4			-3		h 213 km.ca.
		i	VV'	21 16	1½			-		
		iS	N	24 13	6	-4				
		i	Z	24 27	7			+7		
		i	E	24 28	7		-5			
		i	E	24 52	6		+5			
		i	N	25 00	7	-2				
		i(SS)	N	25 24	9	-10				
		i	E	25 27	7		+7			
		i	Z	25 42	6			+7		
		M	E	28.7	13		3			
		M	Z	28.9	16			5		
		M	N	29.0	13	4				
		iScS	N	31 04	6	+5				
201	20	iPKP	ZVV'	06 07 13	5			-5		Dilatation.
		i	ZVV'	07 22	3			+8		
		i	VV'	07 34	1½			+		USCGS: 20.6N, 72.2W, H 05 47 55.3,
		i	Z	07 38	4			+6		h 25 km.ca.
		i	VV'	07 45	1½			-		
		i	Z	08 48	5			+5		
		iPP	Z	10 15	6			+6		
		i	Z	10 31	6			+7		
		iPKS	N	10 56	4	+1				
		iPKS	E	11 00	4		+4			
		i	E	11 13	4		-2			
		i	N	11 14	4	+2				
		i	Z	11 24	4			+4		
		i	Z	16 13	4			-3		
		i(PS)	E	20 32	6		-2			
		i	Z	22 30	6			+3		
		i	VV'	22 36	2			+		
		e	Z	22 51	18					
		eSS	E	28 40	25					
		eSSS	E	33 54	23					
		eLR	Z	53.3	34					
		M	NEZ	07 02	19	2	3	6		
		M	NEZ	06	18	1	2	6		
	20	(P)	ZVV'	14 30 12						Masked by microseisms.
										USCGS: 17.9S, 169.9E, H 14 25 18.8,
										h 87 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
202	Apr.21	(iPP)	V	21 24 38	1½			-		Masked by microseisms.
		e(S)	N	28 32	4					
		i(SS)	N	29 54	6	+1				USCGS: 6.5S, 144.6E, H 21 18 01.7, h 42 km.ca.
		eL	E	33.2	(21)					
		M	E	35.4	12		2			
		M	NZ	36.6	11	2		3		
203	22	i(P)	ZV	02 14 49	3			+		Masked by microseisms.
		i(pP)	V	15 35	1			+		USCGS: 18.9S, 169.5E, H 02 10 12.1, h 288 km.ca.
		e	E	18 37	6					
		e	E	19 42	(15)					
204	22	e(PS)	Z	05 15 23	10					Masked by microseisms.
		e	Z	15 58	7					USCGS: 15.5N, 93.1W, H 04 45 20.3, h 69 km.ca.
		i	E	16 07	4		+2			
	22	(iP)	ZV	05 33 54	3			+2		Masked by microseisms.
	22	(iP)	V'	16 08 22	1½			+		Masked by microseisms. USCGS: 21.1S, 178.7W, H 16 03 09.5, h 578 km.ca.
205	23	iP	VV'	06 09 55½	1			-	867.0ca	Dilatation.
		i	VV'	09 58	1½			+	78°ca	h 0.01, H 05 58 06 ca.
		i	NEZ	09 59	5	+6	+2	-31		
		i	VV'	10 01	2			+		USCGS: 42.9N, 143.4E, H 05 58 04.9, h 25 km.ca.
		iPcP	V	10 04½	1			+		
		i	N	10 14	6	-6				
		i	Z	10 19	7			+38		
		ipP	VV'	10 22	1½			+		
		isP	NZVV'	10 31	5	+11		+50		
		i	N	12 35	6	+4				
		i(PP)	ZVV'	12 44	5			+20		
		i	V'	12 47	3			+		
		i	NZ	12 51	4	+7		-19		
		i	N	13 14	6	-8				
		iS	N	19 40	7	-11				
		iS	E	19 41½	7		+7			
		e	E	19 52	18					
		i	N	20 01	8	+10				
		i	E	20 03	8		-9			
		i	Z	20 08	7			-10		
		isS	NE	20 24	7	-18	+14			
		iPS	NZ	20 36	9	-22		-15		
		i	E	20 46	6		+12			
		iPPS	NZ	20 54	6	+9		+18		
		i	E	21 05	7		+4			
		i	N	21 16	6	+15				
		i	Z	23 46	8			-10		
		iSS	E	24 43	7		+14			
		i	N	26 22	9	+14				
		eLQ	E	31.0	33					
		eLR	Z	33.8	34					
		eLR	N	34.2	34					
		M	NEZ	37.9	24	35	32	82		
		M	E	42.8	19		19			
		M	NZ	43.2	19	15		28		
	23	i	VV'	19 34 02	1½			+		Masked by microseisms.
	24	(iPKP)	VV'	16 24 55	1½			+		Masked by microseisms.
		(i)	VV'	29 14	1½					USCGS: 2.2S, 76.1W, H 06 06 23.7, h 175 km.ca.
	24	(i)	VV'	22 42 46	1			+		Masked by microseisms.
	25	(i)	VV'	00 27 18	1½			-		Masked by microseisms.
	25	(i)	VV'	00 59 11	1½			-		Masked by microseisms.
206	25	e	N	06 13.1	14					USCGS: 20.9S, 175.1W, H 05 55 20.4, h 103 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
207	Apr.25	iS	N	16 08 10	6	+1				Masked by microseisms.
		i	E	08 14	6		-3			
		i	N	09 01	6	+3				USCGS: 38.4N, 142.5E, H 15 47 29.4,
		i	E	09 03	6		+3			h 56 km.ca.
		e	E	10 48	16					
		eL	E	20.0	24					
		M	NEZ	26.3	20	2	1	4		
208	26	iP	EZ	07 32 01½	3		+3	-5	3450	Dilatation. Microseisms present.
		i	VV'	32 03	1			-	3190	h 0.07, H 07 26 23
		i	V	32 08	1			+		
		i	Z	32 26	3			-2		USCGS: 17.8S, 179.1W, H 07 26 31.3,
		iPP	VV'	33 35	2			+		h 689 km.ca.
		iS	N	36 33	4	+4				
		i	N	39 27	5	+3				
		i	N	39 41	5	+3				
		i	VV'	40 07	1½			+		
		e	N	41 12	14					
		iScS	N	41 39	6	-4				
	27	i	V	06 15 49	½					Local.
	27	(iP)	V	06 35 28	1			+		Masked by large microseisms.
		(iS)	N	39 24	4	+				
	28	e	V	01 39 52	¼					Nearby blasting ?
	28	i	VV'	16 47 02	1½			-		Dilatation. Large microseisms.
209	29	eP	VV'	15 15 49	1					Masked by microseisms.
										USCGS: 12.4S, 166.5E, H 15 10 24.9,
										h 72 km.ca.
210	30	iP	VV'	02 37 53	1			+		Compression. Large microseisms
		i	VV'	37 57	1½			+		present.
		i	VV'	37 59	1			+		
		iPP	Z	40 37	4			-3		USCGS: 38.8N, 140.9E, H 02 26 30.0,
		i	VV'	43 56	2			+		h 104 km.ca.
		i	VV'	45 02	2			-		
		e	E	47 32	9					
		eL	E	58.2	30					
		M	NEZ	03 04.4	16	3	2	3		
	30	i	N	10 49 03	4	+2				Masked by large microseisms.
										USCGS: 20.1S, 169.0E, H 10 40 16.4,
										h 49 km.ca.
211	30	iP	ZVV'	16 23 26½	3			+3	3780	Compression.
		i	VV'	23 34½	1½			+	3490	H 16 16 44
		i	VV'	23 45	2			+		
		i	Z	23 49	4			-6		USCGS: 17.9S, 176.1W, H 16 16 47.8,
		i	VV'	24 09	1½			+		h 26 km.ca.
		iPP	Z	24 39	5			+5		
		iPP	E	24 40	5		-5			
		iPPP	N	25 01	4	+3				
		i	Z	26 11	6			+9		
		i	E	28 39	5		+4			
		iS	N	28 48½	7	+14				
		i	N	29 13	6	+15				
		i	N	30 42	7	+7				
		i	N	31 18	9	+17				
		i	E	31 25	7		+13			
		eL	Z	31.9	26					
		M	N	35.3	13	67				
		M	Z	36.9	16		40	40		
		M	E	37.1	16		28			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
212	Apr.30	iP VV'	18 37 35	1½			+	(3740)	Compression. Microseisms present.
		i Z	37 37	4			-5	(33°6)	
		i VV'	38 12	1½			+		USCGS: 18.0S, 176.4W, H 18 31 06.6,
		i Z	38 21	3			+2		h 135 km.ca.
		eS N	42 54	9					
		i N	42 57	6	+3				
		i E	43 03	6		+5			
		i N	45 29	6	+5				
		eL Z	45.8	22					
		M N	49.4	12	11				
		M EZ	51.4	18		7	11		
213	30	iP ZVV'	20 48 23	3			+3		Compression. Microseisms present.
		i Z	48 30	4			+5		
		i VV'	48 34	1½			+		USCGS: 6.4N, 124.0E, H 20 39 45.1,
		i Z	48 50	4			-3		h 28 km.ca.
		i Z	49 23	3			+2		
		iPP Z	50 11	4			-3		
		iPP VV'	50 12	2			+		
		e(PS) N	55 28	12					
		iSS N	58 41	5	+2				
		e E	59 02	7					
		e N	59 20	15					
		M NEZ	21 11.1	19	2	2	2		

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
214	May 1	iP VV'	10 00 43½	1			+		Compression. Large microseisms present.
									USCGS: 5.8S, 125.5E, H 09 54 20.6,
									h 621 km.ca.
	2	e V	13 54 23	¼					Local.
215	3	(SS) N	04 04 05						Masked by large microseisms.
		eL E	17.3	?					USCGS: 60.0S, 32.9W, H 03 34 49.0,
		M NE	25.5	16	2	1			h 20 km.ca.
		M Z	26.2	16			4		
	4	e V	05 58 36	½					Local.
	5	iPg V	02 40 18½	+			+		Local.
216	5	(iP) V	11 21 51						Masked by microseisms.
		eL E	42.7	33					USCGS: 34.2N, 139.2E, H 11 11 51.4,
		M NE	48.7	16	½	½			h 73 km.ca.
		M Z	50.4	16			1		
217	6	(i) Z	00 41 20						Masked by microseisms.
		M E	50.3	16		1			USCGS: 6.0S, 151.6E, H 00 35 27.8,
		M Z	50.5	18			2		h 25 km.ca.
		M N	53.2	16	1				
218	6	(iP) VV'	03 23 1[illegible]	1½			+		Masked by microseisms.
		eL Z	38.9	?					USCGS: 54.3S, 136.6W, H 03 13 49.3,
		M E	43.4	16		½			h 23 km.ca.
219	6	i VV'	03 45 23	1½			+		Masked by microseisms & coda of 218.
		e N	50 52	?					USCGS: 54.2S, 136.5W, H 03 33 47.0,
		eLR NZ	58.6	25					h 25 km.ca.
		M NEZ	04 01.2	19	1	2	6		
	6	(P) V	12 14 08						Masked by microseisms.
									USCGS: 20.8S, 178.7W, H 12 08 45.6,
									h 587 km.ca.
220	6	iP ZVV'	19 12 54	4			-7	9600	Dilatation.
		iPcP NZ	12 58	4			+15	86°4	H 19 00 09
		i VV'	12 59	1½			-		
		i VV'	13 05	2			-		USCGS: 60.0S, 32.8W, H 19 00 10.2,
		i E	13 47	5		+5			h 25 km.ca.
		i NZ	14 26	5	+6		-9		
		iS E	23 29	9		-17			
		i N	23 33	8	+11				
		i N	24 06	6	+4				
		iPS E	24 27	6		+8			
		i N	24 43	6	+				
		i N	25 10	6	+12				
		i E	25 31	8		+11			
		i N	27 46	6	+4				
		i N	29 00	6	+4				
		i E	29 06	8		+9			
		eSS Z	29 14	20					
		i N	29 24	9	+17				
		i N	29 44	9	+13				
		eSSS Z	32 44	24					
		eLQ E	35.4	27					
		eLR N	41.6	30					
		eLR Z	41.8	33					
		M Z	50.3	18			32		
		M E	50.8	16		19			
		M N	51.2	18	14				
221	7	iP ZVV'	17 51 55	4			+10	8900	Compression.
		i NVV'	41 58	5	+6		-	80°1	H 17 39 47
		iPcP ZV'	52 04	4			+(12)		
		i VV'	52 08	2½			+		USCGS: 45.3N, 146.7E, H 17 39 50.3,
		iPP NZ	54 55	5	+3		-8		h 25 km.ca.
		iS E	18 01 56	6		+3			
		iSKS N	02 02	7	-5				
		SKS E	02 05	7					

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
221	May 7	i	Z	18 02 06	7			+6		
cont.		i	E	02 21	7		+5			
		i	E	02 33	8		+8			
		i(PS)	E	02 47	7		+5			
		i	N	03 57	6	-3				
		i	N	05 19	7	+6				
		i	E	06 49	6		-3			
		i(SS)	N	06 58	7	+7				
		i	N	07 52	6	-3				
		e	N	10 04	12					
		e(LQ)	E	12.6	19					
		i	Z	12 20	7			-6		
		i	E	12 53	10		-9			
		i	E	13 19	9		+9			
		i	N	16 12	7	-5				
		i	N	16 38	8	+6				
		eLR	Z	17.2	29					
		eLR	N	17.8	29					
		M	NEZ	21	22	10	9	13		
		(W_2) M	Z	19 53.8	19			3		
	7	i	VV'	19 47 08	1½			+		
	8	i(Pg)	V	00 35 01	¼			-		Non-soismic ?
		i	V	35 07	¼			-		
		i	V	35 14	½			+		
	8	Pg	V	06 13 34	¼					Quarry blast ?
		Sg	V	13 38	¼					
	8	iPg	V	06 59 08	¼			+		Quarry blast ?
		iSg	V	59 12	+			-		
		i	VV'	59 15	½			+		
222	10	iP	Z	00 31 28	4			-4	1950ca	Dilatation. Largo microsoisms
		i	NEZ	31 32	4	+2	-3	+8	17½°ca	presont.
		i	VV'	31 33	2			-		USCGS: 41.8S, 171.6E, H 00 27 17.5,
		m	NEZ	31 39	5	7	10	16		h 54 km.ca.
		iPPP	Z	31 48	4			+14		
		e	N	34 57	10					
		iSS	EZ	35 00	7		-9	-21		
		i	N	35 04	8	-12				--- i E 35 18, 6s, +30μ
		i	E	35 27	5		+16			
		eLR	E	35.7	17					
		eL	Z	35.9	21					
		M	N	36.3	14	22				
		M	E	36.6	14		22			
		M	Z	37.7	17			51		
		eT	V	48.9	½					
223	10	e	N	04 36 51						Maskod by largo microsoisms.
		eL	Z	39.7	(16)					BCIS:40.0S,172.0E, H 04 31 27.
		M	NE	42.0	13	8	5			
		M	Z	42.2	15			2		
224	10	(P)	Z	05 25 33						Maskod by largo microsoisms.
		i	V	25 43	1			+		USCGS: 52.4N, 170.9W, H 05 12 15.9,
		eS	E	36 23						h 43 km.ca.
225	11	(iP)	V	04 58 33	1½			+		Maskod by largo microsoisms.
		(eS)	N	05 03 14						USCGS: 6.4S, 143.6E, H 04 52 43.4,
		M	E	09.1	11		2			h 37 km.ca.
		M	NZ	10.6	10	3		5		
226	11	i(PP)	V	07 12 16	1			+		Maskod by largo microsoisms.
		M	E	22.1	16		1			USCGS: 6.6S, 147.7E, H 07 05 52.5,
		M	Z	22.7	15			2		h 42 km.ca.
		M	N	23.1	13	1				
227	11	iP	VV'	12 11 30	1½			-		Dilatation. Largo microsoisms presont
										USCGS: 14.3S, 170.4E, H 12 06 42.1,
										h 623 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
228	May 11	(iPKP)	V	14 30 26	1½			+		Large microseisms present.
		iPP	VV'	31 30	1½			+		
		eSKS	E	37 23	8					USCGS: 17.0N, 99.7W, H 14 11 51.9,
		i	E	37 31	7		-6			h 25 km.ca.
		iSKKKS	E	38 36	9		+6			
		e(PS)	E	40 57	16					
		ePS	N	41 10	15					
		i	E	41 19	?		+			
		m	EZ	41.5	20		12	13		
		ePPS	E	42 21	24					
		eSS	E	47.3	?					
		m	E	48.1	19		11			
		eSSS	EZ	51.8	24					
		eLQ	N	59.9	25					
		eLR	EZ	15 05.1	28					
		M	NEZ	09.8	19	5	14	26		
		eW_2	E	16 16.6	28					
		M	EZ	22.0	27		6	9		
		M	EZ	25.4	20		5	16		
		M	N	30.2	18	3				
		M	EZ	36.2	18		11	15		
	12	(iP)	V'	22 09 20						Masked by large microseisms.
										USCGS: 18.0S, 178.0W, H 22 03 40.7,
										h 603 km.ca.
	14	(iP)	ZV	01 29 41	3			+3		Microseisms present.
										USCGS: 18.4S, 168.3E, H 01 25 15.0,
										h 58 km.ca.
229	14	iP	VV'	10 40 50	1			+		Compression.
		e	E	46 57	10					USCGS: 9.0S, 118.7E, H 10 33 25.5,
										h 30 km.ca.
230	15	iP	VV'	05 30 28	1½			+	3880	Compression. Microseisms present.
		i	NEZVV'	30 30	5	-2	+5	+14	3499	
		isP	NEZ	30 42	7	-10	+32	+96		
		i	E*	31 19	5		-			* From Mainka. Galitzin records
		i	E*	32 36	6		-			difficult to read owing to over-
		iS	E	35 56	7		+91			lapping of lines.
		e	N*	36 05	29					
		e	E	36 22	26					USCGS: 7.3S, 128.3E, H 05 23 45.9,
		i	E	36 32	(9)		-(67)			h 34 km.ca.
		i	E*	36 46	5		-			
		M	N*E*	43	17	2300ca	1550ca.			
		M	V	45	19					
		(W_2)	NEZ	08 15	(27)					
		F		09.3						
	15	i(P)	VV'	06 49 45	1			+		Masked by coda of 230.
231	15	(iP)	VV'	10 02 01	2					Masked by microseisms.
		i	VV'	02 08	1½			-		USCGS: 7.2S, 128.2E, H 09 55 16.5,
		M	NE	14.6	18	2	1			h 30 km.ca.
		M	Z	17.1	12			2		
232	15	(iP)	VV'	17 00 45	1					Masked by microseisms.
		(eS)	E	06 08						USCGS: 7.4S, 128.0E, H 16 54 01.9,
		M	NEZ	12.6	9	9	9	6		h 34 km.ca.
233	15	M	NEZ	18 15.7	9	2	2	2		Masked by microseisms.
	16	i	N	02 51 28	5	+3				Microseisms present.
234	16	eP	VV'	05 22 09	1					Masked by microseisms.
		i	VV'	22 12	1			+		USCGS: 13.6S, 167.3E, H 05 16 46.0,
		e	N	26 53	12					h 52 km.ca.
		e	E	27 18	12					
		eL	Z	29.1	19					
		M	N	30.4	15	1				
		M	E	30.9	16		1			
		M	Z	31.7	16			2		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	May 16	iPg	V	06 17 23	¼			+		Quarry blast ?
		iSg	V	17 26	½			+		
235	16			10 40	Surface waves.					
236	16	(P)	V'	14 42 16						Masked by microseisms.
		i	V	42 38	1½			+		USCGS: 7.3S, 128.1E, H 14 35 29.6,
		(iPP)	V'	43 26	1½			-		h 34 km.ca.
		i(ScS)	N	52 34	4	-2				
		M	NE	54.1	9	3	2			
		M	Z	56.8	10			2		
237	16	(eP)	VV'	17 38 28						Masked by microseisms.
		i	Z	38 37	4			+3		USCGS: 13.4S, 167.3E, H 17 33 05.5,
		e	VV'	38 43						h 35 km.ca.
		PPP	V	39 17	2					
		i	VV'	40 13	2			-		
		I	N	43 04	5	-2				
		M	EZ	47.2	18		2	3		
		M	N	47.6	14	2				
238	16	e	V	21 44 22	(½)					Masked by microseisms.
		e(SS)	N	46 22	(3)					USCGS: 35.6S, 137.7E, H 21 41 35.8,
		e(SSS)	E	46 34	(3)					h 25 km.ca.
		i(Lg)	NE	47 33	2	+3	-3			
		M	N	47.8	6	4				
		M	VV'	47.9	2					
		M	EZ	48.5	9		3	5		
239	16	iP	ZVV'	23 10 24	2			+2		Compression. Microseisms present.
										USCGS: 15.1S, 167.6E, H 23 05 21.1,
										h 136 km.ca.
240	17	iP	EZVV'	02 24 09	4		+2	-3	1970ca	Dilatation. Microseisms present.
		i	V	24 12	1½			+	179?ca.	
		i	V	24 19	1½			+		USCGS: 41.9S, 171.5E, H 02 19 57.8,
		i	Z	24 36	4			+4		h 41 km.ca.
		i	N	27 28	4	+2				
		iSS	EZ	27 45	7		+4	+9		
		eLR	Z	28 20	19					
		M	NE	29.0	14	4	3			
		M	Z	30.4	16			4		
		eT	V	41.8	½					
	17	(P)	V	09 26 51						Masked by microseisms.
										USCGS: 7.2S, 128.0E, H 09 20 04.2,
										h 35 km.ca.
	17	(iP)	VV'	16 13 34	1½					Masked by microseisms.
										USCGS: 55.8S, 27.0W, H 16 00 37.4,
										h 23 km.ca.
241	19	(ePKP)	Z	15 16 53					12780ca	Microseisms present.
		iPP	ZVV'	18 02	4			+2	115°ca	Compression.
		iPKS	Z	20 33	4			+2		
		e	Z	20 37	10					USCGS: 17.2N, 99.5W, H 14 58 13.3,
		iSKS	E	23 46	5		+3			h 20 km.ca.
		i	N	23 53	5	-1				
		iSKKS	E	24 51	5		+2			
		e	E	25 00	16					
		ePS	E	27 38	16					
		i	Z	27 44	6			-3		
		i	Z	27 52	7			+10		
		i	NE	27 54	6	-3	-7			
		i	E	28 29	9		+7			
		i	N	28 36	9	+3				
		iPPS	E	28 52	7		+7			
		e	E	29 10	15					
		e	NE	32 41	21					
		eSS	Z	34 07	30					
		e	E	34 21	20					
		i	E	37 52	5		+3			
		eSSS	E	38 09	25					

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
241	May 19	eSSS	Z	15 38 13	22					
cont.		eLQ	N	45.5	36					
		eLR	Z	51.0	32					
		eLR	E	51.2	30					
		M	EZ	54.2	22		10	21		
		M	N	56.4	19	4				
		M	EZ	16 05.2	16		8	11		
		W_2 M	NZ	17 07	24	2		4		
	20	(iPKP)	VV'	15 21 04	1½			+		Masked by microseisms. USCGS: 20.5N, 66.0W, H 15 01 20.7, h 38 km.ca.
242	21	eP	Z	12 15 38	7				9770	
		isP	Z	15 50	4			+15	87?9	Compression.
		iPP	Z	19 12	4			-7		h 0.00 ca., H 12 02 51
		eSKS	N	26 03	?					
		e	E	26 08	11					USCGS: 37.3N, 96.0E, H 12 02 50.6
		iS	E	26 17	6		-3			h 25 km.ca.
		iScS	N	26 23	4	-2				
		isS	E	26 36	6		+6			
		e	E	27 20	(11)					
		e(PS)	N	27 32	11					
		i	E	27 43	6		+6			
		eSS	N	31 55	18					
		eLQ	E	39.1	27					
		eLR	N	43.3	27					
		M	NEZ	51.7	25	13	9	11		
		eW_2	Z	14 28	21					
243	21	iP	V	21 21 21	1½			+		Compression. Large microseisms
		i	EZ	21 22	3		+2	-5		present.
		i	Ez	21 30	3		+4	-15		h 0.04 ca.
		i	N	21 31	4	+3				
		i	EZV	21 34	4		-13	+42		USCGS: 20.0S, 177.5W, H 21 15 31.0,
		i	EZ	21 40	4		+16	-47		h 379 km.ca.
		i	N	21 52	4	+10				
		i	EZ	22 01	3		-4	+11		
		isP	ZV	22 47	3			+20		
		i	E	22 49	3		+8			
		i	N	22 51	3	+6				
		i	V	23 05	1½			+		
		i	Z	23 11	4			+78		
		i	E	23 12	4		-39			
		i	E	23 31	4		+22			
		i	N	23 33	4	+19				
		i	ZV	23 34	4			+54		
		i	N	23 42	4	-12				
		i	N	24 19	4	+17				
		i	E	25 52	4		+40			
		i	E	26 00	4		+23			
		i(S)	N	26 08	7	-19				
		i	E	26 13	8		-54			
		i	N	26 19	6	-74				
		i	E	27 01	4		+15			
		i	N	28 41	6	-47				
		i	E	28 47	4		+19			
		i	NE	28 55	8	+49	+38			
		i	Z	28 57	7			+68		
		i	E	29 12	7		+53			
		i	E	29 36	(6)		+(34)			
		i	N	29 42	7	+100				
		i	E	29 44	8		-84			
		iScS	E	31 23	6		+29			
		M	N	35	11	56				
		M	EZ	36	12		39	60		
244	22	iS	N	04 56 44	6	+2				Masked by microseisms.
		e	N	05 01.7	15					USCGS: 55.5S, 138.3W, H 04 40 14.4,
		eL	N	03.3	18					h 42 km.ca.
		M	Z	08.6	18			2		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitudo AN	Amplitudo AE	Amplitudo AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
	May 22	(P) V	07 55 23						Masked by microseisms. USCGS: 10.2S, 161.5E, H 07 50 03.4 h 105 km.ca.
245	22	iP NEZVV'	08 11 59	3	-9	-11	+36	2840	Compression.
		i VV'	12 14	1½			+	25°4	h 0.01 ca., H 08 06 39 ca.
		i VV'	12 20	1			+		
		ipP Z	12 22	3			-8		USCGS: 12.3S, 166.6E, H 08 06 38.7, h 151 km.ca.
		i N	12 27	4	-4				
		i VV'	12 29	2			-		
		i E	12 32	3		+6			
		isP NEZ	12 37	5	-24	+7	+50		
		iPP VV'	12 44	2			+		
		iPP N*E*	12 45	5	-	-			* From Mainka.
		i Z	12 56	4			+10		
		i Z	12 59	4			-21		
		i N	13 07	4	+12				
		i N	13 45	4	-12				
		i N	13 55	4	+10				
		i N	16 00	4	+5				
		iS N	16 16	7	+6				
		i E	16 19	8		-9			
		i Z	16 29	5			-14		
		i EZ	16 37	7,5		+31	-13		
		m N	16 37	10	23				
		i Z	16 55	6			-20		
		isS E	16 56	6		+23			
		i N	17 14	6	+32				
		i E	17 18	7		-31			
		iSS Z	17 28	5			+44		
		iSS E	17 29	7		-31			
		i N	17 37	7	+64				
		iSSS E	17 48	7		-30			
		i N	18 02	7	+27				
		i N	19 13	6	-22				
		i Z	19 21	6			-41		
		i E	20 54	4		-18			
		i N	20 56	4	+26				
		M Z	21.6	17			47		
246	22	iP VV'	22 09 23	1½			+		Compression. Microseisms present.
		i VV'	09 30	2			-		
		i Z	09 31	4			-3		USCGS: 5.5S, 152.0E, H 22 03 36.0, h 100 km.ca.
		i(pP) VV'	09 37	1½			+		
		i(sP) VV'	09 49	1½			+		
		i N	10 06	5	+3				
		i ZVV'	10 09	4			+5		
		i N	10 21	4	+4				
		i VV'	10 51	1½			-		
		i VV'	10 57	1½			-		
		i NZ	11 01	8	+7		-8		
		i VV'	11 13	2			-		
		i VV'	11 27	2			-		
		i(PcP) NZ	12 27	7	+6		-12		
		i(S) N	14 06	?	-				
		i(sS) NZ	14 31	13	+27		-18		
		i N	15 04	9	-6				
		i N	15 24	10	+9				
		i Z	15 28	7			+12		
		e Z	15.7	19					
		i NZ	15 54	13	+33		-22		
		i E	16 09	6		+3			
		eL NZ	17.7	28					
		M E	19.7	20	16	16			
		M NZ	20.2	19	41		59		
		M E	21.4	18		16			
		M NZ	22.0	17	40		57		
		M NZ	24.9	15	33		42		
		M E	25.1	14		12			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	May 22	i	N	23 06 58	4	+5				Masked by microseisms & coda of 246.
	22	i(P)	Z	23 29 37	4			+3		Masked by microseisms.
	23	i	VV'	01 35 34	1½			-		Microseisms present.
	23	i	ZVV'	01 54 17	3			+3		Microseisms present.
		i	N	54 50	3	-2				USCGS: 37.1N, 96.0E, H 01 42 12.2, h 50 km.ca.
	23			04.0	Long waves, masked by microseisms.					
247	23	eL	E	06 49.3	20					Masked by microseisms. USCGS: 5.4S, 152.0E, H 06 34 00.4, h 70 km.ca.
248	23	eL	Z	06 59.0	22					Masked by microseisms & no.247 USCGS: 4.9S, 150.8E, H 06 43 28.0, h 44 km.ca.
249	23	i(P)	V	20 52(48)	1			+		Compression. Time marks failed.
		M	NZ	21 03	15	1		2		Masked by microseisms. USCGS: 48.2S, 119.4E, H 20 48 03.3, h 25 km.ca.
250	23	eL	N	21 16.6ca	15					Masked by microseisms. No time marks.
		i	N	17(55)	5	-2				USCGS: 49.1S, 121.3E, H 21 04 19.1, h 25 km.ca.
251	24	eL	N	02 25.3	21					Masked by microseisms.
		M	NEZ	28.0	18,16	2	1	3		USCGS: 5.4S, 151.9E, H 02 11 35.8, h 55 km.ca.
252	25	(i)	V	04 28 04	2			+		Masked by microseisms.
		M	EZ	39.1	18		5	6		USCGS: 20.7S, 174.3W, H 04 19 57.0, h 281 km.ca.
		M	N	39.8	12	5				
		M	N	41.8	10	5				
**		M	EZ	42.4	15		6	9		
253	25	(i)	Z	16 48 21	3			+2		Masked by microseisms.
		M	N	55.5	12	2				BCIS: 17½s, 173½E. H 16 43.3
254	26	(i)	V'	09 57 07						Masked by microseisms.
		i	VV'	57 54	1½			+		
		eL	E	10 04.9	28					
		M	NZ	07.3	22	3		3		
		M	E	07.4	19		2			
		M	E	09.7	14		3			
255	27	(i)	V'	05 38 03	2			-		Masked by microseisms.
		M	E	55.4	20		1			USCGS: 3.2S, 129.5E, H 05 30 44.4, h 82 km.ca.
	27	e	V	12 08 29						Local.
		i	VV'	08 37	½			-		
256	27			15.0	Surface waves.					USCGS: 41.4S, 80.6E, H 14 33 03.7, h 25 km.ca.
257	28	e	E	03 19 34						USCGS: 3.3S, 146.0E, H 03 08 07.4, h 25 km.ca.
		e(SS)	E	21 02						
		eL	Z	22.2	21					
		eL	E	23.0	25					
		M	NE	28.6	15	2	3			
		M	Z	29.2	18			4		
	30	(iP)	VV'	17 03 22	1½			-		Masked by microseisms.
		(i		04 40	1½			+		USCGS: 18.9S, 177.9W, H 16 57 36.9, h 480 km.ca.
**	25	i	V	06 35 52	¼			-		Local. Non-seismic ?
		i	V	36 12	¼			-		
		i	V	06 38 23	¼			+		
		i	V	38 34	¼			-		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
258	May 31	iP	VV'	06 37 41	1½			+	6270	Compression. Microseisms present.
		iP	Z	37 41½	4			+5	5694	h 0.035 ca., H 06 28 24
		i	VV'	37 44	1½			-		
		iPcP	VV'	38 33	2½			-		USCGS: 22.1N, 142.6E, H 06 28 26.2,
		iPcP	Z	38 34	3			-4		h 257 km.ca.
		i	NZ	38 47	4	+3		-5		
		i	VV'	38 51	1½			-		
		isP	Z	39 03	5			+6		
		i	VV'	39 06	2			-		
		i	Z	45 01	4			+3		
		iS	NZ	45 10	5	-15		-5		
		i	N	45 22	6	-9				
		i	N	45 56	5	+5				
		isS	E	46 49	6		+3			
		iScS	NE	46 59	6,7	+6	+10			
		i(SS)	N	48 56	9	+6				
		i	N	51 34	6	-4				
		i	E	51 50	6		+6			
		e(G)	E	52.4	(45)					
		i	N	53 03	4	+4				
		M	NEZ	57.7	12,16	4	8	7		
259	31	eP	VV'	08 43 05						Masked by microseisms.
		i	VV'	43 07	1			-		USCGS: 30.8S, 177.3W, H 08 37 25.8,
		i	VV'	43 16	1½			-		h 42 km.ca.
		eL	EZ	50.5	24					
		M	NEZ	52	15,18	2	2	3		

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
260	June 2	M	NEZ	05 53.7	18	1	2	3		Masked by microseisms. USCGS: 3.5S, 145.3E, H 05 35 36.1, h 42 km.ca.
261	2	(eP)	Z	17 26 07						Masked by microseisms.
		i(ScS)	N	36 01	5	+1				USCGS: 29.8N, 130.6E, H 17 15 08.7, h 15 km.ca.
		i(ScS)	E	36 04	6		+2			
		e.	E	42.4	?					
		e	Z	42.6	19					
		eL	E	45.4	23					
		eL	Z	49.1	27					
		M	E	51.3	19		1			
		M	NZ	53.1	20	2		3		
262	3	(iP)	VV'	13 48 13	1½			+		Masked by microseisms.
		i(PP)	VV'	49 02	1½			+		USCGS: 6.4S, 148.1E, H 13 42 27.3, h 32 km.ca.
		i	VV'	49 06	1½			+		
		M	E	59.1	15		½			
		M	NZ	14 00.8	15	1		1		
263	3	(i)	Z	16 17 00	4			+2		Masked by microseisms.
		eL	Z	23.9	21					(USCGS: 22.4N, 45.2W, H 15 02 25.5, h 25 km.ca.)
	5	i	V	00 39 28	¾			-		Local ?
		i	V	01 28 55	¾			+		"
264	5	iP	VV'	16 50 16	1			-		Dilatation. Microseisms present.
		iP	Z	50 16½	2			-1		Dilatation.
		i. !	VV'	50 16½	1½			+		Compression.
		i	Z	50 17	3			+2		USCGS: 7.1S, 129.2E, H 16 43 44.8, h 124 km.ca.
		iPP.	VV'	51 35	1½			-		
		i	V	17 01 03	1½			+		
		i	Z	01 30	3			+3		
		M	N	01.7	6	2				
	6	i(P)	VV'	02 34 29	1			+		Masked by microseisms.
		i	ZVV'	34 47	3			+3		USCGS: 8.8S, 153.9E, H 02 29 04.8, h 60 km.ca.
	7	i	V	06 15 14	½			+		Local. Quarry blast ?
		i	V	15 17	¾			+		
265	8	iP	VV'	01 37 35	1½			-		Dilatation. Microseisms present.
										USCGS: 18.1S, 178.4W, H 01 31 59.9, h 603 km.ca.
	8	Pg	V	06 08 03½	¼					Quarry blast ?
		iSg	V	08 07½	¼			+		
		i	VV'	08 11	½			+		
	11	(pP)	VV'	02 10 49	½					Galitzin record obscured by long-period microseisms.
										USCGS: 19.0S, 168.8E, H 02 05 43.3 h 85 km.ca.
266	11	iP	VV'	14 40 46	1			+		Compression. Galitzin record obscured by long-period microseisms.
										USCGS: 19.6S, 177.7W, H 04 35 00.6, h 370 km.ca.
267	12	iP	V	13 50 48	1			+		Masked by microseisms.
										USCGS: 13.2S, 167.2E, H 13 45 40.6, h 233 km.ca.
	14	Pg	V	06 06 18	¼					Quarry blast ?
		i(Sg)	V	06 22	½			+		
268	14	(P)	VV'	08 04 52	1					Masked by microseisms.
		i(S)	E	15 43	5		+1			USCGS: 54.3N, 169.1E, H 07 51 51.0, h 34 km.ca.
		e	N	22 03	(21)					
		eLR	Z	33.1	33					
		M	NEZ	39	22	2	1	4		
269	14	(iP)	VV'	08 08 48	1½					Masked by microseisms.
		i	N	19 43	6	+1				USCGS: 54.2N, 169.3E, H 07 55 48.9 h 56 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Por.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	June 14	i(PKP)	VV'	08 50 25	1					(USCGS: 19.4N, 65.0W, H 08 30 53.2, h 64 km.ca.)
270	14	(P)	VV'	22 05 01	1½					Masked by microseisms.
		M	N	19.2	18	1				USCGS: 26.4N, 126.5E, H 22 14 10.9, h 22 km.ca.
		M	Z	19.5	20			1		
271	15			07.4	Surface waves, masked by microseisms.					USCGS: 20.4S, 70.9W, H 06 30 37.0, h 60 km.ca.
272	15	iP	VV'	12 01 28½	1			+		Compression. Galitzin record obscured by microseisms.
		i	V'	02 22	1			+		USCGS: 13.3S, 167.0E, H 11 56 19.3, h 211 km.ca.
	16	i(Pg)	V	02 04 57½	¼			-		Quarry blast ?
		i	V	05 01	½			+		
273	16	iP	VV'	06 31 53	1½			+		Compression. Galitzin record obscured by microseisms. USCGS: 26.6N, 126.4E, H 05 21 12.7, h 38 km.ca.
274	16	eP	V	06 35 18	1½					Galitzin record obscured by micros.
		e(sP)	V	36 15	1					USCGS: 0.2S, 122.8E, H 06 27 29.8, h 177 km.ca.
	16	(P)	VV'	17 53 51	1½					Masked by microseisms.
		(sP)	VV'	54 03	1½					USCGS: 16.6S, 167.7E, H 17 48 47.1, h 25 km.ca.
275	17	(P)	VV'	04 39 44						Masked by microseisms.
		M	E	05 07.1	19		1			USCGS: 40.1S, 45.7E, H 04 27 38.2, h 15 km.ca.
276	17	iP	VV'	13 28 07	1½			+		Compression. Microseisms present.
		i	VV'	28 31	2½			+		USCGS: 10.7S, 165.3E, H 13 22 21.4, h 106 km.ca.
		i	VV'	28 56	2			+		
		e	N	32 41	9					
		e	E	32 48	7					
277	18	iP	ZVV'	23 48 28	3			+4	3160ca	Compression.
		i(pP)	Z	48 35	4			+3	2894ca	h 0.00 ca.
		i	VV'	48 56	1½			+		USCGS: 4.8S, 151.8E, H 23 42 31.3, h 47 km.ca.
		e(S)	E	53 08	7					
		iS	NZ	53 11	4	-3		-2		
		e(sS)	N	53 27	9					
		i	N	54 54	6	+4				
		M	E	59.4	16		6			
		M	NZ	24 00.1	18	6		13		
278	19	iP	VV'	03 37 44	1½			+		Compression. Microseisms present.
		i	N	42 53	6	+2				USCGS: 5.6S, 151.5E, H 03 32 01.8, h 130 km.ca.
		eL	E	46.5	19					
		M	E	48.5	15		1			
		M	NZ	49.1	18	2		4		
		i	N	52 56	6	+3				
	19	ePg	V	06 19 11	¼					Quarry blast ?
		iSg	V	19 15	¼			-		
		i	VV'	19 18	½			+		
279	19	P	V	16 44 59	1					Masked by microseisms. USCGS: 20.9S, 177.8W, H 16 39 21.4, h 405 km.ca.
	20	(S)	N	00 17 08						Masked by microseisms.
		(sS)	N	18 37						USCGS: 19.4S, 175.4W, H 00 05 46.9, h 244 km.ca.
	20	(iP)	VV'	03 27 11	2			+		Masked by microseisms.
280	20	(i)	VV'	06 22 40				-		Microseisms present.
		i(P)	VV'	22 53				-		USCGS: 6.9S, 126.6E, H 06 16 22.6, h 272 km.ca.
		e	N	28 13						
	20	iPg	V	06 47 50½	¼			(+)		Compression? Quarry blast ?
		iSg	V	47 54½	½			-		
		i !	V	47 58	¾			+		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
281	June 21	(i)	E	05 09 12	5		-2			Masked by microseisms.
		M	E	53.4	18		2			USCGS: 5.7N, 82.6W, H 04 43 43.3, h 23 km.ca.
282	21	iP	VV'	08 44 48½	1½			+		Microseisms present.
		i	VV'	45 09	1½			+		USCGS: 20.8S, 175.6W, H 08 38 28.4, h 67 km.ca.
		i(S)	N	50 06	7	+3				
	21	(iP)	VV'	16 50 02	1½			+		Microseisms present.
		i	V	50 53	1½			+		(USCGS: 7.0S, 155.7E, H 16 45 19.6, h 69 km.ca.)
283	21	i	ZVV'	23 00 11	3			+4		Masked by large microseisms. USCGS: 7.4S, 130.1E, H 22 52 52.0, h 52 km.ca.
	22	iPg	V	06 11 12	½			-		Dilatation.
		iSg	V	11 15½	+			+		Quarry blast ?
	22	(eP)	V	11 59 44						Masked by microseisms.
		(S)	E	12 08 31						USCGS: 32.2N, 142.4E, H 11 48 55.3, h 25 km.ca.
284	23	iP	VV'	09 55 05	1			+	7050	Compression.
		i	ZVV'	55 05½	4			-5	63°4	Dilatation. Large microseisms present on Galitzin records.
		isP	VV'	55 20	1½			+		
		iS	N	10 03 34	7	+3				H 09 44 36
		iS	E	03 35	6		+3			
		i	Z	03 37	5			+5		USCGS: 25,7N, 128.5E, H 09 44 37.7, h 36 km.ca.
		iPS	NE	03 56	6	-3	+4			
		ePPS	E	04 07	(20)					
		e	N	04 46	11					
		iScS	N	04 53	7	+4				
		eLQ	E	10.6	31					
		eLR	Z	14.9	(24)					
		M	E	19.8	21		11			
		M	N	21.3	21	7				
		M	Z	22.6	20			25		
285	23	iP	VV'	10 08 31	1½			-		Dilatation. Galitzin record obscured by coda of no.284.
		iPcP	VV'	09 16	1½			+		USCGS: 19.1N, 121.4E, H 09 58 26.0, h 40 km.ca.
286	24	iP	VV'	01 33 06	1½			+		Compression. Galitzin record obscured by microseisms. USCGS: 25.6N, 101.1E, H 01 21 18.2, h 35 km.ca.
	24	(P)	V	03 07 26	1½					Masked by microseisms.
		i	VV'	08 06	1			+		USCGS: 6.8S, 146.8E, H 03 01 47.6, h 50 km.ca.
	25	(P)	VV'	01 36 57	1					Masked by microseisms. USCGS: 20.8S, 179.2W, H 01 31 41.9, h 645 km.ca.
	25	e(Pg)	V	06 10 02						
		i(Sg)	V	10 10½	½			+		
287	25	iP	VV'	11 20 57	2			+	7230	Compression.
		iP	NZ	20 59	4	+2		-5	65°1	Dilatation.
		isP	VV'	21 12	2			+		
		iPcP	VV'	21 22	2			+		USCGS: 24.3N, 122.6E, H 11 10 23.3, h 33 km.ca.
		e	Z	29 32	(15)					
		iS	N	29 35½	7	-7				
		i	E	29 41	6		-4			
		i	Z	29 47	6			-14		
		i	E	29 55	6		+6			
		iPS	N	29 59	4	+5				
		i	N	30 53	6	+6				
		i	Z	37 08	3			+6		
		i	Z	37 30	4			+7		
		eL	Z	41.5	(35)					
		M	Z	47.2	21			23		
		M	N	48.2	19	11				
		M	E	49.1	18		13			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
	June 25	eL Z	13 52.6	22					Perhaps W2 of no.287.
	26	ePg V	06 14 42						Quarry blast ?
		iSg V	14 46	¼			-		
		i VV'	14 49	½			+		
288	26	M E	10 10.8						Masked by large microseisms. USCGS: 7.1S, 149.6E, H 09 54 35.1, h 59 km.ca.
289	27	iP Z	03 35 47	2			-3		Dilatation. Large microseisms present.
		e N	40 37	7					
		i(SSS) N	42 09	6	+2				USCGS: 6.1S, 148.8E, H 03 30 01.9, h 55 km.ca.
		eL E	43.8	22					
		M E	46.5	18		5			
		M NZ	47.2	18	2		6		
		M NZ	53.6	11	2		6		
290	27	(P) Z	13 46 08						Masked by microseisms.
		(iS) N	52 19	4	-2				
		i Z	52 21	4			-3		USCGS: 48.0S, 99.6E, H 13 38 30.6, h 25 km.ca.
		e E	52 28	6					
		eL E	58.2	?					
		eL Z	58.5	27					
		M Z	59.9	20			3		
291	28	iP VV'	04 38 52	1½			+		Compression. Galitzin record masked by microseisms.
		e(S) N	48 22	?					
		M NE	05 10.4	13	½	½			USCGS: 20.0N, 155.6W, H 04 27 18.4, h 25 km.ca.
	28	ePg V	06 53 25	¼					Quarry blast ?
		iSg V	53 29	¼			-		
		i VV'	53 32	½			+		
292	28	e(L) E	10 35.1	17					
	28	(P) VV'	11 10 01						Masked by microseisms.
		(isS) E	16 26	4		-2			USCGS: 2.4S, 127.7E, H 11 02 50.5, h 72 km.ca.
293	28	iP ZVV'	18 58 15	2			+3	4700	Compression.
		ipP VV'	58 25	1½			-	4293	h 0.00, H 18 50 23
		i VV'	59 47	1½			+		
		iPcP VV'	19 00 11	1			-		USCGS: 0.2S, 124.3E, H 18 50 27.5, h 58 km.ca.
		eS E	04 33	3					
		eS N	04 34	6					
		eSS Z	07 37	14					
		i E	07 51	6		+4			
		i N	07 54	6	+2				
		(eL) E	10.4	(33)					
		eL Z	12.0	31					
		M EZ	15.5	22		3	3		
		M N	16.7	16	1				
294	29	iP VV'	00 57 15	¾			+		Compression. (USCGS: 15.1S, 166.9E, H 00 52 12.0, h 122 km.ca.)
295	29	iP VV'	13 55 56	1			+		Compression. Glaitzin record masked by microseisms.
		M NE	14 08.2	16	2	2			USCGS: 7.9S, 127.3E, H 13 49 16.9, h 80 km.ca.
296	29	(P) V	21 07 55						Masked by microseisms.
		e N	21.7						USCGS: 41.8S, 79.7E, H 20 58 16.6, h 33 km.ca.
		M EZ	27.0	20		1	3		
297	30	i V	19 40 09	1½			+		Masked by microseisms.
		M E	59.3	18		1			USCGS: 16.5N, 122.0E, H 19 29 51.0, h 40 km.ca.
		M Z	20 00.9	18			3		

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
	July 1	i ZVV'	01 25 59	4			-5		
298	1	iP VV'	01 37 18	1			+		Compression. Microseisms present.
		i(pP) VV'	37 40	1			+		
		iPP Z	38 02	4			+3		USCGS: 14.1S, 167.2E, H 01 32 11.0,
		i VV'	38 17	1½			-		h 156 km.ca.
		e E	41 42	?					
		e N	42 38	?					
299	1	(iP) VV'	05 13 42						Masked by microseisms.
		i N	17 32	4	+2				USCGS: 23.8S, 176.9W, H 05 07 37.0,
									h 25 km.ca.
300	2	eP V	08 38 15	1					
		iP ! VV'	38 16	1½			+		Compression.
		i Z	38 17	2			+1		h 0.005 ca.
		i VV'	38 40	1			+		
		isP ! VV'	38 42	1			+		USCGS: 10.3S, 165.9E, H 08 32 37.9,
		i Z	38 49	6			+8		h 50 km.ca.
		i NZ	38 55	7	+6		-9		
		iPP V	39 01	1½			-		
		ePPP V	39 13	3					
		i(S) N	42 40	7	+3				
		i(S) E	42 46	6		-5			
		i N	43 22	7	+4				
		i E	43 27	7		+7			
		i N	43 35	8	+8				
		iSS Z	43 53	6			-7		
		iSS N	43 56	6	+8				
		i E	43 59	6		+8			
		i Z	44 00	7			+10		
		i E	44 23	7		+6			
		eLR N	45.0	17					
		M E	46.5	17		7			
		M NZ	47.0	14,18	8		11		
301	3	(iP) Z	18 22 32	4			+4		Masked by microseisms.
		i(S) N	29 43	6	+3				USCGS: 56.3S, 142.5W (?), About
		i N	29 45	6		-3			600 miles west of Macquarie I.,(?)
		i N	29 52	5	+6				H 18 13 35.6, h 25 km.ca.
		eL Z	36.8	25					
302	3	i(S) N	18 39 36	4	+2				Masked by coda of no.301.
		i E	39 39	6		+4			
		i N	40 02	5	-6				USCGS: 54.6S, 132.3W, H 18 22 06.3,
		e E	46.3	15					h 25 km.ca.
		eL EZ	48.2	27					
		M Z	49.5	22			19		
		M NEZ	52.5	14,16	4	5	9		
	4	i VV'	05 31 03	1½			+		Large microseisms present.
	5	iPg V	06 36 10	¼			+		Compression. Quarry blast ?
		iSg V	36 14	½			-		
		i V	36 17	¾			+		
	5	(P) VV'	07 38 10						Masked by microseisms.
									USCGS: 11.3S, 166.5E, H 07 32 33.2,
									h 33 km.ca.
303	5	M NEZ	10 54.5	12	2	½	3		Masked by microseisms.
									USCGS: 0.6S, 139.0E, H 10 32 28.8,
									h 25 km.ca.
304	5	(iP) VV'	17 51 06	1½			+		Masked by microseims.
		M E	18 17.9	16					USCGS: 30.9N, 141.4E, H 17 40 55.3,
									h 23 km.ca.
305	6	e Z	02 39.8	?					Masked by microseisms.
		e(L) N	58.0	?					USCGS: 13.3N, 58.0E, H 02 12 19.9,
		e(L) Z	03 03.2	?					h 30 km.ca.
		M Z	09.6	?					
	6	i VV'	03 09 04	1½			+		
	6	(iP) VV'	12 19 04	1½			-		Masked by microseisms.
									USCGS: 16.5S, 174.1W, H 12 12 01.1

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
306	July 6	ePP	Z	23 23 45						Preceded by microseisms.
		ePP	NZ	23 46	7					h 0.03 ca.
		ipPP	EZ	24 18	5		-3	-7		
		i	Z	28 41	7			+7		USCGS: 36.6N, 70.4E, H 23 05 32.2,
		iSKS	N	29 25	5	+4				h 203 km.ca.
		iSKS	E	29 27	5		-4			
		iS	N	30 28	5	+3				
		e	E	30 33	9					
		i	NE	30 46	7	+5	-5			
		i	Z	32 04	5			+4		
		iSP	N	32 06	7	+9				
		e	Z	32 47	10					
		i	Z	33 03	5			-4		
		i	Z	33 12	5			-5		
		i	Z	33 30	6			+8		
		iPPS	N	33 37	7	+5				
		iPPS	EZ	33 39	6		-9	-11		
		iSS	N	37 53	8	+5				
		iSS	E	37 57	8		-7			
		i	Z	38 10	7			+7		
		i(PKPPKP)	Z	42 45	4			-7		
		M	Z	24 06.2	20			8		
		M	E	07.8	19		4			
307	7	iP	VV'	06 25 36½	1½			+	9770	Compression. Microseisms present.
		ipP	VV'	25 44½	1½			+	8799	H 06 12 50
		i	Z	25 47	2			+2		
		i	VV'	26 25	1½			+		USCGS: 51.3N, 178.6E, H 06 12 48.9,
		i	VV'	26 32	1½			-		h 60 km.ca.
		eSKS	N	36 01	6					
		eS	E	36 18	4					
		iScS	NE	36 21	4	-1	-2			
		eSS	N	42 08	9					
		eL	Z	53.5	(30)					
		M	NZ	57.6	21	1		2		
		M	E	07 00.4	19		1			
308	7	(P)	V	11 54 08						Masked by microseisms.
		i(PP)	VV'	55 19	1½			+		USCGS: 7.3S, 128.3E, H 11 47 19.4,
		M	NE	12 06.3	16	3	3			h 30 km.ca.
		M	Z	08.9	10			3		
309	8	(iP)	V'	23 00 33	2			+		Masked by microseisms.
		M	EZ	10.5	16		1	1		USCGS: 28.1S, 176.5W, H 22 54 44.7,
										h 25 km.ca.
310	9	(iPP)	Z	10 04 38	4			+4		Masked by large microseisms.
		eL	E	08.8	16					USCGS: 56.0S, 158.1E, H 09 59 07.8,
										h 25 km.ca.
311	9	eL	E	14 48.7	19					Masked by large microseisms.
										(USCGS: 44.0N, 147.8E, H 13 53 00.0,
										h 86 km.ca.)
	10	(P)	V	06 44 17						Local. Superposed on large micro-
		(S)	E	44 26						seisms.
312	11	(iP)	Z	12 49 45	3			+3		Obscured by large microseisms.
		M	E	13 09.8	18		2			USCGS: 11.9N, 122.1E, H 12 40 30.7,
										h 25 km.ca.
313	11	M	Z	17 06.4	21			4		Obscured by large microseisms.
										USCGS: 31.9S, 178.5W, H 16 52 44.8,
										h 37 km.ca.
314	13	(i)	V'	03 41 07						Obscured by large microseisms.
		i	VV'	41 13	1½			+		USCGS: 10.2N, 121.7E, H 03 32 12.6,
		e	N	48 14	(14)					h 157 km.ca.
		M	N	04 00.4	15	2				
315	16	(i)	VV'	02 09 13	1½			+		Large microseisms present.
		iP	Z	09 30	4			+3	2270	Compression.
		i	VV'	09 35	1½			+	2094	
		i	Z	10 05	4			+4		USCGS: 52.1S, 138.9E, H 02 04 52.6,
		i	VV'	10 10	1½			+		h 17 km.ca.

(Continued on next page)

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
315 cont.	July 16	eS	E	02 13 14	12					
		i	N	13 22	6	-2				
		e	Z	13 30	12					
		eLR	Z	14.4	25					
		M	EZ	15.4	13,22		24	19		
		M	NEZ	16.6	12	7	8	7		
		M	Z	17.7	12			11		
		M	N	18.3	12	10				
	16	i	V	05 44 35	1			+		
316	16	iP	ZVV'	09 31 07	1½			+2		Compression. Microseisms present.
		i	VV'	31 46	1			+		USCGS: 13.0S, 167.2E, H 09 25 55.4,
		i	VV'	32 23	1½			+		h 180 km.ca.
	17	i	V	01 21 24	1			-		
317	18	iP	VV'	06 00 57½	1			-		Dilatation. Galitzin record obscured by microseisms.
		i	VV'	03 01½	1½			+		USCGS: 9.6S, 119.8E, H 05 53 48.1,
										h 68 km.ca.
	18	iPg	V	06 28 25½	¼			+		Compression. Quarry blast ?
		Sg	VV'	28 29	½					
318	18	iP	V	09 30 17	1			+		Compression. Galitzin record obscured by microseisms.
										USCGS: 7.2S, 119.9E, H 09 23 37.5,
										h 588 km.ca.
	18	(P)	V	10 19 15						Masked by microseisms.
										USCGS: 15.3N, 148.1E, H 10 10 12.7,
										h 16 km.ca
	19	(P)	VV'	00 58 10	1					Masked by microseisms.
										USCGS: 5.1S, 153.6E, H 00 52 13.9,
										h 49 km.ca.
	19	iPg	V	06 36 12½	¼			+		Compression. Quarry blast ?
		iSg	VV'	36 16	½			+		
	20	e	V	06 17 17	½					Quarry blast ?
	20	iPg	V	06 30 01	¼			+		Compression. Quarry blast ?
		iSg	V	30 05	½			-		
		i	VV'	30 08	¾			+		
319	22	(iP)	VV'	00 22 28	1½			-		Masked by microseisms.
		i	VV'	22 56	1½			+		USCGS: 3.2S, 137.5E, H 00 16 07.2,
										h 104 km.ca.
320	22	i	VV'	00 29 58	1½			-		Masked by microseisms & coda of 319.
		i	N	32 23	7	+2				USCGS: 5.9S, 151.7E, H 00 21 30.9,
		eL	E	34.5	20					h 81 km.ca.
		M	NEZ	38.7	13-16	3	8	16		
		M	E	40.4	13		9			
321	22	iP	ZVV'	13 42 19	2			+2	2950ca	Compression.
		e(pP)	V	42 35	1				26½°ca	h (o.01), H 13 36 49 ca.
		e(sP)	V	42 51	1					
		iPP	VV'	43 05	1			+		USCGS: 8.4S, 158.8E, H 13 36 49.7,
		eS	E	46 43	5					h 107 km.ca.
		i	N	46 59	4	+1				
		iSS	E	47 55	5		+2			
		eSS	Z	47 56	5					
		eSSS	Z	48 19	7					
		M	E	52.6	11		1			
	22	(iP)	V'	18 15 05	1½					Masked by microseisms.
										USCGS: 24.0S, 180.0, H 18 09 57.7,
										h 634 km.ca.
322	22	(i)	V	23 56 30						Masked by microseisms.
		i(S)	N	24 00 41	4	+1				USCGS: 3.5S, 145.6E, H 23 49 27.0,
		eL	E	06.2	18					h 28 km.ca.
		M	EZ	10.0	13		1	1		
		M	N	10.3	10	1				

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
323	July 23	(eP)	V	23 14 23	1					Masked by microseisms.
		i !	V	17 09	2			+		USCGS: 14.1S, 166.8E, H 23 09 12.4, h 99 km.ca.
324	24	e	E	21 50.4	16					Masked by microseisms. (USCGS: 15.5N, 92.5W, H 21 08 22.6, h 129 km.ca.)
	25	i	V	00 34 48	1			-		Non-seismic ?
325	25	M	EZ	05 49.2	18		1	2		Masked by microseisms. USCGS: 18.9N, 81.1W, H 04 37 50.7, h 64 km.ca.
	26	Pg	V	06 18 51½	¼					Quarry blast ?
		iSg	V	18 55	½			-		
		i !	V	18 58½	¾			+		
326	26			07.3	Surface waves.					USCGS: 5.3S, 150.8E, H 07 01 01.8, h 71 km.ca.
327	26	(PKP)	V	08 33 41						Large microseisms present.
		i	V	33 50						
		iPP	Z	35 32	5			-7		Dilatation.
		i	ZVV'	35 39	4			+10		
		i	E	35 42	5		+5			NS Galitzin defective.
		i	Z	36 16	6			+10		
		iPKS	Z	37 11	5			+10		USCGS: 7.5N, 82.7W, H 08 14 41.8, h 21 km.ca.
		iPPP	Z	38 10	5			-5		
		i	E	38 16	6		+4			
		i	Z	38 29	6			+10		
		i	Z	39 11	5			+6		
		eSKS	E	40 58	8					
		i	Z	42 33	6			+7		
		eSKKKS	E	42 37	8					
		iPS	EZ	45 38	10		+14	+9		
		i	N	45 45	9	+				
		i	Z	45 53	9			+15		
		i	Z	46 33	4			+6		
		i(PPS)	E	46 42	9		+9			
		i	E	46 58	9		+9			
		i	E	47 52	10		+12			
		i	Z	47 56	10			+23		
		i	Z	51 11	4			-9		
		e	E	51.6	22					
		iSS	E	52 48	16		+20			
		e	E	56.6	22					
		e	Z	56.7	28					
		iSSS	E	57 14	15		-24			
		iSSS	Z	57 17	14			-21		
		i	Z	58 08	12			+24		
		eLR	E	09 12.2	36					
		eLR	Z	12.7	36					
		M	NZ	19.2	18			76		
		M	E	19.8	18		35			
328	27	iP	VV'	19 31 38	1			-		Dilatation. Microseisms present. USCGS: 13.2S, 167.1E, H 19 26 34.6, h 286 km.ca.
329	28	eP	VV'	00 12 16						Microseisms present.
		i	Z	14 07	5			+5		USCGS: 16.2S, 173.2W, H 00 05 10.8, h 40 km.ca.
		e	NZ	20.8	18					
		eL	Z	22.6	25					
		i(ScS)	N	22 38	4	+3				
		eL	E	23.1	24					
		M	N	26.1	11	2				
		M	EZ	26.3	18		2	8		
	28	e(P)	V	06 01 05						Local.
		e	V	01 26						

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
330	July 28	iP	VV'	23 43 08	1			+		Compression. Large microseisms
		e(L)	N	46.7	12					present.
		i(ScS)	N	55 10	4	+2				
		eT	V	59 28	½					
		T max.	VV'	24 00.0	½					
331	29	i(P)	VV'	18 24 20	1½			+		Masked by microseisms.
		e(L)	N	27.9	12					
	30	e	V	00 24 41½	½					Local.
		e	V	25 21	½					
332	30	M	N	16 14.6	12	1				Masked by microseisms.
333	30	iP	Z	17 23 04	4			+7	3450ca.	Compression. Large microseisms
		i	VV'	33 05	1			-	31°ca.	present.
		i	VV'	23 07	1½			+		Galitzin record difficult to read
		isP	ZVV'	23 11	4			+7		after P.
		i	V	23 15	1			+		
		i	VV'	23 17	1½			-		USCGS: 3.3S, 143.9E, H 17 16 44.4,
		i	NZ	23 20	5	+5		-13		h 25 km.ca.
		iPP	Z	24 06	5			+20		
		iPPP	VV'	24 17	2			+		
		i	VV'	24 31	2			+		
		iPcP	VV'	26 05	2			+		
		i	E	26 39	4		+6			
		i	E	26 52	6		+8			
		i	E*	26 57	4		-			* From Mainka.
		i	E*	28 35	5		-			
		i	E*	28 39	5		-			
		i	E*	31 05	5		-			
		i	E*	31 25	5		+			
		i	N*	31 27	5	-				
		i	E*	31 54	6		+			
		i	N*	32 52	7	-				
		M	E*	35.5	17		1100ca.			
		M	VV'	37.6	16					
		M	E*	38.5	13		680ca.			
		M	N*	38.6	13	630ca,				
	30	i	VV'	19 19 35	1½			+		(USCGS: 6.6N, 73.0W, H 18 57 50.7,
										h 204 km.ca.)
334	30	i(P)	VV'	20 34 31	1½			+		Compression. Microseisms present.
		ePKP	VV'	37 53	1					
		i	VV'	37 57	1½			+		USCGS: 5.0N, 76.3W, H 20 18 49.3,
		i	VV'	39 11	2			+		h 45 km.ca.
		iPP	Z	39 56	6			+4		
		i	Z	40 45	5			+8		
		i	Z	43 28	4			+7		
		e	N	48 57	14					
		iPS	E	49 59	7		+4			
		ePS	Z	50 00	16					
		iPPS	Z	51 40	6			-6		
		eSS	N	57 16	(20)					
		eLQ	N	21 12.3	(31)					
		M	NEZ	23.7	19	4	7	11		
335	31	i	V	02 27 38	1½			+		Masked by large microseisms.
		eL	E	35.4	(22)					USCGS: 3.2S, 144.1E, H 02 19 02.5,
		M	E	37.6	18		6			h 20 km.ca.
		M	Z	39.6	16			6		
		M	N	40.0	15	6				
	31	Pg	V	06 16 21	¼					Quarry blast ?
		iSg	V	16 25	½			+		
		i	V	16 28	¾			+		
336	31	M	E	05 49	18					Masked by large microseisms.
										USCGS: 18.8N, 120.8E, H 05 13 04.1,
										h 39 km.ca.

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A. Fynn, S.J., Director.

