SHASTA DAM SEISMOLOGICAL STATION

INSTRUMENTAL REPORT- - - - - July, August, 1942

The station near Shasta Dam began operation July 28, 1942, and has operated on a routine schedule throughout August and the remaining days in July. Instrumental equipment consisted of a Benioff small model three-component seismograph which records on a 35 mm film, one film for each component with an extra film to record radio time signals. The vertical component was out of service in July and August.

Station Data:

Location: about 0.3 mi NW of Government townsite of Toyon, and 2 mi SE of Shasta Dam.

Geographical Coordinates: (Estimated) N. Lat. 40° 41.8'; W.Long. 122° 23.7'; Elevation 314 meters.

Underlying Rock: Meta-andesite, weathered near surface.

Instrumental Data:

Sensitivity: Unknown, but much lower than capacity.

Initial Ground Motion: Reading from left to right and from the top of the record downward, trace up on seismograms represents initial ground motion eastward, northward, and upward. Chronometer break one minute intervals.

Drum Speed: 15 mm/minute, chronometer breaks at one minute intervals; time corrections measured from beginning of breaks. Radio time signals impressed automatically upon a separate film several times daily.

The instrumental report which follows includes:

13 shocks within 20 miles. Most of these may be blasts.

15 shocks in the distant range from 40 to 62 miles. Shocks in this range having well recorded initial impulses indicated an easterly or westerly direction, with the greatest probability of rarefactions eastward since Lassen Volcanic National Park is in this general locality. The N-S initial impulses vary from slightly north of east to slightly south of east. One shock only showed an initial impulse westward.

2 shocks at 130 and 145 miles, probably off the Eureka coast.

The vertical component began to function in September, which will afford more definite locations hereafter.

Reference Marks (indicated by R.M.) in the report refer to three flasher marks in close succession near the beginning of each record. Δt is the amount which when added to chronometer time gives true time. This information is given for the convenience of any person who reviews the records or copies thereof.

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF July, August 1942 1

Time used is G.C.T.

4-1073-4

No. Date	Phase	BOULDER CITY Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	SHASTA OVERTON Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	PIERCE FERRY Time h	m	s	Period T	Trace Amplitude E	N	Z
July																								
29	eP	09	08	16.7		+	+4		Δt = -23.7															
	iP			16.8			+9		Δt Small local shock.															
	iS			29.3					Δ = 62 mi															
	m			30			100																	
	F		10.6																					
30	iP	20	04	30		+6	+6		Small local shock.															
	iS			32.2					Δ = 11 mi															
	m			33		40	40																	
	F.		05.1																					
30	iP	22	02	14.5		-45	-40		R.M = 15:16															
	iS			16					Δt = -23															
	m			17		60	90		Small local shock.															
	F		02.7						Δ = 7 mi															
31	eP	21	36	39.2		-5	-5		Δt = -23															
	e			39.5			+15		Small regional shock.															
	iS		37	12			+19		Δ = 175 mi															
	E			15		30	30																	
	F		38.6																					
Aug. 3	eP	20	03	48.5		?	+9		R.M. = 15-10.															
	S			50.4					Δt = -21.8															
	m			51		50	40		Very small local disturbance.															
									Δ = 9 mi															
5	e	21	25	36					Δt = -22															
	i			49					Small regional or distant shock.															
	e		29	42																				
	i			54																				
	iS		31	33																				
	F		34.6																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

SHASTA DAM STATION

MONTH OF August 1942

Time used is G.C.T.

4-1073 4

BOULDER CITY | OVERTON | PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
6	eP	23	44	16.5		-6	-		R.M. = 15-8½															
	iP			20		+50	-5		Δt = -22.3															
	i			27	0.7	-60			Δ = 2550 mi															
	i			32			-45		Epicenter, according to U.S.C. & G.S., 14.4° N Lat, 90.9° W Long															
	i			54					O = 23h 37.0m															
	eS		50	10																				
	iS			27	5.11																			
	i			34			-?																	
	G		55.9		33																			
	M		59.1		20	225	140																	
7	Coda	00	45		10																			
	F	01	10																					
7	eP	06	40	32		-1	+2		Δt = -22.3															
	iP			33			-10		Small local shock.															
	e			34					Δ = 30 mi															
	iS			38.3																				
	m			39		100	110																	
	F		41.1																					
									R.M. = 15.09--10½															
8	iP	20	00	37.8		+12	+12		Δt = -23.3															
	iS			40.0		75	75		Small local shock, or blast.															
	F		01.0						Δ = 12 mi															
8	eP	22	43	50		+			Δt = -23.4															
	iP			59		+			Δ = 2550 mi															
	eS		49	53					Epicenter, according to U.S.C. & G.S., 14.4° N Lat, 90.9° W Long															
	M		54.1				15																	
	Coda	23	05		13																			
	F		20																					
9	iP	08	36	13		+6	+12		Δt = -24.0															
	iS			14.6		75	80		Small local shock or blast.															
	F		36.6						Δ = 8 mi															

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF August 1942

Time used is G.C.T.

4-1073-4

BOULDER CITY ~~XXXXXXX~~ SHASTA DAM SEISMOLOGICAL STATION ~~XXXXXXX~~ OVERTON ~~XXXXXXX~~ PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9		21	10	to					Several disturbances at 10 to 12 miles resembling blasts; also considerable local disturbance.															
		21	25																					
9	iP	22	03	17.4	0.3	-20	-6		Δt = -24															
	mP					100	75		Light local shock.															
	iS			28.7					Δ = 55 mi															
	m					280	300																	
	F		05.5																					
9	iP	23	08	12.8		-12	+12		Δt = -24															
	iS			13.4		90	70		Local disturbance.															
	F			25					Δ = 3 mi															
10	iP	15	45	45	0.2	-45	+11		Δt = -24.5															
	iS			52		150	180		Small local shock.															
	F		46	25					Δ = 35 mi															
10	eP	15	59	00		+	+?		Very small local shock.															
	eS			09.5		40	50		Δ = 47 mi															
10	eP	16	00	19		+	?		Very small local shock.															
	eS			28.5		40	25		Δ = 47 mi															
10	eP	23	44	28			-		Δt = -25															
	iP			28.5		+6	+		Small local shock.															
	iS			36.2		55	75		Δ = 40 mi															
	F			45																				
11	iP	04	16	17.7	0.2	+60	+6		Light local shock.															
	iS			27		200	230		Δ = 41 mi															
	F		18.6																					
11	iP	04	32	00	0.2	+8	+2		Small local shock.															
	iS			09					Δ = 44 mi															
	iS			10		75	50																	
	F		32.5																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF August 194 2 4

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

A-1073-4

BOULDER CITY ~~XXXXXXX~~ OVERTON ~~XXXXXXX~~ ~~PIERCE FERRY~~

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	
11	eP	04	55	35			-?		Faint seismic waves.																
	e		57	20		12																			
									Δt = -25.5																
11	iP	17	41	02	0.2	+10	+6		Small local shock.																
	iS			11		75	75		Δ = 44 mi																
	F		41.7																						
11	iP	18	22	49	0.2	+28	-2		R.M. = 15:08																
	iS			56.3		100	75		Small local shock.																
	F		23.7						Δ = 42 mi																
11	eP	21	33	29.5		+6	+2		R.M. = 15:08																
	eS			39		25	20		Very small local shock.																
	F								Δ = 47 mi																
12	iP	17	13	54		+10	+5		R.M. = 15:07 Δt = -27																
	iS			55.6		60	28		Probably a blast. Δ = 3 mi																
13	iP	17	45	30		-50	+8		Δt = -28																
	i			37	0.3	150	90		Regional shock.																
	iS			55.3		400?	380		Δ = 130 mi Epicenter probably off coast near Eureka																
	F		49																						
13	eP	19	36	45		+	+		Faint seismic waves.																
	eS		38	46																					
13	iP	21	48	57		?	+40?		Δt = -28.5 (Out of focus)																
	iS			59		?	90		Small local shock, probably blast. Δ = 16 mi																
14	iP	21	32	27.4	0.15	+15	+8		R.M. = 15:06½ Δt = -29.5																
	iS			37		50	50		Small local shock.																
	F		32.8						Δ = 48 mi																
16	eP	21	10	44		+?			R.M. = 15:15½ Δt = +28.5																
	e		15	08					Faint seismic waves.																
	eS		16	42																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
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MONTH OF August 194 2 5

