

SOUTH AFRICA

Jan: 66

-- JAN 1966

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

SEISMOLOGICAL BULLETIN

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organisations on request.

Stations	Pretoria (PRE)	Grahamstown (GRH)	Pietermaritzburg (PIE)	Kimberley (KIM)	Windhoek (WIN)
Lat:	25°45.2'S	33°18.6'S	29°37.2'S	28°45.1'S	22°34'S
Long:	28°11.4'E	26°34.5'E	30°23.8'E	24°46.8'E	17°03'E
Lithologic foundation	Weathered Shale	Dwyka Shale	Soft Ecca Shale	Dolerite boulders embedded in decayed dolerite	Micha Schist
Height:	1350 m.	558 m.	656 m.	1321 m.	1728 m.
Instrument:	Willmore S.P. Vertical and horizontal	Benioff S.P. vertical with short and long period recorders	Benioff S.P. vertical	Benioff S.P. vertical	Benioff S.P. vertical.
Seismo. Officer:	The Director	Professor of Physics	Professor of Physics	Rev.Br. N.G. Alter	Officer in Charge
Institution:	Geological Survey Office	Rhodes University	Natal University	Christian Brothers College	Weather Office

Notes: "Earth tremors" originating in the mining district of the Witwatersrand are recorded several times daily by the Pretoria Station, and less frequently by others. These are not dealt with in this bulletin.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200 kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all inquiries should be addressed.

Address:

Bernard Price Institute of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.

Seismological Officer.

January 1966.

(14)

Date	Station	Phase	h.m.s. G.M.T.	Arc. Dist.	R/C	Remarks.
1	WIN	iP	19 34 27	50	C	USCGS H=19 25 50.9 0.6 N 25.4 W Central Mid Atlantic Ridge h =32 Mag 4.4.
2	PRE	iPKP ₂	05 12 05.0	153		04 52 17.1 54.3 N 164.5 W Unimak I's region h=57 Mag 5.3.
2	PRE	iP _n	23 32 06.5	970km		B.p.I.H=23.30.00. near Beira.
		iS _n	33 34.0			
	WIN	eP ₁	52.0	1840km	C	
		iS ₁	38 34.5			
4	WIN	iP	17 13 00 17.0	88	C	USCGS H=12 48 13.2 15.4 S 70.9 W Peru Mag 5.4.
4	WIN	iP	17 34 02.0			
4	PIE	iP iS	19 03 05 18	130 km		Probably Natal Basotoland border
5	PRE	iP	17 31 14.5	77	D	USCGS H= 17.21.28.4 13.2.N 95.5.E. Andaman I's. h=37 Mag.5.3.
	PIE	t	33 00.	76		
11	PRE	i	03 24 09.0		R	
12	PRE	t	19 39 00			
	WIN	i	40 00			
13	PRE	iPKP	11 00 38.0	144	D	USCGS H= 10 41 11.0 52.2N 172.0 E Near I's Aleutian I's h=14 Mag 5.6
	PIE	iPKP	45	145	C	
	WIN	iPKP	46.5	146	C	
	GRH	t	01 00	151		
14	PRE	e	22 15 21.0		C	
15	PRE	iPKP ₂	12 19 36.0	146	D	USCGS H=11 59 58.6 59.5 N 144.6 W Gulf of Alaska h=46 Mag 4.1
15	WIN	i	19 40 39.0		R	
	PRE	e	41 53.0			
15	GRH	i	22 59 35			
16	PRE	i	07 19 21.0		R	
	WIN	i	20 12.0		R	
16	PRE	iPKP	09 31 14.5	144	C	USCGS H=09 11 50.052.9N 171.9E Near I's ALETIAN I'S h=25 Mag5.7
	WIN	iPKP ₂	24.0	146	C	

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Date	Station	Phase	h.m.s. G.M.T.	Arc Dist.	R/C	Remarks
16	WIN	iP	19 01 39.0	55	D	18 52 00.8 33.2N 26.2 E Eastern Mediterr- anean Sea h=33 Mag 5.0
	PRE	iP	57.5	58	C	
16	WIN	eP	20 25 24.0	58	D	20 15 27.4 35.6 N26.0 E Creta h=35 Mag 4.7
17	PRE	iP	07 37 50.0		D	Probably Mozambique Channel.
		iS	42 38.5			
	WIN	i	39 04.5			
		i	46 21.0			
17	PRE	iPKP ₂	19 16 03.1	157	C	USCGS H=18 56.6 52.0 N 171.2 W Fox I's Aleutian I's h=46 Mag 4.8
	WIN	iPKP ₂	05.5	151	R	
19	PIE	iPn	09 11 07	250km		BPI H=09 10 28 Felt Klobane in the Vryheid district
		iSn	33			
	PRE	iPn	25.0	450km		
		iSn	12 06.5			
21	PRE	i	18 23 08.6		C	
22	WIN	iP	00 33 58.5	62	R	USCGS H= 0023 42.7 37.7 N 30.0 E Turkey h=23 Mag 5.0
	PRE	iP	34 12.0	63	C	
22	WIN	i	14 46 45.5		R	
22	PRE	i	14 46 55.4		R	
24	PRE	i	07 34 10.0		R	
26	PRE	i	24 54 05.0		C	
	WIN	i	01 08 49.0		C	
	PIE	i	09 00.0		C	
27	PRE	i	10 39 44.0		C	
27	PRE	iPKP ₁	19 58 41.5	147	D	USCGS H= 19 39 04.5 51.1 N 178.1E Rat I's Aleutian I's h=50 Mag5.2
	WIN	iPKP ₁	47.5	149	D	
28	PRE	i	09 04 57.0		C	

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January 1966

Date	Station	Phase	h.m.s. G.M.T.	Arc. Dist.	R/C	Remarks.
28	PRE	e	09 48 09.0			
28	PRE	iPKP ₁	19 26 55.0	148		USCGS H=.19 07 14.4 51.7N 177.0W Andreanof I's Aleutian I's h=54 Mag 5.2
	WIN	iPKP ₁	58.0	151	D	
	P1E	iPKP ₁	27 01	151		
28	PRE	iPP	23 00 36.0	135	C	USCGS H=13522 38 12.2 51.6N 157.0E Near east coast Kamchatka h=10.7 Mag5.6
	WIN	iPP	50.0	139	C	
29	WIN	t	02 28 00			
29	PRE	t	19 59 00			
31	PRE	i	02 47 50.0		C	
	WIN	i	48 24.0		C	
31	PRE	i	14 13 41.0		C	

H.O.OLIVER
WINIFRED WAGNER.

FEB 1966

South Africa Feb '66

Geological Survey Office,
 Department of Mines,
 P.O. Box 401,
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P.W.S

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Institution:	Geological Survey Office	Rhodes University	Natal University	Christian Brothers College	Weather Office

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H.O. Oliver.

Seismological Officer.

February 1966.

(17)

Date	Station	Phase	h. m. s. G. M. T.	Arc Dist.	R/C	Remarks
1	PRE	1P	24 22 13.0	38	G	USCGS H = 24 15 09.9 52.3 S, 5.2 W, S. Atlantic Ridge h = 33. Mag 5.6
3	WIN PRE	1Pcp 1P	24 59 07.5 52.	78 87	G G	USCGS H = 24 47 19.2 21.7 S, 68.4 W, Chile-Bolivia border h = 116. Mag 5.3
3	WIN	1P	02 17 41.5	77	G	USCGS H=02 05 54.8 33.8 S, 70.1 W Chile-Argentine border h = 6. Mag 4.8
4	WIN	1PKP	10 58 07.0	138	R	USCGS H=10 39 12.2 15.9S, 167.9E New Hebrides h = 190. Mag 6.0
4	WIN	1	11 01 18		R	USCGS H
4	WIN	1Pcp	20 57 29.5	85	R	USCGS H=20 44 55.7 49.5S, 123.0E S. Australia h = 33. Mag 5.3
5	WIN PRE PIE GRH	1Pcp 1Pcp 1P 1P	02 12 03.5 24.5 51 13 18	62 65 69 73	R C R R	USCGS H=02 01 48.3 39.2 N, 22.0 E Greece h = 38. Mag 5.8
5	PRE WIN	1P t	15 25 00 26 00	91	R	USCGS H=15 12 29.1 26.1 N, 103.1 E, Yunnan Prov. China h = 15. Mag 5.1
5	PRE WIN GRH	1PKP 1PKP t	16 35 07.5 07.5 44 19	134 143 142	R	USCGS H=16 16 01 50.2 N, 155.1 E Kurile is. h = 98. Mag 5.8
5	WIN PRE PIE	1P 1P 1P	23 46 26.0 47 09.0 47	78 86 87	R R	USCGS H=23 34 24.7 19.6 S, 69.6 W N. Chile h = 87. Mag 5.4
6	PRE	1P	09 26 17.0	90	G	USCGS H=09 13 19.6 26.2 N, 103.1 E Yunnan Prov. China h = 5. Mag 5.4
6	PRE	1P	10 01 18.9	51		USCGS H=09 52 30.2 56.8 S, 25.4 W S. Sandwich Is. h = 13. Mag 5.7
6	PRE	1	10 06 54.6			
7	PRE PIE WIN GRH	1P 1P 1P 1P	04 37 13.1 26 41.5 38 02	68 70 73 75	R R R	USCGS H=04 26 13.9 29.8 N, 69.7 E West Pakistan h = 33. Mag 6.0

February 1966(cont.)

Date	Station	Phase	h. m. s. G. M. T.	Arc Dist.	R/C	Remarks
7	PPRE WIN	iP iP	05 32 50.1 33 19.0	69 74	R/D R/D	USCGS H = 05 21 44.6 30.0 N, 69.99 E West Pakistan h = 10. Mag 5.4
7	PRE PIE WIN	iP iP iP	23 17 38.0 52 18 07.4	69 71 74	C R/D R/D	USCGS H = 23 06 34.5 30.2 N, 69.88 E West Pakistan h = 10. Mag 5.8
8	PRE	t	21 02 00			
8	PRE	i	23 34 41.5		C	
9	WIN PIE GRH PRE	iP iP t iP	04 48 53.0 04 49 00 15.5	46 48 49	R/D C	USCGS H = 04 40 28.4 56.7 S, 25.7 W S Sandwich Is. h = 27. Mag 5.9
9	PRE WIN	iP n i	07 31 18.5 39.0 32 09.5	180 km		Klerksdorp area
9	PRE	iP	08 51 13.7	49	C	USCGS H = 08 42 27.5 56.6 S, 25.4 W S. Sandwich Is. h=33
9	WIN PRE	iPcP iPcP	15 26 09.0 49.5	86 95	C C	USCGS H = 15 13 30.1 15.2 S, 75.2 W Near coast Peru h = 54. Mag 5.5
9	PRE	t	15 39 00			
9	PRE	i	20 05 38.0		R	
10	WIN PRE	t t	02 01 00 03 00			
10	PRE WIN	t t	10 07 00 08 00			
10	PRE	iPKP ₂	12 58 37.9	149	C	USCGS H = 12 38 49.1 56.6 N, 153.3 W Kodiak Is. region h = 12. Mag 4.5
10	PRE WIN	iPKP iPKP	14 40 06.0 20.0	124 135	R/D	USCGS H = 14 21 10.9 20.8 N, 146.3E Marianas Is. h = 43. Mag 6.2
10	PRE	i	15 40 52.5			
10	PRE	i	19 14 29.0		R/D	
11	PRE	iP iS i i	03 34 04.4 26.0 45 35-43			Klerksdorp Tremor
13	PRE WIN	iP iP	05 10 47.5 11 01.0	88 92	R/D R/D	USCGS H = 04 57 57.7 49.8 N, 78.1 E E. Kazakh USSR Mag 6.3

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February 1966(cont)

Date	Station	Phase	h G.M.T.	m.s.l.	Arc Dist.	R/C	Remarks USCGS H=
13	PRE	iP	10 57	33.5	90	C	10 44 41.0 26.1 N 103.2 E Yunnan Prov. China. h=33 Mag. 5.7. USCGS H=
	WIN	iP	58	11.0	97	C	
13	PRE	iPKP ₁	13 36	54.0	151		13 17 01 53.8 N 163.3 W Unimak I's h= 10 Mag 4
13	PRE	iP	19 20	47.5	69	C	19 09 47.4 29.8 N 69.7 E West Pakistan h=33 Mag 4.1
14	PRE	iPn iSn iSl	03 27	01.0 06.0 37.5			Orange Free State Goldfields
15	PRE	iPn iSn iSl	16 23	03.5 33.0 04.0	300km		Tremor O.F.S. Goldfields
15	PIE	iPn iSn	20 30	54 31 12	170km		Probably Basutoland
							USCGS H=
15	PRE	iPKP	22 51	51.5	121	C	22 34 05.4 26.5S 178.2 E South Fiji I's h=593 Mag 5.6
	WIN	iPKP	52	07.0	129	C	
15	WIN	t	22 54	01			
16	PRE	i	03 37	20.5		C	USCGS H =
	WIN	i		38.5		C	
16	PRE	iPKP ₂	12 18	03.0	151		11 58 14. 52.2 N 169.6 W Fox I's Aleutian I's h=44 Mag4.8
	WIN	t		03.0			
16	PRE	i	16 02	45.0		R	USCGS H =
17	PIE	iPcP	11 55	16	44	R	11 48 00.8 32.2S 78.9 E Mid Indian Rise h=33 Mag 6.4 USCGS H=
	PRE	iPcP	56	10.1	46	C	
	WIN	iP	57	31.0	57	C	
17	WIN	iP	12 52	33.5	55		12 43 01.1 32.2 S 79.0 E Amsterdam Naturaliste Ridge h=33 Mag 5.7
17	WIN	t	17 11	00			
18	PRE	i	03 53	07.5		C	

