



Period 12.0 secs. Damping ratio 20:1. Tilt 1" = 44.6mm.  
Universal

Date	Time	Phase	A	Period	Remarks
	h m s		$\mu$	secs.	
1928					
Jan. 12	13 31 25	i			
	13 55.5	L			
	14 0.5	M	5	20	
19	22 54 0	i			Time marks missing .
	22 58 35	i			
	23 1 55	i			
	23 4 20	e			
	23 10.0	M	14	13	
20	10 47.4	L(?)			
	10 55.5	M	2	15	
26	19 10 26	i			
	19 29.8	M	1	20	
26	22 1 0	iP			
	22 8 52	iS			
	22 19.4	L			
	22 27.0	M1	25	18	
	22 29.7	M2	21	16.6	
30	3 35 25	iPr2			$\Delta = 49^\circ$
	3 40 0	iS			
	3 43 10	Sr1			
	3 47 53	L			
	3 50.6	M	16	19	
Feb. 1	3 15.0	L(?)			
	3 20.9	M	4	15	
4	6 20 42	i			Record fogged from 32m to 58m. Max. ampl. Of trace = 5.2mm on available part of record; occurs at 30.8 m.
	6 29 30	i			
5	22 51 45	i			
	22 53 15	i			
	22 57 55	i			
	23 7.2	M	15	15.4	
6	4 6 25	e			
	4 8 5	i			
	4 11 40	i			
	4 11.8	M	13	11	
7	0 12 0	i			P?
	0 20 30	i			S?
	0 31 30	i			
	0 33.5	M1	59	22	
	0 35.2	M2	32	15	
	15 21 12	i			
	15 23 50	i			
	5 27 10	L			
	5 30.5	M	3	10	



Seismological  
Bulletin No. 1 cont.

MELBOURNE OBSERVATORY

Date	Time	Phase	A	Period	Remarks
1923	h m s		$\mu$	secs.	
Feb. 13	6 49 32	i			
	6 55 5	i			
	7 0.0	M	3	10?	
13	12 4 31	i			
	12 6.2	M	4	12	
13	17 47 25	i			
	17 54 10	i			
	17 54.7	M	26	19	
15					Microseisms persistent from 15d 2h to 17d. Average period 7secs. Max. ampl. of trace 0.9mm
17	12 45 30	e			
	12 50 40	i			Probably S
	12 52 13	i			" Sr1
	12 53 50	L			
	12 53 25	M	19	12	
21	20 12 35	i			??
	20 15 50	i			
	20 17 37	i			
	20 36 0	L			?
	20 51.3	M	14	22	
21	23 6.8	e			
	23 11.3	M	4	15	
22	13 6 35	i			S(?)
	13 14 35	i			
	13 16.5				Beginning of waves of longer period
	13 22.8	M	4	17	
24	14 54.0	e			
	15 12.5	M	5	21	
24	21 2 30	i			
	21 4 20	L			?
	21 7.0	M	7	15	
25	11 5 35	i			
	11 8 12	i			
	11 8 50	i			
	11 9 20	i			
	11 11 50	i			L(?)
	11 12.5	M	102	10	Period irregular
26	1 47.8	i			
	2 21.4	M	8	22	
28	8 40 25	e			?
	8 45 55	i			
	8 46 55	i			L(?)
	8 48.4	M	17	12	
29	22 1 47	e			Pr1(?)
	22 5 28	i			S(?)
	22 7 30	i			L(?)
	22 8.2	M	138	10.5	



