JAN-MAR ONLY

HALLETT STATION

72° 17.7'S, 170° 18.5'E

SEISMOLOGICAL BULLETIN

January 1959

Instrument	Component	Symbol	To (sec)	Tg (sec)	Dumping Shunt (ohms)	Paper speed mm/min.
Willmore	Vertical	z	1	2	near critical	30
Columbia	Vertical	Z	15	50	100	15
Columbia	N-S	N	15	75	100	15
Columbia	E-W	E	15	75	100	15

Directions of initial movements are indicated by small letters after the last figure of the phase arrival times, as follows:

u = grouhd movement up
d = " " down
n = " " to north
s = " " to south
e = " " to east
w = " " to west

Trace amplitudes (A) are in millimetres; periods (T) in seconds.

Date 1959	Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
JAN. 1	eP	z	07	35	42							
	S	ZE		43	37							Artificial disturbance on N.
	Lq	NE		48.8								
	Lr	Z		51.2								
1	P	z	07	59	14							
	eS	NE		07	04							on coda of preceding
	L	ZNE		12±								
2	e(L)	ZN	08	28.5								possibly artificial
2	e	ZE	20	48								traces.
3	e	Z	04	53								traces.
3	P	zZNE	11	30	08	1.5	8	0.7	10			
	PP	Z		34	03							
	S	NE		40	20			2.5	15	1.2	15	
	SS	NE		46	01			1.6	10	1.5	20	
	e	Z			13							
	Lq	N		52	48			2.3	20	3.2	20	
	Lr	Z		56	26	4	20					
4	e	z	01	57	41							possibly artificial.
4	P	zE	03	27	58							
	SS	ZE		42	14	1.6	25			2.2	22	
	L	ZNE		50.3		3.5	20	2.0	20	2.7	20	
4	(PP)	ZN	04	22	02							
	e(SKS)	E		28	16							
	Lq	NE		49								
	Lr	Z		50.2		4.9	20	2.0	20	3.2	20	
4	i	z	06	43	48u							possibly artificial.
4	eL	Z	21	40								traces.
4	eL	ZNE	23	21								
5	P	zN	09	45	52							
	eS	NE		54	49			1.1	15	0.9	18	

Z compt. on stops.

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
JAN.	5	iP	zNE	09	55	43d			2.1	16			
		e	N		56	21			1.7	10			
		PP	N		57	40			2.2	12			
		PPP	N		58	28			2.4	10			
		e	NE	10	00	33							
		SoP	z			46							
		iS	NE		02	50sw			11.5	16	4.8	12	
		SoS	NE		05	21							
		SS	N		06	32			3.5	14			
		SSS	NE		07	25			3.6	16	6	30	
		Lq	NE		10	58			12	25	12	20	
	6	eP	z	04	58	26							
		L	ZNE		09.5		2.0	20	1.3	20	1.5	20	
	6	P	z	14	59	51							
		L	ZNE	15	36.2								
	7	L	ZNE	03	22								
	7	eL	ZNE	05	43								
	8	PKP	Z	01	53	07	1.4	8					
		PP	N		54	25					1.0	14	
		e	E	02	03	22							
		PS	ZN			39	1.5	20					
		PPS	Z		05	06							
		(SS)	Z		09	58							
		Lq	N		24								Surface waves poorly developed.
		Lr	Z		32								
	8	L	NE	09	03	08							Z compt. against stops.
	8	eL	ZNE	23	11		13	20	10	20	4	20	
	10	P	z	23	22	37							
		e	z		28	48							no surface waves.
	11	e	E	07	47	02							
		e(SKS)	ZE		50	02							
		e	E		56	20							
		e	Z			39							
	11	L	ZN	13	55								
	11	L	ZNE	15	16								
	11	eP?	z	16	01	55							probably artificial.
		e	z		02	34							
	12	i	z	04	55	04u							probably artificial.
	12-17	Constructional activities and blasting at the camp interfere with recording. Instruments clamped on Jan. 14, 15 and 16, as a safety measure.											
	17	eL	ZE	15	05.8								other components not working.
	18	e?	Z	15	15	21							
		eL	ZN		18								
	18	eL	Z	20	04.5								
	18	iP	ZN	22	32	04us	3.5	8			2.7	10	
		pP	Z		33	28							
		PP	Z		34	30	4	13					
		(ScP)	Z		36	30							
		S	ZN		39	08	1.8	12			3.5	10	
		ScS	N		41	08							
	20	P	z	10	34	20							probably artificial.

