

AFOSR

860

GEOPHYSICAL INSTITUTE

AD 663237

UNIVERSITY
OF ALASKA

COLLEGE,
ALASKA
UAGK-193

THE JUNE 21, 1967 EARTHQUAKE SERIES AT FAIRBANKS, ALASKA: AFTERSHOCK LOCATIONS, DEPTHS AND MAGNITUDES

by

Eduard Berg, Larry Gedney, Susumu Kubota, Ken Hanson and Jurgen Kienle

SCIENTIFIC REPORT

July 1967

Supported by

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

Grant 701-66

Prepared by
CLEARINGHOUSE
for Federal Information Technology
Administration, Springfield, MA 01105

DISCLAIMER NOTICE

THIS DOCUMENT IS THE BEST
QUALITY AVAILABLE.

COPY FURNISHED CONTAINED
A SIGNIFICANT NUMBER OF
PAGES WHICH DO NOT
REPRODUCE LEGIBLY.

GEOPHYSICAL INSTITUTE

of the

UNIVERSITY OF ALASKA

The June 21, 1967 Earthquake Series at Fairbanks, Alaska:
Aftershock Locations, Depths and Magnitudes

by

Eduard Berg, Larry Gedney, Susumu Kubota, Ken Hanson and Jurgen Kienle

Scientific Report

July 1967

Supported by

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

Grant 701-66

Principal Investigator

Eduard Berg

Report approved by:

K. B. Mather

Keith B. Mather
Director
Geophysical Institute

GEOPHYSICAL INSTITUTE

OF THE

UNIVERSITY OF ALASKA

Scientific Report

AFOSR Grant No. AF-AFOSR-701-66
Project File: Tectonic Movement and Deformation
Release in Alaska
ARPA Order No.: 292-66
ARPA Project Code: 8652
Date Grant Starts: 1 January 1966
Date Grant Terminates: 31 December 1967
Amount of Grant: \$129,676
Project Scientist: Professor Eduard Berg
Telephone No.: 907-479-7373

THE JUNE 21, 1967 FAIRBANKS, ALASKA EARTHQUAKES AND AFTERSHOCKS

by

Eduard Berg, Larry Gedney, Susumu Kubota, Ken Hanson and Jurgen Kienle

ABSTRACT

Aftershock recordings have been obtained to determine the extent of the fracture area which using some 50 shocks, was found to be an area of 10 x 15 km with the major axis roughly oriented in a NW-SE direction. Hypocenter depth varies from 6 to 19 km, with most of the shocks being confined to a depth of 10 to 13 km. It was found that the Jeffreys-Bullen velocities, $V_p = 5.56$ and $V_s = 3.37$ km/sec, represent a close approximation of the velocities in the area. Presented also are the telemeter network readings from June 21, 1800 GMT to July 14. These readings include the aftershocks of magnitude 2.5 and upward.

TABLE OF CONTENTS

	Page
Abstract	i
Table of Contents	ii
List of Figures	iii
List of Tables	iv
General Information	1
Geology	1
Seismicity	2
Epicentral area, aftershocks	3
Crustal velocities	4
Table of aftershocks (explanation)	4
Explanation of Readings	5
Acknowledgements	6
References	7

LIST OF FIGURES

- Fig. 1 Seismic stations: Telemeters and permanent.
- Fig. 2 Permanent station PJD, Temporary stations, ELI, GEO, BAD, CLB.
- Fig. 3 Epicenters of small aftershocks, stations used: ELI, PJD, GEO,
22-23 June 1967.
- Fig. 4 Epicenters of small aftershocks, stations used: PJD, GEO, BAD,
23-24 June 1967.
- Fig. 5 Epicenters of small aftershocks, stations used: PJD, GEO, CLB,
26-27 June 1967.
- Fig. 6 Epicenters of small aftershocks and focal depth in km, stations
used: PJD, GEO, BAD, 21 July 1967.
- Fig. 7 Hourly number of Earthquakes recorded at PJD.
- Fig. 8 Six hourly number of Earthquakes recorded at PJD.

LIST OF TABLES

Table 1	Severe Central Alaska Earthquakes
Table 2	Station Locations
Table 3	Network Readings

General Information

On June 21, 1967 four earthquakes occurred in the immediate vicinity of Fairbanks between 1804 and 1825 GMT. The first shock had a magnitude of 5.6, the second registered 4.3, the third and largest was 6.0 and the last one was magnitude 5.3. These magnitudes have been obtained from the Standard Wood Anderson horizontal Torsion Seismometers at the McKinley station MCK. The magnitudes obtained from MCK, at some 130 km distance from the epicentral area, are in substantial agreement with those reported for the three larger shocks by Pasadena: in chronological order, 5 1/2, 6 and 5 3/4 (Taylor, 1967).

The series of "main" shocks was immediately followed by a large number of aftershocks. Pedro Dome was the nearest permanent station in the network. At that station 70 earthquakes and possibly more were recorded during one hour period following the initial disturbances. The rate diminished to about 30 per hour on June 25 and was down to roughly 10 per hour in early July. Many of the larger shocks with a threshold around magnitude 2 1/2 have been felt in Fairbanks (see Figs. 7 and 8).

Also, many small aftershocks with magnitudes larger than zero have been located on the south eastern side of Fairbanks with a small triparted network over the epicentral area.

Geology

The Tanana Valley area is included in the general, large scale fault systems of Alaska; it is located north of the Denali fault and north of the Alaska Range. The area is mainly composed of alluvial fan deposits, abandoned flood plain alluvium, swamp deposits and of flood plain alluvium in the vicinity of the aftershock area.

Some three to four miles north of the epicentral area is an area of perennially frozen silt, and to the north of that, the Birch Creek schist of the Yukon-Tanana plateau begins (see Péwé et al. 1966). Immediately north of the highest concentration of epicenters are some very small outcrops of intrusive igneous rocks and basalt.

No known fault crosses the surface here, however the authors think that there is a good possibility of a buried north-east, south-west trending fault (dipping to the south). Along this fault the aftershocks occurred. The trend of this possible fault is outlined on the surface by the fore-mentioned outcrops (see Pewe et al. 1966). On the other hand the aftershock area is situated on the northern edge of a Bouguer gravity low. However, the orientation of this gravity low is WSW-ESE, about 45° to the trend of the posulated buried fault.

Seismicity

The general Fairbanks area had several severe shocks of magnitude 7 or over in the past 60 years, when seismic instrumentation existed to record such disturbances. The following table gives the most severe ones reported by Davis and Echols (1962).

Table 1 Severe Central Alaska Earthquakes

Date	Time	Coordinates		Magnitude
27 Aug 1904	21 56 06	64°N	151°W	7 $\frac{3}{4}$
7 July 1912	07 57 36	64°N	147°W	7.4
22 July 1937	17 09 29	$64^{\circ} \frac{3}{4} \text{ N}$	$146^{\circ} \frac{3}{4} \text{ W}$	7.3
16 Oct 1948	02 09 50	63.8°N	$148^{\circ}1 \text{ W}$	7

The last one however is not reported by Gutenberg and Richter (1954).

The energy release for Alaska had been calculated by Berg (March 1965) and the energy release map shows that on the average the Fairbanks area releases as much energy (10^{22} ergs/60 years/ 2° NS and 4° EW) as parts of the Aleutians.

Epicentral Area, Aftershocks

The occurrence of many aftershocks in the Fairbanks area led to the study reported here. Three seismic stations were operated in the immediate vicinity of the aftershock area to determine the hypocenter locations. Figure 2 shows the permanent telemeter station Pedro Dome together with the temporary stations ELI, GEO, BAD and CLB. Only three of these stations were occupied at any one time - there being no equipment available for more. The PJD station was recorded at the Geophysical Institute Telemeter terminal as was GEO. The viewer of the Develocorder used at the telemeter terminal allows a time resolution better than 1/10 of a second. The third portable station was first operated at ELI on June 23-23 (GMT) in a mobile operation. The time reference was crystal and WWV controlled. Recording speed for several hours was approximately 30 cm/min. Figure 3 shows the first epicenters thus located. The next day (23-24 June GMT) the station at BAD was operated right in the epicentral area. Figure 4 shows the epicenters obtained that day during a few hours of recording.

A third location still further to the southeast (CLB, Fig. 2) was occupied on June 26/27. Epicenters located from that day are presented in Fig. 5. On 21 July high speed recording (30 cm/min) was carried out at BAD to see if there was any major shift in activity. Figure 6 shows the epicenters and depth of focus for the four well recorded earthquakes occurring on that day.

Despite the quite different position of the mobile station, there is no significant difference in either epicenter or focal depth determination.