Bechuanaland Protectorate

February 1966 (cont.)		(20)					
Date	Station	Phase	h.m.s. G.M.T.	ArcDist.	R/C	Remarks	
18	PRE	iPn	11 43 56.5	500km		<div style="border: 1px solid red; padding: 5px;"> B.P.I. H=11.42.4 8 29.30 s 25.0E Koffiefontein Orange Free St -ate </div>	
		iP ₁	44 12.2				
		iSh	47.0				
		iS ₁	45 10.0				
	PIE	iPn	43 57	500km			
		iP ₁	44 10				
		iSh	45				
		iS ₁	45 06				
	WIN	iPn	13.5				
		iS ₁	48 00.0				
18	PRE	i	12 40 02.0				
18	WIN	o	30.0				
19	PRE	i	13 02 07.5		R-	USCGS H=	
	WIN	i	31.0		R-		
20	PRE	iPKP ₂	02 28 06.0	144		02 08 4060.8N 152.2W S. Alaska h= 152 Mag 4.8	
21	PRE	i	24 31 18.5				
21	WIN	t	00.0				<i>Orange Free State</i>
21	PRE	i	24 37 20.0				
22	PIE	iP	04 37 41	280km		O.F.S. Basutoland border B.P.I. H= 04 37 00 USCGS H=	
		iS	38 11				
	PRE	iPn	37 56.5	400km			
		iP ₁	38 06.5				
		iSh	35.0				
		iSi	52.00				
	WIN	t	42 00.0				
22	PRE	iPKP	05 21 22.0	118		05 02 37.2 5.4S 151.5 E New Britian Region h=28 Mag 6.2.	
	WIN	iPKP	42.9	128	6		
22	PRE	t	05 31 54.0				
23	PRE	i	01 33 57.5			USCGS H =	
23	PRE	iPP	12 53 29.0	39		12 46 18.4 48.3 S 9.8 W S. Atlantic Ridge h= 33 Mag 4.9	
23	WIN	t	14 23 00				
24	PRE	i	20 11 52.5		R		
26	PRE	i	24 53 16.0		R		
	PIE	i	21		R		
	WIN	i	24.2		R		
26	PRE	t	11 09 13.0				
27	WIN	i	24 40 23.0				
27	WIN	i	16 49 53.5		R		
28	PRE	i	02 20 43.5		C		
28	WIN	i	21 50 49.5				
	PRE	t	52 00.0				

H.O. OLIVER
WINIFRED WAGNER.

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Seismological Officer.

CORRIGENDA: The specifications for instruments in the bulletin for WINDHOEK and PRETORIA should read as follows:

Instrument: Vertical S.P. (1.0 sec.) seismometer: Geotech Model 1051

Two horizontal S.P. (1.0 sec.) seismometers:
Geotech Model 1101

Vertical L.P. (30 sec.) Seismometer: Sprengnether

Two horizontal L.P. (30 sec.) Seismometers:
Sprengnether

Galvanometers for SP System, 0.75 sec.

Galvanometers for LP System, 100.0 sec.

Seismological
Officer

: The Director, Geological Survey,
P.O. Box 401, Pretoria.

March 1966

Date	Station	Phase	hms(g.m.t.)	Arc.Dist.	R/C	Remarks. USCGS H=
1	PRE	iP	23 17 32.5	50	R D	23.08.39.8 56.9S 26.8W S. Sandwich I's h=33 mag.6.
2	WIN	iP	02 48 16.5	72	C	USCGSH=02.37.02.0 43.0 N 45.8 E.E.Caucasus h=23 mag 5.3.
2	PRE	i	03 03 15.6		C	
2	WIN	iPKP ₁	12 10 55	146	C	USCGS H=11 51 20.7 52.4 N 172.3E Near I's Aleutian I's h=40 mag 5.3.
3	WIN	i	03 44 38.0	139		USCGS H=03 25 28.0 48.3 N 154.3 E Kurile I's h=45 mag5.9
	PRE	i	39.5	134	C	
3	PRE	t	03 48 00			USCGS H=
3	PRE	i	14 39 16.5		R	
3	PRE	t	14 51 00			
5	WIN	iP	21 02 22.0	41		20 54 45.7 0.0 18.0 W N. Ascension I's h=33 mag 5.2
	PRE	iP	03 48.5	51		
	PIE	iP	04 15	54	D	
6	GRH	t	05 00			
5	PRE	e	23 11 13.0			
6	PRE	iPcP	02 22 41.0	76	C	USCGS H=02 10 56.8 80.5 E Tibet h=35 mag 5.4
	PIE	eP	49	77		
	WIN	iP	23 11	81	C	
	GRH	t	00			
6	PRE	iPeP	02 27 39.0	76	C	USCGS H=02 15 56.7 31.6 N 80.5 E Tibet h=44 mag 6.1
	PIE	iP	48.0	77	C	
	WIN	iP	28 10.0	81	C	
	GRH	t	00			
7	WIN	iP	01 26 52.0	66		USCGS H=01 16 05.8 39.1 N 41.7 E Turkey h=13 mag 5.5
	PRE	iP	53.0	66	D	
7	WIN	t	04 34 08.5			USCGS H=04 25 47 56.0 S 27.5 W S Sandwich I's h=106 mag5.4
	PRE		32.5	48		
7	WIN	is	15 08 35.5			
7	PRE	i	20 41 17.5		C	
7	PRE	eP	21 43 17.0	107		USCGS H= 21 29 17.0 37.2 N 114.8 E NE China h=33 mag5.8 Probably Nyasaland
8	PRE	iP	01 32 36.5			
	WIN	eP	56.0			
		iS	36 30.9			
8	WIN	iP	20 58 06.0	79	C	USCGS H=20 46 12.0 20.0 S 68.9 W Chile Bolivia border h=122 mag 5.9
	GRH	iP	59 06.0	84	C	
	PRE	iP	19.5	87		
9	PRE	iPn	06 27 21.0	340 km		Probably Orange Free State Goldfields
	PIE	iSn	57.0			
	GRH	iPn	35	480 km		
		iSn	28 24			
	GRH	iSi	30 00			
9	PIE	iPcP	23 25 24	76	R	USCGS H= 23 13 52 7.4 S 108.4
	PRE	iP	35.5	79	C	E Java h=148 mag 5.6
	GRH	iP	49	80	D	
	WIN	iP	26 29.9	88	C	
0	WIN	t	04 48 00			
1	WIN	iP	02 00 31.0	80	C	USCGS H= 01 48.34.8 19.5 S 69.2 W N. Chile h=115 mag 5.3
	PRE	iP	01 14.5	88		Probably Mozambique
1	PRE	i	13 31 19.5			
1	PRE	iP	23 28 31.0	87	R D	USCGS H= 23 15 42.3 28.2 N43.9 W N. Atlantic Rid g e h=33 mag5.0
1	PRE	t	23 31 38.0			

March continued.

(22)

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11	PRE	iP	23 49	39.0	88	R	USCGS H=23 36 42.7 28.5 N 44.0 W N. Atlantic Ridge h=33 mag 5.1
	GRH	t		55.00			
12	PRE	i	07 10	40.5		C	
12	PIE	iP	16 45	18	105		USCGS H=16 31 21.8 24.1 N 122.6 E Taiwan region h=63 mag 6.7
	PRE	iP		19.0	106	C	
	WIN	iP	46 06	7	114	C	
12	WIN	t	18 39	00			
12	PRE	iP	19 45	12.7			Klerksdorp Tremor
		iS		34.9			
	WIN	t	49 00	0			
13	PRE	iP	15 41	07.0			Klerksdorp Tremor
		iS		30.0			
	PIE	iPi	42 12				
		iSi	43 02				
	GRH	iSi	46 12				
13	WIN	iPKP	18 59	57.0	134	C	USCGS H=18 40 40.7 20.9 S 175.4 W Tonga I's h=33 mag 5.2
14	PRE	e	04 44	(22.0)			Probably Central Africa
		i	48	25.0			
	WIN	e	45 19	5			
15	PRE	iP	15 41	09.4			Large Witwatersrand Tremor
	PIE	iPi	42 12				
	WIN	iPn	43 31	5			
	GRH	iSi	46 12				
17	PRE	i	16 08	26.5		R	
	PIE	t		00			
	GRH	i	12 22			C	
17	WIN	i		28.0			
17	PRE	i	16 18	005.0			
18	PRE	i	06 20	11.6			
18	PRE	i	06 28	16.4		C	
	WIN	t		29 00.0			
18	PRE	iPKP ₁	14 33	57.5	148	C	USCGS H= 14 14 14 51.8 N 174.7 W Andreanof I's Aleutian I's h= 56 mag 4.7
18	PRE	i	17 16	04.5		C	
18	PRE	iPKP ₁	18 30	45.0	145	R	USCGS H=18 11 09 60.3 N 146.6 W S Alaska h=34 mag 4.9
19	PRE	iPn	04 47	58.0	850 km		M.zambique?
		iPi		48 26.0			
		iSi		50.00.0			
	WIN	t		51 00.0			
19	PRE	i	13 19	28.5		C	
19	PRE	i	14 57	40.0	28	C	USCGS H=14 51 49.4 52.7S 19.8.E S.W. of Africa h=12 mag 5.2.
	WIN	t		58 00.0			
	PRE	i	16 59	51.0		C	
	WIN	t	17 16	00.0			
	KIM	i	17 21	58	24		USCGS H=17 16 40.9 52.7S 19.9E S.W. of Africa h=33 mag 5.4.
	PRE	i		22 28.0	27	R	
	WIN	i		55.0	30	R	

MARCH CONT.

(23)

Date	Station	Phase	h.m.s.G.M.T.	Arc.dist.	R/C	Remarks.
19	PRE	t	21 49 00			
19	WIN	t	23 18 00			
20	PRE	iPP	01 48 25.0	27		U.S.C.G.S. H=01 42 49.9 0.6 N 30.2 E Uganda h=36 mag 6.1.
	WIN	iPP	25.5	27		
	KIM	iP	54	30	C	
	PIE	iP	49 02	30	C	
20	PRE	i	06 02 47.5		R	Uganda.
20	WIN	i	09 01 13.0			Uganda.
			14.0		C	
20	PIE	t	02 00			
20	KIM	t	09 11 00			
20	PIE	t	11 00 0			
20	PRE	t	10 13 00			
20	PRE	i	13 43 55.5			
	WIN	i	44 52.0			
	KIM	t	50 00			
20	PIE	iPn	15 23 44	210km		Matatiele region.
		iPi	24 08			
	KIM	t	00			
21	PRE	i	09 14 30.0		C	
21	WIN	i	09 37 35.0			
21	PRE	iPn	09 20 (20)			
		iSi	22 25.0			
	KIM	t	39 00			
21	PRE	t	15 32 00			
21	PRE	iP	15 28 20.5			Klerksdorp tremor.
		iS	42.5			
21	PRE	i	20 24 (08.5)			
	WIN	t	29 00.0			
22	PRE	t	08 34 00.0			
	WIN	t	38.00.0			
23	PRE	t	24 19 00.0			
	WIN	iPP	23 08.0	113	C	USCGS H=00 04 34.7 23.8 .8 E. Taiwan region h=51 mag 6.3.
23	WIN	iPeP	04 23 28.5	77	R	USCGS H=04 11 36.1 38.1S 73.6 W. near coast Chile h=33 mag 5.3.
	PRE	iP	24 00	83	R	
23	GRH	i	04 33 05		C	
24	WIN	i	08 50 31.5		C	
25	PRE	iPn	01 55 25.5			Probably Swaziland.
		iSn	56.0			
25	PRE	i	13 14 35.0		C	
	WIN	i	40.0		C	
25	WIN	i	22 11 39.0		C	
26	PRE	iPn	09 44 09.0	830km		Rhodesia/Zambia border B.P.I. H=09 42 20 18.30 S 26.30 E.
		iSi	46 08.0			
	WIN	iPn	44 36.5	1120km.		
		iSi	47 20.0			
	KIM	iPn	44 47	1190km		
		iSi	47 41			
	PIE	iPn	45 05	1340km		
		iSi	48 22			
27	PRE	i	05 50 57.0		C	
28	PRE	iP	04 52 21.9	45	C	USCGS H=04 44 12.0 32.1S 78.9E Mid-Indian Rise h=33 mag 5.0.
29	WIN	i	01 45 07.5		C	
29	PRE	i	02 36 23.5			
	WIN	i	39 54.5			
29	PRE	i	23 17 34.5		R	
30	PRE	i	04 28 28.5		C	
30	PIE	iPn	23 40 23	90km		Probably Natal Basutoland Border
		iSn	33			
31	KIM	i	03 39 54		C	
31	WIN	i	22 40 53.0		C	
	PRE	i	41 08.0			
31	PRE	i	23 49 14.9		R	
	WIN	i	36.5.		C	

-- APR 1966

P. W. S.

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

SEISMOLOGICAL BULLETIN

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organisations on request.

Stations	Pretoria (PRE)	Grahamstown (GRH)	Pietermaritz- burg (PIE)	Kimberley (KIM)	Windhoek (WIN)
Lat:	25°45.2'S	33°18.6'S	29°37.2'S	28°45.1'S	22°34'S
Long:	28°11.4'E	26°34.5'E	30°23.8'E	24°46.8'E	17°06'E
Lithologic foundation	Weathered Shale	Dwyka Shale	Soft Ecca Shale	Dolerite boulders embedded in decayed dolerite	Micha Schist
Height:	1350 m.	558 m.	656 m.	1321 m.	1728 m.
Instrument:	Willmore S.P. Vert- ical and horizontal	Benioff S.P. vert- ical with short and long period recorders	Benioff S.P. vertical	Benioff S.P. vertical	Benioff S.P. verti- cal.
Seismo. Officer:	The Director	Professor of Physics	Professor of Physics	Rev.Br. N.G. Alter	Offi- cer in Charge
Institution:	Geologi- cal Survey Office	Rhodes University	Natal University	Christian Brothers College	Weath- er Office

Notes: "Earth tremors" originating in the mining district of the Witwatersrand are recorded several times daily by the Pretoria Station, and less frequently by others. These are not dealt with in this bulletin.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200 kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all inquiries should be addressed.