P. F. Rheinberger.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1962			h m s	s	μ	μ	μ	km.	
337	Aug. 1	(iP)	Z	03 55 08	4			+		Masked by large microseisms.
		M	Z	04 06.0	?					USCGS: 27.0S, 176.4W, H 03 49 11.9,
		M	NE	06.7	?					h 33 km.ca.
338	1	(iP)	Z	04 43 15	4			+8		Masked by large microseisms.
		i	NZ	43 20	5	+6		-17		Galitzin record difficult to read.
		i	VV'	43 21	1½			+		
		iPcP	NZ	46 15	5	+6		-14		USCGS: 3.2S, 143.7E, H 04 36 57.6,
		i	VV'	46 17	1½			+		h 33 km.ca.
		e	N	48 35	(12)					
		i	NE	49 09	6	+7	-13			
		e	N*	49 11	10					* From Mainka.
		M	E*	55.9	18		320			
		M	E*	56.7	13		260			
		M	N*	56.8	12	82				
		M	N*V	59.1	13	190				
339	3	i(P)	VV'	09 11 07	1			+		Compression. Large microseisms
		iPKP	VV'	14 32	2			+		Compression. present.
		iPKP	Z	14 33	4			+3		
		iPP	VV'	15 23	2			+		USCGS: 23.2S, 67.5W, H 08 56 12.1,
		iPP	Z	15 25	4			-19		h 71 km.ca.
		iPP	NE	15 26	4	-4	+5			
		iSKS	N	21 13	7	-4				
		iSKKS	N	22 06	4	+4				
		iPS	Z	25 03	7			+11		
		iPS	N	25 04	7	-7				
		i	N	25 34	7	+7				
		e	N	25 47	15					
		i	N	26 53	7	+5				
		eSS	N	31 02	12					
		i	N	31 13	7	-5				
		e	E	31 20	20					
		e	N	31 28	21					
		e	E	35 53	15					
		eLQ	E	43.3	22					
340	3	iP	VV'	10 10 09	1			+		Compression.
		i(pP)	VV'	10 30	1½			+		USCGS: 10.1S, 161.2E, H 10 04 44.6,
										h 40 km.ca.
341	3	iP	VV'	10 21 04	1			+		Compression. Galitzin record
		i	V	21 15	1½			+		obscured by large microseisms.
		eL	N	26.5	18					USCGS: 23.3S, 171.2E, H 10 16 26.7,
		M	N	29.2	12	4				h 39 km.ca.
		M	Z	29.4	14			5		
		M	E	29.8	14		3			
	4	(iP)	VV'	05 46 04	1			+		Masked by microseisms.
										USCGS: 17.4S, 174.7W, H 05 39 20.7,
										h 135 km.ca.
342	5	iP	ZVV'	15 13 50	2			-2		Dilatation.
		i	VV'	13 51	1			+		USCGS: 13.7S, 166.6E, H 15 08 34.1,
		i	VV'	13 58	1			+		h 60 km.ca.
		i(sP)	VV'	14 12	1½			+		
		i	VV'	14 19	1			+		
		i	VV'	14 25	1½			-		
		i	VV'	14 34	1½			+		
		e	N	18 24	14					
		eL	Z	20.4	20					
		M	NEZ	22.1	15-21	1	1	2		
343	6	(ePKP)	V	01 55 40						Masked by microseisms.
		ePP	Z	02 00 37	7					USCGS: 32.0N, 40.8W, H 01 35 30.5,
		i	N	05 26	5	-1				h 48 km.ca.
		M	EZ	03 07.6	19		1	2		
		M	N	08.9	19	1				
344	6	iP	VV'	15 32 22	¾			+		Compression.
										USCGS: 15.3S, 167.5E, H 15 27 20.0,
										h 120 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1962			h m s	s	μ	μ	μ	km.	
345	Aug. 6	iP	Z	20 57 48	4			+4	(3080)	Compression. Microseisms present.
		i	VV'	57 49	1½			-	(27°7)	
		i(sP)	Z	58 07	6			-5		USCGS: 26.9S, 177.1W, H 20 51 56.8,
		i(PP)	Z	58 36	4			+3		h 50 km.ca.
		i(PPP)	EZ	58 45	5		-3	+9		
		e	Z	58 54	14					
		i	E	59 02	4		-4			
		i	N	59 07	4	+2				
		i	EZ	59 09	4		+5	-4		
		i	Z	59 18	4			+5		
		e	N	59 47	10					
		e(S)	E	21 02 26	?					
		i	N	02 44	7	+3				
		i	E	02 54	7		+3			
		i	N	03 08	8	+4				
		i	N	03 39	8	+4				
		eL	Z	04.8	29					
		M	NEZ	06.8	19-21	7	6	29		
		M	N	09.4	13	8				
	8	(iP)	V	03 13 12	1½			+		Masked by microseisms.
										USCGS: 12.2N, 92.5E, H 03 01 52.4,
										h 33 km.ca.
	8	iPg	V	05 59 48	½			+		Compression.
		i(Sg)	V	59 56½	½			-		
		i !	V	06 00 00	¾			+		
346	8	(iP)	V	09 25 09	1½			+		Masked by microseisms.
		i	VV'	26 12	1½			-		USCGS: 16.4S, 179.5W, H 09 19 22.4,
										h 493 km.ca.
347	8	(P)	Z	13 39 53	?					Masked by microseisms.
		i	E	39 56	3		+1			USCGS: 18.0S, 168.1E, H 13 35 11.2,
		i	VV'	40 15	1			+		h 33 km.ca.
		e	N	44 11	9					
		M	N	47.1	17	1				
348	8	eL	NE	23 41	15					Masked by microseisms.
	9	e	V	00 37 48	½					Local.
		e	V	00 40 12	½					"
		i	V	40 31	¾			+		
		e	V	00 41 57	½					"
		e	V	02 19 47	¼					"
	10	iPg	V	06 09 05½	½			+		Compression. Quarry blast ?
		i(Sg)	V	09 09	½			-		
		i	V	09 12½	¾			-		
		i	V	09 14	¾			+		
349	11	iP	ZVV'	01 53 02½	2			+2	3290	Compression. Microseisms present.
		i	V'	53 04½	1½			+	29°6	h 0.09 ca., H 01 47 43
		i	N	54 32	2	-1				
		i(pP)	Z	54 36	2			+2		USCGS: 20.0S, 178.8W, H 01 47 39.6,
		iS	N	57 18	5	-6				h 638 km.ca.
		e(sS)	N	02 00 18	7					
		i	N	00 36	7	+4				
		iScS	NE	02 30	4	-4	+5			
		i	N	06 46	5	+2				
350	11	i(PP)	Z	06 56 09	4			+3		Masked by microseisms.
		e	E	07 00 23	18					USCGS: 15.7S, 172.9W, H 06 47 41.7,
		e	N	03 10	15					h 157 km.ca.
		M	N	06.4	15	2				
		M	EZ	09.7	16		2	3		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
351	Aug.11	(iP)	V	08 26 07	1½			+	7220ca.	Large microseisms present.
		iP	Z	26 10	5			+5	65°ca.	Compression.
		ipP	NZ	26 40	4	+3		-9		h 0.015 ca.,
		i	VV'	26 41	1½			+		
		isP	VV'	26 51	1½			+		USCGS: 25.2N, 123.3E, H 08 15 43.7,
		i	Z	27 15	3			+4		h 140 km.ca.
		i	Z	34 38	4			+6		
		iS	NE	34 39	7	+7	+3			
		i	Z	34 50	6			+11		
		isS	NE	35 32	7	-7	-6			
		iScS	NE	35 48	4	+7	+6			
		i	E	35 54	4		+6			
		i	N	36 33	6	+4				
		i	N	36 53	7	+6				
		i	N	38 43	7	+6				
		i	N	39 44	8	+8				
		i	N	42 04	8	+6				
		e	E	42 36	18					
		M	NEZ	52.9	18	5	4	6		
352	13	(PKP)	V	06 54 36						Masked by large microseisms.
		e	N	07 02 24						USCGS: 2.1N, 83.5W, H 06 35 56.0,
		eL	Z	32.6	20					h 33 km.ca.
		M	Z	37.1	19			3		
		M	NE	37.9	18	1	½			
	13	(iP)	Z	14 52 29	3			+2		Masked by microseisms.
		(i)	Z	52 46	3			+2		USCGS: 1.9N, 127.5E, H 14 44 33.3,
										h 33 km.ca.
353	14	iP	NZVV'	01 15 04	3	+6		+9	2050ca.	Compression.
		isP	ZV	15 16	4			+8	18½°ca.	
		iPP	VV'	15 24	1½			+		USCGS: 49.9S, 163.0E, H 01 10 50.5,
		i	NZ	15 47	3	+4		+6		h 43 km.ca.
		i	Z	16 08	3			+7		
		i	Z	16 24	3			-6		
		eS	E	18 27	(13)					
		i	N	18 34	10	+13				
		isS	E	18 40	7		-19			
		i	Z	18 42	10			-25		
		i	E	18 46	13		+33			
		M	NE	19.4	13	22	12			
		M	Z	19.8	13			16		
		eT	V	33.1	½					
		T max.	V	33.9	½					
	14	i(Pg)	V	06 14 11	¼			(-)		Quarry blast ?
		i(Sg)	V	14 15	½			+		
354	17	(i)	VV'	00 38 34	1½			+		Masked by microseisms.
		M	Z	53.3	15			2		USCGS: 15.8S, 172.9W, H 00 32 26.9,
355	17	iP	VV'	05 13 43	1½			+	(6040)	Compression. h 33 km.ca.
		i	Z	13 46	4			+3	(5493)	h (0.01), H (05 04 24)
		i	VV'	13 48	1			+		
		i	VV'	13 49	2½			+		USCGS: 10.6N, 121.6E, H 05 04 31.5,
		i(pP)	V	14 05	1½			-		h 33 km.ca.
		i	V	14 28	1½			+		
		i	Z	14 29	4			+5		
		i(PcP)	V	14 43	1½			+		
		iPP	V	15 48	1½			+		
		iPP	Z	15 51	4			+4		
		iS	N	21 11½	5	+3				
		i	E	21 19	4		-3			
		i(PS)	N	21 35	4	+3				
		i(ScS)	N	23 23	4	+3				
		i	N	25 32	6	+6				
		i	N	26 31	4	-3				
		e	Z	26.6	16					
		M	Z	34.3	13			5		
		M	N	35.2	13	5				

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Aug.17	Pg	V	06 42 42	¼					Quarry blast ?
		iSg	V	42 45½	¼			-		
	18	e(P)	V	03 59 41	½					Local.
		i(S)	VV'	59 47	¾			-		
		i	VV'	59 50	1			+		
	18	(P)	VV'	04 06 50	1					Masked by microseisms.
										USCGS: 21.9S, 179.3W, H 04 01 33.5, h 516 km.ca.
356	18	eL	N	05 58.7	19					Masked by microseisms.
		M	N	06 00.4	13	½				USCGS: 3.5S, 150.5E, H 05 42 02.8, h 19 km.ca.
		M	Z	00.6	13			1		
		M	E	01.9	12		½			
		i	Z	03 22	4			+3		
357	18	i	VV'	06 20 50	1½			+		Masked by microseisms.
		i	VV'	20 58	1			+		
		eL	N	29.7	19					
358	18	i	VV'	07 21 10	1½			+		Masked by microseisms.
		M	N	31.8	13	1				USCGS: 4.7S,
359	18	e(L)	N	08 39.8						Masked by microseisms. 150.2E, h 82km.
	18	i	VV'	14 22 56	1½			+		Masked by microseisms. H 08 22 13.3
		i	VV'	25 58	1½			+		
360	18	eL	N	20 55.8						Masked by microseisms.
										USCGS: 22.7S, 173.1E, H 20 44 27.2, h 82 km.ca.
361	18	iP	V	22 55 26	1			-		Masked by microseisms.
		i	V	55 58	1½			-		USCGS: 7.3S, 156.1E, H 22 49 47.5, h 60 km.ca.
		M	N	23 06.2	13	1				
		M	Z	09.2	13			1		
	19	i	VV'	10 45 55	1½			-		Microseisms present.
		i	VV'	46 16	1½			+		USCGS: 6.8S, 149.5E, H 10 39 44.5,
362	19	i(P)	NZ	18 40 14	3	+1		+2		Masked by microseisms. h 33 km.ca.
		M	NZ	19 29.0	21	1		2		USCGS: 44.6N, 81.7E, H 18 26 38.6, h 33 km.ca.
363	20	eL	N	23 20.2						Masked by microseisms.
364	21	eL	N	16 24.8						Masked by large microseisms.
365	21	(iPP)	N	18 42 23	4	+3				28.2S, 176.7W, H 16 10 08.7, 57 km.ca. Masked by large microseisms.
		M	N	19 50.5	28	2				USCGS: 41.4N, 15.5E, H 18 19 33.3, h 34 km.ca.
366	21	(i)	VV'	21 11 50	1½			+		Masked by large microseisms.
		eL	N	18.5	16					USCGS: 28.7S, 176.8W, H 21 06 00.1, h 55 km.ca.
		M	N	22.3	15	15				
		M	E	22.5	16		5			
		M	Z	23.0	16			20		
	21	i	N	21 58 28	4	-3				Large microseisms present.
		i	Z	59 19	4			+6		
367	22	eL	Z	05 43.6	?					Masked by large microseisms.
		M	Z	46.2	15			2		USCGS: 28.6S, 176.7W, H 05 29 26.6, h 55 km.ca.
		M	NE	47.3	15	1	2			
	23	i	VV'	03 10 05	1½			+		Large microseisms present.
	23	ePg	V	06 58 23½	¼					Quarry blast ?
		iSg	V	58 27½	¼			-		
		i	N	58 28	¾	+2				
		i !	V	58 31	½			+		
	23	iPg	V	06 58 37	¼			+		Compression. Quarry blast ?
		iSg	V	58 41	¼			-		
		i !	V	58 44½	½			+		
	23	i	VV'	13 09 08	1½			+		Microseisms present.
		i	VV'	10 27	1½			+		USCGS: 17.5S, 178.7W, H 13 03 44.5, h 571 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Aug.23	(eP)	VV'	21 05 51	1					Masked by microseisms. USCGS: 56.1S, 26.6W, H 21 52 51.8, h 33 km.ca.
368	24	(iP)	VV'	06 52 15						Masked by microseisms.
		i	VV'	52 22	1			-		USCGS: 24.5S, 178.8E, H 06 47 08.1, h 526 km.ca.
		i	N	55 53	3	-1				
		M	NE	07 03.2	12	1	½			
369	24	(P)	VV'	09 11 27						Masked by microseisms.
		e	N	17 04	(15)					USCGS: 15.0S, 173.3W, H 09 04 22.9, h 33 km.ca.
		e	E	17 37	15					
		i(L)	N	20 12	13	+8				
		M	N	24.6	13	7				
		M	EZ	24.8	17		4	8		
370	25	iP	ZVV'	08 37 14	2			-4	3270	Dilatation.
		i	V	37 43	1½			+	29°4	h 0.08, H 08 31 53
		i(pP)	VV'	38 46	2			+		
		i !	VV'	38 48	2			+		USCGS: 20.5S, 178.5W, H 08 31 48.7, h 561 km.ca.
		i(pP)	Z	38 48	2			-5		
		i	E	38 49	3		-3			
		i	Z	38 59	3			+5		
		i	VV'	39 02	2			+		
		i	VV'	39 54	2			-		
		iPcP	V	40 04	1½			-		
		iS	N	41 31	6	-10				
		i	E	41 33	4		+3			
		i	E	41 37	6		-7			
		i	N	41 52	6	+4				
		i(sPcP)	VV'	42 50	1½			+		
		i	N	44 26	7	-4				
		i	E	44 38	6		+2			
		i	Z	44 43	7			+7		
		i	N	44 44	7	+5				
		i	N	45 05	7	+5				
		M	N	46.3	13	6				
		iScS	NE	46 49	4	-14	+9			
	25	i	VV'	18 31 35	1½			+		
371	26	e	N	07 16.9	(18)					Masked by microseisms.
		M	Z	27.7	16			2		USCGS: 34.0N, 139.2E, H 06 48 57.1, h 38 km.ca.
		M	N	29.2	15	1				
372	26	(iP)	Z	23 36 57	4			+2		Masked by microseisms.
		e	N	42 42	12					USCGS: 3.7S, 140.1E, H 23 30 38.0, h 50 km.ca.
		M	E	48.5	15		6			
373	27	(i)	V	23 26 41	1					Regional shock. Masked by microseisms.
		M	VV'	27 33	2					
374	27	i	V	23 34 54	1			+		Masked by microseisms.
		i	VV'	34 58	1			+		USCGS: 6.0S, 149.5E, H 23 28 45.2, h 48 km.ca.
		i	N	38 54	5	-4				
375	28	(i)	Z	11 18 39	4			-3		Masked by large microseisms.
		iPKP	VV'	19 09	1½			+		Compression.
		iPKP	Z	19 11	4			+7		h (0.01)
		i	VV'	19 14	1½			+		
		iPP	Z	22 04	4			-7		USCGS: 38.0N, 23.1E, H 10 59 58.5, h 120 km.ca.
		i	V'	22 06	2			+		
		i(sPP)	VV'	22 36	2			+		
		i(sPP)	Z	22 37	4			-5		
		iPKS	E	22 49	4		-3			
		i	Z	23 07	4			-4		
		i(SKS)	N	25 54	4	+3				
		i	Z	35 30	5			-3		
		i(SS)	N	40 24	5	-3				
		i(SS)	Z	40 29	5			+7		
		eL	N	12 00.7	(27)					

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Aug.29	iP	V	00 43 37	½			+		Local.
		e	V	43 52	½					
	29	i	V	02 02 02	1			-		Seismic ??
376	29	(i)	Z	03 21 37	3			+3		Masked by large microseisms.
		i	Z	22 09	4			+4		
		i	E	25 46	3		+2			
		i	E	25 59	4		-3			
		i	Z	26 05	4			+5		
		i	N	26 25	5	+7				
		i	E	26 34	4		+5			
		M	NZ	29.1	13	3		6		
377	30	(P)	VV'	17 24 34						Masked by large microseisms.
		i(P)	Z	24 35	5			+3		USCGS: 21.2S, 174.4W, H 17 17 51.9, h 33 km.ca.
		e	N	32 44	15					
		eL	Z	33.9	24					
		M	NZ	36.2	13,18	4		10		
		M	E	37.2	17					
378	31	iP	VV'	10 40 16	1			-		Dilatation. Large microseisms present. EW Galitzin defective. USCGS: 15.4S, 177.3W, H 10 33 30.2, h 60 km.ca.
		(S)	E	45 17	5					
		e	N	48 05	?					
		eL	N	48.8	18					
		M	Z	51.1	19			6		
		M	N	51.6	15	5				
379	31	iP	ZVV'	17 15 35½	2			+3	9450	Compression. Large microseisms present. EW Galitzin defective. USCGS: 51.3N, 179.7W, H 17 02 43.4, h 26 km.ca.
		i	N	25 08	3	-1			859	
		iS	N	26 02	6	+3				
		i	N	26 42	6	+3				
		eL	N	45.4	20					
		eL	Z	47.2	22					
		M	Z	53.0	19			6		
		M	N	54.3	19	5				

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A. Fynn, S.J., Director.

P. F. Rheinberger.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
380	Sept.1	iP	VV'	03 58 57	1			+		Compression. Galitzin record masked by large microseisms.
		i(sP)	VV'	59 12	1½			-		USCGS: 51.3N, 179.7W, H 03 46 05.0,
		i	VV'	59 25	1½			-		h 25 km.ca.
		e	N	04 09 47						
		i	N	09 52	5	+3				
		ePS	Z	10 49	13					
		eL	Z	30.2	22					
		eL	N	30.6	22					
		M	NZ	38.0	19	3		6		
381	1	iP	NEZVV'	04 57 05	4	+5	+(4)	-17	2660	Dilatation.
		i	V	57 07	1			+	2399	h 0.03 ca., H (04 52 10)
		i	V	57 11	1½			+		EW Galitzin defective ?
		i	N	57 36	5	+7				
		i	Z	57 37	4			+5		USCGS: 15.9S, 168.2E, H 04 52 14.5,
		i	E	57 49	3		+(4)			h 244 km.ca.
		i	VV'	57 59	1½			+		
		i	E	05 00 33	4		+(5)			
		iS	NE	01 02	6	-19	-(7)			
		i	Z	01 14	4			-6		
		i	Z	01 22	5			-17		
		i	N	01 59	5	-9				
		i	E	02 22	5		-(8)			
		i !	N	02 24	7	-25				
		i	Z	02 29	4			+5		
		i !	Z	02 37	7			+60		
		i !	N	02 46	7	+30				
		eL	Z	03.6	20					
		i	N	03 53	7	+14				
		M	N	05.7	13	14				
		iScS	E	07 48	4		+(8)			
382	1	iP	VV'	08 03 58	1			+		Compression. Galitzin record masked by microseisms.
		i(pP)	VV'	04 14	2			+		USCGS: 51.3N, 179.9W, H 07 51 08.2,
		eL	N	33.4	22					h 42 km.ca.
		eL	Z	34.4	22					
		M	NZ	36.6	22	4		5		
383	1	iPP	Z	19 40 29	4			+3		Compression. Microseisms present.
		iPP	VV'	40 32	2			+		
		i	Z	40 45	4			+10		USCGS: 35.6N, 50.0E, H 19 20 38.5,
		e	Z	46 12	7					h 21 km.ca.
		iSKS	NE	46 32	6	+3	-4			
		i	N	47 48	7	+5				
		i	E	47 48	7		-4			
		i	Z	48 07	6			-7		
		i	N	48 30	7	-4				
		iPS	E	50 21	9		+6			
		i(SPSP)	Z	50 27	7			+15		
		i	N	50 43	9	+6				
		i	E	50 56	9		+9			
		i	N	51 18	8	+5				
		eSS	N	56 42	10					
		eL	N	13.9	40					
		eL	Z	19.5	33					
		M	EZ	30.1	21		14	35		
		M	NZ	32.0	20	15		34		
384	2	(iP)	VV'	15 29 04	1½			-		Masked by microseisms.
		i	VV'	29 06	2			+		
		i	VV'	30 02	1½			+		USCGS: 10.2S, 120.3E, H 15 21 55.0,
		i	Z	30 04	4			+3		h 33 km.ca.
		eL	Z	43.0	25					
		M	NZ	44.3	13,21	5		14		
385	2	i(P)	Z	20 21 57	3			+3		Compression. Masked by microseisms.
		i	VV'	21 58	1½			-		USCGS: 38.5S, 179.8W, H 20 16 41.7,
		eL	N	27.2	16					h 33 km.ca.
		eL	Z	29.0	24					
		M	NZ	30.5	18	3		4		

No.	Date	Phase & Component	Time (G.M.T.)	Por.	Amplitudo AN	Amplitudo AE	Amplitudo AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
386	Sept.2	iP VV'	24 03 17	1			+		Compression. Galitzin records obscured by microseisms. h 470 km.ca.
		i(PP) V	04 50	1½			-		USCGS: 7.0S, 124.8E, H 23 56 53.6/
387	6	o(S) N	11 23 51	12					Masked by microseisms.
		oL N	27.3	21					USCGS: 4.0S, 126.4E, H 11 10 50.3,
		M NEZ	34.8	15	5	4	7		h 33 km.ca.
	6	(iP) VV'	15 08 31	1			-		Masked by microseisms. h 95 km.ca.
									USCGS: 8.4S, 158.8E, H 15 03 01.9,/
	7	(iP) V	07 14 23	1			+		Masked by microseisms. h 216 km.ca.
									USCGS: 3.2S, 128.0E, H 07 07 27.8,/
	7	i VV'	07 47 43	1½			+		
388	7	iP ZVV'	07 48 17	2			-2		Dilatation. Microseisms present.
									USCGS: 6.3S, 130.0E, H 07 41 51.0,
									h 180 km.ca.
389	10	iP ZVV'	15 49 13	3			+4	3160	Compression.
		i E	49 15	3		+		2894	h 0.09, H 15 44 04
		i(pP) EZ	50 52	4		-	+3		EW Galitzin defective.
		i V	50 55	1½			+		
		i(sP) VV'	51 50	1			+		USCGS: 21.1S, 179.2W, H 15 43 59.4,
		i V	52 01	1			-		h 640 km.ca.
		i(PcP) Z	52 07	7			-8		
		i N	52 11	6	+2				
		iS N	53 20	7	+4				
		i EZVV'	53 23	4		+	+8		
		i N	53 43	5	-3				
		iScP ZVV'	54 45	4			+5		
		i VV'	56 07	1½			+		
		i ! NEZ	56 35	10	-17	+	-9		
		iScS NE	58 42	4	-7	-			
390	10	M NZ	18 08						USCGS: 17.5S, 173.6W, H 17 49 16.1,
									h 33 km.ca.
391	12	o N	18 11 15						
		oL E	33.2	27					Masked by microseisms.
		M NE	36.5	16	6	11			USCGS: 4.4S, 145.4E, H 18 18 42.9,
		M Z	37.2	16			10		h 32 km.ca.
		M NZ	38.7	14	9		11		
392	12	o E	21 25.1						
		M NEZ	58.0	24	4	5	9		Masked by microseisms.
	13	oPg V	06 01 38	¼					USCGS: 36.5N, 69.2E, H 20 57 00.4,
		iSg V	01 42	¾					h 50 km.ca.
393	14	e(L) N	16 04.8				+		Quarry blast.
394	14	iP ZVV'	18 23 40	2					USCGS: 17.9S, 176.5E, H 15 52 41.2,
		eS N	28 20	9			+3	3450ca.	h 33 km.ca.
		e N	30 58	10				31°ca.	Compression. Large microseisms on
		i Z	31 07	6					Galitzin.
		iScS N	33 34	4	-2		+4		h 0.05 ca.
395	15	iP VV'	23 03 07	1½					USCGS: 19.9S, 177.6W, H 18 17 52.1,
		e(ScS) N	13 32	?			+		h 350 km.ca.
		M NE	36.5	20	5	3			Compression. Large microseisms present
396	17	(iP) Z	18 01 03	2					USCGS: 48.5N, 156.8E, H 22 50 46.3,
		e(S) E	05 15	9			+		h 33 km.ca.
		i E	08 21	5					Masked by large microseisms.
		i N	08 23	7	-4	-3			USCGS: 21.0s, 179.1W, H 17 55 45.4,
		i E	08 27	6					h 601 km.ca.
		i N	08 43	6	+4	+4			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
397	Sep.18	i	Z	00 50 15	5			+5		Masked by large microseisms.
		e	N	58 18	10					
		ePS	EZ	59 59	10					USCGS: 7.5N, 82.3W, H 00 29 05.2, h 33 km.ca.
		e	N	01 00 05	11					
		e	Z	02 18	15					
		eSS	E	07 09	22					
		eSSS	E	11 03	20					
		eLQ	N	21.8	30					
		eLR	E	27.3	35					
		M	NEZ	32.2	19	4	14	21		
		M	EZ	37.9	18		10	19		
		M	NE	40.1	17	6	12			
		W2 M	Z	02 35	21			6		
398	18	e(S)	E	06 24 57						Masked by microseisms.
		eL	E	33.1	25					USCGS: 2.3N, 126.9E, H 06 10 26.3, h 33 km.ca.
		M	Z	38.9	19			5		
399	18	M	N	20 23.9	14	2				USCGS: 21.0S, 169.9E, H 20 11 47.5, h 81 km.ca.
400	18	eL	E	22 01.6	24					Masked by microseisms.
		M	NEZ	04.5	15,20	3	3	3		USCGS: 14.8S, 178.1W, H 21 47 30.9, h 526 km.ca.
401	20	i	Z	16 45 26	4			+5		Masked by microseisms.
		M	NE	56.0	13	4	6			USCGS: 4.7S, 139.4E, H 16 38 24.6, h 33 km.ca.
		M	NZ	57.8	10,12	5		5		
	21	(iP)	VV'	15 00 30	1½			+		Masked by microseisms. USCGS: 17.7S, 178.7W, H 14 54 51.0, h 536 km.ca,
402	22	iP	V	07 03 35½	1½			+	8850	Compression. Microseisms present.
		i	Z	03 40	4			+2	7996	
		eS	N	13 33	?					USCGS: 26.5N, 79.0E, H 06 51 32.3, h 33 km.ca.
		i	E	13 38	4	+				
		i	NE	13 47	6	+	+			
		eL	Z	29.4	25					
		M	N	38.6	25	3				
		M	Z	39.7	27			5		
		M	E	42.4	24		3			
403	22	iP	Z	15 13 04				+		Compression. Microseisms present.
		i	VV'	13 06	1½			-		BCIS:37S,177E. H 15 08.6 h300km.ca.
		e	N	17 22	7					
		eL	E	18.7	26					
		M	Z	20.4	19			2		
		M	N	20.6	16	1				
		M	E	20.8	18		1			
	24	i	V	04 13 18	1½			+		Large microseisms present.
	24	(iP)	Z	05 37 13	3			+2		Masked by microseisms. USCGS: 9.2N, 126.6E, H 05 28 26.5, h 33 km.ca.
404	24	eL	Z	15 16.8	22					Masked by microseisms.
		M	NZ	21.0	21	1		1		(USCGS: 7.7N, 83.3W, H 14 22 47.0, h 79 km.ca.)
405	25	e	N	00 39 30	10					Masked by microseisms.
		e	Z	39 41	16					USCGS: 55.6S, 124.3W, H 00 21 14.6, h 67 km.ca.
		e	NE	40.0	19					
		e	E	46 32	18					
		eL	Z	48.7	25					
	25	(iP)	V	18 34 09	1½			-		Masked by microseisms. USCGS: 3.6S, 128.3E, H 18 27 03.0, h 33 km.ca.
406	26	(iP)	Z	12 50 42	3			+2		Masked by microseisms.
		e	N	57 31						USCGS: 27.5S, 176.4W, H 12 44 48.9, h 33 km.ca.
		eL	Z	58.5	22					
		M	NEZ	13 00.5	(15 18	2	2	4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
	Sep.27	i V	01 31 36½	¾			-		
	27	(ePg) V	06 46 35						Quarry blast.
		iSg V	46 39	¼			+		
		i V	46 42	½			+		
407	27	i VV'	13 05 48	1½			+		Masked by microseisms. USCGS: 4.6S, 104.4E, H 12 56 18.6, h 144 km.ca.
408	27	iP V	13 30 45	1			-		Dilatation. Microseisms present.
		i Z	31 45	2			+1		USCGS: 17.6S, 178.9W, H 13 25 05.6, h 507 km.ca.
409	27	e NE	18 40 05	10					Masked by microseisms.
		eL NEZ	42.2	24					USCGS: 4.0S, 151.2E, H 18 26 52.5, h 51 km.ca.
		M NE	46.1	16,12	4	4			
		M Z	46.3	16			6		
	28	eP V	20 47 38½						Small local tremor. Perhaps fore-
		i V	47 43	¼			+		shock of no.410.
		i V	47 54	½			-		
410	29	iP VV'	01 31 56	½			-	110ca.	Dilatation.
		i VV'	31 59	½			+	1°ca.	Felt at Bowral and Moss Vale.
		iPP ! VV'	32 01	½			+		BCIS:34¾S,150¾E. H 01 31.6
		iS ! NEZVV'	32 11½	¾	+6	-6	-6		
411	29	e E	04 38.5	(13)					
412	29	i(PP) VV'	15 35 55½	1½			+		Masked by microseisms.
		i(SKS) N	41 08	7	+2				USCGS: 27.0S, 63.6W, H 15 17 47.7, h 575 km.ca.
		i(SKKS) N	42 12	7	+2				
		e N	44 44	13					
		e Z	44 49	16					
		e E	44 53	16					
	29	i VV'	18 11 38	1½			+		Microseisms present.
413	30	(i) V	10 53 54	1½			+		Masked by microseisms.
		i V	54 17	1½			+		
		i Z	54 22	4			+2		USCGS: 5.2S, 152.7E, H 10 48 10.3, h 33 km.ca.
		e(S) N	58 55	12					
		e Z	59 04	16					
		e N	59 08	19					
		eL Z	11 02.6	25					
		M E	04.5	19		2			
		M NZ	05.1	19	4		7		
	30	(iP) VV'	22 07 23	1½			+		Masked by microseisms. USCGS: 18.6N, 120.9E, H 21 57 24.8, h 51 km.ca.

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A. Fynn, S.J., Director. P.F.Rheinberger.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
414	Oct. 1	iP ZVV'	04 02 39	2			-1		Dilatation. USCGS: 17.5S, 178.9W, H 03 56 52.0, h 550 km.ca.
415	1	iP ZVV'	10 01 57	3			+2		Compression. Microseisms present.
		i(S) N	05 56	6	-2				
		e E	05 58	13					USCGS: 17.5S, 167.1E, H 09 57 02.2, h 33 km.ca.
		i N	06 10	7	+3				
		i N	06 24	7	+6				
		i N	06 40	7	+4				
		eL N	06.8	18					
		eL E	07.0	24					
		M Z	09.3	16			7		
		M E	09.6	14		5			
		M N	09.8	13	7				
416	1	M E	13 17	16					(USCGS: 27.9N, 54.9E, H 12 13 57.4, h 16 km.ca.)
417	1	eL EZ	15 08	16					
418	1	(iP) V	15 13 12	1			+		
		e N	18 12	(13)					USCGS: 5.5S, 151.9E, H 15 07 22.1, h 49 km.ca.
		eL E	21.3	19					
		M NEZ	24.3	17,15	1	2	2		
419	1	eP VV'	20 49 06						Masked by microseisms.
		e VV'	49 08						USCGS: 19.6S, 174.5W, H 20 42 36.5, h 143 km.ca.
		M N	21 01.2	12	1				
420	3	(iP) VV'	17 18 26	1			+		Confused by microseisms.
		e(S) E	21 57						USCGS: 21.0S, 168.4E, H 17 13 41.5, h 33 km.ca.
	4	(iP) VV'	09 42 44						Masked by large microseisms. USCGS: 23.3S, 179.0E, H 09 37 53.0, h 611 km.ca.
421	5	eT V	20 30.0	½					Earlier phases masked by microseisms.
		T Max. V	30.4	½					
422	6	iP Z	04 28 20	4			-8	2450ca	Dilatation. Microseisms present.
		i N	28 21	4	+3			22°ca.	
		i E	28 22	4		+3			USCGS: 17.4S, 167.7E, H 04 23 24.1, h 33 km.ca.
		i VV'	28 23	1½			+		
		i VV'	28 25	1½			-		
		i NE	28 26	4	+3	+3			
		i ZV	28 28	4			+20		
		i V'	28 30	2			+		
		i NEZVV'	28 35	4	+4	+4	-12		
		iPP Z	28 42	6			-44		
		iPP NE	28 43	7	+18	+21			
		i NEZ	30 46	7	+11	+14	-18		
		i N	32 25	6	+11				
		i ! N*	32 27	9	-				* From Mainka.
		i ! E	32 32	7		-51			
		i ! Z	32 36	6			+78		
		i ! N*	32 52	7	+				
		i(SS) E	32 54	6		+13			
		i ! E*	33 14	6		-			
		eL Z	34.1	22					
		M N	35.4	16	77				
		M EZ	35.9	18		88	150		
423	6	i N	07 26 07	6	-2				Masked by large microseisms.
		i E	26 13	6		+5			USCGS: 17.4S, 167.8E, H 07 17 03.3, h 33 km.ca.
		M N	29.0	15	1				
		M EZ	29.6	18		3	5		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
424	Oct. 6	iP	Z	08 01 14	4			+3	2450ca	Compression. Large microseisms
		i !	VV'	01 28	1½			+	22°ca	present.
		i	VV'	01 25	1½			+		
		iPP	Z	01 40	5			+6		USCGS: 17.4S, 167.9E, H 07 56 20.4,
		iPPP	N	01 49	4	+4				h 33 km.ca.
		i	Z	03 14	4			+7		
		i	N	05 25	6	-6				
		i	E	05 27	6		-7			
		i	Z	05 34	5			+10		
		i(SS)	N	05 48	5	+5				
		eL	Z	07.1	24					
		M	N	08.3	16	7				
		M	EZ	09.0	18		11	21		
425	6	(iP)	VV'	08 08 26	2			+		Confused by large microseisms & coda
		i !	N	12 35	7	-21				of 424.
		i !	E	12 39	6		-15			USCGS: 17.2S, 168.0E, H 08 03 31.7,
		i !	Z	12 44	6			+16		h 33 km.ca.
		i(SS)	E	13 00	7		+11			
		eL	Z	14.6	24					
		M	N	15.5	16	11				
		M	EZ	16.0	19		19	32		
426	6	iP	VV'	11 06 01	1			+		Compression. Large microseisms
		i	V'	06 05	1			-		present.
		i	VV'	06 14	1			+		USCGS: 13.3S, 167.3E, H 11 00 52.8,
		i	V	06 43	1			+		h 209 km.ca.
		i	VV'	07 06	1½			-		
		i(S)	N	10 13	7	+4				
		i	N	10 56	6	+5				
		i	N	11 14	5	+6				
		e(L)	E	11.5	16					
		M	N	14.5	14	2				
427	6	iPP	Z	12 05 08	3					Masked by large microseisms.
		i	E	08 53	6		+5			
		i	N	08 54	6	+5				USCGS: 17.4S, 167.8E, H 11 59 42.3,
		eL	E	10.2	22					h 17 km.ca.
		M	EZ	12.2	18		3	5		
		M	N	13.6	15	3				
428	6	i	N	18 10 10	6	+4				Masked by large microseisms.
		e	E	10 10	7					USCGS: 17.6S, 168.0E, H 18 01 05.4,
		M	N	12.5	18	2				h 33 km.ca.
		M	EZ	13.5	18		3	6		
429	6	(eP)	Z	23 36 19	6					Microseisms present.
		i	Z	36 22	5			-6		
		i	VV'	36 23	2½			+		USCGS: 17.5S, 167.6E, H 23 31 27.7,
		i !	VV'	36 28	1½			+		h 42 km.ca.
		i	VV'	36 38	1½			-		
		iPP	NZ	36 40	6	+4		-11		
		i	Z	38 36	4			+5		
		i !	N	40 29	7	-17				
		i !	E	40 31	7		-16			
		i !	Z	40 36	7			+24		
		i(SS)	N	40 51	5	+12				
		i(SS)	E	40 53	7		+4			
		eL	Z	42.1	23					
		M	N	43.4	16	12				
		M	EZ	44.1	18		20	29		
		M	N	47.4	13	15				
430	7	(eP)	VV'	00 53 58						Masked by microseisms.
		i	VV'	54 02	2			-		
		i	N	58 09	7	+7				
		i	Z	58 13	6			+6		
		eL	EZ	59.8	22					
		M	NEZ	01 01.2	15,19	2	4	5		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Oct. 7	(P)	V	00 56 08						Masked by microseisms.
	7	(iP)	V	05 52 38	1½			+		Masked by microseisms.
		i	VV'	52 49	1½			+		USCGS: 17.5S, 168.0E, H 05 47 33.0, h 17 km.ca.
431	7	M	N	16 59.4	14	1				Masked by microseisms. USCGS: 17.7S, 167.5E, H 16 47 22.7, h 33 km.ca.
	8	i(Pg)	V	06 40 26½	¼			+		Quarry blast.
		i(Sg)	V	40 30	½			+		
432	8	(iP)	VV'	13 25 21	1½			-		Masked by microseisms.
		e(L)	N	31.3	16					USCGS: 17.8S, 167.8E, H 13 20 32.7, h 33 km.ca.
433	8	(eP)	Z	22 06 56	4				72[illegible]c.	Microseisms present.
		iP	Z	06 59	55			-7	65°ca.	Dilatation.
		i	VV'	07 00	3			+		
		i	Z	07 11	5			+3		USCGS: 24.3N, 121.7E, H 21 56 22.2, h 29 km.ca.
		ePP	Z	09 22	6					
		e(S)	E	15 34	(12)					
		iS	E	15 39	6		+8			
		e	Z	15 40	12					
		i	Z	15 53	6			-7		
		i	N	15 54	55	+3				
		i	NE	16 04	5	+4	+7			
		i	N	16 13	7	+6				
		i	Z	16 19	6			+7		
		i	E	16 23	6		+6			
		i	E	16 38	7		+5			
		i	N	16 55	7	-6				
		M	NE	34.9	18	5	8			
		M	Z	39.1	18			10		
434	9	eT	V	00 45 43	½					Earlier phases masked by microseisms.
435	9	(i)	VV'	03 18 15	1			+		Masked by microseisms.
		i(P)	VV'	18 41	1½			+		USCGS: 17.4S, 167.6E, H 03 13 44.8, h 33 km.ca.
		M	N	29.4	13					
	9	i	V	06 28 58	¼			+		Local. Quarry blast ?
436	9	iP	VV'	20 20 51	1½			+		Compression. Microseisms present.
		iP	NZ	20 52	3	-1		+2		
		i	VV'	20 58	1½			+		USCGS: 3.2S, 148.2E, H 20 14 38.3, h 33 km.ca.
		i	NZ	21 01	4	-3		+7		
		i	VV'	21 02	2½			-		
		i	Z	21 43	4			+3		
		iPP	NZ	21 54	4	-4		+12		
		i	V'	21 54½	3			-		
		e(S)	N	25 51	10					
		i	E	25 56	7		+7			
		eL	E	27.9	30					
		eL	Z	29.7	31					
		ME	E	31.9	18		43			
		M	N	32.7	17	41				
		M	Z	33.0	19			69		
		M	E	33.7	13		51			
		M	N	34.2	13	27				
		M	EZ	35.1	12,15		61	49		
		M	N	35.5	12	42				
	9	i	VV'	21 24 04	1½			-		Microseisms present.
		i	VV'	24 52	1½			-		USCGS: 17.6S, 167.6E, H 21 19 19.0, h 19 km.ca.
	10	i	V	02 02 36	1½			+		Perhaps only large microseism.
	10	i	V	05 48 31	¼					Explosion ?
		i	V	05 54 02	¼					

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
437	Oct.10	(iP)	VV'	21 59 46	1½			-		Masked by microseisms.
		eL	E	22 10.5	24					USCGS: 15.1S, 173.3W, H 21 52 36.8,
		M	EZ	13.5	16		1	2		h 33 km.ca.
	11	(Pg)	V	01 59 50						
		(Sg)	V	59 52	¼					
	11	iPg	V	06 42 51	¼			+		Compression. Quarry blast.
		iSg	V	42 55	½			+		
		i !	V	42 58	¾			+		
438	12	eL	E	01 57.4	22					Masked by microseisms.
		M	NEZ	58.9	18	1	3	3		USCGS: 33.1S, 178.2W, H 01 44 49.4,
										h 37 km.ca.
439	13	i	N	07 43 09	5	-2				Confused by microseisms etc.
										USCGS: 16.7S, 167.9E, H 07 33 48.8,
										h 33 km.ca.
440	13	iP	VV'	08 32 58	1½			+		Compression. Microseisms present.
										USCGS: 38.2S, 175.9E, H 08 28 34.6,
										h 184 km.ca.
441	13	M	N	11 39.0	13	2				Masked by microseisms.
										USCGS: 17.4S, 167.5E, H 11 25 58.9,
										h 33 km.ca.
442	13	iP	ZVV'	18 53 13	3			+2		Compression. Microseisms present.
		i	N	53 24	5	+2				
		i	Z	53 27	6			+6		USCGS: 12.6S, 166.6E, H 18 47 44.5,
		e	N	57 38	9					h 33 km.ca.
		e	E	57 41	9					
		e	Z	57 50	18					
		i	N	58 04	5	+5				
		i	N	58 19	7	+6				
		eLR	E	59.7	27					
		M	EZ	19 01.3	19		4	7		
		M	N	01.6	16	3				
	13	i	V	23 11 13	1½			+		Microseisms present.
443	14	(i)	VV'	00 35 01	1½					Masked by microseisms.
		i	VV'	35 32	1½			+		
		e(SS)	N	40 24	8					USCGS: 33.4S, 179.3W, H 00 29 56.0,
		eLR	E	41.6	25					h 33 km.ca.
		M	N	43.2	15	2				
		M	EZ	43.4	20		2	4		
	14	(i)	V	01 48 27	1½			+		Large microseisms present.
444	14	(iP)	V	05 08 20	1½			+		Large microseisms. Record disturbed
		M	N	16.3	13	3				by visitors in vault.
		(i)	N	17 31	4	+3				USCGS: 17.5S, 167.7E, H 05 03 25.8,
										h 33 km.ca.
445	15	i(P)	VV'	00 30 18	1			+		Compression. Large microseisms present.
		eS	N	34 06	7					USCGS: 22.1S, 172.1E, H 00 25 21.3,
		i(PcP)	E	34 13	5		+5			h 40 km.ca.
		i	N	35 15	6	+3				
446	15	(i)	V	14 05 34	1½					USCGS: 33.1S, 178.5W, H 13 59 54.9,
		eL	Z	13.1	21					89 km.ca.
		M	EZ	14.7	17		1	3		
447	15			17 45	Feeble surface waves.					USCGS: 28.8S, 176.4W, H 17 30 20.8,
										h 40 km.ca.
448	15	iP	ZVV'	23 40 42½	4			-8		Dilatation.
		iP	NE	40 43½	4	-3	+4			
		ei(sP)	VV'	40 50	2			+		USCGS: 43.5S, 169.8E, H 23 36 35.0,
		e	NE	44 03	4					h 33 km.ca.
		iSS	Z	44 13	7			+9		
		eLR	Z	44.6	24					
		M	NE	45.5	13	5	5			
		M	Z	45.7	18			8		
		eT	V	57 22	½					
		T Max.	VV'	58.4						

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
449	Oct.16	(eP)	V	01 13 44	1					Masked by microseisms.
		M	N	21.6	14	1				USCGS: 17.0S, 167.5E, H 01 08 47.1, h 33 km.ca.
450	16	i(P)	V	02 54 36	1½			-		Dilatation. Masked by microseisms.
		i	N	58 55	6	-3				USCGS: 17.1S, 167.7E, H 02 49 37.0, h 33 km.ca.
		M	NE	03 02.7	13	4	2			
		M	Z	03.9	13			3		
	16	i	VV'	05 25 30	1½			+		Microseisms present.
451	16	i	V'	05 26 37	1½			-		Masked by microseisms.
		i	N	30 39	6	+2				USCGS: 17.1S, 167.6E, H 05 21 26.5, h 33 km.ca.
		eL	Z	32.9	22					
		M	NE	34.5	13	4	2			
		M	Z	35.0	14			2		
	16	(iP)	VV'	07 27 07	1½			+		Microseisms present.
										USCGS: 28.3S, 62.5E, H 07 15 32.7, h 33 km.ca.
	16	(iP)	V	09 55 23	1					Masked by microseisms.
										USCGS: 18.9S, 169.4E, H 09 50 47.3, h 261 km.ca.
452	16	e(P)	Z	18 15 33						Masked by microseisms.
		e(S)	E	26 25	10					USCGS: 51.6N, 175.8W, H 18 02 32.9, h 27 km.ca.
453	18	(iP)	VV'	04 13 31	1½			-		Masked by microseisms.
		i	VV'	13 43	1			+		USCGS: 8.9S, 117.0E, H 04 06 00.4, h 33 km.ca.
		e(S)	E	19 36	12					
		e(S)	N	19 37	12					
		e(SS)	E	22 34	15					
		M	N	29.5	15	2				
		M	EZ	31.7	18		2	2		
	18	ei	E	09 00 41	9		-3			Microseisms present.
										(USCGS: 46.5N, 149.6E, H 08 40 55.5, h 140 km.ca.)
454	19			17.4	Surface waves.					USCGS: 32.9S, 179.9E, H 17 14 07.1, h 192 km.ca.
455	19	iP	VV'	23 49 04	1			-		Dilatation. Microseisms present.
		i	V	50 32	1½			-		
		i	V	51 49	1½			-		USCGS: 5.7S, 130.3E, H 23 42 34.9, h 177 km.ca.
		eS	N	54 15	5					
		eS	E	54 20	5					
		M	Z	24 04.0	13			3		
456	19	iP	VV'	05 37 07	1½			-		Dilatation. Microseisms present.
										USCGS: 6.7S, 130.1E, H 05 30 42.2, h 167 km.ca.
457	22	e(SS)	N	04 47.8						Masked by microseisms.
		eL	E	49.5	24					USCGS: 3.4S, 145.3E, H 04 34 38.9, h 36 km.ca.
		M	NE	52.2	19	3	5			
		M	Z	52.5	22			4		
		M	E	54.9	13		5			
		M	Z	55.1	14			6		
		M	N	55.6	12	6				
	23	(iP)	V	10 06 38						Masked by microseisms.
										USCGS: 18.4N, 145.6E, H 09 57 41.0, h 150 km.ca.
458	25	iP	VV'	03 43 44	1½			+		Compression. Microseisms present.
		i	VV'	43 54	1½			+		USCGS: 17.8S, 167.7E, H 03 38 48.9 h 33 km.ca.
		e(S)	N	47 42	7					
		i	E	47 48	6		+3			
		i	N	47 53	6	+5				
		e(SS)	N	48 21	9					
		eL	N	49.9	17					
		M	NE	52.0	12	4	1			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude -AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Oct.25	(Pg)	V	07 00 02½						Quarry blast.
		i(Sg)	V	00 06	½			-		
		i	VV'	00 09	½			-		
459	25	iP	ZVV'	09 42 07	2			+4	4760	Compression.
		ipP	ZVV'	42 28	2			+2	4298	h 0.01 ca., H 09 34 17
		i	VV'	42 45	1½			+		
		i	Z	43 10	3			+2		USCGS: 3.0N, 126.7E, H 09 34 14.6,
		i	Z	43 46	5			+4		h 33 km.ca.
		iPP	V'	43 51	3			-		
		iPPP	NZ	44 20	5	-3		+8		
		i(PcS)	Z	47 46	3			+3		
		eS	N	48 23	10					
		e	E	48 32	(7)					
		SS	N	51 32	(10)					
		i(ScS)	E	51 53	7		+6			
		i	N	52 06	7	+6				
		M	N	58.6	20	6				
		M	EZ	59.7	21		9	6		
		M	NEZ	10 03.5	15	6	5	9		
460	25	iP	NZVV'	20 11 59½	2	+1		+6		Compression.
		i	NZ	12 04	4	-4		-6		
		i	V'	12 10	2½			-		USCGS: 61.4S, 154.9E, H 20 06 10.0,
		iPP	NZ	12 43	8	+6		+8		h 33 km.ca.
		i	V'	12 58	2			+		
		i	E	16 49	9		+9			
		i	Z	16 55	6			+8		
		i	N	17 04	6	+8				
		i(LQ)	E	17 51	14		-13			
		iSS	N	18 01	10	+11				
		eLR	Z	19.0	21					
		M	E	20.2	11		17			
		M	Z	20.8	18			38		
		M	N	21.1	10	13				
		M	N	21.8	10	21				
	25	i	VV'	21 25 37	1½			+		Microseisms present.
		i	VV'	26 16	1½			-		
461	26	iP	Z	07 25 19	4			-3		Dilatation. Microseisms present.
		i	VV'	25 26				+		
		i	N	25 29	4	+2				USCGS: 17.7S, 167.5E, H 07 20 25.8,
		e	Z	25 31	11					h 33 km.ca.
		i	NEZ	27 23	7	+3	+3	-7		
		i(S)	N	29 24½	7	+8				
		i(S)	E	29 25½	6		-3			
		i	N	29 45	7	-8				
		i	N	29 55	7	+8				
		i	E	29 59	6		-6			
		i	N	30 09	6	+12				
		eL	Z	31.3	19					
		M	E	33.0	12		8			
		M	N	33.3	12	15				
		M	Z	34.9	13			10		
	26	i	V	11 30 42	1½			+		Microseisms present.
462	26	i	V	16 45 51	1½			-		Masked by microseisms.
		e	N	48.8	?					
		M	Z	52.6	17			2		
		M	N	52.8	18	2				
463	27	i	Z	13 38 15	3			+2		Masked by microseisms.
		e	N	42 19	12					USCGS: 18.0S, 167.4E, H 13 33 03.6,
		eL	Z	44.1	19					h 33 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1962			h m s	s	μ	μ	μ	km.	
464	Oct.27	e	N	22 25.5	13					Masked by microseisms.
		M	EZ	28.2	28		½	1		
	27	i	VV'	22 29 34	1½					Microseisms present.
465	27	M	NE	22 44.8	12	1	1			Masked by 464 & microseisms. USCGS: 7.4S, 156.5E, H 22 28 56.5, h 14 km.ca.
	28	(iP)	V	15 08 09½	1			+		Masked by large microseisms.
		(iS)	N	14 25	3	-				USCGS: 0.1N, 123.6E, H 15 00 17.0, h 61 km.ca.
466	29	eL	E	21 40.9	24					Masked by large microseisms.
467	30	i	N	15 51 14	6	+				Masked by large microseisms.
		eL	E	53.6	24					BCIS:6½S,149E, H 15 40.3
		M	E	57.1	16		7			
		M	N	59.5	13	6				
		M	NZ	16 03.8	10	9		14		

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s.	μ	μ	μ	km.	
	Nov. 1	iPg	V	06 40 56	½			(+)		Compression? Quarry blast.
		iSg	V	40 59½	¼			-		
		i !	V	41 03	¾			+		
468	1	M	N	13 35.3	15	½				USCGS: 17.5S, 168.5E, H 13 22 47.1, h 33 km.ca.
469	1	e	E	14 00 58	9					Masked by microseisms.
		(SS)	N	01 15	6					USCGS: 17.6S, 168.5E, H 13 51 37.0,
		M	NE	03.9	16	3	1			h 21 km.ca.
470	1	iP	VV'	15 40 54	1			-	4410	Dilatation. Preceded by microseisms.
		i	VV'	40 55	1			+	39?7	h 0.00, H 15 33 23
		i	VV'	40 58	1			+		
		i	Z	40 59	2			+2		USCGS: 1.9N, 133.0E, H 15 33 22.6,
		i	Z	41 11	4			+4		h 56 km.ca.
		e	N	42 18	9					
		iPP	NZ	42 29	8	+5		-6		
		i	NZ	42 41	4			-7		
		i	Z	43 20	6			-8		
		iS	N	46 55	8	+7				
		iS	E	46 57	6		+2			
		i	Z	47 03	7			+9		
		e(sS)	E	47 14	10					
		iSS	E	49 42	9		+5			
		i	E	49 56	10		+11			
		i	Z	50 01	6			+4		
		eL	Z	53.7	31					
		M	NZ	57.8	21	18		29		
		M	E	58.0	16		11			
471	1	iP	Z	17 59 52	3			+4	4390	Compression. Preceded by microseisms.
		i	VV'	59 53	1			+	39?5	
		i	NEZ	18 01 38	3	-4	+2	+6		USCGS: 1.9N, 132.8E, H 17 52 20.2,
		i	Z	01 45	4			+7		h 36 km.ca.
		eiS	N	05 52	8	+5				
		i	E	05 57	4		+2			
		eSS	E	08 42	13					
		i	N	08 46	6	+2				
		eL	Z	12.7	28					
		M	NZ	16.7	20					
		M	E	17.0	16		6			
472	2	(P)	VV'	06 59 23	1½					Masked by microseisms.
		e	Z	07 00 38	7					
		i	N	03 18	7	+2				USCGS: 17.7S, 167.5E, H 06 54 19.9,
		i	E	03 23	5		+4			h 32 km.ca.
		eL	Z	05.4	21					
		M	N	07.6	13	4				
		M	Z	08.0	15			3		
		M	E	08.7	15		2			
473	2	iP	ZV	14 54 02	3			+3	4290	Compression.
		ipP	VV'	54 13	1½			-	38?6	H 14 46 40
		iS	N	59 56	6	-2				
		i	E	15 00 03	9		+5			USCGS: 10.0S, 117.8E, H 14 46 39.2,
		esS	N	00 11	12					h 33 km.ca.
		eSS	EZ	02 35	12					
		iScS	N	04 08	4	+2				
		eL	N	06.4	25					
		eL	E	06.9	25					
		M	N	09.1	13	7				
		M	EZ	11.1	16	8	8	11		
	3	i	V	00 50 12						
474	3	e	N	01 10 58	9					Masked by microseisms.
		eL	Z	13.3	21					USCGS: 7.9S, 158.3E, H 01 00 24.9,
		M	NEZ	15.7	18	1	1	1		h 86 km.ca.
475	3	M	EZ	03 37.3	15		½	½		USCGS: 10.3S, 117.8E, H 03 12 37.8,
		M	N	38.8	13	½				h 33 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
	Nov. 3	e	V	06 01 06	½					Local ?
476	3	iP	ZVV'	14 33 18	2			+1		Compression. USCGS: 15.0S, 167.4E, H 14 28 15.2, h 134 km.ca.
477	3	iP	Z	18 10 15	3			-2		Dilatation.
		i	VV'	10 17	2			+		
		i	VV'	10 29	1½			+		USCGS: 37.6S, 179.5E, H 18 05 06.2, h 33 km.ca.
		i	VV'	10 44	1½			+		
		eL	Z	16.6	24					
		M	N	19.3	14	1				
		M	EZ	19.7	15		1	1		
	3	(iP)	VV'	19 13 39	1½					Microseisms present. USCGS: 4.5S, 103.4E, H 19 04 20.8, h 33 km.ca.
478	4	iP	ZVV'	23 06 43½	5			+5		Compression. Microseisms present.
		i	VV'	06 48½	2			+		USCGS: 43.2S, 75.?W, H 22 53 34.2, h 33 km.ca.
		eLR	Z	36.7	22					
		M	NEZ	42.0	18	2	2	5		
479	5	eP	VV'	00 17 41	1½					
		iP	Z	17 43	3			+3		Compression. Confused by coda of 478.
		e	N	22 25	13					
		eL	Z	24.1	24					
		M	Z	27.3	15			5		
		M	NE	27.4	15	8	5			
	5	ePg	V	06 34 26	¼					Quarry blast.
		iSg	V	34 30	+			-		
		i	VV'	34 33½	¾			+		
	6	i	V	02 00 07	¼					Quarry blast ?
	6	iPg	V	06 48 21	¼			+		Compression. Quarry blast.
		iSg	V	48 25	+			+		
		i !	VV'	48 28	½			+		
480	6	e	N	21 09 25						Masked by microseisms. USCGS: 10.5N, 121.9E, H 20 48 42.4, h 33 km.ca.
481	7	eP	V	16 10 17	1					Deeper than normal. h 0.02 ca.
		iS	NE	16 02	4	-2	-3			
		e	E	17 11	10					USCGS: 7.8S, 119.8E, H 16 03 04.1, h 156 km.ca.
		e	Z	18 50	12					
		iSS	E	18 57	4		-2			
		i	N	19 10	6	+4				
		i	E	19 11	4		-2			
		iScS	N	20 03	5	-2				
482	8	e(SS)	E	01 05.5	14					Masked by microseisms. USCGS: 4.4S, 105.5W, H 00 33 13.8, h 33 km.ca.
		e(SSS)	NE	09.4	14					
		eL	E	19.5	27					
		M	NEZ	29	16	½	1	3		
483	8	(P)	N	07 53 27	3					Masked by microseisms. USCGS: 20.1S, 168.6E, H 07 48 44.7, h 33 km.ca.
		e	E	57 27	7					
		M	N	08 00.9	13	1				
		M	EZ	01.9	15		1	2		
484	8	iP	VV'	10 08 32	1			+		Compression. Microseisms present. USCGS: 14.7S, 167.1E, H 10 03 22.8, h 86 km.ca.
485	8	eL	NE	18 55	13					USCGS: 17.9S, 167.9E, Tonga Islands region (?) . H 18 43 24.4, h 33 km.ca.
486	9	eL	EZ	16 29	18					

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
487	Nov.10	iP	VV'	01 45 10	1½			+	8680	Compression. Microseisms present.
		i(PcP)	Z	45 25	4			+5	78°1	h 0.005 ca., H 01 33 17
		i(pP)	V	45 27	1½			-		
		i	VV'	45 29	2			+		USCGS: 43.8N, 147.2E, H 01 33 19.0,
		iS	N	54 58	5	-2				h 60 km.ca.
		i(ScS)	N	55 20	5	+1				
		eSS	N	59 59	11					
		e	E	02 03 40	15					
		eLR	Z	10.4	30					
		M	E	13.5	23		1			
		M	NZ	14.5	23	2		1		
488	11	iP	ZVV'	16 15 19½	3			-3	2810	Dilatation. Preceded by microseisms.
		i	VV'	15 20½	1			+	25°3	h 0.005 ca. H 16 09 58
	---	ipP	NEZ	15 33	6	+2	+3	-7		
		isP	NZ	15 42	6	+5		-13		USCGS: 12.9S, 166.5E, H 16 09 57.6,
		iPP	NEZ	15 51	6	+7	+6	-16		h 77 km.ca.
		i	VV'	15 56	2			+		
		iPcP	VV'	18 51	1½			-		---i ZVV' 15 23 3s +7μ
		iS	N	19 38½	7	-12				
		i	E	19 48	6		+11			
		i	Z	19 49	3			+8		
		isS	N	20 05	6	+5				
		i	Z	20 12	6			-7		
		i	E	20 37	6		+11			
		eLR	Z	21.6	25					
		M	NEZ	23.2	20	11	8	20		
489	11	(P)	Z	22 27 24						Masked by microseisms.
		i	Z	27 54	4			+5		USCGS: 43.2S, 76.0W, H 22 14 18.7,
		i(S)	N	38 32	5	+2				h 33 km.ca.
		M	EZ	23 15.5	13		1	1		
		M	N	22.4	13	1				
490	14	(eP)	V	22 07 15						Masked by microseisms.
		i	VV'	07 22	1½			-		
		i	VV'	07 27	1½			+		USCGS: 0.3S, 123.0E, H 21 59 16.1,
		i	VV'	07 32	1½			-		h 92 km.ca.
		i	VV'	08 04	1½			+		
		iS	NE	13 27	6	-4	+3			
		i(sS)	E	13 59	6		+5			
		i	NE	16 50	7		+4	-3		
		i	N	16 56	6	-5				
		e	Z	17 15	16					
		i	E	17 23	7		+6			
		M	EZ	26.1	15		2	4		
		M	N	26.5	15	2				
491	15	(eP)	V	16 30 52	1					Masked by microseisms.
		i	N	36 12	7	+2				USCGS: 6.9S, 146.7E, H 16 25 09.4,
		eL	Z	39.3	27					h 40 km.ca.
		M	E	40.7	17		3			
		M	N	40.9	19	3				
		M	Z	41.9	19			6		
										* from Mainka.
	16	i(Sg)	N*	06 27 36	¾	-				Quarry blast. On large microseisms.
492	16	(iP)	E	07 30 35	4		+2			Masked by large microseisms.
		e(P)	Z	30 45	4					
		i	Z	30 49	6			+8		USCGS: 32.3S, 111.1W, H 07 18 37.3,
		i	Z	31 05	6			+10		h 43 km.ca.
		e(S)	N	40 37	9					
		i	E	40 44	?		-			
		i	E	40 57	5		+2			
		iSS	N	45 48	8	-5				
		eLQ	NE	51.5	19					
		eLR	Z	55.4	22					
		M	NEZ	08 03	17	6	7	13		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
493	Nov.16	(eP)	V'	21 21 28						Masked by large microseisms.
		iS	E	30 50	6		-2			USCGS: 13.5N, 93.2E, H 21 10 01.8,
		e	E	31 39	7					h 33 km.ca.
		M	EZ	50.6	24		6	7		
		M	N	53.4	20	6				
		M	EZ	56.1	20		6	8		
	17	e(Pg)	V	04 25 11½	½					
		e(Sg)	V	25 17	¾					
494	17	(eP)	V	14 29 04						Masked by microseisms.
		iS	N	35 05	4	+2				USCGS: 2.8N, 121.7E, H 14 21 30.6,
										h 609 km.ca.
	18	(eP)	V'	06 50 54						Masked by microseisms.
		i	VV'	51 13	1½			+		USCGS: 0.2S, 125.1E, H 06 43 08.3,
										h 56 km.ca.
495	19	e	N	10 34 50						Masked by microseisms.
		eLR	Z	46.5	22					USCGS: 50.0S, 114.3W, H 10 14 29.4,
		M	NEZ	49	17	1	1	2		h 33 km.ca.
496	19	e	E	14 09.7						Masked by microseisms.
		eL	E	10.3	15					USCGS: 60.7,S, 152.9E, H 13 58 57.6,
		M	NE	14.3	10	1	1			h 33 km.ca.
		M	Z	14.7	13			1		
	20	i(Pg)	V	02 01 28	¼			(+)		Quarry blast ?
		i(Sg)	V	01 30½	½			(+)		
	20	ePg	V	06 46 20½	¼					Quarry blast.
		iSg	V	46 24	½			-		
	22	iPg	V	06 30 34½	¼			+		Compression. Quarry blast.
		iSg	V	30 38	¼			-		
		i !	V	30 41½	½			+		
497	22	i	V'	07 42 36	2			+		Masked by microseisms.
		i	VV'	42 48	1½			+		
		i	N	46 21	7	+4				USCGS: 18.2S, 167.6E, H 07 37 25.8,
		M	N	48.8	16	2				h 33 km.ca.
		M	Z	49.0	15			2		
		M	E	49.4	15		1			
498	22	iP	VV'	20 38 33½	1½			+		Compression. Microseisms present.
		eL		46.1	21					USCGS: 30.2S, 178.6W, H 20 33 25.6,
		M	E	48.4	16		½			h 298 km.ca.
		M	NZ	48.5	14	½		½		
499	22			24 10	Long waves.					USCGS: 24.1S, 176.8W, H 23 55 28.3,
										h 391 km.ca.
500	23			01.5	Long waves.					USCGS: 15.0S, 75.7W H 00 44 51.2
	23	i	V	03 14 48	¼			(+)		Explosion ? h40 km.ca.
501	24	(i)	VV'	17 29 12	1½			+		Masked by large microseisms.
		(i)	VV'	30 20	1½			+		USCGS: 2.5S, 148.9E, H 17 22 59.5,
		eL	E	38.3	24					h 32 km.ca.
		i	E	42 06	5					
502	26	e(SSS)	N	16 12 17	12					Masked by microseisms.
		eLR	Z	13.5	22					USCGS: 23.8S, 175.8W, H 15 58 46.2,
		M	N	16.4	12	1				h 19 km.ca.
		M	EZ	16.7	16		3	5		
503	27	iP	VV'	07 03 21	1			-	7200	Dilatation. Microseisms on Galitzins.
		ipP	Z	03 59	2			-3	6498	h 0.02 H 06 52 57
		ipP	VV'	04 00	1½			+		USCGS: 25.1N, 122.9E, H 06 52 57.8,
		iS	E	11 47	3		-2			h 148 km.ca.
504	27	e	N	17 09 19						Masked by microseisms.
		eL	E	11.5	25					USCGS: 12.2N, 143.8E, H 16 50 27.7,
		M	E	17.0	16		3			h 33 km.ca.
		M	NZ	18.0	16,18	3		6		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
505	Nov.28	(iP) VV'	02 44 13	1½			+		Masked by microseisms.
		eSS E	54 26	?					USCGS: 12.1N, 143.7E, H 02 35 48.8,
		eL E	56.9	(24)					h 33 km.ca.
		M E	03 02.4	16		4			
		M NZ	03.2	16	3		3		
	28	ePg V	06 11 54½	¼					Quarry blast.
		iSg V	11 58	¼			-		
		i ! V	12 01½	½			+		
506	28	e(L) N	09 25.0	15					
507	28	iP VV'	15 37 07	1½			+		Compression.
									USCGS: 9.9N, 93.4E, H 15 25 58.7,
									h 53 km.ca.
508	28	e N	18 45.6						
		eL E	47.6	15					
	29	e(P) V	01 37 54						Local.
509	29	e N	04 09 34						USCGS: 29.4S, 177.9W, H 03 58 32.1,
***									h 140 k. ca.
510	29	e N	09 15 18						Masked by microseisms.
		e N	17 34						USCGS: 22.3S, 175.9W, H 09 03 51.1,
		eL N	18.7	18					h 33 km.ca.
		eL EZ	19.0	23					
		M EZ	21.5	17		1	1		
511	29	iP VV'	19 11 38½	1½			+		Compression.
		iP NEZ	11 39½	3	-1	-1	+4		
		i NEZ	11 44	2	-1	-1	+5		USCGS: 17.3S, 168.5E, H 19 06 37.6,
		i Z	11 50	3			+8		h 33 km.ca,
		i NEVV'	11 53	3	+1	+2	+		
		i VV'	11 57	1½			+		
		i Z	12 15	4			+6		
		i Z	14 06	4			-7		
		i NEZ	15 52½	8	+10	+11	-10		
		iSS E	16 21	10		+26			
		eL E	17.3	31					
		M EZ	18.8	19		33	35		
		M Z	19.6	16			31		
		M E	19.8	16		22			
		N N	20.3	14	37				
		i N	23 38	9	+9				
		F	21.2						
512	30	(P) Z	17 01 25						
		e(SS) E	10 59	7					USCGS: 3.2N, 127.1E, H 16 53 24.6,
		M EZ	21.6	17		1	1		h 58 km.ca.
		M N	21.9	16	½				
513	30	(eSKS) NE	22 16 52	4					USCGS: 17.4N, 99.6W, H 21 51 22.9,
		ePS E	21.0	(18)					h 51 km.ca,
		eLR E	44.5	25					
		M NEZ	49	19	½	½	½		
514	30	M E	23 24.8	18		1			USCGS: 5.5S, 145.9E, H 23 07 51.6,
		M NZ	26.6	16	1		2		h 79 km.ca.
***	29	ePg V	06 29 57						Quarry blast.
		iSg V	30 00½	½			+		
		i V	30 04	¾			+		

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No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962			h m s	s	μ	μ	μ	km.	
515	Dec. 1	iP	Z	04 22 38	3			+2		Compression.
		i	VV'	22 39	1½			-		
		i	VV'	22 41	1½			+		USCGS: 29.7S, 177.7W, H 04 16 59.6, h 52 km.ca.
		eL	E	29.7	24					
		eLR	Z	30.1	22					
		M	EZ	32.4	18		1	2		
516	1	iP	V	21 08 26	1			+		Compression. USCGS: 17.7S, 178.7W, H 21 02 51.8, h 620 km.ca.
517	2	eP	ZV	05 36 18						
		i	VV'	36 19	1			+		USCGS: 9.9S, 159.9E, H 05 30 53.8, h 34 km.ca.
		e	N	40 48	8					
		i	N	41 01	7	+2				
		e	EZ	41 01/2	10					
		eL	Z	43.0	22					
		M	EZ	45.2	18		3	3		
		M	N	46.2	13	3				
518	2	eL	EZ	16 25	18					USCGS: 18.9S, 168.5E, H 16 12 53.4, h 33 km.ca.
	3	e	V	02 02 44	¼					Local.
519	4	eL	EZ	04 27.4	18					
	4	(e)	V	07 15 32	?					Local.
		i	V	15 35	¼					
520	4	e	NE	10 40.4						Masked by microseisms.
		i	N	45 07	7	+1				
		e	Z	45.3	(22)					USCGS: 6.1S, 149.9E, H 10 34 27.8, h 83 km.ca.
		eL	Z	49.2	22					
		M	E	51.0	15		2			
		M	Z	51.9	16			1		
		M	N	53.4	13	1				
521	4	e(P)	Z	16 47 14						Masked by microseisms.
		e(S)	NE	52 59	(17)					USCGS: 16.5S, 172.8W, H 16 40 06.0, h 33 km.ca.
		e	N	55 39	(15)					
		M	N	17 00.0	13	5				
		M	EZ	01.7	16		5	7		
522	4	e	N	19 49.3	(11)					Masked by large microseisms. USCGS: 4.9N, 122.8E, H 19 31 31.5, h 627 km.ca.
523	4	eL	EZ	20 45	24					Masked by large microseisms.
524	5	e(S)	E	01 25 45	7					Masked by large microseisms.
		i	NE	25 01	5	-3	-3			USCGS: 10.9S, 161.6E, H 01 16 06.3, h 33 km.ca.
		M	E	29.5/	13		1			
		M	N	29.9	14	2				
	6	i	V	07 38 04	¼			+		Quarry blast ?
		i	V	38 06½	¾			+		
525	7	iP	ZVV'	14 13 29	3			-2	7070	Dilatation.
		ipP	NZVV'	14 58	4	+4		-12	63°6	h 0.06, H 14 03 39
		i	VV'	15 04	2			-		
		isP	ZV	15 42	4			+5		USCGS: 29.2N, 139.2E, H 14 03 37.0, h 411 km.ca.
		i	NV'	15 45	3	+2				
		i	V'	15 49	3			+		
		iS	NE	21 29	5	+8	+10			
		i	NZ	21 49	5	-7		+7		
		iScS	E	22 45	4		+7			
		isS	E	24 09	7		-8			
		i	NZ	24 15	7	+14		+9		
		ei(SS)	NE	25 39	9	+8	+8			
	8	i	VV'	01 19 07	1½			+		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
526	Dec. 8	iP VV'	18 25 35	1½			+		Compression.
		iP EZ	25 35½	3		-2	+4		
		i ZVV'	25 48	3			+2		USCGS: 15.2S, 173.7W, H 18 18 29.1,
		i VV'	25 52	1½					h 33 km.ca.
		i Z	25 57	3			+6		
		i VV'	26 00	2			+		
		i VV'	26 12	1½			+		
		iPP Z	27 05	5			+5		
		iPP NE	27 06	4-5	-1	-3			
		ei VV'	27 11	2½			+		
		i EZ	27 21	5		+3	-5		
		i N	27 24	4	-3				
		i VV'	27 27	2			-		
		i VV'	27 38	2			-		
		i Z	27 40	3			+7		
		i N	27 50	4	+3				
		e E	31 57	16					S cannot be identified.
		e N	34 02	(18)					
		i(ScS) N	35 55	6	-3				
		eLR EZ	36.2	25					
		M Z	38.8	18			9		
		M E	38.9	18		6			
		M N	39.1	12	6				
527	8	ePP V	21 45 44					12,450ca.	Microseisms present.
		iPP Z	45 46	(4)			+	112°ca	Compression.
		iPP NVV'	45 47	4	+2		+		h 600 km.ca.
		i VV'	46 01	1½			+		
		e NZ	46 05	10					USCGS: 25.8S, 63.4W, H 21 27 22.2,
		e(pPP) Z	47 45	(7)					h 620 km.ca.
		eiSKS N	50 41	7	+2				
		iSKS E	50 43	6		-4			
		i ! N	51 49	5	+5				
		e(S) E	52 26	15					
		iSP ! NZ	54 24	11	+7		+21		
		i E	54 29	7		-4			
		e NZ	54 42	12					
		eSPP E	55 34	22					
		ePS Z	55 39	11					
		e E	58 13	13					
		? N	58 14	12	-8				
		iSS E	22 00 42	9		+4			
		i N	00 45	7	+2				
		i Z	03 33	4			+3		
		e(sSS) E	04 02	21					
528	8	iP VV'	23 07 53½	1			-		Dilatation. Galitzin masked by micros.
		iPcP VV'	07 57	1½			+		USCGS: 50.5N, 176.8W, H 22 55 01.2,
		M E	51.3	18		½			h 33 km.ca.
529	9	eL E	21 11.6	22					Masked by large microseisms.
									USCGS: 17.7S, 173.6W, H 20 54 13.7,
									h 60 km.ca.
530	10	i(S) N	06 22 10	5	-2				Masked by microseisms.
		e E	22 18	8					USCGS: 8.4S, 157.4E, H 06 11 56.2,
		M E	26.9	13		2			h 39 km.ca.
		M N	27.7	12	3				
531	10	(iP) V	17 01 36						Masked by microseisms.
		e E	03 04						USCGS: 27.2S, 176.8W, H 16 56 04.5,
		e E	07 32						h 88 km.ca.
		eLR EZ	09.4	27					
		M EZ	11.7	19		2	4		
		M N	12.4	13	2				
	11		02.8	Surface waves.					USCGS: 48.9S, 124.6E, H 02 34 09.7
									h33 km.ca.