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
JAN.	20	eS	NE	17	06	(34)							Z compt inoperative. clock has large rate
		SS	NE		11	08							
		Lq	NE		19	05							
	22	PP	ZNE	05	29	45	4.5	20	3	20	3.2	20	E trace faint for large movements.
		PPP	Z		32	04	5.5	14					
		e	Z		34	48	5	12					
		SKS	NE		35	39			8.5	22	6.2	23	
		SKKS	ZN		36	39	3.4	15	5	17			
		S	NE		37	29			8.2	22	19	22	
		PS	ZN		39	14	25	25	17	25			
		PPS	ZN		40	15	14	25	9	21			
		e	ZNE		42	09	9	20	10	20			
		SS	ZNE		45	12	15	25	14	18			
		SSS	ZE		49	02	8.5	25					
		Lr	ZN	06	02	54	39	20	21	20			
	23	eLr	ZNE	08	32	24	2	45	1.5	45			
	24	P	zZNE	00	42	16							
		PcP	ZNE		45	04	1.8	15	2.0	18	2.4	18	
		S	ZE		48	19	1.0	15					
		L	ZN		51.6		3.0	20	2.0	20	1.8	20	
	24	PP	Z	05	28	09	1.0	25					
		PS	ZN		37	13	1.3	18					
		eLr	ZN	06	01.5		1.5	40					
	24	e	ZN	16	15								traces.
	24	iPKP	ZNE	20	14	50d	7	12	1.6	14	1.9	10	
		PKS	ZNE		18	02	3.5	11	2.0	11			
		PPP	ZN		19	44	2	10	1.2	10			
		SKS	N		22	10			1.8	10			
		SKKKS	N		25	16			1.8	14			
		SS	ZE		34	01	1.7	15			2.6	15	
		SSS	Z		39	13	1.8	8					L-waves poorly developed.
	249	P	ZNE	20	42	55	1.3	18	2.3	18			
		ePP	Z		45	15							
		S	Z		51	25	1.0	20					
		L	ZNE		02								Confused L-waves follow. for about 1 hr. Possibly one or more additional shocks
	25	e(S)	NE	16	12	30			3.0	15	6	15	
		e	Z			57	4.5	15					
	26	e	N	19	07	40			1.8	15			
	28	L	ZNE	00	25	19			2.4	20	1.6	20	
	28	iP	zZNE	10	15	04d	1.8	8	0.8	7			
		PcP	Z			23							
		PP	Z		17	16							
		PPP	Z		19	30							
		iS	ZNE		24	03ue	1.7	13			1.4	15	
		ScS	ZNE			38	2.5	22	1.7	20	5.0	25	
		SS	NE		28	52							
		SSS	N		31.6								
		Lq	NE		33.6				1	20	3.5	18	
		Lr	Z		34.7		2.7	20					
		(P'P')	z		42	25							
	29	e	Z	08	20								traces.
	29	e	Z	11	47								traces.
	29	eL	ZNE	21	19		1.5	20					N & E traces only.
	29	e	Z	22	01								

