



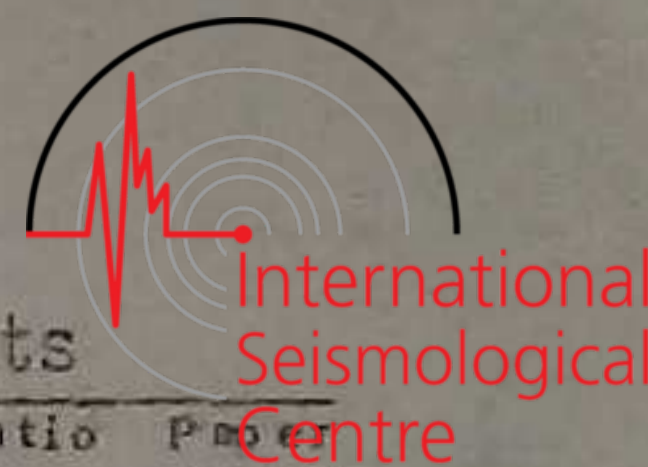
# SEISMOLOGICAL BULLETIN

OCT 1964

GOVERNMENT OF INDIA  
METEOROLOGICAL DEPARTMENT

PUBLISHED UNDER THE DIRECTION OF  
SHRI P. R. KRISHNA RAO  
DIRECTOR GENERAL OF OBSERVATORIES





List of Seismograph stations with their Instruments and constants

Station and abbreviation	Latitude (° N)	Longitude (° E)	Height (a.s.l.) (metres)	Lithographic foundation	Instrument	Component	Period in secs.	Static magnification	Damping ratio	Paper speed mm/min	
Kolkata	23.47	85.52		Rock	Press-Ewing	Z	To-15 Tg-100	-	-	15	
					-do-	N-S	To-15 Tg-100	-	-	15	
					-do-	E-W	To-15 Tg-94	-	-	15	
					Sprengnether	E-W	To-Tg-7.3	5000	Critical	30	
Mumbai	19.54	72.49		Deccan Trap	Wood-Anderson	N-S	0.8 sec	940	-do-	30	
					-do-	E-W	0.8 sec	950	-do-	30	
					Milne-Shaw	N	12	250	20:1	8	
					-do-	E	12	250	20:1	8	
Mumbai					Sprengnether	E	7.3	5000	Critical	30	
					Benioff	Z	-	-	-	30 for LP Galvanometer 60 for SP	
Calcutta	22.32	88.20			Milne-Shaw	E	12.0	250	20:1	8	
					(2) 6 Omori-Ewing	O	19.0	30	-	25.4	
					Alluvium	-do-	N	16.0	32	-	25.4
					Sprengnether	N	To-Tg-7.0	1000	Critical	30	
Kolkata	26.50	87.10	161	Sand stone	Benioff	Z	To-0.72 Tg-0.45	-	-	60	
					Wood-Anderson	N	0.8	1000	20:1	30	
					-do-	E	0.8	1000	20:1	30	
					Milne-Shaw	N	12.0	250	20:1	16	
					-do-	E	12.0	250	20:1	16	
Kolkata					Wanner Accelerograph	ZNE	To-0.1 sec	50	10:1	600	
Dibrugarh	18.41	77.12	207	Massive Quartzite	Sprengnether	E	To-Tg-7.3	5000	Critical	30	
					Wood-Anderson	E	To-0.8	1000	-do-	30	
					-do-	N	To-0.8	1000	-do-	30	
					Milne-Shaw	N	To-12.0	250	20:1	8	
					Benioff (SP)	Z	To-1.0 Tg-0.76	50000	for TE-1	Critical	60
					-do-	N	To-1.0 Tg-0.76	50000	sec	-do-	60
					-do-	E	To-1.0 Tg-0.77	50000	sec	-do-	60
Sprengnether (LP)	Z	To-15 Tg-100	1500	for TE-15	-do-	15					
Dibrugarh	30.10	78.03	682	Gravel	Wood-Anderson	N	To-0.8	970	Critical	30	
					-do-	Z	To-0.8	1000	-do-	30	
					Milne-Shaw	N	To-12.0	250	20:1	8	
					Sprengnether	Z	To-15 Tg-100	1500	Critical	30	
									for TE-15 sec		
Dibrugarh	15.20	73.40		Laterite	Sprengnether	Z	To-Tg-1.5	-	Critical	30	
					-do-	E	To-Tg-7.4	5000	-do-	30	
					-do-	N	To-Tg-7.5	5000	-do-	30	
Dibrugarh	17.26	78.27	536	Granite	Milne-Shaw	E	To-12	243.5	20:1	8	
					-do-	N	To-12	250.2	20:1	8	
Dibrugarh	10.14	77.28	2345	Rock	Benioff (SP)	Z	To-1.0 Tg-0.75	100000	for TE-1	Critical	60
					-do-	N	To-1.0 Tg-0.75	100000	sec	-do-	60
					-do-	E	To-1.0 Tg-0.75	100000	sec	-do-	60
					Sprengnether (LP)	Z	To-15 Tg-100	1500	for TE-15	-do-	30
					-do-	N	-do- -do-	1500	sec	-do-	30
					-do-	E	-do- -do-	1500	sec	-do-	30
Dibrugarh	13.00	80.11	15		Milne-Shaw	E-W	To-12.0	250	20:1	8	
					Sprengnether	Z	To-Tg-7.5	-	Critical	30	
Dibrugarh	18.32	75.51	560	Deccan Trap	Benioff (SP)	Z	To-1.0 Tg-0.75	50000	for TE-1	Critical	60
					-do-	N	-do- -do-	50000	sec	-do-	60
					-do-	E	-do- -do-	50000	sec	-do-	60
					Sprengnether (LP)	Z	To-15 Tg-100	3000	for TE-15	Critical	15
					-do-	N	-do- -do-	1500	sec	-do-	15
Dibrugarh	11.40	92.43			Milne-Shaw	Z	12.0	250	20:1	8	
					Wood-Anderson	N	2.0	890	30:1	30	
					-do-	E	0.8	810	70:1	30	
					Benioff	Z	To-1.0 Tg-1.5	-	-	30	
Dibrugarh	23.10	77.05			Wood-Anderson	N	0.8	860	Critical	30	
					-do-	E	0.8	950	-do-	30	
Dibrugarh	25.34	91.53	1600	Quartzite (Shillong Quartzite)	Benioff (SP)	Z	To-1 Tg-0.75	200000	for TE-1	Critical	60
					-do-	N	-do- -do-	200000	sec	-do-	60
					-do-	E	-do- -do-	200000	sec	-do-	60
					Press-Ewing (LP)	Z	To-15 Tg-100	3000	for TE-15	-do-	30
					-do-	N	-do- -do-	3000	sec	-do-	30
					-do-	E	-do- -do-	3000	sec	-do-	30
					Sprengnether	E	To-Tg-5.7	2600	Critical	30	
Dibrugarh	26.45	93.46		Alluvium	Milne-Shaw	N	To-12	250	20:1	8	
					Wanner Accelerograph	Z, N, E	To-0.1	Nearly 50	10:1	600	
Dibrugarh	17.43	83.18			Wood-Anderson	E-W	0.8	1000	Critical	60	
					Sprengnether	E	To-Tg-7.0	5000	Critical	30	
					Wood-Anderson	E	To-2.0	960	-do-	30	
					-do-	N	To-0.8	960	-do-	30	
					Electromagnetic (S.P.)	Z	To-Tg-1.65	6000	-do-	60	









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Table with columns: DATE, STN, PHASE, H, M, S, and KM. Contains multiple entries for stations like CHA, NDI, SHL, VIS, TOC, BOK, PBA, DDI, BOM, and CHA with various seismic phases and magnitudes.

Table with columns: DATE, STN, PHASE, H, M, S, and KM. Contains multiple entries for stations like BOK, NDI, CHA, BOK, SEH, CAL, SHL, VIS, BOM, MDR, SHL, NDI, PBA, DDI, and NDI with various seismic phases and magnitudes.