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

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No. Date	BOULDER CITY Phase	Time h m s	Period T	Trace Amplitude E	N	Z	OVERTON Phase	Time h m s	Period T	Trace Amplitude E	N	Z	PIERCE FERRY Phase	Time h m s	Period T	Trace Amplitude E	N	Z
18	iP	01 02 01		?	+7		R.M. = 15:4½		Δt = +27									
	iS	05		?	75		Small local shock or blast.		Δ = 20 mi									
20	e	12 10 40					R.M. = 15-6		Δt = +25									
	e	55					Faint seismic waves.											
	i	11 51																
	i	54		15	10													
20	iP	17 34 59.5		+?	+10		Light local shock.											
	i	35 01.9		?	75		Δ = 55 mi											
	iS	10.7		?	400													
	F	36.2																
20	eP	17 54 54.7			+2		R.M. = 15-5		Δt = +24.7									
	iS	55 04.5			50		Small local shock.											
	F	55.7					Δ = 48 mi											
20	e	22 43 00	2				Faint seismic waves.											
21	iP	05 00 27.5		+?	+48		Δt = +24.5											
	mP		0.2		70		Small local shock, probably a blast.											
	iS	29.8			80		Δ = 12 mi											
23	iP	06 44 14	0.7	+30	-14		R.M. = 15:04½		Δt = +23									
	K		1.5	40	25		Δ = 3400 mi											
	eS	51 26																
25	iP	16 40 46		+30	-2		Small local shock.											
	iS	55.2			90		Δ = 55 mi											
26	iP	08 42 00	0.2	+30	-4		[illegible]		Δt = 19.5									
	i	06.3			40		Small local shock.											
	iS	09.3			175		Δ = 46 mi											
	F	43	0.6															
26	e	12 19 49					Distant earthquake.											
	i	58		22	6													

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF August 1942 6

Time used is G.C.T.

4-1073-4

BOULDER CITY SHASTA DAM SEISMOLOGICAL STATION OVERTON PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
28	iP	08	21	16.5		+27	-4		R.M. = 15:9				Δt = +18.3											
	i			21		75	45		Small local shock.															
	iS			30.3		190	140		Δ = 58 mi															
	F		23.3																					
29	iP	01	06	44		+3	-3		Δt = +17															
	eS		13	59		6			Δ = 3440 mi															
30	iP	08	48	44.8	0.2	-45	-4		R.M. = 15-17				Δt = +16.2											
	iP			45.6	0.6	-122	-42		This may be two shocks or blasts at about 4 mi, more likely a															
	mP				0.9	220	100		single shock at 145 mi. Epicenter probably off Cape Mendocino.															
	i			48.7																				
	iS		49	13.2	0.5	310	210																	
	F		51.8																					
31	iP	07	02	25.6		+40	-5		R.M. = 17-55				Δt = 15.2											
	iP			26.2	0.12		-40		Probably a few miles north of Manzanita Lake near Lassen															
	iS			34.6	0.20		110		National Park.															
	iS			35.5			180		Δ = 44 mi															
	F		03.6																					
31	eP	21	47	12		+6			Regional or distant earthquake.															
	i		48	41																				
	M					40																		
31	iP	21	52	01.5		-130	-15		R.M. = 15:09				Δt = +14.5											
	mP			02.0		220	180		Light local shock.															
	iS			03.05		-275	+170		Δ = 7.6 mi if a blast															
	mS					300	280																	
	F		52.6																					
31	iP	23	55	35.4		+10	+28		Small local disturbance. May be a blast.															
	iS			36.0		135	80		Δ = 2½ mi SSW															
	i			36.8			60																	
	F			40																				

SHASTA DAM SEISMOLOGICAL STATION

INSTRUMENTAL REPORT- - - - -September, 1942

The station near Shasta Dam continued in routine operation. The vertical component was installed and began satisfactory operation September 5.

Revised Station Data

Geographic Coordinates: N Lat 40° 41' 44"; W Long 122° 23' 19"; Elevation of top of piers 1025.16 ft or 312.4 meters.
Location in regard to surveyor's coordinates: NW 1/4 NE 1/4 NE 1/4 Section 26, T33N, R5W, M.D.M. about 40 ft south of the section line.
Underlying rock: Copley meta andesite, pre-Devonian age.

The station report which follows includes:

10 shocks or disturbances from 2½ to 3½ miles, mostly in a northwesterly direction near Shasta Dam. The time of occurance of several of these is 23h 16 to 20m G.C.T. or about 4:18 p.m. Pacific War Time. These are probably blasts set off at the close of the day shift. The first motion of these disturbances, recorded since operation of the vertical component, showed rarefactions in every instance.

8 shocks or disturbances, some of which may be blasts, from 5 to 20 miles.

11 shocks, at 34 to 50 miles, nearly all in an easterly direction and probably northerly from Mt. Lassen.

5 shocks, 70 to 110 miles. The strongest of these (Sept. 29, 8 h 28m 12s) was located about 90 miles south of the station and was reported felt in Colusa county.

6 shocks, 200 to 300 miles, mostly from the west.

Reference Marks (indicated by R.M) in the report refer to three flasher marks in close succession near the beginning of each record. Δt is the amount which when added to chronometer time gives true time. This information is given for the convenience of any person who reviews the records or copies thereof.

SHASTA DAM SEISMOLOGICAL STATION

4-1073-4

BOULDER CITY | OVERTON | PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
1	iP	01	17	49.3		-14	+11		Δt			14.5					Local disturbance. Probably a blast. Δ = 3 mi SE							
	iS			49.9			55																	
	i			50.6			-38																	
	F			54																				
1	e	19	13	07		20			R.M	15	09						Seismic waves.							
2	iP	00	01	13.3	0.2	-25	-6		Δt			13.3					Local disturbance. Δ = 3.5 mi							
	iS			14	0.15	75	50																	
2	e	03	25	56					Δt			13.1					U.S.C.&G.S. epicenter 52.5° N Lat, 170° W Long Δ = 2420							
	i		26	54		35																		
2	eP	21	02	45		+	?		R.M	15	18½						Record out of focus. Small regional shock. Δ = 280 mi							
	iP			53					Δt			12.6													
	S		03	35		40	20																	
3	e	14	04	51?	0.4				Δt			11.2					Lost in local disturbance. Distant earthquake.							
	iS		06	24																				
	i			28	0.7	20																		
4	e	06	38	15					R.M	15	14						Distant earthquake.							
	e			22					Δt			10.6												
	eS		39	45																				
	iS			55	1.1	10																		
4	iP	17	52	55.5	0.7	+10	-4		R.M	15	08						U.S.C.&G.S. epicenter 52.8° N Lat, 169.2° W Long Δ = 2400 mi NW							
	e		54	10					Δt			10.0												
	eS		58	14.5																				
	i	18	03	15.5	2.0	5																		
	Coda				7.6																			
5	iP	19	06	58.4	0.13	+6	+10	-10	R.M	17	53						Small local shock. Δ = 34 mi NNE							
	iS		07	04.2	0.15	90	80		Δt			08.6												
	F		07.5																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service and Coast and Geodetic Survey

