SAINT LOUIS UNIVERSITY
INSTITUTE OF GEOPHYSICAL TECHNOLOGY
3621 OLIVE STREET, SAINT LOUIS 8, MO., U. S. A.

SEISMOLOGICAL BULLETIN

SAINT LOUIS STATION

Latutide: geographical, 38° 38' 10" N., geocentric, 38 27' N.
Longitude: 90 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE.
Clock: Wiechert

Bulletin for July, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
157	July 3	Mac	ePz	$21^h08^m06^s$	May be slightly deeper than normal
		Mac	eE	21 08 12	
		Mac	$e(S)_E$	21 14 20	
		Mac	eE	21 16 57	
		Mac	eL_E	21 19 42	
		Mac	F	21 45.0	
158	July 4	Mac	ePz	09 58 06	11°3 N., 84°5 W.
		Mac	eS_E	10 02 54	
		Mac	iL_E	10 05 16	$H = 09^h52^m10^s$
		Mac	F	11 49.5	$\Delta_{P-H} = 28°2$
					$\Delta_{meas} = 28°0$
159	July 4	Mac	ePz	18 10 58	Lesser Antilles
		Mac	eS_N	18 17 02	
		Mac	F	18 50.5	
160	July 5	Mac	iPz	21 17 32	16°6 S., 74°0 W.
		Mac	iS_E	21 25 24	$H = 21^h07^m58^s$
		Mac	iS_cS_E	21 27 17	h = 100 Km
		Mac	F	23 16.0	$\Delta_{P-H} = 57°0$
					$\Delta_{meas} = 57°0$
161	July 6	Mac	iPz	09 49 43	15°4 S., 69°2 W.
		Mac	$ipPz$	09 50 21	
		Mac	eS_E	09 57 33	$H = 09^h40^m08^s$
		Mac	esS_E	09 58 39	h = 130 km
		Mac	F	10 23.0	$\Delta_{P-H} = 57°7$
					meas 57°4
162	July 6	Mac	$(e)_Z$	13 21 18	32°4 N., 41°6 W.
		Mac	eP_Z	13 21 26	$H = 13^h13^m52^s$
		Mac	eS_E	13 27 42	$\Delta_{P-H} = 39°8$
		Mac	F	14 00	$\Delta_{meas} = 39°8$

SAINT LOUIS STATION BULLETIN FOR JULY, 194

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
163	July 6	W-A Mac	eM F	$22^h14^m30.5^s$ 22 27.0	Epicenter by NESA: 44°.9 N., 73°.2 W. West of Swanton, Vermont
164	July 8	Mac Mac Mac Mac	e_E i_Z eL_E F	15 05 10 15 16 53 15 18 42 16 43.0	
165	July 9	Mac Mac	eL_E F	03 17 58 03 46.0	
166	July 9	Mac Mac	iP_Z eS F	23 37 48 23 45 17 23 54.0	52°.9 N., 166°.5 W. H = $23^h28^m37^s$ ΔP-H = 52°.5 Δmeas = 52°.6
167	July 11	Mac Mac Mac Mac Mac Mac Mac Mac Mac	e_E epP_E iPR_{1Z} $epPR_{1Z}$ $e(S)_E$ $i(sSP)_E$ $e(PPS)_E$ eL_E F	02 24 38 02 25 17 02 29 04 02 29 45 02 36 49 02 39 06 02 39 42 02 58 38 05 58.5	32°.7 S., 178°.6 W. H = $02^h10^m32^s$ h = 180± km ΔPR_1-H = 108°.4 Δmeas = 108°.3
168	July 12	Mac Mac Mac	e_Z $e(L)_N$ F	08 33 20 08 50 16 09 31.0	
169	July 14	Mac Mac	eL_N F	10 55.5 11 11.0	
170	July 14	Mac Mac	eL_N F	20 29 28 21 28.0	
171	July 15	Mac Mac	eL_N F	00 32 28 00 47.0	
172	July 15	Mac Mac Mac Mac Mac Mac Mac	eP_Z e_Z ePR_{1Z} $e(S)_N$ eL_E e_N F	12 28 22 12 28 43 12 28 54 12 32 45 12 34 50 12 35 36 13 08.5	Lesser Antilles
173	July 15	Mac	e_Z	21 56 56	
174	July 16	Mac Mac Mac Mac Mac Mac	eP_Z eS_Z $e(PS)_E$ eSR_{1E} eL_E F	01 32 44 01 43 16 01 43 47 01 49 06 02 00.0 02 18.5	Japan

SAINT LOUIS STATION BULLETIN FOR JULY.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
175	July 16	Mac	iP_Z	$16^h02^m52^s$	Probably in Guatemala
		Mac	ipP_Z	16 03 35	Deep
		Mac	eS_E	16 06 57	
		Mac	esS_E	16 08 11	
		Mac	F	16 24.0	
176	July 17	Mac	eL_N	06 01 45	
		Mac	F	06 05.0	
177	July 18	Mac	eP_Z	08 05 38	Epicentral Region:
		Mac	e_Z	08 05 47	21°7 S., 70°7 W.
		Mac	eS_E	08 14 08	$H = 07^h55^m18^s$
		Mac	e_E	08 14 25	May be slightly deeper
			F	09 24.0	than normal.
					$\Delta_{P-H} = 62°7$
					$\Delta_{meas} = 62°8$
178	July 19	Mac	eP_Z	11 15 02	12°6 N., 86°9 W.
		Mac	e_Z	11 15 20	$H = 11^h09^m30^s$
		Mac	$e(PR_1)_Z$	11 15 25	$\Delta_{P-H} = 25°7$
		Mac	eS_N	11 19 35	$\Delta_{meas} = 25°7$
		Mac	eL_E	11 20 17	
		Mac	F	11 40.0	
179	July 19	Mac	e_Z	22 54 26	
		Mac	e_Z	22 54 40	
		Mac	e_N	22 58 26	
		Mac	F	23 00.0	
180	July 20	Mac	iP_Z	06 56 01	
181	July 21	Mac	eP_Z	04 25 34	Epicentral Region:
		Mac	iP_Z	04 25 38	37°S., 110°W.
		Mac	iS_E	04 35 26	$H = 04^h13.7^m$
		Mac	eSR_{1E}	04 40 21	
		Mac	e	04 46 27	
		Mac	F	06 50.0	
182	July 21	Mac	iP_Z	22 50 33	Ecuador
		Mac	$e(S)_M$	22 56 41	
		Mac	$eSR_2)_E$	22 59 30	
		Mac	F	23 20.0	
183	July 22	Mac	iP_Z	02 16 52	C°7 S., 81°3 W.
		Mac	ePR_{2N}	02 18 29	$H = 02^h09^m23^s$
		Mac	eS	02 22 53	$\Delta_{P-H} = 39°2$
		Mac	eSR_{2E}	02 25 57	$\Delta_{meas} = 39°7$
		Mac	F	02 55.0	
184	July 22	Mac	$e(P)_Z$	07 21 39	
		Mac	eL_E	07 50.0	
		Mac	F	08 07.0	
185	July 23	Mac	eL_E	07 57.0	

No.	Date	Inst.	Phase	G.M.C.T.	Ramarks
186	July 23	Mac	iP_Z	$15^h12^m38^s$	7°0S., 111°3 E.
		Mac	ipP_N	15 13 18	H = $14^h53^m22^s$
		Mac	iPR_{1N}	15 15 57	h = 120 km
		Mac	$iSKP_{1Z}$	15 16 15	ΔP'-H = 143°5
		Mac	$iSKP_{2E}$	15 16 40	Δmeas = 143°5
		Mac	iPR_{2N}	15 19 10	
		Mac	$iSKS_E$	15 19 55	
		Mac	$iSKKS_E$	15 22 46	
		Mac	$i(S)_N$	15 24 24	
		Mac	F	18 43.0	
187	July 24	Mac	eP_Z	23 34 45	Central America?
		Mac	eS_E	23 38 50	
		Mac	eL_E	23 40 49	
		Mac	F	23 57.0	
188	July 25	W-A	eP_{1E}	06 49 27.0	38°05 N., 91°3 W.
		W-A	e_N	06 49 27.4	H = $06^h49^m09^s.5$
		W-A	iS_{1E}	06 49 39.2	ΔS_1-P_1 = 69°5 miles
		W-A	i_N	06 49 40.3	Δmeas = 69°4 miles
		W-A	i_N	06 49 41.0	Southeast of Cuba, Mo.
189	July 26	Mac	$(e)_Z$	02 27 12	
		Mac	e_Z	02 27 21	
		Mac	eS_N	02 32 49	
		Mac	eL_N	02 38 18	
		Mac	F	02 53.0	
190	July 28	Mac	eP_Z	04 12 34	59°6 N., 149°0 W.
		Mac	e_Z	04 12 37	H = $04^h04^m43^s$
		Mac	e_Z	04 12 45	May be slightly deeper than normal
		Mac	$e(PR_1)_Z$	04 14 11	ΔP-H = 42°0
		Mac	eS_E	04 ,8 54	Δmeas = 41°9
		Mac	$e(SR_1)_E$	04 22 00	
		Mac	e_E	04 28 00	
		Mac	F	05 02.0	
191	July 29	Mac	eP_Z	03 08 08	18°7 N., 66°9 W.
		Mac	iP_Z	03 08 13	H = $03^h02^m15^s$
		W-A	iN	03 08 32	ΔP-H = 27°8
		W-A	iPR_1N	03 08 50	Δmeas = 28°1
		W-A	iN	03 09 44	
		W-A	iN	03 09 50	
		W-A	iN	03 10 14	
		W-A	iN	03 10 21	
		W-A	iN	03 10 27	
		W-A	iSE	03 12 52	
		W-A	iE	03 13 30	
		W-A	i_N	03 14 54	
		W-A	i_N	03 14 58	
		W-A	i_N	03 15 04	
		W-A	i_N	03 15 08	
		W-A	iL_N	03 15 45	
		W-A	F	06 30.0	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
192	July 29	Mac	eP_Z	06 26 33	Aftershock of No. 191
		Mac	eS_Z	06 31 00	
193	July 29	Mac	eP_Z	11 48 35	Aftershock of No. 191
		Mac	i_Z	11 49 10	
		Mac	e_Z	11 53 51	
		Mac	e_Z	11 53 54	
		Mac	e_Z	11 53 58	
194	July 29	Mac	eP_Z	18 11 49	Aftershock of No. 191
		Mac	i_Z	18 11 53	
		Mac	i_Z	18 12 50	
		Mac	e_Z	18 13 41	
195	July 30	Mac	eP_Z	01 08 24	Δ 18.8 N., 66°.7 W.
		Mac	iP_Z	01 08 28	$\Delta_H = 01^h02^m30^s$
		Mac	iPR_{1Z}	01 09 02	$\Delta_{P-H} = 27°.9$
		W-A	i_N	01 09 09	$\Delta_{meas} = 28°.1$
		W-A	i_N	01 09 15	
		Mac	iPR_{2Z}	01 09 18	
		W-A	i_N	01 09 21	
		W-A	i_N	01 09 27	
		Mac	iS_N	01 13 05	
		W-A	e_N	01 13 45	
		W-A	e_N	01 13 54	
		W-A	e_N	01 13 57	
		W-A	e_N	01 14 02	
		W-A	e_N	01 14 10	
		W-A	e_N	01 14 12	
		Mac	iL_N	01 15 34	
		Mac	F	03 06.0	
196	July 30	Mac	eP_Z	02 19 43	Aftershock of No. 195
		Mac	e_Z	02 19 53	
		Mac	$e(S)_N$	02 24 55	
		Mac	$e(SR_1)_N$	02 26 27	
			F	Lost	
197	July 30	Mac	eP_Z	04 29 07	Aftershock of No. 195
		Mac	eS_N	04 34 10	Puerto Rica
		Mac	eL	04 37 21	
		Mac	F	04 07.0	
198	July 30	Mac	e_N	18 23 13	Indefinite beginning
		Mac	$e(P)_Z$	18 26 24	
		Mac	eS_N	18 30 25	
		Mac	eL_N	18 32 55	
		Mac	F	18 47.0	
199	July 30	Mac	$e(P)_N$	21 25 57	
		Mac	eS_N	21 30 21	
		Mac	$e(SR_1)_N$	21 31 31	
		Mac	F	22 14.0	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
200	July 31	Mac	ePz	$03^h27^m50^s$	Aftershock; Puerto Rica Deep?
		Mac	$e\ z$	03 28 14	
		Mac	iPR_1z	03 28 33	
		Mac	iPR_2z	03 28 52	
		Mac	eS_N	03 32 40	
		Mac	eL_N	03 35 20	
		Mac	F	04 46.0	
201	July 31	Mac	eL_N	21 07.0	
		Mac	F	22 29.0	