DATE	STN	PHASE	H.	M.	S.	/	DATE	STN	PHASE	H.	M.	S.	/
						KM							KM
<u>October, 1964</u>													
07	P00	eP	04	04	49		08	SHL	eP	01	02	52	
07	P00	eP	08	05	30		08	NDI	iP	01	04	21	R
07	NDI	eP	11	47	05		08	NDI	eP	04	45	39	C
07	NDI	iPg	12	46	32.5 R	80	08	SHL	iP	04	48	58	C
		iSg		46	42.0		08	NDI	eP	05	45	48	C
07	SHL	eP	14	35	16		08	SHL	iP	10	50	09	
07	NDI	eP	16	09	29	CNE	08	NDI	eP	10	50	17	RS
07	NDI	iP*	16	09	47.5 CNW	130	08	CHA	iPg	12	44	19	150
		iPn, IPg		09	53.5				iSg		44	37	
		iS*		10	04.0		08	SHL	iP	13	37	38	
	DDI	e	16	09	57		08	CHA	e	13	39	21	
	CHA	eP	16	09	57	610	08	NDI	iPg	13	48	11.0 CS	80
		P*		10	09				iSg		48	20.0	
		eS		11	02		08	SHL	iP	15	10	48	C
	BOK	eP	16	10	14	1190	08	SHL	iP	17	05	06	C
		LQ		12	07		08	CHA	iP	17	05	18	R
		iS		12	16		08	NDI	eP	17	05	35	RNW
		SS		12	27		08	SHL	iP	18	15	31	R
		LR		12	39		08	NDI	iPn	20	59	19	RNW
	SHL	eP	16	10	52	1040			iPg		59	30	330
		S		12	39				iSn		59	56	
	VIS	eP	16	11	17	C			iSg		21	00	08
	P00	iP	16	11	29	1330	08	NDI	iP	21	59	01	RNE
		LQ		13	35				iS		22	00	22
		iS		13	45		08	P00	eP	22	01	14	
	LR, SSS			14	09		09	P00	eP	05	40	00	
	Sg, M			15	45		09	SHL	iP	12	50	09	R
	SEH	eP	16	11	30.6				i		54	52	
	CAL	EiP	16	13	06	200	09	CHA	iP	12	50	40	R
		iS		13	28		09	NDI	iP	12	51	37	RSE
	MDR	e	16	15	35		09	NDI	i	13	17	13	
07	PBA	e	22	12	44		09	SHL	iSg	15	47	09	
		i		13	13	08			iP	16	50	01	CNW
		i		13	11				Pg		50	07	220
07	NDI	eP	23	06	25				Sg		50	31	
07	SHL	eP	23	07	11		09	CHA	iP	16	51	01	R
		i		09	03				eS		52	18	730
		i		17	18		09	NDI	eP	19	45	41	R
07	P00	eP	23	15	05		09	SHL	iP	19	45	58	CSE
	NDI	eP	23	15	39	C	09	NDI	eP	19	45	41	R
07	NDI	iPg	23	37	34.0 RNE	80	09	SHL	iP	19	45	58	CSE
		iSg		37	43.0		09	NDI	eP	20	08	12	
07	DDI	e	25	37	42								

DATE	STN	PHASE	H.	M.	S.	/	DATE	STN	PHASE	H.	M.	S.	/		
						KM							KM		
<u>October, 1964</u>															
10	SHL	iPg	02	48	22	R	90	11	SHL	iP	00	25	51	C	
		Sg		48	32			11	SHL	iP	03	11	43	R	
10	Epc:- 32.2°N, 87.6°E in China H = 04h 47m 43s (New Delhi)							11	NDI	eP	04	56	35		
	CHA	iP	04	49	11	C	630	11	SHL	iP	10	31	06	R	
		i		50	18			11	NDI	iP	10	32	25	R	
		iS		50	45			11	NDI	eP	10	57	21	S	
	SHL	iP	04	49	37	R		11	SHL	iP	11	22	54	C	
		i		51	03										
		i		51	44				NDI	eP	11	23	53	R	
	BOK	eP	04	49	51		910		SHL	eP	12	23	55	230	
		iS		51	25					Sg		24	28		
		SSS		51	37			11	NDI	eP	14	38	55	R	
	NDI	iP	04	50	09					i		39	00		
	VIS	eP	04	51	26					i		39	04		
		e		55	48			11	SHL	iP	20	51	39		
	P00	eP	04	52	02			11	Epc:- 0.6°S, 121.7°E Northern celebes H = 21h 15m 03.9s h about 33 km (USCGS) Mag: 6 $\frac{1}{4}$ -6 $\frac{1}{2}$ (Pal) 6.3 (CGS) (USCGS)						
	DDI	e	04	52	37				Epc:- 1.0°S, 122.2°E -H = 21h 15m 00s (C.S.O. Shillong)						
10	SHL	iP	05	37	39	C	120		PBA	e	21	21	13	R	
		Sg		37	56					iP		21	30	3445	
10	BOK	i	08	22	02					i		22	23		
10	SHL	iP	12	19	31		120			PP		22	39		
		Sg		19	49					iS		26	35		
10	CHA	iPg	15	27	46	C	60			SS		28	38		
		iSg		27	53					SSS		29	06		
10	NDI	eP	16	33	42	S	1210			e		30	17		
		eS		35	46					M		32	34		
10	CHA	e	16	35	13				TOC	eP	21	22	23		
10	SHL	eP	16	35	56					SHL	iP	21	22	31	RSE
10	SHL	iP	19	41	01		100				i		23	16	4300
		Sg/Sn		41	11						PP		23	54	
10	SHL	iP	19	51	09	C					PcP/PPP		24	24	
	CHA	i	19	51	10						iS		28	29	
	NDI	eP	19	51	17	CS					SS		31	16	
10	SHL	iP	20	19	01	C					Lq		31	30	
		i		22	11						ScS		32	28	
		i		28	40						LR		34	04	
		i		30	20						M		40	53	
		M		58	08					VIS	iP	21	22	56	C
	CHA	i	20	19	02						iPcP		24	34	4830
	NDI	iP	20	19	10						iPPP		25	03	
		i		19	15						iS		29	25	







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DATE	STN	PHASE	H.	M.	S.	KM
13	SHL	iP	20	51	14	R
13	CHA	e	20	52	12	
		i		53	13	
13	SHL	iP	21	36	09	
13	Epc: - 35.8°N, 71.1°E West Pakistan - -H = 23h 02m 26s h about 120 km Mag: 5.8 (CGS) (USCGS)					
13	NDI	iP	23	04	27	NW 930
		iS		06	03	
13	DDI	e	23	04	33	
		i		06	49	
13	CHA	e	23	06	06	1780
		iP		06	08	
		iS		09	06	
13	P00	eP	23	06	29	750
		eS		07	47	
13	SHL	iP	23	06	57	R
13	VIS	iP	23	07	42	C
13	Epc: - 33.4°N, 141.8°E H = 05h 04m 59.6s h about 33 km Mag: 5.6 (CGS)					
13	MDR	eP	23	08	05	
		i		08	41	
		i		11	57	
		i		12	31	
	CHA	e	03	13	33	
	NDI	iP	03	14	26	RSW
	MDR	eP?	03	15	03	6480
		eS?		23	05	
14	P00	eP	03	15	14	
14	VIS	eP	03	15	26	
14	NDI	iP	08	12	12	E 860
		eS		13	41	
14	P00	e	15	52	42	
14	BOM	iP	17	30	21	2250
		PP		30	41	
		PPP		30	50	
		LQ		34	08	
		SS		34	30	
		LR		35	29	
	P00	eP	17	30	32	
	NDI	eP	17	31	35	
	MDR	eP	17	31	35	2900
		PP		32	16	
		PPP		32	26	
14	MDR	eS	17	36	05	2900
		LQ		36	53	
		LR		38	13	
		M		48	23	
	DDI	e	17	32	08	
	CHA	e	17	32	44	
	VIS	eP	17	33	01	3310
		eS		37	58	
14	NDI	iP	18	13	53	RNE
14	NDI	iP	20	37	30	RNE
14	NDI	eP	20	45	26	
14	PBA	ePg	23	35	43	65
		P*		35	46	
		P		35	49	
		eSg		35	53	
		S*		35	55	
		S		35	59	
		PPP		36	01	
		SS		36	10	
		SSS		36	20	
	CHA	i	23	39	02	
15	NDI	iP	02	19	23	R
15	NDI	e	11	04	33	
15	NDI	ePn	13	04	37	SE 250
		Sn		05	06	
15	NDI	eP	15	01	40	950
		eS		03	17	
15	NDI	iPg	20	20	52	RNE 70
		iSg		21	01	
15	Epc: - 44.7°N, 149.8°E in Kurile Islands H = 20h 26m 53.5s h about 49 km (USCGS) Mag: 5.2 (CGS)					
	SHL	iP	20	35	45	C
	CHA	iP	20	36	06	CSW 5840
		PP		38	08	
		PPP		39	08	
		iS		43	32	
		SSS		48	55	
	DDI	iP	20	36	37	SW 6510
		eS		44	41	
	NDI	iP	20	36	47	CSW 6500
		i		37	14	
		PP		38	26	
		iS		44	50	
		PPS		45	24	
		ScS		46	22	
		SS		48	40	
		SSS		51	10	
		LR		55	20	



