Lake Mead
complete 1942
International
Seismological
Centre

Lake Mead Seismological Stations

INSTRUMENTAL CONSTANTS - 1942

BOULDER CITY, Nevada, Bureau of Reclamation, Administration Building.
Tom C. Mead, in charge.

Position: Lat. 35° 58' 51" N., Long. 114° 50' 02" W., elevation 776 m.
Underlying ground--fractured Monzonite.

Instruments:
WOOD-ANDERSON torsion seismometer: E-W component. M = 1.19g; T_o = 0.95 sec.; ↼ = 19:1; V = 2220; photographic recording, 60 mm per minute. Time corrections obtained several times daily by radio and automatically impressed upon the record. Impulse upward corresponds to eastward ground movement. Use beginning of time breaks.

OVERTON, Nevada.
D. S. Carder in charge; Perry Convis, Observer.

Position: Lat. 36° 31' 52" N., Long. 114° 26' 33" W., elevation 395 m.
Underlying ground--terrace gravel overlying fine playa silt with gypsum cement.

Instruments:
NEUMANN-LABARRE vibration meters: E-W component,--T_o = 0.65 sec.; ↼ = ca 6:1; V = ca 8000; photographic recording, 15 mm per minute. Trace up represents ground motion west. N-S component,--T_o = 0.65 sec.; ↼ = ca 6:1; V = ca 6000; photographic recording, 30 mm per minute; trace up represents ground motion north. Time corrections obtained several times daily by radio and automatically impressed upon the record. Seismograph is disturbed at least twice daily by passing train at a distance of about 800 feet.

PIERCE FERRY, Arizona.
D. S. Carder in charge; Harry Fitch, observer.

Position: Lat. 36° 07' 15" N., Long. 114° 00' 17" W., elevation 417 m.
Underlying ground--terrace gravel overlying fine playa silt with gypsum cement.

Instruments:
SURVEY vibration meters: E-W and N-S components. T_o = 1.5 sec.; ↼ = ca 6:1; V = ca 1000. Photographic recordings, 30 mm per minute, both components on same drum. Impulse upward corresponds to southward and westward ground motion.

PATTERSON vibration meter: Vertical component. T_o = 0.65 sec.; ↼ = ca 4:1; V = ca 6000; photographic recording, 30 mm per minute. Impulse upward corresponds to downward movement. Time corrections obtained several times daily by radio and automatically impressed upon the record. Use beginning of time breaks.

Confidential-not for publication.

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BOULDER DAM, Arizona. In an unused grouting gallery off the second level near the Arizona abutment. Tom C. Mead, in charge.

Position: Lat. 36° 00' 55.47" N.; Long. 114° 44' 11.86" W.; elevation 237 m. (777 ft.) Underlying ground--volcanic tuff.

Instruments:

SURVEY vibration meter: E-W component. T_o = 1.0 sec.; (- = ca 6:1; V = ca 1000; photographic recording, 60 mm per minute. Impulse upward corresponds to ground motion west. Time corrections made once daily from radio signals--impression made on record by telegraph key on successive half-minutes before the hour. Use beginning of time breaks. The station was placed in service April 18, 1941. The instrument registers vibration (period 0.8 sec.) when water is allowed to escape in large quantities over the spillways or through the valves.

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LAKE MEAD SEISMOLOGICAL STATIONS

Notations used in instrumental reports, 1942

1. Wave groups or phases:

P First preliminary tremors; longitudinal waves. Used for the present without differentiation.

PP Normal longitudinal waves reflected once at the earth's surface.

PPP Normal longitudinal waves reflected twice at the earth's surface.

S Second preliminary tremors; transverse waves. Used for the present without differentiation.

SS Normal transverse waves reflected once at the earth's surface.

SSS Normal transverse waves reflected twice at the earth's surface.

G Surface shear waves in which the earth particles oscillate in the horizontal plane normal to the direction of propagation.

L Long waves, unidentified, at the beginning of the surface phase or "main phase."

M Waves of maximum amplitude in the main phase; generally applies to surface waves.

m Waves having maximum trace amplitudes, when different from iS; generally applies to local or regional shocks.

F Finis, end of vibration when longer than 0.1 min.

Δ Arcual distance from the station to epicenter. In local earthquakes, this symbol denotes distance from station to focus.

2. Nature of motion:

i Impulsive and sharply defined beginning of a phase.

e Poorly defined emergence of a phase.

T Period of wave.

In the Lake Mead reports, displacement of trace on record from rest position will be measured in millimeters and placed in column headed "Trace Amplitude."

3. Deduced data:

Epicentral distances or distances to origin of disturbance.

Local. . . . . .from 0 to 70 miles.

Regional (Near). . . . . .from 70 to 700 miles.

Distant. . . . . .over 700 miles.

Until further notice, distances of local shocks will be based on 4.9 miles per second S-P interval. Distances of regional shocks will be based on Gutenberg's 1931 travel time curves for Southern California.

4. Constants of seismograph:

T_o Free or undamped period of the seismograph pendulum.

V Static magnification.

ɾ Ratio of successive damped amplitudes.

M Weight of seismograph inertia mass measured in grams.

E, N or Z following a phase notation refers to E-W, N-S, or vertical component only.

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - - JANUARY, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule throughout the month.

No epicenters were definitely located in January. All of the shocks which were felt at Boulder City or Boulder Dam were within five miles of Boulder City and were not strong enough to be recorded at Overton or Pierce Ferry. A number of shocks had focal distances of ca 20 miles from Boulder City, but these were very small and were not recorded elsewhere.

The Boulder City seismograph continued to respond to vibration caused by water being released through the valves at the dam.

Shocks which were felt at Boulder City or Boulder Dam are listed and described below. (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

Date Jan.	G.C.T.	Intensity and Description
3	10h 52m	II Heard, rather than felt, by several in Boulder City.
4	11h 10m	IV Rapid vibrations and noise, estimated as lasting a "few" to "several" seconds; may have cracked plaster in one house in Boulder City.
6	(?) 05h 33m	III Felt and heard, estimated as lasting 3 or 4 seconds. Time not accurately given during the night, but put at 7:15 and 8:20 PST by observers.
7	06h 23m	III Felt in Boulder City. "House quivered from an abrupt moderate local shock."
9	05h 44m	III Felt in Boulder City. "Jarred the house; lasted 2 or 3 sec." "Light local shock."
10	02h 15m	II Momentary quiver in Boulder City, recognizable as a light earthquake.
28	23h 07m	III Felt at Boulder Dam. Described as lasting 2 or 3 seconds and consisting of 2 or 3 quick, bumpy shocks.
30	05h 29m	II Heard, rather than felt in Boulder City, very light, lasting 2 seconds.

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

MONTH OF January 1942

Time used is G.C.T.

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
1	iS	03	14	04	-	1.0																		
	Very small local disturbance.																							
1	e	03	42	07.5	time	± 1	sec.		e	03	42	10.5					e	03	42	14				
	e			50	0.4	0.2			e			55					eS		43	12	1.2	0.6	0.5	
	eS			53	0.8	0.9			iS			56		0.4				Δ = 268 mi.						
	F		45.6		Δ = 235 mi.					Δ = 248 mi.														
	Near shock.																							
1	e	05	23	07.7					-								-							
	iS			09.0	0.1	1.1																		
	Very small local shock. Δ = 6.5 mi.																							
1	iS	22	03	58	0.1	1.6			-								-							
	Small local disturbance.																							
1	e?	23	07	14					-								-							
	e			15																				
	i			16	0.1																			
	iS			17.6	0.6	1.3																		
	F		07.6																					
	Very small local shock. Δ = 17? mi.																							
2	iP	09	57	40.5	0.1	-1.0			-								-							
	iS			41.8	0.2	7																		
	F		57.9																					
	Light local shock. Δ = 6.5 mi.																							
3	e	02	11	13.7		-0.2			-								-							
	iS			15.1		1.6																		
	Small local shock. Δ = 7 mi.																							
3	iP	10	52	20.0	0.1	-1.0			-								-							
	iS			21.3		4.1																		
	F		52.6																					
	Small local shock. Heard by several in Boulder City. Δ = 6 mi.																							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
3	iP	19	30	58	0.2	1.2		
	iS			59.2	0.2	2.5		
	F		31.1					
	Small local shock. Δ = 6 mi.							
3	-							
4	iP	11	10	49.2	0.1	1.0		
	iS			50.0		12.		
	F		14.3		Δ = 4 mi.			
	Exact time uncertain.							
	Light local shock.							
	Felt at Boulder City. Epicenter uncertain.							
4	e	11	15	11.5				
	iS			12.5	0.1	2.5		
	F		18.5					
	Small local shock. Δ = 5 mi.							
4	e	17	31	33.2				
	iS			34.0	0.2	1.2		
	Very small local shock. Δ = 4 mi.							
5	-							
6	iP	05	33	00	0.1	0.2		
	iS			01	0.15	7.2		
	F		33.4		Δ = 5 mi.			
	Light local shock. Heard by several during night; time put at 7:15 and 8:20.							
6	iP	21	37	44.7		0.3		
	iS			45.2	0.2	1.6		
	Very small local shock. Δ = 2.5 mi.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
i	19	38	34	blur	1.5		
Local shock. Δ may be 5 to 10 mi.							
ePE	11	11	00				
iSE			08		1.0		
iSN			10				
Δ = 40.5 mi.?							
-							
-							
iP	22	11	47				
iS?			48		1.7		
Local shock. Δ = 5+ mi.							
-							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	11	11	00?	Δ = 45 mi.?			
eS		11	10		0.1	0.15	
Boulder Dam							
eP	11	10	49.5				
iS			50.5	0.6	2.0		
Δ = 5 mi. Exact time uncertain.							
-							
-							

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Time used is G.C.T.

BOULDER CITY

OVERTON

PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
7	iP	06	23	00.8	0.1	-0.5		
	iS			01.8	0.2	7.5		
	F		23.5					
	Light local shock. Δ = 5 mi. Felt by few in Boulder City.							
7	iS	20	23	34	0.2	0.9		
	Very small local disturbance.							
8	iS	12	54	18.5	0.6	0.8		
	F		54.6		Δ = 60 mi.?			
	Very small near shock.							
8	e	15	21	49.5	1.5			
	F		25					
	Faint seismic waves.							
8	-							
9	iP	05	44	10.5	.05	-0.8		
	iS			11.4	.2	10		
	F		44.5					
	Light local shock. Δ = 4.5 mi. Felt at Boulder City.							
9	e?	05	45	18.1				
	iP			18.5	0.1			
	iS			19.3	0.1	2.5		
	Small local shock. Δ = 4 mi.							
9	-							
9	i	18	46	38.0	0.2	0.6		
	i			39.3	0.2	1.2		
	F		46.8					
	Very small local disturbance.							

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON							
-							
e?	12	54	12				
eS			31		0.2		
Δ = 84 mi.?							
e	15	21	52				
eP	20	30	39				
iS			41		2.6	0.5	
Local shock. Δ = 10 mi.							
-							
-							
-							

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY							
-							
iS	12	54	29.0		0.4	0.5	
Δ = 82 mi.?							
Boulder Dam							
eS?	12	54	18.5	0.7	0.3		
i	15	21	47				
-							
e	14	36	09		1.5	1.5	
Local shock. Δ = 5 to 10 mi.							
-							

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Time used is G.C.T.

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	e	19 31 35.6			-				-			
	iS	37.2	0.2	0.4								
	Very small local shock. Δ = 8 mi.?											
9	iP	22 07 53.4	0.1	-0.5	-				-			
	iS	54.4	0.15	4.0					Boulder Dam			
	F	08.1							eS?	22 07 54.0		0.1 faint
	Small local shock. Δ = 5 mi.											
9	i	23 17 53	0.1	-0.3	-				-			
	i	55	0.1	1.1								
	Very small local shock. Δ = 10 mi.?											
10	e	16 36 39			-				-			
	i	41.3	0.2	0.3								
	iS	43.7	0.8	1.0								
	F	36.9										
	Very small local shock.											
10	e	19 50 13			-				-			
	i	17	0.5	0.4								
	m	20	0.5	0.8								
	F	50.5										
	Very small near shock?											
11	iS	02 15 08	0.1	1.3	-				-			
	Very small local disturbance. Felt at Boulder City.											
11	-				iP	21 29 51		0.3				
					iS	53		2.5				
					Local shock. Δ = 10 mi.							
12	-				-				e	16 21 46		0.6
									F	22.5		
									Faint seismic waves.			

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Time used is G.C.T.

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
12	e?	16	24	51					-								-							
	e		25	09																				
	iS			12	0.6	0.9																		
	F		26.0																					
	Very small near shock.																							
13	e?	03	03	11					-								-							
	iS			21	0.7	1.1																		
	Very small near shock.																							
13	e?	03	46	39	0.3				-								-							
	iS			49.5	0.6	0.8																		
	Very small near shock.																							
13	e	17	31	11					-								-							
	iS			14																				
	m			16	0.4	1.0																		
	F		32.1																					
	Very small local shock. Δ = 25 mi. or more.																							
14	iP	10	33	22.8	0.05	1.5			-								-							
	mp			23		2.5																		
	iS			23.8	0.1	7.5																		
	F		34.1																					
	Light local shock. Δ = 4 to 5 mi. May be a blast.																							
14	eS	21	23	36					eS	21	23	54		0.2			-							
	m			39	0.2	0.8																		
	F		23.9																					
	Faint seismic waves of local to near shock.																							
14	-								iP	22	01	36					-							
									iS			38		2.4										
									Local shock. Δ = 10 mi.															
14	iS	23	38	32					-								-							
	m			36	0.3	0.7																		
	F		38.8																					
	Faint seismic waves of local to near shock.																							

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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
15	eS	04	05	49	0.1				-								-							
	m			54	0.2	0.7																		
	F		06.1																					
	Faint seismic waves of local to near shock.																							
15	-								eP	17	52	28		1			-							
									iS			47		2										
									Near shock. Δ = 90 mi.															
15	e?	23	04	19					-								-							
	iS			20	0.2	1.5																		
	Very small local shock. Δ = 5 mi.																							
15	e	23	08	13					-								-							
	iS			13.5	0.2	1.7																		
	Very small local shock. Δ = 2.5 mi.																							
15	iS	23	17	09	0.1	1.3			-								-							
	Very small local disturbance.																							
16	e?	05	16	54.7					-								-							
	iS			55.5		1.8																		
	Small local shock. Δ = 4 mi.																							
16	iS	05	19	08	0.2	1.1																		
	Very small local disturbance.																							
16	iS	05	35	08	0.2	0.9																		
	Very small local disturbance.																							
16	iP?	15	43	26.3	0.2	0.3			e	15	43	36?					-							
	iS			31.3	0.3	1.0			eS			45		0.2										
	F		43.8									Δ = 52 mi.												
	Very small local shock. Δ = 24.5 mi. May be in Detrital Wash, east of road pass.																							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
16	e	17	33	59.5	in minute mark			
	iS		34	03.2	0.6	1.7		
	F		34.5					
	Small local shock. Δ = 18 mi.							
16	e	18	01	37.3	0.2			
	eS			47.1	0.3	0.3		
	F		02.1					
	Very small local shock. Δ = 48 mi.							
17	iS	07	35	38		1.6		
	Small local disturbance.							
17	eP	20	31	23.8				
	iP			24.3	0.2			
	iS			28.2	0.3			
	iS			29.8	0.4	1.5		
	F		31.8					
	Small local shock. Δ = ca 22 mi.							
17	e	23	31	34	3			
	F		37					
	Seismic waves. Distant earthquake.							
18	e	23	17	30.3				
	iS			30.8	0.15	1.2		
	Very small local shock. Δ = 2.5 mi.							
18	iP	23	54	53.3	0.1	1.2		
	iS			54.6	0.2	13		
	F		55.3					
	Light local shock. Δ = 6.5 mi.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eS	17	34	17		0.2		
e			22				
-							
-							
-							
e	20	31	34.5				
eS			42				
iS			46		0.4		
Δ = ca 48 mi.							
e	23	31	47	1.5			
-							
iS	23	55	10.5		1.0		
Δ = 38 mi.							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
e?	23	24	16				
iP			19	1.5	0.2		0.2
eS		31	19	4			
i			30	4	0.5		0.4
M			37				
F		37		Δ = 3280 mi.			
-							
-							

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
19	eS	06	27	35	0.4	0.3		
	F		28					
	Δ = 164 mi.							
	Epicenter NW of Sharps or Adaven, near 38.2° N Lat, 116° W Long.							
19	e?	07	35	31.8				
	eS			49.3	0.5	0.4		
	Δ = 88 mi.							
	Near shock. Epicenter near Pharanagat Lake.							
19	-							
19	-							
20	iP	01	32	04.6	0.15	0.4		
	iS?			08.7	0.2	1.0		
	iS			09.3	0.3	1.8		
	F		32.5					
	Small local shock. Δ = 20 mi.							
20	iS	05	47	54	0.2	1.5		
	Small local disturbance.							
20	e	06	11	23.1				
	iS			24	0.1	1.2		
	Very small local shock. Δ = 4.5 mi.							
20	eP	06	30	15.6	1.7	-0.2		
	eS		34	00	11			
	M		39	55	7	1.5		
	F		54					
	Distant earthquake. Δ = ~~1400~~ 1350 mi.?							
	Epicenter 17.5° N Lat. 106° W. Long; O = 6 h 25.6 m according to U.S.C. & G.S.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e?	06	26	54.6				
eP			55.7				
iS		27	24	1	4.8	2.5	
Δ = 144 mi.							
eP	07	35	22.5				
iS			34.7		3.6	0.7	
F		36.2		Δ = 60 mi.			
iS	22	23	01		1.0		
Small local disturbance.							
-							
-							
-							
-							
eP	06	30	16	2			
e		34	10	10			
M		39	06	7	0.2		

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP?	06	27	03.5				
iP			04.0	1	-0.1	+1.2	
eS			41	12	0.2	0.4	
Δ = 177 mi.							
e?	07	35	33				
eS			51				
eS			54.5	1	0.3	0.3	
Δ = 90 to 98 mi.							
-							
iP	23	40	02.3		+0.7	+0.7	
iS			03.8		1.5	1.5	
Local shock. Δ = 7.5 mi. NE or SW							
-							
-							
-							
eP?	06	30	09.5				
eP			11	0.9	-0.2	+0.3	
eS		33	58	11			
M		38	20	17	0.8	0.4	

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
20	-							
20	eP	21	32	03.0	0.1			
	eS			07.0	0.3	0.9		
	Very small local shock. Δ = 20 mi.							
20	e?	21	51	04				
	e			07	0.2	0.3		
	F		51.4					
	Very small local disturbance.							
20	e	22	47	05.2	0.2			
	i			07.5	0.3	0.8		
	i			09.0	0.3	1.3		
	F		47.4					
	Very small local disturbance.							
21	iP	03	11	49	0.2	1.0		
	iS			49.7		2.3		
	Small local shock. Δ = 3.5 mi.							
21	e	05	14	24.8				
	eS			55.4	0.3	0.3		
	F		15.4					
	Small near shock. Δ = 145 mi.							
21	e?	14	31	32				
	eS?			58				
	F		32.5		Near shock.			
21	iP	15	21	50	0.12	0.2		
	iS			51	0.15	3.0		
	Small local shock. Δ = 5 mi.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	16	12	22.5		8.7		
iS?			25		2.2		
Local shock. Δ may be 12 mi.							
-							
-							
-							
-							
e	05	14	30				
eS		15	16				
Disturbance. Δ = 180 mi.?							
e	14	31	42				
iS		32	22		0.3		

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
eP	05	14	34				
eS		15	11				
M			14	1.5	0.4	0.3	
Δ = 180 mi.							
e	14	31	40				
eS		32	17	1.2	0.3	0.4	

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Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
22	iP	13	17	30		1.0		
	iS			30.8		3.5		
22	-							
24	e	21	42	57	1	0.2		
	F		44.3					
	Near shock. Δ may be 300 to 400 mi.							
25	e	16	09	59				
	e		10	20	0.3	0.3		
	F		11.3		Near shock.			
25	eS	16	14	52	0.4	1.2		
	Small local shock.							
25	iS	16	42	31		2.0		
	Small local shock.							
25	e	20	44	55				
	eS		45	00.5	0.7	0.9		
	Very small local shock. Δ may be 22 mi.							
25	eT	21	52	18				
	i			22.6				
	iS			45.5	0.4	1.0		
	F		54		Near shock, 180 mi. SW.			
26	iS	12	25	49		1.8		

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
Disturbance in minute, not seismic.							
iP	22	39	14		0.3		
iS			16		1.8		
Small local shock.							
e	21	43	18				
e	16	10	31				
eS		11	05		0.5		
-							
-							
-							
eP	21	52	28				
iS		53	04		1.1		

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
e?	21	42	08				
eP			21				
eS		43	18				
M		44	06	1	0.6	0.3	
F		45.6					
e	16	10	29				
eS		11	05				
-							
-							
-							
eP	21	52	26.5				
eS		53	04		0.8	0.8	0.8
Δ = 220 mi.							

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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
26	iP	12	54	33.3		-0.8			-								-							
	iS			33.8	0.3	5.5																		
	F		54.7																					
	Light local shock. Δ = 2.5 mi.																							
27	e?	13	48	17					-								e	13	48	04				
	eS		57	20	13												eS		57	28	15			
	eL	14	20	15	23												eL	14	24	18	22			
	F		47																					
	Faint waves of distant earthquake.																							
27	iS	21	23	32		0.8			-								-							
	Very small local disturbance.																							
28	iP	17	26	20.0	0.2	0.2			-								-							
	iP			20.6	0.2	0.3																		
	iS			22.9	0.3	0.8																		
	iS			23.6	0.4	1.0																		
	F		26.6																					
Very	Small local shock. Δ = 14 to 18 mi.																							
28	e	21	13	16					-								-							
	eS			19.4																				
	eS			20.3	0.2	1.0																		
	F		13.5																					
	Very small local shock. Δ = 12 to 16 mi.																							
28	e	23	06	57.8					-								-							
	iP			58.3	0.3	-0.5																		
	iS		07	00.5	0.1	1.3																		
	iS			00.8	0.3	2.3																		
	F		07.3																					
	Small local shock. Δ = 13 mi. Felt at Boulder Dam.																							

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No. / Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
28	BOULDER CITY	iP	23	18	59.8	0.11	0.8		
		iS		19	01.3	0.16	3.0		
		F		19.3					
		Small local shock. Δ = 7.5 mi.							
	OVERTON	-							
	PIERCE FERRY	-							
29	BOULDER CITY	e	09	36	10.3				
		iP			13.3	1.5			
		eS?		47	43	5			
		F		51					
		Distant earthquake.							
	OVERTON	-							
	PIERCE FERRY	eP	09	36	42				
		eS?		47	30	5			
30	BOULDER CITY	iP	05	29	27.4		0.2		
		iS			28.2	0.2	5.2		
		F		30.1					
		Light local shock. Δ = 4 mi. Earthnoise in Boulder City.							
	OVERTON	-							
	PIERCE FERRY	-							
31	BOULDER CITY	e	01	29	41				
		iS			43.5				
		m			47	0.5	1.3		
		F		30					
		Small local shock.							
	OVERTON	-							
	PIERCE FERRY	-							
31	BOULDER CITY	e	06	53	44	2			
		eS		58	36	4			
		F	07	06.5					
		Distant earthquake.							
	OVERTON	e	06	53	19				
		eS		58	01				
	PIERCE FERRY	eP	06	53	30				
		eS		58	21				
		Δ = 1930 mi.							
31	BOULDER CITY	iP	14	16	30.5		0.2?		
		iS			31	0.1	2.5		
		Small local shock. Δ = 2.5 mi.							
	OVERTON	-							
	PIERCE FERRY	-							
31	BOULDER CITY	-							
	OVERTON	iP	21	41	45		0.5?		
		iS			47		1.8		
		Local shock following train disturbance. Δ = 10 mi.							
	PIERCE FERRY	-							

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LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - -FEBRUARY, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule throughout the month.

Tentative epicenters were located in the Lake Mead region as follows:

No.	Date Feb.	G.C.T.	Location
1	1	01h 44m 12s	Very small shock recorded at three stations. Tentative epicenter at the south end of Dry Lake, 13 miles SW of Boulder City, Nevada.
2	1	03h 42m 47s	Small shock, tentative epicenter near the Boat Landing 5 miles NNE of Boulder City.
3	26	19h 36m 48s	Small shock, epicenter 5 miles NW of Boulder Dam, about a mile north of #2 above.

Shocks which were felt at Boulder City or Boulder Dam are listed and described below. (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date Feb.	G.C.T.	Intensity and Description
2	1	03h 42m	III Abrupt, momentary shock felt by several in Boulder City.
	6	05h 34m	III Abrupt shock of two seconds or less, felt by observer at Boulder City.
3	26	19h 36m	III Abrupt shock of about one second duration, felt by observer at Boulder City.

Confidential-not for publication.

EPICENTERS IN THE LAKE MEAD REGION, FEBRUARY 1942

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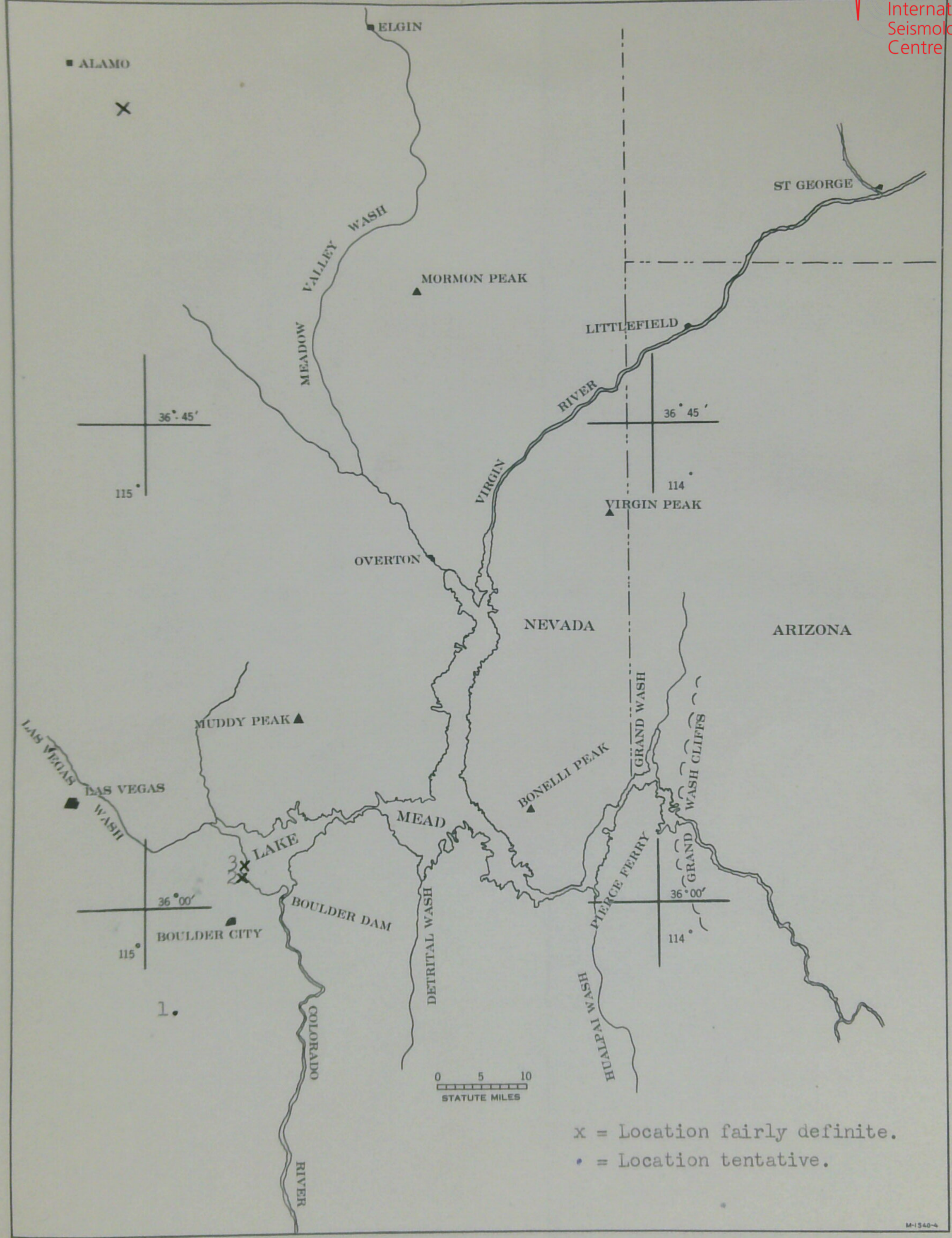

1.

x = Location fairly definite.

• = Location tentative.

M-1540-4

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY									
1	1	iP	01	44	12.4	0.2	-0.3		
		iS			15.1	0.2	1.1		
		F		45		Δ =	13	mi.	
		Very small local shock. Epicenter South end Dry Lake, 13 mi. SW of Boulder City.							
2	1	iP	03	42	46.7	0.1	-0.3		
		iS			47.9	0.15	2.5		
		F		43		Δ =	6	mi.	
		Small local shock. Tentative epicenter near Boat Landing 5 mi. NNE Boulder City. Felt in Boulder City.							
	1	eP	15	16	36				
		iS		17	07	0.3	1.0		
		F		17.7		Δ =	150	mi.	
		Small regional shock.							
1		eP	15	19	05.5	0.2	0.2		
		iP			11.8	0.6	0.5		
		e			17.3				
		iS?			34.5	0.8			
		iS			38	0.4			
		iS			40.5				
		M			45	0.9	8.0		
		F		23.8		Δ =	145	to 150	mi.
		Regional shock.							
1		e	16	04	12.8	0.4			
		iP			15.7	0.7	-0.3		
		iS			44	0.6			
		iS			47	0.7			
		M			50	1.0	5.2		
		F		07.8		Δ =	150	to 165	mi.
		Regional shock.							

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON							
eS	01	44	37.5		0.1	0.1	
	Δ = 57.5 mi.						
iS	03	43	05		0.2		
	Δ = 40 mi.						
e?	15	16	47				
iP			52				
iS		17	27				
M			35		1.2		
	Δ = 190 mi.						
e	15	19	15				
iP			18				
iP			24				
i			54				
iS			59		0.5		
M		20	07		1	17	
	Δ = 200 mi.						
eP	16	04	22				
iP			30		0.3	-1.4	1.2
eS			54				
iS		05	06				
M			20		1.0	5.6	15.
	Δ = 170 mi.						

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY							
eS?	01	44	37.5				0.1
	Δ = 57.5						
Boulder Dam							
e	03	42	45				
eS			46.5	Δ =	6	mi.	
eP	15	16	42				
iP			49				
e			56				
eS		17	25		0.5	0.5	
eP	15	19	14				
iP			21				
i			27				
i			42				
i			50				
iS			58				
M		20	03	1	7	8	
eP	16	04	20				
iP			27		-0.2	-0.2	-0.
i			33				
eS		05	01				
i			02				
iS			04				
M			10	1.2	5.2	4.4	

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
3	iP	21	27	59.9	0.2	0.2		
	i?		28	02.2	0.2	0.7		
	iS			04.4	0.3	0.9		
	F		28.3		Δ = 11 to 24 mi.			
	Very small local shock.							
4	-							
5	-							
5	eS	07	32	42.8	0.5	0.7		
	Δ = 85 mi.							
	Very small regional shock.							
	Epicenter near Mahranagat Lakes 8 mi. SE of Alamo.							
5	-							
6	e	01	59	33				
	eP			33.8				
	iS			36.2	0.3	0.9		
	iS			37.2	0.3	1.6		
	F		59.9					
	Small local shock. Δ = 167 mi.							
6	eP	05	34	32	0.1	0.3		
	iS			32.3	0.3	1.5		
	M			32.5		2.5		
	Small local shock. Δ = 1.5 mi. Felt in Boulder City.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eS?	21	28	09		thickening of line		
	Δ = 31 mi.?						
iP	19	59	03				
iS			05		1.2		
Local shock in time signal. Δ = 10 mi.?							
eP	05	04	25				
iS			26		1.3	1.3	
Local shock. Δ = 5 mi.?							
eP	07	32	17				
eP			18		0.3		
iS			28.5	0.5	2.4	2.4	
F		33.1		Δ = 56 mi.			
-							
-							
-							
-							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
eP	07	32	26				
iS			45		0.8	0.4	0.5	0.5
Δ = 96 mi.							
iP	10	09	59.0				0.5
iS		10	00.7				1.0
Small local shock. Δ = 8 mi.							
-							
-							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
7	e	22	01	11.0				
	iS			11.5	0.3	1.7		
	Small local shock. Δ = 2.5 mi.							
8	iS	01	41	31	0.2	1.3		
	Very small local disturbance.							
8	iS	03	37	04	0.2	1.9		
	Small local disturbance.							
8	iP	05	16	51.7	0.15	0.8		
	iS?			54	0.18	1.5		
	iL?			58.5	0.8	2.0		
	F		17.4		Δ maybe 11 mi.			
	Small local shock.							
10	iP	02	25	20				
	iS			21.1	0.2	2.5		
	F		25.5					
	Small local shock. Δ = 5 mi.							
10	-							
10	e	05	35	17.6				
	iS			18.7	0.2	1.2		
	Very small local shock. Δ = 5 mi.							
10	iS	19	00	55	0.2	1.2		
	Very small local disturbance.							
11	eS	11	26	53				
	eS		27	00		.15		
	F		35.9					
	Distant earthquake.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
eP	03	18	06				
iS			08		1.2		
Small local shock. Δ = 10 mi.							
-							
e	11	23	50				
eS		26	56	2			
F		33.5					

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
eP	11	23	40				-0.1
iP			43		1.0	0.2	-0.2
eS		26	21				
iS			49		2.0	0.4	0.2
M		27	10		2.0	0.5	0.4
F		36.2					

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	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
13	eP	06	31	14					-								eP	06	31	08				
	Faint waves of a distant earthquake.																iP			18				
																	eS		41	30				
13	eP	10	26	58.9	0.2				e?	10	27	08					e	10	27	10		in minute mark.		
	iS		27	29.1	7				eP			10					eP			11.6		0.1	0.2	0.2
	M			36	0.5	1.2			iE			12					eS			43.5				
	F		29.6						iS			50					iS			45				
	Δ = 155 mi., probably SW								iS?			55	0.7	2.0	1.8		M			52	0.7	1.7	1.2	
	Regional shock.								Δ = ca 195 mi.								Δ = ca 190 mi.							
13	iP	15	57	36.6	0.05	-0.3				15	58						e?	15	58	01				
	iS			39.7	0.2	0.9			Train disturbance.								Δ = 60? mi.							
	F		58.1		Δ = 15 mi.																			
	Very small local shock.																							
13	-								eP	22	00	56					-							
									iS			58		2.6	1.4									
									Local shock. Δ = 10 mi.															
13	-								iS	22	20	36		0.7	0.9		-							
									Small local disturbance.															
14	i	16	28	35					-								-							
	iS			38.5	0.3	0.5																		
	Very small local shock. Δ may be 17 mi.																							
15	e	01	16	09.8	0.2	0.1																		
	i			12.3																				
	iS			14.2	0.5	0.9																		
	F		16.5																					
	Very small local shock. Δ may be 15 mi.																							

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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
15	iP	05 14 34.4	0.2	0.2			-						-					
	i	37.7																
	iS	40.3	0.5	0.6														
	F	14.8		Δ may be 25 mi.														
	Very small local shock.																	
16	iP	02 14 18	0.2	0.2			-						-					
	iS	19		2.3														
	Small local shock. Δ = 5 mi.																	
16	e	18 20 55	1.7				-						-					
	Faint seismic waves.																	
16	eP	22 48 48.4					-						-					
	i	51.3	0.17															
	iS	52.7	0.5															
	m	54.6	0.5	1.1														
	F	49.1																
	Very small local shock. Δ may be 18.5 mi.																	
18	iP	01 17 07.7	0.1	0.1			-						-					
	i	10.8	0.2	0.9														
	iS	13.3	0.6	0.7														
	F	17.4																
	Very small local shock. Δ may be 27.5 mi.																	
18	iP	02 23 08.6	0.1	-0.4			-						-					
	iS	10.3	0.4	0.8														
	F	23.5																
	Very small local shock. Δ = 8.5 mi.																	
18	-						eP	17 06 47										
							iS	49		2.5								
							Local shock. Δ = 10 mi.											
18	iS	19 51 14	0.2	1.0														
	Very small local disturbance.																	

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Time used is G.C.T.

M-1023.

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	e	20	49	49	0.2				-								-							
	eS			53.5	0.4																			
	m			56	0.6	0.4																		
	Very small seismic waves. Δ may be 22.5 mi. Maybe local?																							
18	iP	22	27	58.5	0.2	0.2																		
	i		28	02.0	0.3	0.8																		
	iS			03.4	0.4	0.9																		
	m			05.0	0.5	1.2																		
	F		28.3																					
	Very small local shock. Δ = 24 mi.																							
19	e	04	40	19	0.3	0.3																		
	Very small seismic waves, probably local.																							
19	i	06	53	47	0.2	0.5																		
	Very small local disturbance.																							
20	iP	21	24	43.4	0.12	0.3																		
	iS			45.7	0.2	0.6																		
	m			46	0.4	0.8																		
	F		25.1																					
	Very small local shock. Δ = 12 mi.																							
21	iP	01	18	48.8	0.13	0.2			-								-							
	iS			51.5	0.2	0.7																		
	m			53.5	0.5	0.9																		
	F		19.2																					
	Very small local shock. Δ = 13 mi.																							
22	-								eP	00	21	28												
									iS			30		1.0	0.6									
									Small local shock. Δ = 10 mi.															

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Bureau of Reclamation, National Park Service
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MONTH OF FEBRUARY 1942 7

Time used is G.C.T.

	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
22	iP	04	40	48.1	0.1	0.1																		
	i			50.3	0.2	0.8																		
	iS			51.8	0.2	1.0																		
	F		41.1																					
	Very small local shock. Δ may be 18 mi.																							
23	eP	11	28	02.0																				
	iS			02.5	0.2	1.8																		
	Small local shock. Δ = 2.5 mi.																							
24	-								e?	21	54	35.3												
									iS			37.0	0.5	2.0	1.7									
									Local shock. Δ = 8.5 mi.															
24	e	23	08	17	0.3	0.2																		
	Very small disturbance.																							
24	eP	23	23	06.6																				
	iS			08.0	0.2	0.8																		
	Very small local shock. Δ = 7 mi.																							
25	-								eP	0	29	45		0.5	0.2									
									iS			47		1.4	1.0									
									Local shock. Δ = 11 mi.															
25	eP	05	57	00	0.1	0.1																		
	iS			01	0.2	1.9																		
	Small local shock. Δ = 5 mi.																							
25	e?	16	09	41																				
	eS		10	27	0.6	0.1																		
	F		12																					
	Small regional shock. Δ = 255 mi.?																							
25	e?	16	12	20																				
	eS		13	04	0.6	0.3																		
	F		15.9																					
	Small regional shock. Δ = 245 mi.?																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF FEBRUARY 1942 8

Time used is G.C.T.

	No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY										
3		26	eP	19	36	48.0	0.1	-0.2		
			iS			49.2	0.2	4.4		
			F		37.1		Δ = 6 mi.			
			Small local shock. Felt by one in Boulder City. Epicenter 5 mi. NW of Boulder Dam.							
		26	e	20	19	52.7				
			iS			56.8	0.5	1.0		
			F		20.3		Δ = 20 mi.			
			Very small local shock.							
		27	eP?	01	09	36.0				
			iP			44.6	0.4	0.4		
			iS		10	11.7				
			iS			13.2	0.5	1.6		
			M			18	0.5	2.0		
			F		11.7					
			Regional shock. Δ = 190 mi.							
OVERTON										
			eS	19	37	06.0		0.1		
			Δ = 39 mi.							
			eS?	20	20	09	blur	0.1	0.1	
			Δ = 45 ± mi.							
			e?	01	09	53.2				
			iP			55				
			i		10	03				
			iS			31				
			iS			32.7	0.8	3.0	3.5	
			Δ = 230 mi.							
PIERCE FERRY										
			Boulder Dam							
			eP	19	36	47.7				
			iS			48.9		0.7		
			Δ = 5.5 mi.							
			Boulder Dam							
			eP?	20	19	55.1				
			Δ = 23 mi.?							
			eP	01	09	52				
			iS		10	30				
			M			36	1		2.2	
			Δ = 225 mi.							
			Boulder Dam							
			eS	01	10	14.2				
			M			21	0.8	0.8		
			Δ = 195 mi.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - MARCH, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule throughout the month.

Tentative epicenters were located in the Lake Mead region as follows:

No.	Date Mar.	G.C.T.	Location
4	2	05h 27m 6.5s	Tentative epicenter midway between Boulder City and Boulder Dam. Focal depth about 3½ miles.
5	26	17h 20m 12.1s	Epicenter 2 to 3 miles E of Boulder City. Depth about 8½ miles.
6	30	00h 51m 35.7s	Epicenter about 7 miles SE of Boulder Dam.

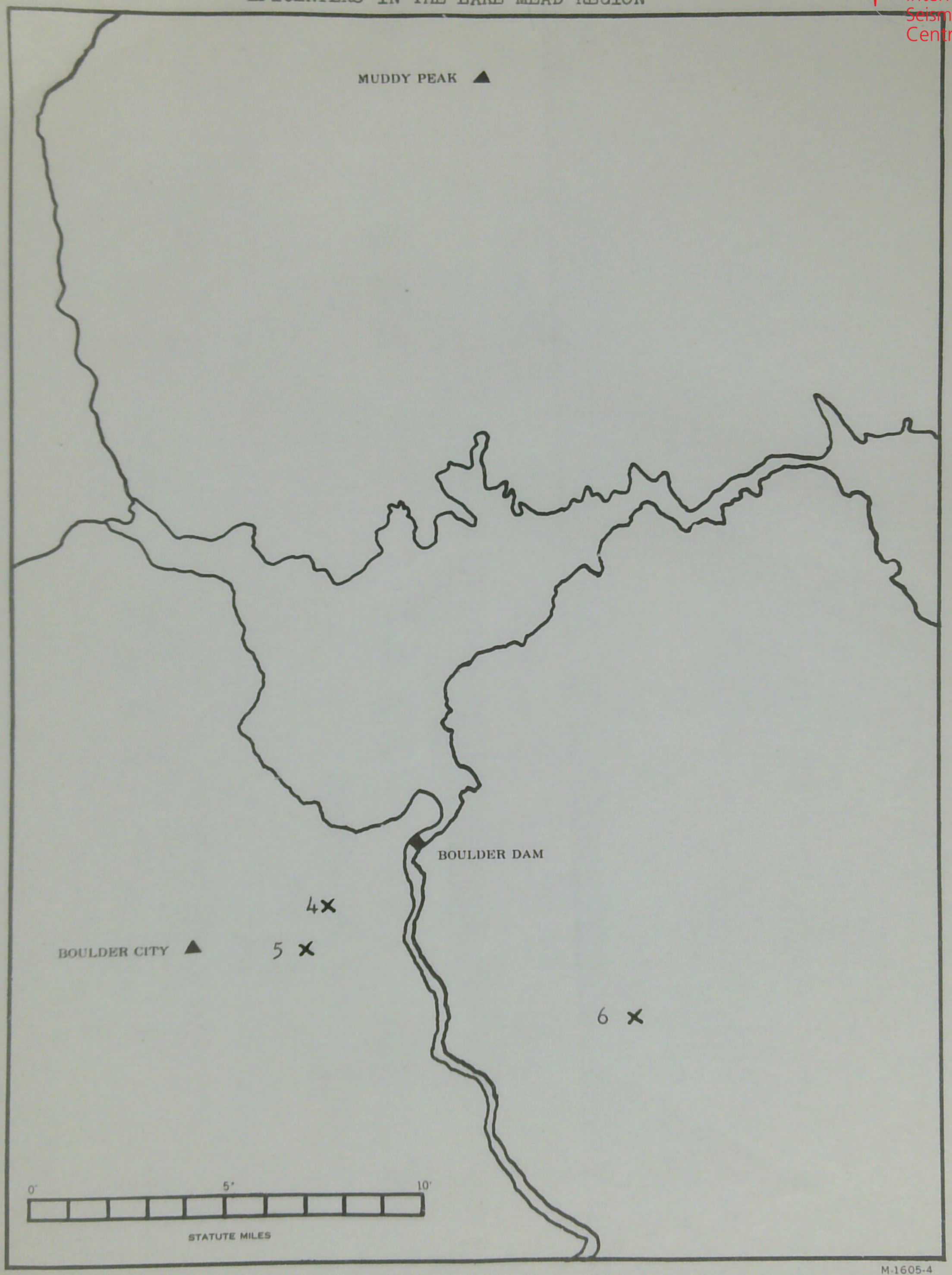
No shocks were felt at Boulder Dam. Shocks which were felt at Boulder City are listed and described as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date Mar.	G.C.T.	Intensity and Description
	1	16h 24m	II Felt by several. Light shock, mostly earthnoise.
	2	01h 19m	IV Sudden small shock, accompanied by deep rumble. Rattled dishes.
4	2	05h 27m	IV Slight quiver accompanied by sustained earthnoise. Rattled dishes.
	2	13h 33m	IV Light shock from nearby epicenter. Rattled windows and doors.
12		19h 32m	IV Light shock from nearby epicenter. Slight rattling of windows and doors.

Confidential-not for publication.

MARCH - 1942
EPICENTERS IN THE LAKE MEAD REGION

International Seismological Centre



M-1605-4

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 194[2]

Time used is G.C.T.

No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
1	BOULDER CITY	e	03	47	24	0.4	0.1		
		eS?			29				
			Δ = 34 mi.						
		Very small local or regional shock.							
	OVERTON	e	03	47	09				
		iS			12		0.6	1.0	
	PIERCE FERRY	e	03	47	07				
		iS			19.5	1.7	0.9	0.5	
		M			30				
		F		48.2		Δ = +15 mi.			
1	BOULDER CITY	e	05	04	48	0.2			
		i			52	0.3			
		M			53	0.6	0.8		
		F		05.0					
		Very small local or regional shock.							
	OVERTON	-							
	PIERCE FERRY	-							
1	BOULDER CITY	eP	09	58	23	1.7	-		
		eS?	10	08	06	9			
		M		17	53	12			
		F		33		Δ = 2160 mi.			
		Distant earthquake. Provisional epicenter 13° N Lat., 91° W Long.							
	OVERTON	eP	09	58	25				
		eS?	10	07	58				
	PIERCE FERRY	eP	09	58	18		-	+	+?
		eS?	10	08	12				
1	BOULDER CITY	e?	10	47	20				
		iS			49	0.8	0.7		
		i			53	0.5	0.9		
		F		48.7		Regional shock.			
		Δ = 160? mi.							
	OVERTON	e?	10	47	28				
		iS?		48	10				
		iS			15				
	PIERCE FERRY	e?	10	47	30				
		iS?		48	05				
		iS			07				
		Δ = 180 mi.?							
1	BOULDER CITY	e?	16	24	30				
		i			30.5				
		iS			31.0	0.3	2.8		
		Small local shock. Δ = 2½ to 5 mi. Felt in Boulder City.							
	OVERTON	-							
	PIERCE FERRY	-							
1	BOULDER CITY	e	19	14	26	0.3	0.2		
		F		15.3		Probably a regional shock.			
	OVERTON	e	19	15	09		0.1		
	PIERCE FERRY	e	19	14	57	1.5	0.2	0.3	
2	BOULDER CITY	eP	01	18	37	.06	+.4		
		iS			37.7	.13	7.2		
		F		18.8					
		Light local shock. Δ = 3.5 mi. Felt in Boulder City.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 194 2 2

Time used is G.C.T.

	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
4	2	iP	05	27	07.9	0.1	-0.3			e	05	27	22					e	05	27	27.5				
		iS			08.9	0.2	6.5			iS?			26-					eS?			29.5				
		F			27.6		Δ = 5. mi.			i			31		Δ = 42 mi.						Δ = 46? mi.					
		Felt in Boulder City.																Boulder Dam Δ = 5? mi.							
		Tentative epicenter midway between Boulder City and Boulder Dam. Focal depth about 3½ miles.																							
	2	e	13	33	36.6					-								-							
		iS			37.4	0.2	4.0																		
		Small local shock. Δ = 4 mi. Felt in Boulder City.																							
	3	iP	00	04	57.8		-0.5			-								-							
		iS			58.8	0.2	3.0																		
		Small local shock. Δ = 5 mi.																							
	3	eP	01	04	03.0					eP	01	04	10.8					eP	01	04	07.1		-01	-02	-0.2
		i			07.9	0.3	0.5			i			14					iP			08.5				
		i			10	0.4	1.1			i			19					is			10.7				
		iS?			29.8					i			22					Ni			15.0				
		iS			36	0.8	7.0			iS?			45.5					iS?			40				
		iM			39	0.7	11.8			iS			58		11			iS			48.5				
		i			41					i?		05	04	1		44		iSz			51				
		F			09.5					F			09.1					i			54.5				
			Δ = 175 mi.								Δ = 220 mi.							M		05	00	0.8	10.8	12.	
		Regional shock. Rarefaction SW.																	Δ = 217 mi.						
	3	e?	19	35	26.0					-								-							
		iS			26.5	0.2	1.5																		
		Small local shock. Δ = 2.5 mi.																							
	4	e	05	00	41	0.1				-								-							
		iS			45.5	0.8	1.2																		
		Seismic disturbance, obscured by time signal.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 1942

Time used is G.C.T.