MONTH OF September 194 2 2

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

4-1073-4

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		BOULDER CITY								OVERTON								PIERCE FERRY						
5	iP	19	22	17.3		-25	-15	-15										Small local shock.						
	iS			18.8		160	140											Δ = 7.5 mi WSW						
6	iP	08	19	49.0	0.2	+30	-10	+15	Δt			07.8						Small local shock.						
	iS			50.5		70												Δ = 7.5 mi NW						
6	e	16	05	53	1.3	+6	-?	-12	R.M	15	20							Regional shock.						
	i		06	00					Δt			07.4						Δ = 73 mi E						
	iS			08				135																
	i			13	1.3	56	10																	
	F		13.0																					
7	eP	19	37	17		-	-	+	R.M	15	13							Very small local shock.						
	iP			17.6	0.2	+10	+10	-2	Δt			05.8						Δ = 50 mi NE						
	mP					30	38																	
	iS			27		20																		
7	eP?	19	49	16														Δ = 1120 mi?						
	e			33																				
	iS			25.5		40	20																	
	i			27.5																				
	F		54.6																					
8	iP	03	54	09.7		+8	?	?	Δt			05.4						Small local shock.						
	iS			19.6	0.2	56	62											Δ = 49 mi, probably eastward.						
	F		54.7																					
8	eP	16	18	47	1.5	+8		+15	R.M	15	06½							Δ = 4870 mi						
	e		19	11		20			Δt			04.3												
	eS		28	04		5																		
	e			39																				
	e		29	27																				

Bureau of Reclamation, National Park Service and Coast and Geodetic Survey

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

4-1073-4

No. Date	BOULDER CITY Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	OVERTON Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	PIERCE FERRY Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9	iP	01	31	44	1.5	-5	+3	-10	Δt			03.7					U.S.C.&G.S. epicenter							
	i			58	1.5	75		165									53.1° N Lat, 165° W Long							
	i		32	11	0.8	86											Δ = 2180 mi NW							
	eS		36	54																				
	iE		38	13																				
	iE			19	2	30																		
	i		42	10		25		32																
	Coda		47		7.5																			
	F	02	04																					
10	iP	23	17	24.5		-2	-9	+?	R.M	15	06						Very small local disturbance.							
	iS			25.0	0.2		50	12	Δt			0.6					Δ = 2½ mi S?							
12	eP	08	37	59.6	0.2	?	+?	?	R.M	15	05½						Regional shock.							
	iP		38	00.2		+20	+8	+	Δt			-1.7					Δ = 105 mi ENE							
	iP			01.1		+30	+15																	
	iS			20.9			32																	
	F		39.1																					
12	eP?	16	21	40.5		+	?	+	R.M	15	00½	End of record					Δ = 240 mi westward off							
	iP			41.1	0.2	-10	+1	-6	Δt			-2.4					Cape Mendecino							
	i			43		-30	+2	?																
	i			57		50	20	25																
	iS			24	1.2	70	38	35																
	F		27.0																					
12	iP	17	26	03		-15	+12	-6	Δt			-2.5					Probably a blast.							
	iS			03.5		55	80	10									Δ = 2½ mi NW							
12	iP	21	10	03.6	0.5	+10?			Δt			-2.6					Δ = 230 mi							
	i			06.4	0.2	-20	-10																	
	S			24.7		80	60																	
	i				(0.7																			
	Coda				(1.2																			
13	iP	16	34	34.5	0.2	+11	+1	-5	Δt			-3.7					Δ = 46 mi eastward							
	eS			43.8		30	30																	

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service and Coast and Geodetic Survey

MONTH OF September 1942 4

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

A-1073-4

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	
	BOULDER CITY								OVERTON								PIERCE FERRY								
13	e	20	40	40					Δt			-4													
	e		41	05																					
14	iP	02	49	48.5	0.5	+24	?	-?	Δt			-4					Δ = 45 mi E								
	iS			57.5		80	?	40									Near Crater Peak.								
	i		50	07																					
	F		51.0																						
14	iP	11	43	44		-		-24	Δt			-4?													
	e		44	15		20																			
	e		55	18																					
14	iP	13	24	40		-12	+4	-8	Δt			-4.5					Small disturbance.								
	iS			40.6	0.2	90		50									Δ = 3 mi NW								
15	iP	12	36	03.6	0.12	+15	+6?	-4	Δt			-5.6					Small local shock.								
	iS			12.7	0.2	100	70	25	R.M	15	12½						Δ = 45 mi eastward								
	F		36.7																						
16	eP	20	23	06.4		+8	?	-4	R.M	15	06						Very small local shock.								
	eS			16	0.15	30	30	12	Δt			-7.6					Δ = 47 mi eastward								
	F		23.5																						
16	iP	23	16	40.4		-20	+20	-10	Δt			-7.6					Small local disturbance.								
	iS			41.0		80	56	40									Δ = 3 mi NW								
16	e	23	50	31	2.5		-										Distant earthquake.								
17	iP	23	20	06		-10	+12	-8	R.M	15	05						Small local disturbance.								
	iS			06.6		55	50	35	Δt			-9.0					Δ = 3 mi NW								
17	eP	23	49	09	?	-10	blur ?		Δt			-9.0					Δ = 40 mi								
	eS			17.2	?	70	"	30																	
	F		49.7																						
18	iP	11	49	54.	0.8	-25	+10	-55	Δt			-9.8					Distant earthquake.								
	mP				1.4	80											4860 mi NW Probably Japan								
	i		50	40																					
	eS		59	11																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF September 1942

Time used is G.C.T.

4-1073-4

No. Date	Phase	BOULDER CITY Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	OVERTON Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	PIERCE FERRY Time h	m	s	Period T	Trace Amplitude E	N	Z
19	eP	20	59	52	1.5	-5	+?	-	R.M	15	13							Δ = 80 mi westward?						
	iL			59.5					Δt			-11.4												
	iL	21	00	03.6																				
	eS			07.8																				
	eS			10				18																
	m			12			50																	
	F		00.8																					
19	iP	23	19	29.2		-55	+50	-25	Δt			-11.5						Small local shock or disturbance.						
	mP			29.7	0.3	160	100	80										Δ = 2½ mi NW						
	F			45																				
20	eP	19	57	14		?	?	?	R.M	15	9							Very small regional shock.						
	eS			53				10	Δt			-12.6						Δ = 210 mi						
	F	20	00																					
20	eP	20	02	33		+		-5	Δt			-12.6						Very small regional shock.						
	i			37														Δ = 200 mi						
	eS		03	10				8																
20	iP	23	54	59	1.3	-10	?	-25	Δt			-12.7						Distant shock.						
	iL		55	35		10		20										Δ = 1160 mi, probably NW						
	e		58	13		4		8																
21	eP	17	50	28.5		?	?	?	Δt			-13.5						Very small local shock.						
	iP?			39														Δ = 40 mi						
	eS		51	34.5																				
21	iP	23	17	44	0.2	-	?	-40	Δt			-13.7						Local shock or disturbance.						
	iS			44.5		blur		200										Δ = 2½ mi NW						
	F		18.2																					

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF September 1942 6

Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

4-1073-4

No. Date	Phase	BOULDER CITY Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	OVERTON Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	PIERCE FERRY Time h	m	s	Period T	Trace Amplitude E	N	Z	
22	eP	00	58	32	0.8	-		-5	Δt			-13.8						Δ = 5500 mi							
	i			40																					
	i			46				25																	
	i		59	02	1.8	30																			
	e	01	05	05																					
	eS		08	42		5																			
	F		14																						
22	eP	07	52	02.5	0.8			-5	Δt			-14.0						Distant earthquake.							
	e		55	52																					
22	iP	23	16	45.6		-20	+25	-?	R.E	15	24							Blast							
	iS			46.2	0.2	90	125		Δt			-14.8						Δ = 3 mi NW							
	Hereafter flasher signal (3 short flashes) at end of record will be used as time reference mark. It will be 15h 00½m unless otherwise indicated.																								
23	iP	19	09	15.0		-20	+10	-10	Δt			-15.7						Small local blast or shock.							
	iS			16.7		110	70	30										Δ = 8½ mi WNW							
	F		09.5																						
23	iP	23	18	29.3		-10	+6	-	Δt			-15.9						Blast							
	iS			29.8		42	30	20										Δ = 5 mi WNW							
24	e	03	52	09		-		-	Δt			-16.2						Δ = 6000 mi?							
	iP			10	1.5			+12																	
	mP					10		20																	
	e	04	02	24																					
	eS			39		10																			
	iS		03	09	2.0	25		8																	
24	iP	22	45	27.8	0.15	+75	+26	-30	Δt			-17.2						Δ = 36 mi ENE							
	mP					94	55	55										In general neighborhood of Burney.							
	iSH			35			95																		
	i			39		95	90																		
	F		46.2																						

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF September 1942

Time used is G.C.T.