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15	PBA	eP	20	36	47	
	VIS	e	20	37	05	6950
		eS		45	32	
	HYD	eP	20	37	35	7050
		PP		39	55	
		S		46	08	
		SS		50	23	
		LR		57	41	
		M		21	02	44
	MDR	iP	20	37	40	7480
		PcP		38	08	
		PP		40	08	
		PPP		41	47	
		iS		46	35	
		PS		46	56	
	SKS	ScS		47	37	
		SS		51	00	
		LQ		54	54	
		LR		58	12	
		M		21	04	08
	P00	iP	20	37	45	
	BOM	iP	20	37	47	7500
		PcP		38	09	
		PP		40	15	
		eS		46	43	
		PS		47	09	
		SS		51	11	
		SSS		54	-	
	NDI	eP	22	39	30	CSW
15	SHL	iP	22	49	25	C
	CHA	e	22	40	46	
	NDI	iP	22	50	26	CSW
		e		50	38	
	P00	iP	22	51	24	
15	CHA	e	23	12	07	
15	NDI	eP	23	12	17	
16	NDI	eP	01	46	30	
16	Epc: 44.3°N, 149.5°E Kurile Islands -H = 06h 5 m 38.6s h about 33 km Mag: 5.5 (CGS) (USCGS)					
	Epc:	44.3°N, 151°E				
	Kurile Islands H = 06h 5 m 30s (C.S.O. Shillong)					
	SIL	iP	07	08	51	R 5570
		PP		10	29	
		iS		15	43	
		iSSS		20	47	
16	CHA	iP	07	08	32	C
		i		09	14	
		e		16	30	
	DDI	iP	07	09	25	W 6450
		PcP		10	19	
		PP		11	35	
		PcS		14	22	
		iS		17	25	
		PS		17	39	
		PPS		17	50	
		ScS		18	20	
		SS		21	23	
		SSS		23	39	
		LQ		23	54	
		LR		26	35	
		M		31	26	
	NDI	iP	07	09	33	CSW 6500
		i		10	02	
		PP		11	36	
		iS		17	36	
		i		18	14	
		ScS		19	14	
		SS		21	20	
		M		32	23	
	PBA	iP	07	09	35	R
		i		13	43	
		i		14	07	
		i		16	41	
	VIS	eP	07	9	50	6780
		eS		18	08	
	SEH	eP	07	9	59	
		e		1	19	
	HYD	iP	07	10	14	S 7220
		PP		12	41	
		iS		18	56	
		SS		23	17	
		LQ		26	47	
		M		34	59	
	MDR	iP	07	10	27	E 7580
		PcP		0	58	
		PP		12	56	
		PPP		14	33	
		iS		19	27	
		PS		19	48	
		PPS		20	03	
		SKS/ScS		2	33	
		SS		23	48	
		SSS		27	04	
		LQ		28	04	
		LR		31	25	
		M		37	01	
	P00	iP	07	10	30	



DATE	STN	PHASE	H.	M.	S.	AKM	DATE	STN	PHASE	H.	M.	S.	KM	
October, 1964.														
16	NDI	iP	07	17	00	R	16	P00	iP	08	29	18	CSW	
		e		17	36				i		33	49		
16	SHL	eP	07	30	35		16	NDI	iP	08	43	25	CSW	
	CHA	e	07	30	58		16	NDI	iP	08	47	18	CS	
	NDI	iP	07	31	38	CSW	16	Epc:- 44.5°N, 145.5°E in Kurile Islands. H = 09h 18m 16.6s. h about 33 km (USCGS) Mag: 5.4 (CGS).						
	P00	iP	07	32	34	CE		SHL	iP	09	27	08	C	
		i		33	19			CHA	eP	09	27	29	5990	
	Epc:- 44.3°N, 149.5°E in Kurile Islands H = 07h 28m 328.3s, h about 52 km Mag: 5.0 (CGS).								eS		35	03		
16	CHA	e	07	37	41		16	NDI	iP	09	28	11	6480	
	NDI	iP	07	38	22	CSW		iS			36	13		
	P00	iP	07	39	18	C		DDI	eP	09	28	13	6510	
		i		39	31			e			35	55		
		i		39	38			eS			36	17		
		i		39	42			PBA	eP	09	28	20		
16	CHA	e	07	46	33		16	VIS	iP	09	28	28	R	
16	NDI	eP	08	01	31	RS	16	MDR	i	09	29	05		
16	Epc:- 44.6°N, 149.4°E in Kurile Islands. H = 08h 18m 28.3s, h about 33 km (USCGS) Mag: 6-6 1/4 (Pal), 5.2(CGS).							i			29	26		
	SHL	iP	08	27	19	C		e			29	40		
	CHA	eP	08	27	40	5790		i			38	15		
		eS		35	04			i			39	17		
	DDI	iP	08	28	10	6480	16	P00	eP	09	29	06	CSE	
		i		36	05						29	51		
		iS		36	12		16	SHL	eP	10	13	50		
	NDI	iP	08	28	21	CSW	6480	16	NDI	iP	11	00	52	C
		iS		36	23			16	NDI	iP	11	08	27	RSE
	PBA	eP	08	28	22				POQ	eP	11	09	23	
		Mn		55	-			16	NDI	iP	11	34	35	RNE
	VIS	iP	08	28	39	R	6980	16	NDI	iP	12	13	58	C
		iS		37	08			16		i		14	11	
	MDR	iP	08	29	16	E	7630	16	P00	iP	12	14	55	R
		e		29	56			16	SHL	iP	12	27	47	C
		iS		38	19				NDI	iP	12	28	48	RNE
		PS		38	43					i				
		PPS		39	01			12	CHA	eP	12	45	39	
	SKS/ScS			39	24			12	SHL	iP	12	46	17	C
	SS			42	33			12	NDI	iP	12	47	19	CE
	SSS			45	38					i		47	35	
	LQ			46	57			16	P00	eP	12	48	16	
	LR			50	12					i		48	22	
										i		48	29	



DATE	STN	PHASE	H.	M.	S.	KM	DATE	STN	PHASE	H.	M.	S.	KM	
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16	SHL	iP	13	14	49		17	NDI	iP	23	26	08	CNW	
16	CHA	iP	13	15	52	C	560	17	SHL	eP	05	57	24	
		iS		16	51			17	SHL	eP	06	08	47	
16	SHL	iP	13	38	23	C		17	NDI	i	06	42	21	
16	NDI	iP	13	39	26	CSW		17	SHL	iP	07	58	27	
16	P00	eP	13	40	22	R		17	CHA	e	07	59	22	
		i		40	35					i	08	00	28	
		i		40	40			17	NDI	eP	09	58	35	
		i		40	46				CHA	e	09	59	45	
		i		40	52			17	SHL	iP	10	00	18	R
16	NDI	iP	14	32	05	R		17	CHA	iPg	11	46	22	C
16	SHL	iP	17	27	30	R				iSg		46	30	70
16	SHL	iP	18	02	54	150	17	NDI	iP	12	16	51	CNE	
		iSg		03	14			17	P00	eP	12	17	43	
16	SHL	eP	21	15	24		17	SHL	eP	13	13	27		
16	NDI	i	23	00	15		17	SHL	iP	15	09	51		
16	SHL	iP	23	53	52			CHA	iP	15	10	20	C	
17	SHL	eP	00	57	47	150		P00	eP	15	11	10		
		iSg		58	07			NDI	iP	15	11	18	CNE	
17	P00	eP	01	09	36		17	NDI	iP	16	15	11	C	
17	Epc: 7.0°S, 155.8°E in Solomon Islands. Felt. H = 01h 38m 36.0s, h about 58 km (USCGS) Mag: 4.7 (CGS).							17	SHL	iP	18	33	02	R
	SHL	iP	01	49	44	C		17	SHL	eP	22	21	20	
	PBA	eP	01	50	23	45		17	SHL	iP	23	37	48	R
		i		50	28			18	P00	eP?	04	32	38	
	MDR	eP	01	50	38			18	SHL	iP	06	25	31	R
	NDI	eP	01	50	56	RNW		18	NDI	eP	06	26	30	RSW
	P00	iP	01	51	02	CSE		18	Epc:- 2.9°N, 65.7°E in Carlsberg Ridge. H = 09h 06m 26.0s. h about 33 km (USCGS).					
		e		51	12				MDR	iP	09	10	21	W
17	Epc:- 0.7°N, 119.3°E in Northern Celebes. H = 03h 17m 28.1s h about 62 km (USCGS) Mag: 5.4 (CGS).								PP		10	37	1870	
	SHL	eP	03	24	28				PPP		10	47		
	VIS	iP	03	24	53	R			eSS		13	48		
	CHA	iP	03	25	02	C			i		14	50		
	MDR	iP	03	25	04	4510			M		15	55		
		PI		26	37				BOM	iP	09	10	24	
		PPP		27	01				PP		10	34		
		eS		31	14				PPP		10	41		
		M		39	34				i		13	05		
									iS		13	09		
									SS		13	54		
									P00	iP	09	10	25	