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
4	eP	11	02	49.5					eP	11	02	56					e?	11	02	46				
	iP			50.7					iP			59					e			57				
	i			52					i		03	02					i		03	01				
	iS		03	15.7					i			34					∮ 1			09				
	iS			18	0.4	2.2			iS			36					iS			31				
		Δ = 132 mi.							M			44	0.5	3.3	2.7		i			38	1.5	2.2	1.7	
		Regional shock.															F		06.3		Δ = 180 mi.			
4	-								iP	19	41	25					-							
									iS			27		2.0										
									Small local shock. Δ = 10 mi.															
4	iP	20	17	43	0.2	±1.0			train disturbance								-							
	iS			44.6	0.2	1.8																		
	F		18.0																					
	Small local shock. Δ = 8 mi.																							
4	e	23	21	57					-								-							
	iS		22	01.5	0.3	0.8																		
	Very small local or regional shock.																							
5	e	19	59	33	0.8				eP	19	59	32					eP	19	59	33				
	eS?	20	08	50	5				e	20	08	53					e	20	08	48	5			
		Δ = 5850 mi.																						
		Distant earthquake. Provisional epicenter 48° S Lat., 98° W Long.																						
6	e	17	27	49.6					-								-							
	eS			52	0.9	0.3																		
	Very small local shock. Δ = 12+ mi.																							
6	-								eP	17	43	22												
									iS			24		2.5	3.5									
									Local shock. Δ = 10 mi.															
6	e	20	21	39	1.5												e	20	21	47	1.5			
	Faint seismic waves.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 1942 4

Time used is G.C.T.

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
7	-						-						iP	03 06 40		dim		
													iS	41		2	2.5	6
													Local shock. Δ = 5 mi.					
7	e	14 41 06					-						-					
	iS	06.5	0.2	0.8														
	Very small local shock. Δ = 2.5 mi.																	
7	-						eP	18 31 38					-					
							iS	40		2.5	1.9							
7	iS	20 11 56	0.17	1.1			-						-					
	Very small local disturbance.																	
7	e	22 53 56.6	0.1				-						-					
	iS	54 00.6	0.3	0.7														
	m	02	0.4	0.9														
	F	54.2																
	Very small local shock. Δ = 20 mi.																	
8	e?	16 27 37.7					-						-					
	iS	38.4	0.3	1.8														
	Small local shock. Δ = 3.5? mi.																	
11	-						iP	00 05 51		±1.2			-					
							iS	53		2.2	1.0							
							Local shock. Δ = 5 mi.											
11	-						-						i	03 56 53				1.2+8.5
													Local disturbance.					
12	iP	19 32 07.5					-						-					
	iS	08.7	0.2	3.8														
	F	32.3																
	Small local shock. Δ = 6 mi. Felt in Boulder City.																	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 1942

Time used is G.C.T.

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
13	e	08 04 05.4					eS	08 04 33					e	08 04 12.0			-	
	e	10	0.5	0.2				Δ = 78 mi.					eS	24.3	1.2			
	eS	14	0.9	0.4									em	33.5	1.2	0.5		0.4
		Δ = 41 mi.											F	05.2	Δ = 60 mi.			
	Very small local shock. Good intersection on Colorado River, East of Searchlight.																	
13	eP	08 46 01					e?	08 46 10					e	08 46 14				
	i	10					e	25.5		0.5	0.4		e	24.5		0.1		
	i	13					eS?	47 39					e	47 27				
	i	14					eS?	49					eS	32.5	1.2	0.6	0.7	1.0
	m	16	0.2	0.8				Δ = 490? mi.										
	F?	46.6																
	eS	47 16.7	1.0	0.6														
	F	48.1	Δ = 440? mi.															
	Regional shock. May be two closer shocks.																	
13	eP	09 24 02.5	0.25				e?	09 24 01.0					eS	07 24 07.5			0.7	1.3
	iS	06.5	0.45	0.9			iS	08.5		0.5	0.7							
	Very small local shock. Epicenter may be near Temple Bar Wash.																	
13	-						iP	21 03 25		train disturbance present								
							iS	27		0.5	2.3	4.0						
							Local shock. Δ = 10 mi.											
15	-						iP	17 41 03										
							iS	05		1.2	1.0							
							Local shock. Δ = 10 mi.											
16	iS	06 23 36	0.2	1.2			-						-					
	Very small local disturbance.																	

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 1942 6

Time used is G.C.T.

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
16	e	07	05	19				
	IS			20	0.2	2.2		
	Small local shock. Δ = 5 mi.							
19	IS	00	48	41	0.2	1.8		
	Small local disturbance.							
19	eP	12	03	49				
	e		07	23				
	M		11	25	9	0.5		
	F		32					
	Distant earthquake , NW of Boulder City.							
20	eP	01	20	49	faint			
	F	02	10					
	Distant earthquake.							
20	iP	21	18	15	0.2	-0.5		
	IS			16		2.8		
	Small local shock. Δ = 5 mi.							
20	-							
23	-							
23	eP	22	05	36.9				
	IS			38.1	0.2	1.2	Very small local shock, Δ = 8 mi.	
	IS			46	0.2	1.0	ca. second shock	
	IS			47.5	0.2	0.8	ca. third shock	
	F		05.9					

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
16	-							
19	-							
19	eP	12	03	47				
	e		11	33				
20	e	01	20	56				
20	iP	22	05	46				
	IS			48		1.2		
	Local shock. Δ = 10 miles.							
23	IS	14	08	57		1.0		
	Local disturbance.							
23	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
16	-							
19	-							
19	eP	12	03	51	1.5	+0.2	-0.2	+0.1
	pP			53.3	2.5	-1.2	+1.2	
	eS?		07	34	9			
	eS		08	25	1.5	regional sho		
	?		11.5			of regional shock		
	M		11	42				
	F	12	40					
20	e	01	20	41.5				
20	-							
23	-							

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 1942 7

Time used is G.C.T.

	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
	24	-				iP	21 45 50			-			
						iS	52.5		1.4				
						Local shock. Δ = 12.5 mi.							
	25	eP	12 59 39.5			-				-			
		iS	40.2	0.1	1.4								
		Very small local shock. Δ = 3.5 mi.											
	25	eP	13 00 54.3			-				-			
		iS	55.1	0.1	1.0								
		Very small local shock. Δ = 4.0 mi.											
5	26	iP	17 20 14.7		2? dim	e?	17 20 25			eS	17 20 35.5		
		iS	16.5		3	iP?	26			F	21.3	Δ = 46.5 mi.	
		F	21.1	Δ = 9 mi.		i	29			Boulder Dam		Δ = 13 mi.	
		Light shock.				iS	34.5	Δ = 44.5 mi.		eP	17 20 14.9	0.2	
		Epicenter 2 to 3 mi. E of Boulder City,				depth about 8½ mi.				eS	17.5	0.8	0.3
										eS	19.0	1.1	0.9
	28	e	04 35 49.2			e	04 35 45			e	04 35 50.7		
		eS	36 19.2	0.8	0.3	eS	36 16.5	0.7		eS	36 30		
		F	37	Δ = 160 mi.?		M	22	0.7	1.0 1.6	iS	32	1.0	0.5 0.7
		Regional shock.				Δ = 153 mi.?				Δ = 180 mi.?			
		Epicenter probably NW of Overton.											
	28	e	05 50 28			e	05 50 39			e	05 50 10	1.5	
		eS	52 09	5		eS	52 31			e	52 07	5.0	
		F	55.6	Δ = 600? mi.						F	55.5	Regional shock.	
		Regional shock.											
	28	eP	14 11 25.5			eP	14 11 15.5			eP	14 11 15.3	+?	+
		iP	30			iP	18.5			iS	46.7		
		eS	12 00			i	20.5			i	50		
		iS	05.5	0.8	0.7	iS	46	0.6	5.2 8.4	M	57	1	2.3 3.2
		F	14.7			i?	50			F	15.5	Δ = 150 mi.	
		Regional shock.	Δ = 170 mi.?			Δ = 145 mi.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF MARCH 194[2] 8

Time used is G.C.T.

	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**							
	28		e	15	41	17	0.6	0.1											e	15	40	30				
			F		41.7														eS		41	05	1	0.2	0.4	
			Regional shock.																F		42.5					
	28		e	16	19	08	0.5	0.1			train disturbance								e	16	18	35				
			F		19.5		Regional shock.												eS		19	22				
	29		e	01	18	59	0.8	0.1			e	01	19	02					e	01	12	48	Faint seismic			
			F		19.9		Faint seismic waves												e		19	04	waves.			
	29		e	04	45	48.5					e	04	46	00.5					e	04	45	57				
			e			51.5					eS			34.5	0.7		0.6		eS		46	28				
			eS		46	13																				
			eS			17.5	0.3	0.4																		
			F		46.7		Δ = 130 mi.?				Small regional shock.															
6	30		iP	00	51	39.5	0.1	0.3			e	00	51	48					iP	00	51	47.2				
			iS			42.2	0.3	3.0			iS			56.6			0.6		iS			55	0.5	0.3	0.1	0.7
			F		52.2		Δ = 13 mi.					Δ = 42 mi.								Δ = 38½ mi.						
			Small local shock. Epicenter 7 mi. SE of Boulder Dam.																							
	31		e	00	29	58					eP	00	30	08					e	00	30	09.0				
			eS		30	13.7	blur				e			31					eS			36.5	0.5	1.0	1.0	1.8
			iS			15.5		2.4			iS			33	0.6	1.5	1.5			Δ = 133 mi.						
			F		31		Δ = 85 mi.				F		31.5		Δ = 120 mi.											
			Regional shock.																							
	31		eP	13	27	00					eP	13	27	07												
			iS			33	0.6	0.7			iS			42	0.5	0.5	0.6									
			F		28.5						F		29.4													
	31		e?	18	15	54					e	18	15	40?					e	18	15	45				
			eP?			59.2	0.8				eP			44.5					eP			51.5	1.2	+0.1	-0.2	+.1
			e		16	50.7	1.0				iP			52					iS		16	51				
			e			52.5	0.6				eS		16	38.5					M		17	08	1.0	1.2	0.7	0.7
			iS			56.3	0.9	0.6			iS			41	Δ = 336 mi.				F		19.7		Δ = 364 mi.			
			F		19.6		Δ = 378 mi.				iM			46	0.8		4.5									
			Regional shock. Epicenter may be 75 mi. NE of Elko, Nevada.																							

Zurich
1942
International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - APRIL, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule throughout the month.

One tentative epicenter was located in the Lake Mead region as follows:

No.	Date Apr.	G.C.T.	Location
7	17	19h 15m 58.5s	Very small shock recorded at three stations. Epicenter near the west shore of Greggs Basin and probably less than 5 miles deep.

One shock was felt in Boulder City. (Roman numeral is intensity grade as estimated by the modified Mercalli Scale of 1931.)

Date Apr.	G.C.T.	Intensity and Description
12	15h 24m	II An abrupt momentary shock felt by one observer in Boulder City.

Confidential-not for publication.

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 1942 1

Time used is G.C.T.

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
2	e? 16 27 37.5 iS 38.0 Small local shock. Δ = 2.5 mi.?			1.5	-				-			
2	iS 16 38 28 Very small local disturbance.			1.0	-				-			
2	eP 16 41 29.4 iS 30.1 Small local shock. Δ = 3.5 mi.			2.5	-				-			
2	iS 16 53 32 Very small local disturbance.			0.7	-				-			
2	iS 16 53 49 Very small local disturbance.			1.2	-				-			
2	-				e 21 58 56.0 iS 58.5 Local shock. Δ = 12.5 mi.			1.9 1.0	-			
3	e 16 33 13 F 35.2 Indeterminate seismic waves.		0.8	0.2	e 16 33 14 e 19		1.0	0.2	e 16 33 16 F 36.0		1.5	0.5 0.3
3	-				eP 21 14 35.5 iS 37.0 F 15 Local shock. Δ = 7.5 mi.			0.5 1.8 1.5	-			
3	eP 09 18 07.2 iS 08.4 F 18.3 Small local shock. Δ = 6 mi.			0.2 3.3								

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 1942

Time used is G.C.T.

No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
4	BOULDER CITY	eP	15	12	03.0				
		iP			04.5	0.2			
		iS			28.0	0.5	0.5		
		F			13.4	Δ = 121 mi.			
		Regional shock, SW of Boulder City.							
	OVERTON	i	15	12	13.0				
		i			44			0.5	
		Δ = 155 mi.							
	PIERCE FERRY	eP	15	12	12.5				
		iS			44.5	1.2	0.6	0.5	
		F			14.5	Δ = 155 mi.			
4	BOULDER CITY	-							
	OVERTON	e	09	05	16.5				
		iS			18.0		1.0	0.5	
		Local shock. Δ = 7.5 mi.							
	PIERCE FERRY	-							
5	BOULDER CITY	e	09	20	34.0				
		eP			37.5				
		e		21	11.0				
		iS			16.0	0.8	0.8		
		F			22.5	Δ = 176 mi.			
		Regional shock. Epicenter probably in San Bernardino Mountains.							
	OVERTON	e	09	20	46.5				
		eP			50.5				
		iS		21	33.5				
		iS			37.5	0.5	0.6	1.0	
		F			22.9	Δ = 218 mi.			
	PIERCE FERRY	e	09	20	48.5				
		iS		21	25.5				
		i			31.0	1.0	0.8	0.6	
		F			23.3	Δ = 208 mi.			
5	BOULDER CITY	e	17	29	50				
		eS			55	0.7	0.1		
		F			30.3	Δ = 168 mi.			
		Very small regional shock. Probably epicenter in region E of Cedar City and S of Parawan, Utah.							
	OVERTON	e	17	29	13				
		i			15	0.5			
		iS			32.8	0.6		0.8	
		F			30.6	Δ = 123.5 mi.			
	PIERCE FERRY	e?	17	29	06.5				
		e			08.0				
		eS			33.5				
		iS			36.5	0.9	0.4	0.2	
		F			30.7	Δ = 125 mi.			
6	BOULDER CITY	e?	04	05	59				
		eP		06	12				
		eS		07	10	0.6			
		iS			26	1.0	0.7		
		F			11.2	Δ = 740 mi.?			
		Distant shock.							
	OVERTON	e	04	05	25				
		eS		07	05				
		iS			24	1.2		0.2	
		M			39	1.0		0.7	
		F			12.7	Δ = 730 mi.			
	PIERCE FERRY	e	04	05	11				
		e			31				
		e			42				
		iS		07	04				
		iS			09.5	1.0	1.0	0.7	
		F			12.1	Δ = 690 mi.			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 194 2 3

Time used is G.C.T.

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
8	e	15	59	17				
	eP			26	2			
	eS	16	08	13	7?			
	e		31	23	33			
	F	17	18		Δ = 4580 mi.			
	Distant earthquake.							
9	-							
11	e	01	31	12				
	iP			13.5	0.6			
	eS?		37	38	5			
	M		41.7		5	0.4		
	F	02	01		Δ = 2030 mi.			
	Distant earthquake. Provisional epicenter 15° N Lat, 91° W Long; O = 1h,25.1m according to U.S.C. & G.S.							
11	e?	05	14	46				
	i			54	0.2	0.2		
	Very small seismic waves.							
11	i	05	30	08	0.2	0.2		
	F		30.6					
	Very small seismic waves.							
11	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
8	Train disturbance							
	eS?	16	08	41				
	e		30	37				
	F	17	03					
9	eP	21	18	17				
	iS			18		2.0	1.0	
	Local shock. Δ = 5 mi.							
11	e	01	31	12				
	eP	01	31	13.5				
	eS?		38	03				
11	-							
11	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
8	e?	15	58	06				
	e		59	20				
	eS?	16	08	20				
	e		31	00	30			
	F	17	28					
9								
11	eP	01	31	07				
	iP			08.5	1.5	+0.8	+0.5	
	eS?		37	01				
	M		41.7		3	0.3	0.3	
11	eS	05	15	33		0.1	0.1	
	F		16.1					
11	eS	05	30	38	0.7	0.3	0.2	
	F		31.5					
11	e	09	13	57				
	eS		14	12				
	F		16.2					
	Very small seismic waves							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 1942

Time used is G.C.T.

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
11	e	20 45 27.8			-				-			
	iS	28.3	0.2	1.6								
	F	45.6										
	Small local shock. Δ = 2.5 mi.?											
12	e?	15 23 38										
	iS	38.5	0.2	2.5								
	F	46	Δ = 2.5 mi.?									
	Small local shock. Felt in Boulder City.											
15	-				e	13 07 10			-			
					iS	12		1.6 1.0				
					Local shock. Δ = 10 mi.							
15	-				e	21 23 07			-			
					iS	08.5		1.0 1.4				
					Local shock. Δ = 7.5 mi.							
16	eP	00 15 33.0		0.3								
	iS	33.5	0.2	2.5								
	F	15.8										
	Small local shock. Δ = 2.5 mi.											
16	e?	03 23 01										
	im	02		1.0								
	F	06										
	Small local disturbance.											
16	e	07 29 24			eS	07 30 56			e	07 29 27		
	eS	30 37	0.7	0.2					eS	30 57	0.7	0.3 0.3
	F	31.7	Small regional shock.						F	32		
16	e	16 59 31.5	in time signal		i	16 59 25.5			e	16 59 18.5		
	eS	17 00 09.0	0.7	0.4	iS	57	0.5	2.8 2.3	eS	47		
	F	00.8	Δ = 176 mi.		F	17 01.0	Δ = 158 mi.		iS	48	0.8	1.2 1.5 1.9
	Regional shock. Epicenter probably east of Grand Canyon.											

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 194

Time used is G.C.T.

		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
	16	-								-								e	20	55	32				
																		eS			57	1.5	0.3	0.1	
																		F			58				
																		Faint seismic waves							
7	17	eS	19	15	58.5	0.3	0.2			iP	19	15	49		0.5			iP	19	15	42.7		0.7	0.5	?
		F			15.2	Δ = 40 mi.				iS			57.5		0.7	0.5		iS			44.7		3.5	3.5	5
														Δ = 36 mi.				F			16.2	Δ = 10 mi.			
		Very small local shock. Epicenter west side of Greggs Basin.																							
	17	-								eP	20	36	01					-							
										iS			03		2.5	3.7									
										Local shock. Δ = 10 mi.															
	17	-								eP	21	41	07					-							
										iS			09	0.5	2.0	1.8									
										Local shock. Δ = 10 mi.															
	18	e	05	48	03					e?	05	47	20					e	05	47	17				
		eS?			44					eP			29					eS		48	47	1	0.7	0.7	
		eS			48					eS		48	29.5					F			52				
		eM			51	1.0	0.3			M			40		0.7	1.5			Δ = 355 mi.						
		F		50.8		Δ = 355 mi.				F		51.7		Δ = 320 mi.											
		Probable epicenter near NE corner of Nevada.																							
	22	-								iP	21	42	37.5					-							
										iS			40.0		1.3	0.8									
										F		43													
										Local shock. Δ = 12.5 mi.															
	23	-								iS	05	41	14		1.8			-							
										Local disturbance.															
	24	e	05	04	36.6																				
		iS			37.7	0.2	3.7			-								-							
		Small local shock. Δ = 5.5 mi.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF April 1942

Time used is G.C.T.

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
26	-						eP	01 49 56					-					
							iS	58		1.5	1.5							
							Local shock. Δ = 10 mi.											
26	e	15 11 11					e	15 11 23					e	15 11 20				
	eS	42	0.4	0.3			iS	12 03.5			1.2		iS	59	0.5	0.5	0.7	
	F	12.6	Δ = 153 mi.					Δ = 193 mi.						Δ = 185 mi.				
	Epicenter to SW, probably between 29 Palms and Old Woman Springs																	
27	e	11 29 19					e	11 29 34					e	11 29 10				
	eS?	30 19					eS?	30 39					eS	30 39				
	eS	20.5	0.5	0.4			eS	43	1	0.3	0.5		M	55	1.2	1.1	0.9	
	F	32.4					F	33.1					F	33.4				
	Regional shock.																	
27	-						eP	17 33 23					-					
							iS	25		5.0								
							Local shock. Δ = 10 mi.											
28	e?	00 10 13.3					-						-					
	iS	14.6	0.2	1.3														
	Very small local shock. Δ = 6.5 mi.																	
29	eP	07 28 38.4					-						-					
	iS	39.7	0.2	2.3														
	F	28.8																
	Small local shock. Δ = 6.5 mi.																	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - May, 1942

The stations at Overton and Boulder Dam operated on routine schedule throughout the month. Operation at Pierce Ferry was intermittent due to shifting personnel. The station at Boulder City was routine until May 18, at which time the Wood-Anderson seismograph was moved to a temporary station in the Municipal Building and returned to its regular station on May 25. In the meantime a small model, three-component Benioff seismograph was being installed and placed in satisfactory operation May 26. Constants of the new station will appear in a later report.

Two tentative epicenters were located in the Lake Mead region as follows:

No.	Date May	G.C.T.	Location
8	14	15h 44m 33.0s	Small shock, recorded at three stations. Epicenter about 3 miles N of Fortification Hill.
9	20	04h 37m 06.0s	Small shock, located from three stations. Epicenter about 3 miles E of Fortification Hill.

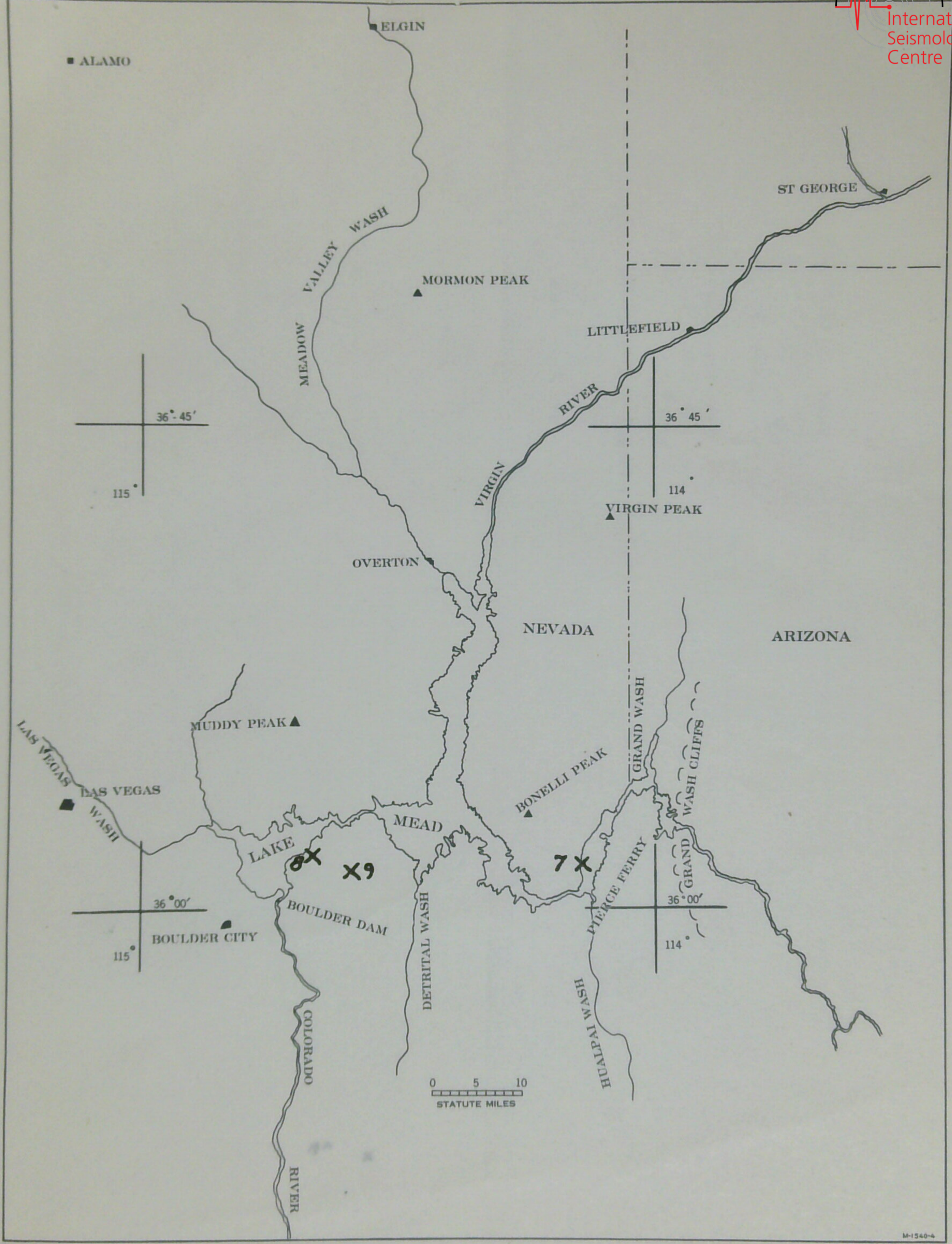
Five shocks were felt in Boulder City as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

Date May	G.C.T.	Intensity and Description
4	00h 01m	II Felt by few as an earthnoise only.
8	14h 45m	II A momentary light quiver reported felt by one observer only.
16	22h 19m	II A momentary light shock felt by few.
23	21h 04m	II Light shock reported felt by one observer only.
25	13h 34m	II Momentary light shock. Felt by few. House quivered.

Confidential-not for publication.

Tentative Epicenters in Lake Mead Region, April, May 1942

International Seismological Centre



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International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF May 194**2** 1

Time used is

	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
2	iP	13	58	15.8	0	0.3			-								-							
	iS			16	0.2	1.3																		
	F		58.4		Δ = 5 mi.																			
	Very small local shock.																							
4	iP	00	01	02.6	0.2	0.7			-								-							
	iS			3.7	0.3	2.5																		
	F		01.3		Δ = 5 mi.																			
	Small local shock. Earthnoise at Boulder City.																							
4	e	21	00	27					-								-							
	iS			28	0.2	2.2																		
	F		00.7		Δ = 5 mi.																			
	Small local shock.																							
7	e	15	08	55	0.8	0.3			-								-							
	Faint seismic waves.																							
7	e	21	06	09.5					-								-							
	eS			36	0.3	0.1																		
	F		07.0		Δ = 130? mi.																			
	Regional shock.																							
7	e	21	12	55.5					-								-							
	iS			56	0.2	1.4																		
	Small local shock. Δ = 2.5 mi. or more.																							
7	iS	21	16	20	0.2	0.8			-								-							
	Very small local disturbance.																							
8	eP	14	45	05.2					-								-							
	iP			05.5																				
	iS			06.3	0.1	1.5																		
	Very small local shock. Δ = 5.5 mi. Felt in Boulder City.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF May 1942 2

Time used is

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
8	e	17 08 36					e	17 08 48					eS	17 09 +		time poor.		
	eS	09 15	0.3	0.7			iS	09 37										
	F	09.9	Δ = 190 mi.					Δ = 233 mi.										
	Very small regional shock. SW of Lake Mead.																	
11	iS	10 18 17		1.7			-						iS	10 38 42		0.8	0.6	
	Small local disturbance.												Local disturbance.					
12	-						-						e	22 01 03				
													iS	04		1.5	0.4	
													Local shock. Δ = 5 mi.					
13	iS	20 05 45	0.2	0.9			-						-					
	Very small local disturbance.																	
14	e?	02 22 11					e?	02 22 14					P.F. time control poor.					
	eP	15	1.5				eP	16					Boulder Dam					
	iP	21	1.5				iP	25					eP?	02 22 11				
	eS	29 08	9				eS	29 10					eP	15				
	eL	35	50				eL	36 17					eS	29 08				
	e	37.2	25				M	42	18	1.5	4.0		M	45	13	1.5		
	M	45	13	3.0			F	03 57					F	04 03				
	F	04 12	Δ = 3400 mi. Teleseism.															
	Epicenter 1° S Lat., 79° W Long., 0 = 2h 13.3m according to U. S. Coast and Geodetic Survey.																	
8 14	iP	15 44 36.9	0.3	0.5			eP	15 44 42.8					-					
	iS	39.8	0.3	3.0			iS	49.9		1.2	0.7		Boulder Dam					
	F	45.1	Δ = 14 mi.				F	45.2	Δ = 34.5 mi.				e?	15 44 36.5				
	Small local shock.												iS	37.5	½	1.0		
	Tentative epicenter 3 mi. N. of Fortification Hill.													Δ = 9.5 mi.				
14	eP	19 46 56					-						-					
	iS	58.7	0.3	0.7														
	F	47.1	Δ = 13 mi.															
	Very small local shock.																	

International Seismological Centre

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

Time used is

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
14	eP	20	13	22.4					-								-							
	iS			25.3	0.3	0.9																		
	F		13.6		Δ = 14 mi.																			
	Very small local shock.																							
15	-								iP	16	21	06					-							
									iS			08		2.5	1.0									
									F		21.5		Δ = 10 mi.											
									Local shock.															
16	iS	05	47	43		1.5?			-								-							
	Probably local disturbance. Record fogged.																							
16	e	16	36	49					-								-							
	iS			50		2.5																		
	F		36.9		Δ = 5 mi.																			
	Small local shock.																							
16	iP	22	19	17.5					-								-							
	iS			18.5		3.5																		
	F		20.2		Δ = 5 mi.																			
	Small local shock. Felt in Boulder City.																							
17	e	15	23	01	2				e	15	29						-							
	e		38	45	11				F		57													
	F		55																					
	Faint seismic waves.																							
17	eP	21	51	49.2					eS?	21	52	10					-							
	iS			52.4	0.3	0.8							Δ = 50.5 mi.?											
	F		52.1		Δ = 15.5 mi.																			
	Very small local shock.																							
19	eP	11	36	33	time approximate.				-								-							
	iS			34		2.2																		
	Small local shock. Δ = 5 mi.																							

International Seismological Centre

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

Time used is

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**						
	19	eP	14	17	44	time approximate.	-											-							
		iS			45		1.8																		
		Small local shock. Δ = 5 mi.																							
	19	eP	20	52	20	time approximate.	-											-							
		is			22		0.5																		
		Very small local shock. Δ = 10 mi.																							
	19	eP	21	08	17	XXXXX				-								-							
		iS			20		0.8																		
		Very small local shock. Δ = 15 mi.																							
9	20	eP	04	37	10	time approximate.				eP	04	37	50					iS	no time correction						
		iS			13	0.3	2.0			iS			57		1.2			Boulder Dam							
		Δ = 14.5 mi.								Δ = 34 mi.								e	04	37	43.5	Δ = 8 mi.			
		Small local shock.																iS			44		0.5		
		Tentative epicenter 3 mi. E of Fortification Hill.																							
	20	e	10	59	00	time approximate.				e?	11	00	00					e	no time correction						
		F	11	01.5																					
		Faint seismic waves.																							
	20	e	11	18	00	time approximate.	-											-							
		Faint seismic waves.																							
	20	e	15	41	10	time approximate.	-											-							
		iS			13	0.2	0.9																		
		Very small local shock.																							
	20	e	18	30	50		0.8			-								-							
		e		31	22		0.4																		
		e		32	11		0.6																		
		e	19	54	08		0.9																		
		e	20	17	20		0.5																		
		Five very small local disturbances.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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MONTH OF May 1942 5

Time used is

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
21	-								iP	17	43	29.5					-							
									iS			31.0		2.7										
									Local shock. Δ = 7.5 mi.															
21	eP	22	53	58					-								-							
	iS			59		3.0																		
	F			54.4	Δ = 5 mi.																			
	Small local shock.																							
22	e	13	24	23	0.2	1.0			-								-							
	Very small local disturbance.																							
22	eP	15	19	10.0					i?	15	19	27	artificial disturb-				Boulder Dam							
	eP			14.6	0.5				i?		20	03	ance on record.				eP	15	19	16.8				
	eS			42.8	0.6					Δ = 175? mi.							iS			45.7	0.6			
	iS			44.4	0.3	2.5											M			50	0.6	1.2		
	F		22.8		Δ = 155 mi.												F		21.7					
	Regional shock.																							
22	Ten very small disturbances on record.																							
23	eP	11	36	26.6					-								Boulder Dam							
	iS			27.7	0.3	3.1											iS	11	36	31	0.5	0.5		
	F		36.8		Δ = 5.5 mi.																			
	Small local shock.																							
23	eP	15	48	29.5					eP	15	48	42					Boulder Dam							
	iP			34.5					iP			45					eP	15	48	29.3				
	i		49	11					iS?		49	28					e			40				
	iS			12					iS			32		10			iS		49	14.2				
	M			32	1.0	4.6			F		54.1						F		53.8					
	F		56.5		Δ = 205 mi.?																			
	Regional shock.																							
23	iS	21	04	07		2.5																		
	Small local disturbance. Probably felt.																							

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Time used is

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
25	eP	13	34	29.2	0.1	+0.5			-								-							
	iS			30.0	0.15	5.0																		
	F			39	Δ = 4 mi.																			
	Light local shock. Felt in Boulder City.																							
28	e	00	45.5		12				-								-							
	F		50.5																					
	Faint seismic waves.																							
28	eP	01	21	25	3.5				-								-							
	e?		27	08																				
	F		29.5																					
	Faint teleseism.																							
																	Boulder Dam							
30	iP	07	23	30.5					-								e?	07	23	10				
	eS		29	25													e?		26	28				
	Very small teleseism.																F		36					
31	eP	15	48	00	no time control.				iP	15	48	02		0.5										
	iS			08.2	0.3	0.9			iS			17		1.4										
	F		48.5		Δ = 40 mi.				F		48.7		Δ = 73 mi.											
	Very small local shock.																							

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LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - -June, 1942

The stations at Boulder City and Boulder Dam operated on routine schedule. Operation at Pierce Ferry was intermittent due to lack of personnel. Temporary instrumental equipment was dismantled on June 3 at Overton and on June 27 at Pierce Ferry. A new small model, three-component Benioff seismograph began operating at Overton on June 6, and a similar instrument was placed in service at Pierce Ferry, on June 30. These new instruments record on 35 millimeter film - one component to each film with an extra film for radio time signals.

The Benioff and Wood-Anderson seismographs continued in operation at Boulder City. The Benioff seismographs operate at a sensitivity far below their capacity.

CONSTANTS of these instruments are as follows:

Sensitivity: - unknown.

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.

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

Known constants at all stations were the same, except that the relative sensitivity at Pierce Ferry was intentionally much higher than at Boulder City. At Boulder City, ground vibrations caused by flood waters being released through Boulder Dam regulated the sensitivity. The sensitivity at Overton was at first higher than that at Boulder City, but was later reduced because of local ground disturbances.

Four tentative epicenters were located in the Lake Mead region as follows:

No.	Date June	G.C.T.	Location of Epicenter
10	7	18h 06m 11.8s	In Lake Mead basin near boat docks, 5½ mi NE of Boulder City.
11	8	16h 41m 28.1s	2 mi NW of Boulder Dam. Two shocks about 6 sec apart and same magnitude.
12	9	14h 48m 02.2s	2 mi NNW of Boulder Dam.
13	13	16h 47m 47.3s	5 mi WNW of Boulder Dam.

Two other epicenters - 00h 51m 10.0s and 15h 26m 04.5s, both on June 4 - were tentatively located 2 or 3 mi SW of Boulder Dam without the benefit of records from the Overton station, which was dismantled.

Confidential-not for publication.

Twelve shocks were felt in Boulder City and at Boulder Dam as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

Date June	G.C.T.	Intensity and Description
4	00h 51m	IV or V? Felt by many at Boulder Dam and Boulder City and by a few at the Boulder City bathing beach on Lake Mead. Not reported felt elsewhere. Described at Boulder Dam as heavy earthquake of short duration accompanied by a pronounced earth noise. Rattling of windows, doors, dishes and creaking of framework in houses at Boulder City. Unsteady objects swayed but did not overturn. After this and following shock, fresh cracks were noticed in basement and over door of main floor business offices of Municipal Building, which were not noticed before. Not definitely known whether one or both shocks caused these cracks. Observers bathing off shore at beach noticed no unusual movement of water. Heard noise like blast, then semblance of rocks rolling down mountain side. Epicenter in general region between Boulder City and Boulder Dam.
4	15h 26m	IV? Reported felt at Boulder City only. Mostly earthnoise of about 2 sec duration. Cracked plaster reported, but doubtful. See above. Epicenter between Boulder City and Boulder Dam.
10 7	18h 06m	IV Felt all over area at Boulder Dam. Described as a rumble and up and down shock of short duration. At Boulder City described as 2 hard jolts close together by one observer, and as an explosion accompanied by rattling of doors and creaking of walls by another.
11 8	16h 42m	IV Felt in Power House and Watermaster's Office at Boulder Dam. Described as a sharp shock 0.5 sec duration followed by low rumble for 3 sec. Felt at Boulder City as distinct local shock accompanied by rattling of dishes.
12 9	14h 48m	III Felt in control room and Watermaster's Office at Boulder Dam. Sharp shock, 2 sec duration, N-S direction, with distinct earth noise.
9	15h 49m	II Light shock felt only in control room at Boulder Dam.
11	3h 19m	III at Boulder Dam. Described as sharp heavy shock, 1 or 2 sec duration in Watermaster's office. Earth noise on floors 7 and 8, center section of Power House. IV at Boulder City, described as strong jolt which rattled windows and dishes.
11	9h 09m	II at Boulder Dam. Earth noise only observed on 8th floor, Power House only. Observed also at Boulder City.
11	10h 30m	II at Boulder Dam. Earth noise only in Power House.
12	10h 12m	II at Boulder Dam. Earth noise only on floors 7 and 8 of Power House. Observed also at Boulder City.
12	10h 21m	II at Boulder Dam. Earth noise only on floors 7 and 8 of Power House. Slight quiver reported at Boulder City.
13 13	16h 48m	II or III at Boulder Dam. Earth noise only, 5 sec duration. Verbal report of being felt at Boulder City.

International Seismological Centre

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF June 194 2 1

Time used is G.C.T.

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
		Boulder City Wood-Anderson, Boulder Dam and Pierce Ferry amplitudes for June are given in mm. Boulder City and Overton Benioff amplitudes are given in tenths of mm.						
1	e	08	26	30	time poor			
	iS		27	12	0.8	8		
	Regional shock.							
3	-							
3	eP	22	43	47		-		
	S			49	Δ = 10 mi			
	Very small local shock.							
4	iPT	00	51	10.3	0.1	-.5		
	iS?			11.5		32?		
	F		53.7		Δ = 5.5 to 6 mi			
	iPB		51	10.6	0.4	-1	-6?	-15
	iS			11.7	0.35	130	130	150?
	Moderate local shock. Felt locally by many at Boulder City and Boulder Dam. Slight damage. IV Epicenter 2 or 3 mi SW of Boulder Dam.							
4	ePB	01	23	54.5				
	eS			55.5	Very small local shock.			
4	eB	01	52	04	"	"	"	"
4	eB	03	15	38	"	"	"	"
4	ePB	06	01	48		-	+	
	iS			49				
	Small local shock. Δ = 5 mi							
4	eP	06	04	11.7		+	-	
				12.7				
	Small local shock.							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
1	eP	08	26	16				
	iP			18				
	iS			49	1.2	3.0		
	F		28.3		Δ = 115 mi			
3	iP	19	34	54				
	iS			56		2.1		
	F		35.4		Δ = 10 mi.			
	Local shock.							
	(From now on, T = Torsion, B = Benioff instruments.)							
	Boulder Dam (Overton not running.)							
4	iP	00	51	10.5		8.0		
	iS?			12.1		18?		
	F		52.6		Δ = 9.6 mi?			
4	iP	00	52	00				+
	iS			09				time approx.
	Δ = 44 mi							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
	Boulder Dam							
	e	08	26	30				
	iS		27	12	0.8	0.9		
3	-							
3	-							

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LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
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Time used is G.C.T.

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
4	ePT	15 26 06.0		+1.5		Boulder Dam			e?	15 25 01	No time correction	
	iS?	07		18?	i	15 26 35.1		+	iS	10	0.6	0.6
	F	27.2			iS	36.1	=	3.2		Δ = 44 mi?		
	iPB	26 06.3		-2 -15? +		Δ = 5 mi						
	iS	07.4	Δ = 5.5 mi									
	Moderate local shock. Felt locally by many, and probably slight damage. IV? Not reported at Boulder Dam. Epicenter about 3 mi SW of Boulder Dam.											
7	ePT	04 50 10.0										
	iS	10.8	0.2	1.8								
	F	50.3	Δ = 5.5 mi									
	ePB	04 50 09.6										
	iS	10.7	0.3	10 10 5		Benioff seismograph placed in service at Overton.						
	Small local shock.											
10 7	iPT	18 06 13.4	0.2	+2	iPB	18 06 25.2	0.3	+4.5 +5.5 +4.3	No record.			
	iS	14.6	½	20	iS	32.9	No time correction.		Boulder Dam			
	F	07.5			iS?	33.8			iP	18 06 13.0	½	+1.8
	iPB	18 06 13.8		+10 +5 -1.6		Δ = 38 mi			iS	14	½	-11
	iS	15.2		10					F	07.1	Δ = 5 mi	
	F	07.6	Δ = 6.5 mi to 7 mi									
	Moderate local shock. Felt by few in Boulder City and Boulder Dam. Epicenter in Lake Mead Basin, 5½ to 6 mi NE of Boulder City.											
7	eP	18 09 13			-				-			
	iST	14	0.3	0.9								
	iSB	14	0.3	3.5 4.4 2.7								
	Very small local shock. Δ = 5 mi											
7	ePT	19 09 08.6										
	iS	09.7	0.3	1.0								
	iSB	09.7	0.3	2 3.8 1.6								
	Very small local shock. Δ = 5.5 mi											
7	eP	19 53 43.6										
	iST	44.8	0.2	1.2								
	iSB	44.8	0.2	4.5 8.2 3.6								
	Very small local shock. Δ = 6 mi											

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Time used is G.C.T.

BOULDER CITY | OVERTON | PIERCE FERRY | Boulder Dam

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
	7	iPT	21	02	59	0.2	1.0																		
		iS		03	00.5	0.3	2.5																		
		iPB		04	59	0.3	-0.9	+2	+2.2																
		iS		05	00.5	0.4	12.2	10	17.8																
		F		05.2		Δ = 7.5 mi																			
		Small local shock.																							
	7	iST	22	02	29		1.0																		
		iSB			29	0.2	2.5	3.5	2.0																
		Very small local disturbance.																							
	8	iST	00	16	46	-	1.0																		
		ePB			44.5		7																		
		iSB			46	.18	5.5		18																
		Very small local disturbance.					Δ = 7.5 mi																		
11	8	iPT	16	41	30.3	0.1	+.7			iP?	16	41	16					eP	16	41	29.7		+		
		iS1			31.8	0.2	6			iS			24	4	8	7		iS			30.7	½	2.5		
		iS2			38		6.5				Δ = 39 mi							F		42			Δ = 5.5 mi		
		iPB		41	30.3	.33	+2.5	+3.7	-4.3		No time correction.														
		iS			31.8		20		50																
		F		42.4		Δ = 7.5 mi																			
		Light local twin shocks. Felt in Boulder City and Boulder Dam.																							
		Epicenter 2 mi NW of Boulder Dam. Direction from Boulder City very good.																							
	9	eS	05	07	27.7	0.3	-1	?	+1.2	eP	05	07	16.2					iS	05	08	06	1	0.8		
		iP			28.2	0.3	-6	-3.6	-1	iP			17.4					F		10.1					
		iS		08	05.0	1.1			6	iS			59.8												
		iS			10.3	1.1	-47		12	iS		08	01.0	0.9	70	55	33								
		F		10.5							No time correction.														
		iST		08	04	0.5	2.2			Regional shock.															
12	9	iPB	14	48	04.5	0.4	+5.1	+6.1	-8.5	iP	14	48	23.2	0.3	+.6	+1.5	+1	eP	14	48	03.2				
		iS			06.1				20	iS			31.0	0.4	20	11	26	iS			04/2	0.3	3.4		
		m			06.5		40	88	60		Δ = 38 mi							F		48.5			Δ = 4.5 mi		
		F		49.2		Δ = 8.0 mi					No time correction.														
		iPT		48	04.5																				
		iS			06	0.2	10.6	Moderate local shock. Felt in Boulder City and Boulder Dam.																		
		Epicenter 2 mi NNW of Boulder Dam.																							

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BOULDER CITY OVERTON PIERCE FERRY Boulder Dam

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	ePT	15	10	43.5																				
	iS			44.3		1.0																		
	iPB			42.9	0.3	-.7	-.1	-1.2																
	iSB			44.3	0.2	2.4	6																	
	F		11		Δ = 7 mi																			
	Very small local shock.																							
9	eT	15	24	50;5																				
	iS			51.5		0.7																		
	iPB			50.2	0.3	+.8	-.4	-.4																
	iS			51.4	.25	6	7.5	2.7																
	F		25.1		Δ = 6 mi																			
	Very small local shock.																							
9	iPB	15	49	03.0	0.3	-.6	-.7	+.5									iS	15	49	02.8		0.7		
	iS			04.4	0.2	7.5	8.5	5																
	F		49.5		Δ = 7 mi																			
	iST		49	34.5		2.2																		
	Very small local shock.																							
9	eT	21	49	19																				
	iS			20	0.2	0.7																		
	F		49.4		Δ = 12 mi																			
	ePB		49	16.8																				
	iS			19.5	0.3	7.3	4.2	8.3																
	Very small local shock.																							
10	iPT	08	56	33.8	0.1	+.6											iS	08	56	34.0				
	iS			34.8	0.1	2.3																		
	iPB			33.8	.25	4.6	+4	-5.1																
	iS			35		11.3	10	13																
	F		56.7		Δ = 6 mi																			
	Small local shock.																							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
10	eT	16	25	11.3	0.3	0.5		
	ePB			07.6	0.1			-.4
	iP			8.0	.27	+.5	+.3	-.7
	iS			11.0	.20	.9	1	1
	iS			11.5	.20	2.5	3.6	2.6
	F		26		Δ = 17 mi			
	Very small disturbance or local shock. Felt in Boulder City.							
10	iPB	22	52	17	0.5			-.6
	ePB			18.5	0.6	-.7	1.1	
	eS		53	22.5	0.6	3.3	3.4	1.2
	iST			26	0.7	0.7		
	F		54.5					
	Very small regional shock.							
11	iST	03	16	35.7	0.2	1.5		
	ePB			35.3	011	+.6	+.5	+1.2
	iS			35.7	0.14	4.8	5	4.6
	F		16.8		Δ = 2 mi			
	Small local disturbance.							
11	eT	03	18	29.9				
	iS			30.5	0.1	0.8		
	F		18.6					
	ePB		18	29	0.4		-.6	-1.2
	eP			29.6				
	iS			30.5	0.1	5.5	4.5	2.6
	Very small local shock. Δ = 4.5 mi							
11	iPT	03	19	00	0.3	+1.5		
	iS			01.4	0.5	12		
	F		20					
	iPB		18	59.8		+9.7	+3.6	-5.6
	iS		19	01.4	0.2	59.6	86.5	98
	F		20.1		Δ = 8 mi			
	Light local shock. Felt in Boulder City, probably stronger in Boulder Dam. Tentative location one-half mile south of Boulder Dam.							

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
Boulder Dam							
iP	03	18	58.6	0.3	+1.0		
iS		19	00.6	-	5.0		
	Δ = 5 mi						

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
11	e?T	05	40	30.9				
	iS			31.4	0.2	2.5		
	F		40.6					
	ePB		40	30.2	0.36	+.6	-1	40.6
	iS			31.4	0.3	5.3	6	3.3
	Small local shock. Δ = 6 mi							
11	iPB	09	08	37.9	.32	+2.6	+3.2	-4
	iS			39.4	.4	11	23.2	17.5
	F		09		Δ = 7.5 mi			
	iPT		08	37.9	.2	0.7		
	iS			39.4	.2	4		
	Small local shock. Reported felt by Bureau of Power & Light in Power House at Boulder Dam.							
11	iPB	10	30	22.4	0.26	1.2	+1	-1.2
	iS			23.9	.4	7	9.9	4.8
	iST			24		3		
	F		30.5		Δ = 7.5 mi			
	Small local shock. Reported by Bureau of Power & Light at Boulder Dam.							
11	iST	13	02	02.7	0.1	0.6		
	e?B			02.1				
	iS			02.6	0.2	.5	3.2	1.3
	Very small local shock. Δ = 2.5 mi or less?							
11	eP?T	13	02	10.8				
	iS			11.5	0.1	2.3		
	iPB		02	10.8	0.12		+1	+1.3
	iS			11.5	0.15	5	8	4
	F		02.3		Δ = 3.5 mi			
	Small local shock.							
11	ePT	13	03	45.8	0.1	0.2		
	iS			46.6		5		
	iPB			46.0	0.18	+1	+3.2	+2.3
	iS			46.6	.37	7.2	13.1	11.7
	F		03.9		Δ = 3 mi			
	Small local shock.							