Minor Seismic Activity:

June 2 -- 07 46 to 07 50
4 -- 02 31 to 02 34
4 -- 22 09 to 22 11
14 -- 19 14 to 19 16
20 -- 20 00 to 20 31
23 -- 10 00 to 10 03
26 -- 08 52 to 08 53
27 -- 01 32 to 01 36

J. B. Macelwane, S. J.
Director

Harry K. Haill
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SAINT LOUIS STATION

Latitude: geographical 38° 38' 10" N., geocentric, 38° 27' N.
Longitude: 90° 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE
Clock: Wiechert

Bulletin for August, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
202	Aug. 1	Mac	eP_Z	01 18 20	14°.8 N., 65°.0 W.
		Mac	e_Z	01 18 33	H = $01^h11^m44^s$
		Mac	eS_E	01 23 44	Δ P-H = 32°.6
		Mac	eL_E	01 27 25	Δ meas = 32°.7
		Mac	F	01 55.0	
203	Aug.1	Mac	eL_E	07 21.0	
		Mac	F	07 32.0	
204	Aug. 1	Mac	$e(PKP)_Z$	16 36 29	21°.0 S., 170°.9 E.
		Mac	$epPKP_Z$	16 37 24	H = $16^h18^m42^s$
		Mac	$eSKS_E$	16 43 03	h = 200 km
		Mac	$eSKKS_E$	16 44 04	Δ SKS - H = 109°.4
		Mac	iS_N	16 44 48	Δ meas = 109°.9
		Mac	esS_N	16 46 27	
		Mac	$e(SP)_E$	16 46 49	
		Mac	$e(PPS)_E$	16 48 27	
		Mac	e_E	16 52 07	
		Mac	F	19 07.0	
205	Aug. 2	Mac	$ePKP_Z$	01 05 31	47°.1 S., 166°.4 E.
		Mac	ePR_{1N}	01 07 15	H = $00^h46^m31^s$
		Mac	$eSKP_E$	01 08 39	Δ PS-H = 124°.7
		Mac	$e(TR_3)_E$	0111 29	Δ meas = 124°.8
		Mac	$eSKS_E$	01 12 34	
		Mac	$eSKKS_E$	01 14 10	
		Mac	$e(S)_E$	01 15 13	
		Mac	ePS_E	01 17 21	
		Mac	$e(PPS)_N$	01 18 21	
		Mac	$e(PPPS)_N$	01 19 09	
		Mac	eSR_{1N}	01 24 13	
		Mac	$ePPSS_E$	01 25 08	
		Mac	e_N	01 27 30	
		Mac	eSR_{2N}	01 28 49	
		Mac	eSR_{3N}	01 32 53	
		Mac	$e(X)_N$	01 35 55	
		Mac	eL_E	01 46 15	
		Mac	F	04 10.0	