The focal depth ranges from 6 to 19 1/2 km, with mostly 10-13 km. There is only one exception: the one shock recorded northwest of GEO and southwest of ELI (see Fig. 4) with depth > 25 km.

Crustal Velocities

Since most of the hypocenters fall in a depth range of 10-13 km, a single layer crust with $V_p = 5.56$ km/sec and $V_s = 3.37$ km/sec was assumed for the calculation (Jeffreys-Bullen first layer). Crustal structure investigation in the southern part of the Tanana Valley, close to the Alaska Range, revealed closely related P wave velocities of 5.27 and 5.80 km/sec in the upper part of the crust (to be reported in another paper).

For some of the best-recorded small shocks with clear P and S phases on all three stations, PJD, GEO, and BAD, the origin time determined from the S-P times and P arrivals and using the aforementioned velocities give differences for the origin time between stations of less than 0.1 sec. This difference would lead to a possible error of the hypocenter locations of the order of 1/2 km. However, it is thought that a more realistic error would be 2 to 3 km, based on origin time differences of 0.2 to 0.3 sec. The origin time error between stations not only includes possible reading and timing errors but also errors which might be introduced by a slide-rule calculation. Therefore, the J-B velocities must be a very close approximation in the upper part of the crust in the Fairbanks area.

Table of Aftershocks

Table 3 contains a reproduction of the telemeter network reading for the period from the first shock on June 21 to July 14. Only the major

aftershocks have been read on a routine daily basis. Some of the conventional MCK stations readings are also included. Figure 1 and Table 2 give the station locations.

Table 2

<u>Name</u>	<u>Code</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Altitude</u>
Tanana	TNN	65°15.4'N	151°54.7'W	504 m
Big Mountain	BIG	59°23.4'N	155°13.0'W	562 m
Sheep Creek	SCM	61°50.0'N	147°19.7'W	1020 m
Pedro Dome	PJD	65°02.1'N	147°30.5'W	740 m
Black Rapids	BLR	63°30.1'N	145°50.1'W	
McKinley	MCK	63°44.0'N	148°56.0'W	

Because it was easier to reproduce all readings rather than select only the Fairbanks shocks, all have been included in the listing.

Explanation of Readings

Column 1-3: station code, disregard each line starting with ZAP.
The line starting 000 contains the magnitude and tenths of magnitude for "local" shocks in columns 40 and 41, respectively.

Column 4 through 9: year, month, date

Column 10, 21, 32, 51, 59: indication of I (impulsive) or E (emergent) for the following phase.

Column 11-13: first ground motion, C-compression, D-dilation.

Column 14-20: arrival of first P phase; hours, min, sec, and tenth.

Column 25-31: arrival of second P phase; hours, minutes are not repeated unless changed.

Column 33-39: arrival of third P phase; hours, minutes are not repeated unless changed.

Column 52-58: arrival of first S phase; hours, minutes are not repeated unless changed.

Column 60-66: arrival of second S phase; hours, minutes are not repeated unless changed.

Acknowledgements:

We would like to express our thanks to Mrs. Annemarie Gilbert, who did most of the routine readings reported in Table 3.

This research was supported by the Air Force Office of Scientific Research Grant 701-66.

REFERENCE

- Barnes, David F., Four preliminary gravity maps of parts of Alaska, U. S. Geological Survey open File Report, released June 23, 1967, copies available: Alaska Branch, U.S.G.S. 345 Middlefield Road, Menlo Park, California 94025.
- Berg, Eduard, The Alaskan Earthquake, Its Location and Seismic Setting, Proceedings Fifteenth Alaskan Science Conference, College, Alaska. Sept. 1964 - March 1965, pp. 21 -232.
- Berg, Eduard, Norbert Sperlich and William Feetham, Large Aperture Seismic Telemeter System for Central Alaska, Geophysical Institute, University of Alaska Research Report UAG-R 188, July 1967.
- Davis, T. Neil, and Carol Echols, A Table of Alaska Earthquakes, 1788-1961, Geophysical Res. Rep. UAG-R 131, Geophysical Institute, University of Alaska, August 1962.
- Gutenberg and Richter, Seismicity of the Earth, Princeton University Press, 1954.
- Péwé, Troy L., Clyde Wahrhaftig and Florence Weber, Geological Map of the Fairbanks Quadrangle, Alaska, Miscellaneous Geological Investigations, Map I-455, The U. S. Geological Survey, Washington, D. C., 1966.
- Taylor, Violet M., Provisional Readings at Pasadena, June 29, 1967, Seismological Laboratory, 220 North San Rafael Avenue, Pasadena, California 91105.

SEISMIC STATIONS

GEOPHYSICAL INSTITUTE, UNIVERSITY OF ALASKA

- TELEMETER STATION
- OTHER STATION



FOR SALE BY U S GEOLOGICAL SURVEY FEDERAL CENTER, BENTON, COLORADO BY WASHINGTON 25, D C.

Figure 1



FIG. 2 Permanent Station PJD
Temporary Stations ELI, GEO, BAD, CLB

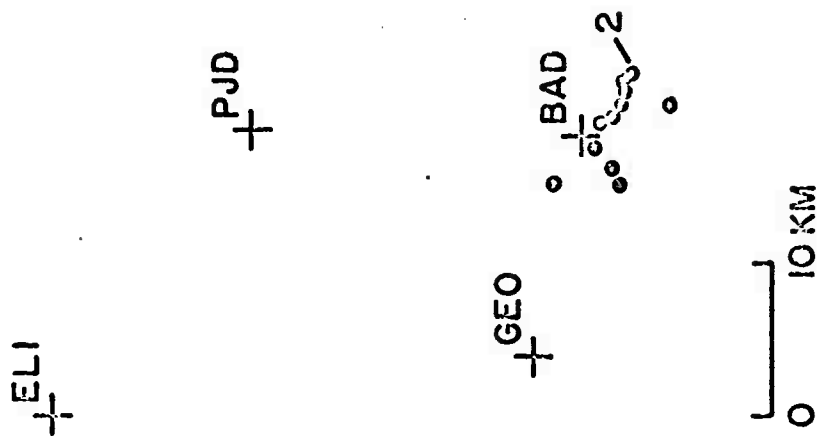


Fig. 3 Epicenters of small aftershocks. Stations used: ELI, PJD, GEO, 22-23 June 1967.

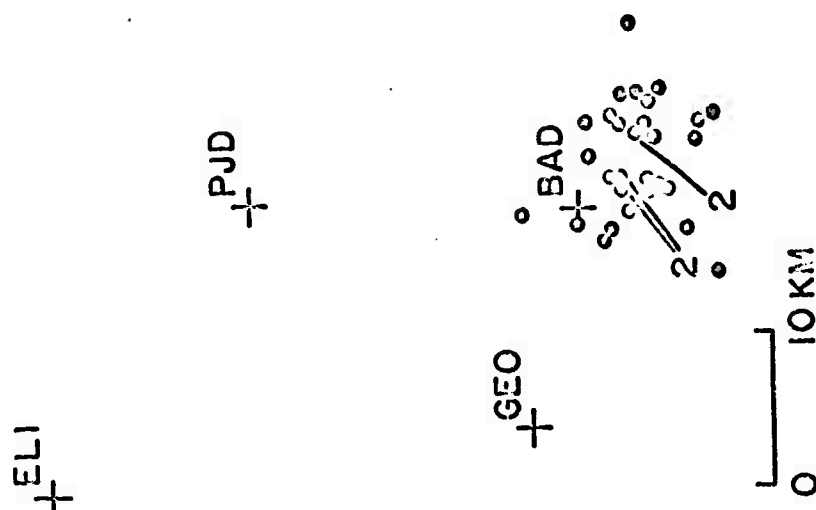


Fig. 4 Epicenters of small aftershocks. Stations used: PJD, GEO, BAD, 23-24 June 1967.

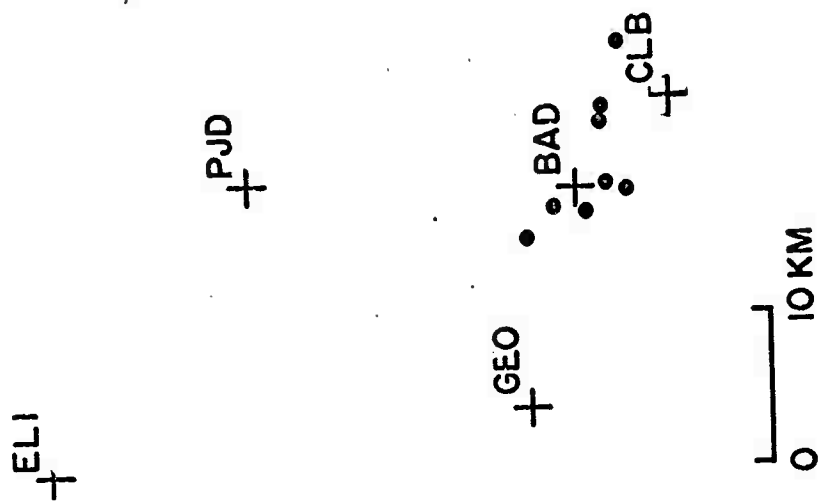


Fig. 5 Epicenters of small aftershocks, stations used PJD, GEO, CLB, 26-27 June 1967.