Address:

Bernard Price Institute of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.

Seismological Officer.



From the ISC collection scanned by SISMOS The specifications for instruments in the
Collection for ~~WINDHOLM~~ K and PRETORIA should read as follows:

Instruments: Vertical S.P. (1.0 sec.) seismometer: Geotech
Model 1051

Two horizontal S.P (1.0 sec.) seismometers:
Geotech Model 1101

Vertical L.P. (30 sec.) Seismometer: Sprengnether

Two horizontal L.P. (30 sec.) Seismometers:
Sprengnether

Galvanometers for SP System, 0.75 sec.

Galvanometers for LP System, 100.0 sec.

Seismological
Officer

: The Director, Geological Survey,
P.O. Box 401, PRETORIA.

APRIL 1966

Date	Station	Phase	G. M. T. h. m. s.	Arc di	R/C	Remarks
1	WIN PRE	iP iP	03 04 26.5 39.9	35 37	C R D	USCGS H=02 57 39 53.5 S 3.0 W. South Atlantic Ridge h=33 mag 5.7
L	PRE WIN	i i	03 10 37.5 45.0		R R	
1	WIN PRE	iP iP	03 40 12.0 30.0	35 37	R D C	USCGS H=03 33 28.9 53.5 S 3.1 W. S. Atlantic Ridge h=33 mag. 5.8.
1	WIN	t	08 14 00			Peru.
3	WIN	e	05 02 46.0		R	
4	PRE	iPKP	20 08 50.5	120	C	USCGSH=19 50 07.6 13.8N 89.7W El Salvador h=108 mag 5.5.
5	PRE WIN KIM PIE	iPn iSn iPn iSl iSl iPn iSn	06 10 22.5 12 02.0 11 06.0 14 49.5 11 08 14 45 11 15 13 37	1100km 1500 km 1470 km 1490km		BPI h=06 08 05 16.4 S 28.5 E Rhodesia N. Kariba.
5	PRE	t	15 40 00			Kariba Aftershock
6	PRE PIE	iPCP iPcP	02 03 24.5 36	74 76	C R	USCGS H=01 51 51.8 35.0 N 73.0 E West Pakistan h=38 mag 5.1
6	PRE WIN	i i	03 08 45.5 09 52.0	58 68		USCGS H=02 59 01.7 45.8 S 96.1 E S.E. Indian Rise h=33 mag 5.8
6	WIN	i	22 33 14.0		R	
6	PRE	iPKP ₂	22 48 24.0	150	R	USCGS H=22 28 38.7 56.6N 154.5 W Kodiak I's region h=33 mag 5.5
6	PRE	e	23 07 57.0	77		USCGS H=22 56 05 9.6 S 107.6 E South of Java h=33 mag 5.3
7	WIN	t	06 41 00			
7	PRE	i	13 16 08.0		C	
7	WIN	t	13 30 00			
7	PRE KIM PIE	iPn iSn iSi iP iS t	19 49 20.5 (56.5) 50 04.0 49 10 36 50 00	330 km		Free State Goldfields.
8	PRE KIM WIN GRH	iPKP iPKP t t	02 06 00.0 32 07 00 07 00	135 139		USCGS H = 01 46 44.9 51.2 N 157.7E near East coast. Kamchatka h = 47 mag 5.9
8	PRE WIN	iPKP ₁ t	09 38 55.5 39 00.0	150	R	USCGS H=09 19 09.6 56.6 N 152. 0 W. Kodiak I's region h=33 mag 4.7
8	WIN PRE	iPKP₂ iPKP₂	22 30 32.5 45.5	147 148		USCGS H=22 10 59.3 56.8 N 151.9 W Kodiak I's region h=33 mag 5.1
9	WIN	e	15 12 02.7			

APRIL cont.

(25)

Date	Station	Phase	G.M.T. h.m.s.	Arc dist.	R/C	Remarks.
9	WIN	iPKP ₂	11 20 28	12.4	149	USCGS H=20 08 39 56.7N 152.0 W Kodiak I's reg. h=33 mag 5.5.
	PRE	iPKP ₂		24.5	149 C	
	KIM	t		00		
10	PRE	t	10 06 00.0			
10	WIN	iPcP	16 48 03.9	77	C	USCGS H=16 36 14.6 31.5 S 71.2 W. Near coast Cent- ral Chile h=64 mag 5.7
	GRH	iP	17	79	C	
	KIM	iP	18	80	C	
	PIE	iP	39	84	C	
	PRE	iP	41.0	84	D	
11	WIN	i	16 25 17.9			
11	GRH	e	23 19 06			
	KIM	i	46		C	
	WIN	i	59.0		R	
	PRE	i	20 10.5		R	
12	WIN	iPcP	23 49 30.0	76		USCGS H= 23 37 42.1 38.1 S 73.0 W Central Chile h=44 mag 5.7
	PRE	iP	50 03.5	82	C	
13	PRE	i	24 00 38.0			
13	PRE	iP	02 20 (06.5)	27	R D	USCGS H=02 14 20 1.1 N 29.2 E Republic of the Congo. h= 23.
	WIN	t	21 00.0			
13	WIN	iPcP	03 47 05.6	75	R	USCGS H=03 35 16.3 38.2 S 73.2 W Near coast Central Chile h= 40 mag 5.8.
	PRE	iPcP	07.5	81	R	
	PIE	i				
13	WIN	i	07 43 31.5		R	
13	WIN	e	09 22 47.0			
13	PRE	i	09 57 07.0		R	West Uganda 1N 31 E
	WIN	iSi	23.0			
15	PRE	i	03 13 53.5		R	Uganda
	WIN	e	14 03.5			
	PIE	t	21 00			
16	WIN	iPKP ₁	01 46 49.5	146	R P	USCGS H= 01 27 15.3 57.0 N 153.6 W Kodiak I's h=33 mag 5.7
	PRE	iPKP ₁	47 01.5	149	R D	
	KIM	iPKP ₁	6	152	R D	
16	PRE	i	14 48 58.0	25	C	USCGS H=14 43 20.5 0.8 N 29.9 E Congo Republic h= 33 mag 5.
	WIN	iSi	49 (25.5)	23		
	PIE	iSi	58 52	29		
	GRH	t	15 06 00			
16	PRE	iPn	16 39 34.5	200km		Klerksdorp Congo/Zambia border 13.0S 27E 18 7 (52)
		iSi	51.5			
16	PRE	iPn	18 12 29.0	1480 km		
		iSi	16 (08.0)			
	WIN	ePn	12 (29.0)			
		iSi	16 18.6			
	PIE	t	14 00			
18	PRE	iP	08 22 18.0	43	C	USCGS H= 08 14 18.8 12.9 NW 48.3 E E. Gulf of Aden.
19	PRE	iPn	04 11 ()			Swaziland.
		iPi	12 03.6			
		iSn	11.0			
		iSi	20.0			
20	PRE	iP	16 53 14.0	70	C	USCGS H= 16 42 01.3.7 41.7 N 48.2 E E. Caucasus h=19 mag 5.5
	WIN	iP	16.5	71	R	
	PIE	eP	33	73		
	KIM	iP	26	74		
22	WIN	iPcP	03 18 27.0	76	R	USCGS H=03 06 32.3 37.8 S 73.4 W Near coast Central Chile h=18 mag 5.7
	GRH	iPcP	29	76		
	PIE	iP	54	82		
	PRE	iP	58.6	82		

APR 11 CONT.

Date	Station	Phase	G.M.T.	h.m.s.	Arc dist.	R/C	Remarks.
22	WIN PRE	iPKP2 t	10 35	24.1 35.5	150	C	USCGS H=10 15 51 56.9 N 151.8W Kodiak I's h= 33 mag 4.9
22	WIN PRE	e i	12 26	15.5 30.0	48 50	C	USCGS H=12 17 36.0 60.5 S 25.4 W S Sandwich I's h= 33 mag 5.7
22	WIN PRE PIE	iPKP iPKP iPKP	23 46 47	53.2 02.5 14	148 149 154	C	USCGS H=23 27 20.5 57.5 N 152.1 W Kodiak I's h= 22 mag 5.9
23	PRE PRE WIN	i i i	24 22	40 (51) 49.0 26 30.5 23 36.0		C	
23	PIE GRH PRE WIN	iSi i i i	09 09 10 03	21 05.0 51.5		R	
23	PRE	iPKP ₂	18 25	01.5	150	C	USCGS H=18 05 13 52.8N 167.8 W Fox I's Aleutian I's h= 33 mag 4.8
25	WIN	i	11 02	52.0		R	
25	PRE	i	23 34	44.0		C	
27	WIN PRE	iPcP iPcP	19 59	29.5 30.0	65 65	C R	USCGS H=19 48 49.8 38.2 N 42.7 E Turkey h=25 mag 4.9
28	PRE WIN	i i	18 17	12.0 06.0		R C	
29	WIN PRE	i i	02 06	27.5 34.5		R C	
29	WIN PRE	iPn iSi t	07 25 26	(45.0) 37.0 32 00.0	about 400 km from station.		
30	PRE	i	08 22	04.5		R	

H.O. OLIVER
 WINIFRED WAGNER.

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Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

SEISMOLOGICAL BULLETIN

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organisations on request.

Stations	Pretoria (PRE)	Grahamstown (GRH)	Pietermaritz- burg (PIE)	Kimberley (KIM)	Windhoek (WIN)
Lat:	25°45.2'S	33°18.6'S	29°37.2'S	28°45.1'S	22°34'S
Long:	28°11.4'E	26°34.5'E	30°23.8'E	24°46.8'E	17°06'E
Lithologic foundation	Weathered Shale	Dwyka Shale	Soft Ecca Shale	Dolerite boulders embedded in decayed dolerite	Micha Schist
Height:	1350 m.	558 m.	656 m.	1321 m.	1728 m.
Instrument:	Willmore S.P. Vert- ical and horizontal	Benioff S.P. vert- ical with short and long period recorders	Benioff S.P. vertical	Benioff S.P. vertical	Benioff S.P. verti- cal.
Seismo. Officer:	The Director	Professor of Physics	Professor of Physics	Rev.Br. N.G. Alter	Offi- cer in Charge
Institution:	Geologi- cal Survey Office	Rhodes University	Natal University	Christian Brothers College	Weath- er Office

Notes: "Earth tremors" originating in the mining district of the Witwatersrand are recorded several times daily by the Pretoria Station, and less frequently by others. These are not dealt with in this bulletin.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200 kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all inquiries should be addressed.

Address:

Bernard Price Institute of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.

Seismological Officer.

CORRIGENDA: The specifications for instruments in the
bulletin for WINDHOEK and PRETORIA should read as follows:

Instrument: Vertical S.P. (1.0 sec.) seismometer: Geotech
Model 1051

Two horizontal S.P. (1.0 sec.) seismometers:
Geotech Model 1101

Vertical L.P. (^{1.5}30 sec.) Seismometer: Sprengnether

Two horizontal L.P. (^{1.5}30 sec.) Seismometers:
Sprengnether

Galvanometers for SP System, 0.75 sec.

Galvanometers for LP System, 100.0 sec.

Seismological
Officer

: The Director, Geological Survey,
P.O. Box 401, Pretoria.

MAY 1966

Date	Station	Phase	G.	N.	T.	h. m. s.	Arc. Dist.	C/R	Remarks.
1	PRE	t	03	46	00				Probably Zambia.
1	WIN	iPn	16	35	31.0		390 km		
		i'n		36	09.0				
	PRE	i	53	00	00				
2	WIN	iPKP	10	11	47.2		126	C	USCGS H= 09 52 48.5 6.0 S 149.7 E New Britian region h= 52 mag 5.2
2	PRE	i	16	52	04.0			C	
2	PRE	t	20	01	00.0				
2	WIN	t	03	00	00				
2	PRE	e	23	08	02.0				
4	WIN	iPcP	06	47	15.5		63		USCGS H =06 36 59.8 39.1 N 21.8 E Greece h=41 mag 5.0
4	PRE	t	36	00	00				
4	PRE	t	13	17	27.0				
4	WIN	iPcP	21	59	14.0		62	R	USCGS H =21 48 58 37.7 N 27.9 E Turkey h= 14 mag 4.7
4	PRE	iPcP	30	00	00		64	R	
4	PRE	i(P)	24	42	21.0		134	C	USCGS H=00 25 09 18.8 N 107.8W off coast Jalixo Mexico h=33 mag 3.9
5	WIN	i	00	43	26.0			C	
5	PRE	i	29	00	00			R	
5	PRE	t	06	37	00				
5	PRE	t	14	36	00				
5	PRE	t	14	40	00				
5	PRE	iPn	22	58	44.0		780 km		B.P.I. H =22 57 01 Rhodesia/ Mozambique border
		iSn		59	57.5				
	GRH	ePn	23	00	37		1700 km		
		iSi		04	24				
	WIN	iPn		38	00				
		iSi		05	00.0				
5	PRE	iPn	23	48	11.5		730 km		Rhodesia/Mozambique border
		iSi		49	56.0				
6	PRE	i	24	20	38.5				
6	PRE	iPn	02	39	41.0		1300km		B.P.I. H=02 36 56 Port Harald area
		iSn		41	45.5				
		iSi		42	50.0				
	WIN	iPn		41	005.0				
		iSi		46	08.0				
	GRH	iPn		41	22		2080 km		
		iSi		47	01				
6	PRE	i	15	19	46.5				

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(25)

May cont.