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
JAN.	29	e	ZE	22	15								
		e	Z		32								
	29	PKP	Z	23	44	40	1.5	12					
		PKP_2	ZE		46	27							
		PKS	ZE		48	36	1.7	9			1.2	10	
		PP	ZE		50	11	2	10			2.5	13	
		SKS	Z		51	13	2	10					
		PcPP'	Z		53	18	2.4	15					
		PPP_a	ZNE		55	47	2.2	15	1.0	15	1.3	15	
		SKKS	Z		57	03	2.2	14					
		SKKKS	ZNE		58	15	1.7	12			1.2	11	
		SS	Z	00	13								disturbed by changing record.
		SSS	ZNE		20		1.3	35	1.6	35	3.0	35	
30		P	zZE	00	29	52	2.5	20			2.2	16	
		S	ZNE		38	22	1.8	13	1,2	12	3	14	
		eSS	ZNE		42	27							
		Lq	NE		46.0				3	20	3	20	
		Lr	Z		48.5		6	20					
30		e	Z	03	13								traces.
30		P	z	16	27	09							
		PcP	ZE			37	1.1	10			1.2	9	
		ePP	Z		30	32	1.0	10					
		S	ZNE		36	30	1.1	11	1.4	11	2.1	15	
		ScS	ZNE		37	07	1.1	10	1.7	10	2.2	12	
		L	Z		46.5								L-waves poorly developed.
30		iP	zZN	18	16	59us	4	18	1.7	11			
		PP	Z		18	27	1.7	8					
		PcP	zZN		18	50	4.1	11	2.3	10			
		PPP	Z		19	45	1.1	11					
		PcS	zZ		21	47	2.4	10					
		S	ZNE		22	36	2	15	3.5	16	1.3	15	
		ScS	ZNE		26	19	4.5	15	2.0	17	1.8	12	
		sScS	ZNE		27	10	2.0	13	2.0	17	3.5	22	
		L	ZNE		33.6		2.5	20	1.5	20	2.5	20	L-waves poorly developed.
30		eL	ZN	21	33								
30		PPP	Z	22	39	52	1.7	16					
		e	E		52	27					2.5	15	
		SS	Z		53	38	2.4	16					
		e	Z		56	07	2.5	20					
		L	ZNE	23	12.0		2.5	20	1.6	20	1.7	20	
31		eL	ZNE	00	25.0		2.5	20	1.8	20	1.6	20	on coda of previous shock.
31		L	ZNE	10	0.6		2.4	16	2	20	4	17	

HALLETT STATION

72° 17.7'S, 170° 18.5'E

SEISMOLOGICAL BULLETIN

February 1959

Instrument	Component	Symbol	To (sec)	Tg (sec)	Dumping Shunt (ohms)	Paper speed mm/min.
Willmore	Vertical	z	1	2	near critical	30
Columbia	Vertical	Z	15	50	100	15
Columbia	N-S	N	15	75	100	15
Columbia	E-W	E	15	75	100	15

Directions of initial movements are indicated by small letters after the last figure of the phase arrival times, as follows:

u = ground movement up
d = " " down
n = " " to north
s = " " to south
e = " " to east
w = " " to west

Trace amplitudes (A) are in millimetres; and periods (T) in seconds.

Date 1959	Phase		Time (UT) h	m	s	Az	T	An	Tn	Ae	Te	Remarks
FEB. 1	(eP)	Z	08	57	13	1.7	8					probably artificial.
2	e	ZE	19	30								probably artificial
3	Lq	NE	11	11	55			5.5	18	5.0	18	
	Lr	Z	11	12	19	3.5	17					
3	e	NE	17	23								traces
7	P	zZNE	09	50	04	30	16	3.5	12	12.75	13	
	PP	ZNE		53	38	10.5	13			15.5	14	
	PPP	Z		56	03	19	19					
	SKS	ZNE	10	00	36	7	11	8.5	14	27	15	
	S	ZNE		01	08	33	20	37½	23	30	20	
	PS	ZNE		02	08	20	17	10	14	10	15	
	SS	ZNE		07	20	30	25	17.5	20		30	
	SSS	ZNE		11	06	31	24			11.5	20	
	L	zZNE		14	30	110	20	40	20	100	20	Large amplitude for all L-waves.
7	(P)	Z	11	08	51	11.2	12					on coda of previous shocks.
	PKP	Z(E)		12	24	13.5	15					
	PP	ZNE		12	55	10.5	16	12	18	17.5	17	
	PPP	ZE		15	15	18.5	16			15	16	
	SKS	ZNE		18	56	12	15	8.5	16	11.5	16	
	S	ZNE		21	23	11	16	5.5	15	6.5	19	
	PS	NE		22	37			12	17	12	17	
	PPS	ZNE		23	53	8	16	7	19	7.5	14	
	e	ZE		26	12	11.5	15			6.5	15	
	e	Z		27	20	5.5	18					
	e	ZE		28	00	13.5	15			8	15	
	e	E		28	43					9	16	
	SS	ZNE		29	41	15	20	7	20	7½	18	
	SSS	ZNE		33	20	13.5	16	6	16	15	16	
	Lq	NE		37.5				10.5	20	10	20	
	Lr	Z		38		10.5	20					
7	eL	E	22	37								possibly artificial.
8	eL	ZNE	02	19		2.1	20					poorly developed on N & E.
8	e(S)	ZNE	16	08	18							
	Lq	NE		12.5				1.6	20	2.1	20	
	Lr	Z		13.8		2.3	20					