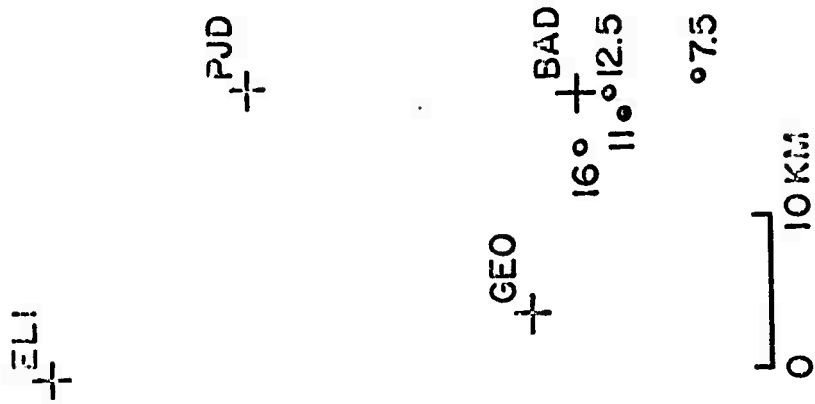


Fig. 6 Epicenters of small aftershocks. Stations used PJD, GEO, BAD, 21 July 1967

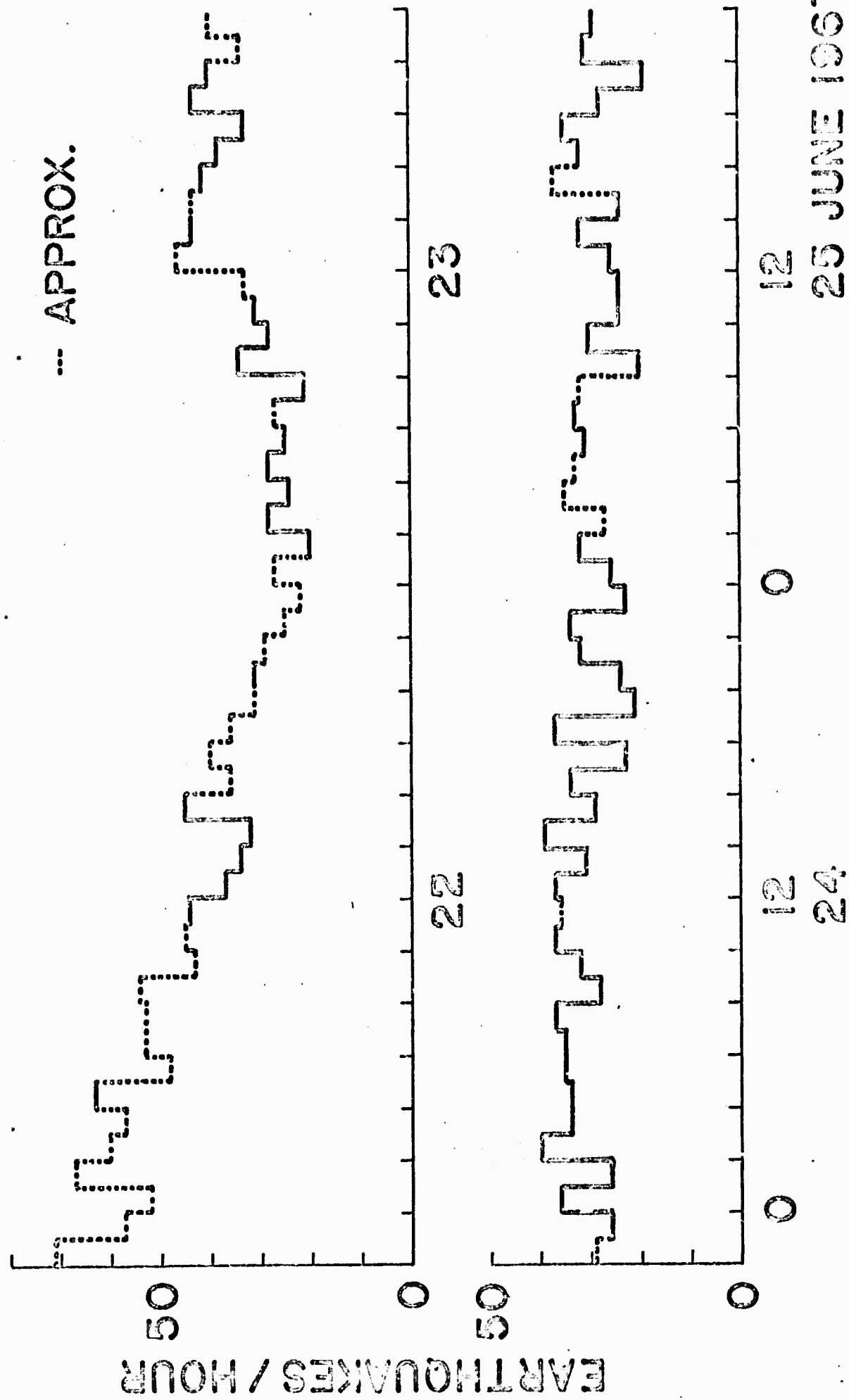


Fig. 7 Hourly number of earthquakes recorded at PJD

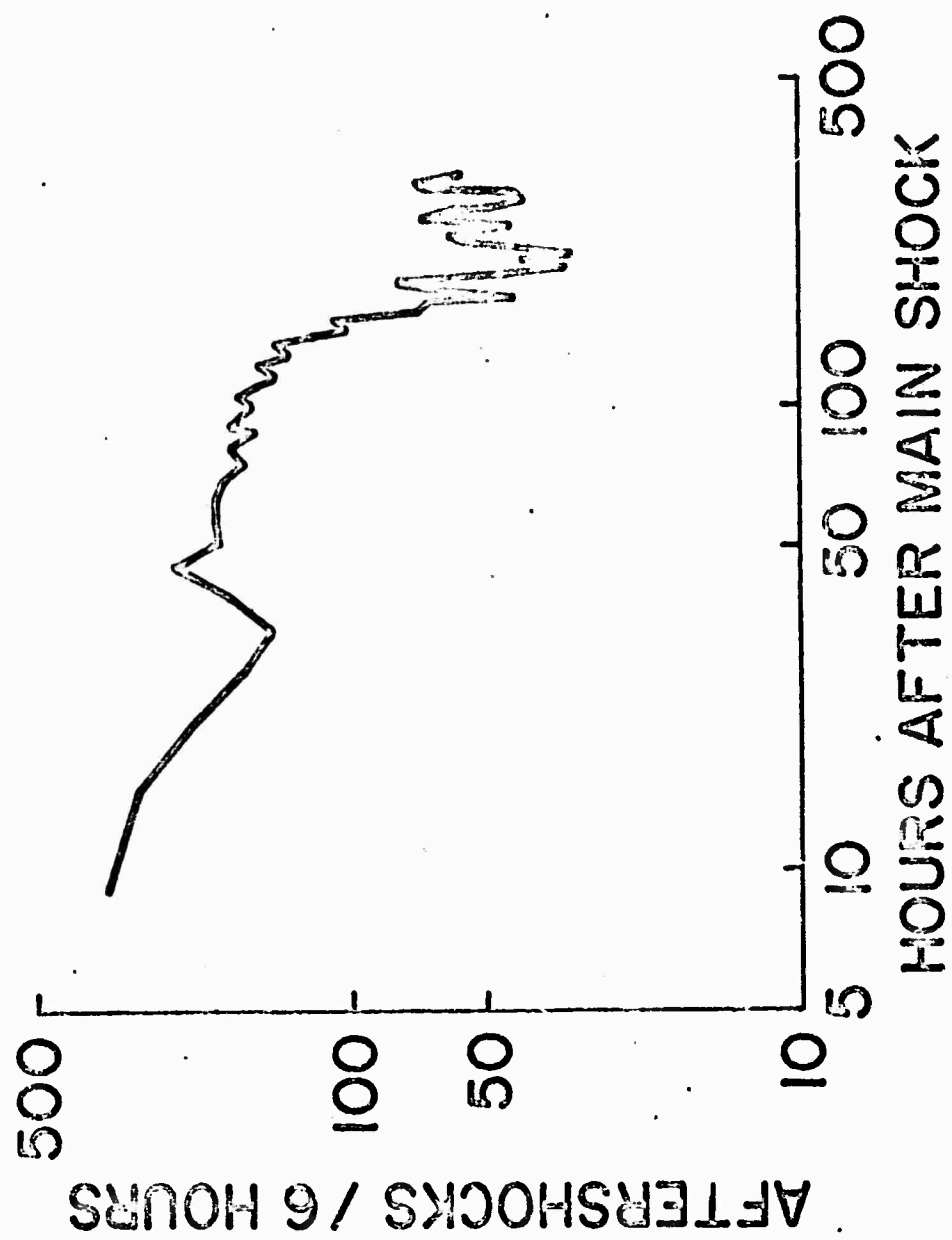


Fig. 8 6 hourly No. of earthquakes recorded at PJD.