Date	Station	Phase	h. G.	m. M.	s. T.	Arc. Dist.	R/C	Remarks
7	WIN	iPKP ₂	03	46	29.0	148		USCGS H=03 26 46 53.6 N 167.5 W Fox I's Aleutian I's.
	PRE	iPKP ₂			30.0	148	R	h=45 mag 4.9
7	WIN	iPcP	13	18	32.0	62		USCGS H= 13 08 16.0 37.8N 27.9 E Turkey h= 12 mag 5.2.
9	WIN	i	00	52	43.6			
9	WIN	IPP(P)	04	01	12.5	112	C	USCGS H= 03 41 00.0 13.6 N 91.0 W Near coast Gautemala h= 68 mag 4.4.
14	WIN	iPcP	20	40	05.2	84	C	USCGS H=20 27 27.4 10.5 N 63.0 W Near coast Venezuela h= 16 mag 5.5
15	WIN	iPKP ₁	15	05	53.0	151	R	USCGS H=14 46 06.5 51.5 N 178.4 W Andreanof I's Aleutians h=33 mag 5.8
	P IE	iPKP ₁			53	151		
16	WIN	3S1	05	58	03.0			Probably Uganda
17	WIN	ePn isi	07	09	(10.6) 17 12.9	28		USCGS H= 07 03 29.4 0.7 N 30.1 E Uganda h= 12 mag 6.3
17	GRH	t	17	10	00			
	PIE	t			00			
	WIN	i			06.0			
17	WIN	i	19	07	29.0		C	USCGS H= 18 55 35.6 44.0 S 75.3 W off coast S. Chile h= 33 mag 5.0
18	WIN	t	02	02	00			Probably Uganda
18	WIN	t	18	30	00			
19	WIN	i	07	41	13.6			
19	PIE	t	12	09	00			
19	WIN	t	12	11	00			
19	KIM	i	14	16	12		C	
22	WIN	t	03	15	00			
23	WIN	i	18	12	09.0		C	
25	WIN	i	13	34	33.0		C	

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MAY 1966 cent.

h.m .s.

Arc.

Date	Station	Phase	G.M.T.	Dist	C/R	Remarks.
27	PIE	i	22 23 59		R	
27	PIE	i	22 26 37		R	
28	WIN	i	22 09 58			
29	WIN	t	03 40 00			
29	KIM	i	13 02 36		R	
29	WIN	i	14 02 52.0		C	
30	WIN	t	06 46 00			
30	WIN	t	15 54 00			
31	WIN	t	08 03 00			

H.O. OLIVER
WINIFRED WAGNER.

South Africa June 1966 P. 68

JUN 1966

Geological Survey Office, Department of Mines, P.O. Box 401, Pretoria, Republic of South Africa.

Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

Stations Lat: Long:
Pretoria (PRE) 25°45.2'S 28°11.4'E Height 1350m. Instrument Vertical S.P.(1.0sec.) seismometer: Geotech Model 11051
Lithologic Foundation Weathered shale
Two horizontal S.P.(1.0sec) seismometers Geotech Model 1101
Vertical L.P.(30sec) Seismometer: Sprengnether
Two horizontal L.P.(30sec) Seismometers Sprengnether
Galvanometers for SP System, 0.75sec
Galvanometers for LP System, 100.0sec.

Seismological Officer: The Director, Geological Survey, P.O. Box 401, Pretoria.

Windhoek (WIN) 22°34'S 17°06'E Height 1728m. Instrument: Same as Pretoria.
Lithologic Foundation Micha Schist

Seismological Officer: Officer in charge Weather Office.

Grahamstown (GRH) 33°18.6'S 26°34.5'E Height 558m. Instrument: Benioff S.P. vertical with short and long period recorders
Lithologic Foundation Dwyka Shale
Seismological Officer: Professor of Physics Rhodes University.

Pietermaritzburg (PIE) 28°37.2'S 30°23.8'E Height 656m. Instrument: Benioff S.P. vertical
Lithologic Foundation Soft Ecca Shale
Seismological Officer: Professor of Physics Natal University.

Kimberley (KIM) 28°45.1'S 24°46.8'E Height 1321m. Instrument: Benioff S.P. Vertical
Lithologic Foundation Dolerite boulders embedded in decayed dolerite.
Seismological Officer: Rev. Br. N.G. Alter. Christian Brothers College.

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H.O. Oliver. Seismological Officer.

h. m. s.

Date	Station	Phase	G. M. T.	Arc. Dist.	C/R	Remarks.
1	KIM	iPKP	12 05 34	116		USCGS H=11 47 33.1 23.4 S 166.6 E New Hebrides h= 48 mag 5.5.
1	WIN	i	12 57 02.0			
2	KIM	i	03 47 15		R	
	PIE	i	32			
	WIN	i	32.0		R	
	GRH	t				
3	KIM	iPcP	10 54 50	77	C	USCGS H=10 42 58.1 30.8 58.7 W San Juan Prov Argentine h= 101 mag 5.1
	PRE	iP	50 12.0	81	R	
3	KIM	i	14 19 43		C	
	PRE	i	47.5		C	
	GRH	i	55			
4	PRE	iPcP	05 23 07.5	73	R	USCGS H= 05 11 54.2 36.3 N 70.8 W Hindu Kush region h= 207 mag 5.7.
	PIE	iPcP	23	77	R	
	KIM	iP	31	80	C	
5	PRE	i	24 07 30.0			
	WIN	t	08 00			
	KIM	t	00			
6	PRE	i	07 57 29.5		R	
	KIM	iP	51		C	
		iS	58 46			
	PIE	i	57 41		C	
	WIN	i	50.7		R	
		i	58 44.0			
	GRH	i	11		C	
7	WIN	iPcP	01 12 29.5	87	R	USCGS H= 00 59 46.6 15.0S 75.8 W near coast of Peru h= 48 mag 5.5
	PRE	iPcP	13 10.0	100	R	
7	PRE	iPP	14 18 13.5	115	C	USCGS H=13 59 36.0 11.3 N 139.6 E West Caroline I's
	KIM	iPP	21	118		
	WIN	iPKP	34.0	124	C	h= 50 mag 5.0
7	KIM	i	14 28 44			
	PRE	i	54.5		R	
7	PRE	t	15 28 05.5			
8	PRE	i	20 15 44.5		C	Probably
	WIN	i	54.5		C	Nyasaland
	KIM	i	59			
9	WIN	iP	24 24 24.5	82		USCGS H=24 12 12.1 7.6N 94.1 E Nicobar I's region h= 55 mag 5.3
	PRE	t	00			
9	WIN	t	04 29 00			
	PRE	t	30 00			
9	PRE	t	15 58 22.5			
9	PRE	iP	22 34 34.0	59	C	USCGS H= 22 24 39.0 27.6 N 52.5 E s. Iran h= 8 mag 4.9
	WIN	iP	53.5	61		
10	PRE	iPKP	04 44 45.5	145	C	USCGS H= 04 25 14.3 52.0 N 175.0E Near I's Aleutian I's h=33 mag 4.9
	WIN	iPKP	53.5	148		
		1				
10	PRE	iS	09 18 55.0			Probably Mozambique.
	WIN	t i	20 00.0			

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June Cont.

Date	Station	Phase	GMT h.m.s.	Arc	Dist.	R/C	Remarks.
10	PRE	t	14 32 00				
10	WIN	i	19 15 52.0			C	
11	WIN	t	10 17 08.5				
13	GRH	iPKP	18 27 07	121			USCGS H=18 08 38.4 12.2 S
	PRE	iPKP	10.0	125		C	167.1 E Santa Cruz I's h
	KIM	iPKP	11	127			= 259 mag 6.2
	WIN	iPKP	29.0	135			
13	KIM	i	18 33 49				
	PRE	i	51.5				
	GRH	i	37 09				
14	WIN	iPn	09 37 24.0	540 km			B.P.I. H = 09 36 10
		iSn	38 18.0				Ovamboland.
		iS1	38.0				
14	PRE	t	09 44 00				
14	WIN	ePcP	12 05 09.0	32			USCGS H= 11 54 58 8.1 N
							37.3 W Central Mid Atlantic
							Ridge h= 33 mag 4.7
14	PRE	t	15 50 00				
15	WIN	i	24 04 42.5				R Probably Republic of the Congo
	PRE	t	05 00				
15	WIN	i	01 18 095.0				
	PRE	i	39.0				
	KIM	i	41				
	PIE	t	20 00				
15	PRE	i	01 51 48.5				
	KIM	i	48				
15	PRE	i	02 01 48.0				
	KIM	t	02 00				
15	WIN	iP	20 43 58.0	74		C	USCGS H= 20 32 24.1 22.1 S
	KIM	iP	44 23	78			37.2 W Chile Bolivia border
	GRH	iP	23	76			h= 190 mag 5.5
	PRE	iP	42.0	82			
17	PRE	i	18 37 31.5				R Probably Uganda
18	PIE	iP	05 21 24	120km			B.P.I. H= 05 21 06 29.15 E
	PRE	iP	22 07.7	450km			29.20 S Mokhotlong mag 5 Felt over
	KIM	iP	09	430km			a wide area
		iS	29				
	GRH	iP	13	480km			
18	PIE	1P	05 29 25				Natal Aftershock
		iS	37				
18	PIE	iP	05 34 48				Natal aftershock
		iS	35 00				
19	PRE	t	24 28 00				
19	WIN	i	01 08 (11.0)				
	PRE	t	09 00				
19	PRE	i	19 48 25.0			R	
	PIE	i	31				
	KIM	i	49 05			R	

June Cont.

Date	Station	Phase	G.M.T.h.m.s.	Arc Dist.	R/C	Remarks
20	PRE	iPKPi	01 43 55.0	150	R	USCHS H= 01 24 12.9 51.5 N 178.6 W Andreanof I's Aleutian I's h= 34 mag 5.1
	PIE	t	44 00			
20	PIE	iP	02 23 10	150km		Vryheid district Natal 31 E 28.15 S J.P.I. H= 02 22 43.
		iS	26			
	PRE	iPn	42.0	400 km		
		iPi	51.0			
		iSn	24 31.0			
	GRH	iSi	25 08			
	KIM	iSi	39			
	WIN	t	26 00			
20	WIN	iSn	02 28 23	1500km		
		iSi	29 46			
21	KIM	t	01 02 00			
	PRE	t	03 0			
21	Pre	t	23 11 00			
21	Pre	t	23 15 00			
21	PRE	i	23 31 16.5		C	
22	PRE	iPKP2	11 58 23.5	147		USCGS H= 11 38 53.7 61.4 N 147.6W S, Alaska. h= 53 mag 5.2.
22	PIE	iP	20 41 12	90		USCGS H=20 29 03.5 7.2 S 124.6 E Banda Sea h=507 mag 5.1
	PRE	iP	22.5	93	C	
	GRH	iP	31	93		
	WIN	iP	42 10.5	108		
22	PRE	iPKP	05 20 13.5	124	R	USCGS H=05 01 42.4 43.8 N 139.9 E E. Sea of Japan h=218 mag 5.5
23	WIN	iPn	09 39 12.0	1000km		Mongu region Barotseland J.P.I. H= 09 38 29.0 22E 14S.
		iSi	42 05.5			
	PRE	iPn	40 09.0	1260km	C	
		iSn	42 25.0			
	KIM	iPn	(27)			
	PIE	iSi	46 04			
	GRH	t	47 00			
25	PRE	t	02 05 00			
27	PRE	i	10 52 46.0		R	
	PIE	i	54			
	KIM	i	53 10		R	
	WIN	i	18.0		R	
	GRH	i	26		C	
27	PRE	i	11 01 27.0			
	KIM	e	42			
	PIE	t	02 00			
27	WIN	i	11 10 28.0		R	
	PRE	i	53.0			
	PIE	i	11 04			
	KIM	i	19			
	GRH	i	35			
27	WIN	i	11 33 53.5			
27	WIN	i	22 05 43.0		R	
28	PRE	i	04 46 11.0			
	WIN	i	00			
	KIM	t	47 00			
28	PRE	t	20 14 00			
30	KIM	i	22 34 42		C	
	PRE	i	46.5			
	GRH	i	56		R	
	WIN	t	35 00			

42 05
39 18

2.47

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JUL 1966
South Africa
July 1966
JOH

Geological Survey Office,
Department of Mines,
P.O. Box 401,
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Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spreng- nether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic-
al Survey, P.O. Box 401, Pretoria.

