

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California

January 7, 1959
 PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Continuation:

Dec. 25
 25

iP 06 43 19
 iP² 08 18 54
 Compression from southwest
 i(pP) 08 19 05
 i 15
 iSKS 29 23
 iS 46
 e(sS) 30 04
 iSP 31 09
 eG 44.0
 iR 47.8
 Distance 83°
 Depth 40 km. ±
 Magnitude 6³/₄

	mu	sec
PZ	$\frac{3}{4}$	1 $\frac{1}{2}$
PH	$\frac{1}{2}$	1 $\frac{1}{2}$
SH	1 $\frac{1}{2}$	5
MH	4	20
MZ	3	20
iP	06 02 23	
iP	10 49 07	
iP ²	08 49 12	
i	19	
iS	58 28	
iScS	59 06	
iSS	09 03.1	
iSSS	06.8	
e	07.9	
eG	08.3	
eR	11.5	
Distance 74°		
Depth 60 km.		
Magnitude 6		

	mu	sec
PZ	0.2	1 $\frac{1}{2}$
PH	0.1	1 $\frac{1}{4}$
SH	0.8	10
iP	01 57 30	
ipP	58 54	
iS	02 07 10	
esS	09 34	
eSS	12 34	
eG	19.3	
Distance 82°		
Depth 350 km.		

	mu	sec
PZ	0.1	1
SH	3	20

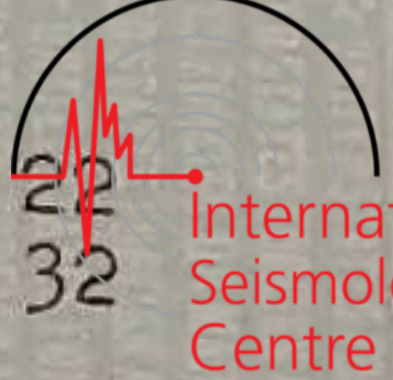
Dec. 31
 1959
 Jan. 1

iP 10 41 22
 i 32
 eP 02 16 43
 e 17 05
 eS 24 54
 eR 35.2
 Distance 60°
 eP 07 38 01
 eS 47 52
 e 48 34
 eG 57.4
 eR 08 00.8
 Distance 79°

1 iP 08 01 30
 i 35
 iScS 12 06
 eG 21.0
 eR 24.2
 Distance 77°
 3 iP 11 28 13
 i 40
 iS 36 50
 eG 45.0
 e(R) 49.2
 Distance 64°
 5 eP 02 50 27
 5 iP 09 48 13
 5 iP! 09 59 33
 Compression from southwest
 i 10 00 18
 iPP 02 53
 iS 10 08
 isSS 16.6
 iG 23.3
 Distance 85°
 Depth 60 km?
 Magnitude 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$

	mu	sec
PZ	0.9	1 $\frac{1}{4}$
PH	0.4	1
PPZ	0.1	1 $\frac{1}{2}$

C. F. Richter
 Professor of Seismology



International
 Seismological
 Centre

12 JAN 1959
 RICHMOND,
 SURREY.

26
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-31

This book was donated to the ISC
 from the collection of the
 British Geological Survey (BGS)

KEW
OBSERVATORY
21 JAN 1959

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
January 15, 1959

63

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)
Jan. 13

Continuation:
Jan. 8

iP!2 01 43 11
Dilatation from
southwest followed
by compression
ipP 01 43 28
iPcP 44 16
ipPcP 33
ePP 45 34
eScP 47 53
iS 50 38
isS 51 02
iScS 52 44
eSS 54.6
iG 56.5
iR 59.9

Distance 54°
Depth 60 km.
Magnitude 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$

	mu	sec
PZ	1 $\frac{1}{2}$	1 $\frac{1}{2}$
PH	2 $\frac{1}{2}$	1
SH	2 $\frac{1}{2}$	7
8 iP	04 19	50
8 eP	16 01	46
e	04 14	
9 iP	18 35	19
9 iP	20 58	29
e	21 01	16
11 iP	07 28	51
ipP	29 31	
e	32 26	
eS	33 58	
iPcS	35 00	

Distance 40°
Depth 150 km.

12 iP	14 27	41
ipP	28 10	
12 iP	17 54	09
13 iP2	01 28	17
i		22
i		52
iS	38 57	
i	39 22	
eSS	44.8	
eG	50.9	
eR2	51.7	

Distance 88°
Magnitude 6 $\frac{3}{4}$

PZ	0.4	2
PH	3 $\frac{3}{4}$	3
SH	2 $\frac{1}{2}$	6
MH	5	20
MZ	3	20
13 eP	07 28	30
eS	34	34
Distance	39°	
13 eP	07 56	13
13 iP2	08 41	43
i		50
i	42	10
iS	47	46
eG	50.0	
eR2	51.0	
eScS	51.9	
Distance	39°	

	mu	sec
PZ	0.2	2
PH	0.15	2
MH	6	24
MZ	3	20
13 eP	09 17	29
13 eP	19 18	09
13 iP	20 48	05
ipP		30
13 iP	23 02	25
e		51

C. F. Richter
Professor of Seismology



Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 January 23, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



13 ip 07 52 52
 13 eP 09 57 22
 13 ip 14 43 24
 13 ip 16 41 22
 14 e(P) 03 18 51
 15 ip 06 44 30
 15 ip 08 45 25
 15 e 14 04 00
 15 ip 16 51 29
 15 ip 19 20 32
 15 ip!2 21 32 06
 Compression from southwest
 ipP2 21 33 54
 iPP2 35 26
 iS1 41 42
 Distance 85°
 Depth 500 km
 Magnitude 6 1/2
 mu sec
 PZ 0.6 1 1/4
 PH 0.4 1 1/4
 pPZ 0.3 1 1/2
 pPH 0.1 1
 PPZ 0.4 3 1/2
 PPH 0.6 3
 SH 3 5
 16 ip! 01 39 12
 i 28
 iS1 45 26
 esS 49
 iG 48.7
 Distance 43°
 Depth 60 km
 mu sec
 PZ 0.2 2
 SH 1 5
 MH 7 20
 MZ 5 20
 16 ip 11 04 51
 e 05 08
 16 eP 15 28 50
 16 ip 16 55 19
 Compression
 i 16 55 46
 iG 59 19
 eR 17 00.0
 iLg 03.0
 Distance 22°
 17 ip 11 43 39
 i 51

Jan. 18 ip 14 54 18
 18 ip 15 55 44
 i 52
 18 eP 17 17 52
 18 ip 19 38 59
 18 ip2 22 34 29
 Compression from southwest
 i(sP) 22 36 12
 ePP1 37 29
 iS1 43 46
 esS 46.5
 Distance 75°
 Depth 300 km (possibly 500km)
 Magnitude 6 1/4 ±

mu sec
 PZ 0.6 1
 PH 0.3 1
 PPZ 0.2 2
 SH 1 1/2 8
 19 eP 10 56 25
 22 ip2 05 22 19
 Dilatation from northwest
 i 05 23 22
 iS1 32 04
 iSS 37.1
 iG 42.1
 iR1 45.0

Distance 76°
 Magnitude 6 3/4 - 7
 mu sec
 PZ 5 12
 PH 5 12
 SH 10 12
 MH 80 20
 22 eP 07 44 44
 22 eP 09 58 32
 23 ip 10 31 47
 i 52
 ePP 34 45
 eS 40 38
 eG 48.0
 eR 51.5
 Distance 66°

C. F. Richter
 Professor of Seismology

KEW
 OBSERVATORY
 28 JAN 1959
 RICHMOND,
 SURREY.

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 February 3, 1959
 PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Additional:

Jan. 19 eP 08 25 35
 19 iP 10 10 41
 22 iP 11 15 50
 22 iP 18 04 18
 22 eP 22 35 47
 23 iP 09 02 05

Continuation:

Jan. 23 iP 10 48 02
 23 iP 17 07 06
 24 eP 05 20 36
 i 49
 iS 30 11
 esS 38
 eSS 35.3
 eG 40.7

Distance 78°
 Depth 60 km
 24 iP 08 09 43
 24 iP 16 03 21
 24 iP² 19 48 35

Dilatation from southeast
 eG 19 56.5
 eR² 58.4
 iScS 59 07
 Distance 35°
 Magnitude 6 $\frac{1}{4}$

	mu	sec
PZ	0.5	2 $\frac{1}{2}$
PH	0.2	2
MH	3 $\frac{1}{2}$	20
MZ	2 $\frac{3}{4}$	20
24 iP	19 51	37
i		56
24 iP ²	20 06	46
Dilatation		
i	20 06	52
iS\	16	14
iSS	21	18
iSSS	24.3	
eG	26	
eR\	29.0	

Distance 76°
 Magnitude 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$

	mu	sec
PZ	0.3	1 $\frac{1}{2}$
PH	0.5	2
SH	1 $\frac{1}{2}$	16
MH	13	20
26 iP	05 59	33
27 e(P)	00 28	46
i		29 15

Jan. 27 eP 03 48 18
 28 iP 10 15 51

Dilatation
 e 10 16 20
 i 48
 eS 25 27
 eG 36.0
 eR 39.7

Distance 76°
 Depth 60 km
 Magnitude 6 $\frac{1}{4}$

	mu	sec
PZ	0.5	2
PH	0.5	4
29 iP ²	20 29	36
i		48
i		30 22
eScP		35 15
iS\		55
eSS		39 05
eG		39.6
eR ²		40.5

Distance 42°
 Magnitude 5 $\frac{1}{2}$ - 6

	mu	sec
PZ	0.1	1 $\frac{1}{2}$
PH	0.1	1 $\frac{1}{2}$
SH	1	6
MH	5	20
MZ	4	20
29 iP	21 06	22
ipP		38
29 iP	22 47	19
i		33
i		48 08
29 iP ²	23 35	35
ipP		47
ePP\		38 08
eS		44 40
eSS		49.0
eSSS		52.3
eR?		55.5
eR		56.7

Distance 70°
 Magnitude 6 $\frac{1}{2}$

	mu	sec
PZ	0.7	2
PH	0.3	1 $\frac{1}{2}$
PPZ	0.2	2

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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
February 5, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Additional:
Jan. 19

iP	21 46 34.8
iS	47 04.7
Barrett	
iP	21 46 57.7
iS	47 50.8
China Lake	
iP	21 46 08.6
Dalton	
iP	21 46 36.9
Haiwee	
iP	21 46 01.5
iS	03.4
Hayfield	
iP	21 46 48.8
i	58.5
iS	47 39.1
Isabella	
iP	21 46 11.2
King Ranch	
iP	21 46 29.5
iS	52.4
Mt. Wilson	
iP	21 46 34.3
Palomar	
P	21 46 48.1
S	47 31.7
Riverside	
P	21 46 37.6
S	47 08.8
San Nicolas	
iP	21 46 43
iS	47 29
Santa Barbara	
iP	21 46 40.1
iS	47 07.6
Tinemaha	
iP	21 46 16.8
iS	29.0
Woody	
iP	21 46 14.4
iS	24.6
26	iP 17 55 46
	i 56 01
27	iP 06 53 28
	i 35
Continuation:	
Jan. 30	iP 00 24 02
	i 09
(30)	iP ² 00 32 19
	Compression
	ipP 00 32 37
	isP 45
	eS 43 43

Jan. (30)

esS	44.03
ePS	45.07
eSSS	55.0
eG	59.3



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Distance 100°
Depth 60 km
Magnitude 6 $\frac{3}{4}$

	mu	sec
PZ	0.6	2
PH	0.2	2
MH	5	20
MZ	4	20
iP	16 27	35
i		50
eR		52.5
iP!	18 21	54

30

30

30

	mu	sec
PZ	$\frac{3}{4}$	2
iP	20 50	28
ePP		53 31
iS		59 51
eG	21	09.1
eR ²		12.5

Distance 76°
Magnitude 5 $\frac{3}{4}$ - 6

	mu	sec
PZ	0.4	3
SH	1	20
MH	6	20
MZ	1 $\frac{1}{4}$	20
iP	22 28	17
i		31
iS		37 44
eG		46.8
eR ²		49.5

Distance 76°
Magnitude 6 $\frac{1}{4}$

	mu	sec
PZ	1	4
SH	1 $\frac{1}{2}$	20
MH	10	20
MZ	4	20
iP	05 57	29
iP	08 51	16
iP	04 14	41
iP	01 11	59
i		12 09
eS		17 54

Distance 40°

Feb. 31
1
2
5

C. F. Richter
Professor of Seismology

KEW
OBSERVATORY

9 FEB 1959

RICHMOND,
SURREY.

SEISMOLOGICAL OBSERVATORY
 17 FEB 1959
 RICHMOND,
 SURREY.

