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SEISMOLOGICAL BULLETIN

January, February, March, 1947

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U. S. DEPARTMENT OF COMMERCE

Sinclair Weeks, Secretary

U. S. COAST AND GEODETIC SURVEY—WASHINGTON

R. F. A. Studds, Director

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March 4, 2011

The instrumental results of the following stations are tabulated in this report.

**Balboa Heights, C. Z. (BH)
The Panama Canal
*Bermuda (BER)
Meteorological Station and International Union Geodesy and Geophysics
*Boulder City, Nev. (BC)
Bureau of Reclamation
*Bozeman, Mont. (BOZ)
Montana State College
**Burlington, Vt. (BUR)
University of Vermont
*Butte, Mont. (BUT)
Montana School of Mines
*Chicago, Ill. (CHI)
University of Chicago and
U. S. Weather Bureau
*College, Alaska (COL)
University of Alaska
*Columbia, S. C. (COLU)
University of South Carolina
*Grand Coulee, Wash. (GC)
Bureau of Reclamation
Honolulu, T. H. (HONO)
*Huancayo, Peru (HUAN)
Carnegie Institution of Washington
*Hungry Horse, Mont. (HH)
Bureau of Reclamation
*Lincoln, Nebr. (LIN)
Nebraska Wesleyan University
**Logan, Utah (LOG)
Utah State Agricultural College
**Montezuma, Chile (MONT)
Smithsonian Institution
**New Kensington, Pa. (NK)
Private station
*Overton, Nev. (OV)
Bureau of Reclamation and
National Park Service
**Philadelphia, Pa. (PHIL)
The Franklin Institute
*Pierce Ferry, Ariz. (PF)
National Park Service
*Rapid City, S. Dak. (RC)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto Rico (SJ)
**Seattle, Wash. (SEA)
University of Washington
*Shasta, Calif. (SH)
Bureau of Reclamation
Sitka, Alaska (SIT)
Tucson, Ariz. (TUC)
Ukiah, Calif. (UK)
International Latitude Observatory

*Indicates a station maintained by a local institution in cooperation with the U. S. Coast and Geodetic Survey.
**Indicates a station operating on an independent basis.
Other stations are observatories of the U. S. Coast and Geodetic Survey.

All seismogram interpretations are made or revised at Washington except those for Balboa Heights. All magnitude determinations are by Pasadena unless otherwise stated. Minor earthquakes are listed at the end of the bulletin.

One asterisk (*) following an origin time indicates probable error of one-tenth minute. Two asterisks (**) following an origin time indicates probable error of one-quarter minute. All origin times and locations are determined from P data only. For Pasadena epicenters the time is given in one-tenth minute.

All seismograms are on file in the U. S. Coast and Geodetic Survey, except those from Balboa Heights, Burlington, Logan, and New Kensington which may be obtained on loan by addressing the Seismograph Station Director: - Meteorological and Hydrographic Office, Panama Canal Company, Balboa Heights, Canal Zone; University of Vermont, Burlington, Vermont; Utah State Agricultural College, Logan, Utah; 508 Pershing Drive, New Kensington, Pennsylvania.

* * * *

Station	Position	Instruments	Foundation and elevation
Balboa Heights, C. Z. G. E. Matthew, In Chg.	Log cos 9.99467 Lat. 8°57'39"N. Long. 79°33'29"W.	W-A, NS&EW Mass 1.3g	Basalt. Elevation 36m.
Bermuda W. A. Macky, In Chg.	Log cos 9.92661 Lat. 32°22.8' N. Long. 64°41.0' W.	M-S, NE&NW Mass 1 lb.	Calcareous eolionite over vulcanic rock. Elevation 41m.
Boulder City, Nev. F. H. Werner, In Chg.	Log cos 9.90806 Lat. 35°58'51"N. Long. 114°50'02"W.	B film, Z, N&E Mass 100 lb.	Fractured monzonite. Elevation 776m.
Bozeman, Mont. A. J. M. Johnson, In Chg.; R. Maras, Seis. Tender	Log cos 9.88437 Lat. 45°40'01"N. Long. 111°02'43"W.	McC-R, NS&EW Mass 10 kg.	Alluvium, glacial drift, and lake deposits 500' thick over gneiss and schist. Elevation 1490m.
Burlington, Vt. E. C. Jacobs, In Chg.	Log cos 9.85339 Lat. 44°28.8' N. Long. 73°11.8' W.	M-S, NE&NW Mass 1 lb.	Glacial hardpan. Elevation 100m.
Butte, Mont. Stephen W. Nile, In Chg.	Log cos 9.84167 Lat. 46°00.8' N. Long. 112°33.8' W.	W-A, NS Mass 2g.	Rhyolite 30m thick resting on granite. Elevation 1758m.
Chicago, Ill. Wm. F. Schmidt, In Chg.	Log cos 9.87251 Lat. 41°47.3' N. Long. 87°36.0' W.	McC-R, NS&EW Mass 2.5 kg.	Limestone. Elevation 180m.
College, Alaska S. L. Seaton, In Chg.	Log Cos 9.62819 Lat. 64°51.8' N. Long. 147°49.1' W.	McC-R, NS&EW Mass 10 kg.	Granitic schist. Elevation 159m.
Columbia, S. C. S. Taber, In Chg. Chas. Mercer, Seis. Tender	Log cos 9.91857 Lat. 34°00' N. Long. 81°02' W.	McC-R, NS&EW Mass 10 kg.	Consolidated sand 150' thick over granite. Elevation 94m.
Grand Coulee, Wash. W. P. Greenwood, In Chg. W. Shepherd, Asst.	Log Cos 9.82600 Lat. 47°46'29"N. Long. 118°58'48"W.	B film, Z, N&E Mass 100 lb.	Granite. Elevation 461.7m.
Honolulu, T. H. R. F. White, In Chg.	Log cos 9.96926 Lat. 21°18'13"N. Long. 158°05'44"W.	M-S, NS&EW Mass 1 lb. N-L, EW	Shale. Elevation 10 ft.
Huancayo, Peru P. G. Ledig, In Chg.*	Log cos 9.99033 Lat. 12°02.8' S. Long. 75°20.4' W.	W, NS&EW Mass 500g. B, Z. Mass 100 kg.	Partially consolidated conglomerate. Elevation 3350m.

	Period T_o	T_g	T_s	V	ϵ	Time: Scales and reference points		Ground Motion trace "up"
NS	1.0			1370	20:1	60mm/min.		N
EW	1.0			1370	16:1			E
NE	11.9				16:1	8mm/min.	End of time break.	NE
NW	12				21:3			NW
Z	1.4	.45		12000	Near	15mm/min.	Beginning of time break.	Up
N	1.4	.45		5000	crit.			N
E	1.4	.45		5000				E
NS	10.6			270	17:1	15mm/min.	Beginning of time break.	N
EW	10.5			270	8:1			E
NE	12			250	20:1	8mm/min.	End of time break.	SW
NW	12			250	20:1			NW
NS	6.5			540	11:1	15mm/min.	Beginning of time break.	S
NS	10			335	15:1	15mm/min.	End of time break.	N
EW	10			335	15:1			W
NW	12			140	10:1	15mm/min.	End of time break.	S
EW	12			140	10:1			W
NS	12			75	10:1	15mm/min.	Beginning of time break.	S
EW	12			75	10:1			E
Z	1.5	.45		8000	near	15mm/min.	Beginning of time break.	Up
N	1.5	.45		8000	crit.			N
E	1.5	.45						E
NS	12.0			124	20:1	30mm/min.	Beginning of time break	N
EW	12.0			142	20:1			W
EW	1.2			4800	8:1			E
NS	9.8	11.4	8.3	1550	Near	16mm/min.	End of time break.	N
EW	10.0	12.5	9.5	1550	crit.			W
Z	.44	5.6				60mm/min.	End of time break.	Up

Station	Position	Instruments	Foundation and elevation
Hungry Horse, Mont. C. H. Spencer, Constr. Engr.	Log cos 9.82255 Lat. 48°20'58"N. Long. 114°01'39"W.	B film, Z,N,E Mass 100 lb.	Argillaceous limestone (Belt series) Elevation 1100m.
Lincoln, Nebr. E. C. Jensen, In Chg.	Log cos 9.87886 Lat. 40°50.3' N. Long. 96°39.2' W.	McC-R, EW Mass 2.5 kg	Dakota sandstone. Elevation 366m.
Logan, Utah J. Stewart Williams, In Chg.	Log cos 9.87283 Lat. 41°44.5' N. Long. 111°48.8' W.	W-A, NS&EW Mass 2g. Spg, Z	Bonneville lake beds. Elevation 1455m.
Montezuma, Chile A. G. Froiland, In Chg.	Log cos 9.96509 Lat. 22°40' S. Long. 68°56' W.	B-O, NS&EW	Sandstone. Elevation 2850m.
New Kensington, Pa. F. Keller, Sr., owner and operator	Log cos 9.88066 Lat. 40°33'35"N. Long. 79°45'15"W.	W, electronic recorder, EW	Shale Elevation 251m.
Overton, Nev. F. Werner, In Chg.	Log cos 9.90500 Lat. 36°31'52"N. Long. 114°26'33"W.	B film, Z, N&E Mass 100 lb.	Terrace gravel overlying fine playa silt with gypsum cement. Elevation 395m.
Philadelphia, Pa. Roy K. Marshall, In Chg. I. M. Levitt, Seis. Tender	Log cos 9.88452 Lat. 39°57'32"N. Long. 75°10'30"W.	W, NS&EW Mass 500g.	Cape May sand and gravel. Elevation 5m.
Pierce Ferry, Ariz. F. Werner, In Chg.	Log Cos. 9.90729 Lat. 36°07'15"N. Long. 114°00'17"W.	B film, Z, N&E Mass 100 lb.	Terrace gravel overlying fine playa silt with gypsum cement. Elevation 417m.
Rapid City, S. Dak. E. L. Tullis, In Chg. M. Peterson, Seis. Tender	Log cos 9.85637 Lat. 44°04.6' N. Long. 103°12.0' W.	W-A, EW. Mass 2g.	Shale. Elevation 1045m.
Salt Lake City, Utah A. M. Anderson, In Chg.	Log Cos 9.87932 Lat. 40°45'55"N. Long. 111°50'54"W.	McC-R, NS&EW Mass 2.5 kg.	Bonneville lake beds. Elevation 1425m.
San Juan, Puerto Rico R. M. Wilson, In Chg.	Log cos 9.97726 Lat. 18°22.9' N. Long. 66°07.1' W.	W, NS&EW Mass 500g.	Limestone. Elevation 80m.

	Period T_o	T_g	T_s	V	ϵ	Time: Scales and reference points		Ground Motion trace "up"
Z	1.4	.45		13000	Near	15mm/min.	Beginning of time break.	Up
N	1.4	.45		5000	crit.			N
E	1.4	.45		5000				E
EW	8			200	10:1	15mm/min.	Beginning of time break.	E
NS	6.0			700	18:1	15mm/min.	End of time break.	N
EW	6.0			700	18:1			E
Z	1.9	2.2			Near crit.	60mm/min.	Beginning of time break.	Up
NS	20			10	16:1	15mm/min.	Middle of time break.	N
EW	20			10	21:1			E
EW	10	13		1000	6:1	1"/min.	Beginning of time break.	E
Z	1.5	.45		8000	Near	15mm/min.	Beginning of time break.	Up
N	1.5	.45		8000	crit.			N
E	1.5	.45		8000				E
NS	12.2	9.4	7.5	1400	20:1	20mm/min.	End of time break.	S
EW	12.2	9.4	7.5	1400	20:1			E
Z	1.5	.45		10000	Near	15mm/min.	Beginning of time break.	Up
N	1.5	.45		10000	crit.			N
E	1.5	.45		10000				E
EW	5			590	20:1	15mm/min.	End of time break.	E
NS	10.8			335	10:1	15mm/min.	Beginning of time break.	N
EW	9.9			335	10:1			W
NS	9.8	19.9	11.0	1000	20:1	30mm/min.	Beginning of time break.	S
EW	9.8	13.9	10.1	1000	20:1			E

Station	Position	Instruments	Foundation and Elevation
Seattle, Wash. H. A. Coombs, In Chg.	Log cos 9.82844 Lat. 47°39' N. Long. 122°18.5' W.	B-O, NS&EW Mass 25 kg.	Glacial till. Elevation 34m.
Shasta, Calif. W. H. Isaacks, In Chg.	Log cos 9.87978 Lat. 40°41'44"N. Long. 122°23'19"W.	B film, Z, N&E Mass 100 lb.	Meta-andesite. Elevation 312.4m.
Sitka, Alaska Joel Campbell, In Chg.	Log cos 9.73544 Lat. 57°03'25"N. Long. 135°19'28"W.	W, NS&EW Mass 500g.	Graywacke. Elevation 19m.
Tucson, Ariz. J. H. Nelson, In Chg.	Log cos 9.92725 Lat. 32°14.8' N. Long. 110°50.1' W.	W-A, NS&EW Mass 2.3g. B, Z.	Caliche or gravels 100-300m. thick. Elevation 770m.
Ukiah, Calif. L. F. Caouette, In Chg.	Log cos 9.88968 Lat. 39°08' N. Long. 123°13' W.	McC-R, NW&NE	Alluvium 180m. deep. Elevation 199m.

B-Benioff, M-S - Milne-Shaw, McC-R - McComb-Romberg, N-L - Neumann-Labarre,
*Huancayo - On July 1, 1947, the Peruvian government assumed full responsibility

	T_o	Period T_g	T_s	V	ϵ	Time:	Scales and reference points	Ground Motion trace "up"
NS	15.0			10	16:1	15mm/min.	Middle of time break.	N
EW	15.0			10	16:1			W
Z	1.5	.45		5000	Near	15mm/min.	Beginning of time break.	Up
N	1.5	.45		5000	crit.			N
E	1.5	.45		5000				E
NS	7.5	16.4	8.6	1000	15:1	15mm/min.	Beginning of time break.	N
EW	7.5	12.2	7.9	1000	16:1			W
NS	8.0			430	129:1	30mm/min.	Beginning of time break.	S
EW	8.0			430	91:1			E
Z	1.0	77.0			Near	60mm/min.	Beginning of time break.	Up
		0.24			crit.			Up
NW	12			75	20:1	15mm/min.	Beginning of time break.	NW
NE	12			75	20:1			NE

Spg - Sprengnether, W - Wenner, W-A - Wood-Anderson.
for this station and Albert A. Giesecke Jr. was named Director.

PROVISIONAL EPICENTERS

The provisional epicenters have not been determined for the first quarter of 1947. In order to expedite the publication of instrumental interpretations the epicenter locations for 1946-48 are being omitted until the backlog is eliminated.