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
iS	09	08	37.0	½	2.0		
	Δ = 3 mi						
eS	10	30	01.3		0.5		
	Δ = 2 mi						

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
11	eT	13	04	15.6				
	iS			16.5	0.1	1.4		
	F		04.3		Δ = 3.5 mi			
	iPB		04	15.6	0.12	-.7	+.6	+.9
	iS			16.3	0.15	6.5	5	3
	Very small local shock.							
11	eT	13	09	26.3				
	iS			26.9	0.1	3.1		
	iPB			26.4	0.12	+.7	+.9	1.9
	iS			27	0.15	5	12.5	6.9
	F		09.6		Δ = 3 mi			
	Small local shock.							
11	iST	13	09	39.5	0.1	3.2		
	iPB			38.8	0.2		+1.4	1.6
	iS			39.6	0.15	5	6.1	6.6
	F		09.8		Δ = 4 mi			
	Small local shock.							
11	iST	13	10	55	0.2	0.8		
	iPB			53.8	0.10			-.9
	iS			54.8	0.22	3.1	3.4	3.2
	F		11		Δ = 5 mi			
	Very small local shock.							
11	eT	18	10	28.4				
	iS			29	0.1	1.6		
	F		10.6		Δ = 5 mi			
	iPB			27.8	0.13	+.6	-.9	+1
	iS			28.8	0.16	7.4	8.1	6.8
	Small local shock.							
11	iST	18	36	55.5	0.2	1.4		
	eTB			54.6	.12	+.4		-.9
	iS			55.5	.15	4.9	4.4	4.2
	F		37.1		Δ = 4.5 mi			
	Very small local shock.							

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

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
11	ePT	22	01	53.0				
	iS			54	0.1	2.2		
	iPB			52.7	0.32	-1.5	-2.5	+3.5
	iS			53.9	0.23	12	10.6	6.8
	F		02.2		Δ = 6 mi			
	Small local shock.							
11	iPT	22	45	53.9	0.3	-.6		
	iS			55	0.4	4.4		
	iPB			54	0.22	-2.6	-7	+8.5
	iS			55	0.4	12	21.2	14.4
	F		46.4		Δ = 5 mi			
	Small local shock.							
11	iPT	23	00	15.3				
	iS			16.3	0.2	3.0		
	F		00.6		Δ = 5 mi			
	iPB			15.4	0.21	-1.8	-6.4	+7.5
	iS			16.5		26	28.6	33.2
	Small local shock.							
12	ePB	02	37	41	0.17			+.7
	eS		39	08	1.6	1.7	3.6	1.6
	eST		39	10	0.8	0.3		
	F		40.3		Δ = 510 mi			
	Regional shock?							
12	iPT	10	11	49.8	0.2	+.5		
	iS			51.2	0.2	2.5		
	F		12.1		Δ = 7 mi			
	iPB		11	49.6	.26	+1.8	+2.4	-2.4
	iS			51		12.2	10	16.1
	Small local shock.							

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

Marked by local disturbance.

Small local shock. Probably felt in Boulder City. Reported as of 1 to 2 sec duration at Boulder Dam.

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
12	ePT	10	21	20.4				
	iS			21.3	0.1	2.3		
	iPB			19.9	0.16	-.5	-1.1	+1.6
	iS			21.4	0.16	6.5	16.2	6.7
	F		21.5		Δ = 7.5 mi			
	Small local shock. Felt in Boulder City by one observer and at Boulder Dam.							
12	iPT	16	32	40.7		+.3		
	iS			41.5	0.3	1.7		
	F		33		Δ = 4.5 mi			
	iPB			40.8	0.25	-1.5	-2.1	-2.8
	iSB			41.7	.22	8.7	14.9	5.1
	Small local shock.							
13	iPB	04	14	45			-.7	-1.4
	iP			46	.28	+.9	-.6	-1.5
	iS		15	13		-.9		
	iS			15	.66	2.9	2.4	2
	F		16		Δ = 135 mi			
	Regional shock.							
13	iST	16	00	54	0.2	0.7		
	eB			53.3				
	iS			54.2	0.16	3.5		3.1
	Very small local shock. Δ = 4.5 mi							
13	eT	16	01	23				
	iS			23.5	0.2	2.5		
	F		01.5					
	ePB			22.6	0.17	+.7	-.5	+.9
	iS			23.6	0.22	10.2	3.6	10.2
	Small local shock. Δ = 5 mi							
13	iPT	16	28	59.9	0.2	±.5		
	iS		29	00.6	0.2	2.7		
	F		29.2					
	iPB		28	59.9	0.18	+.6	-1	+1.3
	iS		29	00.8	0.23	8.2	10.3	13.1
	Small local shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	04	15	00.5		+1.8	+1.7	-.6
iP			03				
iS			37				
iS			39	.58	7.1	7	.8
F		16.7		Δ = 180 mi			

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eS	16	32	41				

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BOULDER CITY | OVERTON | ~~PIERCE FERRY~~ Boulder Dam

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
	13	eT	16	35	14.2																				
		iS			14.9	0.2	1.0																		
		F			18	Δ = 4 mi																			
		eFB			14	0.13	+.6																		
		iS			14.8	0.15	4	4.2	3.6																
		Very small local shock.																							
13	13	iPT	16	47	48.6	0.1	-.7			iP?	16	48	01.6		-1.1	-1		i	17	47	48.5	½	+1.7		
		iS			49.4	0.2	10			iP			05.0					i			49.6		2.0		
		F		48.3		Δ = 4.5 mi				iS			06.9					iS?			50.3		2.2		
		iPB		47	48.6	0.1	+.5	-5.7	+6.6	i			11.5					F		48.1		Δ =	5.5	mi	
		iS			49.5	0.14	54.1	72.2	94.2	F		49		Δ = 40° mi											
		Light local shock. Felt in Boulder City. Earthnoise reported by B. F. L. at Boulder Dam. Epicenter 5 mi WNW of Boulder Dam. Direction from Boulder City very good.																							
	13	-								eP	19	26	19												
										eS?		34	25												
		Distant earthquake.																							
		Benioff from here on.																							
	14	ePB	03	22	40					eP	03	22	42					eP	03	22	40				
		eS		33	15					eS		33	22					F		26.5					
		F		37																					
		Distant earthquake.																							
	14	eS	21	38	01					e	21	37	38.4	.22	-.5	+.4									
		M			20	.80	2.6	2.7	2.1	iP			39.2	.42	+1.9										
		F		39			5			iS		38	21.6	1.1	4.4										
		Regional shock.								iM			31.2	0.8	11.3	12	2								
										F		41.8													
	14	e?	22	26	48		?			eP	22	27	07												
		eS		27	27					iS			48	1.2	3										
		M			43	.52	2.7	4.1	2.1	iM			58	.76	14.7	15	4.7								
		F		29			3			F		31.2		Δ = 225 mi											
		Regional shock.																							

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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
15	iP	02	00	11.7	0.1	-.8	+3.3	-2.6	e?	02	00	29.2												
	iS			13.2	0.2	6.7	4.6	4.2	eS			32.3												
	F		00.4			16			i			35	3.7	1.5										
	Small local shock. Δ = 7.5 mi								F		00.8													
15	-								eP	06	07	09												
									e		09	58												
									F		10.2													
									Seismic waves.															
15	-								e	13	59	31	.42											
									e	14	09	18	2.5											
									F		15													
									Seismic waves.															
15	eP	16	45	51					eP	16	45	17												
	eS		54	10					eS		51	54	9											
	F		58						F	17	07		Δ = 3030 mi											
	Distant earthquake.																							
15	eP	23	37	11.9	.33	-1.5	+1.5	-1.2	iP	23	37	02.3	.28	+4.1	-1.2	+5.5								
	eS			31.4	.21	2	2.2	1.6	iS			14.1		14.2	12									
	Δ = 95 mi								F		38		Δ = 57 mi											
	Regional shock, probably near Elgin, Nevada.																							
16	iP	04	35	44.1	.22	+1.3	+2.2	-1.6	eP	04	35	47.8		+.7										
	iS			47.1	.3	7.4	7.8	5.8	iS			56.8		5										
	Δ = 10 mi								F		36.6		Δ = 45 mi											
	Small local shock.																							
16	eP	17	19	31.4	.27	+1	+1	-1.2																
	eS			32.3	.25	3.7	6.4	2.4																
	F		20			7																		
	Very small local shock.																							
16	iP	19	54	24	.23	-1	-3.5	+2.6																
	iS			25.1	.33	12.6	23.1	6																
	F		54.7			25																		
	Small local shock.																							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
16	eP	21	13	53	1.9	+.6	-1.8	
	F		18					
	Distant earthquake.							
	Epicenter 0° N Lat 81° W Long, according to U. S. Coast and Geodetic Survey.							
17	eP	17	09	47.3	.34	-.5	-.9	
	iS			48.6		3.9	6.6	4
	F		10.2		Δ = 6.5 mi			
	Very small local shock.							
17	iP	19	12	21.3	.26	-2.4	-2.1	-4.3
	iS			22.6		4.8	8.7	3.2
	F		12.7		Δ = 6.5 mi			
	Small local shock.							
18	eP	10	53	50				
	F		57					
	Distant earthquake.							
18	iP	15	07	05.6	.22	+.6	+.6	-1.5
	iS			06.5		∅/∅	8.9	4.8
	F		07.4		Δ = 4.5 mi			
	Small local shock.							
20	iPB	01	35	11.2	.23	-.9	-3.2	+3.6
	iS			12.2	.21	8.5	21.2	2.6
	F		35.5		Δ = 5 mi			
	iST			12.2		35		
	Small local shock.							
20	e	10	07	20				-.6
	iP			21.5		+1.1	+2.5	+1.6
	e?			25				
	iP			29	1.1	+1.5		
	eS		12	47	8.3			
	e		13	56	3.3			
	M		14	25	3.2	8	11	
	F		25		Δ = 1500 mi			
	Distant earthquake. Provisional epicenter 17.7° N Lat, 101° W Long, according to U. S. C. & G. S.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	21	13	54	1.84	+4.1	-1.8	
eS		20	48	5.7			
F		50		Δ = 3280 mi			
eP	No time control.						
eS							
eP	10	06	52	Poor time control.			
eS		11	14				
M		14	00	2.7		14.2	

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
21	iP	19	41	44.1	.28	-.7	+1.3	+1.3
	iS			45.3	.12		4.4	4.6
	Very small local shock. Δ = 6 mi							
22	iPB	06	52	45	.26	+1.1	+1.5	+1.1
	iS			46.4	.2		15.5	10.9
	F		53		Δ = 7 mi			
	iST			46.4		23		
	Small local shock.							
22	iP	22	14	40	.31	-.9	+1	+5.5
	iP			41	.35	+2	-2.5	
	iS		15	14.7	.60		3.5	1.8
	iM			16.8	.85		3.4	5.6
	F		17.9		Δ = 125 mi			
	Regional shock.							
22	e?	23	51	51.1	.31	-.9	+.7	+.6
	iP			51.7	.35	-1.3	-2.2	+4.8
	iS		52	26	.62	2.8	4.8	1.6
	i			26.7				
	M			28.	.70	4.2	6.6	
	F		53.8		Δ = 125 mi			
	Regional shock.							
23	iP	01	33	16.2	.26	+.8	+2	-1.8
	iS			17.3	.20		5.4	3
	F		33.6				.8T	
	Very small local shock. Δ = 5.5 mi							
23	iP	10	38	35.8	.28	?	+	-8.2
	iS			37.4		?		6.0
	F		39			2.5T		
	Small local shock. Δ = 7.0 mi							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	06	52	54.8	.2	+.9		
iS		53	02.1	.2	1.6	1.7	
F		53.7		Δ = 38.5 mi			
iP	Poor time control.						
iS							
iP	Poor time control.						
iS							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
23	e	11	13	09.4	.13	?	+.4	?
	iS			10.6	.22	?	.54	.30
	F		13.3			1.8T		
	Small local shock. Δ = 6 mi							
23	iP	20	54	07.8	.33		+20.3	-16.8
	iS			09.2	.24			139
	F		54.7			6T		
	Light local shock. Δ = 7 mi							
24	iP	06	58	56.7	.21		-1.9	-1.9
	iS			58.1	.23	22.8	19.3	6.7
	F		59.2			4.5T		
	Small local shock. Δ = 7 mi							
24	iS	23	55	18	.32		3.4	
	Small regional shock.							
26	eP	17	33	31.1		-.8	+1.6	-1.5
	iS			32.2			4.9	3.9
	F		33.7			7 T		
	Very small local shock. Δ = 5.5 mi							
27	iP	02	52	44	1.1	+.7	+.4	+1.8
	eS?		56	06	1.0			
	Distant shock.							
27	iP	16	37	02.5	.15	?	+1.5	-4
	iS			03.9	.20	34.4	30.1	23
	F		37.5			7T		
	Light local shock. Δ = 7 mi							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eS	02	56	14				
i	16	37	17				
i			21				

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
27	iP	16	40	01.7	.14		+3	-3.2
	iS			03.2	.21		3.7	2.6
	F		40.2			1.1?		
	Very small local shock. Δ = 7.5 mi							
28	eP	19	07	30.1	0.14	-.4	-.4	-1.1
	iS		08	01.2	0.70	3.5	2.7	1.4
	F		08.6		Δ = 150 mi			
	Regional shock.							
29	iP	00	49	12.3	0.15	-.4	-.4	-1.1
	iP			12.9	0.03	-1	-1.8	
	iS			14.5	0.26		7.2	3.2
	iS			15.1			11.2	5.6
	F		49.5		Δ = 11 mi			
	Small local shock.							
29	eP	06	38	42.6				
	eP			43	.75	+.8	+3	-1
	iP			48	.52	+2	-4.3	+.7
	F		42		Distant earthquake.			
	Epicenter 34½° S Lat, 70½° W Long, according to U. S. C. & G. S.							
30	iP	10	02	20	.12	+6	-.6	-1.9
	iS			21.1	.18		17.5	11.4
	F		02.6		Δ = 5.5 mi			
	Small local shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	19	07	47	0.20	-.6	-1.1	
iS		08	38	0.58	-1	1.7	
eP	00	49	20.8	.20	-0.3	+.4	
iS			28.5	.45	.5	.5	
F		49.7					
eP	06	38	43	1.2	+1	+.7	
eS		48	44	4.3			
F		52		Δ = 5600 mi			

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule. Operation at Overton for part of the month was faulty because of inexperience of relief personnel. The seismograph at Pierce Ferry recorded a large number of small local and also distant shocks that were not recorded elsewhere because of the relatively high sensitivity at that station.

Six epicenters were located in the Lake Mead region as follows:

No.	Date July	G.C.T.	Location of Epicenter
14	4	12h 40m 21.3s	Tentative. 4 miles SW of Boulder Dam.
15	18	07h 21m 05.1s	3 miles SW of Boulder Dam.
16	18	07h 21m 32.5s	4 miles SSW of Boulder Dam.
17	21	09h 42m 14.2s	28 miles NNE of Pierce Ferry on or near Grand Wash fault.
18	23	22h 38m 59.8s	Tentative. 1½ miles S of Boulder Dam.
19	24	07h 58m 28.4s	Tentative. 1½ miles S of Boulder Dam.

Four shocks were felt in Boulder City as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date July	G.C.T.	Intensity and Description
	3	13h 40m	II A light quiver.
14	4	12h 40m	IV Felt by several, accompanied by low swelling earthnoise and rattling of dishes, windows and doors, also creaking of walls. Shifted light objects. Several suspected shocks preceded this.
15	18	17h 21m 05s	II A light quiver.
16	18	17h 21m 32.5s	II A light quiver.

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Time used is

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
	All amplitudes, except those of Boulder Dam, are from Benioff instruments, in hundredths of millimeters.																	
2	-						eP	04 04 46.4					eP?	04 04 37.5			+2	
							iS	51.9					iP	37.8	0.2	+3	+6	-15
								Δ = 34.5 mi					iS	40.0				
													i?	40.4	.38	37	29	18
													F	05		Δ = 11 mi NNE		
													Very small local shock.					
							eP	20 07 23.8		-7	+4							
2	-						iP	24.1	.32	-7	-10							
							iS	26	.24		251		e	20 07 33.1				
							Local shock. Δ = 11 mi NNE						eS	40.7	Δ = 40.5 mi			
3	-						-						iP	03 40 30	.20	-3	+9	
													iS	31.3	.22	71	38	
													F	40.7	Δ = 6.5 mi			
													Local shock.					
3	iP	05 47 00.9	.18	-15	+8	-3	-						eP	05 47 10.7		-2	+5	-5
	iS	02.1	.15		70	205							iS	19.3		13	34	13
	F	47.3	Δ = 6 mi										F	47.6	Δ = 42 mi to 43 mi			
	Small local shock.																	
													eP	09 56 50				
3	-						-						iP	52				
													i	54				
													iS	57 02				
													i	04				
													M	06	.52	108	100	
													F	58.2				
													Local shock. Δ = 58 mi					
3	-						-						iP	10 18 13.4	.12	-12	+13	-26
													iS	14.8	.19	132	133	67
													F	18.4				
													Local shock. Δ = 7 mi					

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No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
3	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	eP	10	52	48	.18		-8	+8
		iS			50.3	.33	33	42	14
		F		53.1					
		Local shock. Δ = 11.5 mi							
3	BOULDER CITY	iP	13	40	21	.13	-15	+18	-11
		iS			22			206	215
		F		40.8		Δ = 5 mi			
	OVERTON	e	13	40	31.6		+6	-6	
		iS			38.9	.16		8	
		Δ = 39 mi							
	PIERCE FERRY	eP	13	40	31.9	.36	-2	-7	-7
		eP			32.4	.26	+9	-9	-7
		iS			40.7	.37	56	46	30
		iS			41.7				
		F		41.2		Δ = 40.5--43.5 mi			
		Small local shock. Felt lightly in Boulder City.							
3	BOULDER CITY	iP	20	49	39.6		+18		-14
		iS			41.4				355
		F		50		Δ = 9 mi			
	OVERTON	-							
	PIERCE FERRY	e	20	49	48				+8
		iP			48.5				
		iS			56.9				
		iS			58.2	.55			55
		F		50.3		Δ = 43.5 mi			
		Small local shock.							
3	BOULDER CITY	iP	21	54	06.3			+69	-15
		iS			07.8				
		F		54.5		Δ = 7.5 mi			
	OVERTON	e?	21	54	10.2				
		eS?			22.5				
		Δ = 38 mi?							
	PIERCE FERRY	e	21	54	16.2				+5
		iP			16.9				
		eS?			23.8				
		iS			25	.20			81
		F		54.5		Δ = 43 mi			
3	BOULDER CITY	iP	23	22	29.6	.23	-20	+75	-36
		iS			31.4			135	100
		F		22.9		Δ = 9 mi			
	OVERTON	-							
	PIERCE FERRY	eP	23	22	40.0				
		iS			48.5	.31	102	156	66
		F		23.4		Δ = 41.5 mi			
4	BOULDER CITY	e	02	01	38				
		Faint seismic waves. Epicenter near 0.6° N Lat, 80.9° W Long, according to U.S.C. & G.S.							
	OVERTON	e	02	01	49				
	PIERCE FERRY	i	01	56	39				
		iS	02	01	45				
		F		11		Δ = 3250 mi			
4	BOULDER CITY	e	06	17	27				
		F		18					
		Faint seismic waves. Epicenter near 0.7° N Lat, 80.9° W Long, according to U.S.C. & G.S.							
	OVERTON	e	06	17	12				
		i			28				
		eS		24	12				
	PIERCE FERRY	eP	06	16	39				
		iP			54				
		eS		24	20	Δ = 3250 mi			
		eP	06	53	48				
		iS		54	17	.26	30		
		Regional shock. Δ = 140 mi							
4	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY								

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BOULDER CITY

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	4	iP	07	17	59.9	.16	+14	+23	-7
		iS		18	00.9	.24	23	58	60
		F		18.1		Δ = 5 mi, small local shock.			
	4	-							
	4	iP	08	53	15.3	.60		-20	
		iS			50.9	.58		24	
		1			55.3	.80		38	
		F		54.3		Δ = 170 mi			
		Regional shock.							
	4	iP	09	38	56.9	.18		+17	
		iS			58.3			68	
		F		39.2		Δ = 7 mi. Small local shock.			
14	4	iP	12	40	22.5		+	+	
		iS			23.3		1740	1590	
		F		41.8		Δ = 4 mi			
		Light local shock.							
		Boulder Dam							
		iP	12	40	22.5		+1.5mm		
		iS			23.3				
		F		41.1		Δ = 4 mi			
	4	eP	15	16	34.4	.17		-7	
		iS			35.5	.15		90	
		F		16.7		Δ = 5.5 mi			
		Small local shock.							
	4	-							
	5	e?	10	38	32				
		Distant earthquake.							
		Epicenter near 1.4° N Lat, 80.5° W Long, according to U.S.C. & G.S.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e?	07	18	19				
	Δ = 5 mi, small local shock.						
-							
e	08	53	20				
iP			22.2				
iS		54	00				
i			03				
	Δ = 200 mi						
-							
	Small local shock.						
eP	12	40	32.6		-4	-5	
iP			33.7				
iS			40.9				
m			48	½	296		
F		44.5		Δ = 44 mi			
Felt by several in Boulder City.							
Tentative epicenter four miles SW of Boulder Dam.							
-							
eP	18	54	05				
iP			18				
eS		58	21				
F	19	08		Δ = 1600 mi. Distant earthquake.			
e	10	39	02				

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	07	18	12.6				
eS			19.1				
iS			20.5	.24	110		
eP	07	37	24				
eS		39	53	Δ = 850 mi			
eP	08	53	26.1				
iP			30				
iS		54	10				
M			18	.23	130		
F		57.2		Δ = 230? mi			
-							
iP	12	40	33.2	.36	+20	+10	+47
iP			34.2		105		140
iS			41.7				
im			42.8	½	312		177
Δ = 44.5 mi							
-							
-							
eP	10	38	56				
e		41	47				
F	11	06					

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	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
5	-								eP	11	34	41					e	11	34	52				
									eS			57					eS		35	11				
										Δ = 80 mi							iS			12			24	
																	F		36.3		Δ = 90 mi			
																	Regional shock.							
5	-								-								eP	14	20	10				
																	F		33					
																	Distant earthquake.							
5	-								e	23	36	33					iP	23	36	25.7	.14	-7	+8	-15
									iS			46.2					i			26.5				
									i			51.7	.41		.8		iS			38.3	.36		50	
										Δ = 80 to 92 mi							iS			39.1	.22	113	128	53
									Regional shock.								F		37.2		Δ = 67 mi			
6	eP	21	12	45.2	.6		+14	+10	e?	21	12	43					-							
	iP			47.2				+22	eP			48												
	iS		13	28.6					i		13	08												
	iS			32.6	.77		62	71	iS			34	1.53		360									
	F		16.5		Δ = 240 mi				F		19		Δ = 360 mi											
	Regional shock.																							
7	e	03	05	31					eP	03	05	36					-							
	eP			33					e		07	22												
	e		07	05					e		15	23												
	F		11		Δ = 550 mi				Regional shock.															
7	eP	20	43	07.7	.13			-7	-								-							
	iS			8.3				92																
	F		43.3		Δ = 3 mi. Small local shock.																			
8	eP	02	34	26.2				-8	-								-							
	i			26.8																				
	iS			28.9	.3			26																
	i			29.7																				
	F		34.7		Δ = 13 mi. Very small local shock.																			

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
8	e?	07	07	08				
	F		12		Δ = 5050 mi			
	Distant earthquake.							
	Epicenter near 25.5° S Lat, 79.5° W Long, according to U.S.C. & G.S.							
8	e	10	07	41				
	F		08.5					
	Regional shock.							
8	eP	10	37	55.6				
	iS			57	.21		53	
	F		38.1		Δ = 7 mi			
	Small local shock.							
8	eP	22	39	37				
9	eP	00	24	01.7	0.2	-5	-4	
	iS			04.0	0.2	52	38	
	F		24.4		Δ = 11.5 mi			
	Very small local shock.							
9	-							
9	iP	18	47	00.8	.25		-7	
	iS			03.1	.20		51	
	F		47.4		Δ = 11 mi			
	Verysmall local shock.							
9	eP	22	01	31.3				
	i			32.2				
	iS			33.4	.20			
	i			34	.28		20	
	F		01.8		Δ = 12 mi			
	Very small local shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	07	07	15				
i			39				
eS		16	39				
e?	10	06	51				
eP		07	00				
eS			42				
iS			44			78	
Δ =290 mi							
-							
-							
-							
-							
-							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	07	07	10				
iP			12.5				
eS		16	41	9			
F	08	11					
eP	10	06	52				
iP			55				
i		07	01				
iS			55	.4			
i			58	.3		160	
F		11.5		Δ = 350 mi			
e	10	38	05				+5
eP			05.6	.4	+5	+7	-6
iS			13.9	.4		16	12
F		38.5		Δ = 40.5 mi			
eP	22	42	32				
eS?		44	30				
-							
e	13	39	09				
F		43.5					
Faint seismic waves.							
-							
eP?	22	01	45				
i			45.4				
iS			54.1	.36			14
i			55.1				
F		02.1		Δ = 44.5mi			

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
9	-							
9	eP	22	44	57.7				
	eP			58.4				
	i			58.8				
	iS		45	00.3	.30		26	
	F		45.3		Δ = 10.5 mi			
	Very small local shock.							
9	eP	22	58	58.7				
	eP			59.7				
	iS		59	02.5				
	iS			03.5	.30		20	
	F		59.4		Δ = 12 mi			
	Very small local shock.							
9	eP	23	53	39.5				
	e			40.2				
	i			41.4				
	iS			42.1				
	i			42.4				
	i			43.2	.24		29	
	F		54		Δ = 13 mi			
	Very small local shock.							
10	-							
10	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
9	-							
9	-							
9	-							
9	-							
10	-							
10	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
9	e?	22	18	11.1				
	iS			12.1	.18		72	
	i			12.6				
	F			18.4	Δ = 5.5? mi			
	Local shock.							
9	eP	22	45	09.6				
	i			10.8				
	iS			19.2	.38		17	
	Δ = 47 mi							
9	iS	22	59	23.5			18	
	Δ = 54 mi							
9	iS	23	54	01.8			15	
	Δ = 52 mi							
10	e?	03	56	16.4	Local shock.			
	e			18				
	i			20.7				
	iS			22.2	Δ = 28.5 mi			
	i			23.1				
	im			25.5	.36		38	
10	e	04	55	17.6	Local shock.			
	eS			20.4	Δ = 14 mi			
	i			21.4	.36		36	

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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
10	-						e	04 59 05					e	04 58 30				
													e	38				
													F	05 03				
													Faint seismic waves.					
10	iP	22 14 16.8	.26		-7		-						-					
	i	18																
	iS	20.1																
	im	22.3	.44		34													
	F	14.6	Δ = 167 mi															
	Very small local shock.																	
11	iP	01 28 37.9			-6													
	iP	38.1			-17													
	iS	38.9																
	i	39.4	.08		39													
	F	28.8	Δ = 5 mi															
	Very small local shock.												iP	06 20 15.2			+5	
													i	16.4				
11	-						-						iS	32.8				
													i	35.3	.39		43	
													F	21.1	Δ = 87 mi			
													Regional shock.					
11	iP	08 08 16.6																
	iS	17.6	.2		52													
	Small local shock. Δ = 5 mi																	
11	iP	16 42 58.3	.91		+33		iP	16 42 50.8			+18		iP	16 42 56.3		-16	+14	
	i	43 01.5					i	51.8					i	57.1		47	76	
	iS	49.4					i	53.5					i	59.6			110	
	i	53.6	Δ = 290 mi				iS	43 45.9	Δ = 310 mi				i	43 09.9			412	
	M	44 05	1.04		474								iS?	44 02.5	Δ = 375 mi?			
11	iP	46 55.6			+24		iP	46 55.2					iP	46 56.0				
	eS	47 44			80		i	57.4					i	47 27.0				
	F	49.5	Δ = 270 mi				iS	47 41.0		178	1		F	51.3				
	Two regional shocks.							Δ = 290 mi										
12	e	01 51 04.6					-						-					
	iS	05.5		53														
	F	51.3	Δ = 4.5 mi															
	Small localshock.																	

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BOULDER CITY and Pierce Ferry — 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
12	iP	02 56 59.4		-13			iS	02 57 17					-					
	iS	57 00.7		73				Δ = 39 mi										
	F	57.3	Δ = 6.5 mi															
	Small local shock.																	
12	e	05 14 10					eP	05 14 03					eP	05 14 01				
	Distant earthquake.						eS	21 06					eS	20 57				
	Epicenter near .8° N Lat, 80.5° W Long, according to U.S.C. & G.S.												eL	31 39				
12	-						-						iP	13 01 45		+8	+8	
													iS	02 03	.5	65	62	
													F	02.8	Δ = 90 mi			
	PIERCE FERRY the rest of page.											Date	Regional shock.					
12	e	22 38 19										13	e	00 47 19				
	iS	21	.33	85									F	50				
	F	38.7	Δ = 10 mi										Faint seismic waves.					
	Local shock.																	
13	eP	04 04 57.6					iS?	04 05 08.5					-					
	iP	57.9	.2															
	iS	59.4																
	iS	59.8	.28	244									13	eP 11 18 32				
	F	05.5	Δ = 9 mi											eS? 19 12				
	Local shock.													e 40	.5	100		
13	iP	11 23 29.3	.13	-80										F 20.4	Δ = 220 mi			
	iS	30.8		260										Regional shock.				
	F	23.9	Δ = 7.5 mi										13	eP 12 45 27.7				
	Local shock.													iP 28.1				
13	eP	13 02 48												iS 45.0				
	eS	03 43												iS 45.6	.24	36		
	F	04.7	Δ = 310 mi											F 47	Δ = 85 mi			
	Regional shock.													Regional shock.				
													13	e 15 03 58				
13	e	15 22 33												eS 04 39				
	Seismic waves.													F 05.7	Δ = 225 mi			
														Regional shock.				

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
14	iP	06	36	59.2			-11	
	iS		37	00.6			86	
	F		37.2		Δ = 7 mi			
	Small local shock.							
14	-							
14	iS	17	22		Two very small disturbances.			
	iS	17	26		Very small disturbance.			
	iP	17	44	24.7	.20	6	8	?
	iP			26.1	.21			
	iS			28.4	.32			
	iS			30.3	.85	41	45	
	F		44.6		Δ = -18 miles			
	Very small local shock.							
14	-							
14	-							
15	-							
15	-							
15	-							
15	e	16	02	47.5				
	iS		03	33.2		29		
	F		04		Δ = 255 mi			

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							

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	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
16	-								-								iP	12	54	30.0				
																	iS			31.4		90		
																	F		54.7		Δ = 7 mi			
																	Local shock.							
16	iP	18	08	31.8	.34	+7	-14		-															
	i			32.4													eP	18	08	44.8				
	iS			34.1													iS			56.6	.24		30	
	i			35.9	.96		68										F		09.2		Δ = 56 mi			
	F		08.2		Δ = 11.5 mi																			
	Small local shock.																							
16	iP	18	19	34.8	.13	+9	+10	-7	-								-							
	i			35.1																				
	iS			35.8			147																	
	i			36.5	.16																			
	F		19.9		Δ = 5 mi																			
	Small local shock.																							
16	iP	18	20	07.2	.11	-19	+18	+	-								-							
	i			07.6																				
	iS			08.1	.2		286																	
	i			08.4																				
	F		20.4		Δ = 4.5 mi																			
	Small local shock.																							
																	eP	00	43	14.8				
																	iP			15.0	.28		+30	
17	-								-								iS			32.5	.33		82	
																	i			33.6				
																	F		44		Δ = 85 mi			
																	Regional shock.							
17	-								-								eP	01	09	15				
																	iP			17				
																	iS			33	.23		23	
																	F		09.8		Δ = 90 mi			
																	Regional shock.							
17	-								-								eP	02	15	15				
																	eS			23 21				
																	Distant earthquake. Δ = 4000 mi							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF July 1942 11

Time used is G.C.T.

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
17	iP	16	00	24.1	.20	+7	-13		-								eP	16	00	36.5				
	i			24.6													iP			37.8				
	iS?			26.2			20										eS			46				
	iS			26.8			42										iS			47.1	.38		28	
	i			27.8													F		01.1		Δ = 46 mi			
	m			29	.87	65	59																	
	F		00.7		Δ = 10.5 to 13 mi																			
	Local shock.																							
17	e?	22	19	57					-								e?	22	20	14				
	eP			58.2													iS			21.5				
	i			58.6															Δ = 54 mi					
	iS		20	00.6																				
	iS			01.2	.18	23	21																	
	i			02.7																				
	F		20.2		Δ = 12 mi																			
	Very small local shock.																							
17	eP	22	39	33.3		+4	+3		-								eP	22	39	47.7				
	iP			33.5													i			49.2				
	i			34.8													iS			56.1				
	iS			35.6													iS			59.2		32		
	iS			36.1	.27	63	50										F		40.4		Δ = 52.5 mi			
	F		39.9		Δ = 11.5 mi																			
	Small local shock.																							
18	eP	03	09	49.8		-3	-7		-								e?	03	10	03.6				
	iP			50.1	.07	+9	+21										iS			10.3	.4		17	
	iS			50.8	.11		77										F		10.3		Δ = 44 mi			
	iS			51.2			138																	
	F		10.2		Δ = 5 mi																			
	Small local shock.																							
									Boulder Dam															
15 18	iP	07	21	06.4	.07	+23	+25		e	07	21	05.7					iP?	07	21	18.3				
	i			06.7					iS			06.3		2			i			19.8				
	iS			07.3	.19		230				Δ = 3 mi SW						iS			26.8	.36	46	37	
	F		21.5		Δ = 4.5 mi														Δ = 44 mi					
	Light local shock. Felt in Boulder City. Epicenter 3 mi SW of Boulder Dam.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF July 1942 — 12

Time used is G.C.T.

BOULDER CITY — ~~OVERTON~~ BOULDER DAM — 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
16		18	iP	07	21	34	.1	+10	+24		e?	07	21	34.2					iP?	07	21	46.5				
			iS			35			270		iS			34.8					iS			54.5	.31	36	54	
			F		21.9		Δ = 5 mi					Δ = 4.5 mi							F		22.2		Δ = 44 mi			
			Light local shock, felt as a lesser shock than #15 in Boulder City. Epicenter 4.5 mi SSW of Boulder Dam.																							
		18	iP	07	21	54	.1	-12	+21		-								-							
			iS			55	.12	57	52										eP	12	22	06.8				
			F		22		Δ = 5 mi												iS			08.7	.28		40	
			Small local shock.																F		22		Δ = 9.5 mi			
																			Local shock.							
		18	-								-								iP	14	41	53.4	.2	-3	+6	
		18	-								-								i			54.6				
																			iS		42	06.2				
																			iS			07.2	.22	95	115	
																			F		42.7		Δ = 65 mi			
																			Local shock.							
18			iP	17	11	02.3	.12	-19	+28	+3	-								eP	17	11	13.7				
			i			02.7													iS			22.7			19	
			iS			03.5			77										F		11.7		Δ = 44 mi			
			i			03.9																				
			F		11.4		Δ = 6 mi																			
			Small local shock.																							
18			eP	18	58	55.8	.27	-4	+4		-								iS	18	59	14.9				
			iS			57.3	.20	74	50												Δ = 42.5 mi						
			F		59.1		Δ = 7.5 mi																			
			Small local shock.																							
18			iP	21	59	23	.24	-13	-11	-5	-								e?	21	59	35.2				
			i			23.4													e			36.4				
			i?			24.5													iS			45.9				
			iS			25.2	.32												i			47.7	.26		40	
			iS			25.9													F	22	00.1		Δ = 52.5 mi			
			im			28.2	.46	78	55																	
			F		59.7		Δ = 11 mi																			
			Small local shock.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF July 1942

Time used is G.C.T.

BOULDER CITY See below. OVERTON See below. 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
		Readings of all earthquakes above the dividing line are from Pierce Ferry station.																
												Date						
20	i	02 30 20	.3		-24							20	eP	02 30 36	.17		17	
	Probably a local shock.												iS	37	.33		-70	
													F	31.2	Δ = 6 mi			
20	eP	03 19 19.1	.32		+5								Local shock.					
	iS	20.9	.34		-34													
	F	19.6	Δ = 9 mi									20	eP	09 39 04.3	.21	-3	-7	
	Local shock.												iS	06	.32	86	117	
													F	39.5	Δ = 8.5 mi			
21	eP	07 59 36											Local shock.					
	eS	08 08 03																
	F	12										21	eP	08 54 13				
	Distant earthquake.												eS	09 00 24				
													Distant earthquake.					
21	eP	09 01 57																
	iS	02 13	.65		37													
	F	02.7	Δ = 80 mi															
	Regional shock.																	
	Boulder City						Overton											
17 21	e	09 42 34.1	.35	-3	-6		iS	09 42 31.2			7		eP	09 42 22.5	.3	+6		
	eS	48.2						Δ = 33.5 mi					iS?	27.8	.26	18		
	iS	49	.40		14								iS	28.3	.28	60		
	F	43	Δ = 68 mi										F	43.9	Δ = 28.5 mi			
	Very small shock. Epicenter on or near Grand Wash Fault, 28 mi SSE of Pierce Ferry.																	
21	e?	22 38 57.2					-						iP	22 38 42.1	.27	+4		
	iS	39 04.5											iP	42.8	.20	+18		
	iS	08.2	0.4		10								iS	47.5	.22	54	39	
	F	39.2	Δ = 67.5 mi										iS	48.2	.24	194	168	
	Very small local shock, probably near above epicenter.												F	39.6	Δ = 26.5 mi			
22	-						-						e	07 18 15				
													F	22				
22	eP	18 48 58.5											Seismic waves.					
	iS	59.5	.24		42		-											
	F	49	Δ = 5 mi?										-					
	Very small local shock.																	

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LAKE MEAD SEISMOLOGICAL STATIONS

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and Coast and Geodetic Survey

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Time used is G.C.T.

BOULDER CITY

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	23	eP?	06	42	11				
		eS		43	35	1.07		11	
		F		44.7		Δ = 495 mi			
		Regional shock.							
	23	eP	18	19	43				
		iS			44	.23		44	
		F		19.8		Δ = 4.5 mi			
		Very small local shock.							
18	23	iP	22	39	01.4	.23	+17	+36	
		iS			02.5			153	
		F		39.4		Δ = 5.5 mi			
		Small local shock. Tentatively located 1½ mi S of Boulder Dam.							
	24	eP	00	33	15	.15		+7	
		iS			16.5	.7		56	
		F		33.4		Δ = 7.5 mi			
		Small local shock.							
19	24	iP	07	58	30.0	.24		+11	
		iS			31.1	.16		45	
		F		58.8		Δ = 5.5 mi			
		Very small localshock. Epicenter on Colorado River, 1½ mi S of Boulder Dam.							
	24	e	09	04	42.3				
		eS		05	16.3	.4		14	
		F		05.4		Δ = 183 mi			
		Regional shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
eS	Boulder Dam 22	39	01				
	Δ = 2.5 mi						

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	06	41	42.1			-12	
iS		43	03.8	.54		253	
F		46.5		Δ = 480 mi			
-							
e	22	39	12.1	.32		-4	
i			20.4	.22		11	
iS			21.2	.36	21	36	
F		39.8		Δ = 43 mi			
eP	00	33	25.8				
iS			33.9	.26		13	
F		33.7		Δ = 42 mi			
eP	07	58	41.8				
iS			49.8	.5		14	
F		59.2		Δ = 43 mi			
eP	09	04	53.2			?	
iP			54.1				
iP			54.9				
i			56.4				
iS		05	35.6				
i			37.6				
i			39.4	.44	45	72	
F		07.9		Δ = 230 mi			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF July 1942 — 15

Time used is G.C.T.

BOULDER CITY See below.

OVERTON

PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		All readings above dividing line are from Pierce Ferry Station.						
24	iS	09	20	58.4	0.6		10	
	F		21	5				
	Regional shock.							
24	eP	12	01	08				
	eS?		07	48				
	F		15					
	Distant earthquake.							
24	iP	14	17	18.1	.16		-3	
	iP			20.4	.7	+7	+20	
	iS			58.3	.42		25	
	M		18	03	.42	36	42	
	F		19.5		Δ = 220 mi			
	Regional shock.							
25	eP	10	14	25.3				
	iP			25.5	.17		+10	
	iS		15	11.7	.48		22	
	F		16		Δ = 200⅘ mi			
	Regional shock.							
25	e	15	26	46	1.7			
	eS?		34	00				
26	iP	05	06	29.3	.24	+7	+10	
	iS			30.7	.28		133	
	F		06.9		Δ = 7 mi			
	Small local shock.							
26	iP	23	23	02.0	.07	-10	-26	+5
	iS			03.0			115	
	iS			03.5	.07			44
	F		23.9		Δ = 5 mi			
	Small local shock.							

Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
27	iP	09	02	12.7	.15	+2	-4	
	iS			14.1	.15	72	65	
	Small local shock. Δ = 7 mi							
27	e	11	16	33.5	.8			
	Faint seismic waves.							
28	e	00	53	43				
	F			54.7				
	Regional shock.							
28	eP?	08	04	54.9	Foreshock?			
	i			56.4	"			
	i		05	01.2	"			
	iP			02.5	.98		+30	
	iS?			39.7	.80		42	
	iS			43.2	.30		47	
	iM			44.7	.93		89	
	F			08.7	Δ = 225 mi or more. Regional shock.			
28	iP	08	07	57.6	.18	-5	+5	
	iS			59.2	.15		82	
	F			08.3	Δ = 8 mi			
	Small local shock in coda of above regional shock.							
28	-							
29	e?	05	00	37.5				
	iP			41.8				
	eS		01	53.3	.85		3	
	F		03					
	Regional shock.							

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
eP?	09	02	22.3				
iP			22.7	.26			
iS			31.0	.35		33	
F		02.8		Δ = 41 mi			
e	11	16	37.5				
F		22					
eP	00	52	46				
eS		53	49	.65		29	
F		55.1		Δ = 360 mi			
eP	08	04	57.2				
iP			57.5				
i			57.8				
i		05	05.0	1.03		215	
iS?			44			670	
iS?	08	08	15.7	.6		36	
F?		08.5		Δ = 41 mi			
e?	14	42	12.5	Probably not			
eP?			16.9	seismic.			
iP			17.2				
iS			17.6	.23		65	
F		42.5		Δ = 2 to 4 mi			
Local shock.							
eP?	05	00	48.7				
iP			51.4			+10	
e		01	25.4				
eS			43.7				
iS			45.2				
iM			49.5	.70	29	37	
F		02.8					

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Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
29	iP	17	13	49.4	.21	-6	+4	
	iS			51	.16		45	
	F		13.9		Δ = 8 mi			
	Very small local shock.							
29	iP	19	31	40.6	.27	-5	+4	
	iS			42.1	.17		13	
	iS			42.4	.24		58	
	F		31.9		Δ = 7.5 mi			
	Small local shock.							
29	iP	19	54	14.0	.26	-7	-11	-7
	iP?			14.5				
	iS			16.9	.36		32	
	iS?			17.5			39	
	F		54.6		Δ = 14.5 mi			
	Very small local shock.							
29	eP	21	59	01.3				
	eS?	22	08	17				
	Distant earthquake.							
29	e	23	08	51				
	e?		12	00				
	Faint seismic waves.							
29	e?	23	11	45				
	iS			53	.5		14	
	F		12.2		Δ = 38.5 mi			
	In coda of telesism.							
30	-							
30	-							

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
-							
-							
e?	19	54	20.3				
i			22.4			-22	
iS			26.8	.40	44	52	
iS?			27.3	.52		63	
F		55		Δ = 34 mi			
-							
-							
iP	23	11	37	0.37	-25		
i			37.4		-49	-64	
iS			39.2	.41	422	1043	
F		12.3		Δ = 11 mi			
Local shock.							
iP	03	20	22.2	.10	-7	+20	
iS			23.7	.31	66	51	
F		20.6		Δ = 7.5 mi			
Local shock.							
e	13	44	50	Seismic waves.			

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Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
30	iP	14	26	03.8	.16	-10	-6	
	iS			05.2		42	57	
	F		26.3		Δ = 7 mi			
	Small local shock.							
31	iP	13	42	16.2	.25	-7	+26	-6
	i			16.4			f	
	i			17.4	.07		45	
	iS			17.7	.20		120	
	F		42.7		Δ = 7.5 mi			
	Small local shock.							
31	iP	13	44	54.4	.22	+10	+18	-5
	iS			55.4	.24	24	28	13
	F		45.2		Δ = 5 mi			
	Very small local shock.							
31	iP	16	12	48.4	.14	+4	-6	
	iS			49.4	.25	72	72	
	F		13.1		Δ = 5 mi			
	Small local shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	Boulder Dam						
iS	14	26	03.9				
i	Δ = 4 mi						
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	14	26	13.3	.20	+5	-2	
iP			14.4				
iS			21.9	.42		44	
iS			23.5	.25	20	50	
F		26.7		Δ = 40.5 mi			
i	13	42	25.6				
iP			26	.22	-7	+12	
i			26.5				
i			34.0				
iS			34.4	.36	48	103	
iS			35			f	
F		43.2		Δ = 41 mi			
-							
e?	16	13	02.7				
i			04.2				
iS			06.8	.32		20	
F		13.4		Δ = 40 mi			

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LAKE MEAD SEISMOLOGICAL STATIONS

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

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule. Operation at Overton for part of the month was faulty because of inexperience of relief personnel. Furthermore, the sensitivity at this station was inadvertently set very low, a condition that was not discovered until early in September. The seismograph at Pierce Ferry recorded a large number of small local and also distant shocks that were not recorded elsewhere because of the relatively high sensitivity at that station.

Two epicenters were located in the Lake Mead region. These locations were based on Gutenberg's travel times in Southern California, 1931. Evidence from these and earlier locations, however, favors travel times in the Lake Mead region slightly higher than those of Southern California.

No.	Date Aug.	G.C.T.	Location of Epicenter
20	5	20h 23m 10.0s	In the Lake Mead basin about 4 mi N of Boulder Dam.
21	11	10h 14m 02.7s	4 to 6 mi S of Boulder Dam. This epicenter was located without the benefit of Overton records or a definitely recorded S-wave at Boulder City and Boulder Dam. Magnitude of the initial P-wave at Boulder City and Boulder Dam was so great as to be indeterminable which further complicates definite location.

Seven shocks were felt in Boulder City and Boulder Dam as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

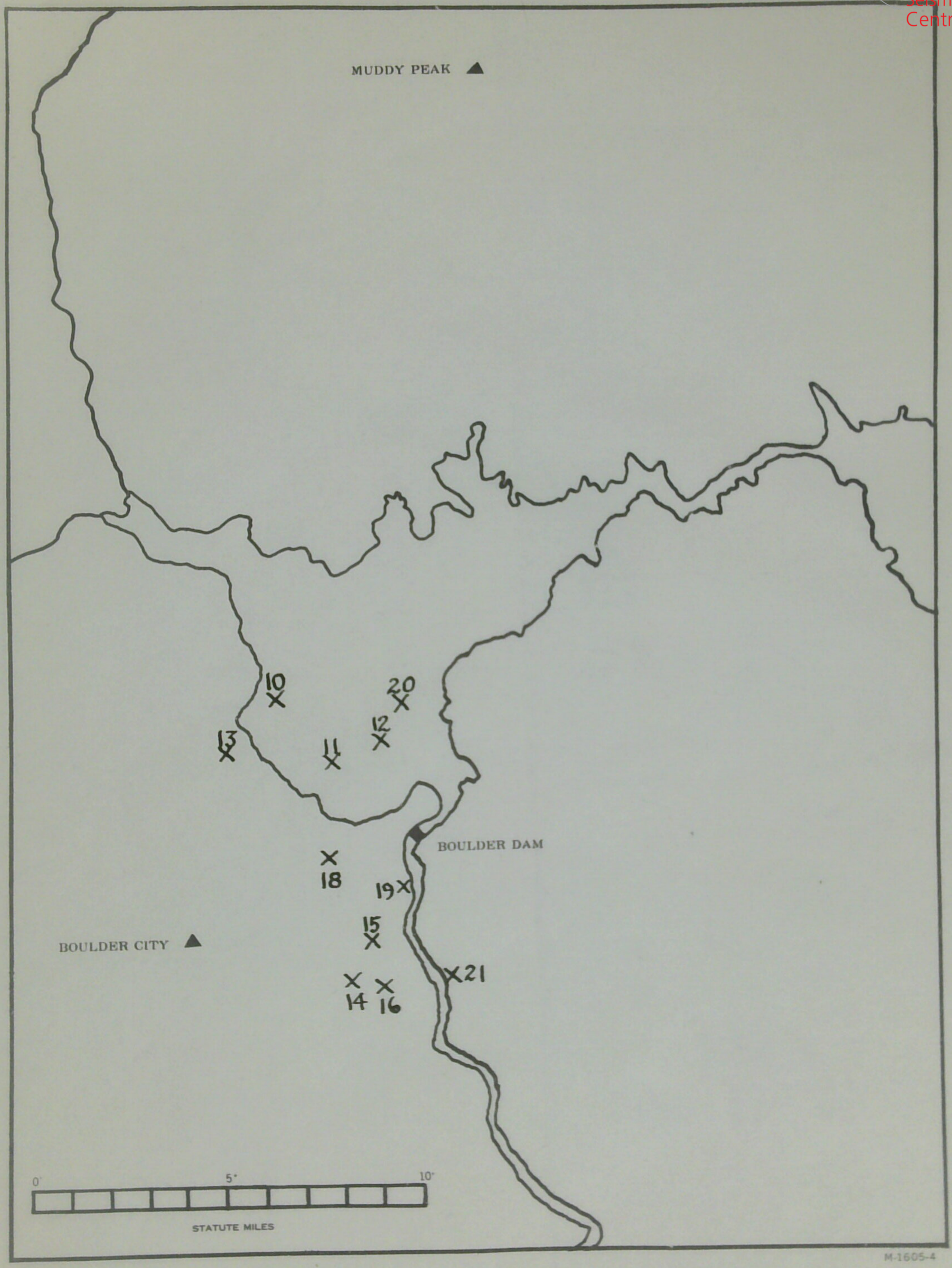
No.	Date	G.C.T.	Intensity and Description
	4	18h 18m	II at Boulder Dam. Earthnoise only in control room.
20	5	20h 23m	III at Boulder City. Described as a distinct shock. IV at Boulder Dam. Rattled windows and control boards in control room. Reverberation of empty penstock #-2. Felt in Watermaster's office and N-S potential transformer room.
	9	06h 06m	II at Boulder Dam. Light momentary shock. Felt in control room only.
	9	15h 02m	II at Boulder Dam. Two distinct mild shocks (probably 1 sec apart) of 2 sec duration. Felt in Nevada and Arizona cubicles, watermaster's office, and So. Nevada Edison control room.