Date 1928	Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Mar. 3	6	0	10	e			
	6	4.7		L			
	6	8.2		M	4	20?	
<del>3</del>	18	54	40	i			
	18	56	3	i			
	19	3	20	L			
	19	4.5		M	6	20?	
6						7.65	Microseisms persistent throughout day
7						"	" " " "
<del>9</del>	11	8	12	i			
	11	11	30	i			
	11	15.6		L?			
	11	19.6		M	4	15	
<del>9</del>	18	15	48	iP			$\Delta = 62.7$
	18	24	15	iS			
	18	35.4		L			
	18	38.6		M	365	17	
<del>10</del>	3	37	15	e			Or at 3h 47m 40s
	3	50.6		M	6	20	
10	21	28	35	i			
	21	30	50	i			
	21	31.2		M	5	11.7	
<del>13</del>	18	38	24	iP			Record faint; beginning of L not recognised.
	18	43	42	iS			= 31.6
	18	48.8		M	42	7	
<del>16</del>	5	6	42	iP			Trace lost for $\frac{1}{2}$ min. after S and for 8 min. after L owing to excessively large amplitude.
	5	11	37	iS			
	5	15.3		iL			
16	10	19	20	e			L(?)
	10	21.7		M	3	11	
16	10	39	37	i			
	10	45.1		M	5	16	
17	0	33.7		eL(?)			
	0	38.5		M	4	16.5	
<del>17</del>	3	4	55	P			$\Delta = 29.1$
	3	9	55	S			
	3	13.3		L			
	3	14.5		M	12	16	
<del>18</del>	3	7	50	iP			$\Delta = 27.9$
	3	12	40	iS			
	3	15.6		L			
	3	17.9		M	62	18	
<del>18</del>	12	5	0	iP			
	12	9	55	S			
	12	12	45	L			
	12	19.5		M1	52	17	
	12	20.8		M2	39	15	

Date	Time	Phase	A	Period	Remarks
1928	h m s		$\mu$	secs.	
Mar. -18	21 5 20	i			
	21 9 35	L			
	21 10.2	M	10	17	
19	20 21 42	i			
	20 23 26	i			
	20 26 5	i			
	20 27.5	M	7	10	
-22	4 37 37	e			
	4 43 0	i			
	4 44 35	i			Sr1(?)
	4 47 36	L			
	4 55.2	M1	134	30	An isolated large wave
	5 15.0	M2	126	28	Other maxima at 5h21.5m, 23.8m, 23.0m.
-23	20 8 12	i			
	20 9 10	i			
	20 13 25	i			
	20 13.5	M	9	15	
-24	21 39 55	i			
	21 43 37	e			
	21 45.5	M	2	15	
-25	18 36 0	e			
	18 46.3	M	4	15	
-25	5 34 20	e			
	5 40 50	i			
	5 56.5	M	9	15	
-26	6 57 50	i			Earlier phases, if any, masked by
	7 11.6	M1	12	20	previous disturbance.
	7 13.4	M2	9	17	
-26	8 20 30	e			
	8 23 35	i			
	8 33.5	M	4	15	
-26	10 2 0	i			
	10 4 42	i			
	10 17.5	M	4	15	
-27	14 45 0	i			
	14 50 55	i			
	14 58 0	L		20	Period of 5 secs. superimposed
	14 59.0	M	7	15	
-27	19 17 41	i			
	19 26 55	e			
	19 38 35	L		24	
	19 41.4	M	10	18	
-29	5 15 5	i	41	10	Largest wave of train
	5 15 58	i			
	5 17 55	i			
	5 22 0	i			
	5 25 20	i			

Seismological  
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Universal

MELBOURNE OBSERVATORY



Date	Time	Phase	A	Period	Remarks
1928	h m s		$\mu$	secs.	
Mar.-29	19 29 42	e			
	19 34.4	M	5	21	
30	16 35 50	i			
	16 37 0	i			
	16 37.3	M	2	6	

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Period 12 secs. Damping Ratio 20:1 Tilt 1" = 43.8mm.  
Universal

Date	Time	Phase	A	Period	Remarks
	h m s		$\mu$	secs.	
Apr. 1	1 47 20	e			
	1 48.6	M	4	17	
2	22 32 37	i			
	22 33 52	i			L(?)
	22 34.2	M	12	17	
3	11 16 26	i			
	11 20.5	M	5	16	
7	5 35 22	e			
	5 36 3	i			L(?)
	5 37.0	M	4	15	
9	0 34 5	i			
	0 38 33	M	6	20?	
9	0 34 5	i			
	0 35 0	i			
	0 38.6	M	4?		Period irregular at maximum.
9	18 0 0	e			
	18 24.5	i			L(?)
	18 41.6	M	7	17	
10	11 12 23	i			
	11 13 35	i			
	11 34.8	M	8?	16?	
-14	9 22 48	e			Apparently from very distant source. Various phases not recognised.
	10 20.5	M	7	20	
14	15 18 30	i			
	15 27.2	M	5	20	
-17	3 46 32	i			
	3 56 38	i			
	4 3 15	i			
	4 22 42	e			
	4 23.3	M	22	32	
-18	19 45 40	i			
	20 4 0	i			
	20 28.7	e			L(?)
	20 42.3	M	10	18	
May 11					Trace very irregular from 0h to 10h. From 23.5h to 12d 23.7h record covered almost continuously with waves of about 1.2 min. period; amplitude of trace about 0.5mm.
12					
-14	2 57 15	e			
	3 3.6	M	6	12	
-14	22 35 5	i			Record changed between 23h4m and 23h 8m.
	22 38 15	i			
	22 45 0	i			
	22 50 0	i			
	23 12.2	L?			
	23 17.2	M	115	20	