SEISMOGRAM INTERPRETATIONS

Date and Station		Phase (GCT) h m s
Jan. 1		
TUC	eP	02 43 21
Jan. 1		
HUAN	e	07 17 28
Jan. 2		
BC	eP	02 26 07
Jan. 2		
BC	iP	03 03 08
Jan. 2		
TUC	iP	05 25 52
Jan. 2		
BC	e(P)	06 05 17
PF	e(P)	06 02 47
	e	05 12
TUC	e(P)	06 01 47
	i	02 04
	i	02 11
	i(S)	02 45
	i	02 59
	i	03 07
	iL	03 51
Jan. 2		
TUC	e(P)	10 25 15
Jan. 2		
BH	e(P)	10 57 40
TUC	iP	11 01 56
Jan. 2		
HUAN	e(P)	11 45 01
	e	45 11
	e(S)	46 18

Date and Station		Phase (GCT) h m s
Jan. 2, cont.		
HUAN	eL	11 46 40
Jan. 2		
BH	eP	19 49 32
	eS	50 20
Jan. 3		
BC	iP	00 17 00
	i	17 12
GC	eP	00 15 57
	i	16 09
OV	iP	00 17 00
	i	17 11
PF	iP	00 17 03
	i	17 06
SH	eP	00 16 11
	i	16 12
TUC	iP	00 17 29
	i	17 39
Jan. 3		
BER	e(PP)	02 34 31
	eSKS	41 23
	ePS	43 29
	eSS	48 52
	e	55 03
	eL	03 01 46
BC	iP	02 28 18
	i	28 32
	eS	37 34
BOZ	eS	02 36 42
	e(ScS)	37 52
	e(SS)	41 10

Date and Station		Phase (GCT) h m s
Jan. 3, cont.		
BOZ	eL	02 51 26
BUT	e(P)	02 28 30
	eS	36 37
	e	37 15
	eSS	41 16
	eL	46 18
CHI	eS	02 39 25
	eSS	44 50
	eL	55 00
COL	eP	02 24 44
	ePP	26 35
	iS	30 52
	eSS	33 43
	eL	35 39
GC	eP	02 27 15
	i	27 22
	i	27 29
HONO	eL	02 40 00
T_L = 21 sec. $A_{max.}$ = 3.0mm.		
HUAN	eP'	02 36 20
	ePP	38 52
	eSKS	43 25
	e(SS)	56 07
	eL	03 15 18
LOG	iP	02 28 10
	i	28 48
	iPP	30 47
	iPPP	32 33
	eS	37 05
	eScS	38 13
	eSSS	45 05
	eL	48 33

Date and Station		Phase (GCT) h m s
Jan. 3, cont.		
OV	iP	02 28 19
	eS	37 29
PHIL	eP	02 30 04
	e	30 49
	ePP	33 37
	e	35 10
	eS	40 25
	iS	40 35
	e	42 06
	e(SS)	47 18
	eSSS	50 30
	eL	53 16
PF	iP	02 28 22
	iS	37 42
SLC	eP	02 28 16
	eS	37 20
	eScS	38 18
	eSS	41 58
	eL	45 14
SJ	eSS	02 51 56
	eL	03 14 57
SH	iP	02 27 30
	e	31 03
SIT	iP	02 25 48
	iS	32 44
	eL	40 20
TUC	iP	02 28 48
	i	29 11
	i	29 27
	i	29 33
	e(PP)	31 30
	eS	38 32
	eScS	39 10
	iScS	39 12
Jan. 3		
BER	e(PP)	02 38 06
	e(SKS)	44 41
	ePS	47 05
	e(SS)	52 02
BC	iP	02 31 42

Date and Station		Phase (GCT) h m s
Jan. 3, cont.		
BOZ	eS	02 40 04
	e(SS)	44 20
	eL	54 00
COL	eP	02 28 10
GC	eP	02 30 48
	i	30 53
HUAN	eP'	02 39 45
	e(SKS)	46 50
	e(SKKS)	48 48
	ePPS	55 02
	e(SS)	03 01 45
LOG	iP	02 31 41
	i	32 02
	ePP	34 10
OV	iP	02 31 41
PHIL	eS	02 44 06
	e	46 18
	e(SS)	49 32
PF	iP	02 31 47
SLC	e(P)	02 31 48
	eS	40 36
SH	iP	02 30 55
SIT	eS	02 36 05
	eL	46 09
TUC	iP	02 32 13
	i(pP)	32 26
	i	32 50
	eS	41 32
	e	46 23
	eL	52 18
Jan. 3		
BC	iP	03 06 38
GC	eP	03 05 35
	e	05 52
OV	iP	03 06 39

Date and Station		Phase (GCT) h m s
Jan. 3, cont.		
PF	iP	03 06 42
SH	eP	03 05 50
TUC	iP	03 07 09
Jan. 3		
BC	eP	03 42 43
GC	e(P)	03 41 51
PF	iP	03 42 46
SH	e(P)	03 41 54
TUC	eP	03 43 13
	i	43 22
Jan. 3		
BC	eP	04 09 30
GC	eP	04 08 35
PF	iP	04 09 33
SH	eP	04 08 46
TUC	iP	04 09 54
	i	10 14
Jan. 3		
TUC	eP	06 53 05
Jan. 3		
BC	iP	09 21 50
	i	22 02
COL	e(S)	09 24 14
	e(sS)	24 41
	e	27 00
	eL	29 20
GC	iP	09 20 45
	ipP	21 08
PF	iP	09 21 52
	i	23 05
	iPP	24 38

Date and Station		Phase (GCT) h m s
Jan. 3, cont.		
SH	eP	09 21 00
	iP	21 01
TUC	iP	09 22 18
	ipP	22 31
	e	22 42
	ePP	25 28
	eL	50 05
Jan. 3		
PF	iP	12 29 41
TUC	iP	12 29 43
Jan. 3		
PF	iP	18 16 40
	iS	17 16
Jan. 3		
SJ	iP	23 10 28
	eL	10 30
Jan. 4		
BC	iP	00 49 12
	e	51 38
OV	iP	00 49 19
	i	51 44
PF	iP	00 49 15
	i	49 24
	i	51 43
SH	iP	00 48 23
	i	50 51
	e	01 02 17
TUC	eP	00 49 40
	e	52 15
Jan. 4		
HUAN	eL	04 41 15
PHIL	eL	04 49 15
SJ	eL	04 43 22

Date and Station		Phase (GCT) h m s
Jan. 4, cont.		
TUC	eP	04 37 06
	iP	37 09
	eL	49 40
Jan. 4		
BC	eP	05 40 23
PF	eP	05 40 18
SH	e(P)	05 40 03
Jan. 4		
BH	eP	12 06 10
	eS	06 41
Jan. 4		
TUC	eP	12 42 03
Jan. 4		
HUAN	eL	15 23 00
Jan. 4		
BER	ePKS	17 42 14
	eSKS	46 00
	e(SS)	18 02 26
	eL	17 16
COL	eL	17 54 03
HUAN	eL	18 19 34
PHIL	eL	18 25 00
TUC	e(SS)	17 49 31
	eL	58 36
Jan. 5		
GC	e(P)	05 35 56
SH	iP	05 36 37
TUC	eP	05 39 18
Jan. 5		
BC	eP	09 06 38

Date and Station		Phase (GCT) h m s
Jan. 5, cont.		
SH	e(P)	09 05 51
Jan. 6		
TUC	eP	05 51 50
Jan. 6		
TUC	e(P)	08 07 21
Jan. 6		
SH	e(P)	09 17 59
Jan. 6		
HUAN	e(S)	11 28 46
	e	32 56
	eL	34 37
TUC	e(P)	11 28 40
	eL	39 23
Jan. 6		
PF	eP	15 01 14
	i	01 17
	i	01 31
TUC	eP	15 01 42
	e	01 54
	e	13 25
	eL	30 48
Jan. 6		
TUC	e(P)	22 54 38
	e(S)	56 34
	eL	57 16
Jan. 7		
SJ	eL	10 41 35
Jan. 7		
SJ	e	10 51 48
	eL	52 20
Jan. 7		
BC	eP	17 29 34
PF	iP	17 29 37
	i	29 46
	iS	30 34

Date and Station		Phase (GCT) h m s
Jan. 7, cont.		
BC	eP	18 48 59
PF	i(P)	18 48 56
	i	49 04
	eS	50 16
Jan. 8		
GC	eP	00 18 12
	e	18 25
HUAN	eP'	00 24 31
	eSS	49 00
SH	eP	00 18 15
TUC	ePP	00 23 45
	e	25 05
Jan. 8		
BC	iP	19 23 28
Jan. 8		
BC	eP	19 39 17
	e	41 54
BUT	e(P)	19 37 30
	i(S)	38 23
	eL	38 37
GC	eP	19 38 54
	eS	40 47
	i	40 49
	iL	40 51
LOG	iP	19 37 57
	iS	38 24
	iL	39 17
RC	eP	19 38 39
	e(S)	39 32
	eL	40 28
SH	e(P)	19 39 55
	i	39 58
	eL	42 20
TUC	eP	19 40 42
	eL	43 26

Date and Station		Phase (GCT) h m s
Jan. 9		
BC	eP	02 21 42
Jan. 9		
BC	iP	12 27 14
COL	e(P)	12 24 11
	eS	29 43
	eSS	32 56
	eL	35 42
GC	eP	12 26 23
	i	26 28
HUAN	eL	13 23 00
SLC	eL	12 56 00
SH	eP	12 26 25
SIT	eS	12 31 45
	eSS	35 44
	eL	42 24
TUC	eP	12 27 43
	e	28 16
	eL	55 19
Jan. 9		
SH	iP	20 18 12
	i	18 24
Jan. 9		
BC	iP	22 10 52
GC	i(P)	22 11 10
OV	iP	22 10 56
SH	iP	22 10 39
TUC	iP	22 10 59
	i	11 14
Jan. 9		
GC	e(P)	22 54 39
	i	54 50
Jan. 10		
BC	iP	02 25 15

Date and Station		Phase (GCT) h m s
Jan. 10, cont.		
GC	e(P)	02 27 10
OV	iP	02 25 20
SH	iP	02 26 15
TUC	iP	02 24 16
	i	24 26
	i	24 44
	eL	28 16
Jan. 10		
HUAN	e(P)	21 40 18
	e	40 24
	eL	43 18
SH	e(P)	21 48 55
TUC	iP	21 47 47
Jan. 11		
TUC	eP	03 43 12
Jan. 11		
BC	eP	11 38 08
OV	e(P)	11 38 21
TUC	eP	11 34 34
	i	34 43
	e(S)	35 28
	i	35 55
	iL	36 20
Jan. 11		
BC	eP	11 58 46
	i	58 50
	eS	59 35
OV	eP	11 58 43
	iP	58 50
	eS	59 39
SH	eP	11 59 00
	iP	59 01
	i	59 12
	iS	12 00 05
	i	00 08
	iL	00 14

Date and Station		Phase (GCT) h m s
Jan. 11, cont.		
TUC	e(P)	11 59 50
	eL	12 02 10
Jan. 11		
TUC	e(P)	12 37 48
	i	38 08
	e(S)	38 40
	i	39 06
	i	39 40
	eL	40 19
Jan. 11		
SH	e(P)	12 57 49
	i	57 54
TUC	e(P)	12 59 34
Jan. 11		
MONT	e	14 18 54
	iL	19 21
BC	iP	14 29 40
OV	iP	14 30 42
Jan. 11		
TUC	e(P)	15 51 50
Jan. 11		
BER	e	16 51 44
	eL	56 36
BC	eP	16 58 01
SJ	e(S)	16 51 53
	eL	55 15
TUC	eP	16 57 39
Jan. 11		
SH	eP	20 44 20
TUC	eL	21 16 34
Jan. 12		
SH	iP	00 29 39
TUC	eL	01 03 52

Date and Station		Phase (GCT) h m s
Jan. 12, cont.		
SH	iP	06 07 26
Jan. 12		
BC	iP	18 50 52
Jan. 12		
BC	iP	22 05 17
	i	05 35
	i	05 57
	eS	15 41
Jan. 13		
TUC	iP	06 06 13
Jan. 13		
BOZ	eL	09 09 00
Jan. 14		
BC	eP	02 48 29
	i	48 32
	iS	49 00
	iL	50 55
OV	iP	02 48 29
	i	48 33
	iS	49 05
SH	e(P)	02 49 18
	e	49 23
	i	49 26
TUC	iP	02 49 38
	i	49 41
	i	50 10
	e(S)	50 48
	iL	51 43
Jan. 14		
OV	iP	02 50 57
	iS	51 29
Jan. 14		
BC	iP	03 10 53
OV	iP	03 10 54
	i(S)	11 27

Date and Station		Phase (GCT) h m s
Jan. 14, cont.		
BC	eP	04 47 58
	eS	55 12
BOZ	e	04 50 04
	eL	51 07
BUT	e	04 47 31
	e(S)	50 14
	eL	50 40
CHI	eL	04 59 10
COL	eL	04 52 34
COLU	e	05 04 12
	eL	07 16
GC	iP	04 45 37
	i	45 42
	iS	47 52
HONO	eL	04 59 00
LIN	eS	04 53 55
	e	56 50
	eL	59 00
LOG	eP	04 47 25
	iP	47 27
	eS	52 03
	iS	52 12
	i	52 49
	iL	53 15
NK	eL	05 03 15
OV	iP	04 47 57
PHIL	e	04 58 51
	eL	05 02 50
RC	i(P)	04 48 13
	e	51 55
	eL	53 45
SLC	e(P)	04 47 34
	e(S)	51 08
	eL	52 05

Date and Station		Phase (GCT) h m s
Jan. 14, cont.		
SEA	eL	04 48 37
SH	eP	04 46 30
SIT	iL	04 47 06
TUC	iP	04 48 53
	i	49 02
	i	49 42
	e	50 18
	e	53 16
	eL	57 10
Jan. 14		
BC	iP	06 39 02
OV	eP	06 39 03
	iP	39 04
	eS	39 35
Jan. 14		
BC	iP	07 48 02
OV	iP	07 48 02
	eS	48 38
Jan. 14		
TUC	e(P)	20 09 26
Jan. 15		
TUC	iP	15 08 33
	ipP	08 49
Jan. 15		
BER	e(PP)	18 37 25
	eL	47 13
BC	eP	18 30 13
	i	30 17
	e(S)	32 37
	iL	33 17
BOZ	eP	18 32 20
	e(S)	35 51
	e(L)	37 38

Date and Station		Phase (GCT) h m s
Jan. 15, cont.		
BUT	eP	18 32 25
	e(S)	36 04
	eL	36 36
CHI	e(P)	18 33 26
	eS	37 40
	eL	39 50
COL	eL	18 52 11
COLU	e(S)	18 38 20
	e	39 24
	eL	41 44
GC	iP	18 32 51
	i	33 04
	eL	39 27
HONO	eL	18 48 00
HUAN	e(S)	18 45 00
	eL	57 00
LIN	eS	18 35 38
	eL	37 30
LOG	iP	18 31 29
	i	31 40
	i(S)	34 32
	iL	35 21
NK	eL	18 41 52
OV	eP	18 30 23
PHIL	eS	18 39 47
	eL	42 00
RC	eP	18 32 17
	e(PP)	32 41
	eS	35 38
	eL	37 26
SLC	eP	18 31 17
	e	32 25
	eL	34 16

Date and Station		Phase (GCT) h m s
Jan. 15, cont.		
SJ	eL	18 46 00
SEA	eL	18 42 36
SH	eP	18 31 52
	iP	31 53
	eS	35 05
	eL	36 48
SIT	eL	18 43 52
TUC	iP	18 29 15
	i	29 35
	i	29 40
	i(S)	30 26
	iL	30 36
HUAN	iP	19 05 23
	i	05 54
	i(S)	06 30
	i	06 49
	eL	07 17
Jan. 15		
HUAN	iP	19 10 26
	i(S)	10 53
	i	11 02
	iL	11 11
Jan. 15		
BC	iP	19 55 25
GC	eP	19 55 43
OV	iP	19 55 28
TUC	iP	19 55 30
	i	55 48
	i	57 42
Jan. 15		
TUC	eP	21 12 24
	iP	12 25
	i	12 40
	i	12 45
	i(S)	13 23
	eL	13 45