International Seismological Centre

No.	Date	G.C.T.	Intensity and Description
21	11	10h 14m	V at Boulder City. Described by some as being the hardest local shock since May 4, 1939. A concrete floor crack and a plaster crack reported but not definite. Trees swayed. Walls creaked. Doors, windows, dishes rattled violently. Water glass nearly fell from cabinet as reported by one observer. Awakened nearly all, frightened few. Duration several seconds (15 sec according to one estimate). Earthnoise preceeded main shock (by 1.5 sec according to writter's estimate). Followed immediately by a number of light aftershocks. IV or V? at Boulder Dam. Frightened few. Rattled doors, etc. Described as one or two very hard shocks with up and down movement. IV at Railroad Pass, 4 miles W of Boulder City. Rattled windows and doors. IV at Basic Magnesium townsite, 10 mi NW of Boulder City. Wakened relatively few. III at Pittman, 12 mi NW of Boulder City. Awakened no one. Felt by night club operator, sitting at table in flimsy structure, conditions quiet. Not reported felt at Whitman, 14 mi NW of Boulder City, Las Vegas, or enroute to Overton. Not felt on Kingman road 20 to 40 mi S of Boulder Dam or at Pierce Ferry. Not felt at Nelson, 20 mi S of Boulder Dam, or at Searchlight.
18		11h 24m	II at Boulder City. Momentary and very light.
29		13h 49m	II at Boulder City. Momentary and very light.

Tentative Epicenters in the Lake Mead Region, June, July, August 1942.

International Seismological Centre



International Seismological Centre

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.

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
1	-								-								iP	04	37	42.3	0.13	-27	+30	
																	iS			43.6	0.22	212	161	
																	F		38					
1	iP	08	03	43.3	0.20		+6		-								eP	08	03	53.0				
	iS			44.9	0.22		36										iS		04	01.1	0.19		16	
	F		04.0		Δ = 6½ mi												F		04.1		Δ = 40 mi			
	Very small local shock.																							
1	eP	12	47	46.5					-								eP	12	47	47.5				
	e?		51	40													e?		55	12				
	Distant earthquake.																e	13	04	04.5				
1	-								-								iP	13	25	49.5	0.23	-12	-5	
																	iS			51.3	0.28	175	160	
																	F		26.2		Δ = 9 mi			
																	Local shock.							
1	e	14	50	02					-								eP	14	50	02.5				
	F		57																					
	Faint seismic waves.																							
1	e?	22	30	28					-								e?	22	30	30				
	eP			29													e			34.5				
	eS		31	14.5													iP			37				
	iS			17				12									iS		31	28				
	F		32.2		Δ = 230 mi?												iS			30	0.52		75	
	Regional shock.																F		32.5					
2	iP	05	29	31.2	0.13	+10	+22	-3	-								iS	05	29	48.5				
	iS			32.4	0.23	57	120	26									iS			49.0	0.42		25	
	F		30		Δ = 6 mi												F		30.3					
	Small local shock.																							
2	-								-								e	08	13	25.5		3		
																	iS			29.5	0.40	98	90	
																	F		13.8		Δ = 20 mi?			
																	Local disturbance or shock.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 1942 — 2

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
2	-							
2	-							
3	e?	09	08	49.2				
	eS			56.9	0.25		5	
	Regional shock? Δ = 78 mi?							
3	eP	20	21	21				
	Distant earthquake.							
3	e?	23	05	06				
	e			14				
	Regional shock. Δ may be 95 mi							
4	-							
4	iP	18	18	06.4	0.11		-9	
	iS			07.7	0.17		56	
	F			18.5	Δ = 6.5 mi			
	Small local shock. Earthnoise at Boulder Dam.							
5	e	10	40	14.8				
	Seismic waves.							

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
eP	09	29	11.9	0.15			
iP			13.1				
iS			34.8	0.26			
iS			36.3	0.27	24	26	
F		30		Δ = 120 mi			
Regional shock.							
eP	16	13	41.0	0.28	+4	+4	
iS			42.5	0.42	36	85	
F		14		Δ = 7.5 mi			
Local shock.							
e?	09	08	32.2				
iS		08	42.0	0.52	17	35	
F		09.2		Δ = 48 mi?			
eP	20	21	22				
iP			24				
e		31	40				
eP	23	04	59				
iS		05	22				
i			24	0.13		28	
F		06.4		Δ = 112 mi			
iP?	18	36	29.5				
iS		37	06				
Regional shock?							
eP	18	18	14.5				
iS			22.8	0.40		38	
F		18.8					
iS	10	40	29.5	0.98		37	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

Time used is G.C.T.

BOULDER CITY — OVERTON — BOULDER DAM — PIERCE FERRY

Day	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
20	5	iP	20	23	12.3	0.22	-46	-106	+14	e?	20	23	12.4					iP	20	23	21.0	0.32	-14		
		iS			13.9		558	450		iS			13.2					iS			29.7	0.44	330	550	
		im			14.7				275		Δ = 4 mi							F			24.4	Δ = 42.5 mi			
		F			24.5	Δ = 8 mi																			
		Local shock. Epicenter 4 mi N of Boulder Dam in Lake Mead basin. Felt at Boulder City and Boulder Dam.																							
	6	iP	07	11	04.7					-								-							
		iS			06.0	0.25		39																	
		F			11.4	Δ = 6.5 mi																			
		Very small local shock.																							
	6	iP	17	00	36.0	0.26		+7		-								e	17	00	44.3				
		iS			37.7	0.28		50										iS			52.4	0.28			
		F			01.0	Δ = 8.5 mi												iS			53.4	0.28	12	21	
		Very small local shock.																F			01.4	Δ = 40 mi			
	6	eP	20	04	00.8					-								e?	20	04	03.0				
		iP			01.5													eP			08.5				
		iS			34.7	0.40		24										iS		04	44.6	0.44	100	95	
		F			05.4	Δ = 165 mi		Regional shock.										F			06.5	Δ = 175 mi?			
	6	eP	23	43	13.0					eP	23	43	14					e	23	43	07.6				
		iP			16.8	0.96				eS		48	26					iP			09.6	1.17			
		eS		48	22													iS?		52	39	8.1	415	400	
		F	00	35		Δ = 2100 mi												F	01	15					
		Epicenter 14.4° N Lat, 90.9° W Long (C. & G. S.)																							
	7	iP	01	16	09.7	0.65	-19	-40		-								iP	01	16	16.0	0.54	+102	+50	
		iP			14.5	0.74		85										iS			58.6	0.4	1880	1050	
		iS			42.3	0.70		84										F			24.3	Δ = 205—230 mi			
		i?			51			355																	
		F			23	Δ = 175 mi																			
		Regional shock. Southern Mojave Desert, according to Pasadena.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 1942 4

Time used is G.C.T.

	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
7	iP	01	24	34.8	0.19				-								iP	01	24	41.2	0.36	+28	+45	
	i			41.0													iS		25	24	0.34	295	510	
	iS?		25	07.7	0.72												F		30		Δ = 210 mi			
	iS			08.9																				
	i			12.3	0.38	105	100																	
	F		27.4		Δ = 175 mi																			
	Regional shock. Southern Mojave Desert (Pasadena)																							
7	iP	01	32	58.7	0.26	-2	-6		-								iP	01	33	04.1	0.29	-5	+6	
	iS		33	01.2	0.28	17	22										iS			11.9	0.16	70	150	
	F		33.4		Δ = 12 mi Local shock.												F		33.7		Δ = 38 mi			
7	e	01	39	21.7					-								e	01	39	26.5			-5	
	e			30.0													i			32.5				
	eS			54.2													iS			58.0	0.32	38		
	iS			59.6	0.55	15	15										i		40	08.0	0.72	80	142	
	F		41		Δ = 160 mi												F		42.2		Δ = 160 mi?			
	Regional shock. Southern Mojave Desert (Pasadena)																							
7	iP	01	53	51.0	0.23	-3	-14		-								iP	01	53	57.3	0.32	+32	+46	
	iP			56.3	0.21		40										i		54	13.9	0.37	+138	400	
	iS		54	24.9	0.35	80	82										iS			30.0	0.28	420	500	
	F		57.5		Δ = 120 mi												F		59.7		Δ = 160 mi			
	Regional shock. Southern Mojave Desert (Pasadena)																							
7	e	06	11	00					-								eP	06	10	55				
	F		27														eS?		18.4					
	Seismic waves.																							
																	iP	20	18	22				
7	eS	20	19	15					-								i			24.5				
	Regional shock.																iS			45.3	0.40		118	
																	F		20.4		Δ = 110 mi			
7	eP	21	05	20					-								e	21	05	24				
	eS		06	01													iP			30.5				
	eS			04	0.6		10										iS		06	15.8			56	
	F		08														F		09		Δ = 280 mi			
	Regional shock.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 1942 5

Time used is G.C.T.

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
7	-						-						eP	22 32 01.6				
													eS	31.8	0.45	27		
													F	33.6	Δ = 150 mi			
													Regional shock.					
8	-						-						eP	00 31 54				
													F	37	Distant earthquak			
8	eS	01 09 25	0.2		5		-						eP?	01 08 58.0				
	Regional shock.												eP	09 06.1				
													iS	40.2	0.65	32		
													F	10.6	Δ = 230 mi			
8	e	04 59 04.3					-						eP	04 59 04.2				
	eS	31.4	0.41		6								eP	06.9				
	e	39	0.57		9								i	34.9				
	F	05 00.5											iS	45.5				
	Regional shock.												iS	46.8	0.44	63	70	
													F	05 01.3				
8	e	07 25 38					-						eP	07 25 42				
	Distant earthquake.												eS?	32 12				
													F	50				
8	-						-						e	09 25 54				
8	-						-						eP	13 29 32.7				
													iP	33.7				
													iS	56.8	0.28	10	17	
													F	30.4	Δ = 120 mi			
													Regional shock.					
8	eP	22 43 17					-						-					
	iP	26																
	e	47 20																
	e	52 44																
	F	23 39	Δ = 2100 mi Epicenter 14.4° N Lat, 90.9° W Long (C. & G.S.)															
	Distant earthquake.																	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 194 2 6

Time used is G.C.T.

No. Date	BOULDER CITY Phase	Time h m s	Period T	Trace Amplitude E	N	Z	OVERTON BOULDER DAM 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	02 32 52.2	0.13	+11	+30		iS	02 32 53.3					eP	02 32 50.1	0.47	+10	+13	
	iS	53.9	0.16		213			Δ = 7 mi					iS	58.6	0.27	46	90	
	F	33.5	Δ = 8½ mi										F	Δ = 41.5 mi				
	Light local shock. Probably near epicenter 20.																	
9	iP	02 33 43.7	0.12	+6	+21		iS	02 33 44.5					eP?	02 33 53.6	0.42	-3	+12	
	iS	45.3	0.16		160			Δ = 6 mi					iS	34 00	0.25	33	50	
	F	34.4	Δ = 8 mi										F	34.3				
	Small local shock.																	
9	iP	06 05 57.4	0.12	+32	+78		e?	06 05 57.8					iP	06 06. 05.9	0.25	+14	-8	
	iS	59.1	0.2		285		iS	58.7					i?	06.9				
	F	06.7	Δ = 8½ mi					Ave. Δ = 7 mi					iS	14.1	0.41	116	191	
	Light local shock.												i?	15.0				
													F	07.3	Δ = 40 mi			
9	-						-						iP	12 49 07.6	0.28	+3	-6	
													iS	10.0	0.23	28	46	
													F	49.5	Δ = 12 mi			
													Local shock.					
9	iP	13 55 21.2	0.17		-5		-						iP	13 55 28.1	0.17	+7	+18	
	i?	24.9											i	37.8				
	eS	54.3	0.39										iS	56 10.3	0.58	312	313	
	iS	55.6	0.40										i	14.6				
	iM	56 02.9	0.53		40								F	58.5	Δ = 205 mi			
	F	57.4	Δ = 165 mi															
	Regional shock. Southern Mojave Desert (Pasadena)																	
9	i	15 02 20.4	?		-4		-						eP	15 01 58.9	0.18	-5	-5	
	(Lost, changing records.)												iP	59.4	0.25	-11	-23	
													i	59.8				
													iS	02 07.5	0.50	111	184	
													i	08.2				
													F	03.7	Δ = 41 mi			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 1942 — 7

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9	eP	17	47	35.5				
	iS			57.5	0.68		58	
	F		49.7		Regional shock.			
9	iP	21	51	12.0	0.21	+5	-7	
	i			14.5		50		
	Local shock.							
10	iP	07	57	18.7	0.22		+5	
	iS			19.6	0.22		41	
	F		57.5					
10	-							
10	e	15	00	42				
11	eP	04	54	32				
	e?	05	05					
	F		20		Distant earthquake.			
11	-							
11	eP	07	17	47				
	eS?		28					
	Distant earthquake.							
21 11	0	10	14	02.7				
	iP			04.6				
	iS?				no 1650? 1170 1917			
	F		19.5		Δ = 6.5 mi? 3.5			
	Moderate local shock.							
	Tentative epicenter 4 to 6 miles south of Boulder Dam. Felt in adjacent area.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
-							
-							
-							
-							
Boulder Dam Δt = -2.0?							
iP	10	14	04.5	off			
	Δ = 6 mi?						

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	17	47	39.0	0.40		+13	
i		48	08.5				
iS			16.0	0.32		114	
F		50					
i?	21	51	41.7				
-							
e	09	28	01.6				
i			02.2				
Regional shock. Near Kernville, California (Pasa.)							
e	15	00	37				
F		05.5					
Distant earthquake.							
eP	04	54	28				
e?	05	04	18				
F		30					
eP	06	49	17				
eS		50	26	Regional shock.			
eP	07	17	42				
F		35					
iP	10	14	15.1			+28	+11
iP			15.8	Z record			
iS			23.8	Z 1100+ 1900			
iS			24.4	Z "			
F		22.5		Δ = 43 mi			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF **August** 194**2** **8**

Time used is **G.C.T.**

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
11	eP	10	28	37.3			+4	
	iS			38.3	0.14		18	
	F		28.8		Δ = 5 mi			
	Very small local shock.							
11	eP	10	37	43.5			-4	
	iS			44.5	0.20		28	
	F		38.0		Δ = 5 mi			
	Very small local shock.							
11	iP	11	13	49.8	0.10		+4	
	iS			50.8	0.20		52	
	F		14		Δ = 5 mi			
	Small local shock.							
11	iP	11	13	59.8	0.10		-8	
	iS		14	00.8	0.16		47	
	F		14.5		Δ = 5 mi			
	Very small local shock.							
11	iP	11	16	47.3	0.20		+10	
	iS			48.3	0.26		113	
	F		17.4		Δ = 5 mi			
	Small local shock.							
11	eP	11	50	18.0				
	iS			19.0	0.20		30	
	F		50.6		Δ = 5 mi			
	Very small local shock.							
11	eP	16	31	12				
	iS			13			54	
	F		31.5		Δ = 5 mi			
	Small local shock.							
11	-							

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
-							
-							
eS	11	14	09.6	0.15		14	
	Δ = 43 mi						
-							
e?	11	16	57.7				
eP			58.6				
eS		17	06.2				
iS			06.8	0.23	26	28	
F		18		Δ = 41 mi?			
-							
-							
iP	17	20	08.0	0.12	-15	-6	
iS			10.0	0.16	92	148(147)	
F		20.6		Δ = 10 mi			
Small local shock.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 19[illegible]2 9

Time used is G.C.T.

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
11	iP	21	57	44.9	0.21	+9	+22		-								-							
	iS			46.6	0.24		119																	
	F			58.2	Δ = 8.5 mi																			
	Small local shock.																							
																	iP	22	31	28.7	0.36	+11	-14	
																	iS			30.7	0.32	120	190	
11	-								-								F			31.8	Δ = 10 mi			
																	Local shock.							
																	iP	03	47	19.0	0.30	-9	+11	
																	iS			21.0	0.37	195	346	
12	-								-								F			47.8	Δ = 10 mi			
																	Local shock.							
																	e	07	02	04				
12	eS	07	02	24.2					-								eS			42	0.52	23	32	
	iS			29.7	0.40		6										F			03.7	Δ = 185 mi			
	F			03.1													Regional shock.							
13	eP	19	37	57.5					-								eP	19	37	55.5				
	F			55	Distant earthquake.																			
13	eT	22	27	44.5					-								e	22	27	33.7				
	eS		28	16.8	0.45		14										iP			34.1		-5	+22	
	F			29.5	Δ = 155 mi												i			34.7		13	-30	
	Regional shock.																iS			57.8				
																	iS			59.8	0.36	375	410	
																	F			30.7	Δ = 125 mi			
14	eP	06	53	45					-								eP	06	53	40				
	F			55													F			55				
	Distant earthquake.																							
14	eP	15	43	11.8	0.24		-9		-								e	15	43	21.8				
	iS			13.0	0.27		62										iS			29.8	0.36		20	
	F			44.7	Δ = 6.5 mi												F			43.9	Δ = 40 mi			
	Small local shock.																							

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No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
14	BOULDER CITY	eP	17	00	22.5	0.22		-5	
		iS			23.8	0.24		71	
		F		00	.9	Δ = 6.5 mi			
		Small local shock.							
	OVERTON	-							
	PIERCE FERRY	e	17	00	32.7				
		iS			40.5	0.47		27	
		F		01	.2	Δ = 40 mi			
14	BOULDER CITY	e	20	54	50	3.63			
		F	21	15					
		Distant earthquake.							
	OVERTON	-							
	PIERCE FERRY	eP	20	54	43				
		eS	21	00	30				
		F		23					
14	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	e	21	49	31				
		F		54					
		Seismic waves.							
15	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	e	06	42	14				
		eS?		49					
		F	07	00					
		Distant earthquake.							
15	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	eP	12	08	57.7				
		iP			58.0	0.20	-10	-12	
		iS		09	00	0.19	375	186	
		i			00.6				
		F		09	.7	Δ = 11 mi			
		Local shock.							
15	BOULDER CITY	eP	17	03	13.1	0.18		+7	
		iS			14.8	0.27		35	
		F		03	.7	Δ = 8.5 mi			
		Very small local shock.							
	OVERTON	-							
	PIERCE FERRY	-							
16	BOULDER CITY	eP	01	13	40.3				
		eS		14	12.0				
		iS			18.0	0.45		12	
		F		15	.4	Δ = 180 mi			
		Regional shock. SE of Arlington, Riverside County, California (Pasa.)							
	OVERTON	-							
	PIERCE FERRY	eP	01	13	41.5				
		i			51.8				
		iS		14	21.7				
		eS			35.2				
		iS			36.4	0.52		140	
		F		16	.3	Δ = 210 mi			

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Geo. 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
16	eP	07	50	47.1			+4		-								eP	07	50	54.6				
	iS			49.5	0.43		16										iS			59.6	0.30		19	
	F		51.0		Δ = 12 mi												F		51.4		Δ = 24.5 mi			
	Very small local shock.																							
16	-								-								eP	09	26	57				
																	eS		30	52				
																	Distant earthquake.							
16	e	11	39	47					-								eP	11	39	43				
	F		43														e		49	23				
	Distant earthquake.																F	12	00					
16	eP	17	32	24.5					-								eP	17	32	37.1				
	iP			25.0													iP			38.3				
	iS			29.3													iS			51.3				
	iS			29.7	0.37		83										iS			52.4				
	F		32.9		Δ = 23.5 mi												iS			53.7	0.30		62	
	Small local shock. Epicenter in vicinity of Sloan.																F		33.8		Δ = 70 mi			
16	eF	20	14	06					-								eP	20	14	02				
	eS?		24	36	Distant earthquake.												F		33					
17	-								-								iP	10	18	18.0	0.12	-9	+16	-10
																	iP			18.2				
																	iS			19.4	0.15		150	
																	i?			20	0.11	200	250	125
																	F		18.8		Δ = 7 mi			
																	Local shock.							
17	e?	11	34	26					-								iP	11	33	55.7	0.32		-10	
	eS			55	0.73		13										i		34	04.0	0.35		29	
	F		35.5		Δ = 255 mi?												eS			41.7	0.78		17	
	Regional shock.																iS			43.4	0.42		88	
																	F		36.3		Δ = 220 mi			

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
18	-							
18	-							
18	-							
18	iP	11	23	46.8	0.12		-5	
	iS			47.7	0.15		25	
	F		24		Δ = 4.5 mi			
	Very small local shock. Felt at Boulder City.							
18	-							
18	-							
18	0	21	55	33				
	ePn		56	25.5	0.34	+3	-8	
	iP			29.3	0.42	-9	+14	
	iP			38	0.84		+50	
	iP			39.4	0.57	+37		
	iS		57	26.0	0.37	470	750	
	i			39				
	F	22	05		Δ = 225 mi			
					8T Magnitude 5.5			

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
-							
-							
-							
-							

Tinemaha Δ = 70 mi

Regional shock.
Felt Tonopah to Carson City.

Regional shock.

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	01	35	55.3	0.14	-15	+18	-8
iS			57.2	0.22	145	220	
F			36.3	Δ = 9 mi			
Local shock.							
eP	08	18	29.8	0.18	0	-5	+6
iS			31.0	0.23	71	116	
F			18.8	Δ = 6 mi			
Local shock.							
iP	11	01	14.0	0.32		11	
iS			15.6	0.35	85	110	
F			01.5	Δ = 8 mi			
Local shock.							
-							
eP	16	24	24				
eS			43	0.32		13	
F			25.2	Δ = 95 mi			
Regional shock.							
eS	20	23	47				
Regional shock.							
eP	21	56	30.8	0.47	-7		
iP			31.3	0.36	+9	-23	
iP			35.1	0.50	-37	+36	-9
i			41.2				
iP			47.3				
iS		57	40.5	0.35	160	140	27
F	22	10		Δ = 257 mi			
eP	22	40	01				
iP			16				
eS		41	05				
iS			09	0.65		29	
F			42.2	Δ = 250? mi			

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		BOULDER CITY							OVERTON							PIERCE FERRY						
Sp.	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
	19	eP	07	54	22.7	0.22		-4		-								iP	07	54	13.6	0.22		+4	
		iP			23.5													iP			14.5				
		eS			40.9	0.48	10	7										i			16.1				
		F		55.1		Δ = 88 mi												iS			24.1	0.48	210	380	
		Regional shock.				Epicenter near Wolf Hole, Arizona.												i			25.5				
																		F		55.3		Δ = 52 mi			
XS	19	eP	15	58	02.5	0134	-2	+3		-															
		eS			52.9	0.37	18	26										iP	15	58	10.9				-20
		F	16	00.7		Δ = 240 mi												iS		59	11.9				
		Regional shock.				Near El Modena, Calif. (Pasa.) Felt at Aberhill, Orange County												iS			13.3	Δ = 295 mi			
	20	eP	06	31	14.9					eP	06	31	25.1					iP	06	31	23.4	0.14	+14	-5	
		iP			16.6					iP			34.2					i			25.3				
		i			21.6					eS		32	15.9					i			32.3	0.31	+28	+46	
		iS			53.1	0.45		19		iS			18.7	0.88			19	eS		32	08.1				
		iS			56.4	0.38		31		i			26.5					iS			08.5	0.20	40	78	
		F		32.9		Δ = 185 mi?				F		33.5		Δ = 255 mi				i			10.6	0.50	83	183	
		Regional shock.				Little San Bernardino Mountains, California (Pasa.)												F		34.2		Δ = 215 mi?			
	20	eP	10	59	17.4			-3		-								-							
		iS			18.1	0.23		68																	
		F		59.6		Δ = 3.5 mi																			
		Small local shock.																							
	20	eP	11	12	44					e?	11	12	56					eP	11	13	00.3				
		eS		13	38	0.39		5		eS		13	42	1.00			12	e			06.5				
		F		14.5		Δ = 260 mi				F		15.1		Δ = 225 mi				eS		13	53.8	Δ = 260 mi			
		Regional shock.								eS		15	03	Second shock.				iS		14	01.7	0.54		45	
		Northern Owens Valley, California								F		16						eS		15	12.5	Second shock.			
	20	e?	12	10	43.0					e?	12	10	40.7					eP	12	10	43.4				
		e			44.6					iP			45.7					e			49.6				
		eS		11	29.4					eS		11	32.4					i			56.2				
		eS			35.5	0.68		10		eS			37.2					iS		11	44.8	0.58		42	
		F		12.7		Δ = 260 mi?				i			46.4	1.16			37	i			47.6	0.60		54	
		Regional shock.								F		13.8		Δ = 265 mi?				i			52.0	0.82		88	
		Northern Owens Valley, California (Pasa.)																F		16.7		Δ = 290 mi			

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BOULDER CITY

OVERTON

PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
20	iP	16	09	58.0	0.05	-5	+8	
	iS			59.3	0.22	27	46	
	F		10.3		Δ = 6.5 mi			
	Very small local shock.							
20	-							
20	-							
20	e	22	43	18.8				
	F		46					
	Distant earthquake.							
21	-							
21	e	23	37	45.8				
	eS		38	30.8	0.80	18	12	
	F		39.6		Δ = 215 mi			
	Regional shock.							
22	-							
22	-							
22	iP	12	59	53.1	0.36	+9	+15	
	i			59.3	0.54	-19	-36	
	iS	13	00	30.8	0.63	194	198	
	i			35.5		f	f	
	F		03.4		Δ = 185 mi			
	Regional shock.							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	-							
	-							
	-							
	-							
	-							
	-							
	-							
	-							
	e?	12	59	46				
	eS?			23	0.82	3		
	Δ = 130 mi							
	38.7° N, 115° W							
	Felt at Fawnskin, California, near Mt. San Gorgonio (Pasa.)							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	-							
	eP	17	31	51.4				
	eS		32	42.7				
	iS			44.6	0.45		23	
	F		34.2		Δ = 290 mi			
	Regional shock.							
	e	18	06	06	Seismic waves.			
	eP	22	45	45				
	e		55	34				
	eP	13	18	20.7				
	iP			21.9				
	iS			22.3				
	iS			22.5	0.28		45	
	F		18.6		Δ = 7 mi			
	Local shock.							
	iP?				Wind tremor.			
	iS	23	38	47.8				
	iP	08	38	53				
	eS?		44	45	Seismic waves.			
	e	09	13	42				
	F		30		Seismic waves.			
	iP	12	59	51.6	0.38	-38	-45	-4
	i			59.7	0.39			
	iS	13	00	39.0	0.50	995	850	16
	F		05.7		Δ = 180 mi			

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	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
22	-								-								eP	14	15	37.5	0.14	+6	+8	
																	iS			45.1	0.28	27	52	
																	F		16.3		Δ = 37 mi			
																	Local shock.							
22	e	19	58	29.5					-															
	e			59.5													eP	19	58	27.0				
	eS	20	07	39													eS	20	07	34				
	F		11		Distant earthquake.																			
23	iP	01	46	16.4	0.23	-7	+14		-								iS	01	46	37.6	0.37	8	20	
	iS			17.4	0.17	190	100										F		47.0		Δ = 45 mi			
	F		46.7		Δ = 5 mi																			
	Small local shock.																							
23	eP	06	45	11					-								eP	06	45	14	0.67	+37	-42	
	eS		53	12						U.S.C.& G.S.		Epicenter					eS		53	15	2.96		14	
	F	07	00		Δ = 4040 mi					51.5° N Lat, 16.3° E Long														
	Seismic waves. Distant earthquake.																eP	12	14	56.7				
																	iP			57.3				
23	-								-								iS		15	11.3				
																	iS			11.9				
																	iM			13.0	0.52		76	
																	F		16.1		Δ = 75 mi			
																	Regional shock.							
23	-								-								eP	13	13	08.0				
																	iP			20.1				
																	eS		14	13.4				
																	iS			18.0	0.60		28	
																	F		15.7		Δ = 375 mi			
																	Regional shock.							
23	-								-								iP	17	06	18.2	0.33	-16	-7	
																	iP			18.5	0.25	-22	+21	
																	iS			19.9	0.20	38	86	
																	iS			20.5	0.49	550	750	
																	F		06.9		Δ = 10 mi			
																	Local shock.							

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
24	eP	23	01	00.5				
	e			25				
	eS?		09	59				
	eL		22	30				
	F	00	54		Δ = 4930 mi			
	Distant earthquake. U.S.C. & G.S. epicenter 14.5° S Lat, 75.5° W Long.							
26	e?	12	18	55				
	eP		19	05				
	F		31		Distant earthquake.			
26	-							
28	iP	13	03	58.7	0.24	+17	+15	
	i			59.1				
	iS		04	01.2	0.34	28		
	i			01.9	0.33	52	74	
	F		04.7		Δ = 12.5 mi			
	Small local shock. Epicenter in fault N of Fortification Hill, 7 mi NE of Boulder Dam.							
29	e	01	51	09.5				
	F	02	02.5		Distant earthquake.			
29	e	04	56	57.9		+3	0	
	eP			58.1	0.27		-3	
	iP			59.8				
	i		57	04.2				
	eS			35.6				
	iS			37.2	0.52	32	41	
	i			38.7	0.28	45	95	
	F		59.7		Δ = 180 to 205 mi		Regional shock.	
29	iP	08	02	37.5	0.22		-6	
	iS			39.4	0.22		36	
	F		03.0		Δ = 9.5 mi			
	Very small local shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
	Boulder Dam						
eS	13	03	58.7				
	Δ = 7 mi						

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e?	23	00	52				
eP		01	06				
eS		09	38				
eP	12	19	02				
e?		27	30				
eP	14	28	51				
F		35					
eP	13	04	05.2				
iP			05.8	0.13	+4		+13
iS			12.7	0.30	66		135
i			13.1				
F		05.3		Δ = 37 mi			
i	01	51	13				
F		52.7					
iP	04	57	08.2	0.46			+31
iP			09.0				
i			17.6	0.29			74
iS			58.9	0.70			415
i		58	01.3				
F	05	00.5		Δ = 240 to 280 mi			
eP	08	02	46.4	0.20			-9
iS			54.9	0.32			22
F		03.2		Δ = 39 mi			

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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	eP	12	30	11					-								eP	12	30	08				
	e		36	30													e?		40	00				
	F		48		Distant earthquake.												F		47					
29	iP	13	48	38.3	0.28	-7	+3		-								eP	13	48	47.4				
	iS			40.3	0.30	75	53										iP			47.7	0.25	+6		-12
	F		49.0		Δ = 10 mi												i			48.3				
	Small local shock.																eS			55.5	0.30			
																	iS			56.6	0.28	20		29
																	F		49.3		Δ = 39.5 mi			
29	eP	13	51	00.3	0.15	-3	-6		-								e?	13	51	15.7				
	iS			01.2	0.24	80	70										iS			21.0	0.45	9		20
	F		51.4		Δ = 4.5 mi												F		51.7		Δ = 44 mi			
	Small local shock.																							
29	eP	21	46	35					-								eP	21	46	35				
	Distant earthquake.																eS		56	26				
30	-								-								iP	10	07	47.2	0.21	-5?		-14
																	iS			48.9	0.30	52		103
																	i			49.3				
																	F		08.2		Δ = 8.5 mi			
																	Local shock.							
30	-								-								iP	13	09	33.4	0.13	-5		+12
																	iS			34.7	0.16			24
																	i			34.9	0.24	105		78
																	F		10		Δ = 6.5 mi			
																	Local shock.							
30	-								-								iP	18	40	05.0	0.12	-8		+12
																	iS			06.6	0.23	102		72
																	F		40.2		Δ = 8 mi			
																	Local shock.							

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	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
30	e	22	36	41.8					-								eP	22	36	30.8			-8	-5
	e			42.6	0.32		-2										iP			31.4	0.22	-11	+21	
	e		37	15.2	0.70		3										eS			56.9	0.43	20	30	
	F		37.6		Δ = 167mi												iS			59.3	0.68	48	36	
	Epicenter near the source of the Virgin River.																i		37	06	0.68		51	
																	F		38.3		Δ = 125 mi			
30	eP	23	08	43.8					-								iF	23	08	38.5	0.37	-17	-30	
	eF			47													i			39.3	0.43	-77	-205	
	eS		09	15.8	0.67	17	23										iS		09	00.8	0.28	745	890	
	F		10.5		Δ = 138 mi	Epicenter near Kanarraville, Utah.											F		13.1		Δ = 107 mi			
30	-								-								e?	23	41	58				
																	eS		42	37				
																	Regional shock.				Δ = 200 mi?			
31	-								-								iP	02	50	36.6	0.17	-6	+14	
																	iS			38.5	0.37	36	46	
																	F		50.8		Δ = 9.5 mi			
																	Local shock.							
31	e?	03	03	51					-								eP	03	03	59				
	eS		04	38	0.34		4										eS		04	41	0.50	18	21	
	F		05.2							Regional shock.							F		05.9		Δ = 200 mi			
31	-								-								e?	03	12	07				
																	eS			44	0.46		15	
																	F		13.6		Δ = 180 mi			
																	Regional shock.							
31	e	04	41	15					-								eP	04	41	22				
	e			49	0.39		9										iP			27				
	F		42.4														eS		42	04				
	Regional shock.																iS			07				
																	i			09	0.54		48	
																	F		45.6		Δ = 200 mi			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF August 1942 19

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
31	e	05	34	51				
	eS		35	25	0.46		10	
	F		35.6					
31	eP	06	49	01				
31	-							
31	-							
31	e?	09	54	06				
31	e	10	15	08				
31	-							
31	-							
31	-							

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
e?	05	34	55				
eP			59				
iS		35	40.5				
i			42	0.43		37	
F		38		Δ = 175 mi			
Regional shock.							
e	06	48	59				
F	07	03		Distant earthquak			
e	07	11	28				
F		15		Distant earthquak			
iP	08	52	52.4	0.16		+13	
iS			54	0.22		68	
F		53.1		Δ = 8 mi			
Local shock.							
eP	09	54	07				
F	10	02		Distant earthquake			
iP	10	15	11				
F		21		Distant earthquake			
e	15	18	44				
eP			47				
iS		19	24	0.52		40	
F		21.1		Regional shock.			
e	20	29	14				
F		35		Distant earthquake			
eP	21	49	13				
eS		50	56	0.60		17	
F		52		Δ = 600 mi?			
Regional shock.							

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MUDDY PEAK ▲

27

FAULT

34

30

28

31

25

32

24

22

23

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32

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31

27

34

33

33

BOULDER DAM

BOULDER CITY ▲

5

10

STATUTE MILES

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - SEPTEMBER, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule. At Overton, the sensitivity during the first half of the month was inadvertently low, and time control throughout the month was poor. The sensitivity at Pierce Ferry continued relatively high.

13 epicenters were located in the Lake Mead region as follows:

No.	Date Sept.	G.C.T.	Location of Epicenter
22	9	05h 14m 58.7s	About 6½ mi NNE of Boulder Dam near the SE shore of Lake Mead. Focal depth estimated at 7 mi. May be on NE-SW fault skirting SE shore of lake. At Boulder City, Boulder Dam and Pierce Ferry, trace disappeared on all records for several seconds after beginning of the P-phase. Beginning of S-phase on records from stations just mentioned was indiscernable except on the Pierce Ferry vertical and accelerograms at Boulder Dam. The entire shock was well recorded at Overton, owing to the low sensitivity. This shock was followed within the next 48 hours by 74 lesser shocks having similar characteristics in regard to general appearance of record, distance from Boulder City and Pierce Ferry, and direction of initial ground impulse. Although only two of these have numbered epicenters, all of them probably originated from the general locality at the intersection of two faults, indicated by Epicenter 23, and most of them from depths somewhat less than 7 miles.
23	9	05h 18m 25.3s	7½ mi NNE of Boulder Dam at Y of two intersecting faults. An aftershock of No. 22.
24	9	05h 21m 27.2s	8 mi NNE of Boulder Dam. An aftershock of No. 22
25	9	18h 32m 08.7s	In Las Vegas Wash, 12.5 mi NW by N of Boulder City. Not at aftershock of No. 22.
26	10	22h 11m 27.1s	Near Las Vegas Wash, 14 mi NW of Boulder City. Not an aftershock of No. 22.
27	12	03h 35m 39.4s	At Fortification Hill, 4 mi NE of Boulder Dam.
28	12	22h 02m 24.6s	13 mi NW of Boulder City, on N sideof Las Vegas Wash.
29	17	11h 52m 22.4s	Probably in Grand Wash, 12 mi N of Pierce Ferry.
30	21	18h 01m 30.5s	N side of Lake Mead, 15½ mi NE of Boulder City. Probably September 9 swarm type.
31	22	00h 22m 45.0s	Las Vegas Wash, 11½ mi NNW of Boulder City.

Confidential-not for publication.

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No.	Date Sept.	G.C.T.	Location of Epicenter
32	26	22h 20m 45.4s	Las Vegas Wash, 12½ mi NNW of Boulder City.
33	27	01h 10m 42.4s	5 mi NW of Boulder City.
34	28	20h 03m 11.3s	About 5 mi NE of Boulder Dam, near Fortification Hill.

Three shocks were felt in Boulder City and Boulder Dam as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date	G.C.T.	Intensity and Description
22	9	05h 15m	V at Boulder City. Observers estimate motion rapid to slow. Duration estimated from 8 to 15 sec. Described as being of inordinately long duration for local shocks, probably because a second shock followed the first by seven seconds. See Boulder Dam accelerograph data. Motion N-S. Felt by all, mostly indoors. Rattled windows, dishes, and doors. Creaking of walls. Hanging objects did swing according to one observer. One table ornament may have been overturned. Damage none. Frightened few. IV at Boulder Dam. Reported as three shocks, five seconds each. Hard and rapid. Felt all over power plant. Motion vertical. Rattled windows and doors. Frightened few. Accelerograph records show two shocks 7 sec apart. First shock reported herein probably first preliminary of first shock which set off accelerograph. IV at Hualpai Lodge, near Lake Mead boat landing. Awakened some. Felt by many. IV at Basic City. Motion moderate. Duration 30 sec. Rattled windows, etc. Resemblance to collapse of building, according to one observer. Many went outside. V? at Las Vegas. Felt by several, apparently on east side only. Motion rapid. Rattled windows. Small object overturned, according to one observer. Not felt along highway south of Boulder Dam. Reported not felt at Whitney, intermediate between Basic City and Las Vegas.
9		08h 25m	II at Boulder Dam. Very light. Felt in control room only.
27		15h 31m	II or III? at Boulder Dam. Slow light shock of about 2 sec. Felt in control room only.

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No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
			Amplitudes written in hundredths of millimeters.						
1	BOULDER CITY	e	08	06	24.8				
		eS			58.4				
		Regional shock.							
	OVERTON	-							
	PIERCE FERRY	e	08	07	05.0				
		iS			44.5				
		i			48.7	0.51	17		22
		F		08.4		Δ = 210 mi			
1	BOULDER CITY	iP	09	35	45.2	0.11	-10	+43	
		iS			46.4	0.21		100	
		F		36.2		Δ = 6 mi			
		Small local shock. SSW of Boulder City.							
	OVERTON	-							
	PIERCE FERRY	e?	09	35	56.8				
		eP			58.7	0.17			
		iS		36	07.2	0.53			42
		F		36.8		Δ = 47 mi			
1	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	e	09	56	00				
		e	10	00	04	Seismic waves.			
1	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	eP	10	56	32.5				
		eS			53.3				
		iS			54.0	0.25	24		16
		F		57.4		Δ = 105 mi			
1	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	e	10	57	53.7				
		iS			56.4	0.20	26		34
		F		58.2		Δ = 14 mi			
		Local shock.							
1	BOULDER CITY	iP	13	58	48.3	0.23	+8	+5	
		iS			49.8	0.16	82	88	
		F		58.3		Δ = 7.5 mi			
		Small local shock. May be located 10 mi South of Boulder Dam.							
	OVERTON	Boulder Dam							
		iS?	13	58	51.4	Δ = 10.5 mi			
	PIERCE FERRY	iP	13	59	01.5	0.25	+7		+6
		i			02.5				
		iS			09.8	0.35	19		31
		F		59.8		Δ = 47 mi			
1	BOULDER CITY	iP	17	25	10.4	0.11		+18	
		iS			11.4	0.22		36	
		F		25.6		Δ = 5 mi	Very small local shock.		
	OVERTON	-							
	PIERCE FERRY	iS	17	25	31.7	0.32			20
		F		25.9		Δ = 45.5 mi			
1	BOULDER CITY	eP	19	11	49				
		Distant earthquake.							
	OVERTON	-							
	PIERCE FERRY	eP	19	11	52				
		F		20					
1	BOULDER CITY	e	20	39	24				
		Distant earthquake.							
	OVERTON	-							
	PIERCE FERRY	eP	20	39	24				
		eS?		44	30				

International Seismological Centre

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.

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
				Amplitudes written in hundredths of millimeters.								
1	eS	21 38 20			-				e	21 36 47		
	Regional shock.								iP	52		
									eS	38 24		
									iS	37	0.46	23
									F	42.0	Δ = 580 mi	
1	-				-				eP	22 07 43.5		
									eS	08 24.5	0.58	20
									F	09.7	Δ = 2200 mi	
									Regional shock.			
2	e	00 38 33.6			-							
	iS	34.3	0.20	48					-			
	F	38.9	Δ = 3.5 mi									
	Very small local shock.											
2	eP	03 26 00.5			-				eP	03 24 58		
	U.S.C. & G.S. epicenter 52½° N Lat, 170° W Long											
2	eP	13 12 42.6	0.48	+2 -5 +6	-				iP	13 12 46.6	0.69	+20 +50 -
	iP	42.9	0.37	+2 +26 +11					i	48.3		
	iS	14 05.3	1.03	26 40 6					i	14 07.6	0.78	219
	i	09.5	1.00	35 49 12					iS	15.3	0.62	100 301
	i	15.1	1.19	79 82 12					i	24.0	0.84	290 373
	F	18.8	Δ = 485 mi						i	34.8	0.88	352 415
	Regional shock. Probable epicenter near Guadalupe Island.								F	22.1	Δ = 510 to 520 mi	
2	e	22 03 18			-				e	22 03 06.6		
	eS	04 35.6							eP	10.2		
	iS	41.8	0.84	27					i	22.3		
	F	07.3	Δ = 465? mi						iS	04 22.2	0.90	90
	Regional shock.								iS	26	0.58	233
									F	10.0	Δ = 440 mi	

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF September 1942 3

Time used is G.C.T.

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
3	eP	01	59	59.4	0.34	+2	+6		-								iP	01	59	50.4	0.26	+20	+28	-2
	i	02	00	00.6													i			51.8				
	eS			27.4		17											iS	02	00	09.1	0.35	160	675	
	iS			30.3	0.30	~~21~~	32	16									i			12.5	0.40	480	500	
	F		01.8		Δ = 135 mi					Regional shock.							F		02.6		Δ = 92 mi			
3	-								-								eP	13	13	35				
																	iS		14	14	0.43		28	
																	F		15.6		Δ = 190 mi			
																	Regional shock.							
3	e	14	06	59.6					-								e	14	07	08.2	0.44	-7	-6	
	eP		07	00.7													iP			08.4	0.40		+20	
	i			12.0	0.60		20										i			09.6	0.31		+30	
	i			15.0	0.50	30	36										i			04.7				
	iS			59.7	0.72		74										i			20.3				
	iS		08	02.3	0.60	134	132										i			25.0	0.62	190	+130	
	i			09.5													i			59.5	0.55		305	
	F		11.5		Δ = 340 mi												i			66.0				
	Regional shock.																iS		08	23.2	0.53	1090	1010	
																	F		13.7		Δ = 380 mi?			
4	eP	03	00	05.5													eP	03	00	02				
	e		07		Δ = 2190 mi												iP			06				
	Distant earthquake. U.S.C.& G.S. epicenter 12.5° N Lat, 91° W Long																							
4	e?	06	02	36.1					-								eP	06	02	23.8	0.21	0	-4	
	eS			46.4	0.29		2										iS			28.1	0.25	13	21	
	F		02.9		Δ = 57 mi												i			28.7	0.24	31	45	
	Very small local shock.																F		03.0		Δ = 21 mi			
	Epicenter may be west of Grand Wash, North of Pierce Ferry.																							
4	eP	06	35	32.3					-								eP	06	35	40.0	0.58	-9	-6	
	i			44.2													iP			40.4				
	i			49.8													i			54.6				
	iS?8		36	29.7													i		36	07.6				
	iS			31.7													iS			54.8	0.58			
	iM			39.0	0.90	102	450	17									i			58.5		f		
	F		41.0		Δ = 330 mi												iM		37	12.2	0.72	850	650	
	Regional shock.																F		44.1		Δ = 345 mi			

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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.

BOULDER CITY

OVERTON

PIERCE FERRY

Amplitudes written in hundredths of millimeters

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
4	iP	10	38	25.7	0.31	+17	+25	-11
	iS			28.4	0.22	55	75	22
	Small local shock.				Δ = 13 mi			
4	eP	17	53	59				
	U.S.C.& G.S. epicenter 52.8° N Lat, 169.2° W Long							
5	-							
5	eP	22	39	22.4			+4	
	i			23.8				
	eS			58.7				
	iS		40	01	0.56	24	22	
	F		42		Δ = 180 mi			
	Regional shock.							
6	iP	00	46	04.2	0.18	-8	+25	-44
	iS			05.8	0.19	44	37	15
	F		46.5		Δ = 8 mi			
	Very small local shock.							
6	eP	09	03	48.4	0.12	-12	-8	-10
	iS			49.2	0.20	175	120	60
	F		04.3		Δ = 4 mi			
	Small local shock.							
6	eP	16	05	14.5				
	iP			29.6				
	F		11		Distant earthquake.			
6	iP	16	36	36.1	0.09	+5	+7	-9
	iS			39.8	0.26	14	25	11
	F		37.0		Δ = 13 mi			
	Very small local shock.							

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
iP	10	39	02.9	0.14	+3	-11	-7
iS			10.4	0.30	105	300	18
F		40.4		Δ = 37 mi			
eP	17	54	03.5				
iP			32.0				
iP	17	39	16.7				
eS			42.4				
Regional shock.				Δ = 120 mi			
eP	22	39	20.4	0.61		+8	
i			31.0				
iS		40	13.6				
iM			20	0.70		150	
F		42.9					
e?	00	46	13.2				
iS			23.4	0.39	20	50	
F		46.8		Δ = 43 mi?			
e?	09	03	58.6				
eP		04	00.5				
iS			09.5	0.36	15	23	
F		04.7		Δ = 45 mi			
eP	16	05	13.6	0.70			
iP			27.3	1.20			
eP	16	36	44.5	0.28		-5	
i			50.0				
iS			50.8	0.28		85	
F		37.5		Δ = 34 mi			

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF September 194 2 5

Time used is G.C.T.

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
6	iP	21 35 43.5	0.14	+12 +23 -22	-				e	21 35 54.9		
	iS	44.7	0.17	44 58 37					eS	36 03.2		
	F	36	Δ = 6 mi						iS	03.7	0.37	22
	Small local shock.								F	36.4	Δ = 44 mi	
7	e?	04 58 03			-				eP	04 58 01		
	Distant earthquake.								F	05 03		
7	e	05 12 37.4			-				iP	05 12 27.8	0.27	-3 +9
	iS	40.2	0.36	8					iS	32.7	0.26	87 86
	F	12.9	Δ = 39 mi	Very small local shock.					F	13.3	Δ = 24 mi	
7	e?	06 48 53.0			-				eP	06 49 00.2	0.20	+3 +5
	iS	56.8	0.20	10 8					iS	07.3	0.30	17 38
	F	49.2	Δ = 14? mi	Very small local shock.					F	49.5	Δ = 35 mi	
7	iP	19 51 16.7			-				iP	19 51 17		
	iS	52 05.5	0.84	20 25					i	29		
	F	53.3	Δ = 235 mi?						iS	52 21	0.36	75 83
	Regional shock.								F	55.7	Δ = 280? mi	
7	-				-				eP	23 44 30	Part of distant	
									F	48	earthquake.	
8	-				-				eP	07 12 38	Part of distant	
											earthquake.	
8	-				-				e?	11 54 39.5		
									iP	43.4		
									iS	55 08.3	0.53	20 20
									F	55.7	Δ = 120? mi	
									Regional shock.			
8	-				-				eP	15 01 15		
									iS	40	0.32	50 55
									F	02.7	Δ = 120 mi	
									Regional shock.			