SAINT LOUIS STATION BULLETIN FOR AUGUST

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
206	Aug. 2	Mac	eP_Z	$02^h27^m57^s$	
		Mac	e_Z	02 28 30	
207	Aug. 2	Mac	eP_Z	04 30 55	Puerto Rico
		Mac	ePR_{1Z}	04 31 28	
		Mac	eS_E	04 35 34	
		Mac	eSR_{1N}	04 36 39	
		Mac	eL_N	04 38.5	
		Mac	F	04 54.0	
208	Aug. 2	Mac	eP_Z	05 44 03	Deep
		Mac	ipP_Z	05 44 31	
		Mac	eL_N	05 56.0	
		Mac	F	06 12.0	
209	Aug. 2	Mac	eP_Z	10 01 44	Puerto Rico
		Mac	eS_E	10 06 15	
		Mac	eL_E	10 08 57	
		Mac	F	10 34.0	
210	Aug. 2	Mac	eP_Z	12 07 23	Puerto Rico
		Mac	e_Z	12 07 57	
		Mac	e_Z	12 08 09	
		Mac	ePR_{1Z}	12 08 19	
		Mac	eS_N	12 12 42	
		Mac	eSR_{1E}	12 14 27	
		Mac	F	12 35.0	
211	Aug. 2	Mac	eP_Z	20 25 58	Epicentral Region:
		Mac	eS_E	20 30 18	19°5 N., 63° W.
		Mac	$e(L)_E$	20 33 04	$H = 20^h20.5^m$
		Mac	F	20 58.0	
212	Aug. 4	Mac	eP_Z	01 01 01	Two shocks?
		Mac	$e(S)_N$	01 05 25	Puerto Rico?
		W-A	$e(P)_N$	01 05 41	
		Mac	e_N	01 09 16	
		Mac	e_E	01 11 27	
		Mac	F	01 24.0	
213	Aug. 6	Mac	iP_Z	12 15 22	Deep?
		W-A	e_N	12 15 26	
		W-A	e_N	12 15 34	
		W-A	F	12 22.0	
214	Aug 7	Mac	eP_Z	16 04 00	Deep
		Mac	epP_Z	16 04 29	
		Mac	e_Z	16 04 45	
		Mac	e_Z	16 05 05	
		Mac	$e(S)?_E$	16 07 56	
		Mac	$e(sS)?_E$	16 08 48	
		Mac	e_E	16 09 10	
		Mac	F	Lost	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
215	Aug. 8	Mac	eP_Z	$00^h44^m33^s$	18°5 N., 67°3 W.
		Mac	ipP_Z	00 44 42	H = $00^h38^m45^s$
		Mac	i_Z	00 44 46	h = 50± km
		Mac	ePR_{1Z}	00 44 56	ΔP-H = 27°8
		Mac	$epPR_{1Z}$	00 45 35	Δmeas = 28°1
		Mac	$e(S)_N$	00 49 15	
		Mac	eSR_{1N}	00 50 44	
		Mac	$e(sSR_1)_N$	00 51 44	
		Mac	F	Lost	
216	Aug. 8	Mac	eP_Z	$07^h09^m11^s$	
		Mac	e_Z	07 09 34	
		Mac	F	Lost	
217	Aug. 8	Mac	eP_Z	08 37 16	16°0 N., 96°4 W.
		Mac	iP_Z	08 37 19	H = $08^h32^m11^s$
		Mac	i_Z	08 37 26	ΔP - H = 23°0
		Mac	ePR_{1Z}	08 37 43	Δmeas = 23°0
		Mac	e_Z	08 37 50	
		Mac	ePR_{2Z}	08 37 56	
		Mac	e_Z	08 38 08	
		W-A	eS_E	08 41 31	
		W-A	F	08 51.0	
218	Aug. 8	Mac	eP_Z	15 20 23	
		Mac	e_Z	15 20 28	
		Mac	$e(S)?_N$	15 24 35	
		Mac	eL_N	15 27 51	
		Mac	e_N	15 29 50	
		Mac	F	15 40.0	
219	Aug. 9	Mac	iP_Z	05 35 00	38°1 N., 118°5 W
		Mac	e_Z	05 35 05	H = $05^h30^m04^s$
		Mac	i_Z	05 35 09	ΔP-H = 22°1
		Mac	$i(PR_1)_Z$	05 35 20	meas = 22.1
		Mac	$e(PR_2)_Z$	05 35 33	
		Mac	e_Z	05 35 40	
		Mac	e_Z	05 36 50	
		Mac	eS_N	05 39 02	
		Mac	i_N	05 41 49	
		Mac	$i(M)_N$	05 42 40	
		Mac	eS_cP_Z	05 42 50	
			F	Uncertain	
220	Aug.13	Mac	eP_Z	00 12 36	
221	Aug.13	Mac	eP_Z	07 48 04	1°8 N, 30°5 W.
		Mac	iP_Z	07 48 07	H = $07^h37^m25^s$
		Mac	e_Z	07 48 10	h = 50± Km
		Mac	epP_Z	07 48 16	ΔP-H = 66°6
		Mac	eS_E	07 56 57	Δmeas = 65°9
		Mac	esS_E	07 57 22	
		Mac	e_E	08 02 14	
		Mac	$e(sSR_2)_E$	08 04 32	
		Mac	eL_E	08 08 40	
		Mac	F	08 45.0	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
222	Aug.13	Mac	eP_Z	$15^h35^m29^s$	Indefinite beginning
223	Aug.14	Mac	eP_Z	02 45 16	Mexico
		Mac	$e(PR_1)_Z$	02 45 35	
		Mac	e_Z	02 47 26	
		Mac	eS_N	02 49 17	
		Mac	F	03 23.0	
224	Aug.14	Mac	$e(PKP)_Z$	08 26 35	Indefinite
		Mac	$e(SKS)_E$	08 33 36	
		Mac	$e(S)_E$	08 35 27	
		Mac	F	09 45.0	
225	Aug.15	Mac	iP_Z	00 19 02	19°.8 N., 66°.8 W.
		Mac	eS_E	00 23 41	H = $00^h13^m12^s$
		Mac	eL_E	00 25 47	Δ_{P-H} = 27°.5
		Mac	F	01 38.0	Δ_{meas} = 27°.7
226	Aug.17	Mac	iP_Z	01 18 16	Region: 54°N., 160° E.
		Mac	$e(S)_N$	01 27 28	H = $01^h07.2^m$
		Mac	F	01 32 --	
227	Aug.17	Mac	eP_Z	03 20 21	Region: 17°N., 78° W.
		Mac	eS_N	03 24 43	H = $03^h15.0^m$
		Mac	eSR_{1N}	03 25 35	
		Mac	F	03 42.0	
228	Aug.17	Mac	$e(P)_Z$	09 23 04	
		Mac	e_Z	09 26 16	
		Mac	e_E	09 26 31	
		Mac	e_E	09 33 56	
229	Aug.18	Mac	eP_Z	16 38 03	20°.7 S., 68°.4 W.
		Mac	epP_Z	16 38 31	H = $16^h27^m50^s$
					h = 100± km
					Δ_{P-H} = 62°.9
					Δ_{meas} = 62°.9
230	Aug.19	Mac	eP_Z	10 53 07	Deep?
		Mac	e_Z	10 53 15	
231	Aug.19	Mac	iP_Z	23 42 55	Region: 18° N., 100° W.
		Mac	e_Z	23 43 13	H = $23^h38.0^m$
		Mac	e_Z	23 43 45	
		Mac	eS_N	23 46 57	
		Mac	F	Lost	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
232	Aug.20	Mac	e_Z	$01^h40^m56^s$	Δ about 95°
		Mac	$e(SKS)_E$	01 52 11	
		Mac	$e(SKKS)_N$	01 52 53	
		Mac	$e(S)_N$	01 53 39	
		Mac	eSR_{1E}	01 58 50	
		Mac	eL_E	02 13 49	
		Mac	F	03 35.0	
233	Aug.20	Mac	ePz	05 09 35	
234	Aug.21	Mac	ePz	09 21 33	Probable Epicenter:
		Mac	e_Z	09 21 37	26°.4 S., 113°.6 W.
		Mac	eS_E	09 30 38	H = $09^h10^m33^s$
		Mac	$e(SR_2)_E$	09 38 21	Δ_{P-H} = 68°.8
		Mac	F	09 52.0	Δ_{meas} = 68°.8
235	Aug.22	Mac	ePz	01 37 37	Region: 39° N., 142° E.
		Mac	eS E	01 48 24	H = $01^h24.8^m$
		Mac	F	02 22.0	
236	Aug. 22	Mac	iPz	11 13 27	51°.0 N., 174°.5 W.
		Mac	eS_E	11 21 27	H = $11^h03^m42^s$
		Mac	esS_E	11 21 45	h = 50± Km
		Mac	F	12 23.0	Δ_{P-H} = 57°.8
					Δ_{meas} = 57°.8
237	Aug.27	Mac	$eSKS_E$	01 05 59	Region:
		Mac	$eSKKS_E$	01 06 42	31° S., 171° W.
		Mac	eS_E	01 07 26	H = $01^h41.4^m$
		Mac	eSR_{2N}	01 19 20	
		Mac	eL_N	01 27 25	
		Mac	eM_N	01 37 26	
		Mac	F	02 21.0	
238	Aug 22	Mac	ePz	10 34 48	Region:
		Mac	eS_E	10 40 06	52° N., 131° W.
		Mac	eL_E	10 44 30	H = $10^h28.3^m$
		Mac	F	10 53.0	
239	Aug.29	Mac	ePz	02 51 20	Region: 17° N., 101° W.
		Mac	e_Z	02 51 24	H = $02^h46.2^m$
		Mac	eS_N	02 55 33	
		Mac	eM_E	03 01 25	
		Mac	F	03 20.0	
240	Aug.29	Mac	iPz	03 50 11	Region:
		Mac	e_Z	03 50 26	33° N., 117° W.
		Mac	eS_E	03 54 22	H = $03^h45.2^m$
		Mac	eL_E	03 56 39	
		Mac	e_E	03 57 33	
		Mac	eM_E	03 58 42	
		Mac	F	04 19.0	
241	Aug.30	Mac	ePz	23 56 38	Southwest Pacific
		Mac	e_Z	23 58 10	
		Mac	$e(S)_N$	24 07 58	
		Mac	F	25 18.0	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
242	Aug.31	Mac	eP_Z	$15^h41^m34^s$	Region: 31° N., 42° W.
		Mac	eS_E	15 47 48	H = $15^h34.0^m$
		Mac	eL_E	15 53 54	
		Mac	eM_E	15 56 07	
		Mac	F	Lost	
243	Aug.31	Mac	iP_Z	16 15 56	14°.1 N., 91°.3 W.
		Mac	iP_Z	16 15 59	H = $16^h10^m45^s$
		Mac	i_Z	16 16 07	h = 100±Km
		Mac	ipP_Z	16 16 13	Δ_{P-H} = 24°.5
		Mac	iPR_{1Z}	16 16 40	Δ_{meas} = 24°.6
		Mac	iS_N	16 20 09	
		Mac	i_N	16 20 18	
		Mac	isS_N	16 20 45	
		Mac	F	18 36.0	

Minor Seismic Activity:

August 3	09^h30^m	-	09^h32^m
4	22 41	-	22 44
7	11 26	-	11 49
13	01 26	-	01 27
15	02 54	-	03 19
15	13 25	-	13 53
16	07 56	-	07 58
17	15 35	-	15 50
23	08 05	-	08 14
27	04 57	-	05 12
28	10 37	-	11 01
31	07 40	-	07 43

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SEISMOLOGICAL BULLETIN

SAINT LOUIS STATION

Latutide: geographical, 38° 38' 10" N., geocentric, 38° 27' N.
Longitude: 90° 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE.
Clock: Wiechert

Bulletin for September, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
244	Sept. 1	Mac	eP_Z	$12^h11^m15^s$	
245	Sept. 1	Mac Mac	eP_Z e_E	16 15 48 16 22 00	
246	Sept. 2	Mac Mac	eP_Z e_Z	09 12 37 09 13 57	
247	Sept. 2	Mac Mac Mac Mac Mac	eP_Z e_Z eS_E e_E F	13 45 23 13 45 55 13 53 28 13 54 16 Lost.	Region: 18°S, 69°W. H = $13^h35.5^m$ May be 100 km. deep.
248	Sept. 2	Mac Mac Mac Mac Mac	eP_Z epP_Z eSN eN F	23 18 01 23 18 19 23 22 12 23 22 42 23 34.0	16°.5 N, 100°.4 W. H = $23^h12^m54^s$ h = 100±km. Δ_{P-H} = 23°.9 Δ_{meas} = 23°.9
249	Sept. 3	Mac Mac Mac	e_E eL_E F	04 00 56 04 08.5 04 30.0	
250	Sept. 4	Mac Mac	eL_E F	07 51.0 08 10.0	

SAINT LOUIS STATION BULIETIN FOR SEPTEMBER,

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
251	Sept. 4	Mac	eP_Z	$12^h44^m16^s$	
		Mac	e_Z	12 44 24	
252	Sept. 5	Mac	eP'_Z	08 53 46	Region: 0.5°N, 125.5°E
		Mac	e_Z	08 55 53	H = $08^h35.0^m$.
		Mac	ePR_{1E}	08 56 12	
		Mac	e_Z	08 57 07	
		Mac	$eSKP_Z$	08 57 20	
		Mac	$eSKP_{2Z}$	08 57 36	
		Mac	$eSKS_Z$	09 01 11	
		Mac	$e(SKKS)_E$	09 02 58	
		Mac	$e(S)?_E$	09 05 24	
		Mac	e_E	09 06 00	
		Mac	F	11 58.0	
253	Sept. 6	Mac	e_Z	04 00 35	52°7 S, 159°6 E.
		Mac	i_Z	04 00 38	H = $03^h41^m40^s$
		Mac	iP'_Z	04 00 41	Δ_{PR_1-H} = 130°7
		Mac	iPR_{1Z}	04 03 03	Δ_{meas} = 131°0
		Mac	$iSKP_E$	04 04 05	
		Mac	iSK^KS_E	04 09 41	
		Mac	$i(PS)_E$	04 13 07	
		Mac	iPR'_{2N}	04 17 01	
		Mac	iSR_1N	04 20 06	
		Mac	F	08 46.0	
254	Sept. 7	Mac	eP_Z	19 33 58	Northwest Canada
		Mac	iL_E	19 46 53	Epicentral Region:
		Mac	F	20 25.0	68°2 N, 137°7 W.
					H = $19^h26^m27^s$
					Δ_{P-H} = 39°5
					Δ_{meas} = 39°5
255	Sept. 9	Mac	e_Z	04 24 52	Very weak
		Mac	e_Z	04 28 39	
		Mac	eN	04 30 13	
		Mac	eN	04 32 40	
		Mac	eN	04 34 47	
		Mac	eN	04 39 13	
256	Sept. 10	Mac	eP_Z	02 37 28	18°9 N, 66°2 W
		Mac	iPR_{1Z}	02 38 05	H = $02^h31^m32^s$
		Mac	ePR_{2Z}	02 38 20	Δ_{P-H} = 28°3
		Mac	eN	02 40 54	Δ_{meas} = 28°7
		Mac	eSN	02 42 14	
		Mac	eN	02 42 42	
		Mac	F	03 46.0	
257	Sept. 10	Mac	eP_Z	08 50 24	35°5 N, 135°1 E.
		Mac	ePR_{1Z}	08 54 22	H = $08^h37^m04^s$
		Mac	$iSKS_E$	09 01 01	Δ_{P-H} = 94°7
		Mac	$iSKKS_E$	09 01 50	Δ_{meas} = 94°8
		Mac	$i(S)_E$	09 02 50	Destruction reported at
		Mac	$i(SR_1)_E$	09 08 16	Tottori, Japan.
		Mac	F	Lost	