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	remarks
	1962			h m s	s	μ	μ	μ	km.	
	Dec.11	Pg	V	06 33 47	(¼)					Quarry blast. Superposed on large
		iSg	VV'	33 41	¼			+		microseisms.
		i	VV'	33 44½	¾			+		
	12	iPg	V	06 45 30½	¼			+		Compression. Quarry blast.
		iSg	V	45 34½	¼			-		
		i	VV'	45 37½	½			+		
432	12	iP	ZVV'	10 14 42½	3			+4		Compression. Large microseisms
		i	NZVV'	14 45½	3	-2		+5		present.
		i	V	14 50	1½			+		h 0.01 ca.
		ipP	ZVV'	15 03½	3			+4		
		i	N	15 09	4	+3				USCGS: 4.8S, 153.8E, H 10 08 48.5,
		isP	ZVV'	15 12	4			+12		h 94 km.ca.
		i	Z	15 16	4			+9		
		i	VV'	15 19	2½			+		
		iPP	VV'	15 39	2			+		
		e	NZ	16 09	13					
		i	N	16 35	4	-7				
		e(S)	N	19 27	?					
		e	E	19 28	(10)					
		i	N	19 32	6	-5				
		i	E	19 36	5		+8			
		i	E	19 51	5		+3			
		i(sS)	E	20 01	5		+6			
		i !	N	20 07	5	+21				
		i !	N	20 20	7	+24				
		i	E	20 22	5		+14			
		eL	E	21.3	(23)					
		eLR	Z	22.9	25					
		M	Z	24.6	20			39		
		M	N	24.7	17	17				
		ME	E	25.0	15		18			
	13	iPg	V	06 44 26	¼			+		Compression. Quarry blast.
		iSg	V	44 30	¼			-		
		i	N	44 31	½	+				
		i !	VV'	44 33	½			+		
533	13			17 14	Surface waves.					USCGS: 2.8N, 127.9E, H 16 45 59.1,
										h 33 km.ca.
	13	(iP)	Z	23 30 11	2			+2		
534	15	eL	E	04 54.3	21					
		M	E	56.7	16		1			
535	15	eL	E	14 38	16					USCGS: 4.6S, 152.1E, H 14 22 35.2,
										h 53 km.ca.
536	17	(P)	VV'	02 22 59						Masked by microseisms.
		M	NE	36.1	15					USCGS: 4.2S, 127.6E, H 02 15 49.7,
										h 33 km.ca.
537	17	(P)	V'	11 07 54						Masked by microseisms.
		(pP)	V'	09 13						Galitzin Z out of action.
		iS	NE	14 02	4	+2	+5			h 0.06 ca.
		isS	N	16 28	4	+1				USCGS: 2.1N, 122.9E, H 11 00 16.9,
		iScS	NE	17 07	3	+2	+3			h 393 km.ca.
		e	NE	17 13	(12)					
		i	NE	17 29	4	+2	+2			
538	17	eL	E	17 25.4						Noumea: 17½S, 168¾E, H 17 13 16
539	18			07.4	Wavos.					
540	18	iP	Z	10 39 22	3			+2		Compression. Microseisms present.
		e	Z	40 33	9					USCGS: 28.3S, 178.2W, H 10 33 58.4,
		e	E	40 36	(10)					h 214 km.ca.
		i	N	42 27	4	+2				
		i(SS)	N	45 17	7	-2				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
541	Dec.19	iP VV	13 02 12½	1½			+		Compression.
		iP Z*	02 12.7	.8			+		
		iP Z	02 13	4			+3		USCGS: 4.7S, 154.0E, H 12 56 19.7,
		eP N**Z**	02 13	(12)					h 98 km.ca.
		i Z*	03 03	1.2			+		
		eS E	06 59	9					* Denotes reading from Benioff
		eS N	07 00	10					short period Seismometer
		eS N**E**	07 02	18					** reading from Sprengnether long
		e Z**	07 06	35					period--USCGS World wide
		m NE	07 07	14	1	1			Standardised Seismometers.
		LR E**	10.1	31					
		LR Z**	10.2	31					
		LR N**	10.3	31					
		eLR Z	10.6	26					
		M E	11.9	17		2			
		M NZ	12.1	17,20	2		3		
542	20		08.9	Surface waves.					USCGS: 2U.0S, 174.1W, H 08 32 37.3,
									h 33 km.ca.
543	20	eS N**	18 31 44	(11)					Galitzin masked by microseisms.
		eL E**	32.4	(30					USCGS: 61.8S, 161.2E, H 18 20 55.8,
		M NN**EE**	33.3	16	1	2			h 29 km.ca.
		M Z**	34.3	22					
	20	i E*Z*	21 37 52.5	.2		+	(+)		Small local tremor.
		i N*E*Z*	37 52.8	.25	+	+	?		
544	21	iP NEZZ**	00 52 17½	4	+1	-2	-6	4780	Dilatation.
		i (N*)E*Z*VV'	52 18.2	1	?	+	+	43°	h 0.005 ca, H 00 44 23
		ipP Z	52 33	3			+5		
		i VV'	52 34	1½			-		USCGS: 9.0S, 112.4E, H 00 44 19.7,
		isP Z	52 42	5			+5		h 64 km.ca.
		i VV'	52 56	1½			+		
		ePP E**Z**	54 08	20					
		e N**	54 14	22					
		i Z	54 17	4			+3		
		iS E**	58 38	9		+			
		iS N**	58 41	9	-				
		i NE	58 43	8	+5	-9			
		i Z	58 46	6			-5		
		isS N	59 09	7	+9				
		isS N**	59 10	?	+				
		e Z**	59 14	28					
		i E	59 24	10					
		m E**	59 33	25					
		i Z	01 00 35	5			+4		
		eiSS N**	01 38	?					
		iSS N	01 41	6	+4				
		i Z	01 53	9			+7		
		i E	01 57	10		+6			
		i E**	01 58	12		+			
		i NN**	02 00	7,10	+5				
		i(ScS) N**	02 11	12	+				
		i(ScS) E**	02 12	12					
		eL N**	02.9	45					
		eL E**	02.9	48					
		eLR Z**	04.4	45					
		eLR EE**	05.0	35					
		M NN**	07.3	22	16				
		M E	07.7	24		10			
		M Z	08.7	27			13		
		M E**	11.0	20					
		M Z**	11.3	20					
		M EZ	11.3	20		32	44		
		M N	11.9	15	19				
		M N**	12.0	19					

No.	Date	Phase & Component	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	AE μ	AZ μ	Δ km.	Remarks
	1962								
	DEC.21	i N*	02 17 02.5	.5	+				Small local tremor
		i E*Z*	17 02.7	.5		-	+		
		i N*	17 03.8	.5	+				
545	21	(eP) VV'	08 56 01						Masked by microseisms.
		P Z*	56 06½	1					
		eP Z**	56 09	14					USCGS: 52.4N, 168.5W, H 08 42 48.3,
		e Z	56 12	(5)					h 33 km.ca.
		e N**	57 14	14					
		e Z	57 20	9					
		e(PP) Z	59 42	9					
		e E**	09 05 48	12					
		iSKS N	06 33	7	+2				
		iSKS N**	06 34	14	+				
		iS E**	07 05	15		-			
		i(S) NE	07 10	9	+6	+12			
		e(SP) N**	08 12	27					
		e E**	12 42	25					
		e(SS) N**	13.0	24					
		eSS E	13.1	(27)					
		eLQ E**	20.8	38					
		M N**	30.0	22					
		M NZ	30.3	18	5		5		
		M E	30.9	16		4			
		M E**Z**	31.6	20					
546	21	(P) VV'	09 13 57						Confused by preceding shock.
		e VV'	14 09						
		(SKS)	24 26	7					USCGS: 52.4N, 168.5W, H 09 00 41.4,
		M NN**	43.0	18	6				h 33 km.ca.
		M EE**	43.2	18		8			
		M ZZ**	43.7	19			14		
547	21	P Z*	09 23 25						Confused by preceding shocks.
		iSKS N	33 46	7	+4				
		iSKS N**	33 47	9	+				USCGS: 52.5N, 168.5W, H 09 10 01.6,
		eS E	34 14	7					h 33 km.ca.
		i N	35 07	8	+5				
548	21	eP V	09 45 01	1½					Confused by preceding shocks.
		i VV'	45 23	1½			+		USCGS: 42.4N, 142.3E, H 09 33 15.4,
									h 27 km.ca.
	21	i(P) V	18 30 23	1½					USCGS: 15.3N, 121.7E, H 18 20 44.7,
									h 55 km.ca.
549	21	eL N**	18 31.0	60					
		eL Z**	39.0	24					
550	21	ePS E**	21 58 02	14					
		e N**Z**	58 07	14					USCGS: 0.9S, 80.9W, H 21 27 51.6,
		eSS E**	22 05 02	15					h 33 km.ca.
		eSS N**	05 08	16					
		eL N**	18.3	(40)					
		eLR E**Z**	24.0	28					
		M N**E**Z**	26.5	22					
		M EZ	29	21		1	1		
551	22	iP NEZVV'	00 57 03	4	+8	+19	-28		Dilatation.
		N*E*Z*N**E**Z**		1,9					
		i VV'	57 14	2			+		USCGS: 22.0S, 170.1E, H 00 52 23.4,
		i NEZVV'	57 20	5	-16	-17	+52		h 33 km.ca.
		i VV'	57 29	1½			+		
		i VV'	57 43	1½			+		
		e N**Z**	57 46	22					
		i Z	01	5			+13		01 00 55
		i NN**EE**	00 56	6,10	-20	+20			
		i Z**	01 00	11			-		
		i Z	01 02	5			-36		
		i Z	01 08	6			+(115)		
		i E**	01 11	(8)		+			
		i E	01 13	7		-			

Continued on next page

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
551 cont.	Dec.22	L Z**	01 01.7	28					
		i Z	01 51	7			-52		
		L E**	01.9	28					
		M NN**	04.7	11,18	86				
		M ZZ**	05.1	14			75		
		M EE**	05.2	13,14		56			
552	22	iP Z*V	01 17 43	1.2			+		Compression. USCGS: 22.0S, 170.1E,
553	22	iP VV'	01 33 27	1			-		Dilatation. H 01 13 02.6 h33 km.ca.
		i VV'	33 38	1			+		USCGS: 21.9S, 170.1E, H 01 28 48.9,
		iPP VV'	33 46	1½			+		h 33 km.ca.
		i EZ	37 26	4		-4	+4		
554	22	iP ZVV'Z*	02 07 48	3			-		Dilatation. Galitzin readings on
		ipP ZVV'	08 03½	3			-		coda of 551.
		i Z*	08 07½	1.1			+		USCGS: 9.2S, 112.4E, H 01 59 50.3,
		M E	26.7	20		22			h 69 km.ca.
		M Z	26.9	21			26		
		M N	27.3	15	9				
555	22	iP VV'	15 33 41	1			+		Compression. Microseisms present.
		iP Z*	33 41.5	1.1			+		
		i VV'	34 00	1½			-		USCGS: 52.5N, 168.8W, H 15 20 31.0,
		i Z	34 01	3			+2		h 47 km.ca.
		iSKS N	44 13	8	+2				
		i N	44 50	6	+2				
		i E	44 51	10		+4			
		iPS E	45 58	8		+2			
		e E	50.3	18					
		eL Z	16 03.5	22					
		M N	07.7	18	2				
		M E	09.4	19		2			
		M Z	10.0	19			6		
556	22	iP VZ*	23 33 46.6	.5			+		Compression.
		i N*	34 31	.75	+				USCGS: 5.1S, 151.2E, H 23 27 59.5,
		i E*	34 37.6	.75		+			h 105 km.ca.
		M E	41.4	10		1			
557	23	(P) VV'	00 07 11						Masked by microseisms.
		eL E	12.5	18					Noumea: 22.4S, 170.5E H 00 02 09.
		M N	14.5	13	1				
		M E	15.0	13		½			
558	23	eP ZZ**	03 50 48	8					Noumea: 22.4S, 170.5E, H 03 45 56
		e E	54 39	12					
		i Z	54 45	4			+2		
		eL Z**	55.3	30					
		M N**E**Z**	58	15					
		M NEZ	58	15	3	1	2		
	24	e E*	00 35 14	.5					Local ?
		e Z*	35 14½	.5					
		e N*	35 17½	.7					
559	24		11 50	Long waves.					USCGS: 22.0S, 170.1E, H 11 40 46.7
560	24		23 02	Surface waves.					
561	25		07 41	Surface waves.					
562	26	e(P) V	22 38 09	1					Masked by microseisms.
		i Z	38 22	2			+2		
		i Z	38 53	3			+4		
		iSKS NN**	48 35	6	+4				USCGS: 53.9N, 168.7E, H 22 25 15.6,
		iS EE**	48 57	8,14		-7			h 33 km.ca.
		iScS NN**	49 04	5, 7	+2				
		esS E	49 13	7					
		iPS NN**	50 01	9	+7				
		SS Z**	54.5	35					
		SS E**	54.8	27					
		SS N**	55.0	22					

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
562 cont.	Dec.26	eSS N	22 55.1	24					
		LQ E**	23 01.0	(35)					
		eLR NN**	06.6	37					
		M N**E**Z**	09.0	27					
		M NZ	09.0	27	10		17		
563	27		13.2	Surface waves.					USCGS:9.1S,113.1E,H 12 48 17.9 h40 km.ca.
564	27	eS N**	14 12 58	(30)					Masked by microseisms.
		e Z**	13 07	(21)					
		eL E**	15.0	43					USCGS: 4.9S, 145.1E, H 14 02 02.1, h 35 km.ca.
		eLR Z**	16.0	36					
		M EE**	17.7	25		2			
		M NN**	18.3	25	2				
		M NZZ**	21.6	18	2		5		
565	29	eP Z*	04 20 05						Microseisms present.
		eSS E	29 38	13					
		e E**	29 48	13					USCGS: 2.4N, 127.1E, H 04 12 09.0, h 33 km.ca.
		e ZZ**	29.9	13					
		eL E**	32.6	46					
		eL Z**	32.7	46					
		M E**Z**	35.2	26,30					
		M N**E**Z**	40	17					
		M NZ	40.5	(17)					
566	29	eSKS E	11 06 21	7					USCGS: 20.0S, 69.9W, H 10 41 04.1, h 46 km.ca.
		eSKKS E	07 28	7					
		iPS NEZ	10 10	7	-2	+2	-3		
		e E**	15 51	?					
		e N**	16 12	35					
		eSS E	16 29	25					
		eSS N	16 41	25					
		e E**Z**	16 43	25					
		e N**	20 06	22					
		e E**	20 35	(20)					
		e E**	23 55	25					
		e Z**	24 05	25					
		e Z**Z	26 38	30					
		e Z**	27.2	30					
		eL E**	27.7	54					
		eL N**E**	28.8	54					
		eLR N**E**	33.0	35,32					
		eLR Z**	33.5	32					
		M N**E**Z**	36.0	22					
		M NEZ	36.0	22	3	3	6		
567	29	iP EE**ZZ**	14 53 17	4		-2	+3		Compression.
		i E*Z*V	53 22	1½			-		
		i E**	53 23	9		+			USCGS: 31.2S, 177.7W, H 14 47 41.4, h 43 km.ca.
		i EZV	53 26	6		-4	+7		
		i Z**	53 42	8			+		
		i EZ	53 46	6		+5	-9		
		i Z**	54 13	7			+		
		i Z	54 14	6			-6		
		i E	54 16	6		+5			
		i N	55 00	7	-4				
		e E**	57 24	13					
		i N	57 50	7	+5				
		i E	57 52	7		+8			
		i E**Z**	58 10	10		+	+		
		eL N**	58.9	20					
		eL E**Z**	15 00.0	30					
		M N**	02.0	16					
		M N	03.3	15	15				
		M EE**Z**Z	04.3	16		18	29		
		M N**	04.5	15					
		M N	04.7	13	16				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1962		h m s	s	μ	μ	μ	km.	
568	Dec.29		18 30	Surface waves.					USCGS: 31.6S, 177.8W, H 18 13 59.3, h 33 km.ca.
	30	e N*	02 30 17						Local.
		e E*	30 18						
569	30		13 40	Surface waves.					USCGS: 28.2S, 175.8W, H 13 23 09.8, h 47 km.ca.
570	30		17 58	Surface waves.					USCGS: 21.1S, 169.3E, H 17 47 15.4, h 71 km.ca.
571	30	iP NN**ZZ**	18 22 14	4,10	-1		+3	3250	Compression.
		i V	22 16	1½			-	29°2	h 0.01, H 18 16 20
		i V	22 18	1½			+		
		isP NN**ZZ**	22 49	4,12	-2		+4		USCGS: 4.7S, 153.7E, H 18 16 21.4, h 116 km.ca.
		i N	23 21	6	+2				
		e E**	23 53	8					
		i N	23 59	6	+3				
		e NN**	26 56	18					
		iS EE**	26 58	6,10		-2			
		eL Z**	27.1	35					
		i N	27 12	9	-6				
		i E**	27 30	12					
		i N	27 31	10	-7				
		isS E	27 36	8		-7			
		i N	27 53	9	+11				
		eL E**	29.1	32					
		eL N**	29.3	47					
		M N**	30.5	31					
		M E**	30.8	23					
		M Z**	31.0	30					
		M NZ	34.4	15	8		8		
572	30		23 06	Surface waves.					USCGS: 27.1S, 176.5W, H 22 50 25.9, h 49 km.ca.
573	31	(P) Z	11 10 54						Masked by microseisms.
		e N**	19.0	?					USCGS: 0.1S, 99.3E, H 11 00 59.5
		e Z**	23 40	(22)					h 33 km.ca.
		eL E**	26.7	50					
		eL N**	26.8	48					
		eLR Z**	29.0	45					
		M NN**	31.1	28	5				
		M EE**ZZ**	34.6	26		2	3		
574	31	e NN**	15 45 32	10					
		e EE**ZZ**	45 35	10					
		eL N**	46.5	24					
		eL Z	47.3	25					
		M NN**	49.2	15	1				
		M EE**Z**	51.5	11,14		2			
575	31	(iP) V	17 25 22	1½					Masked by microseisms.
		M N	30.6	14	½				BCIS: 5¾S, 154E, H 17 19 15
576	31	iP V	19 44 53½	1					Dilatation.
		iP N*E*Z*	44 53.8	.7	+	+	-		
		iP N**E**Z**	44 54	9	+	+	-		USCGS: 22.7S, 171.4E, H 19 40 10.5, h 39 km.ca.
		i ZV	44 57	3			+3		
		i Z	45 56	3			+3		
		e NN**	48 51	12					
		e E**	48 55	10					
		e E	48 57						
		e(LQ) N**	49.1	27					
		eLR Z**	49.9	29					
		eLR E**	50.0	25					
		M EE**ZZ**	50.7	21		3	8		
		M NN**	52.7	15	3				

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A. Fynn, S.J. Director.

P. F. Rheinberger.

RIVERVIEW COLLEGE OBSERVATORY

RIVERVIEW, N. S. W.

SEISMOLOGICAL BULLETIN, 1963

Lat. 33°49'46"S. Long. 151°09'30"E. h 25m. Foundation : Triassic Sandstone.

INSTRUMENTS:

U.S.C.G.S. World Wide Standardised Seismometers:

Benioff Variable Reluctance Seismometer NS, EW, Vert.
Tp 1.0s, Tg 0.75s, Magnification 12,500 at 1.0s.
Sprengnether Long-period Seismometer NS, EW, Vert.
Tp 30s, Tg 100s, Magnification 750 at 30s.

Galitzin Aperiodic Seismometer NS, EW, Vert.
*Sprengnether Short-period Vertical Seismometer.
**Wiechert Astatic Pendulum Seismometer (1000 kilo.) NS, EW.
*Wiechert Vertical Seismometer (80 kilo.). Adapted for Galvanometer registration.
*Wainka Conical Pendulum Seismometer (450 kilo.) NS, EW.

* Not operating.
** Out of commission.

N.B. Benioff readings designated N E Z
Sprengnether L.P. N' E' Z'
Galitzin N" E" Z"

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1963		h m s	s	μ	μ	μ	km.	
1	Jan. 1	i(P) Z	12 23 37.3	1			-0.13		Dilatation.
		i NZ	23 42	1	+0.04		-0.15		
		e E'	28 44	?					USCGS: 6.8S, 155.9E, H 12 17 38.6,
		i N'	28 49	7	-2				h 165 km.ca.
		e Z'	29 42	(19)					
		e N'	29 50	27					
		eL E'	30.1	(25)					
		M Z'	31.7	20			1		
		M E'	32.3	15		2			
		M N'	33.3	14	1				
2	1	eS E'	19 53 13	26					USCGS: 40.2S, 81.3E, H 19 35 55.1,
		eS N'	53 15	25					h 33 km.ca.
		e Z'	53 18	?					
		e(SS) E'	57.0	(14)					
		eL N'	59.0	42					
		M E'Z'	20 02.5	30		5	4		
		M N'	03.0	22	3				
		M E'Z'	04.5	20		6	7		
3	1	i(S) E'	24 04 23	6		-7			USCGS: 56.6N, 157.7W, H 23 39 05.6,
		i E'	04 57	6		+7			h 50 km.ca.
		i N"	04 58		+				
		M Z'	28	25			2		
4	2	M Z'	01 55	25			½		
5	2	M N'Z'	03 39	21	½		1		USCGS: 5.8S, 150.0E, H 03 23 29.5,
									h 33 km.ca.
6	2	(iP) N	15 02 40.2						
		(i) Z	03 01.0						USCGS: 4.1S, 135.2E, H 14 56 05.4,
		eS N'Z'	07 58	22					h 33 km.ca.
		e E'	08 03	16					
		eLQ N'E'	10.5	45					
		eLR Z'	12.1	40					
		M N'E'	14.3	20	26	48			
		M N'Z'	18.8	11	56		65		
	2	(i) Z	15 40 15.8						
		(i) Z	40 45.4						

No.	Date	Phase & Component	Time (G.H.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Jan. 2	e Z'	16 02 26	26					
		e N'	02 28						
7	2	e N'E'Z'	16 15 25	21					USCGS: 52.9S, 118.2W, H 15 55 47.9, h 33 km.ca.
		eLQ E'	22.3	36					
		eLR Z'	25.3	29					
		eLR N'	25.5	29					
		eLR E'	25.7	29					
		M N'E'Z'	26.5	26	6	6	15		
		M N'E'Z'	29.5	18	3	2	5		
8	2	M N'E'	17.6	21	2	5			USCGS: 4.3S, 135.2E, H 17 59 38.8, h 33 km.ca.
		M N'Z'	21.4	11	6		7		
9	2	iP Z	18 36 29	0.5			+0.03		Compression. USCGS: 10.7S, 165.0E, H 18 30 52.7, h 39 km.ca.
10	2		20.9	Feeble surface waves on L.P. records.					
	2	e E	23 22 40.5	0.3					Very small local tremor.
11	3	e(S) N'E'	03 24.7	?					USCGS: 29.7N, 130.1E, H 03 05 03.5, h 33 km.ca.
		e Z'	32.4	21					
		e E'	34.3	27					
		eL Z'	37.0	34					
		M N'Z'	39.3	28	1½		1		
		M E'	41.0	22		1			
12	3	e N"	05 10.6	13					Recordedon Galitzin only.
		e E"	11.0	16					
		M E"	15.3						
13	3	(iP) Z	09 45 40½	1			+		
		e N'Z'	45 51						USCGS: 5.3S, 151.5E, H 09 39 46.8, h 74 km.ca.
		i Z	45 51½	0.7					
		iS N'	50 20	7	-4				
		e Z'	50 36	25					
		i N'	50 41	(6)	-				
		e E'	50 46	25					
		e N'	50 48	24					
		eL E'	52.0	30					
		eL N'	52.2	(34)					
		eLR Z'	53.9	30					
		M N'E'Z'	55.5	22	7	7	11		
14	3	eP Z	14 02 11	?					USCGS: 6.9S, 155.2E, H 13 56 34.5, h 91 km.ca.
		M N'Z'	11	22	½	½			
15	4	M Z'	06 56	22			1		USCGS: 32.6S, 178.6W, H 06 43 42.3, h 44 km.ca.
16	4	iP Z'	12 22 35½	5			+6		Compression.
		eP N'	22 36						
		e Z'	22.7	20					USCGS: 4.7S, 154.0E, H 12 16 38.0, h 69 km.ca.
		i Z'	23 10	?			+		
		iS N'E'	27 17	10	-4	-4			
		i N'	27 29	13	+5				
		e Z'	27.5	(34)					
		i N'E'	27 47	14	+5	+4			
		eLR E'	29.2	32					
		eLR Z'	29.6	45					
		M N'	30.9	32	22				
		M Z'	31.1	32			27		
		M E'	31.1	24		13			
		M Z'	32.8	22			9		
		M E'	32.8	17		8			
		M N'	33.0	21	8				
17	4		19.6	Feeble surface waves on L.P. records.					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
18	Jan. 5	eP N'E'Z'	13 09 42	(12)					
		i Z	09 52.5	1.5			+0.2		USCGS: 17.8S, 167.9E H 13 04 48.1, h 33 km.ca.
		i(S) N'E'	13 46	10	-8	+3			
		e Z'	14.3	?					
		e E'	14 20	(25)					
		eL Z'	14.7	35					
		eL E'	14.9	(32)					
		M E'	16.0	22		8			
		M N'	16.2	18	9				
		M Z'	16.4	21			12		
19	5	iP Z	13 23 29.8	1			+0.06		Compression.
		(S) E'	29.0	10					
		i E'	29 18	12		-6			USCGS: 10.0S, 124.0E, H 13 16 43.0, h 33 km.ca.
		i N'Z'	29 23	10	-4		+4		
		i E'	29 40	14		-6			
		i Z'	29 42	14			+5		
		e E'	32 32	(20)					
		eL Z'	32.8	42					
		eL N'	33.1	38					
		eL E'	34.1	29					
		M N'	38.4	12	16				
		M Z'	38.6	12			28		
		M E'	38.8	12		20			
20	6		03 37	Feeble surface waves on L.P.					USCGS: 6.0N, 125.3E, H 03 18 56.6, h 143 km.ca.
21	6		15 38	Feeble surface waves on L.P.					USCGS: 4.9S, 153.8E, H 15 24 48.2, h 131 km.ca.
22	6	iP Z	19 53 54.5	0.75			-0.04		Dilatation.
		i E	20 01 45½	0.5		+			
		e E	02 15	1					USCGS: 8.9S, 123.8E, H 19 46 58.8, h 33 km.ca.
		(e) N'E'Z'	03.6	43					
		M N'E'Z'	09	16-20	0.3	0.3	0.3		
23	7	e Z'	06 30 47	?					
		e(S) N'	35 09						USCGS: 6.4S, 154.7E, H 06 24 49.2, h 80 km.ca.
		e N'	35 12	24					
		e Z'	35 17	25					
		e E'	35.5	25					
		eL E'	36.9	32					
		eL Z'	37.9	30					
		M N'Z'	39.5	23	2		3		
		M E'	39.7	21		1			
24	7	eP Z'	11 56 05	5				4610	
		i Z	56 10	1			+0.1	4195	USCGS: 5.6N, 126.7E, H 11 48 22.7, h 42 km.ca.
		e E'Z'	56 27	11					
		e Z'	58 06	8					
		e N'	58 25	20					
		e E'	58 33	22					
		eS N'	12 02 18						
		(e) Z'	02.5	39					)
		(e) E'	02.7	39					) Possibly non-seismic.
		(e) N'	04.7	80					)
		iSS N'E'	05 25	14	+6	+5			
		iSS Z'	05 27	12			-2		
		m Z'	05.6	20			5		
		eL N'E'	06.6	52					
		M N'E'	08.0	45	8	9			
		M N'	11.1	32					
		M E'Z'	11.5	32		6	7		
		M Z'	13.9	22			7		
		M E'	14.2	20		9			
25	7	eP N'E'Z'	19 24 38	(9)					
		iS N'	28 36	8	-3				USCGS: 17.5S, 167.7E, H 19 19 34.1, h 19 km.ca.
		iS E'	28 37	6		+3			
		i N'	29 07	12	-4				
		i E'	29 10	6		+3			

Continued on next page.

No.	Date	Phase & Component	Time (G.M.T.)	Per	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
25 cont.	Jan. 7	eL N'	19 29.9	20					
		eL Z'	30.3	21					
		M Z'	31.3	18			3		
		M E'	31.5	16		3			
		M N'	32.5	13	6				
	8	i E	02 30 12.6	0.2		-			Very small local tremor.
		i NZ	30 12.8	0.2	-		+		
26	8	e S N'E'Z'	16 06 14	?					USCGS: 31.2N, 130.2E, H 15 46 45.5, h 177 km.ca.
		eiso E'	07 18	7		-1			
		eL E'	16.0	42					
27	9	e N"	01 40 28	11					Recorded on Galitzin only.
		e N"E"	46 58	9					
		e N"E"	53 13	13					
		e E"	02 00 12	22					
28	9	M N'E'Z'	02 16	24	½	1	1		USCGS: 28.9S, 177.4W, H 02 02 38.5, h 71 km.ca.
	9	e Z	04 21 25						Local. Small quarry blast ?
		i N	21 25.4	0.3	+				
	9	e E	06 19 36.7	.75					Local ?
29	9		07 16	Surface waves on L.P.					USCGS: 10.3S, 124.0E, H 06 53 28, h 33 km.ca.
	10	i NEZ	05 17 32.4	0.3	-0.04	+0.05	+0.04		Very small local tremor.
30	11		06 59	Long waves on L.P.					
31	11	eP Z'	12 25 17	6				10,230	
		eSKS N'	35 52	(8)				92?1	USCGS: 45.0S, 75.7W, H 12 12 16.2, h 33 km.ca.
		eSKS E'	35 53	(8)					
		eS E'	36 18	16					
		e N'	37 23	14					
		e E'	37 27	18					
		e Z'	37 33	18					
		e N'	38 15	(30)					
		eSS Z'	42 18	20					
		eSSS Z'	46 13	(24)					
		eLQ E'	49.5	34					
		eLQ N'	49.6	30					
		eL N'	50.0	32					
		eLR Z'	53.7	30					
		M N'E'Z'	56.7	21	1	1	3		
32	11	eL E'Z'	16 25						USCGS: 24.3S, 176.1W, H 16 09 37, h 55 km.ca.
33	11	e(PP) Z'	17 12 06	?					
		e(SS) N'	16 42	(14)					USCGS: 29.4S, 178.6W, H 17 05 42.3, h 225 km.ca.
		e E'	16 44	14					
		e N'	17 11	22					
		M E'Z'	23.4	15		½	½		
34	12	e N'	00 23 27	(11)					
		eL N'E'Z'	27.0	27					
		M N'Z'	31	17	1		1		
35	13	M Z'	04 36	18			1		USCGS: 15.7S, 174.8W, H 04 16 44, h 236 km.ca.
36	13	eL E'	13 03.0	24					USCGS: 6.5S, 149.3E H 12 49 30.2, h 29 km.ca.
		M E'	05.3	15		2			
		M N'Z'	08.0	15	1		2		
37	13	eP Z'	16 25 27	(3)					
		i Z	25 29	1			-		USCGS: 49.7S, 163.7E, H 16 21 13.1, h 33 km.ca.
		iPP Z	25 42	.75			+		
		eS E'	28 41	(12)					
		iSS N'E'	29 00	13	+3	+6			
		eL Z'	29.7	23			-		
		M N'E'Z'	31	10	2	4	4		
		eT NEZ	43.2	0.5					
		T max. NEZ	44.3	0.5	0.1	0.1	0.1		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
38	Jan.13	i Z	16 37 56	.75			+		
		(T) NEZ	56	.5					
	14	e E	06 01 47	.5					Small local tremor.
	14	e N	08 30 27	.5					" " "
39	14	iP Z	11 24 24.2	.75			-0.06		Dilatation.
		i E	24 26.4	.75		+0.03			
		i Z'	24 30	5			+2		USCGS: 21.2S, 169.3E, H 11 19 47.5, h 33 km.ca.
		e E'	24 31	5					
		e Z'	28 20	(9)					
		i N'	28 22	5	+3				
		i Z'	28 24	4			+3		
		e E'Z'	29.4	24					
		M E'Z'	30.0	21		2	3		
		M N'	30.1	18	2				
		M N'E'	39.5	20	8	7			
		M Z'	42.0	22			7		
40	15	e E'	02 51 09	?					USCGS: 13.4N, 145.3E, H 02 32 39.9, h 38 km.ca.
		e N'	51 29	10					
		eL E'	54.0	20					
		eL Z'	54.8	20					
		M N'E'	59	18	½	1			
		M Z'	03 01	20			1		
41	15		10.0	Feeble surface waves on L.P.					USCGS: 16.6S, 164.9E, H 09 47 42.9 h 89 km.ca.
42	15	(e) E'	17 47.2						
		e Z'	49.5						USCGS: 17.1S, 179.6W, H 17 39 19.2, h 276 km.ca.
		eL Z'	51.3	(27)					
		eL N'E'	52.0	22					
		M N'E'Z'	54	17	1	1	1		
43	15	(e) E'	19 33 37						
		e Z'	33 41						USCGS: 20.5S, 177.9W, H 19 26 34.3 h 490 km.ca.
		e Z'	34 34	14					
		e Z'	36 26	17					
		e(S) E'	36 31	9					
		eL N'Z'	39.3	26					
		M N'E'Z'	43	16	½	1	1		
44	15	eL Z'	23 11.5	30					USCGS: 31.3S, 13.4W, H 22 17 50.9, h 33 km.ca.
		M N'Z'	18	20	1		2		
	16	e NE	02 48 13.5	.5					Small. Local ?
45	16	e(PS) N'E'	03 31 34	(18)					
		e Z'	31 40	20					USCGS: 54.0S, 133.5W, H 03 14 05.9, h 33 km.ca.
		eL Z'	38.4	35					
		e E'	38.7	16					
		eL E'	39.5	32					
		M Z'	40.0	22			2		
		M N'	41.0	23	1½				
		M E'	41.6	22		1			
46	16	e N'	21 25.9	30					USCGS: 11.1S, 111.6E, H 21 08 38.8, h 94 km.ca.
		eL N'	28	35					
		M N'E'	31	20	3	1			
		M Z'	34	21			2		
47	17	e N'	21 00 41	17					USCGS: 25.6N, 125.2E, H 20 41 14.8, h 140 km.ca.
		eL Z'	12.0	38					
		M N'E'Z'	15	28	½	½	½		
	17	iPg EZ	06 05 30.9	.25		+0.03	+		Quarry blast.
		iSg NE	05 34.3	.3	-0.04	+0.04			
		i Z	05 34.8	.3			+0.2		
		i N	05 35.6	.3	+0.06				
		m N	05 37	.6	0.16				
		i EZ	05 38.1	.6		+0.07	+0.10		
		m EZ	05 39	.6		0.16	0.17		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Jan.18	i N	06 06 16.5	.25	+0.03				Quarry blast.
		i NZ	06 17.3	.3	+0.04		-0.03		
		i E	06 17.8	.5		+0.14			
		m EZ	06 18	.6		0.16	0.10		
		i N	06 25	.5	+0.03				
48	18	e E'Z'	06 06 18	5					(USCGS: 32.0S, 117.1E, H 05 49 18.4, h 35 km.ca.)
		e Z'	06 30	5					
		i E'	06 32	5		+1			
	19	e NZ	02 30 06						Local ?
	19	e NE	05 12 39						Local ?
	19	iPg EZ	05 49 55.2	.25		+0.04	(+)		Quarry blast.
		iSg N	49 58.8	.25	+0.01				
		iSg E	49 59.0	.25		+0.05			
		i Z	49 59.2	.25			+0.2		
		i N	50 00.1	.5	-0.05				
		m N	50 01	.6	0.2				
		i Z	50 02.5	.5			+0.05		
		m EZ	50 03.5	.7		0.13	0.13		
49	19	(eP) Z'	21 49 18						
		e(S) N'E'	53 45	13					
		eL Z'	55.5	31					
		eL N'E'	55.7	30					
		M E'	57.7	14		½			
		N N'Z'	58.7	16	½		¾		
	21	i N	09 17 49.7	.5					Local or regional.
		i N	18 02.5	.5					
		i N	18 03.0	.5					
50	21	e Z'	10 52.1	?					
		e E'	52 52	7					USCGS: 3.0S, 136.2E, H 10 35 39.0, h 57 km.ca.
		eL Z'	54.1	27					
		e E'	54 24	(15)					
		eL N'	55.2	26					
		M N'E'Z'	57.2	16	2	1	4		
	22	i E	00 22 10.2	.2		+0.1			Local. Quarry blast ?
		i NE	22 10.7	.2	+0.3	+0.16			
		i Z	22 11						
	22	i EZ	02 27 35.0	.5		+0.02			Local. Quarry blast ?
		i E	27 36.9	.3		+0.35			
		m N	27 37	.3	0.9				
		m Z	27 38	.3			0.2		
	22	i E	02 30 48.4	.5		-0.02			Local.
	22	(e) E	02 40 22						Local.
		i Z	40 24	.3			+0.03		
	22	e E	04 16 40	.5					Local.
	22	e NZ	06 10 16	.4					Local.
		e E	10 17	.5					
		e E	10 20	.6					
	23	i NE	02 00 05.0	.5	+0.02	+0.06			Local. Quarry blast ?
		i Z	00 06						
		i N	00 07.2	.5	-0.05				
	23	i NE	06 19 44.3	.4	-0.01	-0.03			Quarry blast ?
		i N	19 47.3	.6	-0.04				
	23	iPg EZ	06 34 31.6	.3		-0.04	?		Quarry blast.
		iSg N	34 34.9	.3	-0.09				
		iSg E	34 35.0	.3		+0.05			
		i N	34 36.1	.3	+0.1				
		m N	34 37	.7	0.34				
		m E	34 39	.7		0.15			
		m Z	34 40	.7			0.16		

No.	Date	Phase	Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
51	Jan.23	M	N'	09 08	13	½				
	23	e	NE	17 41 11	.7					Local ?
	24	(e)	N	02 10 46½	.3					Local ?
		e	N	10 48	.3					
	24	e	N	04 45 46	.5					Local ?
	24	i	N	06 05 10.5	.4	+0.02				Local ?
		i	E	05 10.7	.5		+0.03			
	24	iPg	E	08 06 12.9	.25		-0.08	?		Quarry blast.
		iSg	NE	06 16.2	.3	-0.14	+0.06			
		i	Z	06 16.6	.3			+0.15		
		i	N	06 17.3	.3	+0.2				
		m	N	06 19	.6	0.8				
		m	EZ	06 21	.6		0.15	0.12		
52	24	M	N'Z'	10 28	18					USCGS: 10.1S, 160.8E, H 10 14 52.0, h 33 km.ca.
53	24	(e)	Z'	12 16 26	?					
		e	Z'	17 55	5					USCGS: 15.2S, 173.6W, H 12 09 01.2, h 33 km.ca.
		e	Z'	18 12	?					
		e	E'	22 15	15					
		e	N'	24 41	26					
		eL	E'Z'	26.6	26					
		M	N'E'Z'	29.5	12-18	1	1	1		
54	24	(eP)	N'	22 36 09						USCGS: 8.0N, 126.8E, H 22 27 32.5, h 67 km.ca.
		(P)	Z	36 10						
		e	Z	36 11						
		e(S)	N'	42 50	12					
		e	E'Z'	43 02	10					
		i	N'	46 13		+				
		iSS	N'E'	46 24	11	+3	-3			
		eL	Z'	50.6	(40)					
		M	Z'	53.0	28			1		
		M	E'	53.2	21		3			
		M	N'	53.8	18	2				
		M	N'E'Z'	59	16-18	3½	2½	4		
55	25	eL	Z'	00 24	?					USCGS: 20.3S, 169.6E, H 00 16 05.7, h 135 km.ca.
		M	N'E'Z'	28	16					
56	25	eL	E'Z'	13 13.8	35					USCGS: 21.8N, 143.8E, H 12 49 42.0, h 190 km.ca.
		M	E'	18	17		1			
57	25	L	Z'	17 12	(18)					USCGS: 17.5S, 176.2W, H 16 56 40, h 33 km.ca.
58	25	e	Z'	20 34.2	(15)					
		e(L)	N'	36.3	(27)					USCGS: 19.0S, 173.3W, H 20 21 31.6, h 129 km.ca.
		eL	Z'	38.3	(27)					
		M	E'Z'	40.5	20		1½	2		
		M	N'	40.7	15	1				
59	26			19.5	Feeble surface waves on L.P.					USCGS: 15.7S, 172.9W, H 19 12 02.5, h 33 km.ca.
60	27	e	Z'	18 52 23	?					
		eS	N'	56 50	24					USCGS: 5.2S. 152.3E, H 18 46 14.6, h 72 km.ca.
		e	Z'	57 12	?					
		e	E'	57 40	24					
		eLR	N'	58.6	35					
		eLR	E'	58.7	34					
		M	N'E'Z'	19 02	21	2	1	3		
61	27	e(PS)	Z'	20 05.0						USCGS: 41.2N, 49.8E, H 19 35 14.3, h 33 km.ca.
		e(SS)	N'	12.0						
		e	Z'	24.4						
		(LQ)	N'	28	(45)					
		eL(R)	Z'	33.5	45					
		M	E'Z'	42	28		½	1		
		N	N'	45	25	½				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
62	Jan.28	e(L) N'	00 31.6	(24)					
		e(L) Z'	31.7	(24)					
		M N'E'	40.7	27	½	1			
		M Z'	40.8	29			2½		
63	28	Z'	04 57	Weak surface waves.					
64	28	Z'	08 06	Weak surface waves.					USCGS: 16.7S, 172.5W, H 07 47 32.8, h 154 km.ca.
65	28	eL N'E'	10 11.5	17					USCGS: 52.4S, 159.6E, H 10 03 21.4, h 33 km.ca.
		eL Z'	12.3	20					
66	28	iP EZ	10 44 09.9	.75		-0.04	+0.14		Compression.
		i N	44 12.3	.75	-0.03				USCGS: 19.0S, 169.6E, H 10 39 30.6, h 220 km.ca.
67	28	iP N?Z'	12 18 37½		-		+	3540	Compression.
		i N'Z'	18 41		+		-	3119	
		iPP N'Z'	19 39	7	+7		-5		USCGS: 2.6S, 149.9E, H 12 12 19.8, h 33 km.ca.
		e N'	21.8	24					
		e Z'	21.9	21					
		e Z'	23.6	27					
		iS N'E'	23 45	17	+27	+10			
		m N'	24.2	23	51				
		m Z'	24.3	28			26		
		iL E'	25 53	26		-67			
		i Z	26 12	18			+27		
		i N'	26 38	27	+28				
		L E'	27.0	35		140			
		L N'	27.5	32					
		L Z'	28.0	35			78		
		L N	28.5	32	65				
		M N'Z'	30.7	19	77		77		
		M E'	31.4	16		107			
68	28	iP Z"	13 14 26	?			+	10,820	Compression. Superposed on coda
		iS E'	25 48	12		-19		97?4	of no. 67.
		e E'	27.7	31					
		eSS E'	32.4	30					USCGS: 54.7N, 161.6W, H 13 00 50.7, h 33 km.ca.
		iSS N'	32 38	20	+11				
		eL(Q) E'	38.3	(35)					
		eLR Z'	45	40					
		M E'	46	30		10			
		M N'Z'	47	27	11		21		
		M Z'	53	20			14		
		M E'	55	19		14			
		e N'E'	14 51	50					
69	28	e Z'	16 13 04	19					USCGS: 31.2S, 177.7W, H 16 07 19, h 33 km.ca.
		e E'	16.6	19					
		eL E'	19.3	29					
		eL Z'	19.4	27					
		M E'Z'	21	21		3	5		
		M N'	21.5	17	2				
	28	i EZ	22 58 14.2	.3		(+)	(+)		Local. Quarry blast ?
		i N	58 15.4	.3	-0.07				
		i Z	58 16.0	.25		-0.07	-0.07		
		i E	58 16.2	.3		+0.14			
		m N	58 16.5	.4	0.24				
		m EZ	58 17	.3		0.24	0.18		
	29	(i) Z	06 00 07	?					Quarry blast ?
		i Z	00 09.8	?					
		i E	00 10.7	.4		+0.09			
		i Z	00 12.7	.4			+0.08		
	29	iPg Z	07 08 51.8	.3			+0.07		Compression. Quarry blast.
		iPg E	08 52.0	.3		+0.06			
		iSg N	08 55.5	.3	-0.2				
		iSg E	08 55.7	.3		+0.15			
		i Z	08 55.9	.3			+0.18		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Jan.29	i N	07 08 56.7	0.3	+0.3				Quarry blast continued.
		m N	08 58	.7					
		i E	08 58.4	.3		+0.18			
		m NZ	09 00	.7	0.95		0.41		
		m E	09 01	.7		0.38			
70	29	(e) Z'	09 34 03						
		i(SKS) N'	43 40	9	+2				USCGS: 49.7N, 154.9E, H 09 21 14.3,
		iS E'	43 43	9		-2			h 126 km.ca.
		e(sS) E'	44 30						
		eL E'	55.8	(50)					
		eLR Z'	10 00	30					
		M E'	00.7	(20)					
		M N'Z'	05	20	½		1		
71	30	eL E'	09 16.6	33					
		M N'E'Z'	20	22	1	1	2		
72	30	iP Z	10 23 05.8	1			+0.1	10,020	Compression. Microseisms present.
		eP Z'	23 06	20				90?2	
		e N'	23 08	20					USCGS: 55.6S, 28.3W, H 10 10 04.1,
		ePP N'	26 46	21					h 33 km.ca.
		e Z'	26.9	21					
		e N'	33 05	25					
		iSKS N'	33 42	12	+5				
		e N'Z'	33.8	33					
		eS E'	33 55	(24)					
		i E'	34 05	?		+			
		m E'	34.5	30		28			
		ePS Z'	35.1	32					
		i N'	35 23	(14)	+(13)				
		ei Z'	36.2	26			+12		
		e N'	38.7	45					
		m N'	40.0	45	10				
		eSS E'Z'	40 09	30					
		e Z'	44.0	31					
		eLQ E'	46.8	36					
		e E'	47.2	28					
		eG E'	48.6	58					
		eL Z'	51.0	45					
		eLR E'	52.9	34					
		eL N'	53.4	50					
		eL Z'	54.2	24					
		iM N'E'Z'	59.9	21			+19		
		M N'Z'	11 02.0	20	31		49		
		M E'	03.0	19		33			
73	31	iP N'Z'	05 17 22½	4	+2		-5	7370	Dilatation.
		e Z'	17 46	(8)				66?3	
		eS E'Z'	26 08	(22)					USCGS: 27.9N, 126.3E, H 05 06 46.0,
		e N'	26 10	(22)					h 33 km.ca.
		ePS E'Z'	26 27	25					
		m N'	26.5	30	8				
		e E'	27 08	14					
		eSS N'Z'	30 25	12					
		e N'Z'	30.5	31					
		eLQ N'E'	33.6	33					
		eL E'	35.6	34					
		eLR N'Z'	37.7	45					
		M N'Z'	40.6	28	11		17		
		M E'	43.8	21		9			
		M N'Z'	44.7	20	14		19		
74	31		07.9	Surface waves on L.P.					

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Feb. 1	iPg EZ	06 49 57.0	0.25		+0.04	+0.04		Compression. Quarry blast.
		iSg N	50 00.9	.3	-0.06				
		i EZ	50 01.2	.3		+0.18	+0.23		
		i N	50 02.1	.3	-0.11				
		m N	50 03½	.6	0.35				
		i E	50 04.5	.6		+0.09			
		i Z	50 04.6	.6			+0.14		
		m EZ	50 06	.7		0.22	0.27		
	1	i NEZ	23 58 20.7	.25	+0.02	+0.03	+0.03		Local.
	2	i(Pg) N	23 07 57.6	.3	+0.03				Local. Quarry blast ?
		i E	07 57.8	.4		+0.03			
		i Z	07 58.6	.5			+0.03		
		i(Sg) N	08 01.0	.25	+0.06				
		i N	08 01.6	.5	+				
		m E	08 03	.7		0.06			
		i E	08 04.5	.8		+0.05			
		m NZ	08 06	.8	0.11		0.07		
	3	i(Pg) NEZ	04 27 06.8	.4	+0.02	-0.04	+0.04		Local. Quarry blast ?
		i(Sg) N	27 10.1	.4	+0.06				
		i N	27 10.8	.6	+0.19				
		m N	27 12	.7	0.2				
		i E	27 13.8	.7		+0.06			
		m EZ	27 15	.7		0.1	0.1		
75	3	L Z'	08 49.6						
		M Z'	52.6	17			¾		
76	4	M N'Z'	01 37	14	7		10		Masked by large microseisms.
		M E'	37.6	12		8			USCGS: 6.3S, 149.1E, H 01 17 03.1, h 36 km.ca.
77	4	e N'	15 13.2	(16)					USCGS: 17.3S, 167.9E, H 15 04 05.3, h 33 km.ca.
		eL Z'	15.7	20					
	5	i N	02 19 55.9	.7	+0.25				Small local tremor.
	5	i(P) NZ	03 32 54.5	.4	-0.03		+0.02		Local.
		i N	32 57.3	.4	+0.05				
		i E	32 57.5	.5		-			
		i Z	33 11.0	.4			+0.2		
		m N	33 12	.5	0.26				
		m E	33 14	.5		0.17			
	5	i N	06 03 24.8	.3	+0.03				Local. Quarry blast ?
		i E	03 25.1	?		(-)			
		i Z	03 25.3	.3			+0.07		
		i N	03 26.5	.4	+0.02				
78	5	(P) Z'	20 52 54	?					Masked by microseisms.
		e Z'	21 03 22	12					
		eSKS E'	03 25	(10)					USCGS: 38.4S, 73.2W, H 20 39 21.6, h 41 km.ca.
		iSKS N'	03 27	(10)	-				
		eS E'	04 12	10					
		ePS N'E'	05 35	20					
		e Z'	05.7	(24)					
		ePPS N'	06 17	18					
		eSS N'E'Z'	11.0	20					
		eSSS E'	14.4	20					
		eLQ N'E'	20.1	32					
		eLR Z'	23.0	30					
		M N'E'Z'	28	19	5	6	12		
		M N'E'Z'	32	17	5	6	11		
		W2 M N'	23 04	22	2				
79	6	e Z'	01 45 25	?					
		e(SKS) N'	45 37	?					USCGS: 38.4S, 73.6W, H 01 21 29.0, h 33 km.ca.
		eLR N'Z'	02 06.0	25					
		eLR E'	06.3	24					
		M N'E'Z'	10	19	2	2	4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Feb. 6	(iPg) EZ	06 19 47.2	.25					Quarry blast.
		i(Sg) N	19 50.8	.25	+				
		i EZ	19 51.1	.4		-0.07	+0.05		
		i E	19 54.3	.5		+0.05			
		i Z	19 54.7	.6			-0.09		
	6	i E	06 24 26.0	.5		-0.02			Local ?
		i E	24 31.1	.7		+0.04			
		i Z	24 31.9	.7			-0.03		
80	6	e(S) N'	10 31 26	14					
		e E'	31 43	14					USCGS: 3.5S, 146.0E, H 10 20 25.5,
		e Z'	32 16						h 33 km.ca.
		eLQ E'	33.8	47					
		e Z	34.4	(15)					
		eL N'Z'	35.4	32					
		M E'	37.3	21		10			
		M N'Z'	38.9	19-21	10		10		
		M E'	40.7	17		14			
		M N'Z'	41.0	16	10		14		
81	6		13.9	Surface waves on L.P.					
82	6	e(SS) N'	18 47.6	(25)					USCGS: 55.6N, 166.1E, H 18 17 10.9,
		eL N'Z'	59.0	37					h 33 km.ca.
83	7	(P) Z	01 29 19½						USCGS: 17.7S, 178.7W, H 01 23 41.7,
		i(sP) NE	32 02.7	.4	+0.03	+0.02			h 559 km.ca.
84	7		09.5	Long waves on L.P.					
85	7	e N'	17 21 20	(12)					
		eL Z'	22.2	24					USCGS: 26.5S, 176.6W, H 17 08 18,
		eL E'	22.3	24					h 33 km.ca.
		M E'	24.3	16		½			
		M Z'	24.5	17			1½		
		M N'	25.0	12	1				
	8	i(P) NZ	00 25 48.2	.5	-0.02		+0.02		Regional ?
		i(S) NE	26 09.1	.5	-0.07	+0.04			
86	8	eL Z'	02 42.3	24					USCGS: 26.9S, 176.7W, H 02 29 00.4,
		M E'	45.0	17					h 190 km.ca.
		M N'Z'	45.2	13-16	1		1		
	8	i EZ	05 20 04.2	.3		+	+		Very small local tremor.
	8	i(Sg) N	06 05 48.0	.25	-0.04				Quarry blast ?
		i EZ	05 48.4	.25		+0.05	-0.04		
		i N	05 49.1	.25	+0.06				
		m N	05 50.2	.6	0.17				
		i EZ	05 51.8	.4		+0.03	+0.04		
87	9	iP NEZ	08 41 29.3	.5	-	-	+0.02		Compression.
		m NEZ	41 30	.75	0.03	0.04	0.18		USCGS: 15.0S, 167.4E, H 08 36 25.2,
									h 127 km.ca.
88	9	eP E'Z'	16 59 43	8					
		e E'	17 03 53	23					USCGS: 35.9S, 177.9E, H 16 55 00
		e N'	03 54	23					h 172 km.ca.
		eLR Z'	05.6	21					
		M N'	06.5	18	3				
		M E'	07.0	17		1			
		M Z'	07.5	17			2		
		M E'	08.2	14		3			
		M N'	08.4	13	6				
89	9	L N'E'Z'	19 20	20					
	11	i N	02 24 05.2	.3	+				Very small local tremor.
	11	i N	04 27 22.8	.3	-				" " " "
90	11	e E'	12 35 05						USCGS: 15.7S, 174.7W, H 12 22 26,
		eL N'	37.7						h 33 km.ca.
		eLR E'Z'	39.2	24					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
91	Feb 11	eL Z'	21 24.2	21					
		M E'Z'	27.5	16		½	1		
	12	e NE	04 01 29.6	.4					Very small local trmor.
92	12	iP Z	23 13 06.1	1			+0.16		Compression.
		e Z'	17 30	15					USCGS: 17.8S, 178.6W, H 23 07 28.9,
		iS E'	17 32½	7		+4			h 583 km.ca.
		eL N'	20.5	?					
	13	m NEZ	00 38 59½	.6					Quarry blast ?
	13	i(Sg) NZ	02 11 10.4	.5	-0.08			+	Quarry blast.
		m N	11 12	.5	0.45				
		i E	11 12.2	.3		+0.3			
	13	i Z	06 02 55	.5			+		Quarry blast ?
	13	i N	06 12 37.5	.4	+				Quarry blast.
		i EZ	12 37.9	.3		-0.06	-0.05		
		m N	12 40	.6	0.17				
		i EZ	12 41.4	.3		+0.09	+0.14		
	13	iPg EZ	06 38 22.1	.3		+0.03	+0.05		Compression. Quarry blast.
		iSg N	38 25.6	.4	+0.05				
		i E	38 26.0	.3		+0.14			
		i Z	38 26.1	.3			-0.17		
		m N	38 28½	.6	0.4				
		i E	38 29.3	.5		+0.07			
		m EZ	38 30½	.7		0.17	0.24		
93	13	iP N'Z'	09 00 38	6	-4		+12	7180	Compression.
		i Z	00 39.7	1			-0.3	6496	h 0.00, H 08 50 02
		ipP Z'	00 47	8			-40		After P, N' E' trace defficult to
		i N"Z"	00 48	6	+5		+60		read. Readings mainly from Galitzin.
		isP E"	00 52	7		+8			
		iPPP Z'	04 31	10			+14		USCGS: 24.5N, 121.8E, H 08 50 02.2,
		i Z'	09 08	11			+17		h 33 km.ca.
		iS N'	09 14	?	+				
		iS N"E"	09 16	9	-66	+54			
		iS E'	09 17	(9)		+			
		i Z"	09 18	12			+82		
		m Z'	09 30	20			81		
		isS E"	09 33	9		+55			
		i N"	09 49	9	-32				
		i E"	09 50	9		+48			
		i N"	10 01	9	+44				
		i E"	10 16	10		+37			
		iScS N"E"	10 31	8	+40	-35			
		iSS N"	13 13	10	+33				
		SS Z'	13 32	25					
		m Z'	14.0	28			67		
		SSS N"	16 21	9	+				
		iSSS Z'	16 30	20			-96		
		m N"	16.8	12	46				
		i E"	16 49	10		+40			
		m Z"	17.0	18			72		
		M E"	25.5	23		110			
		M Z'	26.5	22			200		
		M N"Z"	27.2	22	100		170		
		M N"	28.3	19	87				
		e E'	10 51	72					Seismic ??
		e N'	52.5	80					"
		e Z'	11 06	50					
		eW2 Z'	19	32					
		M N'Z'	22	26	6	12	12		
		M N'Z'	32	25	7		12		
		M E'	33	23		7			
		F	13 00						

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
94	Feb.13	iP Z'	18 19 21	6			+4	2840	Compression.
		i N'	19 25	12	+10			25°6	
		i E'Z'	19 27	12		+4	-17		USCGS: 9.9S, 160.8E, H 18 13 55.1,
		iS N'	23 44	10	+17				29 km.ca.
		i Z	23 46	12			-17		
		i N"	23 49	9	-35				
		i E'	23 51	7		+25			
		i E'	23 59	10		+46			
		i Z'	24 03	13			+85		
		m N	24.1	13	120				
		i N'	24 36	15	-21				
		(SS) E'	24 48	?		-			
		m N'	24.9	(30)	(90)+				
		i(LR) Z'	25 11	28			+48		
		L E'	25.2	30		86			
		L N'	25.9	30	100				
		M N'	27.2	16	90				
		M Z'	28.2	19			81		
		M E'	29.5	16		84			
		M Z'	29.8	16			105		
		W_2 M Z'	21 08	23			1		
	14	i Z	03 35 49.6						Quarry blast ?
		i E	35 51.4	.5		-0.04			
		i NZ	35 51.6	.5	+0.03		-0.05		
	14	i NE	06 02 48.6	.2	+0.06	+			Quarry blast ?
		i Z	02 48.8	.3			-0.09		
		i E	02 49.6	.5		+0.09			
		i Z	02 51.1	.5			-0.09		
	14	i E	06 46 17.2	.5		+0.04			Quarry blast ?
		i N	46 17.6	.5	+0.03				
95	14	iP Z'	06 53 52½	5			-4		Dilatation.
		eiS N'E'	58 20	7	-4	+1			USCGS: 10.1S, 160.3E, H 06 48 30.3,
		i N'Z'	58 30	7	+5		-2		h 64 km.ca.
		e E'	59 21	?					
		eL Z'	07 00.0	32					
		M E'	01.4	17		2½			
		M N'Z'	02.0	17	8		7		
96	14	eP Z	07 11 09					3630	h 0.00 ?
		i Z	11 17.0	1			+0.1	32°7	
		i Z	11 46.6	2			+1.7		USCGS: 7.2S, 128.2E, H 07 04 40.8,
		e Z'	11 53	(20)					h 197 km.ca.
		PP Z'	12 16	10			9		
		i N"Z"	12 21	7	+6		-18		
		i N"Z"	12 31	6	+7		-17		
		iPcP NE	13 58.4	0.8	+0.16	-0.14			
		iS E'	16 22	8		+17			
		i N'	16 25	8	+13				
		i E'	16 29	9		+38			
		e Z'	16 33	36					
		e N'E'	16.8	30					
		i Z'	18 03	19					
		m E'	18.3	28		32			
		LQ N'	18.4	70					
		i Z'	18 52	5			-25		Superposed on long waves.
		L E'	19.0	70					
		i N'Z'	19 13	2½,4	+		+11		" " " "
		LR Z'	19.6	60			82		
		i N'E'	19 44	5	+57	+51			" " " "
		i	20 28	3					
		R Z'	21.3	48					
		R N'	21.4	46	51				
		(Lg) Z1	21 37	2½					
		M E'Z'	23.7	20-25		56	55		
		M N'	24.0	18	41				
		i N'E'Z'	26 17	10-13	+70	+56	+93		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
97	Feb.14	ePKP Z	12 29 00½						USCGS: 0.9N, 30.0W, H 12 09 11.4,
		(SS) N'	52.5	45					h 33 km.ca.
		e Z'	55 29	18					
		(G) E'	13 10.0	(70)					
		eLR Z'	16.3	30					
		eLR N'	17.3	30					
		M N'E'Z'	33.0	17	1	1	3		
98	14	e N'	14 47 27	10					USCGS: 17.9S, 160.6E, H 14 38 31.5,
		e E'Z'	47 33	10					h 40 km.ca.
		eL E'	48.9	24					
		eL Z'	49.3	24					
99	14	e N'	15 40 08						USCGS: 9.8S, 160.6E, H 15 29 58.2,
									h 25 km.ca.
100	14	L E'Z'	17 57						
101	14	eP E'Z'	21 55 49	8					USCGS: 22.1S, 170.3E, H 21 51 12.7,
		e N'	56 59						h 33 km.ca.
		e Z'	57 02	23					
		e(S) N'	59 30						
		e Z'	59 40	11					
		ei E'	59 44	12		-4			
		i Z'	59 53	11			+10		
		eL E'Z'	20 00.8	28					
		M Z'	02.8	17			7		
102	14	iP Z	22 04 07.8	1			-0.06		Dilatation.
		i E	04 11.3	1		+0.07			L.P. records confused by coda of 101.
		eL N'	08.1	30					USCGS: 22.0S, 170.1E, H 21 59 34.3,
		eL E'	09.1	26					h 47 km.ca.
		eL Z'	09.2	27					
	14	i EZ	22 08 23.2	.2	(+)	+	+		Small local tremor.
		i NZ	08 24.4	.3	+0.04		+0.03		
103	14	iP Z'Z"	22 13 51	4			+10*		Dilatation. *From Galitzin.
		i Z	13 52.2	1.3			+0.3		L.P. records confused by coda of 102.
		i Z	14 08.6	1.3			+0.2		
		i E	14 33.2	1.3		+0.15			USCGS: 5.0S, 144.6E, H 22 07 54.3,
		i N	14 41.5	1.3	+0.2				h 80 km.ca.
		e N'E'	19.0						
		eL(Q) E'	21.2	36					
		eLR Z'	21.7	42					
		eLR N'	21.8	42					
		M N'Z'	23.0	30	23		30		
		M N'	24.7	25	18				
		M E'	25.8	15		24			
104	14	eL E'	22 59.1	29					USCGS: 3.1S, 134.3E, H 22 41 51.1,
		M E'	23 00.7	19		2			h 49 km.ca.
		M N'	01.0	18	1				
105	15	i(P) Z"	00 54 31	4			+5		Compression.
		i(P) Z'	54 31½	4			+		USCGS: 33.2S, 179.2W, H 00 48 51.9,
		e N'	59 07	10					h 42 km.ca.
		eLR E'Z'	01 00.2	30					
		M N'E'Z'	01	25	1½	4	8		
	15	i N	03 26 48	.5	+0.03				Small local tremor.
106	15	eP Z Z'	05 44 38						USCGS: 22.0S, 170.5E, H 05 39 57.2,
		e E'Z'	48 34	9					h 33 km.ca.
		eL E'Z'	49.6	26					
		M N'	50.8	16	1				
		M E'Z'	51.8	17		1	1		
		i N"	52 04	5	+4				
	15	e(Pg) Z	06 02 52.5	.3					Quarry blast ?
		i(Sg) Z	02 56.3	.3			+0.07		
	15	e E	06 17 22						Local.
		i NE	17 24.9	.3	+	+			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
107	Feb.15	e Z'E'	07 06.6	16					USCGS: 14.9S, 178.7W, H 06 54 51.8, h 33 km.ca.
		e N'	09.4	17					
		eLR E'Z'	10.0	28					
		M E'Z'	10.6	25		3	4		
108	15	eL Z'	09 35.5	24					
		M N'	39.5	10	1				
	16	i N	02 07 20.6	.2	+0.08				Local. Quarry blast.
		i EZ	07 20.7	.3		-0.05	+0.03		
		i N	07 24.0	.3	+0.10				
		m N	07 26	.75	0.2				
109	16	L Z'	09 04						(USCGS: 15.1N, 46.5W, H 08 04 13.4)
110	16	iP Z	10 53 19.3	.5			+0.08		Compression.
		i E	53 20	.7		+0.03			
		m Z	53 20½	.7			0.14		USCGS: 7.0S, 117.3E, H 10 46 22.0, h 561 km.ca.
		e(S) E	58 53						
		e E'	11 02 08	13					
		e Z'	02 18	13					
		eL N'	07.3	(25)					
111	16	eL N'E'Z'	12 29	22					USCGS: 0.6S, 147.5E, H 12 12 39.1, h 33 km .ca.
112	17	eL N'	04 17.2	28					
		eL Z'	17.4	26					
113	17	L Z'	07 18	30					USCGS: 4.8S, 144.2E, H 06 53 20.3, h 35 km.ca.
114	17	Z'	17 28	Feeble surface waves.					USCGS: 17.1S, 176.7W, H 17 10 13.6, h 70 km.ca.
115	17	iP Z	22 19 05.1	.5			-0.03		Dilatation.
		i Z	19 05.3	.7			+0.12		
		i E	19 05.4	.7		-0.03			
	18	i NEZ	06 03 58.5	.3	+	+	-		Quarry blast ?
		m N	04 01	.7	0.12				
		i Z	04 02.4	.8			-0.09		
	18	Pg EZ	06 19 29.3	.3					Quarry blast ?
		iSg E	19 33.4	.4		-0.08			
		iSg NZ	19 33.5	.4	?		+0.08		
		i E	19 36.5	.5		+0.04			
		i Z	19 36.6	.5			+0.08		
		m EZ	19 37½	.7		0.14	0.17		
116	18	e. Z'	14 53.4	22					(USCGS: 36.4N, 70.9E, H 14 25 18.9, h 225 km.ca.)
	19	i N	02 03 27.2	.4	-				Local. Small.
		i E	03 27.4	.4		+			
		i Z	03 27.7	.4			(+)		
	19	iPg EZ	06 16 22.8	.3		+0.04	+		Quarry blast.
		iSg N	16 26.3	.4	-0.09				
		i E	16 26.4	.3		+0.09			
		i Z	16 26.7	.3			-0.09		
		m N	16 29	.6	0.7				
		i Z	16 30.1	.5			+0.12		
		m EZ	16 31	.7		0.22	0.27		
117	19	L N'Z'	17 29						USCGS: 55.3S, 28.8W, H 16 39 15.1, h 33 km.ca.
118	19	L Z'	23 04						USCGS: 24.0N, 122.9E, H 22 28 14, h 33 km.ca.
	20	i N	01 41 04.4	.4	+0.03				Local ?
		i Z	41 04.9	.4			+0.04		
		i E	41 05.0	.4		+0.03			
	20	(iP) E	06 52 08	1		+0.04			Masked by microseisms.
									USCGS: 17.2S, 178.2W, H 06 46 19.5, h 612 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
119	Feb.20	e Z'	07 47 25						USCGS: 6.3S, 154.0E, H 07 41 22.1,
		i Z	47 26½	1			+0.06		h 37 km.ca.
		M E'	57.0	13		½			
		M Z'	57.5	18			½		
120	20	iP Z'	08 48 38	8			-3		Dilatation.
		eP E'	48 40	7					
		i(S) E'	52 33½	12		-3			USCGS: 22.3S, 170.5E, H 08 44 00.9,
		i Z'	52 36	9			-4		h 33 km.ca.
		eL E'	53.5	28					
		eL Z'	53.6	27					
		M N"	56.1	12	4				N-S L.P. defective.
		M E'	56.5	15		3			
		M Z'	57.5	16			4		
		M N"	58.1	11	8				
121	20	e Z'	17 31 11	15					USCGS: 45.7S, 78.7W, H 17 07 32.5,
		e(S) E'	31 17						h 33 km.ca.
		e(PS) E'Z'	32 21						
		e(SS) Z'	37 04	20					N-S L.P. defective.
		eLR Z'	48.0	30					
		M Z'	51.0	20			3		
		M N"	51.0	20	1				
		M E'	51.4	19		1			
	21	i E	00 54 24.5	.3		+0.05			Local.
		i NZ	54 24.8	.3	-0.04		-0.08		
	21	(Pg) Z	06 06 12.8						Quarry blast.
		i(Sg) N	06 16.3	.3	+0.05				
		i E	06 16.6	.3		+0.06			
		i Z	06 16.8	.3			+0.1		
		m N	06 19	.7	0.19				
		i E	06 20.5	.5		-0.04			
		m Z	06 21	.7			0.07		
	21	(Pg) Z	06 17 55						Quarry blast.
		i(Sg) EZ	17 58.8	.3		-0.05	+0.05		
		m N	18 01	.6	0.04				
		m EZ	18 03	.6		0.05	0.07		
122	21	(eP) Z'	14 35 12						USCGS: 20.5S, 173.9W, H 14 28 29,
		e(S) E'	40 28	(13)					h 29 km.ca
		e Z'	40 41	22					
		e E'	41 00	13					
		e(L) E'	43.3	(24)					
		eL E	44.2	(26)					
		M N"	45.4	14	1				N-S L.P. defective.
		M E'	47.0	17		2			
		M Z'	47.2	16			4		
123	21	e(SSS) E'	18 00.7	27					USCGS: 32.7N, 20.9E, H 17 14 35.7,
		eLR E'Z'	20.5	40					h 33 km.ca.
		M E'Z'	25.5	27		½	½		
124	21	eL Z'	20 10.3	25					USCGS: 6.3S, 106.7E, H 19 43 52.4,
		M E'Z'	21.3	20		¼	½		h 39 km.ca.
	22	i N	02 16 36.4	.7	+0.07				Quarry blast ?
125	22	iP EZ	08 04 33.8	.7		+0.02	-0.07		Dilatation.
		i E	04 59.0	.7	+0.03	+0.03			USCGS: 17.8S, 178.8W, H 07 58 57.0,
		i N	05 06.7	.7	+0.03				h 550 km.ca.
		eL Z'	11.5	28					
126	22		08.9	Feeble surface waves on L.P.					
127	22	iP Z	11 11 08.3	.7			-0.03		Dilatation.
		e Z'	11 43	?					USCGS: 30.3S, 178.6W, H 11 05 42.6,
		e N'	16.3	?					h 113 km.ca.
	23	e EZ	02 14 32						Quarry blast ?
		e N	14 34						

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Feb.23	i E	04 38 13.0	0.5		+0.02			Quarry blast ?
		i Z	38 13.7	.5			-0.02		
		i N	38 17.0	.7	-0 .03				
		i Z	38 18.9	.7			+0.04		
		i E	38 20.3	.7		-0.04			
	24	e N	12 51 42	1					Regional. Small.
128	24	e(PS) Z'	14 04 15	17					USCGS: 14.6N, 91.4W, H 13 34 15.7,
		e(SS) E'	11.3	28					h 135 km.ca.
		eLR Z'	29.4	33					
		R E'Z'	30.6	33		2	2		
	25	ePg EZ	07 00 10.5						Quarry blast.
		iSg N	00 13.8	.3	-0.07				
		i EZ	00 14.2	.3		-0.07	+0.11		
		i N	00 15	.3	+0.11				
		m N	00 16	.6	0.37				
		i Z	00 16.7	.4			+0.08		
		m E	00 18	.7		0.09			
		m Z	00 19	.7			0.12		
129	25	iP Z	17 21 31.9	1.2			+0.15	7140	Compression.
		iP Z'	21 32½	5			+1	64°3	h 0.00
		ipP Z	21 40.8	1.0			+0.06		
		eS N'	30 06	11					USCGS: 24.4N, 123.4E, H 17 11 01.7,
		eS E'	30 07	11					h 33 km.ca.
		ePS E'	30 29	13					
		e N	30 43	13					
		e Z'	37 28	16					
		eL N'E'	37.5	31					
		eL Z'	41.4	42					
		N E'	45.2	24		1			
		N N'Z'	47.0	24	1		2		
	26	iSg NEZ	02 00 16.8	.3	-0.13	+0.12	+0.05		Quarry blast.
		m NEZ	00 18	.5	0.5	0.18	0.12		
	26	i Z	06 00 53.5	.25			-0.06		Quarry blast ?
		m E	00 55	.5		0.06			
		m Z	00 56	.7			0.07		
130	26	iP NZ	20 19 32	1	+0.65		-0.2	2990	Dilatation.
		iP N'Z'	19 32½	8	+7		-10	26°9	h 0.025 ca., H 20 14 07
		i Z'	19 36	8			+27		
		i Z"	19 37	4			+23		USCGS: 7.5S, 146.2E, H 20 14 08.7,
		e Z'	19.8	13					h 171 km.ca.
		ipP N'Z'	20 09	5	+13		-12		
		ipP N"Z"	20 10	5	+17		-26		
		i Z	20 10½	0 .8			+0.9		
		iPP Z'	20 24	7			-32		
		iPP N'	20 25	5	+26				
		i Z'Z"	20 58	5			+26*		* Amplitude from Galitzin.
		i N"	21 04	5	+26				
		i Z'Z"	21 35	5			+24*		
		iS E'	23 53	17		-86			
		iS N"	23 54	9	-43*				
		i NZ	24 03	1.7	-2.3		+2.6		
		i E'	24 10	20		+103			
		i Z'	24 12	10			+48		
		i N'	24 18	8	+70				
		i N'	24 25	8	+92				
		i N	24 28½	2.5	+4.7				
		i E	24 30	2.5		-3.3			
		i N'	24 36	8	-48				
		i N'	24 49	8	+52				
		isS E'	25 00	20		+170ca.			
		i Z'	25 06	10			+55		
		m N'	25.1	14	98				
		iSS Z	25 24	2.5			+6.3		
		L E'	26.1	34	CONTINUED				