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 February 11, 1959
 PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

63 ✓

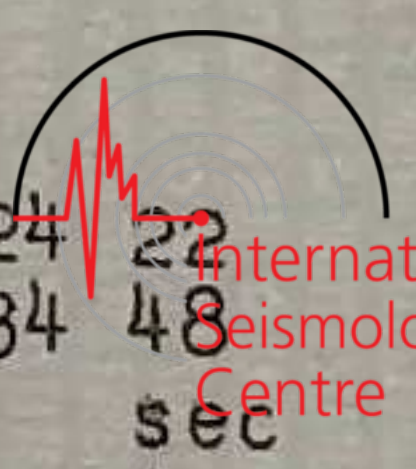
Additional:
 Jan. 30 iP
 Feb. 4 iP

Continuation:
 Feb. 6 eP

	05 24 41	
	00 14 53	
	15 11	
	08 14 08	
	19 23	
	21.3	
	24.4	
Distance 34°		
6 eP ²	14 41 15	
i		22
i		29
iPP	43 13	
iPPP		43
iS\	47 49	
iSS	51.3	
iG	51.9	
eR ²	53.5	
Distance 46°		
Magnitude 6		
	mu	sec
PZ	0.3	1½
PH	0.4	2
SH	3	18
MH	6	20
MZ	5	20
6 eP	20 38 20	
iS	44 33	
iG	47.6	
iR	49.5	
Distance 40°		
6 eP	23 36 25	
7 iP ²	09 45 56	
Compression from southeast		
eS	53 09	
iS\		15
iSS	57 14	
iG	58.5	
iR ²	10 02.1	
eP'P'	16 26	
Distance 51°		
Magnitude M=7¼-7½,		
m = 7¼±		
	mu	sec
PZ	22	7
PH	10	7
SH	35	5
MH	190	20
MZ	120	17

Feb. 7	iP	10 24 22
	iS?	34 48
		mu sec
	PZ	1 1
7	eP	11 04 10
7	iP	17 03 34
7	eP	21 38 40
	e	55
	e	39 01
	e	40 42
8	iPZ	01 13 08
	e	16 51
	eS	21 53
	eSS	25.7
	eG	28.9
	eP'P'	41 53
	Distance 62°	
	Magnitude 6¼ - 6½	
		mu sec
	PZ	0.3 3
	PH	0.2 2
	MH	1¾ 20
	MZ	3½ 20
	Reading for P'P' may refer to P of another shock.	
8	iP	05 57 41
	e	59 45
	iS	06 07 15
8	iP	16 06 40
9	iP	04 50 56
	iS	57 43
	eSS	05 01.3
	eG	01.9
	Distance 48°	
9	iP	21 26 23
	i	45

C. F. Richter
 Professor of Seismology



International
 Seismological
 Centre

SEISMOLOGICAL OBSERVATORY
 24 FEB 1959
 RICHMOND,
 SURREY.

Seismological Laboratory
 220 North S n Rafael Ave.
 Pasadena 2, California
 February 20, 1959
 PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

63 ✓

Additional:

Jan. 26 eP 03 30 13
 Feb. 1 iP 06 37 37
 5 eP 03 58 22
 5 eP 10 17 58
 e 18 20
 7 eP 10 27 45

Continuation:

Feb. 11 iP 13 57 52
 iS 14 02 43
 eR 05.2
 Distance 29°
 Magnitude 6

mu sec

PZ 0.9 2
 SH 4 20
 MZ 2½ 20
 12 iP 17 16 01
 eS 26 37
 eL 39.4
 13 iP 00 42 26
 i 45
 13 iP 01 57 14
 13 iP 07 18 11
 13 iP 15 20 28
 15 eP 04 14 43
 iP" 18 18
 e 19 43
 eSKP 21 59
 ePS 30.9
 iSS 36.8
 iR 57.5

Distance 127°
 Magnitude 6½-6¾

mu sec

PZ 0.4 18
 P"Z 0.2 1
 MH 8 18
 MZ 5 18
 15 iP" 05 01 27
 i 40
 eSKP 05 03
 iSS 19.8
 eR 40.9

Distance 127°
 Magnitude 6¾

mu sec

MH 10 18
 MZ 12 18

Feb. 15 iP 05 18 53
 16 iP 00 48 27
 i 36
 i 53
 iS 55 39
 iSS 59 23
 Distance 52°

17 iP 11 33 58
 17 iP 12 10 56
 i 11 09
 i 37
 i(PcP) 12 52
 iS 17 15
 eG 20.4

Distance 42°
 Magnitude 6-6¼

mu sec

PZ 1 2½
 PH 1 3
 SH 1 20
 17 iP 13 01 31
 i 46
 18 iP 23 41 26
 i 39
 20 iP 04 24 50

Compression

iP 04 25 06
 iS 19
 eSKS 34 56
 eG 46.5

Distance 85°
 Depth 60 km

Magnitude 6¼-6½

mu sec

PZ 0.3 1½
 PH 0.1 1



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 Professor of Seismology

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California

63

March 3, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Additional:
 Feb. 10

	i	18 05 29.3
	iS	06 39.9
	Dalton	
	eP	18 05 07.8
	i	11.8
	iS	06 35.2
	Riverside	
	e	18 05 26.4
	eS	06 41.5
	Isabella	
	eP	18 04 47.2
	i	55.4
	iS	05 47.4
	Woody	
	eP	18 04 46.7
	i	55.0
	iS	05 45.7
	China Lake	
	eP	18 04 42.5
	i	50.7
	iS	05 44.6
	Tinemaha	
	eP	18 04 27.5
	i	30.8
	iS	05 04.0
14	eP	10 03 35
17	iP	15 57 36
18	iP	00 45 17
18	iP	12 17 04
19	iP	17 44 04
20	iP	00 54 39
20	iP	01 54 16
Continuation:		
Feb. 20	iP	18 22 33
	Compression from southeast	
	i	18 22 53
	eS	28 00
	eG	30.1
	eR	32.1
	Distance	35°
	Magnitude	6½
		mu sec
	PZ	1 2½
	PH	0.4 1½
	MH	4 20
	MZ	4 20
21	e(L)	14 28.7
21	i(L)	14 51.5
21	e(P)	15 03 56
	i(S)	04 33
	i(L)	05.0
23	eP	02 12 11
	e	22
	e(S)	24 40
	eL	37.9

Feb. 23	iP	10 41 3
	i	41
23	eP	16 15 09
23	iP	22 33 30
	e	52
25	iP	10 13 54
25	iP	11 30 45
27	eP	06 16 48
27	iP	15 32 32
27	iP	21 09 44
	ippP	58
	i	10 21
	e	21.1
	e(G)	34
	eR	39.2
27	iP	22 21 22
	i!	46
	iS	22 55
28	eP	01 40 01
	i	13
	eS	46 08
	eG	49.1
	Distance	41°
28	iP	06 12 28
28	eP	07 02 27
	e	36
	e	42
28	iP	13 37 54
Mar. 1	iP	00 42 09
	i	16
	i	25
	eS	50 04
	eL	01 02.0
	iP ²	17 03 21
	iP ¹¹	07 20
	iPP ²	49
	iSKS	14 04
	iS ¹	15 22
	iPS	16.7
	iSS	21.9
	iG	32.4
	iR	36.7
	e(G ²)	18 50
	Distance	106°
	Magnitude	7
		mu sec
	PZ	0.2 1½
	PH	0.04 1
	PPZ	0.3 2
	PPH	0.4 3
	SH	4 6
	MH	40 20
	MZ	45 20
2	iP	02 00 26
	i	44



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 Seismological
 Centre

C. F. Richter
 Professor of Seismology

SEISMOLOGICAL LABORATORY
 17 MAR 1959
 PASADENA, CALIFORNIA

63 ✓

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 March 13, 1959



PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Additional:

Feb.	11	iP	20	06	17
	23	i	08	00	18
	24	iP	11	50	02
	26	iP	04	06	47
		i			53
	26	iP	07	10	05

Continuation:

Mar.	2	iP	12	25	17
	2	iP	16	10	01
		i			18
	2	iP	16	20	55
	2	iP	23	28	17.9
		eS		29	00.4
Magnitude 4.9					
China Lake					
		iP	23	28	11.8
Haiwee					
		iP	23	28	08.1
		iS			44.5
Isabella					
		iP!	23	28	01.8
Tinemaha					
		iP!	23	28	03.0
		iS			36.2
	4	e	19	07	05
	5	iP	00	25	05
		i			25
	5	eP	14	20	54
	6	iP	20	54	45
	8	eP	17	20	41
		i			51
	9	iP	22	09	07
		i			45
		i		11	57
		e(S)		15	12
	10	iP	18	08	05
		i			10
		e			30

Mar.	10	e	22	56	07
	11	eP	14	37	50
	12	iP	01	42	19
		i			30
		eS		53	28
		ePPS		54	52
		eSS		59.8	
		eSSS	02	03.1	
		eG		07.1	
		eR ₂		10.9	
		Distance		92°	
		Magnitude		5	
			mu	sec	
		PZ	0.15	2	
		SH	0.5	15	
		MH	7	20	
		MZ	5	20	
	12	eP	09	13	54

C. F. Richter
 Professor of Seismology

**KEW
OBSERVATORY**

24 MAR 1959

**RICHMOND,
SURREY.**

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
March 20, 1959

**PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)**

63



Additional:

Feb. 20	iP	19 41 10
26	iP	21 15 55
Mar. 3	iP	07 24 47.3
	iS	25 30.9
	China Lake	
	iP	07 24 40.6
	Haiwee	
	iP	07 24 38.8
	iS	25 28.6
	Hayfield	
	eP	07 25 12.8
	Isabella	
	iP	07 24 31.9
	Tinemaha	
	iP	07 24 32.5
	iS	25 06.5
	Woody	
	iP	07 24 27
3	iP	18 33 13.3
	iS	34 02.0
	China Lake	
	iP	18 33 09.3
	Haiwee	
	iP	18 33 04.5
	Isabella	
	iP	18 32 59.4
	Tinemaha	
	iP	18 33 00.2
	iS	33.0
	Woody	
	iP	18 32 55
4	iP	11 07 44
5	eP	23 14 45
6	eP	20 41 37
7	eP	09 31 36
8	eP	23 12 54
9	eP	11 36 16
9	iP	22 15 23
Continuation:		
Mar. 13	iP!	00 44 56
13	iP	13 30 31
13	iP	15 41 48
15	iP	10 51 50
	i	52 03
16	iP	22 20 43
	i	21 14

Mar. 17	eP	08 38 30
	ePP	42 13
	iSKS	49 19
	eS	33
	iPS	50 37
	ePPS	52 07
	iSS	55.8
	iG	09 02.7
	eR	07.4
	Distance	92°
	Magnitude	5 $\frac{3}{4}$ - 6
		mu sec
	PZ	0.2 2
	SKSH	1 $\frac{1}{4}$ 28
	MH	1 $\frac{3}{4}$ 20
	MZ	4 20
18	e(P)	00 54 31
18	iP	07 38 38
	i	39 02
18	eP	12 44 35
	iS	49 07
19	iP2	08 36 25
	ePP	38 49
	ePPP	40 29
	iS	45 17
	eSS	49 33
	eSSS	52.3
	eG	52.8
	eR	55.4
	Distance	66°
	Magnitude	6 $\frac{1}{4}$
		mu sec
	PZ	0.15 1
	PH	0.07 1
	SH	3.8 20
	MH	16 20
	MZ	11 20
19	eP	09 44 25
	i	47
19	iP	11 18 26
20	eP	15 44 33

C. F. Richter
Professor of Seismology

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California

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March 31, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Additional:

Mar. 7 eP 19 19 31
 11 e 00 42 42
 12 eP 07 17 47
 16 eP 23 42 26
 e 43
 18 iP 15 05 56
 i 06 29
 20 eP 02 22 26

Mar. 27 eP 23 05 21
 i 55
 iS 12 49
 eR 19.4
 Distance 52°
 28 iP 07 55 55
 28 eP 15 02 59
 28 iP 19 58 14

Continuation:

Mar. 20 iP 19 16 00
 21 iP 00 12 28
 i 39
 21 iP 04 38 23
 i 40 20
 21 e(P) 19 44 33
 21 iP 19 58 10
 23 iP 07 11 46.2
 i 12 01.7
 i 04.7
 i(S) 13 15.1
 Distance 600 km.
 Magnitude $6\frac{1}{4}$ - $6\frac{1}{2}$
 Felt at Reno but not
 in this area.

Dilatation from
 northwest.
 i 19 58 30
 iP 20 00 17
 iSP 01 13
 ePP 28
 i 04.1
 iS 07 29
 i(sSP) 11.8
 i(sS) 16.0
 Distance 80°
 Depth 600 km.
 Magnitude $5\frac{3}{4}$ - 6

23 Palomar
 iP 07 11 58.2
 i 20.1
 iS 13 34.0
 Santa Barbara
 iP 07 11 49.3
 i 57.8
 iS 13 10.4
 Tinemaha
 iP! 07 11 05.2
 i! 09.0
 i(S) 41.5
 China Lake
 iP! 07 11 22.1
 Haiwee
 iP 07 11 15.9
 24 eP 17 30 24
 26 iP 02 37 12
 i 39
 eS 48 10
 eG 03 00.8
 e(R) 05.5
 27 iP! 07 11 03
 Dilatation.
 27 eP 08 01 17

29
 30
 31
 PZ 0.3 1½
 PH 0.2 1½
 PPZ 0.8 14
 SH 1½ 24
 iP 19 20 48
 iP 07 26 20
 iP2 07 32 11
 eS 41 08
 iS 33
 iPS 42 11
 iG 50.1
 iR 53.3
 Distance 71°
 Depth 60 km?
 Magnitude 6
 mu sec
 PZ 0.2 2
 PH 0.05 1
 SH 1 6
 MH 2 20
 MZ 3 20

C. F. Richter
 Professor of Seismology

KEW
 OBSERVATORY
 - 3 APR 1959
 RICHMOND,
 SURREY.