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Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

(29)

JULY 1966			h.	m.	s.	Arc	C/	
Date	Station	Phase	G.	M.	T.	Dist.	R	Remarks
1	PRE	iPKS	06	04	30.5	131	R	USGGS H=05 42 47 17.85 S 178.7 W Fiji Is. h = 523 Mag 4.0
1	PRE	i	06	08	48.0			
1	WIN	iPKP ₂	19	25	01.2	149	R	USCGS H=19 .05 26.5 52.3N 174.2 E Near Is Aleu- tian Is. h = 56 Mag 5.0
2	PRE	iP	11	27	08.0	27		USCGS H=11 21
		i		35	10.0			30.4 0.9 N 30.1E
	WIN	IS ₁			15.0			Uganda h=33 Mag 4.8
3	PRE	iPKP ₂	04	15	00	152	R	USCGS H=03 55
	WIN	iPKP ₂			05.0	155		15.7 52.5 N 170.2 W Fox Is. Aleutian Is. h=33 Mag 4.3
4	PRE	i	03	15	10.0		R	
	WIN	i			17.5		R	
	KIM	i			22		C	
4	PRE	i	03	34	06.0		R	
4	WIN	i	12	26	48.0		C	
	PRE	i		27	37.0		C	
	KIM	i			40		C	
	PIE	i		28	00			
4	PRE	i	18	53	17.5			
	PIE	e			22			
	WIN	i			25.0			
	KIM	i			31		C	
	GRH	i						
4	PRE	iPKP ₂	19	10	005.0	149	C	USCGS H=18 50 25
	KIM	t		10	00			51.7 N 179.0 W
	PIE	iPKP ₂			09	150	C	Andreanof Is.
4	PRE	i	19	18	51.0			Aleutian Is. h=33 Mag 5.4
4	PIE	e	21	02	10		C	
	KIM	e			26			
	PRE	i			50.2		C	
4	PRE	iPKP ₁	21	21	41.0	148	R	USCGS H=21 02 00.4 51.7 N 180.0 E. Rat Is. Al- eutian Is. h=19 Mag 4.6
4	PRE	i	22	18	53.0		R	
5	PRE	eP	02	34	34.0	80		USCGS H=02 22 24 37.5 N 24.6 W Azores Is. region h=27 Mag 4.8

July (continued)

Date	Station	Phase	G.	M.	T.	Arc Dist.	C/R	Remarks
5	PRE	i	02	41	(18.0)			
		i			31.5			
	WIN	i			27.9			
	KIM	i			32		C	
		i			45			
	PIE	IS ₁			38			
5	PRE	i	17	44	45.0			Probably Mocambique
6	PRE	t	03	13	00			Probably Uganda
8	PRE	i	23	27	(12.0)			Probably Zambia
	WIN	t		29	00.0			
10	PRE	t	19	04	00.0			
11	PRE	i	01	31	06.5		R	
12	PRE	t	24	14	52.0			
12	WIN	eP	03	06	(19.5)	59		USCGS H=02 56 23.5
	PRE	iP			40.0	62	C	35.5 N 22.4 E
12	WIN	t	18	00	00.0			Mediterranean Sea h=15 Mag 4.9
12	WIN	iP	19	04	16.0	71	R	USCGS H=18.53 08.5
	PRE	iP			22.0	72	R	44.6 N 37.4 E
	KIM	iP			42	76	C	Western Caucasus
	PIE	t		05	00			h=26 Mag 5.9
14	WIN	e	04	47	43.5			
		i		48	18.5			
	PRE	i			(21.0)			
14	WIN	t	07	06	43.0			
14	PIE	iP	20	05	10	24	R	USCGS H=20 00 02.5
	PRE	iP			43.0	27		52.9 S 27.5 E h = 33 Mag 5.4
15	WIN	i	17	06	29.0	30	R	N.W. S.W.A. 18S 13E
		i			(48.0)			
15	PRE	e	18	04	15.5			
16	PRE	t	02	18	00			
16	PRE	t	17	13	00			
17	WIN	i	02	29	44.0		C	Zambia
18	PRE	iP	02	03	17.0	46		USCGS H=01 55 02.1
	WIN	iP		04	03.0	52	R	8.4 N 58.5 E Carlsberg Ridge h = 33 Mag. 4.9 Zambia
18	PRE	t	15	40	00.0			
	WIN	t		42	00.0			
19	PRE	t	02	01	00			
19	PRE	iPKP ₂	19	40	18.5	152	C	USCGS H=19 20 33.4
		i			33.0			51.7 N 173.3 W
	WIN	iPKP ₂			20.9	157	C	Andreanof Is. Aleutian Is. h=47 Mag. 5.3
21	PRE	i	19	22	17.0		C	
21	PRE	i	10	07	34.5		C	
21	PRE	i	12	40	50.1		C	
21	WIN	t	18	49	00			
	PRE	iPP		50	47.5	130	C	USCGS H=18 30 14.9 17.8 S 178.6 W Fiji Is. region Mag 56 h = 591

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July 1966 (continued)

Date	Station	Phase	G.	M.	T.	Arc. Dist.	C/ R	Remarks
22	PRE WIN	iPKP ₂ iPKP ₂	10	37	07.0 08.5	151 153	R R	USCGS H=10 17 22.5 51.7 N 173.5 W Andreanof Is. Aleutian Is. h=56 Mag 5.6
22	PRE	t	21	56	(18.0)			
23	PRE WIN	iPKP ₂ iPKP ₂	03	57	41.5 43.0	151 153	R C	USCGS H=03 37 55.8 51.7 N 173.6 W Andreanof Is. Aleutian Is. h=41 Mag 4.7
23	PRE WIN	i t	08	46	05.0 00		R	
23	PRE WIN PIE	iPKP ₂ iPKP ₂ iPKP ₂	14	51	36.0 (38.0) 41	151 153 154	C C	USCGS H=14 31 51.2 51.7 N 173.5 W Andreanof Is. h=55 Mag 5.3
23	WIN	t	15	46	00			
23	PRE WIN	iPKP ₂ iPKP ₂	20	31	46.0 48.0	151 153	R	USCGS H=20 12 00.1 51.8 N 173.5 W Andreanof Is. Aleutian Is. h = 36 Mag. 4.9
25	PRE	iPKP ₂	09	38	27.0	153	C	USCGS H=09 18 36.7 52.1 N 170.0 W Fox Is. h=31 Mag. 4.3
25	PRE KIM WIN	iP iS iP _n iS _n t	14	04	41.5 05 04 05 09	180 km 03.0 53 300 km 30 00		Klerksdorp area B.P.I. H= 14 04 12
26	PRE WIN	iPKP ₂ t	13	10	05.0 00.0	151	C	USCGS H=12 50 19.3 52.0 N. 173.5 W. Andreanof Is. Aleutian Is. h=36 Mag. 4.8
27	WIN GRH KIM PRE	iPcP iPcP iPcP iPcP	05	01	02.0 22 23 42.0	79 82 83 86	R R C R	USCGS H=04 48 59.4 24.2 S. 70.3 W. Coast N. Chile h=33 Mag. 6.
27	PRE WIN KIM	iP iP t	14 15	59 00	18.0 28.0 00	62 63	C R	USCGS H=14 49 02.0 32.6 N 48.8 E W.Iran h = 36 Mag. 5.5
31	KIM PRE WIN	i i t	10	32 33 37	52 01.0 00.0			
31	PRE WIN	t iS ₁	15	16 31	00 (05.5)			
31	PRE	t	17	56	00			
31	WIN	iS ₁	20	06	(11.0)			
31	PRE KIM GRH PIE	i iS ₁ iS ₁ t	24	04 06 07	22.0 48 (50) 00			

 H.O. Oliver
 Winifred Wagner

South Africa Aug. '66

Pwd

E - AUG 1966

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Seismological Officer.

DATE STATION PHASE h. m. s. ARC. C/
G. M. T. DIST. R REMARKS.

1	PRE WIN KIM	iPKP2 iPKP2 iPKP2	06 45 33.0 39.9 43	147 153 153	C R C	USCGS H=06 25 57.6 51.5 N 177.6 E Rat I's Aleutian I's. h=43 mag 5.2.
1	PRE KIM WIN	i i i	19 20 52.0 21 17 20.0		C C C	
1	PRE PIE WIN	1P t iP	20 41 53.0 42 00 21.0	134	C C C	USCGS H= 20 24 18 15.3 S 173.0 W Samoa I'S region h=7 mag 4.6
1	PRE PIE KIM WIN GRH	i i i i t	21 13 55.5 14 10 21 24.9 15 00	141	C C C C R	
1	PRE	iP	21 42 22.0	48		USCGS H=21 35 41 29.9N 69.0 E West Pakistan h= 29 mag 4.8.
3	PRE	t	03 19 00			
3	WIN	t	21 36 00			
4	PRE	t	03 20 (15.5)			
5	PRE WIN	iP 1P	01 14 47.0 15 13.5	77 82	R R	USCGS H=01 03 04.432.6N 79.6 E Kashmir Tibet border region h= 55 mag 5.3.
5	WIN PRE	i i	04 51 15.0 59.0		C C	
6	WIN	t	19 42 00.0			
6	WIN	i	21 24 12.5		C	
	KIM	i	16		R	
7	PRE	iP	02 32 50.0		R	
	WIN	i	51.0		R	
	PIE	i	54			
	KIM	i	55		C	
7	PRE	t	11 20 00.0			
7	PRE	iPKP2	14 31 32.0	145	C	Probably Southern Rhodesia. USCGS H= 14 11 51.2 59.6 N 144.4 W Gulf of Alaska h=4 mag 5.5.
7	KIM	ePKP2	17 56 03	147		USCGS H=17 36 26.7 31.8 N 114.5 W Gulf of California. h= 33 mag 6.3.
	PRE	iPKP2	(11.0)	149		
10	WIN	i	05 20 06.5			
	PRE	i	08.5		R	
10	PRE	i	22 17 18.0		C	
	WIN	t	18 00.0			
11	WIN	iPKP2	11 05 44.0	152		USCGS H= 10 45 59.6 52.8 N 169.7 W Fox I's Aleutian I's h= 61 mag 5.3.
	PRE	iPKP2	45.0	154	C	USCGS H=19 24 06 53.4S 25.4E South of Africa h= 33 mag 4.9
	KIM	t	06 00			
12	PRE	iP	19 29 52.0	28	R	USCGS H=02 15 33.8 28.7N 78.9 EN, India h= 50 mag 5.8
	WIN	iP	30 25.0	31	R	
15	PRE	iP	02 26 59.0	74	R	
	WIN	iP	27 32.0	80	R	
15	WIN	t	03 00 00			
15	PRE	i	10 29 005.0		R	
	KIM	i	33			
	WIN	i	57.0			
15	PRE	i	13 56 02.5		R	
	KIM	i	10			
15	PRE	iPn iSn iSi	19 38 16.5 39 10.0 27.0	510km		Bechuanaland Protectorate B.P.I. H= 19 37 06 24 S 23 E.
	WIN	iPn iPi iSi	38 (45.0) 39 08.5 40 28.0	20km		
16	PRE	i	02 27 34.0		R	
	PIE	i	44		C	
	KIM	i	50		C	
	WIN	i	56.0		R	

August cont.				(33)	Arc.	R/C	Remarks.
Date	Station	Phase	G	m.	T.	Dist.	
16	PRE	t	18	23	00		
	KIM	t			00		
	PIE	t			00		
17	PRE	e	15	22	16.5		
17	PRE	iPKP2	21	18	05.5	146	USCGSH=20 58 35.9 52.3N 174.9
	PIE	iPKP2			13	148	E Near I's Aleutian
	WIN	iPKP2			14.5	149	I's h=32 mag 5.6.
	KIM	iPKP2			20	150	
18	PRE	i	06	57	39.5		R
	WIN	i			46.0		
	KIM	i			51		R
18	PRE	i	09	52	07.0		
	KIM	i			00		
18	PRE	iP	14	47	25.5	97	USCGS H=14 33 59.8 0.2S 125.1 E
							Molucca Sea h=56 mag 6.3
18	PRE	iP	14	51	13.2	97	C USCGS H= 14 37 53 0.1 S
	WIN	iP			57.5	107	C 125.1 E Molucca Sea
	KIM	t		52	00		h= 33 mag 6.3.
19	PRE	t	03	30	00		
19	PRE	iPKP2	11	43	00	151	USCGS H=1123 13.5 53.6 N
	WIN	iPKP2			57.5	153	R 167.6 W Fox I's Aleutian
19	WIN	iP	12	32	53.0	67	I's h= 54 mag 5.1
	PRE	iP			54.0	67	
	PIE	iP		33	16	70	C USCGS H=12 22 09.6 39.2 N
	KIM	iP			17	71	41.7 E. Turkey h= 26
19	WIN	iP	14	05	07.5	66	mag 6.1
	PRE	iP			08.5		USCGS H= 13 54 24.9 38.9 N
							R 41.7 E. TURKEY h= 33
							mag 5.3
19	PRE	i	14	28	40.0		R Turkey aftershock.
19	PRE	i	20	18	36.5		Turket aftershock.
19	PRE	i	20	42	14.5		" "
20	PRE	iPKP	09	51	10.0	126	C USCGS H= 09 32 31.7 43.1 N
	WIN	ePKP			23.0	134	140.6 E Hokkaido Japan
20	WIN	i	09	54	29.3		C h= 161 mag 5.8
20	PRE	i	11	51	30.5		
20	WIN	iP	12	09	54.0	67	C USCGS H= 11 59 12.1 39.3N
	PRE	iP			55.0	67	C 40.9 E Turkey h=37
20	WIN	iP	12	15	55.0	67	C mag 5.4.
	PRE	iP			16	19.5	69 C USCGS H=12 05 19.0 42.3 N
							18.6 E Yugoslavia h=22
							mag 5.5
20	WIN	ePKP	23	14	15.0	133	USCGS H=22 55 03.0 23.4 S
							176.0W S of Fiji I's
							h=57 mag 5.6
21	WIN	i	01	41	14.0		
	PRE	i			30.0		C
21	WIN	t	05	18	00.0		
22	PRE	i	14	41	30.0	129	USCGS H=14 21 13.7 50.3 N
	WIN	i			48.0	134	R 147.6 E Sea of Okhotsk
							h=628 mag 5.2.
22	WIN	e	18	01	21.0		
23	WIN	t	18	04	00		
24	WIN	iP	07	29	14.2	80	R USCGS H=07 17 17.8 19.9 S
	PRE	iP			57.0	88	69.2 W. N.Chile
							h= 100 mag 5.5
25	WIN	iSi	01	31	02.0		
	PRE	iPn			04.0	370km.	
		iSn			41.0		
25	WIN	iP	23	30	38.5	79	USCGS H=23 18 50.8 22.4 S
	PRE	iP			31	21.0	87 68.6 W N. Chile h=
							112 mag 5.3
27	PRE	iPn	22	21	(04.0)	600km	S.Rhodesia/Bechuanaland
		iSi			22	27.5	border 25 E 21 S
	WIN	e			21	(35.5)	890km
		i			23	(45.5)	
28	WIN	i	07	48	13.0		

August cont.