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963			h m s	s	μ	μ	μ	km.	
130 cont.	Feb.26	L	Z'	20 26.3	22					
		N	E'	26.9	31		175 ca.			
		LR	Z'	27.2	35					
		LR	N'	27.3	22					
		M	N'	29.4	20	125 ca.				
		M	Z'	29.5	22			220 ca.		
		M	E'	29.7	20		150 ca.			
	26	e	NE	22 22 37	.5					Local. Small.
		i	N	22 39.8	.4	+0.03				
131	27	iP	Z Z'Z"	03 35 50	(1 4*			-0.04 -5*		Dilatation. * from Galitzin.
		ipP	Z'Z"	35 58	5			+19		USCGS: 6.0S, 149.4E, H 04 30 00.8, h 52 km.ca.
		i(sP)	Z'	36 01	14			+25		
		i(PP)	Z'	36 27	11			+20		
		e	Z'	37.7	24					
		i(S)	N"	40 18		+				
		iS	N'	40 22	11	+21				
		iS	E'	40 23	10		+6			
		i	Z'	40 46	20			+120 ca.		
		m	N'	40.8	22	130ca.				
		i	E'	41 00	8		+10			
		i	N'	41 10	12	+78ca.				
		m	E'	41 28	19		36			
		L	E'	42.3	34					
		LR	N'	42.8	34					
		iL	Z'	43 46	30			+105ca.		
		M	E'	44.2	28		165ca.			
		M	E'	46.3	20		180ca.			
		M	N'	46.7	20	105ca.				
		M	Z'	47.0	18			190ca.		
		F		08.2						
	27	(P)	Z	05 29 39	1					USCGS: 6.3S, 149.2E, H 05 24 02.1, h 59 km.ca.
	27	i	E	06 01 21.7	.3		+0.04			Quarry blast ?
		i	Z	01 22.0	.3			+0.04		
		m	EZ	01 26½	.7		0.06	0.06		
	27	Pg	Z	06 28 08	.3					Quarry blast.
		iSg	NEZ	28 12	.3	+0.03	+0.05	-0.06		
		m	N	28 14	.7	0.07				
		i	EZ	28 15.5	.4		+0.09	+0.11		
		m	EZ	28 17	.7		0.15	0.18		
	27	iPg	EZ	06 53 18.7	.25		+0.06	+0.06		Compression. Quarry blast.
		iSg	N	53 22.2	.3	+0.05				
		i	EZ	53 22.7	.3		+0.18	-0.16		
		i	N	53 22.8	.3	+0.1				
		i	Z	53 24.7	.7			+0.09		
		m	N	53 25	.7	0.3				
		i	E	53 25.8			+0.07			
		m	EZ	53 27	.7		0.26	0.27		
	28	i	NZ	01 50 16.5	.3	+0.03		+0.07		Quarry blast ?
		i	E	50 17.4	.3		+0.05			
132	28	M	E'Z'	02 13	18		1	1		USCGS: 16.3S, 66.0E, H 01 31 13.2,
	28	i	Z	04 33 22.1	.3			+0.05		Quarry blast ?
	28	i	N	05 28 47.3	.3	+				Quarry blast ?
	28	i	EZ	06 08 50	.3		+0.05	-0.06		Quarry blast ?
	28	iPg	EZ	07 19 31	.3		+0.05	+0.05		Compression. Quarry blast.
		iSg	N	19 34.3	.3	-0.1				
		i	EZ	19 34.9	.3		+0.11	-0.08		
		m	N	19 37	.6	0.5				
		m	EZ	19 39	.7		0.22	0.3		
133	28	eL	E'	18 05.1	19					USCGS: 4.4S, 139.0E, H 17 48 23.1, h 37 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
134	Mar. 1	eL E'	04 50.7	27					USCGS: 18.2S, 177.9W, H 04 39 34.3,
		e Z	51 26	1½					h 568 km.ca.
		e N	51 40	1					
		e E	51 46	1½					
		M N'E'	52.4	13	1	2			
		M Z'	54.6	11			2		
	1	e E	06 19 57						Quarry blast ?
		m N	20 01	.7	0.12				
135	1	e(S) N'	11 07 18	(18)					USCGS: 41.2N, 142.9E, H 10 45 55.7,
		eL E'	17.7	40					h 41 km.ca.
		M N'Z'	24.5	22	½		½		
136	1	eP NEZ	22 14 18	.25					Regional.
		i E	14 20.5	.4		-0.03			
		i Z	14 21.6	.3			+o.05		
		(S) N	14 39	?					
		iS E	14 45.6	.4		+0.05			
		m EZ	14 47	.7		0.13	0.11		
		m N	14 54	.7	0.12				
137	2	(i) Z'	05 44 44	4			-2		Masked by microseisms.
		e N'	51.2	?					USCGS: 1.8S, 143.6E, H 05 39 07.4,
		M E'	57.9	16		1			h 129 km.ca.
		M N'Z'	58.3	19	1		1		
138	2	i Z"	09 58 03	3			+2		Microseisms present.
		eL Z'	10 07.3	20					
		M N'Z'	11.8	19	1		1		
139	4	eL Z'	08 45.9	30					USCGS: 82.9N, 7.7W, H 07 41 51.0,
									h 33 km.ca.
140	4	iP Z	13 49 18	1.6			+0.25		Compression.
		e Z'	49 22	6					
		e(S) E'Z'	57 57	15					USCGS: 24.2N, 121.7E, H 13 38 41.0,
		i N'	58 00	9	+2				h 33 km.ca.
		e N'	58 31	25					
		e(SS) Z'	14 02.5	(24)					
		eLQ E'	05.2	(40)					
		eL Z'	06.4	(27)					
		e(G) N'	06.5	51					
		eL E'	07.4	36					
		eL N	07.5	36					
		eL Z'	09.3	47					
		M E'	09.6	27		5			
		M N'	10.1	25	2				
		M N'E'Z'	12.7	22	1	1½	3		
141	4	e Z'	16 00.4						USCGS: 4.5S, 81.6W, H 15 43 04.0,
		e Z'	07.3	20					h 33 km.ca.
		e(SKKS) N'	09.8	?					
		ePS Z'	12.7	20					
		e E'	12.8	20					
		e N'	13.1	(20)					
		e E'	14.6	21					
		e N'	14.8	21					
		e Z'	15.2	27					
		e Z'	17.9	20					
		e N'	18.2	18					
		eSS N'	19.1	26					
		e E'	19.2	(30)					
		i E'	19 34	16		+3			
		m N'Z'	19.8	20	1½		1½		
		eL N'	30.4	47					
		eL E'	32.6	47					
		eLR N'E'	37.5	32					
		eLR Z'	37.6	32					
		LR N'E'Z'	38.3	27	1	2	4		
		M N'E'Z'	42	19	1	1	2		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
142	Mar. 4	e(P) Z	19 09 06	1					USCGS: 19.3S, 169.5E, H 19 04 02.9, h 43 km.ca.
		e Z'	09 35	4					
		e(S) E'	13 03	11					
		e Z'	13 04	11					
		e N'	13 05	10					
		eL E'	14.1	(24)					
		eLR Z'	14.4	29					
		eLR N'E'	14.5	29					
		M E'Z'	15.5	20		2	3		
		M N'	16.9	13	1				
143	5	Z'	02.4	Feeble surface waves.					
	5	e N	06 21 01	.5					Local ? Small.
144	5	e(PS) Z'	07 34.9	(18)					USCGS: 4.5S, 81.5W, H 07 05 01.7, h 31 km.ca.
		eLR Z'	08 00.1	27					
		N E'Z'	17	16		½	1		
145	5	M N'E'Z'	19.4	16	¼	½	½		USCGS: 6.4S, 149.0E, H 19 05 39.1, h 60 km.ca.
	6	e NZ	03 35 34	.3					Local. Small.
		m E	35 37	.5		0.06			
146	6	N E'	20 03.7	14		2			Masked by microseisms. USCGS: 9.8S, 155.2E, H 19 50 07.5, h 60 km.ca.
147	7	N Z'	02 13.5	14			1		Masked by microseisms. USCGS: 3.9S, 131.1E, H 01 50 29.6, h 33 km.ca.
148	7	eP Z'	05 34 06						
		iPcP Z'	34 12½	6			-4		USCGS: 27.0S, 113.5W, H 05 22 01.1, h 33 km.ca.
		ePP Z'	37 06	(8)					
		e Z'	44 11	12					
		iSKS E'	44 12	13		+6			
		e E'	44 32	33					
		iPS E'Z'	44 47	13		+7	+4		
		e N'	44 54	30					
		m E	45.5	30		9			
		eSS E'	49 09	24					
		eSS Z'	49 24	24					
		m E'Z'	49.8	20		7	7		
		eLQ N'	55.3	38					
		eLR E'	58.5	32					
		eLR Z'	58.7	31					
		eLR N'	58.8	32					
		N E'	59.4	27		28			
		N N'	59.7	27	18				
		N Z'	59.8	27			47		
		N E'	06 01.1	22		23			
		N Z'	01.4	22			44		
		N N'	02.0	21	16				
149	7	N Z'	12 19	23			1		USCGS: 27.3S, 113.0W, H 11 41 29.6, h 33 km.ca.
150	7	(P) Z'	12 29 30	4					
		e(PP) Z'	33.3	?					USCGS: 44.3S, 75.3W, H 12 16 28.5, h 45 km.ca.
		e(SKS) N'	40 07	5					
		e(S) N	40 30	9					
		e(S) E'	40 33	(13)					
		e(PS) N'	41 45	20	1½				
		e(PPS) Z'	42 08	24			1		
		e(PPS) E'	42.4	24		½			
		e(SS) E'Z'	46.7	19			1½		
		e(SSS) Z'	50.1	26					
		eLQ N'E'	54.4	35					
		eLR Z'	57.5	35					
		eLR N'E'	58.5	30					
		N Z'	59.0	25			4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Mar. 8	(P) N	02 20 58.5						Local.
		i(S) NE	21 19.7	0.6	+0.03	+0.1			
151	8	eP Z'	02 49 27	10				2480	USCGS: 19.2S, 169.7E, H 02 44 31.5,
		i Z'	50 03	8			+5	2293	h 33 km.ca.
		eS N'	53 28	9					
		i N'E'Z'	53 35	8	+4	+7	+6		
		eLQ N'	53.8	(25)					
		i Z'	53 58	7			+6		
		eLR E'	54.8	28					
		eLR N'Z'	54.9	28					
		M E'Z'	56	22		7	11		
		M N'	59	13	4				
152	8	i Z"	03 30 00	4			+5		P masked by coda of 151.
		e(S) N'	33 50	10					
		i N'	33 58	8	+3				USCGS: 19.2S, 169.6E, H 03 24 57.2,
		i E'Z'	34 00	8		+6	+3		h 49 km.ca.
		eLQ N'	34.2	?					
		i Z'	34 21	7			+3		
		eLR E'	35.2	28					
		eLR Z'	35.3	28					
		eLR N'	35.4	(28)					
		N E'Z'	36.4	21		7	10		
153	8	iP Z'Z"	03 38 00	5			+10		Compression.
		i Z	38 09	1.3			+0.3		
		i Z'Z"	38 34	8			+8		Confused by coda of 152.
		(S) N'	41 55	11					
		i E'	42 10	10		+9			USCGS: 19.3S, 169.6E, H 03 33 03.4,
		eLR E'	43.3	30					h 33 km.ca.
		eLR Z'	43.5	27					
		eLR N'	43.6	(27)					
		M E'	44.5	21		12			
		M Z'	44.6	21			18		
	8	i E	05 25 43	.6		+0.05			Local.
154	8	(L) E'	16 07	(50)					USCGS: 1.1N, 29.9W, H 15 06 05.3,
		N Z'	28						h 33 km.ca.
155	8	L E'Z'	18 39	25					
	9	e EZ	00 25 15½						Quarry blast.
		m N	25 19½	.7	0.05				
	9	iSg N	00 51 24.6	.4	+0.08				Quarry blast.
		i Z	51 24.8	.4			+0.08		
		m N	51 27	.6	0.37				
156	9	e Z'	03 08.5	(27)					Masked by microseisms.
		e E'	12.6	20					USCGS: 21.9N, 62.0E, H 02 17 39.5,
		M E'Z'	19.6	25		1	1		h 33 km.ca.
	9	ePg Z	04 41 08½	.3					Quarry blast.
		iSg N	41 13½	.3	+0.04				
		i EZ	41 14	.3		+0.05	+0.05		
		i N	41 17	.3	+0.05				
		m N	41 19	.7	0.15				
		m EZ	41 22	.7		0.06	0.09		
	9	(eP) Z	05 35 36½						Masked by microseisms.
									USCGS: 8.9N, 126.3E, H 05 26 58.4,
									h 87 km.ca.
157	9	eL Z'	13 16.6	(20)					USCGS: 19.1S, 169.4E, H 13 06 15.1,
									h 37 km.ca.
158	9	(P) Z	16 30 16½						Masked by microseisms.
		e Z'	35.2	?					
		e N'	35.6	?					USCGS: 3.2S, 147.0E, H 16 23 44.3,
		e N'	36.7	14					h 33 km.ca.
		e Z'	37.1	19					
		eLQ E'	37.2	44					
		L E'	38.4	33					

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
158 cont.	Mar. 9	eLR Z'	16 38.6	36					
		M N'	40.3	25	2				
		M Z'	41.3	22			4		
		M E'	41.7	15		5			
		M Z'	43.2	17			7		
159	9	e N'	19 07.1						Masked by microseisms.
		e E'	07.2						
		e M'	08.8	16					USCGS: 3.2S, 147.1E, H 18 55 49.0,
		eLQ E'	09.2	44					h 33 km.ca.
		L E'	10.5	32					
		eLR Z'	10.7	36					
		M N'	12.4	26	2				
		M Z'	13.4	21			5		
		M E'	13.8	15		6			
		M Z'	15.2	17			8		
160	9	eLQ E'	21 32.4	44					Aftershock of 159.
		L E'	33.5	32					
		eLR Z'	33.8	(32)					
		M E'	36.7	15		1			
		M Z'	38.2	16			1		
161	9	iP Z	22 49 10.4	.7			+0.05		Compression.
		e N'	56 26	14					USCGS: 21.5S, 179.0W, H 22 43 50.5,
									h 529 km.ca.
162	10	iP Z	01 24 38.7	.6			+0.06		Compression.
		iP NE	24 38.8	.6	-0.02	-0.01			USCGS: 15.2S, 167.2E, H 01 19 38.1,
		m NEZ	24 40	.7	0.05	0.05	0.23		h 142 km.ca.
		eL Z'	30.3	?					
		iScP Z	31 35.5	.7			+0.03		
163	10	iP Z	03 04 09.5	1.4			+0.2		Compression.
		P Z'	04 12	7			2		
		eS E'	12 53½	10					USCGS: 24.7N, 122.1E, H 02 53 33.0,
		e N'	13 04	26	2				h 33 km.ca.
		ePS E'	13 11	13					
		e Z'	13 15	?					
		eSS N'	17 20	18					
		eSS Z'	17 24	17					
		eSSS Z'	20 02	19					
		e N'	20.3	(24)					
		eL N'	22.4	(40)					
		eLR Z'	24.1	45					
		M N'	26.0	20	1				
		M E'	27.1	23		2			
		M Z'	28.5	26			2		
164	10	P Z	09 43 57½	1					Microseisms present.
									USCGS: 16.0S, 168.4E, H 09 39 09.6,
									h 283 km.ca.
165	10	e(PP)	11 10.4						USCGS: 29.9S, 71.2W, H 10 51 48.1,
		e(SKS) N'	16.5						h 70 km.ca.
		e(PS) Z'	19.4	21					
		e N'	19.7	(20)					
		e(SS) E'	25.1	?					
		e(LQ) N'	35.9	42					
		eLR N'	39.7	29					
		eLR Z'	39.8	29					
		eLR E'	39.9	29					
		M N'E'Z'	40.6	29	1	½	2		
		M N'Z'	43.5	21	1		2		
166	10	(P) Z	13 59 03	1					Masked by microseisms.
		e N'	14 07.4	?					
		e Z'	09.1	(16)					USCGS: 2.4N, 126.6E, H 13 51 04.3,
		eLR N'E'	12.9	32					h 41 km.ca.
		eLR Z'	13.3	32					
		M N'E'Z'	15.5	27	1	1	1		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Mar.10	i(Sg)	N	22 56 08.5	.5	-0.02				Quarry blast ?
		i	Z	56 09.3	.3			+0.03		
		M	NE	56 09½	.5	0.12	0.04			
		m	Z	56 10½	.5			0.06		
	11	iPg	EZ	08 09 42.9	.3		+0.07	+0.07		Compression. Quarry blast.
		iSg	N	09 46.5	.5	-0.14				
		i	Z	09 46.6	.5			-0.07		
		i	E	09 47.1	.5		0.18			
		m	N	09 49	.6	1.4				
		m	EZ	09 51	.7		0.29	0.36		
167	11	M	Z'	08 44	16					USCGS: 38.1N, 29.3E, H 07 27 22.0, h 33 km.ca.
	11	(P)	Z	09 08 12½	.75					Masked by microseisms. USCGS: 18.7S, 177.6W, H 09 02 19.8, h 402 km.ca.
168	11	eL	Z'	19 24.8	30					
169	11	e(S)	N'	21 15 38						USCGS: 13.7S, 165.8E H 21 05 49.1, h 33 km.ca.
		M	Z'	20.0	16			¾		
		M	N'	20.3	16	¼				
	12	(Pg)	EZ	06 46 57½						Quarry bla st.
		iSg	N	47 01.0	.4	+0.03				
		i	E	47 01.3	.4		+0.05			
		i	Z	47 01.4	.4			-0.05		
		m	N	47 04	.7	0.29				
		m	EZ	47 06	.75		0.08	0.09		
170	12	eL	N'Z'	08 38.4	24					(USCGS: 53.9N, 160.6E, H 08 05 49.8, h 33 km.ca.)
171	12	eL	N'Z'	13 49	25					(USCGS: 16.0S, 172.6W, H 13 21 39.2, h 33 km.ca.)
172	12	M	N'E'Z'	18 53	17	Feeble.				
173	12	eL	N'	20 24.3	21					USCGS: 16.2S, 167.7E, H 20 14 59.8, h 33 km.ca.
		M	Z'	26.4	19			1		
		M	N'E'	27.2	15	¾	¼			
174	12	(e)	Z	20 45 39						
		eL	Z'	53.0	27					
175	12	(P)	Z	22 53 52						Masked by microseisms.
		e	E'	57 11	(8)					
	13	i	NE	00 49 11	.6	+0.02	+0.04			Local ?
176	14	e	N'	01 31 35	(13)					
		e	E'	31 38	(15)					
		eL	E'	39.4	30					
		eL	N'Z'	39.6	27					
177	14	iP	Z	02 01 04.5	.8			-0.06		Dilatation.
		e	E	05 13	1.2					USCGS: 25.6S, 137.6E, H 01 57 29.3, h 33 km.ca.
		i	N	05 24	.7	+0.07				
		e	N'	05 31	4					
		M	N'Z'	06.7	10	1		1½		
	14	e	E	04 21 43½						Quarry blast.
		iSg	NE	21 44.7	.3	-0.09	+0.06			
		m	N	21 45½	.6	0.35				
		i	EZ	21 45.8	.3		+0.2	+0.07		
		m	EZ	21 46½	.5		0.13	0.14		
	14	e	N	06 04 01.7	.5					Quarry blast ?
		i	E	04 03.3	.4		+0.04			
		i	Z	04 04.3	.4			-0.05		
		m	Z	04 05½				0.08		
	14	e	E	06 38 38	.5					Quarry blast ?
		iSg	N	38 39.5	.3	-0.04				
		m	N	38 40½	.7	0.1				
	14	m	N	06 43 33	.7	0.02				Quarry blast ?

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
178	Mar.14	eP	Z	08 10 21	1.2				6720	
		eS	N'	18 36	?				6095	
		e	Z'	18 39	8					USCGS: 19.0N, 120.4E, H 08 00 15.6, h 51 km.ca.
		e	E'	18.8	42					
		e	N'	19 12	(40)					
		eSS	N	22 38	24					
		eSS	Z'	22 43	(22)					
		e	E'	23.3	20					
		e(SSS)	Z'	25 24	17			1		
		e	E'	25 26	20		1			
		eLR	N'	28.2	31					
		eL	Z'	28.6	60					
		M	N'	31.3	24	½				
		M	E'	32.3	25		½			
		M	Z'	33.8	23			¾		
179	14	L	E'Z'	23 32	18					USCGS: 5.9S, 144.6E, H 23 15 23.2, h 33 km.ca.
180	15	iP	Z	00 10 29.8	.7			-0.03		Dilatation. USCGS: 5.0S, 129.6E, H 00 04 01.3, h 295 km.ca.
181	15	eP	Z	00 24 28½	1					
		eP	Z'	24 29						USCGS: 8.4N, 126.4E, H 00 16 01.3, h 117 km.ca.
		ipP	Z	24 41.5	1			+0.1		
		e(S)	N'	31 21½	(20)					
		e	E'	31 46	(30)					
		eSS	E	34 56	16		4			
		e	Z'	35 22	21			4		
		eL	Z'	38.6	48					
		M	N'	42.8	20	1½				
		M	E'	43.3	21		3			
		M	Z'	44.4	19			3		
182	15	eP	Z	00 51 09	1					
	16	i	E	05 30 35.4	.4		+0.02			Quarry blast ?
		m	N	30 40	.7	0.06				
		m	EZ	30 43	.7		0.04	0.05		
183	16	iP	Z	08 57 00.3	1.2			-0.3	8970	Dilatation.
		iP	Z'Z"	57 01	11			+27	8097	Compression.
		iP	N'	57 02	11	-9				
		e	E'	57 08	(16)					USCGS: 46.5N, 154.7E, H 08 44 48.3, h 26 km.ca.
		i(PcP)	Z'	57 10	7			+		
		i	Z	57 10.3	1			-0.4		
		i	N'	57 11	20	+16				
		i	Z	57 20.5	1.5			+2.5		
		m	Z'	57.5	22			48		
		i	N"	57 31	6	+10				
		e	N'	58 23	18					
		e	N'	59 25	24					
		i	N"	59 48	4	+7				
		ePP	N'Z'	09 00 05	24					
		m	N'Z'	00.5	25	9		16		
		m	N'	01.6	17	6				
		i	E"	07 02	6		+			
		i	Z'	07 07	17			-19		
		iS	N'E'	07 08	15	-25	-22			
		iScS	E'	07 24	10		+29			
		e	N'	07 30	16					
		i	Z'	07 39	17			+28		
		eiPS	Z'	07 56	20					
		m	N'	08.0	20	42				
		m	Z'	08.3	20			46		
		e	E'Z'	08.5	38					
		m	N'	08.7	44	75				
		e	N'	11.7	32					
		iSS	E'	12 17	20		-14			
		iSS	N'	12 25	27	+60				

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
183 cont.	Mar.16	iSS Z'	08 12 33	27			-41		
		i N'	15 05	29	+16				
		eSSS Z'	15 25	40					
		m Z'	16.2	38			38		
		m N'	16.3	35	26				
		e Z'	18.1	30					
		eLQ E	18.2	50					
		eLQ N'	18.2	42					
		G E'	19.0	50		130			
		m Z'	19.0	30			53		
		m N'	19.4	38	44				
		e Z'	19.9	36					
		m Z'	20.3	36			36		
		eLR Z'	22.1	40					
		iLR N'Z'	22.5	40	+53		-84		
		M N'	30.7	20	72				
		M E'	31.0	20		51			
		M Z'	32.2	20			130		
		W_2 N'	10 59	40	5				
184	16	M E'Z'	21 58	18		1	2		USCGS: 20.7S, 174.6W, H 21 40 09.0, h 33 km.ca.
	17	e NEZ	05 39 02	.3					Small local tremor.
185	18	eL Z'	04 14.5	?					Masked by microseisms.
		M N'E'Z'	16.5	16			1		USCGS: 26.6S, 176.7W, H 04 00 41, h 33 km.ca.
186	18	(eL) Z'	04 40	?					USCGS: 33.2S, 179.0E, H 04 25 41.4, h 33 km.ca.
		M Z'	42	17			1		
		M E'	43	15		½			
	18	iPg Z	06 07 52.1	.25			+0.07		Compression. Quarry blast.
		iSg N	07 55.5	.3	+0.12				
		i E	07 55.8	.3		+0.12			
		i Z	07 56.0	.3			+0.23		
		i N	07 57	.3	+0.18				
		i Z	07 57.5	.3			+0.16		
		m N	07 58	.6	0.5				
		m EZ	08 01	.6		0.17	0.24		
187	19	(eP) Z'	05 51 27						Masked by microseisms.
		e E'	55 28	15					USCGS: 22.8S, 170.5E, H 05 46 50.1, h 67 km.ca.
		M N'E'Z'	59	15	1	1	2		
188	19	(P) Z	13 17 30						Masked by large microseisms.
		(eL) N'	21.6	30					USCGS: 22.6S, 170.6E, H 13 13 22.5, h 49 km.ca.
		(eL) Z'	23.6	?					
		M N'	24.0	15	1½				
		M Z'	26.8	14			3		
189	19	e(L) N'	14 50.5	28					Masked by large microseisms.
		e(L) E'	50.7	?					USCGS: 22.6S, 170.8E, H 14 42 01.2, h 33 km.ca.
		e(L) Z'	52.0	25					
		M N'	52.3	16	1½				
		M E'	54.0	16		2			
		M Z'	55.0	15			3		
190	20	(e) Z'	04 48.3						Masked by large microseisms.
		eL Z'	56.1						USCGS: 19.9S, 179.1W, H 04 43 13.5, h 650 km.ca.
191	20	iP Z'	16 45 05	3			+		Compression.
		eS E'	50 53	?					
		e Z'	51 12	30			2		USCGS: 2.4S, 138.4E, H 16 38 55.8, h 40 km.ca.
		e N'	51 18	25	2				
		eLQ E'	53.2	54					
		eLQ N'	53.5	55					
		eLR N'E'Z'	55.0	35	5	10			
		i Z''	57 25	4			+8		
		i E''	57 26	4		+11			
		i Z''	58 18	4			+7		
		M Z'	59.6	22			15		

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
191 cont.	Mar.20	M N'	16 59.9	22	14				
		M E'	17 00.4	22		13			
		M Z'	00.8	19			22		
	21	ePg EZ	07 25 16.8						Quarry blast.
		iSg N	25 20.3	0.5	-0.09				
		i Z	25 20.6	.5			-0.08		
		i E	25 20.8	.5		-0.07			
		m N	25 23	.7	0.8				
		i Z	25 23.1	.5			+0.11		
		m EZ	25 25	.7		0.15	0.21		
	21	(P) NZ	11 36 36	½					Regional. Microseisms present.
		(i) E	36 39.7	1		+			
192	22	e(S) N'	12 48 18	20	1				
		e E'	48 22	20		1			
		e Z'	48 33	20			1		
		e(L) N'	54.5	(24)					
		e(L) E'	54.6	24					
		eLR N'Z'	56.8	30					
		N N'E'Z'	57.6	27	2	2	5		
	22	i EZ	17 25 15	.5		+0.02	+0.02		Local or regional.
	22	iSg N	23 13 17.7	.3	+0.05				Quarry blast.
		iSg EZ	13 17.9	.3		-0.04	+0.03		
		i N	13 21.0	.3	+0.14				
		i Z	13 22.7	.5			+0.04		
		m N	13 23	.7	0.23				
		m Z	13 26	.7			0.06		
193	22	eL N'	23 46.1	26					USCGS: 52,7S, 137.4E, H 23 36 19.1,
		eL Z'	46.2	26					h 33 km.ca.
194	23	eL E'	09 06.7	24					USCGS: 4.9S, 145.7E, H 08 51 44.2,
		eL Z'	08.0	25					h 51 km.ca.
		N E'	09.3	16		1			
		M N'Z'	10.4	17	½		1		
195	23	e E'	21 40.6						USCGS: 2.4S, 133.6E, H 21 22 58.8,
		N N'Z'	45.9	16	½		1		h 130 km.ca.
196	23	eL N'Z'	23 45.6	23					
197	24	iP Z	02 14 22.9	1			+0.3	4080	Compression.
		iP NE	14 23	1	-0.04	+0.11		3697	
		iP (N'E'Z' N"E"Z"	14 23½	5	-4	+7	+15		USCGS: 9.7S, 120.4E, H 02 07 12.8,
		ipP N'E'Z'	14 33½	5	+4	-6	-9		h 33 km.ca.
		i Z'	14 52	5			-9		
		ePP E'Z'	15 45	13					
		m N'E'Z'	16.1	13	5	6	8		
		iS N'	20 04	6	+4				
		i E'	20 05	6		-5			
		e Z'	20.2	32					
		m E'	20 15	8		14			
		m N'	20 16	10	21				
		m N'E'Z'	20.8	28	12	10	10		
		eLQ E'	22.2	63					
		eLQ N'	22.3	58					
		i N'E'	22 24	10	+29	+20			Superposed on LQ.
		i Z'	23 12	12			+17		
		eLR Z'	24.1	48					
		N Z'	27.7	30			62		
		M E'	27.9	27		59			
		N Z'	28.7	24			68		
		N N'	29.0	23	54				
	24	i(Sg) N	04 58 11.2	.3	-0.04				Quarry blast.
		i EZ	58 11.5	.3		+0.04	-0.04		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
198	Mar.24	e(S) E'	09 43.1						USCGS: 3.2S, 146.8E, H 09 31 50.4, h 33 km.ca.
		e(LQ) E'	45.0	42					
		L E'	46.1	36		4			
		eL Z'	46.8	29					
		M N'	48.4	25	1				
		M Z'	49.4	22			3		
		M E'	49.7	15		4			
		M Z'	51.2	17			5		
		M N'	51.3	18	2				
199	24	eP Z	09 52 08						
		(L) N'E'	10 04	(120)*					*Non-seismic ?
		M E'	10	20		1			USCGS: 9.0N, 125.6E, H 09 43 20.2, h 51 km.ca.
		M N'	11	20	1				
	24	i N	12 22 13	0.3	-				Small local tremor.
		i Z	22 14	.5			-		
		i E	22 14½	.4		+			
200	24	(L) N'	13 33.4	(70)					USCGS: 34.4N, 47.9E, H 12 44 03.2, h 33 km.ca.
		(LR) N'	35.0	50					
		LR N'E'	38.6	40	3	1			
		M N'	48.8	24	2				
		M E'Z'	50.2	23		2	3		
201	24	iP Z Z"	21 48 16.4	.7			+0.07		Compression.
		m Z	48 16	1.0			0.36		USCGS: 51.8N, 178.1W, H 21 35 24.4, h 57 km.ca.
		i Z	48 29	1.0			+0.15		
		e Z'	22 00.2	?					
		eL Z'	16.3	(30)					
	25	i Z	01 02 16	.75			+0.02		
	25	i Z	02 49 21.1	1.0			-0.07		
	25	i E	05 40 50.9	.4		+0.03			Quarry blast ?
		i N	40 51.7	.5	+0.03				
		m NEZ	40 52	.5	0.05	0.09	0.01		
	25	iSg N	06 14 24.8	.3	-0.06				Quarry blast.
		i EZ	14 25.4	.3		-0.05	+0.07		
		i N	14 25.9	.3	+0.06				
		m N	14 27½	.6	0.24				
		m EZ	14 29½	.7		0.03	0.04		
	25	i EZ	06 38 32.7	.3		+	-		Quarry blast ?
		i N	38 35	.5	-				
		m EZ	38 37	.6		0.03	0.03		
	25	(i) Z	07 46 01.8	1.3			+		
202	25	iP Z	13 00 08.5	.5			+0.02		Compression.
		(eL) N'	08.2	52					USCGS: 10.6S, 120.4E, H 12 53 05, h 33 km.ca.
		(eL) E'	10.1	40					
		eL Z'	11.5	35					
		M N'E'	13.3	25	1	1			
		M Z'	14.4	22			1		
203	25	iP N"Z"	20 22 08	4	+3		+3		Compression.
		iP N'Z'	22 09	5	+4		+7		
		i Z	22 17½	1.5			0.4		USCGS: 56.3S, 149.9E, H 20 17 03.8, h 39 km.ca.
		i Z	22 22½	1.5			0.4		
		(PPP) N'Z'	33 33	5	3		6		
		e(LQ) N'E'	26.2	36					
		i(SS) E'	26 23	11			+14		
		i N'	26 31	7	+5				
		i E'	26 47	12		-			
		eLR Z'	27.2	27					
		L N'E'Z'	28.0	23	20	9	26		
		M N'E'Z'	29.3	16	13	9	19		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
204	Mar.25	eiP	Z'	22 56 33	3			-		Dilatation.
		i	Z	56 33½	1			+		USCGS: 0.7N, 96.5E, H 22 46 16.2,
		i	Z"	56 34½	4			+6		h 30 km.ca.
		i	Z	56 43½	1			+0.09		
		iS	N"	23 04 55½	5	+3				
		e	E'	05 03	7					
		e	Z'	09 21	24					
		(eL)	Z'	15.4	24					
		M	N'	20.7	14	3				
		M	E'Z'	25.0	19		2	2		
	26	e(Pg)	Z	06 15 16						Quarry blast ?
		i(Sg)	E	15 19.8	0.3		+0.07			
		i	Z	15 20.0	.3			+0.2		
		i	N	15 21.2	.5	+0.08				
205	26	iP	Z	09 53 58.3	.8			+0.08	3020	Compression.
		iP	E'Z'	53 58½	7		-60	+100	2792	
		i	NEZ	54 02	.7	+0.04	-0.16	-0.5		USCGS: 29.7S, 177.8W, H 09 48 15.7,
		e	N'	54 02½	?					h 45 km.ca.
		m	Z	54 04	.6			0.7		
		i	E'	54 08			+			
		e	N'	54.2	24					
		m	E'Z'	54.3	23		78	112		
		m	N	54.6	24	7				
		i	E'	54 38			+			
		i	E'	54 50			+			
		m	E'Z'	55.1	21		114	83		
		i	N'	55 10		+				
		i	E'	55 22			+			
		m	E'	55.6	25		52			
		i	Z'	56 58	12			+32		
		i	N'	57 30	10	+25				
		ei	E'	57 50			+			
		iS	E'	58 34	20		-130			
		i	N'	58 40	10	+				
		i	E'	58 59	20		+108			
		m	N'	59.0	26	58				
		m	Z'	59.4	28			230ca.		
		iSS	N'	59 46	19	+72				
		iSS	Z'	59 48	17			-70		
		iSSS	N'E'	10 00 06	23	+165ca.	+75			
		m	Z'	00.5	25			120		
		iLR	E'	00 48	30		+130			
		iLR	Z'	00 57	26			-300ca.		
		L	E'	01.5	27		250ca.			
		M	N'	01.7	18	160ca.				
		M	Z'	01.9	21			140ca.		
		M	E'	02.9	20		230ca.			
	26	e(L)	E'	11 25	60					
		M	E'	34	60		30			
206	26	(P)	Z'	12 57 16	4			6		USCGS: 29.8S, 177.6W, H 12 51 39.7,
		i	Z	57 17.7	1.2			-0.15		h 60 km.ca.
207	26	iP	Z	13 30 40½	.7			+	3000	Compression.
		iP	Z'Z"	30 41	8			+35	2790	
		iP	E'	30 42	8		-15			USCGS: 29.8S, 177.9W, H 13 25 02.6,
		i	EZ	30 43	.7		+0.06	+0.33		h 42 km.ca.
		i	E'	30 50	(8)		+			
		i	Z'	31 03	10			+		
		iPPP	E'	31 39	11		+35			
		iPPP	Z'	31 40	10			-22		
		e	E'	31 58	30					
		iS	E'	35 14	19		-23			
		i	E'	35 40	18		+22			
		m	N'Z'	35.8	22-28			60		
		i	Z'	36 15	12			+33		
		iSSS	N'E'	36 44	20	+35	+16			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	AE	AZ	Δ	Remarks
208	Mar.26	i(P)	Z	14 39 11½	1			+0.04		Masked by microseisms.
		i	Z	39 22	1			+o.08		USCGS: 18.0S, 168.0E, H 14 34 16.5, h 32 km.ca.
209	26	iP	Z	21 45 58½	1			+0.1	7940	Compression. Microseisms present.
		iS	N'	55 13½	7	-6			7195	
		e	E'	55 15	6					USCGS: 36.0N, 135.7E, H 21 34 41.1, h 33 km.ca.
		i	Z'	55 17	?			+		
		e	E'	55 21	19		3			
		ePS	Z'	55 44	14					
		i	E'	56 29	13		+4			
		eSS	E'	59.8	27					
		e	N'	22 00.1	29					
		eSSS	N'	02.7	29					
		eSSS	E'	02.9	(38)					
		eL	Z'	04.3	43					
		eL	E'	05.1	50		19			
		eL	N'	05.2	37					
		eLR	E'	06.3	28					
		M	E'	07.4	31		27			
		M	N'	07.6	27	9				
		M	N'Z'	09.5	52	10		15		
		M	N'E'Z'	14.6	20	8	5	13		
	27	i(Sg)	NE	04 18 21	0.4	+0.05	+0.07			Quarry blast ?
	27	(Pg)	Z	06 21 41½						Quarry blast.
		iSg	N	21 44.8	.3	-0.06				
		i	E	21 45.3	.3		+0.09			
		i	Z	21 45.5	.3			+0.07		
		m	N	21 47	.7	0.25				
		m	EZ	21 49	.7		0.12	0.15		
210	27	M	N'E'Z'	21.9	15					Feeble.
211	28	ePKP	Z'	00 35 33	4					
		ePKP	Z	35 34						Large microseisms present.
		e	Z'	35.9	19					
		e(PP)	Z'	39.0	25					USCGS: 66.3N, 19.6W, H oo 15 47.5, h 15 km.ca.
		e	Z'	45.4	10					
		e(SKKS)	N'	45.9	11					
		iSS	E'	58 10	20		+7			
		e	N'	01 00.1	30					
		eSSS	N'	04.2	40					
		iLQ	E'	17 04	30		+11			
		LQ	E'	17.9	40		33			
		eG	E'	18.2	80		44			
		eLR	E'	24.2	55		5			
		LR	N'	25.2	50	12				
		LR	Z'	25.7	48			29		
		e	Z'	33.1	55					
		M	Z'	35.3	48			14		
		M	Z'	36.9	26			15		
		M	N'	39.8	24	8				
		M	Z'	40.7	34			14		
		M	E'	41.7	30		12			
		F		03.6						
	28	i	N	02 33 46	.7	+				Local or regional.
212	28	iP	Z	11 18 08.6	.8			+0.13		Compression.
		i	E	18 09	.6		+0.06			USCGS: 30.2S, 177.8W, H 11 12 31.3, h 38 km.ca.
		m	Z	18 10	1.0			0.45		
		i	Z	18 14½	.7			+0.06		
		ePPP	E'	19 05	6					
		i(PcP)	N	21 22½	1.2	-0.12				
		e(S)	E'	22 45	(16)					
		e	N'Z'	23 07	17					
		e	N'	24 11	14					
		eLR	E'	24.8	30					
		L	E'Z'	25.4	27		4	7		
		M	E'Z'	27.0	18		4	7		
		M	N'	27.1	17	2				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
225	Mar.31	M N'	08 26.6	15	2				Masked by coda of 224.
		M E'Z'	28.1	17		2	3		USCGS: 29.7S, 176.9W, H 08 12 40.5, h 60 km.ca.
226	31	iP Z	09 12 57.5	.5			+0.03		Compression.
		iP E	12 57.7	.7		+0.05			USCGS: 30.1S, 177.7W, H 09 07 20.1, h 48 km.ca.
		m Z	12 58	.7			0.15		
		eL E'Z'	20.1	24					
227	31	iP E'Z'	19 28 30	5		-5	+9		Compression.
		i Z	28 30.4	.6			-0.05		
		i E	28 30.7	.6		-0.06			USCGS: 30.0S, 178.0W, H 19 22 53.3, h 50 km.ca.
		i N	28 31	.6	+0.05				
		m Z	28 32	.7			0.38		
		e E'	28 38	17					
		i Z'	28 50	9			+5		
		i E'	29 23	15		+6			
		e E'	29.7	29					
		e E'	32.7	25					
		e N'	33 02	9					
		m E'	33.4	30		4			
		i Z'	33 28	20			+10		
		e N	34.1	20					
		eLR E'	35.2	30					
		iLR Z'	35.4	28			-11		
		M E'Z'	35.8	26		17	29		
		M N'	36.2	15	11				
		M Z'	37.4	19			26		
		M E'	37.7	19		15			

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
228	April 1	(eP) Z	02 25 47½	?					Masked by microseisms.
		i N	26 07	0.7	+0.04				
		eS N'	30 30	18					USCGS: 6.0S, 149.0E, H 02 19 56.8,
		e Z'	30 41	14			2		h 64 km.ca.
		eL E'	32.3	36					
		eLR Z'	33.2	36					
		LR N'E'	33.4	30	2	3			
		M N'E'Z'	37.0	16-19	2	3	5		
	1	e Z	04 40 37	0.5					Local ?
	1	e E	06 20 18½						Quarry blast ?
		i EZ	20 21.4	0.4		-0.08	+0.08		
		i EZ	20 24.8	0.6		+0.07	+0.08		
229	1	eL E'	08 44.4	20					Masked by microseisms.
		eL Z'	44.8	19					USCGS: 29.2S, 176.6W, H 08 30 34.6,
		M E'Z'	47.0	16		1	2		h 38 km.ca.
230	1	N'E'Z'	22 32	Weak surface waves.					
	1	i N	23 13 00.2	0.4	-0.04				Quarry blast ?
	2	e NEZ	01 12 21	0.25					Local. Very small.
231	2	eL Z'	03 45.9	21					Masked by microseisms. h 33 km.ca.
									USCGS: 31.0S, 177.6W, H 03 33 05.9
232	2	eP E'Z'	04 49 19	(8)					
		e Z'	54 05	22					USCGS: 29.7S, 177.1W, H 04 43 30.9,
		e N'	55 14	17	2				h 51 km.ca.
		eLR Z'	56.0	32					
		eLR E'	56.1	32					
		M N'	58.3	15	4				
		N E'Z'	58.6	19		7	11		
	2	e Z	06 02 36	0.3					Quarry blast ?
	2	i NZ	06 03 55.8	0.4	+0.04		+0.04		Quarry blast ?
		i E	03 56.4	0.6		-0.06			
		i NZ	03 58.3	0.6	+0.06		-0.11		
233	2	iP Z	16 31 51.5	0.75			-0.06		Dilatation.
		m Z	31 52	0.75			0.2		USCGS: 53.2N, 171.7W, H 16 18 55.6,
		ipP Z	32 31	0.8			+0.05		h 142 km.ca.
		e N'	43 21	6					
		i(sS) N'	43 53	5	+2				
234	3	e N'	01 37.0	?					USCGS: 14.7S, 176.4W, H 01 21 54,
		eL Z'	38.7	22					h 33 km.ca.
		N Z'	43.5	17			1		
235	3	iP EZ	01 40 46.0	0.5		+0.03	+0.1		Compression.
									USCGS: 9.2S, 123.9E, H 01 33 52.8,
									h 33 km.ca.
	3	i(Sg) N	06 11 01.7	0.4	+0.03				Quarry blast ?
		m N	11 04	0.6	0.13				
		i Z	11 06.1	0.5			+0.04		
236	3	(P) Z	11 27 24½						Masked by microseisms.
		i Z	27 39½	0.5			+		USCGS: 29.6S, 177.2W, H 11 21 49.0,
		e E'Z'	32.5	16					h 46 km.ca.
		e N'	33 34	16					
		eLR E'Z'	34.3	32					
		M E'	36.0	19		2			
		N N'Z'	36.5	16-18	1		3		
237	3	eP Z'	14 57 46	5				6580	
		iS N'	15 05 50	9	+5			5992	USCGS: 55.4S, 128.2W, H 14 47 55.5,
		i N'E'	06 04	14	-4	+4			h 33 km.ca.
		ePS Z'	06 07	19			3		
		eLQ N'E'	12.6	24					
		eLR N'Z'	14.6	30					
		N N'E'Z'	15.3	25	9	8	17		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Apr. 4	i(Sg)	N	01 57 39.5	0.3	-0.04				Quarry blast ?
		i	Z	57 39.6	0.3			+0.05		
		i	EZ	57 41.0	0.4		+0.06	+0.07		
	4	i	N	01 58 37.4	0.3	-0.12				Quarry blast ?
		i	E	58 37.6	0.3		+0.09			
		i	Z	58 38	0.3			-0.12		
	4	i	N	04 21 11.8	0.5	+0.03				Quarry blast ?
	4	i	EZ	06 07 36.1	0.3		+0.07	+0.10		Quarry blast ?
		i	N	07 37.3	0.5	-0.05				
		i	EZ	07 39.3	0.5		+0.03	+0.05		
	4	iPg	Z	07 00 40.7	0.5			-		Quarry blast.
		iSg	N	00 44.3	0.5	+0.03				
		i	EZ	00 44.7	0.3		+0.16	-0.09		
		i	N	00 45.8	0.6	+0.2				
		m	N	00 47	0.7	0.3				
		i	E	00 48.1	0.5		+0.07			
		m	EZ	00 49	0.7		0.18	0.22		
238	4	(i)	Z	22 06 26½						Masked by microseisms.
		eL	Z'	13.8	24					USCGS: 30.3S, 177.8W, H 22 01 03.3, h 36 km.ca.
	5	i	N	00 01 48½	0.5	+0.02				Local ?
		i	E	01 49½	0.5		-0.04			
239	5	(P)	Z	02 31 49						Masked by microseisms.
		eL	Z'	39.3	18					USCGS: 30.2S, 177.7W, H 02 26 11.1, h 33 km.ca.
	5	e	NEZ	04 57 41						Quarry blast ?
	5	Pg	Z	06 12 45.5	0.3			0.03		Quarry blast.
		iSg	N	12 49.3	0.3	+0.05				
		iSg	E	12 49.4	0.3		+0.07			
		i	Z	12 49.7	0.3			+0.11		
		i	N	12 50.5	0.3	+0.1				
		m	N	12 52	0.6	0.25				
		i	E	12 53.5	0.5		+0.11			
		m	Z	12 54	0.7			0.11		
	5	iSg	N	06 17 04.8	0.3	+				Quarry blast.
		i	Z	17 05	0.3			+		
		m	N	17 07½	0.7	0.21				
240	5	e	N'	11 03.6						Masked by microseisms.
		M	Z'	06.2	15			1		USCGS: 30.1S, 177.2W, H 10 50 03.3, h 44 km.ca.
		M	E'	06.3	14		½			
	6	i(P)	NEZ	00 28 40.3	0.4	-0.02	+0.03	+0.03		Local ?
		m	NZ	28 41½	0.6	0.05		0.07		
241	6	eLR	Z'	03 05.7	37					USCGS: 5.1S, 145.5E, H 02 51 46.4, h 57 km.ca.
		L	N'Z'	06.7	34	1		1½		
		M	E'	08.3	16		½			
	6	e	NE	05 45 20	0.3					Quarry blast ?
242	6	M	E'Z'	05 50.4	16		½	1		USCGS: 30.3S, 177.0W, H 05 34 09.7, h 33 km.ca.
		M	N'	51.6	14	1				
243	6	iP	Z	07 08 45.3	0.75			-0.06		Dilatation.
		i	E	08 45.4	0.75		+0.03			USCGS: 17.5S, 178.9W, H 07 03 06.5, h 526 km.ca.
		i	N	08 55	0.75	-0.03				
		i	E	08 55½	0.75		+0.03			
		i	E	09 10½	0.75		+0.04			
	6	(iP)	Z	15 15 22.7	0.7			+0.02		Microseisms present.
										USCGS: 30.2S, 177.9W, H 15 09 44.3, h 33 km.ca.
244	6	eL	Z'E'	18 14.0	25					USCGS: 32.1S, 178.1E, H 18 02 30.6, h 197 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
245	Apr. 6	e(S) N'	21 45 55	18	1½				USCGS: 6.0S, 149.9E, H 21 35 21.2, h 49 km.ca.
		e Z'	46 07	16			2		
		eL E'	48.7	27					
		eL N'Z'	49.0	30					
		M N'Z'	50.8	22	1½		2		
		M E'	51.3	18		1½			
246	7	e(P) Z	04 03 27						Microseisms present.
		eL N'	10.0	(22)					USCGS: 24.5S, 177.0W, H 03 57 31.6, h 114 km.ca.
		M N'	10.9	20	1				
247	7	Z'	08 25	Feeble surface waves.					(USCGS: 31.2S, 41.6W, H 07 20 52.5, h 30 km.ca.)
248	7	N'E'Z'	15 40	Feeble surface waves.					USCGS: 27.0N, 129.2E, H 15 07 34.9, h 33 km.ca.
249	7	iP N'E'Z'N"E"Z"	22 45 15½	3&15	-	+	+	5920	Compression.
		iP Z	45 15.8	0.8			+0.11	53?3	h 0.00
		ipP E'Z'	45 24	3		+	+		
		i(sP) E'Z'	45 34	6		+	+6		USCGS: 4.9S, 103.2E, H 22 36 03.4, h 72 km.ca.
		iS N'E'N"E"	52 43	6&22	+12	+20			
		i Z'	52 44	7&22			-6		
		iPPS N'	53 07	7&22	-7				
		i E'	53 09	6&22		+18			
		i N'	53 23	6&22	+4				
		iScS N'E'N"E"	55 00	6&25	+9	+4			
		eSS Z'	56 22	32					
		eSS N'	56 28	?					
		eLQ N'	58.2	50					
		eL E'	59.0	48					
		L N'	23 00.3	45	10				
		eLR Z'	00.8	43					
		M E'	03.0	36		11			
		M Z'	04.0	30			17		
		M E'	04.4	30		10			
		M N'	05.0	27	13				
		M E'	09.6	20		13			
		M Z'	10.0	20			18		
	8	(P) Z	01 46 39						Microseisms present.
	8	(P) Z	06 31 36	1					Microseisms present. USCGS: 5.5S, 130.1E, H 06 24 50.7, h 33 km.ca.
	8	iSg N	06 41 27.3	0.3	-0.04				Quarry blast.
		i EZ	47 27.6	0.3		-0.09	+0.14		
		m N	47 30½	0.6	0.2				
		i EZ	47 30.9	0.5		+0.05	+0.07		
		m EZ	47 32	0.7		0.10	0.13		
250	8	e(S) N'	08 05 42	14					Feeble.
		e Z'	05 45	14					USCGS: 18.8S, 168.5E, H 07 56 50.0, h 33 km.ca.
		eL Z'	07.4	21					
		eL E'	07.5	21					
251	8	e N'	12 04.2	?					Feeble.
		e Z'	05.1	?					
		eL E'	07.3	?					
		eL N'	07.6	?					
		M E'	08.5	15		¼			
		M N'Z'	11.3	15	¼		½		
252	8	Z'	16.3	Feeble surface waves.					
253	8	N'E'Z'	19.8	Feeble surface waves.					
254	8	N'E'Z'	20.4	Feeble surface waves.					USCGS: 5.6S, 151.9E, H 20 08 33.5, h 41 km.ca.
255	8	N'E'Z'	21.1	Feeble surface waves.					USCGS: 10.4S, 161.4E, H 20 50 58.8, h 33 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Apr. 9	i E	00 05 59	0.5					Regional ?
		i N	06 00	0.5					
256	9	iP EZ	02 08 03.5	0.7		+0.04	-0.05		Dilatation.
		m Z	08 05	1			0.26		USCGS: 17.7S, 178.7W, H 02 02 25.1,
		i E	08 29	1		+0.10			h 538 km.ca.
		eS E'	12 32	6					
257	9	(e) Z'	04 37 31						Microseisms present.
		e(S) N'	41 28	8	1				USCGS: 17.8S, 168.0E, H 04 32 26.3
		e E'	41 35	8		1			h 35 km.ca.
		e Z'	41 39	7			1		
		eL Z'	42.9	22					
		M Z'	44.3	20			1		
		M N'E'	44.4	15-18	¾	¾			
	9	e E	05 20 12						Quarry blast ?
	9	i N	08 42 23	0.5	+0.03				Local ? Quarry blast ?
		m N	42 25	0.7	0.08				
258	9	e(S) N'	15 05 08	(16)					USCGS: 4.0S, 151.0E, H 14 54 04.5,
		eL(Q) E'	06.8	33					h 33 km.ca.
		eL N'	07.7	24					
		eL Z'	08.7	30					
		M E'	10.0	18		1			
		M N'Z'	11.0	19	1		1½		
259	9	(P) Z	23 03 21						Masked by microseisms.
		eL Z'	10.2	25					USCGS: 11.6S, 166.1E, H 22 57 47.9,
		eL E'	10.3	25					h 64 km.ca.
260	10	eL N'E'	03 41	20	1	2			
	10	i N	06 02 36	0.4	+0.03				Quarry blast.
		f EZ	02 37½	0.4		+0.08	-0.05		
	10	Pg Z	06 11 14½						Quarry blast.
		iSg N	11 18.0	0.3	-0.07				
		iSg EZ	11 18.5	0.4		-0.06	+0.08		
		i N	11 19.2	0.3	+0.08				
		m N	11 21	0.6	0.25				
		i Z	11 21.8	0.5			+0.07		
		m EZ	11 23	0.7		0.09	0.12		
	10	i(Sg) N	06 17 01.1	0.5	+0.02				Quarry blast.
		f EZ	17 01.8	0.5		+	+		
		m N	17 05	0.7	0.16				
		m EZ	17 07	0.7		0.04	0.04		
261	10	iP Z	07 57 16.2	0.6			+0.03	3790	Compression.
		e Z'	57 23					34°1	
		eS N'	08 02 39	10					USCGS: 9.2S, 125.0E, H 07 50 30.2,
		e Z'	02 40	25					h 33 km.ca.
		i E'	02 45	10		+5			
		m N'E'Z'	03.6	23-28	8	7	6		
		eLQ E'	04.8	60					
		eLR Z'	06.4	50					
		LR N'	07.0	38	6				
		N E'	09.5	26		10			
		M N'	12.6	16	36				
		N E'Z'	13.1	16		39	54		
	11	e NEZ	00 32 16						Quarry blast ?
	11	NE	05 22 28½						Quarry blast ?
	11	NE	05 38 07½						Quarry blast ?
	11	f N	05 48 53	0.5	+				Quarry blast ?
	11	i NEZ	06 03 00.5	0.4	-	+	-		Quarry blast.
		i N	03 01.8	0.5	+0.07				
		m N	03 03	0.6	0.2				
		m Z	03 05	0.6			0.04		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
262	Apr.11	(i) Z	09 40 59						Masked by microseisms.
		eL N'	52.3	(24)					USCGS: 9.9S, 116.2E, H 09 33 10.1,
		M N'	55.1	16	1				h 33 km.ca.
263	11	i Z	17 17 29	1.2			-0.18		USCGS: 60.2S, 18.7W, H 16 45 25.1,
		e E'	20.4	28					h 33 km.ca.
		(eL) N'	26.6	(40)					
		M Z'	32.3	23			1		
		M N'	32.8	23	1				
		M E'	33.0	23		1			
264	12	eP Z'	08 46 38	3					Masked by microseisms.
		i Z	46 41	1.3			+0.2		USCGS: 39.0S, 176.7E, H 08 41 56.7,
		e E'Z'	47 00	7					h 106 km.ca.
		iS N'	50 36	20	+18				
		iS E'	50 40	20		+10			
		m N'E'Z'	51.0	24	31	16	6		
		e(SS) N'	51 13	20					
		eL Z'	51.3	27					
		L Z'	52.1	24			7		
		M N'E'	53.1	18	21	11			
		M E'	54.4	14		16			
		M Z'	55.0	18			10		
265	12	eL N'	21 03.6	24					Masked by microseisms.
		M E'Z'	06.2	15		1	1		USCGS: 16.7S, 173.7W, H 20 48 16.7,
									h 33 km.ca.
266	13	ePP Z'	02 41 27						Masked by microseisms.
		ePS Z'	50 39	16			4		
		ePS N'E'	50 45	13	1	2			USCGS: 6.2S, 76.5W, H 02 20 57.5,
		i Z'	51 25	18			-3		h 125 km.ca.
		ePPS Z'	52 07	20			2		
		eSS E'	57.2	18					
		eSS Z'	57 26	22					
		e Z'	58 14	30					
		m N'E'	58.8	22	3	3			
		eLQ N'E'	03 09.5	45					
		eLR Z'	17.0	38					
		LR N'E'Z'	18	40	2	2	3		
267	13	iP Z'	14 38 02	6			+3	3700	Compression.
		e Z'	39 21	6				33°3	S.P. masked by microseisms.
		eS N'	43 19	9					
		e E'	43.4	(13)					USCGS: 3.4S, 135.4E, H 14 31 21.0,
		e N'Z'	43.6	26					h 31 km.ca.
		m N'E'Z'	44	28	4	2	3		
		eL E'	45.9	50					
		eLR Z'	47.7	38					
		M E'	49.8	21		49			
		M N'Z'	50.7	26	26		27		
		M N'Z'	53.1	17	55		84		
268	14	eL Z'	05 44.6	30					Masked by microseisms.
		M E'Z'	46.2	21		2	3		USCGS: 31.4S, 177.8W, H 05 32 33.9,
		M N'	46.8	16	1				h 33 km.ca.
269	14	eL E'	21 16.5	16					(USCGS: 30.6N, 139.8E, H 20 36 53.4,
		M N'Z'	20	15					h 113 km.ca.)
270	15	e N'	23 54.4	16					Masked by microseisms.
		eL Z'	56.0	28					USCGS: 18.3S, 173.7W, H 23 39 27.3,
		M N'E'Z'	58	19	1	2	2		h 33 km.ca.
272	16	iP N'E'Z'N"E"Z"	01 36 50	13	-(19)	+10	+35	4360	Compression. N'E'Z' P superposed on
		i(pP) N"E"Z"	36 58	6	+	-	-	39°2	calibration pulse. L.P. & Galitzin
		iS E"	42 48	8		+16			records hard to read owing to over-
		i N"	42 58	?	-				lapping lines.
		i(sS) E"	43 05	(7)		+			USCGS: 0.8S, 128.0E, H 01 29 19.4,
		(M W_2) E'	04 14	70		31			h 33 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
272	Apr.16	P Z	01 44 29	1.5					Superposed on no.271.
		M NEZ	59	13					USCGS: 1.2S 128.4E, H 01 36 59.4, h 33 km.ca.
273	16	P Z	02 02 40	1					Superposed on preceding shocks.
									USCGS: 0.7S, 128.0E, H 01 55 10.9, h 32 km.ca.
	16	(Pg) Z	06 06 51						Quarry blast.
		iSg NEZ	06 55	0.4	+0.02	-0.02	+0.02		
		m N	06 57	0.6	0.05				
		m EZ	07 00	0.7		0.11	0.07		
274	16		09.6	Weak surface waves.					USCGS: 0.9S, 128.5E, H 09 10 23.0, h 33 km.ca.
275	16	iP Z	12 11 12.8	1.2			-0.16	4380	Dilatation.
		iS N'	17 15	8	+2			39°4	USCGS: 1.0S, 127.6E, H 12 03 42.5, h 33 km.ca.
		eS E'	17 16	8		2			
		e N'E'Z'	17.5	28					
		eSS Z'	20 06	14			1		
		e N'	20 32	?					
		eLR E'	22.4	42					
		eLR N'Z'	22.5	45					
		M E'	27.1	23		2			
		M Z'	27.6	22		3	3		
		M N'	28.4	21	2				
276	16	L E'	20 21	25					(USCGS: 1.3S, 128.9E, H 20 00 47.2, h 33 km.ca.)
277	17	eL Z'	00 46.7						USCGS: 34.2S, 106.3W, H 00 09 34.9, h 33 km.ca.
		M Z'	50.8	18			1		
278	17	eP Z'	01 17 39	8			2	4420	
		ePP E'Z'	19 10	9		½	2	39°8	USCGS: 0.6S, 128.1E, H 01 10 16.6, h 89 km.ca.
		ePP N'	19 15	9	1				
		eS E'	23 44	12					
		iS N'	23 46	10	+3				
		e N'Z'	24.0	30	2		3		
		e E'	24.3	30		2			
		e E'	25.7	50					
		eSSS N'	27 10	20	2				
		eLR Z'	28.5	50					
		eLR N'	28.7	50					
		L Z'	30.2	42			6		
		M E'	35.4	19		11			
		M N'Z'	35.8	19	8		14		
279	17	iP E'Z'	02 17 18	10&15		-2	+4	3180	Compression.
		eP N'	17 20	10&15	1			28°6	USCGS: 19.6S, 178.6E, H 02 11 26.1, h 33 km.ca.
		e Z	17 21½	3					
		m N'E'Z'	17.6	15		5	9		
		iPP E'	18 07	6		+4			
		iPP Z'	18 10	6			+7		
		m E'Z'	18.4	15		6	7		
		e(S) N'	22 04	30					
		iS E'	22 05	18		-8			
		m E'Z'	22.4	18		20	22		
		SS N'	23 29	?					
		iSSS E'	23 48	11		+10			
		eLR Z'	24.3	42					
		i N'	24 26	15	-19				
		eLR E'	24.4	40					
		LR Z'	25.2	42			34		
		M N'	27.4	13	48				
		M E'Z'	30.7	15		27	40		
		M E'Z'	31.5	15		28	43		
	17	i(P) Z	04 09 59.4	0.7			+0.02		Compression.
									USCGS: 1.0S, 128.3E, H 04 03 05.9, h 33 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Apr.17	iPg Z	06 10 33.9	0.3			+0.03		Compression. Quarry blast.
		iSg N	10 37.5	0.4	-0.08				
		iSg EZ	10 37.9	0.3		-0.07	+0.20		
		m N	10 40	0.6	0.6				
		i Z	10 41.2	0.5			+0.1		
		m EZ	10 42	0.7		0.15	0.18		
	17	e Z	06 18 35½						Quarry blast.
		(Sg) N	18 38	0.4					
		m EZ	18 42	0.75		0.04	0.04		
280	17	(P) Z'	08 30 25						USCGS: 15.7S, 174.1W, H 08 23 34.0, h 124 km.ca.
		e(L) N'	38.8	22					
		eL Z'	40.8	38					
281	17	eL E'	17 21.4	21					USCGS: 3.5S, 135.4E, H 17 03 02.4, h 39 km.ca.
		eL Z'	22.3	24					
		M N'Z'	24.7	16	1		1½		
282	17	(i) Z	18 38 27	0.7			+		Masked by microseisms.
		e(LQ) E'	19 02.0	28					USCGS: 54.9S, 28.2W, H 18 24 27.6, h 26 km.ca.
		eLR Z'	08.4	30					
		eLR N'	09.0	30					
		N E'	15.7	20		¾			
		N N'Z'	16.5	20	1		1		
283	18	N'E'Z'	03.1	Feeble surface waves masked by microseisms.					USCGS: 0.7S, 128.4E, H 02 37 20.6, h 116 km.ca.
	18	i N	06 11 52.5	0.3	+0.05				Quarry blast.
		m N	11 54	0.6	0.08				
	19	m N	00 25 41	0.7	0.04				Quarry blast ?
	19	i NEZ	01 58 15	0.4	-	?	+		Quarry blast ?
284	19	eP Z	03 54 33	0.5					USCGS: 9.8S, 120.5E, H 03 47 22.7, h 33 km.ca.
		eL N'	04 04.5	38					
		eL Z'	05.3	38					
		M E'	07.8	25		2			
		M N'Z'	08.2	25	1		1		
	19	e NE	05 13 01						Quarry blast ?
	19	i Z	05 52 58	0.4			+		Quarry blast ?
		i N	52 59	0.4	+				
	19	(Pg) Z	06 02 05						Quarry blast.
		iSg NE	02 08.5	0.4	-0.04	+0.04			
		i Z	02 08.7	0.4			+0.06		
		m N	02 11	0.6	0.11				
		m EZ	02 13	0.7		0.05	0.06		
285	19	eP Z'	07 47 59	14			2	96?0	
		e Z'	51 09	25				86?5	USCGS: 35.8N, 96.9E, H 07 35 23.7, h 33 km.ca.
		ePP E'	51 21	(27)					
		eSKS N'E'	58 26	(15)					
		iS N'	58 35	20	+14				
		iS E'	58 36	20		-17			
		m Z'	58.7	27			9		
		e N'E'	59.1	(44)					
		PS Z'	59 32	16			13		
		e E'	08 00.6	70					
		eSS Z'	04.1	40					
		SS N'	04.2	24					
		m N'E'Z'	05.0	33-40	23	16	17		
		e Z'	08.3	40					
		m Z'	09.3	30			18		
		eL N'	09.6	48					
		i Z'	10 37	25			+40		
		i E'	10 50	30		-20			
		L E'	13.3	55		26			
		L N'	13.4	55					
		L N'	14.2	55	47				

Continued on next page.

No.	Date	Phase & Component		Time (G.M.T.)	Per	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
285	Apr.19	LR	Z'	08 16.4	65					
cont.		LR	N'	17.9	47	35				
		L	Z'	19.7	40			61		
		M	E'	19.9	26		44			
		M	E'	23.4	26		47			
		M	Z'	24.0	26			57		
		M	N'	24.6	27	55				
		M	Z'	27.3	24			63		
		M	E'	28.0	22		47			
		M	N'	28.6	22	40				
		e	Z'	09 46	70					
286	19	eL	E'	16 45.6	52					USCGS: 58.8S, 26.0W, H 16 17 54.8, h 99 km.ca.
		eL	Z'	47.6	45					
		M	N'E'	50	22	½	¾			
287	20	(eP)	Z	01 15 23						USCGS: 1.2S, 128.9E, H 01 07 57.8, h 28 km.ca.
		e(PP)	Z	16 49½						
		i	E	17 54	0.6		-0.05			
		i	N	17 54½	0.7	+0.06				
		eL	Z'	26.6	(38)					
		M	Z'	31.8	21			1		
		M	N'E'	32.5	21	½	½			
	20	(Sg)	NE	06 13 01						Quarry blast.
		m	N	13 04½	0.75	0.1				
288	21	eS	E'	04 57 32	15					USCGS: 24.1N, 122.1E, H 04 38 21.7, h 33 km.ca.
		e	Z'	57 39	?					
		eL	Z'	05 09.3	37					
		M	N'E'Z'	14.3	22	¾	1	2		
289	21	(P)	Z'	10 44 31	6					Masked by microseisms.
		eS	N'	49 50	?					USCGS: 3.2S, 146.9E, H 10 38 30.0, h 33 km.ca.
		e	Z'	50.1	26					
		eLQ	E'	51.9	45		5			
		eL	N'	53.3	33					
		eL	Z'	53.9	28			4		
		M	N'E'Z'	57.0	16-20	5	6	7		
	22	i(P)	Z	00 46 28.8	1.3			+0.25		Microseisms present.
	22	iSg	N	06 16 14.0	0.5	+				Quarry blast. Microseisms present.
		iSg	E	16 14.2	0.4		+			
		i	Z	16 14.5	0.4			+		
		m	N	16 17	0.7	0.15				
		m	EZ	16 18½	0.7		0.05	0.05		
	22	iSg	N	06 29 22.8	0.5	+0.05				Quarry blast. Microseisms present.
		i	Z	29 23.1	0.5			+0.06		
		i	E	29 23.3	0.4		+0.07			
		i	Z	29 24.8	0.5			+0.06		
		m	N	29 25	0.6	0.27				
		i	E	29 26.2	0.5		+0.05			
		m	EZ	29 27½	0.7		0.07	0.08		
290	22	iP	Z	07 31 10	0.7			+0.06		Compression. Microseisms present.
		e	Z'	36 04	(18)					USCGS: 29.9S, 177.6W, H 07 25 30.8, h 33 km.ca.
		eL	Z'	37.7	27					
		M	E'	40.0	18		½			
		M	Z'	40.3	18			1		
	22	(i)	N	08 35 22.7	1.2	+				Microseisms present. USCGS: 5.1S, 154.1E, H 08 30 30.5, h 132 km.ca.
291	22		N'	12.0	Feeble surface waves.					
292	23	e	Z'	02 55.2	?					Masked by microseisms. h 97 km.e
		M	N'Z'	58	25	½		1		USCGS: 11.4S, 165.9E, H 02 45 04.7,
	23	eSg	N	06 02 36						Quarry blast. Microseisms present.
		f	EZ	02 36.4	0.4		+0.10	+0.10		
		m	EZ	02 41	0.7		0.17	0.19		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
	Apr.23	iPg EZ	06 53 37.4	0.3		+0.04	+0.04		Compression. Quarry blast.
		iSg N	53 41.0	0.4	-0.12				
		i EZ	53 41.6	0.4		+0.11	+0.14		
		f N	53 42.2	0.5	+0.11				
		m N	53 44	0.6	0.56				
		i EZ	53 44.9	0.5		+	+		
		m EZ	53 46	0.7		0.35	0.39		
293	23	(i) Z	10 06 43						Masked by microseisms.
		eL N'	32.3	(32)					USCGS: 25.7N, 99.5E, H 09 55 06.8,
		eL Z'	33.7	(35)					h 33 km.ca.
		M N'	39.5	23	½				
		M E'	42.1	20		½			
		M Z'	43.0	18			1		
	24	(Sg) N	02 37 09						Quarry blast. Masked by microseisms
		m N	37 13	0.7	0.06				
294	24	(e) Z	04 01 56½						Masked by microseisms.
		M Z'	10.8	(20)					USCGS: 17.2S, 174.5W, H 03 55 06.6,
									h 190 km.ca.
	24	e NEZ	04 17 00	0.3					Local. Quarry blast ?
	24	i EZ	06 01 58½	0.7		-	+		Local. Quarry blast ?
295	24	eL E'	06 13.0	22					Masked by microseisms.
		M Z'	16.7	17			1		USCGS: 1.1S, 127.2E, H 05 51 44.1,
									h 33 km.ca.
	24	iSg N	06 15 04.5	0.4	-0.06				Quarry blast.
		i E	15 04.8	0.3		+0.06			
		i Z	15 05.0	0.4			+0.06		
		m N	15 07	0.6	0.43				
		m EZ	15 09	0.7		0.10	0.09		
296	24	N'	21.9	Feeble waves.					USCGS: 20.8S, 179.1W, H 21 42 49.0,
									h 603 km.ca.
297	25	iP Z	08 20 35.7	0.5			+0.04		Compression. Microseisms present.
		m Z	20 37	0.7			0.13		USCGS: 4.7N, 122.4E, H 08 12 57.2,
		i Z	20 52½	?			+		h 610 km.ca.
		i N	21 15	?	+				
		M Z'	39.8	18			1		
298	25	Z'	09.8	Feeble surface waves.					
299	25	P Z	16 43 19½	1			0.1		Large microseisms present.
		PP Z	44 53½	1½			0.4		USCGS: 1.3S, 128.7E, H 16 35 56.2,
		eS N'E'	49 21	?					h 33 km.ca.
		eLQ N'	52.2	60					
		eL E'	53.2	40					
		M E'	57.6	20		2			
		M N'Z'	17 00.1	22	3		4		
		M E'	01.4	19		3			
		M N'Z'	03.6	14	4		6		
300	27	(eP) Z'	08 50 35	?					Masked by large microseisms.
		(i) Z'	54 16	6			+5		USCGS: 0.6S, 128.4E, H 08 42 58,
		eS E'	56 24						h 33 km.ca.
		eS N'	56 25	(20)					
		e Z'	56.7	(36)					
		e(L) Z'	58.6	(36)					
		e(SSS) N'E'	59 14	28					
		eLR N'E'	09 00.1	60					
		LR N'E'	01.9	45	9	10			
		M Z'	05.5	28			6		
		M N'	06.8	19	8				
		M E'	08.1	19		11			
		M N'E'	10.0	19	8	14			
		M Z'	10.2	20			11		
		M Z'	11.9	20			14		
	27	(i) N	11 18 01	1.3	+				Masked by large microseisms.
		(i) E	18 59	1.3		-			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
301	Apr.28	e N'	02 12.0	(24)					Masked by large microseisms.
		eL Z'	14.3	20					USCGS: 1.1S, 128.6E, H 01 51 06.8,
		M N'Z'	18	18	3		5		h 26 km.ca.
302	29	(P) Z'	14 58 09						Masked by large microseisms.
		e N'	59 22	?			USCGS		USCGS: 63.9S, 159.5E, H 14 51 52.4,
		e(S) N'	15 02 51	(13)					h 33 km.ca.
		e Z'	03.1	22					
		eL E'	04.7	20					
		e N'	04 44	16	4				
		eL Z'	05.4	30		9			
		L N'Z'	06.1	25	5		6		
		M E'	07.0	10		9			
		M N'Z'	10.0	11	3		3		
303	29	eP Z'	21 57 05	8				9810	Large microseisms present.
		e Z'	22 07.4	14				88°3	USCGS: 51.4N, 178.6E, H 21 44 17.1,
		iSKS N'	07 31	15	+3				h 60 km.ca.
		iS E'	07 49	16		-5			
		iScS N'	07 51	14	-3				
		ePS N'Z'	08.8	22	2		3		
		e N'	13.2	(28)					
		eSS E'	13.6	26		3			
		eSS Z'	13.7	32			3		
		eLQ N'	20.1	52					
		L N'E'	21.0	50	3	6			
		eLR E'Z'	24.3	45					
		L N'Z'	25.4	35			5		
		M N'	26.7	25	3				
		M E'	28.2	25		2			
		M N'Z'	30.0	22	3		5		
		M E'	31.3	21		3			
304	30	iP Z'	01 05 44	5&12			+21	4310	Compression.
		P N'	05 45	5&12				38°8	USCGS: 0.7S, 129.0E, H 00 58 18.3,
		i Z	05 48½	1.3			+0.4		h 33 km.ca.
		i N'E'Z'	05 49	5&12	-	+	+		
		i N'E'Z'	06 05	12	+5	-3	-8		
		i Z'	06 31	12			+9		
		iPP N'Z'	07 15	10	-6		+13		
		PPP Z'	07 37	13			11		
		eS E'	11 39	12					
		iS N'	11 41½	12	-21				
		ei Z'	11 57	28					
		i(sS) E'	12 04	12		+35			
		m N'E'Z'	12.4	30	47ca	33	30		
		e E'	13.8	42					
		iSS N'	14 26	13	+21				
		i E	14 31	(24)		-(28)			
		i(SSS) N'E'	14 53	(13)	+(24)	+(23)			
		i Z'	15 30	20			-35		
		eLR N'	16.0	60					
		eLR Z'	16.4	52					
		eLR E'	16.6	52					
		LR N'E'Z'	17.5	48	50	64	110ca		
		M E'Z'	19.7	27-32		76	100ca.		
		M N'	20.1	27	75ca				
		M Z'	22.1	24			110ca		
		M N'E'	22.8	25	90ca	130ca.			
		M N'E'	23.6	20-23	105	145ca			
		M E'Z'	25	17-19		170ca	130ca		
		i Z'	41 37	14			+30		
		eW_2 N'Z'	03 45	26					
		M N'Z'	50	25	1		2		
	30	N	04 1621						Quarry blast ?
	30	iSg NEZ	06 15 25	0.4	-	-	+		Quarry blast.
	30	(Sg) N	06 35 22						Quarry blast.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
305	Apr.30	(eL) N'	10 38.3	(58)					Masked by microseisms.
		M Z'	46.3	24			1		(USCGS: 10.6N, 94.4E, H 10 20 54, h 33 km.ca.)
306	30	e E'	19 19.3	20					
		e N'	19.4	20					
		eL Z'	37.2	30					
		M Z'	44.7	18			1		
		M E'	45.6	17		½			
	May 1	i N	02 13 53	0.5	+				Quarry blast.
		m N	13 54	0.7	0.07				
307	1	iP Z	10 08 01.5	0.6			-0.05	2520	Dilatation.
		iP N'E'Z'N"E"Z"	08 02½	6&30	+54	+77	-150	22°7	h 0.02 ca.
		i NEZ	08 03	0.6			-0.10		
		m Z	08 05	0.6			0.6		USCGS: 19.0S, 169.0E, H 10 03 20.0, h 140 km.ca.
		ipP N'E'Z'	08 31	7	+	+	-		
		iPP Z'	08 38	8			+83		
		i N'E'	08 45	10	+44	+37			
		m Z'	08.9	16			100		
		m N'E'	09.1	16	37	40			
		iS N'E'	11 54	9	-520ca	+74			
		i Z'	11 56	11			-107		
		m E'	12.1	10		130ca			
		i Z'	12 41	15			+225ca		
		isS E'	12 43	9		+140			
		L E'Z'	13.3	45		130	175		
		L N'	13.4	45	97				
		M N'E'Z'	16.1	16	47	70	99		
	2	i EZ	06 04 35	0.3		-0.05	+0.06		Quarry blast.
		m N	04 37						
		m EZ	04 39	0.6		0.05	0.07		
	2	iSg N	06 24 05.5	0.4	+0.05				Quarry blast.
		i EZ	24 06	0.4		+0.05	+0.04		
		m N	24 08½	0.6	0.24				
		m EZ	24 10	0.7		0.08	0.07		
	3	i(Sg) N	06 23 31	0.7	-				Quarry blast
		m N	23 32½	0.7	0.07				
308	3	eP Z'	11 01 53	5			2		USCGS: 15.0S, 173.3W, H 10 54 43.0, h 33 km.ca.
		e Z'	07 50	18					
		e E'	08 07	16					
		iL N'	10 33	28	+5				
		eL Z'	11.5	26					
		M N'	12.3	18	2				
		M E'	13.4	20		2			
		M Z'	13.6	21			2		
	3	i N	15 58 59.1	?	+				Local or regional.
		i Z	59 08.2	1.3			+0.1		
		m E	59 16	1		0.08			
	4	e Z	01 31 25½						Quarry blast ?
		m NZ	31 26½	0.5	0.05		0.06		
	4	i N	05 54 57.8	0.5	+0.01				Quarry blast ?
		i E	54 58.0	0.4		+0.03			
		i Z	54 58.4	0.6			+0.04		
		i N	55 01	0.7	+0.05				
		m N	55 03	0.8	0.14				
		m EZ	55 05½	0.8		0.10	0.13		
309	4	iP Z	06 09 00.2	0.6			+0.03		Compression. USCGS: 51.8N, 175.4W, H 05 56 04.1, h 69 km.ca.
310	4	e E'	18 32.9						USCGS: 54.4S, 144.0E, H 18 24 09.4, h 33 km.ca.
		eL N'Z'	34.1	22					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
311	May 5	(P) Z	17 18 46						Masked by microseisms.
		eL N'	26.9	(27)					USCGS: 17.5S, 173.7W, H 17 11 47.2,
		eL E'	28.4	29					h 33 km.ca.
		eL Z'	28.6	29			1		
		M E'Z'	30.3	19		1	1		
312	6	eL Z'	06 12.5	27					USCGS: 2.5S, 138.2E, H 05 53 19.5,
									h 34 km.ca.
313	6	(P) N	08 46 27						Masked by microseisms.
		(i) Z	46 30	0.7			+		USCGS: 9.1S, 112.5E, H 08 38 33.3,
		eS N'	52 48	?					h 84 km.ca.
		e E'	53 17	(16)					
		e N'	56 11	16	1½				
		e E'	56 18	(16)					
		eL Z'	58.9	37					
		eL N'	59.1	32					
		eL E'	59.5	32					
		M N'	09 01.7	23	1				
		M E'	02.0	25		1			
		M Z'	04.0	23			3		
		M E'	04.5	22		2			
		M N'	04.8	22	1				
	7	(i) Z	04 24 05	0.5					Quarry blast. Large microseisms
		i E	24 07	?					throughout the day.
		e N	24 09½	0.7					
	7	i N	09 29 09.7	0.5	-0.03				Regional ?
		i(S) E	29 26	1.2		+0.3			
		m NEZ	29 52	1.5	0.25	0.5	0.7		
	8	Pg EZ	07 15 18.6						Quarry blast.
		iSg N	15 21.8	0.4	-0.11				
		i E	15 22.1	0.3		-0.09			
		i Z	15 22.5	0.3			+0.20		
		m N	15 24½	0.6	0.63				
		i Z	15 24.8	0.5			+0.10		
		i Z	15 25.8	0.5			+0.15		
		m E	15 26½	0.7		0.16			
		m Z	15 27	0.7			0.17		
314	8	(P) Z'	10 33 22						Masked by large microseisms.
		iS N'	42 35	(18)	-(4)				USCGS: 36.6N, 141.0E, H 10 22 11.2,
		iS E'	42 37	(20)		-(5)			h 53 km.ca.
		e Z'	42 39	18					
		ePS E'	43 12	21					
		m E'	43.7	27		4			
		m N	43.9	27	5				
		e E'	46.7	(20)					
		eSS Z'	47 21	26					
		eSS N'	47 26	27	2				
		eSSS N'	50.5	25	2				
		eL E'	52.4	38					
		eLQ N'	52.7	42					
		eLR N'Z'	55.8	38					
		M E'	58.0	29		4			
		M N'Z'	59.3	27	6		10		
		M N'Z'	11 01.1	24	8		12		
		M E'	01.9	23		4			
315	8	e E'	15 42.6						Masked by large microseisms.
		eL Z'	47.4	32					USCGS: 5.3N, 125.7E, H 15 24 00.3,
		M E'	51.4	24		1			h 70 km.ca.
		M N'Z'	53.0	21	3		4		
	9	(Pg) Z	06 40 37½						Quarry blast.
		i(Sg) E	40 41.3	0.3		+0.11			Large microseisms throughout the
		i NZ	40 41.5	0.3	+		+0.14		day.
		m N	40 43½	0.7	0.11				
		m E	40 45½	0.7		0.08			
		m Z	40 48	0.7			0.14		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	May 9	i(Sg) N	06 41 13.2	0.4	+0.02				Quarry blast.
		i Z	41 13.5	0.4			+0.09		
		i E	41 13.6	0.4		+0.09			
		m N	41 16	0.6	0.12				
		m EZ	41 18	0.7		0.10	0.10		
316	10	iP Z	04 33 19.8	1.2			+		Compression. Large microseisms
		i Z	33 23.2	1.2			+0.11		present.
		i Z	33 29.8	0.7			+0.05		USCGS: 20.0S, 168.1E, H 04 28 41.8,
		i Z	33 31.8	1.0			+0.14		h 33 km.ca.
		e(S) N'	37 10	?					
		e Z'	37 21	16					
		eLR Z'	38.2	30					
		eL E'	38.4	29					
		M Z'	39.7	18			4		
		M E'	40.4	16		3			
		M N'	40.7	14	3				
	10	e NZ	07 12 07½	0.3					Local.
317	10	(PP) Z'	22 43 12						Masked by large microseisms.
		ePS N'E'	53 15	18					USCGS: 2.2S, 77.6W, H 22 22 42.2,
		ePS Z'	53 18	(14)					h 33 km.ca.
		e SS E'	59.7	32		2			
		eSS N'	59.9	32	3				
		eSS Z'	23 00.0	26					
		eSSS N'	04.3	26	2				
		eL Z'	13.7	42					
		eG N'E'	14.0	48					
		N'E'	14.5	48	16	11			
		M N'E'Z'	21.6	24	6	8	16		
	11	i(Sg) N	01 00 24.8	0.4	-0.03				Quarry blast.
		i EZ	00 25	0.4		+0.04	+0.06		
		m N	00 27	0.7	0.13				
		m EZ	00 30	0.7		0.07	0.07		
318	11	e N'	18 09.3						Masked by large microseisms.
		eL Z'	23.2	20					USCGS: 24.2N, 122.5E, H 17 49 43.0,
		M N'Z'	27.4	20	½		2		h 33 km.ca.
		M E'	28,0	19		1			
319	12	iP NZ	09 48 14.1	1.0	+		+0.16		Compression.
		iP Z'Z"	48 14½	6			+8		USCGS: 57.5S, 159.4E, H 09 42 58.3,
		iP N'	48 15	6	+4				8 44 km.ca.
		m NEZ	48 17	1.2	0.3	0.1	1.2		
		i Z	48 19.2	1.0			+0.08		
		i Z"	48 20	4			+9		
		m Z	48 21	1.2			0.66		
		i NZ	48 37	1.2	+0.16		+0.26		
		e Z	52 21½	1					
		e N'	52 42	9					
		e E'	52 51	18					
		e N'	53.2	16					
		e E'	53 16	19		2			
		eLR Z'	53.9	23					
		eL N'	54.2	21					
		M E'	55.3	18		4			
		M N'Z'	55.5	19	5		9		
320	12	eL Z'	19 37.6	24					Masked by microseisms.
		M Z'	39.9	23			3		USCGS: 3.4S, 146.9E, H 19 22 30.8,
		M E'	40.1	15		2			h 33 km.ca.
		M N'	40.8	20	2				
321	12	eLR Z'	20 55.2	31					Masked by microseisms.
		M N'	57.8	22	2				USCGS: 57.4N, 153.9W, H 20 08 43.0,
		M E'Z'	21 00.6	23		1	3		h 80 km.ca.
	13	i NZ	03 50 30½	0.5	+		?		Local or regional.
	13	i N	06 21 13.4	0.8	+0.06				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
322	May 13	(P) Z'	10 21 33						Masked by microseisms.
		eL Z'	27.4	22					
323	13	iP Z	14 12 25.9	0.7			-0.07		Dilatation.
		iP E'Z'	12 27	7		+2	-4		USCGS: 19.5S, 169.3E, H 14 07 46.8,
		m Z	12 27½	0.7			0.13		h 163 km.ca.
		e Z'	13.2	8					
		eS N'	16 15	9	5				
		iS N"	16 16		-				
		i N"	16 21	9	+12				
		e Z'	16 25	14			2		
		i N'	16 35	8	-4				
		i N"	16 36	8	+7				
		e N'	16 57	21	3				
		e Z'	17 04	15			5		
		e E'	17 06	20		2			
		eL E'	17.9	34					
		M N'	19.5	14	1				
		M E'Z'	21.2	15		1	3		
324	13	(P) Z'	22 53 47						Masked by microseisms.
		e N'	58 40	18					USCGS: 6.0S, 150.1E, H 22 48 10.3,
		eL N'	23 01.3	24					h 94 km.ca.
		eL Z'	01.8	26					
		M N'E'Z'	03.5	18-22	1	2	2		
	14	iPg EZ	07 27 36.8	0.3		+0.05	+0.03		Compression. Quarry blast.
		iSg N	27 40.2	0.5	-0.17				
		i EZ	27 40.6	0.5		-0.11	+0.16		
		m N	27 42	0.7	1.17				
		m EZ	27 45	0.7		0.22	0.26		
325	14	M N'E'Z'	23.5	22					Confused by calibration pulses.
									USCGS: 4.1S, 152.8E, H 23 24 47.0,
									h 58 km.ca.
326	15	e Z'	03 00 36						P obscured by microseisms.
		e Z'	03 50	27					USCGS: 3.4S, 146.8E, H 02 52 39.7,
		e(S) E'	03 55						h 33 km.ca.
		e N'	04 02	21	2				
		eLQ E'	06.1	45					
		eL N'	07.4	35					
		eLR Z'	07.7	35					
		LR Z'	08.3	30			7		
		M Z'	10.0	25					
		M N'E'Z'	11.1	17-24	8	10	9		
		M Z'	12.0	18			12		
	15	e NZ	03 42 28	0.5					Regional ? Small.
	15	i NZ	06 01 11½	0.4	-		+		Quarry blast ?
		m Z	01 14½	0.8			0.06		
	15	i EZ	06 32 13.8	0.4		?	+		Quarry blast ?
		i N	32 14.8	0.4	+				
		m Z	32 18	0.7			0.04		
	15	(i) Z	06 37 26½						Quarry blast ?
		m N	37 27½	0.6	0.07				
	15	(e) Z	06 43 48½						Quarry blast ?
		m N	43 53	0.7	0.08				
327	15	iP Z	18 23 07.7	0.3			+0.05		Compression. Regional.
		i EZ	23 10.5	0.5		+0.02	+0.02		
		iS NE	23 32	0.6	+0.05	+0.11			
		i Z	23 33.3	0.5			+0.12		
		m NEZ	23 34½	0.6	0.56	0.68	0.45		
		i Z	23 39	0.5			+0.07		
		m NZ	23 40	0.5	0.27		0.21		
	16	i NE	00 31 25½	0.5	-	+			Local. Blasting ?
	16	i Z	01 57 21	0.7			-0.05		Local ?