Date	Time	Phase	A	Period	Remarks
1928	h m s		$\mu$	secs.	
May 15	3 33 0	e			Time uncertain.
	3 37.5	M	4	18	
<del>19</del>	4 2 0	e			
	4 16.3	M	4	15	
<del>22</del>	13 34 20	i			
	13 40 5	i			
	13 41.3	M	7	20	
<del>23</del>	21 7 40	i			
	21 10 5	i			
	21 14 15	e			
	21 16.4	M	4	12	
<del>27</del>	10 3 10	eP			$\Delta = 47^{\circ}.1$
	10 12 5	iS			
	10 17 5	Sr1			
	10 20 40	i			
	10 24 40	L			
	10 27.6	M	68	21	
<del>28</del>	6 54 32	i			
	6 57 30	i			
	7 2 30	L			
	7 3.4	M	42	17	
31	17 39.4	L			
	17 42.8	M	4	17	
<del>31</del>	23 40 0	i			
	23 45 49	i			
	23 47 40	i			
	23 49.5	M	26	17	
June 1	13 34 0	i			
	13 44 52	i			
	13 55.0	M	4	12?	
3	3 10.6	e			L(?) Time uncertain.
	3 16.8	M	6	11	
<del>3</del>	8 54.5	i			
	9 13.0	M	6	20	
6					Irregular disturbance from 14h 50m to 7 <sup>o</sup>
<del>8</del>	14 53 25	i			
	14 56 20	i			
	14 59 35	L			
	15 3.5	M	17	20	
<del>15</del>	6 22 10	iP			$\Delta = 55^{\circ}.5$
	6 29 55	iS			
	6 43.3	M	57	14	
<del>15</del>	17 26 15	i			P(?)
	17 33 37	e			S(?)
	17 46.5	M	37	16	



Seismological  
Bulletin No.2 cont.

MELBOURNE OBSERVATORY

Date	Time			Phase	A $\mu$	Period secs.	Remarks.
	h	m	s				
1928 June 16	18	38	6	i			
	18	39	18	i			
	18	43	0	L?			
	18	45.8		M	8	11	
17	3	40	0	iP			
	3	45	28	i			
	3	49	40	i			
	3	56	45	i			S(?)
	4	1	20	i			
	4	16	15	L			
	4	16.8		M1	851	30	
	4	33.5		M2	199	18	
17	6	52	44	i			Any earlier phases masked by end of previous disturbance..
	6	56	0	i			
	6	56.3		M	38	20	
18	0	32	5	eL			
	0	34.5		M	3	11	
18	13	15	15	i			
	13	16	5	i			
	13	16	37	i			
	13	18	19	i			
	13	18	21	M	13	7.5	
19							Small irregular disturbances from 19d 20.3h to 20d 2.3h.
21	3	56	40	e			
	4	2.3		M	12	20	
21	10	47	35	iP			
	10	49	0	iPr2			
	10	53	20	iS			$\Delta = 35^{\circ}.5$
	10	58	45	iL			
	11	6	0	M	161	15	
21	16	54	30	i	7	15	Single wave followed by train of much small amplitude.
	17	2	25	i	24	20	" " " " " "
	17	6	25	i	19	17	" " " " " "
	17	23.0		M1	15	23	
	17	25.9		M2	19	22	
	17	40.5		M3	21	22	
29	22	56	6	iP			
	22	57	10	iPr2			
	23	1	26	iS			$\Delta = 31^{\circ}.8$
	23	9.8		M	141	11.5	

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Period 12 secs. Damping Ratio 20:1 Tilt 1" = 45mm.