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
FEB.	9	(SS)	ZN	05	20	20							
		Lq	NE		34.3								L-waves poorly
		Lr	Z		39.1		3.5	20					developed on N & E.
	9	eL	ZN	06	43								traces
	11	e?	Z	21	06								high microseism level.
	12	S	NE	17	19	18			2.7	20			
		eSS!	E		22	23					2.5	5	probably seismic.
		L	ZNE		37.5		2.3	20	2.3	20	3	20	
	13	Lq	NE	20	11.8				1.6	20	2.0	20	
		Lr	Z		13.6		2.3	20					
	14	eS	NE	04	58	26			1.5	12	2.0	13	
		SSS	NE	05	07	11							
		L	ZNE		10	21	3.5	20	2.3	20	3.5	20	
	15	P	zZNE	04	08	07	9.5	14	7	13	4.5	5	
		PcP	ZN		09	17	9.5	12	6	14			
		PP	ZNE		10	00	11	12	8	14	5.2	10	
		ePPP?	Z		11	25	7	10					
		PcS	ZNE		13	19	7.5	12	4.7	10	3.5	10	
		S	ZNE		15	21	7	14	15.8	15	21.5	17	
		e?	Z		17	20	4.2	10					
		ScS	NE		17	50			9	13	23.5	18	
		SS	ZNE		18	45	16.5	15	13	16	19.5	18	
		Lq	NE		21	35			19.5+	20	24+	20	
		Lr	Z		23	22	16+	20					
	15	P	ZNE	04	51	20	22	15	25.5	15	9	13	
		PcP	E		52	46					16	13	
		PP	NE		53	32			10	12	11.5	15	
		ePPP?	ZN		54	31	20	12	14	12			
		e?	E		55	30					13	13	
		PcS?	N		57	01			11.5	11			
		S	ZNE		58	07	14	12	24.5	20	33	20	
		ScS	ZNE	05	01	09	18.5	13	17	15	37	15	
		SS	ZNE		01	47	21.5	15	10.5	18	5 cm	20	
		L	ZNE		04+		95	20	41.5	20	40	20	on coda of previous shock. waves follow for about an hour - possibly another shock.
	16	L	ZNE	01	23.5		5	20	7	20			on change of records and not well developed on E compt.
	17	PP	Z	12	24	16							
		ePS?	z		34	03							
		PPS	ZNE		35	11							
		ePPPa?	ZE		39	20							
		SS	ZNE		41	02	2.5	28			3	28	
		SSS	ZNE		45	34	2.0	20					
		Lq	NE		55.5				3	20			L waves not well developed on E compt
		Lr	Z		59.6		3.5	20					
	17	SKS	(ZN)E	13	12	57					2.5	20	Probably part of previous shocks.
		PS	E		16						2.5	17	
		PPS	E		17	07					3	14	
		L	Z		58								traces only.

Microseism storm makes records for later half of the 19th Feb. and all of the 20th and 21st illegible.

23	(eP)	Z	02	09	46								
	S	ZNE		18	26	3.5	12	4	20				
23	ScS	N	02	19	31			4.5	20				
	SS	Z		22	56								
	SSS	ZE		26	28	4.5	26						
	L	ZNE		30	12	11	20	4.5	20	4.7	20		

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
FEB.			Records for 24th Feb. accidentally fogged.										
	25	eL		Z	20	52.5							traces only.
	25	P		ZNE	23	45	34	7.5	11	5	11	3	10
		S		ZNE		49	39	3.5	6			8	20
		L		ZNE		50	30	15.5	20	11.5	20	13	17
		Z & N compts on stops for most of 26th Feb. record. 27th E Compt record lost because of light failure.											
	27	e		ZN	15	45							traces only.