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
	May 16	e NE	05 31 57						Blasting ?
	16	i E	06 02 23.3	0.4		+0.05			Quarry blast.
		i Z	02 23.4	0.4			-0.05		
		m N	02 26	0.7	0.04				
		m EZ	02 28	0.7		0.12	0.13		
328	16	(P) Z'	15 59 47						Masked by microseisms.
		eL N'Z'	16 11.0	40					USCGS: 0.8S, 128.5E, H 15 52 18.4,
		M N'Z'	15.5	20-24	1		2		h 50 km.ca.
		M E'	17.7	18		3			
		M Z'	20.4	15			4		
329	16	(P) Z	16 25 26½	1					Masked by microseisms.
		eL N'Z'	36.5	45					USCGS: 1,0S, 128.8E, H 16 17 59.8,
									h 33 km.ca.
	17	i N	03 18 45.0		+				Local.
		i NEZ	18 46.4		+	+	+		
		m NEZ	18 47	0.5	0.05	0.05	0.07		
330	17	iP Z	06 19 03.7	1.0			-0.06		Dilatation. L.P. masked by micro-
		e(S) N'	26.8	?					seisms.
		m N'	27.7	15	1				USCGS: 15.7N, 120.1E, H 06 09 18.2,
		e Z'	32.1	24					h 80 km.ca.
		M E'	38.3	23		1			
		M N'Z'	38.5	23	1		1		
	17	iPg EZ	07 01 07.2	0.3		+	+		Compression. Quarry blast.
		iSg N	01 10.7	0.4	+0.15				
		i E	01 10.9	0.4		+0.06			
		i Z	01 11.0	0.5			-0.07		
		m N	01 13	0.7	1.1				
		m EZ	01 15½	0.7		0.18	0.19		
331	17	iP Z	07 38 11.7	1.0			+0.04		Compression. L.P. masked by micros.
		e Z'	44.0	15			1		USCGS: 31.0S, 179.8W, H 07 33 17.5,
									h 358 km.ca.
332	17		12.5		Feeble waves on L.P.				USCGS: 41.7N, 141.9E, H 12 09 05.6,
									h 47 km.ca.
	17	i N	15 17 57.8	0.6	-0.06				Local or regional.
		i E	17 58.0	0.4		+0.04			
		i Z	17 58.3	0.6			-0.04		
		m E	17 59	0.5		0.09			
333	17	eL N'	21 49.7	(34)					Masked by microseisms.
		M N'	55	20	1				USCGS: 0.8S, 128.8E, H 21 31 12,
		M E'Z'	56	20		1	1		h 231 km.ca.
334	17	M N'	22 53.0	27	3				Masked by microseisms.
									USCGS: 24.4S, 177.2W, H 22 40 06.7,
									h 70 km.ca.
	18	i NE	00 46 16.3	0.5	+	-0.04			Local.
		i Z	46 16.8	0.5			+0.03		
		i N	46 19.9	?	-				
		m N	46 21½	0.7	0.18				
		m Z	46 24	1.0			0.14		
		m E	46 25	0.7		0.08			
	18	i N	05 49 52.8	0.7	+0.06				Local.
335	18	eL Z'	06 23.2	26					Masked by microseisms.
		M Z'	30.9	16			1		USCGS: 29.6S, 68.5W, H 05 33 25.0,
									h 29 km.ca.
336	18	iP EZ Z'	12 28 19.2	(0.7 10		+0.03	(+0.08 +2	4770 42°9	Compression. Microseisms present.
		m Z	28 21	0.7			0.16		USCGS: 8.2S, 115.6E, H 12 20 31.9,
		pP Z	28 28	1.0			0.14		h 39 km.ca.
		ePP E'Z'	30 04	16		1	2		
		ePP N'	30 05	16	1				
		eS N'E'	34 41	18	1	1			
		e(SS) N'	37 32	18					
		eSS E'	37 40	20		3			
		m N'	37.8	18	4				

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
336 cont.	May 18	eL N'	12 39.1	46					
		eL E'	40.6	35					
		eL Z'	40.7	36					
		LR N'E'	42.0	30	3	4			
		M N'	43.6	22	7				
		M E'	45.3	21		6			
		M E'Z'	47.6	18		7	7		
337	18	eP Z	13 11 18						Masked by microseisms. L.P confused by coda of no.336. h 68 km.ca. USCGS: 8.2S, 115.7E, H 13 03 35.8/
		M N'E'	28	20	2½	2			
338	19	iP Z'	01 16 03	6			+7	9940	Compression.
		iPcP Z	16 05½	1.3			+0.23	8995	
		ePP N'	19 36	7					USCGS: 46.5S, 75.1W, H 01 03 04.1, h 33 km.ca.
		iSKS N'	26 34	14	-9				
		i N"	26 38	7	+14				
		eS E'	26 49	(14)					
		iScS E'E"	26 55	13		-17			
		i N"	27 00	7	-14				
		e N'	27 53	14					
		iPS N'E'Z'	28 03	18	-14	+6	+		
		PPS N'	28 37	19	14				
		e N'	32.1	30	5				
		e E'	32.4	22		4			
		iSS E'	33 02	18		+10			
		iSS Z'	33 04	18			+18		
		i N'	33 16	14	+9				
		eSSS E'	36.4	23					
		eLQ E'	40.4	33					
		L N'E'	41.0	31	14	21			
		eLR N'	43.8	32					
		LR N'E'Z'	44.5	30	19	14	31		**339 May 19 19h 45m Feeble surface waves on L.P. USCGS:2.3N, 128.6E, H 19 21 22, h 166 km.ca.
		M N'E'Z'	46.5	22	18	19	40		
		M N'E'	49.0	18	18	19			
		M E'	52.7	17		15			
		M N'E'Z'	55.0	16	23	16	45		
	19	(P) E	15 24 02½						Local.
		i(S) NE	24 10.2	0.5	-0.08	+0.05			
		i Z	24 10.5	0.5			-0.07		
**339 340	19	(PKP) Z	21 55 59						Masked by microseisms.
		iPP Z'	22 00 25	?			+		Compression.
		eSKKS N'	07 13	13					USCGS: 23.8N, 45.9W, H 21 35 49.6, h 33 km.ca.
		ePPS Z'	13 50	13					
		(eSS) N'	20.5						
		e Z'	22.0	35					
		e N'Z'	35.1	40	4		2		
		eLQ N'	43.4	(40)					
		eG N'	45.3	48	18				
		eLR Z'	53.1	34			14		
		M N'Z'	23 02	20	6		9		
		M Z'	05	20			8		
		M N'	06	22	6				
	20	iPg Z	06 32 33.6	0.3			+		Compression. Quarry blast.
		iSg N	32 37.4	0.4	+0.04				
		iSg EZ	32 37.5	0.4		-0.06	+0.06		
		m N	32 40	0.6	0.3				
		m EZ	32 42	0.7		0.07	0.09		
341	20	iP EZ	11 43 36.9	1.3		-0.24	+0.76	2900	Compression.
		iP E'Z'E"Z"	43 37	13		-18	+35	2691	USCGS: 30.7S, 178.3W, H 11 38 00.9, h 34 km.ca.
		m Z	43 40½	1.3			2.3		
		ipP Z"	43 46	9			+27		
		m E'	43.8	18		22			
		m Z'	44.0	10			46		
		i Z'	44 08	10			+18		
		iPPP E'	44 31	13		+45			

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
341 cont.	May 20	i Z'	11 44 38	11			+		
		i N'	44 41	14	+10				
		i E'	46 28	18		-17			
		iS E'	48 04	17		-51			
		i Z'	48 06	15			-30		
		i N'	48 17	10	-18				
		i N'	48 27	14	-25				
		i Z'	48 30	20			+95		
		e N'	49 07	?					
		iSS N'	49 13	20	+67				
		i Z'	49 27	15			+35		
		iSSS E'	49 32	20		+41			
		m N'	49.6	18	85				
		iLR Z'	50 12	30			-125		
		iLR E'	50 18	30		-96			
		L N'	50.6	23	67				
		L E'Z'	51.0	27		170	250ca.		
		M N'	52.2	16	86				
		M E'Z'	53.6	17		120	200ca.		
		eT N	12 04.9	0.5					
		e E'	13 15.1	56		5			
		F	15.3						
	20	(iP) Z	13 48 51	0.7			-		Masked by microseisms.
	20	e NEZ	21 19 51	0.5					Local ?
342	20		21.5	Feeble surface waves on L.P.					USCGS: 2.5N, 128.8E, H 21 04 57, h 148 km.ca.
343	21	e(S) N'E'Z'	01 16.5						
		m N'E'Z'	17.0	20	4	3	2		USCGS: 56.0S, 123.9W, H 00 58 07.4, h 33 km.ca.
		o N'E'	23.5	22	2	2			
		eL N'	25.5	27					
		M N'E'Z'	26.3	26	3	2	5		
	21	iSg N	06 16 05.0	0.5	-				Quarry blast.
		i Z	16 05.5	0.5			+		
		m N	16 08	0.7	0.15				
	21	iSg N	06 18 01.8	0.5	+0.04				Quarry blast.
		i EZ	18 02.5	0.5		-0.06	+0.06		
		m N	18 05	0.6	0.22				
		m EZ	18 07	0.7		0.13	0.15		
344	21	eP N'Z'	17 35 41	7					Masked by microseisms.
		i Z	35 42	1.5			+0.3		Compression.
		i Z'	35 45	6			+7		USCGS: 11.1S, 163.3E, H 17 30 15.4, h 33 km.ca.
		e(S) E'	40 05	?					
		i N'	40 13	15	+5				
		i E'	40 16	17		+5			
		e N'	40.9	22					
		m N'	41.2	27	10				
		eL Z'	41.7	35					
		L N'E'Z'	42.5	30	11	10	20		
		M N'E'Z'	46.8	12-17	11	10	9		
345	22	(iP) Z	02 33 18½	1			+		Masked by microseisms.
		e Z'	33 22						USCGS: 11.3S, 163.2E, H 02 27 56.3, h 60 km.ca.
		e(S) N'	37 46						
		e N'	38 30	22	3				
		eL Z'	39.4	30					
		L Z'	40.2	26			6		
		L N'E'	40.5	18	5	3			
	22	i E	05 58 01	0.6		+0.04			Quarry blast ?
	22	ePg Z	06 28 39.2						Quarry blast.
		iSg N	28 43.4	0.5	-0.07				
		i EZ	28 43.9	0.5		+0.04	+0.05		
		i N	28 44.6	0.4	+0.09				
		m N	38 46	0.6	0.5				
		m EZ	28 48	0.7		0.09	0.10		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
346	May 22	eP Z	10 23 53½	1					Masked by microseisms.
		ipP Z	24 04½	1.1			+0.07		USCGS: 11.0S, 163.5E, H 10 18 27.0,
		eL Z'	30.4	27					h 37 km.ca.
		M Z'	38.0	15			2		
347	22	iP ZZ'	14 09 05.0	(1.2 10			(+0.12 +4	9190	Compression.
		m Z	09 07	1.2			+0.3	82°7	h 0.00, H 13 56 43
		ipP Z	09 17.5	1.3			+0.09		USCGS: 48.6N, 154.7E, H 13 56 43.0,
		m Z	09 21	1.5			0.3		h 22 km.ca.
		iS N'	19 19	?	-				
		e E'	19 45	10					
		ePS N'Z'	20 03	20	1		2		
		eSS Z'	24.7	30					
		eG E'	31.1	42		9			
		eL N'	31.5	36					
		eL Z'	32.3	40					
		eLR Z'	34.7	38					
		L N'Z'	35.8	38	4		6		
		M N'Z'	40.3	22	8		13		
		M E'	41.4	21		3			
348	22	(i) Z	15 50 59	1					Masked by microseisms.
		eS N'	57 17	?					USCGS: 4.3N, 127.9E, H 15 42 48.6,
		e Z'	57.4	42					h 58 km.ca.
		eSS N'Z'	16 00.5	25	2		3		
		eL Z'	03.9	38					
		M N'E'Z'	10.6	20	7	5	12		
349	22	iP ZZ'	22 00 49.1	(1.2 9			(+0.2 +5	4660	Compression
		m Z	00 52	0.8			0.23	41°9	USCGS: 8.2S, 115.7E, H 21 53 02.5,
		ePP N'	02 29	17	2				h 33 km.ca.
		ePP Z'	02 30	16					
		e E'	02 39	16					
		m Z'	02.7	16			6		
		i Z'	04 15	8			-5		
		iS N'	07 05	12	-4				
		i E'	07 11	11		+4			
		iSS N'E'	10 05	15	+9	+5			
		i Z'	10 12	10			-5		
		iSSS N'	10 52	12	-4				
		eL N'	11.6	46					
		eL Z'	12.4	46					
		M E'Z'	14.3	30		7	4		
		M N'	14.7	26	10				
		M N'	16.2	20	12				
		M E'Z'	20.2	17		11	12		
350	23	iP Z	00 59 36½	1.4			-0.02		Dilatation. Microseisms present.
		M Z'	01 17.6	17			1		USCGS: 1.6N, 126.4E, H 00 51 40.3,
									h 33 km.ca.
351	23	(P) Z	03 39 54						Masked by microseisms.
		e Z	41 03						USCGS: 15.0S, 176.7W, H 03 33 19.1,
		i(PP) Z'	41 04	9			-5		h 279 km.ca.
		e Z'	45.1	19					
		e Z'	45.4	26					
		i N'	45 31	16	+7				
		i N'	46 24	9	-10				
		i E'	46 27	10		+9			
		eL E'	47.3	27					
		eL Z'	47.4	30					
		i N'	47 26	18	+9				
		L Z'	47.9	26			17		
		L N'E'	48.0	25	13	12			
		M N'	49.9	15	10				
		M E'	51.9	15		16			
		M Z'	53.9	15			16		
	23	i(P) NE	03 57 59½	0.5	-0.06	+0.03			Local ?
		i Z	58 01	0.5			-0.03		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	May 23	i	Z	06 12 02.8	?			+		Quarry blast.
		iSg	N	12 05.2	0.4	-0.03				
		i	EZ	12 05.8	0.4		-0.07	+o.07		
		m	N	12 08	0.7	0.2				
		m	EZ	12 10	0.7		0.08	0.11		
352	23	eL	Z'	08 00.1	26					USCGS: 11.2S, 163.3E, H 07 47 59.7, h 17 km.ca.
		eL	N'	00.3	23					
		M	E'	03.3	13		1			
		M	N'	03.6	13	1				
		M	Z'	05.9	13			1		
	23	(PKP)	Z	08 03 36½						Masked by microseisms. h 55 km.ca. USCGS: 19.2N, 64.6W, H 07 43 58.0,/
353	23	iP	Z	15 20 26.2	1.0			+0.24		Compression.
		ipP	Z	20 42.7	1.0			+0.07		USCGS: 6.0N, 126.1E, H 15 12 05.7, h 88 km.ca.
		i	Z	23 01	1.2			+0.20		
		e(SS)	E'	30 34	11		2			
		eL	Z'	35.8	?					
354	23	eL	Z'	21 49.7	20					
	24	(Pg)	Z	06 12 41						Quarry blast.
		iSg	N	12 44.8	0.4	-0.03				
		i	EZ	12 45.2	0.4		-0.08	+0.08		
		m	N	12 48	0.6	0.12				
		m	EZ	12 50	0.7		0.11	0.15		
	24	(Pg)	Z	06 35 00.7	?					Quarry blast.
		iSg	NE	35 04.2	0.4	-0.09	+0.04			
		i	Z	35 04.4	?					
		m	N	35 07	0.6	0.5				
		m	EZ	35 09	0.7		0.1	0.1		
	25	e	NZ	09 01 29	0.5					Regional ? h 95 km.ca.
355	25		Z'	10.6	Feeble surface waves.					USCGS: 4.5S, 129.2E, H 10 11 49/
356	25	eP	Z'	16 20 55	10				10,130	
		e	Z'	21 19	12				91º2	USCGS: 56.8S, 25.0W, H 16 08 00.8, h 29 km.ca.
		m	Z'	21.7	14			2		
		e	Z'	31 28	16					
		e(SKS)	N'	31 36	14					
		iS	E'	31 52	13		+6			
		iScS	N'	31 55	10	+4				
		m	Z'	32.1	14			3		
		eSS	E'	38 00	13		3			
		e	N'	38 15	14	1				
		LQ	E'	44.8	22		5			
		M	E'	59.3	19		5			
		M	N'Z'	17 00.0	19	3		15		
		M	E'	03.6	16		7			
		M	N'Z'	06.0	16	5		19		
357	25	eL	Z'	18 18.4	24					Confused by coda of 356.
358	25		Z'	20.6	Feeble surface waves.					h 33 km.ca.
359	25	L	Z'	24 17						USCGS: 19.7S, 174.3W, H 23 59 55.8,/
360	26	(P)	Z	04 48 33						Masked by microseisms. h 87 km.ca.
		M	Z'	59.0	15			1		USCGS: 6.9S, 155.6E, H 00 42 56.1,/
361	26	eL	Z'	01 41.1	26					
		M	Z'	45.4	17			1		
362	26	eP	Z	23 19 47						USCGS: 55.2N, 159.9E, H 23 06 55.0, h 47 km.ca.
		m	Z	19 53	2			0.6		
		eSKS	N'	30 15	7	2				
		eS	E'	30 38	7		1			
		e	N'	30 44	8	2				
		e(SS)	Z'	36 19	?					
		eLR	Z'	48.2	35					
		M	Z'	50.6	27			3		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
363	May 27	iP	Z	04 11 38.8	1.0			+0.08		Compression.
		ePcP	Z'	11 41	2					USCGS: 55.3N, 160.1E, H 03 58 47.9,
		m	Z	11 42½	1.5			0.4		h 54 km.ca.
		e(SKS)	N'	22 09	?					
		(eSS)	N'	28.6	?					
		e	Z'	28.8	(25)					
		eLR	Z'	40.0	37					
		M	Z'	42.5	28			2		
		M	N'	44.2	24	1				
		M	Z'	44.6	23			1		
	27	m	N	06 29 19	0.7	0.04				Quarry blast ?
	27	iPg	EZ	06 34 31.6	0.3		+	+		Compression. Quarry blast.
		iSg	N	34 35.2	0.4	+0.11				
		iSg	E	34 35.4	0.4		+0.09			
		i	Z	34 35.6	0.4			+0.17		
		m	N	34 37½	0.6	0.54				
		m	EZ	34 40	0.6		0.15	0.15		
364	27	e(L)	Z'	16 36.4						
		eL	N'	42.3						USCGS: 0.6S, 130.1E, H 16 20 09.6,
		M	N'Z'	46.2	15	¾		1		h 33 km.ca.
		M	E'	47.6	15		½			
	28	e	N	01 59 14.5	0.5					Local ?
		i	Z	59 15.3	0.5			-0.04		
365	28		N'Z'	22.0	Surface waves.					
	29	e	NZ	04 44 55						Local.
		i	Z	44 58				-		
	29	e	N	05 00 42½						Quarry blast ?
		m	N	00 45½	0.7	.0.05				
366	29	e	Z'	09 31.6						
		M	Z'	36.4	20			1		
367	29	iP	Z	11 04 51.5	0.8			-0.07		Dilatation.
										USCGS: 18.0S, 178.0W, H 10 59 10.5,
										h 550 km.ca.
	29	i	N	12 39 55.7	0.4	-0.02				Local or regional.
	30	e	N	01 56 55½	0.5					Quarry blast ?
		e	Z	56 56	0.3					
		m	NE	56 56½	0.5	0.07	0.03			
	30	iSg	N	06 18 01.7	0.4	-0.04				Quarry blast.
		iSg	E	18 01.8	0.4		+0.05			
		i	Z	18 02.0	0.4			+0.04		
		m	N	18 04	0.7	0.21				
		m	EZ	18 06½	0.7		0.06	0.07		
368	30	eP	N'Z'	07 00 52	12	4		5	2430	USCGS: 54.2S, 143.7E, H 06 56 09.3,
		ipP	Z"	01 01	4			+3	21°9	h 33 km.ca.
		isP	N"	01 05	4	+3				
		iPP	N'Z'N"Z"	01 16	6	+4		+5		
		iS	E'E"	04 50	24		+29			
		i	Z'	05 00	16			+6		
		i	N'N"	05 02	16	+11				
		i	E'E"	05 17	24		+37			
		iSS	Z'	05 25	16			+6		
		i	N"	05 27	6	+5				
		eLR	Z'	05.8	28					
		LR	N'Z'	06.2	28	30		44		
		M	N'E'Z'	07.5	14-17	12	15	16		h 33 km.ca.)
369	30			19.8	Feeble surface waves on L.P.					(USCGS: 59.4S, 26.9W, H 18 57 53.2/
	31	e	N	02 00 39						Quarry blast ?
		m	NE	00 40	0.7	0.05	0.10			
370	31	eL	Z'	03 10.3	22					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
371	May 31	(i) Z	06 09 52						Masked by microseisms.
		e N'	16.3	16					(USCGS: 55.2N, 160.0E, H 05 29 30.4,
		e E'Z'	16.7	17					h 61 km.ca.)
		i(L) N'	19 29	26	+7				
		M N'	21.4	16	2				
		M E'Z'	21.8	21		2	3		
	31	(Sg) NE	06 33 54½	0.4					Quarry blast.
		m N	33 57	0.6	0.10				
		m EZ	33 59	0.7		0.06	0.09		
372	31	eL Z'	14 20.5	22					
373	June 1	e N'	00 14 37						S,P. Masked by microseisms.
		m N'	14.8	24	7				L.P. Beginning lost while changing
		M N'	21.8	12	3				records.
		M Z'	23.3	17			5		
	1	e N	02 20 40½						Quarry blast ?
	1	i(Sg) N	02 21 17.5	0.5	+0.02				Quarry blast.
		m N	21 20	0.7	0.09				
	1	i E	02 58 00	0.5		+0.04			Quarry blast.
		i Z	58 00.2	0.5			-0.01		
		f N	58 03	0.5	+0.06				
		m N	58 05	0.7	0.22				
		m EZ	58 07½	0.7		0.06	0.09		
374	1	(eP) Z	12 38 17						Masked by microseisms.
		e Z'	44.2						USCGS: 15.0S, 172.4W, H 12 30 55.8,
		e(SS) N'	46.7	?					h 33 km.ca.
		e(SSS) Z'	47.2	16					
		eLR Z'	48.9	27			3		L.P. EW out of action all day.
		M E"Z'	53.1	16		1	3		
375	1	eP Z'	21 12 47	10			1		Microseisms present.
		e(L) N'	16.7	26					USCGS: 22.2S, 169.6E, H 21 08 17.3,
		i Z'	16 42	9			+2		h 35 km.ca.
		eL Z'	17.6	25					
		M N'	18.9	16	1				
		M Z'	19.6	17			1		
376	1	(P) Z'	21 21 04						Masked by coda of no.375.
		eS N'	26 41	16					USCGS: 15.2S, 173.5W, H 21 13 52.7,
		e Z'	26 57	22			3		h 33 km.ca.
		i(LQ) N'	29 40		-				
		m N'	29.9	23	12				
		eL Z'	31.3	32					
		eL E"	32.2	22					
		M N'	33.6	15	4				
		M E"	34.0	18		4			
		M Z'	34.1	16			8		
377	2	eP N'Z'	10 05 53	10				2940	Microseisms present.
		e Z'	05 59	10			2	2695	USCGS: 6.1S, 154.4E, H 10 00 00.1,
		e N'	06 30	12					h 49 km.ca.
		ePP Z'	06 37	(12)					
		iS N'	10 26	16	-5				
		e E'	10 33	21					
		e Z'	10 35	22					
		m NEZ	10.8	22	13	4	9		
		(LQ) E'	11.0	28					
		iSS E'	11 33	16		+5			
		eLR E'	12.2	30		8			
		eLR N'	12.4	30	5				
		M N'Z'	14.8	22	12		18		
		M E'	15.0	15		11			
		M N'E'Z'	16.2	14-17	15	10	16		
378	2	e(P) Z'	21 12 37	?					Masked by microseisms.
		e N'	17 30	?					USCGS: 32.8S, 179.0W, H 21 07 13.7,
		eL Z'	18.7	28					h 56 km.ca.
		M N'E'Z'	20.3	20	2	2	4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
379	June 2	iS E'	21 27 49	20		-6			Beginning masked by coda of 378.
		ePS N'	28.9	19	3				USCGS: 58.8S, 15.6W, H 21 04 24.2,
		eSS N'	33.3	?					h 50 km.ca.
		eSS E'	33.6	28					
		m N'E'	33.8	18	5	5			
		eSSS E'	36.9	30		3			
		eSSS Z'	37.1	30			2		
		iLQ E'	39 48	26		-10			
		L E'Z'	40.4	28		24	3		
		eG E'	41.8	65		14			
		eLR Z'	44.7	(40)					
		M N'Z'	51.6	25	10		16		
		M E'	52.1	23		5			
		eW2 Z'	23 09	18					
	3	Pg Z	06 10 30.9						Quarry blast.
		iSg N	10 34.5	0.4	+0.05				
		i EZ	10 34.9	0.4		-0.11	+0.10		
		m N	10 37	0.6	0.22				
		i EZ	10 38.0	0.7		+0.07	+0.13		
		m EZ	10 39	0.7		0.12	0.17		
380	3	(e) N'	07 47 32						Masked by microseisms.
		eS E'	55 37	16					USCGS: 34.2N, 138.7E, H 07 35 54.3,
		ePS N'	56 27	(17)					h 43 km.ca.
		eLQ E'	08 04.8	36					
		eL N'	05.8	35					
		L E'	06.3	39		2			
		eLR Z'	09.1	36					
		L N'Z'	10.0	38	3		4		
		M Z'	12.4	25			3		
		M N'	13.5	20	1				
		M E'	15.7	17		1			
381	3	eL E'	12 33.4	28					USCGS: 5.3N, 72.9W, H 11 31 48.7,
		eL Z'	33.7	28					h 21 km.ca.
		M Z'	37.7	20			1		
382	4	M N'E'Z'	00 21						USCGS: 3.4S, 135.6E, H 00 01 17.7,
									h 44 km.ca.
	4	m N	06 01 17	0.6	0.21				Quarry blast, masked by microseisms.
		m EZ	01 19½	0.7		0.06	0.10		
383	4	eP Z'	11 59 47	?					Microseisms present.
		e E'	12 00 35	17		1			USCGS: 30.5S, 177.8W, H 11 54 09.1,
		e E'	02 57	18		1			h 33 km.ca.
		eS N'	04 13	(17)					
		e Z'	04.7	17					
		eL N'	05.5	28					
		eLR Z'	06.3	30					
		eLR E'	06.4	30					
		M E'Z'	08.0	21		6	8		
		M N'	08.6	16	4				
		M E'Z'	10.0	16		6	11		
384	4	(iP) Z	13 11 56½	1			-		Masked by microseisms.
		e Z'	16.4						USCGS: 30.4S, 177.6W, H 13 05 56.3,
		eL E'Z'	18.2	27					h 33 km.ca.
		M E'	19.8	20		2			
		M N'Z'	20.3	16-18	1		4		
385	4	i Z	19 31 24½	1			-0.16		Masked by microseisms. h 110 km,ca.
		eL Z'	47.7	31					USCGS: 18.9N, 146.2E, H 19 21 56.6/
386	4	eP Z'	21 12 12	8			3½	4390	
		iPP Z'	13 42	12			+5	39°5	USCGS: 1.2S, 127.3E, H 21 04 42.3,
		eiS E'	18 13	10		+4			h 31 km.ca.
		iS N'	18 15	14	+19				
		m E'	18 27	21		9			
		e Z'	18 28	32			8		
		eSS E'	20 52	24		8			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
386 cont.	June 4	eSS N'	21 21 07	27	6				
		iSS Z'	21 12	20			+13		
		iSSS E'	31 38	19		+8			
		eLQ N'E'	22.6	43					
		eL Z'	23.0	40					
		M N'E'	26.2	24	25	43			
		M Z'	28.3	24			19		
		M N'	29.5	22	20				
		M Z'	29.8	20			29		
		M E'	30.3	20		22			
		M N'	31.2	20	21				
		M E'Z'	31.7	18		21	25		
		M E'	32.6	20		29			
387	5	eL Z'	00 22.6	27					Large microseisms on S.P. records.
		M Z'	27.5	18			2		
388	5	M Z'	05 21.5	20			3		Masked by microseisms. h 70 km.ca. USCGS: 30.7S, 177.6W, H 05 07 03.7/
389	5	Z'	06.0	Feeble surface waves.					
390	5	i Z'	10 17 44	4			+4		Masked by microseisms.
		e(S) N'	21 40	13	3				USCGS: 14.9S, 166.8E, H 10 12 09.0,
		e E'Z'	21 41	16			5		h 37 km.ca.
		e(LQ) N'	22.4	(25)					
		eLR Z'	23.2	28					
		M E'	24.4	22		3			
		M Z'	24.7	20			7		
		M N'	25.5	18	3				
391	5	e(S) N'	11 31 24	20					Masked by microseisms.
		eL E'	34.2	30					USCGS: 3.6S, 149.6E, H 11 20 07.3,
		eLR N'	34.8	32					h 33 km.ca.
		eLR Z'	35.2	32					
		M N'Z'	36.5	22	3		4		
		M E'	38.5	15		5			
392	5	(P) Z'	14 14 15						Masked by microseisms.
		eL N'	22.1	18					USCGS: 17.2S, 176.7W, H 14 07 38.1,
		eL E'Z'	23.3	22					h 33 km.ca.
		M N'	26.0	12	3				
		M E'	27.0	12		2			
		M Z'	28.6	16			3		
	5	i Z'	16 37 23	3			+(8)		
393	5	iP Z	23 02 20.5	1.5			+0.46		Compression. Microseisms present.
		eS N'	08 37	13	2				USCGS: 3.0S, 119.5E, H 22 54 28.7,
		e E'	08 44	22					h 75 km.ca.
		e Z'	09.2	(30)					
		i N'	09 15	15	+4				
		e(LQ) N'	12.3	?					
		eLR Z'	14.8	44			6		
		eLR N'	15.0	41	3				
		M N'E'Z'	19.1	25-27	6	6	6		
	6	m N	01 55 34½	0.5	0.08				Local ?
	6	i Z	03 15 44.0	0.5			-		Local ?
		m NZ	15 45½	0.5	0.08		0.10		
	6	(P) EZ	03 45 16	0.4					Small local tremor.
		i NE	45 22.2	0.4	+0.04	+0.12			
		m E	45 25½	0.5		0.13			
		m Z	45 29½	0.5			0.12		
		m N	45 31	0.5	0.12				
394	6	eP ZZ'	05 29 06	1&8			2½		
		i Z	29 07.5	1			+0.22		USCGS: 19.9N, 120.2E, H 05 18 55.1,
		ipP Z	29 18	1.5			-0.7		h 33 km.ca.
		e Z'	37 25	10					
		iS N'	37 27	9	+3				

Continued on next page.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
394 cont.	June 6	e N'	05 37.9	.32	3				
		eSS N'	41 26	24					
		e Z'	44 32	20			3		
		eLR Z'	47.9	30					
		M Z'	52.4	24			3		
		M N'	54.4	21	2				
		M E'	54.8	19		1½			h 110 km.ca.
395	6	eL Z'	11 38.0	24					USCGS: 30.5S, 177.7W, H 11 25 18.9/
396	6	e(S) N'E'	12 22 16	(20)					Masked by microseisms.
		eLQ N'	28.6	34	2				USCGS: 37.8S, 77.9E, H 12 04 14.3,
		eLR Z'	31.7	30			2		h 33 km.ca.
		M N'E'	34.3	16-18	1	2			
		M Z'	34.7	17			4		
397	6	iP Z	17 47 51.6	0.8			+0.06		Compression.
		m Z	47 53	1.1			0.3		USCGS: 14.3S, 167.3E, H 17 42 47.0,
		e(sP) Z'	48 41	?					h 160 km.ca.
		e N'	52 10	?					
		eL Z'	53.1	22					
398	7	eL Z'	06 10.7	30					
		M N'	12.5	20	¼				
		M E'Z'	12.6	20		½	1		
	7	iSg N	06 13 15.0	0.5	+0.02				Quarry blast.
		i Z	13 15.2	0.5			+0.01		
		m N	13 19	0.7	0.14				
399	7	eL Z'	07 47.8	28					
		M Z'	49.7	21			½		
400	7	eL Z'	09 31.9	28					
		M Z'	33.9	21			½		
401	7	eL Z'	12 28.1	30					
402	7	e(S) N'	15 46 40						USCGS: 15.3S, 178.9W, H 15 34 47.8,
		eLQ N'	48.6	30					h 33 km.ca.
		eL E'	49.3	20					
		eL Z'	49.7	22					
		M N'	50.0	19	3				
		M E'Z'	52.6	18		1	1		
403	7	(eP) Z	16 00 03						Masked by microseisms.
		e(L) Z'	15.4	20					L.P. confused by coda of 402.
		eL N'	18.6	26					USCGS: 19.0N, 121.8E, H 15 49 57.½,
		M E'	20.7	22		1			h 33 km.ca.
		M N'	22.2	18	1				
		M Z'	23.3	19			1		
404	7	e(PS) Z'	19 59.0						
		eSS E'Z'	20 04.6	24					USCGS: 8.5N, 103.1W, H 19 30 35.6,
		eSSS N'	08.6	20					h 33 km.ca.
		eLQ N'	15.6	32	4				
		eLR Z'	20.2	31			3		
		eLR E'	20.4	27		1			
		eLR N'	20.5	27					
		M N'E'Z'	29	17	1	1	2		
		W_2 Z'	21 45	22					
405	7	eLR Z'	22 18.4	26					USCGS: 8.8N, 102.5W, H 21 28 48.5,
		M Z'	27	17			1		h 33 km.ca.
406	7	e(S) N'E'	22 44 40						Merged with no.407.
		eLQ N'	47.4	(30)					USCGS: 15.2S, 173.1W, H 22 31 54.8,
		eLR Z'	49.2	22					h 33 km.ca.
		M N'	53.5	22	17				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
407	June 7	eP Z'	22 44 35	10			2		Confused by coda of 406.
		(S) N'	50 39	12	2				USCGS: 15.3S, 173.2W, H 22 37 30.0,
		(S) E'	50 41	12		4			h 33 km.ca.
		m Z'	50.8	20			7		
		eLR Z'	55.6	23					
		M N'E'	57.7	13-18	8	11			
		M Z'	58.0	18			15		
		M E'Z'	23 00.3	16		11	19		
408	8	e(PPP) Z'	01 10.9						Masked by microseisms.
		e E'Z'	15.0	18					USCGS: 15.1S, 173.0W, H 01 01 51.9,
		e(SSS) N'Z'	17.7	24	4				h 33 km.ca.
		eL Z'	19.5	25					
		M N'	20.5	15	2				
		M E'Z'	22.4	18		3	3		
		M Z'	24.7	16			4		
		M E'	25.0	16		4			
409	8	eLR Z'	05 20.4	30					USCGS: 22.7S, 13.7W, H 04 22 53.0,
		M N'Z'	26	23	½		½		h 33 km.ca.
410	8	(P) Z	05 39 44						Masked by microseisms.
		eL E'	48.8	20					USCGS: 5.5S, 147.0E, H 05 34 06.8,
		M E'	50.4	14					h 170 km.ca.
		M Z'	51.2	?					
		M N'	51.7	?					
411	9	eL Z'	01 45.7	23					Masked by microseisms. h 33 km.ca.
									USCGS: 23.5S, 176.0W, H 01 30 32.2/
412	9	i(P) Z	04 03 01.0	1			+0.07		Compression. Microseisms present.
		e Z'	07 07	12					USCGS: 17.5S, 168.0E, H 03 57 57.9,
		eL E'	08.5	20					h 33 km.ca.
		eL Z'	08.9	20					
		M Z'	10.2	17			½		
413	9	eL N'	16 06.4	24					Masked by microseisms.
		e Z'	07.4	?					USCGS: 15.3S, 172.9W, H 15 50 31.8,
		M E'	09.5	17		½			h 33 km.ca.
		M N'	10.5	13	1				
		M Z'	10.7	18			1		
	10	e Z	02 45 07½	0.5					Local ? Very small.
414	10	eP Z	04 21 27	2					
		iP N'Z'	21 28	9	+14		+20		Compression.
		ipP N'	21 35	6	+16				USCGS: 55.4S, 146.4E, H 04 16 37.7,
		m NEZ	21 37	2	2.6	0.4	5.0		h 33 km.ca.
		i N'Z'	21 47	9	-11		-18		
		iS E'	25 31½	20		+77			
		isS N'	25 44	9	+32				
		(LQ) E'	26.0	28					
		e(SS) Z'	26 22	(18)					
		iLR N'Z'	26 42	22	81		-100ca		
		M E'	27.1	15		60			
		M N'Z'	27.6	20	57		87		
		M N'	29.1	11	85				
		M E'	29.2	10		105			
		M Z'	29.4	13			83		
415	10	eP NZ	05 19 09½	2					USCGS: 55.2S, 146.3E, H 05 14 15.6,
		(PP) Z	19 32	2					h 33 km.ca.
		eLR N'	24.3	24					
		eLR Z'	24.4	24					
416	10	eP Z	06 43 56	1½					
		iP N'Z'	43 57	4	-4		-8		Dilatation.
		i NZ	43 58	1.5	+0.3		+0.9		USCGS: 55.3S, 146.1E, H 06 39 04.0,
		i N'Z'	44 02½	4	+15		+23		h 18 km.ca.
		m Z	44 03	1.5			1.4		
		e(S) E'	48 00	?					
		i E'	48 06	7		+43			

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
416 cont.	June 10	i N'	06 48 07	7	+47				
		i Z'	48 11	7			+39		
		i(SS) N'	48 32	7	+25				
		eL N'	49.1	25					
		eL Z'	49.2	23					
		M Z'	51.3	13			45		
		M N'	51.5	11	96				
		M E'	51.7	10		120			
		W2 Z'	09 41	22					
417	10	eP Z	12 25 42	1.5					
		eS N'	30 25	18	½				USCGS: 4.6S, 152.0E, H 12 19 56.1, h 174 km.ca.
		e N'	31.5	18					
		e Z'	31.7	16					
		e Z'	32.6	15			1		
		eL E'	33.9	22		1			
		eL Z'	34.2	25					
		M N'E'Z'	37.2	16-18	1	1	2		h 112 km.ca.
418	10	Z'	18.9	Feeble surface waves.					USCGS: 5.1S, 151.7E, H 18 42 06.2,/
419	10	eP Z	24 04 41	1.3					L.P. disturbed by calibration pulses.
		i Z	04 50	0.9			+0.11		USCGS: 4.5S, 152.8E, H 23 58 44.3, h 69 km.ca.
		i Z	05 05	1.2			-0.14		
		eL N'	11.6	31					
		M N'E'Z'	14.0	26	3	2	6		
	11	e E	01 58 14						Local. Very small.
		i EZ	58 16.5	0.5		-0.06	+0.04		
	11	i EZ	06 24 13.5	0.3		+	-		Local. Quarry blast ?
		i N	24 15	0.3	+				
		m EZ	24 18	0.7		0.07	0.06		
	11	i EZ	06 24 30.3	0.3		+	+		Quarry blast ?
		m N	24 34	0.7	0.06				
		m EZ	24 37	0.7		0.06	0.07		
	12	e N	03 42 07	0.7					Local. Very small.
		i E	42 07.5	0.7		+0.03			
	12	m N	06 18 36	0.7	0.05				Quarry blast ?
		m EZ	18 39	0.7		0.05	0.05		
	12	e N	07 15 49						Regional. Small.
	13	i NZ	05 59 51.5	0.5	+		+		Quarry blast ?
	13	(Pg) EZ	06 01 54.5						Quarry blast.
		iSg N	01 57.7	0.5	+0.04				
		i EZ	01 58.5	0.5		+0.05	+0.08		
		m N	02 01	0.7	0.27				
		m EZ	02 02	0.7		0.11	0.13		
420	13	(P) Z	10 41 29						Masked by microseisms. h 150 km.ca.
		M E'	53.3	?					USCGS: 6.1S, 130.1E, H 10 34 52.4,/
421	13	(i) Z	17 32 45						Masked by microseisms.
		e(S) N'	37 30	25	1				USCGS: 4.6S, 153.2E, H 17 26 41.1, h 54 km.ca.
		e Z'	37 42	21					
		e E'	37 47	30					
		eL N'E'	39.4	32		3			
		eLR Z'	40.5	35					
		M N'Z'	42.3	22-24	3		5		
		M E'	43.0	16		4			
	14	iPg EZ	06 02 20.0	0.5			-		Quarry blast.
		iSg NE	02 23.8	0.5	-0.12	+0.06			
		i N	02 25.0	0.5	+0.13				
		i Z	02 26.2	0.5			+0.10		
		m N	02 27	0.6	0.62				
		m EZ	02 28½	0.7		0.22	0.23		
	14	e EZ	06 16 00						Quarry blast.
		m N	16 04	0.7	0.11				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
422	June 14	(i) Z	19 25 27						Masked by microseisms.
		i N	26 49	0.7	+0.03				USCGS: 38.7S, 146.0E, H 19 23 51.5,
		i E	26 56½	0.7		+0.05			h 33 km.ca.
		M Z'	27 07	0.7			0.18		
		M NE	27 08	0.8	0.33	0.35			
		M N'E'	27 08	8	2	2½			
	15	(Sg) N	01 09 51.3	0.4					Quarry blast.
		e Z	09 52.2	0.5					
		i N	09 54.7	0.5	+0.07				
		m N	09 57	0.7	0.19				
	15	i N	02 41 45.0	0.5	-0.02				Local.
		i Z	41 45.4	0.5			-0.05		
423	15	eL Z'	12 17.2	(25)					
		M E'	20.2	17		1			
		M N'Z'	23.4	17	1		1		
424	15	(P) Z	15 43 15						Masked by microseisms.
		e(S) N'	53 32	10					USCGS: 36.3S, 98.9W, H 15 30 37.7,
		e E'	53 35	14		1			h 33 km.ca.
		e N'	53 42	14	1				
		e(PS) N'	54 30	19	1				
		e(PPS) Z'	54 51	17			1		
		e(SS) Z'	58.7	28					
		eL N'	16 06.1	21					
		eLR Z'	09.2	32					
		eLR N'E'	09.4	32					
		LR N'E'Z'	09.8	30	1	1	3		
		M N'E'Z'	13.3	19	½	½	1		
425	16		05.4	Feeble surface waves on L.P.					
426	16	eL Z'	14 03.4	30					USCGS: 4.5S, 153.0E, H 13 49 00.1,
		M N'Z'	06.0	18	½		1		h 72 km.ca.
	17	e NZ	00 39 58						Local.
		m E	39 59	0.6		0.04			
		m NZ	40 01	0.7	0.06		0.06		
427	17	iP Z	02 10 37.3	1.2			+0.12		Compression. Microseisms present.
									USCGS: 17.7S, 178.5W, H 02 04 55.7,
									h 515 km.ca.
	17	iSg N	07 42 38	0.5	-0.03				Quarry blast.
		m N	42 40½	0.7	0.18				
428	17	eP Z'	18 37 57	5					USCGS: 65.8S, 179.5W, H 18 30 54.1,
		ePP Z'	39 29						h 33 km.ca.
		iS N'E'	43 48	7	+8	+8			
		(SS) E'	45 55	19		7			
		iSS N'	46 10	14	+7				
		i Z'	46 40	11			+8		
		m N'E'	46.7	18	14	26			
		eL Z'	46.9	27					
		i N'	47 02	11	+15				
		M N'E'	49.1	11	16	22			
		M Z'	50.0	17			20		
429	17	eL N'	20 22.9	(29)					Masked by coda of 428.
		eL Z'	24.6	23					USCGS: 20.4S, 174.4W, H 20 08 37.0,
		M N'	27.0	15	1				h 33 km.ca.
		M E'Z'	28.0	17		2	3		
430	17	iP EZ	23 11 27.2	1.0		+0.05	+0.32		Compression.
		i NE	11 30	0.8	-0.02	+0.03			USCGS: 4.1S, 102.2E, H 23 02 06.6,
		ipP Z	11 44	1.0			-0.26		h 73 km.ca.
		isP Z	11 51	1.3			+0.26		
		i N	12 42½	1.0	+0.06				
		eLR Z'	27.0	45					
		M Z'	31.3	31			3		
		M N'E'	32.3	25	3	3			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	June 18	e N	04 05 02						Local or regional.
		i NE	05 22½	0.7	+0.03	+0.03			h 33 km.ca.
431	18	M N'	04 40.5	20	½				USCGS: 29.0N, 129.9E, H 04 02 31.0,.
	18	iPg EZ	06 42 18	0.5		+0.03	(+)		Quarry blast.
		iSg NE	42 22.0	0.5	+0.05	+0.12			
		i Z	42 22.3	0.5			+0.11		
		m N	42 24½	0.7	0.26				
		m EZ	42 26½	0.7		0.20	0.24		
432	18	Z'	11.1	Feeble surface waves.					
	18	i Z	13 28 58½	0.8			+0.06		Compression.
	18	(P) Z	23 23 35½						Masked by microseisms. h 16 km.ca. USCGS: 12.6N, 124.2E, H 23 14 23.9,/
433	19	eLQ N'	02 29.7	22					Masked by microseisms.
		eLR Z'	30.9	24					USCGS: 23.6S, 174.9W, H 02 15 54.1,
		M N'E'Z'	33.8	12-17	6	5	6		h 55 km.ca.
	19	i EZ	06 29 25.7	0.3		-0.05	+0.05		Quarry blast ?
434	19	eP Z'	09 17 10	7					Microseisms present.
		eS N'	23 41	11					USCGS: 4.7N, 126.5E, H 09 09 04.0,
		i N'	23 46	13	-8				h 83 km.ca.
		e Z'	23.8	41					
		e N'	24.2	35					
		eSS N'	27 00	12					
		i N'	27 08	9	+10				
		i E'	27 09	13		+12			
		e N'	27.4	30					
		m Z'	27.8	24			6		
		i N'	27 49	9	+6				
		eLQ N'	28.0	45					
		eLR Z'	30.1	50					
		M E'	35.0	21		9			
		M N'Z'	35.6	25	7		13		h 51 km.ca.
435	19	L Z'	11 28	36					USCGS: 25.0N, 92.1E, H 10 47 24.7,/
436	19	(eP) Z	12 04 21½						Masked by microseisms.
		iS N'	09 00	11	+8				USCGS: 9.3S, 158.8E, H 11 58 55.0,
		i Z'	09 04	11			+5		h 33 km.ca.
		eL Z'	11.1	32					
		M Z'	13.6	17			3		
		M N'	15.0	16	3				
437	19	iP Z	18 27 56.3	0.7			-0.08		Dilatation. L.P.masked by microseisms.
		(S) N'	32 36	?					USCGS: 3.5S, 153.4E, H 18 22 09.6,
		eL Z'	34.7	22					h 279 km.ca.
		M E'	39.1	12		3			
	20	Pg Z	06 16 35						Quarry blast.
		iSg N	16 38.5	0.5	-0.02				
		i EZ	16 39	0.4		+0.05	-0.04		
		m N	16 41	0.6	0.14				
		m EZ	16 43½	0.7		0.10	0.13		
	20	(Pg) Z	06 51 40						Quarry blast.
		iSg NZ	51 43½	0.4	+0.02		+0.08		
		i E	51 44	0.4		-0.07			
		m N	51 45	0.7	0.08				
		m EZ	51 48	0.7		0.09	0.11		
	20	Pg Z	06 58 26						Quarry blast.
		Sg N	58 29½	0.4					
		i EZ	58 30	0.4		+0.05	+0.04		
		m N	58 32	0.7	0.09				
		m EZ	58 34	0.7		0.05	0.06		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
438	June 20	eP	Z	22 52 11						Microseisms present.
		ePP	Z'	53 02	7					USCGS: 27.9S, 176.6W, H 22 46 18.1,
		e	N'	57 03	10					h 41 km.ca.
		e	Z'	57.1	24					
		eL	N'	58.4	27					
		eL	Z'	59.8	24					
		M	N'E'Z'	23 02.0	15-17	6	7	10		
439	21	(P)	Z	00 14 16½						Confused by microseisms and
		M	Z'	24.0	17			2		calibration pulses.
440	21	eL	Z'	17 56.2	25					USCGS: 27.9S, 176.2W, H 17 42 35.9,
		M	N'Z'	58.5	15-17	1		2		h 33 km.ca.
		M	E'	58.9	15		1			
441	21	i	Z	21 47 53½	1.5			-0.2		Masked by microseisms.
		e	Z'	51.4						USCGS: 29.7S, 177.4W, H 21 42 01.0,
		e	Z'	52.5						h 43 km.ca.
		e	N'	53.5						
		eLR	Z'	54.4	30					
		M	E'	56.4	19		3			
		M	N'Z'	56.6	15-19	2		4		
442	22	(eP)	Z	04 43 06						Masked by microseisms.
		e	N'	47.9	20					USCGS: 6.1S, 154.4E, H 04 37 21.7,
		e	Z'	48.0	19					h 64 km.ca.
		eLR	Z'	51.1	26					
		M	Z'	52.1	22			2		
		M	N'	52.2	18	1				
		M	E'	52.6	15		1			
443	22	eL	N'Z'	09 15.0	29					
		M	Z'	17.8	20			1		
444	22	iP	Z	16 19 39½	1.0			-0.06		Dilatation. Microseisms present.
										USCGS: 6.0S, 113.1E, H 16 12 14.0,
										h 595 km.ca.
445	22		Z'	20.5	Feeble surface waves.					
										h 33 km.ca.
446	22	eL	Z'	21 41.1	19					USCGS: 30.1S, 177.2W, H 21 27 58.4/
447	23	iP	Z	03 55 11	1.0			-0.06		Dilatation.
		e	Z'	55 31	10					USCGS: 29.6S, 177.9W, H 03 49 33.9,
		i	Z	55 38	1.0			+0.09		h 55 km.ca.
		e	Z'	04 00.1	20			3		
		e(SSS)	N'	01 15	16	1				
		eLR	Z'	02.1	28			7		
		eL	E'	02.4	26		5			
		M	N'	02.9	16	3				
		M	E'Z'	04.0	19		4	8		
448	23	eL	Z'	09 06.4	35					USCGS: 6.0S, 146.6E, H 08 53 09.6,
		eL	N'	07.1	34					h 61 km.ca.
		M	N'Z'	09.3	20-22	2		2		
		M	E'	09.5	15		1			
										h 157 km.ca.
449	23		Z'	11.3	Feeble surface waves.					USCGS: 9.0S, 113.1E, H 10 51 48.8,/
450	23	e	Z'	18 38.1						USCGS: 12.3N, 140.7E, H 18 27 11.8,
		eL	Z'	50.3	32					h 42 km.ca.
		M	N'Z'	53.9	20	½		½		
451	24		Z'	03.3	Feeble surface waves.					USCGS: 10.6S, 163.3E, H 02 59 17.4,
										h 58 km.ca.
	24	m	N	02 22 47	0.7	0.06				Local. Quarry blast ?
		m	EZ	22 49	0.7		0.04	0.06		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
452	June 24	eP Z'	04 40 42	12				11,660 ca.	
		ePP Z'	45 02	9				105°ca.	
		eSKS N'	51 19	17					USCGS: 59.5N, 151.7W, H 04 26 37.9, h 52 km.ca.
		m N'E'	51.6	17	5	3			
		e(S) N'	52 32	14	2				
		i E'	52 36	9		+2			
		ePS E'	54 11	22		2			
		iPS N'Z'	54 13	22	-6		+6		
		e N'E'Z'	55.0	23	4	2	5		
		e N'E'	56.1	33	2	2	5		
		eSS E'	05 00.1	30					
		eSS N'Z'	00.2	30					
		m N'E'Z'	00.5	32	7	5	5		
		eSSS Z'	03.8	32			5		
		e N'	06.2	34					
		e Z'	07.6	30					
		eLQ E'	09.9	40		10			
		L N'	10.6	40	6				
		eLR Z'	15.1	40			13		
		(eL) N'E'	15.5	(70)					
		M Z'	22.3	21			8		
		M E'	22.9	20		3			
		M N'	23.0	20	7				
		M N'E'	25.9	20	4	4			
		M Z'	26.7	19			11		
		M Z'	29.0	19			11		
		W_2 M N'E'Z'	06 44	20	3	2	7		
453	24	e Z'	13 28.8	24					USCGS: 25.5S, 175.6W, H 13 18 08.2, h 238 km.ca.
		e N'	31 11	14					
		eLR Z'	32.0	28			2		
		eL E'	32.2	28					
		M E'	34.2	17		1			
		M N'	34.3	13					
		M Z'	34.5	18			2		
454	24	e(L) Z'	16 04.2						
		M Z'	09.4	16			1		
455	24	(eP) Z	16 30 24						Masked by microseisms.
		e(3KS) N'	40 54	(8)					USCGS: 52.3N, 171.2W, H 16 17 15.4, h 33 km.ca.
		e(S) N'	41 26	14					
		e E'	41 28	16					
		ePS Z'	42 40	(16)					
		eSS N'E'	47,2	27					
		eLQ E'	55.3	32					
		eLQ N'	55.6	32					
		eLR Z'	58.8	32					
		M N'Z'	17 02.1	26	1		1		
		M E'	05.7	22		1			
456	25	e Z'	14 42 12						Masked by microseisms.
		e N'	47 51						USCGS: 8.4S, 106.5E, H 14 32 14.3. h 78 km.ca.
		e E'	48 05						
		(eL) E'	53.1	(52)					
		(eL) N'	53.2	(42)					
		M N'	57.4	18	5				
		M N'	15 01.1	11	8				
		M E'Z'	02.2	14		3	5		
	26	Pg Z	06 25 19.8			(-)			Quarry blast.
		iSg N	25 23.3	0.4	+0.12				
		iSg E	25 23.5	0.4		+0.07			
		i Z	25 23.7	0.5			-0.05		
		m N	25 26½	0.6	0.16				
		m EZ	25 28	0.7		0.12	0.15		
457	26		Z' 08.4	Feeble surface waves.					USCGS: 11.5N, 143.0E, H 07 55 41.4, h 48 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
458	June 26	(iPP) Z'	09 51 33	5			+3		Masked by microseisms.
		eS N'	56 24	?					USCGS: 4.6N, 126.3E, H 09 41 31.2,
		eSS N'E'	59.7	?					h 33 km.ca.
		e Z'	10 00.1	24					
		eL Z'	03.7	38					
		M E'	07.5	25		½			
		M N'Z'	08.2	25	½		2		
459	26	ePS E'	18 13.5	14		1			Masked by microseisms.
		ePS N'	13.7	14					USCGS: 7.1N, 82.3W, H 17 42 40.6,
		eSS N'	20.5	26	1				h 20 km.ca.
		eSS E'	20.7	28		3			
		eSSS Z'	24.8	25			1		
		eSSS N'	25.1	25	1				
		eLQ N'	34.6	45					
		eLR Z'	40.8	36					
		M N'Z'	43.	22	1		4		
		M E'	44	21		2			
		e Z'	19 34	50					
	27	i NZ	06 02 20	0.5	+0.05		+0.03		Quarry blast ?
		m E	02 22	0.6		0.07			
		m NZ	02 23	0.6	0.08		0.09		
	27	iPg EZ	06 51 06.3	0.3		+0.04	+0.04		Compression. Quarry blast.
		iSg N	51 10.0	0.5	-0.14				
		i Z	51 10.2	0.5			+0.17		
		i E	51 10.4	0.5		-0.14			
		m N	51 12½	0.6	0.88				
		m EZ	51 15	0.7		0.25	0.34		
460	27	iP Z	11 54 55	1			+0.08		Compression. Microseisms present.
									USCGS: 8.3S, 111.2E, H 11 46 57.9,
									h 180 km.ca.
461	27	eL Z'	12 34.1	22					Masked by microseisms. h 44 km.ca
									USCGS: 30.1S, 177.7W, H 12 21 25.1,/
	28	e E	02 08 56	0.5					Quarry blast ?
		m N	09 00	0.7	0.08				
462	28	eLQ N'	02 58.3	40					Masked by microseisms.
		eLR Z'	03 02.2	33					USCGS: 27.5S, 66.1E, H 02 28 51.6,
		M Z'	05.0	22			1		h 33 km.ca.
		M E'	08.6	17		1			
	28	Pg Z	06 38 42.7						Quarry blast.
		iSg NE	38 46.0	0.5	-0.07	+0.03			
		m N	38 49	0.7	0.51				
		m EZ	38 50	0.7		0.09	0.09		
463	28	eS N'	14 06 20	16					Masked by microseisms.
		eL N'	15.3	(26)					USCGS: 1.3N, 97.4E, H 13 47 47.7,
		eL Z'	19.4	31					h 50 km.ca.
		M N'	22.4	27	3				
		M E'	22.7	25		2			
		M Z'	23.2	27			3		
		M Z'	26.6	20			5		
		M E'	26.8	21		3			
464	28	eP Z'	22 07 48	8			5		USCGS: 46.5N, 153.2E, H 21 55 38.8,
		i Z'	08 37	19			+7		h 33 km.ca.
		iPPP Z'	12 40	16			+5		
		iS N'E'	17 55	16	-12	-25			
		i Z'	17 56	15			-12		
		i(PS) N'	18 37	15	-				
		m N'	18.8	15	22				
		e N'	19.1	34					
		m N'	19.7	34	8				
		e E'	22 25	19		8			
		iSS N'	23 02	16	-12				
		m N'Z'	23.5	23	18		12		

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No.	Date	Phase & Component	Time (G.M.T.)	Per	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
464	June 28	iSSS N'	22 26 25	20	+9				
cont.		iLQ N'E'	29.0	40	+16	-26			
		L E'	29.6	40		46			
		LR Z'	33.2	34			30		
		LR N'	33.3	34	18				
		M Z'	38.2	22			41		
		M N'E'	39.0	20	33	21			
		M Z'	41.3	20			57		
		M N'	41.4	19	34				
465	28	(L) E'	22 49.6	?					Confused by coda of 464.
		M E'	23 01.0	17		17			USCGS: 46.6N, 153.7E, H 22 15 28.5,
		M N'Z'	01.2	17	16		43		
466	28	M Z'	24 30.2	18			6		Confused by coda of preceding shocks.
		M N'	30.4	18	3				USCGS: 46.4N, 153.5E, H 23 53 56.1,
		M E'	30.6	18		2			h 33 km.ca.
467	29	(P) Z'	12 52 16						Masked by microseisms.
		eLR Z'	13 06.3	30					USCGS: 11.6N, 142.7E, H 12 43 47.5,
		eLR N'	06.4	32					h 30 km.ca.
		M N'	08.6	20	1				
		M E'	08.8	20		1			
		M Z'	08.9	21			1		
468	30	Z'	02.0	Feeble surface waves.					USCGS: 11.8N, 142.5E, H 01 39 05.4,
									h 33 km.ca.
469	30	eP Z	06 54 55						Microseisms present.
		eS N'	07 02 19	10					USCGS: 2.5S, 102.4E, H 06 45 36.8,
		e E'	03 29	20		1			h 160 km.ca.
		e N'	03 44	16					
		e E'	07.4	17		1			
		eL N'	08.4	27					
		eLR N'	10.1	37					
		eL E'	10.4	35					
		M N'E'	12	27	1	1			
470	30	eS E'	22 27 08						Masked by microseisms.
		ePS N'	27 52						USCGS: 46.5N, 153.6E, H 22 04 52.9,
		M Z'	47.3	21			1		h 33 km.ca.
		M N'	48.2	16	1				