Date and Station		Phase (GCT) h m s
Jan. 16		
SJ	iP	13 36 03
	e(S)	36 05
	e(L)	36 11
Jan. 16		
BH	eP	15 23 18
	eS	24 06
HUAN	e(P)	15 26 48
	eL	30 26
SJ	e(P)	15 26 58
	e(S)	30 54
TUC	iP	15 29 31
	i	29 39
	e	31 01
	eL	41 35
Jan. 16		
PHIL	eL	16 35 41
Jan. 17		
PHIL	eL	00 37 28
SJ	e	00 27 10
	eL	34 08
TUC	eL	00 11 40
Jan. 18		
TUC	eP	04 26 34
Jan. 18		
TUC	eP	05 21 02
Jan. 18		
TUC	e(P)	09 36 31
Jan. 18		
TUC	iP	10 35 33
Jan. 19		
BC	iP	01 23 18
OV	iP	01 23 20
SH	eP	01 23 24
	iP	23 25
TUC	iP	01 23 24
	i	23 41
Jan. 19		
TUC	eP	02 55 21
Jan. 19		
GC	eP	14 44 10
	eS	45 13
Jan. 19		
BH	eP	15 14 26
	eS	15 05
Jan. 19		
SJ	e	17 09 52
	e	10 05
	eL	10 20
Jan. 19		
SH	i(P)	21 41 08
Jan. 20		
BC	iP	00 44 21
GC	e(P)	00 43 17
	i	43 28
OV	iP	00 44 20
PF	iP	00 44 24
SH	iP	00 43 32
TUC	iP	00 44 49
Jan. 20		
BC	eP	01 40 41
TUC	eP	01 40 56
Jan. 20		
TUC	eP	08 23 27
Jan. 20, cont.		
BC	iP	10 43 22
	i	45 27
BOZ	eL	10 51 34
BUT	eL	10 51 56
LOG	e	10 48 28
	eL	49 39
OV	iP	10 46 29
PHIL	e	10 56 47
	eL	58 11
PF	iP	10 43 22
TUC	iP	10 42 42
	i	42 59
	i	43 14
	i(S)	43 27
	iL	43 42
Jan. 20		
BC	eP	11 01 15
TUC	iP	10 58 17
	e(S)	58 54
	eL	59 11
Jan. 20		
BC	iP	11 45 35
	i	47 22
OV	iP	11 45 41
PF	eP	11 45 34
TUC	eP	11 44 50
	i(S)	45 12
	i	45 13
	i	45 46
	iL	46 06
Jan. 20		
BC	iP	16 23 20
	i	26 15

Date and Station		Phase (GCT) h m s
Jan. 20, cont.		
LOG	eL	16 30 14
PHIL	eL	16 40 56
TUC	iP	16 24 10
	i	24 21
	iS	25 11
	i	25 16
	iL	25 24
Jan. 20		
BC	iP	21 18 26
LOG	eL	21 24 38
TUC	eP	21 18 16
	i	18 26
	i	18 31
	eS	19 05
	iS	19 06
	iL	19 20
Jan. 21		
BC	eP	07 00 08
SH	eP	07 00 04
	iP	00 05
	e	00 44
	iS	00 46
Jan. 21		
BH	e	18 27 23
Jan. 21		
BH	eP	20 13 32
BER	eP	20 16 30
	ePP	18 37
	eS	24 14
	eScS	26 28
	eL	30 19
BC	iP	20 18 18
	eS	27 48
BOZ	eS	20 28 44
	e	29 07
	e(SS)	35 04
	eL	56 00

Date and Station		Phase (GCT) h m s
Jan. 21, cont.		
GC	eP	20 19 16
Jan. 21		
HUAN	eP	20 09 55
	i	10 06
	e	10 18
	eS	12 20
	iS	12 30
	eL	12 42
MONT	iP	20 07 22
	eS	07 49
	iS	07 51
	iL	08 05
OV	iP	20 18 19
PHIL	eL	20 40 20
SJ	eP	20 14 40
	ePP	16 21
	e	17 29
	eS	20 51
	eL	24 24
SH	iP	20 18 58
TUC	iP	20 17 47
	i	18 03
	e	18 43
	i	19 10
	i	19 20
	eS	26 45
	e	27 15
	eL	40 38
	eP'P'	46 06
Jan. 22		
TUC	e(P)	02 10 42
Jan. 22		
BC	iP	02 27 54
Jan. 22		
BH	eP	06 12 44
	eS	13 27

Date and Station		Phase (GCT) h m s
Jan. 22, cont.		
HUAN	e	07 08 08
	eL	10 26
MONT	i	07 05 26
	eL	06 31
SH	i(P)	07 17 25
	i	17 57
TUC	eP	07 16 13
Jan. 22		
BC	eP	09 08 28
HUAN	eP	09 01 36
	e	01 46
	e(S)	04 46
	e	05 08
	e(L)	06 11
OV	iP	09 08 29
SH	iP	09 10 06
TUC	eP	09 08 56
	e	09 10
Jan. 22		
TUC	iP	10 58 30
Jan. 22		
BC	eP	11 37 32
COL	e	11 33 36
	e	34 32
GC	iP	11 36 58
OV	iP	11 37 10
TUC	iP	11 39 24
Jan. 22		
SH	eP	18 43 19
	i	43 27
	i	43 38

Date and Station		Phase (GCT) h m s
Jan. 22, Cont.		
SH	iP	23 25 07
Jan. 23		
SH	iP	00 02 10
	i	02 11
TUC	iP	00 02 26
Jan. 23		
BC	iP	16 04 58
BOZ	eL	16 13 23
BUT	eL	16 12 38
CHI	eL	16 20 30
COL	eP	16 01 05
	e	01 31
	e(S)	03 40
	eL	04 04
HONO	eL	16 11 10
T_L = 9 sec. $A_{max.}$=4.8mm.		
LIN	eL	16 21 00
OV	iP	16 04 57
PHIL	eP	16 07 33
	ePP	09 38
	eS	15 41
	e(SS)	19 46
	eL	24 58
RC	eP	16 05 13
	ePP	06 42
	e(S)	10 49
	eL	16 10
SLC	e(P)	16 04 44
	ePP	06 10
	eL	12 56
SJ	eS	16 19 50
	eScS	20 18
	eL	42 43

Date and Station		Phase (GCT) h m s
Jan. 23, cont.		
SJ	eP	16 03 52
	iP	03 53
SIT	eL	16 05 00
TUC	iP	16 05 38
	i	05 53
	i	06 05
	i	06 39
	i(PP)	07 30
	eS	12 04
	eL	17 22
Jan. 23		
BC	iP	20 02 35
	iS	03 20
SH	iP	20 02 22
	i	02 33
	e	03 22
Jan. 23		
TUC	eP	20 25 57
	e	26 09
Jan. 24		
BC	iP	04 40 44
Jan. 24		
HUAN	eL	08 06 00
Jan. 24		
GC	iP	10 14 52
	iPP	16 41
	iS	21 17
Jan. 24		
BC	eP	17 00 32
CHI	eL	17 34 00
COL	eS	17 05 18
	eL	14 09
HUAN	eP'	17 07 34
	e	33 44
	eL	50 00

Date and Station		Phase (GCT) h m s
Jan. 24, cont.		
PHIL	eL	17 36 55
PF	eP	17 00 34
SLC	eL	17 23 00
SJ	eL	17 39 40
SH	iP	16 59 51
TUC	eP	17 01 04
	ePP	04 27
	e	10 38
	eL	31 32
Jan. 24		
TUC	iP	18 09 46
Jan. 24		
BC	eP	19 19 05
Jan. 24		
SH	i(P)	19 56 01
Jan. 25		
BH	eP	03 13 45
BER	e(S)	03 23 38
	eL	25 10
BC	eP	03 18 11
CHI	eL	03 26 10
COLU	e(S)	03 20 29
	eL	22 42
HUAN	eP	03 17 21
	e	19 36
	e	20 04
	e(S)	22 33
PF	e(P)	03 17 56
SLC	eL	03 33 00
SJ	eL	03 20 04

Date and Station		Phase (GCT) h m s
Jan. 25, cont.		
TUC	eP	03 17 27
	e	19 38
	eL	25 46
Jan. 25		
BH	eP	03 53 04
BC	eP	03 57 30
GC	e(P)	03 58 54
HUAN	eP	03 56 41
OV	eP	03 57 30
PF	eP	03 57 22
TUC	eP	03 56 45
	iP	56 49
	e	57 20
	e	04 02 10
	eL	03 38
Jan. 25		
BH	e(P)	03 54 53
BER	eP	03 58 39
	eS	04 03 13
	iS	03 35
	eL	04 40
T_S = 9 sec. A=1.7mm.		
T_L = 15 sec. $A_{max.}$ =19.5mm.		
BC	eP	03 59 19
	eL	04 11 14
BOZ	e(S)	04 05 52
	eL	13 08
BUT	ePP	04 01 39
	e(S)	06 13
	eL	10 46
CHI	eP	03 58 36
	e(PP)	59 14
	eS	04 03 18
	eL	04 00

Date and Station		Phase (GCT) h m s
Jan. 25, cont.		
COL	eL	04 20 09
COLU	eP	03 57 31
	eS	04 01 29
	eL	03 14
GC	eP	04 00 42
	ePP	02 25
HUAN	iP	03 58 32
	e	04 01 47
	eS	03 00
	eL	03 30
LIN	e(S)	04 03 30
	eL	06 25
LOG	iP	03 59 37
	i	59 58
	iPP	04 00 58
	iPPP	01 18
	iS	05 15
	i	06 03
	eL	08 14
NK	e(S)	04 02 00
OV	eP	03 59 20
PHIL	eP	03 58 37
	ePP	59 35
	eS	03 27
	eL	04 29
PF	iP	03 59 14
RC	i(P)	03 59 23
	e(S)	04 04 47
	eL	07 31
SLC	eP	03 59 32
	ePP	04 00 48
	eS	05 01
	eL	07 00
SJ	eP	03 57 34
	iP	57 35
	e(PP)	58 16

Date and Station		Phase (GCT) h m s
Jan. 25, cont.		
SJ	eS	04 01 22
	iS	01 34
SEA	eL	04 20 35
SH	eP	04 00 19
	e	00 26
SIT	eL	04 26 07
TUC	iP	03 58 36
	ePP	59 21
	e(S)	04 03 47
	eL	06 04
Jan. 25		
BH	e(P)	04 49 14
BER	eL	05 00 30
BC	eP	04 53 39
CHI	eL	04 57 00
COLU	eS	04 56 00
	eL	58 22
HUAN	eP	04 52 52
	eL	58 00
OV	eP	04 53 42
PF	eP	04 53 30
RC	eP	04 53 41
	e	55 26
	eS	59 08
	eL	05 04 38
SLC	eL	05 03 30
SJ	eL	04 55 36
TUC	iP	04 52 57
	eL	05 01 32
Jan. 25		
BH	eP	06 02 25
	eS	02 52

Date and Station	Phase	(GCT) h m s
Jan. 25, cont.		
PF	iP	13 28 08
	eS	30 04
TUC	eP	13 27 10
	i	27 27
	e(S)	28 11
	i	28 27
	eL	28 50
Jan. 25		
BC	eS	17 20 34
PF	iP	17 18 32
	eS	20 56
TUC	iP	17 17 35
	i	17 50
	i(S)	18 26
	i	18 47
	iL	19 22
Jan. 26		
BH	iP	10 08 36
	iS	10 08
BER	iP	10 12 35
	iPP	13 21
	i(PcP)	16 00
	iS	17 11
	iL	18 41
T_P=4 sec. A = 14.5mm.		
T_S=11 sec. A= 6.0mm.		
T_L=16 sec. $A_{max.}$=14.0mm.		
BC	iP	10 13 29
	i	13 33
	i	13 50
	e(S)	18 52
	eL	23 33
BOZ	iP	10 14 10
	i	14 46
	e(PP)	15 53
	iS	19 59
	iL	23 00

Date and Station	Phase	(GCT) h m s
Jan. 26, cont.		
BUT	i(P)	10 14 16
	i(PP)	15 58
	iS	20 08
	eL	23 15
CHI	iP	10 12 43
	e	13 03
	i	13 19
	i(PcP)	15 27
	iS	17 22
	eL	18 15
COL	eP	10 17 39
	ePP	20 12
	e(PPP)	21 58
	iS	26 17
	iScS	27 20
	e(SS)	30 24
	eL	34 13
COLU	iP	10 11 38
	e(PP)	12 16
	i	12 32
	iS	15 29
	i	16 25
	eL	18 22
GC	eP	10 14 50
	i	14 52
	i	18 24
	i(S)	21 24
	iL	26 28
HONO	i(P)	10 17 50
	iS	26 39
	eL	35 00
T_S=10 sec. A = 14mm.		
T_L=20 sec. $A_{max.}$=4.9mm.		
HUAN	eP	10 12 12
	iP	12 17
	eS	16 36
	i	16 43
	eL	17 46

Date and Station	Phase	(GCT) h m s
Jan. 26, cont.		
LIN	i(P)	10 12 48
	e(PP)	13 48
	e	16 16
	iS	17 34
	iL	19 28
LOG	iP	10 13 48
	iPP	15 06
	iPPP	15 20
	iPcP	16 00
	i	17 58
	iS	19 14
	iL	22 02
MONT	eL	10 21 40
NK	i(P)	10 12 42
	e(PP)	13 26
	i	16 17
	e(S)	17 20
OV	iP	10 13 29
	i	13 33
	i(S)	18 57
PHIL	eP	10 12 39
	iP	12 42
	i	13 13
	iPP	13 29
	i	13 43
	iS	17 24
	iL	18 21
PF	iP	10 13 24
	i	13 29
	eS	18 39
RC	iP	10 13 32
	e(PP)	14 50
	i(PPP)	15 04
	iS	18 52
	eL	20 00
SLC	iP	10 13 43
	e	14 13
	i(PP)	15 19

Date and Station		Phase (GCT) h m s
Jan. 26, cont.		
SLC	i	10 15 49
	iS	19 12
	eL	20 07
SJ	iP	10 11 19
SEA	eL	10 24 21
SH	eP	10 14 28
	iP	14 29
	i	14 33
	i	20 17
	iS	20 32
	e	20 41
SIT	eP	10 16 40
	iS	24 24
	i	26 03
	iSS	28 12
	eL	30 10
TUC	iP	10 12 45
	i	12 49
	i	13 19
	iPP	13 35
	i	14 32
	iS	17 08
	i	17 35
	eL	18 27
Jan. 26		
OV	iP	12 04 19
PF	iP	12 04 19
TUC	iP	12 04 22
Jan. 26		
BC	iP	14 07 19
GC	eP	14 06 04
OV	iP	14 07 18
PF	iP	14 07 21
	i	07 35
SH	eP	14 06 24
	iP	06 25

Date and Station		Phase (GCT) h m s
Jan. 26, cont.		
TUC	eP	14 07 51
	iP	07 52
	i	08 06
Jan. 26		
TUC	eP	17 00 50
Jan. 26		
SJ	eL	20 05 30
SH	eP	19 53 27
TUC	eP	19 53 05
	e	56 01
Jan. 27		
HUAN	eL	01 19 23
PHIL	e	01 20 34
	eL	23 12
SJ	eL	01 17 16
TUC	eP	01 14 27
	eL	24 12
Jan. 27		
TUC	i(P)	06 22 54
Jan. 27		
SH	iP	06 43 54
TUC	eP	06 42 49
Jan. 27		
BC	iP	13 42 12
TUC	e(P)	13 41 22
Jan. 28		
SH	iP	03 35 10
Jan. 28		
SH	e(P')	10 42 35
TUC	e(P')	10 42 23
	e	43 12
	eL	11 46 53