KEW OBSERVATORY
13 APR 1959
RICHMOND, SURREY.

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
April 7, 1959

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Additional:
Mar. 16

i 17 38 04
iS 39 06
China Lake
eP 17 37 21
i(S) 38 10
Isabella
eP 17 37 31
iS 38 26
Haiwee
eP 17 37 19
iS 38 03
Tinemaha
iP 17 37 14
iS 47
Woody
eP 17 37 28
iS 38 27
24 iP 05 17 40
25 iP 12 40 07
26 iP 04 58 58

Continuation:
Apr. 1

iP² 00 46 35
e 48 13
ePP 49 40
eS 56 45
eScS 57 05
eSS 01 02 53
eG 06.3
eR 11.9

Distance 80⁰
Magnitude 6 $\frac{1}{4}$

	mu	sec
PZ	0.4	2
PH	0.1	1
PPZ	0.2	2

1 iP 14 31 23
1 iP 15 01 03
1 iP 18 19 58.7
i 20 10.5
iS 21 25.1

Magnitude 5 $\frac{3}{4}$ - 6

China Lake
iP 18 19 39.1
Haiwee
iP 18 19 38.3
iS 20 37.0
Isabella
iP 18 19 38.4

Apr.				
1	eP	19 27 20		
	i	47		
1	iP	23 46 46		
	i	47 03		
2	eP	04 15 28		
	e	56		
2	eP	22 00 19		
3	iP	01 35 45		
5	iP	20 10 56		
	i	11 13		
5	iP	21 19 00		
	i	21 46		
5	iP	23 43 03		
	i	15		
	i	32		
6	e	09 56 26		
6	iPP	14 31 35		
	iSKP	32 37		
	iSKSP	41 17		
	iPPS	43 05		
	iSS	49.1		
	eG	15 03.8		
	eR	08.7		
	Distance	136 ⁰		
	Magnitude	6 $\frac{1}{4}$		
		mu	sec	
	PPZ	0.2	1 $\frac{1}{4}$	
	MH	5	20	
	MZ	5	20	
7	eP	00 11 42		



International
Seismological
Centre

C. F. Richter
Professor of Seismology

KEY
SERVATORY
14 APR 1959
RICHMOND,
SURREY.

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
April 10, 1959

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:
Mar. 29 iP 05 48 50
i 49 12
Apr. 1 i 16 51 59
1 King Ranch
iP 18 19 39.2
Tinemaha
eP 18 19 20.6
i 29.1
iS 20 11.5
Woody
iP 18 19 35.0
i! 36.0
iS 20 40.1
3 iP 19 42 57

Apr. 9 Distance 165°
Magnitude 5 1/4 - 6
mu sec
MH 3 20
MZ 3 20
9 e 12 56 34
eL 13 06.0
9 eP2 17 44 12
ePP 45 58
eScP 49 32
iS1 50 38
iSS 54.2
eG 55.2
eR2 57.5

Continuation:
Apr. 8 iP2 01 35 40
Compression
ipP2 01 37 14
eSKS 45 30
iS1 58
Distance 90°
Depth 400 km.
Magnitude 6 - 6 1/4
mu sec
PZ 0.3 1
PH 0.2 1
pPZ 0.4 1 1/2
pPH 0.1 1
SH 1 12
8 iP 08 13 03
i 33
8 eP 11 57 45
iPP 12 01 22
eS 09 01
ePS 10 21
eSS 15.4
eSSS 19.1
eG 24.6
eR 28.9
Distance 102°
9 eP1 06 38 46
ePP 43 35
eSKKS 50 26
eSKSP 54.1
ePPS 57.5
eSS 07 03 54
eSSS 11.0
eG 28.6
eR2 36.3

Distance 47°
Magnitude 6 1/4 - 6 1/2
mu sec
PZ 1/4 1 1/2
PH 0.2 1 1/2
SH 6 20
MH 6 20
MZ 4 20
10 iP2 05 59 12
Dilatation from
northwest
ipP2 06 01 22
isP or (iPP) 02 40
iSKS 08 41
iS1 58
eSP 09 56
isS 12 42
i(SSP) 13 38
Distance 85°
Depth 600 km.
possibly 400 km.
mu sec
PZ 0.7 1 1/2
PH 0.2 1
pPZ 0.3 2
pPH 0.1 1
SH 3 8

C. F. Richter
Professor of Seismology

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California

April 15, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

63 ✓



Additional:

Apr. 2 iP 04 45 11
 3 e 05 27 48
 3 eP 10 43 37
 5 eP 11 00 41
 5 e 20 41 25
 5 e 23 15 35
 6 eP 07 31 01
 6 eP 13 30 59

Continuation:

Apr. 10 iP 17 04 47
 i 58
 11 e 09 39 08
 e 42 33
 eL 41
 12 iP 06 15 51
 12 iP 08 22 21
 12 iP! 2 10 00 27
 Dilatation from southeast
 ipP² 10 01 01
 isP 15
 i 25
 iPcP 03 46
 epPcP 04 33
 iS 46
 iG 06.9
 iPcS 07 40
 epPcS 08 07
 iScS 11 11
 Distance 27°
 Depth 170 km
 Magnitude 6½

	mu	sec
PZ	1	2
PH	1	2
pPZ	1	2
pPH	1	2
SH	2½	11
ePP	15	41 07
e		19
eSKS		47 38
eS		48 42
ePS		50.6
eSS		55.9
eG	16	06.4
iR		11.3
Distance 110°		

	mu	sec
MZ	2	20
MH	2	20

Apr. 12

iP² 21 05 28
 i 40
 i 06 01
 iPP¹ 08 18
 iS¹ 14 50
 eSSS 22.7
 iR² 26.4

Distance 75°
 Depth 60 km
 Magnitude 6 - 6½

	mu	sec
PZ	0.2	2
PH	0.1	1
PPZ	0.15	1½
SH	2	8
MH	12	20
MZ	11	20
eP	02	56 06
eG		58.7
eR		59.0

Distance 16°

	mu	sec
MH	10	20
eP	06	48 23
eG		50.8
eR		51.4

Distance 16°

	mu	sec
iP	07	27 12
i		29
eS		32 38
eScP		33 25
eG		35.0
eR		36.2

Distance 34°

	mu	sec
eP	00	27 02
e		16
iS		36 34
eG		46.3
eR		49.6

Distance 76°

	mu	sec
MH	3	20
MZ	2	20

14

14

14

15

12

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 Professor of Seismology

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 20 APR 1959
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14

KEW OBSERVATORY
27 APR 1959
RICHMOND,
SURREY.

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220 North San Rafael Ave.
Pasadena 2, California
April 22, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:

Apr. 11	e	00 03 15
11	e	09 33 07
11	eP	14 55 09
	i	24
12	eP	10 32 47
12	iP	15 24 59
13	eP	00 26 53
13	iP	07 12 04
13	iP	22 41 22
14	eP	03 13 33
14	iP	06 31 38

Apr. 19	eP	15 03 36
19	iP 2	15 10 07
	ipP	16
	isP	23
	ePcP	12 46
	iS	15 18
	e	44
	eG	18.0
	Distance	33°
	Depth	60 km.
	Magnitude	6 1/4

Continuation:

Apr. 15	iP	19 21 18
	i	36
16	iP	00 04 06
16	iP	03 20 44
16	iP	05 32 53
16	iP	07 39 01

19	iP	19 54 37
	i	56
20	eP	03 41 16
	ePP	45.1
	eS	52 13
	i	53 44
	iSS	58.1
	eG	04 06.8
	eR	11 26

16

	eS	48 38
	eScS	49 10
	Distance	75°
	iP 2	16 26 52
	Dilatation	
	ipP	16 27 18
	isP	34
	eSKS	37 06
	eSPP	39.6
	eSS	44.1
	eSSS	48.1
	e	49.6
	eR	54.1
	Distance	90°
	Depth	100 km.
	Magnitude	6 1/2

	Distance	98°
	Magnitude	6
	mu	sec
	MH	4 30
	MZ	6 30
20	iP	04 29 00
	i	09
	iS	35 22
	iScS	38 54

	mu	sec
	PZ	0.4 2
	PH	0.2 1 1/4
18	iP	05 58 18
18	iP	06 31 01
	i	25
	i	43
	e(S)	42 36
	eG	56.0
	eR	59.1

20	iP	19 35 49
21	iP	12 50 04
	i	41
21	e	13 45 26
22	iP 2	11 02 35
	ipP	53
	ePP	04 16
	ePcP	05 16
	eS	08 34

19

19

	iP	05 43 49
	eP	07 39 02
	iS	49 36
	eSS	55.3
	eSSS	58.8
	eG	08 01.6
	Distance	87°
	Magnitude	6
	mu	sec
	PZ	0.1 1 1/2
	SH	8 25

	Distance	34°
	Depth	100 km.
	Magnitude	6
	mu	sec
	PZ	0.3 1 1/2
	PH	0.1 1

C. F. Richter
Professor of Seismology

RESERVATORY
4 MAY 1959
ROBERT D.
SUNNEY

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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California

April 29, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Correction:
Apr. 19 iP 05 43 49
Read:
iP 04 43 49

Additional:
Apr. 6 iP 05 32 34
i 45

Continuation:
Apr. 22 iP 19 08 52
e 10 40
i 11 13
eL 19.1

	mu	sec
PZ	$\frac{1}{4}$	$1\frac{1}{2}$
MH	$1\frac{3}{4}$	20
e?	20	38 16
iP		24
i		30
iS		47 46
eSS		51.7
iG		57 36

mu sec
PZ $\frac{1}{4}$ 3
SH $1\frac{1}{4}$ 20
Distance 73°
Magnitude $5\frac{3}{4} - 6$

22

	mu	sec
iP2	09	38 44
iPP		41 07
eS		47 20
iScS		48 51
eSS		51.4
iR2		57.8
Distance		64°
Magnitude		$6\frac{1}{4} - 6\frac{1}{2}$

mu sec
PZ 0.2 1
PH 0.1 1
PPZ 0.02 $1\frac{1}{2}$
SH 0.5 5
MH 6 20
MZ 4 20
iP2 18 10 47

24

Compression
iPP 18 14 17
iS 21 11
eSP 22 25
iSS 26.4
eSSS 30.4
iG 33.5
eR2 36.9
Distance 86°
Magnitude $6\frac{3}{4}$

	mu	sec
PZ	$1\frac{1}{2}$	3
PH	0.3	$1\frac{1}{2}$
SH	3	10
MH	13	20
MZ	12	20
iP2	20	54 01

26

Compression
i 20 54 13
i 25
iPP 57 59
iSPP 58 40
iSKS 21 04 15
eS 05 03
i 15
i 06 55
iPKKP 11 09
eP'P' 18 54
iR 26.2
Distance 92°
Depth 100+ km.
Magnitude $7\frac{1}{2} - 7\frac{3}{4}$

	mu	sec
PZ	3	$1\frac{1}{4}$
PH	$1\frac{1}{2}$	$1\frac{1}{2}$
SKSH	19	9
SH	15	7
iP''	10	06 48
i		07 27
i		59
iSKS		13 20
ePKKP		16 45
eSS		23 01
eG		35.8
eR		40.1
Distance		117°
iP2	11	15 43

27

Compression from southeast
i 11 15 54
iPP 17 11
iPcP 18 42
iS 20 47
eG 23.1
eR 25.1
Distance 29°
Magnitude $6\frac{1}{2} - 6\frac{3}{4}$

	mu	sec
PZ	$2\frac{1}{2}$	$2\frac{1}{2}$
PH	$2\frac{1}{2}$	6
SH	10	14
eP	13	14 01
iP	14	26 57
i		27 15

28

28

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Professor of Seismology

KEW
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12 MAY 1959
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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
May 8, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

B3



Additional:

Apr.	14	e	02 54 51
	15	eP	17 11 00
		i	27
	18	iP	14 06 09
	21	iP	10 29 49
	21	eP	11 10 09
	21	eP	16 47 41
	22	iP	05 41 15
	24	eP	11 26 55
	25	eP	06 14 48
	25	iP	20 43 39
	25	iP	21 48 43
	26	iP	06 33 48

Continuation:

Apr.	28	iP	17 19 29
		eS	25 50
		eL	29.6
	30	iP	13 44 24
		e	45 53
May	1	iP	07 01 40
	1	iP	15 10 25
		i	33
	3	iP	03 14 32
	3	iP	04 48 16
		ePcP	49 48
		i	50 45
		eScP	53 36
		eScS	58.3
		eG	59.0
		eR	05 00.2
		Distance	46°

4

iP! 2 07 25 40
Dilatation from
northwest
i 07 30 29
iS 1 33 42
i 36.6
i 38.1
iG 40.3
iR2 42.7
eP'P' 55 24
eG2 09 17.9
Distance 59°
Magnitude m = 7 $\frac{3}{4}$
M = 8 $\frac{1}{4}$

	mu	sec
PZ	9	1 $\frac{1}{2}$
PH	2 $\frac{1}{2}$	1 $\frac{1}{2}$
SH	200	15
MH	260	20
MZ	270	20