4-1073-4

No. Date	Phase	BOULDER CITY Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	OVERTON Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	PIERCE FERRY Time h	m	s	Period T	Trace Amplitude E	N	Z	
25	iP	08	19	47	1.0			+10	Δt			-18.3						Δ = 5000 mi							
	imP			56	2.0																				
	e		20	05																					
	eS		29	16				40																	
	F		30.2																						
26	eP	04	07	59	0.6	-		+5	Δt			-19.4													
	iS		08	07		6																			
	e		14	11	1.5	9																			
	e		18	00		5																			
	e			39																					
26	eP	09	06	51.4					Δt			-19.7						Δ = 90 mi							
	eP			52.6		+2	?	-																	
	iP			55.5	0.16	+10																			
	i		07	07.3	0.35	30	25																		
	i			17.3	1.0	40	40																		
	F		10																						
27	iP	00	09	24		+?	-11	-	Δt			-20.6						Small local shock.							
	iS			27.1	0.2	100	?100	60										Δ = 15 mi southward							
	F			44																					
27	eP	17	09	22		+		-5	Δt			-21.6						Δ = 2650 mi Probably Mexico							
	iP			23		-5		+										or Central America.							
	mP				1.0			20																	
	i		10	01																					
	e			53	2.0			10																	
	i		11	40																					
	eS		15	26																					
27	eP	17	19	35	1.3	9			Δt			-21.6						Seismic waves.							
	e		21	24		6																			
27	iP	18	39	53	0.12	-12	+4	+10	Δt			-21.7						Δ = 20 mi ESE							
	iS			57.1				40																	
	F		40.4		0.15	90	75																		

LAKE MEAD SEISMOLOGICAL STATIONS — MONTH OF September 1942

Bureau of Reclamation, National Park Service and Coast and Geodetic Survey — Time used is G.C.T.

SHASTA DAM SEISMOLOGICAL STATION

4-1073-4

No. Date	Phase	BOULDER CITY Time h m s	Period T	Trace Amplitude E N Z	Phase	OVERTON Time h m s	Period T	Trace Amplitude E N Z	Phase	PIERCE FERRY Time h m s	Period T	Trace Amplitude E N Z
28	iP	01 39 38.2	0.12	+? - +?	Δt	-22.0				Δ = 16 mi, direction uncertain.		
	iS	41.4	0.15	90 60 40								
	F	40.1										
28	eP	04 35 37	0.15	-6 + +	Δt	-22.2				Δ = 40 mi eastward.		
	iS	45										
	F	36.1		62 70 34								
28	eP	08 37 04		+ + +?		-22.5				Regional shock.		
	e	07.5	0.5	+? - +						Distance and direction		
	i	11.5		30 50 35						uncertain.		
	im	32	0.9	135 70 112								
	Coda	40	1.5									
	F	43										
28	iP	11 42 16.4	0.7	+11 -? +9	Δt	-22.6				Δ = 230 mi westward.		
	iS	57.9		30 12								
	i	43 00										
	i	01	1.2	35 35 40								
	F	47.6										
29	eP	00 07 32		- -5	Δt	-23.5				Distant earthquake.		
	eS?	13 06?		1 1								
29	eP	01 34 04	1.0	+4 -4	Δt	-23.6				Distant earthquake.		
	iP	07		-10 +10								
	mP			12 30								
	e	42 09		2								
29	e?2	08 06 28		? ?	Δt	-24.0				Very small regional shock.		
	e	29.5		? -								
	iS	32.4		-9								
	i	59.4	0.8	26								
	i	07 04.5		45								
	F	10.6										

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
and Coast and Geodetic Survey

MONTH OF September 1942 9

Time used is G.C.T.

4-1073-4

No. Date	Phase	BOULDER CITY Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	OVERTON Time h	m	s	Period T	Trace Amplitude E	N	Z	Phase	PIERCE FERRY Time h	m	s	Period T	Trace Amplitude E	N	Z
29	0	08	28	12					Δt			-24.1						Moderate shock.						
	e			36.7		+?	?	-67										Δ = 90 mi south. Tentative						
	iP			38.0		?	+10	+8										epicenter 39.4° N, 122.4° W						
	i			42.1			-45	-38										Near Lodoga. Reported felt						
	i			45.2		74	156	138										in Colusa county.						
	iS?			56.0		200		185																
	i		29	05.3		450		450																
	i			12.3		710	360	900																
	i			17		1350		980																
	Coda		33																					
	F		40																					
29	e	14	22	27.5					Δt			-24.5						Very small regional shock.						
	e			38.5																				
	e			49																				
	eS		23	02																				
	iS			04.3	0.2			-9																
	i			23.5																				
	i			31	0.6	30		22																
	F		24.5																					
30	eP	23	25	35					Δt			-26.5						Local shock.		Δ = 18 mi				
	iS			38.7			38																	

SHASTA DAM SEISMOLOGICAL STATION

INSTRUMENTAL REPORT - - - - OCTOBER, NOVEMBER, DECEMBER, 1942

The station near Shasta Dam continued in routine operation.

Revised Station Data:

Direction of Initial Impulse - Reading the record from left to right and from the top of the record downward, trace of initial impulse upon the record represents ground motion W, S and down on the E-W, N-S, and vertical components respectively. This is a reversal of information contained in earlier reports, which should be revised accordingly.

The station report which follows includes:

27 shocks or blasts at distances less than 20 mi.

22 shocks in the range 20 to 70 mi. Some of these are in the vicinity of Mt. Lassen Volcanic National Park.

46 shocks in the range 70 to 400 mi. Tentative epicenters of some of these shocks follow:

October 6 - 02h 59m 24.7s G.C.T. Off Oregon Coast at 43.8 N Lat, 128.2° W Long.

November 18 - 20h 20m 27.2s G.C.T. Felt in Northern portion of Butte County.

December 3 - 09h 45m 21s G.C.T. 10 mi NE of Wadsworth. Felt in Reno and adjacent territory.

December 17 - 15h 08m 26.8s G.C.T. 8 mi E of Markleeville, Calif.

Each of the last two shocks was accompanied by a large number of aftershocks.

Also on November 1 - 18h 52m 15s - Epicenter near Canadian Border North of Libby, Montana. Felt in British Columbia, Idaho, Washington and Montana.

Macroseismic data contained in this report were supplied by the Seismological Field Survey, 214 Old Mint Building, San Francisco.

Confidential-not for publication.

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 19 42

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
△t is time correction referred to R. M.

Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
1	eP	01	22	23.6	0.2	-?	-3	4?	15:01	-26.6	△ = 14 mi southward?
	iS			26.4			120	50			Small local shock.
1	iP	16	01	11					-27.5		
1	iP	23	25	32.4		+10	-12	+			Blast 3 mi NW
	iS			33.0		60	45		-28		
2	iP	22	50	56.6		+100	+2		15:01		
	iE		51	02.3	0.2	480					145 mi westward? Probably
	i			12.6					-29.2		off Cape Mendecino.
	iE			17.8							
	iS			24.4		+250	+225				
	M			25		300	250				
	Coda				1.5						
3	e	21	08	35					+29.7		
	i		09	19							
4	iP	05	38	49					+29.4		
4	iP	17	50	38	0.6				+29.0	15:00	
4	iP	23	13	20		+10	-16	-4	+28.5		Blast 2½ mi WNW
	iS			20.5		60	60				
5	eP	01	11	59	1.0			+	+28.4		
	iP		12	08	1.3			+			
5		21	04	28	0.2	+9	-?	+8	15:00		Blast? 7 mi west
				29.4		40	45		+27.2		
6	iP	00	04	52		+6	?	+			△ = 18 mi W
	i			55.1					+27		
	iS			55.6			50				
6	iP	01	41	12		-8	-?	+2	+27		△ = 13 mi E?
	iS			14.5		80	80	60			
6	iP	02	59	24.7		+8		+8	+27.0		375 mi NW, Tentative epicenter off the Oregon Coast at 43.8° N Lat, 128.2° W Long.
	i			33	1.5						
	i			56							
	iS?	03	00	23		125					
	i			53							
	L		01	37	10						
	e		05	09							
6	eP	12	03	10.5							
	eP			12					+26.5		△ = 1260 mi
	e		06	38							
	e		07	05							

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 1942

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
△t is time correction referred to R. M.

Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
6	iP	14	28	42				-15			
	iP			44		-20		±70			
	i		29	12	1.4				+26.5		
	e		38	32							
	e		39	25							
6	iP	17	55	36.5	1.5	-		-5	15:00	+26.3	
6	iP	19	49	37		+10	-		+26.1		Probably 2 blasts 3 mi WNW?
	iS						70				
	i				.2						
7	iP	08	17	24				-10	+25.5		
7	e	17	34	23					15:00	+25	
	i			56							
7	iP	18	34	28		-18	+2	+8	+24.9		△ = 42 mi E.
	iS			36.2		40					Mt. Lassen region.
8	e	02	32	03					+24.3		
8	eP	03	11	31					+24.3		
8	iP	05	28	50	0.5			+	+24.2		
	i		29	24							
8	iP	09	37	09		+	-		+24		Blast 3 mi NW
	iS			09.6							
8	iP	20	15	10.5	2.5			+12	+23.5	15:00	
9	eP	00	53	04	1.7				+23.3		
9	iP	16	05	43.4		-		-2	+22.4		
	iP			45	1.8	-45		-40			
10	iP	01	11	30.5	0.8	-		-20	+22		
	i		12	14.5							
10	iP	06	13	08	1.0	+?		+10	+21.5		
10	iP	19	01	19				+3	15:00	+20.8	
	i			57	0.7	10					
11	iP	02	49	17			-3		+20.8		
	iP			23.5	0.3	+6	-6?	-11			
	i			26							
	i			35	0.2						Small regional shock.
	i			48.7	0.7	30					

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 19 42

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
△t is time correction referred to R. M.

Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
12	eP	06	22	07	1.2			+8	15:00	+18.5	
14	e	00	17	39	1.1				15:00	+16	
	e		20	55							
	e		21	55	4.0						
	e		22	41							
15	iP	05	44	02		+		-10	15:00	+14	
	iP			06.5	1.0	-8		+			
15	e	12	08	53					+13.7		
	iP			55.7		-10	+6	+9			Δ = 160 mi.
	iS		09	26.3	0.8	40					
15	eP	13	54	58.5		+		+2	+13.5		Δ = 350 mi?
	i		55	07.5							Felt in San Benito
	i			27.5	0.7			15			or Monterey County
	iS?			58	1.0	30					
15	iP	23	07	26		-10	+6	-?	+13		Blast 2½ mi WNW
	i			26.5							
	i			27.3			55				
16	eP	10	09	07	0.5				15:00	+12	
	iS		10	19	0.8	25		20			Δ = 420 mi
	i			21.5							
16	iP	21	58	27		?	+?	+12	15:00	+11	Blast 7½ mi southward?
	iS			28.5			70				
17	eP	04	58	17							
	e			55		10			+10.8		
17	e?	06	08	01					+10.7		
	e			12							
	i			49							
	i			53		8					
17	iP	12	23	38.4		+25	+3	+20			Compression West, off Cape
	iP			39.5	0.8	+	+25				Δ = 180 mi. Medecino
	i		24	12					+10.3		
	iS			12.8			140				
	i			20							
17	iP	20	19	12	1.2	-6		-20	15:00	+9.8	
18	iP	04	18	14	1.0			-10	+9.3		
18	eP	05	29	41	1.2			+2	+9		
	e		37	28							

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 1948

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
△t is time correction referred to R. M.

Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
18	eP	10	25	07	1.2			+2	+8.8	
18	e	12	03	13	0.8			5	+8.7	
19	iP	06	37	58.4		?			15:00 +7.6	Δ = 15 mi.
	iS		38	01.3		80				
19	iP	18	49			+40	blur		15:00 +7	Δ = 45 mi E?
	iS					30				
19	iP	22	59	18	0.5	+15	+8?	+10	+6.6	Δ = 135 mi WSW
	i			41	0.5					
	iS			44		55	90	70		
20	i	20	26	00	1.0			+5		
	e		32	37					+5.2	
	e	23	35	40	2.5					
	eS?			49	1.1			15		
	e		39	48	4.0			25		
	M				2.5					
21	iP	08	39	33.5	1.3			-	+4.5	
21	iP	11	08	02	1.0			+15	+4.2	
21	e	16	24	30					15:30	Imperial Valley earthqual
	eP			36		-		-	+4.0	
	iP			44.4						U.S.C.& G.S. epicenter
	i		25	12	1.1			48		33.1° N Lat, 116° W Long
	iS			52						0 = 16 h 22 m 14 s
	iS		26	59	2.0			+125		Δ = 640 mi
	M		27	17	10.	850		820		Felt throughout Southern
	Coda		41		6,8					California
21	iP	16	47	58.5				-12	+4.0	
21	e	19	13	33						Δ = 640 mi?
	eS		15	19	2.2			9	+3.7	
22	e	01	52	54						
	iP		53	07	1.3			+15		Strong aftershock of
	i			32					+3.3	Imperial Valley earth-
	i		54	02						quake. Location and
	i			57	1.6					distance same as above.
	iS		55	22						
	iS			32	2.5	340		200		
	Coda				7.5					
22	iP	08	44	00		-12	+?		+3	Blast 2½ mi NW?
	iS			00.5		60				

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 1942

Bureau of Reclamation and
Coast and Geodetic Survey

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
22	eP	18	16	00					15:00	
	i			30					+2.5	
	eS		18	08	1.7	38		25		
23	iP	21	35	55		Blur		+10	15:00½ +0.5	Blast - 8 mi
	iS			56.6						
25	eP	07	10	14				+	15:00½ -1.5	
	iP			19	1.0	-		-		
	iP	08	53	29	1.2			+	-1.4	
25	iP	23	04	06	1.0			+4	15:00½ -2.5	
26	e	03	05	12						
	e		07	14					-2.7	
26	eP	15	02	47					15:00½	
	iP			52.4					-3.5	
	iS		03	18.4						
	iS			23	0.8			15		
26	e	15	20	06.5						
	iP			07.2	0.8			-15	-3.5	
26	iP	18	18	30		-10			-3.7	Blast 7 mi E?
	iS			31.4		20				
26	iP	21	19	17		+10		+12	-3.9	U.S.C. & G.S. epicenter
	i			16.7	2.0					45° N Lat, 152° E Long
	i			26.6						Δ = 4200 mi
	iS		27	26.6	7.5	+40				
	iSE			28						
26	iP	23	28	46		-10	?	+2	-4.0	Δ = 45 to 50 mi E
	iS			55						
	iSE			56		+35				
27	iP	01	10	30				+15	-5	Δ = 44 mi
	iS			38.8						
	iS			40	0.4			25		
27	eP	08	29	49.3					-4.5	
	iP			52				-12		
27	iP	14	18	00		-10			-5.0	Δ = 27 mi
	iS			05.4		50				

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SHASTA DAM SEISMOLOGICAL STATION — MONTH OF October 1942