TABLE 3

Station	Year	Date	First Motion	Time P	Time P	Magnitude (After 000 first 3 col.) Others period of P.	Time S	Period of S
00067	62			1806				
PJD67	62			1804555				
MCK67	62			1805129				
BLR67	62	11D		1805146				
TNN67	62	11C		1805222				
SCM67	62	11D		1805375				
BIG67	62	11EC		1806265				14450
ZAP				2359				
00067	62			1814				
MCK67	62	11		1813265				
BLR67	62	11D		1813275				
SCM67	62	11ED		1813510				
BIG67	62	11		1814404				14900
ZAP				2359				
00067	62			1825				
MCK67	62	11		1825088				
BLR67	62	11D		1825111				
SCM67	62	11ED		1825325				
ZAP				2359				
BLR67	62	11		1841415				
SCM67	62	11D		1842087			463	11 12
BLR67	62			1844429				
SCM67	62	11D		1844534		1	322	8 8
BLR67	62	11D		1858205				2 60
TNN67	62	11		1858329				
PJD67	62	11		1859313				
BLR67	62	11		1905149				3 45
TNN67	62	11E		1905249				
BLR67	62			1906404		1	594	3 12
SCM67	62	11D		19070241C	068		451	8 11
00067	62			1909		30		
BLR67	62	11		1909247				4240
TNN67	62	11D		1909346				
SCM67	62	11		1909470				6 6
ZAP				2359				
00067	62			1913		26		
PJD67	62	11		1912436				
BLR67	62	11D		1913023				6210
TNN67	62			1913111				
SCM67	62	11E		1913371				7 2
ZAP				2359				
BLR67	62	11		1917163				3 10
00067	62			1921				
PJD67	62	11		1920347				
BLR67	62	11		1920564				3 57
TNN67	62	11E		1921064				
ZAP				2359				
00067	62			1957		26		
BLR67	62	11		1957213				L18
TNN67	62	11		1957301				
SCM67	62	11		1957435				4 4
ZAP				2359				
00067	62			2005				
PJD67	62	11		2004577				
BLR67	62	11		2005162				4 75
TNN67	62	11		2005285				
ZAP				2359				
00067	62			2005				
PJD67	62			2023041				
BLR67	62			2033231				

SCM67 621	2033476			11117	
ZAP	2359				
00067 621	2059	29			1
PJD67 6211	2058473				1
BLR67 6211	2059066			6195	1
TNN67 6211	2059176				1
SCM67 6211	20591921D	232		7 4	1
ZAP	2359				
00067 621	2109	31			1
PJD67 6211	21085091				1
BLR67 6211	2109109		1 331	4420	1
TNN67 6211	2109184				1
ZAP	2359				
BLR67 6211	2149178		380	4540	1
SCM67 621	21494041	444		8 12	1
00067 621	2154	31			1
PJD67 621	2153563				1
BLR67 6211D	2154158			4255	1
TNN67 621ED	2154230	279			1
SCM67 6211D	2154403			7 5	1
ZAP	2359				
BIG67 6211D	2217003 TEL				1
SCM67 6211D	2217207 TEL				1
BLR67 6211D	2217297 TEL		7 28		1
TNN67 6211D	2217310 TEL				1
PJD67 6211D	2217332 TEL				1
00067 621	2231	37			1
PJD67 6211	2230364				1
BLR67 6211D	22305671D	587			1
TNN67 6211D	2231042				1
SCM67 6211D	22312101D	255		5 45	1
ZAP	2359				
00067 621	2332	49			1
PJD67 6211	2331526				1
BLR67 6211D	23321151C	134			1
TNN67 6211C	2332193				1
SCM67 6211D	23323471	3611C 404		11165	1
ZAP	2359				
BIG67 6211D	2337311				1
SCM67 622E	0119599		375	4 13	
00067 622	0128				
PJD67 6221	0128141				
BLR67 622E	0128278		E 54	2 21	
SCM67 622	012835				
ZAP	2359				
00067 622	0158				
PJD67 6221	0158310				
BLR67 622E	015852			2 20	
TNN67 622	0158497				
ZAP	2359				
00067 622	0228				
PJD67 6221D	0228299				
GEO67 6221C	0228292E	308	E 3211	329	
BLR67 6221D	0228519		E 2907	3120	
TNN67 622EC	0228583				
ZAP	2359				
00067 622	0244				
GEO67 6221C	0243461		1 490		
PJD67 6221D	0243468				
BLR67 622E	0244093		E 26	4 45	

ZAP	2359				
00067 622	0305				
GEO67 622IC	0304376			E	4051 409
PJD67 622I	0304385				
BLR67 622I	0305001				2 30
TNN67 622ED	0305109				
ZAP	2359				
00067 622	0028	648	1477	37	
PJD67 622I	0028011				
BLR67 622I	0028207				
TNN67 622ED	002828				
SCM67 622E	002844			2926	2135
ZAP	2359				
00067 622	0031			36	
PJD67 622I	0031091				
BLR67 622E	0031299				
TNN67 622E	0031355				
SCM67 622E	003151			3234	8 16
ZAP	2359				
00067 622	0046	648	1472	31	
PJD67 622ID	0045271				
BLR67 622IC	0045487				
TNN67 622E	0045551				
SCM67 622E	0046081			53	6 9
ZAP	2359				
00067 622	0100			31	
PJD67 622I	0100069				
BLR67 622E	0100297				
TNN67 622E	010036				
SCM67 622E	010054			E	01346 6 8
ZAP	2359				
00067 622	0119			31	
PJD67 622I	0119123				
BLR67 622	011933				
TNN67 622	011939				
ZAP	2359				
00067 622	0306				
GEO67 622E	0305485				
PJD67 622I	0305499			2	90
TNN67 622E	0305342				
BLR67 622E	0306201				
ZAP	2359				
00067 622	0317				
GEO67 622E	0316424				
PJD67 622I	0316434				
BLR67 622E	0317041			2	35
TNN67 622E	0317148				
ZAP	2359				
00067 622	0332				
GEO67 622I	0332081				
PJD67 622I	0332089				
BLR67 622E	0332314				
TNN67 622E	0332291			2	45
ZAP	2359				
00067 622	0340				
GEO67 622I	0339568				
PJD67 622ID	0339585				
BLR67 622E	034017			2	55
TNN67 622E	0340249				
ZAP	2359				
00067 622	0511				

GEO67 622I	0510318				
PJD67 622I	0510335				
BLR67 622E	0511241				
TNN67 622E	0511101				
SCM67 622F	0511271		3	15	
ZAP	2359				
00067 622	1659		35		
PJD67 622ID	1658465				
BLR67 622E	1659069				
TNN67 622E	1659142				
SCM67 622F	1659301			4	15
ZAP	2359				
00067 622	1410		38		
PJD67 622	1409521				
BLR67 622	1410111				
TNN67 622	1410172				
SCM67 622	1410349			4	5
ZAP	2359				
00067 622	1859		50		
PJD67 622ID	1857410				
BLR67 622IC	1858003				
TNN67 622ID	1858073				
SCM67 622IC	1858234				
BIG67 622E	1859121			10	12
ZAP	2359				
00067 622	2020		35		
PJD67 622ID	2019214				
BLR67 622E	2019406				
TNN67 622E	2019470				
SCM67 622E	2020034			8	12
ZAP	2359				
00067 622	2117		38		
PJD67 622ID	2117008				
BLR67 622ED	2117208				
TNN67 622E	2117281				
SCM67 622EC	2117441			4	45
ZAP	2359				
00067 622	2308		34		
PJD67 622ID	2308170				
BLR67 622ID	2308364I	382			
TNN67 622IC	2308440I	482			
SCM67 622E	2308591			4	22
ZAP	2359				
00067 623	0307		27		3
GEO67 623I	0307082	I	111		3
PJD67 623I	0307087				3
BLR67 623E	0307291	E	501		3
TNN67 623E	0307368E	401			3
SCM67 623E	0307526			3	7
ZAP	2359				3
00067 623	0354				3
GEO67 623I	0353537		28		3
PJD67 623ID	0353553				3
BLR67 623E	0354116	247 E			3
TNN67 623EC	0354209				3
SCM67 623E	0354350			3	11
ZAP	2359				3
00067 623	0607		43		3
GEO67 623IC	0606279				
PJD67 623I	0606293				
BLR67 623ID	0606471				