SAINT LOUIS STATION BULLETIN FOR SEPTEMBER

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
258	Sept. 11	Mac	e_E	$01^h48^m15^s$	
		Mac	eL_E	02 00 --	
		Mac	F	02 17 --	
259	Sept. 11	Mac	eP_Z	19 47 28	ProbableEpicenter:
		Mac	e_Z	19 48 47	10°0 S, 179°1 W.
		Mac	ePR_{1Z}	19 51 14	$H = 19^h34^m06^s$
		Mac	$e(SKKS)_E$	19 58 23	$\Delta_{P-H} = 95°1$
		Mac	eN	20 00 11	$\Delta_{meas} = 95°1$
		Mac	F	22 20 --	
260	Sept. 12	Mac	eL_E	02 30.0	
261	Sept. 14	Mac	$e(P)_Z$	02 15 58	The epicenter could not be located accurately due to conflicting reports. It is probably situated in the region 22°S, 170°E with $H = 02^h01.3^m$ While this quake is probably deeper than normal, the present interpretation is based on normal tables.
		Mac	ePR_{1E}	02 20 22	
		Mac	$iSKS_E$	02 26 30	
		Mac	$iSKKS_E$	02 27 33	
		Mac	eSN	02 28 12	
		Mac	e_E	02 28 48	
		Mac	iPS_E	02 29 53	
		Mac	$iPPS_E$	02 32 12	
		Mac	eSR_{2E}	02 40 22	
		Mac	eSR_{3E}	02 43 42	
		Mac	eL_E	02 53.9	
		Mac	F	Lost	
262	Sept. 14	Mac	ePR_{1Z}	04 06 14	26°1 S, 171°9 E
		Mac	$iSKS_E$	04 12 28	$H = 03^h47^m10^s$
		Mac	$eSKKS_E$	04 13 27	$\Delta_{PS-H} = 111°5$
		Mac	eS_E	04 14 02	$\Delta_{meas} = 111°8$
		Mac	iPS_E	04 15 50	
		Mac	$i(PPS)_E$	04 16 28	
		Mac	iSR_{1E}	04 22 12	
		Mac	$i(PR'_2)N$	04 24 37	
		Mac	iSR_{3E}	04 29 49	
		Mac	eGN	04 33 58	
		Mac	eLN	04 39.0	
		Mac	F	Lost	
263	Sept. 14	Mac	e_Z ?	07 32 21	General Region:
		Mac	eP_Z	07 32 31	29°S, 178°W.
		Mac	e_pP_Z	07 33 00	$H = 07^h18.3^m$
		Mac	$e(PR_1)_Z$	07 36 00	$h = 100\pm$km.
		Mac	$e(_pPR_1)_Z$	07 36 52	
		Mac	eN	07 40 03	
		Mac	e_E	07 41 03	
		Mac	$eSKS_E$	07 42 51	
		Mac	$iSKS_E$	07 43 01	
		Mac	$e(_sSKS)_E$	07 43 11	
		Mac	$eSKKS_E$	07 43 31	
		Mac	iSN	07 44 20	
		Mac	i_sS_E	07 46 06	
		Mac	i_sSPN	07 46 18	
		Mac	iSR_{1E}	07 51 30	
		Mac	iSR_{2E}	07 56 02	

(Continued on next Page)

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
263 (Con't.)	Sept. 14	Mac	iSR_{3E}	$07^h58^m25^s$	
		Mac	iX_E	07 59 17	
		Mac	iG_E	08 01 03	
		Mac	iG_E	08 01 59	
		Mac	F	12 20.0	
264	Sept. 14	Mac	$e(P)_Z$	11 25 00	Very weak
265	Sept. 14	Mac	iP_Z	15 35 59	
		Mac	i_Z	15 36 07	
		Mac	e_Z	15 36 42	
266	Sept. 17	Mac	eL_E	05 16.6	
267	Sept. 17	Mac	e_Z	10 27 12	15°.1 S, 167°.5 E
		Mac	$eSKS_E$	10 34 09	H = $10^h09^m37^s$
		Mac	$eSKKS_E$	10 35 05	h = 150±km.
		Mac	eSN	10 35 49	Δ_{SKS-H} = 109°.1
		Mac	e_sSN	10 36 48	Δ_{meas} = 108°.8
		Mac	$e(SP)_E$	10 37 31	
		Mac	F	12 46.5	
268	Sept. 19	Mac	eP_Z	04 59 00	30°.8 S, 113°.6 W.
		Mac	iS_E	05 08 17	H = $04^h47^m48^s$
		Mac	$e(PS)N$	05 08 51	h = 100±km.
		Mac	$esSN$	05 09 02	Δ_{P-H} = 72°.2
		Mac	F	Uncertain	Δ_{meas} = 72°.4
269	Sept. 20	Mac	eP_Z	00 59 02	20°.3 N, 108°.7 W.
		Mac	eP_Z	00 59 06	H = $00^h53^m52^s$
		Mac	iP_Z	00 59 10	h = 80 km.
		Mac	i_pP_Z	00 59 21	Δ_{P-H} = 23°.9
		Mac	eS_E	01 03 23	Δ_{meas} = 23°.9
		Mac	iSN	01 03 37	
		Mac	i_sS_E	01 03 50	
		Mac	i_E	01 04 46	
		Mac	iM_E	01 06 25	
		Mac	F	02 58.0	
270	Sept. 21	Mac	eLN	04 28 18	
		Mac	F	05 49.0	
271	Sept. 22	Mac	iP_Z	12 16 29	South America
		Mac	i_Z	12 16 49	Deep?
272	Sept. 22	Mac	$e(P')_Z$	23 36 47	Region:
		Mac	$e(_pP')_Z$	23 37 10	33°S, 179°.5 E.
		Mac	$eSKS_E$	23 43 13	H = $23^h18.6^m$
		Mac	$e(SKKS)_E$	23 44 31	h = 150±km.
		Mac	eSN	23 45 13	
		Mac	$i(PS)_E$	23 46 51	

(Continued on next page)

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
272 (Con't.)	Sept. 22	Mac	e(PPS)N	23 48 04	
		Mac	eSR_1N	23 51 58	
		Mac	iSR_2N	23 57 11	
		Mac	eN	24 02 39	
		Mac	F	03 00 --	
273	Sept. 23	Mac	iP_Z	12 42 02	29°0 N, 112°8 W.
		Mac	i_Z	12 42 04	H = $12^h37^m18^s$
		Mac	eS_E	12 45 54	Δ_{P-H} = 21°0
		Mac	eL_E	12 47 57	Δ_{meas} = 21°0
		Mac	eM_E	12 50 27	
		Mac	F	13 08.0	
274	Sept. 23	Mac	iP_Z	15 05 49	14°9 N, 91°7 W.
		Mac	i_Z	15 06 12	H = $15^h00^m33^s$
		Mac	i_Z	15 06 24	Δ_{P-H} = 24°1
		Mac	iSN	15 09 58	Δ_{meas} = 23°9
		Mac	iSE	15 10 06	
		Mac	iLN	15 10 36	
		Mac	F	17 30 --	
275	Sept. 23	Mac	eP_Z	15 36 38	Aftershock?
276	Sept. 24	Mac	e_Z	03 00 07	
		Mac	e(L)N	03 19 38	
		Mac	F	04 36 --	
277	Sept. 24	Mac	e_Z	06 55 10	
		Mac	e(S)?N	07 00 11	
		Mac	e_E	07 01 46	
		Mac	eN	07 03 46	
		Mac	$e(L)_E$	07 05 52	
278	Sept. 24	Mac	$e(P)_Z$	11 22 22	
279	Sept. 24	Mac	eP_Z	11 45 28	General Region:
		Mac	ePR_1Z	11 49 42	34°N, 71°E.
		Mac	ePR_1N	11 55 09	H = $11^h31.2^m$
		Mac	eSKSN	11 56 05	
		Mac	eSKKSN	11 56 51	
		Mac	eSN	11 57 12	
		Mac	ePSN	11 58 41	
		Mac	ePPSN	11 59 48	
		Mac	$e(PKKP)_Z$	12 01 17	
		Mac	e_Z	12 01 37	
		Mac	F	13 28.0	
280	Sept. 26	Mac	eP'_Z	02 28 01	Distance about 145° off West
		Mac	iP'_Z	02 28 06	Coast of Madagascar.
		Mac	i_Z	02 28 12	
		Mac	ePR_1E	02 31 15	

(Continued on next page)