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
27	eP	22	23	25	09				15:00½ -5	
28	eP	10	51	25				-		U.S.C. & G.S. epicenter
	e	11	02	0	5				-7	15.5° N Lat, 96.4° W Long
28	iP	15	24	39		-6	-?	+2	15:00½	Δ = 17 mi ENE?
	iS			41.4		80	150	60	-7	
28	iP	15	40	08				-12	-7	
	i			20						
28	iP	21	34	47		+10	+	+?	-7.4	Blast? 7 mi WSW?
	iS			48.4						
29	iP	05	21	19		-9		+3		Δ = 38 mi E
	iP			20					-8	
	iS			26.5						
	iS			27.5						
29	iP	16	00	45	1.3			-12	15:00½ -9.2	
29	eP	17	07	32					-9.2	Δ = 340 mi
	iP			36						
	i		08	26	1.2	25		15		
	iS			31						
29	iP	21	43	48.7	1.0	+21	?	+65	15:00½	Compression W
	i		44	06					-10.1	Tentative epicenter in
	i			44						north end of Marianne
	iS		53	32.4	2.5	+25		18		Islands.
										Δ = 5400 mi
30	e	00	56	26						
	eP			31						
	iP			39				+		Δ = 340 mi
	eS		57	28					-9.4	
	iS			31	1.0	58		34		
31	eP	10	52	19					15:00½ -11.7	
	i		53	09						
	i			42						
31	eP	12	57	21					-11.8	
	eS		58	25	1.0			10		
31	iP	22	05	11.0		+10	+2	+	-12.4 15:01	Blast 7 mi WSW
	iS			12.4						

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF November 1942

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
1	eP	15	43	23					15:00½	-13.4	[redacted]
	e			43	1.4			15			
	i[redacted]			52							
	i[redacted]		44	00							
1	e	18	52	15							
	e			30							
	i		54	10					-13.8		
	iS			15							
	iS			45	2.0	40		20			
2	iP	06	11	03.7	0.2	+35	-15	+40	-14.7		95 mi WNW Probably on coast north of Eureka
	i			19							
	eS			23							
	eS			24			125				
2	e	13	03	33	2.0				-15.1		
2	iP	21	50	28		-10?		†? blur	15:00½	-15.7	Δ = 80 mi W?
	iS			44				30			
2	iP	22	56	44	0.8			+	-15.8		
2	e	23	11	20							
	i			28	3			45	-15.8		
3	e?	13	32	20	1.0			+15	-16.7		
	iP			33							
3	iP	16	54	29.5	1.4			+15	15:00½	-17	
4	e	10	38	55							
	e		39	04					-18.2		
	i			20	1.3			12			
5	iP	11	39	33.5	0.7 2.0			+20	15:00½	-20.4	
5	i	11	54	39	2.0			blur +10			
			56	56				∓10			
6	iP	13	41	22	1.5	+15		-30	15:00½	-22.7	
	e		49	41							
6	eM	14	10	01					-22.7		
	e				2.0			15			
6	iP	21	38	23				-2	15:00½	-23.1	
	i			30							
	i			46	1.1			15			

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF November 19 43

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
6	iP	23	11	46		+~~19~~ 90	-~~12~~ 70	+6	-23.4	Blast 3 mi WNW
	iS			46.6	.16					
7	iP	07	50	42	1.3			+12		
	i	08	01	22					-24	
7	e	11	59	18	1.0			10		
	i	12	09	47	1.0			10	-24.3	
7	iP	23	37	45		+9	-3	+2	15:02	Blast 6½ mi W
	iS			46.3		20			-25.4	
8	iP	09	01	06	1.0	-12		-25	-26.3	
	i		06	58						
9	iP	13	45	50		-8	+5	-2	15:01	Δ = 41 mi WNW
	iS			58.2		30			-28.7	
10	eP	12	01	18	2.5				15:01	U.S.C. & G.S. epicenter
	i			28						35° E Long, 46½° S Lat.
	i		02	05					-30.7	near Prince Edward
	i			21						Islands off S. tip of
	i		09	18						Africa
	i		11	18						Δ = 11,250 mi
	G	12	48.5		50					
	Coda	13	35.0		15					
12	iP	05	02	08		+5		-	15:02½	U.S.C. & G.S. epicenter
	i			20						16.8° N Lat., 94.2°
	i			56					+25.8	W Long.
	e		12	06						
	M		14	06	3.8	35				Δ = 2,340 mi
12	iP	15	35	51	1.0			-6	15:00 +25	U.S.C. & G.S. epicenter
										0.1° S Lat, 81.0° W Long
										O = 15 h 26.3 m
12	iP	16	11	58.5	1.0			+2	+25.1	
12	iP	18	09	33.5	1.0			-6	+25.3	
13	iP	23	06	03.3		~~-5~~ +15	+	~~-5~~ +38	15:00 +22.3	
	iP			07.6	0.6	-25	-5	-15 +100		
14	iP	00	49	20		+? blur	+80	blur	+22.2	17 mi S?
	iS			23.5		210	270			
14	eP	05	34	21	1.0				+21.8	

SEISMOLOGICAL STATION MONTH OF November 1942

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
14	eP	11	21	27		+?					
	iP			28.3					+21.3		△ = 80 mi
	i			31		-12	-5				
	i			35							
	i			43							
	iS			44							
	iS			45	0.3	56	68				
14	iP	18	08	26	0.7			-6	15:00	+20.7	
15	iP	17	23	20.5	2.5	?-		+15	15:00	+18.8	U.S.C. & G.S. epicenter
	i			22		+5		-36			35½ N Lat, 142½ E Long
											O = 17 h 12.2 m
15	iP	19	39	02.8	0.2	-40	-40	+60	+18.6		21 mi NE
	iS			07.0		150	180	175			
15	iP	19	50	25	0.2	-22	-20	+	+18.6		
	iS			27.8		62					14 or 20 mi NE
	iS			29							
16	iP	23	24	35	0.8	+15		-12	15:00	+16.2	May be artificial
17	iP	10	14	29		-15	+?	+?			21 mi E?
	iS			33.3		+50	-30		+15.3		
17	iP	10	14	51	1.0	+15		-25	+15.3		
18	iP	12	03	09	0.8	-20		+6	15:00	+13	
18	iP	20	20	27.2		+7	-2	-2	15:00		Moderate regional shock
						-24	+14	+24			
	i			28.4	0.2	190		85			73 mi SE. Felt near
	i			40.3					+12.5		Stirling City and
	iS			41.7		290	290	175			Northern Butte County
	i			43.0		700	600	300			
	Coda				0.6						
18	iP	20	34	47		+2 -30	+15	+24			Moderate aftershock
	i			48.2		300			+12.5		of above.
	iS		35	01.7	0.2			250			
	iS			03.5		900	750	550			
	Coda				0.6						
19	iP	04	21	05.5	0.15	-12	+2	+2			Regional shock 70 mi E.
	eS			15.5							
	iS			16.5	0.4	100		110	+11.8		

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF November 19 42

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
19	e	07	15	22		-					
	iP			22.5		+10	-2	+10	+11.5		Regional shock estimate
	i			31							80 mi West, near
	eS			39	0.7						Humboldt Bay. First
	iS?			40.5	1.0			70			motion on E not definit
19	e?	09	01	22							U.S.C. & G.S. epicenter
	eP			26					+11.3		0.5 S Lat, 81.5 W Long
	i			29	0.8						0 ± 8 h 51 m 51 s
	i			37	2.0			45			△ = 3870 mi
19	e	09	18	22				-			
	i			25	0.9 1.5			-12	+11.3		
19	e	16	42	20	1.3			3	15:00	+9.5	
20	iP	22	30	52.8		+40	?	+30	15:00		Light shock 45 mi E
	i			54			-25		+7.7		5 or 10 mi N of Lassen
	iS		31	01.7	0.4						Peak.
	iS			04.7	1.0	340	350	112			
20	iP	23	23	49.6		+15	+5	+8	+7.8		Blast 7 mi WSW
	iS			51		38	94				
21	eP	12	28	36.5		+2					Very small regional
	iP			37.5		-19		+3			shock 100 mi E?
	iS			58							
	iS			59		25		15	+6.3		
21	iP	19	56	27.5		+12		+10	15:00	+5.6	△ = 63 mi probably W.
	iS			33.5							
	iS			40.3	0.4						
	iS			41.5		45					
21	iP	20	20	36.6		+2			+5.6		△ = 100 mi
	i			57							
	iS			59.4	0.2	40					
22	iP	10	58	58		-8		+	+4.2		Small regional shock
	iS		59	07.2							45 mi E
	i			08.5		25					
22	iP	15	55	17.5	0.7			+10	15:00	+3.7	
22	iP	21	20	26		-22		+22	+3.2		38 mi E
	i			31.4							
	iS			33.7							
24	iP	00	22	11	1.6	-		+6	15:00	+0.2	