Date and Station		Phase (GCT) h m s
Jan. 28, cont.		
GC	e(P)	10 42 00
	i(P)	42 02
Jan. 28		
HUAN	eL	11 18 14
PHIL	eL	11 31 21
Jan. 29		
PHIL	eL	01 01 10
SJ	e	00 56 10
	eL	58 55
Jan. 29		
HUAN	iP	01 42 24
	e	42 43
	e	43 21
Jan. 29		
BH	eP	08 24 26
	epP	26 15
	eScP	29 19
	eScS	33 31
BER	iP	08 26 56
	i	27 20
	iPcP	27 42
	e(PP)	29 38
	iS	34 15
	iScS	35 44
	isS	37 30
	e(SS)	39 26
T_P = 3 sec. A = 1.6 mm.		
T_S = 6 sec. A = 2.5 mm.		
BOZ	eP	08 29 24
	esP	32 45
	iS	39 00
	eSP	39 58
	esS	42 36
	eSS	44 48
	eSSS	48 42
BUT	iP	08 29 30
	e(pP)	32 11
	iS	39 08

Date and Station		Phase (GCT) h m s
Jan. 29, cont.		
BUT	e(sPS)	08 44 15
	eL	52 05
CHI	iP	08 28 15
	iS	36 45
	iScS	37 25
COLU	iP	08 27 20
	e(pP)	29 45
	iS	35 01
	iScS	36 12
	esS	38 15
	e	39 16
	eL	42 28
GC	iP	08 29 47
	eS	39 22
	iS	39 46
HUAN	eP	08 21 33
	iP	21 35
	e	22 09
	eS	24 22
	iS	24 33
LIN	e(P)	08 28 28
	iS	37 11
	iScS	37 41
	esS	40 32
LOG	iP	08 29 10
	i	29 25
	i	29 56
	ipP	31 30
	esP	32 32
	iS	38 35
	iScS	38 44
MONT	eP	08 19 32
	iS	20 51
	eL	21 18
NK	iP	08 28 00
	iS	36 16
OV	iP	08 28 55
	i	29 17
	iS	38 10

Date and Station		Phase (GCT) h m s
Jan. 29, cont.		
OV	iPKKP	08 47 27
	iP'P'	55 25
PHIL	iP	08 27 50
	i	28 03
	iPcP	28 15
	e	29 39
	epP	29 53
	i(PP)	30 28
	iS	36 01
	i(ScS)	36 52
	e	38 17
	esS	39 23
	e	40 00
	e	41 55
	eL	45 00
PF	iP	08 28 55
	iS	38 07
RC	iP	08 28 59
	e(PP)	32 00
	iS	38 12
	e(sS)	41 41
	e(SSS)	49 00
SLC	eP	08 29 08
	epP	31 11
	epPP	34 11
	iS	38 27
SJ	iP	08 25 12
	iPcP	26 53
	iS	31 02
	eScS	34 10
SH	iP	08 29 33
	eSKS	39 03
	iSKS	39 04
	eS	39 20
	iS	39 21
TUC	iP	08 28 30
	i	29 03
	i	29 19
	ipP	30 28
	iPP	31 33
	eS	37 05
	iS	37 16

Date and Station		Phase (GCT) h m s
Jan. 29, cont.		
TUC	iScS	08 37 48
	e(sSS)	45 22
	e(sS)	41 18
Jan. 29		
GC	e(P)	18 58 23
Jan. 29		
GC	e(P)	19 09 10
Jan. 30		
BC	eP	11 04 17
	iP	04 23
	iS	04 55
OV	iP	11 04 25
	eP	04 33
	iS	05 16
PF	eP	11 04 23
	iP	04 34
	iS	05 11
Jan. 31		
BC	i(P)	11 50 31
	i	51 00
	i	51 22
PF	iP	11 48 22
	e	49 59
	e(S)	50 41
TUC	eP	11 47 23
	i	47 40
	i	48 21
	i	48 36
	eL	49 04
Feb. 1		
MONT	iP	01 08 05
	i	08 18
TUC	iP	01 17 44
	ipP	18 09
Feb. 1		
TUC	e(P)	01 23 25

Date and Station		Phase (GCT) h m s
Feb. 1, cont.		
TUC	iP	10 46 07
Feb. 1		
BC	iP	13 31 36
	i	31 45
	iS	32 25
OV	eP	13 31 39
	iP	31 49
	iS	32 36
PF	iP	13 31 46
	i	31 59
	iS	32 47
Feb. 1		
BC	iP	13 41 00
OV	iP	13 41 03
PF	iP	13 41 04
SH	iP	13 40 49
TUC	iP	13 41 06
	i	41 27
Feb. 1		
TUC	eP	23 22 16
Feb. 2		
HUAN	eP	01 39 56
	e	40 42
	eS	42 54
	eL	44 32
PF	iP	01 47 44
TUC	eP	01 47 16
	e	47 35
Feb. 2		
BER	eL	04 38 13
BC	iP	04 11 24
BUT	eL	04 21 28

Date and Station		Phase (GCT) h m s
Feb. 2, cont.		
CHI	eL	04 28 22
COL	eL	04 09 03
COLU	eL	04 33 21
GC	eP	04 09 48
HONO	eL	04 50 41
OV	iP	04 11 27
PHIL	e	04 21 18
	e	25 50
	eL	31 30
PF	iP	04 11 26
RC	eP	04 11 39
	ePP	13 01
	e(S)	16 56
	eL	23 36
SH	iP	04 10 17
SIT	eL	04 09 14
TUC	eP	04 12 07
	i	12 27
	ePP	14 28
	eScP	18 07
Feb. 2		
PF	iP	07 31 44
	i	32 30
Feb. 2		
BH	e	16 46 40
Feb. 2		
BC	iP	19 03 10
	ipP	03 44
	ePP	06 55
OV	eP	19 03 12
	ipP	03 46
PF	eP	19 03 13
	ipP	03 45

Date and Station		Phase (GCT) h m s
Feb. 2, cont.		
SH	eP	19 02 52
TUC	eP	19 03 19
	epP	03 51
	ePP	06 56
Feb. 2		
BER	eL	23 13 32
SJ	eL	23 09 41
TUC	eP	23 06 22
	eL	17 50
Feb. 3		
TUC	e(P)	10 10 53
	eL	38 10
Feb. 3		
BC	iP	16 52 10
	epP	52 47
GC	iP	16 53 18
HUAN	iP	16 43 08
	i	43 26
	iS	43 33
	iL	44 21
OV	iP	16 52 11
PF	iP	16 52 07
	ipP	52 53
RC	eP	16 52 16
	epP	52 42
	ePcP	53 02
	ePP	54 50
SJ	eP	16 48 57
	eS	53 03
	eL	53 21
SH	iP	16 52 58
TUC	iP	16 51 34
	ipP	52 20
	ePcP	52 50
	ePP	53 39
	ePPP	54 33
	eL	17 11 15

Date and Station		Phase (GCT) h m s
Feb. 3, cont.		
BC	iP	22 38 39
	iL	39 34
PF	iP	22 38 36
	i	38 42
	eS	39 22
Feb. 4		
SH	e(P)	01 25 30
Feb. 4		
BER	eS	06 48 07
	eL	52 02
BC	eP	06 53 50
PHIL	eL	06 57 00
PF	eP	06 53 45
SJ	eL	06 54 07
Feb. 4		
TUC	e(P)	20 42 32
Feb. 4		
GC	eP	21 16 02
	i	16 22
Feb. 4		
BC	iP	23 50 07
GC	eP	23 49 02
	iP	49 05
PF	iP	23 50 10
RC	eP	23 50 14
SH	eP	23 49 20
	iP	49 21
TUC	iP	23 50 35
	i	50 55
	e	51 17
	i	51 33
	ePP	53 13

Date and Station		Phase (GCT) h m s
Feb. 5		
TUC	iP	00 39 35
Feb. 5		
SH	iP	05 18 34
TUC	iP	05 20 22
Feb. 5		
BC	eP	06 15 36
	i	15 49
	iL	16 53
BOZ	eL	06 20 43
BUT	eL	06 20 17
GC	eP	06 17 16
LOG	eP	06 16 36
	iL	18 59
PF	eP	06 15 43
	i	15 52
	eL	17 05
SLC	eP	06 18 13
	eS	19 37
	eL	20 09
SH	eP	06 15 32
	iP	15 33
TUC	eP	06 16 34
	iP	16 40
	e(S)	18 37
	iL	18 54
Feb. 5		
BC	eP	17 51 20
COL	eL	17 51 56
PF	iP	17 51 23
SH	eP	17 50 14
	iP	50 15

Date and Station		Phase (GCT) h m s
Feb. 5, cont.		
TUC	iP	17 52 01
	e	52 31
	ePP	54 03
Feb. 5		
BC	eP	21 56 38
OV	eP	21 56 42
PF	iP	21 56 36
TUC	eP	21 55 43
	e	56 15
	eL	22 00 48
Feb. 6		
BC	iP	08 04 05
GC	eP	08 02 48
OV	iP	08 04 03
SH	eP	08 03 05
	iP	03 05.5
TUC	iP	08 04 42
	epP	05 11
	ePP	06 50
Feb. 6		
SH	iP	08 08 33
Feb. 6		
BC	iP	15 06 37
	ePP	10 12
GC	eP	15 07 00
	ipP	07 19
OV	iP	15 06 40
	ipP	06 58
PF	iP	15 06 40
SH	iP	15 06 28
TUC	iP	15 06 39
	ipP	06 56
	e	07 21

Date and Station		Phase (GCT) h m s
Feb. 6, cont.		
BC	iP	17 21 23
	i	21 29
	iS	22 05
LOG	iL	17 24 54
OV	iP	17 21 30
	i	21 38
PF	iP	17 21 33
	i	21 43
	iS	22 22
SLC	e(P)	17 22 59
	eS	24 48
	eL	25 23
SH	eP	17 22 17
	iL	23 45
TUC	iP	17 22 22
	i	22 58
	iS	23 58
	iL	24 20
Feb. 6		
GC	iP	18 25 57
SH	iP	18 26 09
TUC	iP	18 27 20
Feb. 6		
TUC	eP	20 20 44
Feb. 6		
BC	iP	21 18 56
PF	iP	21 19 06
	i	19 15
	iS	20 00
Feb. 7		
BH	e(P)	02 13 35
BC	eP	02 18 42

Date and Station		Phase (GCT) h m s
Feb. 7, cont.		
HUAN	iP	02 15 09
	ipP	15 35
	ePP	16 21
	ePcP	17 13
	eS	20 04
	eL	22 29
SJ	eS	02 11 22
	eL	12 44
TUC	eP	02 18 12
	ipP	18 41
Feb. 7		
BER	ePP	09 03 33
	ePS	13 25
	eSS	19 46
	eL	42 45
BC	iP	08 53 38
	eS	09 04 11
BOZ	eSKS	09 04 39
	ePS	06 48
	eSS	11 51
	eSSS	15 17
	eL	20 32
CHI	eL	09 35 07
COL	eS	09 03 24
	eSS	08 47
	eSSS	12 08
COLU	eL	09 36 18
GC	eP	08 53 35
HONO	eS	08 56 32
T_L = 20 sec. $A_{max.}$=2mm.		
HUAN	eP'	08 59 25
	ePP	09 00 44
	eSKS	06 32
	ePS	10 37
	eSS	17 31
	eL	31 05

Date and Station		Phase (GCT) h m s
LOG	iP	08 53 55
	i	54 11
	eSKS	09 04 35
	iS	05 13
	ePS	06 37
	eL	24 39
OV	iP	08 53 40
PHIL	eP'	08 58 45
	eL	09 33 20
PF	iP	08 53 40
	eS	09 04 13
RC	i(P)	08 54 27
	eSKS	09 05 07
	eL	27 39
SLC	e(P)	08 54 54
	e(SKS)	09 05 31
	ePPS	07 29
	eSS	11 23
	eL	15 59
SJ	eP'	08 59 56
	ePP	09 03 20
	eSS	20 02
	eL	35 34
SH	eP	08 53 15
	i	53 22
SIT	eP	08 52 42
	iS	09 03 34
	i	04 27
	eSS	08 29
	eL	15 36
TUC	iP	08 53 50
	ePP	57 32
	eS	09 05 04
	eSS	11 09
	eSSS	14 52
	eL	17 32
Feb. 7		
BC	iP	12 20 54

Date and Station		Phase (GCT) h m s
Feb. 7, cont.		
PF	iP	12 21 00
	i	21 12
	iS	22 03
Feb. 8		
TUC	eP	02 56 31
Feb. 8		
HUAN	eP	06 38 07
	iP	38 09
	iS	38 51
	iL	40 14
SJ	eL	06 50 11
TUC	eP	06 47 04
Feb. 8		
TUC	iP	07 57 44
Feb. 8		
BER	eL	11 09 15
BC	eP	10 41 41
	i	41 50
	e(S)	47 25
BOZ	eL	10 44 46
BUT	eL	10 45 10
COL	eL	10 48 26
GC	iP	10 40 15
HONO	eL	11 09.3
LOG	eP	10 41 28
	eS	44 12
	iL	46 06
OV	iP	10 41 38
PHIL	eL	11 16 47
PF	iP	10 41 46

Date and Station		Phase (GCT) h m s
Feb. 8, cont.		
RC	iP	10 42 42
	eS	46 22
	eL	49 40
SLC	eP	10 42 33
	e(S)	45 39
	eL	46 19
SEA	eL	10 42 56
SH	eP	10 39 56
SIT	e(P)	10 41 25
	eS	44 22
	eL	44 40
TUC	eP	10 42 43
	iP	42 49
	iPP	43 23
	eS	46 28
	eL	47 59
Feb. 8		
BC	eP	10 58 19
	i	58 26
	eL	11 04 04
BOZ	eL	11 00 52
BUT	eL	11 01 48
CHI	eL	11 11 42
COL	eL	11 04 17
GC	eP	10 56 53
	eS	58 46
LOG	iP	10 58 05
	eL	11 02 12
OV	iP	10 58 16
PF	iP	10 58 24
	eL	11 03 37

Date and Station		Phase (GCT) h m s
Feb. 8, cont.		
RC	iP	10 59 19
	eS	11 03 25
	eL	05 44
SLC	eP	10 59 12
	eS	11 02 47
SEA	eS	10 58 55
	eL	11 00 06
SH	eP	10 56 34
SIT	i(P)	10 58 04
	e(S)	11 01 10
	eL	01 26
TUC	iP	10 59 20
	iPP	11 00 08
	eS	02 55
	eL	04 38
Feb. 8		
BC	eP	11 23 19
OV	eP	11 23 10
TUC	eP	11 24 15
Feb. 8		
BC	eP	11 38 54
	i	39 02
BOZ	eL	11 42 32
BUT	eL	11 42 10
COL	eL	11 45 19
GC	eP	11 37 30
	iP	37 33
HONO	eL	11 50.1
LOG	eL	11 42 22
OV	iP	11 38 52
PF	iP	11 38 59