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18	HYD	iP	09	10	45	2100
		eSS		14	43	
		e		16	48	
	CAL	eiP	09	11	25	
		i		16	12	
	VIS	iP	09	11	25	R 2570
		e		15	33	
	SEH	eP	09	11	30	
	NDI	eP	09	12	14	3210
		i		12	50	
		eS		17	04	
		i		19	18	
	BOK	iP	09	12	20	CNE 3270
		iS		17	14	
		LQ		17	21	
		SS		17	48	
		LR		18	42	
	PBA	eP	09	12	26	
		e		19	39	
	DDI	eP	09	12	33	3310
		iS		17	30	
	CHA	e	09	12	47	
	SHL	iP	09	13	09	R 3850
		iS		18	38	
18	NDI	eP	10	12	13	530
		eS		13	10	
	P00	eP	10	12	48	
18	Epc:- 7.0°S, 124.0°E Banda Sea H = 12h 32m 24.1s h about 574 kms (USCGS) Mag : 5.8 (CGS). Epc:- 1°S, 119°E H = 12h 32m 25s (CSO Shillong).					
	PBA	iP	12	38	41	R 4030
		PP		40	30	
		i		42	41	
		iS		43	38	
		i		47	50	
	TOC	iP	12	39	39	4835
		iS		45	27	
	SHL	iP	12	39	53	R 5000
		PP		41	24	
		PPP		41	43	
		iS		45	53	
		i		48	51	
		i		49	06	
	VIS	iP	12	40	07	C 5110
		PcP		41	30	
		i		42	15	
18	VIS	iS	12	46	06	
		i		49	26	
		i		54	56	
	MDR	iP	12	40	11	W 5220
		e		41	32	
		pP		41	59	
		iS		46	21	
		e		48	10	
		sS		49	39	
		e		53	21	
	BOK	eP	12	40	17	C 5380
		PcP		42	09	
		e		47	01	
		SS		50	25	
	CHA	iP	12	40	21	C 5445
		i		42	11	
		PcP		42	30	
		iS		46	43	
		PS		46	52	
		PPS		47	02	
		e		49	29	
		SS		49	47	
		e		50	09	
	CAL	i	12	40	39	
		pP		41	36	
		i		44	45	
	TOC	i	12	40	42	
		iS		46	31	
	SEH	iP	12	41	04	5220
		e		43	02	
		eS		47	56	
		e		51	25	
	P00	iP	12	41	06	
	BOM	iP	12	41	14	6300
		pP		43	06	
		PPP		45	05	
		e		47	23	
		i		48	11	
		iS		48	26	
		SP		48	33	
		SS		51	38	
		e		51	45	
		SS		52	30	
		e		54	39	
	NDI	iP	12	41	18	RSE 6310
		i		42	04	
		i		42	24	
		pP		43	10	
		PP		43	34	
		i		44	04	
		PPP		45	00	
		i		46	22	
		iS		48	24	
		i		48	48	



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18	NDI	i	12	49	44	
		i		50	06	
		i		52	02	
	DDI	iP	12	41	22	SE 6390
		PP		43	33	
		sP		44	11	
		PPP		45	16	
		PcS		46	07	
		iS		48	29	
		ScS		50	10	
		SS		52	39	
		SSS		56	29	
	HYD	eS	12	47	07	
		e		56	50	
18	NDI	eP	13	25	22	RW
18	SHL	eP	14	09	19	
18	SHL	iP	14	49	43	R
18	SHL	eP	17	09	02	
18	PBA	iPg	17	51	52	C 55
		iSg		51	58	
18	NDI	i	18	00	13	
18	SHL	eP	19	24	13	
		e		24	25	
18	CHA	e	19	26	23	
18	P00	eP	21	29	56	
	NDI	eP	21	29	56	RW
	CHA	e	21	31	25	
18	SHL	iP	22	05	25	C
18	CHA	iP	22	05	54	C
18	NDI	eP	22	40	47	
18	SHL	iP	22	42	49	C
18	P00	eP	23	40	56	
18	SHL	iP	23	59	13	C
18	CHA	eP	23	59	37	
19	NDI	iP	00	00	30	RNW
19	CHA	i	00	01	59	
19	PBA	iP	01	59	05	C 280
		iS		59	36	
19	CHA	e	02	02	35	
19	NDI	iP	02	16	55	RNE 370
		iPP		17	01	
		iS		17	35	
	DDI	e	02	16	35	
		i		16	56	
	CHA	eP	02	18	11	
19	NDI	iPg	06	43	17.6	RN 20
		iSg		43	19.7	
19	NDI	iP	07	27	22	RN
		i		30	15	
19	NDI	eP	13	41	31	R
19	NDI	iP	15	43	35	CSW
19	SHL	iP	16	09	07	R 150
		iSg		09	27	
19	NDI	iP	16	42	16	C
19	NDI	iP	17	43	45	RNW
19	NDI	iP	17	52	25	R
19	NDI	iP	18	26	57	C
19	NDI	iP	19	43	59	R
		i		44	00	
19	SHL	iP	20	57	03	R
		e		57	24	
19	SHL	iP	21	47	21	C
19	NDI	iP	21	48	23	CNE
20	P00	ePM?	04	02	42	
20	PBA	e	04	55	41	
20	NDI	eP	05	04	54	
20	P00	eP	13	15	15	
20	SHL	eP	14	58	20	
20	SHL	eP	19	04	03	
21	SHL	eP	04	23	35	
21	CHA	eP	04	24	36	780
		eS		25	56	
21	NDI	eP	08	03	43	
		i		04	58	
21	NDIZ	eP	09	31	42	R
21	SHL	eP	11	33	41	
21	SHL	iP	12	54	54	
		iP		14	23	27
		i		25	04	
21	SHL	eP	14	45	28	
	TOC	ePn	14	45	46	90
		P*		45	51	
		iSn		45	58	
		e		46	24	
	NDI	eP	14	47	58	
21	NDI	eP	14	51	04	R
21	P00	eP	15	04	10	







DATE	STN	PHASE	H.	M.	S.	km.	
October, 1964							
24	MDR	eP	07	01	11		
				04	59		
24	SHL	iP	08	52	07	R	
	NDI	iP	08	53	49	RSE	
24	SHL	eP	18	04	33		
24	NDI	i	18	27	45		
24	NDI	iP	18	47	55	C	
24	PBA	ePg	20	14	08	60	
		iSg		14	14		
24	SHL	iP	22	15	45		
25	SHL	eP	00	00	10		
25	SHL	eP	06	35	12		
25	NDI	eP	06	45	06	R	
		i		48	32		
25	SHL	iP	06	45	26	C	
25	NDI	iP	08	08	27	RN	
25	SHL	iP	08	09	11	C	
25	NDI	iP	09	24	49	RNE	
25	NDI	eP	11	18	26	RN	
		iS		19	37	680	
25	SHL	iP	12	21	28	R	
25	NDI	eP	15	31	17		
		i		32	30		
25	Epc: - 27.8°N, 88.5°E H = 15h 40m 09s. (New Delhi)						
	CHA	ePn	15	40	36	150	
		iSn		40	55		
	SHL	iP	15	41	08	R	
	BOK	e	15	41	27		
		iS		42	21		
	CAL	e	15	42	00		
	NDI	eP	15	42	34	CW	
25	SHL	iP	20	14	45	C	
25	SHL	iP	20	19	27	C	
25	SHL	eP	21	46	22		
25	NDI	eP	22	58	47		
		iS		23	00	51	1210
25	DDI	e	23	00	27		
25	SHL	iP	23	01	03	R	
25	MDR	e	23	09	42		
		e		10	08		
		e		10	48		
		e		12	38		
25	SHL	iP	23	33	45	R	
October, 1964							
26	SHL	iP	01	20	47	R	
26	NDI	eP	01	34	36		
26	SHL	iP	09	48	09	C	
26	NDI	iP	11	34	33	RE	
26	NDI	iPg	11	39	35.3	80	
		iSg		39	44.5		
26	Epc: - 2.2°N, 126.8°E in Mohicca Passage. H = 14h 22m 57.8s h about 48 km (USCGS) Mag: 6.0 (CGS).						
	SHL	iP	14	30	37	C	
	MDR	eP	14	31	38	5180	
		PP		33	17		
		eS		38	17		
		ScS		41	20		
		LQ		42	27		
	P00	eP	14	32	18		
	NDI	iP	14	32	18	RE	
26	NDI	eP	14	39	27		
	DDI	e	14	39	48		
26	NDI	eP	14	45	25		
26	SHL	iP	15	20	51	R	
	NDI	eP	15	21	17		
26	NDI	eP	15	28	27		
26	SHL	iP	17	18	27	R	
26	SHL	iP	19	16	09	R	
26	SHL	iP	20	13	39	C	
26	NDI	iP	20	15	28	CE	
26	SHL	iP	21	52	06	C	
26	NDI	eP	23	47	23	1170	
		eS		49	23		
	SHL	iP	23	49	29	C	
27	SHL	iP	02	46	07	R	
27	PBA	e	03	02	05		
27	NDI	iP	06	32	43	C	
27	PBA	iPg	14	28	03	100	
		iSg		28	15		
27	SHL	iP	19	15	41	R	
27	SHL	iP	19	56	37	C	
27	PBA	iPg	15	59	25	R	
		iSg		59	31	50	
27	Epc: - 45.6°S, 96.1°E in Southeast Indian Rise. H = 21h 24m 31.2s. h about 33 km (USCGS).						