Date 1928	Universal Time			Phase	A μ	Period secs.	Remarks
	h	m	s				
July 9	21	28	54	P			
	21	34	2	S			$\Delta = 30.3$
	21	36	32	L			
	21	41.2		M	263	14	
10	4	29	0	i			Apparently L waves from distant source.
10	9	54	0	i			
	10	0.1		M	5	10	
11	2	56	12	e			
	2	57	31	i			
	3	2	0	i			
	3	4	5	eL			
	3	7.9		M	21	16	
13	10	16.4		e			Apparently L waves from distant source.
13	21	6	40	e			
	21	8	5	i			
	21	8.7		M	4	5	
18	19	31	20	i			
	19	42	5	i			
	20	1	30	e			Beginning of larger waves of long period
	20	6.7		M1	29	20	
	20	12.4		M2	25	18	
	20	18.7		M3	20	15	
21	2	54.4		i			Times uncertain
	3	6.7		M	6	10	
23	7	45.8		e			
	7	48	35	iL			
	7	49.5		M1	57	15	
	7	52.0		M2	45	11	
26	12	23	28	i			
	12	32	40	i			
	12	34	46	i			
	12	38	0	L			
	12	40.2		M	10	12	
27	15	54	45	e			
	16	5.6		M	3	15	
28	0	11	34	i			
	0	12.6		M1	4	13	
	0	15.2		M2	5	8.5	
Aug. 4	18	46	52	e			
	18	52	5	i			
	18	56	35	i		20	
	19	4	8	M1	58	22	
	19	22	25	e			Beginning of more regular phase
	19	23	28	M2	51	25	
	20	35	35	M3	39	21	
	24	39	8	M4	35	20	



Date	Universal Time			Phase	A μ	Period secs.	Remarks
	h	m	s				
Aug. 12	8	16	28	i			
	8	22	40	i			
	8	25	45	i			
	8	31.3		II	20	12	
-24	21	49	32	i			
	21	50	27	i			
	21	52	48	i			
	21	55	50	L(?)			
	21	52.5		II	48	13	
	23	25.9		II	12	20	May be new disturbance.
-26	4	18	32	i			Microseisms strong throughout day.
	4	25.7		II	7	15	
-28	8	38	50	i			
	8	43.0		II1	5	10	
	8	45.1		II2	5	10	
29	2	50.0		L			Preceded by microseisms.
	2	54.3		II	3	12	
Sept. 1	6	33	16	i			Small.
	6	35	27	i			
	6	54.8		eL			
	7	8.8		II	13	21	
	7	59.8		II	4	17	
-2	17	20	10	e			Whole disturbance obscured by microseisms.
	17	22	50	L			
	17	24.5		II	6	15	
6	9	14.5		e			Obscured throughout by microseisms.
-7	2	59	54	i			P
	3	0	37	i			Pr
	3	4	20	i			S
	3	6	3	i			L
	3	8	15	II	40	16	
10	21	51	55	i			
	21	55	30	II	4	14	
-11	0	49	12	i			
	0	53	58	i			
	0	57	0	L			
	0	58.1		M	13	15	
11	13	28.4		e			
	13	39.6		II	10	20	
-12	1	26	49	i			
	1	27	42	i			
	1	29	51	i			
	1	32	25	i			
	1	32	40	II	13	11	

Seismological  
Bulletin No. 3 contd.

MELBOURNE OBSERVATORY

SOUTH YARRA S.E. 1 VICTORIA.



Date 1928	Universal Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Sept. 13	3	40	45	e			
	3	44	0	i			
	3	51	27	iL?			
	3	54.3		II	58	24	
14	2	31.0		e			
	2	33.1		II	6	12	
18	20	40	22	e			
	20	22.7		II	7	20	
22	7	37	47	i			
	7	43	58	i			
	7	48.3		II	80	16	

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Period 12 secs. Damping ratio 20:1 Tilt 1" = 45.7mm.