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
280 (Con't.)	Sept. 26	Mac	$eSKS_E$	$02^h35^m01^s$	
		Mac	ePR_{3E}	02 37 01	
		Mac	ePR_{4E}	02 38 40	
		Mac	$ePSKS_E$	02 41 35	
		Mac	e_E	02 46 51	
		Mac	eSPSN	02 50 49	
		Mac	F	04 26.0	
281	Sept. 26	Mac	eP_z	18 21 15	Epicentral Region:
		Mac	eS_E	18 29 41	51°0 N, 179°7 W.
		Mac	eS_E	18 29 48	$H = 18^h11^m04^s$
		Mac	ePSN	18 30 08	$\Delta_{P-H} = 61°3$
		Mac	$e(SR_1)_E$	18 34 29	$\Delta_{meas} = 61°3$
		Mac	F	19 53.0	
282	Sept. 26	Mac	eP_z	22 44 56	5°1 N, 82°9 W.
		Mac	e_z	22 44 57	$H = 22^h38^m08^s$
		Mac	e_z	22 46 39	$\Delta_{P-H} = 34°0$
		Mac	eS_E	22 50 23	$\Delta_{meas} = 34°0$
		Mac	F	23 14.0	
283	Sept. 27	Mac	iP_z	04 53 21	No Surface Work
		Mac	$e(PR_1)_z$	04 57 18	Japan?
284	Sept. 27	W-A	eP_E	17 09 36.7	
		W-A	eS_E	17 10 27.7	
		W-A	F	17 11.5	
285	Sept. 27	Mac	ePR_{1z}	22 22 15	Epicentral Region:
		Mac	$e(_pPR_1)?_z$	22 22 30	31°1 S, 176°9 W.
		Mac	$eSKS_E$	22 28 27	$H = 22^h03^m47^s$
		Mac	$iSKKS_E$	22 29 19	$\Delta_{PR_1-H} = 106°6$
		Mac	eSN	22 30 01	$\Delta_{meas} = 107°1$
		Mac	ePS_E	22 31 35	h = 80±km.
		Mac	$ePPS_E$	22 33 26	
		Mac	$i(PKKP)_z$	22 33 27	
		Mac	e_z	22 33 37	
		Mac	eN	22 36 08	
		Mac	eSR_{2E}	22 41 34	
		Mac	F	24 55.5	
286	Sept. 28	Mac	eL_E	08 41 08	
287	Sept. 28	Mac	ePR_{1z}	11 03 38	17°9 N, 148°2 E.
		Mac	$eSKS_E$	11 10 01	$H = 10^h45^m36^s$
		Mac	eSN	11 11 13	Possibly deeper than normal.
		Mac	ePS_E	11 12 29	$\Delta_{PR_1-H} = 102°2$
		Mac	eSR_1N	11 18 05	$\Delta_{meas} = 101°7$
		Mac	F	12 35.0	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
288	Sept. 29	Mac Mac	eL_E F	05h35m0m 05 43.0	
289	Sept. 29	Mac Mac	eL_E F	10 03.5 10 56.5	
290	Sept. 29	Mac Mac	eL_E F	24 05.6 24 31.0	
291	Sept. 30	Mac Mac	eL_E F	08 10.5 08 48.0	
292	Sept. 30	Mac Mac	eL_E F	12 51.0 13 17.0	

Minor Seismic Activity:

Date	From h.	From m.	To h.	To m.
Sept. 2	14	06	14	07
2	20	32	20	34
8	17	09	17	12
13	23	11	23	35
14	23	12	23	19
15	01	20	02	10
15	14	39	15	41
16	00	33	01	10
20	04	26	10	24
20	16	03	21	15
24	14	54	14	57

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SEISMOLOGICAL BULLETIN

SAINT LOUIS STATION

Latutide: geographical, 38° 38' 10" N., geocentric, 38 27' N.
Longitude: 90° 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE.
Clock: Wiechert

Bulletin for October, 1943 40.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
293	Oct. 1	Mac Mac Mac	e(S)N eLN F	$12^h39^m48^s$ 12 42 28 12 55.0	
294	Oct. 1	Mac Mac Mac Mac	iPZ eSE eLE F	18 02 42 18 10 27 18 16 49 19 17.0	9°1 N, 37°3 W. H = $17^h53^m14^s$. Δ_{P-H} = 55°0 Δ_{meas} = 54°9
295	Oct. 1	Mac	ePZ	18 23 57	
296	Oct. 1	Mac	ePZ	20 15 19	
297	Oct. 2	Mac Mac Mac Mac	eZ eN eLN F	05 32 53 05 41 03 05 45 29 06 09.0	
298	Oct. 2	Mac Mac Mac Mac	ePZ eE eLE F	07 02 11 07 08 46 07 11 32 07 15.0	U.S.C.G.S. gives: 40°6 N, 124°9 W. H = $06^h56^m41^s$.
299	Oct. 2	Mac Mac Mac	ePZ eE F	09 30 51 09 39 58 09 43.0	South America

SAINT LOUIS STATION BULLETIN FOR OCTOBER, [illegible]

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
300	Oct. 2	Mac	iPZ	$11^h27^m47^s$	14°0 N, 91°8 W.
		Mac	eZ	11 28 00	H = $11^h22^m34^s$.
		Mac	ipPZ	11 28 08	h = 100±km.
		Mac	eZ	11 28 39	Δ_{P-H} = 24°5
		Mac	eZ	11 30 20	Δ_{meas} = 24°6
		Mac	eSE	11 31 54	
		Mac	esSE	11 32 31	
		Mac	F	12 04.0	
301	Oct. 2	Mac	ePZ	17 31 22	Roughly:
		Mac	eZ	17 31 58	29°S, 74°W.
		Mac	iZ	17 32 09	
		Mac	e(PS)N	17 41 39	
		Mac	F	17 43.0	
302	Oct. 3	Mac	ePZ	01 01 39	North Atlantic
		Mac	eSE	01 08 40	Azores?
		Mac	ePSE	01 09 14	
		Mac	eSR_1E	01 11 34	
		Mac	F	01 49 --	
303	Oct. 3	Mac	ePZ	08 40 00	Region:
		Mac	eZ	08 40 06	43°N, 14°E.
		Mac	eE	08 45 55	H = $08^h28.5^m$
		Mac	F	09 35.0	Italy
304	Oct. 3	Mac	ePR_1Z	19 15 43	General Region:
		Mac	eE	19 28 19	29°5 S, 172°E.
		Mac	eSR_1E	19 31 12	H = $18^h56.5^m$
		Mac	F	21 12.0	
305	Oct. 3	Mac	ePZ	20 06 29	
		Mac	eZ	20 12 05	
306	Oct. 4	Mac	ePZ	10 17 26	
		Mac	F	10 19.0	
307	Oct. 4	Mac	ePR_1E	10 58 39	15°0 S, 167°9 E
		Mac	eSKSE	11 04 52	H = $10^h39^m46^s$
		Mac	eSN	11 06 22	Δ_{PR_1-H} = 109°3
		Mac	ePSE	11 08 00	Δ_{meas} = 109°0
		Mac	eSR_1E	11 13 36	
		Mac	eSR_2E	11 18 00	
		Mac	F	12 42 --	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
308	Oct. 4	Mac Mac	eLE F	$12^h11^m54^s$ 12 51 --	
309	Oct. 5	Mac	ePZ	16 38 00	South Pacific?
310	Oct. 5	Mac	ePZ	19 33 52	Weak. South Pacific?
311	Oct. 6	Mac Mac	iPZ eZ	17 44 16 17 44 54	South America Deep?
312	Oct. 7	Mac Mac Mac Mac	e(PR_1)Z eN eLE F	11 03 00 11 15 56 11 36 58 12 19.0	Approximately: 10°S, 160°E $H = 10^h43.8^m$
313	Oct. 7	Mac	ePZ	15 44 05	Weak. Central America?
314	Oct. 8	Mac	ePZ	22 33 42	Weak.
315	Oct. 9	Mac Mac Mac	e(P)Z eLN F	10 29 16 10 42 38 10 48.0	
316	Oct. 10	Mac Mac	eLE F	10 08 40 10 17.0	
317	Oct. 11	Mac	iPZ	17 09 24	
318	Oct. 12	Mac Mac Mac Mac	e(P)Z e(S)N e(SR_2)E F	11 15 55 11 22 29 11 26 01 11 45.0	Weak beginning.
319	Oct. 13	Mac Mac Mac Mac Mac Mac Mac	ePZ iPZ eSN iSN iLE iMN F	04 49 27 04 49 34 04 53 21 04 53 29 04 55 52 04 57 34 05 52.0	Region: 26°.5 N, 110° W. $H = 04^h44^m48^s$. $\Delta_{P-H} = 20°.5$ $\Delta_{meas} = 20°.4$ Surface waves very sharp.
320	Oct. 13	Mac	ePZ	05 56 12	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
321	Oct. 15	Mac Mac Mac	ePZ eZ F	$05^h58^m46^s$ 05 58 50 06 01.0	
322	Oct. 15	Mac Mac	ePZ F	07 16 17 07 17.5	Tacubaya gives $H = 07^h09^m22^s$.
323	Oct. 15	Mac	ePZ	08 34 13	Epicentral Region: 8°6 N, 103°8 W $H = 08^h27^m42^s$. $\Delta_{P-H} = 32°1$ $\Delta_{meas} = 32°1$
324	Oct. 15	Mac Mac Mac	ePZ eZ F	12 05 56 12 06 00 12 07.0	
325	Oct. 15	Mac Mac Mac	iPZ eZ F	22 19 48 22 19 56 22 24.0	South America?
326	Oct. 16	Mac Mac Mac	eZ eLE F	00 47 11 01 23 -- 02 15 --	Very weak.
327	Oct. 16	Mac Mac	eFZ F	05 09 33 05 10 --	South America.
328	Oct. 16	Mac Mac Mac	ePZ eLE F	10 07 01 10 13.8 10 45 --	Puerto Rico.
329	Oct. 16	Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac	iPZ ipPZ iZ e(PR_3?)E eSKSE iSKKSE eSE esSE ePSE ePPSE eSR_1E eLE F	13 21 27 13 21 47 13 22 05 13 27 14 13 31 32 13 31 55 13 32 03 13 32 46 13 33 10 13 34 23 13 37 40 13 47 48 Lost	33°9 N, 27°8 E. $H = 13^h08^m50^s$ $h = 100 \pm km.$ $\Delta_{P-H} = 87°5$ $\Delta_{meas} = 87°7$

SAINT LOUIS STATION BULLETIN FOR OCTOBER, [illegible]