May 5

eP2	19 14 20
ePP	16 52
iS	22 34
eSS	26.5
iG	29.2
eR2	31.9
eP'P'	44 05
Distance	60°
Magnitude	6

	mu	sec
PZ	0.2	1
PH	0.1	1
PPZ	0.07	1 $\frac{1}{2}$
SH	1 $\frac{1}{2}$	10
MH	4	20
MZ	3 $\frac{1}{2}$	20
eP	07 52 41	
iP	17 40 27	
eP	00 17 01	
eSKS	27 32	
ePS	29.3	
iSS	34.6	
eG	42.3	
iR2	46.4	
Distance	96°	
Magnitude	6 - 6 $\frac{1}{4}$	

6
6
7

7
7

8
8

	mu	sec
MH	2 $\frac{1}{2}$	20
MZ	2 $\frac{1}{2}$	20
eP	09 17 12	
eP	15 17 41	
e	18 07	
iP	06 56 23	
iP2	11 44 43	
eS	52 44	
eSS	56.7	
eG	59.1	
eR	12 02.5	
eP'P'	14 30	
Distance	60°	
Magnitude	6	

8

	mu	sec
PZ	0.1	1
PH	0.06	1
SH	1 $\frac{1}{2}$	7
eP	13 44 53	

C. F. Richter
Professor of Seismology

19 MAY 1959
 RICHMOND,
 SURREY.

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 May 15, 1959

63

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)

Additional:

May 1 IP 01 21 49
 Continuation:
 May 8 IP 17 32 11
 May 10 IP 00 08 06
 i 18
 11 IP 16 38 50
 i 39 05
 11 eP 17 44 25
 12 eP 03 51 15
 12 IP² 05 07 00

Compression from
 northwest

i 05 07 12
 i 25
 eS 13 52
 i 14 30
 iG 18.3
 iR² 20.9

Distance 48°
 Magnitude 6½

	mu	sec
PZ	2	6
PH	0.1	1
SH	5	12
MH	16	20
MZ	16	20
eP	08 18	55
IP ²	09 58	44

Compression from
 southeast

i 09 59 46
 iS 10 08 33
 iSS 13.4
 eSSS 17.6
 iG 20.8
 ePIP 25 41

Distance 78°
 Magnitude 6¼

	mu	sec
PZ	0.5	1¼
PH	0.2	1
SH	6	13

Surface waves of
 20 seconds period
 relatively small

12 eP 21 48 42
 e 53
 e 49 30
 e 55 23
 eS 58.9
 eScS 59.3
 eSS 22 00.0
 eG 01.8
 eR

May 12

Distance 49°
 Magnitude 6

	mu	sec
PZ	0.1	2
SH	0.5	3
eP	22 08	17
e		25
eS	14	57
iScS	18.0	
eSS	18.9	
eG	19.1	
iR	21.3	

12

Distance 49°
 Magnitude 6

	mu	sec
PZ	0.15	1½
SH	0.7	3
MH	5	20
iP	16 42	46
e	06 50	54
e	55	08
e		38
e	07 01	33
e		02 43
e		04 16
i		09 46
eL		24.2
e(R)		33.7

13

14

revised

Distance 125°?
 Magnitude 6¼ - 6½

	mu	sec
MH	5	20
MZ	4	20
IP	08 31	26
e		39
eP	09 46	09
eS		56 42
ePPS		58.0
e		58.5
eSS	10	01.6
eR		12.6

14

14

Distance 85°

	mu	sec
eP	12 02	00
eS		12 22
ePPS		13.6
e		14.5
eSS		17.6
eR		28.5

14

Distance 85°

eP 12 16 38

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 Professor of Seismology

26 MAY 1959

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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
May 22, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:

May 7	iP	20 41 33
8	eP	22 21 58
12	eP	23 56 19
13	e	01 13 17
13	eP	10 03 17
14	eP	10 54 37

Continuation:

May 14	eP	13 32 06
	eS	42 29
	ePPS	43.7
	e	44.4
	eSS	47.6
	eR	58.6
	Distance	83 ⁰

14	eP	20 10 09
	i	37
15	eP	01 40 38
15	e	07 55 50
15	e(P)	14 48 21
15	iP	20 20 14
16	eP	05 05 52
	e	06 24
16	iP ₂	06 29 27
	Compression from west	
	i(sP)	06 29 51
	i(PP) ₂	33 09
	iS	39.9
	i	41 38
	e	42.0
	iSS	45.5
	eSSS	49.5
	iR ₂	57.7

Distance 88⁰
Depth 70 km.
Magnitude 6 $\frac{3}{4}$

	mu	sec
PZ	0.6	1 $\frac{1}{2}$
PH	0.3	1 $\frac{1}{2}$
PPZ	0.7	25
PPH	0.7	25
MH	30	22
MZ	20	22
18 e	03 33	12

May 20	eP	00 59 53
	i	01 00 05
	i	24
	eS	07 53
	esS	08 32
	eSS	11 37
	iG	14.2
	eR	17.0
	Distance	59 ⁰

20	iP	19 46 10
	i	26
	eS	55 29
	eG	20 03.1
	eR	06.4
	Distance	70 ⁰

21	iP	11 46 15
	i	30
	ePP	49 33
	iS	55 50
	iSS	12 00.7
	eSSS	04.5
	eG	06.9
	eR ₂	11.3
	Distance	80 ⁰

	mu	sec
PZ	0.3	2
SH	0.5	6
MH	2 $\frac{3}{4}$	20
MZ	5	20

C. F. Richter
Professor of Seismology

- 2 JUN 1959

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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
May 29, 1959

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Correction:
May 14

Revised Interpretation:
eP 06 50 54
iPP 55 08
i 38
iSKS 07 01 33
iS 02 43
iPS 04 16
iSS 09 46
eL 24.2
eR 33.7
Distance 102°
e(P) 07 03 18
Superposed on the preceding.

Additional:

May 12 eP 11 34 55
19 eP 08 46 57
20 iP 11 38 12

Continuation:

May 24 iP 00 18 23
i 42
24 iP 04 50 30
24 iP2 19 23 00
Dilatation from southeast
ipP 19 23 17
iPcP 26 34
ipPcP 55
iS 27 25
iR 29.6

Distance 25°
Depth 100 km.
Magnitude $6\frac{3}{4}$ - 7

	mu	sec
PZ	11	4
PH	10	$4\frac{1}{2}$
SH	25	15
MH	80	20
iP	02 28	46
iP	05 15	06
iP2	04 26	08
e		32
ePP1	29	44
eS1	37	01
eSS	43	25
eG	49.5	
eR	51.6	

Distance 88°
Magnitude $6\frac{1}{2}$ - $6\frac{3}{4}$

May 26

29

	mu	sec
PZ	0.3	$1\frac{1}{2}$
PH	0.1	1
PPZ	0.5	$1\frac{1}{2}$
SH	0.5	3
iP2	10 55	30
Compression from west		
ipP	10 55	58
ePP1		59 09
epPP		21
eSKS	11 05	33
iS1		06 05
iSS		37
i		07 53
iSSS		12.6
iSSS		15.4
iG		18.6
eR2		22.5

Distance 88°
Depth 100 km.
Magnitude $6\frac{1}{2}$

	mu	sec
PZ	0.4	$1\frac{1}{2}$
PH	0.15	$1\frac{1}{2}$
PPZ	0.07	$1\frac{1}{2}$
SH	1	20
MH	$2\frac{3}{4}$	20
MZ	$2\frac{1}{2}$	20
eP	12 40	32
e		45

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:

May 24	iP	19	31	34
Continuation:				
May 29	iP	18	39	45
30	iP	03	18	04
30	iP	12	47	08
31	eP ²	09	41	14
	eSKS		51	47
	eS ¹		52	10
	eSP		53	17
	eSS		57.4	
	eSSS	10	01.7	
	eG		05.1	
	eR ²		08.4	
	Distance	92°		
	Magnitude	6½		
		mu	sec	
	PZ	0.3	1½	
	PH	0.2	1½	
	SH	0.5	5	
	MH	4	20	
	MZ	3½	20	
31	iP	10	59	41
31	iP	15	05	38
June 1	iP	05	43	54
1	iP	12	44	52
	i		46	38
	e(S)		55	25
1	eP	16	00	50
1	eP	17	20	18
	eS		31	25
2	e(P)	03	24.4	
	e(SKS)		35.5	
	eL	04	00.0	
2	iP	03	44	13
	i			23
2	eP	04	04	23
2	iP	05	55	01
	i			08
	i			13
2	eP	18	53	39
3	iP	03	52	31
	i			46
	i		53	02
	ePcP			55
	eS		59.6	
	Distance	49°		
3	eP	05	51	10
	e			17
	i			25
	eS		57.2	
	eG	06	00.8	
	eR		02.5	

June 3	eP	08	45	48
4	iP	12	38	35
Dilatation				
	ipP	12	38	55
	ePP ²		39	57
	eS ¹		43	57
	eS		44	33
	eG		46.3	
	eR		48.6	
	Distance	35°		
	Depth	100 km.		
	Magnitude	5½		
		mu	sec	
	PZ	0.1	1½	
	PPZ	0.1	1	
	PPH	0.15	2	
	SH	0.5	5	
4	eP	22	03	54
5	iP	07	58	25
5	iP	19	59	32
5	iP	20	44	16
	i			23
	i		45	50
	e		46	54
	eS		50.0	
	e		52.8	
	e(G)		54.3	
	e(R)		57.0	
	Distance	40°		
		mu	sec	
	MH	3	20	
	MZ	1½	20	
6	eP	10	26	04
	eS		35	38
	ePS		36	04
	eG		44.7	
	eR		47.1	
	Distance	73°		
6	e	11	28	58
	e		34	09
	e			25
	eL		46.2	
	Two shocks?			

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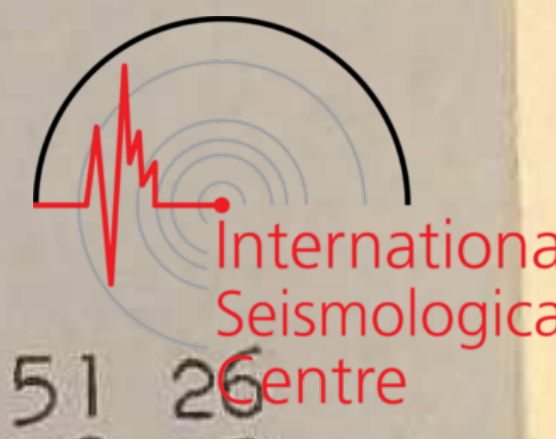
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June 22, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



Additional:

June 2 iP 04 00 33
 4 eP 02 05 24
 5 iP 19 17 35

Continuation:

June 8 iP 07 41 08
 8 eP 14 22 43
 e 23 09
 9 iP 15 06 30
 10 iP 04 46 03
 10 iP 11 01 45
 11 iP 00 07 13
 11 iP 23 44 14
 12 eP 22 36 08
 13 e 13 10 58
 13 iP 16 30 31
 13 iP 22 27 12
 14 iP 00 23 16

Dilatation from southeast

i 00 23 40
 isP 47
 iPP 25 58
 isPP 26 33
 iS 32 30
 i 33 03
 iPS 34 00
 iSS 36.9
 iG 41.5

Distance 74^0
 Depth 80 km.
 Magnitude $m = 7.2$
 $M = 7.5$

	mu	sec
PZ	2	1
PH	$1\frac{1}{2}$	1
PPZ	4	$3\frac{1}{2}$
SH	12	7

14 e(P) 01 18 02
 14 eP 02 19 30
 i 41
 14 eP 15 08 42
 e 52
 15 iP 02 52 25
 16 iP 08 08 09

Dilatation
 ipP 08 08 19
 eS 13 06
 eG 15.6
 eR 16.4
 Distance 34^0

June 16 i(P) 12 51 26
 17 iP 20 58 18
 i 59 13

18 e 07 03 50
 18 iP 15 41 24

Compression from northwest

i 15 42 19
 iPP 43 53
 iS 49 36
 esS 50 08
 iSS 53.6
 iG 55.9

Distance 61^0
 Depth 60 km.
 Magnitude $6\frac{3}{4} - 7$

	mu	sec
PZ	0.3	1
PH	0.8	$1\frac{1}{2}$
PPZ	0.3	2
SH	4	4
MH	24	20
MZ	21	20

18 eP 16 08 33
 i 09 18
 eS 16 41

Distance 61^0
 Magnitude $6\frac{1}{2} - 6\frac{3}{4}$

18 iP 18 02 00
 e 17

19 iP 01 45 57
 eS 51 46
 iS 52 34
 eR 59.6

Distance $42^0?$

19 eP 20 36 50
 i 56
 iLg 38.7
 iRg 39.3

Distance 6^0

20 eP 16 53 00
 21 iP 06 00 42
 22 eP 09 29 44
 22 iP 13 14 56
 22 iP 14 18 44

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July 1, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

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Additional:
June 2 iP 03 35 31
12 eP 00 53 43
14 eP 20 55 50
15 iP 01 35 32