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27	PBA	iP	21	34	16	R	
	MDR	e	21	34	54		
		i		38	26		
		eS		42	51		
		i		46	38		
	P00	iP	21	35	21	7360	
		eS		44	09		
	BOM	eP	21	35	26	7500	
		eS		44	18		
	CAL	i	21	35	35		
	BOK	iP	21	35	41	RS 7800	
		iS		41	52		
		PS		45	03		
		ScS		45	22		
		SS		49	27		
	SHL	iP	21	35	47	R 7910	
		PP		38	33		
		PPP		40	13		
		iS		45	04		
		SS		49	38		
		SSS		52	38		
		LR		47	32		
	CHA	eP	21	35	58	8100	
		PcP		36	13		
		PPP		40	33		
		iS		45	24		
	NDI	eP	21	36	13	8360	
		eS		45	52		
		PS		46	29		
		SS		40	39		
		LR		59	28		
		M		22	05		
	DDI	eP	21	36	20	8610	
		eS		46	11		
	HYD	e	21	43	47		
		e		54	14		
27	SHL	iP	22	55	47	C	
27	SHL	eP	23	59	23		
28	SHL	iP	00	31	47	R	
28	NDI	eP	03	26	50	R	
28	NDI	iPg	04	47	52.9	CSE 40	
		iSg		47	57.9		
		i		48	03		
		i		48	35		
28	SHL	eP	09	11	54		
28	P00	iPg	13	26	39	90	
		iSg		26	50		
28	BOM	iPn	13	56	51	140	
		Pg		56	52		
		S*		57	09		
		iSn		57	10		
	P00	iPg	13	57	35		
		i		57	46		
28	MDR	e	14	00	26		
		Sg		00	27		
28	NDI	iPg	15	08	37.9	CSE 80	
		iSg		08	47.2		
28	NDI	iPg	17	33	07.2	CSE 60	
		iSg		33	14.6		
28	SHL	eP	18	17	52		
28	SHL	eP	18	36	07		
28	NDI	eP	19	17	08	R	
28	Epc: - 36.1°N, 71.3°E in Afghanistan-USSR border region. H = 19h 35m 15.8s h about 130 km. Mag: 5.5 (CGS).						
	DDI	eP	19	37	13	870	
		eS		38	43		
	NDI	iP	19	37	22	C 950	
		iS		38	59		
	P00	iP	19	39	17		
		e		42	45		
	BOK	e	19	39	35		
		i		42	17		
		eS		42	34		
		SSS		42	46		
	SHL	iP	19	39	48	C 2290	
		iS		43	34		
	MDR	e	19	40	55		
		i		41	34		
		e		44	59		
		eS		45	23		
	CAL	e	19	43	20		
29	NDI	iPg	05	00	29.0	CSE 40	
		iSg		00	33.4		
29	PBA	iP	08	20	32		
29	NDI	i	11	15	28		
29	NDI	eP	13	34	34	1740	
		eS		37	29		
29	NDI	i	19	25	13		
29	VIS	eP	19	43	56	1080	
		eS		45	46		
30	MDR	eP	02	59	47	3110	
		PP		03	00	34	
		PPP		00	51		
		i <sup>b</sup>		04	31		
		LQ		05	31		
		M		09	11		
30	P00	iP	03	00	02		
	NDI	eP	03	01	30		
	SHL	iP	03	01	59	R	



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30	NDI	eP	03 47 32		31	CHA	e	14 42 59	
30	MDR	e	04 41 07				e	46 01	
			45 53		31	SHL	iP	14 43 47	R
	NDI	eP	04 43 25		31	NDI	eP	15 03 54	C
	SHL	iP	04 43 54	C	31	Epc: 11.5°N, 95.0°E in Bay of Bengal.			
30	MDR	e	06 26 19			H= 17h 10m 31s. (New Delhi).			
30	SHL	eP	10 23 57		31	PBA	eP	17 11 10	250
30	SHL	eP	12 05 54			PP		11 20	
30	SHL	iP	17 07 13	C		PPP		11 26	
30	NDI	iP	17 25 49	C		iS		11 39	
30	SHL	iP	21 35 56	R		S*		11 42	
30	NDI	iP	21 36 56			Sg		11 45	
30	SHL	iP	21 48 44	C		SS		11 52	
		e	49 45			SHL	eP	17 13 56	
30	NDI	iPg	23 58 55.5	CW		CHA	PP	17 14 40	
		iSg	59 00.8	40		NDI	eP	17 15 48	
							i	15 56	
31	SHL	iP	11 17 01	C	31	SHL	iP	19 01 33	C
	CHA	eP	11 17 08	280	31	CHA	eP	19 02 11	
		iS	17 40		31	NDI	eP	19 03 19	CW
	BOK	e	11 17 58		31	SHL	iP	19 25 31	R
		e	18 52		31	NDI	iP	19 50 16	C
	TOC	e	11 18 21		31	SHL	iP	20 23 39	R
	CAL	e	11 19 02		31	SHL	eP	21 37 21	
31	POO	eP	11 23 15		31	SHL	iP	23 51 23	C
31	NDI	iP	14 41 28	S		CHA	e	23 51 59	
		iS	43 10	990		NDI	iP	23 52 40	R

Earthquake Reports  
(Non Instrumental Reports)

Following is the list of earthquakes that were reported by Voluntary Observers from different stations during the month of October, 1964.

Station	Date in GMT	Time in GMT	No. of shocks	Duration in secs.	Intensity in R.F. Scale	Remarks
Shillong	2.10.64	15-25	One	20 secs.	V	
Shillong	4.10.64	20-55	One	15 secs.	V	
Mukteswar	7.10.64	20-40	One	2 secs.	V	
Mohanbari	22.10.64	23-10	One	8 to	V	
Gangtok	25.10.64	15-42	One	10 secs.	V	
Gangtok	25.10.64	17-30	One	5 secs.	V	Coming from South.
Gangtok	25.10.64	21-38	One	2 secs.	III	

Date Hour GMT K Mean amplitude in m.m. Mean period in sec. Date Hour GMT K Mean amplitude in m.m. Mean period in sec.

Station : Madras

October, 1964

01	00	2	0.7	3.9	09	06	3	0.3	4.2
		3	0.1	1.6			3	0.1	1.5
	03	2	0.8	3.9		12	3	0.3	4.4
	06	2	0.7	4.0		18	2	0.3	4.5
	12	2	0.7	4.0	10	00	2	0.3	4.3
	18	2	0.7	4.0			2	0.1	1.9
02	00	2	0.7	4.0		03	2	0.3	4.2
	03	2	0.7	4.1		06	2	0.2	4.2
	06	2	0.7	4.1		12	2	0.2	4.0
	12	2	0.6	4.0		18	2	0.2	4.3
	18	2	0.6	4.0	11	00	2	0.2	4.1
03	00	2	0.5	3.9		03	2	0.3	4.3
	03	2	0.5	3.9		06	2	0.3	4.0
	06	2	0.5	3.9			2	0.1	2.7
	12	2	0.5	3.9		12	2	0.3	4.0
	18	2	0.5	4.0			2	0.1	2.7
04	00	3	0.4	3.5		18	2	0.2	4.1
	03	3	0.4	3.6			3	0.1	2.2
	06	2	0.4	3.6	12	00	3	0.2	4.1
		2	0.1	1.7			3	0.1	2.3
	12	2	0.3	3.7		03	3	0.3	4.3
		2	0.1	2.0			3	0.1	2.2
	18	2	0.3	3.7		06	3	0.3	4.2
05	00	2	0.3	3.2			3	0.1	2.1
	03	2	0.3	3.3		12	3	0.2	3.9
	06	2	0.3	3.2			3	0.1	2.6
	12	2	0.3	3.5		18	3	0.2	3.8
	18	3	0.4	3.7			3	0.1	2.9
06	00	3	0.4	4.2	13	00	3	0.2	5.3
	03	3	0.4	4.3			3	0.2	3.1
	06	3	0.3	3.9		03	3	0.2	5.6
	12	2	0.4	4.3			3	0.3	3.4
	18	2	0.4	4.1		06	3	0.3	3.5
07	00	2	0.4	4.5		12	3	0.3	5.3
	03	2	0.4	4.3			3	0.3	3.3
		2	0.1	1.9		18	3	0.3	5.4
	06	2	0.4	4.3	14	00	3	0.3	3.2
		2	0.1	1.7			2	0.3	3.3
	12	3	0.4	4.3		03	2	0.3	3.3
		3	0.1	2.1			2	0.2	3.2
	18	2	0.4	4.3		06	3	0.2	5.4
		2	0.1	2.2		12	3	0.3	5.1
08	00	2	0.3	4.4			3	0.2	3.1
	03	2	0.4	4.4		18	3	0.2	3.1
	06	2	0.4	4.4	15	00	3	0.2	5.7
	12	2	0.3	4.3			3	0.2	3.1
	18	2	0.3	4.3		03	3	0.3	5.1
09	00	2	0.3	4.3			3	0.2	3.0
		2	0.1	1.1		06	2	0.3	5.6
	03	2	0.4	4.3			2	0.2	3.1
		2	0.1	1.0		12	3	0.3	5.1
		2	0.4	4.3			2	0.3	3.2
		2	0.1	1.0		18	3	0.3	5.1
							3	0.2	3.0