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
330	Oct. 17	Mac Mac	ePZ eZ	$17^h32^m26^s$ 17 32 39	
331	Oct. 17	Mac Mac Mac Mac Mac	e(SKKS)E eE eE e(PPS)E F	23 03 43 23 06 13 23 07 31 23 08 15 24 22 --	Δ = about 130° New Guinea?
332	Oct. 19	Mac Mac Mac Mac Mac	ePZ eZ eSE eE F	17 44 06 17 44 16 17 48 27 17 48 49 18 01.0	Epicentral Region: 18°0 N, 104°3 W. H = $17^h38^m50^s$. Δ_{P-H} = 24°1 Δ_{meas} = 24°0
333	Oct. 20	Mac Mac Mac Mac Mac Mac	ePZ e(pP)Z eSE e(sS)E eLE F	04 13 51 04 14 01 04 18 15 04 18 36 04 21 17 04 40.0	Region: 16° N, 107° W. H = $04^h08.2^m$ Probably deeper than normal.
334	Oct. 20	Mac Mac Mac Mac	ePZ eSE eLE F	12 48 35 12 53 01 12 56 18 13 02 --	Region: 20° N, 109° W. H = $12^h43.2^m$
335	Oct. 21	Mac Mac Mac Mac Mac Mac	iPZ iPR1Z iSKSE iSKKSE iSE eSPE	23 21 47 23 25 40 23 32 39 23 33 10 23 33 20 23 33 50	16°5 S, 177°4 W. H = $23^h08^m08^s$. Δ_{P-H} = 98°8 Δ_{meas} = 98°8
336	Oct. 22	Mac	ePZ	00 44 19	
337	Oct. 22	Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac	ePR1Z eSKSE eSKKSE eSE e(PS)E ePPSE eE ePPPSE eE eSR1E F	16 20 27 16 26 21 16 27 14 16 27 42 16 29 58 16 30 17 16 31 17 16 32 00 16 33.58 16 36 09 18 01.0	Epicentral Region: 24°1 N, 121°8 E H = $16^h01^m22^s$. Δ_{PR1-H} = 110°8 Δ_{meas} = 110°3

SAINT LOUIS STATION BULLETIN FOR OCTOBER, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
338	Oct. 23	Mac	iPZ	$17^h18^m48^s$	South America.
339	Oct. 23	Mac	iPN	17 38 21	28°.5 N, 93°.4 E
		Mac	eZ	17 41 36	H = $17^h23^m33^s$.
		Mac	iP'Z	17 42 00	Possibly deeper than normal.
		Mac	ePR$_1$N	17 42 54	Δ_{P-H} = 113°.1
		Mac	iPR$_1$Z	17 43 02	Δ_{meas} = 113°.4
		Mac	iZ	17 43 17	
		Mac	iSKPZ	17 44 25	
		Mac	iN	17 48 04	
		Mac	iSKSN	17 48 39	
		Mac	iN	17 49 14	
		Mac	iSKKSN	17 49 50	
		Mac	iSE	17 50 32	
		Mac	iE	17 51 08	
		Mac	iPSN	17 52 23	
		Mac	i(PKKP)N	17 52 43	
		Mac	iPPSE	17 53 16	
		Mac	iPPPSE	17 54 37	
		Mac	F	20 19.0	
340	Oct. 24	Mac	eLE	10 42 32	
		Mac	F	11 06.0	
341	Oct. 24	Mac	eSN	14 01 37	Deep?
		Mac	iN	14 02 03	U.S.C.G.S. gives:
		Mac	ePSN	14 02 27	48° N, 156° E
		Mac	eSR$_1$E	14 06 35	H = $13^h40.3^m$
		Mac	eSR$_2$N	14 09 50	Preceding phases lost
		Mac	F	15 35.0	changing records.
342	Oct. 24	Mac	ePZ	16 18 23	22°.0 S, 174°.6 W.
		Mac	ePR$_1$N	16 22 25	H = $16^h04^m40^s$.
		Mac	ePR$_2$N	16 24 32	Δ_{P-H} = 99°.4
		Mac	eSKSN	16 28 55	Δ_{meas} = 99°.1
		Mac	iSKKSE	16 29 29	
		Mac	iSN	16 29 54	
		Mac	iPSE	16 31 23	
		Mac	ePPSE	16 32 04	
		Mac	iSR$_1$N	16 37 11	
		Mac	F	20 04 --	
343	Oct. 24	Mac	iPZ	23 34 02	54°.2 N, 162°.0 E.
		Mac	ipPZ	23 34 13	H = $23^h23^m06^s$.
		Mac	eSE	23 43 07	h = 50 km.
		Mac	iSEZ	23 43 09	Δ_{P-H} = 68°.6
		Mac	isSN	23 43 30	Δ_{meas} = 68°.7
		Mac	F	24 35.0	

SAINT LOUIS STATION BULLETIN FOR OCTOBER, 1935

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
344	Oct. 25	Mac	ePZ	$11^h53^m59^s$	Very weak.
345	Oct. 25	Mac	ePZ	20 57 36	Weak.
346	Oct. 26	Mac Mac Mac Mac	ePZ eE iLN F	04 55 56 05 00 18 05 04 05 05 26.0	37°0 N, 123°6 W. $H = 04^h50^m20^s$. $\Delta_{P-H} = 26°1$ $\Delta_{meas} = 26°1$
347	Oct. 26	Mac Mac	eLN F	12 12 57 12 22 --	
348	Oct. 26	Mac	ePZ	20 03 49	Weak.
349	Oct. 29	Mac Mac	eLN F	17 30 -- 17 41 --	
350	Oct. 29	Mac Mac Mac Mac	eZ eN eLN F	17 43 06 17 47 22 17 49 54 18 06 --	
351	Oct. 30	Mac	ePZ	23 12 31	Weak.

Minor Seismic Activity:

Date	From h. m.	To h. m.
Oct. 2	16 35	17 26
4	07 30	07 34
	12 38	13 17
	16 06	21 11
5	15 31	22 15
7	16 37	17 00
8	16 13	21 04
10	01 35	06 15
17	01 33	01 55
	17 40	20 44
25	21 39	22 07
27	07 52	08 27

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SEISMOLOGICAL BULLETIN

SAINT LOUIS STATION

Latutide: geographical, 38° 38' 10" N., geocentric, 38° 27' N.
Longitude: 90° 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE.
Clock: Wiechert

Bulletin for November, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
352	Nov. 2	Mac	ePZ	$00^h30^m46^s$	
353	Nov. 2	Mac	ePZ	02 20 22	
		Mac	eZ	02 21 44	
		Mac	eZ	02 21 49	
354	Nov. 2	Mac	e(L)N	18 02 38	Probably the earthquake reported by Pasadena as 32° 58' N, 116° 00' W. $H = 17^h50^m41^s$.
		Mac	eME	18 03 59	
		Mac	F	18 14 --	
355	Nov. 2	Mac	ePR_1Z	18 27 25	General Region: 59° S, 30° W. $H = 18^h08.7^m$ Possibly deeper than normal.
		Mac	iSKSE	18 33 44	
		Mac	eN	18 34 15	
		Mac	iSKKSN	18 34 41	
		Mac	iSE	18 35 09	
		Mac	eE	18 35 31	
		Mac	ePSE	18 36 39	
		Mac	iE	18 37 14	
		Mac	iPPSE	18 37 41	
		Mac	iN	18 38 12	
		Mac	F	22 42 --	
356	Nov. 2	Mac	ePZ	19 06 35	

SAINT LOUIS STATION BULLETIN FOR NOVEMBER,

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
357	Nov. 2	Mac	ePZ	$23^h02^m44^s$	
		Mac	eZ	23 04 32	
		Mac	eLE	23 16 16	
		Mac	F	23 27 --	
358	Nov. 3	Mac	ePZ	02 03 37	Deep? No surface waves.
		Mac	eZ	02 03 47	
359	Nov. 3	Mac	iPZ	08 32 26	
360	Nov. 3	Mac	i(ScP)N	14 46 03	61°0 N, 149°0 W.
		Mac	iSN	14 46 48	$H = 14^h32^m25^s$.
		Mac	iN	14 47 00	$\Delta_{S-H} = 42°3$
		W-A	$i(SR_1)E$	14 49 17	$\Delta_{meas} = 42°5$
		W-A	$i(SR_2)E$	14 49 59	Preceding Phases lost
		Mac	iLZ	14 54 05	changing records.
		Mac	iLZ	14 54 48	
		Mac	iLZ	14 55 08	
		Mac	F	19 08 --	
361	Nov. 3	Mac	ePZ	22 11 13	Epicentral Region:
		Mac	eZ	22 11 23	11°4 S, 76°4 W.
		Mac	eZ	22 11 35	$H = 22^h02^m08^s$.
		Mac	eSE	22 18 33	$\Delta_{P-H} = 51°6$
		Mac	eN	22 20 57	$\Delta_{meas} = 51°7$
		Mac	eMN	22 31 43	
		Mac	F	22 48 --	
362	Nov. 4	Mac	ePZ	06 20 30	Epicentral Region:
		Mac	ipPZ	06 20 37	57°1 N, 163°0 E.
		Mac	eE	06 26 04	$H = 06^h09^m18^s$.
		Mac	eSN	06 29 16	$h = 50 \pm$ km.
		Mac	F	07 10 --	$\Delta_{P-H} = 66°4$
					$\Delta_{meas} = 66°5$
363	Nov. 4	Mac	$e(PR_1)Z$	07 04 52	Region: 57° S, 28° W.
		Mac	e(SKS)?E	07 10 18	$H = 06^h45.8^m$
		Mac	eE	07 13 43	
		Mac	ePSE	07 14 03	
		Mac	ePPSE	07 14 32	
		Mac	ePPPSN	07 15 30	
		Mac	F	09 39 --	
364	Nov. 5	Mac	ePZ	08 46 47	
		Mac	eZ	08 47 03	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
365	Nov. 5	Mac	ePZ	$09^H30^m26^s$	
366	Nov. 5	Mac	ePZ	10 41 45	
		Mac	eE	10 51 42	
		Mac	eE	10 54 01	
		Mac	F	11 10 --	
367	Nov. 6	Mac	iP'Z	08 50 46	$6^\circ.1$ S, $133^\circ.1$ E
		Mac	i(PR1)Z	08 53 05	$H = 08^h31^m40^s$.
		Mac	iN	08 53 14	$h = 50^{\pm}$km.
		Mac	i(sSKP)N	08 54 20	$\Delta P'-H = 129^\circ.0$
		Mac	i(S)N	09 01 43	$\Delta_{meas} = 129^\circ.1$
		Mac	i(sS)	09 02 18	
		Mac	i(sSP)N	09 03 23	
		Mac	F	14 02 --	
368	Nov. 6	Mac	eZ	20 57 14	South Atlantic.
		Mac	ePR1E	20 57 46	
		Mac	eSKSN	21 04 24	
		Mac	eSKKSN	21 04 54	
		Mac	eSN	21 05 17	
		Mac	eE	21 05 42	
		Mac	ePPSE	21 05 57	
		Mac	eN	21 10 56	
		Mac	eSR1N	21 11 49	
		Mac	F	21 26 --	
369	Nov. 7	Mac	eZ	08 45 39	
		Mac	e(PR1)Z	08 46 03	
		Mac	e(SKS)E	08 52 59	
		Mac	e(SKKS)N	08 53 30	
		Mac	e(PS)N	08 55 02	
		Mac	F	10 14 --	
370	Nov. 8	Mac	ePZ	07 08 31	U.S.C.G.S. gives:
		Mac	ePR1Z	07 10 27	81° N, $2\ 1/2^\circ$ W.
		Mac	eSE	07 15 57	$H = 06^h59^m19^s$.
		Mac	eSR1N	07 19 37	
		Mac	eLE	07 23 08	
		Mac	F	08 28 --	
371	Nov. 9	Mac	iPZ	11 58 49	$43^\circ.8$ N, $148^\circ.2$ E.
		Mac	iPcPZ	11 58 59	$H = 11^h46^m42^s$.
		Mac	ipPZ	11 59 09	$h = 100^{\pm}$km.
		Mac	ipPcPZ	11 59 17	$\Delta P-H = 82^\circ.2$
		Mac	iPR1Z	12 01 59	$\Delta_{meas} = 82^\circ.3$
		Mac	iSZ	12 08 47	
		Mac	iSE	12 08 47	