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF November 1942

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
24	iP	22	06	32.5		+20	-10	+?	15:00½	-0.5	Blast 2½ mi WNW
	iS			33.0		60					
25	iP	01	24	26	1.5	+		+10	-0.8		U.S.C. & G.S. epicenter
	e		34.5		3.4			25			16.6 N Lat, 97.8 W Long.
	e		38.2		9						O = 1 h 18.0 m
25	i	05	44	12				-	-1.2		
25	iP	22	46	35					15:29½		
	iS			46			60		-2.6		Δ = 55 mi
26	eP	08	56	32							Δ = 225? mi
	i		57	13					-3.5		
	i			17							
	e	09	05	56							
26	iP	14	37	36.5	1.0	+10		+32			U.S.C. & G.S. epicenter
	mP				1.6	190		300			44 N Lat, 147 E Long.
	iP		38	07							O = 14 h 27.3 m
	iPR		39	53				60			
	eS		45	56		10					
	e		47	19	3.0			10			
	e		48	05							
	e			26							
26	e	15	06	50					-4		
27	iP	10	56	36		+45		+35	15:00½	-6	
	mP				1.6	100		75			
	i		57	47	4.0						Distant earthquake
	i		58	47	3.0	60		50			
	e	11	01.8		7.0						
	e		05.5								
	e		06.5								
27	iP	15	26	13	0.8	-12		-12	15:00½	-6.4	
					1.7						
27	eP	21	29	31		+		?			Δ = 65 mi e?
	eS			44		18			-6.9		
28	iP	10	51	08	1.2	+		-12			Distant earthquake. U.S.C.
	i		52		3.0			25	-8		& G.S. epicenter 7.3 N
	eS	11	01								Lat, 36.8 W Long.
											O = 10 h 38.8 m
											Δ = 5700 mi
29	eP	04	14	40		+5		+10	15:01		
	eS		15	07		10		6	-9.5		Δ = 140 mi W?

SHASTA DAM SEISMOLOGICAL STATION

MONTH OF NOVEMBER DECEMBER 1942

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
November										
30	iP	00	59	45		+8		-10	15:00½	
	i			56	0.8	25		30	-12	
	eS		09	20	3.5					
	iS			37						
30	iP	04	04	47	0.8			-10	-12+	
December										
1	iP	02	51	18	1.0			+10	15:00½	-14.5
	iP	07	10	08	1.0			+10	-15	
3	iP	01	26	41	1.3			+10	15:00½	
	e		30	48½					-18½	
3	e	08	11	38						
	i		12	09					-19.0	
	i			17				15		
3	eP	09	45	21		-10				
	iP			22.4	1.0	+35		+5	-19.1	Felt in Reno, Nevada
	iP			25.4		-30	+5	+20		and Lake Tahoe Region
						+100	-45	-50		
	mP					520	225	450		
	iP			45		+900	-480	-1250		
	m2					1500	1180	1270		
	i		46	05	1.0					
	iS			20.4		1600	1770	1650		
	Coda				2.5					
3	i	10	03	42						Very small aftershock
	e		04	02						of Nevada earthquake
	i			24½					-19.1	
3	e	10	11	57		-			-19.1	
	iP		12	00.2		-15				
						+110		-60+		Small aftershock of
	i			04.3				120		Nevada earthquake
	i			23						
	i			31						
	iS			39	1.0			90		
3	i	10	17	12		+4				
						+25				
	i			48					-19.1	
	i			52						
3	i	10	53	23				15	-19.2	
	i		54	03				10		
3	iP	11	12	47				+10	-19.2	Small aftershock of
	iP			48		-20		-75		Nevada earthquake
						+150				

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF December 19 42

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
3	i	11	13	18							
	i			24							
	i			27	1.0			125			
3	e	14	03	36				+3			
	iP			36½				-10	-19.4		Small aftershock of
	iP			41	+15 -120			-70			Nevada earthquake
	iS		04	20	1.1			135			
4	iP	15	38	19	1.5	+5		+5	15:00½		
	i			24	0.8	35		49	-22		
	e		41	48							
5	iP	14	34	07	1.7	+5		+15	-23.7		
	ip			25				+98			
	i		35	29				60			
	e		41	01							
	i		44	52							
5	iP	15	11	52.5		+10	+10	+10	15:01	-23.7	△ = 90 mi SW
	eS		12	11				30			
5	iP	15	15	57		+25	+15	+15			△ = 90 mi SW
	eS		16	15	0.2	200					
	eS			17	1.0						
5	e	18	53	17					-24.1		
	iP			24							△ = 350 mi
	i		54	06				12			
	eS			17							
	eS			22	1.2	80		50			
	i			31							
6	i	02	37	19		+		-5	-25		
	i			56				4			
9	eP?	22	25	28		-12	+10	-	15:00		
	iP			29.5				-29	+26.5		
	iP*			37.5				-275			* There is a possibility
	mP*			38.5	1.5	-300	+250	-740			of these impulses being
	i		26	26	3.0	60					artificial as tests
	i		30	34							were being made on the
	iS		35	55							seismograph at the time
11	iP	06	17	07				-5	15:00		
	iP			16	0.8	-14	+10	-22	+25.6		
11	iP	02	52	42				-12	15:00	+25.0	
12	eP	14	00	00					+22.8		

SHASTA DAM SEISMOLOGICAL STATION MONTH OF December 19 42

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
13	e	05	40	30?					15:01	
	iP			31	0.8	-		-10	+22.1	
	i			45						
	i			54						
13	iP	08	51	36	1.0	-8	-3	+8	+22.0	
	mP							45		
	i			51						
	i		55	34						
	iS		58	50						
14	eP	12	14	36					15:00	
	iP			41	1.0			25		
	i		15	02					+20.3	
	i			17				30		
	i			27		50	50	45		
14	iP	14	10	14	0.8			+	+20.2	
15	iP	05	04	04		-1 +4	+4	+12	15:00	Blast or small shock
	iS			06.7		90	36		+19.6	13½ mi SW
15	i	09	15	17						
	i		17	03						
	i		18	04						
	i			37	0.6				+19.2	
	iP			43	1.3			15		
16	e	02	54	20				+5	15:00	+17.8
16	e	09	25	32				-5	+17.4	
16	iP	13	04	41		+25	?+?	+16	+17.2	
	mP				0.2	250	150	165		
	i			56						△ = 130 mi Westward
	iS		05	06						
	iS			08	0.2 1.0	250	210	200		
17	eP	15	08	26.8			+3		15:00	
	iP			27.6		+2	-2 +11	-15		
	iP			28.1		+40	-5?	-50	+16.0	△ = 220 mi
	iP			32		220?	160?	180		8 mi E of Markleeville,
	i			41	0.8	580	520	590		Cal.
	iS		09	07	1.5	980	1000	1540		
	iS			27		1120	1200			
	i			35			1200			
	i		10	19						
	i		10	39						
	Coda				1.5					
					2.5					
					7.0					