Date 1928	Universal Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Oct. 9	3	21	29	i			
	3	23	12	i			
	3	27	8	i			
	3	31	15	i			
	3	38	30	i			
	3	42	55	i			
	3	57.0		eL			
	3	58.3		M	97	22	
	4	58.7	e			Beginning of waves of longer period	
9	14	47	32	i			
	14	51	5	i			L?
	14	54.0		M	12	20	
10	20	52	33	i			
	21	4.8		M	4	13	
13	15	31	17	i			
	15	34	37	i			
	15	45.5		M	14	21	
15	8	44	12	i			
	8	46	40	i			
	8	47	50	iL			
	8	52.4		M	45	13	
15	14	45	58	i			
	14	46	12	i			
	14	50	44	i			
	14	55	50	i			
	15	8	10	i			
	15	18.5		M	46	20	
17	6	22	40	e			
	6	26	40	i			
	6	30	30	L			
	6	32.3		M	17	20	
17	15	42	35	i			
	15	43	50	i			
	15	55	35	L			
	15	57.0		M	23	21	
19	7	6	7	e			
	7	13	30	L?			
	7	18.6		M	3	11	
19	10	25	23	iP			$\Delta = 35.5?$
	10	26	32	i			PR2?
	10	31	8	i			S?
	10	33	21	i			SR2?
	10	35	0	L			
	10	36.8		M	83	17	

Date 1928	Universal Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Oct. -21	16	29	8	P			$\Delta = 22.7$
	16	33	14	S			
	16	34	40	L			
	16	35.5		M	35	11	
21	21	6	30	eL			
	21	8.3		M	2	10	
22	5	57	12	i			
	5	59.8		M	6	12	
-25	12	55	25	e			
	13	11	30	eL			
	13	12.2		M	16	25	
25	13	32.0		e			
	13	34.0		M	12	30	
Nov. 5	14	16	27	i			
	14	18	0	i			
	14	22	30	L			
	14	25.0		M	3	12	
-6	4	10	46	P			$\Delta = 28.1$
	4	15	38	S			
	4	18	52	L			
	4	20.6		M1	261	17.5	
	4	21.5		M2	206	15	
-9	12	15	0	i			
	12	16	15	i			
	12	17	42	i			
	12	19	15	iL			
	12	21.5		M	6	13	
-10	12	43	18	i			PR1?
	12	48	2	iS			
	12	51	20	L			
	12	55.0		M	28	14	
10	21	45	45	e			
	21	50	35	L			
	21	52.6		M	2	12	
11	22	12	20	e			
	22	25.5		M	6	17	
15	2	49	25	i			S? SR2?
	2	52	3	i			
	2	53	35	L			
	2	56.0		M	7	15	
-15	7	54	15	i			
	8	4.6		M	3	11	



Date 1928	Universal Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Nov. 17	10	32	52	i			
	10	38	0	L?			
	10	38.5		M	2	11	
18	6	1	35	i			
	6	5	32	i			
	6	8	10	L?			
	6	8.3		M	2	11	
-19	15	33	49	iP			$\Delta = 30^\circ$
	15	38	55	iS			
	15	43	38	L			
	15	44.7		M	11	13	
-20	20	54	35	i			PR1 $\Delta = 111^\circ$
	21	0	20	i			? (S4P4S) <i>long blank</i>
	21	1	20	i			S
	21	2	5	i			
	21	3	30	i			PS
	21	4	15	i			PPS
	21	9	45	i			SR1
	21	15	10	i			SR2?
	21	26	30	L			
	21	28.7		M	21	22	
-22	8	45	35	eP			$\Delta = 60^\circ$
	8	53	46	iS			
	8	59	18	L			
	8	59	35	i			
	9	4	45	L			
	9	5.5		M	98	30	
23	8	26	40	i			
	8	32	35	i			
	8	34	36	i			
	8	41.1		M	4	16	
25	20	50	5	i			
	20	52	50	i			
	20	57.6		M	2	13	
-28	10	49	20	iP			$\Delta = 34.7^\circ$
	10	50	2	i			PR2
	10	55	0	iS			
	11	0	0	L?			
	11	8.0		M	433	15	
29	14	5	52	i			
	14	9	20	e			
	14	11	55	i			
	14	23.0		M	4	15	
-29	15	49	43	iP			$\Delta = 37.0^\circ$
	15	50	0	PR			
	15	55	37	S?			
	15	59	30	L			
	16	5.6		M	11	15	