Date	Station	Phase	G	M	T	Arc/Dist.	R/C	Remarks
28	PRE	iPKP	10	20	57.5	121	C	USCGS H=10 03 03.0 4.6 S 155.2 E Solomon I's h=509 mag 5.5
	KIM	iPKP		21	01	122	R	
	WIN	iPKP			20.0	132		
28	PRE	iPP	10	55	02.0	75	R	USCGS H=10 43 01.0 36.3 N 70.9 E Hindu Kush region h=173 mag 4.9
	KIM	t			00			
28	PRE	i	13	48	45.5		R	
30	PRE	iPn	09	12	05.0			Klerksdorp
		iSn			27.0			
		iSi			29.0			
30	PRE	iPkP2	20	40	25.0	145	C	USCGS H=20 20 54.0 61.3 N 147.5 W. S. Alaska h= 36 mag 5.9.
	KIM	iPKP2			33	149		
	PIE	iPKP2			37	151		
31	PRE	iP	03	56	40.0	120km		BPI H= 03 56 01 26.5 E27.5 S. Potchefstroom.
		iS			52.5			
	KIM	iPn		57	13	350km		
		iPi			21			
		iSn			50			
		iSi			59			
	PIE	iPn			37	400km		
		iSn		58	17			
		iSi			31			
	WIN	iPn			47.0			
31	GRH	t	04	01	31.5			03. 74 54' 47
	PRE	i	19	51	32.0		C	
	WIN	i		52	00.0			

H.O. OLIVER.
WINIFRED WAGNER.

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Pretoria,
Republic of South Africa.

Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Preteria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spre -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	<u>Seismological Officer</u> : The Director, Geologic -al Survey, P.O. Box 401, Pretoria.
Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	<u>Seismological Officer</u> : Officer in charge Weather Office.
Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.
Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.
Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br.N.G. Alter.Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

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Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

September 1966

(35)
R/C

h. m. s. arc Remarks.
Date Station Phase U. L. T. Dist.

Date	Station	Phase	U.	L.	T.	Dist.	Remarks.
1	WIN	i	14	33	04.0	C	
	PRE	i			25.0	R	
	KIM	t		34	00		
1	WIN	t	20	43	00		
1	PRE	i	25	38	35.0	R	
2	KIM	iP	00	43	13	213km	O.F.S. Goldfields. B.P.I. H=
	iS				37		24 41 52.
	PRE	iPn			20.5	340km	
		iPi			29.1		
		iSn			57.2		
		iSi	44	05	2		
2	PRE	i	01	14	21.0	R	
	WIN	i			28.0	C	
2	WIN	iPn	11	50	03.0	390km	B.P.I. H =11 52 14. Bechuanaland
	iSi				53.0		Protectorate.
	PRE	iPn	53	58	5	600km	
		iSn	55	12	0		
	KIM	t			00		
2	WIN	iPKP?	22	34	47.5	154 R	U.S.C.G.S. H=22 14 50.9 53.1 N
	PRE	iPKP?			50.0	156 R	189.8 W Fox I's Aleutian I's h=33
							mag 4.6.
2	PRE	i	23	03	15.0	C	
3	PRE	i	03	42	25.5	R	
3	PRE	i	12	17	26.0	C	
	WIN	t			18 00		
3	PRE	iPn	13	04	5.5	120km	Potchefstroom Transvaal.
		iPi			(09.0)		
		iSn			18.0		
		iSi			22.5		
	KIM	iPn			40	342km	
		iPi			49		
		iSn	45	18			
		iSi			27		
	WIN	t			09 00		
4	PRE	iPn	3	19	32.5	120km	Potchefstroom Transvaal.
		iPi			(33.0)		
		iSn			45.0		
		iSi			50.		
	KIM	iPn	20	17		350km	
		iPi			17		
		iSn			45		
		iSi			56		
4	PRE	i	10	18	51.0	R	
5	PRE	iPn	09	10	(51.0)		Far North.
		iSi			14 15.0		
	WIN	iPn	10	54	0		
		iSi	14	28	5	C	
	KIM	t			12 00		
6	KIM	iP	20	28	36	213km	Orange Free State Goldfields.
	iS				29 00		B.P.I.H=20 27 16.
	PRE	iPn	22	(44.0)		340km	
		iSn	29	20	5		
		iSi			27.9		
6	WIN	t	22	41	00		
7	WIN	t	04	36	00		
8	WIN	iPcP	08	40	17.5	76 C	USCGS H=08 28 52.1 23.5 S 66.6W
	KIM	iPcP			41	80 C	JUy Juy Prov. Argentina h=204
	PRE	iP	41	02	0	84 R	Mag 5.4
	PIE	iP			04	85	
8	PRE	t	10	40	00		
	WIN	t			44 00		
8	WIN	iPP	12	13	18.0	26 R	USCGS H=12 07 50 22.5 S 10.7W
	KIM	iP			14 18	33	S. Atlantic Ridge h= 33 mag 5.4.
8	PIE	iP	21	29	21	96 C	USCGS H=21 15 52.8 2.4N 128.4 E
	PRE	iP			30.0	100 R	Halmahera h= 96 mag 6.9.
	KIM	iP			43	103 C	
	WIN	iP	50	17	5	110	
	GRE	i	29	()			

Date	Station	Phase	h. m. s.	(36)	arc Dist.	R/C	Remarks.
8	WIN	i	21 45 19.0			R	
	KIM	iS	46 02				
	PRE	i	15.0			R	
8	PRE	iPKP	22 14 49.0	132	R	USCGS H=21 55 40.1 45.5 N 150.5 E Kurile I's h=33 mag 5.6	
8	WIN	iPKP2	22 51 23.0	151		USCGS H=22 31 50.9 52.7 N 173.4 E Near I's Aleutian I's h= 52 mag 5.1	
	KIM	t	52 00				
8	PRE	i	20 50 34.0		R		
10	WIN	iPPP	14 24 43.0	112	C	USCGS H=14 04 53 26.4 S 115.1 W Easter I's Cordillera h=33 mag 4.5	
	KIM	iPPP	55	112			
11	PRE	iP	03 58 05.0	51		USCGS H= 03 49 13 58.9 S 25.7 W S. Sandwich I's h=33 mag 5.4	
12	KIM	iPKP	11 48 26	118		USCGS H=11 29 40.3 23.1 S 170.6 E. Loyalty I's region h=49 mag 6 .1	
	PRE	iPKP	27.0	119			
	WIN	iPKP	43.5	127	R		
12	KIM	iPKP ₁	17 00 53	153		USCGS H=16 41 01.7 39.4 N 120.1 W N California h=8 mag 5.4.	
	PRE	iPKP ₁	55.5	153			
12	PRE	iP	17 55 10.5			Klerksdorp area	
	iS		32.5				
14	PRE	iP	00 55 43.5	50	C	USCGS H=00 47 04 14.6 N 56.4 E Arabian Sea h= 23 mag 5.0	
	KIM	iP	56 12	53			
14	KIM	iP	23 27 09	47		USCGS H=23 18 41.6 60.1 S 27.0 W S. Sandwich I's region h=33 mag 6.2	
	WIN	iP	25.5	49	R		
	PIE	iP	28	50			
	PRE	iP	42.5	52			
	GRE	t	00				
15	WIN	iP	01 55 14.0	42	R	USCGS H=01 46 28.7 60.3 S 26.8 W S. Sandwich I's region h= 33 mag 5.2	
	PRE	iP	27.0	51	R		
15	WIN	iP	02 33 35.5	49		USCGS H= 02 24 51.4 60.2 S 26.6 W S. Sandwich I's region h= 33 mag 5.5	
15	WIN	iP	03 02 21.0	49	C	USCGS H=02 53 38 60.4 S 26.6 W S. Sandwich I's region h=33 mag 5.5	
	PRE	iP	31.0	52			
15	WIN	t	06 16 00			" 5.5	
15	WIN	iP	06 30 51.5	49		USCGS H=06 22 07 60.2 S 26.8 W S. Sandwich I's region h=33 mag 5.4	
	PRE	iP	31 07.0	52			
15	KIM	iP	12 00 22	42		USCGS H=11 51 55 60.38 26.7 W S. Sandwich I's region h=33 mag 5.7	
	WIN	iP	39.0	49	C		
	PRE	iP	53.9	52	C		
15	WIN	i	12 08 41.0		C		
15	PRE	i	12 23 57.0		C		
16	PRE	i	03 03 11.0				
	WIN	i	11.0				
16	PRE	i	17 30 29.0		C		
	WIN	i	41.0				
17	PRE	iP	10 48 40.7			Krugersdorp Transvaal 26.2 S 27.9 E.	
	iS		48.3				
	KIM	iPn	49 (33)				
	iSi		50 44				
	PIE	iPn	49 (42)				
	iSn		50 19				
	iSi		35				
	WIN	i	51 08.5				
17	PRE	t	17 05 00				
17	PRE	e	23 29 06.0				
17	KIM	t	05 41 00				
18	PRE	e	04 32 46.5			Far North	
	i		39 25.5				
	WIN	t	40 00				
18	PRE	i	14 13 40.0				
18	WIN	i	15 23 08.0				
	KIM	i	24 18				

0 48 (35)

n. m. s. (37)

Date Station Phase G. M. T. Arc .Dist. R/O Remarks,

Date	Station	Phase	G.	M.	T.	Arc	.Dist.	R/O	Remarks,
18	KIM	iP	18	08	48		47		USCGS H=17 58 20.1 60.4 S
	WIN	iP		07	03.5		43	R	27.1 W S. Sandwich I/s region
	PRE	iP			19.5		52	C	h=33 mag 5.5
18	PRE	iP	20	53	54.0		60	R	USCGS H=20 43 53.3 27.8 N
	PIE	iP		54	11		62	R	54.3 E S. Iran h=16 mag 6.2
	WIN	iP			13.9		63	R	
	KIM	iP			21		64	C	
19	PRE	eP	18	56	06.0		52		USCGS H= 18 46 59.8 30.5 S 27.2 W S. Sandwich I's h=33 mag 4.9
20	PIE	iP	08	52	34		225km		Maseru Area Basutoland
		iS			59				27.8 E 29.5 S.
	KIM	iPn			(58)		350km		
		iSn		53	25				
		iSi			37				
	PRE	iPn			(13.0)		410km		
		iSi		52	07.0				
	GRN	t		53	00				
	WIN	t		59	00				
20	PRE	iPn	11	12	33.0		120km		Potchefstroom area 27.5 E 26.6 S.
		iPi			39.0				
		iSn			46.0				
		iSi			52.0				
	KIM	iPn		13	10		330km		
		iPi			20				
		iSn			49				
		iSi			58				
	WIN	t		17	00				
20	KIM	iP	09	32	40		47		USCGS H=09 24 02.8 60.3 S
	PRE	iP		33	10.0		52		26.2 W S. Sandwich I's region h=33 mag 5.5
20	PRE	iP	23	49	48.0		83	C	USCGS H=23 37 21.8 24.1 N 97.6 E Burma China border regi- -on h=28 mag 5.2
21	PRE	i	24	02	52.0			C	
23	PRE	i	18	19	48.0				
23	KIM	iP	18	34	16			R	Probably Sandwich I's region
	WIN	iP			31.0			C	
24	WIN	i	09	16	32.0			R	
24	PRE	iP	10	10	42.0		59		USCGS H=10 00 46.4 27.4 N
	WIN	iP		11	03.0		62	R	54.5 E S. Iran h=33 mag 5.4
	KIM	iP			19		64		
26	PRE	t	04	42	00				
	WIN	t		43	00				
26	PRE	i	05	23	16				
28	PRE	iP	14	13	06.0		87	C	USCGS H=14 00 22.9 27.4 N
	PIE	iP			09		88	R	100.1E Yunnan Prov. China h= 33 mag 6.2
	KIM	iS			28		92		
29	PRE	i	15	06	51.5				
29	PRE	i	17	54	33.0			C	

 H.O. Oliver.
 Winifred Wagner.



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Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30 ¹⁵ sec) Seismometer: Spreng -gnether Two horizontal L.P.(30 ¹⁵ sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geological Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br.N.G. Alter.Christian Brothers College.

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The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

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H.O. Oliver.
Seismological Officer.

October 1956			h. m. s.	Arc.	R/C	Remarks.
Date	Station	Phase	G. M. T.	Dist.		
2	PRE	iP	04 43 59.5	82	C	USCGS H=04 31 47.0 24.4 N 94.8 E Burma India border reg h=35 mag 5.2
2	PRE WIN PIE KIM	iPKP ₂ iPKP ₂ iPKP ₂ iPKP ₂	07 43 20.5 24.0 (25) 29	153 153 157 157	R R	USCGS H=07 23 35.3 51.6 N 174.5 W Andreanof I/s Aleutian I's h= 34 mag 5.1
2	PRE	i	07 50 08.5			
2	WIN PRE KIM	iP iP iP	11 32 (10.0) 49.5 33 06	69 72 75	R	USCGS H= 11 21 44.9 45.7 N 26.5 E Rumania h= 140 mag 5.3.
2	PRE PIE KIM	iPKP ₁ t t	12 27 44.0 28 00 00	154	R	USCGS H= 12 08 00.6 51.6 N 174.6 W Andreanof I's Aleu- tian I's h= 56 mag 4.5.
2	PRE	iPKP ₂	15 03 21.4	154	R	USCGS H = 14 43 37 51.5 N 174.6 W Andreanof I's Aleu- tian I's h= 39 mag 4.1
2	PRE	t	17 17 00			Probably Aleutian I's.
2	PRE	i	17 21 15.0		C	
3	PRE	i	13 17 13.0		C	
3	KIM	t	14 08 00			
3	PRE	eP	15 11 40.0	43		USCGS H =15 03 36 33.3 S 78.1 E Mid-Indian Rise h= 33 mag 5.4.
4	PRE	iPKP ₂	04 52 31.0	156	R	USCGS H = 04 32 39.1 52.5 N 169.1 W Fox I's Aleutian I's h = 35 mag . 4.3.
5	WIN PRE KIM PIE	iPP iPP iP t.	08 40 10.0 11.5 (41) 44 00	27 27 30	R	USCGS H = 08 34 40.6 0.1 N 30.0 E Republic of the Congo h = 33 mag 5.4
5	PRE	iPP	23 29 34.5	28		USCGS H =23 23 53 52.0 S 22.1 E S. of Africa h = 33 mag 4.7.
6	PRE KIM PIE WIN GRH	iP iS iPn iSn iSi iPn iSi iPn t	11 09 31.6 39.5 10 13 11 00 17 10 34 30 50 00	80km 430km		B.P.I. H =11 08 38 26.2 S 27.9 E Krugersdorp.
6	PRE	t	22 32 00			Probably far North.
7	WIN	i	15 04 23.0		C	
7	GRH PRE KIM WIN	iPKP iPKP iPKP iPKP	16 13 40 44.5 45 14 02.5	115 120 120 128	C C C	USCGS H = 15 55 10.8 21.6 S 170.5 E Loyalty I's region. h = 161 mag 6.4
7	PRE	t	16 24 00			

October cont.