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	July 1	i N	01 58 20	0.5	-0.07				Local.
471	1	e(PP) Z'	04 09 05						Masked by microseisms.
		e N'	12.7	9					
		e N'	13.1	14					USCGS: 17.4S, 167.6E, H 04 03 42.9
		eL Z'	14.0	24					h 33 km.ca.
		L Z'	15.0	21			2		
		M N'	16.5	14	1				
		M E'Z'	18.4	15		1	2		
	1	(Pg) Z	06 21 41½						Quarry blast.
		iSg N	21 44.5	0.5	+0.03				
		m N	21 47½	0.6	0.25				
		m EZ	21 49½	0.6		0.09	0.09		
	1	e E	06 25 26½						Quarry blast ?
		m N	25 30½	0.7	0.05				
472	1	(P) Z	17 57 57						Masked by microseisms.
		e(L) Z'	18 03.7	?					USCGS: 20.8S, 169.2E, H 17 53 12
									h 33 km.ca.
	2	m N	06 32 01	0.7	0.11				Quarry blast.
		m EZ	32 03½	0.7		0.06	0.06		
	3	i NEZ	01 59 58½	0.4	+	+	+		Quarry blast ?
		m N	02 00 01	0.6	0.07				
473	3	Z'	18.9	Feeble long waves					USCGS: 22.9S, 175.6W, H 18 36 19.6,
									h 33 km.ca.
474	4	P Z	11 03 53					3050	P small and masked by microseisms.
		i E'Z'	04 31	7		+4	-8	27°4	h 0.02
		i Z	04 34	2			-1.2		USCGS: 26.3S, 177.7W, H 10 58 13.2,
		iPP E'Z'	04 49	10		-26	+32		h 158 km.ca.
		i EZ	04 52	1.7		+0.6	-1.5		
		i N'E'Z'	04 57	11	+4	+32	-37		
		i Z'	05 12	12			-14		
		i Z'	05 27	12			-20		
		m E'	05.8	17		18			
		iPcP Z	07 04½	1			+0.16		
		iS N'Z'	08 20	15-17	-10		+31		
		iS E'	08 22	15		+27			
		isS E'	09 18	15		+17			
		i Z'	09 29	13			+17		
		i N'	09 36	16	+31				
		i E'	09 47	14		+29			
		m Z'	09 54	13			42		
		i N'	10 19	11	+22				
		i(PcS) N'	10 36	16	+63				
		m Z'	10.7	24			55		
		L E'	11.2	52					
		L Z'	11.3	52					
		ScS N	14 19	2	0.64				
		M N'	14.8	13	25				
		M E'	15.5	15		26			
		M Z'	15.7	16			41		
475	4	e N'	14 32.0	17					Masked by microseisms.
		eL E'Z'	32.7	22					USCGS: 22.9S, 175.6W, H 14 16 51.1,
		M N'	34.6	12	3				h 33 km.ca.
		M E'Z'	34.9	16		2	3		
	4	(eP) Z	21 53 42						Masked by microseisms.
									USCGS: 0.5N, 120.6E, H 21 45 31.1,
									h 59 km.ca.
	4	i EZ	22 53 49½	0.3		+	+		Local.
		m NZ	53 51½	0.4	0.05		0.07		
	5	e N	02 02 10½						Quarry blast ?
		m E	02 13	0.5		0.09			
		m Z	02 14	0.7			0.06		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
505	July 20	iP N'Z'N"Z"	06 41 23	5	+13		+20		Compression.
		ipP N'Z'	41 34	5	+4		+9		
		e N'	42 03	12					USCGS: 57.6S, 148.5E, H 06 38 10.8,
		e Z'	42 04	21					h 33 km.ca.
		e N'	45 26	30					
		iS E'	45 44	16		+50			
		(LQ) E'	46.0	45		66			
		iLR Z'	46 51	28			+43		
		iLR N'	46 58	28	-29				
		LR N'	47.4	28	47				
		LR Z'	47.5	28			91		
		M E'	48.6	14		23			
		M Z'	49.1	16			42		
		M N'	49.3	16	27				
		e(W_2) Z'	09 16	(35)					
		M Z'	31.5	20			2		
506	21	(eS) N'	15 01.4						USCGS: 9.7N, 122.3E, H 14 45 07.1,
		M N'Z'	18	20					h 54 km.ca.
507	22	iP Z	00 35 00.0	1.1			+0.32		Compression.
		m Z	35 01½	1.1			0.52		
		i Z	35 19	1.2			+0.25		USCGS: 6.1S, 148.9E, H 00 29 14.9,
		e Z'	36 04	10					h 59 km.ca.
		e(S) N'	39 47	18					
		i N'	39 58	15	+10				
		i Z8	40 00	14			+11		
		i(SS) Z'	40 58	15			+5		
		eL E'	41.5	38					
		eL E'Z'	42.5	30,34		15	12		
		M N'	45.8	19	9				
		M Z'	46.0	19			19		
		M E'	46.2	16		15			
	22	i E	03 47 22.0	0.5		+0.02			Quarry blast ?
		i N	47 22.5	0.5	+0.03				
	22	iPg EZ	06 40 20.0	0.4		(+)	+0.03		Compression. Quarry blast.
		iSg NE	40 23.7	0.4	+0.09	+0.04			
		i Z	40 24.0	0.4			-0.07		
		i Z	40 26.1	0.4			+0.09		
		m N	40 27	0.5	0.29				
		m EZ	40 28½	0.7		0.22	0.23		
	23	e Z	02 34 02						Local ?
508	23		02 49	Feeble surface waves on L.P.					
	23	Sg N	06 22 21	0.5	0.04				Quarry blast.
		m N	22 23½	0.7	0.26				
		m EZ	22 26	0.7		0.11	0.11		
	24	Pg EZ	06 38 43.3			(+)	(+)		Quarry blast.
		iSg NE	38 47.1	0.4	-0.04	+0.04			
		i Z	38 47.5	0.4			+0.07		
		m N	38 49½	0.7	0.23				
		m EZ	38 52	0.7		0.22	0.23		
509	24	e(S) E'	11 51 38	17		1			Masked by microseisms.
		e N'	51 48	18	1				USCGS: 24.6N, 122.0E, H 11 32 17.7,
		e(PPS) N'	52 05	26	2				h 33 km.ca.
		e(LQ) N'	58.9	?					
		eL N'	12 01.2	37					
		M N'E'	03.7	27	2	3			
		M N'E'Z'	09.0	21	2	2	5		
510	24	e N'	16 57.2						Masked by microseisms.
		e Z'	57.3						USCGS: 6.4S, 147.8E, H 16 46 38.4,
		eL E'	56.9	33					h 55 km.ca.
		eL N'	17 00.0	26					
		eL Z'	00.9	27					
		M N'E'Z'	03.2	16-20	3	2	4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
511	July 24	e N'	19 14 31	14					Masked by microseisms.
		e E'	14 36	14					USCGS: 9.0S, 158.2E, H 19 04 32.5,
		e(SSS) N'E'	15 45	(21)					h 33 km.ca.
		eL Z'	16.7	23					
		M N'	18.5	15	3				
		M E'Z'	19.8	13		5	3		
512	24	iP Z'	21 53 13½	5			+5	2730 ca.	Compression.
		eS E'	57 33	10		2		24°6 ca	
		e N'	57 38	12	2				USCGS: 9.7S, 154.4E, H 21 47 54.1,
		e E'	57.7	25					h 16 km.ca.
		eL E'	58.6	30					
		eL N'	58.9	33					
		eLR Z'	59.4	33					
		LR E'	22 00.2	22		3			
		LR Z'	00.4	23			5		
		LR N'	00.5	22	3				
		M E'	01.4	15		8			
		M N'Z'	02.5	14	8		8		
513	25		02 21	Feeble surface waves on L.P.					
	25	i NE	05 28 17.5	0.5	+0.03	+0.06			Quarry blast ?
		m NE	28 18½	0.6	0.04	0.09			
		m Z	28 20	0.5			0.03		
	25	Pg EZ	06 21 06	(0.3)					Quarry blast.
		iSg N	21 09.7	0.4	+				
		iSg EZ	21 09.8	0.4		+0.05	-0.05		
		m N	21 12½	0.6	0.08				
		m EZ	21 14	0.7		0.10	0.12		
	25	i(P) Z	06 21 34½	0.5			-		Local ?
	26	i N	01 52 16	0.5	+0.04				Quarry blast ?
		i Z	52 17	0.5			+0.03		
		m NE	52 18½	0.5	0.06	0.05			
	26	i N	02 08 22	0.4	+0.05				Quarry blast ?
		m N	08 24	0.7	0.12				
		m E	08 26	0.7		0.04			
514	26	(ePPS) N'E'Z'	04 51.7						Masked by microseisms.
		eL N'	05 20.5	41					
		eLR E'	25.5	43					USCGS: 42.1N, 21.5E, H 04 17 16.7,
		eLR Z'	25.9	39					h 33 km.ca.
		M N'	30.6	26	2				
		M E'Z'	32.5	28		2	2		
515	26	iP Z	05 31 49.0	0.8			+0.06		Compression. L.P. masked by No.514
		m NEZ	31 50	0.8	0.06	0.07	0.30		USCGS: 15.0S, 167.3E, H 05 26 45.1,
									h 124 km.ca.
	27	e N	02 18 42½						Quarry blast ?
		m N	18 44½	0.7	0.05				
	27	e NE	13 56 14	0.4					Local.
		i N	56 21½	0.5	+0.02				
516	28	e Z	07 18 00½						Masked by microseisms.
		e Z'	18 07						USCGS: 29.8S, 177.6W, H 07 12 17.1,
		e N'	23.8	(25)					h 33 km.ca.
		eLR Z'	25.3	26					
		M N'E'Z'	27.5	15-18	3	3	6		
517	28	iP Z	08 03 16½				-	4740	Dilatation. Microseisms present.
		i Z	03 20	1.2			-0.17	42°6	USCGS: 11.3S, 112.1E, H 07 55 21.9,
		m Z	03 21	1.2			0.25		h 21 km.ca.
		i Z	03 26	0.9			+0.13		
		eS E'	09 39	11		1½			
		e Z'	09 47	8			3		
		eSS Z'	12 45	9			2		
		eL N'	15.8	(30)					
		eL E'	16.3	30					
		M N'E'Z'	20.7	18-21	7	4	9		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
518	July 28	i Z'	16 38 49	4			-4		Masked by microseisms.
		e(S) N'	43 14	19	1½				USCGS: 4.9S, 152.7E, H 16 32 25.0,
		e Z'	43 16	24			1½		h 69 km.ca.
		eLR Z'	46.5	28					
		eLR N'	46.6	28					
		M E'	48.3	20		2			
		M N'Z'	48.8	20	2		4		
519	28	eL Z'	18 55.2	25					
520	28	eL Z'	19 32.7	21					
521	29	iP Z	04 54 28	0.8			-0.04		Microseisms present. h 33 km.ca.
									USCGS: 30.4S, 177.7W, H 04 48 49.8/
522	29	iP Z	20 19 50.3	1.8			+0.55	2950 ca	Compression.
		iP E'Z'Z"	19 51	11		-4	+8	26?5 ca	
		i Z	19 55.3	1.8			+0.48		USCGS: 30.2S, 177.3W, H 20 14 07.3,
		(PP) E'	20 32	10		5			h 39 km.ca.
		i Z"	20 52	9			-19		
		m Z'	21.0	12			12		
		i E'	23 03	13		+			
		m E'	23.3	23		9			
		eS N'	24 24	16	6				
		i Z'	24 34	13			+16		
		e E'	24.7	23		8			
		i(SSS) N'	25 54	18	+21				
		iLR Z'	27 08	24			-40		
		M Z'	30.0	17			110ca.		
		M E'	30.2	17		60			
		M N'	30.3	17	52				
		M N'	31.2	14	70				F 24.1h
523	29	i(P) Z'	20 22 19	12			+12		Compression. L.P. confused by 522.
		iP Z	22 22.0	1.5			+0.43		USCGS: 29.7S, 177.0W, H 20 16 36.9,
									h 33 km.ca.
	29	(P) Z	23 24 29						Masked by microseisms. 48 km.ca.
									USCGS: 30.1S, 177.1W, H 23 18 43.0/
524	30		01.1	Feeble surface waves on L.P.					
	30	e NE	02 01 01	0.5					Local.
525	30	eL Z'	03 10.6	25					USCGS: 30.0s, 177.2W, H 02 57 31.6,
		M Z'	13.4	17			1½		h 40 km.ca.
526	30	(eP) Z'	04 33 08						Masked by microseisms.
		e Z'	33 50	8					USCGS: 30.2S, 177.3W, H 04 27 25.0,
		e Z'	38.1	12					h 17 km.ca.
		eL N'	38.9	22					
		eLR Z'	39.9	28					
		M N'Z'	42.1	16,19	3		6		
		M E'	42.5	19		4			
	30	i EZ	05 47 50½	0.5		+	+		Local.
527	30	iP E'Z'	05 51 37	11		-3	+7	3010	Compression.
		e Z	51 37½	1.5				27?1	
		m E'Z'	51.8	14		5	10		USCGS: 29.6S, 177.3W, H 05 45 53.3,
		i Z	51 51	1.1			+0.17		h 33 km.ca.
		i Z'	52 07	10			-9		
		i E'	52 32	?		+			
		m E'	53.0	12		8			
		i Z'	53 22	12			+8		
		i E'	55 02	15		+4			
		m E'	55.5	16		8			
		eS N'	56 11	17	6				
		e Z'	56.5	24			17		
		i E'	56 37	14		+10			
		i N'	56 58	?	+				
		iSS E'	57 27	11		-8			
		iSSS N'	57 40	20	+29				
		eLR Z'	58.4	32					

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No.	Date	Phase & Component	Time (g.m.t.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
527	July 30	eLR E'	05 58.5	34					
cont.		iLR Z'	58 52	26			-44		
		iLR E'	59 00	25		-28			
		M N'	59.9	17	40				
		M E'Z'	06 01.3	17		62	116		
		M E'Z'	05.4	15		50	88		
		eW2 Z'	08 50	22					
	30	iPg EZ	06 18 55.8	0.3		+0.05	+0.03		Compression. Quarry blast.
		iSg NE	18 59.4	0.4	-0.10	+0.12			
		iSg Z	18 59.5	0.4			-0.18		
		m N	19 01½	0.6	0.47				
		m EZ	19 04½	0.7		0.30	0.37		
	30	iSg N	06 43 04.8	0.4	-0.11				Quarry blast.
		iSg E	43 05	0.4		+0.04			
		m N	43 08	0.6	0.48				
		m EZ	43 09½	0.7		0.11	0.14		
528	30	Z'	09.5	Feeble surface waves.					
529	30	e(PS) Z'	13 20.1	?					USCGS: 29.2S, 112.1W, H 12 57 25.3,
		eL N'	33.5	28					h 33 km.ca.
		eLR Z'	34.1	30			2		
		eLR E'	34.2	30		1			
		M E'Z'	37.2	19		1	2		
		M N'	39.3	17	1				
530	30	iP Z	14 04 57.7	0.9			+0.05		Compression.
		e Z'	05.1	11					USCGS: 55.9S, 27.5W, H 13 51 57.8,
		e Z	05 12½	1.0					h 33 km.ca.
		e(S) N'E'	15.8	32					
531	30	e(P) Z	14 29 02½						Masked by microseisms.
		e Z'	33.8						USCGS: 29.5S, 177.1W, H 14 23 13.7,
		eLR Z'	35.4	35					h 33 km.ca.
		eL E'	35.8	32					
		M E'Z'	38.0	19		3	9		
		M N'	38.3	16	3				
532	30	eP Z'	15 10 16	10			3		
		(pP) Z'	10 32	(4)			+		USCGS: 29.9S, 177.4W, H 15 04 38.7,
		e Z'	15.0	11			3		h 76 km.ca.
		e E'	15.1	(18)					
		i(SSS) N'	16 23	16	+5				
		eL E'	17.2	(32)					
		eL Z'	17.8	22			3		
		M N'	20.5	14	8				
		M E'Z'	21.9	16		8	11		
533	31	e Z'	01 50 37	8					Masked by microseisms.
		e(PP) E'	50 45	5					USCGS: 29.8S, 177.2W, H 01 44 18.8,
		i Z'	51 09	7			+3		h 65 km.ca.
		e E'	55 11	9					
		e N'	56 03	18					
		eL Z'	57.3	25					
		M N'	02 00.0	14	4				
		M Z'	00.6	16			4		
		M E'	01.7	13		4			
534	31	Z'	05 18	Feeble surface waves.					
	31	e NZ	06 01 21	0.4					Local.
		i E	01 21½	0.7		+			
535	31	(P) Z	14 51 23½						Masked by microseisms.
		(eL) E'	15 04.2	(27)					USCGS: 8.2S, 116.4E, H 14 43 40.3,
		eL N'	04.3	27					h 33 km.ca.
		M N'E'	07.7	13	1	1			
536	Aug. 1	Z'	03 26	Feeble surface waves.					

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Aug. 1	ePg	E	06 14 36	0.3					Quarry blast.
		iSg	N	14 39.4	0.4	-0.02				
		iSg	E	14 39.6	0.3		+0.07			
		i	Z	14 40	0.3			+0.08		
		m	N	14 42	0.6	0.13				
		m	EZ	14 44	0.7		0.08	0.08		
	1	(i)	Z	12 48 14						Microseisms present.
		i	Z	48 15	1			+0.06		
537	1	e(SSS)	N'E'	15 32.7						Masked by microseisms.
		eL	Z'	34.0	24					USCGS: 29.8S, 177.2W, H 15 20 55.9,
		M	N'	35.7	15	2				h 59 km.ca.
		M	E'Z'	37.2	15		2	3		
	2	m	N	02 15 57	0.7	0.03				Quarry blast ?
	2	i	N	03 23 25	0.4	+0.02				Quarry blast ?
	2	i	E	03 23 44.4	0.4		-0.02			Quarry blast ?
		i	NE	23 45.5	0.6	+0.10	+0.03			
	2	e	NEZ	05 28 00	0.5					Quarry blast ?
	2	e	NZ	05 28 24	0.3					Quarry blast ?
		i	NZ	28 24½	0.3	+0.06		+0.06		
	2	iSg	N	06 18 05	0.5	-0.01				Quarry blast.
		m	N	18 08	0.7	0.11				
		m	EZ	18 10	0.7		0.03	0.03		
	2	e	NE	06 20 53½	0.5					Quarry blast ?
		m	N	20 57½	0.7	0.05				
		m	Z	21 00	0.7			0.03		
	3	i	N	00 09 04.5	0.3	0.05				Blasting ?
		i	E	09 04.7	0.3		0.06			
		i	Z	09 05	0.3			+0.07		
	3	i	E	01 07 05.7	0.3		+			Blasting ?
		i	N	07 06.0	0.3	0.08				
		i	EZ	07 06.4	0.3		+0.06	+0.06		
	3	e	EZ	01 30 23.8	0.4					Quarry blast ?
		i	EZ	30 24.8	0.4		+0.10	+0.04		
		i	N	30 25.2	0.5	-0.12				
		m	NEZ	30 26	0.5	0.48	0.24	0.17		
	3	e	Z	03 52 57						Blasting ?
		i	N	52 57.5	0.3	0.08				
		i	E	52 57.7	0.3		+0.07			
538	3	iP	Z	03 53 11.8	0.8			-0.06		Dilatation. L.P. masked by microseisms
		(pP)	Z	54 35	1.0					
		(sP)	Z	55 12	(2.0)					USCGS: 7.6S, 156.8E, H 03 48 06.4,
		eS	N'	57 18						h 402 km.ca.
		e(sS)	E'	59 28						
		e	N'	59 35						
	3	e	N	04 38 33	0.3					Quarry blast ?
		i	Z	38 33.8	0.6			+0.02		
		i	E	38 34.2	0.6		+0.02			
		m	N	38 37½	0.7	0.07				
		m	EZ	38 41	0.8		0.09	0.10		
539	3	(ePKP)	Z'	10 41 25	?					Masked by microseisms. L.P. records
		e	Z	41 32	1					hard to read owing to overlapping
		i	Z'Z"	41 48	5			-8		trace & on NS &EW large irregular
		i	Z'	41 53	7			+7		long period wanderings.
		i	Z'	42 26	7			+6		
		ePP	N'Z'	45 15	8			8		USCGS: 7.7N, 35.8W, H 10 21 36.6,
		i	N'N"	49 14	8	-4				h 33 km.ca.
		ePPS	N'	58 18	?					
		e	Z'	58.5	23					
		i	N"Z"	59 12	7	+4		+8		

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
539 cont.	Aug. 3	eSS E'	11 04.8	26		12			
		i Z'	05 44	8			+7		
		e E'	10.0	45					
		iSSS E'	10 47	29		-16			
		(LQ) E'	25	50					
		L E'	27.3	50		41			
		L N'	28.6	32	18				
		LR Z'	33	(45)					
		M N'E'Z'	45	21	19	25	43		
		i Z'	12 03 43	18			+19		
		i Z'	05 26	18			-21		
540	3	iP Z	20 31 39.0	1.3			+0.31		Compression. Microseisms on L.P.
		e E	31 40	1.3					
		e E'	32 28	?					USCGS: 30.7S, 178.3W, H 20 26 04.1,
		e E8	36 15	?					h 37 km.ca.
		e Z8	36 33	18					
		eLR Z'	38.1	30					
		M E'Z'	39.3	22		3	5		
		M N'	41.6	18	2				
	3	e N	23 37 00½	0.3					Very small.
		e EZ	37 03½	0.3					
541	4	iP Z	07 16 29.5	1			+0.06		Compression. Microseisms present.
		eSS N'	25.7	20					
		eLR Z'	28.4	40					USCGS: 9.4S, 114.2E, H 07 08 47.1,
		eLR N'	28.6	38					h 117 km.ca.
		M N'	31.3	22	1				
		M E'	32.5	15		1			
		M Z'	33.0	24			2		
542	4	e(S) E'	09 22 26	10		1			Masked by microseisms.
		e Z'	22 36	8			2		USCGS: 22.6S, 173.4E, H 09 13 17.8,
		e(L) N'	23.0	(24)					h 72 km.ca.
		eL E'Z'	24.4	20					
		M N'	24.6	19	1				
		M Z'	26.7	14			2		
		M E'	28.6	15		1			
543	4	iP Z	23 59 53½	1.3			+0.14	3450	Compression. Microseisms present.
		epP Z	24 01 22	1.5				31°1	h 0.08
		iS N"E"	04 22	6	+2	-4			USCGS: 17.5S, 179.1W, H 23 54 14.0,
		eSS Z'	07 11	11					h 515 km.ca. h 33 km.ca.
544	5	eL Z'	07 55.3	22					USCGS: 27.2S, 178.0W, H 07 41 37.9/
545	5	eP Z'	15 44 45	11			3	3000ca.	
		i N'	44 49	?	+			27°ca.	USCGS: 60.7S, 154.3E, H 15 39 07.0,
		ePPP Z'	45 44	14			2		h 33 km.ca.
		ePPP N'	45 45	14	2				
		e N'	48 10	(22)					
		e N'	49 04	22	2				
		e Z'	49 27	16			3		
		e E'	49 31	23		5			
		i N"	49 37	6	+3				
		eL E'	49.9	33					
		e N'	50.0	26					
		iSS N'	50 37	16	+4				
		eSS Z'	50 37	16					
		m E'	50.7	20		17			
		eLR Z'	50.9	33					
		eL N'	51.2	33					
		L N'Z'	51.8	27	14		20		
		M N'Z'	52.8	18	6		8		
		M E'	55.9	15		9			
	6	i EZ	06 05 16½	0.4		+	+		Quarry blast. Masked by microseisms.
		m N	05 19	0.7	0.07				
		m EZ	05 21	0.7		0.03	0.05		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Aug. 6	(i) N	07 22 28						Quarry blast ? Masked by microseisms.
		m N	22 32	0.7	0.08				
	7	m N	02 21 25						Quarry blast ? Masked by microseisms.
546	7	P Z'	04 31 28	4			2		Masked by microseisms.
		e Z'	35 33	7					USCGS: 21.8S, 173.5E, H 04 26 23.4,
		e N'	35 40	14	1				h 106 km.ca.
		e E'	35 44	12		1			
		e Z'	36 03	14					
		e N'	36.2	13					
		e(SS) N'	36 30	(16)	1				
		eLR E'Z'	37.1	28		2	3		
		M N'	37.5	20	2				
		M E'Z'	38.3	20		2	3		
	7	(Sg) NE	06 24 37½	0.4					Quarry blast.
		m N	24 40	0.6	0.08				
		m EZ	24 42	0.7		0.06	0.06		
	7	e NE	08 52 27						Local or regional.
	7	(P) Z	11 20 31						Masked by microseisms. 600 km.ca
									USCGS: 20.0S, 178.3W, H 11 15 07.6/
547	8	(iP) Z	02 27 49½				+		Masked by microseisms.
		e(SKS) N'	38.2	12					
		eS E'	38 37	14		2			USCGS: 54.2N, 168.1E, H 02 14 54.4,
		e N'Z'	38 41	14					h 33 km.ca.
		ePS N'	39 46	7					
		e Z'	39 49	7					
		eSS N'	44.2	20					
		eSS E'Z'	44.5	?					
		e Z'	45.2	23					
		eLQ N'	52.2	40					
		eLR N'	56.3	36	2				
		eLR Z'	56.4	36			2		
		M N'Z'	59.2	26	2		3		
548	8	eP Z'	11 22 03	8			2	3080	
		epP N'Z'	22 12	12	2		3	27?7	USCGS: 5.8S, 151.0E, H 11 16 11.2,
		ePP Z'	22 49	9			2		h 48 km.ca.
		iS N'	26 41	20	-5				
		e E'	26 55	14		2			
		isS N'Z'	26 57	21	+		+19		
		m N'	27.2	21	22				
		eL E'	28.6	33					
		eLR N'Z'	29.2	36					
		i E"	29 19	10		+12			
		L Z'	30.1	36			16		
		M E'	32.7	18		20			
		M N'Z'	33.0	18	21		36		
549	8	e N'	14 05.5	20					(USCGS: 18.3N, 145.3E, H 13 53 42.2,
		M Z'	20.5	20					h 423 km.ca.)
	9	e NEZ	01 05 38	0.3					Blasting ?
		e NEZ	01 06 00	0.3					"
		e NEZ	01 56 57	0.3					"
		e NEZ	01 58 22	0.3					"
	9	e N	02 13 05	0.6					Quarry blast ?
	9	i N	05 39 09.2	0.6	+0.15				Quarry blast ?
		m N	39 10	0.6	0.2				
	9	iPg EZ	06 05 27.8	0.3		+	+		Compression. Quarry blast.
		Sg N	05 31.3	0.3					
		i EZ	05 31.8	0.3		+0.12	-0.12		
		m N	05 34	0.6	0.16				
		m EZ	05 36	0.7		0.17	0.20		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
550	Aug. 9	iP Z	10 14 56	0.8			+0.03		Compression. Microseisms present.
		i Z	15 06				+		USCGS: 21.6S, 171.1E, H 10 10 18.2,
		i Z	15 14½				+		h 153 km.ca.
551	9	eiP E'Z'	14 43 41	5			-3	3890	Dilatation.
		i Z'	43 46	5			+3	3590	USCGS: 15.3S, 175.7W, H 14 36 45.9,
		i Z'	44 39	6			+3		h 33 km.ca.
		ePP N'	45 03	12	1				
		ePP E'Z'	45 04	12		1½	2		
		eS N'	49 10						
		i N'Z'	49 16	9	-3		-		
		m E'Z'	49.4	17		5	6		
		eLQ N'	51.7	30					
		i N'	52 40	18	+5				
		iLR Z'	53.3	30			+		
		eLR E'	53.4	30					
		L E'Z'	54	28		13	17		
		M N'	55.8	14	12				
		M E'Z'	59.1	18		15	20		
	10	e Z	01 50 19						Quarry blast ? Masked by microseisms.
		m N	50 21	0.7	0.03				
	10	e N	02 04 38						" " " " "
		m N	04 40	0.7	0.05				
	10	(iP) Z	13 27 46½				+		Microseisms present. h 33 km.ca.
									USCGS: 24.7N, 142.7E, H 13 17 47.1/
552	10	N'E'	18 08	Feeble surface waves.					USCGS: 3.2S, 141.9E, H 17 51 40,
									h 88 km.ca.
553	10	Z'	18 35	Feeble surface waves.					USCGS: 54.4S, 132.8W, H 18 07 26.2,
									h 33 km.ca.
554	11	eP N'Z'	01 40 02	8	2		4		Microseisms present.
		ePP Z'	40 41	8			3		USCGS: 60.5S, 154.9E, H 01 34 22.2,
		e N'	44 26	20					h 33 km.ca.
		e E'	44 27	20					
		e Z'	44 38	15			2		
		eLQ E'	45.1	28					
		eLQ N'	45.2	26					
		eSS Z'	45 42	20			3		
		eSS N'	45 44	15	4				
		m E'	45.8	18		15			
		eL Z'	46.1	34					
		eL N'	46.6	26	7				
		L Z'	47.0	26			14		
		M N'Z'	49.5	13	10		16		
		M E'	51.0	11		15			
	12	e NE	01 32 28½	0.5					Local.
	12	e Z	01 58 16½						Blasting ?
		m N	58 19	0.5	0.04				
	12	e NEZ	02 13 04	0.3					Blasting ?
	12	m NE	04 35 22	0.5	0.02	0.03			Blasting ?
	12	(eP) Z	09 03 41						Masked by microseisms. h 33 km.ca.
									USCGS: 11.6S 166.3E, H 08 58 03.3/
555	12	Z'	19.4	Feeble surface waves.					USCGS: 25.3N, 62.7E, H 18 29 38.9,
									h 33 km.ca.
556	12	eL N'	21 13.3	(16)					Masked by microseisms.
		eL E'Z'	14.5	20					USCGS: 21.9S, 175.7W, H 20 59 08.0,
		M N'	15.7	15	1				h 33 km.ca.
		M E'Z'	17.0	17		1	1½		
	13	m NE	04 24 24½	0.6	0.02	0.03			Quarry blast ?

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
557	Aug.13	iP Z	05 00 18.0	1.3			+0.12	4050	Compression. Microseisms present.
		(pP) Z	01 57	(1.7)				36°4	h 0.08
		iS N'	05 21	(6)	+				USCGS: 7.2S, 124.5E, H 04 53 58.8,
		e E'	05 28	8					h 542 km.ca.
		sS E'	08 15	?					
		e(SS) Z'	08 30	18			1½		
	13	i EZ	06 03 42½	0.4		+	+		Local.
558	13	e Z'	07 04 40	?					Masked by microseisms.
		e(L) N'	06.7	?					USCGS: 19.1S, 173.9W, H 06 52 06.1,
		eL Z'	08.7	24					h 28 km.ca.
		eL E'	09.2	21					
		M E'Z'	11.8	18		1	2		
		M N'	12.7	15	1				
559	13	N'E'Z'	20.0	Feeble surface waves.					
560	13	eP Z'	21 59 22					3810	Microseisms present.
		eS E'	22 04 46	?				34°3	USCGS: 19.3S, 173.7W, H 21 52 37.4,
		e Z'	05 05	20					h 33 km.ca.
		eLQ N'	07.2	32	3				
		eLR Z'	08.6	31					
		L E'Z'	09.3	28		2	4		
		M E'Z'	10.6	20		4	7		
		M E'Z'	12.7	17		6	10		
		M N'	13.0	13	4				
561	13	e E'	23 40 20	10					Masked by microseisms.
	14	i E	02 00 52.2	0.4		+			Local.
562	14	eL Z'	02 30.8	30					Masked by microseisms.
		M Z'	36.9	18			1		
		M N'	37.7	16	1				
563	14	e Z'	02 58.7						Masked by microseisms.
		e(LQ) N'	03 00.5	(32)					USCGS: 21.4S, 175.2W, H 02 46 44.1,
		e Z'	00.8	23					h 33 km.ca.
		eLR E'Z'	02.1	26			3		
		M N'	03.7	16	1½				
		M E'Z'	04.9	17		3	5		
564	14	iP Z	03 38 27.8	1.5			+0.16		Compression. L.P. masked by micro-
		i Z	39 30	1.5			+0.16		seisms.
		e(S) N'E'	43 19	22	3	1			USCGS: 4.9S, 152.3E, H 03 32 33.5,
		e Z'	43.4	22					h 62 km.ca.
		e E'	44 12	22					
		eL(Q) N'	45.1	(35)					
		eL E'	45.3	35		5			
		eLR Z'	46.4	35			6		
		M N'E'Z'	49.0	20	4	4	9		
	14	e NEZ	05 45 33	0.4					Blasting ?
	14	ePg EZ	06 18 55½	0.3					Quarry blast.
		iSg EZ	18 59.5	0.4		+0.04	-0.04		
		m N	19 01	0.7	0.04				
		m EZ	19 04	0.7		0.08	0.10		
565	14	e N'	07 24.6	15					Masked by microseisms
		e Z'	24.9	11					
566	14	(eP) Z'	08 32 44	5					Masked by microseisms.
		e N'	38.1	25					USCGS: 9.3S, 158.3E, H 08 27 14.9,
		M N'	41.0	15	1				h 33 km.ca.
		M E'	42.5	10		2			
567	14	e Z	13 28 31						Masked by microseisms.
		e E'	31.7	?					
		eT NEZ	44.9	0.7					
568	14	e Z	16 28 54	1.2					Masked by microseisms.
		M Z'	54.8	21			½		USCGS: 24.1N, 122.4E, H 16 18 18.0,
									h 28 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
569	Aug.14	eP Z	18 50 37						Masked by microseisms.
		isP Z	50 51.7	1.5			+0.21		
		e N'	56 06	?					USCGS: 3.4S, 135.4E, H 18 43 55.5,
		e N'Z'	56.7	30					h 33 km.ca.
		e Z'	58.7	24					
		eL Z'	19 01.0	32					
		eL N'	01.3	32					
		M E'	05.3	18		7			
		M N'Z'	05.8	16	13		23		
570	14	eL Z'	20 58.6	25					USCGS: 22.5S, 175.5W, H 20 43 12,
		M E'Z'	21 01.4	16		½	¾		h 33 km.ca.
	15	iSg N	02 17 49½	0.7	+0.02				Quarry blast.
		m N	17 54	0.7	0.13				
		m EZ	17 56½	0.7		0.04	0.04		
571	15	iP Z	02 26 55	0.7			+0.02		Compression. h 476 km.ca.
									USCGS: 27.9N, 139.6E, H 02 17 16.9,/
	15	(ePg) Z	06 00 16½						Quarry blast.
		iSg NZ	00 19.6	0.4	-0.07		+0.03		
		m NEZ	00 22½	0.6	0.07	0.05	0.12		
	15	e Z	06 22 36½						Quarry blast ?
		m N	22 39	0.6	0.02				
		m EZ	22 40½	0.7		0.03	0.03		
572	15	eP Z'	06 22 53	5				8020	
		ipP N'Z'N"Z"	23 03	8	+3		-8	72°2	Dilatation.
		e Z'	32 02	16			6		USCGS: 37.9N, 141.6E, H 06 11 34.6,
		iS N'E'N"E"	32 12	11	-11	-13			h 39 km.ca.
		isS E'	32 31	11		+8			
		iPS N'	32 48	11	+7				
		i N"	32 56	7	+5				
		iPPS E'	33 02	27		-6			
		e N'	33 06	27	7				
		eSS N'	36 43	32	4				
		eSS Z'	37 02	27			7		
		eSSS Z'	40 04	21			5		
		eLQ E'	42.0	44		16			
		eL N'	42.6	36					
		eL Z'	44.1	28					
		eLR Z'	45.7	37					
		LR N'	46.2	35	11				
		LR Z'	46.6	35			15		
		M E'	48.4	24		9			
		M N'Z'	49.3	24	7		13		
		M N'Z'	53.3	20	8		13		
		W2 M Z'	08 42	24			1		
	15	iSg N	06 34 13.3	0.4	+0.03				Quarry blast.
		m N	34 15½	0.6	0.13				
		m EZ	34 17½	0.6		0.03	0.04		
	15	m N	06 55 18½	0.7	0.02				Quarry blast ?
573	15	eP Z'	19 39 22	(18)				13,200ca.	h 500 km.ca.
		e Z'	39 41	20				119°ca.	Gutenberg's Tables used.
		e Z'	41 40	10					
		ePKP Z	42 53	?					USCGS: 13.8S, 69.3W, H 17 25 05.9,
		f Z	43 13	0.8			+0.21		h 543 km.ca.
		m Z	43 14	0.8			0.46		
		i Z	43 19½	0.8			+0.16		
		m Z	43 21	0.8			0.43		
		iPP Z'	44 27	7			+6		
		ePP N'E'	44 29	13					
		i(pPKP) Z'	44 49	14			+10		
		e N'E'	44 49	20					
		e Z'	45.0	27					
		i N'E'Z'	46 36	6&20	+16	-13	+46		
		e(PPP) Z'	47.4	23					

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
573	Aug.15	i Z'	19 47 40	12			+18		
cont.		iSKS N'E'	49 12	13	+21	-24			
		i N'E'	49 24	10	+18	-18			
		i N'E'	50 34	11	-13	+14			
		i N"E"	50 40	5	+11	-15			
		i N'E'	50 46	6	+	-			
		iSP Z'	53 24	17			-42		
		i N'E'	53 34	24	+35	-25			
		m Z'	53 40	23			81		
		i(pS) N'E'	53 50	30	-35	+28			
		e Z'	54.3	50					
		i(sS) E'Z'	54 51	25		+26	-22		
		i E'	56 27	25		+19			
		i(sSP) N'	56 32	26	-22				
		i N'E'	57 30	28	-29	+24			
		i E'	18 00 20	20		+21			
		iSS N'	00 32	40	-58				
		i E'Z'	00 44	28		+47	+35		
		m N'E'Z'	01.2	36-40	105	86	140		
		e N'	02.4	46	25				
		eSSS E'Z'	04.5	40		40	+43		
		eSSS N'	04.8	80	57				
		e Z'	08.1	48					
		i Z'	12 53	21			+31		
		i Z'	14.3	31			+26		
		m Z'	15.1	40			71		
		i N'	16.5	40	+45				
		(M) N'	43.4	55	39				
	16	e E	02 18 03	0.4					Local.
		i Z	18 03.8	0.6			-0.03		
	16	i N	03 34 24.6	0.6	+0.12				Quarry blast ?
		i E	34 24.7	0.6		-0.04			
	16	e EZ	05 54 16	0.4					Local.
		e N	54 17	0.4					
	16	e N	06 07 59	0.4					Local.
	16	ePg Z	06 38 23.3	0.4					Quarry blast.
		i E	38 23.5	0.4		+			
		iSg N	38 26.9	0.4	-0.04				
		i EZ	38 27.2	0.4		-0.07	+0.09		
		m N	38 29½	0.5	0.22				
		m EZ	38 31½	0.7		0.09	0.12		
574	16	(eP) Z'	23 25 07						Masked by microseisms.
		eS E'	29 34	14		1			
		eS N'	29 35	13	2½				USCGS: 48.9S, 122.8E, H 23 19 31.1, h 33 km.ca.
		e Z'	29 41	14					
		eLQ E'	30.4	30					
		eL N'	30.8	24					
		eLR Z'	31.5	32					
		L Z'	32.1	30			5		
		M N'E'	32.5	15	5	7			
		M Z'	33.4	14			6		
	17	i(Sg) N	00 17 28.7	0.4	+				Quarry blast. ?
		e EZ	17 29						
		i N	17 31.8	0.5	+0.04				
		m N	17 34	0.7	0.13				
		m Z	17 36	0.8			0.03		
		m E	17 37	0.7		0.03			
	17	e(Sg) N	00 51 17	0.4					Quarry blast ?
		i EZ	51 17.3	0.4		-0.03	+0.03		
		m N	51 19	0.6	0.07				
		m EZ	51 21½	0.7		0.04	0.04		
	17	e E	02 14 34½						Quarry blast ?
		m N	14 38	0.7	0.03				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Aug.17	e NE	05 19 53½	0.3					Quarry blast ?
		e Z	19 54	0.5					
		m N	19 59	0.7	0.13				
575	17	eL E'Z'	09 46.7	22					USCGS: 34.2S, 179.9W, H 09 35 25,
		M E'Z'	49	16		1	2		h 368 km.ca.
576	17	eP Z	11 23 35½	1				7470	
		i Z'	23 41½	1.5			-0.16	67°2	
		i N'Z'	23 42	8	+3		-8		USCGS: 30.6N, 130.9E, H 11 12 41.2,
		i Z	23 47	1.6			+0.18		h 33 km.ca.
		esP N	23 50	2.5					
		ePcP N'Z'	24 06	14			3		
		e Z'	26 47	15					
		iS N'	32 27	15	-8				
		iS E'Z'	32 28	12-20		-4	-6		
		isS E'	32 44	12		+6			
		e N'E'	32.8	32					
		m N'E'	33.3	32	11	6			
		i(ScS) N'	33 37	12	+15				
		i(ScS) E'	33 38	12		-11			
		i E'	33 56	12		+10			
		eSS E'	36 46	20		2			
		eSSS Z'	39 42	30			7		
		i E'	39 57	20		+10			
		e(G) E'	40.3	62					
		m Z'	40.5	25			12		
		L E'	42.3	40		13			
		eL Z'	44.9	35					
		M E'	46.9	23		16			
		M N'Z'	47.0	28	11		17		
		M E'	49.8	20		18			
		M N'Z'	50.3	22	22		30		
		M Z'	52.8	18			39		
		M N'E'	53.5	18	20	13			F 14.3h
577	18	eP Z	18 56 08	1.2				9890ca,	Microseisms present.
		iPcP Z	56 11	1.2			+0.07	89°ca.	
		eSKS N'	19 06 35	8					USCGS: 50.3N, 176.9W, H 18 43 16.1,
		ePS N'Z'	07 58	(20)					h 33 km.ca.
		(eLQ) E'	19.5	(40)					
		(eLQ) N'	19.8	(38)					
		eLR Z'	24.0	31					
		eLR N'	24.2	31					
		M N'E'Z'	31.3	20	½	½	1		
		M Z'	35.0	18			1		
		M N'	35.5	20	1				
578	18	eP Z	20 33 13½	1.7					Microseisms present.
		eP Z'	33 14	8			2		
		e E'	33 19	7		1			USCGS: 32.1S, 178.1W, H 20 27 41.9,
		i Z	33 33	1.2			+0.10		h 33 km.ca.
		e Z'	36 11	17			1		
		e Z'	38 05	18			2		
		e(SS) N'	38 47	20	3				
		M N'E'Z'	42	17-19	6	6	9		
	19	e NE	01 01 14½	0.4					Local.
	19	i Z	02 10 19	0.4			+		Local.
579	19	eP Z'	04 29 32	8			1		Microseisms present.
		e Z	29 34½	1.2					
		i Z	29 44.3	1.2			+0.07		USCGS: 32.0S, 177.9W, H 04 24 00.4,
		ePP Z'	30 13	6			1		h 33 km.ca.
		e Z'	34 08	22					
		e(SS) N'	35 08	18	1				
		eLR E'Z'	36.0	29					
		M N'	38.1	17	2½				
		M E'Z'	38.6	18		2½	4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Aug.19	i N	04 55 27.3	0.3	+				Blasting ?
		i EZ	55 27.5	0.3		+	+		
	19	e N	06 29 29½	0.3					Blasting ?
	19	e NE	07 17 11½	0.4					Quarry blast ?
		m N	17 16½	0.7	0.08				
	19	e NE	07 25 46½	0.4					Quarry blast ?
		m N	25 51	0.7	0.06				
580	19	iP Z	16 58 50.4	0.6			+0.01		Compression. h 231 km.ca. USCGS: 17.0S, 168.8E, H 16 54 01.3/
	20	i Z	00 23 18.5	0.4			+0.03		Local.
		i N	23 18.7	0.4	-0.02				
	20	i NZ	04 12 08.0	0.4	-0.03		-0.05		Local.
	20	iSg N	06 12 14.5	0.6	-0.04				Quarry blast.
		i E	12 15.2	0.5		+0.04			
		m N	12 17	0.7	0.34				
		m EZ	12 19	0.7		0.20	0.22		h 90 km.ca.
581	20	N'E'Z'	06.9	Feeble surface waves.					USCGS: 5.5S, 145.8E, H 06 39 57/
582	20	N'	07.4	Feeble surface waves.					USCGS: 6.9S, 103.0E, H 06 53 28, h 61 km.ca.
583	20	(P) Z	09 26 14						USCGS: 27.8S, 176.5W, H 09 20 26.7, h 37 km.ca.
		M E'	38.2	14		½			
	20	(e) N	14 59 08						Local or regional. Very small.
		e N	59 32½	0.6					
584	20	e(S) E'	16 09 31	22					Masked by microseisms.
		eLQ E'	20.0	36					USCGS: 41.2N, 142.7E, H 15 48 12.2, h 50 km.ca.
		eLR N'	24.1	30					
		M Z'	29.5	23			½		
585	20	eP Z	19 49 33	1					Microseisms present.
		i Z	49 34.7	0.6			+0.02		USCGS: 30.2S, 177.8W, H 19 43 56.6, h 43 km.ca.
		eLR Z'	56.6	24					
		M E'Z'	58.7	17		½	1		
	21	i N	01 59 57	0.6	+0.02				Local.
	21	e E	02 13 54½	0.4					Blasting ?
		e N	13 56	0.4					
		i Z	13 56.5	0.4			+0.02		
		i E	13 56.7	0.4		-0.03			
	21	e NE	03 20 58	0.4					Local.
	21	e EZ	06 02 28	0.5					Local.
		m Z	02 32½	0.7			0.03		
	21	iSg N	06 41 47.5	0.4	+0.02				Quarry blast.
		i E	41 47.7	0.4		+0.02			
		i Z	41 47.8	0.4			+0.03		
		m N	41 50½	0.7	0.14				
	22	i N	02 46 14	0.4	-0.05				Blasting ?
		m EZ	46 14½	0.4		0.04	0.09		
	22	i NE	03 30 21½	0.4	-0.02	+0.02			Blasting ?
		i Z	30 22	0.4			+0.03		
	22	i Z	04 48 05	0.4			+0.03		Blasting ?
		m NEZ	48 05½	0.4	0.05	0.04	0.08		
586	22	(eL) Z'	05 19.5						Masked by microseisms.
		M Z'	28.6	17			1		USCGS: 1.2S, 128.5E, H 05 01 38.3 h 33 km.ca.
		M N'E'	28.7	17	½	½			
	22	i EZ	06 18 53	0.3		-	+		Quarry blast ?
		m N	18 55	0.6	0.02				
		m EZ	18 57½	0.7		0.03	0.04		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
587	Aug.22	eL N'E'	14 58.6	22					Masked by microseisms. h 33 km.ca.
		M N'E'Z'	15 02.3	11	½	1	1½		USCGS: 1.9S, 133.9E, H 14 39 28/
588	22	iP Z'	19 57 49	6			+16	2840	Compression.
		iP N'E'	57 49½	6	-7	-2		25°5	
		ipP Z'	57 59	?			+		USCGS: 9.4S, 158.0E, H 19 52 25.0,
		i Z'	58 10	5			-6		h 33 km.ca.
		i N'	58 15	6	+6				
		i Z'	58 18	6			+14		
		iPP Z'	58 27	6			+		
		e N'	58 39	14					
		iS N'	20 02 12	13	+18				
		i E'	02 15	8		+31			
		i Z'	02 20	8			+11		
		i E'	02 24	11		+49			
		isS N"	02 27	9	+				
		m N'Z'	02.5	11-14	42		35		
		iLQ E'	03.0	32		-			
		i N'	03 05	9	+22				
		iSS N'	03 13	24	+85				
		i E'	03 21	16		-			
		eL Z'	03.5	29					
		L E'	03.6	26		102			
		L N'	03.9	28	97				
		L Z'	04.7	24			63		
		M N'Z'	06.2	16	96		62		
		M E'	06.7	14		94			
		M N'	07.9	12	120				
		M E'	08.2	11		200ca			
		M Z'	08.4	13			125		
		F	23.4						
	23	Standardised S.P & L.P. not operating from 00 07 to 04 38.							
	23	iSg NZ	06 02 09.2	0.5	+0.02		-0.01		Quarry blast.
		m N	02 11½	0.7	0.13				
		m EZ	02 14	0.7		0.07	0.08		
	23	Pg EZ	06 10 32.2	0.4		+	+		Quarry blast.
		iSg E	10 36.0	0.4		+0.05			
		i Z	10 36.2	0.4			+0.07		
		m N	10 37½	0.7	0.03				
		m EZ	10 40½	0.7		0.10	0.14		
	23	i(Sg) N	06 25 44	0.5	+				Quarry blast.
		i Z	25 44½	0.5			+		
		m N	25 47½	0.7	0.05				
		m EZ	25 50½	0.7		0.04	0.05		
589	23	eLQ E'	13 46.2	(26)					USCGS: 52.4N, 159.6E, H 13 09 25.3,
		eLR Z'	50.5	28					h 33 km.ca.
	23	(P) Z	14 36 08½	1.2					
590	23	e Z'	21 36 14	5					Masked by microseisms.
		eL N'E'	44.7	(27)					USCGS: 4.4S, 134.9E, H 21 28 12,
		M N'E'Z'	49.3	12	½	1	1		h 95 km.ca.
	24	i Z	00 48 22.0	0.4			+0.05		Blasting ?
		i N	48 22.2	0.4	-0.04				
		m Z	48 22½	0.4			0.08		
591	24	(P) Z	02 24 40						Masked by microseisms. h 28 km.ca.
		eL Z'	54.8	32					USCGS: 54.3S, 5.2E, H 02 11 58.3/
592	24	iP Z	03 23 45	1.2			-0.14		Dilatation. Microseisms present.
		(e) N'Z'	28.2	(40)					USCGS: 30.7S, 178.2W, H 03 18 09.5,
		eLR Z'	30.3	25					h 42 km.ca.
		L E'Z'	30.9	25		½	1½		
		M E'Z'	33.2	17		½	1		
	24	i EZ	04 29 12	0.5		+	+		Quarry blast.
		e(Sg) N	29 15	0.6					
		m N	29 16	0.7	0.08				

No.	Date	Phase & Componant	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
	Aug.24	i NE	05 01 04½	0.5	+	+			Quarry blast.
		m N	01 09½	0.7	0.22				
		m EZ	01 12	0.7		0.07	0.07		
593	25	iP NEZ	12 23 50.5	1.2	+0.29	+0.94	-3.23	3450	Dilatation.
		iP N'E'Z'N"E"Z"	23 51	8	+15	+40	-105	31?0	h 0.08
		i E"Z"	24 01	4		+	-		USCGS: 17.5S, 178.8W, H 12 18 12.5,
		i N'	24 18	6	-8				h 565 km.ca.
		i E'	24 20	7		-11			
		ipP E'	25 19	6		+11			
		iPP N'Z'	25 22	6	-9		+27		
		m E'	25 27	6		23			
		i N'	25 32	6	-9				
		iPcP Z'	26 29	12			+18		
		i N'E'	27 49	7	-9				
		e Z'	28 10	24			17		
		iS E'	28 18	7		-15			
		iS N'	28 19	8	-16				
		i N"	28 21	9	+21				
		m E'	28.7	16		24			
		i(ScP) Z'	29 16	8			+20		
		i(ScP) Z	29 18	1.3			-0.79		
		iPcS E'	30 11	8		-15			
		i E"	30 12	7		+19			
		i E"	31 13	7		+27			
		i ! Z'	31 15	27			+96		
		i ! N'N"	31 16	20	+77				
		i E'	31 23	12		+31			
		e(G) N'	31.8	45					
		e(G) E'	32.1	40					
		iScS N'N"	33 20	4	+				
		iScS E'	33 21	9		+54			
		m N'	33.5	8	42				
		M Z'	34.8	16			28		
		i E'	35 48	10		+26			
		i N'	37 17	12	+35				
594	25	iP Z	13 31 33½	1.3			-0.17		Dilatation. h 610 km.ca.)
									USCGS: 17.9S, 178.8W, H 13 26 01.4/
	25	e NEZ	23 59 16	0.3					Blasting ?
	26	e Z	00 14 04	0.4					Blasting ?
	26	e NEZ	01 38 47	0.4					Balsting ?
595	26	eL Z'	02 40.2	25					Masked by microseisms. h 546 km.ca.
		M N'	42.7	17			2		USCGS: 26.3S, 178.8E, H 02 28 12.8/)
596	26	(P) Z	05 51 35						Masked by microseisms.
		i Z	51 53½	1.3			+0.11		USCGS: 6.8S, 105.6E, H 05 42 40.3,
		M Z'	06 11.2	21			2		h 33 km.ca.
597	26	M N'E'Z'	23 54.3	15-17	1½	1½	3		Masked by microseisms. h 151 km.ca.)
									USCGS: 7.7S, 123.7E, H 23 32 38.3/
598	27	(P) Z	03 36 31	1					Masked by microseisms.
		(eS) N'	47 17	?					USCGS: 45.9S, 75.3W, H 03 23 32.6,
		e N'	47.5	13					h 33 km.ca.
		ePS N'	48 31	20	1				
		ePS Z'	48 33	16			1		
		ePPS E'	49 06	19		1			L.P. NS & EW confused by long-
		eSS Z'	53.3	20			1		period wanderings.
		(eLQ) E'	04 01.3	(50)					
		eLR Z'	04.4	30					
		L N'Z'	05.3	27	4		7		
		M N'Z'	07.5	21	3		8		
		M E'	07.7	21		3			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Aug.27	(e) N	04 50 38						Blasting ?
		i NEZ	50 41	0.3	+	+	-		
		m E	50 43	0.5		0.07			
	27	e E	06 22 39	0.5					Quarry blast.
		i N	22 41.6	0.4	+				
		m N	22 43	0.7	0.05				
	27	i N	06 23 27	0.4	+				Quarry blast.
		i E	23 27½	0.4		+			
		i Z	23 28	0.4			+		
		m N	23 30	0.7	0.14				
	27	Sg N	06 28 55½						Quarry blast.
		m N	28 57½	0.7	0.16				
		m EZ	29 00	0.7		0.05	0.08		
	27	Sg N	06 32 10	0.5					Quarry blast.
		i EZ	32 10½	0.4		+0.03	-0.03		
		m N	32 12½	0.7	0.16				
		m EZ	32 15	0.7		0.05	0.05		
	28	m NEZ	00 19 56½	0.4	0.04	0.04	0.08		Blasting ?
		m NEZ	00 31 13½	0.4	0.05	0.04	0.09		"
	28	i Z	01 49 37	0.7			+0.02		
	28	e NEZ	02 04 45	0.5					Local.
	28	m NEZ	03 52 23	0.4	0.04	0.04	0.08		Blasting ?
		m NEZ	04 09 20	0.4	0.04	0.04	0.08		"
599	28	e(LQ) N'E'	13 00.6	20					Earlier phases obscured by microseisms.
		eLR Z'	01.2	33					
		LR N'Z'	02.0	26	3		6		USCGS: 61.9S, 164.5E, H 12 48 22.1,
		M E'	03.2	12		3			h 33 km.ca.
		M N'Z'	03.5	18	3		5		
600	28	eL Z'	17 38.2	28					Masked by microseisms.
		M Z'	41.5	19			3		USCGS: 39.1S, 91.8W, H 16 57 46.2,
									h 33 km.ca.
601	29	eL N'	04 42.4	25					Masked by large microseisms.
		M Z'	44.3	20			2		
		M N'	44.7	18	2				
602	29	(eP) Z'	09 07 43						Large microseisms on all records.
		(ePP) Z'	11 50						Large irregular long-period wanderings
		LR Z'	47.2	44			8		due to heavy rain & gale force winds
		LR N'	47.5	35	5				on L.P.
		M N'	51.2	25	4				USCGS: 39.6N, 74.2E, H 08 53 48.4,
		M Z'	52.3	23			5		h 31 km.ca.
		M E'Z'	55.3	23		5	7		
	29	i NEZ	12 03 16	0.5					Regional. Masked by microseisms.
603	29	ePP Z'	15 50 20	20			7		Confused by large microseisms and
		e Z'	59.3	30					overlapping of trace.
		ePS E'	59.9	25					
		iPS Z'	16 00 02	25			+27		USCGS: 7.1S, 81.6W, H 15 30 31.4,
		iPS N'E'	00 08	25	+23	-41			h 23 km.ca,
		ePPS Z'	01.4	32			18		
		ePPS E'	01.6	26		16			
		e N'E'	05.3	46	19				
		iSS E'	06 11	30		+33			
		iSS Z'	06 27	30			+37		
		iSS N'E'	06 37	25	+48	+86			
		eSSS Z'	10.2	33			10		
		eLR Z'	24.0	36					
		iLR E'	24.3	33		+26			
		LR N'E'Z'	25.0	33	28	50	83		
		M Z'	35.5	18			13		
		M Z'	41.0	15			22		

No.	Date	Phase & Component		Time (G.M.T.)	Por.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
604	Aug.29	(iP)	Z'	21 04 39				+		Confused by large microseisma and
		e	Z'	10 40	15					irregular long-period wanderings.
		e	E'	10 50	14		4			
		i(SSS)	N'	13 23	20	+10				USCGS: 15.5S, 172.9W, H 20 57 31.5,
		eL	Z'	14.6	?					h 33 km.ca.
		M	N'E'	17.7	13-18	6	8			
		M	Z'	18.0	18			11		
605	30	e	N'	14 05.4	17					Masked by large microseisms.
		eL	N'	06.7	17					USCGS: 23.4S, 175.4W, H 13 51 51.6,
		eL	Z'	06.9	22					h 33 km.ca.
		M	N'	09.6	13	3				
		M	E'Z'	09.8	17		4	5		
	31	(Pg)	EZ	06 21 11						Quarry blast.
		iSg	N	21 14.7	0.5	+0.08				
		i	EZ	21 15.0	0.3		-0.12	+0.11		
		m	N	21 17	0.7	0.44				
		M	EZ	21 19	0.7		0.23	0.27		
	31	(iP)	Z	21 31 27	1.0			+		Microseisms present. h 543 km.ca.
										USCGS: 21.5S, 179.2W, H 21 26 09.3,/
	Sept.2	i	E	01 44 45	0.5		+			Local.
	2	i	Z	01 56 36	0.3			+		Blasting ?
		m	EZ	56 37	0.5		0.06	0.04		
606	2	eL	Z'	15 02.1	27					(USCGS: 25.7N, 109.5W, H 14 10 44.7,
		eL	E'	02.2	27					h 33 km.ca.)
607	2	(iPP)	Z	22 42 55	0.7			+		Masked by microseisms.
		(eSS)	Z'	47 14	?					USCGS: 37.9S, 179.5E, H 22 37 22.0,
		eL	Z'	48.3	(25)					h 33 km.ca.
608	2	eL	Z'	24 24.1	25					USCGS: 45.4N, 150.8E, H 23 45 00.1,
										h 33 km.ca.
	3	i	NE	03 52 57	0.5	-	-			Regional ?
609	3	e	E'	04 00.9	16		1½			USCGS: 60.3S, 152.0E, H 03 49 42,
		eL	N'Z'	01.3	30					h 33 km.ca.
		LR	N'Z'	02.1	24	2		3		
	3	(Pg)	Z	06 01 28½						Quarry blast.
		iSg	NZ	01 31.6	0.5	-0.07		+0.03		
		m	NEZ	01 34½	0.6	0.06	0.04	0.11		
	3	i	E	06 27 20.7	0.4		+0.02			Quarry blast ?
		i	Z	27 21	0.5			+0.01		
		m	N	27 27	0.5	0.01				
		m	EZ	27 27½	0.7		0.02	0.03		
	3	(Pg)	Z	07 11 50						Quarry blast.
		iSg	EZ	11 53.5	0.4		+0.03	+0.04		
		m	N	11 56½	0.5	0.02				
		m	EZ	11 58	0.7		0.06	0.07		
610	4	eLR	Z'	05 18.3	28					Masked by microseisms.
		LR	N'Z'	19.0	28	3		5		
	4	i	EZ	06 20 54.7	0.4		-0.04	+0.04		Quarry blast.
		m	N	20 57	0.5	0.03				
		m	EZ	20 59	0.7		0.05	0.06		
611	4	M	Z'	06 28	23			1		Masked by microseisms etc. h 38 km.ca
										USCGS: 36.1N, 5.3E, H 05 06 47.0,/
612	4	(eL)	Z'	14 36.2	(45)					Masked by microseisms and long-period
		M	Z'	50.6	24			2		wanderings.
		M	Z'	15 05.5	22			3		USCGS: 71.4N, 73.3W, H 13 32 12.3,
		M	Z'	16.0	22			4		h 33 km.ca.
	5	Pg	Z	07 15 39.8						Quarry blast.
		iSg	NEZ	15 43.0	0.5	+0.04	+0.03	-0.03		
		m	N	15 45½	0.6	0.27				
		m	EZ	15 48	0.97		0.19	0.24		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
613	Sept.6	N'	01 58	Feeble surface waves.					USCGS: 19.3S, 176.9W, H 01 40 45.0, h 66 km.ca.
	6	e N	02 01 17½	0.5					Small local tremor.
		e NEZ	01 20	0.5					
		m NEZ	01 24	0.5					
614	6	eLR Z'	02 52.7	30					Masked by microseisms.
		LR Z'	53.5	30			3		
	6	m N	02 59 40½	0.6			0.04		Local.
615	6	e N'	06 29.7						Masked by microseisms and long-period wanderings.
		e N'Z'	33.5	16	1		1		
		(eG) E'	36.1	41		4			USCGS: 36.4N, 130.6E, H 06 03 52.1, h 33 km.ca.
		eLR Z'	38.9	41					
		M E'	40.3	23		2½			
		M N'Z'	41.6	25	1		2½		
	6	(iP) Z	08 18 49.8				+		Microseisms present. h 47 km.ca. USCGS: 6.1N, 126.2E, H 08 10 26.5,/
616	6	(eP) Z	10 21 37						Masked by microseisms. h 500 km.ca. USCGS: 24.0S, 179.9E, H 10 16 38.9,/
		e Z	21.44						
617	6	M N'Z'	12 26,0	25	½		1		Masked by microseisms. h 33 km.ca. USCGS: 55.4S, 128.4W, H 11 58 38.9,/
618	7	e Z'	01 46.6	15					Masked by microseisms and long-period wanderings.
		(eL) N'	50.4	?					
		eL Z'	51.9	44					USCGS: 36.4N, 130.6E, H 01 16 55.1, h 33 km.ca.
		M N'Z'	54.6	26	2		3		
		M E'	57.2	18		2			
619	7	M Z'	02 47.4	19			2		Masked by microseisms etc. h 33 km.ca. USCGS: 21.5S, 174.6W, H 02 29 38.3,/
	7	i N	03 02 41	0.5	-0.02				Quarry blast.
		m N	02 42	0.7	0.07				
		m EZ	02 44½	0.7		0.03	0.05		
	7	e Z	03 18 37						Quarry blast.
		e N	18 38½						
		m N	18 41½	0.7	0.11				
	7	e Z	05 52 33	0.5					Quarry blast.
		i E	52 33.8	0.5		+0.03			
		i N	52 36.3	0.5	+0.02				
		m N	52 38	0.7	0.06				
		m EZ	52 41	0.7		0.03	0.03		
620	7	M N'Z'	07 53.5	24	1		1		Masked by microseisms. h 33 km.ca. USCGS: 45.4N, 150.8E, H 07 13 39.9,/
621	7	(SS) E'	09 30.4						Masked by microseisms etc.
		(SS) N'	31.0	32					USCGS: 11.7S, 13.6W, H 08 50 57.5, h 33 km.ca,
		(LQ) N'	46.2	(42)					
		eLR Z'	52.5	41					
		M N'Z'	10 00.6	20	1		1		
622	7	iP Z	12 56 40.2	0.7			+0.03		Compression.
		eL N'	13 24.6	35					USCGS: 54.0N, 160.3E, H 12 44 01.1, h 110 km.ca.
		eLR Z'	25.1	32					
623	7	i(P) Z	13 50 28.8	0.9			-0.04		Dilatation. Masked by microseisms. USCGS: 7.1S, 148.1E, H 13 44 51.9, h 64 km.ca.
624	7	iP Z	19 33 32	0.7			+0.02		Compression. L.P. masked by microseisms.
		i Z	33 38½	0.8			+0.03		
		e E'	39 20	(16)					USCGS: 3.0S, 130.4E, H 19 26 29.3, h 33 km.ca.
		eL E'	43.3	(40)					
		eL N'	44.7	(34)					
		M E'	46.7	28		1			
		M N'Z'	48	22	2		1		
		M E'	50.1	18		1½			
		M N'Z'	52.6	16	2		3		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
625	Sept. 8	eP Z	00 53 18						Microseisms present.
		e E'	58 11						USCGS: 28.1S, 176.8W, H 00 47 27.7,
		e N'Z'	58 13	26	1		2½		h 57 km.ca.
		e N'	59 28	27	2½				
		eLR Z'	01 00.3	35					
		eLR E'	00.7	28					
		LR Z'	01.3	27			9		
		M N'	02.3	16	5				
		M E'Z'	03.8	17		10	17		
		M E'Z'	05.1	16		11	19		
	8	(P) Z	04 46 58						Microseisms present. h 550 km.ca.
									USCGS: 18.1S, 178.4W, H 04 41 20.0,/
626	8	iP Z	07 43 39.5	0.8			+0.02		Compression. Microseisms present.
									USCGS: 20.7S, 178.3W, H 07 38 14.9,
									h 573 km.ca.
627	8	e N'	09 29 08	13					Masked by microseisms.
		e N'	30 02	14					USCGS: 36.2S, 100.5W, H 09 06 16.0,
		e(SSS) Z'	37.8	20					h 33 km.ca.
		eL E'	44.6	30					
		eL N'	44.8	35					
		eLR Z'	45.0	40			1		
		M Z'	50.0	18			1½		
628	8	iP Z	13 12 03.5	1.2			+0.07		L.P. obscured by microseisms.
									USCGS: 30.3S, 177.9W, H 13 06 15.9,
									h 33 km.ca.
629	8	(i) Z	19 36 21½	1			-		Masked by microseisms.
		(iPP) Z	37 26½	1.2			+		USCGS: 21.9S, 174.6W, H 19 29 47.6,
		M E'Z'	47.6	20		1	2		h 33 km.ca.
630	8	eP Z	19 55 32½	0.7				3050	h 0.08 ca.
		iP E'Z'	55 33	6		+4	-12	27?4	Dilatation.
		iP Z"	55 33½	5			-5		
		i EZ	55 34.0	1.0		-0.06	+0.14		USCGS: 23.6S, 179.8E, H 19 50 29.8,
		m EZ	55 35½	1.4		0.22	0.82		h 550 km.ca.
		e Z'	58 07	(30)					
		iPcP Z'	58 35	9			-5		
		i Z"	58 43	5			+6		
		iS N'	59 35½	10	-12				
		i E'N"E"	59 37	5-7	-9	-5			
		iScP Z'Z"	20 01 28	6			-8		
		(PcS) Z'	02 16	11			5		
		i ! E'E"	02 25	17		+19			
		i ! N'Z'	02 32	18	+		-27		
		i E'	02 42	14		+14			
		i N'	02 53	15	+11				
		iScS E'	05 21	11		+11			
		i E"	05 23	6		+6			
		i N'	05 24	11	-8				
		i N"	05 26	9	+9				
		M E'	06.8	16		7			
		M Z'	07.5	16			9		
631	9	iP Z	00 24 12.8	0.8			+0.03		Compression. Microseisms present.
									USCGS: 22.6S, 179.5W, H 00 19 02.7,
									h 550 km.ca.
	9	i NE	02 01 03.7	0.4	-0.05	+0.02			Blasting ?
		i Z	01 04	0.4			+0.05		
		m E	01 05	0.5		0.05			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
632	Sept.9	iP Z	02 51 47.0	1.2			+0.15	3290	Compression.
		iP N'Z'N"Z"	51 49	12	-5½		+12	29°6	
		i Z	51 49.2	2.0			+1.87		USCGS: 4,4S, 152.7E, H 02 45 45.5,
		ipP N"Z"	51 57	4	-4		+10		h 34 km.ca.
		isP N"Z"	52 03½	4	+4		-5		
		i Z'	52 26	10			-5		
		ePP N'Z'	52 42	12	5		7		
		eS E'	56 39	(9)					
		isS E'	56 54	9		+12			
		i N8	56 57	18	+15				
		m N'Z'	57.4	20	20		12		
		iSS E'	58 12	12		+13			
		iSSS Z'	58 30	18			+15		
		eL E'	58.8	33		30			
		i N'	59 20	21	+19				
		eLR Z'	59.9	33					
		M E'	03 00.8	21		38			
		M N'	01.3	23	29				
		M Z'	01.7	22			45		
		M N'	03.8	16	36				
		M Z'	05.4	16			58		
633	9	iP Z	12 57 17.5	1.0			+0.06	2700	Compression.
		isP Z'	58 09	7			-4	24°3	h 0.02 ca.
		eS N'	13 01 22	8	3				USCGS: 14.7S, 167.4E, H 12 52 15.4,
		e Z'	01 37	10			2		h 182 km.ca.
		e E'	02 22	12		3			
		i Z'	02 34	7			-3		
		e N'	02 45	18	4				
634	9	eL Z'	21 23.4	24					Masked by microseisms. h 33 km.ca.
									USCGS: 31.7S, 178.4W, H 21 11 05.9,/
635	10	(eP) Z	01 14 49½						Masked by microseisms.
		e Z	15 02	1.0					
		e Z'	15 26	(7)					USCGS: 14.0S, 166.2E, H 01 09 47.0,
		i N'	19 31	13	+5				h 64 km.ca.
		i E'	19 33	12		+3			
		i Z	19 36	13			+4		
		(SSS) Z'	20 25	12			2		
		(SSS) N'	20 27	13	4				
		eL Z'	20.8	34					
		M E'	23.0	16		3			
		M N'Z'	24.2	15-17	4		3		
	10	i E	01 46 09.7	0.5		+			Blasting ?
	10	i NEZ	03 32 20.3	0.3	+0.03	+0.05	-0.03		Blasting ?
		m NEZ	32 21	0.4	0.14	0.08	0.08		
	10	iPg EZ	06 15 34.2	0.3		+0.02	+0.03		Compression. Quarry blast.
		iSg NEZ	15 38.0	0.3	+0.03	+0.09	-0.10		
		m N	15 40	0.7	0.06				
		m EZ	15 42½	0.7		0.12	0.14		
636	10	eP Z	19 20 04	1.2				2920	Microseisms present.
		e Z	20 17½	1.2				26°3	
		isP Z'	20 18	8			-3		USCGS: 19.0S, 175.8E, H 19 14 26,8,
		(ePcP) N'	23 29	6	1				h 33 km.ca.
		eS E'	24 32	8		2			
		e Z'	24 39	15					
		e(sS) E'	24 46	12					
		i E'	24 55	10		+4			
		SS N'	25 40	16	2				
		eL E'	25.8	30					
		eL N.	26.1	24	4				
		eLR E'Z'	27.1	31					
		LR E'Z'	27.6	30		6	10		
		M N'E'Z'	30.9	12-15	3	2	4		
		M E'Z'	36.1	19		4	6		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
637	Sept.11	eL E'	00 16.7	20					Confused by microseisms and long-period wanderings.
		M E'	19.3	20		3			
		M N'Z'	20.0	16	1½		3		
638	11	iP Z	00 59 00.2	0.8			+0.05		Compression. Microseisms present. USCGS: 4.1S, 151.8E, H 00 53 12.7, h 205 km.ca.
	11	i N	03 04 12.5	0.8	+0.05				
	11	i N	03 41 09.3	0.3	-				Blasting ?
		i Z	41 09.5	0.3			+		
		m EZ	41 12	0.4		0.07	0.06		
	11	iSg N	06 10 20.5	0.3	+0.06				Quarry blast.
		m EZ	10 21	0.3		0.11	0.06		
		m N	10 23	0.7	0.17				
		m EZ	10 25	0.7		0.08	0.10		
	11	e E	06 20 58	0.5					Local.
		m Z	20 59	0.7			0.04		
		m N	21 02	0.7	0.04				
639	11	P Z	09 06 33½						Microseisms present. L.P. confused by long-period wanderings.
		M E'	22.6	18		2			
		M N'	23.1	16	2				USCGS: 3.5S, 131.2E, H 08 59 37.6, h 33 km.ca.
		M Z'	23.3	17			2		
	11	e N	11 43 13	0.8					Regional ?
640	11	M N'	22 34.8	14	1				Confused by microseisms etc.
		M E'Z'	36.0	16		1	2		USCGS: 33.1S, 178.2W, H 22 20 26.6, h 21 km.ca.
	12	i E	01 52 21.5	0.5		+			Blasting ?
		m NE	52 23½	0.4	0.14	0.06			
641	12	iP EZ	03 16 31.5	1.5		+0.16	-0.52		Dilatation. L.P. masked by microseisms and long-period wanderings.
		i E	16 34.2	1.3		+0.13			
		i Z	16 34.3	1.5			+0.40		
		e Z'	16 35	9			6		USCGS: 22.5S, 170.7E, H 03 11 53.9, h 54 km.ca.
		e E'	18.16	18					
		e N'	20 36	27					
		e Z'	20 39	19			3		
		i E'	20 40	7					
		eLR Z'	21.4	29					
		eLR E'	21.5	26					
		M Z'	23.4	18			12		
		M E'	23.5	17		9			
		M N'	23.6	16	5				
	12	i N	04 48 49.7	0.3	+0.06				Blasting ?
		i EZ	48 50	0.3		+0.05	+0.05		
	12	i(Sg) N	06 23 54.7	0.5	+0.02				Quarry blast.
		i EZ	23 55	0.5		+0.04	+0.03		
		m N	23 59	0.7	0.13				
		m EZ	24 01½	0.7		0.04	0.06		
	13	i NE	01 10 16.9	0.3	+0.07	+0.07			Blasting ?
		i Z	10 17.2	0.5			+0.02		
	13	i NE	01 11 05.0	0.3	+0.05	+0.06			Blasting ?
		i Z	11 05.2	0.5			+0.02		
	13	i NE	01 57 03.7	0.3	+0.08	+0.07			Blasting ?
		i Z	57 04	0.4			+0.05		
	13	e N	02 01 46½	0.5					Local.
		i E	01 49.3	0.3		+0.03			
		i NZ	01 49.4	0.5	+0.02		+0.02		
		i NZ	01 52.0	0.5	+0.02		+0.03		
		i E	01 52.7	0.5		+0.02			
	13	e NZ	03 29 50½	0.5					Local.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Sept.13	i N	03 30 11.5	0.5	+0.05				Quarry blast ?
		i E	30 11.6	0.5		+0.04			
	13	(e) N	05 55 03						Quarry blast ?
		i N	55 06.7	0.7	+0.03				
	13	iSg N	06 49 49.4	0.5	-0.05				Quarry blast.
		i EZ	49 49.8	0.4		-0.06	+0.07		
		m N	49 52	0.7	0.18				
		m EZ	49 54	0.7		0.07	0.08		
642	13	eL E'Z'	21 23.4	22					Masked by microseisms.
		M N'	25.1	15	1				USCGS: 33.3S, 178.1W, H 21 10 56,
		M E'	26.0	17		2			h 33 km.ca.
		M Z'	26.2	17			4		
643	13	e E'	23 43.6	10					Masked by microseisms.
		eL Z'	45.1	29					USCGS: 31.3S, 179.3W, H 23 33 32.9,
		eL E'	45.2	30					h 16 km.ca.
		M N'	47.8	14	3½				
		M Z'	49.2	16			4		
		M E'	50.6	15		3½			
644	14	e Z	00 22 51						Masked by microseisms.
		e Z'	28.7						USCGS: 3.5S, 131.2E, H 00 15 45.2,
		eL N'E'	34.3	28					h 33 km.ca.
		M N'E'Z'	38.7	22	2	3	3		
645	14	eP Z	00 43 35½	1.3					L.P. confused by coda of no.644.
		eL Z'	49.7	29					USCGS: 31.3S, 179.1W, H 00 38 07.5,
		M Z'	53.8	16			6		h 33 km.ca.
	14	i E	01 43 22.2	0.4		+0.02			Blasting ?
		i Z	43 22.4	0.4			+0.02		
		i N	43 22.7	0.4	+0.11				
646	14	(eP) Z	03 08 01½						Masked by microseisms.
		e Z	08 04½	1.0					
		eL Z'	12.3	20					
		T Max. E	26 40	0.6		0.03			
		T Max. N	26 43	0.6	0.02				
		T Max. Z	26 45	0.6			0.03		
	14	iSg N	03 15 36.8	0.5	+0.01				Quarry blast.
		i EZ	15 37.2	0.5		+0.01	+0.01		
		m N	15 39½	0.7	0.08				
		m EZ	15 42	0.7		0.03	0.03		
	14	e NZ	03 47 16½						Quarry blast.
		m N	47 18½	0.7	0.05				
647	14	eP Z	03 57 43	1.8					L.P. masked by microseisms.
		m EZ	57 46	1.4		0.08	0.18		
		i Z'	57 48	5			+5		USCGS: 31.4S, 179.0W, H 03 52 16.9,
		i Z'	58 12	7			+7		h 33 km.ca.
		e E'	58 15	13		3			
		e Z'	14 02 09	16					
		eS N'E'	02 12	10	3	2½			
		m E'Z'	02.4	13		7	8		
		i N'	02 53	18	-21				
		eLR E'Z'	03.9	30					
		LR E'Z'	04.6	29		13	21		
		M N'	05.3	16	26				
		M N'	06.2	14	31				
		M E'Z'	07.9	17		14	27		
	14	i N	05 38 13.7	0.3	+0.06				Blasting ?
		i E	38 13.8	0.3		+0.05			
		i Z	38 14.2	0.3			+0.03		
	14	(P) Z	07 25 41						Masked by microseisms.
									USCGS: 19.0N, 145.0E, H 07 17 18.5,
									h 610 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
648	Sept.15	eP NEZ	00 52 33	3				(2980)	
		iP N'E'Z'N"E"Z"	52 35	10	-65	-38	+	(26?8)	Compression. After P, L.P. and Galitzin records indecipherable.
		i NEZ	52 40½	1.3	-0.24	-0.24	+1.0		
		i NEZ	52 43½	1.2	+0.36	+0.36	-1.14		
		i(sP) Z	52 50	1.2			+1.21		USCGS: 10.3S, 165.6E, H 00 46 54.1, h 43 km.ca.
		e(S) N	57 05	6					
		M N	01 02.8	12					
		M NE	06.0	9					
		M EZ	07.3	10					
649	15	iP Z	02 03 16.2	1.3			-0.11		Dilatation.
		m Z	03 21	1.3			0.34		USCGS: 9.4S, 167.0E, H 01 57 24, h 33 km.ca.
		ipP Z	03 25	1.3			+0.17		
	15	(eP) Z	04 56 05						Masked by microseisms. USCGS: 10.2S, 165.3E, H 04 50 21.5, h 31 km.ca.
	15	(eP) Z	06 21 04						Masked by microseisms. h 28 km.ca.
		i Z	21 08				+		USCGS: 10.2S, 165.4E, H 06 15 21.7,/
650	15	(eP) Z	08 36 38						Masked by microseisms. h 33 km.ca.
		M Z'	47.7	16			1		USCGS: 30.4S, 179.3W, H 08 31 10,/
651	15	e Z	09 13 37						Masked by microseisms.
		e N'	17 57	11					USCGS: 13.8S, 166.4E, H 09 08 09.1, h 36 km.ca.
		e(L) E'	20.0	(26)					
		M Z'	22.9	17			1		
652	15	(P) Z	11 05 26						Masked by microseisms.
		eL N'	11.4	(22)					USCGS: 17.1S, 173.8E, H 10 59 47.7, h 33 km.ca.
		M Z'	12.9	22			3		
653	16	e Z	01 55 03						Masked by microseisms.
		e(L) Z'	02 01.4						USCGS: 10.2S, 165.3E H 01 49 13.7, h 33 km.ca.
	16	i Z	03 19 57.7	0.3			+0.03		Blasting ?
		i E	19 57.8	0.3		-0.06			
		i N	19 58.0	0.3	+0.05				
		m NEZ	19 59	0.4	0.15	0.10	0.08		
	16	i Z	05 12 45.3	0.3			+		Blasting ?
		i N	12 45.5	0.3	+				
		m NE	12 46	0.3	0.11	0.09			
	16	i Z	06 07 19½	?					Quarry blast.
		i N	07 20½	0.4	-				
		m N	07 21½	0.6	0.08				
	16	i N	o6 16 22						Quarry blast.
		m N	16 23½	0.7	0.06				
654	16	eP Z	20 10 43						Confused by microseisms.
		i Z	10 55	1.3			-0.24		
		i Z	11 19	1.8			+0.48		USCGS: 13.4S, 166.5E, H 20 05 21.9, h 28 km.ca.
		e(S) N'	15 04	14					
		e(S) E'	15 11	14					
		i N'	15 12	14	+6				
		i E'Z'	15 17	14		+4	+7		
		e(LQ) N'	16.1	20	4				
		eLR Z'	17.4	26			7		
		M N'	19.8	17	5				
		M Z'	20.1	17			11		
		M E'	20.3	16		6			
	17	i E	03 00 30.2	0.3		+o.06			Blasting ?
		i N	00 30.7	0.3	+0.15				
		m NEZ	00 31	0.3	0.16	0.12	0.07		
	17	i E	03 01 39.2	0.3		+0.05			Blasting ?
		i N	01 39.6	0.3	+0.11				
		m NEZ	01 40	0.3	0.13	0.12	0.07		
	17	m NE	05 20 48	0.6	0.02	0.05			Local.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
655	Sept.17	(PKP) Z	06 13 06						Masked by microseisms.
		e(PS) N'E'	24.2	26	1	1			USCGS: 10.6S, 78.2W, H 05 54 33.7,
		eSS E'Z'	30.3	32		1½	1½		h 61 km.ca.
		eSS N'	30.5	32	1				
		e Z'	38.4	(32)					
		eLR Z'	48.2	30					
	17	(Pg) E	06 21 27.3						Quarry blast.
		iSg N	21 31.1	0.3	-0.06				
		i E	21 31.3	0.3		+0.15			
		i Z	21 31.5	0.3			-0.10		
		m N	21 33½	0.6	0.18				
		m EZ	21 36	0.7		0.18	0.21		
	17	m N	06 28 26½	0.7	0.03				Quarry blast ?
	17	e N	06 45 11	0.5					Local or regional ?
656	17	eP Z	19 25 51	2					
		iP N'E'Z'	25 52	9	+8½	+6½	-22		Dilatation.
		i Z	25 58½	2			+4.23		USCGS: 10.1S, 165.3E, H 19 20 08.2,
		m NEZ	26 03	1.5	1.04	1.04	4.44		h 17 km.ca.
		m N'E'Z'	26.1	9	115	77	190+		After P, L.P. and Galitzin records
		(PP) Z'	26 31	15			54ca.		difficult to read owing to traces
		(PPP) E'	26 41	18		54			overlapping.
		i Z	28 55½	1.3			+0.59		2nd shock ?
		i Z	28 58	1.1			+0.54		
		m Z	29 00	1.1			0.95		
		i E'	29 53	10		+60			
		i(S) N'	30 20	14	+51				
		i(S) E'	30 22	14		+91			
		F	23.5						
657	17	iP Z	20 03 22	1.3			+0.17		L.P. obscured by coda of no.656.
									USCGS: 10.1S, 165.0E, H 19 57 40.3,
									h 36 km.ca.
658	17	iP Z	20 06 39½	1.2			-0.15		L.P. obscured by coda of no.656.
									USCGS: 9.9S, 164.7E, H 20 00 56.6,
									h 33 km.ca.
659	17	iP Z	22 34 13	1.3			+		L.P. obscured by coda of no.656.
		m Z	34 14½	1.3			0.31		USCGS: 10.2S, 165.1E, H 22 28 29.6,
									h 33 km.ca.
	18	e NE	01 13 18	0.2					Blasting ?
660	18	(eP) Z	02 01 32						Masked by microseisms. h 28 km.ca.
		e(L) Z'	08.7						USCGS: 10.7S, 165.1E, H 01 55 46.2,/
	18	i N	02 11 07.3	0.3	+0.04				Blasting ?
		m NZ	11 08	0.3	0.06		0.05		
	18	e N	04 39 46						Blasting ?
		m NEZ	39 46½	0.3	0.06	0.05	0.05		
	18	e NEZ	05 24 01	0.3					Blasting ?
	18	i N	05 48 09.8	0.4	+0.04				Blasting ?
		m EZ	48 11	0.4		0.04	0.04		
	18	m N	06 02 42	0.5	0.03				Blasting ?
661	18	e Z'	06 37.4	16					Masked by microseisms.
662	18	eL Z'	06 59.9	25					Masked by microseisms.
		M Z'	07 01.6	20			3		
		M E'	01.8	18		2			
663	18	i(PKP) Z	17 17 41.7	1.3			+0.19		Compression. Microseisms present.
		e Z'	32.1	20					
		e Z'	34.2	30					USCGS: 40.9N, 29.2E, H 16 58 12.5,
		eLQ N'	56.2	50					h 33 km.ca.
		eLR Z'	18 01.6	(48)					
		M N'	14.6	22	2				
		M E'Z'	16.8	20		4	6		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
664	Sept.18	M N'E'	20 56.3	16	1	2			Masked by microseisms. h 32 km.ca. USCGS: 3.8S, 134.7E, H 20 37 52.1,/
	18	i Z	22 43 35				+		Blasting ?
		i N	43 35½	0.3	-				
		m NEZ	43 36½	0.3	0.10	0.05	0.05		
	19	e NEZ	02 14 35.7	0.3					Blasting ?
		m N	14 36½	0.3	0.09				
	19	i NZ	03 19 17.5	0.4	+				Local.
		i N	19 38.2	0.6	+0.09				
		m NEZ	19 39	0.6	0.11	0.03	0.05		
	19	m E	04 17 11	0.6		0.03			Local.
		m NZ	17 12	0.6	0.03		0.05		
	19	i NZ	05 59 46½	0.3			+0.04		Blasting ?
	19	i EZ	06 20 35.5	0.5		+0.03	+0.03		Quarry blast ?
		i N	20 36.5	0.7	+0.08				
		m N	20 37½	0.7	0.10				
		m EZ	20 39½	0.7		0.05	0.08		
	19	e NZ	22 27 32½	0.3					Blasting ?
		m NZ	37 33½	0.3	0.09		0.06		
	20	e EZ	00 57 57½						Blasting ?
		i N	57 58	0.3	-0.05				
	20	i NZ	01 44 36	0.3	+0.04		+0.04		Blasting ?
	20	i N	01 52 24½	(0.5)	-				Local ?
	20	e NE	04 32 35	0.3					Blasting ?
		i Z	32 36	0.3			+		
	20	e NEZ	06 12 31	0.3					Blasting ?
	20	e EZ	06 26 13						Quarry blast ?
		m N	26 17	0.7	0.06				
665	20	iP Z	19 09 58.7	1			-0.10		Dilatation. Microseisms present. USCGS: 1.6N, 127.1E, H 19 02 15.5, h 97 km.ca.
	20	e NEZ	22 20 19½	0.3					Blasting ?
	21	e NZ	00 57 50	(0.3)					Blasting ?
	21	e NEZ	01 36 11	0.3					Blasting ?
	21	e EZ	02 06 05½	0.5					Quarry blast ?
		m N	06 10	0.7	0.07				
		m EZ	06 13	0.7		0.06	0.08		
	21	(Pg) E	03 34 34						Quarry blast.
		eSg N	34 37.2						
		i E	34 37.4	0.4		0.05			
		i Z	34 37.5	0.4			+0.05		
		m N	34 40	0.6	0.04				
		m EZ	34 42	0.7		0.08	0.09		
	21	e NEZ	04 03 47.2	0.3					Blasting. h 47 km.ca.
666	21		04.3	Feeble surface waves on L.P.					USCGS: 0.0°, 119.7E, H 03 55 26.6,/
	21	e(Pg) Z	05 01 34	0.4					Quarry blast.
		i E	01 34.5	0.5		+0.02			
		iSg NE	01 39.2	0.5	+0.02	+0.02			
		i Z	01 39.8	0.6			-0.05		
		i N	01 42.5	0.7	+0.07				
		m N	01 44½	0.7	0.24				
		m EZ	01 47	0.7		0.11	0.16		
	21	e NEZ	05 37 43½	0.3					Blasting ?