DATE	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
Station Madras (Contd.)									
October, 1964									
16	00	3	0.3	5.0	23	00	3	0.2	5.8
		3	0.3	3.0			3	0.1	2.7
	03	3	0.3	4.0		03	...	Earthquake	
		2	0.2	2.6		06	...	No record.	
		2	0.1	1.4		12	3	0.2	5.2
	06	3	2.6			18	3	0.3	6.2
	06	3	0.2	2.6			2	0.2	3.8
		3	0.1	1.5	24	00	3	0.2	5.6
	12	3	0.2	2.6			3	0.2	3.7
		3	0.2	2.2		05	3	0.2	5.0
	18	2	0.3	2.4		06	3	0.2	5.6
17	00	2	0.4	2.5		12	3	0.2	5.3
	03	2	0.4	2.7		18	3	0.2	5.7
		2	0.2	1.8	25	00	3	0.2	5.5
	06	2	0.3	2.7			3	0.1	2.5
		2	0.1	1.9		03	3	0.2	5.6
	12	2	0.4	2.8			3	0.1	2.5
	18	2	0.4	2.9		06	3	0.2	5.0
18	00	2	0.4	3.0			3	0.1	2.5
		2	0.4	3.0		12	3	0.2	4.9
	06	...	No record				3	0.1	2.5
	12	2	0.4	3.2		18	2	0.2	5.0
	18	2	0.5	3.1			2	0.1	2.7
19	00	2	0.5	3.1	26	00	3	0.2	4.9
	03	2	0.6	2.9			3	0.1	2.7
	06	2	0.7	3.0		03	3	0.2	4.9
	12	2	0.5	3.0			3	0.2	2.9
		2	0.3	2.5		06	3	0.2	4.8
	18	3	0.4	3.7			3	0.2	2.8
		3	0.3	2.8		12	3	0.2	4.9
20	00	3	0.3	3.1			3	0.2	3.0
		3	0.3	2.0		18	3	0.2	2.9
	03	2	0.2	4.3	27	00	3	0.2	3.0
		2	0.3	2.7		03	3	0.2	4.7
	06	...	No record				3	0.2	3.0
	12	3	0.2	4.4		06	3	0.2	5.0
		3	0.3	2.9			3	0.2	3.0
	18	3	0.2	5.7		12	3	0.2	4.9
		3	0.2	2.6		18	3	0.2	4.8
21	00	3	0.2	5.7			3	0.2	4.9
		3	0.2	2.8	28	00	3	0.2	4.8
	03	3	0.2	5.8			3	0.2	3.1
		3	0.2	2.8		03	2	0.2	4.8
	06	3	0.2	5.6			2	0.1	2.9
		3	0.1	2.5		06	3	0.2	4.8
	12	3	0.2	5.4			3	0.1	3.0
		3	0.1	2.6		12	3	0.2	4.9
	18	3	0.2	5.4			3	0.1	3.0
		3	0.1	2.7		18	3	0.3	5.2
22	00	...	Earthquake				3	0.1	3.2
	03	3	0.2	5.5	29	00	3	0.2	5.0
		3	0.1	2.6			3	0.1	2.9
	06	...	No record			03	3	0.2	4.7
	12	3	0.2	5.5			3	0.1	2.8
	18	3	0.2	6.0		06	3	0.2	5.0
		3	0.1	3.0			3	0.1	2.9



Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
Station : Madras (Contd.)									
October, 1964									
29	12	3	0.2	5.0	09	00	3	0.5	4.0
	3	3	0.1	2.8		06	3	0.3	3.8
	18	3	0.2	4.9		12	3	0.3	4.0
		3	0.1	2.8		18	3	0.3	4.4
30	00	3	0.2	4.8	10	00	3	0.2	4.3
		3	0.1	2.8		06	3	0.3	4.2
	03	3	0.2	4.3		12	3	0.3	4.9
		3	0.1	2.7		18	3	0.3	4.8
	06	3	0.2	4.5	11	00	3	0.3	5.6
		3	0.1	2.6		06	3	0.4	4.7
	12	3	0.2	4.4		12	3	0.3	4.8
		3	0.1	2.7		18	3	0.3	4.0
	18	3	0.3	4.5	12	00	3	0.2	5.0
		3	0.2	2.8		06	3	0.3	5.5
31	00	3	0.3	4.3		12	3	0.2	6.2
		3	0.2	2.8		18	3	0.3	5.0
	03	2	0.3	4.2	15	00	3	0.3	5.2
		2	0.2	2.6		06	3	0.3	5.6
	06	2	0.3	4.4		12	3	0.2	4.8
		2	0.2	2.6		18	3	0.3	5.5
	12	2	0.4	3.0	14	00	3	0.2	5.4
	18	2	0.4	3.0		06	3	0.2	5.6
Station : Bokaro									
01	00	3	0.3	4.0		12	3	0.2	5.2
	06	...	-	-		18	...	-	-
	12	...	-	-	15	00	3	0.3	5.4
	18	...	-	-		06	3	0.2	5.0
02	00	to	-	-		12	3	0.3	5.6
	18	...	-	-		18	3	0.3	5.6
03	00	...	-	-	16	00	3	0.2	4.8
	06	3	0.3	4.4		06			
	12	3	0.4	4.2		12			
	18	3	0.4	4.1		18			
04	00	3	0.4	4.3	17	00			
	06	3	0.3	3.8		06	3	0.2	5.0
	12	3	0.2	4.6		12	3	0.2	4.5
	18	3	0.3	4.4		18	3	0.3	4.8
05	00	3	0.2	4.4	18	00	3	0.3	4.3
	06	3	0.2	4.6		06	3	0.4	3.6
	12	3	0.2	4.7		12	3	0.8	3.6
	18	3	0.2	4.2		18	3	1.0	3.6
06	00	3	0.5	4.0	19	00	3	0.8	3.4
	06	3	0.2	4.3		06	3	0.7	3.4
	12	3	0.2	4.0		12	3	0.5	3.2
	18	3	0.3	4.2		18	3	0.4	3.3
07	00	3	0.3	4.6	20	00	3	0.3	3.4
	06	3	0.5	5.0		06	3	0.3	3.6
	12	3	0.4	4.6		12	3	0.3	3.4
	18	3	0.4	5.0		18	3	0.2	4.3
08	00	3	0.3	4.8	21	00	3	0.2	3.1
	06	3	0.2	4.0		06	3	0.2	2.8
	12	3	0.2	4.0		12	3	0.2	2.8
	18	3	0.3	4.8		18	3	0.2	3.5
					22	00	...	-	-
						06	3	0.1	2.7



Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Bokaro (Contd.)

October, 1964

22	12	3	0.2	5.4	04	00	0..		
	18	3	0.2	5.2		06	0..		
						12	3	0.2	3.0
25	00 to	...	-	-		18	3	0.2	3.0
	18	...							
					05	00	3	0.3	3.0
24	00	...	-	-		06	...		
	06	...	-	-		12	...		
	12	3	0.2	4.4		18	3	0.4	3.0
	18	3	0.1	4.5	06	00	3	0.4	3.0
25	00	3	0.1	4.6		06	3	0.2	3.0
	06	3	0.2	5.2		12	3	0.2	3.0
	12	3	0.1	4.8		18	3	0.2	3.0
	18	3	0.1	4.8	07	00	3	0.2	3.0
26	00	3	0.2	5.0		06	3	0.1	3.8
	06	3	0.2	5.0		12	3	0.2	3.8
	12	3	0.2	4.8		18	3	0.1	3.8
	18	3	0.2	5.3	08	00	3	0.3	3.8
27	00	3	0.2	4.6		06	3	0.2	3.8
	06	3	0.2	5.4		12	3	0.2	3.8
	12	3	0.3	5.2		18	3	0.2	3.8
	18	3	0.3	5.2	09	00	3	0.2	3.8
28	00	3	0.3	5.0		06	0..		
	06	3	0.2	5.5		12	0..		
	12	3	0.3	5.0		18	0..		
	18	3	0.5	5.5	10	00	0..		
29	00	3	0.4	5.4		06	0..		
	06	3	0.3	5.2		12	0..		
	12	3	0.3	5.1		18	0.5	0.2	3.0
	18	3	0.3	5.0	11	00	3	0.2	3.0
30	00	3	0.2	5.0		06	3	0.2	3.0
	06	3	0.2	5.0		12	0..		
	12	3	0.2	5.0		18	3	0.1	3.0
	18	3	0.3	4.9	12	00	...		
31	00	3	0.3	4.8		06	0..		
	06	3	0.2	4.8		12	0..		
	12	3	0.2	4.4		18	0..		
	18	3	0.2	5.0	13	00	3	0.2	3.8

Station : Calcutta

01	00	...				06	3	0.2	3.8
	06	3	0.2	3.8		12	3	0.2	3.8
	12	3	0.2	3.8		18	3	0.2	3.8
02	00	3	0.2	3.8		06	3	0.2	3.8
	06	3	0.2	3.6		12	3	0.2	3.8
	12	3	0.2	3.6		18	3	0.2	3.4
	18	3	0.2	3.4	14	00	0..		
03	00	3	0.2	3.4		06	3	0.2	3.8
	06	3	0.1	3.4		12	3	0.4	3.8
	12	0..				18	3	0.4	3.8
	18	0..			15	00	0..		
						06	3	0.4	3.8
						12	3	0.4	3.8
						18	3	0.4	3.8
					16	00	0..		
						06	...		
						12	...		
						18	...		



Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Calcutta (Contd.)