TNN67 623ED	0606528					
SCM67 623EC	0607097					90
ZAP	2359					
00067 623	0643		36			
GEO67 623EC	0643046					
PJD67 623ID	0643057					
BLR67 623E	0643253					
TNN67 623E	0643328					
SCM67 623E	0643499					5 25
ZAP	2359					
00067 623	1156		52			
GEO67 623IC	1154366					
PJD67 623I	1154379					
BLR67 623ID	1154479					
TNN67 623IC	1155045					
SCM67 623ED	1155201					
BIG67 623EC	1156098					5 60
ZAP	2359					
00067 623	2011		37			
GEO67 623ID	2010446					
PJD67 623	2011447					
BLR67 623	2011055					
TNN67 623	2011129					
SCM67 623	201128					6 30
ZAP	2359					
00067 624	0143		30			6
SCM67 624E	0143241					6
BLR67 624E	0143437					6
TNN67 624E	0143480					6
PJD67 624E	0143500					6
BIG67 624	0143502					6
ZAP	2359				E 44324	
00067 624	1103	GRS648	1477	43		6
GEO67 624I	1103005					
PJD67 624I	1103018					
BLR67 624E	1103223E	242			444	
TNN67 624E	1103285					
SCM67 624E	1103451	457				10 40
ZAP	2359					
SCM67 624E	1341178	TEL				6
BLR67 624E	1341262	TEL				6
TNN67 624E	1341268	TEL				6
PJD67 624E	1341296	TEL				6
BLR67 624E	1438154E	TEL	366			6
PJD67 624E	1438370E	TEL	458			6
TNN67 624E	1438250I	TEL				6
00067 624	1956		30			6
GEO67 624E	1955348					6
PJD67 624I	1955368					6
BLR67 624IC	1955467					6
TNN67 624E	1956073					6
SCM67 624E	1956180E	231		1	430	3 14
ZAP	2359					
00067 624	2013		28			6
GEO67 624I	2012386					6
PJD67 624ID	2012398					6
BLR67 624E	2013014					6
TNN67 624E	2013100					6
SCM67 624E	2013241I	285			E 14074	4 5
ZAP	2359					
BIG67 624E	2111077	TEL				6

[illegible]

Line	Code	Frequency	Power	Distance	Time	Notes
PJD67	625ID	0356467				
TNN67	625E	0357027				
ZAP		2359				
00067	625	0418	649	1468	27	
PJD67	625ID	0417499			0	
BLR67	625IC	0418102				E 29 E 306 2 90
TNN67	625E	041820				
SCM67	625E	0418324				
ZAP		2359				
BIG67	625E	0451214				E 52000 4 7
TNN67	625E	050322 TEL			10 2	
PJD67	625E	050331 TEL			9 5	
SCM67	625E	050337 TEL			10 4	
BLR67	625E	050342 TEL			10 6	
BIG67	625E	0651361				E 494E 524 2 9
00067	625	0708	650	1478	28	
PJD67	625ID	0707258			0	
GEO67	625ID	0707244				
BLR67	625ID	0707484				E 072 2 90
TNN67	625E	0707523E		567		
SCM67	625E	0708106E		150		
ZAP		2359				
00067	625	0927	649	1478	26	
GEO67	625IC	0926588				
PJD67	625ID	0927003			0	
BLR67	625ED	0927213ID		221		E 422 2 60
TNN67	625E	0927269				
SCM67	625E	0927447				
ZAP		2359				
BLR67	625E	102750 TEL			8 5	
PJD67	625E	102758 TEL			8 2	
00067	625	1204	642	1498	26	
SCM67	625ID	1203474				E 0408 2 16
BLR67	625IC	1203588				
PJD67	625IC	1204039				
TNN67	625EC	1204050				
ZAP		2359				
BIG67	625EC	1338058				E 119 2 10
00067	625	1519	649	1478	33	
GEO67	625ID	1518446				
PJD67	625I	1518453				
BLR67	625E	1519054IC		068		E 27 2120
TNN67	625E	1519131E		162		
SCM67	625E	1519309E		332		E 2012 6 13
ZAP		2359				
BIG67	625EC	1533374				E 556 2 12
BIG67	625IC	1624338				I 414 2 19
00067	625	1735				
GEO67	625ID	1734299				
PJD67	625I	1734306				
BLR67	625ID	1734506ID		528		E 3510 2150
TNN67	625E	1734582				
SCM67	625ED	1735136E		19		E 58
ZAP		2359				
BIG67	625E	195459 TEL			4 2	
SCM67	625E	195555 TEL			3 2	
BLR67	625E	195620 TEL			4 7	
TNN67	625E	195614 TEL			10 3	
00067	625	2015	604	1523	31	
BIG67	625ID	2014404				E 58 6 17
SCM67	625ED	2015099				

BLR67 625ED 2015320
TNN67 625E 2015377
PJD67 625IC 2015418
ZAP 2359
G0067 625 2238
GEO67 625IC 2237312
PJD67 625I 2237326
BLR67 625E 2237529E
TNN67 625E 2237592E
SCM67 625E 2238168E
ZAP 2359

550
38047
220

E 16 2120

RIG67 625EC 232845 TEL
TNN67 625EC 232906 TEL
SCM67 625EC 232913 TEL
PJD67 625IC 2329154 TEL
BLR67 625IC 2329190 TEL

8 8
10 23
10 34
15 24
12 65

G0067 625 2356
GEO67 625ID 2356274
PJD67 625I 2356290
BLR67 625E 2356503
ZAP 2359

3021

5708 2 60

999

G0067 626 0012
GEO67 626I 0012116
PJD67 626I 0012130
BLR67 626IC 0012353
TNN67 626 001245
ZAP 2359

55 4 42

G0067 626 0021
GEO67 626I 0010473
PJD67 626I 0020476
BLR67 626 0021097
TNN67 626 002120
ZAP 2359

29 2 60

RIG67 626I 015547
BLR67 626EC 023147 TEL
PJD67 626EC 0231574 TEL
RIG67 626E 023157 TEL
TNN67 626E 023209 TEL

9 11
8 10
12 3

56025 2210

G0067 626 0439
GEO67 626ID 0438520
PJD67 626I 0438525
BLR67 626IC 0439146
TNN67 626E 043924
ZAP 2359

33 3 42

G0067 626 0512
GEO67 626I 0511516
PJD67 626I 051152
BLR67 626 0512143
ZAP 2359

12334 2 38

SCM67 626ID 0535173
BLR67 626ID 0535406
G0067 626 0653
GEO67 626E 0653252
PJD67 626ID 0653271
BLR67 626ID 0653564
ZAP 2359

E 256 2105

E 36066 3 18

G0067 626 0836
GEO67 626E 0835228
PJD67 626I 0835245
BLR67 626IC 0835446

E 5416 2 40

31

235

Call Sign	Frequency	Mode	Power	Bandwidth	Modulation	Other
TNN67 626E	083555					
SCM67 626E	083607					6 7
ZAP	2359					
BIG67 626EC	092057	TEL	6	4		
SCM67 626EC	092117	TEL	6	4		
BLR67 626IC	0921262	TEL	6	10		
00067 626	0921					
GE067 626EC	0921203				232	
PJD67 626ID	0921218					
BLR67 626E	0921402					3 33
TNN67 626E	092153					
ZAP	2359					
00067 626	0958					
GE067 626I	0958000					
PJD67 626I	0958013					
BLR67 626IC	0958230		I	42		2 60
ZAP	2359					
00067 626	1000					
GE067 626ID	1000271					
PJD67 626I	1000277					
BLR67 626E	1000485		E	0109		2 70
TNN67 626ED	1000598					
ZAP	2359					
00067 626	1011					
GE067 626ID	1010593					
PJD67 626I	1010599					
BLR67 626E	1011205					
TNN67 626E	101132					
SCM67 626E	101144					5 5
ZAP	2359					
00067 626	1438	CGS				
GE067 626ID	1438134					
PJD67 626I	1438139					
BLR67 626ID	1438342					
TNN67 626ED	1438416					
SCM67 626EC	1438572					
ZAP	2359					
PJD67 626EC	1606408	TEL	6	10		
TNN67 626ED	160655	TEL	9	4		
BLR67 626ID	1730234					
00067 626	2256					
PJD67 626I	2255530					
SCM67 626E	2255596					
BLR67 626I	2256148					
TNN67 626E	225625					
ZAP	2359					
TNN67 626E	230546	TEL	12	2		
SCM67 626E	230553	TEL	10	3		
PJD67 626E	230555	TEL	12	2		
BLR67 626ID	2305590	TEL	10	8		
00067 626	2336					
GE067 626I	2336070					
PJD67 626I	2336081					
BLR67 626E	233630					
TNN67 626E	233640					
ZAP	2359					
00067 627	0202					
SCM67 627ID	0201522					
BLR67 627ID	0202217					
PJD67 627ED	020241					
ZAP	2359					
00067 627	0202	618	1473	30		
SCM67 627ID	0201522					8225
BLR67 627ID	0202217					
PJD67 627ED	020241					
ZAP	2359					
00067 627	0202					
SCM67 627ID	0201522					