Date	Station	Phase	h. m. s.		Arc. Dist.	R/C	Remarks.	
			G.	M.T.				
7	PRE	iPKP ₂	21	15	24.0	145	C	USCGS H= 20 55 56.0 61.6 N 150.1 W S. Alaska h= 56 mag 6.4.
	KIM	iPKP ₂			33	148	R	
	PIE	iPKP ₂			36	149	C	
	GRH	iPKP ₂			48	153		
8	PRE	iPKP ₂	03	26	29.5	149		USCGS H =03 06 46.4 57.7 N 151.6 W Kodiak I's reg. h= 32 mag 5.0.
8	PRE	t	04	36	00			Probably Argentina.
8	PRE	t	12	10	00			
	WIN	t			12	00		
8	PRE	iPKP	18	03	43.0	150	C	USCGS H=17 43 56.1 51.6 N 173.8 W Andreanof I's Aleutian I's h= 35 mag 5.5.
	WIN	iPKP ₂			44.5	153	C	
	PIE	iPKP ₂			48	154	R	
	KIM	iPKP ₂			52	156		
9	WIN	t	01	29	00			
	PRE	t			30	00		
9	WIN	iP	06	55	58.0	39	C	USCGS H=06 48 40.3 12.6 N30.8 E Sudan h= 11 mag 5.1
	PRE	iP			56	03.5	39	
9	PRE	iPKP ₂	08	30	11.5	148		USCGS H=08 10 28.0 31.3 N 114.3 W. Gulf of California h=33 mag 5.0.
10	PRE	iPKP ₂	21	37	13.0	148		USCGS H=21 17 34.5 57.4 N 136.2 W S.E. Alaska h= 22 mag 4.9
10	GRH	i	21	56	42			
11	KIM	iPcP	03	34	21	47		USCGS H= 06 25 55.1 60.3 S 26.0 W. S. Sandwich I's region. h=37 mag 5. 9.
	WIN	iPcP			37.5	49	R	
	PRE	iP			51.5	51		
11	KIM	iPR	08	08	06	48	R	USCGS H=07 59 41.8 60.4 S 26.1 W s. Sandwich I's reg. h=35 mag 5.3.
	WIN	iP			23.0	49	R	
	PRE	iP			38.5	52	R	
11	PRE	t	09	15	00			
	WIN	t			00			
11	WIN	i	15	57	52.0			
12	PIE	iPcP	00	19	15	85		USCGS H=00 06 37.8 11.9 S 121.8 E. S. of Timor h=33 mag 5.7
	PRE	iPcP			28.0	88		
	GRH	ePcP			20	(32) 88		
12	PRE	iPKP ₂	02	32	05.5	148	R	USCGS H=02 12 29.1 51.4 N 179.0 E Rat I's Aleutian I's h=42 mag 4.4.
12	PRE	iPKP ₁	03	38	58.0	146	R	USCGS H=03 19 25.4 60.5 N 144.4 W. S. Alaska h=33 mag 4.5
12	PRE	iPKP ₁	08	40	14.2	143		USCGS h=08 20 38 60.4 N 145.0 W S. Alaska h= 25 mag 4.4
12	KIM	i	15	57	33	47		USCGS H= 15 49 08 60.4 S 26.5 W S. Sandwich I's reg. h=33 mag 5.1
	PRE	i			58	06.0	52	
13	PRE	iPKP ₂	02	35	25.5	147	R	USCGS H =02 15 45.2 59.5 N 145.2 W. Gulf of Alaska h= 33 mag 4.0
13	PRE	t	19	04	05.5			

October cont.			h. m. s. Arc (40)R				
Date	Station	Phase	G.	M.	T.	Dist.	/C Remarks.
14	PRE	t	06	11	00		
	WIN	t		12	00		
16	PRE	i	09	17	(55.0)		
16	KIM	iP	13	03	34	46	R USCGS H=12 55 30.8 56.1 S 27.1 W
	PIE	iP		04	02	49	S. Sandwich I's region h=101 mag
	PRE	iP		15.0	50		C 5.6
17	WIN	t	13	30	00		
17	WIN	i	18	40	43.0		
17	WIN	iPP	21	55	00.0	91	USCGS H=21 41 56.3 10.7 S 78.7 W
	KIM	iPP		23		93	near coast of Peru h=38 major
	GRH	iPP		33		97	damage, many injured and killed.
	PIE	iPP		42		100	
	PRE	iPP		42.1		100	
18	PRE	t	02	32	00		
	WIN	t			00		
18	PRE	iP	20	46	47.0	82	USCGS H=20 34 37 24.3 N 94.8
							E Burma- India border reg. h=86
							mag 5.6
19	WIN	iPP	08	09	48.5	39	C USCGS H=08 01 33.8 1.6 S 15.5 W
	KIM	iP		10	03	47	R N. of Ascension I's h=33
	PRE	iP		15.0	49		C
	GRH	iP		35	52		C
	PIE	iP		39	53		
19	WIN	t	18	14	00		
22	PRE	iP	03	15	30.0	82	C USCGS H=03 03 23.5 23.1N 94.4 E.
							Burma-India border reg. h=68 mag
							5.3
22	PRE	lPn	13	14	29.6	120km	
		lSn			41.9		
	KIM	lPn	15	04		330km	
		lP ₁			12		
		lS _n			39		
		lS ₁			49		
	PIE	iPn			(17)	430km	Potchefstroom area
		iPi			27		27.5 E 26.5 S.
		lS ₁	13	(15)			
	WIN	lPn			38.5	approx.	
		lS ₁	19	28.0		1150km	
	GRH	lS ₁	18	50			
		l ₁					
23	WIN	t	16	36	00		
24	WIN	i	05	55	29.7		R
	KIM	t		59	00		
24	WIN	i	15	02	02.5		
25	PRE	iP	10	17	58.5	68	USCGS H=10 06 58.1 29.9 N 68.9 E
	WIN	iP		18	26.5	73	West Pakistan h=6 mag 5.3
27	WIN	i	06	11	41.0		R
	PRE	i			47.5		
	KIM	i		12	02		C
27	PIE	t	06	16	00		
27	PRE	iPKP	14	40	01.0	124	C USCGS H=14 21 04.8 22.9 N 145.9 E
	KIM	iPKP		05		126	R N. Pacific Ocean h=29 mag 6.0
	WIN	iPKP		14.5		134	R

(41)

October continued.

Date	Station	Phase	h. G.	m. M.	s. T.	Arc Dist.	R /C	Remarks
28	KIM	iP iS	12	55	01 23	230km		Probably O.F.S. Goldfields
28	PRE	iPn iSn iSl	10	55	11.3 42.5 48.9	280km		" " "
29	PRE KIM GRH	i i i	02	50	06.0 23 51 28		R C	
29	PRE	t	09	11	00			
29	WIN	i i	20	19	21.0 22 (50.0)		R	Probably Zambia.
30	PRE WIN KIM PLE	i i i e i	05	10	31.5 38.0 13 30.0 11 08 00		R	Far North
31	PRE	i	09	15	12.5		R	
31	PRE	t	19	44	00			

H.O. Oliver.
Winifred Wagner.

South Africa Nov. 1966.

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Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spreng -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System,0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic
-al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge
Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br.N.G. Alter.Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

Address
Bernard Price Institute Of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

November 1966

Date	Station	Phase	h. m. s. G. M. T.	Arc Dist.	R/C	Remarks.
1	Pre	iP	21 00 (32.5)			Probably far North.
1	Pre	t	21 47 00			" " "
2	PRE	iPn iSn iSi	14 01 26.0 42.0 (43.5)	144km		Potchefstroom area.
2	KIM	iPn iSi	14 12 00 28	230km		Orange Free State Goldfiel - ds
	PRE	iPn iPi iSn	09.0 (14.0) 45.0	330km		
3	PRE	iP	04 36 (18.0)			Far North.
3	WIN	i	16 37 46.0	94		USCGS H= 16 24 31.0 19.2 N 67.9 W Mona Passage h=22 mag 5.6.
3	PRE WIN	iP iP	21 51 23.5 52 15.0	45 52	R	USCGS H=21 43 10.7 6.5 N 60.5 E. Carlsberg ridge h= 33 mag 4.8.
4	KIM	iPn iPi iSn	00 39 18 20 43	210km		Orange Free State Goldfiel -ds.
	PRE	iPn iPi iSn iSi	27.0 33.0 58.0 40 04.0	280km		
	PIE	iPn iSn	39 (52) 40 34			
4	KIM	iPn iPi iSi	15 51 58 52 00 24	230km		Orange Free State Goldfiel lds.
	PRE	iPn iPi iSn iSi	07.5 12.5 38.0 44.0	290km		
5	PRE GRH	iPPP t	02 22 07.5 23 00	45	R	USCGS H=02 13 51.2 41.8S 80.1 E Mid-Indian Rise h= 33 mag 5.5.
5	PRE	i	07 17 17.5		R	
5	KIM	iPn iPi iSi	12 10 44 46 11 12	230km		Orange Free State Goldfiel -ds.
	PRE	iPn iPi iSn iSi	10 53.0 58.0 11 24.0 30.0	290km		
6	PRE	i	13 12 35.0		R	
7	PRE	iP	13 25 51.0	52		USCGS H=13 13 46 41.8 S 88.3 E S.E. Indian Rise h= 33 mag 5.1
8	PRE	t	03 25 00			

Date	Station	Phase	G.	M.	T.	Arc	DR/C	Remarks
8	PRE	iPKP ₁	04	09	48.0	149		USCGS H=03 50 08 51.2 N 178.4 W Andreanof I's Aleutian I's h= 41 mag 4.9
8	WIN	i	05	55	32.0		C	
8	KIM	iPn	13	28	05	230km		Orange Free State Goldfields
		iSn			30			
	PRE	iPn			11.5	290km		
		iPi			17.0			
		iSn			42.0			
9	PRE	t	02	55	00			
9	PRE	i	09	49	(47.5)	630km		Swaziland.
		i		50	46.0			
9	PRE	iPKP ₂	14	29	29.0	151	C	USCGS H= 14 09 44.4 51.9 N
	WIN	iPKP ₂			31.0	153		173.7 W Andreanof I's
	KIM	t		30	00			Aleutian I's h= 47 mag 4.8.
9	WIN	e	15	05	09.0			
	PRE	t		06	00			
10	WIN	t	03	04	00			
10	WIN	iPcP	03	14	03.5	74		USCGS H=03 02 32.5 31.9 S
	GRH	iPcP			17	73		68.4 W San Juan Prov. Argentina.
	KIM	iPcP			19	77		h=113 mag 3.0
	PRE	iPcP			41.5	81	R	
	PIE	iPcP		15	(03)	81	R	
11	WIN	iPKP ₁	15	50	52.5	152		USCGS H=15 31 04.2 52.3 N
	PRE	iPKP ₁			53.5	152		169.1 W Fox I's Aleutian I's h=38 mag 5.4.
12	WIN	iPcP	12	02	11.0	77		USCGS H=11 50 31.3 23.8 S
	KIM	iP				81		67.3 W Chile Argentine border.
	PRE	iP			54.0	85	C	region h=126 mag 5.6
12	PRE	i	12	08	44.0		C	
12	PRE	iPKP	19	03	55.0	123		USCGS H=18 45 01.0 15.6 S
	KIM	iPKP			(56)	123		167.3 E New Hebrides I's.
	WIN	iPKP		04	15.0	133		h= 40 mag 5.2.
12	PRE	t	19	14	00			
13	WIN	iPPP	03	04	30.0	68	R	USCGS H=02 51 57.0 17.1 N
								31.9 W Leeward I's h= 65 mag 5.5
13	PRE	i	03	15	15.5			
14	PRE	t	03	20	00			
15	PRE	iPKP ₁	00	27	45.5	148	R	USCGS H= 00 08 07 51.4 N
								179.9 W Andreanof I's Aleuti- -an I's h= 43 mag 5.0
15	PRE	iPn	03	10	32.0	350km		Orange Free State Goldfields
		iPi			40.0			
		iSn		11	08.0			
		iSi			15.5			
15	PRE	iPkP ₁	16	38	50.0	149	C	USCGS H=16 19 07.4 51.2N
	WIN	iPKP ₁			50.0	150	R	176.6 W Andreanof I's Al-
	PIE	iPKP ₁			55	151		eutian I's h=48 mag 5.0
	KIM	iPkP ₁		39	00	154		