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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							
							Amplitudes written in hundredths of millimeters.																		
	8	e	16	19	31					-								e	16	19	35				
		Distant earthquake?																F		23.5					
	9	eP	01	32	49	2.0		+		-								eP	01	32	54	0.4		+5	
		eS		38	46	5.0		12										eS		38	58	3.8			
		U.S.C.& G.S. epicenter 53.1° N Lat, 165° W Long																F	02	05		Δ = 2680 mi			
22	9	iPB	05	15	03.0		+660?		-	eP	05	14	27.1	0.33				iP	05	15	10.9	0.27		+177	+62
		iS			off record		5800?			i			27.6					iP				0.47	+1000		
		i		16	10	0.73	808			iS			34.1	0.67				iS				off		1500+	
										i			35.3	No time correct.				F?		22.5		Δ = 40.5 mi		
										S - P: Δ = 34.5 mi															
		iPT	05	15	03.0		+20	W.A.		Boulder Dam								Boulder Dam strong motion							
		iS			05?		65			iP	05	15	01.3					seismograph, 1215 gallery							
		i		16	10	0.6	9			iS?			02.8		55?			iS	05	15	03.2		15		
		F		19.5		Δ = 14.5 mi				F		18.4		Δ = 9.5 mi				eP			08.1	Second shock.			
		Moderate local earthquake. Felt by many.																iS			10.0		11	Δ = 9.5	
		Epicenter near east shore of Lake Mead about 6½ mi NNE of Boulder Dam.																Focal depth about 7 mi							
23	9	iP	05	18	29.3	0.25	+49	+57	-66	Boulder Dam								iS	05	18	44	0.54		900	
		iS			32.1		175	300	150	eP	05	18	27.3							Δ = 38 mi					
		Δ = 13.5 mi								iS			28.8	Δ = 7.5 mi											
		Epicenter 7½ mi NNE of Boulder Dam.																							
	9	iP	05	18	42.4	0.15				eP			41.6					iS	05	18	58	0.30		800	
		iS			45.6	0.36	220	205	175	iS			43.0	Δ = 8.0 mi						Δ = 38 mi					
		Δ = 13.0 mi								Light local shocks.															
	9	iP	05	19	15.6	0.23	+20	-44	-17	-								iS	05	19	31	0.34		300	
		iS			18.1	0.26	56	105	68											Δ = 38 mi					
		F		20		Δ = 12.5 mi																			
		Small local shock.																							

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Time used is G.C.T.

BOULDER CITY — ~~STATION~~ Boulder Dam — PIERCE FERRY

Amplitudes in hundredths of millimeters.

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
24	9	iP	05	21	31.0	0.13	-135	+185	-91	eP	05	21	29.0					iP	05	21	38.8	0.15	+58	+13	+5
		iS			33.7	0.25	395	525	255	iS			31.5					i			39.8	0.32			
		F		22.9		Δ = 14 mi					Δ = 7.5 mi							i			46.2	0.30	920	1040	36
		Light local shock.																i			48.8				
		Probable epicenter 8 mi NNE of Boulder Dam.																F		24.1		Δ = 38.5 mi			
	9	iP	05	26	15.0				-3	-								e	05	26	24.2				
		eP			15.2	0.23	-5	-7	+3									iS			30.7	0.36	21		36
		iS			18.0	0.16	9	10	7									F		26.8		Δ = 40 mi			
		F		26.5		Δ = 14.5 mi																			
		Very small local shock.																							
	9	iP	05	27	28.4			-5	+3	-								iS	05	27	43.6	0.43	17		30
		eS			31.1	0.35	8	10	5									F		27.7		Δ = 38 mi			
		F		27.7		Δ = 13 mi																			
		Very small local shock. Probably at 22																							
	9	iP	05	28	13.9	0.10	+9	+12	-13	-								eP	05	28	22.0	0.14	+3		-5
		iS			16.8	0.27	41	55	27									i			22.5				
		Δ = 14.5 mi Probably at 23																eS			28.7				
		Very small local shock.																iS			29.6	0.26	105		200
		iS	05	28	26.2	0.40	25	37	23									iS			39.0	0.40	67		100
		F		28.9														F		29.2		Δ = 38 mi			
		Very small local shock or disturbance.																							
	9	eP	05	29	05.3	0.27	-3	+2		-								eP?	05	29	13.0				
		iP			05.8	0.28	-10	+6	-7									iP			14.2	0.14	+15		-13
		iS			08.4	0.10	9	7	7									eS			20.5		18		
		iS			08.7	0.28	37	51	30									iS			21.3	0.40	125		140
		F		29.6		Δ = 15 mi												F		30.0		Δ = 39 mi			
		Small local shock.																							
	9	iP	05	36	09.1	0.09	+5	+6	-6	-								e	05	36	18.4	0.25	30		58
		iS			11.9	0.25	18	14	10									iS			24.8	Δ = 39.5 mi			
		F		36.4		Δ = 14 mi				Very small local shock.															

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Time used is G.C.T.

No. Date	BOULDER CITY Phase	Time h m s	Period T	Trace Amplitude E N Z	OVERTON ~~OVERTON~~ Boulder Dam 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
				Amplitudes written in hundredths of millimeters.								
9	iP	05 36 29.5	0.24	+50 +80 -74	eP	05 36 27.7			iP	05 36 37.5	0.17	+21 -28 +5
	iS	32.3	0133	330 625 455	iS	29.3	Δ = 7.5 mi		iP	38.3		-72
	iS	38.6	0.65	110 220 150	iS	35.7			iS	43.8	0.25	110
	F	38.1	Δ = 14 mi						iS	44.9	0.55	925 170 55
	Light local shock followed by S of second small shock.								F	in next shock. Δ = 37 mi		
9	iP	05 38 08.5	0.38	+15 +19	iS	05 38 08.2	Δ = 7.0 mi		iP	05 38 16.2	0.25	+30 +24
	iS	11.2	0.38	85 115					iS	24.0	0.28	345 435
	F?	39.0	Δ = 13 mi	Small local shock.						Δ = 39 mi		
9	eP	05 38 44.1			-				iS	05 38 59.8	0.37	25 49
	iS	46.6	0.33	15 12						Δ = 38.5 mi		
	Δ = 12.5 mi	Very small local shock.										
9	iP	05 39 04.7	in minute marks		-				iS	05 39 20.2	0.34	68 160
	iS	07.3	0.32	33 44						Δ = 38.5 mi		
	F	39.6	Δ = 13 mi	Very small local shock.								
9	iP	05 40 25.7	0.18	-6 -2	-				iS	05 40 41.0	0.41	32
	iS	28.2	0.26	9 16					F	40.9	Δ = 38 mi	
	F	40.7	Δ = 12.5 mi									
	Very small local shock.											
9	iP	05 43 29.0	0.19	-9 +2	-				iS	05 43 44.1	0.42	46
	eS	31.6							F	44	Δ = 38 mi	
	iS	31.8	0.30	16 18								
	F	43.8	Δ = 13.5 mi									
	Very small local shock.											
9	iP	05 43 58.4	0.12	+10 +14 -15	-				iP?	05 44 06.5		+15 -7
	iS	44 01.4	0.32	68 87 49					iS	13.9	0.36	175 220
	F	44.7	Δ = 15 mi						F	44.4	Δ = 39.5 mi	
	Small local shock.											

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Time used is G.C.T.

	BOULDER CITY								OVERTON								PIERCE FERRY							
Day / 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
						Amplitudes written in hundredths of millimeters.																		
9	iP	05	46	12.8	0.09	+5	+5	-6	-								iP?	05	46	21.8				
	iS			15.6	0.36	21	33	20									iS			28.3	0.41	77		85
	F		46.7		Δ = 14 mi												F		46.9		Δ = 39 mi			
	Very small local shock.																							
9	iP	05	47	22.0	0.24	+17	+22	-20	-								iP	05	47	29.8	0.37	-9		-7
	iS			24.8	0.29	105	175	130									iS			37.0	0.26			60
	F		48.1		Δ = 14 mi												iS			37.5	0.38	410		515
	Small local shock.																F		48.6		Δ = 39 mi			
9	iP?	05	50	16.5	0.21	-2	-6	+3	-								iS	05	50	31.8	0.37	26		29
	iS			19.3	0.30	9	13	7									F		50.7		Δ = 38.5 mi			
	F		50.5		Δ = 14 mi																			
	Very small local shock.																							
9	iP	05	52	42.4	0.24	-2	-3	+3	-								iS	05	52	57.7	0.37	22		25
	iS			45.1	0.28	8	10	7									F		53.1		Δ = 38 mi			
	F		52.9		Δ = 14.5 mi																			
	Very small local shock.																							
9	eP	05	57	55.6	0.10		+3	-3	-								i?	05	58	03.7				
	iP			55.7		-2	-11	+5									iS			11.0	0.38	45		58
	eS			58.3													F		58.5		Δ = 38.5 mi			
	iS			58.4	0.31	18	26	16																
	F		58.3		Δ = 13 mi																			
	Very small local shock.																							
9	eP	06	00	05.6	0.07	+4	+5	-6	-								i?	06	00	15.7				
	iP			05.8	0.14	-6	-14	+7									iS			21.1	0.34	68		90
	eS			08.3													F		00.7		Δ = 38 mi			
	iS			08.5	0.32	49	33	22																
	F		00.5		Δ = 13 mi																			
	Very small local shock.																							

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Time used is G.C.T.

	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
9	iP	06	08	42.5	0.26	+10	+13	-13	-								i?	06	08	50.7	0.22	+10	+20	
	iS			45.2	0.36	65	110	68									iP			51.4				
	F		09.3		Δ = 13 mi												iS			57.2	0.23	24	33	
	Small local shock.																iS			57.9	0.30	253	293	
																	F		09.7					
9	eP	06	11	58.9	0.08		+3	-5	-								iP	06	12	07.0	0.36		+17	
	iP			59.1	0.17	-3	-14	+7									iS			14.4	0.38	50	66	
	iS		12	01.6	0.30		10										F		12.6		Δ = 38.5 mi			
	iS			01.8	0.32	20	24	16																
	F		12.2		Δ = 13 mi																			
	Very small local shock.																							
9	eP	06	14	47.1					-								iS	06	15	02.7	0.38	36	36	
	iP			47.3	0.13	-2	-8	-2									F		15.3		Δ = 38 mi			
	iS			49.7	0.20		17																	
	iS			49.9	0.18	25	30	21																
	F		15.1		Δ = 13 mi																			
	Very small local shock.																							
																	iP	06	26	41.1	0.11		+1	
																	iP			41.5			-5	
9	iP	06	26	33.5	0.22		-8		-								e			48.3			6	
	iS			36.2	0.25	27	32										iS			48.7	0.39	48	74	
	F		26.9		Δ = 13 mi												F		27.3		Δ = 38 mi			
	Very small local shock.																							
0	eP	06	27	36.8			+3		-								iP	06	27	44.6	0.17	+6	-2	
	iP			36.9	0.12	-2	-10										iP			44.9	0.18		+12	
	iS			39.3	0.37	15	18										i			45.7				
	F		27.9		Δ = 13 mi												e			51.1				
	Very small local shock.																iS			51.7				
																	iS			52.2	0.37	50	53	
																	F		28.3					
9	iP	06	28	10.9	0.11	-11	+14		-								iP	06	28	19.0	0.14	+10	+13	
	iP			11.1	0.25	-18	-40										iP			19.8				
	iS			13.6	0.32	25	50										i			20.3				
	iS			13.9		77	156										iS			26.0				
	F		28.8		Δ = 13 mi												iS			26.4	0.27	315	330	
	Small local shock.																F		29.3		Δ = 38.5 mi			

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Time used is G.C.T.

No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
			Amplitudes written in hundredths of millimeters.						
9	BOULDER CITY	e?	06	37	43.0		+3	+4	
		iP			43.1			-10	
		iS			45.7				
		iS			45.9	0.20	15	21	
		F		38.0		Δ = 13 mi			
		Very small local shock.							
9	BOULDER CITY	iP	06	44	05.0	minute mark			
		iS			07.6	0.35	28	45	
		F		44.5		Δ = 13 mi			
		Very small local shock.							
9	BOULDER CITY	eP	06	48	00.6	0.32	+3	-2	
		iS			00.9		+6	-11	
		iS			03.6	0.22	12	10	
		F		48.2		Δ = 13 mi			
		Very small local shock.							
9	BOULDER CITY	eP	06	56	53.5				
		iS			56.4	0.29	7	8	
		F		57.1		Δ = 14 mi			
		Very small local shock.							
9	BOULDER CITY	eP	07	02	39.3				
		iP			39.4				
		iS			41.9	0.30	27	31	
		F		02.9		Δ = 13 mi			
		Very small local shock.							
9	BOULDER CITY	iP	07	26	41.5	0.12	+10	+13	
		iP			41.7	0.19		-39	
		iS			44.2	0.30	28	25	
		iS			44.4	0.26	70	104	
		F		26.7		Δ = 13.5 mi			
		Small local shock.							

No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9	OVERTON	-							
9	OVERTON	-							
9	OVERTON	-							
9	OVERTON	-							
9	OVERTON	-							

No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9	PIERCE FERRY	e?	06	37	51.7				
		eS			57.8			8	
		iS			58.5	0;34	38	55	
		F		38.2		Δ = 38.5 mi			
		iP	06	44	12.9	0.24	+6	+2	
		i			13.5				
		i			14.3				
		iS			19.6	0.26	12	16	
		iS			20.5	0.37	119	117	
		F		44.9		Δ = 38.5 mi			
		iS	06	48	16.4	0.24	21	41	
		F		48.6		Δ = 38 mi			
		iS	06	57	11.6	0.40	16	23	
		F		57.4		Δ = 36 mi			
		eP	07	02	48.1				
		iP			48.7				
		iS			54.9	0.36	35	37	
		F		03.3		Δ = 38.5 mi			
		iP	07	26	49.7	0.12	-7	+7	
		eS			56.3				
		iS			57.1	0.34	211	285	
		F		27.6		Δ = 36.5 mi			

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Time used is G.C.T.

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
						Amplitudes written in hundredths of millimeters.		
9	eP	07	30	14.7				
	iP			14.9	0.10		-11	
	iS			17.4				
	iS			17.8	0.18	9	10	
	F		30.4		Δ = 13.5 mi			
	Very small local shock.							
9	iP	07	32	01.9	0.12	+9	+11	
	iP			02.1	0.11	-12	-34	
	iS			04.4	0.50	20	20	
	iS			04.8	0.27	63	88	
	F		32.5		Δ = 12.5 mi			
	Small local shock.							
9	eP	07	54	54.7			+3	
	iP			54.8	0.12	-7	-15	
	eS			57.4				
	iS			57.6	0.25	25	34	
	F		55.2		Δ = 13 mi			
	Very small local shock.							
9	iP	08	05	48.4	0.12	+20	+29	
	iP			48.6	0.12	-30	-77	
	iS			51.1	0.27	6	49	
	iS			51.6	0.26	102	134	
	F?		06.5		Δ = 13 mi			
	Small local shock.							
9	eP	08	06	23.8	0.10	+5	+3	
	iP			24.0	0.11	-4	-16	
	iS			26.5	0.29	5	10	
	iS			26.7	0.26	25	31	
	F		06.7		Δ = 13 mi			
	Very small local shock.							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
9	-							
9	-							
9	-							
9	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
	iS	07	30	30.5	0.27	20	44	
	F		30.7		Δ = 39 mi			
9	iP	07	32	10.0	0.18	+4	-6	
	i			10.7	0.20			
	iS			16.8	0.25	18	18	
	iS			17.5	0.33	175	235	
	F		33.0		Δ = 38 mi			
9	eP?	07	55	03.1				
	iS			10.3	0.36	72	85	
	F		55.5		Δ = 39 mi			
9	iP	08	05	56.4	0.13	+7	+5	
	i			57.6	0.18		-14	
	i		06	01.7	0.18		24	
	iS			04.0	0.35	418	498	
	i			07.6	Δ = 39 mi			
9	iS	08	06	39.1	0.40	68	85	
	F		07.2		Δ = 38 mi			

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Time used is G.C.T.

Amplitudes written in hundredths of millimeters.

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
9	eP	08 08 01.4					-						iP?	08 08 09.4				
	iP	01.5											iS?	16.0				
	eS	04.1											iS	16.9	0.35	66	90	
	iS	04.3	0.32	27	45								i	17.5			f	
	F	08.4	Δ = 13 mi										F	08.6	Δ =	38.5	mi	
	Very small local shock.																	
9	eP	08 10 11.8					-						iP	08 10 19.8		?	+4	
	iP	11.9											iS	27.2	0.34	56	78	
	iS	14.5												Δ = 38.5 mi				
	iS	14.7	0.27	21	28													
	F?	10.5	Δ = 13 mi															
	Very small local shock.																	
9	eP	08 10 30.4		+6	+2		-						iP?	08 10 38.4				
	iP	30.6		-10	-18								iS	46.0	0.37	120	150	
	iS	33.2											F	11.2	Δ =	39.5	mi	
	iS	33.4	0.27	40	62													
	F	10.9	Δ = 13.5 mi															
	Small local shock.																	
9	iP	08 24 13.3	0.10	+21	+29		-						iP	08 24 21.4	0.11	+5	+5	
	iP	13.5	0.10	-28	-74								i	22.6	0.26	-10	-15	
	iS	15.9	0.26										iS	28.9	0.30	134	342	
	iS	16.2		75	45								i	30.4		f	f	
	F?	24.8	Δ = 13 mi										F	in next shock.	Δ =	37	mi	
	Small local shock.																	
								Boulder Dam										
9	iP	08 24 45.6	0.17	115	155	160	eP	08 24 44.0		0.4			iP	08 24 53.7	0.13	+27	+19	+4
	iS	48.3	0.28	690	820	580	iS	45.5		400			iP	54.8	0.24			
	F	26.6	Δ = 13 mi				F	25.1		Δ = 7.5 mi			i	25 00.0	0.26			
	Light local shock. Felt at Boulder Dam.												iS	01.2				
	May be located 2 mi NE of first large shock, #22.												iS	02.8	0.18	855	845	35
													F?	27.5	Δ =	39	mi	

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	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
						Amplitudes written in hundredths of millimeters.																		
9	iP	08	27	24.3	0.10	+6	+6		-								iS	08	27	39.9	0.36	93	109	
	iP			24.4	0.10	-10	-23										F			28.1	Δ = 39 mi			
	iS			27.1	0.28	36	48																	
	i?			28.7																				
	F			27.8	Δ = 13.5 mi																			
	Very small local shock.																							
9	iP	08	33	40.6	0.11	+4	+7		-								e	08	33	48.3				
	iP			40.8			-15										iS			56.1	0.32	28	70	
	iS			43.3	0.26	13	14										F?			34.3	Δ = 41 mi			
	F			33.9	Δ = 13 mi																			
	Very small local shock.																							
9	iP	08	33	56.9	0.40	0	+3		-								iS	08	34	12.2	0.40	41	56	
	iP			57.0		-3	-10										F			34.5	Δ = 38 mi			
	iS			59.6	0.27		20																	
	F			34.2	Δ = 13 mi																			
	Very small local shock.																							
9	eP	08	52	39.9					-								e	08	52	48.9				
	eS			42.7	0.18	7	5										iS			55.4	0.30	15	33	
	F			52.8	Δ = 13 mi												F			52.1	Δ = 39.5 mi			
	Very small local shock.																							
9	e	08	56	05.4					-								iS	08	56	20.6	0.37	18	23	
	iS			08.1	0.30	8	8										F			57.0	Δ = 38 mi			
	F			56.3	Δ = 13 mi																			
	Very small local shock.																							
9	e?	09	24	40					-								e?	09	24	48.1				
	iS			42.5	0.34	24	33										iS			55.4	0.36	32	32	
	Very small local shock, obscured in another.																F			24.2	Δ = 39.5 mi			

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
						Amplitudes written in hundredths of millimeters.		
9	iP	09	59	11.0	0.12	+19	+25	
	iP			11.2	0.14	-27	-78	
	iS			13.7	0.30	84	132	
	F			59.8	Δ = 13 mi			
	Small local shock.							
9	e	10	12	10.3				
	iS			13.0	0.29	9	10	
	F			12.4	Δ = 13 mi			
	Very small local shock.							
9	eP	11	11	37.3				
	iS			40.1	0.19	30	32	
	F			11.8	Δ = 13.5 mi			
	Very small local shock.							
9	eP	11	58	02.2				
	iS			04.8				
	iS			05.2	0.32	36	26	
	F			58.3	Δ = 12.5 mi			
	Very small local shock.							
9	iP	13	47	25.3	0.11	+5	+9	
	iP			25.5	0.12	-9	-24	
	iS			28.1	0.30	45	55	
	F			47.8	Δ = 13.5 mi			
	Small local shock.							
9	eP	14	31	48.9		+2	+2	
	iP			49.0	0.11	-4	-11	
	iS			51.6	0.31	23	34	
	F			32.2	Δ = 13 mi			
	Very small local shock.							

OVERTON

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
9	-							
9	-							
9	-							
9	-							
9	-							

PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	iP	09	59	18.7	0.15		-5	
	i			24.9				
	iS			26.1	0.33		438	
	F	10	00.3		Δ = 37.5 mi			
	iS	10	12	25.2	0.40		21	
	F		12.6		Δ = 38 mi			
	eP	11	11	45.2	0.16		-4	
	iS			52.8	0.44		21	
	i			54.1	0.32		29	
	F		12.2		Δ = 39.5 mi			
	iP	11	58	09.7	0.12		+6	
	i			10.9				
	iS			17.5	0.24		18	
	F		58.6		Δ = 39 mi			
	eP	13	47	32.9	0.15		-3	
	iP			34.2				
	i			39.2				
	iS			40.3	0.40		175	
	i			41.6				
	F		48.4					
	eP?	14	31	55.9				
	iP			57.4				
	i		32	02.8				
	iS			03.9				
	i			05.2	0.40		130	
	F		32.5		Δ = 38.5 mi			

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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
		Amplitudes written in hundredths of millimeters.																						
9	e	missed in record change							-								eP	14	44	58.0				
																	iP			59.0				
																	i		45	04.5				
																	iS			05.5	0.35	60	90	
																	i			06.8				
																	F		45.5		Δ = 37.5 mi			
9	iP	15	55	57.0	0.14	+5	+9	-7	-								iP	15	56	04.4	0.14	+6	+3	
	iP			57.2	0.10	-10	-26										iP			05.5	0.16			
	iS			59.7													i			10.9				
	i		56	00.0	0.30	32	27	27									iS			11.9	0.31	48	100	
	F		56.3		Δ = 13 mi												i			13.2				
	Very small local shock.																F		56.7		Δ = 37.5 mi			
9	iP	17	01	54.6	0.10	+20	+24	-27	-								iP	17	02	02.2	0.17		-9	
	iP			54.8	0.12	-33	-80	-28									i			04.0				
	iS			57.3		223	415	452									i			09.4	0.26			
	F		03.5		Δ = 13 mi												iS			09.9			770	
	Light local shock.																F		03.5		Δ = 38 mi			
9	iP	18	04	43.2	0.12	+20	+25	-25	-								iP	18	04	51.0	0.18		-7	
	iP			43.4	0.10	-30	-75	-26									iP			52.5				
	iS			46.0	0.32	93	210	152									i			57.4				
	F		05.7		Δ = 13.5 mi												iS			58.5			310	
	Light local shock.																F		06.0					
25 9	iP	18	32	12.4	0.25	+11	-17	+8	-								eP	18	32	25	0.20	+8		+
	i			12.7													iS			35.2	0.46	15	48	
	iS			14.7		f	f										i			37.0		46		
	iS			15.7	0.25	120	92	73									i			39.0			f	
	F		32.8		Δ = 12.5 mi												F		33.1		Δ = 53.5 mi			
	Small local shock, not similar to foregoing swarm type. Epicenter 12.5 mi NW of Boulder City.																							

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	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
						Amplitudes written in hundredths of millimeters.																		
10	eP	01	14	56.4					-								-							
	iP			56.6	0.22	-2	+6																	
	iS			58.0	0.17	30	40	12																
	i			58.4			f																	
	F			15.2		Δ = 8 mi																		
	Very small local shock.																							
10	iP	02	10	20.6	0.10	+23	+32	-28	-								iP	02	10	28.0	0.15	+9		
	iP			20.8	0.10	-28	-80	+53									i			29.4			f	
	iS			23.3	0.19	53	60	35									i			33.7				
	i			24.2		65	f										iS			35.5	0.40	172	412	
	F			10.7		Δ = 13 mi											i			36.6			f	
	Small local shock.																F			11.3		Δ = 37.5 mi		
10	eP	02	16	58.2					-								iS	02	17	13.0	0.36	36	53	
	iP			58.3													F			17.4		Δ = 37 mi		
	iS		17	00.8	0.27	15	25	13																
	F			17.2		Δ = 12.5 mi																		
	Very small local shock.																							
10	iP	02	33	56.2	0.09	+3	+6	-4	-								iS	02	34	11.0	0.28	55	80	
	iP			56.4	0.09	-5	-12	+7									F			34.5		Δ = 37 mi		
	iS			58.9	0.30	20	27	19																
	i			59.5																				
	F			33.2		Δ = 13 mi																		
	Very small local shock.																							
10	iP	03	05	44.6	0.10	+11	+12	-12	-								iP	03	05	52.0	0.20	+9		+4
	iP			44.8	0.12	-14	-41	+28									i			58.1				
	iS			47.3	0.30	89	93	61									iS			59.5	0.35	183	245	80
	i			48.1			f										i		06	00.7			f	
	F			06.4		Δ = 13 mi											F			06.6		Δ = 37.5 mi		
	Small local shock.																							

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
					Amplitudes written in hundredths of millimeters.			
10	iP	04	09	56.7	0.10	+3	+4	-4
	iP			56.8	0.12	-3	-11	+6
	iS			59.4	0.28	17	34	19
	F		10.3		Δ = 13 mi			
	Very small local shock.							
10	iP	04	31	08.3	0.10	+9	+11	+14
	iP			08.5	0.10	-11	-30	+19
	iS			10.8	0.32	27	34	19
	i			11.6			f	
	F		31.7		Δ = 12.5 mi			
	Very small local shock.							
10	iP	07	15	07.0	0.12	+4	+5	
	iP			07.2	0.12	-8	-20	
	iS			09.7	0.29	27	32	
	F		15.4		Δ = 13 mi			
	Very small local shock.							
10	eP	20	50	57.6				
	iS		51	00.6	0.25		32	
	F		51.3		Δ = 15 mi			
	Very small local shock.							
26 10	iP	22	11	31.1	0.28	+16	-24	+14
	iS			34.0	0.30	-95	-98	?
	i			34.7	0.20	134	138	85
	F		12.4		Δ = 14 mi			
	Small local shock. Epicenter 14 mi NW of Boulder City.							
11	e	00	46	16	1			
	F		50					
	Seismic waves.							

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
iP	04	10	04.3	0.13		-8	
iS			11.6	0.34	54	75	
i			12.6			f	
F		10.5		Δ = 37.5 mi			
iP	04	31	15.9				
iP			17.1				
iS			23.5	0.31	61	144	
i			14.8				
F		31.8		Δ = 36 mi			
iP	07	15	14.5	0.10		+6	
iP			15.5	0.23			
i			20.8	0.21			
iS			21.9	0.34	55	105	
i			22.5		f	f	
F		15.1		Δ = 37.5 mi			
iS	20	50	10.8	0.32		110	
F		50.5		Δ = 35 mi			
iP	22	11	42.9		-6	+3	
i			44.1				
i			52.3				
iS			53.4				
iS			54.7	0.25	58	72	
F		12.4		Δ = 52.5 mi			
eP	00	44	14				
eS		46	11				
M		46	30	0.85		65	
F		49		Δ = 700+ mi			

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PIERCE FERRY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
					Amplitudes written in hundredths of millimeters.			
11	iP	02	04	17.8	0.10	+10	+17	-6
	iP			17.9	0.11	-14	-38	
	iS			20.4	0.22	35	34	
	F		04.7		Δ = 12.5 mi			
	Very small local shock.							
11	iP	02	11	33.9	0.14	+10	+15	-14
	iP			34.0	0.12	-17	-41	
	iS			36.5				
	i			36.7	0.20	36	36	28
	F		12.0		Δ = 12.5 mi			
	Very small local shock.							
11	e	02	51	22				
	e		52	40				
	F		56.5					
	Seismic waves.							
11	eP	03	20	25.3				
	eS		21	46.4	0.50	14	17	
	F		22.1		Δ = 100 mi			
	Regional shock.							
11	e	06	47	25				
	F		52					
	Seismic waves.							
11	iP?	21	00	27.5	0.20	+16	+17	-3
	iS			28.5	0.30		14	
	F		00.6		Δ = 5 mi?			
	Very small local shock.							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
11	e?	02	04	25.3				
	iP			26.4				
	i			30.8				
	iS			32.5	0.26	63		147
	i			33.8				
	F		05.0		Δ = 36.5 mi			
11	eP	02	11	41.2				
	iS			48.5	0.26	70		163
	F		12.4		Δ = 36.5 mi			
11	eP	02	50	46				
	i		51	09				
	eS		52	32	0.85			83
	F		57					
11	eP	03	20	28.6				
	i			37.2				
	i			57.4				
	iS		21	07.0	0.37	105		145
	F		22.1		Δ = 150 mi			
11	eP	06	45	48.7				
	i			57.0				
	i		46	17.2				
	iS		47	48	0.80			100
	F		52		Δ = 650? mi			
11	iS	21	00	38.3				

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No. Date		BOULDER CITY Phase	h	m	s	Period T	E	N	Z	OVERTON Phase	h	m	s	Period T	E	N	Z	PIERCE FERRY Phase	h	m	s	Period T	E	N	Z
							Amplitudes written in hundredths of millimeters.																		
11		iP	22	06	42.7	0.23	+9	-15	+8	-								iP	22	06	54.6				
		i			43.2													i			55.7				
		i			45.2													i		07	03.7				
		iS			46.1	0.24	75	67										iS			04.7				
		iM			48.2	0.65	90	82										iS			07.4	0.30	38	58	
		F		07.4		Δ = 12.5 mi												F		07.5		Δ = 52 mi			
		Small local shock.																							
11		eP	23	32	23.3					-								e?	23	32	23.3				
		eP			26.1													iP			35.8	0.42		+22	
		iS		33	03.8													eS		33	15.1				
		iS			06.0	0.44	17	20										iS			17.5	0.75	152	238	
		iM			14.0	0.74		25										F		34.6					
		F		34.6		Δ = 220 mi																			
		Regional shock.																							
27	12	iP	03	35	43.2	0.13	+80	+106	-89	iP	03	35	25.1		+3		+3	e	03	35	50.5				
		iS			45.8		-62	+169		i			25.7	no time correct.				iP			50.8	0.20		+13	
		m				0.29	279	283	100	i			31.0					iP			51.9	0.15			
		F		37.5		Δ = 13.5 mi				iS			32.3	0.42				i			57.2	0.36			
		Light local shock.								im			45.5	0.32	127	97		iS			58.1	0.35	188	980	
		Boulder Dam								F			36.6		Δ = 36.5 mi			F		38.0		Δ = 39.5 mi			
		iP	03	35	41.9	Epicenter at Fortification Hill and 4 mi NE of Boulder Dam.																			
		iS			43.5	Δ = 8 mi																			
28	12	iP	22	02	28.1	0.36	+12	-18	+10	eP	22	01	48.3	no time correct.				eP	22	02	39.6	0.20	-3	-4	
		i			28.6					iP			49.3					iP			40.0				
		iS			30.5	0.32	68	80		eS			55.9	0.40				i			42.3				
		i			31.3			f		m		02	01	0.42	15			iS			50.3	0.30			
		m			34	0.42	134	122	51	F		03.0						iS			51.7	0.24	63	89	
		F		03.6		Δ = 12.5 mi						S - P, Δ = 38.5 mi						F		03.8		Δ = 53.5 mi			
		Small local shock. Epicenter on north side of Vegas Wash, 13 mi NE of Boulder City.																							

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
						Amplitudes written in hundredths of millimeters.		
13	eP	06	32	03.5		+2	-1	+6
	eP			03.8	0.24		-3	
	iP			05.0	0.18			
	iS			21.8	0.52			
	iS			24.0	0.37	49	48	
	F			33.3	Δ = 95 mi			
	Epicenter on west side of Amargoas Valley.							
13	iP	13	52	35.0	0.35	+13	+14	-15
	iS			37.6	0.20	50	57	
	F			53.1	Δ = 12.5 mi			
	Small local shock.							
13	eP	17	12	46.5				
	iS			48.3	0.30		6	
	F			13.0	Δ = 13.5 mi			
	Very small local shock.							
13	iP	19	55	01.9	0.15	-10	+11	+10
	iS			02.9	0.19	40	43	19
	F			55.4	Δ = 5 mi			
	Very small local shock.							
13	-							
13	-							
13	-							
	Probable epicenter on west slope of Virgin Mountains							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
	eP	06	31	56.2	no time correct.			
	iS		32	19.8	0.64	42	35	
	F			34.5				
	S - P, Δ = 120 mi							
	Regional shock.							
	iP	obscured in time correction.						
	iS							
	-							
	-							
	e?	21	09	14.9				
	iP			15.7				
	iS			18.4				
	iS			19.1	0.44	65	55	
	F			10.3	Δ = 17.5 mi			
	Local shock.							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
	eP	06	32	14.7				
	iP			16.5				
	iP			18.0				
	iS			40.5				
	iS			43.4				
	iS			44.4	0.25		373	
	F			34.5	Δ = 130 mi			
	eP	13	52	42.1				
	iS			49.5	0.31		112	
	F			53.5	Δ = 36.5 mi			
	e	17	12	53.5				
	iS		13	00	0.53		38	
	F			13.4	Δ = 35 mi			
	-							
	e	20	41	43	faint seismic wave			
	eP	21	04	44.5				
	eS		05	06.0	0.25		17	
	F			05.8	Δ = 105 mi			
	eP	21	10	07.1				
	eS			14.7	0.32		11	
	F			10.8	Δ = 37 mi			

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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
13	eP	22 03 47.7			-				eP?	22 03 55.5		
	iP	47.9							iS	04 01.8	0.43	47
	iS	50.5	0.33	11 17					F	05	Δ = 36 mi	
	F	04.1	Δ = 13.5 mi									
	Very small local shock.											
									e	22 54 10		
13	-				-				eS?	58 30	?	
									Seismic waves.			
13	-				-				iP	23 42 13.4	0.18	-4 +5
									iS	15.8	0.28	31 32
									F	42.7	Δ = 12 mi	
									Local shock.			
14	e?	08 43 56.1			-				e?	08 43 54.8		
	iS	58.7	0.26	26 30					iP	44 02.0	0.16	-7
	F	44.3	Δ = 13 mi						iS	09.5	0.46	22 25
	Very small local shock.								F	44.6	Δ = 37 mi	
14	eP	11 42 54.5			-				eP	11 43 57.5		
	iP	57.0							iP	44 01.4		
	F	50							eS?	54 20		
	Distant earthquake.								F	12 05		
14	e?	13 45 58.5			eP	13 45 56.6	no time correct.		e?	13 46 00		
	iS	47 02.2	1.38	32 48	eP	46 08.2			iP	01		
	F	50.5	Δ = 420 mi?		iS	47 14.8	1.30	130	iS	47 18	0.92	235 202
	Regional shock.				F	51	Δ = 455 mi		F	52	Δ = 450 mi	
	Epicenter near 30° N, 117° W											
14	eP	18 37 49.0			-				eP	18 37 55.0		
	iP	49.1							iP	55.7		
	iS	51.9	0.28	30					iS	19 18 01.5	0.32	122
	F	38.4	Δ = 14.5 mi						F	18.8	Δ = 33.5 mi	
	Very small local shock.											
									e	19 53 35.5		
14	-				-				F	59	Seismic waves.	

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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
				Amplitudes written in hundredths of millimeters.								
kk 14	-				-				eP?	21 32 50.1		
									iP	52.1		
									iS	33 11.6		
									i	13.5	0.35	59
									i	14.6		
									F	34.0	Δ = 100 mi	
									Regional shock.			
15	e?	20 19 00.5			-				eP	20 19 58.3		
	eS	48.8	0.48	7					iS	20 34.4	0.56	35
	F	21.9	Regional shock.						F	21.5		
15	-				-				eP	21 54 32.5		
									iP	35.0		
									i	41.8		
									eS	55 38.3		
									iS	50.8	0.44	23
									F	58.0	Regional shock.	
15	e?	23 51 08			-				e	23 51 10.6		
	Seismic waves.								F	58		
16	eP	19 18 58.2			-				eP	03 19 07.7		
	eP	19 03.0							eP	11.2		
	eS	43.0							eS	20 00.7		
	iS	49.9	0.72	7					iS	05.5	0.30	34
	F	21.1	Δ = 250 mi		Regional shock.				F	22.3	Δ = 300 mi	
16	-				-				iP	16 31 50.2	0.18	+7
									iS	51.7	0.26	98
									F	32.2	Δ = 7.5 mi	
									Local shock.			
16	iP	17 09 04.6	0.21	+14 +45 -26	-	No time correction.			e?	17 09 13.1		
	iS	05.7	0.33	130 90+ 90		S - P = 6.3?			eP	15.8		
	F	10.0	Δ = 5.5 mi			Δ = 31 mi?			iS	24.0	0.38	41
	Small local shock.								F	10.1	Δ = 43 mi	

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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
				Amplitudes written in hundredths of millimeters.														
17	e?	01 55 00.9					-						iP	01 55 02.2				
	eP	03.7											i	15.8				
	iS	36.6	0.77		42								iS	57.6				
	F	57.3	Δ = 190 mi											Δ = 230 mi				
	Regional shock.																	
17	e	03 02 34.4					-						eP?	03 02 34.4				
	e	03 12											eS	03 24.0	0.48		31	
	F	04					Regional shock.						F	04.0				
17	i	11 51 46	0.90	+6	-7								iP	11 50 49	0.92	-19	+92	
	Distant earthquake.												eS	58 17				
29 17	eS	11 52 46.0					iP	11 52 12.0	no time correct.				iP	11 52 25.9	0.07	-16	+21	-23
	i	50.5			x		iS	17.6					iS	28.3	0.13	330	360	
	F	53.0	Δ = 49.5 mi					S - P, Δ = 28.5 mi					F?	53.0		Δ = 12.5 mi		
	Very small local, superposed on distant							earthquake. Probable epicenter 12 mi N by W of Pierce Ferry.										
18	e?	06 19 26.0					-						iP	06 19 25.7			+15	
	eS	58.5	0.60		7								i	26.2				
	F	21	Δ = 160 mi										iS	48.5			350	
	Regional shock.												F	21.6		Δ = 110 mi		
18	iP	10 18 04.3	0.15	-8	+10		-						-					
	iS	05.5	0.26	20	30													
	F	18.3	Δ = 6 mi															
	Very small local shock.																	
18	e	11 14 54.1					-						-					
	iS	54.6	0.15		34													
	F	15.2																
	Very small local disturbance.																	
18	iP	11 48 13.9	0.10	+5	+12													
	iS	15.1	0.36	30	78													
	F	48.5	Δ = 6 mi															
	Small local shock.																	

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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
				Amplitudes written in hundredths of millimeters.														
20	iP	04 45 48.2		+8	+23	-21	No time correction at Overton.						-					
	iS	49.3			60	64												
	Small local shock.			Δ = 5.5 mi														
20	iP	16 14 42.7	0.34	-4	+23	-19	-						iP	16 14 50.9	0.22	+35	+60	+21
	i	47.9	0.54										iP	15 58.4				
	iS	15 15.4	0.34	185	230								iS	20.6				
	F	17.1	Δ = 160 mi										iS	33.5	0.47	1270	930	
	Regional shock.												F	21.0	Δ = 170 mi			
20	e?	16 54 09.1					e	16 54 14.7					e?	16 54 17.3				
	iS	12.5	faint				eS	21.5					iP	17.9				
	Δ = 17.5 mi						S - P, Δ = 34.5 mi						iS	23.8	0.38	60	79	
	Very small local shock.												i	25.0				
													F	54.9	Δ = ? mi			
21	-						-						e	00 20 37.3				
													iS	21 11.3				
													Regional shock.		Δ = 165 mi			
21	e?	00 22	Small.				-						iP	00 21 42.2				
													i	50.9				
													i	23 13				
													iS	24.3	0.63		70	
													F	24.4	Δ = 165 mi			
													Regional shock.					
21	-						-						iP	00 25 56.4	0.19		+9	
													iS	59.0	0.30	47	103	
													F	25.4				
21	-						-						eP	06 04 34				
													F	08 Distant earthquake.				
21	e	07 08 41.5					-						eP	07 08 48.7			+5	
	iS	09 31.5	0.63	25	30								iP	49.6				
	F	10.1	Δ = 270 mi										iS	09 42.7	0.59	130	234	
	Regional shock.												F	12.9	Δ = 305 mi			

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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
				Amplitudes written in hundredths of millimeters.								
21	-				-				eP	12 56 30	Distant earthquake.	
21	-				-				iP	16 53 03	0.38	+5
									e?	54 09		
									iS	20	0.75	65
									F	58	Δ = 450 mi	
21	iP	17 17 26.5		+4 -10 +6	-				e?	17 17 48		
	iS	27.5	0.07	38 35 15						Δ = 46 mi?		
	F	17.6	Δ = 5 mi									
	Very small local shock.											
21	iP	17 29 31.1	0.18	+40 -123 -87	iS only. No time correction.				eP	17 29 43.3		
	iS	32.0	0.19	223 322 190					iS	53.6	0.35	36
	F	30	Δ = 45 mi							Δ = 48.5 mi		
	Light local shock.											
21	iP	17 33 55.9		-10	-				e?	17 34 17		
	iS	56.9		42 44						Δ = 45 mi		
	F	34.1	Δ = 4.5 mi									
	Very small local shock.											
21	iP	17 37 05.3	0.13	+10 -24 -15	-				e?	17 37 14.5		
	iS	06.4		97 80 44					e	26		
	F	37.3	Δ = 5.5 mi							Δ = 44.5 mi		
	Small local shock.											
30 21	iP	18 01 35.0		+8 +5 +6	e?	18 01 18.3			eP	18 01 42.0		
	iP	35.2		-25	iS	24.2			iS	49.3	0.34	100
	eS	38.1		20 22		S - P, Δ = 30 mi			F	02.4	Δ = 39 mi	
	F	01.8	Δ = 16.0 mi									
	Very small local shock.											
	Epicenter on N side of Lake Mead, 15.5 mi NE of Boulder City. Direction good.											

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No.	Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
				Amplitudes written in hundredths of millimeters.						
31	22	BOULDER CITY	iP	00	22	48.8	0.25	+7	-11	+8
			iS			51.1	0.30	125	75	67
			F		23.3		Δ = 12 mi			
			Small local shock, probably double shock.							
			Epicenter in Las Vegas Wash, 11.5 mi N of Boulder City.							
	22		e?	00	58	01				
			Distant earthquake.							
	22		-							
	22		e?	05	31	03.5			+6	
			iS			06.1	0.18	18	26	
			F		31.2		Δ = 13 mi			
			Very small local shock. Epicenter probably near #22.							
	22		iP	08	25	46.5	0.36	+13	+24	-26
			iS			47.7	0.16	45	50	-
			F		26.0		Δ = 6 mi			
			Small local shock.							
	22		iP	08	40	06.6			-11	
			iS			07.4		28	24	
			F		40.3		Δ = 6 mi			
			Very small local shock.							
	22		iP	11	29	14.1	0.10	-13	+16	+12
			iS			15.2		61	85	
			F		30.0		Δ = 5 mi			
			Small local shock.							

No.	Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		OVERTON	e?	00	22	40.0				
			iS			47.5				
			S - P, Δ = 38 mi							
			-							
			-							
			e?	05	31	54.5				
			eS		32	00.9				7
			S - P, Δ = 31.5 mi							
			-							
			-							
			-							

No.	Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		PIERCE FERRY	iP	00	23	00.3	0.24	+6	+6	
			i			01.6				
			eS			10.4	0.28	42	65	
			i			12.5				
			F		24.0		Δ = 52 mi			
			e	00	57	57				
			F	01	10					
			eP	01	31	17.8				
			iP			27.7				
			iS			42.9	0.33		36	
			F		32.5					
			Regional shock.							
			e	05	31	10.9				
			iS			18.0	0.38		22	
			F		31.6		Δ = 36.5 mi			
			e	08	26	00.8				
			iS			06.9	0.40		12	
			F		26.3		Δ = 44 mi			
			e	08	40	17.2				
			iS			26.1	0.37		25	
			F		40.7		Δ = 43 mi			
			iS	11	29	35.0	0.40		14	
			F		29.9		Δ = 44.5 mi			

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No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
22	iP	13	02	21.2	011	+13	+15	-16
	iS			24.0	0.30	87	62	
	F		02.7		Δ = 14 mi			
	Small local shock.							
22	-							
22	iP	20	43	23.4	0.15	-13	+47	-56
	iS			24.5	0.27	77	100	47
	F		43.7		Δ = 5.5 mi			
	Small local shock.							
23	-							
24	-							
	Regional shock.							
24	-							
25	-							
25	-							
25	-							
	Regional shock.							

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
iP	13	02	28.7			+9	
iP			29.9				
iS			36.2				
i			37.5	0.29		210	
F		03.6		Δ = 38 mi			
eP	14	20	31.7	0.11			
iP			33.6				
iS			53.2	0.18		36	
i			55.7				
F		21.8		Δ = 105 mi			
e	20	43	35.2				
iS			43.8	0.20	18	34	
F		44.2		Δ = 44 mi			
e	10	35	29	Distant earthquake.			
e	19	31	58.6				
eS		32	48.2	0.35		11	
F		34.0		Δ = 280 mi			
e?	21	23	36.4	0.37		+3	-1
i			41.0				
iS			42.3	0.48	38	54	22
F		25.2		Regional shock.			
e?	02	35	12.4				
iS			19.1	0.42		29	
F		35.8		Regional? shock.			
eP	07	21	56				
F		33		Distant earthquake.			
e?	08	08	07.7				
eP			12.9				
e			29.4	0.38		10	
iS		09	21.4	1.07		50	
F		10.8		Δ = 425 mi			

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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
				Amplitudes written in hundredths of millimeters.														
													iS	08 40 48	0.30		22	
25	-						-						F	41.0		Local shock.		
													iS	08 42 09	0.24		22	
25	-						-						F	42.3		Local shock.		
													e?	09 00 11				
25	-						-						eP	15				
													eS	54				
													iS	01 01	0.72		9	
													F	02.0		Δ = 240 mi		
													Regional shock.					
													iP	09 45 00.1	0.17		+11	
25	-						-						i	01.3				
													iS	02.0	0.26		295	
													F	45.6		Δ = 9.5 mi		
													Local shock.					
													e	10 03 40.6				
25	-						-						iS	41.8	0.32		36	
													F	03.9		Local shock.		
													eP	10 21 56.5				
25	-						-						iP	22 09.2				
													i	44.5				
													iS	23 01.4	0.57		160	
													F	25.2		Regional shock.		
													e	11 38 55				
25	-						-						Faint seismic waves.					
													e	12 13 01.8				
25	-						-						eS	43.6				
													iS	50.0	0.58		20	
													F	15		Regional shock.		

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	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
25	eS	19	15	56	0.45	4			½								iP	19	15	24.1				
	F			16.3	Δ = 108 mi												i			27.0				
	Regional shock.																eS			39.5	0.48	37	77	
																	iM			45.5	0.37	60	95	
																	F		16.9		Δ = 75 mi			
25	-								-								iP	21	04	47.6	0.33			
																	i			50.4				
																	eS		05	31.5				
																	iS			36.1	0.71	35	37	
										Regional shock.							F		07.5		Δ = 240 mi			
26	eP	04	06	59					-								eP	04	06	54				
	Δ = 2300 mi																iP		07	02				
	Epicenter 12.8° N Lat, 87.5° W Long (U.S.C.& G.S.)																eS?		17	14				
	Distant earthquake.																F		45					
26	-								eP	04	55	00		No time correct.			iP	04	55	05.6	0.30	+4	+11	
									eS			20					i			08.5				
									S - P, Δ = 98 mi								iS			27.3	0.34			
									Regional shock.								iM			30	0.43	69	88	
									Probable epicenter on Hurricane Fault, in Utah.								F		56.7		Δ = 105 mi			
26	-								-								eP	10	41	03.7	Distant earthquake.			
26	-								eP	12	23	00.0		No time correct.			iP	12	23	43.4	0.36	-6	-17	
									iP			01.7					iP			45.5				
									iS			20.7					iS		24	05.9	0.33	65	180	
									iM			25		1.13	92		iM			12.5	1.07	230	365	
									F		27.3			Regional shock.			F		28.0		Δ = 110 mi			
26	-								-								eP	12	38	57.5				
																	iP			59.4				
																	iS		39	19.3				
																	i			22.0	0.41	48	108	
																	F		40.4		Δ = 105 mi			
																	Regional shock.							