October, 1964

Station : Visakhapatnam

17	00				01	00	2	0.3	4.0
	06					06	2	0.3	4.0
	12	0				12	...	-	-
	18	3	0.2	3.2		18	...	-	-
18	00	3	0.4	3.4	02	00	...	-	-
	06	3	0.6	3.6		06	2	0.4	4.0
	12	2	0.8	3.2		12	2	0.3	3.7
	15	2	1.4	3.2		18	2	0.3	3.8
	18	2	1.2	3.2	03	00	2	0.4	3.9
	21	2	1.4	3.2		06	2	0.3	4.1
19	00	2	1.6	3.2		12	2	0.2	4.2
	03	2	1.2	3.2		18	2	0.2	3.9
	06	2	1.2	3.2	04	00	2	0.2	3.9
	09	2	0.8	3.2		06	2	0.3	3.7
	12	2	0.8	3.2		12	2	0.2	3.5
	18	2	0.8	3.2		18	2	0.3	3.2
20	00	2	0.6	3.2	05	00	2	0.3	3.5
	06	2	0.4	3.2		06	2	0.4	4.2
	12	2	0.4	3.2		12	2	0.3	3.1
	18	2	0.4	3.2		18	2	0.3	4.1
21	00	2	0.4	3.2	06	00	2	0.2	4.1
	06	2	0.6	3.2		06	2	0.4	4.0
	12	2	0.6	3.2		12	2	0.2	3.7
	18	2	0.6	3.2		18	2	0.4	4.1
22	00				07	00	2	0.1	3.8
	06	3	0.2	3.2		06	2	0.3	3.7
	12	3	0.2	3.2		12	2	0.2	3.3
	18	3	0.2	3.2		18	2	0.3	3.6
23	00	0,0			08	00	0,0	-	-
	06	0,0				06	2	0.3	3.5
	12	...				12	0,0	-	-
	18	...				18	2	0.2	4.2
24	00	...			09	00	0,0	-	-
	06	0,0				06	2	0.2	3.2
	12	0,0				12	2	0.2	3.6
	18	0,0				18	2	0.3	3.9
25	00	0,0			10	00	2	0.2	4.3
	06	0,0				06	2	0.2	4.1
	12	0,0				12	2	0.2	4.1
	18	0,0				18	2	0.3	4.3
26	00	0,0			11	00	2	0.2	4.5
	06	0,0				06	2	0.3	4.3
	12	0,0				12	2	0.1	4.0
	18	0,0				18	2	0.2	4.0
27 to 31st	00	0,0	feeble microseismic movement		12	00	2	0.1	4.0
						06	2	0.2	4.2
						12	2	0.3	3.2
						18	2	0.3	4.0



Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
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Station Visakhapatnam

October, 1964

13	00	2	0.1	3.5	29	00	2	0.2	3.2
	06	2	0.3	4.2		06	2	0.15	3.1
	12	2	0.2	4.1		12	2	0.2	3.2
	18	2	0.2	4.1		18	2	0.2	3.2
14	00	2	0.1	3.0	30	00	2	0.2	3.3
	06	2	0.3	3.7		06	...	-	-
	12	2	0.2	4.0		12	2	0.1	2.4
	18	2	0.3	4.0		18	2	0.2	4.3
15	00	2	0.3	4.0	31	00	2	0.2	3.3
	06	2	0.3	3.8		06	2	0.3	3.4
	12	2	0.2	3.8		12	2	0.2	3.1
	18	2	0.2	3.6		18	2	0.3	4.0
16	00	2	0.3	4.0	Station : Goa, Comp: Vertical.				
	06	1	0.3	2.0	01	00	e	-	-
	12	2	0.2	3.7		06	e	-	-
	18	2	0.2	3.0		12	0..	-	-
17	00	2	0.1	2.0		18	0..	-	-
	06	1	0.5	3.1	e) The microseisms are not discernible.				
	12	1	0.2	2.0	e) Hourly time work are not discernible.				
	18	1	0.3	3.0	02 to 00 to 0..	-	-	-	-
18	00	1	0.3	3.0	20 18	-	-	-	-
	06	2	0.4	3.8	21 00 to 0..	-	-	-	-
	12	1	0.4	3.2	to 06 to 18 (a)	-	-	-	-
	18	1	0.5	3.8	24 18 (a)	-	-	-	-
19	00	1	0.4	4.0	(a) Light failure.				
	06	2	0.3	3.0	25 00 (a)	-	-	-	-
	12	2	0.3	3.0		06 (a) 0..	-	-	-
	18	2	0.4	3.0		12 0..	-	-	-
20	00	2	0.4	3.0		18 0..	-	-	-
	06	2	0.3	3.1	26 00 to 0..	-	-	-	-
	12	2	0.3	3.1		18 0..	-	-	-
	18	2	0.2	3.1	27 00 0..	-	-	-	-
21	00	2	0.2	3.0		06 e	-	-	-
	06	2	0.3	3.0		12 0..	-	-	-
	12	2	0.1	2.4		18 0..	-	-	-
	18	2	0.3	3.0	e) Hourly time mark is not discernible.				
22	00	2	0.3	3.2	28 to 00 to 0..	-	-	-	-
	06	2	0.3	3.0	31 18	-	-	-	-
	12	2	0.1	3.0	Component: E-W.				
	18	2	0.1	3.0	01 to 00 to 0..	-	-	-	-
23	00	0,0	-	-	20 18	-	-	-	-
	06	0,0	-	-	21 00 0..	-	-	-	-
	12	0,0	-	-		06 (a)	-	-	-
	18	0,0	-	-		12 (a)	-	-	-
24	00	0,0	-	-		18 (a)	-	-	-
	06	0,0	-	-	(a) Light failure.				
	12	0,0	-	-	22 to 00 to (a)	-	-	-	-
	18	0,0	-	-	24 18	-	-	-	-
25 to 27	00 to 18	0,0	-	-					
28	00	0,0	-	-					
	06	2	0.1	3.7					
	12	2	0.1	3.5					
	18	2	0.1	3.6					

Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Goa, Comp: E-W

October, 1964

25	00	a	-	-	02	00	3	1.1	3.0
	06	0..	-	-		06	1	1.0	2.9
	12	0..	-	-		09	1	0.7	2.9
	18	0..	-	-		12	3	0.7	3.0
26	00 to 18	0..	-	-		18	3	0.6	2.5
	06	e	-	-				0.7	3.0
	12	0..	-	-				0.2	1.5
	18	0..	-	-	03	00	-	-	-
e) Hourly time mark is not discernible.						03	1	0.7	3.0
28 to 31	No record.					06	1	0.5	3.0
Component : N-S.						09	1	0.5	3.0
01 to 20	00 to 18	0..	-	-		12	1	0.5	3.0
						15	1	0.5	3.0
						18	1	0.5	2.8
						21	1	0.6	3.0
21	00	0..	-	-	04	00	1	0.5	2.8
	06	a	-	-		03	1	0.5	2.9
	12	a	-	-		06	1	0.5	2.9
	18	a	-	-		09	1	0.5	3.0
a) Light failure						12	1	0.5	3.0
22 to 24	00 to 18	a	-	-		15	1	0.5	2.7
						18	1	0.5	2.5
						21	1	0.3	2.5
25	00	a	-	-	05	00	-	-	-
	06	0..	-	-		06	-	-	-
	12	0..	-	-		12	3	0.4	3.0
	18	0..	-	-				0.2	2.0
26	00 to 18	0..	-	-		18	3	0.5	3.0
								0.2	2.0
27	00	0..	-	-	06	00	3	0.5	3.0
	06	e	-	-		06	3	0.5	3.0
	12	0..	-	-		12	3	0.5	2.0
	18	0..	-	-		18	3	0.5	3.0
e) Hourly time mark is not discernible.								0.2	2.0
28 to 31	00 to 18	0..	-	-	07	00	3	0.5	4.0
Station Bombay (Colaba)						06	-	-	-
						12	3	0.6	4.0
								0.2	2.0
						18	3	0.5	4.0
								0.3	2.0
					08	00	3	0.4	3.0
								0.1	1.8
						06	-	-	-
						12	3	0.5	3.0
						18	3	0.5	2.0
								0.3	2.0
								0.5	3.0
								0.5	2.4
								0.3	2.0