Call Sign	Frequency	Mode	Power	Bandwidth	Modulation	Other
00067	627		0325			
GE067	627		0324306			
PJD67	627ID		0324318			
BLR67	627IC		0324536			
TNN67	627E		032502			
ZAP			2359			
00067	627		0402			
GE067	627I		0402358			
PJD67	627I		0402370			
BLR67	627ID		0402582			
ZAP			2359			
00067	627		0434			
GE067	627EC		0434222			
PJD67	627ID		0434232			
BLR67	627E		0434444			
ZAP			2359			
BIG67	627E	TEL	050340	15	2	
TNN67	627EC	TEL	050410	12	2	
SCM67	627EC	TEL	050422	8	8	
PJD67	627E	TEL	050427	9	19	
BLR67	627E	TEL	050431	10	13	
00067	627		0630			
GE067	627E		0629510			
PJD67	627I		0629521			
BLR67	627		0630136			
ZAP			2359			
00067	627		0704	618	1470	18
SCM67	627ED		0703124			
BLR67	627		0703384			
PJD67	627E		0704013			
ZAP			2359			
00067	627		0750			
GE067	627ID		0749522			
PJD67	627IC		0749530			
BLR67	627E		0750146			
ZAP			2359			
00067	627		0913			
GE067	627I		0912402			
PJD67	627I		0912416			
BLR67	627E		091303			
ZAP			2359			
BLR67	627ID		0918284			
00067	627		0951			
GE067	627IC		0951281			
PJD67	627I		0951292			
BLR67	627E		095151			
ZAP			2359			
BIG67	627	TEL	203649	8	10	
SCM67	627	TEL	2037375	6	10	
00067	627		1049			
GE067	627ID		1048382			
PJD67	627I		1048400			
BLR67	627E		1049038			
ZAP			2359			
00067	627		1052			
GE067	627ID		1052123			
PJD67	627I		1052132			
BLR67	627ID		1052358			
ZAP			2359			
00067	627		1105			
GE067	627IC		1102302			

PJD67 627I	1102313								9
BLR67 627ID	1102508				0313				9
TNN67 627E	1102578								9
SCM67 627EC	1103148						8 11		9
ZAP	2359								
00067 627	1124			25					9
GEO67 627ID	1123373								9
PJD67 627I	1123389								9
BLR67 627ID	1123558								9
TNN67 627E	112409								9
SCM67 627E	1124256				2504		3 5		9
ZAP	2359								
00067 627	1307	651	1517	38					9
TNN67 627IC	1306487								9
PJD67 627EC	1307145								9
BLR67 627IC	1307322								9
SCM67 627E	1307420						10 8		9
ZAP	2359								
00067 627	1315			30					9
GEO67 627ID	1314422								9
PJD67 627I	1314438								9
BLR67 627EC	1315022								9
TNN67 627E	131511								9
SCM67 627E	131525 I	308					6 6		9
ZAP	2359								
TNN67 627E	1504324 TEL			9 2					9
SCM67 627EC	1504416 TEL			9 3					9
PJD67 627EC	1504439 TEL			12 2					9
BLR67 627E	150447 TEL			10 9					9
00067 627	1619			30					9
GEO67 627ID	1619024								9
PJD670627I	1619033								9
BLR670627E	1619237						42		9
TNN670627E	1619316								9
SCM670627E	1619484						8 4		9
ZAP	2359								
BIG670627E	1651226 TEL			12 1					9
SCM670627E	165222 TEL			6 2					9
TNN670627E	165241 TEL			10 2					9
BLR670627E	165245 TEL			7 4					9
PJD670627E	165243 TEL			7 2					9
SCM670627E	195413 TEL			9 1					
PJD670627E	195428 TEL			8 2					
000670627	2037								
GEO670627I	2036412					442			
PJD670627I	2036422								
BLR670627ID	2037040					23	6 55		
TNN670627E	2037140								
SCM670627E	203727								
ZAP	2359								
BIG670627ED	2153393				I	557	2 19		
000670627	2201	650	1509	22					
TNN670627IC	2200390								
PJD670627ID	2200473								
BLR670627E	220110						3 13		
ZAP	2359								
BLR670627IC	2116339				I	429	2 19		
BIG670627ED	2317346 TEL			10 3					
TNN670627E	231740 TEL			12 5					
PJD670627ED	2317505 TEL			6 13					
SCM670627IC	2317560 TEL			10 5					

BLR670627IC	2317574	TEL	8	10		
BIG670628ED	011646	TEL	10	2		
PJD670628EC	011717	TEL	8	18		
SCM670628ED	0117184	TEL	8	2		
BLR670628ID	0117232	TEL	10	13		
000670628	0155					
TNN670628ED	0154394					
PJD670628EC	0154488					
BLR670628E	015514					3 11
ZAP	2359					
SCM670628EC	0300476				I 01128	2 6
BLR670628E	0301046					
000670628	0408		24			
GEO670628ID	0407334				I 362	
PJD670628I	0407349					
BLR670628IC	0407559				I 08165	
TNN670628E	040807				28	
SCM670628E	0408180					2 6
ZAP	2359					
000670628	0440		32			
GEO670628IC	0439539				572	
PJD670628I	0439554					
BLR670628E	0440140				33	
TNN670628E	044027					
SCM670628E	0440370					9 5
ZAP	2359					
000670628	0508					
SCM670628EC	0508035				F 255	2 13
BLR670628ED	0508260					
BIG670628E	050831					3 3
BIG670628EC	0545445	ETEL 564	8	4		
SCM670628EC	0546055	ETEL 175	7	5		
BLR670628IC	0546156	ETEL 275	8	14		
PJD670628ED	0546204	ITEL 326	10	18		
000670628	0657		35			
GEO670628ID	0657022				I 050	
PJD670628I	0657040					
BLR670628E	0657228				E 425	
TNN670628E	065731					
SCM670628E	0657455					7 17
ZAP	2359					
000670628	0710		34			
GEO670628IC	0709438				468	
PJD670628I	0709447					
BLR670628ID	0710042				25	
TNN670628E	071015					
SCM670628E	0710275					8 10
ZAP	2359					
000670628	0830					
GEO670628ID	0830077				105	
PJD670628ID	0830092					
BLR670628EC	0830306					2 20
ZAP	2359					
000670628	1014	630	1506	31		
SCM670628IC	1013553				1422	3 60
BLR670628ID	1013594					
TNN670628E	1013596					
PJD670628ED	1014014					
ZAP	2359					
000670628	1034	592	1465	33		
SCM670628EC	1033093				345	6 60