Date and Station		Phase (GCT)
		h m s
Feb. 8, cont.		
RC	iP	11 39 58
	eS	43 39
	eL	47 02
SLC	eP	11 39 58
	eS	43 42
	eL	44 25
SEA	eL	11 39 44
SIT	eL	11 41 20
TUC	iP	11 39 56
	i	40 16
	eS	43 41
	eL	45 39
Feb. 8		
BC	eP	11 54 26
	e	54 32
BOZ	eL	11 58 06
BUT	eL	11 58 11
CHI	eL	12 08 00
COL	eL	12 00 36
GC	eP	11 53 01
	iP	53 04
HONO	eL	12 06.1
OV	eP	11 54 23
PHIL	eL	12 11 17
PF	eP	11 54 31
RC	iP	11 55 27
	eL	12 02 36
SLC	eP	11 55 19
	e(S)	58 19
	eL	59 37
SEA	eL	11 57 20

Date and Station		Phase (GCT)
		h m s
Feb. 8, cont.		
SIT	eL	11 57 08
TUC	eP	11 55 26
	eS	59 05
	eL	12 01 30
Feb. 8		
BC	eP	18 09 48
BOZ	eL	18 13 08
BUT	eL	18 13 15
COL	eL	18 17 26
GC	eP	18 08 27
LOG	eP	18 09 37
	e(S)	14 09
	eL	15 07
OV	iP	18 09 46
PF	iP	18 09 53
RC	iP	18 10 49
	eL	17 47
SLC	e(S)	18 13 31
	eL	14 29
SEA	eL	18 11 28
SIT	e(S)	18 09 40
	eL	12 39
TUC	iP	18 10 48
	i	11 04
	eS	14 39
	eL	16 37
Feb. 9		
TUC	iP	01 10 52
Feb. 9		
BER	e(S)	04 45 52
	eSS	48 50
	eL	49 49

Date and Station		Phase (GCT)
		h m s
Feb. 9, cont.		
BC	iP	04 40 32
CHI	eL	05 05 26
HUAN	eP	04 30 58
	iP	31 01
	iS	31 27
	iL	34 17
MONT	eL	04 34 54
OV	iP	04 40 33
SLC	e(S)	04 50 29
	eL	05 01 17
SJ	eP	04 36 07
	e(PP)	38 15
	eS	42 08
	eL	44 53
TUC	eP	04 39 58
	iP	40 06
	ePcP	41 19
	eS	48 06
	eL	54 34
Feb. 9		
BC	eP	05 26 28
PF	eP	05 26 25
TUC	eP	05 25 34
	i	25 51
	ePP	26 49
	eS	31 02
	eL	33 38
Feb. 9		
HUAN	e(P)	09 11 15
OV	eP	09 14 38
PF	eP	09 14 47
TUC	eP	09 15 42
	ePcP	16 09
	e(PPP)	19 36

Date and Station		Phase (GCT) h m s
Feb. 9, cont.		
OV	iP	11 18 19
PF	iP	11 18 24
TUC	iP	11 19 02
	e	19 24
	e	20 03
Feb. 9		
HUAN	eP	12 06 25
	iP	06 26
	iS	07 10
	iL	07 55
TUC	eP	12 15 22
Feb. 9		
HUAN	eP	12 38 07
	eL	40 30
MONT	eP	12 36 08
	e(S)	37 04
OV	iP	12 46 20
	i	47 10
PF	eP	12 46 18
TUC	iP	12 45 50
	e	46 14
	ePP	47 46
Feb. 9		
OV	iP	13 36 05
PF	iP	13 36 12
Feb. 9		
TUC	iP	15 15 29
Feb. 9		
BC	iP	19 04 30
GC	eP	19 03 41
PF	eP	19 04 37
SH	eP	19 03 52

Date and Station		Phase (GCT) h m s
Feb. 9, cont.		
TUC	eP	19 04 51
	e	05 20
	e	08 46
Feb. 10		
BER	e	04 32 33
	eL	47 33
BC	eP	04 20 57
BOZ	eL	04 49 43
BUT	eL	04 52 44
CHI	eL	04 54 48
COL	eP	04 23 38
	e(PPP)	28 19
	eS	32 20
	eL	40 10
HUAN	e(P)	04 22 05
LOG	eL	04 56 25
PHIL	eL	04 41 19
RC	eL	04 52 14
SLC	eL	04 44 53
SJ	e(S)	04 24 31
	eL	39 09
SIT	eS	04 25 12
	eL	42 16
TUC	eP	04 20 44
	e	21 39
	eSS	31 21
	eL	46 42
Feb. 10		
BC	iP	06 56 27
Feb. 10		
BC	iP	09 39 38
	iS	40 12

Date and Station		Phase (GCT) h m s
Feb. 10, cont.		
PF	eP	09 39 46
	eS	40 29
Feb. 10		
SJ	eL	09 44 57
Feb. 10		
TUC	iP	11 57 37
Feb. 10		
TUC	eP	12 59 37
Feb. 10		
TUC	e(P)	19 39 45
Feb. 10		
TUC	iP	20 28 48
Feb. 10		
SJ	eL	22 09 08
Feb. 10		
SJ	eL	23 49 24
Feb. 11		
SH	iP	08 31 19
TUC	eP	08 30 07
Feb. 11		
TUC	e(P)	10 07 52
Feb. 11		
BC	iP	10 15 15
	eS	25 04
GC	eP	10 14 30
OV	iP	10 15 15
PF	iP	10 15 17
SH	iP	10 14 36
TUC	iP	10 15 38
	ipP	15 56
	ePP	19 27

Date and Station		Phase (GCT) h m s
Feb. 11, cont.		
BER	eL	18 55 27
BC	eP	18 48 45
GC	eP	18 50 17
HUAN	eL	18 55 11
PF	eP	18 48 42
SJ	eL	18 52 03
TUC	eP	18 48 02
	i	48 23
	iPP	49 02
	eS	52 42
	eL	56 10
Feb. 11		
BC	iP	19 16 49
Feb. 11		
SJ	e	23 12 15
	e	12 46
	iL	12 55
Feb. 12		
BC	iP	01 57 17
	iS	58 08
OV	eP	01 57 10
	e	57 16
	eS	58 04
PF	eP	01 57 15
	i	57 27
	eS	58 04
	iL	58 19
Feb. 12		
BC	iP	05 00 03
OV	iP	05 00 05
PF	iP	05 00 06
SH	iP	04 59 52

Date and Station		Phase (GCT) h m s
Feb. 12, cont.		
TUC	iP	05 00 09
Feb. 12		
BH	eP	08 28 54
	iS	29 41
TUC	iP	08 35 03
	e	35 22
Feb. 12		
TUC	e(P)	10 55 15
Feb. 12		
TUC	eP	12 14 19
Feb. 12		
BC	iP	13 34 04
OV	eP	13 34 04
	e	34 09
	eS	34 57
PF	eP	13 34 03
	eS	35 05
Feb. 12		
PF	iP	17 03 27
	i	03 35
	iS	04 18
Feb. 12		
BER	eL	21 14 12
BC	eP	20 20 25
OV	eP	20 20 23
PF	eP	20 20 27
SH	iP	20 19 47
TUC	eP	20 20 47
	e(PP)	24 37
Feb. 13		
BC	iP	00 24 14

Date and Station		Phase (GCT) h m s
Feb. 13, cont.		
HUAN	eP	00 16 11
	iP	16 13
	e	17 31
OV	iP	00 24 15
PF	iP	00 24 13
SH	eP	00 24 53
	iP	24 54
TUC	eP	00 23 43
	iP	23 44
	i	24 04
Feb. 13		
SH	eP	05 20 06
	iP	20 07
Feb. 13		
SH	eP	05 38 05
	i	38 11
Feb. 13		
BC	eP	16 41 44
	iL	44 14
PF	eP	16 41 31
	eL	43 25
TUC	iP	16 40 25
	i	40 32
	i	40 38
	iS	41 23
	i	41 39
	iL	42 12
Feb. 14		
TUC	eP	05 56 33
Feb. 14		
BC	iP	06 50 24
PF	iP	06 50 29
TUC	eP	06 50 27
	i(pP)	50 44

Date and Station		Phase (GCT) h m s
Feb. 14, cont.		
GC	eP	19 06 12
	i	06 19
Feb. 15		
BER	eL	01 43 20
BC	iP	01 15 09
	eS	21 05
BOZ	eL	01 24 44
BUT	eL	01 24 05
CHI	eL	01 32 56
COL	eP	01 11 13
	eS	13 50
	eL	15 00
HONO	eL	01 22 42
OV	eP	01 15 10
PHIL	eL	01 38 48
PF	eP	01 15 14
SJ	eS	01 30 06
	eL	47 40
SH	eP	01 14 06
SIT	e(P)	01 11 38
	iS	14 56
	eL	15 18
TUC	eP	01 15 50
	i	16 06
Feb. 15		
BC	eP	08 33 27
COL	eL	08 33 33
OV	eP	08 33 25
PF	eP	08 33 30

Date and Station		Phase (GCT) h m s
Feb. 15, cont.		
SH	eP	08 32 20
TUC	eP	08 34 07
	e	34 32
Feb. 15		
TUC	eP	18 56 57
Feb. 16		
SH	iP	01 34 20
Feb. 16		
BER	eL	02 31 05
BC	eP	02 21 04
	eL	28 44
CHI	eP	02 21 22
	eS	25 47
	eL	26 02
GC	eP	02 22 42
	iP	22 43
HUAN	eP	02 22 55
OV	iP	02 21 06
	eL	31 53
PF	iP	02 21 02
	i	21 24
	eS	28 05
SLC	eL	02 30 29
SJ	eP	02 22 17
	ePP	23 16
	eS	26 46
	eL	30 00
SH	eP	02 22 10
TUC	eP	02 20 13
	iP	20 14
	ipP	20 35
	isP	20 45
	eS	23 17
	iL	26 07

Date and Station		Phase (GCT) h m s
Feb. 16, cont.		
BC	iP	09 32 14
HUAN	eP'	09 39 15
	e	40 04
OV	iP	09 32 14
PF	iP	09 32 17
SH	iP	09 31 33
TUC	eP	09 32 38
Feb. 16		
TUC	e(P)	16 44 24
Feb. 16		
BH	iP	19 02 50
	eS	03 23
Feb. 16		
OV	iP	21 57 42
	eL	58 51
PF	eP	21 57 46
	iS	58 30
Feb. 17		
TUC	e(P)	00 25 18
Feb. 17		
TUC	e(P)	23 04 16
Feb. 18		
SH	e(P)	06 23 45
Feb. 18		
HUAN	eP	06 40 02
TUC	iP	06 47 12
Feb. 18		
SH	e(P)	06 57 10
	i	57 11
Feb. 18		
BC	iP	07 45 24
	i	45 28

Date and Station		Phase (GCT) h m s
Feb. 18, cont.		
OV	iP	07 45 23
	i	45 29
	i	45 30
	iS	46 02
PF	iP	07 45 31
	i	45 37
	i	45 43
	eS	46 15
Feb. 18		
OV	eP	09 26 55
	i	27 36
Feb. 18		
BC	iP	13 42 12
	eS	51 59
COL	eScS	13 48 13
	eL	52 41
GC	eP	13 41 22
	iP	41 23
HUAN	eP'	13 49 12
	iP'	49 13
	epP'	51 04
	esP'	51 43
LOG	iP	13 42 06
	ipP	43 24
	eS	51 39
	esS	54 35
OV	iP	13 42 13
	iS	51 59
PF	iP	13 42 15
	eS	51 59
RC	iP	13 42 22
	epP	43 48
	eS	52 00
	esS	55 11
SH	iP	13 41 32
TUC	eP	13 42 36

Date and Station		Phase (GCT) h m s
Feb. 18, cont.		
TUC	iP	13 42 38
	epP	44 18
Feb. 19		
PF	eP	03 33 37
	iP	33 40
	eS	34 23
Feb. 19		
BER	eL	07 43 50
HUAN	eL	07 42 07
Feb. 19		
SH	iP	09 26 20
Feb. 19		
OV	eP	10 54 48
PF	eP	10 54 40
	i	54 49
Feb. 19		
TUC	eP	12 06 38
Feb. 19		
GC	iP	18 24 37
SH	iP	18 24 33
TUC	eP	18 25 28
Feb. 19		
GC	eP	20 59 36
	i	59 49
Feb. 19		
TUC	e(P)	21 15 36
Feb. 19		
TUC	eP	22 18 21
	e	23 19
Feb. 19		
TUC	e(P)	23 04 10
Feb. 20		
TUC	e(P)	03 04 25

Date and Station		Phase (GCT) h m s
Feb. 20, cont.		
TUC	eP	05 58 06
Feb. 20		
BH	e(P)	16 09 44
Feb. 20		
OV	iP	17 26 08
PF	iP	17 26 05
TUC	eP	17 25 41
Feb. 20		
BOZ	eL	18 28 27
BUT	eL	18 26 24
OV	eP	18 23 52
	iS	25 07
PF	eP	18 23 46
	eS	25 13
SH	eP	18 22 13
	i	23 40
SIT	e(S)	18 23 40
	eL	25 12
TUC	eP	18 24 39
	i	26 06
Feb. 20		
BC	eP	19 46 15
OV	iP	19 46 11
	i	46 49
PF	eP	19 46 16
	i	46 27
	eS	47 26
SH	eP	19 46 06
	e	46 09
	i	46 59

Date and Station		Phase (GCT) h m s
Feb. 20, cont.		
TUC	iP	21 49 10
Feb. 20		
TUC	e(P)	23 01 29
Feb. 21		
SH	iP	06 18 16
TUC	eP	06 16 33
Feb. 21		
TUC	iP	14 09 10
Feb. 21		
BC	eP	22 13 39
	iP	13 42
COL	eS	22 18 13
	eL	28 14
GC	eP	22 12 42
	i	12 50
HUAN	eP'	22 20 35
OV	eP	22 13 39
	iP	13 42
PF	eP	22 13 45
SH	eP	22 12 53
SIT	eS	22 20 07
	eL	27 03
TUC	eP	22 13 57
	eL	46 04
Feb. 22		
BER	eL	02 36 52
BC	iP	02 15 24
BOZ	eS	02 17 39
	eL	18 26
BUT	eL	02 18 06

Date and Station		Phase (GCT) h m s
Feb. 22, cont.		
CHI	eL	02 26 54
COL	e(S)	02 18 44
	eL	20 12
GC	eP	02 13 04
	i	15 50
LOG	iP	02 14 50
	i(pP)	15 26
	eL	20 26
OV	iP	02 15 20
PF	iP	02 15 27
RC	iP	02 15 38
	i(pP)	16 00
	eL	22 27
SLC	eP	02 15 57
	eS	19 31
	eL	20 35
SEA	eL	02 17 25
SH	eP	02 13 51
	iP	13 52
SIT	eL	02 14 34
TUC	eP	02 16 17
	i	16 19
	i	16 36
	ePcP	18 46
	eS	20 40
	eL	21 12
Feb. 22		
BER	eP	04 13 16
	eL	15 12
BC	eP	04 18 35
BOZ	eL	04 32 44
BUT	eL	04 28 07
CHI	eL	04 25 36

Date and Station		Phase (GCT) h m s
Feb. 22, cont.		
COLU	eS	04 18 16
	eL	18 47
HUAN	eP	04 16 31
	e	17 02
	eS	22 08
	eL	23 13
OV	eP	04 18 33
PF	eP	04 18 30
RC	eL	04 36 24
SLC	eL	04 33 41
SJ	iP	04 10 39
	iS	11 12
	iL	11 32
SIT	eL	04 41 48
TUC	eP	04 18 07
Feb. 22		
TUC	eP	04 27 23
Feb. 22		
TUC	eP	04 43 26
	e	43 28
Feb. 22		
OV	eP	05 18 33
PF	eP	05 18 41
SIT	eL	05 17 40
TUC	eP	05 19 30
Feb. 22		
TUC	eP	18 29 20
Feb. 22		
BC	eP	22 59 19
OV	eP	22 59 21
PF	eP	22 59 15

Date and Station		Phase (GCT) h m s
Feb. 22, cont.		
TUC	eP	22 58 23
	i	58 45
	e	23 03 18
Feb. 23		
BC	eP	03 52 33
OV	eP	03 52 30
PF	eP	03 52 37
TUC	eP	03 53 15
Feb. 23		
BC	eP	04 22 42
OV	eP	04 22 44
PF	eP	04 22 47
SH	eP	04 22 11
Feb. 23		
SH	eP	17 55 00
Feb. 24		
OV	iP	10 12 01
PF	eP	10 12 06
TUC	iP	10 12 43
Feb. 24		
BH	eP	17 37 10
	eS	41 36
BER	eP	17 40 09
	ePP	42 05
	iS	46 58
	eSS	50 00
	eL	51 17

T_P = 5 sec. A = 1.6 mm.
T_S = 10 sec. A = 2.4mm.
T_L = 17 sec. $A_{max.}$ = 2.8mm.