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF December 1942

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
17	eP	15	22	19				-		Aftershock
	iP			25				-12	+16	
	i			53.5						
	iS			59				20		
17	eP	17	06	39					+15.8	
17	e	19	36	57					+15.6	
	e		37	31						
17	iP	19	59	52				-2		Aftershock
	iP			56.5	0.7			-8	+15.6	
	iS	20	00	27.5						
	iS			32	0.7	112	75	45		
17	iP	20	03	51				-5	+15.6	Aftershock
	iP			55				-20?		
	i		04	16						
	eS			29.7						
	iS			31.6	0.9	110	96	90		
	i			57						
17	iP	21	00	24.5	0.9			-5		
	e			36	2.0				+15.5	
17	eP	21	47	04						
	iP			09		+3		-		Aftershock
	iS			45	1.0	40		25	+15.4	
17	iP	21	49	22		+8		10?	+15.4	Aftershock
	iS			58		30		20		
18	e	01	30	37						Aftershock
	i			42					+15	
	i		31	15				5		
18	iP	06	03	16	0.9			-5	+14.8	
18	eP	21	11	40					15:00 +13.2	Distant earthquake
	eS		16	59				7		
19	eP	00	48	46						
	iP			52				-15	+12.8	Aftershock
	iS		49	25.5	1.0	50	40	25		
	i			51						
19	e	00	53	37	+				+12.7	Aftershock
	e			42						
	eS		54	16	1.0			12		

SHASTA DAM SEISMOLOGICAL STATION MONTH OF December 19 42

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
19	iP	18	58	32.5		-7	+5		15:00	+10.5	Blast probably 2½ mi NW
	iS			33		75					
19	e	20	01	54							
	i		02	32				4	+10.4		
19	iP	23	01	33		+	+8	+	+10.0		Blast 6 mi SW
	iS			34.2							
19	eP	23	22	05					+10.0		Aftershock
	iP			08	0.9						
	eS		31	47	1.5			-5			
	Coda				8.5						
20	e	00	05	31							
	i		06	01					+10.0		
	i			36							
	i		10	03							
20	i	03	07	18				-15	+9.5		
20	e	04	10	58					+9.4		Probably an aftershock
	iP		11	01				-6			of Nevada earthquake
	iS			36				35			
20	iP	05	36	57		+18	-12	-12	+9.3		Δ = 60 mi SE
	iS		37	09			55	50			
20	iP	05	47	23		-5		+5			
	iP			27		+25	-	-20	+9.2		
	iS		48	01	1.2	200	175	175			
20	e	06	29	38					+9.1		Aftershock
	i		30	16							
20	e	06	36	51					+9.1		Aftershock
	i			55							
	i			34							
20	iP	11	13	33							Δ = 210 mi ESE
	iP			35		+30	-10	-	+8.6		
	iS		14	11	1.0		60	90			
20	iP	14	16	39	1.6			+18	+8.3		Δ = 1520 mi
	eS		20	39							
20	iP	21	40	05		+10	-1	+6	15:00	+7.5	Δ = 60 mi W
	iS			17		40					

SHASTA DAM SEISMOLOGICAL STATION MONTH OF December 19 42

Bureau of Reclamation and
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
21	iP	13	09	02	1.2	+30	-20	+88		
	ipP			38.5		+12	?	+24	+5.8	
	i		10	49						
	i		16	53						
	i		18	10						
21	iP	21	36	35				+10	15:00	
	i			50					+4.8	
	i			57						
22	iP	04	26	19	2.5			-12	+3.9	
22	e	05	59	12					+3.7	
	i			52						
22	eP	06	03	22					+3.7	
	iP			27		+40	-20	-40		
	i			51						
	i		04	00						
	iS			02	0.9	100	75	70		
22	e?	06	33	57	1.5				+3.7	
22	e	15	39	06					15:00½ +2.4	
23	iP	05	32	58.5		-		-15	+0.5	
23	iP	14	11	45.5	1.2			+20	-0.6	
24	iP	13	18	36.5	0.6	+80	-12	+20	15:00½	Δ = 120 mi North of West
	iS			59					-3.5	
			19	00.5		80	60	40		
24	iP	18	18	35				+6	15:08 -4.2	
26	iP	00	41	02			-		15:00½	Δ = 55 mi NW?
	iS			13			35		-8.2	
26	iP	01	23	50		+10	-15	+8	-8.3	Δ = 60 mi NW
	iS		24	02			30			
26	eP	04	44	10					-8.7	
26	iP	12	40	56	1.0	+		+5	-9.8	
	i		41	08						
	i			23				18		
27	iP	04	28	19				-12	15:00½ -12.7	

SHASTA DAM SEISMOLOGICAL STATION — MONTH OF December 1942

Bureau of Reclamation and
Coast and Geodetic Survey

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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t	Remarks
27	iP	16	51	35	1.0			+4	15:02 -15	
	i			47	1.3			30		
27	e	23	27	34						
	e		28	42					-16	
27	iP	23	41	22		-4	-2	+3	-16	△ = 40 mi ENE
	iS			30			50			
29	e	03	55	12					15:00½ -20½	
29	iP	04	45	38		-3	+10	+24	-20+	Compression from NW
	iP		46	08						
29	e	06	07	21					-20.5	
	i			47						
29	eP	09	13	50			-10		-21	
29	e	18	18	56					-23.9 15:00½	
	i			59		+8	+20			
	i		19	32	0.7	50	32	31		
29	e	23	22	37				-?	-2.3	
	iP			40				+10		
30	iP	02	09	11	0.2	+28	+9	+15	-23.3	△ = 55 mi WSW
	iS			12.2		60	75			
31	iP?	02	07	51				-10	15:00½ -26.7	
31	iP	12	14	38.5	1.5			+8		
	e		18	51					-28+	
31	e	19	25	05					15:01 -29.0	

SHASTA DAM SEISMOLOGICAL STATION

MONTH OF December 31 1942
January 1943

Bureau of Reclamation and
Coast and Geodetic Survey

R. M. is hour and minute of flasher mark at end (or beginning) of record.
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Date	Phase	G. C. T. h	m	s	Period T	Trace Amplitude, .01 mm E	N	Z	R. M. △t		Remarks
Dec. 1942											
31	iP?	02	07	51				-10	15:00½	-26.7	
31	iP	12	14	38.5	1.5			+8			
	e		18	51					-28+		
31	e	19	25	05					15:01	-29	
Jan. 1943											
1	iP	03	36	57.5			+	-18	15:00	+30	
1	iP	18	27	34.7	1.0	+		+10	15:00½	+28.2	
	i		29	36							
1	eP	22	25	25					+27.7		
	i			35							
	i		26	31	1.0	100	60	75			
3	iP	03	06	34.5	1.2			-10	15:00½	+23.7	
3	iP	20	41	03.5					15:00	+21.0	Very small regional shock. △ = 80 mi
	iS			20		20					
4	eP	11	00	09				+	+18.3		
	e		03	03							
4	eP	11	31	03					+18.2		Small regional shock.
	iS			43		25					△ = 220 mi.
4	iP	19	30	26.1		+12	+5	-5	15:00½	+17.0	Blast? △ = 9 mi
	iS			28.0				+30			
4	iP	23	25	39.2		+175?	-80	-	+16.3		Light local shock.
	i?			45.2							△ = 60 mi ESE
	iS			51.7			290				
5	iP	00	22	32.4		+10	-9		+16.2		Probably a blast.
	iS			33.6							△ = 6 mi
5	iP	03	20	45.3		+8	-4		+15.7		Very small local shock.
	iS			49.8							△ = 33 mi
5	iP	05	22	37.5		+9	-5		+15.3		Very small local shock.
	iS			42.0							△ = 33 mi.
6	iP	22	20	30.3				-10	15:00	+08.5	Small local shock.
	iS			35.4							△ = 25 mi
7	iP	03	40	48.3	1.0	-		-14	+07.6		
	i			53				30			