HALLETT STATION

72° 17.7'S, 170° 18.5'E

SEISMOLOGICAL BULLETIN

March 1959

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WILLmore	Vertical	z	1	2	near critical	30
Columbia	Vertical	Z	15	~~60~~ 50	100	15
Columbia	N-S	N	15	~~60~~ 75	100	15
Columbia	E-W	E	15	75	100	15

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Trace amplitudes (A) are in millimetres; and periods (T) in seconds.

Date 1959	Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
MAR. 1	P	zZNE	17	00	58	7	10	1.7	9	1.7	10	
	PcP	ZNE		01	19	7.5	10	3	13	3	10	
	PP	ZE		03	48	5.2	8			3	7	
	(PPP)	Z		05	13	5.5	8					
	e?	ZNE		06	25	5	16	2.5	12	3	16	
	e?	Z		07	13	9.5	12					
	S	ZNE		10	31	10.5	16	20.5	16	12.5	17	
	SS	ZNE		15	38	13.5	16	13	16	11	16	
	SSS	ZNE		18	38	14	17	12	18	16.5	16	
	Lq	NE		20	08			11 cm+	20	13 cm+	20	
	Lr	zZ		21	10	11 cm+	20					waves follow for about two hours. Heavy microseisms on z compt.
2	P	Z	09	25	07	1.3	12					
	S	ZNE		34	02	1.5	12	2.3	16	2.5	16	
	SS	ZNE		38	00	2.5	30	2.6	31	2.5	25	
	SSS	ZE		41	52	2.5	20			2.5	18	
	L	ZNE		47		12.5	20	5.5	20	6	20	

Records for the 3rd Mar. illegible because of microseisms. No records for the 4th - discarded because of storm. No Columbia records for the 5th because the clutch slipped.

6	i(P)	z	01	34	44d							possibly nearby blasting
12	S	ZNE	01	51	47	2.3	12	3	11	3.5	11	
	SS	ZNE		57	03	2.5	23	2.4	22			
	L	ZNE	02	03	19	4.5	20	3	20	4.5	20	
14	e(L)	Z	07	28								traces only
17	P	Z	08	39	43	1.4	12					
	PP	ZN		43	42	2.5	15					
	eSKS	Z		50	17	1.6	12					
	PS	Z		52	34	2.5	10					
	SS	ZNE		58	19	2.3	24			3	20	
	SSS	ZNE	09	02	25	2	18			2.5	18	
	L	ZNE		08.5		4	20	2.6	20	2.5	20	
17	eL	Z	10	43.3		3.5	20					
17	eL	ZNE	13	23		3	20	2.5	20	2.5	20	
17	eL	ZNE	15	25.5		4.5	20	2.5	20	4.5	20	
20	L	ZNE	01	54.2		3	50	8	50	9	50	

Date 1959		Phase		Time (UT) h	m	s	Az	Tz	An	Tn	Ae	Te	Remarks
MAR.		Some long period disturbances on all three components from about 03 hours to 08 hours - probably seismic.											
	23	eS	ZNE	06	12	48	9.5	15	7.5	18	13.5	18	
		SS	ZNE		16	02	6	8	6	8	6	8	
	23	S	ZNE	19	33	54	15.5	19	11	19	13.5	16	
	25	ePP?	Z	15	02	00							
		e?	Z		05	00							
		PoS	NE		06	00			5	20	1.5	12	
		S	ZNE	15	06	42	6.3	20	4	12	3	20	
		SS?	Z		10	40	2.75	12					
		e?	Z		11	20	3.5	10					
	26	eL	ZNE	02	55								High microseism level.
		No records for 27th and 28th because of storm.											
	29	eL?	ZE	23	02		2	20			2	20	
	30	eP?	z	12	24	50							possibly artificial.
	30	e?	z	17	35	38							probably artificial.
	31	S	E	07	38	52					4	14	
		(SSS)	ZE		45	50					3	16	
		L	ZNE		49.5		8	20	9.4+	20	3	20	High microseism level. on N compt and E compt.