BC	eP	17 42 23
	eP'P'	18 10 56

Date and Station		Phase (GCT) h m s
BOZ	iS	17 52 16
	eSS	18 06 13
	eL	09 24
BUT	eL	18 07 31
CHI	eS	17 49 32
	eScS	51 20
	eL	56 18
COL	eSKS	17 56 30
	eSS	18 02 54
	eSSS	08 28
	eL	11 28
COIU	eP	17 40 34
	eS	47 38
	eScS	50 13
	eSS	51 25
	eL	52 07
GC	eP	17 43 25
	e	43 33
HUAN	iP	17 33 21
	i	33 51
	iS	34 49
	iL	35 13
LIN	eL	18 11 46
MONT	eS	17 34 25
	eL	35 45
OV	eP	17 42 23
	eP'P'	18 10 58
PHIL	eS	17 48 42
	iS	48 49
	eL	58 10
PF	eP	17 42 20
RC	eP	17 42 24
	ePcP	42 55
	iS	51 14
	eL	18 04 55
SLC	e(P)	17 44 30
	eS	52 33

Date and Station		Phase (GCT) h m s
Feb. 24, cont.		
SLC	eSS	17 57 09
	eL	18 00 36
SJ	eP	17 38 12
	eS	43 26
	eL	45 16
SH	eP	17 43 07
SIT	eSKS	17 55 28
	eSS	18 00 56
	eL	15 22
TUC	eP	17 41 50
	iPPP	45 26
	eS	50 16
	eL	57 33
	eP'P'	18 11 13
Feb. 25		
BC	iP	02 59 32
OV	iP	02 59 43
	eS	03 00 30
PF	eP	02 59 33
	iP	59 38
	eS	03 00 13
	eL	00 20
Feb. 25		
BH	eP	08 05 05
	iS	05 41
Feb. 25		
TUC	eP	11 27 43
Feb. 25		
BC	eP	23 36 19
PF	eP	23 36 23
SH	iP	23 35 37
TUC	eP	23 36 45
Feb. 26		
BER	eL	02 05 00

Date and Station		Phase (GCT) h m s
Feb. 26, cont.		
BC	iP	01 57 24
	i	57 32
BUT	eL	02 19 31
CHI	ePP	01 57 34
	eS	02 02 04
	eL	03 22
COL	eL	02 30 49
HUAN	ePP	01 56 42
	eS	02 01 13
	eL	03 00
OV	iP	01 57 25
PF	iP	01 57 21
SLC	eL	02 09 10
SJ	eP	01 55 26
	ePP	56 11
	eL	02 01 13
SH	eP	01 58 27
	i	02 00 31
TUC	eP	01 56 40
	iP	56 45
	i	56 54
	i	57 17
	i	57 29
	eS	02 01 46
	eL	04 24
Feb. 26		
TUC	eP	14 47 12
Feb. 26		
GC	iP	21 06 20
	i	06 37
Feb. 26		
TUC	e(P)	22 12 20
	i	12 22
Feb. 27		
TUC	eP	01 38 41

Date and Station		Phase (GCT) h m s
Feb. 27, cont.		
BH	eP	10 13 30
	eS	14 03
Feb. 27		
TUC	eP	17 35 30
Feb. 27		
TUC	e(P)	20 10 32
Feb. 27		
TUC	eP	20 49 57
Feb. 28		
SJ	eP	03 53 26
	iS	53 56
	iL	54 08
SH	iP	04 01 21
TUC	eP	04 00 00
Feb. 28		
MONT	iP	09 36 06
	i(S)	36 18
	iL	36 27
TUC	eP	09 46 09
Feb. 28		
BC	iP	10 24 56
OV	iP	10 25 00
PF	iP	10 25 00
SH	iP	10 24 45
TUC	eP	10 25 02
	iP	25 05
	i	25 19
Feb. 28		
BC	iP	19 40 00
OV	iP	19 40 00
PF	iP	19 40 03
SH	iP	19 39 12

Date and Station		Phase (GCT) h m s
Feb. 28, cont.		
TUC	eP	19 40 29
Feb. 28		
TUC	e(P)	23 23 34
Mar. 1		
SH	eP	03 30 02
TUC	e(P)	03 30 14
	e	30 29
	e	33 58
Mar. 1		
TUC	e(P)	04 29 46
	e	35 23
Mar. 1		
BC	iP	10 41 04
	i	41 10
	eS	41 45
OV	iP	10 41 10
	i	41 19
	iS	41 58
PF	iP	10 41 13
	i	41 22
	i	41 23
	iS	42 07
SH	eP	10 43 01
TUC	e(P)	10 39 02
Mar. 1		
PF	iP	12 01 40
SH	iP	12 00 34
Mar. 1		
SH	eP	19 07 56
TUC	i(P)	19 07 06
	e	07 26
Mar. 1		
SH	e(P)	21 30 57
TUC	e(P)	21 31 10

Date and Station		Phase (GCT) h m s
Mar. 1, cont.		
OV	iP	21 34 31
PF	iP	21 34 33
TUC	i(P)	21 34 47
Mar. 2		
TUC	eL	01 10 50
Mar. 2		
TUC	i(P)	03 51 40
Mar. 2		
TUC	iP	14 26 55
Mar. 2		
BER	iP'	19 29 04
	iPP	32 12
	i(SKS)	35 17
	i(SKKS)	39 00
	i	40 00
	eSKSP	41 59
	ePPS	44 20
	e	45 16
	e	45 41
	eSS	50 00
	eL	20 06 09
T_L = 20 sec. $A_{max.}$ = 2.5mm.		
BC	eP	19 23 18
	ePP	27 23
	eSKS	33 56
BOZ	iSKS	19 33 59
	e(S)	34 35
	e	36 47
	e(SSS)	46 08
	eL	20 06 24
BUT	iSKS	19 34 00
	i(SKKS)	34 30
	eS	35 07
	ePS	37 08
	e	39 42
	eSS	41 44
	eL	52 12
CHI	ePPP	19 32 19
	iSKS	35 08
	ePS	39 39

Date and Station		Phase (GCT) h m s
Mar. 2, cont.		
CHI	e(PPS)	19 41 45
	eSS	45 31
	e	48 29
	eSSS	50 25
	eL	57 59
COL	eP	19 22 00
	i	22 15
	ePP	25 12
	iS	32 15
	ePS	33 10
	eSS	37 29
	eSSS	41 46
	eL	48 08
COLU	ePKS	19 31 46
	e(S)	39 12
	eSS	47 56
	eL	20 00 34
GC	eP	19 23 02
	iP	23 03
HONO	eP	19 20 05
	eS	28 04
	iS	28 12
	e	30 22
	eSS	33 12
	eL	35 14
T_S = 11 sec. A = 4.0mm.		
T_L = 18 sec. $A_{max.}$ = 2.1mm.		
HUAN	eP'	19 28 50
	i	28 54
	eP'	29 07
	ePP	31 36
	iPKS	32 22
	i	33 20
	e(SKSP)	40 44
	ePS	42 07
	ePPS	43 30
	eSS	49 50
	e	50 00
	eSSS	54 54
	eL	20 05 06
LIN	iPP	19 29 20
	iSKS	34 48

Date and Station		Phase (GCT) h m s
Mar. 2, cont.		
LIN	ePPS	19 39 43
	eSS	44 57
	eL	20 01 57
LOG	e	19 26 47
	iSKS	34 02
	iPS	36 49
	eL	57 07
PHIL	e	19 30 16
	iPKS	31 50
	e	33 55
	iSKSP	41 08
	ePPPS	44 04
	iSS	48 06
	eL	56 19
PF	eP	19 23 19
	e	26 47
	iSKS	33 59
	ePS	36 33
	e	43 37
RC	iPP	19 28 27
	i	28 44
	eSKS	34 26
	eS	36 02
	ePS	37 41
	ePPS	38 54
	eL	20 01 53
SLC	e(P')	19 27 07
	ePP	28 01
	iSKS	34 05
	iSKKS	34 40
	ePS	36 45
	ePPS	38 08
	e	40 36
	eSS	42 58
	eSSS	46 15
	eL	52 12
SJ	iP'	19 29 09
	ePP	32 52
	ePKS	33 54
	iSKKS	39 18
	e(SKSP)	41 51
	eSS	51 30
	eL	20 11 23

Date and Station		Phase (GCT) h m s
Mar. 2, cont.		
SH	e(P)	19 22 50
SIT	eP	19 22 17
	iP	22 18
	i	22 35
	iSKS	32 45
	i	34 47
	iPPS	35 12
	iSS	39 10
	eL	45 36
TUC	eP	19 23 34
	e(P')	27 26
	iPP	27 52
	e	31 34
	eSKS	34 11
	eSKKS	34 41
	eS	35 38
	iPS	37 00
	i	37 37
	iPKKP	39 32
	e	41 10
	eSS	42 45
	e	43 26
	eP'P'	47 15
	e	50 06
	e	50 26
Mar. 2		
RC	eL	21 11 12
TUC	e(P)	20 50 25
Mar. 2		
PF	iP	21 32 15
	eS	32 55
Mar. 2		
TUC	e(P)	22 16 08
Mar. 2		
TUC	eP	23 47 38
	e	47 44
	e	49 44
Mar. 3		
TUC	iP	06 04 06
Mar. 3		
BH	eP	13 50 30
	eS	51 17

Date and Station		Phase (GCT) h m s
Mar. 3, cont.		
TUC	iP	15 22 28
	e	22 39
Mar. 3		
GC	eP	21 37 15
	i	37 20
	i	37 23
Mar. 4		
BC	e(P)	04 32 00
GC	i(P)	04 33 22
OV	iP	04 32 07
	i	32 52
PF	iP	04 32 06
	eS	32 48
Mar. 4		
TUC	iP	06 34 51
Mar. 4		
TUC	i(P)	08 03 12
	e	03 27
Mar. 4		
BC	e(P)	17 46 11
PF	iP	17 46 13
SH	iP	17 45 56
TUC	e(P)	17 46 18
Mar. 5		
TUC	e(P)	07 19 25
Mar. 5		
TUC	iP	09 50 16
Mar. 5		
TUC	e(P)	17 09 03
Mar. 6		
PF	iP	00 41 23
TUC	eP	00 41 39

Date and Station		Phase (GCT) h m s
Mar. 6, cont.		
HUAN	eP	13 49 47
	e(S)	50 20
	eL	50 45
TUC	e(P)	13 58 20
Mar. 7		
BER	eL	04 59 07
BC	e(P)	04 34 32
BOZ	eL	04 38 08
BUT	eL	04 37 12
CHI	eL	04 48 11
COL	e	04 41 17
	eL	44 06
HONO	eL	04 46 36
LOG	eL	04 37 35
OV	eP	04 34 31
PHIL	eL	04 52 05
PF	eP	04 34 37
RC	e(P)	04 35 45
	i	36 08
	e	38 28
	eL	43 15
SLC	e(S)	04 36 58
SEA	eP	04 33 51
SH	eP	04 32 47
SIT	e(S)	04 38 34
TUC	eP	04 35 38
	i	35 46
	e	40 26
Mar. 7		
BC	iP	16 57 43

Date and Station		Phase (GCT) h m s
Mar. 7, cont.		
SH	iP	16 56 44
TUC	iP	16 58 20
	i	58 31
Mar. 7		
TUC	eP	18 30 28
Mar. 7		
BC	eP	20 51 57
PF	iP	20 50 57
	i	51 00
	i	51 45
	e	52 01
Mar. 8		
BC	iP	09 10 55
PF	iP	09 10 58
SH	eP	09 10 06
	iP	10 07
TUC	iP	09 11 26
	i	11 36
Mar. 8		
PF	iP	13 55 01
TUC	iP	13 55 05
Mar. 8		
BC	iP	15 08 48
PF	iP	15 08 49
SH	eP	15 07 56
	iP	07 57
TUC	eP	15 09 19
	i	09 31
Mar. 9		
SH	iP	01 33 18
	i	33 23
	i	33 31

Date and Station		Phase (GCT) h m s
Mar. 9, cont.		
BH	eP	04 14 16
	eS	14 41
Mar. 9		
BC	iP	21 11 23
	i	11 28
	i	11 42
PF	iP	21 11 33
	i	11 35
	i	11 40
	i	11 46
	i	22 08
	i	22 20
SH	eP	21 12 35
	e	12 39
TUC	e(P)	21 12 26
	e	12 56
	e(S)	13 41
	e	14 15
	iL	14 22
Mar. 10		
HUAN	e	02 19 00
Mar. 10		
BC	e(P)	04 28 32
PF	e(P)	04 28 23
SJ	eL	04 28 15
TUC	e(P)	04 28 16
Mar. 10		
TUC	e(P)	11 37 32
Mar. 10		
BH	eP	15 53 13
	eS	54 22
Mar. 10		
HUAN	e	22 48 44
Mar. 11		
BC	eP	05 28 36

Date and Station		Phase (GCT) h m s
Mar. 11, cont.		
OV	eP	05 28 32
	iP	28 46
PF	eP	05 28 37
SH	eP	05 27 54
TUC	eP	05 29 10
	e	30 10
	e	32 22
Mar. 11		
BC	e(P)	05 50 43
	i	51 16
OV	eP	05 50 50
	i	51 00
	i	51 27
	i	51 37
PF	iP	05 50 49
	i	50 59
	iS	51 35
Mar. 11		
TUC	e(P)	10 14 35
Mar. 11		
BC	e(P)	11 10 39
	i	12 12
OV	iP	11 10 33
PF	eP	11 10 04
	iP	10 21
	i	11 24
	i	11 51
TUC	iP	11 09 37
	i(S)	10 31
	iL	10 44
Mar. 11		
TUC	eP	23 07 57
	e	10 16
Mar. 11		
TUC	iP	23 11 20