(Con't. next page)

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
371 (Con't.)	Nov. 9	Mac	iSKSN	$12^h09^m07^s$	
		Mac	isSE	12 09 30	
		Mac	eScSE	12 09 42	
		Mac	eN	12 09 54	
		Mac	eE	12 10 04	
		Mac	eN	12 10 39	
		Mac	eSR_1N	12 14 21	
		Mac	F	13 01 --	
372	Nov. 12	Mac	e(P)Z	07 36 10	
373	Nov. 13	Mac	e(P)Z	11 06 36	
		Mac	eLN	11 25 15	
		Mac	F	12 30 --	
374	Nov. 13	Mac	$e(PR_1)Z$	19 03 01	19°9 S, 169°9 E.
		Mac	eSKKSE	19 10 07	$H = 18^h43^m59^s$.
		Mac	eSE	19 10 48	$\Delta_{PS-H} = 110°2$
		Mac	iPSE	19 12 25	$\Delta_{meas} = 109°9$
		Mac	eE	19 17 12	
		Mac	iSR_1E	19 18 33	
		Mac	F	21 26 --	
375	Nov. 14	Mac	ePZ	04 27 59	Central America?
		Mac	eE	04 35 43	
		Mac	F	04 52 --	
376	Nov. 15	Mac	iPZ	00 06 27	Two shocks?
		Mac	eZ	00 07 07	
		Mac	eZ	00 08 39	
		Mac	i(P)?Z	00 09 38	
		Mac	F	00 15 --	
377	Nov. 15	Mac	eZ	18 41 04	May not be seismic.
		Mac	iZ	18 41 54	
378	Nov. 16	Mac	eZ	05 35 55	38°4 S, 99°2 W.
		Mac	eSE	05 45 45	$H = 05^h24^m17^s$.
		Mac	eSR_1E	05 50 47	$\Delta_{meas} = 77°1$
		Mac	F	06 20 --	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
379	Nov. 16	Mac	ePZ	11 47 32	Epicentral Region:
		Mac	iPZ	11 47 33	14°9 S, 74°8 W.
		Mac	ipPZ	11 47 46	H = $11^h38^m06^s$.
		Mac	iSE	11 55 17	h = 80±km.
		Mac	isSE	11 55 42	Δ_{P-H} = 55°5
		Mac	eE	11 56 40	Δ_{meas} = 55°5
		Mac	F	13 31 --	
380	Nov. 17	Mac	iPZ	15 10 14	Deep. Japan?
		Mac	iPR_1Z	15 14 11	
		Mac	iSE	15 20 14	
		Mac	esSE	15 20 58	
		Mac	eE	15 27 44	
		Mac	eLE	15 33 20	
		Mac	F	16 00 --	
381	Nov. 18	Mac	ePZ	22 00 50	Epicentral Region:
		Mac	ePcPZ	22 01 23	20°8 S, 63°5 W.
		Mac	epPZ	22 02 01	H = $21^h50^m46^s$.
		Mac	eSE	22 09 01	h = 300+km.
		Mac	eScSE	22 10 14	Δ_{P-H} = 64°7
		Mac	esSE	22 11 04	Δ_{meas} = 64°7
		Mac	esScSE	22 12 36	
		Mac	F	22 35 --	
382	Nov. 19	Mac	ePZ	05 16 33	South America.
		Mac	eZ	05 17 01	Deep?
		Mac	eZ	05 17 14	No Surface Waves.
383	Nov. 20	Mac	iPZ	08 31 00	Region:
		Mac	eSE	08 35 33	15°5 N, 105°5 W.
		Mac	eLE	08 38 46	H = $08^h25.3^m$
		Mac	F	08 49 --	
384	Nov. 20	Mac	ePZ	19 05 19	Region:
		Mac	eSE	19 12 03	4° S, 106° W.
		Mac	eLE	19 15 12	H = $18^h57.1^m$
		Mac	F	20 -- --	
385	Nov. 20	Mac	ePZ	20 10 15	Aftershock of #384.
		Mac	eSE	20 16 57	
		Mac	eLE	20 20 31	
		Mac	F	20 50 --	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
386	Nov. 21	Mac	iPZ	$19^h46^m59^s$	Epicentral Region:
		Mac	ipPZ	19 47 08	17°0 N, 98°5 W.
		Mac	eSN	19 51 00	H = $19^h42^m00^s$.
		Mac	esSN	19 51 15	h = 50 km.
		Mac	F	20 19 --	Δ_{P-H} = 22°6
					Δ_{meas} = 22°6
387	Nov. 23	Mac	ePZ	07 47 09	No Surface Waves.
388	Nov. 24	Mac	eZ	13 35 26	Region:
		Mac	ePR$_1$Z	13 36 30	23° N, 121° E.
		Mac	eN	13 36 38	H = $13^h17.2^m$
		Mac	ePR$_2$E	13 39 00	
		Mac	eSKSN	13 42 30	
		Mac	eSKKSN	13 43 40	
		Mac	ePSN	13 46 02	
		Mac	eN	13 50 03	
		Mac	eSR$_1$N	13 52 00	
		Mac	F	Lost.	
389	Nov. 26	Mac	eZ	21 44 33	Sumatra
		Mac	iP'Z	21 44 43	Possibly deeper than normal.
		Mac	iPR$_1$Z	21 48 04	
		Mac	eSKPN	21 48 21	
		Mac	eSKSN	21 51 58	
		Mac	eSR$_1$E	22 05 49	
		Mac	F	Lost.	
390	Nov. 26	Mac	ePZ	22 33 22	41°5 N, 34°2 E.
		Mac	iZ	22 33 33	H = $22^h20^m42^s$.
		Mac	iSN	22 43 56	Δ_{S-P} = 85°7
		Mac	F	03 52 --	Δ_{P-H} = 86°5
					Δ_{meas} = 85°7
391	Nov. 28	Mac	eZ	06 39 57	Region:
		Mac	ePR$_1$Z	06 40 18	10° N, 129° E.
		Mac	ePSN	06 50 10	H = $22^h20.2^m$
		Mac	eSR$_1$E	06 56 51	
		Mac	F	08 36 --	
392	Nov. 28	Mac	ePZ	17 22 29	Epicentral Region:
		Mac	eZ	17 22 40	52°6 N, 153°4 E
		Mac	e(S)E	17 31 39	H = $17^h10^m58^s$.
		Mac	F	19 47 --	Δ_{P-H} = 73°8
					Δ_{meas} = 73°9

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
393	Nov. 29	Mac	iPZ	$19^h 48^m 11^s$	27°7 S, 67°3 W
		Mac	iZ	19 49 05	H = $19^h 37^m 05^s$.
		Mac	iSE	19 57 16	ΔP-H = 69°7
		Mac	ePSN	19 57 49	Δmeas = 69°9
		Mac	eN	19 58 14	Possibly deeper than normal.
		Mac	eN	19 58 36	
		Mac	F	21 27 --	
394	Nov. 29	Mac	ePZ	21 30 05	Region:
		Mac	eSE	21 38 41	57° N, 174° E.
		Mac	eE	21 43 13	H = $21^h 19.8^m$
		Mac	F	23 26 --	

Minor Seismic Activity:

Date	From h.	From m.	To h.	To m.
Nov. 6	06	48	08	00
7	06	51	07	22
8	23	02	23	48
15	21	40	22	09
16	17	42	18	03
18	19	05	20	00
20	00	29	01	06
20	07	55	08	25
23	22	42	23	24
24	07	41	08	13
27	09	10	10	00

SAINT LOUIS UNIVERSITY
INSTITUTE OF GEOPHYSICAL TECHNOLOGY

3621 OLIVE STREET, SAINT LOUIS 8, MO., U. S. A.

SEISMOLOGICAL BULLETIN

SAINT LOUIS STATION

Latutide: geopraphical, 38° 38' 10" N., geocentric, 38° 27' N.
Longitude: 90° 14' 10" W. Altitude: h = 161m, H+h = 4 km.
Lithologic foundation: Mississippian limestone
Seismographs: Wood-Anderson short period EN;
Macelwane-Sprengnether Z; Sprengnether NE.
Clock: Wiechert

Bulletin for December, 1943

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
395	Dec. 1	Mac	eZ	$06^h23^m39^s$	4°5 S, 141°7 E.
		Mac	iPR_1Z	06 25 02	H = $06^h04^m50^s$.
		Mac	$e(pPR_1)E$	06 25 47	h = 100±km.
		Mac	ePR_2N	06 27 55	ΔPR_1-H = 122°2
		Mac	$e(pPR_2)E$	06 28 19	Δmeas = 122°2
		Mac	iSKSE	06 30 22	
		Mac	esSKSE	06 31 22	
		Mac	eSKKSE	06 31 52	
		Mac	esSKKSN	06 32 45	
		Mac	eSE	06 32 51	
		Mac	eE	06 33 27	
		Mac	esSN	06 33 44	
		Mac	eE	06 34 21	
		Mac	iPSE	06 34 52	
		Mac	F	09 02 --	
396	Dec. 1	Mac	ePZ	10 44 58	Epicentral Region:
		Mac	iPZ	10 45 00	18°6 S, 69°4 W.
		Mac	ipPZ	10 45 27	h = 100+km.
		Mac	iPcPZ	10 45 37	H = $10^h35^m00^s$.
		Mac	eSN	10 53 11	$\Delta P-H$ = 60°6
		Mac	iSE	10 53 16	Δmeas = 60°7
		Mac	isSE	10 54 02	
		Mac	F	13 33 --	
397	Dec. 2	Mac	eSKSE	02 18 57	U.S.C.G.S. gives:
		Mac	eSKKSE	02 19 49	Region: 30° S, 178° W.
		Mac	ePSE	02 22 04	H = $01^h54.0^m$
		Mac	ePPSE	02 23 09	
		Mac	F	04 40 --	