Continuation:
June 23 eP 14 33 59
i 34 07
iS 35 14
China Lake
eP 14 33 29
i 38
iS 34 22
Isabella
eP 14 33 32
i 37
iS 34 21
23 iP 14 36 19
i 33
iS 37 37
Distance 600 km.
Magnitude $6\frac{1}{4}$
China Lake
iP 14 35 57
i 36 03
Isabella
iP 14 35 46
23 eP 15 05 53
i 06 05
China Lake
i(P) 15 05 36
Isabella
i(P) 15 05 47
25 eP 06 57 06
e 07 01 01
eS 05 33
eSS 09 23
eG 12.7
eR 15.9
Distance 62°
26 e 04 02 17
eP 03 22
e 04 39
eG 13.1
eR 14.9
Two shocks?
27 iP 19 17 17
Dilatation
i 19 17 38
iSP 58
iSKS 27 36
iS! 57
e 28 02

June 27 iSP 19 29 03
iG 40.9
Distance 90°
Depth 100 km.
Magnitude $6\frac{3}{4}$

	mu	sec
PZ	$\frac{3}{4}$	2
PH	$\frac{1}{4}$	2
SH	10	10
28 eP	18	27 47
iG		29 15
iR		51
iLg		30 19
Distance 9°		
28 iP'	20	02 16
Compression		
ipP'	20	02 39
iPP		03 47
iSKP		05 01
i		43
iSKS		09 07
iSP		13 19
eSS		20 24
eR		38.4
Distance 120°		
Depth 100 km.		
29 iP	07	29 19
ePP		32.9
eS		40 25
ePS		41 25
ePPS		41.7
eSSS		50.1
eR		57.6
Distance 93°		
Magnitude $6 - 6\frac{1}{4}$		
	mu	sec
PZ	0.2	$1\frac{1}{2}$
MH	$1\frac{1}{4}$	20
MZ	$1\frac{1}{4}$	20
30 iP	10	36 12
eS		47.2
eG	11	00.1
eR		03.4
Distance 90°		

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July 9, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

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Additional:
June 23

Haiwee			
iP	14	33	30
i			32
iS		34	12
King Ranch			
iP	14	33	40
i			43
iS		34	31
Ft. Tejon			
eP	14	33	47
i			52
iS		34	45
Santa Barbara			
iP	14	33	29
iS		34	29
Tinemaha			
iP	14	33	14
iS			42

23

Haiwee			
iP	14	35	51
iS		36	39
King Ranch			
iP	14	36	03
Ft. Tejon			
iP	14	36	07
Santa Barbara			
iP	14	36	21
Tinemaha			
iP	14	35	38
Woody			
iP	14	35	58
iS		36	47

23

Ft. Tejon			
iP	15	05	44
i			50
Haiwee			
iP	15	05	24
i(S)		06	12
King Ranch			
iP	15	05	38
Tinemaha			
iP	15	05	12
Woody			
eP	15	05	28
i			34
iS		06	17

24
27

eP	04	36	54
iP	19	34	58
Continuation:			
iP	02	39	23
iPcP			37
esP		41	12
isPcP			21

July 1

iS	02	48	53
eL		03	01.4
Distance	78°		
Depth	300 km.		
Magnitude	6		

	mu	sec
PZ	0.3	1 1/4
PH	0.2	1 1/2
SH	0.5	5
1 iP	03	14 04
1 iP!	23	49 47
i		57
iS!		50 05
i!		17

Distance 150 km.
Magnitude 4.8
Felt at Bakersfield

2 iP	11	38	50
2 iP	11	45	25
3 iP	05	27	51
i			59
i		28	05
iR		36.9	
3 iP	18	07	36
Dilatation from west			
iP!	18	08	19
e		11	32
iS		17	51
isS		18	33
iPS!		19.2	
iSS		23.3	
isSS		24.1	
eG		29.5	
iR		33.1	

Distance 85°
Depth 160 km.
Magnitude 6 1/4 - 6 1/2

	mu	sec
PZ	1	3 1/2
PPH	1 1/2	15
SH	1 1/2	20
MH	7 1/2	20
MZ	15	20
4 iP	05	06 25
i		56
eS		16 27

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14 JUL 1959
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 Pasadena 2, California
 July 10, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



Additional:
 July 1

Haiwee			
iP!	23	49	48
iS		50	05
Mt. Wilson			
iP!	23	49	47
Riverside			
iP!	23	49	54
iS		50	17
San Nicolas			
iP	23	49	55
iS		50	17
China Lake			
iP!	23	49	48
Palomar			
iP!	23	50	05
Tinemaha			
iP	23	49	57
i			59
iS		50	25
Woody			
iP!	23	49	34
iS			40

July 6	isPcP	09	37	04
	esPP		39	54
	iS		43	56
	iScS		44	14
	iSP			59
	iSSS		52.9	
	i(SSSS)		56	20
	eP'P'	10	01	23
	esP'P'		03	43
	e(SKPP')		04	03
	Distance	80°		
	Depth	400 km.		
	Magnitude	6 $\frac{3}{4}$ - 7		
		mu	sec	
	PZ	3 $\frac{1}{2}$	1 $\frac{1}{2}$	
	PH	2	2 $\frac{1}{4}$	
	SH	5	3	
7	iP	05	54	09
7	iP	13	41	14
9	iP	02	43	51
9	iP	16	16	36

Continuation:
 July 6

Compression from southeast			
i	09	22	42
ipP		23	05
ipPcP			20
isP			47
i		24	50
i		25	55
i		27	54
iS		30	50
iSP		31	48
iSSS		39.7	
i(SSSS)		43	18
eP'P'		48	15
e(SKPP')		50	46
Distance	80°		
Depth	400 km.		
Magnitude	6 $\frac{3}{4}$		

Dilatation			
ipP	16	17	06
isP			17
ipP		19	20
ipPP			56
iS		25	53
iScS		26	22
isS			40
iSS		30	40
isSS		31	24
eSSS		34.2	
iG		36.3	
Distance	73°		
Depth	100 km.		
Magnitude	6 $\frac{3}{4}$		
	mu	sec	
PZ	0.3	1	
PH	0.1	1	
pPZ	1	2	
pPH	0.5	1	
PPZ	1	4	
PPH	1	2	
SH	14	8	
eP	04	22	57
i		23	08
eS		32	28

6

PZ	6	4	
PH	2	2 $\frac{3}{4}$	
SH	2 $\frac{1}{4}$	4	
iP!	09	34	43
Compression from southeast			
iPcP	09	34	56
i		35	44
ipP		36	12
isP			55

sec revised interpretation at end of year 1959

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24 JUL 1959

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220 North San Rafael Ave.
Pasadena 2, California
July 17, 1959

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:

July 1 Barrett
iP 23 50 13
iS 51 04
Ft. Tejon
iP! 23 49 30
Santa Barbara
iP! 23 49 40
iS 53

July 13 Distance 45°
Depth 60 km.
Magnitude 6½

	mu	sec
PZ	1	1½
PH	0.5	1¾
pPZ	0.9	1½
pPH	0.3	1½
SH	2	5

Continuation:

July 11
iP! 12 21 52
i 22 52
ePP 26 40
eSKKS 33.5
eSKSP 37.2
ePPS 40.3
eSS 47.2
eSSS 53.4
eG 13 11.0
Distance 160°
Magnitude 6¼ - 6½

13	iP	15 36 23
14	iP	08 48 43
	ePP	50 34
	eS	55 05
	eScS	58.4
	eG	59.1
	eR	09 00.9
	Distance	45°
14	iP	13 12 42
	eS	23 03
	ePS	57
	eSS	28.0
	eG	34.2
	eR	37.7
	Distance	83°
16	iP	15 25 48
16	iP	19 27 01

11 eP 18 34 09
12 eP 00 26 36
12 iP! 00 35 44
Compression
ipP 00 35 54
isP 36 03
ePcP 37 08
eScS 45 13
eG 47.7
Distance 49°
Depth 60 km.
Magnitude 6¼

*See Now for
revised
interpretation*

13
mu sec
PZ 0.3 1
PH 0.15 1
iP 2 12 36 41
Compression
ipP 2 12 36 50
i 37 22
iPcP 38 17
ipPcP 35
iS 43 01
isS 19
iScS 46.3
eG 46.5
eSSS 47.5
eR 48.2

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Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California

July 22, 1959

PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



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Additional:

July 11	eP	05 04 19
11	eP	15 18 42
12	eP	00 20 34
14	iP	00 07 44
14	eP	11 40 43
17	i	41 12
17	eP	07 46 49

Continuation:

July 18	iP	07 11 53
	eS	21 17
18	iP	12 22 55
18	iP	19 41 19
18	iP	20 08 58
	ePKP	12 25
	iPP	52
	iSKS	19 25
	iSKKS	45
	iS	20 39
	iPS	21 49
	e	22 15
	ePKKP	24 36
	iSS	27 49
	e	28 37
	i	35 25
	iG	38.0
	eR ₂	41.9

Distance 104⁰
 Magnitude 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$

PZ	0.1	1
PPZ	0.1	1
SH	1 $\frac{1}{2}$	4
MH	7 $\frac{1}{2}$	20
MZ	5	20
19 iP	04 01	20
e		43
i		04 40
e		05 14
19 iP ₂	15 16	45
Dilatation from southeast		
ipP	15 17	30
i		18 47
i		20 17
iS		25 22
iScS		26 19
iSS		29 51
iSSS		33.3
eP <i>P</i>		45 04
i		14

Distance 70⁰
 Depth 180 km.
 Magnitude 7

July 19

PZ	1	1
PH	1	1
SH	18	7
19 eP	15 38	02
20 iP _{PKP}	02 59	15
ipPKP	03 01	14
i		43
i		53
i		02 02
iSKS		05 34
eSKKS		07 17
eSKSP		10.5
iPS		11 57
iSS		17.9

Distance 130⁰

Depth 500 km.

20 iP	17 05	05
eS		14.7
21 iP ₂	07 55	51
e		56 00
eS	08 06	23
eSS		12.1
eR ₂		21.9

Distance 84⁰
 Magnitude 6 $\frac{1}{4}$

PZ	0.3	1 $\frac{1}{2}$
PH	0.1	1
MH	3	20
MZ	1	20
21 iP ₂	09 26	23
e		34
i		44
eS		32.7

Distance 43⁰
 Magnitude 6

PZ	0.2	1 $\frac{1}{2}$
PH	0.1	1
21 iP ₂	12 34	41
eS		39 10
eG		26
iR		41.0

Distance 25⁰
 Magnitude 6

PZ	0.3	1 $\frac{1}{2}$
PH	0.2	1 $\frac{1}{2}$
21 iP	13 09	03
21 iP	17 40	52
iS		42 20

Magnitude 5 $\frac{1}{2}$ - 5 $\frac{3}{4}$

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OBSERVATORY
 27 JUL 1959
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- 5 AUG 1959
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July 8 June 23/21 - 1959 63 ✓
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Pasadena 2, California
July 31, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:
July 17

iP	23	01	06
eP	13	56	22
iP	15	46	49
eP	13	39	16
eP	13	07	15

Continuation:
July 21

China Lake
iP 17 40 37
i 46

Riverside
iP 17 40 45
i 41 00
iS 42 06

Palomar
iP 17 40 42
i 41 00
iS? 47

Tinemaha
iP 17 40 44
i 58

22 iP 04 57 09
i 59
eS 05 01 37
eG 02.0
eR 03.6
eLg 05.1

22 Distance 26°
eP 15 59 38
eS 16 03 54
eL 05 39

22 Distance 24°
iP 16 49 36
22 iP2 19 33 47

Compression from north
iPcP 19 34 16
ipP 35 52
iScP 37 11
iS\ 41 31
iScS 42 35
eSS 45.3
eSSS 49.3
eP'P' 20 02 39

Distance 62°
Depth 600 km.
Magnitude 6

	mu	sec
PZ	0.4	1
PH	0.2	1
SH	2	5
22 iP	19	43 45

July 22 iP2 23 15 38

Compression
ePP 23 19 18
eSKS 26 10
iS 41
ePS 27 46
iSS 32.4
eSSS 36.3
eG 39.3
eR 44.1

Distance 90°
Magnitude 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$

	mu	sec
PZ	0.2	1 $\frac{1}{2}$
PH	0.2	2
MH	9	20

23 iP 03 57 06
i 23
i 33

eS 04 04.4
e(G) 08.1
e(R) 09.9

Distance 50°
23 iP 08 17 57
i 18 09

23 iP 13 57 20
23 iP 15 08 56

i 09 15
eS 19 06
eG 29.7
eR 33.2

Distance 80°
24 iP 01 25 21
iS 27 03
iL 27.2

Distance 9°
Magnitude 5 $\frac{3}{4}$

24 iP 03 38 06
24 iP 05 24 02

i 30
25 eP 19 35 13

27 e(S) 05 39 46
27 e(S) 06 39 06

30 e(P) 13 06 05

C. F. Richter
Professor of Seismology

KEW OBSERVATORY
 18 AUG 1959
 RICHMOND, SURREY.