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
667	Sept.22	eL N'	02 29.3	25					USCGS: 16.3S, 178.5E, H 02 16 08.6,
		M E'Z'	31.0	24		1	2		h 33 km.ca.
668	22	eP Z	03 01 59					3120	Microseisms present.
		e Z'	02 08	8				2891	
		m E'Z'	02.3	9		2	5		
		i Z	02 25½	1.3			+0.21		
		ePP E'Z'	02 49	9		4	4		-- e Z' 03 06 31 per.18s, 4μ
	--	iS N'E'	06 40	10	+4	+4			
		i E'	06 52	10		+7			
		e N'	07 26	10	2				
		e N'	07 35	17	4				
		e(L) N'	08.0	28					
		eL Z'	08.5	27					
		eLR N'E'	09.1	30	8	15			
		LR Z'	09.5	30			20		
		M N'E'	11.1	16	5	4			
		M Z'	12.9	15			7		
		M E'	18.1	20		7			
		M Z'	18.4	20			12		
669	22	eP Z	19 27 36	?					Microseisms present.
		eP Z'	27 37	?					
		e Z'	28 17	13					USCGS: 19.2S, 175.9E, H 19 21 57.1,
		e E'	28 25	?					h 24 km.ca.
		i Z'	32 11	9			+3		
		eS N'	32 14	(10)					
		e E	32 18	11		3			
		e N'	33 08	14	2				
		e(LQ) N'	33.6	21					
		eLR Z'	34.5	30			4		
		eLR E'	34.7	30		2			
		M N'E'Z'	36.5	17	1	2	3		
	23	e N	00 30 57½						Blasting ?
		i EZ	30 57.8	0.4		+0.03	+0.03		
		m Z	30 58½	0.4			0.04		
	23	(P) Z	00 33 35						Microseisms present.
	23	iSg N	06 23 49.7	0.5	-0.03				Quarry blast.
		i E	23 50.2	0.5		+0.02			
		i Z	23 50.4	0.5			+0.05		
		m N	23 52	0.6	0.25				
		m EZ	23 55	0.7		0.04	0.09		
670	23	eL Z'	07 31.2	?					Masked by microseisms.
		M Z'	34.3	23			2½		USCGS: 16.6S, 28.6E, H 06 40 36.5,
		M Z'	39.3	19			3½		m 33 km.ca.
	23	e NE	08 22 50	0.5					Local.
671	23	(ePS) N'E'	09 29.9						Masked by microseisms.
		eSS N'E'	36.0	(32)					
		eSSS E'	39.6	26					USCGS: 16.6S, 28.8E, H 09 01 56.8,
		e Z'	40.0	17					h 33 km.ca.
		e E'	43.0	27					
		eLQ N'	46.8	44					
		eLR E'	52.1	36					
		eLR Z'	52.8	30					
		M N'E'	54.5	25	2½	2			
		M Z'	55.6	22			9		
	24	i NZ	03 47 41.7	(0.5)	+		+		Local? Superposed on large microseisms.
672	24	(ePP) Z'	16 49 51						S.P. obscured by large microseisms.
		(ePP) E'	49 53						L.P. confused by microseisms and
		ePP N'Z'	50 13	25			5		long-period wanderings.
		e(SKS) E'	55 39	?					
		e(SKS) N'	55 47	?					USCGS: 16.0S, 78.0W, H 16 30 16.0,
		e Z'	58.7	40					h 80 km.ca.
		ePS E'	59 33	(30)					

Continued on next page.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
672 cont.	Spt.24	i N'E'	16 59 58	30	+11	-15			
		PPS Z'	17 00 50	38			9		
		e E'	01.3	40		5			
		e(SS) E'	05.2	(34)					
		eSS Z'	06.0	38					
		i E'	06 03	30		+13			
		m N'E'	06.5	40	15	19			
		m Z'	07.0	30			9		
		e E'	09.0	60					
		e Z'	09.2	62					
		m Z'	14.3	40			10		
		e Z'	16.6	56					
		eLR N'	23.3	34					
		eLR E'	23.5	34					
		LR N'E'	24.4	32	11	12			
		LR Z'	24.5	32			21		
		M Z'	26.0	28			23		
	24	i NE	23 17 32						Quarry blast. Masked by large microseisms.
		m NE	17 34	0.5		0.33	0.26		
673	25	e Z'	04 00.7	?					Masked by microseisms.
		eL Z'	07.8	26					
		M N'	08.8	22	½				
		M E'Z'	09.2	22		1	3½		
674	25	eL Z'	05 38.9	29					Masked by microseisms.
		M Z'	40.5	21			2		
675	25	eLR Z'	07 53.5	33					Masked by microseisms.
		M E'	56.0	27		1			USCGS: 16.7S, 28.7E, H 07 03 54.6, h 33 km.ca.
		M N'	56.4	25	1				
		M Z'	56.8	24			3		
676	25	(P) Z	14 06 32½						Masked by microseisms.
		e(S) E'	11 08						
		e N'	11 20	18					USCGS: 10.2S, 164.6E, H 14 00 54.6, h 33 km.ca.
		e(LQ) N'	12.0	23					
		eL Z'	13.2	29					
		eL E'	13.5	26					
		M N'	15.3	15	1				
		M E'	15.7	15		1			
		M Z'	16.5	20			1		
677	25	e N'	15 00 46						Masked by microseisms.
		e E'	00.9						
		eLQ N'	01.4	25	3				USCGS: 10.1S, 164.5E, H 14 50 18.2, h 33 km.ca.
		eL E'	01.5	24					
		e Z'	01 35						
		eL Z'	02.6						
		M N'	04.2	15	2½				
		M E'	05.0	14		2			
		M Z'	05.9	18			2		
678	25	N'	16 30	Feeble long waves.					
	26	e NE	02 05 56	0.5					Quarry blast ?
		i N	05 59.2	0.7	+0.11				
		m N	06 00	0.7	0.13				
679	26	(i) Z	05 41 12½				+		Masked by microseisms.
		e Z'	52.0	20					
		e(SS) Z'	57.5	23					USCGS: 50.4N, 176.9W, H 05 28 07.3, h 33 km.ca.
		eLR Z'	06 08.5	40					
		M Z'	12.5	21			1		
	26	e Z	06 01 07	0.5					Quarry blast ?
		i N	01 09.6	0.5	+0.04				
		i E	01 10.6	0.5		+0.14			
		m E	01 11	0.5		0.19			
		i Z	01 12.3	0.6			-0.18		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Spt.26	Pg	EZ	06 48 09.3	0.3		(-)	(-)		Quarry blast.
		iSg	N	48 12.7	0.4	-0.06				
		i	E	48 12.9	0.3		+0.15			
		i	Z	48 13.0	0.4			-0.09		
		m	N	48 15	0.6	0.36				
		m	EZ	48 17	0.7		0.16	0.19		
680	26	eL	Z'	06 55.3	22					Masked by microseisms.
681	26	eLR	Z'	20 51.8	32					Masked by microseisms.
		M	E'	54.0	20		2			USCGS: 3.3S, 141.9E, H 20 35 54.3,
		M	N'	54.4	20	1				h 33 km.ca.
		M	Z'	56.1	16			3		
	27	i	E	01 06 54.5	?		+			Local.
		i	Z	06 58	0.3			-		
		i	N	07 01.4	0.4	+0.04				
		i	E	07 01.5	0.4		+0.04			
		m	EZ	07 05	0.6		0.04	0.04		
	27	e	NZ	04 01 25½	0.7					Regional.
		m	N	01 46	0.8	0.05				
		m	E	01 51	0.8		0.05			
682	27	e(PP)	E'	10 34 39						Masked by microseisms.
		eL	N'	39.6	23					Z' lines overlapping.
		eL	E'	39.8	25					USCGS: 17.1S, 174.6E, H 10 28 04.1,
		M	E'Z'	41.5	23		3	7		h 33 km.ca.
		M	N'E'	42.6	15-18	3	3			
683	27	e(P)	Z	11 13 30	0.8					Masked by microseisms.
		i(S)	N'	20 37	13	-2				USCGS: 11.3N, 126.0E, H 11 04 17.3,
										h 17 km.ca.
684	27	e(P)	Z'	11 31 32	9			3		Confused by coda of no.683.
		e	Z'	32 21	14			4		
		e	Z'	36.3	20			4		USCGS: 17.2S, 174.7E, H 11 25 53.6,
		i	E'	36 22	12		+5			h 33 km.ca.
		eL	E'	37.4	30					
		i	N'	37 49	23	-10				
		iL(R)	E'	38 40	24		+10			
		L	E'Z'	39.2	26		12	19		
		M	E'Z'	40.2	19		12	14		
		M	N'	40.6	14	11				
	28	i	NEZ	00 07 37.5	0.3	+0.03	+0.04	+0.05		Blasting ?
685	28	(P)	Z	00 39 12						Masked by microseisms.
		e	N'	43 43	8					
		e	E'	43 44	8					USCGS: 49.8S, 125.9E, H 00 33 55.1,
		e	Z'	43 45	13			2		h 33 km.ca.
		(eL)	N'	45.2	?					
	--	M	E'	46.5	15		5			-- eLR Z' 00 45.7 Per. 30s
		M	N'	46.7	19	5				
		M	Z'	47.2	19			7		
	28	i	N	05 38 35.9	0.5	+0.01				Quarry blast ?
		i	N	38 39.3	0.5	+0.03				
		m	N	38 41	0.7	0.10				
686	28	iP	EZ	07 02 53.2				+	2660	Compression. L.P. masked by micro-
		m	Z	02 54½	1.3			0.36	23°9	seisms.
		e	E'	05 04	(15)					h 0.06 ca.
		e	Z'	05 11	14					
		i(PcP)	Z	06 17½	0.7			-0.03		USCGS: 31.5S, 179.6E, H 06 58 12.7,
		eS	NE	06 38½	1.4					h 457 km.ca.
		e	Z'	06 39	(12)					
		e	N'	06 39½	?					
		e	N'	08 38	14					
		e(ScP)	Z	09 10½	1					
		e	Z'	09 31	?					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
687	Spt.28	iP Z	18 51 55.3	0.7			-0.04		Dilatation.
		eL Z'	19 10.5	31					USCGS: 3.5S, 102.0E, H 18 42 25.2, h 29 km.ca
	29	e N	00 05 06	0.5					Local. Seismic ??
688	29	iL E'	03 07.2	20		-9			USCGS: 62.0S, 163.5E, H 02 55 05, h 33 km.ca.
		eL N'Z'	07.4	20	4				
		iL N'Z'	08.4	26	+6		+10		
		M E'	09.1	21		4			
		M N'Z'	09.4	22	6		12		
	29	e (T) N	04 57 23	0.5					
	29	e N	09 14 32	0.6					Regional ? or T waves ??
689	29	iP Z	19 43 21.3	0.75			-0.03	5200	Dilatation.
		e(pP) Z'	43 40	15				46?8	h 0.01 ca.
		i(sP) Z	43 54.5	0.75			+0.02		USCGS: 6.0N, 125.3E, H 19 35 01.6, h 117 km.ca.
		i(PcP) Z	44 53.5	0.75			+0.02		
		iPP Z	45 16.5	1.5			+0.08		
		e Z'	45 39	25					
		e N'	45 40						
		eS N'	50 03	15					
		eS E'	50 05	13					
		e Z'	50 48	34					
		e N'	50 51	27					
		e(SS) E'	53 36	13		1½			
		e(SS) N'	53 38	14	1½				
		e Z'	53 48	17			2½		
		e N'	54 05	11	1½				
		e E'	54 21	(14)					
		eLR N'	57.3	48					
		eLR Z'	57.4	48					
		eL E'	57.7	44					
		M E'	20 02.7	24		1½			
		M N'Z'	04.4	19	1½		3		
690	29	e Z'	23 14 14	16					USCGS: 14.4N, 91.9W, H 22 44 02.9, h 61 km.ca.
		eL Z'	40.2	30					
		M Z'	48.2	18			1		
	30	i Z	01 19 11.8	1.2			+		Microseisms present. h 97 km.ca.
		i Z	19 57	1.2			-		(USCGS: 7.0S, 130.3E, H 01 12 28.6,/
	30	i NE	02 00 44	0.4	+	+			Blasting ?
	30	iPg EZ	06 41 31.2	0.3		+0.04	+0.06		Quarry blast.
		i(Sg) N	41 34.8	0.3	+				
		i E	41 35.2	0.3		+0.11			
		i Z	41 35.3	0.3			+0.18		
		m N	41 38	0.6	0.05				
		m EZ	41 39½	0.7		0.15	0.20		
691	30	(iP) Z	09 01 45½						Masked by microseisms.
		e(L) N'	16.7	(16)					USCGS: 1.3S, 128.5E, H 08 54 15.0, h 30 km.ca
		eL N'	18.5	22					
		M N'E'Z'	22.3	15	1	1	2		
692	30	eL E'	15 57.6	34					Masked by microseisms.
		eL N'	58.7	28					USCGS: 2.2S, 134.1E, H 15 40 46.3, h 135 km.ca.
		M E'	16 03.0	14		1½			
		M N'	03.3	14	3				
		M Z'	03.5	15			7		

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
693	Oct. 1	iP Z	03 14 43½	0.7			-0.06		USCGS: 14.5S, 167.5E, H 03 09 40.0, h 170 km.ca.
	1	e Z	03 43 23						Local. Blasting ?
		i EZ	43 26½	0.4		+0.02	+0.03		
	1	i E	04 51 44.7	0.5		+0.02			Local or regional.
		e Z	51 45						
		i NZ	51 53	0.4	+0.03		+0.04		
	1	(e) Z	06 03 20						Quarry blast ?
		m N	03 25½	0.7	0.03				
		m EZ	03 28	0.7		0.04	0.04		
	1	i Z	06 45 50.3	0.4			+0.02		Quarry blast ?
		m N	45 53½	0.5	0.01				
		m EZ	45 54½	0.6		0.02	0.02		
694	2	e N'	03 42 02	?					Masked by microseisms.
		eLR N'	44.9	31	2				USCGS: 5.4S, 152.0E, H 03 31 27.0,
		eLR Z'	45.1	31			5		h 65 km.ca.
		M N'E'	47.0	20	3	3			
		M Z'	47.3	20			5		
695	2	e(P) Z'	05 53 44						Masked by microseisms.
		e(S) N'	59 06						USCGS: 20.8S, 174.1W, H 05 47 05.5,
		e Z'	59.4	15			2		h 33 km.ca.
		e(LQ) N'	06 01.2	24					
		e Z'	01.9	15			3		
		eL Z'	03.0	26					
		M N'	04.0	15	6				
		M W'Z'	05.1	20		7	13		
	2	ePg EZ	06 02 23½	0.3					Quarry blast.
		iSg N	02 27.3	0.4	+0.04				
		iSg EZ	02 27.4	0.4		+0.06	-0.08		
		m N	02 30	0.6	0.12				
		m EZ	02 32	0.7		0.14	0.16		
	3	m N	06 26 43½	0.7	0.05				Quarry blast ?
	3	(Pg) Z	06 36 40½						Quarry blast.
		iSg N	36 44½	0.6	+0.07				
		i EZ	36 45	0.6		+0.04	+0.05		
		m N	36 47	0.7	0.47				
		m EZ	36 49	0.7		0.10	0.16		
	3	iPg EZ	06 53 49.2	0.3		+	+		Quarry blast.
		iSg N	53 52.8	0.4	+0.09				
		i EZ	53 53.1	0.4		-0.09	+0.09		
		m N	53 55½	0.6	0.36				
		m EZ	53 57	0.7		0.10	0.13		
696	3	eL Z'	06 58.3	24					USCGS: 3.4S, 135.7E, H 06 38 32.2,
		M N'Z'	07 00.1	14	2		3		h 78 km.ca.
697	3	(P) Z	16 01 05						Masked by microseisms.
		e Z'	01 08	?					USCGS: 58.5S, 25.1W, H 15 48 17.2,
		e(PPS) N'	13 16	16					h 54 km.ca.
		e N'	18 12	14					
		eLQ E'	24.1	29		2			
		eL E'	29.2	30					
		eLR Z'	30.6	30					
		M E'	39.0	20		1½			
		M N'Z'	40.6	18	3		5		
698	3	(P) Z	23 35 39½						Masked by microseisms.
		i(pP) Z'	35 44	10			+4		USCGS: 32.2N, 131.6E, H 23 24 34.7,
		ePP Z'	38 13	14			1		h 33 km.ca.
		iS N'E'Z'	44 35	20	-6	-2½	-4		
		e Z'	45 09	26					
		ePPS N'	45 15	26					
		i E'	45 36	21		-6			

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
698 cont.	Oct. 3	i E"	23 45 41	10		+8			" from Galitzin.
		m N'	45.7	26	10				
		e Z'	51.6	22			3		
		eSSS E'	52 10	22		6			
		i Z'	52 23	21			-5		
		eLQ E'	53.9	45		7			
		M E'	59.3	24		6			
	4	M N'Z'	00 00.0	26	6½		10		
		e(W2) Z'	01 54.5	22					
		M Z'	59	22			2		
699	4	eP Z'	02 54 07	7					Confused by microseisms.
		e E'Z'	59.7	20					USCGS: 20.7S, 174.0W, 02 47 32.1,
		e N'	03 01 28	16					h 33 km.ca.
		eLR E'Z'	03.6	26					
		M N'	04.6	17	3				
		M E'Z'	05.5	19		6	10		
	4	Sg N	06 04 17½	0.5	0.02				Quarry blast.
		ø N	04 20½	0.6	0.15				
		ø EZ	04 22½	0.7		0.13	0.13		
	4	i E	06 15 24½	0.3		+0.04			Quarry blast ?
		i NZ	15 15½	0.3	+0.04		-0.06		
700	5	e N'	02 11.1	20					Masked by microseisms.
		eL E'	12.6	32					USCGS: 16.0S, 173.2W, H 01 55 35.2,
		eL Z'	13.0	(30)					h 79 km.ca.
		M E'Z'	14.5	20		2	3		
	5	iP NZ	04 13 26.6	0.5	-		+0.04		Local.
		i Z	13 29.1	0.5			+0.03		
		(S) NE	13 46	0.5	0.02	0.02			
		m NE	13 48	0.6	0.14	0.12			
	5	i N	04 14 23	0.5					Local.
		m NZ	14 28	0.6	0.29		0.05		
701	5	(e) N'	05 31.3						Masked by microseisms.
		(eL) E'	32.3						USCGS: 15.9S, 173.2W, H 05 15 32.4,
		eL Z'	33.2	28					h 33 km.ca.
		M E'	34.4	19		1			
		M Z'	36.4	16			1		
702	5	(i) Z	15 17 18				+		Masked by microseisms.
		e E'	25.4	?					USCGS: 11.6N, 42.8E, H 14 57 47.4,
		e(PS) Z'	26.8	?					h 33 km.ca.
		eSS N'	32 43	22	1				
		e E'	33.0	30		1			
		e(SSS) E'	37.1	30		1			
		eLQ N'	43.3	40					
		eL N'	45.4	45	2				
		eLR E'	50.0	38					
		eLR Z'	50.2	36					
		LR E'Z'	52.0	31		2	3		
		M N'	56.2	21	2				
		M N'E'Z'	59.7	21	1	2	5		
703	5	eL Z'	18 11.3	25					Masked by microseisms.
		M E'Z'	20.2	20		½	1		(USCGS: 16.9S, 28.6E, H 16 54 57.7)
	5	e N	21 49 11	0.7					Regional ?
704	7	iP EZ	13 19 26.2	1.5		+0.16	-0.42	3040	Dilatation.
		iP E'Z'E"Z"	19 26½	5		+	-5	27?3	h 0.08 ca.
		ipP E'Z'Z"	20 55½	5		+2	-4		
		isP Z'	21 58	8			+10		USCGS: 23.6S, 179.9E, H 13 14 24.6,
		iS N'E'N"E"	23 28	9	-4	+9			h 550 km.ca.
		e Z'	23 34	24					
		ScP Z	25 20	?					
		esS E'	26 08	11		2			
		e Z'	26 13	24					

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No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ		
704 cont.	Oct. 7	i E'	13 26 20	10		+6			
		e N'	26 24	12					
		i E'	26 35	11		+6			
		m Z'	26.6	21			6		
		ScS NE	29 13	(2½)					
		iScS E'	29 14	8		+7			
		i(sScS) E'	33 00	9		-4			
705	7	eL Z'	21 55.5	(30)					Masked by microseisms.
		M Z'	57.6	21			1		USCGS: 1.0S, 147.5E, H 21 38 53.9, h 68 km.ca.
		i Z'	22 04 35½	7			+4		
706	7	M E'	23 16.9	17		1			Masked by microseisms.
		M Z'	17.7	21			1½		
		M N'	18.6	22	1½				
707	8	i(PPP) Z	00 25 53	1½			-0.26		Masked by microseisms.
		e Z'E'	30 11	16		1½	2		USCGS: 15.1S, 173.2W, H 00 17 01.1, h 33 km.ca.
		e(LQ) N'	32.7	22	4				
		e(SSS) Z'	32 51	20			3		
		eLR Z'	34.8	27					
		LR E'Z'	35.2	27		10	16		
		M N'	38.0	13	4				
		M E'Z'	38.6	17		6	10		
	8	iSg N	06 17 47		-				Quarry blast.
		m N	17 49½	0.6	0.13				
		m EZ	17 51½	0.7		0.06	0.06		
708	8	Z'	06 58	Feeble surface waves.					USCGS: 11.3N, 125.9E, H 06 26 17.6, h 39 km.ca.
709	8	eL Z'	16 31.4	30					
		M N'Z'	33.8	19	1		2		
		M E'	34.2	16		1			
	9	i E	01 57 01.2	0.3		+			Blasting ?
		m NE	57 03	0.3	0.20	0.07			
710	9	L Z'	05 30	26	Masked by microseisms.				USCGS: 18.6S, 173.7W, H 05 13 26.9, h 33 km.ca.
	9	(i) Z	06 16 04½				+		Quarry blast ?
		m N	16 07	0.5	0.02				
	9	m N	06 26 24½	0.6	0.03				Quarry blast ?
	9	i N	07 06 18.8	0.5	-0.02				Local.
		i Z	06 21½	0.6			+0.03		
		m NZ	06 32½	0.8	0.03		0.04		
711	9	e E'	10 26.3						Masked by microseisms.
		eL Z'	28.9	31					
		eL N'E'	29.2	28					
		L Z'	29.8	27			5		
		L N'E'	29.9	26	1	2			
	9	(iP) Z	13 01 24.8	?			-		Dilatation.
712	10	eL Z'	01 02	Feeble.					USCGS: 5.6S, 145.6E, H 00 50 35.4, h 102 km.ca.
	10	i N	01 53 31.4	0.3	+				Quarry blast.
		i N	53 34.6	0.5	+0.03				
		m N	53 36½	0.7	0.20				
	10	i NZ	06 01 14.3	0.5	+0.02		+0.03		Quarry blast ?
		i NZ	01 17.1	0.4	+0.10		+0.07		
		i E	01 17.2	0.4		+0.04			
		i N	01 19.0	0.5	-0.06				
		i Z	01 19.6	0.5			-0.19		
		m N	01 20	0.5	0.14				
		m E	01 21	0.5		0.08			

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Oct.10	e	Z	06 07 38						Quarry blast ?
		m	N	07 40	0.5	0.05				
		m	EZ	07 42½	0.5		0.04	0.07		
713	10	eL	Z'	06 37.8	22					Masked by microseisms.
		M	Z'	39.3	20			1		
	10	(Pg)	EZ	06 59 03						Quarry blast.
		i(Sg)	N	59 06.7	0.4	-0.03				
		i	EZ	59 06.9	0.4		+0.04	+0.06		
		m	N	59 09½	0.6	0.15				
		m	EZ	59 11½	0.7		0.13	0.17		
714	10		Z'	14 30	Feeble long waves.					USCGS: 12.6S, 167.0E, H 14 16 31.1, h 223 km.ca.
715	11		Z'	05 04	Feeble long waves.					
716	11		Z'	05 25	Feeble long waves.					
717	11	e	Z'	10 46.8						Masked by microseisms.
		e	Z'	51.3	13					
		eL	E'	11 08.0	28					(USCGS: 50.0N, 29.2W, H 09 59 41.9, h 33 km.ca.)
		eL	Z'	08.2	27					
		M	E'	10.0	22		½			
		M	Z'	10.2	22			2		
	12	iSg	N	00 31 45.8	0.4	-0.05				Quarry blast. ?
		i	E	31 46.1	0.4		+0.07			
		i	Z	31 46.2	0.4			-0.06		
		m	N	31 48	0.6	0.24				
		m	EZ	31 50½	0.7		0.09	0.11		
	12	i	Z	04 46 39.8	0.5			+0.02		Quarry blast ?
		i	N	46 42.5	0.7	+0.06				
		M	N	46 44½	0.7	0.20				
		m	EZ	46 47½	0.7		0.06	0.06		
	12	(Pg)	Z	04 53 15½						Quarry blast ?
		i	E	53 20.8	0.5		+0.03			
		i	Z	53 21.6	0.5			+0.06		
		m	N	53 25	0.7	0.06				
		m	EZ	53 29	0.7		0.10	0.13		
718	12	eP	N'Z'	11 39 04	4-16				8650	
		i(sP)	Z'	39 17	4-16			+24	77°8	USCGS: 44.8N, 149.0E, H 11 26 57.9, h 40 km.ca.
		iS	N'E'	48 53	27	-31	-41			
		i	Z'	48 55	27			-23		
		sS	E"	49 11	15		30			
		iPS	N'	49 34	30	+44				
		e	N'	50.3	50					
		iSS	E'	53 38	28		-26			
		SS	N'Z'	53 54	30	51		24		
		LQ	E'	59.9	40		125			
		eLR	N'Z'	12 03.6	(54)					
		M	Z'	06.5	24			75		
		M	E'	07.0	24		47			
		M	N'	07.4	22	47				
		M	N'E'	10.6	21	61	44			
		M	Z'	11.2	21			105		
		M	Z'	15.2	19			68		
		W_2 M	E'Z'	14 05	21		6	10		F 16.2h
719	13	iP	Z	05 30 00	1.3			+0.47	8740	Compression.
		iP	N'Z'Z"	30 00	12	-13		+44	78°6	USCGS: 44.8N, 149.5E, H 05 17 57.1, h 60 km.ca.
		i	Z	30 07	1.5			+0.6		
		ipP	N"Z"	30 09½	7	-		+70		
		i	Z	30 11	1.5			+0.76		After 05h 40m Long Period & Galitzin records indecipherable.
		i	Z	30 14	2.4			-5.3		
		iS	E'	39 53	24ca		-200ca			
		i(SKS)	N"	39 59	(7)	+				
		X	E'	(48)	60		230ca.			
		e	Z'	10 47	220					Max. Z' 10h50m Per.220s μ160ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
720	Oct.13	eP Z'Z"	13 10 20						Microseisms present.
		i Z	10 21	1.3			-		USCGS: 45.0N, 150.1E, H 12 58 21.6,
		i Z	10 43	1.5			+		h 50 km.ca.
		M Z'	38.3	22			3		
721	13	iP Z'Z"	16 11 57	4			+4	8870	Compression.
		ipP Z'Z"	12 09	4			+4	7998	USCGS: 45.0N, 150.5E, H 15 59 52.9,
		iS E'E"	21 56	10		-7			h 35 km.ca.
		iS N'Z'	21 57	10	-4		-3		
		i E'E"	22 20	10		-4			
		e Z'	22 33	23			2		
		eSS N'	27.1	25	3				
		eLQ E'	33.1	40		8			
		M N'Z'	39.4	25	3		6		
		M E'	40.3	24		2			
722	13	M E'Z'	18 08	20		1½	1½		USCGS: 44.5N, 150.8E, H 17 25 55.4,
									h 45 km.ca.
723	13	M N'Z'	20 08	24	1		1½		USCGS: 45.7N, 151.5E, H 19 26 04,2
									h 30 km.ca.
724	13	M Z'	22 37	22			1		USCGS: 44.7N, 152.1E, H 21 55 00.8,
									h 50 km.ca.
725	14	M N'E'Z'	00 37	20	3	3	5		USCGS: 44.5N, 150.1E, H 23 52 22.8
									h 50 km.ca.
	14	(eP) Z"	04 18 07						Masked by microseisms.
		e Z'	18 21						
726	14	e Z'	04 33 13	21					USCGS: 44.7N, 150.6E, H 04 11 14.0,
		M Z'	46.0	23			1½		h 45 km.ca.
		M N'E'Z'	53	20	2	1	2		
		M N'E'Z'	59	18	1	1	3		
727	14	iP Z	13 33 41½	1.0			-0.16		Dilatation.
		iP Z'Z"	33 42	5			-5		USCGS: 44.8N, 151.0E, H 13 21 45.2,
		iPcP Z'	33 48	5			+6		h 60 km.ca.
		eS E'	43 42	15		1			
		e(sS) N'	44 00	18	1				
		ePS N'	44.5	(38)					
		ePS Z'	44 34	20			3		
		eSS N'	48 55	23	2				
		eSS Z'	49 06	22			2		
		eLQ E'	54.7	40		3			
		eLQ N'	55.0	34					
		eLR N'Z'	57.8	40					
		M E'	59.9	25		2			
		M N'Z'	14 00.7	25	4		7		
		M E'	05.3	20		2			
		M N'Z'	06.7	20	3		4		
728	14	eL E'	15 05.5	45					Masked by microseisms.
		eL Z'	05.8	45					USCGS: 3.3S, 126.7E, H 14 47 30.9,
		M N'E'Z'	11.4	20	1	1	2		h 33 km.ca.
729	14	eL Z'	22 21	24					USCGS: 17.0S, 173.9E, H 22 08 27.1,
									h 33 km.ca.
730	14	M N'E'Z'	23 12	24	1	1	2		USCGS: 17.0S, 173.8E, H 22 59 05.4,
									h 33 km.ca.
731	15	M Z'	01 34	19			1		USCGS: 43.2N, 150.2E, H 00 47 41.0,
									h 40 km.ca.
	15	i NE	04 09 24.1	0.6	+0.03	-0.03			Local ?
732	15	(e) E'	07 11.7						Masked by microseisms.
		e E'	16.1						USCGS: 20.5S, 173.9W, H 07 06 59.9,
		eL Z'	23.2	25					h 33 km.ca.
		M E'Z'	25	19		1	2		
		M N'E'Z'	34	18	1	1	3		
733	15	e E'	11 00.5	40					Masked by microseisms.
		e N'Z'	09.2	40					USCGS: 44.6N, 149.0E, H 10 47 12.6,
		M Z'	29	27		1			h 50 km.ca.
		M N'E'	30	24	½	½			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
734	Oct.15	M N'Z'	12 45	19		½			USCGS: 45.1N, 151.8E, H 12 03 48.7, h 45 km.ca.
735	15	M N'	14 08	18	1				USCGS: 45.1N, 150.5E, H 13 21 14.1, h 45 km.ca.
736	15	e N'E'Z'	18 46 03	14					USCGS: 45.3N, 151.0E, H 18 23 57.8, h 35 km.ca.
		e N'	51.1	21					
		eL E'	57.0	35					
		M N'Z'	19 04	24		½	1		
737	15	M N'E'Z'	21 23	24	½		½		USCGS: 45.4N, 151.1E, H 20 41 30.2, h 50 km.ca.
738	15	iP Z	21 52 09	1			+		Microseisms present.
		eS N'	57 45	?					USCGS: 3.0S, 129.9E, H 21 44 58.0, h 27 km.ca.
		e E'	57 52						
		e Z'	59.1	22					
		e N'	22 00.4	?					
		eL N'	01.3	48					
		eL E'	01.7	42					
		eL Z'	04.6	38					
		M N'E'	04.7	31	5	8			
		M E'	09.2	19		9			
		M Z'	09.3	15			8		
		M N'	10.1	16	8				
		M N'Z'	11.8	14	8		14		
		M E'	13.2	16		11			
739	16	eL Z'	05 54.0	26					USCGS: 44.8N, 150.4E, H 05 15 36.1, h 33 km.ca.
	16	iSg N	06 07 22.						Quarry blast.
		m N	07 25	0.6	0.17				
		m EZ	07 25	0.7		0.12	0.12		
	16	(Pg) EZ	06 34 22.1						Quarry blast.
		iSg N	34 26.0	0.4	+0.04				
		iSg EZ	34 26.1	0.3		-0.06	+0.06		
		i N	34 27.4	0.4	+0.10				
		m N	34 29	0.5	0.17				
		m EZ	34 30½	0.6		0.10	0.08		
740	16	(i) Z	12 54 48						Masked by microseisms.
		eL Z'	13 06.4	36					USCGS: 1.8S, 127.9E, H 12 47 44.2, h 33 km.ca.
		eL N'E'	08.0	25					
		M N'Z'	11.2	24	½		1		
		M N'Z'	16.1	16	1		1½		
		M E'	17.1	15		1			
741	16	eL Z'	14 07.0	28					USCGS: 15.1S, 173.6W, H 13 55 26.2, h 33 km.ca.
742	16	ePP Z'	16 01 05	9					
		eSKS N'	07 34	12					USCGS: 38.6N, 73.4E, H 15 43 00.8, h 33 km.ca.
		eSKS E'	07 40	13					
		ePS N'	10.1	25					
		ePS Z'	10 20	21					
		eSS E'	15.4	35					
		eSS N'E'	16.0	30					
		eSS Z'	16.3	35					
		e E'	19.2	21					
		e Z'	21.0	32					
		e N'E'	25.2	35,45					
		e Z'	25.6	33					
		eLQ N'	28.2	65					
		eLR Z'	32.2	60					
		M N'E'	34.3	37	9	10			
		M Z'	36.2	44			7		
		M E'	39.7	30		4			
		M N'	40.6	25	4				
		M Z'	41.0	30			5		
		M N'	43.2	24	3				
		M E'Z'	44.6	22		5	7		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AE	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
743	Oct.16	e E'	21 00.1	22					(USCGS: 8.8N, 137.9E, H 20 39 30.5, h 28 km.ca.)
		eL Z'	01.2	35					
		M N'E'Z'	04	21	1	1	1		
	16	i E	22 57 06						Blasting ?
		m N	57 08	0.5	0.08				
		m EZ	57 09	0.5		0.06	0.06		
744	17	eL Z'	03 29	30					USCGS: 11.6N, 140.6E, H 03 05 50.2, h 70 km.ca.
		M N'Z'	32	21	½		1		
745	17	eL Z'	11 46.4	Feeble.					USCGS: 17.3S, 168.0E, H 11 35 30.7, h 33 km.ca.
746	17	P Z	14 22 49	1					Microseisms present.
		i Z	22 56	1			+		USCGS: 9.8N, 126.5E, H 14 13 59.8, h 33 km.ca.
		e(S) N'	30 02	12					
		e(SS) E'	33.4	20					
		e N'Z'	33.7	20					
		eL E'	39.0	22					
		M E'	42.6	21		1			
		M N'Z'	46.2	19	1		1		
747	17	eP Z	23 36 36					8690	Microseisms present.
		e Z'	36 39					7892	USCGS: 44.6N, 149.0E, H 23 24 34.4, h 45 km.ca.
		epP Z	36 47						
		i Z'	36 53	9			+4		
		e Z'	46 25	20			2		
		iS N'E'	46 26	20	-3	-4			
		e E'	47 02	21		3			
		e N'	47 09	22	4				
		e(SS) E'	51.0	26		2			
		eSS N'Z'	51.4	28	4				
		LQ E'	57.2	40		9			LR lost in record change.
		M E"Z"	24 08	22		4	5		
748	18	Z'	04 48	Feeble long waves.					
	18	e NEZ	06 18 03	0.5					Quarry blast ?
		m N	18 08	0.7	0.09				
		m EZ	18 10	0.7		0.04	0.05		
749	18	Z'	07.0	Feeble long waves.					(USCGS: 44.7N, 149.9E, H 06 20 21.6, h 60 km.ca.)
750	18	eL Z'	08 53.7						USCGS: 10.5S, 161.6E, H 08 41 38.0, h 33 km.ca.
751	18	e Z'	09 16.5						USCGS: 44.8N, 150.2E, H 08 53 33.9, h 60 km.ca.
		eL Z'	32.6	23					
		M N'E'Z'	41.5	18	¼	¼	1		
		M E'Z'	53	18		1	1		
752	18	e(L) E'	18 28.3	33					USCGS: 45.6N, 150.6E, H 17 55 00.2, h 40 km.ca.
		eL Z'	34.2	25					
753	18	eL Z'	20 46.5	23					USCGS: 47.6N, 154.3E, H 20 05 14.4, h 40 km.ca.
	18	e N	21 09 57½						Quarry blast ?
		m N	10 02	0.7	0.06				
	18	(Pg) Z	22 15 43½						Quarry blast ?
		i Z	15 46.2	0.3			+0.04		
		i E	15 46.3	0.3		+0.05			
		m N	15 48	0.7	0.04				
		m EZ	15 51	0.7		0.05	0.06		
	19	e Z	00 47 35½	0.3					Blasting ?
		m NZ	47 37	0.4	0.04		0.04		
	19	(Pg) Z	01 56 14½						Quarry blast ?
		i(Sg) N	56 18.4	0.5	+0.01				
		i EZ	56 18.7	0.5		-0.03	+0.02		
		m N	56 23½	0.7	0.19				
		m N	56 25½	0.6	0.20				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Oct.19	m EZ	02 05 17	0.5		0.04	0.03		Quarry blast ?
754	19	(eP) Z'	02 30 51						Masked by microseisms.
		e(S) E'	40 56	(13)					
		e Z'	40 57	14					USCGS: 46.8N, 153.7E, H 02 18 37.9, h 45 km.ca.
		e(PS) N'	41 38	15					
		eSS N'	46 11	21					
		eLQ E'	52.4	34					
		eLR Z'	56.3	(30)					
		M N'E'Z'	03 04	21	1	1	2		
755	19	e(S) E'	03 56 38	13		2			Confused by coda of no.754
		e(S) N'	56 39	13	1				
		e(PS) N'	57 24	13	1				USCGS: 46.6N, 153.8E, H 03 34 19.6, h 33 km.ca.
		eSS N'	04 01.9	20	1				
		eLQ E'	08.1	35		2			
		eLR N'Z'	12.0	40					
		M N'E'Z'	20	20	3	1½	5		
	19	e N	07 49 51						Local or regional.?
	19	e Z	07 57 49½						Local or regional ?
756	19	N'Z'	12 13	Feeble long waves.					USCGS: 10.1S, 119.3E, H 11 52 55.2, h 40 km.ca.
757	19	eL Z'	16 53.2						USCGS: 44.4N, 150.9E, H 16 15 21.4, h 120 km.ca.
758	19	N'E'Z'	18 26	Feeble surface waves.					USCGS: 35.9S, 80.5E, H 18 00 46, h 33k.
759	20	eP Z'Z"	01 05 08	8				8750	Short-period obscured by microseisms.
		i Z'Z"	05 13	7			+8	78°7	
		e N'	05 15	12	5				USCGS: 44.7N, 150.7E, H 00 53 07.2, h 25 km.ca.
		m Z'	05.4	18			12		
		i Z'	05 38	18			+23		
		i N'	05 51	14	+9				
		i N'	06 19	16	+9				
		i Z'	07 55	12			+12		
		i Z'	09 04	13			+12		
		iS E'	15 05	30		-46			
		i N'	15 09	30	-59				
		i Z'	15 13	25			-44		
		iSKS N"E"	15 18½	12	+25	+25			
		(PPS) N'E'	16.0	38	110ca.				
		i E'	16 27	17		-16			
		i Z'	16 30	24			+40ca.		
		e N'	16 57	(40)					
		i Z'	17 41	16			+27		
		i E'	19 42	20		+24			
		i N'	19 50	22	+20				
		e Z'	19 51	30					
		SS E'	20 08	25		27			
		i Z'	20 28	26			+36		
		m N'	20.5	32	44ca.				
		i E'	21 27	25		-33			
		SSS E'	23 21	30		18			
		i Z	23 33	26			+27		
		i N'	23 57	17	+33				
		(LQ) E'	24.8	60					
		i Z'	26 28	30			+31		
		(G) E'	26.5	45		200ca.			
		eLR Z'	28.8	50					
		eLR N'	29.1	50					
		L N'Z'	31.0	65	150ca		170ca.		
		M Z'	34.5	24			125ca.		
		M N'	34.7	22	70				
		M E'	35.4	23		90			
		M N"E"Z"	43	18	60	50	90		
		M N"E"	46.5	18	60	83			
		M N"E"Z"	51.5	18	65	105	120		F 06.2h
		M E"Z"	54	18		85	140		

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Oct.20	e	N	07 28 54	0.6					Regional ?
760	20	(i)	Z	08 29 29						Masked by microseisms.
		m	E	32 50	1.2		0.19			Regional ?
		m	Z	32 56	1.2			0.14		
		m	N	32 57	1.2	0.20				
		M	Z'	33 40	8			2½		
761	20		Z'	09 07	Feeble surface waves.					USCGS: 44.3N, 149.4E, H 08 26 12.2, h 33 km.ca.
762	20	eP	Z'	09 22 41	7			2½		USCGS: 44.4N, 150.0E, H 09 10 43.9, h 40 km.ca.
		eS	E'	32 39	12		1			
		e	N'	32 43	12	1				
		e	Z'	32 44	12			1		
		(eG)	N'	43.0	(85)					
		eLQ	E'	43.1	33					
		eLR	Z'	46.7	33					
		M	N'Z'	54	21	1½		3		
		M	E'	55	20		1½			
763	20	eL	E'Z'	11 36.2	35					USCGS: 16.1S, 66.3E, H 11 00 16, h 33 km.ca.
764	20	(eP)	Z'	12 04 18						Masked by microseisms & coda of 763.
		eS	E'	14 11						
		e	N'	14 17						USCGS: 44.7N, 150.2E, H 11 52 20.7, h 45 km.ca.
		m	E'	14.4	18		2			
		eLQ	E'	25.2	37		2			
		M	N'Z'	32.5	22	2		2		
		M	N'E'Z'	40	19	1½	2	4		
765	20	L	N'Z'	14 00						USCGS: 45.1N, 150.5E, H 13 21 41.1, h 45 km.ca.
766	20	e(S)	N'	18 03 34						USCGS: 44.2N, 149.6E, H 17 41 27.3, h 45 km.ca.
		(LQ)	E'	14.3	36					
		M	N'E'Z'	27.5	20	½	½	1		
	21	e	Z	01 59 47½						Quarry blast ?
		i(Sg)	N	59 48.6	0.4	-0.09				
		m	NE	59 50	0.4	0.69	0.20			
		m	Z	59 50½	0.4			0.18		
767	21	(P)	Z	02 36 27½						Masked by microseisms.
		e	E'	40 33	8					USCGS: 22.9S, 172.1E, H 02 31 39.3, h 54 km.ca.
		M	N'	43.3	15	1				
	21	i(Sg)	N	06 28 56.5	0.5	+0.03				Quarry blast ?
		m	NEZ	29 01	0.6	0.19	0.03	0.03		
	21	i(Sg)	N	07 03 36.7	0.3	-0.04				Quarry blast ?
		m	N	03 38	0.6	0.09				
		m	EZ	03 40½	0.6		0.03	0.05		
	21	i(Sg)	N	07 08 39.7	0.5	+0.03				Quarry blast ?
		m	N	08 42	0.6	0.22				
		m	EZ	08 45	0.6		?	0.11		
768	21	e(P)	Z'	09 25 05						Masked by microseisms.
		eL	N'	32.4	22					USCGS: 23.6S, 176.1W, H 09 18 46.7, h 33 km.ca.
		eL	E'	33.1	26					
		eL	Z'	33.3	26					
		M	N'	34.5	16	2				
		M	E'Z'	35.5	19		2	3		
769	21	(P)	Z	13 15 47						Masked by microseisms.
		eS	N'	20 46	14					USCGS: 3.3S, 150.2E, H 13 09 34.6, h 43 km.ca.
		eL	E'	23.0	32					
		eL	N'	24.3	31					
		eL	Z'	24.4	34					
		M	N'Z'	26.4	22	½		1½		
		M	E'	27.2	17		1			
770	21		Z'	16.3	Feeble long waves.					USCGS: 45.5N, 149.7E, H 15 38 24.3, h 55 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
771	Oct.21	eL Z'	17 57.3	(27)					Masked by microseisms.
		M Z'	18 05.2	18			½		USCGS: 44.1N, 150.3E, H 17 20 46.0, h 65 km.ca.
772	22	eS E'	03 39 15						Masked by microseisms & long-period
		eL Z'	56.5	26					wanderings. USCGS: 45.0N, 150.2E, H 03 17 15.2, h 45 km.ca.
773	22	e E'	15 45 37						Masked by microseisms.
		e N'	45 39						USCGS: 11.6S, 166.3E, H 15 35 26.1,
		e Z'	45 40						h 80 km.ca.
		eL E'Z'	47.7	27					No short-period records on Oct.22
	23	ePg Z	06 45 18.2						Quarry blast.
		iSg N	45 21.9	0.5	+0.08				
		i Z	45 22.4	0.4			-0.08		
		m N	45 24½	0.6	0.45				
		m EZ	45 27	0.7		?	0.32		
	23	(Sg) N	07 17 46						Quarry blast ?
		m N	17 48	0.6	0.04				
774	23	eP Z	08 01 37						Microseisms present.
		i Z	02 03	0.6			+0.05		USCGS: 12.0S, 166.5E, H 07 56 12.3,
		e N'Z'	06.1	24					h 107 km.ca.
		eL Z'	08.3	32			4		
		eL N'E'	08.4	31	2	2			
775	23	(P) Z	10 22 21						Masked by microseisms.
		eL E'	28.9	30					USCGS: 6.9S, 148.4E, H 10 16 38.9,
		eL N'Z'	30.5	25					h 29 km.ca.
		M E'	33.7	14		2			
		M N'Z'	34.2	16	2		3		
776	23	P Z	20 19 44	0.7					L.P. Obscured by microseisms.
									USCGS: 25.9S, 178.8W, H 20 14 29,
									h 343 km.ca.
777	24	(P) Z'	01 18 30						Masked by microseisms.
		eS E'	28 21	15		1			USCGS: 44.5N, 150.3E, H 01 06 25.9,
		e N'	28.5	?					h 45 km.ca.
		(LQ) E'	39.3	36					
		eL Z'	46.4	24					
		M N'E'Z'	53.6	18	1	1	3		
	24	e NE	02 01 23						Quarry blast ?
		m NE	01 24	0.5	0.04	0.09			
778	24	iP Z	07 35 40.1	0.9			+0.07	5980	Compression.
		iP Z'Z"	35 40½	3			+4	53°8	USCGS: 4.9S, 102.9E, H 07 26 23.9,
		m Z	35 42½	1.2			0.37		h 50 km.ca.
		ipP Z'Z"	35 53	4			+5		
		ePP Z'	37 44	5			2		
		iS N'E'N"E"	43 11	8	+4	+4½			
		e Z'	43 16	11			2		
		i(sS) W"	43 35	6		+3			
		eScS N'N"	45 25	9	3				
		e Z'	47.4	29			2		
	*	(LQ) N'	49.4	48					*Long-period wanderings present.
		eLR Z'	51.6	42					
		M N'	54.4	25	6				
		M E'Z'	55.9	28		7	8		
		M N'	57.3	22	7				
		M N'E'	59.7	22	6	7			
		M Z'	08 01.1	19			11		
		M Z'	04.2	19			13		
		M E'	04.9	17		7			
779	24		19.9	Feeble long waves on L.P.					USCGS: 28.3N, 128.5E, H 19 19 10.2, h 33 km.ca.
780	24		21.0	Feeble long waves on L.P.					USCGS: 44.4N, 149.7E, H 20 18 12.7, h 40 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
781	Oct.25	eL E'	01 42.7	20					USCGS: 62.3S, 156.9E, H 01 30 57,
		eLR N'Z'	43.9	26	2		4		h 33 km.ca.
	25	(Sg) N	06 54 25½	0.5					Quarry blast.
		m N	54 28	0.6	0.15				
		m EZ	54 30	0.7		0.06	0.08		
	25	(Sg) N	07 09 34	0.5					Quarry blast.
		m N	09 36½	0.6	0.16				
		m EZ	09 39	0.7		0.06	0.07		
782	25	e(L) E'	16 43.0	17					USCGS: 2.2S, 138.3E, H 16 25 24,
		eL N'	44.2	17					h 33 km.ca.
		eL Z'	44.5	20					
		M E'	45.3	13		1			
		M N'	46.3	15	1				
		M Z'	47.4	11			2		
783	25	eP Z'	20 07 24	7			1	5070	USCGS: 12.3N, 144.5E, H 19 58 58.3,
		eS N'E'	14 07	8				45°6	h 29 km.ca.
		eSS E'	17 23	10		1			
		eL E'	19.2	40					
		L E'	20.9	25		5			
		M E'	23.2	16		2			
		M N'	24.6	21	3				
		M Z'	26.0	19			5		
784	26	eP Z'	04 07 42	14					Masked by microseisms.
		eS E'	17 34	?					USCGS: 44.5N, 150.1E, H 03 55 39.7,
		eLR Z'	32.4	31					h 55 km.ca.
		M N'	35.3	23	1				
		M E'Z'	36.1	23		1½	1½		
	26	iSg N	05 19 31.7	0.5	+0.02				Quarry blast.
		i Z	19 32.0	0.5			+0.03		
		m N	19 34	0.6	0.10				
785	26	e(S) E'	11 43 45						Masked by microseisms.
		eLR Z'	59.6	28					USCGS: 44.7N, 149.7E, H 11 21 47.6,
		M Z'	12 04.8	21			½		h 55 km.ca.
786	26	eL Z'	12 49.1	20					USCGS: 15.8S, 174.0W, H 12 33 50.1,
		eL N'	49.2	26					h 115 km.ca.
787	26	e N'	19 13 33	Feeble.					USCGS: 7.0S, 129.7E, H 18 55 39.1,
		e E'	13 46						h 125 km.ca.
788	26	e(P) Z'	22 47 25						Masked by microseisms.
		e N'	47 42						USCGS: 5.2S, 152.0E, H 22 41 29.8,
		e(S) E'	52 05						h 73 km.ca.
		e N'	52 07	25	2				
		e Z'	52.3	22			2		
		eLQ E'	54.1	37		2			
		eLR Z'	55.0	32					
		M E'	57.3	20		3			
		M Z'	57.5	20			6		
		M N'	57.8	20	3				
	27	e EZ	01 31 27	0.5					Small. Local or regional.
789	27	iP Z	08 51 20	1.0			+0.06		Compression. Microseisms present.
									USCGS: 17.9S, 178.5W, H 08 45 43.8,
790	27	eP Z'	10 45 03						h 586 km.ca.
		e Z'	50.2	18					Masked by microseisms.
		eL N'	52.3	26					USCGS: 22.8S, 175.2W, H 10 38 49,
		M N'	55.8	14	3				h 35 km.ca.
		M E'Z'	56.5	18		2½	4½		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
791	Oct.27	e Z'	18 31.1						Masked by microseisms.
		e Z'	36.1	19					USCGS: 24.3S, 176.1W, H 18 24 42.9,
		eLQ N'	37.7	30					h 33 km.ca.
		eLR E'	38.8	28					
		eLR Z'	39.0	30					
		M N'	40.3	15	4				
		M E'Z'	41.5	18		5	8		
792	27	E'	23 19	Feeble waves on Calibration pulse.					
	28	e N	06 59 15.8						Quarry blast ?
		m N	59 17	0.6	0.03				
793	28	eP Z'	08 01 19	11					Microseisms present.
		e E'Z'	01 24	7		2	3		USCGS: 24.3S, 176.0W, H 07 55 12.3,
		e(S) N'	06.3	(24)					h 33 km.ca.
		e Z'	06 40	19			3		
		eL N'	08.1	30					
		eLR Z'	09.3	29					
		M N'	10.7	16	12				
		M N'E'Z'	12.0	15-19	12	12	21		
	28	e N	08 24 21						Local or regional.
		i E	24 35	0.7		+0.05			
		i N	24 35½	0.7	+0.06				
	28	i N	08 32 47½	0.7	+0.03				Local or regional.
794	28	i(P) Z	12 16 01.5	1.2			+0.15		Confused by minute mark.
		e(S) N'	26 40	15					USCGS: 52.8N, 159.8E, H 12 03 19.8,
		e N'	27 07	15					h 33 km.ca.
		e N'	27 55	15					
		eSS N'	32.3	28					
		(eLQ) E'	40.0	(40)					
		eL N'	40.5	30					
		eLR N'Z'	43.6	33					
		M N'E'Z'	49.6	21	1	½	2		
795	28	eP Z	20 04 12½						Microseisms present.
		iP EZ	04 13	0.7		+0.03	-0.04		Dilatation.
		(i) E'	07 17						E' Confused by long-period wander-
		(e) E'	10.9						ings. USCGS:24.5S, 179.9E,
									H 19 59 15.0, h 532 km.ca.
796	28	Z'	21 16	Feeble long waves.					
	29	No short-period records.							
797	29	e N'	17 05.8						Obscured by microseisms.
		eL Z'	07.7						USCGS: 26,5S, 177.5W, H 16 55 49.4,
		M N'	09.7	15	1				h 65 km.ca.
798	29	e N'Z'	20 33.0						Obscured by microseisms.
		eL Z'	34.3	22					USCGS: 26.2S, 177.8W, H 20 22 15.7,
		M N'	36.2	16	3				h 49 km.ca.
		M E'Z'	38.2	17		2	3		
799	29	e Z'	22 34.1						Obscured by microseisms.
		eLR Z'	36.7	28					USCGS: 24.4S, 176.1W, H 22 22 37.7,
		M Z'	39.2	19			5		h 33 km.ca.
		M N'E'	39.3	15-18	2	3½			
800	30	e N'Z'	05 42.6						Obscured by microseisms.
		M N'Z'	49.2	11-15					USCGS: 26,6S, 178.0W, H 05 31 49,
									h 240 km.ca.
	30	e EZ	07 07 27½						Quarry blast.
		m N	07 30	0.6	(0.25)				
		m EZ	07 32½	0.6		0.07	0.10		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
801	Oct.31	iP Z'	03 24 10	9			+4	3600	Compression.
		ipP Z"	24 20	5			+4	32°4	USCGS: 21.8S, 175.0W, H 03 17 42.0,
		ePP E'Z'	25 19	11		2	3		h 33 km.ca.
		eS E'	29 21	9		3			
		eS N'	29 22	13	2				
		e Z'	29 42	20			5		
		e E'	29 51	14		3			
		eLQ N'	31.3	36					
		iSSS N'	31 45	23	+10				
		e Z'	31 49	20			4		
		eLR Z'	32.7	30					
		M N'E'Z'	36,5	14-18	38	38	66		
	31	m NEZ	03 55 23	0.2	0.14	0.17	0.09		Blasting.
	31	e(Pg) Z	06 10 10.2						Quarry blast.
		i N	10 10.5	0.5	+0.02				
		iSg N	10 13.2	0.5	+0.10				
		i Z	10 13.3	0.5			+0.05		
		i E	10 13.4	0.5		-0.04			
		m NEZ	10 16½	0.7	0.21	0.14	0.32		
	31	e N	06 18 22½						Quarry blast.
		i E	18 23½	0.5		+0.03			
		i N	18 25½	0.5	+				
		m N	18 27½	0.7	0.18				
802	31	Z'	09.1	Feeble long waves.					USCGS: 17.9S, 178.8W, H 08 51 42,
									h 637 km.ca.
803	31	(i) Z	10 17 39½				+		Masked by microseisms.
		e E'	22 04	8					USCGS: 46.6S, 96.3E, H 10 07 25.5,
		e(L) N'	25.1	21					h 33 km.ca.
		eL Z'	27.9	28					
		eL E'	28.3	26					
		M N'E'Z'	30.5	19	1	1	2		
804	31	N'E'Z'	13.8	Feeble waves.					USCGS: 22.0S, 169.9E, H 13 38 20,
									h 33 km.ca.
	Nov. 1	i EZ	06 00 28	0.5		+0.04	+0.03		Quarry blast.
		m N	00 30	0.6	0.05				
		m EZ	00 32½	0.7		0.05	0.06		
	1	(ePg) Z	07 18 04½	0.5					Quarry blast. ?
		i EZ	18 09	0.4		+0.04	-0.04		
		m EZ	18 13	0.7		0.11	0.14		
805	1	Z'	09 43	Feeble long waves.					(USCGS: 22.8S, 176.0W, H 09 28 22.0,
									h 33 km.ca.)
806	1	e Z'	21 06 17						USCGS: 22.5S, 176.8W, H 20 59 28.1,
		e N'E'	11 23						h 71 km.ca.
		e N'	12.5	18					
		e(L) E'	13.9	(28)					
		eL Z'	14.1	(40)					
		M N'	16.2	12	1				
	2	e N	04 00 55	0.5					Small. Local or regional.
807	2	Z'	08 51	Feeble long waves.					
808	2	E'	21 08	Feeble long waves.					USCGS: 22.2S, 175.6W, H 20 40 32,
									h 33 km.ca.
809	2	e(S) N'	22 33.4	13					USCGS: 1.9S, 138.9E, H 22 21 20.7,
		eL E'	38.5	25					h 33 km.ca.
		eL Z'	40.1	25					
		M E'	42.0	12		3			
		M N'Z'	42.9	14	3		4		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
810	Nov. 2	e Z'	23 10.3	26					Early phases obscured by coda of 809
		i N'	10 28	16	+3				
		m E'Z'	10.6	16-26		1	1		
		e Z'	14.0	25					
		e N'	14.8	28					
		e E'	14.6	32					
		eLR Z'	17.3	30					
		LR N'Z'	18	30	3		6		
811	3	ePKP Z	03 29 05	0.8					USCGS: 3.5S, 77.8W, H 03 10 12.7, h 33 km.ca.
		ePP E'Z'	30 32	16			3		
		e Z'	33 22	?					
		e Z'	39 12	16					
		ePS N'E'	40 31	16					
		m N'E'	40.8	24	2	4			From 03 42 to 03 52 N' & E' confused by long-period wanderings.
		eSS E'	47.2	?					
		eSS N'	47 15	?					
		SS E'Z'	47.7	30			5		
		e Z'	55.1	(40)					
		eLQ N'E'	04 01.0	36					
		eLR Z'	06.7	30					
		M N'E'Z'	11	21	4	8	15		
	3	e NE	08 22 22	0.5					Local. Very small.
812	3	e N'	14 41 35						Masked by microseisms.
		M Z'	45.7	16			1		USCGS: 14.0S, 165.9E, H 14 31 57.2, h 50 km.ca.
		M N'	47.2	14	1				
813	4	iP Z	01 19 33.5	1.3			+0.54		Compression.
		iP N'E'Z'	19 33½	11	-7	-5	+21		USCGS: 15.1S, 167.3E, H 01 14 32.8, h 154 km.ca.
		iP N"E"Z"	19 34	7	-	-	+		
		i NE	19 35.7	1.0	+0.13	+0.14			
		iPP (pP)N'E'Z'	20 05	11	-6½	-6½	+14		
		i(S) N'N"	23 42	11	-48ca				
		i E"	23 44	8		-			
		i E'	23 48	11		+50			Remainder merged in no.814.
814	4	iP Z	01 23 43.5	0.8			+0.04		Compression.
		iP Z"	23 44	(7)			+		USCGS: 6.8S, 129.6E, H 01 17 08.9, h 80 km.ca.
		m Z	23 46	1.3			0.97		
		i NE	23 49	0.7	+0.12	+0.16			After 01 24 all records indecipherable.
		X N'E'	(04 04)	100	400ca	530ca			
815	4	E'	15 07	Feeble surface waves masked by microseisms.					
816	4	eL E'	16 12	22					Masked by microseisms.
		eL N'Z'	13	22					
817	4	e(L) N'	18 36						Masked by microseisms
		M N'	39	14	1				USCGS: 23.5S, 176.1W, H 18 22 43, h 33 km.ca.
		M E'Z'	40	17		1	1½		
818	4	i Z	22 24 35	1.2			+0.10		Masked by microseisms.
		i Z	24 32	1.2			+0.14		USCGS: 6.8S, 129.9E, H 22 17 09.0, h 136 km.ca. OR H 22 17 07.5, h 122 km.ca.
		i E	24 44½	1.2		+0.10			
		e(L) E'	30.7						
		i E	31 09	1.0		+0.10			
		i N	31 39½	1.0	+0.14				
		M E'	35.0	20		5			
		M N'Z'	35.9	14	5		8		
	5	iSg N	06 49 55.1	0.5	-0.04				Quarry blast.
		m N	49 57½	0.7	0.23				
		m EZ	49 59½	0.7		0.07	0.10		
819	5	Z'	14 06	Feeble long waves.					
820	5	N'E'Z'	16 17	Feeble long waves.					USCGS: 26.1S, 178.9E, H 16 02 05.4, h 56 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
821	Nov. 6	(i) Z	02 19 49	1.0			+0.06		Microseisms present.
		eP Z'	19 53	7			3		USCGS: 2.6S, 138.4E, H 02 13 16.8,
		m N'Z'	20.1	7	6		16		h 33 km.ca.
		e N'Z'	20.4	20	2		4		
		e(PP) N'Z'	21 16	20	4		4½		
		iS E'	25 23	16		-10			
		i Z'	25 24	9			-11		
		e Z'	25 35	25			17		
		isS N'	25	25	+29				.... isS 25 38
		e Z'	26 [illegible]	25			21		
		m N'	26.2	25	33				
		eL E'	28.0	50		25			
		eL N'	28.1	40	13				
		LR E'	29.0	40		53			
		eLR Z'	29.3	46			37		
		LR N'E'Z'	30.0	40	56	64	50		
		M E'	31.7	23		145ca			
		M Z'	32.4	24			110ca		
		M N'	33.0	24	125ca				
		M E'	33.4	23		180ca			
		M Z'	34.9	22			120ca		
822	6	i(P) Z	03 02 09	?			+		Microseisms present. L.P. obscured
		i Z	02 40	2.0			+0.35		by coda of 821.
									USCGS: 2.5S, 138.6E, H 02 55 54.0,
									h 32 km.ca.
823	6	i(P) Z	03 06 57	1.2			+0.12		Masked by microseisms. L.P.obscured
		M E'Z'	20.7	15		40	34		by coda of 821.
		M N'	21.1	15	31				USCGS: 2.2S, 138.7E, H 03 00 12.2,
									h 43 km.ca.
	6	(Sg) NE	03 50 37½						Quarry blast ?
		m NEZ	50 39	0.5	0.19	0.06	0.04		
824	6		06 26	Feeble waves on L.P. Masked by microseisms.					
	6	i(P) Z	06 33 45½				+		Masked by microseisms.
									USCGS: 30.8S, 179.9E, H 06 28 55.3,
									h 411 km.ca.
	6	iSg N	06 56 20.2	0.5	+0.04				Quarry blast.
		i E	56 20.3	0.5		-0.04			
		i Z	56 20.5	0.5			+0.04		
		m N	56 22½	0.6	0.24				
		m EZ	56 25	0.6		0.04	0.06		
	6	i E	06 59 17			-			Quarry blast.
		i Z	59 17.5				+		
		m N	59 19	0.7	0.15				
		m EZ	59 21½	0.7		0.07	0.09		
825	6	eL E'	07 52.9	23					Masked by microseisms & long-period
		eL N'	53.7	22					wanderings.
		eL Z'	54.1	22					USCGS: 2.5S, 138.6E, H 07 35 25.6,
		M E'	55.8	14		3			h 38 km.ca.
		M N'	56.3	14	2				
		M Z'	57.4	11			7		
826	6	M Z'	09 22.7	14			1		Masked by microseisms.
									USCGS: 7.1S, 129.2E, H 09 01 12.0,
									h 90 km.ca.
827	6		11.2	Feeble surface waves on L.P. Masked by microseisms.					USCGS: 3.0S, 138.7E, H 10 53 00.1, h 16 km.ca.
828	6	eL E'	11 50.5	23					Masked by microseisms.
		M N'E'Z'	54	13	1	1	1		USCGS: 2.8S, 139.1E, H 11 33 08,
									h 95 km.ca.
829	6	eL N'E'	13 50.2	23					Masked by microseisms.
		eL Z'	53.1	28					
830	6	Z'	18 36	Feeble surface waves masked by microseisms.					
	7	e Z	00 44 46½						Local. Masked by microseisms.
		m Z	44 48	0.4			0.05		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks.
	1963		h m s	s	μ	μ	μ	km.	
843	Nov.10	eP Z'	17 29 39	4			2	8800	USCGS: 44.4N, 149.0E, H 17 17 42.7,
		PcP N'Z'	29 46	5	1		4	79°2	h 40 km.ca.
		e Z'	30 08	16			2		
		eiS E'	39 34	18		-2			
		iS N'	39 35	15	-4				
		i(ScS) N'	40 00	10	-3				
		e Z'	40 08	13			2		
		e E'	40 14	13		2			
		ePS N'	40 25	16	3				
		eSS E'	44.2	25					
		eSS N'	44 41	20	3				
		eSS Z'	44 50	22			2		
		G E'	50.5	40		5			
		eLQ N'	50.9	30					
		eLR Z'	54.3	29					
		M N'Z'	18 00.4	21	5		10		
		M E'	01.5	20		6			
		W2 N'Z'	19 52	22					
844	11	(iP) Z	00 21 06				+		Masked by microseisms.
		i Z	22 13	1.0			+0.06		USCGS: 7.0S, 129.5E, H 00 15 04.8,
		M N'E'	33.7	8	3	2			h 132 km.ca.
		M Z'	34.5	10			1		
845	11	eL Z'	07 59.1	27					USCGS: 56.0S, 126.4W, H 07 32 43,
									h 33 km.ca.
	11	e N	09 53 41	0.5					Regional ?
846	11	e(L) Z'	10 08.0						
		M Z'	10.5	17			½		
847	11	L Z'	10 31	21					USCGS: 44.6N, 148.9E, H 09 49 43.3,
									h 55 km.ca.
848	11	iP Z	11 35 45	1.1			+0.13	3940	Compression. Microseisms present.
		e E'Z'	35 46	6			1	35°4	h 0.025
		e Z'	36 41	10					USCGS: 16.9S, 174.4W, H 11 29 06.4,
		e E'Z'	38 04	12		½	1		h 185 km.ca.
		eS E'	41 05	14		1			
		e Z'	41 08	?					
		e E'	42 10	13					
		esS N'	42 16	13	1				
		e N'	43 48	10	1½				
		e Z'	43 55	15			2½		
		e N'	44 03	18	2				
		eL E'	46.1	(50)					
		eL Z'	46.3	(50)					
849	11	e Z'	14 39 52	6					Masked by microseisms.
		e E'	44 05	7					
		e N'	45.7	17					
		eL Z'	46.4	24					
		M N'E'Z'	49.4	13-17	½	½	1		
850	11	eL Z'	17 00	30					USCGS: 32.8S, 95.5W, H 16 21 14,
		M Z'	03.4	19			½		h 33 km.ca.
	11	(Sg) N	23 53 17						Blasting ?
		m NEZ	53 18	0.5	0.03	0.05	0.03		
851	12	eL Z'	00 39.1						
		M N'	41.1	13	½				
	12	(ePg) Z	01 50 30						Quarry blast.
		iSg NE	50 34	0.4	+0.05	-0.05			
		i Z	50 34.1	0.3			+0.05		
		i N	50 35.3	0.4	+0.13				
		m N	50 37	0.5	0.24				
		m EZ	50 39	0.6		0.11	0.11		
852	12	eL Z'	06 22.5	22					USCGS: 27.9S, 176.2W, H 06 07 53,
									h 33 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
853	Nov.12	eP Z'	07 43 14						
		eS N'	47 41	8	1				
		e E'	47 43	8		1½			
		e N'	48 14	(24)					
		e(SS) Z'	48 40	14			1		
		eLR E'Z'	49.4	25-34					
		eLR N'	49.9	27	3				
		LR Z'	50.0	28			3		
		M Z'	51.1	17			2		
		M N'E'	52.2	13	3	2			
854	12	e(L) N'	12 57.5						
		eLR Z'	59.1	22					
		eLR E'	59.3	22					
		M N'	13 01.0	14	½				
		M E'Z'	02.0	17		½	1		
855	12	eL Z'	22 03						USCGS: 27.7S, 176.3W, H 21 48 43, h 33 km.ca.
		M Z'	05.4	15			1		
	13	iSg N	06 10 11.3	0.5	-0.02				Quarry blast. Masked by microseisms.
		i EZ	10 11.7	0.5		+0.03	-0.02		
		m N	10 13½	0.7	0.16				
		m EZ	10 16	0.7		0.06	0.05		
	13	i EZ	06 21 05.4	0.5			+0.04		Quarry blast. Masked by microseisms.
		m N	21 09½	0.7	0.04				
		m EZ	21 12	0.7		0.04	0.04		
	13	i Z	07 12 00.4	0.5			+0.05		Quarry blast. Masked by microseisms.
		m N	12 02½	0.7	0.17				
		m EZ	12 05	0.7		0.07	0.08		
856	13	iP Z	11 23 32½	1			+0.09		Compression. Microseisms present. USCGS: 23.8S, 179.9W, H 11 18 28.6, h 520 km.ca.
857	13	N'E'Z'	16 04	Feeble surface waves.					
858	13	e N'	16 21.3						Masked by microseisms.
		L N'	22.0	16					USCGS: 22.8S, 175.3W, H 16 06 35.7, h 33 km.ca.
		M E'Z'	24	16		½	1		
859	13	e(L) N'	17 32.3						Masked by microseisms.
		eL E'Z'	33.6	28					USCGS: 22.9S, 175.3W, H 17 18 50.1, h 33 km.ca.
		M N'	35.8	13	2½				
		M E'Z'	36.5	17		4	7		
860	13	M E'Z'	18 22	17		1	1½		Masked by microseisms. h 33 km.ca. USCGS: 22.9S, 175.5W, H 18 04 10.5,/
861	14	P Z	00 25 44						Microseisms present.
		eL Z'	33.0	24					USCGS: 30.1S, 177.4W, H 00 20 03.0, h 42 km.ca.
		M E'	34.0	18		1			
		M N'	34.8	14	1				
		M Z'	35.5	16			3		
	14	e NZ	02 31 13½	0.3					Local.
		i NZ	31 17	0.3	+0.06		+0.09		
		m E	31 19½	0.3		0.15			
862	14	Z'	04 37	Feeble surface waves.					USCGS: 22.6N, 142.9E, H 03 58 48.9, h 177 km.ca.
	14	(P) Z	04 38 06						Masked by large microseisms.
863	14	e(P) Z'	04 40 42						Confused by 862.
		m Z'	40.9	14			4		USCGS: 17.5S, 167.7E, H 04 35 48.5, h 33 km.ca.
		i Z	40 54½	1			-		
		iS E'	44 49	9		+4			
		iS N'	44 50	15	-12				
		i Z'	44 59	15			+11		
		(L) N'	45.8	21					
		(L) Z'	45.9	20					
		LR E'Z'	46.8	25		11	18		