BIG670628E	103334			
BLR670628E	1033356			
PJD670628ID	1033536			
TNN670628E	103403			
ZAP	2359			
000670628	1139			
SCM670628I	1138512	I	580	210
BLR670628ID	1139190			
PJD670628E	113938			
ZAP	2359			
000670628	1205			
GEO670628IC	1205217			
PJD670628I	1205231	I	246	
BLR670628E	1205457			2 24
TNN670628E	120555	I	18	
ZAP	2359			
000670628	1345			
GEO670628ID	1345130		160	
PJD670628I	1345138			
BLR670628E	1345325		546	3 45
TNN670628E	134546			
ZAP	2359			
SCM670628E	143045		3107	4 5
BLR670628E	1431072			
BLR670628ID	1452460 TEL	7	10	
TNN670628E	1452455 TEL	9	4	
PJD670628E	145246 TEL	6	3	
000670628	2048	34		
GEO670628IC	2048156		I 188	
PJD670628I	2048170			
BLR670628E	2048347			
TNN670628E	2048415			
SCM670628E	2048592	49045		3 45
ZAP	2359			
SCM670628ID	2123527 TEL	7	5	
BIG670629ID	0102480	I	526	2 20
SCM670629IC	0114308	I	376	2 30
BIG670629ID	0123025	I	071	2 60
000670629	0139			
GEO670629E	0138492			
PJD670629I	0138503			
BLR670629ID	0139120		31	4 40
TNN670629E	0139226			
ZAP	2359			
000670629	0213	34		
GEO670629I	0212777		I 405	
PJD670629I	0212337			
BLR670629I	0213006			
TNN670629E	021309			
SCM670629E	021322			5 17
ZAP	2359			
SCM670629E	0222514		E 2311	2 17
PJD670629E	024701 TEL	11	3	
TNN670629ID	0307002 TEL	10	6	
PJD670629EC	0307004 TEL	6	16	
BLR670629IC	0207184 TEL	4	21	
SCM670629EC	0307264 TEL	4	17	
BIG670629ED	0207273 TEL	6	3	
BIG670629ED	033255		065	2 27
BLR670629EC	0336136	178	E 24 I	273 7
TNN670629ID	045543 TEL	6	3	

SCM670629E	045545	TEL	3	5		
BLR670629E	0455565	TEL	5	7		
PJD670629E	045557	TEL	8	7		
000670629	0503		635	1510	27	
TNN670629E	050259					
PJD670629E	0503046				E	33
BLR670629ED	0503084					
SCM670629E	050308					8 5
ZAP	2359					
BIG670629ID	0528267				I	314
TNN670629IC	0636132					245
000670629	0711		23			2 75
GEO670629ED	0710406				I	436
PJD670629I	0710416					
BLR670629IC	0711027					
TNN670629E	0711136					
SCM670629E	071125					2
ZAP	2359					
000670629	0913		35			
GEO670629IC	0912504				I	532
PJD670629I	0912516					
BLR670629ED	0913112					32
TNN670629ED	0913186					
SCM670629ED	0913344					6 20
ZAP	2359					
SCM670629E	093756	TEL	8	2		
BLR670629E	093805	TEL	10	8		
PJD670629E	093810	TEL	6	9		
000670629	1023					
GEO670629E	1023156					
PJD670629I	1023174					
BLR670629IC	1023368					2 25
TNN670629E	102338					
ZAP	2359					
000670629	1110		40			
GEO670629IC	1109402				I	436
PJD670629I	1109417					
BLR670629ID	1110009					
TNN670629E	1110076					
SCM670629EC	1110236					11088
ZAP	2359					6 60
000670629	1123		27			
GEO670629EC	1123096				I	120
PJD670629ID	1123110					
BLR670629E	112332					
TNN670629E	112340					
SCM670629E	1123558					2440
ZAP	2359					5 4
000670629	1128		602	1486	39	
SCM670629ED	1127140					
BIG670629E	1127380				I	370
BLR670629IC	1127408					4330
PJD670629IC	1127582					
TNN670629ED	1128036					
ZAP	2359					
000670629	1336		28			
GEO670629E	1335410					
PJD670629I	1335417					
BLR670629F	1336011					
TNN670629E	1336130					
SCM670629E	1336255					6 4

ZAP	2359				
000670629	1535		26		
GEO670629EC	1534258			I	286
PJD670629I	1534268				
BLR670629E	1534468				
TNN670629E	153459				
SCM670629E	1535110				3 6
ZAP	2359				
SCM670629ED	164919	TEL	13	6	
BLR670629E	164923	TEL	14	26	
000670629	1854		51		
GEO670629ID	1853298I	313			323
PJD670629I	1853309				
BLR670629E	1853540				
TNN670629E	1853585				
SCM670629E	1854156				6 8
ZAP	2359				
000670630	0055		29		
GEO670630I	0054156				
PJD670630I	0054167				
BLR670630E	0054370				59
TNN670630E	005444				
SCM670630E	005501			E	45 6 5
ZAP	2359				
TNN670630ID	0303598			I	04012 2 27
SCM670630IC	0413246			E	375 1 11
BLR670630IC	0549460			I	497 3 10
000670630	0520		29		
GEO670630E	0519260				
PJD670630I	0519271				
BLR670630E	0519500				
TNN670630E	0519550				
SCM670630E	052014				6 5
ZAP	2359				
000670630	0731				
GEO670630IC	0731190				
PJD670630I	0731195				
BLR670630E	073142				4 45
TNN670630E	0731524				
ZAP	2359				
BLR670630IC	1051446				
SCM670630ID	1051452				2 6
000670630	1411	603	1516	24	
BIG670630ED	141116				3 17
SCM670630ID	1411233I	27			2 25
BLR670630IC	1411468			E	1233
TNN670630E	141156				
PJD670630IC	1411579				
ZAP	2359				
SCM670630ED	1650493			I	51036 2 11
SCM670630ID	1730324				37 1130
BLR670630ID	1730592				3124 4 12
SCM670630ED	1810575				1110 2 7
BLR670630E	181121			E	496 3 11
BIG670630ED	1929232			I	290 2 5
BIG670630EC	1934044	TEL	8	4	
SCM670630E	193453	TEL	8	7	
PJD670630EC	193500	TEL	6	7	
BLR670630EC	193504	TEL	6	7	
000670630	2010		32		
GEO670630I	2009530				