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 August 12, 1959

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PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)
 Aug. 7

Additional:
 July 25 eP 18 16 46
 25 e 21 32 26
 26 e 14 14 25

Continuation:
 Aug. 2 eP 20 23 31
 eL 49.6
 2 iP 22 18 22
 iS 19 37

Tinemaha
 iP 22 17 25.1
 iS 18 02.7

Hayfield
 iP 22 18 34.5
 2 iP 23 49 24
 eL 52 -

4 iP 07 37 50.7
 iS 38 37.2
 Magnitude 5 1/2

Nevada
 China Lake
 iP 07 37 29.0

4 iP 07 38 05.2
 iP 08 13 25
 i(S) 22 46

5 iP 20 05 55
 6 e 03 48 10
 e 51 55
 eL 53 06

China Lake
 eP 03 47 33
 i 45
 i 51 03

Isabella
 eP 03 47 34
 i 51 10

Woody
 eP 03 47 34
 Riverside
 eP 03 48 05

7 iP 10 50 08
 iPP 51 21
 eS 55 19
 eL 58 37
 Distance 35⁰
 Magnitude 5 3/4

mu sec
 PZ 0.2 2
 SH 1 20
 MH 3 20

7 iP 10 55 09
 Part of preceding?

iP 21 52 01
 i 11
 iS 57 22
 eG 59.4
 Distance 32⁰

mu sec
 PZ 0.2 1 1/2
 SH 1 20
 MH 3 18
 8 iP 00 57 24
 i 30
 iS 01 05 16
 eG 11.7
 iR 14.6
 Distance 58⁰
 Magnitude 6 1/2

mu sec
 PZ 0.3 1
 PH 1/4 1
 SH 1 1/2 20

9 iP 00 09 08
 i 32
 eR 37 15
 9 eP 05 08 08
 9 iP 20 42 16
 eR 21 09 03

mu sec
 PZ 1/4 1 1/2
 MH 2 20
 MZ 2 20

11 iP 22 02 32
 e(SS) 13.2
 eG 25.3
 eR 29.2
 Distance 56⁰?

12 i(P) 00 40 43
 i 42 40
 e 43 53
 e 44 12
 e 48 31
 e 51 23
 12 e 02 10 15

C. F. Richter
 Professor of Seismology

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California

August 20, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Continuation:
Aug. 12

24 AUG 1959
RICHMOND,
SURREY.

	iP ²	10	10	13
	i			22
	i			34
	iS	19	55	
	eG	29	27	
	Distance	75 ⁰		
	Magnitude	6 $\frac{1}{2}$		
		mu		sec
	PZ	$\frac{1}{4}$		1 $\frac{1}{2}$
	PH	$\frac{1}{4}$		1 $\frac{1}{2}$
	SH	4		9
	MH	8		20
	MZ	6		20
13	iP	19	09	40
	iL		11	41
	Distance	12 ⁰		
15	iP	09	10	51
	e		13	47
	iPP		14	58
	iSKS		21	22
	iS		22	07
	ePS		23.6	
	eSS		29.2	
	iL		38.6	
	Distance	103 ⁰		
	Magnitude	6 $\frac{3}{4}$	- 7	
		mu		sec
	PZ	0.1		1
	PPH	4		5
	SH	7		20
	MH	25		20
	MZ	20		20
15	i(S)	13	36	07
	i			52
	e(G)		45.8	
	eR		49.2	
15	iP	18	51	41
	eL		59	39
16	iP	01	04	36
	Compression			
	ePP		08.8	
	eS		15	07
	iS			29
	eSS		21.5	
	eSSS		24.8	
	eG		29.0	
	iR		31.8	
	Distance	90 ⁰		
		mu		sec
	MH	2		20
16	iP	10	04	53
	Dilatation from southwest			

Aug. 16	eS	10	14	07
	e		17	23
16	eG		25.5	
	eP	13	20	13
	e(S)		26	49
	eR		33	39
17	e	01	53	20
	e		58	13
	e	02	04	35
	eR		28	40
17	eP	21	17	47
	i ²			51
	Dilatation from west			
	iSKS	21	28	22
	iS			49
	eSS		38.2	
	eG		41.0	
	iR		45.0	
	Distance	89 ⁰		
	Magnitude	7 $\frac{1}{4}$		
		mu		sec
		2		1 $\frac{1}{2}$
		1		2
		8		10
		45		20
		00	47	29
			48	18
		06	40	10
	Compression from northeast			
	iS	06	42	22
	i		43	22
	i			35
	Distance	12 ^{0±}		
	Tentative magnitude M=			
	Many weakly recorded small aftershocks			
	Selected larger ones are reported here.			
18	iP	07	59	14
	i(S)	08	01	43
18	eP	08	44	44
	i			53
	i(S)		48	09
18	iP	15	29	05
	Compression from northeast			
	eS	15	31	35
	Magnitude	6 $\frac{1}{2}$		

RICHMOND, SURREY

RICHMOND OBSERVATORY, OLD DEER LANE, RICHMOND, SURREY

C. F. Richter
Professor of Seismology

**KEW
OBSERVATORY**

1 SEP 1959

**RICHMOND,
SURREY.**

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)
August 27, 1959

63



Continuation:

Aug. 19 iP 04 06 56
Compression from
northeast
eL 04 09.6
Seismogram differs
somewhat in appear-
ance from those of
other aftershocks.

20 iP 03 50 54
20 iP 07 27 42
eS 35.1
eG 40.7
iR 44.0
20 eP 09 08 17
20 eS? 12 58.5
eL 13 05.8
20 eP? 19 14 23
iL 17.5
i 17 48
21 e(PP) 08 23 54
e(SKIP) 24 46
eSS 40 41
eG 53.5
eR 59.9
Distance 130°?
Magnitude 5 $\frac{3}{4}$ - 6

mu sec
MH 1 $\frac{1}{4}$ 20
MZ 1 $\frac{1}{2}$ 20

22 iP 21 38 59
23 iP 11 09 20
i 10 01
24 iP 15 54 34
eS 16 05 08
eG 17.8
eR 21.8

24 iP² 21 43 40
i 44 18
eSKS or S 54 12
i 20
i 55 40
e 59.6
eSS 22 00.8
eG 07.0
eR² 09.9
Distance 86°
Magnitude 7

mu sec
PZ 1 1
PH 1 1 $\frac{1}{2}$
SH 4 10
MH 29 20
MZ 38 20

Aug. 24 eP 23 44 18
24 iP 23 54 31
i 53
25 eP 12 36 10
eS 45 50
eL 13 01.2
25 eP 13 53 14
i 28
26 iP 02 42 41
26 iP! 08 31 12
Compression from
southeast.
iP¹ 08 34 37
iS 35 48
iL 37.4
Distance 26°
Magnitude 6 $\frac{3}{4}$
mu sec
PZ 2 1 $\frac{3}{4}$
PH 1 $\frac{3}{4}$ 2 $\frac{1}{2}$

Dr. Charles F. Richter takes
occasion to notify our corres-
pondents and colleagues that he
will leave Pasadena on Septem-
ber 5, 1959, returning in Aug-
ust, 1960. From October until
July, 1960, he will be in residence at
Tokyo University as a Fulbright
research scholar.

It will be appreciated if
those who have been sending
publications to Dr. Richter will
continue addressing them to Pas-
adena. Urgent or personal cor-
respondence will be forwarded to
the proper address in Tokyo.

Preparation of Seismological
bulletins and reports at Pasa-
dena will be in charge of Mrs.
Violet Taylor, to whom all rel-
evant inquiries and correspon-
dence should be addressed.

C. F. Richter
Professor of Seismology

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KEW OBSERVATORY
7 SEP 1959
RICHMOND, SURREY.

63

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 September 3, 1959
PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



ADDITIONAL READINGS - MONTANA EARTHQUAKES

Aug. 18
 China Lake
 iP 06 39 47
 Tinemaha
 iP 06 39 36
 i 57
 iS 42 19
 Palomar
 iP 06 40 16
 San Nicolas
 eP 06 40 28
 Riverside
 iP 06 40 09
 i 43 29
 Hayfield
 eP 06 40 07
 i 43 43
 Isabella
 iP 06 39 54
 Haiwee
 iP 06 39 49
 iS 42 41
 Barrett
 eP 06 40 22
 King Ranch
 iP 06 40 05
 Woody
 iP 06 39 54
 18
 Riverside
 iP 15 29 02
 iS 31 43
 Isabella
 iP 15 28 47
 Haiwee
 iP 15 28 40
 iS 31 24
 China Lake
 iP 15 28 40
 iS 31 12
 Tinemaha
 iP 15 28 31
 iS 31 13
 Palomar
 iP 15 29 08
 i 32 12
 San Nicolas
 iP 15 29 22
 Barrett
 eP 15 29 16

Aug. 18 Hayfield
 iP 15 28 58
 King Ranch
 eP 15 28 59
 Woody
 iP 15 28 49
 19
 verside
 04 06 54
 10.0
 Isabella
 iP 04 06 36
 07 16
 09 33
 Haiwee
 iP 04 06 32
 07 07
 09 09
 China Lake
 iP 04 06 31
 09 10
 Tinemaha
 iP 04 06 21
 08 50
 Palomar
 iP 04 07 01
 i 10 12
 San Nicolas
 eP 04 07 11
 Barrett
 eP 04 07 09
 King Ranch
 eP 04 06 48
 Hayfield
 eP 04 06 56
 Woody
 iP 04 06 38

RICHMOND SURVEY
 THE SEISMOLOGICAL
 OBSERVATORY
 PASADENA CALIF.

220 NORTH SAN RAFAEL AVE.
 PASADENA CALIF.

C. F. Richter
 Professor of Seismology

7 SEP 1959

RICHMOND,
SURREY.

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
September 4, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

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Continuation:

Aug. 26	eP	09 04 09	
Aug. 26	iP	10 32 04	
	Compression from northwest		
	iS	10 35 34	
	Distance	19 ⁰	
		mu	sec
	PZ	4 $\frac{1}{2}$	4
	PH	4	4
	SH	39	12
26	eP	12 27 37	
26	iP	13 05 49	
27	iP	08 08 53	
27	eP	13 49 38	
	e		56
	eS	14 00 14	
	eSS		06.0
	eSSS		09.6
	eG		12.4
	Distance	84 ⁰	
28	iP	02 07 31	
28	iP	02 49 52	
28	iP	12 14 37	
	eS		20.5
	eL		25.9
28	eP	16 05 01	
	i		11
	eSKS		15 29
	eS		44
	e		17.5
	eG		28.3
	eR		32.0
	Distance	90 ⁰	
29	e	03 34 10	
29	iP ²	17 15 50	
	Dilatation		
	i	17 15 58	
	ePP		19 16
	iS ¹		26 14
	iPS		27 18
	iSS		32 00
	eL		42 03
	eP ¹ P ¹		05
	Distance	84 ⁰	
	Magnitude	6 $\frac{1}{2}$	- 6 $\frac{3}{4}$
		mu	sec
	PZ	0.4	1 $\frac{1}{4}$
	PH	0.4	1 $\frac{1}{2}$
	SH	3	15
	MH	12	20
	MZ	8	20

RICHMOND OBSERVATORY

RICHMOND OBSERVATORY
RICHMOND, SURREY
THE SUBSTATION

1959

1959

1959

Aug. 30	e	22 11 00	
	eL	23 02.3	
	Distance large		
31	iP	09 13 49	
Sept. 1	iP	10 58 33	
	eS	11 05 40	
	eR		13.0
	Distance	51 ⁰	
1	eP	11 55 06	
	eS	12 02 28	
	eL		09.0
	Distance	51 ⁰	
	eP	08 09 42	
	ePKP	06 46 18	
	eS		55.3
	ePS		57.3
	eSS	07 03.6	
	eG		14.8
	Distance	113 ⁰	
	P	09 06 02	
			13

C. F. Richter
Professor of Seismology

KEW
OBSERVATORY
21 SEP 1959
RICHMOND,
SURREY.

63

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
September 16, 1959



PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Additional:

Sept. 3 eP 22 00 34
4 eP 12 42 05

Continuation:

Sept. 4 eP 23 35 57
e 36 12
5 e(SKS) 06 32.4
e(S) 34 02
eSS 41.4
iG 52.4
eR 56.7
Distance 110°?

mu sec

5 MH 2 20
eP 21 37 18
eS 44.1
5 iP! 23 16 04
Compression from southwest
ipP 23 18 07
6 iP 19 06 43
8 eP 09 50 59
eS 54.2
8 eP 10 08 27
e(S) 10.6
8 iP 13 31 56
i 32 16
8 iP 19 31 24
i 43
eS 40 53
eG 50.5
eR 53.5

Distance 74°

8 iP 19 42 57
i 43 11
8 iP 20 37 30
10 iP 05 48 12
ipP 25
10 iP 23 07 25
12 iP 01 52 16
i 43
i 55
12 iP 02 07 22
i 36
ePP 10 57
eS 18.1
eSS 24.9
eG 32.0
eR 37.0

Distance 93°

12 iP 11 37 39
i 55
eS 48 39
i 49 57
eSS 54.7

Sept. 12 eG 12 01.5
eR 05.5
Distance 90°
12 iP 17 03 43
eL 08.1
13 iP 19 52 33
iL 56 00
13 eP 21 26 33
eL 29 34
14 iP 08 55 34
14 ~~iP~~ 09 37 50
iL 38 37
iL 41 17
14 ~~iP~~ 13 28 05
iS 38 18
eSS 43.2
eSSS 46.8
iG 48.7
eR 52.0
Distance 80°
14 ~~iP~~ 14 22 14
Compression
iPP! 14 25 45
iSKS 32 46
55
eS! 33 14
ePS 34 10
e(SS) 40.5
eSSS 43.0
eG 46.0
eR! 48.0

RICHMOND, SURREY
KEW OBSERVATORY

Distance 88°
Magnitude $m=7\frac{1}{2}+$, $M=7\frac{1}{2}-7$

mu sec
PZ $1\frac{1}{4}$ $1\frac{1}{2}$
PH 0.3 1
PPZ 0.6 $1\frac{3}{4}$
SH 34 12
MH 200 20
14 iP 14 44 38
i 45
14 iP 17 18 51
i 19 16
14 iP 22 36 27
i 35
iS 46 54
iSS 52.0
iG 58.2
eR 23 02.2
Distance 82°

Violet M. Taylor
Seismological Assistant

KEW
OBSERVATORY
29 SEP 1959
RICHMOND,
SURREY.