Continued on next page.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
863	Nov.14	M N'	04 47.8	15	11				
cont.		M E'Z'	48.3	18		11	19		
	14	i N	06 00 53	0.4	+0.04				Quarry blast. Masked by microseisms.
		i Z	00 53½	0.4			+0.07		
		m E	00 54½	0.5		0.22			
		m NZ	00 56½	0.6	0.11		0.11		
	14	iSg N	07 33 54.3	0.5	-0.03				Quarry blast. Masked by microseisms.
		m N	33 58½	0.7	0.23				
		m E	34 00	0.7		0.06			
864	14	(P) Z'	14 06 00						Masked by microseisms.
		e(S) N'	10 20	15					USCGS: 17.4S, 167.6E, H 14 01 18.4,
		eL E'Z'	12.0	24					h 33 km.ca.
		M Z'	13.7	17			2½		
865	14	i(S) N'	14 14 38	14	-4				Confused by 864.
		eLR Z'	16.2	24					USCGS: 17.5S, 167.7E, H 14 05 35.6,
		M N'	17.5	15	4				h 33 km.ca.
		M E'Z'	18.0	18		2	4		
866	14	e(P) Z'	23 42 48						Masked by microseisms.
		e(S) N'	46 51	11					USCGS: 17.4S, 167.8E, H 23 37 49.5,
		eL E'	48.3	22					h 33 km.ca.
		eL Z'	48.5	22					
		M N'Z'	50.0	14-17	2		3		
		M E'	50.4	17		2			
	15	e NE	01 54 45½	0.3					Local. Quarry blast ?
		m N	54 50	0.7	0.08				Masked by microseisms.
	15	i Z	01 55 44.7				+		Local. Masked by microseisms.
		i E	55 51.8	0.5		+0.06			
		m NE	55 56½	0.6	0.04	0.08			
		m Z	55 58½	0.6			0.08		
867	15	iP Z	21 18 29.7	1.5			-0.38	8740	Dilatation.
		iP Z'Z"	18 30	8			-5	78°6	USCGS: 44.3N, 149.0E, H 21 06 34.0,
		ipP Z'Z"	18 39	8			+6		h 50 km.ca.
		isP Z"	18 46	4			+9		
		eS E'	28 23	10					
		iS N'	28 28	17	-7				
		e Z'	28.5	20			5		
		i N'	28 53	10	-3				
		i N'	29 10	18	+9				
		e(SS) N'	33.0	17					
		eSS N'	33.4	24	7				
		eSS Z'	33.7	19			5		
		eG E'	39.4	42		13			
		eLQ N'	40.1	34					
		eLR Z'	43.0	36					
		M E'	46.8	23		10			
		M N'Z'	49.2	22	11		20		
		M E'	50.3	21		10			
		W_2 M Z'	23 35.6	17			2		
	16	e E	01 15 56						Quarry blast ?
		m N	16 00	0.5	0.14				
	16	m N	03 07 47½	0.7	0.07				Quarry blast ?
868	16	Z'	03 28	Feeble surface waves masked by large microseisms.					
869	16	e N'	07 17.5						Masked by large microseisms.
		M N'	27.9	23	2				(USCGS: 41.3S, 87.5W, H 06 46 15.7,
		M E'Z'	28.4	23		2	5		h 11 km.ca.)

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
870	Nov.16	(P)	Z	22 49 39½						Masked by large microseisms.
		i	Z	50 04.7				+		USCGS: 22.3S, 175.0W, H 22 43 26.4, h 33 km.ca.
		e	Z'	50 05						
		i	Z'	51 20	6			+4		
		i	Z'	54 42	10			-3		
		e(S)	N'	55 05	?					
		e	Z'	55 09	20			5		
		e	E'	56.4	18					
		i(LR)	N'	57 23	18	+14				
		LR	E'Z'	58.9	22		13	17		
		M	N'	23 00.7	15	20				
		M	E'Z'	01.2	19		35	56		
871	17	(P)	Z	00 55 39						Masked by microseisms.
		e(L)	N'	01 03.2	20					USCGS: 22.2S, 175.0W, H 00 48 57, h 33 km.ca.
		eLR	Z'	04.3	24					
		M	N'	06.2	13	2				
		M	E'Z'	06.6	18		4	7		
872	17	i(PKP)	Z	01 08 01.5				+		Microseisms present.
		eSS	N'	31.0	28	3				L.P. confused by coda of 871 and long-period wanderings.
		eSS	E'	31.1	26		4			
		e	Z'	32.8	(25)					
		eSSS	N'	36.7	28	3				USCGS: 7.6N, 37.4W, H 00 48 02.6, h 33 km.ca.
		e	E'	37.3	30		6			
		e	Z'	37.8	25			2		
		e	E'	41.4	30		3			
		e	Z'	44.0	30			3		
		(e)	N'	49.0	60					
		eLQ	E'	51.5	40		13			
		eG	E'	53.3	50		14			
		eL	Z'	56.4	45			4		
		eLR	Z'	02 00.7	50			7		
		M	E'Z'	05.8	26		5	8		
		M	N'	06.5	25	7				
		M	N'Z'	16.7	17	7		12		
873	17	iP	EZ	13 19 33	1.0		+0.06	-0.06		Dilatation. Microseisms present. USCGS: 17.4S, 178.5W, H 13 13 49.3, h 509 km.ca.
874	17		Z'	17 15	Feeble surface waves masked by microseisms.					
	17	i	E	22 58 09.6	0.3		+0.06			Quarry blast ?
		i	N	58 10.7	0.5	-0.03				
		i	EZ	58 11.3	0.3		+0.11	-0.04		
		m	N	58 11½	0.5	0.15				
		m	EZ	58 12½	0.5		0.07	0.08		
875	18	eL	E'	01 17.2	26					Masked by microseisms & long-period wanderings.
		eL	Z'	17.9	30					
		M	E'	20.0	19		5			USCGS: 3.6S, 143.4E, H 01 01 52.9, h 33 km.ca.
		i	Z'	20 59	18			+4		
		M	N'	21.5	17	4				
		M	Z'	23.3	14			7		
	18	e	NEZ	01 55 54	0.5					Local. Small.
876	18	e	Z'	06 12 51						USCGS: 22.4S, 170.5E, H 06 04 12.7, h 33 km.ca.
		eL	Z'	14.2	22					
		M	N'	15.7	14	1				
	18	i	N	06 58 19.5	0.5	+0.01				Local. Blast ?
	18	e	E	07 29 24½						Quarry blast.
		i	Z	29 25.8	0.5			+		
		m	N	29 27½	0.7	0.10				
		m	EZ	29 30	0.7		0.06	0.10		
	18	iSg	N	07 29 45.8	0.4	-0.03				Quarry blast.
		i	Z	29 46.1	0.4			+0.03		
		m	N	29 48	0.6	0.13				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
877	Nov.18	e Z'	13 23.4	(20)					Masked by microseisms.
		eL Z'	26.1	21					USCGS: 35.5S, 179.9W, H 13 13 42.8,
		M N'	27.5	15	2				h 50 km.ca.
		M E'Z'	28.7	15-17		1	2		
878	18	(i) Z	13 59 19						Masked by microseisms.
		e N'	14 07 21						USCGS: 15.9S, 173.3W, H 13 51 35.8,
		eL E'Z'	09.2	25					h 33 km.ca.
879	18	ePP Z'	14 57 40						
		eS N'	15 05 24	12	2				USCGS: 29.9N, 113.6W, H 14 38 28.9,
		e N'	06 10	12	2				h 14 km.ca.
		ePS N'	07.0	32	1				
		ePS E'Z'	07 08	24		3	2		
		ePPS E'	08 15	21		2			
		eSS Z'	12 42	32					
		eSS N'	13.1	30	4				
		eSS E'	13.2	20		3			
		e Z'	16.1	52					
		eSSS N'	17.0	30	2				
		eLQ N'	23.5	50	7				
		eL Z'	24.1	40					
		G N'	25.0	60	13				
		eLR E'	28.7	40					
		eLR Z'	28.8	34					
		LR E'Z'	29.8	32		15	25		
		M N'	34.5	21	4				
		M N'E'Z'	37.4	18	4	10	15		
		W2 M E'Z'	16 49	26		2	3		
880	18	(eP) Z	21 16 19½						Microseisms present.
		i(P) Z Z'	16 29½	(0.9 5			(+0.09 +2		USCGS: 13.4S, 166.6E, H 21 11 10.2,
		e(S) N'	20 53	?					h 31 km.ca.
		e(S) E'	20 56	21		1			
		e Z'	21 04	20			2		
		e(LQ) N'	21.6	29					
		eLR Z'	22.4	27					
		M E	23.6	22		2			
		M N'Z'	24.0	22	1½		3		
	19	f NZ	00 23 34.1		+		+		Local blasting ?
		m NZ	23 35	0.3	0.04		0.05		
	19	i E	01 13 05.5	?		+			Quarry blast ?
		i NZ	13 05.8	0.3	+0.03		+0.03		
		m E	13 08½	0.4		0.07			
	19	(i) Z	07 04 57.3	0.5			+0.01		Local. Small.
		e N	05 04	0.5					
		e N	05.10	0.5					h 14km.ca.
881	19	eL Z'	09 14.4	Feeble.					USCGS: 30.9N, 113.8W, H 08 23 11.6,/
882	19	eP Z	10 50 34	0.8					Microseisms present.
		m Z	50 37	1.2			0.15		USCGS: 22.5S, 171.3E, H 10 45 49.1,
		e N'	54 29	12	1				h 36 km.ca.
		e E'	54 32	13		1			
		e Z'	54 36	18			2		
		e(LQ) N'	54.8	30					
		eL E'	55.3	24					
		eL Z'	55.6	26					
		M E'Z'	57.4	17		1	2		
		M N'	57.8	13	1				
883	19	e(S) N'	11 22.8						USCGS: 44.4N, 149.2E, H 11 00 54.3,
		eL N'	37.1	?					h 33 km.ca.
		eL Z'	37.6	28					
		M N'Z'	44.4	20	½		1½		
		M E'	45.5	19		1			
884	19	e N'Z'	18 20.1						Feeble.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
885	Nov.19	e(PS) N'E'	18 34.0	16					USCGS: 5.0S, 102.2E, H 18 17 02.2, h 37 km.ca.
		eL N'	40.2	50					
		eLR Z'	45.2	31					
		M N'E'Z'	47.6	25	2	2	3		
		M E'Z'	50.5	22		2	4		
886	20	iP Z	04 12 59.7	1.0			+0.10		Compression.
		i Z	13 45	1.2			0.14		L.P. confused by microseisms and long-period wanderings.
		eS N'	17 31	?					
		e(L) Z'	19.1	17					USCGS: 5.5S, 148.2E, H 04 07 22.6, h 201 km.ca.
		(eL) E'	19.5	?					
		M E'	24.8	14		1			
		M Z'	25.6	17			1		
		M N'	26.0	14	1				
	20	i(Sg) NE	06 38 11.2	0.5	+0.01	+0.02			Quarry blast.
		i Z	38 11.5	0.5			+		
		m N	38 13½	0.7	0.15				
		i Z	38 15	0.7			+0.08		
		m EZ	38 16	0.7		0.08	0.09		
887	20	e Z'	12 12.1	?					Masked by microseisms.
		e(L) N'	13.2	(28)					USCGS: 22.2S, 175.2W, H 11 59 58.5, h 33 km.ca.
		e Z'	13.9	25					
		eLR E'Z'	15.4	25					
		M N'	16.0	18	2				
		M E'Z'	18.2	18		8	13		
	21	i Z	05 46 15.8	0.5			+0.01		Local ?
888	21	e(P) Z	06 43 54	0.7					Microseisms present. L.P. masked by long-period wanderings. / h 33 km.ca.
									USCGS: 8.9S, 117.8E, H 06 36 24.2,/
	21	Pg Z	07 33 50.3						Quarry blast.
		iSg N	33 53.5	0.5	-0.08				
		i EZ	33 53.9	0.4		+0.07	-0.10		
		m N	33 56	0.6	0.67				
		m EZ	33 58½	0.7		0.13	0.16		
889	22	iP Z	00 26 50.2	0.7			+		Microseisms present.
		i Z	26 51.7	0.7			+		USCGS: 5.9S, 107.9E, H 00 18 35.9, h 323 km.ca.
		M N'	43.5	16	1				
		M Z'	46.3	14			1		
890	22	Z'	03 38	Feeble surface waves.					USCGS: 6.1S, 154.3E, H 03 24 36.3, h 78 km.ca.
	22	iSg N	06 09 01.5	0.5	-0.06				Quarry blast.
		i Z	09 01.7	0.5			-0.05		
		m N	09 04	0.6	0.39				
		m EZ	09 06½	0.7		0.10	0.11		
891	22	(P) Z Z'	14 57 52						Large microseisms present.
		eS N'E'Z'	15 07 50	15					USCGS: 44.4N, 149.0E, H 14 45 51.7, h 33 km.ca.
		e E'	08.3	16					
		ePS N'Z'	08.5	20					
		eSS N'Z'	12.7	26					
		eLQ E'	18.7	40		2			
		eLQ N'	19.2	30					
		eL Z'	20.1	21					
		eLR Z'	24.2	26					
		M N'	28.7	21	2				
		M E'	29.7	21		2			
		M Z'	30.0	21			3		
892	22	eL Z'	16 50.2	40					Masked by microseisms & coda of 891.
		M E'Z'	55	26		1	1		USCGS: 10.4N, 94.0E, H 16 15 54.0, h 33 km.ca.
893	22	M E'Z'	17 23	18		1	1		Masked by microseisms & coda of 892.
		m N'	24.6	11	2				USCGS: 17.9S, 172.8W, H 17 03 38.9, h 33 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Nov.23	i N	00 17 38.5	0.5	+0.01				Quarry blast ?
		i N	17 41.6	0.5	+0.05				
		m N	17 43½	0.7	0.17				
	23	e EZ	01 38 19½						Quarry blast ?
		m EZ	38 24	0.6		0.03	0.02		
	23	i N	02 05 07	0.3	+				Quarry blast ?
		m E	05 08	0.5		0.47			
		m NZ	05 09	0.5	0.07		0.10		
	23	i Z	04 55 42.5	0.5			-0.02		Quarry blast ?
		i N	55 45	0.6	+0.02				
		m N	55 47	0.7	0.06				
894	23	iP Z	05 03 57	0.7			+0.05		Compression.
		m Z	03 58	0.7			0.08		USCGS: 15.0S, 167.3E, H 04 58 52.0, h 116 km.ca.
	23	(e) E	06 01 54½						Quarry blast ?
		i NZ	01 59.5	0.5	+0.02		+0.03		
		m N	02 03	0.7	0.10				
		m EZ	02 06	0.7		0.08	0.07		
895	23	e(PPS) E'	08 20 36	(16)					USCGS: 30.1N, 114.0W, H 07 50 46.3, h 14 km.ca.
		e(SS) E'	25.5	18		1			
		e(SS) Z'	25.6	18					
		e(SS) N'	25.7	18	1				
		eLR E'Z'	41.2	32					
		LR E'Z'	42.0	32		3	7		
		M N'E'Z'	50	18	1	3	5		
		W2 E'Z'	10 04	20					h 33 km.ca.
896	24	eL Z'	02 07.5						USCGS: 17.1S, 173.2W, H 01 41 41.2,/
897	24	eL Z'	05 24.4						USCGS: 22.1S, 175.6W, H 05 08 42.8, h 33 km.ca.
		M E'Z'	26.5	17		1	1½		
		M E'Z'	30.4	17		1	1½		
898	24	iP Z	11 15 55	0.7			+0.03		Compression. Microseisms present.
		i Z	16 41	0.8			+0.03		USCGS: 28.2N, 140.1E, H 11 05 56.8, h 260 km.ca.
899	24	eL Z'	15 46.0	26					USCGS: 6.1S, 147.6E, H 15 31 29.4, h 75 km.ca.
		eL N'E'	46.6	21					
	25	e N	01 09 52	½					Seismic ? Regional ?
		f N	09 57½	½	+				
		F	12.3						
	25	e N	01 58 42						Similar to above.
		i N	58 49	½	+				
	25	i E	02 04 59			+			Quarry blast ?
		m N	05 03	0.7	0.05				
	25	Pg EZ	07 44 25						Quarry blast.
		fSg N	44 28.7	0.4	+0.07				
		f Z	44 29.2	0.3			+0.07		
		m N	44 31½	0.6	0.26				
		m EZ	44 33½	0.7		0.13	0.17		
900	25	(e) E'	10 29.1						Confused by wanderings.
		e Z'	39.4						USCGS: 44.3N, 149.8E, H 10 11 06.7, h 50 km.ca.
		M N'Z'	48	19	½		½		
901	25	N'Z'	17 22	Feeble surface waves.					USCGS: 22.6N, 121.3E, H 16 46 36.2, h 33 km.ca.
	26	NO L.P.	RECORDS.						
	26	e Z	01 09 20						Local blasting ?
		m NE	09 20½	0.3	0.11	0.09			
902	26	(P) Z	03 04 27						Masked by microseisms.
		M N"E"Z"	15	15					USCGS: 26.9S, 176.5W, H 02 58 34.7, h 46 km.ca.

RIVERVIEW COLLEGE OBSERVATORY

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Nov.26	i	NE	04 45 31.4	0.3	-0.04	-0.11			Local blasting ?
		m	E	45 32	0.3		0.15			
		m	NZ	45 32½	0.4	0.06		0.10		
903	26	iP	Z	06 58 40.0	1.2			+0.14		Compression.
		i	EZ	07 00 14½	0.8		-0.05	-0.05		USCGS: 6.8S, 129.6E, H 06 52 08.2,
		i	N"	00 59	5	-1				h 111 km.ca.
		i	Z	01 52	1.1			+0.06		
		i(SS)	E	06 11	1.0		+0.06			
		i	N	06 14½	1.0	+0.06				
		i	Z	06 25	1.0			+0.06		
		i	E	06 27½	1.0		-0.09			
		i	N	06 42½	1.0	+0.07				
		i	Z	06 47½	1.5			-0.16		
		M	N"	10.9	8	3				
	26	iSg	N	07 14 14.2	0.5	+0.03				Quarry blast.
		i	Z	14 14.4	0.5			+0.02		
		m	N	14 16½	0.6	0.12				
		m	EZ	14 18½	0.6		0.05	0.06		
	26	i	E	07 31 10	0.4		+			Quarry blast ?
		i	Z	31 10.5	0.5			-0.03		
		i	N	31 13.7	0.7	+0.02				
	26	iSg	N	07 35 55.2	0.5	+0.02				Quarry blast.
		i	EZ	35 55.5	0.5		-0.03	+0.05		
		m	N	35 58	0.6	0.14				
		m	EZ	36 00	0.7		0.05	0.07		
904	26	i	Z	08 53 56				+		Masked by microseisms.
		M	N"	09 06	(13)					USCGS: 7.1S, 129.2E, H 08 47 17.0,
										h 117 km.ca.
905	26	iP	Z	20 06 27.4	0.8			+0.03		Compression. h 33 km.ca.
										USCGS: 9.6S, 155.5E, H 20 01 08.1,/
906	26	iP	Z"	22 55 56½	4			+2		Compression.
		e	N"	56 52	14					USCGS: 16.6S, 175.2E, H 22 50 08.9,
		e	E"Z"	56 54	14					h 33 km.ca.
		i	N"	58 24½	5	+2				
		i	Z"	58 28½	6			+7		
		e(S)	E"	23 00 42	10					
		m	N"E"	01.0	10	2	3			
		eL	Z"	03.4	26					
		M	E"	04.5	21		6			
		M	N"Z"	05.4	15	8		6		
	27	i	NE	00 56 17.9	0.4	+0.06	+0.03			Local blasting ?
	27	m	N	07 00 44	0.7	0.02				Quarry blast.
	27	iPg	Z	07 36 15.2	0.3			+		Compression. Quarry blast.
		iSg	NE	36 19.2	0.4	+0.05	+0.05			
		i	Z	36 19.4	0.4			+0.08		
		m	N	36 22	0.5	0.29				
		m	EZ	36 24	0.6		0.14	0.14		
	27	iPg	EZ	07 48 13.5	0.3		(+)	+		Compression. Quarry blast.
		(Sg)	N	48 17.2	0.4					
		i	EZ	48 17.5	0.4		-0.07	+0.09		
		m	N	48 20½	0.6	0.04				
		m	EZ	48 22	0.7		0.09	0.11		
907	27	(P)	Z	14 06 50½						Microseisms present.
		e(S)	N'	13.4	?					USCGS: 3.1N, 126.6E, H 13 58 58.4,
		e	Z'	14.3	32					h 33 km.ca.
		M	E'Z'	23.4	30		½	½		
		M	N'	24.0	30	½				
	28	e	N	01 57 58						Blasting ?
		m	N	57 58½	0.4	0.08				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitudo A_N	Amplitudo A_E	Amplitudo A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Nov.28	i Z	03 09 32.7	0.3			+0.04		Local blasting ?
		i Z	03 09 39.6	0.3			+0.04		
		i Z	03 09 51.5	0.3			+0.04		
	28	i N	04 15 24.2	0.5	+0.02				Quarry blast.
		e Z	15 24.5	0.5					
		i N	15 27.5	0.5	+0.05				
		m N	15 28½	0.7	0.15				
		m Z	15 32	0.7			0.04		
	28	i EZ	07 25 05.5	0.5		+	+0.02		Quarry blast.
		m N	25 09½	0.7	0.05				
		m Z	25 12	0.7			0.05		
	28	(Pg) Z	08 17 22.5						Quarry blast.
		iSg N	17 26.0	0.6	-0.06				
		i EZ	17 26.5	0.5		-0.07	+0.09		
		m N	17 28½	0.6	0.48				
		m EZ	17 31	0.7		0.14	0.14		
908	28	(iP) Z	15 13 26	0.8			+		Masked by microseisms.
		i Z	13 49	1.0			-		USCGS: 12.1S, 166.1E, H 15 07 50.8,
		i N	13 51½	1.0	+				h 33 km.ca.
		e(S) E'	17 57						
		i N'	18 05	7	+2				
		e Z'	18 09	6			3		
		i E'	18 11	10		-1			
		L N'	19.4	20					
		eLR Z'	20.4	25					
		LR Z'	21.0	22			1		
		M N'	22.5	17	½				
		M E'Z'	26.0	15		½	1½		
909	28	e N'	19 36.5	?					Masked by microseisms.
		e N'E'	39.1	14					USCGS: 12.2S, 165.9E, H 19 26 25.5,
		eL Z'	41.6	25					h 25 km.ca.
	29	e E'	06 07 49						Quarry blast.
		m N	07 50½	0.6	0.05				
		m EZ	07 53	0.7		0.06	0.06		
910	29	N'	10 32	Feeble surface waves masked by micros.					USCGS: 12.2S, 166.0E, H 10 21 53.0, h 54 km.ca.
911	29	N'E'Z'	18 48	Feeble surface waves masked by large microseisms.					USCGS: 17.3S, 178.4W, H 18 55 23.6, h 528 km.ca.
	30	(P) Z	03 32 07						Microseisms present.
	30	iPg EZ	05 40 40	0.4		+	+		Compression. Quarry blast.
		iSg NEZ	40 45	0.4	+0.06	-0.08	-0.04		
		i Z	40 45½	0.5			+0.07		
		m N	40 50	0.7	0.56				
		m EZ	40 53	0.7		0.11	0.17		
912	30	iP Z	09 55 41.4	1.2			+0.15	4600	Compression. Microseisms present.
		(pP) Z	55 57	1.1				41°4	h 0.005 ca.
		e N'	56 06	7	1				USCGS: 1.6N, 128.4E, H 09 47 59.0,
		ePP N'	57 22	7	1				h 61 km.ca.
		e Z'	57 26	7			2		
		eS E'	10 01 51	13					
		e N'	01 54	12	1				
		e N'Z'	02.0	31					
		esS E'	02 18	12		1			
		eSS N'E'	04 51	13					
		e Z'	05.0	13			2		
		i E'	05 11	13		+3½			
		e Z'	05 15	12			3		
		e Z'	05.5	20			3		
		eL E'	06.4	50					
		eLR N'Z'	07.5	52					
		M N'Z'	10.0	35	1½		3		
		M E'	11.0	26		1½			

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
913	Nov.30	E'Z'	22 21	Feeble surface waves masked by microseisms.					USCGS: 6.6N, 94.2E, H 21 40 20.3, h 33 km.ca.
	30	(e) Z	23 35 40						Local or regional.
		i N	36 13½	0.4	+0.02				
		i NEZ	36 14	0.4	+0.05	+0.04	+0.04		
914	Dec. 1	(P) Z	11 58 17						Microseisms present.
		e(S) N'	12 02.6	(14)					USCGS: 4.6S, 154.8E, H 11 52 52.9, h 479 km.cs.
		e Z'	05 20	14					
		e N'	06 12	13					
915	1	N'E'Z'	15 01	Feeble surface waves.					h 31 km,ca)
916	1	N'E'Z'	16 55	Feeble waves masked by microseisms.					(USCGS: 28.9N, 130.0E, H 16 15 01,/
	2	iPg EZ	07 00 22	0.4		+	+		Quarry blast.
		iSg N	00 25.6	0.4	-0.04				
		i EZ	00 25.9	0.3		+0.14	-0.11		
		m N	00 28	0.7	0.23				
		m EZ	00 30½	0.7		0.11	0.14		
	2	iSg N	07 00 44.1	0.5	-0.05				Quarry blast.
		i Z	00 44.4	0.4			-0.04		
		i E	00 44.9	0.3		+0.06			
		m N	00 47	0.6	0.36				
		i Z	00 47.1	0.7			+0.08		
		m EZ	00 49	0.7		0.14	0.17		
917	2	eL Z'	12 27.5						
918	2	eL N'Z'	14 28.7	25					USCGS: 44.4S, 15.6W, H 13 37 25.1, h 33 km.ca.
		M N'E'Z'	33	20	¼	¼	1		
919	2	M N'Z'	22 02	30	½		1		
	3	e N	01 57 36						Blasting ?
		m NE	57 37	0.4	0.12	0.06			
		m Z	57 38	0.4			0.04		
920	3	eL Z'	05 50.7	23					USCGS: 46.2N, 153.0E, H 05 09 22.0, h 40 km.ca.
		M N'Z'	55.5	20	1		1		
	3	i(Sg) NZ	06 50 29	0.6	+0.01		+0.03		Quarry blast.
		i E	50 29.5	0.3		+0.06			
		m N	50 31½	0.7	0.08				
		m EZ	50 33½	0.7		0.08	0.08		
921	3	N'Z'	07 31	Feeble surface waves masked by microseisms.					USCGS: 6.2S, 147.6E, H 07 13 37.5, h 97 km.ca.
922	3	eP Z	21 20 42½	0.8				2920	
		e N'Z'	20 48	16			2	2693	USCGS: 12.2S, 166.0E, H 21 15 10.4, h 32 km.ca.
		ipP Z	20 51½	1.2			+0.15		
		isP Z	20 54½	1.0			-0.14		
		i Z	20 58½	1.0			+0.15		
		e N'E'	21 06	9	1	1			
		e Z'	25.0	(24)					
		eS N'	25 11	?					
		i E'	25 19	16		+			
		i Z'	25 28	13			+10		
		m N'	25 28	14	9				
		m E'	25 41	17		10			
		i N'E'Z'	25 50	11	-6		+8		
		e Z'	26 27	16					
		i(SSS) N'	26 39	16	+7				
		eLR Z'	27.7	28			7		
		eLR E'	27.8	26		5			
		LR Z'	28.5	21			9		
		M E'Z'	30.9	16		5	7		
		M N'	31.0	16	7				

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
923	Dec. 3	eP Z	21 35 37	1.0					L.P. confused by coda of no.922.
		i Z	35 47	0.8			+0.07		
		e N'	40 10	16	6				USCGS: 12.0S, 166.0E, H 21 30 05.7, h 40 km.ca.
		e E'	40 12	16					
		m E'	40.6	16					
		i E'	40 42	12					
		(SSS) N'	41 30	15	6				
		eLR Z'	42.6	28			6		
		eLR E'	42.7	26		3			
		i Z'	43 32	15			+9		
924	3	e(PS) N'E'Z'	23 32.6	(28)					Confused by long-period wanderings.
		e(SS) N'E'Z'	38.7	(30)					USCGS: 22.4S, 69.3W, H 23 03 41.6, h 18 km.ca.
		e Z'	46.3	22					
		M N"E"Z"	58	23	3	2	5		
		M Z'	24 21.4	17			2		
925	4	e(P) Z	00 18 54½						USCGS: 12.1S, 166.1E, H 00 13 22.4, h 39 km.ca.
926	4	eL Z'	00 56.5	27					USCGS: 34.0S, 179.3W, H 00 44 37.4, h 33 km.ca.
		M N'Z'	58.1	18	1		2		
927	4	(eL) Z'	02 04.7						Confused by long-period wanderings.
		M N'Z'	13.1	21	2		3		USCGS: 46.2N, 153.1E, H 01 27 34.1, h 20 km.ca.
928	4	M Z'	03 29.3	19			1		USCGS: 4.8S, 130.1E, H 02 53 42, h 33 km.ca.
	4	iPg Z	07 38 27.2	0.3			+0.02		Compression. Quarry blast.
		i Z	38 28.2	0.5			+0.02		
		iSg N	38 31.0	0.4	+0.02				
		i EZ	38 31.2	0.4		-0.06	+0.05		
		m N	38 33½	0.6	0.09				
		m EZ	38 36	0.7		0.09	0.12		
929	4	(eL) Z'	09 04.1						Confused by long-period wanderings.
		M Z'	10.4	19			1		USCGS: 46.1N, 152.9E, H 08 24 17.1, h 33 km.ca.
930	4	eP Z'	16 12 09	9			1	8880	
		eS E'	22 12	24		½		7999	USCGS: 35.5S, 102.8W, H 15 59 42.1, h 33 km.ca.
		e Z'	22 17	25			1		
		eSKS N'	22 30	26	1				
		e E'	22 44	35		2			
		ePS N'	23 07	26	2				
		e Z'	23.7			1½			
		e(SS) E'	27.1	22					
		eSS N'Z'	27.5	21-26			2		
		eSSS Z'	30 50	32			1		
		eL N'E'	34.4	30					
		eLR N'	37.1	34					
		eLR Z'	37.4	33					
		LR N'E'Z'	38.0	34	3	3	8		
		M E'Z'	44.3	17		1	2		
		M N'	46.2	17	1				
		eW2 E'Z'	18 22	28					
	5	i Z	01 32 35.0	0.3			-0.02		Quarry blast ?
		i Z	32 37.7	0.4			+0.03		
		i N	32 39.4	0.3	+0.04				
		m EZ	32 40½	0.4		0.04	0.06		
931	5	e(SS) Z'	04 51.5						USCGS: 35.7S, 103.1W, H 04 23 22.2, h 33 km.ca.
		eL Z'	05 00.8	31					
		L Z'	01.6	31			1		
		M Z'	06.0	18			½		
	5	i(Sg) N	06 00 19.7	0.4	+				Quarry blast.
		i Z	00 20	0.4		+			
		m E	00 21	0.6		0.27			
		m NZ	00 23	0.6	0.12		0.12		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AN	Amplitude AZ	Δ	Remarks
932	Dec. 5	eL Z'	12 32.6	(19)					USCGS: 7.4N, 77.3W, H 11 29 49.4,
		M Z'	36.6	18			½		h 33 km.ca.
933	6	e Z	02 02 40						Masked by microseisms.
		e N	02 43	0.8					USCGS: 5.8S, 150.3E, H 01 56 42.8,
		e Z'	02 47	?					h 61 km.ca.
		e(PP) Z'	03 20	?					
		e(S) N'	07 13	24	2				
		e Z'	07 17	26			2		
		eL Z'	09.8	36					
		M N'	11.9	21	2				
		M Z'	12.9	20			3		
		M E'	13.6	12		1			
934	6	M N'E'	06 12	17	½	½			USCGS: 44.7N, 150.2E, H 05 17 10.0,
									h 60 km.ca.
935	6	e Z'	19 10.9	Feeble					USCGS: 7.1S, 80.5W, H 18 14 32.1,
		M Z'	22	"					h 33 km.ca.
936	7	iP Z	04 13 06.0	0.7			+0.03	3110	Compression. Microseisms present.
		m Z	13 08	0.7			0.11	28°0	h 0.08 ca.
		i Z	13 09	0.8			+0.11		USCGS: 22.1S, 179.4W, H 04 07 52.8,
		e Z'	15 52	(13)					h 546 km.ca.
		e Z'	17 11	(14)					
		eS E'	17 13	9		2			
		iS N'	17 14	?	-				
		eL Z'	20.0	24					
		e E'	20 12	14		2			
		e N'	20 19	13	2				
		eScS N'	22 45	14		1			
	7	i NEZ	04 29 58½	0.2	(+)	(+)	+		Local. Very small.
937	7	iP EZ	04 51 31	0.8			+0.10		Compression. Microseisms present.
									USCGS: 18.8S, 169.2E, H 04 46 52.2,
									h 227 km.ca.
938	7	eP Z'	10 37 54	?					Microseisms present.
		i Z	37 55	1.3			-0.40		USCGS: 20.8S, 174.0E, H 10 32 39.5,
		e Z'	42.3	16			2		h 33 km.ca.
		i(S) E'	42 21	16		-2			
		e N'	43 11	12	4				
		eLR Z'	44.1	27			8		
		eLR E'	44.2	27		5			
		M E'Z'	45.6	19		4	6		
		M N'	46.8	13	4				
939	7	(i) Z	15 36 33.3				+		Masked by microseisms.
		eL(Q) E'	38.5	34					USCGS: 12.3N, 143.9E, H 15 17 57.3,
		M '	43.2	18		1			h 33 km.ca.
		M N'Z'	45.4	18	2		2		
940	8	eL Z'	08 33.2	25	Feeble. Masked by microseisms.				
941	8	e N'	10 59.4						
		M N'E'	11 07	15	½	½			
	8	i E	12 33 05.6			+			Local ? Masked by microseisms.
		i N	33 06.3	0.5	-0.03				
		i Z	33 06.8	0.5			+0.05		
	9	i Z	06 54 23.6	0.5			+0.04		Quarry blast.
		i E	54 23.9	0.4		+0.04			
		m N	54 26	0.7	0.12				
		m EZ	54 28	0.7		0.06	0.08		
	9	e N	09 38 07½	0.5					Regional ? Or T waves ? Superposed
		i Z	38 19	0.5			+0.03		on microseisms.
		i Z	38 30	0.5			+0.03		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
942	Dec. 9	iP Z	10 59 13.5	1			+0.09		Compression. Microseisms present.
		i Z	59 15	1.5			+0.28		USCGS: 21.1S, 178.0W, H 10 53 39.4,
		e Z'	11 01 26	12			1½		h 435 km.ca.
		e E'	01 29	13		½			
		e Z'	02 13	12			1		
		e E'	02 20	13		1			
		eS E'Z'	03 40	9-16		2	1		
		eL N'E'Z'	06.3	20	1	1	2		
		M N'	09.7	13	1				
		M E'Z'	12.1	20		½	1		
943	9	Z'	21 20	Feeble surface waves.					USCGS: 11.4S, 166.4E, H 21 09 56.1
									h 167 km ca.
944	10	iP Z	03 37 42	1.5			+0.76	3870	Compression.
		N'E'Z'N"E"Z"	37 42	4	-2	+2	+9	3498	h 0.05, H 03 31 22
		ipP N'Z'N"Z"	38 50	5	-2½		+7		
		i E'E"	38 52	4		+2			USCGS: 6.2S, 128.1E, H 03 31 21.1,
		iPP Z'Z"	39 11	5			+4		h 366 km.ca.
		i Z"	39 20	5			+3		
		e Z'	39 33	17					
		iS N'E'N"E"	42 47	8	+4	+7			
		iScP Z	43 24	2			+0.66		
		e N'	44 39	?					
		esS N'	44 47	13					
		iSS E'Z'	45 32	14		-20	-15		
		iSS N'N"	45 34	14	-23				
		i Z"	45 36	9			+26		
		i E"	45 38	9		+27			
		i Z"	45 51	?			+		
		i N'	46 58	6	+10				
945	10	iP Z	06 43 35.0	1.0			-0.10		Dilatation.
		m Z	43 36	1.0			0.14		USCGS: 58.1S, 26.4W, H 06 30 54.8,
		e N'	54 54	?					h 110 km.ca.
		e E'	55 08	8					
		M Z'	07 26.2	15			1		
	10	iSg N	06 46 33.2	0.7	+0.03				Quarry blast.
		i Z	46 34	0.7			+0.03		
		m N	46 37½	0.7	0.19				
		m EZ	46 40	0.7		0.04	0.04		
	10	i EZ	07 00 10.8	0.4		+0.02	+0.01		Quarry blast ?
		m EZ	00 15	0.6		0.03	0.04		
946	10	eLR Z'	14 55.4	25					USCGS: 7.1S, 155.5E, H 14 42 11.2,
									h 88 km.ca.
947	10	eL Z'	15 57.1	20					USCGS: 21.3S, 174.4W, H 15 39 49.2,
									h 33 km. ca.
948	11	eP Z'	00 54 53	7			1		
		e(PP) Z'	56 21	(8)					USCGS: 15.1S, 173.6W, H 00 47 48.3,
		e E'	56 24	7					h 33 km.ca.
		iPPP E'Z'	56 40	6		+3	-5		
		i Z"	56 41	6			+8		
		e E'	01 01 00	16		1			
		e Z'	01 02	16			1		
		e N'	03 26	26	6				
		e(SSS) E'	03.6	26					
		eLR E'Z'	05.4	26					
		LR E'Z'	05.9	28		7	12		
		M N'	08.3	14	2½				
		M E'Z'	09.8	17		3	6		
949	11	eP Z	02 36 57	1.0					USCGS: 17.8S, 178.6W, H 02 31 19.4,
		i EZ	36 58.1	1.0		+	-		h 537 km.ca.
		m EZ	36 59	1.0		0.08	0.34		
		e Z'	44.3	20					
		e E'	44.4	14					

No.	Date	Phase & Component		Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963			h m s	s	μ	μ	μ	km.	
	Dec.11			No S.P. Z record after 03h 15m.						
	11	e	E	03 59 14						Quarry blast ?
		m	N	59 18	0.7	0.05				
		m	E	59 21½	0.7		0.03			
950	11	eP	NE	04 01 25						Masked by microseisms.
		e	E'	06 33						USCGS: 7.2S, 125.5E, H 03 54 39.5, h 145 km.ca.
	11	i	E	06 42 08	0.4		+0.03			Quarry blast ?
		m	N	42 10	0.7	0.06				
		m	E	42 12	0.7		0.05			
	11	(iP)	E	10 10 36			+			Microseisms present.
951	11	(eP)	Z'	17 21 13	?					Obscured by microseisms.
		e(SKS)	N'	31 32	14					USCGS: 51.3N, 179.5W, H 17 08 12.3, h 32 km.ca.
		e	E'Z'	31 57	14					
		e(SS)	E'	37.8	14					
		e	N'Z'	37.9	14					
		e	N'	44.3	13					
		eLR	Z'	49.3	31					
		eLR	N'	49.5	30					
		M	N'Z'	53.0	22	1		1		
		M	E'	55.5	19		1			
		M	Z'	57.6	19			1		
		W2	Z'	19 35	20					
	12	i	EZ	01 41 06	0.5		+	+		Local. Quarry blast ?
	12	i	NE	03 45 11.7	0.3	+	+			Local.
	12	i	EZ	06 57 09	0.4		-	+		Local. Quarry blast ?
		m	EZ	57 13½	0.7		0.02	0.05		
952	12	e(L)	N'	15 31.8	(45)					Masked by microseisms.
		M	N'	37.6	23	½				USCGS: 4.5N, 97.2E, H 15 02 48, h 33 km.ca.
		M	E'Z'	41	21		½	½		
953	13	eL	E'	13 32.9	22					
		e	N'	33.4	15					
		eL	Z'	33.9	27					
954	13	e	E'	21 27.8	15					USCGS: 3.5S, 140.1E, H 21 10 21.0, h 44 km.ca.
		eL	Z'	28.0	22					
		M	N'E'Z'	30.5	14	1	1	1		
	14	(P)	NZ	01 40 16	0.4					Local or regional.
		i	E	40 37	0.5		+0.03			
955	14	iP	Z	01 50 53.5				+		Compression. Microseisms present.
		eL	Z'	02 11.3	20					USCGS: 17.9S, 178.3W, H 01 45 13.8, h 550 km.ca.
	14	i	EZ	05 37 24.7	0.5		-	+		Quarry blast ?
		i	N	37 27.5	0.7	+				
		m	EZ	37 31	0.7		0.05	0.07		
956	14		Z'	07 55	Feeble surface waves.					USCGS: 2.8S, 140.8E, H 07 35 31.6, h 33 km.ca.
957	14	e	N'	11 53.9						USCGS: 5.4S, 152.3E, H 11 42 50.1 h 43 km.ca. / 95 km.ca.
		eL	Z'	57.3	21					
958	14	eL	Z'	15 18.9	28					US CGS: 7.1S, 155.7E, H 15 06 05,
959	15	e	Z'	17 40 20						Masked by microseisms.
		(eL)	N'	49.2	36					USCGS: 9.4S, 124.1E, H 17 32 37.2, h 33 km.ca.
		eL	E'	49.8	33					
		M	N'E'	51.6	22	2	1½			
		eL	Z'	51.9	25					
		M	Z'	55.0	13			2		
960	15		Z'	18 37	Surface waves.					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
961	Dec.15	iP NEZ	19 42 40.4	0.6	+	-	-0.08	5510	Dilatation.
		iP Z'Z"	42 40½	7			-10	49°6	H 0.10, H 19 34 45
		i E'N"E"	42 41½	5	+1*	-3*			Amplitudes from Galitzin*
		i Z	42 43	0.5			+0.25		
		i Z	43 21	0.6			+0.23		USCGS: 4.8S, 108.0E, H 19 34 45.5,
		iPcP Z'Z"	43 51	7			-6		h 650 km.ca.
		i Z	43 52½	1.0			+0.32		
		e N'E'	44 33				(-0.30		
		ipP Z N"E"Z"	44 37	1&5*	+3*	-5*	-22*		*Galitzin.
		i Z	44 44	1.0			+0.59		
		i Z"	46 09	8*			+23*		
		i Z'	46 10	10			+13		
		i Z"	46 16	7*			-20*		
		i Z	46 16½	1.6			+1.30		
		iScP Z	46 45	1.2			+1.06		
		i Z	47 52½	1.1			+0.30		
		iS NE	49 02	1.5	-0.92	-1.74			
		iS E'Z'N"E"Z"	49 02	7*	+6*	-37*	+22*		
		i N'N"	49 09	7	+7				
		i E'	50 09	10		+10			
		iScS N"E"	51 20	5*	+8*	+5*			
		i N'	51 22	11*	-16*				
		i E'	52 22	10		+			
		i(sS) E"	52 23	7*		+11*			
		i N"E'	52 38	7*11	+13*	+22			
		e Z'	52.7	(25)					
		iSS E"	52 50	9*		+27*			
		e E'	52.9	25					
		i N'	55 05	13	+19				
		i N"	55 17	10*	-28*				
		M N'E'	59.5	25	33	21			
	16	i N	01 55 57.7	0.5	+0.07				Quarry blast ?
		i E	55 58.3	0.3		+0.09			
		m N	55 58½	0.5	0.13				
		m EZ	55 59½	0.5		0.09	0.08		
962	16	iP Z	02 00 24.1	(1.3)			+	5570	Compression. H 01 51 25
		iP Z'Z"	00 25	4			+3	50°1	
		i Z	00 26.5	0.7			+0.08		USCGS:
		i E'Z'E"	00 28	5		+3	+8		
		i Z	00 30	0.8			+0.16		6.1S, 104.9E, H 01 51 23.2,
		i Z'Z"	00 50	7			-4		h 30 km.ca.
		ePP Z'	02 23	16			3		
		ePP E'	02 25	15		1			
		iS E'E"	07 35	10		+6			
		iS N'N"	07 37	8	+8				
		i Z'Z"	07 38	9			+6		
		iPS N'	07 45	7	+				
		e N'E'	07.8	28	8	11			
		e N"E"	08.1	24					
		i N"	08 16	9*	+10*				
		e Z'	08 24	27					
		eSS N'	11 00	14	3				
		iSS E'	11 07	20		+9			
		i N'	11 26	24	-6				
		i Z'	11 37	20			+11		
		i Z'	12.0	25			+14		
		i N'	12.1	24	-15				
		eL N'E'	13.6	46					
		L N'	14.7	40	30				
		eLR Z'	14.8	50					
		LR E'	15.3	40		23			
		LR Z'	15.5	50			25		
		M N'	18.6	24	67				
		M E'	20.4	25		32			
		M Z'	20.9	25			52		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
963	Dec.16	iP Z	02 15 34.5	(1.3)			-		Dilatation. L.P.masked by 962.
									USCGS:6.3S, 105.5E, H 02 06 38.2,
	16	(Pg) EZ	06 49 13						/ h 33 km.ca. Quarry blast.
		Sg N	49 16½	0.4					
		i EZ	49 16.8	0.4		-0.08	+0.08		
		m N	49 18½	0.7	0.10				
		m EZ	49 21½	0.7		0.15	0.18		
	16	iSg N	06 56 19.3	0.5	+0.07				Quarry blast.
		m N	56 22	0.7	0.16				
		m Z	56 24	0.7			0.07		
964	16	iP N'E'Z'N"E"Z"	14 23 15	5	+3	+3	+8		Compression. S.P. masked by micro-
		e(S) E'	27 28	?					seisms.
		e(S) N'	27 33	(12)					USCGS: 49.1S, 127.1E, H 14 18 04.9,
		e Z'	23 35	10			3½		h 33 km.ca.
		i N'E'N"E"	27 40	8	+4	+3½			
		eLR N'Z'	29.1	33	3		8		
		M E'Z'	30.3	16-20		8	13		
		M N'	30.6	20	9				
965	16	eL Z'	15 36.4	22					Masked by microseisms. /33 km.ca.
									USCGS: 15.2S, 173.7W, H 15 18 34.5/
966	16	(iP) Z	16 15 27						Masked by microseisms. /46 km.ca.
		eL Z'	34.1	22					USCGS: 6.5S, 105.3E, H 16 06 35.2,/
	17	(Sg) N	05 59 29	0.5					Quarry blast. Masked by microseisms.
		m E	59 31	0.5		0.21			
		m NZ	59 32	0.6	0.09		0.11		
967	17	e(P) Z'	08 38 18	8			1		Masked by microseisms.
		e N'	43.3	10					USCGS: 33.4S, 178.6W, H 08 33 23,
		e N'	43.9	16					h 383 km.ca.
		eL Z'	45.0	26					
		M N'	48.1	14	1				
		M E'Z'	48.5	16		1½	3		
968	17	e(S) N'	10 29 56	12					Masked by microseisms.
		eL E'	31.4	37					USCGS: 6.5S, 146.8E, H 10 19 10.0,
		eLR Z'	32.6	33					h 33 km.ca.
		M N'	34.2	21	2				
		M E'	34.4	19		3			
		M Z'	36.0	18			3		
969	18	iP Z	00 36 04.6	0.8			+0.05		Compression.
		iP N'E'Z'N"E"Z"	36 05	20	-8	-60 ca	+120 ca		L.P. records hard to decipher. Traces
		m E	36 09	0.8		0.44			overlapping.
		m Z	36 10	0.8			1.68		
		m N	36 16	0.8	0.37				
		isP N'N"E"Z"	36 37	8*	+18*	+110*	-220*		* Galitzin
		m Z'	36.8	20			240 ca		USCGS: 24.8S, 176.6W, H 00 30 02.6,
		iPP N"	37 05	7*	-18*				h 46 km.ca.
		iPP E"	37 07	8*		-110*			
		i Z"	37 10	8*			+125*		
		i E"	39 17	9*		+85*			
		i E'	40 33ca	38ca		+260 ca			
		i(S) N'	40 51	28ca	+240 ca				
		i E"Z"	40 52	12*		+100*	+170*		
		i E"	41 37	10*		-120*			
		i N'	41.7	30ca	+110 ca				
		i E"	42 15	12*		+130*			
		L E'	44	40ca		390 ca			
		iScS NE	46 39	2	+1.09	+0.83			
		m NE	46 45	2.5	7.2	7.2			
		X N'	02 49	80	71				
	18	i Z	02 05 41.7	?			+		Quarry blast. Masked by microseisms.
		iSg NEZ	05 44.2	0.4	+0.05	-0.05	+0.04		
		m N	05 47	0.5	0.23				
		m EZ	05 49	0.6		0.10	0.07		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
	Dec.18	iPg EZ	07 08 49.4	0.3		(+)	+0.03		Compression. Quarry blast.
		iSg N	08 52.8	0.4	-0.08				
		i E	08 53.2	0.4		+0.10			
		i Z	08 53.3	0.4			-0.10		
		m N	08 55	0.6	0.33				
		m EZ	08 57½	0.7		0.21	0.27		
970	18	eL Z'	12 34.9	22					USCGS: 29.9S, 177.2W, H 12 21 50.1, h 130 km.ca.
		M N'Z'	37.6	14-16	1		1½		
		M E'	38.8	15		1			
	18	iPg NEZ	19 13 20.7	0.25	(+)	+0.08	+0.06		Compression.
		i(Sg) EZ	13 24.2	0.25		+0.06	+		Quarry blast ?
		i N	13 27.6	0.3	+0.06				
		m EZ	13 29½	0.5		0.08	0.10		
	19	e(Sg) N	03 42 48						Quarry blast.
		m N	42 52	0.7	0.16				
	19	ePg Z	06 25 02.5	0.4					Quarry blast.
		iSg N	25 06.2	0.5	-0.08				
		i Z	25 06.4	0.5			-0.09		
		i E	25 06.5	0.5		-0.10			
		m N	25 08½	0.6	0.53				
		m EZ	25 11	0.7		0.19	0.24		
	19	iSg N	06 52 50	0.5	-0.05				Quarry blast.
		i Z	52 50.5	0.5			+0.06		
		m N	52 52½	0.6	0.35				
		m EZ	52 54½	0.7		0.09	0.10		
971	19	ePP Z'	17 24 02	?					Microseisms present.
		e(PS) Z'	33 40	19			½		USCGS: 9.7S, 79.1W, H 17 04 07.8, h 56 km.ca.
		e(PS) E'	33 44	21		1			
		e(PS) N'	33 49	19	½				
		eSS N'	39.7	31					
		eSS E'	40 11	30		1½			
		eSS Z'	40 19	26			½		
		e Z'	47.5	21					
		eLR Z'	57.5	30					
		M N'E'Z'	18 02	21	1	1	2		
972	19	Z'	21 23	Feeble surface waves.					USCGS: 35.2S, 68.0W, H 20 33 50.1, h 32 km.ca.
973	20	e P ZZ'	00 29 22						Masked by microseisms.
		e(S) N'	34 04	13					USCGS: 8.6S, 160.4E, H 00 23 50.2, h 69 km.ca.
		e Z'	34 08	14					
		m N'E'Z'	34.6	15	3	1	2		
		eLR Z'	36,5	26			3		
		M N'	37.7	20	3				
		M Z'	38.0	21			3		
		M E'	39.4	17		2			
974	20	(eP) Z	09 03 50						Masked by microseisms.
		e Z	04 21						USCGS: 7.0S, 129.3E, H 08 57 17.8, h 103 km.ca.
		e(S) E'	09 00	(12)					
		e N	10 26	20					
		e E'	10 36	20					
		e Z'	10 53	(17)					
		eL Z'	13.2	40					
		M N'E'	17.1	15	2	2			
		M Z'	19.1	14			3		/ 33 km.ca.
975	20	eL Z'	16 26.7	33					USCGS: 12.8S, 66.0E, H 15 4944.9
	21	(Pg) EZ	03 42 28	(0.3)					Quarry blast ?
		iSg N	42 32.7	0.5	+0.06				
		iSg EZ	42 32.8	?		-	+		
		m NZ	42 38	0.6	0.60		0.08		
		m E	42 40	0.5		0.06			
		m EZ	42 42	0.5		0.06	0.09		

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
976	Dec.21	eL N'	07 09.4	20	1				
		eL E'Z'	09.5	20		3			
977	21	eP EZ	12 40 44					3520	Microseisms present.
		isP E	40 58	1.5			+0.14	3197	USCGS: 21.2S, 175.8W, H 12 34 22.7, h 90 km.ca.
		eS E'	45 50	?					
		eSS N'	47 41	14					
		eSSS N'	48 05	14	1				
		eL Z'	48.9	31					
		L E'Z'	49.8	31		2½	3½		
		eScS E'	51 10	7		2			
978	21	P Z	13 19 00						Microseisms present.
		e Z	19 06	0.8					USCGS: 16.1N, 119.7E, H 13 09 09.6, h 49 km.ca.
		eS N'E'	26 59	(20)					
		ePS N'	27.3	40	1				
		e E'	27.7	40		1			
		e Z'	32 14	20			1		
		eLQ N'	33.1	36					
		eLR E'	36.6	36		1½			
		eL Z'	37.3	48					
		M Z'	42.2	22			3		
		M E'	43.0	23		3			
		M Z'	45.0	20			4		
		M N'	45.3	19	2				
979	22	(iP) Z	08 35 30½	1.5			-0.22		Dilatation. Microseisms present.
		M E'	49.8	14		1			
		M N'Z'	51.5	14	1		1		
980	22	P Z	12 03 13						Microseisms present.
		e E'	09.0						USCGS: 6.1S, 146.9E, H 11 57 27.4, h 102 km.ca.
		eL E'	10.4	30					
		eL Z'	11.3	30					
		M E'	13.4	15		2			
		M Z'	16.8	15			1		
981	22	(P) Z	13 40 09						Microseisms present.
		e Z'	43 34	7			2		USCGS: 34.9S, 173.9E, H 13 35 38.2, h 82 km.ca.
		eL Z'	44.2	25					
		M N'	45.5	16	1				
982	23	eL N'	21 23.0	22					
		eL Z'	23.5	26					
		M E'	25.5	16		1			
		M N'	26.3	13	1				
		M Z'	27.0	12			2		
	24	e E	00 45 27	0.5					Local. Seismic ?
		i EZ	45 27.7	0.5		+0.03	-0.02		
		i N	45 30.8	0.7	+0.05				
		i E	45 34.3	0.5		+0.04			
963	24	iP NEZ	11 23 36.0	0.7	-0.07	-0.10	+0.22		Compression.
		m Z	23 37	1.0			0.78		USCGS: 13.1S, 166.7E, H 11 18 15.2, h 61 km.ca
		i Z	23 47	0.8			+0.13		
		i Z'	23 56	7			-3		
		i Z	24 00.5	1.0			+0.23		
		e(S) N"E"	27 57	7					
		e Z'	28 10	22			2		
		e E'	28 22	7		2			
		e E'	28.5	20					
		eL N'	28.9	27	2				
		eL E'Z'	29.1	28					
		M N'E'Z'	30.9	24	2	2	3		
984	24	N'E'	18 52	Feeble surface waves.					USCGS: 6.9S, 147.4E, H 18 37 06, h 49 km.ca.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
985	Dec.24	iP NZ	21 10 28.5	1.2	+0.12		+0.21		Compression.
		iP Z'Z"	10 29	9			+4		USCGS: 53.0S, 159.5E, H 21 05 54.6,
		i NE	10 33.5	1.2	+0.16	-0.11			h 33 km.ca.
		e(S) E'	14 02	11					
		e E'	14 18	13		4			
		e N'	14 20	9					
		i(SS) N'N"	14 29	7	+3				
		eL Z'	14.6	28					
		eLR N'	15.1	25	5				
		LR Z'	15.3	26			8		
		M N'Z'	18.0	13	4		4		
		M E'	18.9	12		3½			
		eT N	28 28	0.5					
		T Max. N	30 02	0.6	0.05				
		T " E	30 15	0.6		0.08			
		T " Z	30 52	0.5			0.06		
	25	i NEZ	06 06 04.0	0.4	+0.06	-0.09	+0.07		Local.
		m Z	06 05	0.5			0.09		/ h 65 km.ca.
986	26	Z'	16 45	Long waves masked by microseisms.					USCGS: 1.4N, 126.7E, H 16 23 54.2,
987	28	iP NEZ	05 51 13.0	0.8	-	-	+0.07	3290	Compression.
		iP Z'Z"	51 13½	4			+4	29°6	h 0.01 ca.
		m NZ	51 15	0.8	0.06		0.25		USCGS: 5.1S, 153.5E, H 05 45 20.2,
		i N	51 19.3	1.0	+0.10				h 70 km.ca.
		i Z	51 19.7	1.0			+0.16		
		e Z'	51 29	7			3		
		ipP Z	51 33	1.0			+0.13		
		isP Z'	51 46	6			+2½		
		iS E'E"	56 00	10		+6			
		e N'	56.3	24					
		i Z'	56 23	7			-		
		i E'	56 25	8		-6			
		e E'	56.6	30					
		eL E'	58.0	35		9			
		eLR Z'	59.1	33					
		LR Z'	06 00.0	27			7		
		M Z'	01.8	20			7		
		M E'	01.9	14		6			
		M Z'	03.1	16			9		
		M N'	03.3	16	7				
988	28	iP Z	09 09 17.6	1.5			+0.70	2860	Compression.
		iP E'Z'E"Z"	09 18	8		-4	+8	25°7	h 0.01 ca.
		i E	09 18.5	1.4		+0.18			USCGS: 32.7S, 178.9W, H 09 03 52.9,
		i EZ	09 21	1.5		+0.44	-1.14		h 33 km.ca.
		e E'	09 22	19					
		ei(pP) Z'	09 35	8			+6		
		i Z	09 35.3	1.5			-0.54		
		e N'Z'	09.8	19	1		6		
		PcP N	12 46	1.0					
		e Z'	13.4	28					
		eS E'	13 37	16		2			
		i N'N"	13 53	8	+6				
		e Z'	14 11	15			6		
		e N'	14 18	9	3				
		i Z'	14 38	9			-8		
		i N'N"	14 39	9	+11				
		SS N'	14 47	16	15				
		eL Z'	15.4	32					
		eL E'	15.5	34					
		iScP Z	16 18	0.7			+0.05		
		LR Z'	16.3	32			33		
		m Z	16 21	0.9			0.20		
		LR E'	16.4	32		17			
		M N'E'Z'	17.0	18-21	9	7	16		
		(ScS) E"	20 08	?					

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
989	Dec.28	(P) Z	18 11 07						Masked by microseisms.
		e(S) E'	21 20	14					USCGS: 60.4S, 51.8W, H 17 58 33.1, h 49 km.ca.
		e(SKS) N'	21 27	14					
		e N'	22.4	17					
		e(SS) E'	27 09	27					
		e(SS) N'Z'	27.2	16-26					
		eG E'	33.7	48					
		E'	34.4	50		2			
		eL E'	35.8	32		1			
		eLR N'Z'	38.4	33	2		3		
		M N'E'Z'	45.6	18	1	2	2		
		M N'Z'	50.2	17	2		3		
990	28	eLR E'Z'	24 24.7	27					USCGS: 53.0S, 118.4W, H 23 55 07.7, h 33 km.ca.
		eLR N'	25.0	27					
		LR N'E'Z'	25.5	27	1	1	3		
991	29	(P) Z	03 05 55						Masked by microseisms.
		eL Z'	12.8	25					USCGS: 30.9S, 177.8W, H 03 00 09.7, h 33 km.ca.
992	30	e(P) Z	01 05 13						Masked by microseisms.
		e(L) N'	17.5	(20)					USCGS: 3.4S, 128.8E, H 00 58 13.3, h 82 km.ca.
		M N'E'Z'	22	14	½	½	1		
993	30	eL Z'	06 37.0	22					USCGS: 29.3S, 176.8W, H 06 23 35.2, h 34 km.ca.
		M E'Z'	39.4	17		1	1		
	30	e N	10 54 44	0.5					Local.
		i NZ	54 45½	0.5	+0.03		+0.03		
994	30	(eP) Z'	13 41 26						Masked by microseisms.
		(P) Z	41 29						USCGS: 45.5N, 150.6E, H 13 29 25.3, h 40 km.ca.
		eS N'	51 27	11	1				
		eS E'	51 28	11		1			
		e Z'	51 31	(11)					
		e Z'	51 54	16					
		ePS Z'	52 11	24					
		eSS N'	56.5	25					
		eSSS N'	14 00.1	20					
		(LQ) E'	02.6	38					
		M N'E'Z'	09	14	2	½	2		
995	30	iP Z	15 12 55	1.1			+0.11		Microseisms present.
		eS N'	19 51	?					USCGS: 9.4N, 126.0E, H 15 04 14.2, h 102 km.ca.
		eSS N'	23.6	?					
996	30	iP Z	22 16 56½	1.2			-0.15		Dilatation. Microseisms present.
									USCGS: 6.9N, 94.7E, H 22 06 07.1, h 64 km.ca.
	31	(P) Z	00 35 50						Masked by microseisms.
	31	(iP) Z	10 27 28½				+		Masked by microseisms.
									USCGS: 19.1S, 178.1W, H 10 21 52.3, h 609 km.ca.
997	31	iP Z	17 50 30	2			+1.0	10,100	Compression.
		iP Z'Z"	50 30½	10			+22	90°9	
		iP N'N"	50 31	10	+3				USCGS: 56.5S, 26.0W, H 17 37 32.1, h 30 km.ca.
		i Z	50 33½	1.2			+0.19		
		isP Z	50 47	1.7			-0.64		
		isP Z'	50 48	14			8		
		iPP Z'Z"	54 05	11			+9		
		iPP N'	54 06	11	+2				
		iSKS N'N"	18 01 00	10	-3½				
		i N'	01 21	10	+4½				
		iS E'E"	01 22	15		+14			
		e(sS) E'	01 44	?					
		ePS E'Z'	02.7	20		7	5		
		eSS E'	07.4	17		6			
		eSS Z'	07.7	20					
		m N'Z'	08.0	20	7		7		

Continued on next page.

No.	Date	Phase & Component	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1963		h m s	s	μ	μ	μ	km.	
997	Dec.31	iLQ E'	18 14 23	22		+9			
cont.		(G) E'	14.9	30		11			
		eL E'	16.2	48					
		eLR Z'	20.2	37					
		L E'	20.2	31		8			
		eLR N'	20.5	33	7				
		M N'Z'	29.2	19	32		48		
		M E'	29.6	19		20			
		N N'Z'	31.6	18	24		38		
		M N'Z'	37.0	16	26		44		
		e E'Z'	19 33	41					
998	31	(i) Z	19 03 10.7	1.6			+0.19		Masked by microseisms.
		i Z	05 06.6				+		USCGS: 7.1S, 129.3E, H 18 58 43, h 100 km.ca.
999	31	iP Z	19 23 43	1.3			-0.14		Dilatation.
									USCGS: 17.4S, 174.2W, H 19 16 54.9, h 80 km.ca.

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Director.

P. F. Rheinberger.