Date and Station		Phase (GCT) h m s
Mar. 12		
BH	eP	08 36 16
	eS	36 38
Mar. 12		
OV	eP	09 00 53
PF	e(P)	09 00 38
	eP	00 48
	i	02 09
TUC	i(P)	08 59 50
	i	09 00 06
	e	00 43
	i	00 48
	i	01 12
Mar. 12		
TUC	e(P)	09 30 53
Mar. 12		
SH	iP	18 55 53
TUC	eP	18 56 11
	iP	56 12
Mar. 12		
TUC	e(P)	20 28 54
Mar. 13		
HUAN	e	00 43 08
	eL	45 58
Mar. 13		
BC	e(P)	06 14 08
HUAN	eP	06 06 08
	iP	06 09
OV	iP	06 14 09
TUC	eP	06 13 38
Mar. 14		
BC	iP	08 11 54
OV	iP	08 11 53
PF	iP	08 11 56

Date and Station		Phase (GCT) h m s
Mar. 14, cont.		
TUC	iP	08 12 34
	i	12 42
Mar. 14		
BC	iP	08 23 37
PF	iP	08 23 41
TUC	eP	08 24 17
Mar. 14		
BC	iP	11 37 49
OV	iP	11 37 52
PF	iP	11 37 53
TUC	eP	11 37 54
Mar. 14		
BC	iP	13 26 39
OV	iP	13 26 41
PF	iP	13 26 39
SH	iP	13 27 13
TUC	eP	13 26 11
Mar. 14		
TUC	eP	17 12 34
Mar. 14		
BC	eP	17 31 21
OV	eP	17 31 17
	iP	31 20
	i	31 41
	iS	31 54
PF	iP	17 31 24
	i	31 31
	e	32 11
Mar. 14		
BUT	e(P)	18 02 41
	iS	03 01
	eL	03 08

Date and Station		Phase (GCT) h m s
Mar. 14, cont.		
GC	eP	18 03 26
	i	03 28
	eS	04 18
Mar. 14		
PF	iP	20 12 37
Mar. 14		
BC	iP	22 36 03
OV	iP	22 35 59
PF	iP	22 36 04
SH	eP	22 34 58
	iP	34 58.5
TUC	iP	22 36 43
Mar. 14		
PF	iP	23 06 25
	i	06 34
	eS	07 18
Mar. 15		
BC	iP	05 36 52
OV	iP	05 36 51
PF	iP	05 36 54
SH	eP	05 36 06
	iP	36 07
TUC	eP	05 37 19
Mar. 15		
SH	eP	06 26 52
TUC	e(P)	06 27 08
	e	27 12
	e	30 45
	e	31 16
Mar. 15		
BC	iP	08 14 30
	e	17 49

Date and Station		Phase (GCT) h m s
Mar. 15, cont.		
BOZ	eL	08 23 11
BUT	eL	08 23 20
CHI	eL	08 24 48
OV	eP	08 14 34
	e	17 34
PHIL	eL	08 29 20
PF	iP	08 14 26
	e	17 24
RC	eL	08 21 41
SLC	eL	08 20 03
SH	eP	08 15 03
TUC	eP	08 13 22
	i	13 54
	e(S)	14 21
	e	14 50
	iL	15 11
Mar. 15		
BC	iP	14 16 31
	i	16 49
HUAN	e(P)	14 16 50
OV	iP	14 16 32
PF	iP	14 16 27
	ipP	16 45
	i	17 06
	eS	26 30
SH	eP	14 17 34
	iP	17 35
TUC	iP	14 16 04
	e	20 00
	e	24 08
	e	27 16
Mar. 15		
SH	iP	14 19 56

Date and Station		Phase (GCT) h m s
Mar. 16		
GC	eP	09 45 32
SH	eP	09 45 42
TUC	e(P)	09 50 53
Mar. 16		
BH	eP	10 31 27
	eS	31 58
Mar. 16		
TUC	e(P)	18 08 09
Mar. 16		
BH	e(P)	18 56 37
	e	57 35
Mar. 17		
BC	iP	06 35 49
COL	i(P)	06 29 42
	i	30 09
GC	iP	06 34 04
	i	34 31
OV	iP	06 35 45
PF	iP	06 35 51
SH	iP	06 34 47
SIT	iP	06 31 24
TUC	iP	06 36 30
	e	37 38
	e	38 31
Mar. 17		
BER	ePP	08 39 00
	e	40 08
	eSKS	44 46
	e(S)	46 11
	ePS	48 05
	ePPS	49 49
	eSS	54 52
	eSSS	58 40
	eL	09 02 58

T_{SS} = 19 sec. A = 1.0mm.
T_L = 21 sec. $A_{max.}$ = 10.1mm.

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
BC	eP	08 33 39
	e	36 50
	ePP	37 55
	e	52 07
BOZ	e(PP)	08 37 00
	e(SKS)	44 00
	eS	44 40
	ePS	45 56
	e	47 32
	eSS	51 00
	eSSS	55 00
	eL	59 00
BUT	ePP	08 37 00
	e(PPP)	39 57
	iS	44 32
	ePS	45 45
	e(SS)	50 55
	eL	09 00 59
CHI	eSKS	08 44 24
	e	45 35
	e(S)	46 26
	eSS	52 32
	eSSS	57 00
COL	iP	08 30 37
	ePP	32 55
	eS	39 47
	iS	39 50
	eSS	44 04
	eL	47 33
COLU	ePS	08 48 20
	e	49 48
	eSS	54 33
	e	56 00
	e	09 02 40
	eL	05 44
GC	iP	08 32 44
	eS	43 55
	e	43 59
HONO	eS	08 43 10
	eSS	49 17
	eL	56 12

T_L = 20 sec. $A_{max.}$ = 4.0 mm.

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
HUAN	eP'	08 39 34
	e	41 43
	e	43 44
	e	44 28
	ePP	46 45
	ePPP	49 43
	ePPS	59 52
	e	09 03 28
	e	09 30
	eSSS	13 20
	e	14 32
	e	18 43
	e	22 44
LIN	ePPS	08 48 27
	eSSS	58 38
	eL	09 02 20
LOG	ePP	08 37 24
	i	37 28
	i	40 14
	e	41 04
	eSKS	44 04
	eS	45 08
	ePS	46 24
	e	46 58
	eSS	51 54
	eL	59 20
NK	e	08 45 32
	ePS	47 46
	e(SS)	55 05
	eL	09 04 47
OV	eP	08 33 37
	e	37 24
	ePP	37 47
PHIL	ePP	08 38 18
	e	43 38
	eSKS	44 17
	e	47 04
	ePS	47 31
	eSS	53 21
	eSSS	58 54
	eL	09 04 57
PF	eP	08 33 37
	eP'	37 20

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
PF	ePP	08 37 55
	e(S)	45 07
RC	iP	08 33 24
	ePP	37 31
	e	41 04
	eSKS	44 02
	eS	45 00
	ePS	46 29
	eSS	51 44
	eL	09 00 20
SLC	e(P)	08 35 00
	ePP	37 28
	e	39 46
	eSKS	44 07
	eS	45 02
	ePS	46 50
	ePPS	47 26
	e	49 42
	eSS	51 34
	eSSS	55 45
	eL	57 23
SJ	ePP	08 40 30
	ePKS	41 46
	eSKS	45 38
	e	48 09
	ePPS	51 04
	eSS	57 00
	eSSS	09 01 16
	eL	10 12
SEA	eL	08 58 12
SH	eP	08 33 04
	i	33 06
SIT	iP	08 31 38
	iS	41 39
	iL	52 48
TUC	eP	08 34 05
	e(P')	38 14
	iPP	38 31
	i	39 24
	ePPP	40 32
	eSKS	44 46
	e(S)	45 35
	e	47 14

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
TUC	ePS	08 48 11
	iPS	48 15
	ePPS	49 10
	e	49 50
	eSS	53 20
	e	56 56
	eL	09 03 00
Mar. 17		
BC	e(P)	11 35 25
OV	iP	11 35 28
PF	eP	11 35 28
TUC	e(P)	11 35 36
Mar. 17		
BC	iP	13 54 42
COL	e	13 54 37
OV	iP	13 54 40
PF	iP	13 54 45
SH	iP	13 53 35
TUC	iP	13 55 22
Mar. 17		
PF	iP	14 22 57
TUC	iP	14 23 05
Mar. 17		
TUC	iP	15 32 24
Mar. 17		
TUC	eP	15 59 05
Mar. 17		
TUC	eP	16 43 03
Mar. 17		
TUC	eP	16 46 07
Mar. 17		
TUC	e(P)	16 51 49

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
SH	eP	18 12 41
	iP	12 42
	i	12 48
Mar. 17		
SH	e(P)	18 47 05
Mar. 18		
OV	i(P)	05 43 03
PF	eP	05 42 08
	i(S)	43 02
Mar. 18		
HUAN	e(S)	05 57 40
	e	06 00 00
TUC	eP	05 57 07
Mar. 18		
BC	iP	15 28 09
	i	28 18
	e	36 15
BOZ	eL	15 37 30
CHI	e(P)	15 35 32
	e	38 48
	e	39 02
LIN	e(P)	15 34 00
	e	3[illegible] 32
OV	eP	15 28 12
	e	28 35
PHIL	eL	15 43 00
PF	iP	15 28 08
	e(S)	31 41
	e	34.3
RC	e(P)	15 29 36
	e	30 27
	eL	34 00
SLC	e(P)	15 29 00
	e	30 07
	eL	35 23

Date and Station		Phase (GCT) h m s
Mar. 18, cont.		
SH	e(P)	15 29 20
TUC	iP	15 28 11
	e	28 57
	i	29 00
	e	30 22
	eL	30 47
Mar. 18		
OV	iP	23 05 22
	i	05 26
	eS	05 56
PF	iP	23 05 20
	i	05 25
	eS	05 57
Mar. 19		
SH	e(P)	04 09 34
	i	09 46
	i	09 49
Mar. 19		
OV	iP	05 18 13
PF	iP	05 18 16
SH	iP	05 17 13
	i	17 48
TUC	iP	05 18 50
	e	19 27
Mar. 19		
TUC	e(P)	09 56 26
Mar. 19		
TUC	e(P)	19 59 07
Mar. 20		
TUC	eP	02 49 26
Mar. 20		
OV	iP	03 55 33
PF	iP	03 55 33
SH	iP	03 54 55
TUC	eP	03 55 54

Date and Station		Phase (GCT) h m s
Mar. 20, cont.		
PF	i(P)	06 25 00
	i	25 03
Mar. 20		
OV	eP	06 37 49
PF	iP	06 37 49
TUC	eP	06 37 50
	iP	37 51
Mar. 20		
HONO	i(P)	09 37 59
	i(S)	38 10
	iL	38 22
TUC	eP	09 44 56
Mar. 20		
TUC	eP	10 07 07
	e	11 07
Mar. 20		
TUC	eP	10 36 39
	e	36 54
Mar. 20		
SH	e(P)	11 28 53
Mar. 20		
TUC	e(P)	15 10 33
Mar. 21		
BH	e	03 44 03
	e	44 29
Mar. 21		
TUC	e	04 06 41
	i	07 41
	i	07 53
	iL	08 00
Mar. 21		
HUAN	e(P)	05 30 20
TUC	eP	05 37 31
Mar. 21		
TUC	eP	10 50 28

Date and Station		Phase (GCT) h m s
Mar. 21, cont.		
BC	iP	16 38 30
OV	eP	16 38 14
	i	38 31
PF	iP	16 38 10
	i	38 16
	i	38 28
SH	iP	16 38 48
TUC	e(P)	16 37 43
	i	38 02
Mar. 21		
GC	i(P)	17 56 43
	i	56 48
Mar. 21		
BC	i(P)	19 40 32
	iP	40 42
	eS	41 20
OV	eP	19 40 39
	i	40 55
	i	41 07
	eS	41 33
PF	iP	19 40 35
	i	40 36
	i	40 47
	i	41 12
	eS	41 32
TUC	e(P)	19 40 43
	i	40 59
	i	41 03
	e(S)	41 31
	iL	41 50
Mar. 21		
PF	iP	19 52 08
	i	52 19
	e(S)	53 06
Mar. 21		
OV	iP	23 10 16

Date and Station		Phase (GCT) h m s
Mar. 21, cont.		
PF	iP	23 10 16
	i	32 03
SH	iP	23 10 00
TUC	eP	23 10 18
Mar. 21		
TUC	e(P)	23 28 04
	e	28 30
	i	28 32
	i	30 02
	i	30 50
	e	31 20
Mar. 22		
BC	iP	09 53 02
	i	53 09
	eS	10 02 55
GC	iP	09 53 56
HUAN	e	09 44 55
	i	44 59
	e	45 14
	e	45 59
	iS	46 28
	iL	46 45
MONT	eP	09 42 22
	iP	42 24
	i(S)	42 52
	eL	43 09
OV	iP	09 53 03
	eS	10 02 24
PF	iP	09 52 59
	ipP	53 13
	e	10 01.8
	eS	02 16
RC	iP	09 53 06
	i	54 02
	iS	10 02 22
SJ	eP	09 49 08
	e(S)	54 58
	eL	58 12

Date and Station		Phase (GCT) h m s
Mar. 22, cont.		
SH	iP	09 53 40
	e	10 23 22
	e	23 23
	e	23 25
TUC	iP	09 52 31
	ipP	52 50
	i	53 38
Mar. 23		
BH	e(P)	01 20 04
HUAN	e(P)	01 23 32
	e	23 39
SJ	e(P)	01 22 43
	e	23 48
	e(S)	27 32
	eL	29 22
SH	e	01 27 11
	e	30 55
TUC	eP	01 23 21
	i	24 24
	e	30 12
Mar. 23		
TUC	e(P)	04 31 56
Mar. 23		
SH	eP	11 03 14
TUC	eP	11 02 14
	iP	02 15
Mar. 23		
SH	e(P)	19 24 13
Mar. 23		
TUC	e(P)	22 29 21
Mar. 24		
SH	eP	05 40 49
TUC	e(P)	05 43 42

Date and Station		Phase (GCT) h m s
Mar. 17, cont.		
SH	eP	18 12 41
	iP	12 42
	i	12 48
Mar. 17		
SH	e(P)	18 47 05
Mar. 18		
OV	i(P)	05 43 03
PF	eP	05 42 08
	i(S)	43 02
Mar. 18		
HUAN	e(S)	05 57 40
	e	06 00 00
TUC	eP	05 57 07
Mar. 18		
BC	iP	15 28 09
	i	28 18
	e	36 15
BOZ	eL	15 37 30
CHI	e(P)	15 35 32
	e	38 48
	e	39 02
LIN	e(P)	15 34 00
	e	34 32
OV	eP	15 28 12
	e	28 35
PHIL	eL	15 43 00
PF	iP	15 28 08
	e(S)	31 41
	e	34.3
RC	e(P)	15 29 36
	e	30 27
	eL	34 00
SLC	e(P)	15 29 00
	e	30 07
	eL	35 23

Date and Station		Phase (GCT) h m s
Mar. 18, cont.		
SH	e(P)	15 29 20
TUC	iP	15 28 11
	e	28 57
	i	29 00
	e	30 22
	eL	30 47
Mar. 18		
OV	iP	23 05 22
	i	05 26
	eS	05 56
PF	iP	23 05 20
	i	05 25
	eS	05 57
Mar. 19		
SH	e(P)	04 09 34
	i	09 46
	i	09 49
Mar. 19		
OV	iP	05 18 13
PF	iP	05 18 16
SH	iP	05 17 13
	i	17 48
TUC	iP	05 18 50
	e	19 27
Mar. 19		
TUC	e(P)	09 56 26
Mar. 19		
TUC	e(P)	19 59 07
Mar. 20		
TUC	eP	02 49 26
Mar. 20		
OV	iP	03 55 33
PF	iP	03 55 33
SH	iP	03 54 55
TUC	eP	03 55 54