63 ✓

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
September 25, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Continuation:
Sept. 15

iP² 06 12 12
Compression from
southwest
i 06 12 36
iPP 15 25
eS\ 22 35
iG 33.6
eR\ 37.9
Distance 82⁰
Magnitude 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$

	mu	sec
PZ	0.4	1 $\frac{1}{2}$
PH	0.1	1
SH	16	10
MH	19	20

15

iP² 11 16 51
Compression from
southwest
ipP\ 11 18 56
isP 19 54
iPP\ 20 06
is\ 26 14
iSP 27 06
iG 38.3
ePip 46 04

Distance 80⁰
Depth 600 km.
Magnitude 6 $\frac{1}{2}$

	mu	sec
PZ	1	1
PH	0.5	1
pPZ	0.5	1 $\frac{1}{2}$
PPZ	0.8	5
SH	4	6

15 iP 13 06 42
15 i(P) 13 58 50
16 eP 10 20 20
i 44
eS 30 48
ePS 31 42
eG 42.3
eR 46.2

Distance 84⁰
16 iP 16 09 34
iS 20 02
iPS 21.2
eSS 25.5
eG 31.5
eR 35.0
Distance 86⁰

Sept. 17 iP 14 48 40
17 iP 21 31 05
i 20
i 33 45
i 59
17 eP 22 15 55
i 16 13
iS 17 00
Distance 600 km
Magnitude 5 $\frac{1}{2}$

ENGVID
RICHMOND, SURREY
NEW OBSERVATORY, OLD BEER BAR
18 25
20 22
22 23
23 23

iP 12 20 04
i 18
e 22 13
e(S) 31.3
eG 38.0
i 06 17 08
i(S) 23 44
eL 30.5
iP 23 28 59
iP 16 23 41
eP 07 53 18
iP 10 49 08
i 15
eS 57 34
e(R) 11 08.0
iP 22 35 23
iP 05 53 45
i 54
iP 00 33 40
i 34 12
25 eP 02 50 39
ePP 54 57
eSKS 03 01.4
eS 02 23
ePS 04.0
iSS 08.9
iSSS 13.2
eG 18.8
eR 23.0
Distance 105⁰

Violet M. Taylor
Seismological Assistant

25

KEW OBSERVATORY
13 OCT 1959
RICHMOND, SURREY.

63 ✓

Seismological Laboratory
 220 North San Rafael Ave.
 Pasadena 2, California
 October 9, 1959
PROVISIONAL READINGS AT PASADENA
 (and auxiliary stations as noted)



Continuation:
 Sept. 26

iP 08 23 46
 Dilatation from northwest
 iG 08 26 02
 eR 48
 Distance 12°
 Magnitude 6±
 26 iP 10 29 37
 i 30 08
 27 iP 12 41 01
 28 eP 08 08 38
 e 11 58
 29 iP 15 44 29
 i 36
 iSKS 54 55
 iS 55 53
 iPS 56.5
 iG 16 09.8
 iR 13.1
 Distance 93°
 Magnitude 6½ - 6¾
 mu sec
 PZ 0.4 1½
 MH 7 20
 MZ 10 20
 29 eP 15 53 57
 30 eP 13 44 02
 30 iP 20 38 51
 eS 49.8
 ePS 50.8
 i 51.5
 eG 21 02.0
 eR 05.8
 Distance 90°
 Magnitude 6½
 mu sec
 PZ 0.3 1
 PH 0.2 1
 MH 5½ 20
 MZ 2½ 20
 Oct. 1 iP! 04 36 05
 iS 32
 Distance 250 km
 Magnitude 4.8
 Felt at Lompoc,
 California

Oct. 5 iP 18 06 34
 5 iP 18 21 36
 5 iP 18 37 59
 i 41 43
 iS 46 13
 e 47 11
 eG 51.6
 eR 56.5
 Distance 60°
 6 iP 06 03 01
 6 e 11 40 14
 eL 43 24
 7 iP 08 44 10
 eS 55 41
 ePS 56 27
 eSS 09 02.2
 eG 09.6
 Distance 94°
 8 eP 00 15 55
 8 i 16 20
 8 iP 02 43 20
 8 eP 14 26 47
 ENGLAND
 RICHMOND, SURREY
 KEM OBSERVATORY
 JHS SUBSISTENT

Violet M. Taylor
 Seismological Assistant

**KEW
OBSERVATORY**

27 OCT 1959

**RICHMOND,
SURREY.**

Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
October 23, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

B ✓



Continuation:
Oct. 9

9	iP	22	57	10
	eL		59	22
11	eP	09	45	48
	eS		55	02
11	iP	20	16	08
12	iP	03	41	08
	i			24
	ePP		43	24
	i		44	26
	eG		53.5	
	Distance	53 ⁰		
12	iP	03	54	49
	i		55	19
	i			32
	eS	04	01	46
12	iP	19	34	59
13	iP	07	32	22
13	eP	08	16	31
	i			46
	iS		17	56
	Distance	7 ⁰		
	Magnitude	5		
15	iP	04	27	05
15	eP	04	42	06
15	iP	06	34	23
	i		35	26
	iSKS		45	03
	iPS		46	52
	iSS		51.5	
	iG	07	03.8	
	eR ²		07.5	
	Distance	104 ⁰		
	Magnitude	6 $\frac{1}{2}$		
		mu		sec
	PZ	0.2		2
	MH	10		20
	MZ	11		20
15	iP	14	12	54
16	iP	01	27	08
	iP			38
17	iP	20	33	38
18	eP	17	16	36
19	iP	02	25	16
19	iP	02	58	01
19	iP ²	08	39	50
	i		40	16
	iSKS		50	12
	e			54
	iS		51	24
	i		53.5	

Oct. 19	iSS		58.3	
	iSSS	09	01.0	
	eG		05.5	
	eR ¹		09.9	
	Distance	94 ⁰		
	Magnitude	6 $\frac{1}{4}$		
		mu		sec
	PZ	0.2		2
	PH	0.1		1
	SH	0.6		6
	MH	5		16
	MZ	3 $\frac{1}{2}$		20
19	iP	14	03	57
19	e(P)	16	10	34
	eP ¹		14	20
	iPP		15	30
	iPS		25	20
	iSS		32.4	
	i		35.5	
	iSSS		36.2	
	iG		45.4	
	Distance	120 ⁰		
		mu		sec
	MH	4		20
	Interpretation			
	doubtful			
20	iP	08	12	29
20	iP	21	50	21
22	iP	09	29	35
22	iP	10	32	05
23	iP	06	29	02
	i			40

RECEIVED
 OCT 23 1959
 PASADENA
 CALIFORNIA

RECEIVED
 OCT 23 1959
 PASADENA
 CALIFORNIA

Violet M. Taylor
Seismological Assistant

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KEW
OBSERVATORY
6 NOV 1959
RICHMOND,
SURREY.

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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
November 3, 1959



PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Continuation:
Oct. 24

iP 13 47 58
iP 10 00 55
iP² 07 47 00
iS 56 46
eScS 57 07
iSS 08 01 47
iG 06.5
eR² 08.2

Distance 77°
Magnitude 6½

	mu	sec
PZ	0.4	1¼
PH	0.2	1½
SH	2	7
MH	11	20
MZ	8	20

26 iP 10 39 11
ipP 43
isP 40 15

27 iP 06 14 52
iG 16 49
eR 17 49

(27) Distance 14°
iP² 07 03 37

	mu	sec
i		48
iS	12	29
i		50
eG	20.1	
eR ²	23.4	
eP ¹ P ¹	32	05

Distance 67°
Magnitude 6½

	mu	sec
PZ	0.4	1½
PH	0.1	1½
SH	3	8
MH	7	20
MZ	7	20

27 iP 13 29 56
29 iP 14 32 24
i 42

(29) iS 42 53
iP² 14 41 43

Compression from
northwest

ipP	14	43	42
isP		44	33
iPP		45	03
iSKS		51	11
iSP			53
isS		54.5	

Oct 29 Distance 80°
Depth 550 km
Magnitude 6¼

	mu	sec
PZ	2	2
PH	0.5	1½
pPH	0.4	1½
PPZ	0.4	1½
MH	5	20
MZ	3½	20

30 iP 04 11 09
30 iP 07 16 03
30 iP 14 10 38
(31) iP² 04 38 17

Dilatation from
southwest

ipP	04	39	49
eS		47	25
ePS		48	13
e		50.9	
eG		58.7	

Distance 78°
Depth 400 km
Magnitude 6½ - 6¾

	mu	sec		
PZ	1	1		
PH	0.4	1		
pPZ	1	3		
iP	08	56	28	
i			47	
eS		09	06	59
eSS		12.5		
eG		18.2		
eR		19.7		

Nov. 2 iP 08 56 28
i 47
eS 09 06 59

eSS		12.5
eG		18.2
eR		19.7

Distance 83°
2 iP 13 37 23
i 38

Violet M. Taylor
Seismological Assistant

**KEW
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16 NOV 1959

**RICHMOND,
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220 North San Rafael Ave.
Pasadena 2, California
November 10, 1959

**PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)**



Additional:
Oct. 24

iP 15 35 43.4
iS 36 04.1
Distance 180 km
Magnitude 4.0

Continuation:
Nov. (2)

iP² 20 16 47
i 17 01
ePP 20 37
eS 27 45
esS 28 17
ePS 29.1
iSS 34.0
eSSS 38.0
eG 42.2
eR² 46.1
Distance 92⁰
Depth 60 km
Magnitude 6³/₄

	mu	sec
PZ	0.5	1
PH	0.2	1
MH	6	20
MZ	6	20
3 iP	09 17	10
eS	27	15
eG	37.9	
eR	41.5	

3
3
eP'' 09 59 08
iP'' 19
ipP'' 10 01 26
isP'' 02 45
eSKKS 11 27
e 12 15
eSS 18.7
Distance 130⁰
Depth about 600 km
Interpretation doubtful

3
5
5
e(P) 14 21 28
iP 11 19 37
iP² 12 02 52
eSKS 13 10
eS 20
ePS 14 22
eSS 18.7
eSSS 22.6
eG 25.3
eR 28.6
Distance 86⁰

	mu	sec
PZ	.03	1 ¹ / ₂
PH	.02	1 ¹ / ₂
MH	1	20
5 iP	17 51	15
eS	18 01	50

Nov. 5 eR 18 19.1
6 iP 01 20 37
6 eS 31 12
6 iP 01 24 41
6 iP 11 55 16
eS 12 05 22
eG 15.6
eR 18.9
7 eP 22 28 25
ePP 31 46
eS 38.5
eG 49.6
eR² 52.9
Distance 82⁰
Magnitude 6¹/₄

mu sec
MH 4 20
MZ 3 20
8 iP! 2 14 06 37
Compression
ipP 14 06 58
i 07 27
ePP 09 26
eS 16 14
eSS 21.0
eSSS 24.8
eG 26.2
eR 28.7
eP!P! 33 54

Distance 76⁰
Depth 60 km
Magnitude 6¹/₂

	mu	sec
PZ	1	1 ¹ / ₂
PH	0.3	1
PPZ	0.4	4
SH	2	7
MH	4	20
MZ	3	20

9 iP 00 10 17
i 31
eG 14.5
eR 15.0
Distance 21⁰
9 eP 04 31 54
epP 32 06
eSKS 42 46
e 43 54
e 48.7
eG 58.1
eR 05 00.2

Distance 96⁰
Slightly deeper than normal.