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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
							Amplitudes written in hundredths of millimeters.																		
26		eP	15	52	36.8						Train							iP	15	52	28.8	0.41	-6	-26	+38
		eS		53	05.9	0.56	18											i			29.7		-67	-135	-125
		F		53.5														iS			51.0	0.27	430	550	200
																		F		57.1					
26		eP	16	38	45.4					iP	16	38	00.0	No time correct.				iP	16	38	46.4	0.28	+6	-12	+20
		iS		39	00.5					iP			00.5					iP			47.2	0.26	-19	-62	-36
		iS			04.0	0.36	34	28		iS			10.2					iS		39	04.3	0.37			
		F		39.5		Δ = 75 mi				i			11.0	0.15	125			i			05.4	0.26	290	400	145
		Regional shock.								F		39.8		Δ = 50 mi				F		41.3		Δ = 85 mi			
		Epicenter probably south of Delmar Valley.																							
32	26	iP	22	20	48.9	0.18	+3	-7	+5		Train disturbance here.							eP	22	21	00.8				
		i			49.5													eS			11.2	0.27		27	
		iS			51.3	0.27	26											F		21.9		Δ = 54 mi			
		i			52.5																				
		M			54	0.62	46	32	27	Very small local shock.															
		F		21.2		Δ = 12.5 mi				Epicenter near #28 and #31 in Las Vegas Wash. Direction used.															
	26	-								-								eP	23	43	52.2				
																		iS		44	05.8				
																		Local shock. Δ = 65 mi							
33	27	iP	01	10	43.8	0.15	-10	+11	-10	-								e?	01	10	58.9				
		iS			44.8	0.30	50	48	27									e		11	03.8				
		F		10.9		Δ = 5.3 mi				Direction used.								e			08.2	0.31		8	
		Very small local shock.																F		11.3					
	27	-								-								iP	02	44	03.7	0.14	+5	+5	-6
																		iS			05.7	0.21	38	56	
																		F		44.6		Δ = 10 mi			
																		Local shock.							
	27	-								-								iP	04	28	13.5				
																		iS		29	06				
																		i			12	0.66		32	
																		F		30.5		Δ = 295 mi			
																		Regional shock.							

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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
27	-				-				eP	05 19 59.5		
									e	20 03.0		
									iS	44.0		
									iS	47.6	0.62	17
									F	22.0	Δ=	175 mi
									Regional shock.			
27	-				-				eP	09 00 48.5		
									3S	01 27.2		
									iS	31.5	0.53	20
									F	02.5	Δ =	140 mi
									Regional shock.			
27	-				-	Boulder Dam			e	13 24 57	Distant earthquake.	
27	iP	15 30 54.0		-3	iP	15 30 53.3	time?		iP	15 31 01.0		-2
	i	54.1	0.25	139 +118 -110	iS	54.8			eP	01.2	+5	+3
	iS	56.9		580 400	S - P, Δ = 7.5 mi				iP	01.5		-16
	F	32.1	Δ = 14 mi		Felt at Boulder Power Plant.				i	02.3		
	Light local shock.								iS	07.2	0.28	145
									iS	08.5	575	800
									F	34.0	Δ = 34.7 mi	
27	iP	17 08 20		+14 -17	-				iP	17 08 17	0.34	-42 +25
	e	18 21							e	17 58		
	F	21	Distmnt earthquake.									
27	e	21 07 53.9	?		-				e?	21 08 04.0		
	iS	55.9	not definite.						iS	10.7	0.39	20
	i	56.5	0.35	22 27					F	08.2	Δ = 39 mi	
	F	07.4	Δ = 10 mi?	Very small local shock.								
	Epicenter probably in area south of Fortification Hill and east of Boulder Dam.											
28	iP	01 50 07.3		+4 +8 -4	-				iS	01 50 26.2	0.31	20 47
	iS	09.8	0.18	22 29 21					F	50.9	Δ = 45 mi	
	F	50.4	Δ = 12.5 mi	Very small local shock.								

International Seismological Centre

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
		Amplitudes written in hundredths of millimeters.																							
	28	-								-								eP	14	33	40.3				
																		iP			43.9				
																		eS		36	03.2				
																		iM			23.7	1.00		12	
																		F		39.0		Regional shock.			
		Reported as felt in Zion National Park and Cedar City, Utah.																							
	28	-								-								eP	14	58	23.6				
																		i			27.7				
																		e	15	00	37.8				
																		eS			48.9				
																		iM		01	00	1.26		17	
																		F		04.5		Regional shock.			
34	28	iP	20	03	11.3	0.17	-11	-11	+9	e?	20	03	00.0	no time correct.				i	20	03	19.2				
		i			13.1					iS			07.0					iS			26.3	0.40	200	245	
		iS			13.7	0.19	150	145	95		S - P, Δ = 35.5 mi?							F		03.8		Δ = 38.5 mi			
		F		03.8		Δ = 12.5 mi													Boulder Dam						
		Small local shock. Epicenter east of Fortification Hill at #25																e?	20	03	10.3				
																		iS			11.7	Δ = 7.5 mi			
	29	-								-								e	07	16	42				
																		iS		17	40	0.40		22	
																		F		18.0		Regional shock.			
	29	e?	08	30	22					-								e	08	30	04.5				
		e		31	55													i			33				
		Regional shock.																iS		32	00				
																		iS			06	0.87		94	
																		F		36.7		Δ = 700 mi			
	29	-								-								eP	10	22	25.2	0.20		-8	
																		iS			27.1	0.27		71	
																		F		22.8		Δ = 9 mi			
																		Local shock.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF September 194 2 34

Time used is G.C.T.

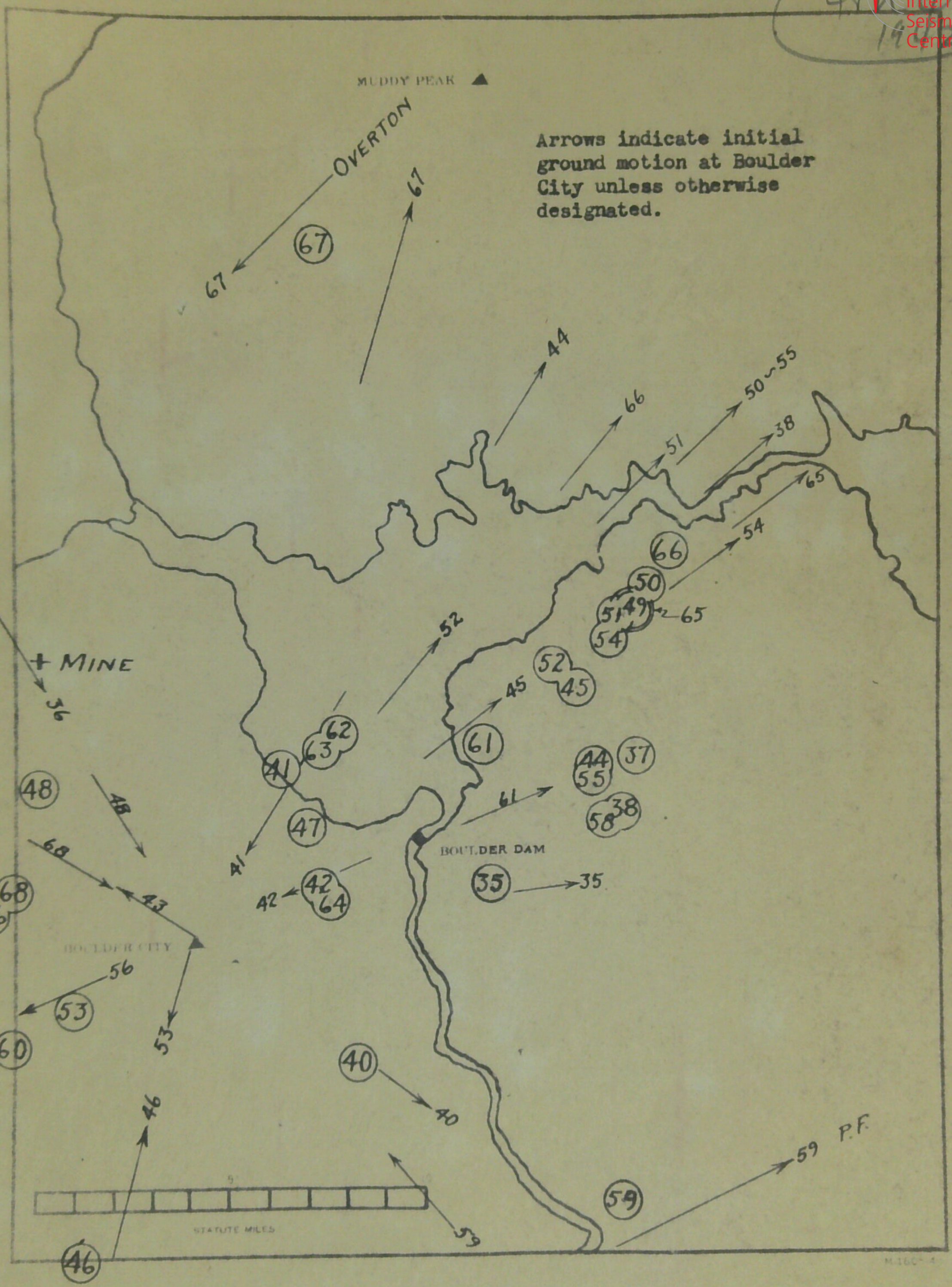
No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY								
29	-							
29	-							
29	iP	20	20	00.0	0.24	-5	+9	+4
	iS			03.0	0.17	32	25	
	Very small local shock. Δ = 15 mi							
29	iP	23	00	00.0	0.26	+8	-12	+6
	iS			02.5	0.17	68	52	
	Small local shock.							
30	-							
30	-							
30	-							
30	e?	21	58	24.8	time?		+14	
	iP			25.0				
	i			26.6				
	iS			27.3	0.24		50	
	iP?			29.3	0.20	+16	-14	+9
	iS			31.8	0.42	84	64	
	F			58.8	Δ = 12.5 mi			
	Two small local shocks.							
30	-							

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON								
	-							
	-							
	-							
	e	16	15	02				
	-							
	-							
	Disturbance							
	Pierce Ferry							
	eP	22	09	28.2				
	iS		10	13.7				
	iS			19.3	0.46		23	
	F		11	Δ = 250 mi	Regional shock.			

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY								
	iP	10	30	13.5				
	iS			14.8				80
	Local shock. Δ = 6.5 mi							
	iP	18	33	19.3	0.15	+8	+9	
	iS			21.1	0.26	153	173	
	F			33.7	Δ = 9 mi			
	Local shock.							
	-							
	-							
	e?	16	14	56				
	eP		15	03				
	Distant earthquake.							
	eP	18	15	46				
	iS		16	06				
	Regional shock. Δ = 300 mi							
	iP	19	59	05.6	0.12	-4	+8	
	iS			06.8	0.30	52	47	
	F			59.3	Δ = 6 mi			
	Local shock.							
	e	21	58	37.4				
	iS?			42.8				
	iP			43.6	0.41	-10	+23	
	i			44.2				
	iS			48.8	0.46	19	60	
	i			50.1	0.36	35	80	
	F			59.7	Δ = 48.5 mi			

TENTATIVE EPICENTERS IN THE LAKE MEAD REGION, OCTOBER, 1942.

International Seismological Centre



Arrows indicate initial ground motion at Boulder City unless otherwise designated.

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT- - - - - - - - OCTOBER, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule. The sensitivity of the Benioff seismograph at Pierce Ferry was at 50 till the 14th, when the dials were set at 40 and remained at 40 until the 30th. On the latter date the setting was lowered to 10 for November. The dials at the other two stations were set at 10 for October.

The following 34 epicenters were located in the Lake Mead region. Directions are determined from three components, E, N and Z, of the first impulse of the P-wave and drawn on the map. Directions are mostly from or to Boulder City station.

No.	Date Oct.	G.C.T.	Location of Epicenter
35	1	18h 39m 54.8s	Epicenter about two miles SE of Boulder Dam and nine miles deep. Instrumental direction from Boulder City good.
36	1	22h 06m 59.9s	12 mi NW of Boulder City, instrumental direction good. Later evidence indicates that this is a blast of one to two tons of dynamite at the mine of the Manganese Ore Co., located eight miles NW by N of Boulder City. Instrumental direction to this mine is also good. Location of the probable epicenter farther to the NW was probably due to misinterpretation of the S-wave and use of the average travel time curve for a shallow focus. Other epicenters previously located in this vicinity occurring between hours 22 to 1 G.C.T. are probably blasts. Operations at the mine started in July, 1942.
37	2	13h 54m 04.6s	Epicenter six miles ENE of Boulder Dam.
38	3	04h 15m 12.3s	Epicenter five miles E of Boulder Dam. Instrumental direction poor to NE.
39	3	10h 56m 37.9s	Near old Gregg Ferry eight miles WSW of Pierce Ferry. Direction good. Not on October map.
40	3	13h 17m 26.8s	Six miles S of Boulder Dam and one mile west of Colorado River. Direction good.
41	4	06h 25m 35.5s	Epicenter in edge of lake four miles NW of Boulder Dam. Boulder City direction good.
42	4	17h 53m 39.2s	Three miles W of Boulder Dam, direction good.
43	4	21h 11m 05.9s	9 mi NW of Boulder City, instrumental direction fair. Probably a blast of one ton of dynamite at above mentioned mine, shown on map.
44	5	17h 49m 36.0s	One mi E of Fortification Hill and 5 mi ENE of Boulder Dam. Direction poor.
45	6	07h 50m 36.7s	6 mi NE of Boulder Dam. Direction good.

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No.	Date Oct.	G.C.T.	Location of Epicenter
46	7	18h 21m 22.2s	12 mi SSW of Boulder City E of Dry Lake bed. Direction good.
47	7	21h 20m 22.9s	3 mi WNW to W of Boulder Dam.
48	9	02h 42m 53.5s	6 mi NW of Boulder City. Though time is late it could be a blast at mine. Two tons of explosive used on Oct. 8 and 9. Direction good for mine, fair for location #48.
49	9	06h 41m 32.1s	8 mi NE of Boulder Dam.
50	9	07h 05m 48.9s	9 mi NE of Boulder Dam. Direction fair.
51	9	16h 04m 54.0s	8 mi NE of Boulder Dam, direction fair. Resembles swarm type of September 9, 1942.
52	10	06h 05m 00.8s	6 mi NE of Boulder Dam, direction poor to fair. Swarm type.
53	10	07h 10m 57.1s	4 mi SW of Boulder City, direction poor to fair.
54	11	14h 40m 43.1s	7 mi NE of Boulder Dam. Boulder City instrumental direction good.
55	11	17h 24m 30.2s	5 mi E of Boulder Dam. Direction poor.
56	12	22h 18m 12.2s	5 mi W of Boulder City, direction fair.
57	13	09h 47m 02.8s	33 mi NE of Pierce Ferry near Poverty Mt.
58	13	16h 41m 58.0s	5 mi E of Boulder Dam.
59	14	17h 58m 43.7s	10 mi SSE of Boulder Dam, direction fair.
60	14	22h 09m 08.5s	6 mi SW of Boulder City; direction very poor.
61	15	05h 48m 39.3s	3 mi NNE of Boulder Dam; direction fair.
62	16	01h 04m 07.3s	3 mi NW of Boulder Dam, probable direction good.
63	19	04h 55m 55.5s	3 mi NW of Boulder Dam, direction very poor.
64	19	22h 50m 44.4s	3 mi WSW of Boulder Dam.
65	21	04h 06m 26.7s	2 mi S of Boulder Canyon between 49 & 50.
66	26	13h 13m 00.5s	Epicenter at Boulder Canyon.
67	27	00h 26m 33.1s	7 mi N of Lake Mead on southward extension of fault zone from the west side of the Muddy Mts. Direction from Overton and Boulder City shown.
68	27	00h 57m 58.2s	Under Railroad Pass, 5 mi W of Boulder City.

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Six local earthshocks were felt in Boulder City and Boulder Dam as follows: (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date Oct.	G.C.T.	Intensity and Description
35	1	18h 40m	III Felt by many at Boulder Dam, as very ~~x~~ vigorous or a hard jolt of 2 to 5 seconds. Not reported from Boulder City.
	8	02h 26m	II Momentary earthnoise tentatively reported by one person.
62	16	01h 04m	IV Felt by many both at Boulder City and Boulder Dam. Several estimates of 5 seconds duration with rapid motion.
64	19	22h 51m	II Reported by one person; no other description.
	22	00h 36m	II One person reported a momentary rapid local shock.
	31	02h 44m	III Reported by one person as a slight rumble only lasting two seconds.

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY									
							Amplitudes written in hundredths of millimeters.		
	1	iP	03	38	38.1	0.15	+4	-4	-18
		iS			38.9	0.09		80	55
		F		39.0		Δ = 4 mi			
		Small local shock. Felt in Boulder City.							
35	1	iP	18	39	58.2	0.19	+52	+6	-17
		iP			58.3	0.39	-56	-65	
		i			58.6				
		iS		40	00.6	0.40	850	1400	1140
		F		43.0		Δ = 12.2 mi			
		Wood Anderson							
		iP	18	39	58.2		+0.5 mm		
		iS		40	00.3		25 mm?		
		9	18	39	54.8				
		Felt at Boulder Dam by several.							
		Epicenter 2 mi ENE of Boulder Dam.							
	1	-							
	1	-							
36	1	iP	22	07	03.6	0.27	+7	-11	+4
		i			04.6				
		iS			06.2	0.37		90	
		i			07.6				
		F		07.5		Δ = 13.5 mi			
		Small local shock. Epicenter 12 mi NW of Boulder City. Direction good.							
	2	eP	02	53	46.7				
		eP			47.3				
		iS			48.4				
		i			49.3	0.26	23	38	
		F		54.0		Δ = 8.5 mi			

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON									
		-							
		-							
35	1	e	18	40	06.4				
		iP			06.5	0.24	-10	-6	
		iP			07.1				
		i			08.3				
		eS			14.5				
		iS			15.0	0.58	620	380	
		i			16.7				
		i			19.0				
		F		45.0		Δ = 41.3 mi			
		Depth about 9 mi Direction good.							
	1	-							
	1	-							
36	1	iS?	22	07	20.3				
		Δ = 42? mi							
	2	-							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY									
		e?	03	38	50.0	time?			
		iS			59.0	0.42	15	29	
		F		39.5		Δ = 44.5 mi			
35	1	iP	18	40	06.5	0.40	-9	-5?	
		i			07.4	0.28	+52	+40	
		i			08.3				
		iS			14.6			1030	
		iS			15.2		1160		
		i?			18.6				
		F		45.5		Δ = 41.3 mi			
		Boulder Dam							
		iP	18	39	56.5				
		iS?			58.4	Δ = 9½ mi			
	1	iP	19	10	37.3				
		iS			39.2	0.18		60	
		F		11		Δ = 9.5 mi			
		Local shock.							
	1	eP	19	30	20	Distant earthquake.			
36	1	iP	22	07	15.7		-7	-9	
		i			17.1				
		iS			26.0				
		i			27.6	0.32	45	100	
		F		08.5		Δ = 54.5 mi			
	2	e?	02	53	56.0				
		iS		54	03.4	0.46	10	24	
		F		54.5		Δ = 38 mi			

International Seismological Centre

	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
	2	-								-								iP	07	46	23.8	0.11		+11	
																		iS			25.9	0.26		100	
																		F		46.7		Δ = 10.5 mi			
																		Local shock.							
	2	-								-								eP	08	51	15.2				
																		i			19.0				
																		i			27.7				
																		eS		52	15.5				
																		iS			21.3				
																		iS			25.3	0.53		50	
																		F		52.9		Δ = 345 mi			
																		Regional shock.							
37	2	iP	13	54	08.2			+11		e?	13	54	15.1					iP	13	54	15.4		-3	+5	
		i			08.7					iS			21.7					i			16.0				
		iS			10.7	0.34		50		iS			22.6	0.26	20	21		iS			22.3		-40	+85	
		iS			11.7					F			59.6	Δ = 36 mi				m				0.32	40	115	
		F		54.4		Δ = 13 mi												F		55.5		Δ = 36.5 mi			
		Small local shock. Epicenter under Black Mts., 2 mi E of Fortification Hill.																							
	2	- Distant earthquake.								-								eP	20	17	10				
	2	-								-								eP	21	09	59				
																		eS		10	34	Regional shock.			
	3	-								-								iP	00	04	52.0	0.16	-27	-15	-11
																		iS			52.5		85	160	
																		F		05.1		Δ = 2.5 mi			
																		Local shock.							
	3	-								-								e	02	05	53	Distant earthquake.			
	3	iS 02 17 00 0.22 10 ~~02 00 07~~ Very small local shock. Δ = 6.5 mi																							

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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
38	3	iP	04	15	16.0	0.25	+37	+33	-20	eP	04	15	22.7					e	04	15	22.9		-6	-3	
		i			16.5					iP			23.1					iP			23.3	0.27		+12	
		iS			18.6	0.35	135	105	95	i			29.2					i?			23.8				
		i			19.5					iS			30.3	0.50	50			i			25.2				
		F		15.7		Δ = 13.5 mi				i			31.3					iS			30.3		-95	+225	
		Small local shock.								F		16.5		Δ = 38 mi				m				0.45	114	275	
		Epicenter 1 mi S of #37 ~~xxxxx~~. Direction poor.																i			30.8				
																		i			31.7				
																		F		17.4		Δ = 38 mi			
	3	-								-								iP	06	06	24	0.12	-3	+9	-5
																		iS			26	0.30	40	95	
																		F		06.7		Δ = 10 mi			
																		Local shock.							
	3	-								-								iP	08	57	58			-13	
																		i		58	01				
																		iS			17	0.28		100	
																		i			20				
																		F		59.3		Δ = 95 mi			
																		Regional shock.							
	3	-	Distant earthquake.							-								e	10	16	06				
39	3	e?	10	56	49.9					iP	10	56	47.9					iP	10	56	40.7	0.13	-90	-33	-25
		iS			57.1	0.21	11	18		eS?			55.0					iS			42.7	0.28	540	805	
		F		57.1		Δ = 40 mi				i?			56.4	0.16	7			F		57.7		Δ = 10 mi			
										F		56.7		Δ = 35 mi				Very small local shock.							
		Epicenter near old Greggs Ferry, 8 mi WSW of Pierce Ferry. Direction good.																							
40	3	iP	13	17	28.2	0.12	+4	-3		-								eS	13	17	48.4	0.48	7	10	
		iS			29.3	0.18	40	35										F		18		Δ = 45 mi			
		F		17.7		Δ = 6 mi	Very small local shock.																		
		Probable epicenter 6 mi S of Boulder Dam, one mile west of Colorado River. Direction used.																							
	3	eP	16	17	28.2					e?	16	17	36.8					iP	16	17	34.7	0.27		-7	
		iS			29.6	0.22	40	38		eS?			45.5					iS			42.1	0.36	37	50	
		F		17.7		Δ = 5.5 mi	Very small local shock.																		

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1942 4

Time used is G.C.T.

		BOULDER CITY								OVERTON								PIERCE FERRY							
	No.		Time			Period	Trace Amplitude				Time			Period	Trace Amplitude				Time			Period	Trace Amplitude		
	Date	Phase	h	m	s	T	E	N	Z	Phase	h	m	s	T	E	N	Z	Phase	h	m	s	T	E	N	Z
	4	-								-								eP	05	39	06	Distant earthquake.			
41	4	iP	06	25	37.3	0.18	-16	-27	-74	e	06	25	48.6					e?	06	25	48.2				
		iS			38.5				75	eS			54.9	0.35	10			iP			48.7				
		i			39.1					F			26.3	Δ = 40 mi				i			50.6				
		i			40.3			108										i			56.4				
		F		25.9		Δ = 6.3 mi	Small local shock.											iS			57.5		-15	+68	
		Epicenter in lake 4 mi NW of Boulder Dam. Boulder City direction good.																m				0.45	33	90	
																		F		26.8		Δ = 46 mi			
	4	-								-								iP	07	39	40.6	0.13	-6	+10	
																		iS			43.0	0.22		36	
																		F		39.9		Δ = 12 mi			
																		Local shock.							
	4	- Regional shock.								iP	11	38	24.8	0.30	-2			iP	11	38	20.8	0.13	-2	-7	
		0 11 38 09.0								i			26.1					i			21.5				
		~~Epicenter x 36° x N Lat, 113° x W Long.~~								i			28.5					i			22.2				
										iS			36.5					i			27.9				
										i			37.7	0.25	13			iS			28.8	0.18	15	50	
										F		38.9		Δ = 56 mi				iS			29.2	0.48	205	300	
		Epicenter 36° 27' N Lat, 113° 27' W Long.																F		39.2		Δ = 40 mi			
	4	-								-								iP	12	59	06.8				
																		i			08.0				
																		iS			14.5	0.21	20	18	
																		iS			15.8	0.32	15	25	
																		F		59.5		Δ = 38 mi			
																		Local shock.							
42	4	iP	17	53	40.8	0.17	-20	-9	+14	e?	17	53	52.5					i?	17	53	48.5				
		iS			41.8	0.21	180	190	120	iS?			59.5		10	10		i			59.8				
		F		54.1		Δ = 5 mi				i		54	05.0	0.29	13	15		iS		54	00.7	0.40		70	
		Small local shock.								F		54.4		Δ = 42 mi				i			08.5	0.35		60	
		Boulder Dam																F		55.1		Δ = 45 mi			
		iS	17	53	41.3																				
		i			42.5	Δ = 4 mi	Epicenter 3 mi W of Dam. Direction good.																		

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY									
		Amplitudes written in hundredths of millimeters.							
43	4	iP	21	11	09.2	0.26	-10	+6	+5
		i			10.3				
		iS			11.5				
		im			12.3	0.20	61	95	25
		iZ			14.4	0.60	59		35
		F		11.6		Δ = 12 mi			
		Small local shock.							
		Epicenter probably 9 mi NW of Boulder City. Direction fair.							
	5	-							
	5	-	Distant earthquake.						
	5	-							
44	5	iP	17	49	40.5	0.28	+6	+10	-8
		i			41.1				
		iS			43.6	0.28	21	43	
		i			44.6				
		F		49.9		Δ = 16 mi	Very small local shock.		
		Epicenter one mile east of Fortification Hill. Direction poor.							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON									
		i	21	11	17.9				
		iS?			26.9				
		iS			29.2		10		
		i			31.6				
		F		11.9		Δ = 44 mi			
		-							
		-							
		e	01	11	25				
		-							
		i?	17	49	49.0				
		iS			54.1				
		Δ = 38 mi							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY									
		i	21	11	21.0	0.28	-3	-2	
		i			22.2				
		i			23.2				
		i			24.7				
		i			30.5				
		iS			31.2		29		
		im			33.3	0.30		60	
		F		12.2		Δ = 54 mi			
		iP	00	29	53.1				
		i			57.3				
		iS		30	23.1	0.26		34	
		i			26.5				
		F		31.1		Δ = 150 mi			
		Regional shock.							
		e	00	38	28.3				
		iS			29.4				
		im			30.0	0.3		75	
		F		38.9		Local shock.			
		eP	01	11	21				
		iP	02	20	14.0	0.09	-11	-7	
		iS			15.6	0.20	110	335	
		F		21.0		Δ = 8 mi			
		Local shock.							
		e	17	49	47.7				
		i			49.6				
		iS			54.6	[illegible]	-18	+38	
		m				0.35	25	60	
		F		50.4		Δ = 39 mi			

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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
5	eP	18 46 35.7		-6 -2 -2	-				e	18 46 42.5		
	i	36.3							i	44.3		
	iS	38.5	0.26	16 23 13					iS	50.0	0.35	42 80
	i	39.0							F	47.5	Δ = 39 mi	
	F	46.9	Δ = 14.5 mi	Very small local shock.								
6	eP	03 01 14	1.76	-12 +14	eP	03 01 12.5		+6	iP	03 00 50	1.38	-10 +22
	Distant earthquake.											
6	-	Distant earthquake.			eP	03 25 24.5			eP	03 25 19		
6	-				-				eP	05 18 18.3		
									iS	20.2	0.34	55
							Local shock.		F	18.7	Δ = 9.5 mi	
6	-				-				eP	07 41 23.0		
									iS	42 16.0	0.72	40
							Regional shock.		F	43.1	Δ = 300 mi	
45 6	eP	07 50 40.8		+5 +4 -2	e	07 50 47.2			e	07 50 47.8		
	iP	41.0	Swarm type.		e	49.3			i	54.7		
	i	41.5			iS	53.9			iS	55.2	+60	+44
	iS	43.6	0.26	22 27		Δ = 35.5 mi			i	56.4	0.38	
	i	44.4		15	Very small local shock.				F	51.5	Δ = 38.5 mi	
	F	50.9	Δ = 14.5 mi	Epicenter one mile ENE of Fortification Hill. Boulder City direction good.								
6	-	Distant earthquake.			e	12 03 40			eP	12 03 41		
6	-	Distant earthquake.			eP	14 28 54			-			
					e	39 04						
6	-	Distant earthquake.			e	17 56 42			eP	17 56 07		
7	eP	01 17 02.5		+2 +7	-				-			
	iS	03.8	0.18	27 55								
	F	17.2	Δ = 6.5 mi	Small local shock.								

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No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
7	BOULDER CITY	e	02	22	16.8				
		iS			50.0			10	
		F			33.4	Δ = 170 mi			
		Epicenter west side of Indian Wells Valley.							
	OVERTON	e	02	32	25.2				
		iP			26.1				
		eS		33	01.4				
		i			03.0				
		iS			06.6	0.70		23	
		F			34.4	Δ = 195 mi			
		Regional shock.							
	PIERCE FERRY	e?	02	32	28				
		iP			29.1				
		i			32.6				
		iS		33	11.0	0.58		65	
		i			13.8	0.48		95	
		i			2013				
		i			25.5				
		F			34.2	Δ = 210 mi			
7	BOULDER CITY	-	Distant earthquake.						
	OVERTON	-							
	PIERCE FERRY	eP	08	17	51				
7	BOULDER CITY	-							
	OVERTON	-							
	PIERCE FERRY	eP	14	15	51.2		-4	+7	
		iS			52.8	0.29	39	53	
		F			16.1				
46 7	BOULDER CITY	iP	18	21	25.8	0.28	+5	+18	+2
		i			26.6				
		iS			28.3	0.30	100	65	27
		i			28.9				
		F			22	Δ = 12 mi			
		Small local shock. Epicenter 12 mi S of Boulder City, east of Dry Lake.							
	OVERTON	e?	18	21	48.0				
		Δ = 53 mi							
		Boulder City direction good.							
	PIERCE FERRY	eP	18	21	37.5				
		i			38.6				
		i			40.9				
		eS			48.0				
		iS			49.4				
		im			49.9	0.28	25	60	
		F			22.5	Δ = 53 mi			
47 7	BOULDER CITY	iP	21	20	24.7	0.27	?	+52	-32
		iS			25.9				100
		F			20.8	Δ = 6.5 mi			
		Small local shock. Epicenter 3 mi WNW of Boulder Dam.							
	OVERTON	e	21	20	34.8				
		i			37.6				
		i			41.8				
		iS			42.5	0.50	15		
		F			21.1	Δ = 40.5 mi			
	PIERCE FERRY	eP	21	20	35.6				
		iP			36.4				
		i			43.5				
		iS			44.4			-32	+125
		i			46.0	0.22	65	150	
		i			47.4				
		F			21.3	Δ = 45 mi			
7	BOULDER CITY	-							
	OVERTON	e	20	40	50				
		iS			53.6				
		Locals shock or disturbance.							
	PIERCE FERRY	-							
7	BOULDER CITY	iP	23	57	29.6	0.09	-6?	+13	-10
		iS			30.9		53	75	40
		F			57.8	Δ = 6.5 mi			
		Small local shock.							
	OVERTON	-							
	PIERCE FERRY	eP	23	57	41.2				
		i			48.7				
		iS			50.2	Δ = 46 mi			

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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
8	iP	00 42 08.5	0.23	+4 -7 -7	-				iP	00 42 20.1	0.26	-4 -7
	i	09.7							i	21.3		
	iS	10.8	0.33	80 67 23					i	23.3		
	i	12.3							eS?	29.7		
	F	42.7	Δ = 11.5 mi						iS	30.1	0.32	17 40
	Small local shock, may be blast. Probably 10 mi S of Boulder Dam.								i	33.5		
									im	35.0	0.30	34 68
									F	43.2	Δ = 47 to 49 mi	
8	iP	02 26 58.2	0.18	-50 +42 +34	e	02 27 11.8			eP	02 27 09.1		
	iS	59.4	0.30	125 135 110	eS?	16.1			iP	10.0		
	F	27.4	Δ = 6 mi		eS	18.1	Δ = 40.5 mi		i	11.8		
	Small local shock.								iS	17.7	0.40	82
	Felt at Boulder City.								i	18.4		
									i	49.5		
									F	28.0	Δ = 43.5 mi	
8	eP	03 10 40			eP	03 10 37			eP	03 10 30	2.80	+15 +25
	Distant earthquake.				iP	41			eS	16 24	7	
									eL	26		
8	-	Distant earthquake.			-				eP	20 15 36		-5 +15
8	iP	20 52 02.4		+12 +9 -3	-				-			
	iS	03.2		38 47								
	F	52.3	Δ = 4 mi									
	Very small local shock.											
9	-	Distant earthquake.			-				e	00 52 04		
									eP	12		
48 9	iP	02 42 56.8	0.22	+8 -12 +5	eP	02 43 06.9			iP	02 48 0;83	0.12	+5 -3
	i	57.2			e	07.5		-3	iP	09.5		
	iS	59.1	0.28	125 95	e	09.1			i	10.5		
	i	43 00.9			iS	15.0		7	iS	18.8	0.30	25 27
	iZ	01.7			iS	16.7	0.40	10	i?	19.3		
	F	43.5	Δ = 12 mi		i	18.2			i	22.0		
	Small local shock.				f	20.1			i	23.5	0.33	41 93
	Epicenter 6 mi NW of Boulder City. Direction fair.				F	44.0	Δ = 45 mi		F	44.5	Δ = 52.5 mi	

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	9	BOULDER CITY	-							
		OVERTON	e	04	08	12.5				
			eS			15.9				
			Δ = 46 mi							
			Epicenter NW of Overton, near Coyote Spring.							
		PIERCE FERRY	eP	04	08	19.5				
			iP			20.0				
			eS			37.7				
			iS			39.3	0.36		47	
			F		09.5		Δ = 89 mi			
49	9	BOULDER CITY	eP	06	41	36.6				
			eP			37.2			+4	
			i			37.9				
			iS			39.7	0.27		18	
			i			40.5				
			F		41.4		Δ = 16 mi			
			Very small local shock. Epicenter 8 mi NE of Boulder Dam.							
		OVERTON	eP	06	41	42.1				
			iP			43.2				
			eS			48.2				
			iS			50.1	0.32	8		
			Δ = 33.5 mi							
		PIERCE FERRY	eP	06	41	42.0				
			iP			43.2				
			iS			49.8		-4	+44	
			i			51.4	0.30	39	90	
			F		42.3		Δ = 37 mi			
50	9	BOULDER CITY	iP	07	05	53.2	0.31	+17	+17	-17
			i			54.5				
			iS			56.2	0.36	80	98	60
			i?			58.0				
			F		06.6		Δ = 15.5 mi			
			Small local shock. Direction fair. Epicenter 9 mi NE of Boulder Dam.							
		OVERTON	eP	07	05	58.0				
			iP			58.3				
			i			58.9				
			i	06		00.3				
			iS			04.1				
			i			05.0	0.30	30		
			F		07.5		Δ = 32 mi			
		PIERCE FERRY	iP	07	05	59.0			-18	-12
			i			59.7				
			i		06	00.8				
			iS			06.3	0.26	-330	+785	
			i			07.5				
			i			09.7				
			F		07.7		Δ = 36 mi			
	9	BOULDER CITY	e	07	38	26.1				
			iS			28.5			30	
			F		38.7		Δ = 12 mi			
			Very small local shock. Epicenter probably in area east of Fortification Hill.							
		OVERTON	eP	07	38	31.4				
			i			32.1				
			eS			37.2				
			iS			39.0			8	
			F		39.1					
		PIERCE FERRY	eP	07	38	31.2				
			i			32.4				
			i			33.2				
			iS			38.4	0.32			64
			i			40.4				
			F		39.3					
51	9	BOULDER CITY	iP	16	04	58.4	0.35	25	+26	-10
			i			59.1				
			i			59.7				
			iS		05	01.4			228	
			i			02.2	0.30			80
			F		05.8		Δ = 15.3 mi			
			Light local shock. Resembles swarm type. Epicenter 8 mi NE of Boulder Dam. Boulder City direction fair.							
		OVERTON	e?	16	05	03.1				
			eP			03.8			+4	
			i			04.4				
			i			08.7				
			iS			09.7	0.40	32		
			i			10.9	0.66	97		
			i?			15.7	Δ = 33 mi			
		PIERCE FERRY	iP	16	05	04.5	0.16	-30	-24	
			i			05.6				
			i			07.1				
			iS			11.7	0.37	-405	+850	
			i			15.8				
			F		10?		Δ = 37 mi			

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		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
	10	iP	00	32	55.1	0.20		-6		-								-							
		i			55.6																				
		iS			57.4	0.27		27																	
		F		33.3																					
	10	e	01	11	48					e	01	11	47					i	01	11	47	Distant earthquake.			
52	10	iP	06	05	04.9	0.1	+7	+9	-7	e?	06	05	10.5					e?	06	05	11.8				
		i			05.0					eP			10.9					iP			12.2		+4	+10	
		iS			07.7	0.15	26	33		e			12.4					iS			19.4		-10	+70	
		F		05.6		Δ = 15 mi				e			13.9					m				0.30	53	150	
		Very small local shock. Swarm type. Epicenter 6 mi NE of Boulder Dam.								iS			17.6	0.19	10	1		F		06.0		Δ = 39 mi (Boulder City direction poor.)			
										F		05.7		Δ = 35 mi											
	10	-	Distant earthquake.							e	06	13	49					e	06	13	51				
53	10	iP	07	11	0016	0.26	-2?	-7		e?	07	11	10.1					e?	07	11	11.3				
		i			01.0					e			11.2					eP			12.6				
		i			02.2					eS			20.4	0.37	10			i			14.0				
		iS			03.0					e			22.7					i			16.7				
		iS			03.2	0.26	117	90		e			27.4					eS			22.0				
		i			04.2					F		12.4		Δ = 49 mi				iS			23.1	0.24	43	68	
		i			05.5													i			24.6				
		F		11.8		Δ = 12.2 mi Boulder City direction fair.												i			29.2				
		Small local shock. Epicenter 4 mi SW of Boulder City.																F		12.0		Δ = 52.5 mi			
	11	-								-								eP?	12	37	50				
																		eP			56				
																		eS		38	19				
																		Regional shock. Δ = 110 mi							

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54	11	BOULDER CITY	eP	14	40	47.6		+4	+3	-1
			iP			47.8			-10	
			iS			50.7	0.25	40	40	
			i			51.2				
			i			52.1				
			F		41.3		Δ = 16 mi			
			Very small local shock. Boulder City direction good. Epicenter 7 mi NE of Boulder Dam.							
		OVERTON	eP	14	40	53.3				
			e			55.5				
			eS			59.3				
			iS			59.6				
			i		41	01.3	0.30	17		
			F		41.7		Δ = 34.5 mi			
		PIERCE FERRY	iP	14	40	54.0	0.13	-4		
			i			54.7				
			i			55.3				
			iS		41	01.2		-12	+105	
			i			02.7	0.27	75	270	
			i			03.2				
			F		42.0		Δ = 38 mi			
55	11	BOULDER CITY	iP	17	24	34.0		+6	+6	
			i			34.2				
			i			34.6	~~0.36~~	~~24~~	~~27~~	
			iS			36.6	0.16	24	27	
			i			37.4				
			F		25.0		Δ = 13.5 mi	Boulder City direction poor.		
			Very small local shock. Epicenter 5 mi E of Boulder Dam.							
		OVERTON	iS	17	24	48.2				
			Δ = 39 mi							
		PIERCE FERRY	e?	17	24	41.0				
			e			43.7				
			iS			48.6	0.30		70	
			Δ = 38.5 mi					39.9		
	12	BOULDER CITY	-							
		OVERTON	-							
		PIERCE FERRY	e	01	26	56	Seismic waves.			
	12	BOULDER CITY	e?							
		OVERTON	-							
		PIERCE FERRY	e	06	21	33	Seismic waves.			
56	12	BOULDER CITY	iP	22	18	15.5	0.23	-18	-8	-10
			i			16.1				
			iS			17.8	0.31	74		
			iS			18.1	0.23		50	24
			i			19.1				
			i			20.9	0.39		75	
			F		19.7		Δ = 12 mi	Direction fair.		
			Small local shock. Epicenter 5 mi W of Boulder City.							
		OVERTON	e?	22	18	26.3				
			eS			35.3				
			Δ = 48 mi							
		PIERCE FERRY	iS	22	19	38.0	0.33		43	
			Δ = 54 mi							
57	13	BOULDER CITY	iP	09	47	26.6	0.20	+8	+4	-3
			i			33.7				
			iS			42.7				
			iS			45.2	0.30	15	18	
			F		48.7		Δ = 75 mi			
			Very small regional shock. Direction fair; passes 3 mi NW of epicenter at Poverty Mt. 33 mi NE of Pierce Ferry.							
		OVERTON	iP	09	47	18.6	0.27	-7	+3	
			i			19.8				
			i			22.3				
			iS			30.2	0.31	67	78	
			i			32.5				
			F		49.1		Δ = 56 mi			
		PIERCE FERRY	iP	09	47	14.8	0.27	+11	+15	
			i			15.7				
			i			16.5				
			iS?			22.8	0.14		120	
			iS			23.0	0.46	680	555	
			i			28.5				
			F		49.6		Δ = 41 mi			

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
58	13	eP	16	42	01.8			+2	+1
		iP			02.5				
		i			04.1				
		iS			04.4	0.32		45	
		i			05.0				
		F		42.4		Δ = 13.5 mi			
	13	e?	21	32	59				
		iS		33	04				
		i			06			18	
		F		33.8		Δ = 140 mi			
	13	iP	22	09	04.8	0.20	+4	-4	+3
		i			05.4				
		iS			07.1				
		iS			08.3	0.24	41	32	
		i			09.6	0.40		34	13
		F		09.7		Δ = 11.5 mi			
	14	e	00	15	49.5				
		i		17	16				
		Seismic waves; may be a regional shock.							
59	14	iP	17	58	47.3	0.30	-7	+8	-1
		iS			49.8	0.32	20	14	
		F		59.0		Δ = 13 mi			
		Very small local shock. Epicenter 10 mi SSW of Boulder Dam.							
60	14	iP	22	09	12.4	0.21	+15	-22	+14
		i			13.1				
		iS?			15.1				
		iS			15.7				
		im			16.1	0.22	133	125	
		F		09.9		Δ = 14 mi			
		Boulder City directions poor.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	16	42	08.5				
iS			16.9	0.35	16		
i			18.0				
F		42.7		Δ = 38 mi			
Epicenter 5 mi E of Boulder Dam at #38.							
eS	21	33	16				
iS			19				
Δ = 175 mi							
Regional shock.							
-	Train disturbance.						
Epicenter probably at #48							
May be a blast.							
e	00	15	57				
i		17	42				
e?	17	59	00.3				
eS			06.0				
Δ = 46.5 mi							
e	22	09	21.3				
i			21.7				
i			22.5				
iS			32.5			12	
F		10		Δ = 51 mi			
Epicenter 6 mi SW of Boulder City.							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	16	42	08.9				
i			10.6				
iS			16.1	0.43		85	
i			17.8				
F		43.0		Δ = 38 mi			
iP	21	32	46.7				
i			48.2				
i			51.5				
i			55.8				
iS		33	26.7	0.46		160	
i			31.0				
F		34.5		Δ = 195 mi			
iS	22	09	26.0	0.30		23	
F		09.9		Δ = 52 mi			
e	00	15	54				
i		17	20				
Δ = 500 mi?							
eP	17	58	54.9		+6	-3	
iP			55.3				
iS		59	03.1		-2	+15	
i			03.9	0.32	20	33	
F		59.9		Δ = 41 mi			
eP	22	09	24.3	0.15	-3	+5	
i			25.5				
iS			34.6				
i			35.9	0.32	48	55	
i			38.6				
F		10.4		Δ = 545 mi			

International Seismological Centre

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
	14	e	22	29	52.0			3		eP	22	29	27.5					iP	22	29	23.9	0.20	+4		
		Δ = 80 mi								eS			39.1	0.26	11			i			24.4				
		Regional shock.								F			30.0	Δ = 60.5 mi				i			24.9				
		Probable epicenter 5 mi S of Poverty Mountain.																i			31.0				
																		iS			32.0				
																		iS			32.4	0.46	210	185	
																		F		30.9		Δ = 40.5 mi			
	14	e	22	32	14					e	22	32	08.4					eP	22	32	02				
		eS			44					eS			51.6					iP			08				
																		eS			56	0.60	55	73	
																		F		35.6		Δ = 300 mi			
																		Regional shock.							
	14	e	23	16	38					-								eP	23	15	37				
																		e			45				
																		eS?		16	34		16		
61	15	iP	05	48	41.9	0.32	+7	+3	-5	e	05	48	50.0					eP	05	48	51.0				-4
		i			42.5					e			51.2					iP			51.4		+3		+6
		i			43.0					eS			57.0					iS			58.5	[illegible]	-12		+50
		iS			43.7		28			eS			57.8					i			59.2	0.42	20		80
		i			44.2	0.13	105	115	90	iS			58.0	0.24	14			F		49.6		Δ = 40 mi			
		F		49.7		Δ = 9.2 mi				F		49.7		Δ = 37 mi											
		Epicenter 3 mi NNE of Boulder Dam.								Direction good.															
	15	e	06	11	16.9					iP	06	11	09.1	0.27	+7		+3	iP	06	11	05.5	0.17	-6		+5
		e			33.7					iS			20.6	0.31	16		25	i			06.5				
		Δ = 87 mi								F		12.2		Δ = 57 mi				i			12.8				
		Probable epicenter 5 mi E of Poverty Mountain. Regional shock.																iS			13.8				
																		iS			14.1	0.40	323		250
																		F		12.5		Δ = 41 mi			
	15	-								e?	06	31	11.7					i	06	30	46.7				
										e			20.0					i			48.6				
										eS			32.0					i			54.7				
										Probable regional shock.								iS			55.1	0.27			90
																		F		31.5					

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LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
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Time used is G.C.T.

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
15	e	07	36	01					e	07	35	21					e?	07	34	45.5				
	e		38	03					e			35					i		35	17.3	0.60			
	i			23					iS?		38	17					i		37	54.5	0.85		93	
																	i		38	06.5				
																	Regional to distant shock.							
15	eP	07	58	49.6			-4		e	07	59	00.0					iP	07	58	28.3		+5	+6	
	e			56.9					e			01.8					iP			28.7				
	e		59	14.4					e			07.0					i			35.5				
	eS			21.0					eS			26.2					i			58.4				
	eS			25.8	1.04		19		iS			42.2					iS		59	09.9				
	F	08	00.3		Δ = 215 mi?				iM			47.8	1.16	19			iM			16.1	0.41	90	95	
	Regional shock.								F	08	02.0		Δ = 225 mi?				i			23.6				
	Probable epicenter in mountains 60								mi NE of Phoenix, Arizona.								F	08	01.4		Δ = 195 mi			
15	e?	08	16	08					e?	08	16	03					eP	08	15	55				
	e		18	21					e			08					iP			58.9				
	e			34					e			15					i		17	43.7				
	Distant earthquake.								eS?		18	28					i		18	03.8				
																	iS			19.5				
																	iM			26.9	1.54		53	
																	F		23		Δ = 830 mi			
15	-	Probable aftershock.							e?	08	22	36					eP	08	22	24				
									eS?		24	47					eS		24	36				
15	e	08	35	16					e	08	34	42					iP	08	34	30				
	e		36	52					eS		37	03					eS		36	30				
	Distant earthquake.																iS			42				
																	iM			54	0.98		128	
																	F		45.8		Δ = 755 mi			
15	e	13	55	44.4					No time marks.								eP	13	55	33.7				
	eS		56	49.7													e			47.4				
	Regional shock.																e			57.8				
																	eS		57	05.2				
																	iS			15.5	0.81		50	
																	F	14	00.7		Δ may be 550 mi			

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1943

Time used is G.C.T.