SAINT LOUIS STATION BULLETIN FOR DECEMBE

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
398	Dec. 2	Mac	e(P')N	$05^h27^m18^s$	Approximately
		Mac	e(SKP)N	05 29 43	24° N, 121° E.
		Mac	eSKSN	05 34 11	H = $05^h08.9^m$
		Mac	eN	05 37 04	
		Mac	F	07 28 --	
399	Dec. 3	Mac	eP'Z	04 56 58	New Guinea.
		Mac	ePR_1Z	04 58 43	Δ = about 126°
		Mac	eSKSE	05 03 59	U.S.C.G.S. gives:
		Mac	eSKKSE	05 05 27	3° S, 140° E.
		Mac	eSN	05 06 52	
		Mac	ePSE	05 08 51	
		Mac	F	Lost in following	
400	Dec. 3	Mac	iPZ	07 05 22	42°.3 N, 144°.0 E
		Mac	eSN	07 15 38	H = $06^h52^m50^s$.
		Mac	iSN	07 15 46	h = 50±km.
		Mac	eSR_1N	07 21 27	Δ_{P-H} = 85°.5
		Mac	F	08 09 --	Δ_{meas} = 85°.5
401	Dec. 7	Mac	iPZ	01 12 22	Epicentral Region:
		Mac	ipPZ	01 12 41	15°.9 N, 93°.8 W.
		Mac	iSN	01 16 26	H = $01^h07^m22^s$.
		Mac	isSN	01 17 00	h = 100±km.
		Mac	iE	01 17 08	Δ_{P-H} = 23°.2
		Mac	iSR_1E	01 17 24	Δ_{meas} = 23°.1
		Mac	F	01 43	
402	Dec. 8	Mac	e(P)Z	09 26 06	Microseisms strong.
		Mac	eE	09 33 32	
403	Dec. 8	Mac	iPZ	19 44 06	Epicentral Region:
		Mac	iSN	19 48 29	14°.4 N, 46°.3 W.
		Mac	F	21 00 --	H = $19^h38^m46^s$.
					Δ_{P-H} = 24°.5
					Δ_{meas} = 24°.5
404	Dec. 9	Mac	ePZ	03 29 30	Region:
		Mac	e(S)N	03 37 40	63° N, 178° W.
		Mac	eLN	03 41 --	H = $03^h19.9^m$
		Mac	F	04 30 --	
405	Dec. 11	Mac	e(P)Z	01 00 44	No Surface Waves.
		Mac	iZ	01 01 13	
		Mac	iZ	01 01 28	
		Mac	iZ	01 01 34	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
406	Dec. 13	Mac Mac	eE eE	$16^h23^m31^s$ 16 24 31	Masked by microseisms. Riverview gives: H = $15^h53^m31^s$.
407	Dec. 14	Mac Mac	i(P)Z eZ	16 07 19 16 07 33	E-W and N-S out of operation.
408	Dec. 14	Mac	eZ	20 34 51	E-W and N-S out of operation.
409	Dec. 21	W-A W-A W-A	eFN eSN F	13 52 36 13 57 39 Lost	Approximately: 13° N, 70° W. H = $13^h46.3^m$ Mac Instruments not operating.
410	Dec. 21	Mac Mac Mac Mac	ePZ eSN e(SR_2)E F	22 13 26 22 19 29 22 22 22 22 51 --	Ecuador.
411	Dec. 22	Mac Mac Mac Mac Mac Mac Mac Mac Mac Mac	ePZ iPZ ipPZ e(PR_1)Z e(pPR_1)Z iSN esSE eE F	07 09 39 07 09 42 07 10 10 07 11 29 07 12 03 07 15 55 07 16 47 07 19 28 07 42 --	2°.8 S, 76°.9 W. H = $07^h01^m56^s$. h = 150±km. Δ_{P-H} = 42°.5 Δ_{meas} = 43°.1
412	Dec. 22	Mac Mac Mac Mac Mac	ePZ iZ iSN iLN F	12 59 25 12 59 29 13 04 33 13 07 38 Lost	12°.7 N, 70°.6 W. H = $12^h53^m02^s$. Δ_{P-H} = 31°.2 Δ_{meas} = 31°.3
413	Dec. 22	Mac Mac Mac	eZ iMN F	16 01 27 16 02 01 16 05 --	Pasadena gives: 34° 20' N, 115° 48' W. H = 15h50m28s.
414	Dec. 23	W-A W-A	ePN F	09 24 40 09 26 --	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
415	Dec. 23	Mac	ePZ	$16^h02^m21^s$	13°.5 N, 70°.8 W.
		Mac	iPZ	16 02 23	H = $15^h56^m06^s$.
		Mac	iZ	16 02 27	Δ_{P-H} = 30°.3
		Mac	iSN	16 07 29	Δ_{meas} = 30°.4
		Mac	F	17 51 --	May be slightly deeper than normal.
416	Dec. 23	Mac	iPZ	16 09 50	Aftershock of No. 415
417	Dec. 23	Mac	ePZ	16 27 13	Aftershock of No. 415
418	Dec. 23	Mac	ePE	19 15 00	6°.1 S, 153°.3 E
		Mac	e(P')Z	19 18 31	H = $19^h00^m13^s$.
		Mac	ePR_1E	19 19 41	Δ_{PR1-H} = 114°.0
		Mac	iE	19 19 57	Δ_{meas} = 114°.6
		Mac	iSKSE	19 25 30	Possibly slightly deeper
		Mac	iSKKSE	19 26 41	than normal
		Mac	eSN	19 27 19	
		Mac	i(PS)E	19 29 29	
		Mac	i(PPS)E	19 30 46	
		Mac	iN	19 31 06	
		Mac	F	24.2----	
419	Dec. 24	Mac	ePZ	01 06 33	12°.9 N, 70°.0 W
		Mac	iSN	01 11 35	H = $01^h00^m10^s$.
		Mac	eN	01 12 07	Δ_{P-H} = 31°.2
		Mac	eSR_2N	01 13 58	Δ_{meas} = 31°.3
		Mac	F	02 04 --	
420	Dec. 24	Mac	$e(PR_1)Z$	02 07 19	Very roughly:
		Mac	eSKSN	02 13 37	6° S, 157° E.
		Mac	eE	02 16 16	H = $01^h48.2^m$
		Mac	ePSN	02 17 11	
		Mac	eN	02 22 31	
		Mac	F	04 30 --	
421	Dec. 24	Mac	ePZ	02 17 27	Weak.
422	Dec. 24	Mac	(eN)	05 11 54	Solomon Islands Region.
		Mac	ePR_1N	05 16 44	
		Mac	e(PPS)E	05 27 08	
		Mac	F	06.5----	
423	Dec. 24	Mac	e(PPS)E	12 13 51	Very roughly:
		Mac	eSR_1E	12 19 27	5° S, 153° E.
		Mac	F	Lost	H = $12^h44.5^m$

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
424	Dec. 24	Mac	ePZ	$12^h29^m03^s$	
		Mac	F	Lost	
425	Dec. 25	Mac	ePSE	05 01 17	Epicentral Region:
		Mac	eSR1E	05 06 51	6°.1 S, 154°.2 E.
		Mac	F	06 56 --	$H = 04^h32^m10^s$.
					$\Delta_{PS-H} = 114°.2$
					$\Delta_{meas} = 114°.2$
426	Dec. 25	Mac	e(P)Z	07 49 16	
		Mac	eSN	07 55 53	
		Mac	F	08 00 --	
427	Dec. 25	Mac	ePZ	08 22 28	25°.6 N, 110°.7 W.
		Mac	iPZ	08 22 32	$H = 08^h12^m36^s$.
		Mac	eZ	08 24 18	$\Delta_{P-H} = 21°.7$
		Mac	iSE	08 26 24	$\Delta_{meas} = 21°.7$
		Mac	eLE	08 28 25	
		Mac	iLE	08 28 34	
		Mac	F	09 40 --	
428	Dec. 25	Mac	ePZ	10 45 01	Aftershock of #427.
		Mac	eSN	10 48 56	
		Mac	eLN	10 51 22	
		Mac	F	10 59 --	
429	Dec. 25	Mac	ePZ	19 52 28	
		Mac	eZ	19 52 33	
430	Dec. 26	Mac	iPZ	05 02 37	18°.8 N, 104°.2 W.
		Mac	eSN	05 06 56	$H = 04^h57^m22^s$.
		Mac	iE	05 07 14	$\Delta_{P-H} = 24°.0$
		Mac	F	06 08 --	$\Delta_{meas} = 24°.0$
431	Dec. 27	Mac	eSKSE	04 20 12	29°.9 S, 179°.3 W.
		Mac	eSKKSE	04 21 11	$H = 03^h55^m22^s$.
		Mac	ePSE	04 23 21	$\Delta_{PS-H} = 107°.5$
		Mac	F	06.1----	$\Delta_{meas} = 107°.7$
432	Dec. 30	Mac	(e)Z	06 42 57	Probably from the same
		Mac	e(PPS)N	06 53 44	region as #431.
		Mac	F	Lost in following	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
433	Dec. 30	Mac Mac	eN F	$07^h59^m49^s$ 09 30 --	Region: 31° S, 178° W. H = $07^h36.3^m$
434	Dec. 30	Mac Mac Mac Mac Mac	eP'Z e(PR_1)Z ePSE eE F	22 21 16 22 22 27 22 32 16 22 32 45 24 31 --	New Guinea. Δ = about 120° Riverview gives: H = $22^h02^m23^s$.

Minor Seismic Activity:

Date	From h. m.	To h. m.
Dec. 17	14 --	16 --
24	06 51	07 37
24	08 59	09 20
25	12 27	12 43
27	01 22	01 42

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