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Seismological Assistant

23 NOV 1959

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220 North San Rafael Ave.
Pasadena 2, California
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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Correction:

July 12

REVISED INTERPRETATION		
iP ²	00	35 44
Compression		
iPcP	00	35 54
i		36 03
epP		37 08
eS		45 13
e		47.7
Distance 79°		
Depth 350 km		
Magnitude 6 $\frac{1}{4}$		
	mu	sec
PZ	0.3	1
PH	0.15	1
SH	0.4	14

Nov. 16

Distance 90°
Magnitude 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$

	mu	sec
PZ	0.5	3
PH	0.3	3
PPZ	0.5	3
PPH	0.3	3
SH	0.8	8
MH	1	20

Distance 79°
Depth 350 km
Magnitude 6 $\frac{1}{4}$

	mu	sec
iP	04	43 13
eS		50.1
eG		54.1
eR		55.5
iP ²	11	22 11
Compression		
i	11	22 17
ipP ¹		42
isP		23 00
iPP ²		26 09
iSKS		32 37
iS		33 31
iSP		34 31
iPS		34.9
i		35.1
iSS		39.6
isSS		40.3
iSSS		43.7
iG		48.6
eR		53.1

Continuation:

Nov. 14

e	10	59 46
15	eP	10 39 26
	ePP	43 44
	eSKS	50 10
	ePS	53 10
	eSS	59.1
	eG	11 08.8
	Distance about 110°	
15	eP ¹	17 22 27
	iPP ¹	26 30
	eSKS	33 04
	eS	54
	ePS	35 24
	eSS	40.7
	eG	49.8
	eR ²	52.6
	Distance 100°	
	Magnitude 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$	
	mu	sec
	PZ	0.1 1
	PPZ	3 12
	MH	25 20
	MZ	24 20
16	iP	01 11 37
	Dilatation	
	i	01 11 54
	i	12 05
16	eP ²	10 34 24
	e	37 27
	e	58
	ePP ²	38 53
	eS	45 24
	ePS	46.4
	eSS	51.3
	eG	58.5
	eR	11 04.3

RICHMOND, SURREY
 KEM OBSERVATORY, OPD DEEP LEVEL
 THE OBSERVATORY

19

19

19

19

20

20

iP 04 43 13

eS 50.1

eG 54.1

eR 55.5

iP² 11 22 11

Compression

i 11 22 17

ipP¹ 42

isP 23 00

iPP² 26 09

iSKS 32 37

iS 33 31

iSP 34 31

iPS 34.9

i 35.1

iSS 39.6

isSS 40.3

iSSS 43.7

iG 48.6

eR 53.1

Distance 95°

Depth 150 km

Magnitude 7

	mu	sec
PZ	0.9	1 $\frac{1}{4}$
PH	0.2	1
pPZ	0.3	1 $\frac{1}{2}$
PPZ	0.6	2
PPH	0.2	2
SH	2	10
iP	14	15 23
i		35
iP	23	56 22
iG		58.6

Distance 14°

iP 11 10 05

iP 15 28 14

i 44

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220 North San Rafael Ave.
Pasadena 2, California
December 2, 1959



PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Continuation:
Nov. 22

Nov. 22	iP	16	39	43
	iS or iSKS		50	27
	iSS		56.4	
	iG	17	03.3	
	eR		07.6	
	Distance	90°		
22	iP	19	45	53
	i		47	51
26	eP	07	22	51
	iP'		25	38
	e		27	59
	iPP2		29	03
	i			23
	eSKS		33	03
	eSKKS		34	53
	eSKKP		38	09
	e		40.2	
	eSS		45.7	
	eSSS		49.5	
	eG	08	00.6	
	eR2		08.0	
	Distance	133°		
	Slightly deeper than normal?			
	Magnitude 6½			

		mu	sec
	PPZ	0.5	3
	PPH	0.6	3
	MH	4	20
	MZ	3	20
26	iP	07	51 27
26	eP	23	25 49
	iP'		28 42
	e		30 39
	iPP2		31 05
	i		32 06
	eSKKS		38.1
	ePS		41.2
	ePPS		43.1
	iSS		48.2
	iSSS		53.6
	iG	24	08.6
	iR2		11.6
	Distance	139°	
	Magnitude 6¾		
		mu	sec
	PPZ	0.4	1
	PPH	0.1	1
	MH	6	20
	MZ	5½	20
27	iP	10	53 54

Nov. 28	iP	02	58	20
	i			34
	eS	03	08	51
	eG		20.1	
	eR		21.7	
	Distance	83°		
28	eP	03	33	44
	i			50
28	iP2	12	46	49
	Compression			
	iPcP	12	46	57
	ipP		47	17
	i			38
	ePP2		49	55
	iS1		56	37
	e		57	13
	eSS	13	01.6	
	eSSS		05.1	
	iG		07.6	
	eR2		12.1	
	eP'P'	13	14	15
	Distance	77°		
	Depth 60 km			
	Magnitude 6½			

		mu	sec
	PZ	0.8	1½
	PH	0.3	2
	PPZ	0.8	3½
	PPH	2	4
	SH	2	8
	MH	1¾	20
	MZ	1¼	20
28	iP	22	51 55
	i		52 29
29	iP	01	43 03
29	iP	05	58 56
29	iP	16	16 34
30	iP	15	25 19
	eS		33.5

Violet M. Taylor
Seismological Assistant

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22 DEC 1959
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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
December 16, 1959

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PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



Additional:

Nov. 18	iP	13 44 29
Continuation:		
Dec. 1	eP	08 01 05
1	eP	15 50 04
	e	33
2	i(P)	07 49 16
2	i(P)	07 52 32
	i	53
(2)	eP	09 48 56
	iP	52 46
	iPP	53 44
	e	56 19
	eSKS	59.6
	iS	10 01 26
	ePS	03.1
	eSKKP	07 17
	iSS	08.9
	iSSS	13.6
	iG	21.2
	eR	26.6
	Distance	115°
	Magnitude	6 $\frac{1}{2}$ -6 $\frac{3}{4}$
		mu sec
	PZ	0.2 20
	PPZ	0.3 2
	MH	8 20
	MZ	12 20
4	iP	09 35 14
5	eP	08 15 46
	i	49
	iG	17 19
	eR	17.9
	eLg	18.6
	Distance	10°
7	iP	03 12 42
	e	14 43
7	eP	04 12 16
	iL	13 32
8	iP	03 12 08
8	iP	04 48 51
	i	58
8	e	13 45 56
8	e	17 16 39
9	iP!	14 15 35
11	eP	01 50 41
11	iP	10 19 21
14	iPP	18 16 48
	i	17 09
	iSKS	23 12
	ePS	26.3
	eR	47.8
	Distance	112°

Dec. 14	iP	22 08 28
	i	36
	i	47
	iS	14 36
	eG	17.7
	eR	18.6
	Distance	40°
	Magnitude	6
14	iP	23 40 51
	i	42 15
	i	44 29
14	iP	23 49 04
	i	51 00
	iPP	53 32
	iPPP	54 43
	iSKS	59.6
	iG	24 12.6
	e(R)	19.9
	Distance	90°
	Magnitude	7?

		mu	sec
	PZ	0.1	1
	PPZ	1	3
	MH	25	20
	MZ	23	20
	iP	20 01	46
	i		59
	iP	11 32	35

Violet M. Taylor
Seismological Assistant

Merry Christmas
Buon Natale
Feliz Navidad
Joyeux Noel
祝
クリスマス
祝
祝



PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Continuation:
Dec. 16

	e	17 31 07
	e	27
	eL	34.4
17	iP	03 08 05
17	iP	06 13 10
	i	27
	i	57
17	e(P)	06 16 34
	i	57
17	eP	17 00 20
	iS	09 37
	e	10.3
	eSS	14.0
	eSSS	17.6
	iG	19.5
	iR	22.9
	Distance	72°
	Magnitude	6±

		mu	sec
	PZ	.05	1
	SH	0.6	16
	MH	1 1/4	20
	MZ	1	20
18	iP	10 08 07	
18	eP	16 32 26	
	i	33	
	iS	38 21	
	e	33	
	iG	41.5	
	i	42.3	
	iR	43.6	
	Distance	42°	
	Depth	100 km	
	Magnitude	6 1/2	

		mu	sec
	PZ	1	2
	PH	0.8	2
	SH	2	8
18	e	20 00 17	
19	e(P)	07 14 33	
19	iP!	09 20 51	
19	iP	15 09 03	
	iG	10 49	
	iR	11 13	
	iLg	33	
	Distance	9°	
19	iP	16 12 11	
20	iP	06 35 55	
20	iP	16 47 07	

Dec. 21	iP	10 33 00
	iS	43 21
	iPS	44.1
	iSS	48.2
	eSSS	51.8
	iG	55.4
	iR	58.0
	Distance	86°
	Magnitude	6

		mu	sec
	PZ	.07	1
	SH	0.8	24
	MH	1	20
	MZ	1	20
21	iP2	11 26 42	
	iS	37 03	
	iPS	38 17	
	iR	51.6	
	Distance	86°	
	Magnitude	6 1/2	

		mu	sec
	PZ	0.5	2
	PH	0.1	1
	SH	1 1/4	20
	MH	10	20
	MZ	5	20
	Disturbed by Following		
	iP	11 38 33	
	iG	40 51	
	iPP	41 57	
	iSS	59.1	
	iR	12 21.1	
	Distance	135°	
	Magnitude	6 1/2 - 6 3/4	

		mu	sec
	PPZ	1	3
	PPH	0.3	3
	MH	16	20
	MZ	16	20
	Disturbed by preceding		
22	iP	02 40 55	
	iG	43.0	
	iR	17	
	Distance	12°	
22	iP	13 28 36	

Violet M. Taylor
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Happy New Year!

KEW
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- 4 JAN 1960
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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
December 29, 1959

PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)



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Continuation:

Dec. 22	iP	17 32 25
23	eP	00 58 29
23	iP	03 55 55
23	e	04 43 27
23	iP	14 11 27
25	e	04 11 47
(25)	iP!2	10 30 27
Dilatation from southeast		
	ipP	10 30 54
	isP	31 05
	iS\	40 01
	isS	40.6
	eSS	45.0
	iG	51.2
	i(R)	55.7
	Distance	78°
	Depth	100 km
	Magnitude	6 $\frac{1}{2}$ - 6 $\frac{3}{4}$
		mu sec
	PZ	1 $\frac{1}{4}$ 1
	PH	0.4 1 $\frac{1}{2}$
	SH	1 14
(26)	iP	12 30 53
(26)	iP!2	18 25 50
	iPP2	27 07
	eS\	31 17
	eG	33.6
	iR2	35.6
	Distance	36°
	Depth	60 km
	Magnitude	6 $\frac{1}{4}$
		mu sec
	PZ	0.6 1 $\frac{1}{2}$
	PH	0.2 1
	PPZ	0.6 3
	PPH	0.2 1 $\frac{1}{2}$
	SH	3 $\frac{1}{2}$ 20
	MH	2 20
	MZ	2 $\frac{1}{2}$ 20
26	eP	22 12 35
	i	55
	eS	20 45
	e	21 13
	eG	27.6
	iR	30.5
	Distance	60°

Dec. 27	eP	04 57 57
	i	58 16
	eS	05 05 57
	eSS	10.2
	eG	12.6
	eR	15.8
	Distance	58°
27	iP	05 01 03
27	eP	05 12 09
27	eP	07 01 43
27	eP	07 55 44
27	eP	08 05 03
27	e(P)	08 15 53
	e	16 19
27	iP	11 59 06
27	eP	12 04 46
	i	56
	i	05 55
	eS	10.1
	eG	13.1 <i>twg</i>
	e(R)	14.6
	Distance	35°
27	iP!	12 50 25
27	iP	12 59 53
(27)	iP2	16 02 41
		51
		07 53
	iS\	10 33
	iSS	14 17
	iG	17.0
	iR\	20.2
	eP!P'	32 22
	Distance	56°
	Magnitude	6 $\frac{1}{4}$ - 7
	Slightly deeper than normal	
		mu sec
	PZ	2 0.3 4
	PH	0.4 1
	SH	10 4 10
	MH	55 20
27	iP	19 38 23
27	iP	21 06 24

RICHMOND
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OBSERVATORY
KEY OBSERVATORY
PASADENA
CALIFORNIA
DEC 29 1959

Violet M. Taylor
Seismological Assistant

KEW
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- 5 JAN 1960
RICHMOND,
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Seismological Laboratory
220 North San Rafael Ave.
Pasadena 2, California
December 31, 1959



PROVISIONAL READINGS AT PASADENA
(and auxiliary stations as noted)

Continuation:
Dec. 28

	eP ²	07 30 33	
	i	37	
	i	31 00	
	iS\	38 41	
	iSS	42.7	
	eG	45.3	
	iR ²	48.0	
	eP'P'	08 00 02	
	Distance	60 ⁰	
	Magnitude	6 $\frac{1}{2}$	
		mu	sec
	PZ	0.3	1
	PH	0.1	1
	SH	3 $\frac{1}{2}$	10
	MH	10	20
	MZ	10	20
28	iP	10 14 36	
	i	15 02	
	i	12	
	i (PP)	17 57	
28	iP	13 14 30	
	i	57	
	eS\	22 45	
	i	23 21	
	eSS	26.8	
	eG	29.1	
	eR ²	32.3	
	eP'P'	44 05	
	Distance	60 ⁰	
	Magnitude	6	
		mu	sec
	PZ	0.1	1
	SH	6 $\frac{1}{2}$	16
	MH	3 $\frac{3}{4}$	20
	MZ	3 $\frac{3}{4}$	20
28	eP	13 20 09	
	i	15	
28	eP	13 42 01	
29	iP	02 33 54.3	
	i	56.1	
	iS	34 43.6	
29	eP	12 11 37	
29	eP	12 25 33	

Dec. 29	iP	17 26 40	
	i	48	
	eS	36.4	
	eG	45.5	
	eR	49.6	
	Distance	76 ⁰	
29	iP ²	20 47 12	
	Dilatation from northeast		
	j pP	20 48 30	
	resP	49 22	
	iS or SKS\	57 11	
	e	48	
	e(SS)	21 03.0	
	eL	09.6	
	Distance	83 ⁰	
	Depth	300 - 400 km	
	Magnitude	6 - 6 $\frac{1}{4}$	
		mu	sec
	PZ	0.4	1 $\frac{1}{4}$
	PH	0.2	1 $\frac{1}{2}$
	SH	1 $\frac{1}{2}$	5
29	iP	21 46 09	

RICHMOND, SURREY
 THE OBSERVATORY OF THE
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Violet M. Taylor
Seismological Assistant