Date	Universal Time			Phase	A μ	Period secs.	Remarks
	h	m	s				
1928							
Nov. 29	18	6	50	P			$\Delta = 36^{\circ}.8$
	18	8	12	PR			
	18	12	43	S			
	18	16	55	L			
	18	21.1		M1	38	13	
	18	22.8		M2	41	14	
	18	32.2		M3	45	14	
	29	22	58 12	i			
		23	17 50	i			
		23	26 30	L			
		23	29.4	M	12	16	
Dec. 1	4	20	3	iP			Press reports e.q. in Chile; making $\Delta$
	4	23	28	PR1			about $100^{\circ}$ . S - P makes $\Delta = 94^{\circ}$ .
	4	24	7	P'			
	4	27	8	PR2			
	4	30	40	i			S4P4S?
	4	31	22	S			
	4	38	22	SR1			
	4	43	30	SR2			
	4	54	40	L			
	4	58.9		M	182	18	
	2	4	34 0	eP			$\Delta = 86^{\circ}.6$
		4	39 13	i			
		4	44 41	iS			
		4	46 0	i			PS?
		4	52 35	i			
		5	2 40	L?			
		5	6 45	L?			
		5	12.2	M	103	20	
	7	9	21 0	iP			$\Delta = 32^{\circ}.7$
		9	26 25	iS			
		9	30 0	L			
		9	34.0	M	165	7	
	8	7	15 18	i			
		7	16 0	eL			
		7	18.3	M	2	13	
	8	10	58 0	L			
		11	0.5	M	4	15	
	8	17	4 36	i			
		17	7 0	L			
		17	11.2	M	11	15	
	9	0	4 0	iP			$\Delta = 32^{\circ}.5$
		0	9 23	S			
		0	11 15	SR1			
		0	12 56	L			
		0	15.6	M	126	13	
	9	3	55 52	iP			
		3	59 56	S			
		4	5 6	M	9	15	



Date 1928	Universal Time			Phase	A $\mu$	Period secs.	
	h	m	s				
Dec. 9	5	11	38	P			$\Delta = 32.9$
	5	17	5	S			
	5	19	5	i			
	5	20	45	L			
	5	23	0	M1	156	13	
	5	32.5		M2	148	14	
9	14	40	0	L			
	14	42.3		M	2	12	
9	18	16	48	iP			$\Delta = 31.3$
	18	22	3	iS			
	18	24	5	SR1			
	18	25	40	L			
	18	27.8		M	74	15	
10	4	51	36	i			
	5	4	40	L			
	5	6.7		M	7	25	
12	20	26	27	iP			
	20	27	47	PR1			
	20	32	12	iS			
	20	36	20	L			
	20	37.5		M1	100	17	
	20	41.4		M2	100	15	
13	3	40.7		eL			
	3	42.5		M	1.4	15	
14	14	19	50	i			
	14	27	30	L			
	14	29.5		M	4	20	
14	23	24	57	i			
	23	34	50	L?			
	23	41.8		M	5	18	
17	4	3	0	i			
	4	6	35	i			
	4	16.7		M	3	14	
18	21	40	32	i			Very small
	21	41	35	i			" "
	21	38	45	i			" "
	21	42	43	i			" "
	21	43	26	i			" "
	22	6	10	L			
	22	9.1		M	3	12	
19	11	46	0	iP			$\Delta = 46.3$
	11	52	50	iS			
	12	0	25	L			
	12	1.0		M1	77	12	
	12	8.2		M2	84	13	





Date 1928	Universal Time			Phase	A $\mu$	Period secs.	Remarks
	h	m	s				
Dec. 27	5	8	25	i			
	5	22	0	L?			
	5	29.2		M	5	20	
28	14	28	31	iP			$\Delta = 49.5$
	14	30	22	i			
	14	35	40	iS			
	14	40	0	SR1			
	14	43.5		L?			
	14	44.3		L?			
	14	48.8		M	39	15	
31	7	6	5	L			
	7	7.6		M	3	12	

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