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
15	eS?	16 00 17.2				No time marks.			iP	15 59 51.7		-3 -6
		Δ = 80 mi?				Train disturbance.			i	52.1		
		Local to regional shock.							i	53.0		
		Epicenter probably E of ~~Modena~~ Shivwits				Plateau			i	58.9		
									iS?	59.7	0.17	33
									iS	16 00 00.1	0.40	190 175
									i	02.2		
									F	01.4	Δ = 42 mi	
15	iP	19 19 55.8	0.1	+5 +4 -3	-	*Disturbance preceeding shock.			*i	19 19 55.3		
	iP	56.0		-15					iP	20 01.9	0.16	+7 +8
	iS	58.5	0.22	75 43					i	03.1		
	iS	58.8		102 50					i	04.1		
	F	20.2	Δ = 12.5 mi						iS	10.3	0.40	60 80
		Small local swarm type shock.							i	11.4		
		Epicenter probably near 51 or 54.							F	21.1	Δ = 39.5 mi	
62 16	iP	01 04 09.0		+475 +600	iP	01 04 00.0		+20 +17	iP	01 04 20.2	0.37	+19 +10
	iS	10.2		1105 1200 400	i	00.6			i	21.2		
	F	06.0	Δ = 6.5 mi		iS	07.5		x	i	27.5		
		Light local shock.			iS	07.9		80 80	iS	28.2	0.28	170 165
		Epicenter 3 mi NW of Boulder Dam.			F	05.9	No time marks.		iS	30.0		330 580
		Felt for 5 sec at Boulder Dam.				S - P, Δ = 38 miles			F	06.3	Δ = 43.5 mi	
		Also felt by several at Boulder City.										
16	e	01 13 30.9			-				iP	01 12 56		
	eS	15 19.3	Regional shock.						eS	15 11		
16	iP	05 41 27.2	0.10	+60	-				iS	05 41 46.6		
	iS	28.3	0.10	160								
	F	41.9	Δ = 5.5 mi.	Small local. Probably felt.								
									iP	10 08 27.6		
16	eP	10 08 15.0				No time marks.			i	28.6		
	iP	15.6							i	31.1		
	iS	49.2	0.62	67					iS	09 09.1		
	F	11.1							iM	11.8	0.67	250
									F	12.3	Δ = 200 mi	

International Seismological Centre

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

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
16	iP	10	09	16.4	0.11	+11	+13	
	i			16.6				
	iS			19.1	0.27	50	40	
	F		09.6		Δ = 13 mi			
	Very small swarm type local shock, probable epicenter in area NE of Fortification Hill.							
16	iP	12	58	13.1		+3	+4	
	iS			15.8	0.27	23	16	
	F		58.5					
	Very small local shock.							
16	e	16	06	46.5				
	e		07	04.2				
	iS			07.7			13	
	F		07.8		Regional shock.			
16	iP	19	59	34.7	0.29	+60	+	-140
	iS			35.8	0.29	300	700	120
	F	20	00.1		Δ = 5.5 mi			
	Possible epicenter at #62.							
17	eP	06	00	11.7	0.26	+3	+5	+6
	i			18.0				
	iS		00	36.6	0.25		14	
	i			42.5	0.48	15	15	
	i			48.0	1.02	20	24	11
	F		02.0		Δ = 120 mi			
	Regional shock.							
17	-							
17	eP	20	19	58.0			-12	
	Distant earthquake.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
e	06	00	00				
eS			42				
no time marks.							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
i?	10	09	24.5				
iS			31.0	0.38	155	160	
*F?		09.9		Δ = 35.5 mi			
*Superposed on Regional shock.							
e	12	58	20.4				
iP			20.6				
iS			27.8	0.29	36	47	
F		58.8					
eP	16	06	57.4				
~~iP~~ iP			58.1				
iS		07	18.6	0.30		25	
F		07.9					
eP	19	59	46.2				
iP			47.0				
i			53.9				
iS			54.5	0.48		73	
F	20	00.9		Δ = 43.5 mi			
iP	06	00	20.3				
i			21.7				
i			27.4				
iS			51.3				
iS		01	02.3				
iM			09.0	0.60		140	
F		02.3		Δ = 150 mi			
eP?	14	42	28.2				
iP			29.2				
iS			30.6	0.50		60	
F		43.4					
eP	20	19	59.8				

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Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
18	iP	01	17	07.3	0.15		-7	
	iS			07.7	0.24		24	
	F		17.4		Δ = 2 mi	Very small local shock.		
18	e?	05	27	42				
	eP		28	16				
	iP			19				
	e		32	25	2			
	e		33	40	8	Distant earthquake.		
18	iP	06	43	32.0	0.18		-3	
	i			32.5				
	iS			35.0	0.44		22	
	i			35.5				
	F		44.0		Δ = 14 mi			
	Very small local shock.							
18	e	11	43	14.5				
	i			14.8				
	iS			15.6	0.15		25	
	F		43.5		Δ = 5.5 mi	Very small local shock.		
18	e	12	05	38				
	Δ = 450 to 500 mi							
	Regional shock.							
18	e?	12	50	37.9				
	e			39.8				
	eP			41.4				
	eS?		51	10.0				
	iS			11.4				
	i			12.6	0.30		15	
	F		52.0		Δ = 155 mi			
18	-							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
eS	12	03	40				
iP	12	50	27.5			+5	-4
i			28.5				
iS			53.1	0.30	120		
F		53.6		Δ = 123 mi			
Regional shock.							
Epicenter in Briam Head Area.							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
e?	05	26	20.5				
eP		27	14				
e		28	13				
e		31	43				
eP	06	43	38.0				
iP			38.6				
iS			44.3	0.35		47	
F		44.1		Δ = 33.5 mi			
iS	11	43	33.4	0.40		10	
F		43.7		Δ = 42 mi			
e	12	03	21.4				
e			33.0				
e			54				
eS		04	43.1				
eS		05	07.0				
iP	12	50	28.0	0.24		-11	+18
i			29.0				
iS			54.0	0.50		215	375
F		53.2		Δ = 126 mi			
iP	14	10	48.2			+12	+9 -10
iS			50.2			150	220
F		11.5		Δ = 10 mi			
Local shock.							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1943

Time used is G.C.T.

make white

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
18	iP	16	20	56.3	0.10	+7	+26	-15
	iS			57.4	0.17		43	
	F		21.3		Δ = 5.5 mi			
	Very small local shock.							
18	iP	21	31	56.7	0.20	+8	-11	+2
	i			58.9				
	iS?		32	01.0				
	iS			01.9	0.58	46	50	32
	F		32.6		Δ = 13.5 to 20 mi			
	May be blast. Epicenter in area N of Las Vegas Wash.							
18	eP	22	57	00.4				+
	iP			01.6				
	i			03.3				
	i			05.3				
	iS			14.9	0.44		65	
	i			17.2				
	i			20.8				
	F		59.2		Δ = 72 mi			
	Regional shock. Epicenter west of Pahrump Valley.							
18	iP	23	05	53.8			+5	
	iS			55.2			21	
	F		06.1		Δ = 7 mi Very small local shock.			
18	iP	23	19	41.3			+7	
	iS			42.6			25	
	F		20.1		Δ = 6.5 mi Very small local shock.			
19	e	04	52	57.9		+3		-1
	iS			59.8	0.40	32	35	
	F		52.3		Δ = 9 mi Very small local shock.			
19	e	04	54	59				
	~~i~~S		55	32				
	Regional shock?							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
eS?	21	32	05.0				
	Δ = 29 mi?						
iP	22	57	09.9				
i			10.6				
i			12.9				
iS			30.6				
iS			31.7	0.14	50		
F	23	00.1		Δ = 103.5			
-							
iP	23	06	13.6				
F		06.4					
-							
iS	23	20	00.7				
F		20.4					
-							
e	04	54	56.5				
e		55	02.9				
eS			44.9				

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
~~iP~~	~~14~~	~~10~~	~~48.3~~		~~12~~	~~9~~	~~10~~
iS	16	21	16.3			6	
iP	21	32	08.3				
i			09.4				
e			18.8				
iS			19.5	0.48	17	21	
e?	22	57	12.1				
iP			13.6				
i			14.7				
i			16.6				
iS			37.6				
iS			38.6	0.38		310	
i			46.0				
F	23	00		Δ = 117.5 mi			
iS	23	06	13.6			10	
F		06.4					
iS	23	20	00.7			15	
F		20.4					
-							
e?	04	55	11.0				
eS			48.5				
eM			53.0	0.88		20	
F		57.5					

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Time used is G.C.T.

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
63	19	iP	04 55 57.6	0.28	-25 +92? -55	eP	04 56 06.7	0.23	-3	eP?	04 56 09.1		
		iS	59.0		100 140 72	i	07.9			i	15.6		
		F	56.2	Δ = 7.5 mi		iS	14.2			iS	16.9		-30 +62
		Small local shock.				i	15.1			e		0.41	170
		Direction very poor.				i	17.4		17	F	56.9	Δ = 44.5 mi	
		Epicenter 3 mi NW of Boulder Dam.				Δ = 39 mi							
	19	iP	11 05 27.3		+4 +12 -9	-				iS	11 05 46.5		
		iS	28.4		15 17						Δ = 42.5 mi		
		F	05.8	Δ = 5½ mi		Very small local shock.							
	19	eS	12 04 54			e	11 05 18.4			iP	12 04 23.9		
		eS	56.5			eP	19.1			i	25.5		
		Δ = 120 mi				iS	35.3	0.27	15	iS	42.0		
		Probable epicenter on Hurricane Fault S of Virgin River.							Δ = 85 mi	i	43.7	0.28	37
										F	06.3	Δ = 95 mi	
	19	-				-				e	12 51 43.0		
										eS	52 59.0		
										eS	53 04.6		
	19	iP	18 55 26.2	0.21	-6 -5 -4	eS?	18 55 21.6			e	18 55 09.0		
		iS	28.5	0.28	30 48 11	eS?	23.8			eP	11.1		
		i	29.1		65 16					iS	19.1		
		F	56.1	Δ = 11 mi						iS	21.2	0.21	27
		Small local shock. Probable epicenter near Dry Lake, 11 mi SW of B.C.								F	55.9	Δ = 56 mi	
	19	-				-				eP	21 57 05	Δ = 200 mi	
										eS	44	Regional shock.	
64	19	iP	22 50 45.8	0.13	±2 +15 -10	e?	22 51 01.3			eP	22 50 57.2		
		i	46.2			eS?	04.7		5	e?	59.0		
		iS	46.8		85 160 96	eS	06.8			iS	51 06.2		~~23~~ +15
		F	51.4	Δ = 5 mi		e	09.3	Δ = 42 mi		m		0.41	24 26
		Small local shock. Boulder City direction very poor.								F	51.6	Δ = 45 mi	
		Epicenter 3 mi WSW of Boulder Dam. Felt in Boulder City.											
	20	eP	08 00 49			e	08 00 57			eP	08 00 49	Distant earthquake.	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1943 — 20

Time used is G.C.T.

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
20	-	Regional shock.					-						eP	10 48 43				
													eS	49 25	Δ = 225 mi			
20	e	20 05 59					-						e	20 06 22				
	e	06 22											e	35				
	Probable regional shock.												e	07 15				
20	e?	23 40 10					e?	23 41 03					e	23 36 35				
	Waves of regional or distant shock.												e	40 27				
21	iP	00 52 36.5	0.18	+11	-21	+10	e?	00 52 44.4					eP	00 52 50.6				
	i	38.7					eS	53.1					iP	52.0				
	iS	39.5	0.27	50	38			Δ = 43? mi					iS	53 00.8	0.25	24	32	
	i	41			86								i	04.7				
	i	42	0.58	70			Blast?						F	54.8	Δ = 59.5 mi			
	F	53.5	Δ = 12.5 mi.				Epicenter probably NW of Boulder City.											
65 21	iP	04 06 31.0		+9	+7	-2	eP	04 06 36.3					eP	04 06 37.2				
	iS	34.0	0.26	66	59	19	eS	42.4					i	38.2				
	F	08.0	Δ = 15.5 mi				iS	43.6	0.37	37			iS	44.4	0.31		168	
	Small swarm type local shock.						F	07.7	Δ = 32.5 mi				F	08.0	Δ = 37 mi			
	Epicenter 2 mi S of Boulder Canyon, between #49 and #50. Boulder City direction good.																	
21	eP	04 27 20.9					iS	04 27 31.7					eP	04 27 27.0				
	iS	23.9			18			Δ = 30 mi					iP	28.1				
	Very small swarm type local shock.												iS	34.1				
	Epicenter probably near #65.												i	35.4	Δ = 34.5 mi			
21	iS	04 27 38.8			15		-						-					
	F	28.1	Δ = probably same as above.															
	Second very small local shock.																	
21	eP	16 23 04.3	1.65	-5	-25	-6	eP	16 23 13.8					eP	16 23 10.3	1.51	+70	+140	
	iP	07.3	1.27	+41	+150	-58	iP	14.5				-12	i	31.6				
	i	12.9					i	26.1										
	i	18.0	off record				i	33.2										
	iS?	53	interference				iS?	24 22										
	iS	59.5	Wood-Anderson				Epicenter 33° N Lat, 116° W Long, according to Pasadena.											
	Regional shock, Imperial Valley followed by 3 aftershocks in coda.																	

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1943 — 21

Time used is G.C.T.

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
21	iP	16	35	44.3					i?	16	35	54.7					iP?	16	35	54.5				
	iS		36	23.0					iS		36	43.1					i		36	33.0				
	i			27.1																				
	Aftershock.																							
21	iP	16	39	09.4					i?	16	39	22.7					iP?	16	39	07.0				
	iP			12.2					iS?			57.2					iS			31.5				
	iS			49.8	Aftershock.												iS			35				
21	eP	16	44	28.4					i?	16	44	29.6					iP?	16	44	25				
	iP			31.5													i			39				
	iS		45	08.9													i		45	13				
	iS			14.4													i			21				
	Aftershock.																iS			28				
21	eP	16	52	49.2					e	16	53	07.3					-							
	iP			52.1					eS			49.7												
	iS		53	30.5																				
	iS			35.0	Aftershock.																			
21	-								-								iP?	17	01	12				
																	i			14				
																	i			18				
																	iS		02	12				
21	iS?	17	11	36					-								eP	17	11	59				
	iS		12	14.7													iP		12	01.5				
	Thirteen other very small aftershocks, from Imperial Valley.																iS			56.5				
21	iP	18	37	07.0	0.26	+9	-17	+7	i?	18	37	15.5	very doubtful				eP	18	37	19.0		+8		+5
	iS			09.4	0.29	75	67	33	iS?			23.5	"		"		i			20.4				
	im			12.5	0.36	130	105	60		Δ? = 41 mi?							iS			29.4				
	F		38		Δ = 11.5 mi												iS			31.5	0.26	50		56
	Small local shock. Epicenter in Las Vegas Wash, 4 mi W of Lake Mead according to direction.																F			38.3	Δ = 53.5 mi			
21	Four Imperial Valley aftershocks.																							

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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
21	e?	19	11	21.8					-								iP	19	11	28.3				
	iP			32.2													i			30.1				
	i			35.2													i			48				
	iS?		12	07																				
	iS			27	Aftershock of Imperial Valley.																			
21	Twenty-one aftershocks of Imperial Valley?																							
22	iP	00	36	24.5	0.23	+35	+12	-66	e?	00	36	35.7					iS	00	36	45.4				15
	iS?			25.3		220	190	117	eS?			43.5					F			37.1	Δ = 45.5 mi			
	F		36.5		Δ = 4 mi					Δ = 41 mi?														
	Small local shock. Location doubtful. Felt in Boulder City.																							
22	Four aftershocks, Imperial Valley.																							
22	eP	01	51	23.5	3.0	-3	-23	-4	eP	01	51	33.0					eP	01	51	29.7	1.10	+21	+48	
	iP			27.5					iP			34.0	0.45	+15	+11		iP			30.9			+95	
	i?			34.0					i			36.1	1.33	-85	+47		i			33.9				
	iS		52	05	W.A. 63 mm				Second large Imperial Valley earthquake.															
22	e	02	01		Aftershock in coda of above.																			
22	iP	02	03	01.1	1.28	+8	-48		iP	02	03	14.2					iP	Minute marks not visible.						
	iS?			39.8					iS			58.4												
	iS			42.2	1.30		370		iM		04	05.5												
	iM			43.7	0.87		525																	
	F		15		Aftershock in coda. Followed by approximately 30 aftershocks by 15 hrs G.C.T.																			
22	eP	17	00	08.1		-1	+2	-2	e?	17	00	13.5					iP	17	00	14.6				
	iP			08.3					eP			14.2					iS			21.9	0.35		83	
	eS?			10.9					iS			19.5	0.47	10			F		00.7		Δ = 36.5 mi			
	iS			11.2	0.28	22	21	10	F		00.9		Δ = 31 mi											
	F		00.3		Δ = 13.5 mi																			
	Very small local shock. Epicenter near #65.																							
22	-								-								eP	17	11	52	I.V. aftershock.			
22	-								-								eP	17	44	10	I.V. aftershock.			
22	e?	18	14	14					eP	18	14	25					eP	18	14	20.2				
	iP			25													iP			21.2	I.V. aftershock.			

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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
Notice:	The following shocks were all recorded at Pierce Ferry, and are apparently Imperial Valley aftershock											
22	e	19 02 28.5			eP	19 07 49			iP	19 20 07.5		
22	iP	19 59 37			eP	22 31 32.5						
23	eP	00 38 44.5			e	01 00 22			e	01 02 54		
23	eP	01 12 22.5			e	03 43 43			e	03 49 13		
23	e	03 57 18			eP	04 34 52			e	07 05 16		
23	e	07 21 25			eP	08 50 58			iP	09 15 06.5		
23	e	09 19 48			e	09 45 43			e	09 50 45		
23	e	10 42 55			eP	11 50 52			e	12 17 33		
23	e	12 43 12			e	13 12 46			e	13 54 14		
23	e	14 48 11			e	14 52 01			e	15 07 56		
23	eP	15 30 08			eP	15 44 31			iP	15 45 32		
23	e	16 43 54			e	16 46 18			eP	16 47 20		
23	e	16 53 32			eP	16 55 00			e	17 37 05		
23	e	17 46 18			e	19 36 31			iP	20 51 09		
23	iP	20 55 23			e	22 32 23						
24	Boulder City				Overton							
	iP	00 50 11.4	0.22	+8 -16 +6	-	Blast,			eP	00 50 23.6		
	i?	13.5				Probable epicenter near Las			iP	24.6		
	iS	14.1		32		Vegas Wash, near #36, accord-			iS	34.0		
	i	15.7				ing to direction.			i	35.0	0.30	22
	i	16.6	0.50	45 21					F	55.9	Δ = 56 mi	
	F	50.8	Δ = 13 mi									

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1942

Time used is G.C.T.

	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
All shocks above the line are recorded from Pierce Ferry, and are Imperial Valley aftershocks.																								
24	e	01	06	24					e	01	23	51					e	01	59	12				
24	e	04	00	16					e	06	54	06					eP	09	28	13				
24	eP	09	31	05					e	09	51	47					eP	09	53	10				
24	e	10	19	52					e	10	49	59					e	11	35	57				
24	e	12	46	04					e	13	30	47												
24	-								-								iP iS	14	18	42.0 43.9			55	
																	Local shock. Δ = 9 mi							
24	-								-								e	16	16	07	I.V. aftershock			
																	e	17	23	03	"	"		
24	iP iS F	18	07	15.0 16.0 07.5	0.21	+4 43 Δ = 5 mi	-9 36	+9	-								eS F	18	07	37.4 07.7	0.44		10	
							Very small local shock.														Small local shock.			
24	-								-								e	18	18	49	I.V. aftershock			
																	e	18	28	32	"	"		
																	e	19	03	13	"	"		
																	e	19	08	59	"	"		
																	e	19	29	21	"	"		
24	-								-								iP	19	59	34.8			-5	
																	iS			43.1	0.29		95	
																	F	20	00.5		Δ = 41 mi			
																	Local shock.							
24	-								-								e	22	47	54	I.V. aftershock			
																	e	23	58	52	"		"	

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

MONTH OF October 1942

Time used is G.C.T.

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
25	-								-									e	00	07	56	I.V.	aftershock.		
																		e	04	28	01	"	"		
25	iP	04	38	58.8	0.20	+7	+27	-19	-									eS	04	39	18.4				
	iS			59.9	0.18	32	34																		
	F		39.3		$\Delta = 5\frac{1}{2}$ mi																				
	Very small local shock.																								
									P.F.	from here on.															
25 P.F.	e	04	48	25	I.V.	aftershock.			e	06	01	07	I.V.	aftershock.				e	07	00	46	I.V.	aftershock.		
																		e	08	36	52	"	"		
25	-								-									eP	08	55	20				
																		Probably distant earthquake.							
25 P.F.	eS	09	42	32	I.V.	aftershock?			eP	10	55	36	I.V.	aftershock											
																		iP	14	13	40	I.V.	aftershock		
25 P.F.	eP	14	50	26	"	"			e	15	50	31	"	"											
																		e	17	09	36	"	"		
25 P.F.	iP	19	00	35.6	"	"																			
	iP			39.1														eP	20	39	17.5				
	i			50.2														iS			23.4	0.32		44	
	iS		01	25.4														F		39.7					
	iS		01	35.0	I.V.	aftershock.																			
25	-								-									e	21	07	09.5				
																		e		08	11.5	Regional shock.			
25 P.F.	e	21	47	31	I.V.	aftershock.			e	22	42	52.8						e	23	01	55	I.V.	aftershock.		
									iP			55.0						e	23	04	09	"	"		
									eS		43	10.3						e	23	31	24	"	"		
									iS			10.8	0.40		44										
									F		43.8														
26 P.F.	e	02	41	47	I.V.	aftershock.												eP	02	55	05				
																		iP			07				
																		iS		55	56				
																		Imperial Valley aftershock.							

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LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1942 26

Time used is G.C.T.

	BOULDER CITY								OVERTON								PIERCE FERRY							
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
26	e	03	03	05.0					e	03	03	13.7					eP	03	03	09	I.V. aftershock.			
	iP			10.7					iP			14.3					iP			10				
	iS			50.2					iS		04	12.0					i			13				
	iS			54.9													i			18				
	Imperial Valley aftershock.																iS		04	02				
26	-								-								e	03	10	45	I.V. aftershock.			
																	iP	03	11	27	"		"	
																	iP	03	22	25	"		"	
																	eP	03	27	34	"		"	
																	e	03	41	46	"		"	
26	e	03	44	10.8					-								iP	03	44	11				
	iP			13.2													i			20				
	iS			50.7													iS		45	02	I.V. aftershock.			
	The following are records from Pierce Ferry, of Imperial Valley aftershocks.																							
26	iP	03	52	10					e	04	35	04					e	05	17	39				
	# e	05	44	07					e	05	49	12					e	06	16	01				
	e	07	36	51					e	07	14	28					e	07	16	44				
	e	07	19	28					e	07	22	04					e	07	31	11				
	e	09	26	50					e	10	56	00					e	11	20	16				
	e	11	22	26					e	11	44	18					e	11	51	14				
									iS		45	06	I.V. aftershock?				eS		52	27	I.V. aftershock?			
	e	12	04	27					e	12	28	58					eP	12	57	16				
																	iS		57	59				

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

MONTH OF October 1942 27

Time used is G.C.T.

		BOULDER CITY								OVERTON								PIERCE FERRY							
	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
66	26	iP	13	33	05.5	0.14	+8	+10	-5	eP	13	33	09.4					iP	13	33	11.0	0.10	+17	+3	
		iS			0910	0.29	50	50		e			14.7					i			11.5				
		F			33.5	Δ = 18 mi				iS			15.6	0.31		65		iS			17.8		-20	-25	
		Small local shock.								F			34.0	Δ = 31.5 mi				m				0.22	-250	240	
		Epicenter at Boulder Canyon. Boulder City direction good.																F			34.2	Δ = 36 mi			
	26	-								-								e	14	53	41	I.V. aftershock.			
																		e	16	43	04	I.V. aftershock.			
	26	e	17	43	16.7					e	17	43	25					eP	17	43	14.6				
		iP			21.5													iP			17.3				
		iS		44	02.3					—Imperial Valley aftershock—								iS		44	13.8				
	26	~~iSxxdxx~~ Imperial Valley aftershock.								e	17	58	33					e	17	58	07				
																		e	19	14	51	I.V. aftershock.			
	26	eP	19	18	55.0					e	19	19	08.5					e	19	18	55.7				
		iP			56.8					iP			10.5					iP			57.0				
		iS		19	34.6					iS			54.5					iS		19	46.7	I.V. aftershock.			
	26	eP	21	20	08.5					e?	21	20	07.5					e	21	20	10.5				
		Distant earthquake.								eP			09.0					iP			12.0				
										eS		29	02.5					eS		29	09.5				
	26	-								e	23	47	10					e	23	46	59	I. V. aftershock.			
	27	-								-								~~iS~~	00	04	04				
																		Local disturbance.							
67	27	iP	00	26	38.3	0.22	+2	+7	-3	e?	00	26	41.0		-6	-6	-2	eP	00	26	45.9		-7	0	
		i			39.4					iP			41.2					iP			46.3			-20	
		iS			41.9					i			42.4					i			47.5				
		iS			42.2	0.24	130	90	50	i			43.6					i			49.8				
		F		27.7		Δ = 18.5 mi				iS			46.9					iS			55.0		+90	+200	
	B.D.	iS	00	26	41.7	Δ = 18 mi				iS			47.2		120	130		i			56.3	0.42		300	
		Small local shock. Boulder City direction fair. Overton good.																F			28.8	Δ = 45 mi			
		Epicenter 7 mi N of Lake Mead on southward extension of fault zone on west side of Muddy Mts.																							

International Seismological Centre

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Time used is G.C.T.

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
	27	iS	00	28	46.8	Very small local disturbance.																			
68	27	iP	00	58	01.5	0.22	+17	-10	+30	eP	00	58	11.6					iP	00	58	13.3				
		i			01.9					iS			20.9	0.31	23			i			14.3				
		iS			03.8	0.30	245	190	75		Δ = 47.5 mi							i			15.3				
		i			04.2													iS			23.8				
		F		58.9		Δ = 12 mi Boulder City direction poor.												iS			24.4	0.32	85	70	
		Small local shock. Epicenter under Railroad Pass.																i			25.5				
																		F		59.6		Δ = 53.5 mi			
	27	iP	01	50	47.4		+5	+16	-8	-															
		iS			48.6		20	20										eS	01	51	06.6				
		F		51.0		Δ = 6 mi													Δ = 43 mi						
		Very small local shock. Epicenter near #63.																							
																		e	01	58	04	I.V. aftershock.			
	27	-								-								e	01	37	56	"	"		
																		e	07	20	49	"	"		
																		e	07	55	05	"	"		
																		e	08	48	28	"	"		
																		e	11	19	13	"	"		
	27	eP	11	46	00.1					-															
		iP			00.4																				
		iS			01.1	0.13		60																	
		iS			11.0	2nd disturbance.												-							
		F		46.3		Small local shocks.																			
																		e	17	06	54.7				
	27	eP	17	06	54.4					-								iP		07	02.7				
		eS		07	32.7													iP			06.5				
		Imperial Valley aftershock.																iS			45.1				
	28	iP	00	55	11.7	0.19	+10	-14	+8	eS?	00	55	25.8					eP	00	55	23.4				+10
		iS			14.3	0.20	36	29	15									iS			33.3			21	25
		im			17.1	0.52	48	52	40									F		56.0		Δ = 53.5 mi			
		F		55.9		Δ = 12 mi May have been felt in Boulder City.																			
		Small local shock. Probable epicenter in Las Vegas Wash, 5 mi W of Lake Mead.																							
	28	e	09	52	33																				

International Seismological Centre

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	10	50	22		-8	+7	+10	-								iP	10	50	20		-10	+6	
	eS?		57	41													iS		58	53				
	iS		59	04	Distant earthquake.																			
																	eP	15	57	30				
28	-								-								iS		58	27	Regional shock.			
																	Wind tremor.							
28	e	18	12	50																				
	eS		13	28																				
	Regional shock.				I. V. aftershock?																			
29	e	00	03	41																				
	eS		04	24	Regional shock.				-								-							
29	eP	11	31	07					-								eP	11	31	03				
	iS			49													iP			04				
	iS			53	0.76		36										iS			59	0.82		130	
	F		33.7		Regional shock.				I.V. aftershock?								F		35.0					
29	e?	15	57	55																				
	eP		58	00																				
	iS			43	0.90		230																	
	F	16	03.5		Regional shock.				I.V. aftershock.															
29	e	16	22	49																				
	iP			58					-								-							
	iS		23	43	Regional shock.																			
29	e	17	36	55					-								e	17	36	52				
	iS		37	41	Regional shock.																			
29	e?	20	52	00																				
	iP			07																				
	iS			48	Regional shock.																			
29	eP	21	44	26		+		+									eP	21	44	29				
	iS		54	31													eS		54	32				
	Distant earthquake.																iS			35				

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1942 30

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
30	e	00	27	01				
	eS			45	Regional shock.			
30	e	00	56	24				
	eS		57	22	Regional shock.			
30	iP	00	57	41.4	0.23	-15	+25	+5
	iS			44.0		27		
	im			46.1	0.72	28	37	25
	F		58.0		Blast?			
30	e	05	35	47				
	iS		36	30	Regional shock.			
30	e	17	39	03.5				
	iP			06.0				
	iS			49.5	Regional shock.			
30	iP	22	46	54.0	0.13	?	-4	
	i			54.6				
	iS			56.3	0.30		30	
	i			57.2				
	F		47.5		Δ = 11 mi			
	Very small local shock or blast.							
30	iP	23	23	33.3	0.18	-10	+10	+7
	iS			34.2		65	120	31
	F		24.0		Small local shock.			
31	eP	02	34	23.8				
	iS			26.3	0.30		26	
	Very small local shock. Δ = 12 mi							
31	e	02	34	33				
	eS		35	14				
	Regional shock. Begins in coda of preceeding shock.							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
-							
-							
-							
e	17	39	12				
eP			20				
eS			59				
e?	22	46	55.3				
eP?			56.9				
eS?		47	04.2				
iS			05.1				
i			06.8	0.28	13		
-							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e?	00	27	07				
e	00	56	26				
i			05				
iS		57	24				
-							
e	05	36	45				
-							
iP	22	46	59.5				
iS		47	06.6	0.33		18	
F		47.4					
-							
eS	02	34	38.2				
	Δ = 36 mi						
e	02	34	45				
eS		35	27				

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF October 1942 31

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
31	iP	02	44	03.8	0.19	-5	+19	-6
	iS			04.8	0.18	100	82	37
	F		44.6		Δ = 5 mi			
	Small local shock. Felt in Boulder City.							
31	iP	03	25	08.9	0.25	+15	-29	+5
	i			09.9				
	iS			11.6	0.27	210	250	50
	i			12.4				
	F		26.3		Δ = 12.5 mi			
	Light local shock. May be blast.							
31	e	10	52	38				
	Regional to distant shock.							
31	eP	15	08	29.5				
	eP			35.3				
	iS		09	40.6	0.45		70	
	F		12.0					
	Regional shock.							

OVERTON

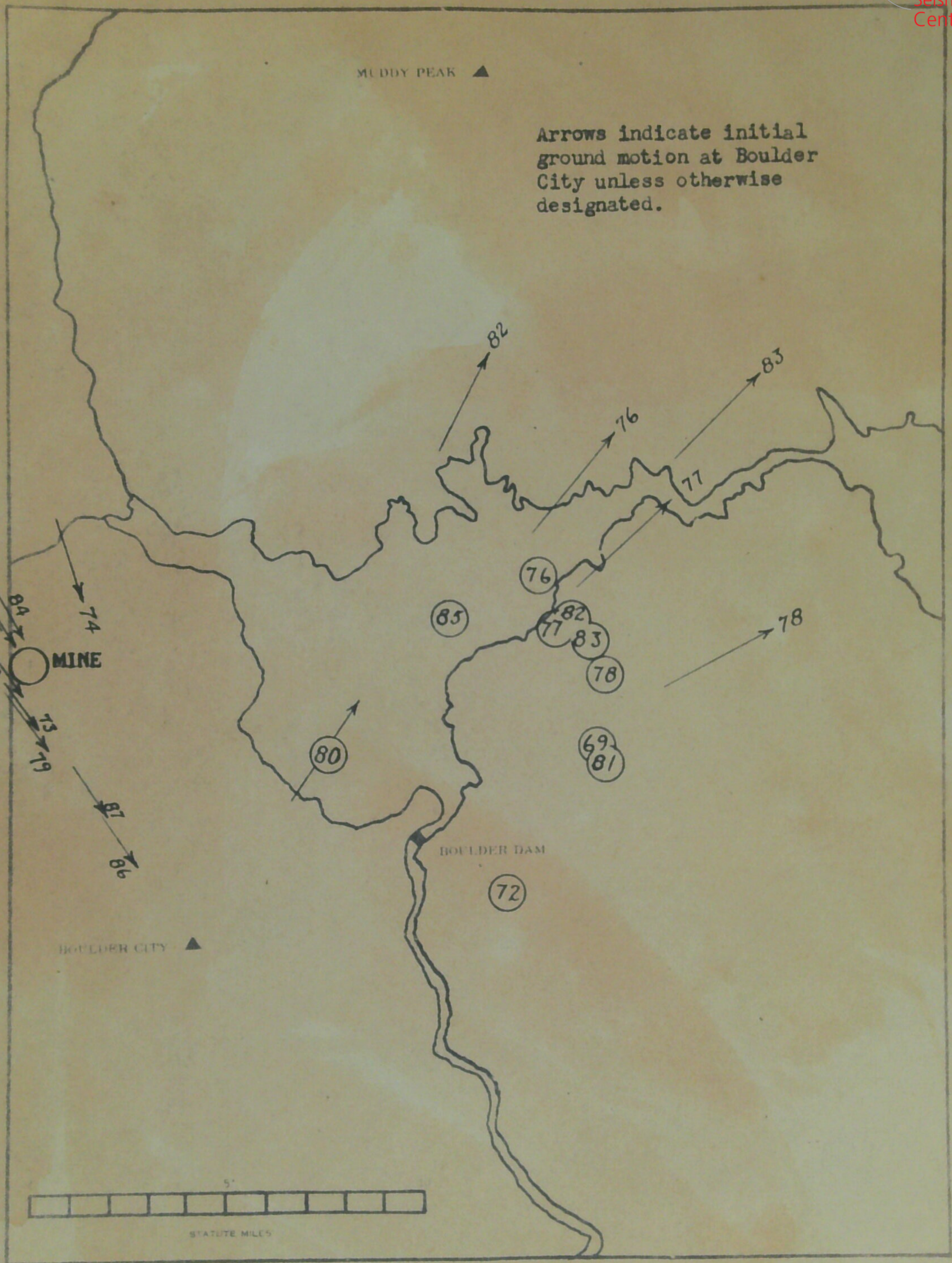
Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
-							
Probable epicenter in Las Vegas Wash							
-							
-							

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eS	02	44	24.4				
	Δ = 46 mi						
eP	03	25	20.6				
i			22.0				
eS			30.5				
iS			31.2	0.30		20	
iS			31.5		21		
i			32.7				
F		26.8		Δ = 55.5 mi			
e	10	52	41				
eS		53	56				
eP	15	08	56				
iP		09	09				
eS			53				
iS			56	0.58		75	
F		12.9					

TENTATIVE EPICENTERS IN THE LAKE MEAD REGION, NOVEMBER, 1942.

International Seismological Centre



International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT - - - - - - - - NOVEMBER, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule throughout November.

Nineteen epicenters have been located as follows: The directions as noted are of the initial impulse of the P-wave indicated by arrows on the accompanying map.

No.	Date Nov.	G.C.T.	Location of Epicenter
69	9	02h 25m 37.3s	1 mi E Fortification Hill. Direction good.
70	9	23h 11m 40.7s	Blast 8 mi NNW of Boulder City. Direction excellent.
71	12	13h 14m 17.5s	Near Salt Spring Wash S of Virgin Canyon.
72	13	23h 36m 41.6s	2½ mi SE of Boulder Dam.
73	14	01h 04m 38.4s	Blast 8 mi NNW of Boulder City.
74	17	20h 33m 44.3s	Blast 8 mi NNW of Boulder City.
75	17	21h 57m 24.3s	Blast 8 mi NNW of Boulder City.
76	23	02h 48m 52.3s	7 mi NE of Boulder Dam.
77	23	02h 49m 22.3s	6½ mi NE of Boulder Dam.
78	24	00h 43m 48.3s	6 mi NE of Boulder Dam.
79	24	01h 09m 22.9s	Blast 8 mi NNW of Boulder City.
80	24	01h 56m 07.5s	3 mi NW of Boulder Dam.
81	24	03h 25m 56.7s	5 mi ENE of Boulder Dam.
82	26	14h 51m 38.2s	6½ mi NE of Boulder Dam.
83	26	15h 10m 07.8s	6.2 mi NE of Boulder Dam.
84	27	22h 50m 12.4s	Blast 8 mi NNW of Boulder City.
85	28	13h 50m 05.6s	6 mi N of Boulder Dam.
86	29	00h 57m 06.3s	Blast 8 mi NNW of Boulder City
87	29	22h 35m 14.4s	Blast 8 mi NNW of Boulder City.

Since the body of this report was prepared, it was learned that several of the shocks herein tabulated, and some of them located, were caused by blasts at a manganese mine 8 mi NNW of Boulder City. The location of the center of this mine is SW1/4 SE1/4 Sec 35 T21S R63E MDB & M. The mined area is roughly 1500 ft. x 400 ft., the axis N-S. Location of these "shocks" was ordinarily erroneous because the S-wave was poorly recorded at Boulder City, and the wave which ordinarily would have been interpreted as the S-wave arrived about 1 sec. late, which gave the impression of a focal distance from Boulder City of 13± mi instead of 8 mi.

Confidential-not for publication.

International Seismological Centre

Listed shocks which are to be interpreted as blasts are as follows:

No.	Date	G.C.T.	No.	Date	G.C.T.
	4	22h 33m 08.8s	70	9	23h 11m 43.0s
	11	00h 23m 12.0s		12	22h 35m 08.4s
73	14	01h 04m 40.7s	74	17	20h 33m 46.6s
75	17	21h 57m 26.6s		20	00h 25m 54.2s
	20	22h 00m 07.9s		21	22h 34m 56.3s
79	24	01h 09m 25.2s	84	27	22h 50m 14.7s
86	29	00h 57m 06.6s	87	29	22h 35m 14.7s

The times above are of arrivals at Boulder City. The estimated times of the blasts were 2.3 sec. earlier. Using arrival times at Overton and Pierce Ferry, the speeds of the direct P and S waves are: v_p = 3.50 mi/sec; V_s = 2.05 mi/sec; and the rate of lag of the S over the P wave, or rate of S-P, is 5.0 mi/sec. These values are tentative and are subject to revision after more precise data on times of occurrence of some of the blasts and times of arrival of resulting waves at the various stations has been collected.

Remote shocks which were recorded locally and located by the Central Office, Coast & Geodetic Survey, are:

Date Nov.	Arrival at Boulder City G.C.T. h	m	s	Time at Origin G.C.T. h	m	Provisionnal Epicenter Lat	Long	Δ (B.C.) mi
10	12	01	16	11	41.3	46½S	35E	10,700
12	5	01	04	4	55.4	16.8N	94.2W	1,830
12	15	34	58.3	15	26.3	0.1S	81.0W	3,340
15	17	24	16	17	12.2	35½N	142½E	5,600
19	09	00	30	08	51.51	0.5S	81.5W	3,360
25	01	23	21	01	18.0	16.6N	97.8W	1,810
26	14	38	26.9	14	37.3?	44N	147E	5,100
28	10	50	42.3	10	38.8	7.3N	36.8W	5,370

The following was located by this office:

1	18	53	03	18	49:53	49.1N	115.7W	900

No local shocks were reported as felt during November.

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 1942

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
1	e	15	43	17				
	e		49	53				
	Distant earthquake							
1	e	18	53	03				
	e		56	36				
	Distant earthquake							
2	e	05	31	52.0				
	eP			55.1				
	iS		32	24.9	Δ = 160 mi			
	iS			32.4	Regional shock.			
2	eP	10	42	50.0				
	eP			53.0				
	eS		43	18.3	Δ = 135 mi			
	iS			20.6	Regional shock.			
2	eP	13	00	36.2				
	iP			45.8				
	iP			49.7				
	iS		01	24.5	Δ = 250 - 275 mi			
	iS			38.8	Regional shock			
2	eP	14	24	53.3	0.19			
	iS			54.9	0.24 -30 +48 -12			
	Very small local shock, Δ = 85 mi. Mag. 1.6							
2	e	14	25	44				
	eS		26	28	Δ = 240 mi			
	Regional shock							
2	e	20	07	10.6				
	iS			52.2				
	Regional shock, Δ = 225 mi							
2	e	22	57	10.3				
	Seismic waves							

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
e	18	53	02				
e		56	39				
e	05	32	00				
eS		32	41				

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 1942

Time used is

International Seismological Centre

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
3	e	00	11	41																				
	Seismic waves																							
3	eP	02	34	49.6			-3																	
	iS			52.1	0.26		+26																	
	Very small local shock, Δ = 13 mi. Mag 1.5																							
3	eP	03	57	22.5																				
	eS		58	07.5																				
	Regional shock, Δ = 250 mi																							
3	eP	05	07	20.0																				
	iP			29.6																				
	iS		08	06.5																				
	iS			13.7																				
	Regional shock, Δ = 260 mi																							
3	eP	08	09	01.3			-3																	
	iS			04.9	0.26		44																	
	Very small local shock, Δ = 18.5 mi. Mag. 1.9																							
3	eP	10	09	40.6																				
	iP			55.6																				
	iS		20	20.6																				
	iS			26.6																				
	Regional shock, Δ = 225 mi																							
3	iP	16	12	19.0	0.26	+6	-5	-5	no								no							
	iS			21.3	0.34		+41	+8																
	iS			21.6		+22		+22																
	Very small local shock, Δ = 12.5 mi. Mag. 1.7																							
4	iP	11	23	24.1	0.16	+3	-7	+7	no								no							
	iS			25.0	0.20	+22	+17	-9																
	Very small local shock, Δ = 5 mi. Mag. 1.0																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 1942

Time used is G.C.T.

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
4	iP	22	33	09.5	0.30	+12	-20	+10	no								iP	22	33	20.3				
	i			09.9													iP			21.6				
	is?			11.8		-63	-60	+25	Epicenter probably near Las Vegas								iS			30.4	0.44			
	is			12.4		-111	+90	-15	Wash.								i			31.5				
	iz			14.5	0.80	+78	+118	+77									i			35.1				
	Small local shock, Δ = 12 - 15 mi, Mag. 2.2 (O = 06.1)																im			37.0	0.32			18
																		Δ = 51 mi						
5	e	02	04	12	Seismic waves												e	02	03	43.5				
																	eS		09	22.5	Δ = 210 mi			
5	e	11	53	37	Seismic waves												e	11	39	54				
																	e	11	53	33				
																	e	19	04	50	Seismic waves			
																	e	21	37	24.7	Δ = 46.5 mi			
5	e	21	37	17.7					eP	21	37	06.2				+2								
	Very small local shock								iP			07.1												
	Δ = 32 mi., Mag. 1.5?								iS?			08.1												
	Epicenter probably N side of Muddy Mts.								iS			08.8	(O = 2.4)											
												Δ = 13.5 mi												
5	iP	22	39	23.9		-7	-3	-5	eS	22	39	50.5					e	22	39	26.8				
	i			24.6													eS			42.4				
	is			37.5			10					Δ = 107 mi								Δ = 79 mi				
	(O = 04.5) Δ = 69 mi, Mag. 2.1																							
	Very small local shock, Ep. S on Colorado River																							
6	eP	06	14	17																				
	is			18			27																	
	Very small local shock, Δ = 5 mi, Mag. 1.1																							
6	eP	07	37	00																				
	is			02			28																	
	Very small local shock, Δ = 9 mi, Mag. 1.4																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 194 2

Time used is G.C.T.

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
	6	eP	13	40	32.7					eP	13	40	34.5					eP	13	40	30.5				
		eS		48	10					eS		48	13.5					eS		48	40				
		Distant earthquake																							
	7	i	01	09	54.6		+3	-5	+2	no								no							
		i			57.3																				
		Local shock, Δ = 14 mi, Mag. 1.7																							
	7	e	04	40	09.5					e	04	37	55.4					e	04	40	06.5	time?			
		iS			52					iS		41	00.5					eS		41	01.0				
		Regional shock, Δ = 235 mi																							
	7	eP	11	06	00.6					no															
		iS			01.1																				
		Very small local shock, Δ = 2.5 mi, Mag. 1.6																							
	8	e	22	06	52													no							
		eS		07	21																				
		Regional shock, Δ = 140 mi																							
69	9	iP	02	25	41.7		+8	+11	-6	eP	02	25	47.5					eP	02	25	49.2				
		iS			44.7		65	65	30	eS?	02	25	55.0					iS			56.6				
		Δ = 15.5 mi (0 -37.3) Mag. 2.2									Δ = 37 mi (37.1)							S-P, Δ = 38 mi (38.2)							
		Small local swarm type shock.																							
		Epicenter one mile E of Fortification Hill. Boulder City direction poor.																							
	9	iP	20	34	54.2		-8	-9	-8	eP	20	35	03.9					iP	20	35	03.5		+13	+5	+15
		iP			56.7					iP			09.7					iP			04.0				
		iS		35	29.0					iS?			41.0					i			09.2				
		Regional shock, Δ = 170 mi									Δ = 215 mi							iS			48.4				
																		iS			49.4				
																			Δ = 215 mi						
70	9	iP	23	11	43.0		+16	-26	+25	iP	23	11	52.7					iP	23	11	55.5			-3	
		i			43.4					eS		12	00.9					iS		12	05.8			20	
		iS			45.1					iS			03.4					iS							
		iS			45.5			180			Δ = 46.5 mi								Δ = 54 mi						
		i m			47.3																				
		Small local shock, Δ = 11 mi (0 = 39.9) Mag. 2.3. Epicenter 9 mi NW of Boulder City. Instrumental direction fair.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 194 2

Time used is G.C.T.

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
10	e	00	54	44.1													eP	00	54	52.0				
	e			47.7													iS		55	29.3				
	eS		55	10.8	Δ = 130 mi														Δ = 180 mi					
	Regional shock																							
10	iP	03	55	53.5		-4	-10	+8	no								no							
	iS			54.6																				
	Small local shock, Δ = 5½ mi, Mag. 2.0																							
10	iP	04	00	35.0		+3	-4	+3	no								no							
	iS			36.1																				
	Small local shock, Δ = 5½ mi, Mag. 1.7																							
10	e?	12	01	16					eP	12	01	17					e?	12	01	20				
	eP	12	01	20					iP			23					iP			30				
	iP			36													iP			44				
	eS?		15	34	Distant earthquake																			
10	iP	20	50	30.0		+12	+18	-13	no								no							
	iS			30.8		48																		
	Very small local shock Δ = 4 mi, Mag. 1.9																							
11	iP	00	23	12.0		+7	-12	+5	e	00	23	21.7					eP	00	23	24.3				
	iS			14.7			80		eP			23.1					iS			34.4	Δ = 54.5 mi			
	Small local shock, Δ = 14 mi (O = 8.1), T = 1.5, Mag. 2.1. Epicenter may be NE of Boulder City. Blast?								eS?			30.3	Δ = 46.5 mi											
									iS			32.6	Δ = 51 mi											
11	iP	01	42	27.8		+35		-59	no								e	01	43	40.9				
	iS			28.6		100		105									eS			48.5	Δ = 45.5 mi			
	Small local shock, Δ = 4 mi (O = 26.6), T = 7.0, Mag. 2.4																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF November 1942

Time used is G.C.T.