Date	Station	Phase	G.	M.	T.	Dist.	R/C	Remarks.
15	PRE WIN	iPKP ₁ iPKP ₁	14	45	44.5	151	R	USCGS H=16 26 04.5 51.0 N 173.5 W Andeanof I's Aleu- tian I's h=61 mag 4.5.
15	PRE	iPKP ₂	17	28	31.0	151	C	USCGS H= 17 08 24 51.2 N 173 .6 W Andeanof I's Aleu- tian I's. h= 46 mag 4.3.
15	PRE	iPKP ₂	22	36	46.0	151	R	USCGS H= 22 16 02 51.3 N. 17 6.5 W. Andeanof I's Aleutian I's h=50 mag 4.2.
16	PRE	iPKP ₂	00	53	04.5	151		USCGS H=00 33 21 51.5 N 176. 6 W Andeanof I's Aleutian I 's h=65 mag 4.3.
16	PRE KIM	i t	22	35	57.5		C	
					36 00			
16	WIN	iPKP ₁	23	35	57.0	153		USCGS H= 23 16 09.1 52.6 N 169.5 W. Andeanof I's Aleutian I's h=33 mag 4.9.
17	PRE WIN	iPKP ₁ iPKP ₁	14	13	41.5	151	R C	USCGS H=13 54 00 51.3 N 176. 5 W Andeanof I's Aleutian I 's h=56 mag 4.5.
17	PRE KIM WIN	iPKP ₁ t t	15	02	53.0	151	R	USCGS H= 14 43 10.2 51.1 N 176.5 W Andeanof I's Aleu- tian I's h=45 mag 4.7
					03 00			
					00			
17	PRE	t	18	54	00			
18	PRE	t	24	46	00			
19	PRE	iP	07	22	48.0	61		USCGS H= 07 12 39.7 35.0N 23.5 E. Crete h=33 mag 5.3.
19	PRE	iP _n iP ₁ iS _n iS ₁	12	25	20.5	100km		about Potchefstroom area.
					23.5			
					32.5			
					38.5			
	KIM	iP _n			55	370 km.		
		iP ₁			26	03		
		iS _n			33			
		iS ₁			43			
	PIE	iS ₁			27	12		
	WIN	t			30	00		
20	PRE	iPKP ₁	06	06	45.5	150	R	USC GS H=05 47 05 51.5 N 176.6 W Andeanof I's Aleutia -n I's h=58 mag 4.8
20	PRE	iPKP ₂	09	49	40.0	150	R	USCGS H=09 29 59.1 51.4 N 176.6 W Andeanof I's Ale- utian I's h=54 mag 5.1.
20	PRE	i	21	33	26.5		C	N.E. of Station.
21	PRE	t	24	42	00			
21	PRE	t	24	45	00			
21	PRE	t	03	35	00			
22	PRE	iP	06	47	07.0	130	C	USCGS H=06 29 53.5 48.2 N 146.7 E Sea of Okhotsk. h=453 mag 5.6.
22	PRE KIM	i i	06	49	42.5		C	
					50 57			

Date	Station	Phase	G. M. T.	s. Arc. Dist.	R/C	Remarks.
22	KIM PRE	iP iP	07 09	26 45 58.0	R 49	USCGS H= 07 01 11.1 57.9 S 25.3 W. S. Sandwich I's region. h=38 mag 5.3.
22	PRE KIM	iPn iPi iSn iSi iPn iPi iSi	12 22 23 10	36.0 39.5 48.5 53.5 (20) 58	100km 370km	Potchefstroom area
23	PRE WIN	iPKP iPKP	02 38 41	(07.0) 51.0	124 132 R	USCGS H= 02 19 13.8 14.9 S 166. 9 E New Hebrides h= 48 mag 5.6.
24	WIN	iPKP ₂	07 13	13.0	149	USCGS H=06 53 37.1 56.5 N152. 9 W Kodiak I's region.
24	WIN	t	15 36	00		
24	PRE	iP	16 59	05.1	94 C	USCGS H= 16 45 47 38.3 S 92.1 W. West Chile Rise h= 33 mag 4.7
24	PRE	t	23 55	00		
25	WIN	i	23 54	(43.0)		
26	WIN	iP	02 30	17.0	78 C	USCGS H= 02 18 17.0 25.6 S 70. 6 W Near coast N. Chile h= 54 mag 5.5.
27	PRE	iP	04 30	19.0	86 R	USCGS H= 04 10 43 60.1 N146.2 W S. Alaska h= 28 mag 4.6.
27	PRE	iPKP ₂	14 43	20.0	147 C	USCGS H=14 23 42.0 60.3 N 146.2 W. S. Alaska. h= 31 mag 4.0
27	PRE	i	14 49	14.0		
29	WIN	t	22 40	00.		

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Winifred Wagner.

ca Dec. 1966

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Geological Survey Office,
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Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.) seismometer: Geotech Model 11051 Two horizontal S.P.(1.0sec) seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Sprengnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.

Lithologic Foundation
Weathered shale

Seismological Officer: The Director, Geological Survey, P.O. Box 401, Pretoria.

22°34'S 17°06'E Height 1728m.

Lithologic Foundation

Instrument: Same as Pretoria.

Seismological Officer: Officer in charge Weather Office.

33°18.6'S 26°34.5'E Height 558m

Lithologic Foundation
Dwyka Shale

Instrument: Benioff S.P. vertical with short and long period recorders
Seismological Officer: Professor of Physics Rhodes University.

30°23.8'E Height 656m. Instrument:

Lithologic Foundation
Soft Ecca Shale

Benioff S.P. vertical
Seismological Officer: Professor of Physics Natal University.

24°46.8'E Height 1321m Instrument: Benioff S.P. Vertical

Lithologic Foundation
Dolerite boulders embedded in decayed dolerite.

Seismological Officer: Rev. Br. N.G. Alter. Christian Brothers College.

Pietermaritzburg (PIE)

Reported herein by courtesy of the Republic Observatory, equates a 200kg. Wiechert Horizontal seismograph. This station is 30°10.9'S, 28°04.5'E, height 1806 metres.

by G.M.T.

This network and bulletin is at present in the hands of the undersigned. All correspondence should be addressed.

Institute Of Geophysical Research,
University of Witwatersrand,
100th Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

ca Dec. 1966

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DEC 1966

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.) seismometer: Geotech Model 11051 Two horizontal S.P.(1.0sec) seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Sprengnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geological Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	<u>Height</u> 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	<u>Height</u> 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	<u>Height</u> 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	<u>Height</u> 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

Address
Bernard Price Institute Of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

Date	Station	Phase	h.m.s. G.M.T.	Arc. Dist.	R/C	Remarks.
1	PRE	iPKP ₁	04 48 58.6	146	C	USCGS H=04 29 23.3 60.1 N 146.4 W S. Alaska h=38 mag 4.6.
1	PRE KIM WIN	iPKP iPKP t	05 15 41.6 43 16 00	124 124	C	USCGS H=04 56 58.2 14.0 S 167.1 E New Hebrides I's h=130 mag 6.1
2	PRE WIN	iP iP	03 17 49.0 18 07.5	60 63	C	USCGS H=03 07 54.0 28.2 N 13.2 E S. Iran h=40 mag 5.2.
3	WIN	i	14 31 40.0	133	R	USCGS H=14 13 25.2 24.7 S 179.9 E S Fiji I's h=492 mag 5.1
3	WIN	t	14 34 00			
5	PRE	t	17 04 00			
7	PRE PIE KIM WIN	i t t t	17 35 54.7 37 00 00 00	136	C	USCGS H=17 17 42.0 44.3 N 151.7 E Kurile I's region h=26 mag 5.8
7	PRE PIE KIM	iPKP ₁ iPKP ₁ iPKP ₁	22 28 42.0 48 54	153 157 160	R R	USCGS H=22 09 02 51.7 N 176.0 W Andreanof I's Aleutian I's h=64 mag 4.7.
8	WIN	i	11 41 55.5		C	
8	PRE	iPKP ₁	23 37 45.7	146	R	USCGS H=23 18 09 60.1 N 146.5 W S. Alaska h=35 mag 4.5.
9	PRE WIN KIM	iPKP ₂ iPKP ₂ iPKP ₂	17 03 29.8 38.5 43	147 148 154	C R	USCGS H=13 43 57.7 51.7 N 174.6 E Near I's Aleutian I's h=21 mag 5.2.
10	WIN	iPcP	10 50 20.5	76	R	USCGS H=10 38 35.3 24.2 S 67.9 W. Chile Argentine border h=91 mag 5.4
10	PRE	iPcP	51 02.8	84	R	USCGS H=13 03 32.6 14.3 N 92.0 W Guatemala h=70 mag 5.6
10	KIM	iPKP	13 25 18	122	C	USCGS H=17 08 32.2 41.0 N 33.5 E Turkey h=13 mag 4.9
10	PRE	iPKP	24	123	C	USCGS H=02 07 12.1 53.6 N 163.6 W Unimak I's reg. h=47 mag 4.2.
10	WIN	iP	17 19 15.0	67	R	
10	PRE	iP	23.9	68	C	
11	PRE	iPKP ₂	02 27 02.0	156	C	
12	WIN	t	03 52 00			
12	PRE	i	10 15 28.3		R	
13	PRE	l	23 34 54.3			
13	WIN	t	23 42 00			
13	PRE	t	43 00			
14	PRE	iPKP ₁	04 03 10.2	150	R	USCGS H=03 44 01.9 52.9 N 177.6 W Andreanof I's Aleutian I's h=243 mag 5.3.
14	PRE	i	06 20 18.2			
14	PRE WIN KIM	iPP iPKP t	21 26 20.0 40.9 27 00	110 120		USCGS H=21 07 52.1 4.8 S 143.9 E New Guinea h=74 mag 6.0
14	KIM	t	21 37 00			
15	PRE	iP	02 20 03.0	80	R	USCGS H=02 08 03.0 21.7 N 94.5 E Burma h=81 mag 5.7
15	KIM	iP	24	84		
16	PRE	iP	21 03 57.0	76	R	USCGS H=20 52 13.5 29.6 N 81.0 E Nepal h=9 mag 5.9
16	PTB	iP	04 02	77		
16	KIM	iP	22	80	R	
16	WIN	iP	30.5	88	C	
16	GRH	t	05 00			
17	PRE	i	13 17 26.5		C	
17	WIN	e	15 22 04.5			Probably Far North.
17		i	23 16.0			
17	PRE	t	27 00			
17	KIM	iP	17 53 31	83		USCGS H=17 41 20.4 22.8 S 68.9 W N. Chile h=105 mag 5.1
18	PRE	iP	05 10 47.5	88	R	USCGS H=04 57 57.8 49.9 N 77.7 E E. Kazakh mag 5.9
18	WIN	iP	11 00 5.0	91	R	
18	PRE	i	22 10 55.1			
18	WIN	i	11 51.0			
18	KIM	t	17 00			

December 1966 cont.			h.m.s.		(47)		R/C		Remarks.
Date	Station	Phase	G.M.T.	h.	m.	s.	Arc. Dist.		
19	PRE	t	14 49 00						
20	WIN	iP	12 37 21.9	74					USCGS H=12 26 55.0 26.1 S 63.2W
	KIM	iP	(54)	78				R	Santiago Del. Estro. Prov. Argentine
	PRE	iP	38 (05.0)	82					h= 589 mag 5.7.
	PIE	iP	06	82					
20	WIN	iP	15 49 15.0						
	KIM	iP	42					C	
	PRE	eP	44						Atom blast (Chinese) USA U.S.
	PIE	eP	45						
21	KIM	i	09 10 24						
	PRE	i	26.3						
	WIN	i	44						
21	KIM	iP	13 03 39	25				R	USCGS H=12 58 19.1 52.1 S 14.9 E
	PRE	iP	04 11.8	29					S.W. of Africa h= 33 mag 4.8
	WIN	eP	23.0	30					
22	PRE	t	02 23 00						
22	PRE	t	11 32 00						
	WIN	t	33 00						
23	PRE	iPKP	16 08 58.8	113				R	USCGS H=15 50 20.4 7.1S 148.3 E
	KIM	iPKP	59	114				C	New Guinea reg. h=43 Mag 6.4
	WIN	iPKP	09. 16.5	124				R	
23	KIM	i	16 19 (34)						
24	PRE	iPKP2	22 48 26.8	148				R	USCGS H=22 28 59.6 59.9N 153.4 W
	KIM	iPKP2	31	150					S. Alaska h= 113 mag 5.1
	PIE	iPKP2	36	151				R	
25	PRE	t	17 49 00						
25	PRE	iPKP1	23 22 54.2	146				R	USCGS H=23 03 22.8 51.8N 176.1E
	WIN	iPKP1	23 02.0	148					Aleutian I's h= 47 mag 4.8
26	PRE	i	02 08 11.2						
27	PRE	iPKP	01 41 07.7	124				R	USCGS H= 01 22 17.3 37.1N 141.0E
									Honshu Japan h=60 mag 5.5.
28	WIN	iP	08 30 07.5	79				R	USCGS H=08 18 07.4 25.5 S 70.7 W
	KIM	iP	37	83					Near coast N. Chile h=47 mag 6.9.
	PRE	iP	46.7	86				R	
	PIE	iP	48	87				C	
29	WIN	i	02 00 30.1					R	
	PRE	i	01 11.0					C	
29	WIN	i	11 38 48.0					R	
29	WIN	i	13 04 25.0					R	
29	KIM	iP	23 26 12	59				C	USCGS H= 23 16 20.0 60.0s 50.4 W
	WIN	iP	21.4	61					Scotia Sea h= 33 mag 5.4
	PRE	iP	40.4	64				R	
30	WIN	i	01 21 11.0					R	
30	PRE	iP	04 36 34.0	89				C	USCGS H=04 24 43.1 7.2 S 119.9 E
									Florès Sea h= 601 mag 5.2.
30	WIN	e	10 05 37.0						
30	PRE	i	17 08 46.0					C	
30	PRE	i	20 23 45.5						
31	PRE	t	00 53 00						
31	KIM	i	18 42 03	125					USCGS H=18 23 03.9 11.8 S 166.5 E
	PIE	i	(13)?						Santa Cruz I's h=33.
	PRE	i	17	125					
	WIN	i	36.0	134					
31	PRE	i	19 12 11	125				R	USCGS h=18 53 13 11.6 S 165.9 E
	KIM	i	12	125				R	Santa Cruz I's h=33 mag 5.0.
	WIN	i	30.0	134					
31	KIM	i	19 57 31	125					USCGS H=19 38 29.9 11.6 S 165.0 E
31	KIM	i	22 34 13						Santa Cruz I's. h= 33 mag 5.1.
	PRE	i	(19.0)						
	WIN	i	(42.5)						

H.O. Oliver.
Winifred Wagner.