Date and Station		Phase (GCT) h m s
Mar. 20, cont.		
PF	i(P)	06 25 00
	i	25 03
Mar. 20		
OV	eP	06 37 49
PF	iP	06 37 49
TUC	eP	06 37 50
	iP	37 51
Mar. 20		
HONO	i(P)	09 37 59
	i(S)	38 10
	iL	38 22
TUC	eP	09 44 56
Mar. 20		
TUC	eP	10 07 07
	e	11 07
Mar. 20		
TUC	eP	10 36 39
	e	36 54
Mar. 20		
SH	e(P)	11 28 53
Mar. 20		
TUC	e(P)	15 10 33
Mar. 21		
BH	e	03 44 03
	e	44 29
Mar. 21		
TUC	e	04 06 41
	i	07 41
	i	07 53
	iL	08 00
Mar. 21		
HUAN	e(P)	05 30 20
TUC	eP	05 37 31
Mar. 21		
TUC	eP	10 50 28

Date and Station		Phase (GCT) h m s
Mar. 21, cont.		
BC	iP	16 38 30
OV	eP	16 38 14
	i	38 31
PF	iP	16 38 10
	i	38 16
	i	38 28
SH	iP	16 38 48
TUC	e(P)	16 37 43
	i	38 02
Mar. 21		
GC	i(P)	17 56 43
	i	56 48
Mar. 21		
BC	i(P)	19 40 32
	iP	40 42
	eS	41 20
OV	eP	19 40 39
	i	40 55
	i	41 07
	eS	41 33
PF	iP	19 40 35
	i	40 36
	i	40 47
	i	41 12
	eS	41 32
TUC	e(P)	19 40 43
	i	40 59
	i	41 03
	e(S)	41 31
	iL	41 50
Mar. 21		
PF	iP	19 52 08
	i	52 19
	e(S)	53 06
Mar. 21		
OV	iP	23 10 16

Date and Station		Phase (GCT) h m s
Mar. 21, cont.		
PF	iP	23 10 16
	i	32 03
SH	iP	23 10 00
TUC	eP	23 10 18
Mar. 21		
TUC	e(P)	23 28 04
	e	28 30
	i	28 32
	i	30 02
	i	30 50
	e	31 20
Mar. 22		
BC	iP	09 53 02
	i	53 09
	eS	10 02 55
GC	iP	09 53 56
HUAN	e	09 44 55
	i	44 59
	e	45 14
	e	45 59
	iS	46 28
	iL	46 45
MONT	eP	09 42 22
	iP	42 24
	i(S)	42 52
	eL	43 09
OV	iP	09 53 03
	eS	10 02 24
PF	iP	09 52 59
	ipP	53 13
	e	10 01.8
	eS	02 16
RC	iP	09 53 06
	i	54 02
	iS	10 02 22
SJ	eP	09 49 08
	e(S)	54 58
	eL	58 12

Date and Station		Phase (GCT) h m s
Mar. 22, cont.		
SH	iP	09 53 40
	e	10 23 22
	e	23 23
	e	23 25
TUC	iP	09 52 31
	ipP	52 50
	i	53 38
Mar. 23		
BH	e(P)	01 20 04
HUAN	e(P)	01 23 32
	e	23 39
SJ	e(P)	01 22 43
	e	23 48
	e(S)	27 32
	eL	29 22
SH	e	01 27 11
	e	30 55
TUC	eP	01 23 21
	i	24 24
	e	30 12
Mar. 23		
TUC	e(P)	04 31 56
Mar. 23		
SH	eP	11 03 14
TUC	eP	11 02 14
	iP	02 15
Mar. 23		
SH	e(P)	19 24 13
Mar. 23		
TUC	e(P)	22 29 21
Mar. 24		
SH	eP	05 40 49
TUC	e(P)	05 43 42

Date and Station		Phase (GCT) h m s
Mar. 24, cont.		
TUC	eP	06 32 32
Mar. 24		
TUC	iP	10 52 55
Mar. 24		
BC	iP	16 48 56
PF	iP	16 48 59
SH	iP	16 47 53
TUC	iP	16 49 34
	i	49 47
	i	50 17
	i	50 58
Mar. 24		
TUC	iP	16 54 33
Mar. 25		
BC	e(P)	02 28 01
	e	30 28
HUAN	eP	02 25 01
	e	27 30
	eL	28 16
PF	eP	02 28 03
SH	e(P)	02 27 35
TUC	e(P)	02 29 47
Mar. 25		
BH	eP	03 40 21
	eS	41 12
Mar. 25		
BC	e(P)	04 00 45
HUAN	e(P)	03 59 10
	e	04 08 02
PF	eP	04 00 43
TUC	e(P)	04 00 10
	e	06 32
	eL	10 52

Date and Station		Phase (GCT) h m s
Mar. 25, cont.		
BC	eP	09 32 27
PF	eP	09 32 24
TUC	e(P)	09 33 12
Mar. 25		
BC	e(P)	16 59 10
PF	eP	16 59 06
TUC	e(P)	16 58 57
Mar. 25		
BER	e(P')	20 52 05
	ePP	54 00
	eSKS	58 38
	e(S)	21 01 44
	iPS	04 30
	eSS	11 15
	iSS	11 21
	eL	26 30
T_{SS} = 20 sec. A = 2.0mm.		
T_L = 25 sec. $A_{max.}$ = 1.5mm.		
BC	eP	20 45 52
	e(PP)	49 37
BOZ	e(SKS)	20 56 28
	e(S)	57 33
	ePPS	21 00 11
	e(SS)	03 28
	eL	15 59
BUT	eL	21 20 (28)
CHI	eL	21 26 (10)
COL	ePP	20 51 06
	eSKS	57 25
	eS	58 38
	eSS	21 05 53
	eSSS	09 55
	e	11 03
	eL	16 31
HONO	e(PP)	20 45 45
	eS	51 32

Date and Station		Phase (GCT) h m s
Mar. 25, cont.		
HONO	eSS	20 55 27
	eL	58 14
T_S = 12 sec. A = 3.1mm.		
T_L = 20 sec. $A_{max.}$ = 2.5mm.		
HUAN	eP	20 45 42
	e	49 00
	e	50 28
	e	53 40
	eSKS	56 15
	ePS	58 07
	eSS	21 02 50
	eL	21 16 34
PHIL	ePP	20 53 04
	e(SKS)	58 55
	e(SKKS)	21 00 18
	ePPS	04 51
	eSS	09 40
	eSSS	14 06
	eL	24 08
PF	eP	20 45 42
RC	e	20 57 45
	e	21 03 19
	eSKS	07 18
SLC	ePP	20 50 48
	eSKS	57 01
	eS	57 57
	eSS	21 05 07
	eL	12 39
SJ	ePP	20 52 55
	eSKS	58 01
	ePS	21 02 44
	eSS	09 32
	eL	22 10
SH	eP	20 45 47
SIT	ePP	20 50 49
	iPP	50 55
	e(S)	58 30
	e	58 35
	eSS	21 05 00
	e	10 37
	eL	13 43

Date and Station		Phase (GCT) h m s
Mar. 25, cont.		
TUC	eP	20 45 49
	iPP	49 59
	e	54 07
	eSKS	56 27
	ePS	58 42
	eSS	21 03 02
	e(SSS)	08 35
	eL	12 03
Mar. 26		
SH	i(P)	00 45 01
TUC	iP	00 45 35
	i	45 47
Mar. 26		
SH	eP	03 51 36
Mar. 26		
TUC	e(P)	04 36 02
Mar. 26		
BC	iP	08 42 26
COL	e(P)	08 41 23
OV	iP	08 42 25
PF	iP	08 42 29
SH	iP	08 41 20
TUC	iP	08 43 07
	i	43 17
Mar. 26		
BC	iP	19 26 08
PF	iP	19 26 30
	ipP	27 00
SH	iP	19 25 46
TUC	iP	19 27 08
	i	27 28
Mar. 26		
SH	eP	21 54 15

Date and Station		Phase (GCT) h m s
Mar. 26, cont.		
SH	e(P)	22 24 37
TUC	e(P)	22 23 38
Mar. 27		
SH	iP	05 41 55
TUC	e(P)	05 42 21
Mar. 27		
PF	iP	06 18 28
SH	iP	06 17 25
TUC	iP	06 19 02
Mar. 27		
BC	eP	09 18 19
	i	18 30
PF	iP	09 18 17
	i	18 25
	i	18 40
SH	eP	09 18 29
TUC	e(P)	09 19 04
	e	21 48
Mar. 27		
SH	eP	17 12 54
Mar. 27		
HUAN	e(P)	18 48 10
Mar. 27		
PF	eP	19 29 15
SH	eP	19 28 58
TUC	e(P)	19 29 22
	eL	53 30
Mar. 27		
BOZ	e	19 58 13
Mar. 27		
GC	i(P)	21 28 02

Date and Station		Phase (GCT) h m s
Mar. 28		
HUAN	iP	08 40 21
	i	40 33
	iS	40 44
	iL	40 54
Mar. 29		
TUC	e(P)	06 45 25
Mar. 29		
TUC	e(P)	08 00 51
Mar. 29		
BC	iP	17 12 16
PF	iP	17 12 19
SH	iP	17 12 00
TUC	iP	17 12 24
Mar. 29		
BC	e(P)	18 12 28
PF	eP	18 12 21
SH	eP	18 11 27
Mar. 29		
BC	iP	18 49 28
	i	49 47
PF	e(P)	18 49 23
	i	49 46
TUC	eP	18 48 41
	i	49 02
	i	49 09
	e	52 51
	e	55 40
Mar. 30		
PF	iP	03 38 18
	iS	45 18
TUC	eP	03 37 30
	i	37 39
	e	37 48
	eL	43 05

Date and Station		Phase (GCT)		
		h	m	s
Mar. 30, cont.				
BC	eP	07	45	42
PF	iP	07	45	47
	eS		48	14
TUC	e(P)	07	46	49
	e		50	46
Mar. 30				
BOZ	e(P)	07	50	08
PF	iP	07	51	36
SH	iP	07	52	18
TUC	iP	07	51	07
Mar. 30				
TUC	iP	15	50	35
	i		50	52
Mar. 31				
BC	e(P)	05	03	22
SH	iP	05	01	24
TUC	iP	05	03	02
	e		03	12
Mar. 31				
BH	eP	06	16	15
	eS		16	57

Local and Minor Quakes

day	hour	day	hour	day	hour	day	hour	day	hour	day	hour
BER		HUAN, cont.		SEA, cont.		TUC, cont.		HUAN, cont.		TUC, cont.	
Jan.		Jan. cont.		Jan. cont.		Jan. cont.		Feb. cont.		Feb. cont.	
2	18.2	22	12.7	14	05.7	31	04.2	18	05.7	10	03.2
4	04.8	23	11.0	15	17.7		09.3	19	07.4		15.4
9	13.2		14.6	25	05.3			21	17.6		21.8
11	15.9	24	10.1			COL			21.2		21.9
14	05.2	25	02.5	TUC		Feb.		22	04.4		22.2
16	15.6		11.7	Jan.		3	04.1	25	09.8		22.5
17	00.6	28	18.6	2	10.3	19	21.2		09.8	11	08.4
23	16.6		20.2	4	01.7				15.6		20.7
24	17.7		22.5	11	11.5	HUAN		28	06.0		23.9
27	01.4	31	08.1	12	08.6	Feb.				12	00.2
29	01.0			15	19.6	1	17.6	MONT			01.9
		MONT.			19.8		20.4	Feb.			23.4
BOZ		Jan.			22.1	2	03.0	16	23.6	13	03.8
Jan.		11	14.3		23.0		10.0				16.4
3	09.8	22	07.1	16	00.7	3	04.1	SLC			16.7
4	18.1		09.1		02.1		13.8	Feb.		14	19.1
6	11.8	30	01.1		02.3	4	04.3	18	12.7		20.2
8	19.6				04.4		04.4		12.9	15	05.7
9	12.9	RC			16.5		19.2				07.1
		Jan.			20.5	5	11.3	SJ			09.5
CHI		18	16.2		22.7	8	10.3	Feb.		16	06.9
Jan.		21	20.3	17	08.5		16.6	1	13.2	19	10.9
20	10.9	25	12.3		21.1	9	07.9	3	23.3	20	17.2
20	12.0			19	14.6		09.7	6	14.9	21	11.0
		SLC			21.1		12.5	9	03.2	22	16.0
COL		Jan.		20	09.0		14.9	10	09.8		22.5
Jan.		8	19.6		10.9		15.1	22	21.5	23	02.4
5	04.1	20	10.8		10.9		15.3	24	17.8		07.8
			11.9		12.9		19.6			24	02.9
HUAN			16.5		16.3		19.9	TUC		25	01.9
Jan.			21.4		16.7		21.7	Feb.			03.0
2	13.8				16.8		22.4	1	17.6	26	00.7
3	19.2	SJ			19.1		22.5		18.1	28	06.4
4	18.4	Jan.			22.6	10	01.1	2	07.4		
5	03.4	6	09.9	21	00.2	11	17.9		14.6	BER	
	21.7	8	06.8		00.5		23.0		14.7	Mar.	
7	01.5	9	02.6		08.8		23.3		20.6	4	14.6
8	06.0	16	19.2	22	17.4	12	01.1		21.2	10	04.4
9	08.0	22	04.5		12.7		20.5	3	17.3	15	00.5
	12.1		22.3	24	06.1	13	00.3	5	16.3		
15	14.4	23	06.0		10.6		08.3		16.4	COL	
16	00.8	25	23.1		13.1		14.3		17.5	Mar.	
	05.7	29	19.1		20.8		17.3		18.9	1	12.0
	06.5		21.0	25	03.2	14	00.5		21.7	14	22.5
17	13.8	30	13.5		06.1	16	09.7	6	17.7		22.5
18	16.6				19.4		13.7	7	15.2	25	09.5
20	11.2	SEA		27	10.8	17	08.4		20.2		09.5
	22.9	Jan.		28	22.1		16.7	8	19.1		
21	19.8	11	21.7	30	22.1		19.6	9	04.6		

Local and Minor Quakes, cont.

day	hour	day	hour	day	hour	day	hour	day	hour	day	hour
HUAN		SJ, Cont.									
Mar.		Mar. Cont.									
1	19.4	7	18.8								
5	03.9	8	05.7								
	14.2	11	13.8								
6	12.2	13	04.8								
	15.7	16	06.8								
7	04.0	21	18.6								
	04.3	25	23.2								
8	17.7	27	09.1								
	19.9	29	19.1								
11	06.7										
	22.4	SEA									
12	13.0	Mar.									
	23.8	2	19.5								
13	06.6										
15	02.6	TUC									
	06.4	Mar.									
16	01.6	2	10.2								
17	17.2		11.3								
18	15.3	4	04.5								
19	03.4	6	02.9								
	14.1	14	07.4								
20	18.3	15	03.3								
21	14.5		03.7								
	16.5		19.0								
22	07.0	18	17.5								
24	06.3		18.6								
	08.6	19	11.2								
25	03.2	25	22.1								
	07.2	27	00.2								
	15.6	29	18.2								
26	02.8										
27	17.8										
	20.7										
	20.9										
28	00.3										
	04.8										
	10.6										
29	03.5										
31	09.7										
SLC											
Mar.											
28	11.0										
SJ											
Mar.											
2	06.5										
5	19.6										