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
12	iP	00	08	40.0					eP	00	08	51.2					eP	00	08	35.8				
	i			42.5					i			57.0					iP			38.0				
	iS		09	22.0					iS		09	41.6					iS		09	28.5				
	i			26.0					i			45.4					iS			36.5				
	Regional shock, Δ = 230 mi																							
12	iP	00	51	40.1		+2	+5		eP	00	51	33.0					iP	00	51	41.0		+7	+5	
	eS			54.7					i			33.7					i			41.2		-11	-11	-40
	Regional shock, Δ = 74 mi								i			37.0					iS			56.1				
	(O = 19.3) Mag. 2.5								iS			40.8					i			57.3	Δ = 76 mi			
	Focus deep under Las Vegas Range								im			41.2	Δ = 45 mi											
	or Sheep Range																							
12	eP	05	01	04					eP	05	01	05.5					e?	05	01	03.5				
	iP			22					iP			12					eP		02	25.5				
	eS		09	03					iP			24.5					eS		09	23				
	Distant earthquake								eS		09	47												
12	eP	07	20	10.1					no															
	iS			15.2			15																	
	Very small local shock,																							
	Δ = 26 mi (O = 02.9) Mag. 1.6																							
71 12	iP	13	14	27.2		-17	-10	+7	iP	13	14	29.3		+8			iP	13	14	22.3		+2	+17	
	i			27.9					i			30.0					i			22.8				
	iS			34.0					iS			37.1		105			iS?			25.0				
	iS			34.4		46	49	30	i			38.5					iS			25.4				
	i			35.0					Δ = 41 mi (40.8)								Δ = 16.5 mi (16.3)							
	Δ = 34.5 mi (O = 17.5) Mag. 2.4																Instrumental direction fair							
	Epicenter near Salt Spring Wash, So. of Virgin Canyon																							
12	eP	15	34	58.3					eP	15	35	00					e?	15	34	58				
	eS			42.1	Distant earthquake																			
12	e	17	57	16.0					e	17	57	28					eP	17	57	15.0				
	eP			21.5					iS		58	19					iP			17.5				
	iS		58	00.1	Δ = 210? mi				iS			22.7	Δ = 235? mi				iS		58	13.5				
	iS			05.5	Regional shock												iS			16.5				

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BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
12	iP	22	35	08.4	0.25	+7	-10	+6
	i			08.7				
	i			10.8				
	iS			11.2				
	im			13.4		80		
	Δ = 14 mi (O = 04.5) Mag. 2.0							
	Small local shock, location doubtful. May be NW of Boulder City. Blast?							
13	eP	22	14	35.6				
	eS		15	05.6				
	Regional shock, Δ = 140 mi							
13	eP	23	06	15	Distant earthquake			
13	eP	23	36	45.0		+5	+3	
	iS			47.3			+53	
	iS			47.7		+32		
	Small local shock, Δ = 12 mi (O = 41.6) Mag. 2.3. Instrumental direction from Boulder City very poor. Epicenter 2½ mi SE of Boulder Dam focus 10 mi deep.							
14	iP	01	04	40.7		+9	-15	+9
	i			41.1				
	iS			43.6		97	95	
	iz			45.4				97
	Small local shock. Δ = 15 mi (O = 36.5) Mag. 2.0							
	Small local shock, Epicenter 10 mi NW of Boulder City (near Midway, not reported felt) Blast?							
14	e	18	07	31.8				
	eP			44.4	Distant earthquake			
14	iP	20	30	31.7		0	+11	
	iS			32.6			70	
	Small local shock, Δ = 5 mi, Mag 2.0							
14	e	21	05	37	Distant earthquake			

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP?	22	35	18.0				
eS?			28.6				
eP	22	14	26.2				
iP			29.7				
iS			49	Δ = 110 mi			
eP	23	06	19				
e?	23	36	46.2				
e?			51.8				
iS		37	01.3	Δ = 41 mi			
e?	01	04	49.6				
e			49.7				
eP			51.9				
eS			58.2				
iS		05	03.5	Δ = 44 mi. Boulder City instrumental direction fair.			
e	18	07	38.5				
e	21	05	38.5				

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	22	35	20.8				
iP			22.2				
i			23.8				
iS			31.7				
iS			33.5	Δ = 56 mi			
e	22	14	33.5				
iP			37.2				
eS		15	00.5				
iS			01.0	Δ = 130 mi			
e	23	06	40				
e	23	36	53.4				
iS		37	01.2	Δ = 41 mi			
Boulder Dam							
iS	23	36	44.3	Δ = 9.5 mi			
eP	01	04	53.3				
eS		05	02.7				
iS			04.2	Δ = 57.5 mi			

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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
14	eP	21	35	20.7					eP	21	35	33.4					no							
	iP			21.1					iS			46.7	Δ = 69 mi											
	iS			25.5																				
	iS			25.9			36																	
	Very small local shock																							
	Δ = 24½ mi (0 = 13.8) Mag. 1.8																							
14	no								iP	22	30	55.7												
									iS			57.3	Δ = 8½ mi											
									0 =			53.3												
15	e	17	24	16																				
16	no								no								iP	08	48	04.8		-13	+11	-31
									Small local shock, Δ = 8½ mi NW of Pierce Ferry								iS			06.6			100	
16	e	23	53	49.2																				
	eS		59	30.6	Regional shock																			
17	e	10	15	01	Seismic waves																			
74 17	iP	20	33	46.6	0.23	+3	-11	+3	eP	20	34	00.0	No time marks				eP?	20	34	00.2				
	iS			48.8	0.25	+60	+50	0	eS			08.4	S-P, Δ = 42½ mi				iS			09.8	Δ = 55 mi			
	m					90	80	27																
	0 =			43.5	Δ = 11 mi (Mag 2.0)																			
	Small local shock, Epicenter 11 mi NW of Boulder City, in Las Vegas Wash. Instrumental direction poor. Blast																							
75 17	iP	21	57	26.6		+11	-23	+8	eP	21	57	36.3					e?	21	57	39.0				
	iS			29.2		115	105	35	eS?			45.7					eP			39.4				
	iZ			31.3					iS			48.8	Δ = 48 mi				iS			49.6				
	(0 =			22.8)	Δ = 13½ mi Mag. 2.1												i			51.9	Δ = 56 mi			
	Epicenter 8 miNNW of Boulder City, instrumental direction poor. Blast																							

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No. Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Remarks
19	BOULDER CITY	eP	09	00	30					
		eS?		09	31					Distant earthquake
19		e	09	17	30.7					Second distant earthquake
19		eP	12	16	12					
		iS			30.5					Regional shock
19		no								
20		iP	00	25	54.2	0.39	+16	-27	+15	
		iS			56.7	0.33	130	145		
		iZ			58.9	0.48			85	
		(0 =			50.5)					Δ = 13 mi Mag. 2.2
		Small local shock								
20		e	07	01	27.5					
		e	07	02	05.6					
		iS			08.2					Regional shock
20		iP	22	00	07.9	0.24	+12	-17	+5	
		iS			10.2		+65	-34	+18	
		m			13.9		185	130	50	
		0			04.6					Δ = 12 mi Mag. 2.2
		Small local shock. Blast type								
21		iP	22	34	56.3		+2	-4	+3	
		iS			58.7		+34	-16	-11	
		Very small local shock, Δ = 12½ mi, Mag. 1.5. Blast type								
19	OVERTON	e	09	00	37					
		e	09	16	33.7					
19		eP	12	16	22					
		iP			29					
		eS		17	12					
		iS			18					
19		eP	22	42	22.8					
		iP			23.8					
		iS?			25					
		i			27		55			
		Small local shock, Δ = 9 - 15 mi								
20		iP	00	26	04.2					
		i			10.8					
		i			13.2					Δ = 48½ mi. Blast
20		eS	07	02	18					
19	PIERCE FERRY	e	09	00	31					
19		e	09	16	30					
19		e	12	16	13.5					
		iP			23.8					
		iS		17	05					
19		no								
20		no								

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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
	22																	e	06	40	34				
																		eS		41	33	Regional shock			
	22	iS	15	44	26.3	Δ = 40 mi				Epicenter probably in Greggs Basin								iP	15	44	09.7		-35	+2	-87
																		iS			11.5				
																		0 =			07.1	Δ = 9 mi			
																		Local shock							
	22	iP	18	40	05.2		+5	+6	-4	no															
		iS			08.3			+33																	
		Very small local shock																							
		Δ = 16 mi, Mag. 1.5																							
76	23	iP	02	48	56.6	0.34	+7	+8	-6	eP	02	49	02.0					eP	02	49	03.2				
		iS			59.6		+26	+65	-26	iP			03.3					iS			11.0	Δ = 39 mi			
		0 =			52.3					iS			08.3	Δ = 33½ mi											
		Small local shock, Δ = 15.5 mi																							
		Mag. 1.9. Epicenter 7 mi NE of Boulder Dam. Direction good																							
77	23	iP	02	49	26.8	0.32	+37	+34	-25	eP	02	49	32.3					iP	02	49	34.3		-19	+21	
		iS			29.9			140?	-106	iS			38.9	Δ = 34½ mi				iS			41.4	Δ = 39 mi			
		0 =			22.3																				
		Small local shock, Δ = 16 mi Mag 2.4.								Boulder Dam															
		Epicenter 6½ mi NE of Boulder Dam,								e?	02	49	25.4												
		Instrumental direction good.								iS			27.3	Δ = 10.5 mi. check											
	23	iP	11	32	10.3		-1	0	-9	no															
		iS			11.9			45	55																
		Very small local shock, Δ = 8 mi																							
		Mag. 2.3																							
	23	iP	20	20	43.0			+10		no								e	20	20	54.0				
		iS			44.5			-28										eS		21	02.2	Δ = 44½ mi			
		m			45			55																	
		0 =			40.8	Δ = 8 mi, Mag 1.9																			
		Small local shock																							

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No.	Date	Station	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Remarks
78	24	BOULDER CITY	eP	00	43	48.3		+4	+2	-3	
			iS			51.3		-46	+25		
			m			51.7		38			
			O =			44.0					
			Very small local shock, Δ = 15½ mi. Epicenter 6 mi NE of Boulder Dam. Boulder City instrumental direction good.								
		OVERTON	e	00	43	53.9					
			e?			54.7					
			iS?			58.9					
			iS		43	00.7	Δ = 35 mi				
		PIERCE FERRY	eP	00	43	54.8					
			iS		44	02.0		+17	+14		
							Δ = 37½ mi				
79	24	BOULDER CITY	iP	01	09	25.1	0.24	-18	-28	+13	
			i			25.5					
			iS			27.2		-70	+93	-44	
			i			29.2	0.34		-100		
			iZ			30			175	+110	
			O =			21.3	Δ = 13½ mi Mag 2.6. Blast type record on W.A. = 23 at 8 mi				
			Small local shock.								
		OVERTON	i?	01	09	34.9					
			iS?			44.6	Δ = 48½ mi (48.7)				
			iS			46.7	Δ = 53 mi				
		PIERCE FERRY	eP	01	09	37.5					
			eP			38.0					
			iS			48.3		+16	-12		
							Δ = 56 mi (56.2)				
80	24	BOULDER CITY	eP	01	56	09.7		+3	+4	-4	
			iS			11.2		40	38		
			O =			07.5					
			Very small local shock. Δ = 8 mi Mag. 2.0								
		OVERTON	eS	01	56	26.2	Δ = 39 mi				
			Epicenter in Lake Mead 3 mi NW of Boulder Dam. Boulder City instrumental direction fair to good.								
		PIERCE FERRY	e	01	56	20.5					
			eS			28.7	Δ = 44 mi				
	24	BOULDER CITY	iS	2	04			1.4			
		OVERTON	Very small local Δ = 7 mi W.A.								
81	24	BOULDER CITY	e	3	26	01.2					
			e			02.5					
			iS			04.3		18	15		
			O =			56.7					
			Very small local shock. Δ = 16 mi. Epicenter 5 mi ENE of Boulder Dam								
		OVERTON	e	03	26	07.0					
			e			11.5					
			eS			14.7	Δ = 38 mi (37.8)				
		PIERCE FERRY	e	03	26	08.1					
			iS			15.2	Δ = 38½ mi				
	24	BOULDER CITY	eS	18	00	00.5	Regional shock				
	24	BOULDER CITY	iS	22	49						
			Small local shock. Δ = 4 mi Mag 1.7								
	25	BOULDER CITY	eP	01	23	21					
			eS		27	47	Distant earthquake				
			M		31	30					
		OVERTON	eP	01	23	23.5					
		PIERCE FERRY	eP	01	23	20.5					
			e		31	05					

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		BOULDER CITY							
	25	e	18	48	08				
		eS			54	Regional shock			
	25	e?	22	01	05				
		eS?			50	Regional shock			
	26	iS	00	17					
		Small local shock. Δ = 5 mi							
	26	eP	14	38	26.9				
		iP			31.5				
		eS		46	42				
		iS		47	55	Distant earthquake			
82	26	iP	14	51	42.7		+5	+9	-8
		iS			45.8		50	60?	45
		0 -			38.2	Δ = 16 mi			
		Small local swarm type shock.							
83	26	iP	15	10	12.3		+33	+31	-33
		iS			15.4		?		170
		iS			15.7			170	
		0 -			07.8	Δ = 16 mi			
		Small local swarm type shock.							
	27	no							
	27	eP	02	46	55.1		-2	+3	-3
		iS		47	06.4		14	17	10
		No time marks. Δ = 57½ mi							
		Very small local shock NE foot of Spring Mts. NW of Boulder City							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		OVERTON							
	25	1P	22	01	03.5				
		iS			33.3				
	26	eP	14	38	26.2		-4		
		1P			32.6				
		Distant earthquake							
82	26	iP	14	51	48.3				
		iS			54.7	Δ = 34½ mi			
		Epicenter at 77. Boulder City instrumental direction poor.							
83	26	iP	15	10	18.0		-8	+10?	+26
		i			18.8				
		iS			24.4				
		iS			25.5		125		
		Δ = 34½ mi							
		Epicenter between 77 & 78. Boulder City instrumental direction fair.							
	27	no							
	27	eP	02	47	07.8		+5		
		iS			21.2		28		
		Δ = 68 mi							
		Approximate epicenter 8 mi NW of Pierce Ferry							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
		PIERCE FERRY							
		eP	14	38	29.8				
		1P			34.5				
		iP	14	51	49.5				
		iS			56.7				80
		Δ = 38½ mi							
		iP	15	10	19.0			-7	-2
		iS			26.1				225
		Δ = 38 mi							
		iP	01	48	41.4			-8	+7 -21
		iS			42.9				
		0 -			39.2	Δ = 8 mi			
		eP	02	47	15.0				+1
		iS			33.0				23
		Δ = 91 mi							

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	27	eP				no time marks				eP	10	58	25	Distant earthquake											
	27	no								no								iP	11	14	01.5		-30	+8	-100
																		iS			02.9			+157	
																		Small local shock, Δ = 7 mi WNW							
	27																	iP	11	17	32.9		-14	+3	-48
																		iS			34.3			174	
																		Small local shock, Δ = 7 mi WNW							
	27	no								no								iP	11	23	51.7		-7	+4	-14
																		iS			52.2			-105	
																		Small local shock 8 mi NW of Pierce Ferry							
	27	no								no								iP	12	36	43.4		-14	+4	-48
																		iS			44.8			170	
																		Small local shock 7½ mi WNW of Pierce Ferry							
84	27	iP	22	50	14.5		+12	-25	+14	e	22	50	23.7					eP	22	50	27.0				
		iS			16.7		210	200		iP			24.5					iS			37.3	Δ = 54 mi			
		iZ			19.3				110	eS			32.5	Δ = 44½ mi											
		0 =			11.3	Δ = 11½ mi				iS			34.6												
		Small local shock. Epicenter 8 mi NW of Boulder City.																							
		Instrumental direction fair to poor. Blast.																							
	28																	eP	23	08	50.0				
																		iP			59.5				
														Regional shock				iS		09	35.2	Δ = 250 mi			
	28	eP	10	50	42.3	Distant earthquake				eP	10	50	38.5					eP	10	50	43				
	28	eP	11	14	48.6																				
		iS			49.1																				
		Very small local shock, Δ = 2½ mi								no															
	28																								

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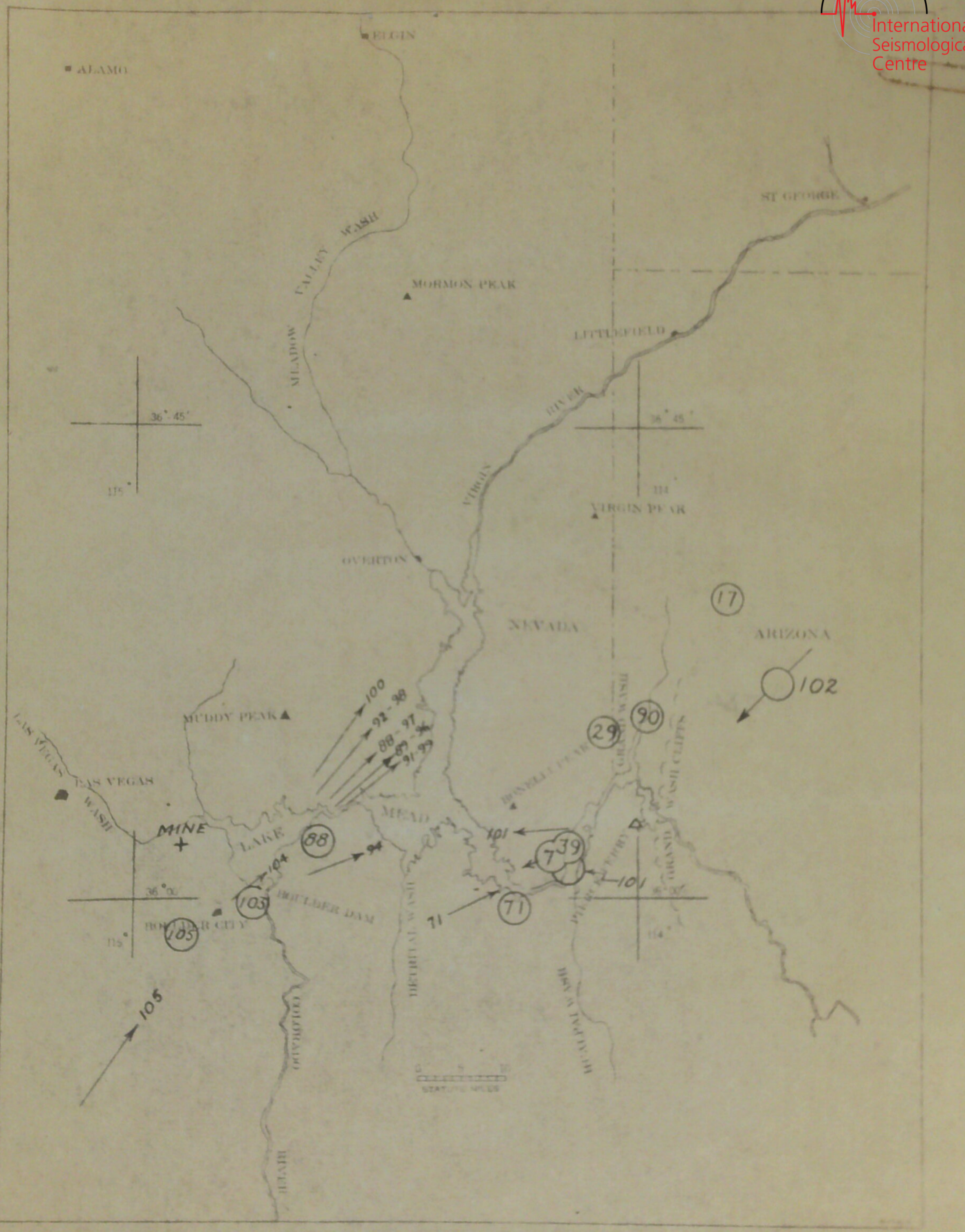
BOULDER CITY										
85	28	iP	13	50	09.8					
		iS			12.7			20		
		0 -			05.6				1.5	
		Very small local swarm type								
		Δ = 15 mi								
	28	e	20	30	16.3					
		iS			45.8	Regional shock				
86	29	iP	00	57	06.7		+28	-44	+25	
		iS			08.9					
		iL			11.6		235	265	200	
		0 -			03.5	Δ = 11½ mi				
		Light local shock							2.5	
87	29	iP	22	35	14.5		+6	-10	+4	
		iS			16.9		85	60		
		iL			19.5					
		0 -			11.2	Δ = 12½ mi				
		Small local shock. Blast							1.9	
	30	e	00	59	08					
		eP			13					
		eS	01	08	24					
	30	iS	20	03					1.2	
		Small local disturbance.								

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Remarks
OVERTON										
		e	13	50	15.1					
		eS			22.6	Δ = 35½ mi				
		Epicenter 6 mi N of Boulder Dam, in Lake Mead								
		eP	00	57	15.7					
		eS			25.7	Δ = 47 mi				
		Epicenter NW of Boulder City at 75								
		Blast 15,000 lbs.+								
		eP	22	35	24.5					
		e			25.6					
		eS			33.4	Δ = 46½ mi				
		iS			34.9					
		Epicenter 6 mi NW of Boulder City.								
		eP	00	59	11.0					
		eS	01	08	24					

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	Remarks
PIERCE FERRY										
		iS	13	50	24.5	Δ = 41.5 mi				
		Lake Mead								
		e	20	30	24					
		e			30.6					
		iS		31	08					
		eP	00	57	19.5					
		iP			20.7					
		iS			29.9	Δ = 55 mi				
		e	22	35	26.8					
		eP			28.5					
		iS			37.0	Δ = 54 mi				
		i			38.6					
		Direction poor.								
		eP	00	59	08					

TENTATIVE EPICENTERS IN THE LAKE MEAD REGION, DECEMBER, 1942.

International Seismological Centre



Epicenters 89, 91, 92, 93, 94, 95, 96, 97, 98, 99 and 100 have approximately the same location as epicenter 88.

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LAKE MEAD SEISMOLOGICAL STATIONS

INSTRUMENTAL REPORT - - - DECEMBER, 1942

The stations at Boulder City, Boulder Dam, Overton and Pierce Ferry operated on routine schedule.

18 epicenters were located in the Lake Mead region as follows:

No.	Date Dec.	G.C.T.	Location of Epicenter
88	1	20h 31m 14.6s	8 mi NE of Boulder Dam.
89	1	22h 41m 35.2s	8 mi NE of Boulder Dam.
90	2	00h 58m 02.2s	12 mi N of Pierce Ferry in Grand Wash.
91	2	01h 29m 48.4s	8 mi NE of Boulder Dam.
92	6	15h 51m 09.7s	10 mi NE of Boulder Dam in Black Mts.
93	11	06h 38m 22.5s	8 mi ENE of Boulder Dam on E slope of Black Mts.
94	11	06h 42m 07.5s	1 mi N of No. 93.
95	11	10h 50m 47.5s	1 mi NW of No. 94.
96	11	10h 53m 36.5s	Same as No. 95.
97	11	11h 10m 15.4s	6 mi NE of Boulder Dam.
98	11	14h 46m 59.8s	7 mi ENE of Boulder Dam.
99	11	14h 54m 05.2s	8 mi NE of Boulder Dam.
100	17	16h 08m 31.4s	6 mi NE of Boulder Dam.
101	28	08h 46m 31.3s	In Greggs Basin SW of Pierce Ferry.
102	28	10h 54m 45.0s	Head of Pigeon Spring Wash. W Edge of Shivwits Plateau.
103	28	12h 39m 26.2s	1 mi S of Boulder Dam.
104	30	05h 26m 18.3s	2 mi NNW of Boulder Dam.
105	30	22h 59m 05.3s	In Dry Lake 5 mi SW of Boulder City.

The following shocks were reported felt in the Lake Mead Region. (Roman numerals are intensity grades as estimated by the modified Mercalli Scale of 1931.)

No.	Date Dec.	G.C.T.	Intensity and Description
103	28	12h 39m 25s	III at Boulder Dam. A sharp shock, felt on 8th floor Power Plant and Nevada cubicle. Rattled windows in Power Plant.

No.	Date Dec.	G.C.T.	Intensity and Description
			III at Boulder City. A light shock.
	28	12h 42m 35.5s	II at Boulder Dam Power Plant. Lighter than preceding shock.
104	30	05h 26m 18.5s	III at Boulder Dam. Sharp shock felt on 8th floor Power Plant, in governor gallery, and cubicle.

The following regional shocks were located by this office:

December 3- 09h 44m 42s G.C.T.; 39.7° N Lat, 119.3- W Long? This is a few miles NNE of Wadsworth, Nevada. According to field evidence as reported by Professor Vincent P. Gianella of the University of Nevada, (personal communication) the epicenter is probably about 4 miles W of Wadsworth. Quoting from Professor Gianella:

> "Judging from the intensity, it (the epicenter) lay along a line extending from the southwestern corner of Pyramid Lake through the Truckee Canyon, in the neighborhood of Derby. The most violent disturbances were evident in the Canyon just west of Derby Dam. However, there are few inhabitants north of the canyon, and none south of it for 30 miles so that I did not have too much to go on. However, there is a recent fault along this line about 4 miles W of Wadsworth and from the rock slides and rock falls in the canyon it is evident that the strength of the shock decreased eastward and westward from the Derby Dam. It was very strong at Olinghouse and I would judge that it lay northward from the canyon. Derby Dam is approximately 6½ miles (air line) up the river from Wadsworth."

The instrumental epicenter was located by data from the Shasta Dam, Grand Coulee Dam, Pasadena and the Lake Mead stations. If a point 6 mi WNW of Wadsworth be considered as the epicenter arrival times plotted against distance at Overton, Shasta Dam and Grand Coulee Dam will lie on a straight line having a slope of 8.2 km/sec. and the Pasadena plot will lie about 3 sec. above this curve. (See discussion on the December 17 shock.) Light damage was reported in Reno and Fallon. It was reported felt from Sacramento to Winnemucca, Nevada.

December 17 - 15h 07m 42s G.C.T.; 38° 44' N Lat, 119° 41' W Long. This is about 8 mi E of Markleeville, California. Using this epicenter, arrival times of the Pn wave plotted against distance at Pierce Ferry, Overton, Tinemaha, Berkeley and Shasta Dam lie on a straight line having a slope 8.21 km/sec. with residuals less than 0.5 sec. Arrival time at Pasadena was 3 sec. too late to fit this curve. Arrival at Haiwee was about 2 sec. late and at Grand Coulee Dam 3 sec. late. Paths to the 5 stations which fit the curve are somewhat similar. The path to Berkeley passes beneath the Sierra Nevada at right angles, to Tinemaha, Pierce Ferry and Overton beneath high country or Basin ranges, and to Shasta Dam beneath the northern Sierras. The path to Pasadena, on the other hand, passes beneath the entire axis of the southern High Sierra which may account for the delay there since the Pn waves in this direction probably pass through the deep root of the Sierra where the velocity is lower.

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The following information is taken from questionnaires collected by the Seismological Field Survey, 214 Old Mint Building, San Francisco, California:

Markleeville (8 mi W of the provisional epicenter) Rattled windows, doors, etc.

Topaz, California (10 mi SE) Motion N-S; rattled windows, doors. Creaked frame. Hanging objects did swing north. Frightened few. Trees and bushes shaken slightly.

Grizzly Flats, Baltic Lookout (50? mi W) Rattled dishes. Hanging objects did swing.

Sonora, California (60 mi SW) Rattled windows.

No damage was reported, although this shock was as strong, according to the seismograph record, as the shock of December 3.

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 1942

Time used is G.C.T.

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
88	1	iP	20	31	19.0		+6	+6	-3	iP	20	31	24.0					eP	20	31	25.0				
		iS			22.0		+12	+35	-12	eP			24.5					iS			32.1		+20	+14	0
		0 =			14.6	Δ = 15½ mi				eS?			30.4									Δ = 36½ mi (36.3)			
		Very small local swarm type shock								iS			30.8												
		Epicenter 8 mi NE of Boulder Dam.							2.1	Direction fair				Δ = 33 mi											
89	1	iP	22	41	40.0		+36	+33	-32	iP	22	41	45.1					eP	22	41	45.9		-4	+6	-6
		iS			43.0					iP			45.6					i			47.7				
		iS			43.2		?	-230	-78	iS			51.8					iS			53.1		+135	+100	0
		0 =			35.2	Δ = 15½ mi				iS			52.9		-93			iS			53.5				+22
									3.0					Δ = 33½ mi								Δ = 36½ mi (37.1)			
	L	Light local shock. Epicenter 8 mi NE of Boulder Dam; direction fair																							
90	2	e	00	58	17.7					e	00	58	11.7					e?	00	58	07.4				
		iS			28.3					iS			18.0					eP			07.9				
		0 =			02.2	Δ = 54½ mi (54.3)				0 =			02.4	Δ = 33 mi (32.8)				iS			10.9				
		Very small local shock. Epicenter 12 mi N of Pierce Ferry in Grand Wash.																0 =			02.2	Δ = 18 mi (18.2)			
91	2	iP	01	29	53.0		+6	+5	-5	eP	01	29	58.0					eP	01	29	58.9				
		iS			56.1		+10	+34	-9	iP			59.0					iS		30	06.0		+24	+17	0
		0 =			48.4	Δ = 16 mi				iS		30	04.3		-10							Δ = 36½ mi (36.6)			
									2.3						Δ = 33 mi										
		Very small local swarm type shock. Epicenter 8 mi NE of Boulder Dam. Boulder City instrumental direction good.																							
	2	eP	18	39	58					e	18	40	13.5					e	18	39	58.5				
		eS		40	35.5					iP			21					eP		40	05				
		Regional shock								eS			56					iP			10				
										iS			01.5					iS			46.5				
	2	iP	22	55	49.0		+8	-10	+6	e?	22	55	56.5					eP	22	56	01.3				
		iS			51.2		-10	-52	+12	e?		56	07.2					iS			11.6		+6	+4	
		iZ			54.2					eS			09.3									Δ = 51 mi			
		0 =			45.8	Δ = 11½ mi				iS			15.4									if blast.			
									1.9																
		Small local shock. Probably a blast 8 mi NNW of Boulder City.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 1942

Time used is G.C.T.

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
3	e?	09	45	59					e	09	45	56.0					e	09	46	05				
	eP		46	12					eP			57.5					eP			06.3				
	iP			15.7					iP		46	14.5					iP			15.5				
	iP			34.9					i			34.5					iP			28.0				
	iS?		47	36.4					i		47	04.5					i			42.8				
	iS			43.6					iS			37.5					iS		47	54.5				
	Regional shock				Δ = 300? mi											5.8								
3	e	10	12	49.5					e	10	12	34					e	10	12	40.5				
	eS		13	55					iP			49					e		13	51.5				
	iS		14	03					iS		13	52				4?	iS		14	08.5				
	Regional shock																							
3	e?	11	13	34.4					e	11	13	21					e	11	13	28				
	eS			44.7					iS			47					i			46.5				
	iS			50.7	Regional shock												i		14	56				
3																	iP	13	58	24.0		-7	+5	-15
																	iS			25.7			55	
																	Small local shock Δ = 9 mi							
3	e	14	04	30					e	14	04	19					e	14	04	21.5				
	eS		05	39					eP			28					e			32.5				
	iS			44	Regional shock				iS		05	32.5					iS		05	51.5				
4	e	06	03	24.5					e	06	03	26												
	eS		07	45					eS		08	41												
					Distant earthquake																			
4	e	21	02	03.0					no															
	iS			05.8																				
	Very small local shock Δ = 14½ mi																							
								1.0																
4	e	21	25	44.2					e	21	26	04												
	eS		26	18.6	Δ = 170 mi				i			38												
					Regional shock																			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 194 2

Time used is G.C.T.

3-

BOULDER CITY

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	5	eP	14	35	12				
		iP		35	32				
		eS		40	34	Distant earthquake			
	5	eP	17	53	08.6				
		iP			08.8				
		iS			09.7			80	
		Small local shock							2.0
						Δ = 6 mi			
	5	eP	18	53	16				
		iP			19				
		iS		54	05	Regional shock			
	6	iS	05	27					
		Very small disturbance Mag 0.6							
92	6	eP	15	51	14.3		+5	+6	-4
		iP			14.4				
		iS			17.4		-34	+20	-4
		0 =			09.7	Δ = 16 mi			
									1.8
		Very small local swarm type shock. Epicenter in Black Mts. 10 mi NE of Boulder Dam. Instrument direction poor.							
	6	eP	15	56	33.0		+2	+2	-3
		iS			35.9			22	
		0 =			28.8	Δ = 15 mi			
									1.7
		Very small swarm type local shock. No location NE of Fortification Hill?							
	6	e?	16	59	30	Faint seismic wave			
	6	iP	21	21	24.3		+7	-4	-9
		iS			25.2				25
									2.3
		Very small local shock Δ = 5 mi							

OVERTON

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	5	no							
	5	eP	18	53	09				
		iP			14				
		iS		54	03				
		iS			09				
92	6	eP	15	51	18.9				
		iP			19.5				
		iS			24.9				
		iS			26.6	Δ = 31½ mi			
	6	iP	15	56	36.6				
		eS?			42.5	Δ = 28½ mi			

PIERCE FERRY

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
	5	no							
	5	No time control							
92	6	eP	15	51	16.6	Time uncertain			
		iS			23.3			+30	+20
		S-P, Δ = 34½ mi (34.7)							
	6	eP	15	56	35.7	Time uncertain			
		iS			42.3			+24	-29
		S-P Δ = 33½ mi							
	6	no							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

Bureau of Reclamation, National Park Service
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MONTH OF December 1942

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
7	no							
7	eS	19	54	51	Regional shock			
9	e	03	44	34				
	eS		45	11	Regional shock			
9	eS	05	53	08				
9	no							
9	no							
9	eP	22	26	34				
	iP			43	Distant earthquake			
9	iP	22	42	01.5	0.24	+20	-41	+22
	iS?			03.8			-125	
	i			05.2		180	220	x
	iZ			06.5	0.66			205
	O =			58.1	Δ = 12? mi			
	Small local shock. Probable epicenter near Las Vegas Wash							2.4
10	no							
10	eP	16	56	24.5				
	iS		56	59.5				1.6
					Δ = 175 mi			

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e	03	44	41				
e	05	52	09				
eS		53	14	Regional shock			
e	11	50	22				
eS		51	13	Regional shock			
e	13	09	33	Seismic wave			
eP	22	26	33	U.S.C. & G.S. epicenter 52° N Lat,			
iP			42	168° W Long; O = 22h 18.8m			
iP	22	42	10.4			+2	-4
iP			10.8				x
iS?			19.4				
iZ			23.1				
Blast 11,250 to 13,750 lbs.							
eP	14	07	50				
eS		08	44	Regional shock			
eP	16	56	15.5				
iS			51.5	Regional shock			

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	6	23	05.8				
iS			08.2				
Very small local shock							
no							
no							
eP	16	56	13.6				
iP			15.8				
iS			42.3				
iS			43.8	Δ = 140 mi			

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 194 2

Time used is G.C.T.

No.	Date	BOULDER CITY Phase	h	m	s	Period T	Trace Amplitude E	N	Z	OVERTON Phase	h	m	s	Period T	Trace Amplitude E	N	Z	PIERCE FERRY Phase	h	m	s	Period T	Trace Amplitude E	N	Z
	10	iP	17	21	38.9		+7	+12	-18	no															
		iS			39.7		-22	-45	+11																
		Very small local shock, Δ = 4 mi																							
93	11	iP	06	38	26.4		+14	+16	-16	iP	06	38	32.3	Minute mark				iP	06	38	32.5		+1	+4	-5
		iS			29.1		-16	-25	-20	iS			38.9		-30			iS			39.1				
		0 =			22.5	Δ = 14 mi					Δ = 34½ mi							iS			40.2		+53	-90	-18
									2.1									S-P	Δ = 34½ mi						
		Small local swarm type shock. Epicenter 8 mi ENE of Boulder Dam on E. slope of Black Mts.																							
94	11	eP	06	42	11.6		+3	+1	-2	iP	06	42	16.3		-3			iP	06	42	16.8		-1	-6	-5
		iS			14.6		-28	+18	+5	iS			23.4		-6			iS			23.9		+23	-37	+6
		0 =			07.5	Δ = 15 mi					Δ = 34 mi							S-P.	Δ = 36½ mi						
									1.5																
		Small local shock at 1 mi N of epicenter 93. Boulder City instrumental direction fair.																							
	11	e	07	59	15.3	Seismic waves												no							
	11	iP	09	23	17.1		-13																		
		iS			18.3																				
									2.2																
		Small local shock, Δ = 6 mi																							
95	11	iP	10	50	51.5			+35	-64	eP	10	50	56.9		-5		+14	iP	10	50	57.2		+12	-8	+25
		iS			54.2		+68	-195	+100	iP			57.2		+19			i		51	04.3				
		0 =			47.5					iS		51	03.2					iS			05.1		+250	+230	-90
									2.7	iS			03.9		-150		-50	S-P,	Δ = 35 mi						
		Small local shock, Δ = 14 mi Epicenter 8 mi NE of Boulder Dam, one mile NE of epicenter 94.									Δ = 33 mi														
96	11	iP	10	53	40.6		+9	+8	+8	iP	10	53	46.3		-5			eP	10	52	46.7				
		iS			42.3					iS			52.8		-14			eP			47.3				
		iS			43.5		-36	+48	0		Δ = 33 mi							i			53.5				
		0 =			36.5													iS			54.7		+40	-70	+6
		Δ = 14 mi							1.8									Δ = 35 mi							
		Very small local swarm type shock. Epicenter same as epicenter 95. Boulder City instrumental direction fair.																							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 194 2

Time used is G.C.T.

BOULDER CITY

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
97	11	iP	11	10	19.4		+3	+3	-3
		iS			22.1		-7	-8	0
		0			15.4	Δ = 14 mi			0.8
		Very small swarm type local shock. Epicenter 6 mi NE of Boulder Dam. Boulder City instrumental direction fair.							
	11	e	11	18	20	Regional shock?			
98	11	iP	14	47	04.1		+11	+13	-14
		iS			06.8				
		iS			07.0		-35	+75	+31
		0 =			59.8	Δ = 14 mi			2.1
		Small swarm type local shock. Epicenter 5 mi NE of Boulder Dam. Boulder City instrumental direction fair.							
99	11	iP	14	54	09.5		+10	+8	-5
		iS			12.2				
		iS			12.4		-29	+65	+10
		0 =			05.2	Δ = 14 mi			2.1
		Small swarm type local shock at epicenter 95.							
	12	iP	00	10	42.3		+6	+6	-7
		iS			45.2		-40	+60	0
		iZ			45.4				
		0 =			38.0	Δ = 15 mi			2.0
		Small local shock							
	12	eP	13	58	48				
	12	no							

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
e?	11	10	24.7				
iS			31.8	Δ = 34½ mi			
				Epicenter 6 mi NE of Boulder Dam.			
e	14	47	09.7				
iP			10.1				
iS			16.5	Δ = 34 mi			
				Epicenter 5 mi NE of Boulder Dam. Boulder City instrumental direction fair.			
iP	14	54	14.8				
iP			15.3				
iS			21.1	Δ = 32½ mi			
				Epicenter 95.			
iS	00	10	55	Δ = 35 mi			
eP	13	58	54	Distant earthquake			
iP	21	26	46.8		-5	+4	
iS			48.6				
				Small local shock, Δ = 9 mi			

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	11	10	26.2	Δ = 38 mi			
iS			33.6		+14		
				Boulder City instrumental direction			
e	11	15	33				
eS		18	01				
eP	14	47	10.4				
iS			17.4				
iS			17.9		+65	-75	
				Δ = 36 mi			
eP	14	54	15.8				
iS			23.2		+50	-65	
				Δ = 37 mi			
no							

International Seismological Centre

LAKE MEAD SEISMOLOGICAL STATIONS

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

MONTH OF December 1942

Time used is G.C.T.

BOULDER CITY

No. Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	
13	eP	08	52	26					
	eS	09	00	20	Distant earthquake				
14	eP	03	06	07.7					
	eS		07	27.8	Regional shock Δ = 470 mi				
14	eP	10	38	49.6					
	iS		39	26.4	Regional shock				
14	e	12	14	14.5	Regional shock				
	eS		15	21.0	Δ = 380 mi				
14	no								
14	iP	23	40	01.0	0.20	-16	+23	+20	
	i			02.5					
	i			03.0					
	iZ			03.6	Δ = 10 mi			2.0	
15	iP	18	19	13.8		+22	+18	-33	
	iS			14.5		-32	-57	-27	
					Δ = 3½ mi			2.0	
	Small local shock								
15	eP	21	39	10					
	eS			51					
	iS			58	Regional shock				
15	eP	00	50	13	Regional shock				
	eS			40	Δ = 125 mi				
	Epicenter near Vermillion Cliffs, Utah								

OVERTON

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
eP	08	52	24				
iP	21	58	50.7				
i			53.4				
Local shock							
no							
iS	21	40	12				
eP	00	50	05				
eS			23.5	Δ = 95 mi			

PIERCE FERRY

Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z	
eP	08	52	31					
eP	00	50	04.5					
iS			22.6	Regional shock				
iS			23.7	Δ = 88 mi				

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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
16	iP	02	19	25.7		+14	+20	-16	no															
	iS			26.4		-28	-57	+11																
								0.7																
	Small local shock, Δ = 3½ mi																							
16									e	02	53	30	Seismic waves											
16	eP	04	20	19	Distant earthquake				e	04	20	26												
16	iP	17	40	16.0		+32	-61	+12	iP	17	40	25.3				-3	eP	17	40	27.9		-2	-7	-5
	i			17.8					iP			25.9		-6			i			29.3				
	iS			18.4		215	210	45	i			27.2					iS			38.7		+30	+70	0
	iZ			19.5				100	i			29.3					i			39.6				
								2.5	eS?			34.3												
									iS			36.2		-18										
	Blast at mine 8 mi N 31° W of Boulder City. 10,000 to 15,000 lbs. of 40% dynamite.								i			37.7					Instrument direction N 27° W of Boulder City.							
17	eP	15	08	53					eP	15	08	52					eP	15	08	59				60
	iP		09	09					iP			58					iP		09	23				24
	iS		10	05					iP		09	10					iS		10	22				95
	iS			13	Regional shock Δ = 300? mi				iS		10	10												17
																5.8								
100 17	iP	16	08	36.0					eP	16	08	41.4					eP	16	08	42.3				
	iP			35.7		+7	+10	-9	iS			48					i P			42.7				
	iS			38.7					iS			48.6	Δ = 33 mi				i			43.8				
	iS			38.6		+10	+25	+10									iS			49.2				
	0 =			31.4													iS			50.3	Δ = 36 mi			
								1.4																
	Very small swarm type shock, Δ = 15 mi. Epicenter 6 mi NE of Boulder Dam.																							
17	iP	16	43	35.8		+5	+10	-4	no								e	16	43	42.5				
	iS			38.5		-9	-15	+5									iS			50.0				
								1.1																
	Very small local shock, Δ = 14 mi																							

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17	e?	20	04	32	Regional shock				e	20	04	20.5					eP	20	04	22				
	iS		05	33					e			32.5					iS		05	47.5				
									eS		05	33.5												
19	eP	23	22	52	Distant earthquake				e	23	22	51												
19									e	04	11	42												
									iS		12	43	Regional shock											
20	e	05	48	50.3	Regional shock				e	05	48	51.7					no record, no attendant							
	eP		49	06.5					eP			53.1												
	eS		50	01.5					i		49	09.5												
					Δ = 400 mi?				iS		50	07.8				4.5								
20	e	11	14	14.0					e	11	14	02.5												
	eS		15	17.7	Regional shock				iP			17.3												
									iS		15	15.8												
									iS			20.0												
20	e	14	16	58	Distant earthquake				e	14	16	51												
21	iP	00	56	46.0	0.26	+26	-36	+22	iP	00	56	55.7												
	i			47.5	0.27	-28	-54	-40	i			57.0												
	iS			48.5		-72		-20	eS		57	03.6												
	iZ			51	0.72	225		133	iS			06.7												
	0 =			43.8	Δ = 8 mi?																			
								2.3																
	Blast at 3 Kids mine. Boulder City instrument direction fair to good.																							
21	iP	09	38	50.4		+4	+12	-14	no															
	iS			51.2		+15	-48	+20																
	Very small local shock, Δ = 4½ mi																							
								2.0																
21	iP	09	49	57.8	0.23	+10	+21	-19	no															
	iS			59.0		-20	-33	+22																
	Very small local shock, Δ = 6½ mi																							
								1.5																

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21	iP	13	09	50.2	0.80	+16	-27	+31	iP	13	09	49.8	0.90	no	-24	-66	Probable distant earthquake							
21	no								iP	22	25	16.2	Small local shock											
													Δ = 15 mi?											
									is?			19.1			68									
22	e	04	26	34.6					e	04	26	40.0				2.0								
	Probable distant earthquake																							
22	no								e	06	00	04												
									eS			57	Regional shock											
22	e	06	03	57					e	06	03	52												
	eS		04	49	Regional shock				eS		05	06												
22	e	06	32	57	Distant earthquake				e	06	32	58												
23	iP	00	19	47.9		+10	+36	-40	no															
	iS			48.7				55																
	Small local shock, Δ = 4½ mi																							
								1.6																
23	eP	07	44	14.4					e	07	44	18.5												
	iS		44	55.3	Regional shock				iS		45	15.4												
23	iP	22	54	28.1		+13	+22	+14	iP	22	54	37.5			+4	-3	No records							
	i			30.3		-37	+52	+32	i			47.6												
	iS			31.3		90			iS			48.6												
	iZ			32.8	0.72	-85	-125	+52					Δ = 51½ mi											
	0 =			24.8	Δ = 17½ mi																			
								2.6																
	Small local shock, epicenter near Dry Lake? Blast type record on T. or W. A.																							
24	iP	16	49	38.7				-4	iP	16	49	32.4			+9	-2	-5	0 =	16	49	23.2			
	iP			39.8					iP			33.4												
	iS			49.0					i			37.5	Δ = 32 mi				Epicenter in Grand Wash?						
	iZ			53.2	Δ = 53½ mi				iS			38.6			+30		Very small local shock							
								2.2																

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	No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY		26	iP	12	40	04		+10	-10	-6
			U.S.C. & G.S. epicenter 9.0 N Lat, 75.0 W Long; O = 12h 31.8m							
		27	iP	15	09	26.8		+8	+18	-14
			iS			27.6		+50	-25	-17
			im						40	
										1.7
		27	e	16	52	18	Distant earthquake			
		27	iS	20	13					
			Very small local disturbance							0.2
	101	28	e?	08	46	41.8				
			iS			50.5	Δ = 40 mi			
										2.0
			Small local shock. Epicenter in Greggs Basin. Pierce Ferry direction fair.							
	10[illegible]	28	eP	10	54	04.9				
			eS			18.9				
			iS			19.8	Δ = 70½ mi			
										2.0
			Small local shock. Epicenter in headwaters of Pigeon Spring Wash, W. edge of Shiowits Plateau. Pierce Ferry direction good.							
	103	28	iP	12	39	27.4		+17	+15	-8
			iS			28.9		-65	+27	+8
			M			30			87	
			O =			25.2	Δ = 6 mi			
										2.2
			Small local shock. Felt at Boulder City and Boulder Dam. Epicenter 1 mile S of Boulder Dam. Boulder City instrumental direction fair to poor.							
		28	iP	12	42	41.4		+6?	+7	-6
			iS			43.0		-32	-12	
			O =			39.0	Δ = 8½ mi			
										1.8
			Very small local shock. Felt at Boulder Dam.							

	No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON		26	iP	12	40	03.5	1.37	+15	-7	-11
			Very small local shock							
			Δ = 4½ mi							
	101	28	e	08	46	41.3				
			iS			49.6	Δ = 38½ mi			
	10[illegible]	28	iP	10	53	58.2				
			iS		54	07.7	Δ = 47 mi			
	103	28	e	12	39	37.8				
			iS			45.1				
							Δ = 41 mi			
		28	iP	12	42	41.4		+6?	+7	-6
			eS	12	43	01.7	Δ = 47½ mi			
			Boulder Dam							
			eS	12	42	40	Δ = 2½ mi. Not located			

	No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY		26	Distant earthquake							
	101	28	iP	08	46	34.5		-23	-2	-65
			iS			36.6		-125	+60	-25
			O =			31.3	Δ = 11 mi			
	10[illegible]	28	iP	10	53	53.2		-3	-3	-6
			iS			58.7		+60	+40	-20
			O =			45.0	Δ = 28½ mi			
	103	28	eP	12	39	37.4				
			eS			45.4	Δ = 42 mi			
			Boulder Dam							
			iS	12	39	26	Δ = 2? mi			
			Pierce Ferry							
		28	e	12	42	59.6	Δ = 43 mi?			
			e		43	04.7				

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No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
BOULDER CITY									
	29	e	04	46	29	Distant earthquake			
	29	no							
	29	e?	18	19	46				
		eS?		21	41	Seismic waves			
	29	e	19	11	19				
		eS			58	Regional shock			
	29	e	23	22	09	Distant earthquake			
104	30	iP	05	26	20.7		+16	+12	-14
		iS			22.3		-30	+30	-14
		0 =			18.3	Δ = 8½ mi			
									1.8
		Very small local shock. Epicenter 2 mi WSW of Boulder Dam. Felt at Boulder Dam.							
105	30	iP	22	59	08.5		+18	+24	+12
		iS			10.6		?	-56	?
		M			13			135	
		0 =			05.3	Δ = 11 mi			
									2.3
		Small local shock. Epicenter near Dry Lake 5 mi SW of Boulder City. Instrumental direction fair.							
	31	e	11	41	22.6				
		eS			41.2	Δ = 103 mi			
						Regional shock. Epicenter may be near Motoqua, Utah			
	31	eP	12	14	07	Distant earthquake. U.S.C. & G.S. epicenter 18.1 N Lat, 47.0 W Long; 0 = 12h 03.7m			

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
OVERTON									
					Overton				
	29	e	04	46	29				
	29	e	09	14	50				
		eS		15	49	Regional shock			
	29	e	18	11	33				
		eS		18	16				
	29	e	23	22	13				
104	30	iP	05	26	38.5	Δ = 42 mi			
105	30	iP	22	59	19.1				
		eS			28.7				
		iS			29.3				
						Δ = 50 mi			
	31	no record							

No.	Date	Phase	Time h	m	s	Period T	Trace Amplitude E	N	Z
PIERCE FERRY									
		eP	05	26	31.0				
		iS			39.9	Δ = 44 mi			
104	30	eP	05	26	31.0				
		iS			39.9	Δ = 44 mi			
105	30	iP	22	59	20.2				
		i			21.0				
		iS			30.7			-12	+12
		iS			31.7				
						Δ = 53 mi			
	31	eP	11	41	16.0				+3
		iP			16.7	Δ = 36½ mi			
		eS			32.8				
		iS			33.5				130

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	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
31	e	13	50	17.0					no record								iP	13	50	11.9		0	-2	-3
	e			18.0													iP			12.9				
	iS			37.6		-7											iS			29.0				
	iS			37.9			+13										iS			29.7	Δ = 88½ mi			
					Δ = 108 mi									2.4	to	2.8	0	13	49	45.5				
	Regional shock. Epicenter may be near Motoqua, Utah																							
31	eP	16	22	00.6			-2		no record								e	16	21	56.2				
	iS			21.6	Δ = 108 mi												iP			56.9				
	Regional shock. Epicenter may be near Motoqua, Utah													2.4	to	2.8	iP			57.5				
																	iS		22	13.2				
																	iS			13.7	Δ = 87 mi			