30

Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Bombay (Colaba)					October, 1964				
09	00	3	0.5	3.0	21	00	2	0.3	2.5
			0.3	2.0		06	-	-	-
	06	3	0.5	3.0		12	2	0.4	2.8
			0.4	2.0		18	2	0.4	2.9
	12	3	0.5	3.1	22	00	-	-	-
			0.2	1.8		06	-	-	-
	18	3	0.5	3.9		12	2	0.5	2.5
			0.4	1.8		18	2	0.4	2.6
10	00	3	0.5	3.0	23	00	2	0.5	2.9
			0.3	2.0		06	2	0.4	3.0
	06	3	0.5	2.1		12	3	0.4	2.0
			0.5	3.0				0.4	1.5
	12	3	0.5	3.0		18	2	0.4	1.9
			0.3	2.0	24	00	2	0.4	2.0
	18	3	0.5	3.0		06	2	0.4	2.0
			0.4	2.0		12	3	0.4	2.4
11	00	3	0.5	4.0				0.3	1.8
			0.5	2.0		18	2	0.4	2.1
	06	2	0.4	3.6	25	00	2	0.2	2.0
	12	2	0.4	3.4		06	2	0.3	1.9
	18	2	0.5	3.9		12	2	0.3	1.6
12	00	2	0.5	3.7		18	2	0.3	2.1
	06	-	-	-	26	00	2	0.3	1.9
	12	2	0.5	3.7		06	2	0.4	1.9
	18	2	0.5	5.0		12	3	0.5	3.0
13	-	-	-	-				0.4	1.8
14	-	-	-	-		18	3	0.5	4.0
								0.4	2.0
15	00	2	0.3	3.0	27	00	3	0.4	1.8
	06	2	0.3	3.0				0.4	3.0
	12	2	0.2	2.7		12	3	0.5	4.0
	18	3	0.3	2.7		06	3	0.5	1.8
			0.2	2.0		12	3	0.5	4.1
16	00	2	0.3	2.0		18	3	0.5	2.0
	06 to 18	No record.						0.5	4.0
17	06	2	0.3	2.0				0.5	1.6
	12	2	0.2	2.7	28	00	2	0.5	3.1
	18	2	0.3	2.7		06	-	-	-
18	00	2	0.3	2.0		12	2	0.3	4.0
	06	2	0.5	3.0		18	2	0.3	4.9
	12	2	0.5	3.1	29	00	2	0.3	5.5
	18	3	0.5	3.9		06	-	-	-
			0.5	3.0		12	2	0.3	4.1
19	00	2	0.5	3.9		18	3	0.3	2.0
	06	2	0.5	3.6				0.3	4.0
	12	3	0.5	3.6	30	00	3	0.3	4.0
			0.4	2.0		06	2	0.3	4.0
	18	2	0.5	3.0		12	2	0.3	4.0
20	00	3	0.4	3.0		18	3	0.3	3.7
			0.3	2.2				0.4	2.1
	06	2	0.5	3.1	31	00	3	0.3	2.6
	12	-	-	-				0.3	3.9
	18	2	0.5	3.1		06	2	0.3	1.5
						12	2	0.3	3.8
						18	3	0.3	3.2
								0.3	2.1
								0.3	1.6

31

Date	Hour GMT	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour GMTZ	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Port Blair					October, 1964				
01	00	3	0.8	3	11	12	3	0.2	3
	06	3	0.4	7		18	3	0.4	7
	12	3	0.2	3				0.2	3
	18	3	0.2	3				0.4	7
			0.4	7	12	00	3	0.2	3
02	00	3	0.2	3		06	3	0.2	7
			0.4	7				0.4	3
	06	3	0.2	3		12	3	0.4	6
			0.4	7		18	3	0.4	3
	12	3	0.2	3				0.4	7
			0.4	7		18	3	0.4	3
	18	3	0.2	3				0.4	7
			0.4	7	13	00	3	0.4	3
03	00	3	0.4	3		06	3	0.4	3
			0.4	7				0.4	6
	06	3	0.4	3		12	3	0.4	6
	12	3	0.4	3		18	3	0.4	3
	18	3	0.4	3				0.4	7
04	00	3	0.4	3	14	00	3	0.4	3
	06	3	0.4	3		06	3	0.4	3
	12	3	0.4	3		12	3	0.2	3
	18	3	0.4	3				0.4	8
05	00	3	0.4	3		18	3	0.2	3
	06	1	0.4	3				0.4	8
	12	1	0.4	3	15	00	3	0.2	3
	18	1	0.4	3		06	3	0.2	8
06	00	1	0.4	3				0.4	7
	06	1	0.2	3		12	3	0.2	3
	12	1	0.2	3		18	3	0.4	7
	18	1	0.2	3				0.4	3
07	00	1	0.4	3	16	00	3	0.4	3
	06	1	0.4	3		06	3	0.4	7
	12	1	0.4	3		12	3	0.2	3
	18	1	0.4	3		18	3	0.2	3
08	00	1	0.2	3				0.2	3
	06	1	0.2	3	17	00	3	0.4	3
	12	1	0.2	3		06	3	0.4	3
	18	1	0.2	3		12	1	0.4	3
09	00	1	0.2	3		18	1	0.4	3
	06	...	-	-	18	00	1	0.4	3
	12	...	-	-		06	1	0.4	3
	18	...	-	-		12	1	0.4	3
10	00	...	-	-		18	1	0.4	3
	06	3	0.2	3	19	00	1	0.4	3
			0.4	7		06	1	0.4	3
	12	3	0.2	3		12	1	0.4	3
			0.4	7		18	1	0.4	3
	18	3	0.2	3	20	00	1	0.4	3
			0.4	7		06	1	0.4	3
11	00	3	0.2	3		12	3	0.4	3
			0.4	7		18	3	0.4	3
	06	3	0.2	3				0.4	6
			0.4	7				0.4	6



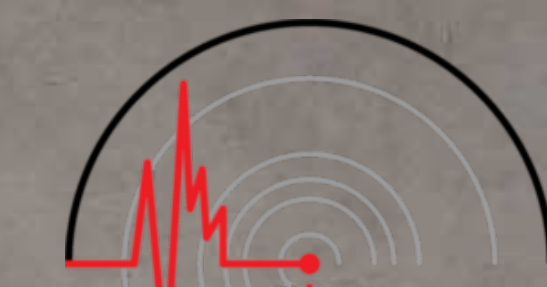
Date	Hour	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Port Blair

October, 1964.

Station : Shillong

21	00	3	0.2	3	01	00	3	0.2	4.2
			0.2	6		06	3	0.3	4.0
	06	3	0.4	3		12	3	0.3	4.0
	12	3	0.4	5		18	3	0.2	4.0
			0.4	7	02	00	3	0.3	4.2
	18	3	0.2	3		06	3	0.3	4.2
			0.2	6		12	3	0.2	4.0
22	00		-	-		18	3	0.2	4.0
	06	3	0.4	3	03	00	3	0.3	4.0
			0.4	7		06	3	0.3	4.0
	12	1	0.4	7		12	3	0.3	3.8
	18	1	0.4	7		18	3	0.3	3.8
25	00	1	0.4	7	04	00	3	0.3	3.8
	06	1	0.2	6		06	3	0.2	4.0
	12	1	0.2	6		12	3	0.2	4.0
	18	3	0.2	6		18	3	0.2	3.8
24	00	3	0.2	4	05	00	3	0.3	3.8
	06	0,0	-	-		06	3	0.3	3.8
	12	3	0.2	3		12	3	0.2	3.8
	18	1	0.4	3		18	3	0.2	4.0
25	00	1	0.4	3	06	00	3	0.3	4.0
	06	1	0.4	3		06	3	0.2	4.0
	12	1	0.4	3		12	3	0.2	4.0
	18	1	0.4	3		18	3	0.3	4.0
26	00	1	0.4	3	07	00	3	0.4	4.0
	06	1	0.4	3		06	3	0.4	4.0
	12	1	0.4	3		12	3	0.4	4.0
	18	1	0.4	3		18	3	0.4	4.0
27	00	1	0.4	3	08	00	3	0.4	4.0
	06	1	0.4	3		06	3	0.4	4.2
	12	1	0.4	3		12	3	0.3	4.2
	18	1	0.4	3		18	0,0	-	--
28	00	1	0.2	3	09	00 to 18	0,0	--	--
	06	1	0.2	3	10	00 to 18	0,0	--	--
	12	3	0.2	3	11	00	3	0.2	4.0
	18	3	0.4	3		06	3	0.3	4.0
			0.4	5		12	3	0.3	4.2
29	00	3	0.4	3		18	3	0.4	4.0
			0.4	5	12	00	3	0.3	4.2
	06	3	0.4	3		06	3	0.3	4.4
	12	3	0.4	3		12	3	0.3	4.4
	18	3	0.4	2		18	3	0.3	4.2
30	00	3	0.4	2	13 to 15	00 to 18	0,0	--	--
	06	3	0.4	2	16	00	0,0	--	--
	12	3	0.4	2		06	3	0.2	--
	18	3	0.4	2		12	0,0	--	4.3
31	00	3	0.4	2		18	0,0	--	--
	06	3	0.4	2					
	12	3	0.4	2					
	18	3	0.4	2					

International  
Seismological  
Centre

Date	Hour	K	Mean amplitude in m.m.	Mean period in sec.	Date	Hour	K	Mean amplitude in m.m.	Mean period in sec.
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Station : Shillong

October, 1964

17	00	0,0	--	--	20	12	0,0	--	--
	06	3	0.2	4.2		18	0,0	--	--
	12	0,0	--	--	21	00 to 18	0,0	--	--
	18	0,0	--	--	22	00 to 18	0,0	--	--
18	00	0,0	--	--		06 to 18	0,0	--	--
	06	3	0.2	3.8	23	00 to 18	0,0	--	--
	12	3	0.3	4.0					
	18	3	0.3	4.1	24	00 to 18	0,0	--	--
19	00	3	0.2	4.0					
	06	3	0.2	4.0	25 to 31	00 to 18	0,0	--	--
	12	3	0.2	4.0					
	18	3	0.2	3.9					
20	00	0,0	--	--					
	06	0,0	--	--					