PJD670630I 2009537

BLR670630ID 2010141

TNN670630ID 2010216

SCM670630E 201037

ZAP 2359

SCM670630EC 2240292

00067 7 11 0057

GEO67 7 1 0057052

PJD67 7 11D 0057066

BLR67 7 11D 0057252

ZAP 2359

00067 7 1 0141

GEO67 7 11 0141092

PJD67 7 11D 0141111

BLR67 7 11C 0141288I

307

TNN67 7 1E 0141420

SCM67 7 1E 0141529

ZAP 2359

00067 7 1 0156

GEO67 7 11 0156119

PJD67 7 11D 0156133

BLR67 7 1E 0156347

TNN67 7 1E 0156442

SCM67 7 11D 0156567

ZAP 2359

00067 7 1 0519

26

GEO67 7 11D 0518461

PJD67 7 11 0518480

BLR67 7 11C 0519087

TNN67 7 1E 0519131

SCM67 7 1ED 0519298ID

346

ZAP 2359

BLR67 7 11D 1005098 TEL

SCM67 7 1 1005103 TEL

PJD67 7 1 1005213 TEL

PJD67 7 11C 1057462 TEL

00067 7 1 1235

PJD67 7 1 1235269

BLR67 7 1 1235547

ZAP 2359

BIG67 7 1E 1359260

00067 7 1 1427

584

1537

36

BIG67 7 11C 1425407

SCM67 7 11 1426281

BLR67 7 11D 1426524

PJD67 7 1E 1427031

ZAP 2359

BIG67 7 11C 1450124

BIG67 7 11C 1559563

583

00067 7 1 1843

GEO67 7 11 1842305

PJD67 7 11 1842320

BLR67 7 11C 1842540

TNN67 7 1 1843027

ZAP 2359

BIG67 7 1E 2123423 TEL

SCM67 7 11C 2124416 TEL

BLR67 7 1E 2125042 TEL

00067 7 1 2217

33

GEO67 7 11D 2216515

PJD67 7 11 2216027

I 352

3210

I 11218

6 11

I 424

6 7

I 428

3L 3

I 538

3L 4

I 486

L 3

3 6

28

E 393

2 5

I 543

2L 5

8 10

I 258

2 30

I 101

2 11

I 136

6 75

ZAP	2359				
00067 7 2	1221	CGS604	1522	42	
BIG67 7 21	1220412				58
BLR67 7 21C	1221068				
SCM67 7 2ED	1221118				54
TNN67 7 2FD	1221400				5200
PJD67 7 2ED	122144				
ZAP	2359				
SCM67 7 2E	133244	TEL		12 2	
PJD67 7 2E	133249	TEL		12 3	
BLR67 7 2E	1332535	TEL		14 4	
00067 7 2	1335			33	
GEO67 7 21C	1334424				I 452
PJD67 7 21	1334438				
BLR67 7 2ED	1335015				
TNN67 7 2E	1335086				
SCM67 7 2ED	1335242		296		5 18
ZAP	2359				
BIG67 7 2EC	1441497				4224
BIG67 7 2ED	1624320	TEL		6 2	6 9
00067 7 2	1625			29	
GEO67 7 21C	1624448				
PJD67 7 21	1624460				
BLR67 7 2EC	1625068				25
TNN67 7 2E	162518				
SCM67 7 2E	162529				26115
ZAP	2359				6 5
00067 7 2	1903		632	1505	23
SCM67 7 21C	1902590				0326
TNN67 7 2ED	1903012				2 17
BLR67 7 2E	190302				
PJD67 7 2EC	1903032				
ZAP	2359				
BIG67 7 2ED	2043565	TEL		8 3	
PJD67 7 2ED	2044169	TEL		6 10	
SCM67 7 2ED	2044210	TEL		9 3	
BLR67 7 2ED	2044228	TEL		6 6	
SCM67 7 2E	221046	TEL		12 2	
00067 7 3	0006		607	1506	30
SCM67 7 3E	0006183				4 45
BIG67 7 3E	000629				E 0705
BLR67 7 3E	0006430				3 12
PJD67 7 3E	000654				
ZAP	2359				
SCM67 7 3ED	01493931		400		E 516
BLR67 7 3EC	0150014				2 9
SCM67 7 31C	0218045		058		4 10
BLR67 7 3E	0218315				2 8
SCM67 7 3E	0237530				3811
00067 7 3	0244		606	1515	25
BIG67 7 31D	0242387				I 580
SCM67 7 3E	024342				3 10
BLR67 7 3E	024406				
PJD67 7 3E	024415				
ZAP	2359				
BIG67 7 3EC	0300062	TEL		3 6	
SCM67 7 3E	030102	TEL		3 27	
BLR67 7 3EC	0301258	TEL		6 12	
PJD67 7 3EC	0301350	TEL		3 5	
BLR67 7 3E	035328	TEL		7	
PJD67 7 3EC	0517118	TEL		6 9	

BLR67	7	3ED	0517184	TEL		6	13		
00067	7	3	0534		623	1488	29		
SCM67	7	3IC	0533404					E 51	3210
BLR67	7	3ID	0533567					E 3422	
PJD67	7	3ID	0534087						
TNN67	7	3E	053415						
BIG67	7	3E	053429						4 7
ZAP			2359						
00067	7	3	0637		621	1488	27		
SCM67	7	3ID	0636381					E 504	3 75
BLR67	7	3ID	0637004					28	4120
PJD67	7	3EC	0637125						
TNN67	7	3E	063718						
BIG67	7	3E	063728					I 38205	4 6
ZAP			2359						
BIG67	7	3IC	0655563	TEL			2	19	
SCM67	7	3EC	065651	TEL			4	5	
BLR67	7	3E	065715	TEL			2	7	
TNN67	7	3E	065720	TEL					
PJD67	7	3ED	0657248	TEL			3	4	
SCM67	7	3IC	0830507					I 3100	2 17
BLR67	7	3EC	0831018					I 192	4 11
BIG67	7	3EC	093426	TEL			6	7	
SCM67	7	3ID	0935244	TEL			3	9	
BLR67	7	3E	093543	TEL			3	7	
PJD67	7	3E	093547	TEL			8	2	
BIG67	7	3EC	0940520	TEL			3	3	
SCM67	7	3E	094148	TEL			4	24	
BLR67	7	3ID	0942118	TEL			5	10	
PJD67	7	3E	094221	TEL			4	8	
SCM67	7	3E	1155098					I 228	2 13
SCM67	7	3ID	1159198					39	4 20
SCM67	7	3ID	1600018					I 084	2 22
00067	7	3	1715						
SCM67	7	3ED	1715282					I 446	4 12
BLR67	7	3E	171531						
PJD67	7	3E	171546					I 47102	13 2 75
ZAP			2359						
BIG67	7	3IC	2146584					I 47102	13 2 75
00067	7	3	2251			30			
GEO67	7	3ID	2251106					I 132	
PJD67	7	3ID	2251114						
BLR67	7	3EC	2251343						
TNN67	7	3E	225139						
SCM67	7	3E	2251568						4 10
ZAP			2359						
00067	7	4	0222	CGS587		1536	42		
BIG67	7	4ID	02210201		042			I 159	2600
SCM67	7	4EC	0221498						10 12
BLR67	7	4E	022214						8 13
PJD67	7	4E	022224						
ZAP			2359						
00067	7	4	0231						
SCM67	7	4IC	0231022					23	3 8
BLR67	7	4IC	0231091						
PJD67	7	4ID	0231143						
ZAP			2359						
00067	7	4	0315				27		
GEO67	7	4ID	0314315					347	
PJD67	7	4I	0314320						
BLR67	7	4E	0314537						

TNN67 7 4E	031503			
SCM67 7 4E	031515			4 5
ZAP	2359			
00067 7 4	0444			
TNN67 7 4IC	0443387			
PJD67 7 4E	0443585		I 4430	2 17
BLR67 7 4ID	0444198			3 8
ZAP	2359			
00067 7 4	0516			
SCM67 7 4ID	0515596			
BLR67 7 4ED	0516212			4 10
PJD67 7 4E	051632			
ZAP	2359			
00067 7 4	0805			
SCM67 7 4IC	0804224			2 22
BLR67 7 4IC	0804442			4 11
PJD67 7 4EC	0805062			
ZAP	2359			
00067 7 4	1126	28		
GEO67 7 4E	1125184			
PJD67 7 4I	1125201			
BLR67 7 4IC	1125414			
TNN67 7 4E	112548			
SCM67 7 4E	112604		E 45	6 4
ZAP	2359			
00067 7 4	1143	28		
GEO67 7 4EC	1143146		I 176	
PJD67 7 4I	1143154			
BLR67 7 4E	114335			
TNN67 7 4E	114346			
SCM67 7 4E	1143587			8 2
ZAP	2359			
00067 7 4	1334			
SCM67 7 4ID	1333349			
BLR67 7 4ED	1334008		E 406	1 60
PJD67 7 4E	133420		27	
ZAP	2359			
00067 7 4	1610	593 1521		
BIG67 7 4EC	1609388		E 558	2 10
SCM67 7 4ED	1610112			2 8
BLR67 7 4E	161036			
PJD67 7 4EC	1610460			
ZAP	2359			
00067 7 4	1642	32		
GEO67 7 4IC	1642118		145	
PJD67 7 4I	1642132			
BLR67 7 4E	164233			
TNN67 7 4E	164240			
SCM67 7 4EC	1642558			7 8
ZAP	2359			
BIG67 7 4EC	234936	TEL		14 11
TNN67 7 4E	234946	TEL		12 12
PJD67 7 4EC	235001	TEL		10 40
SCM67 7 4EC	235005	TEL		6 9
BLR67 7 4EC	235008	TEL		9120
00067 7 5	0100			
SCM67 7 5ED	0059447		0100125	3 26
BLR67 7 5E	010006			
PJD67 7 5E	010022			
ZAP	2359			
PJD67 7 5E	010512	TEL		7 4

BLR67 7 5E	010519	TEL	12	3		
00067 7 5	0119	632	1504	23		
SCM67 7 5ED	01194031	441				2 17
BLR67 7 5EC	0119433				2011	
TNN67 7 5EC	0119436					
PJD67 7 5ID	0119448				2012	6 8
ZAP	2359					
BIG67 7 5ED	0404195	TEL	3	12		
SCM67 7 5ED	0405145	TEL	6	4		
BLR67 7 5E	040539	TEL	5	6		
BIG67 7 5E	0412544	TEL	3	3		
SCM67 7 5E	0413350	TEL	3	3		
BIG67 7 5IC	0506512				I 07046	2 14
BLR67 7 5ED	0630343	TEL	8	5		
PJD67 7 5ED	0630428	TEL	8	3		
PJD67 7 5ED	0911446	TEL	5	4		
BLR67 7 5E	091148	TEL	6	4		
00067 7 5	1038					
SCM67 7 5ID	1038064					2150
BLR67 7 5ID	1038304				544	
PJD67 7 5E	103848					
ZAP	2359					
00067 7 5	1120		28			
GEO67 7 5E	1119155				186	
PJD67 7 5I	1119168					
BLR67 7 5E	1119374					
TNN67 7 5E	111943					
SCM67 7 5E	1120019					3 11
ZAP	2359					
BIG67 7 5ID	1351524	TEL	7	5		
PJD67 7 5ED	1352178	TEL	4	5		
SCM67 7 5EC	1352192	TEL	8	5		
BLR67 7 5IC	1352232	TEL	4	10		
BIG67 7 5E	1524091				I 210	2 10
00067 7 5	1916		32			
GEO67 7 5E	1915409				I 434	
PJD67 7 5I	1915416					
BLR67 7 5E	191603				I 224	
TNN67 7 5ID	1916094					
SCM67 7 5E	191627					4 17
ZAP	2359					
00067 7 5	2044		32			
GEO67 7 5IC	2043317					
PJD67 7 5I	2043327					
BLR67 7 5E	204356					
TNN67 7 5E	2044004					
SCM67 7 5E	204421					10 4
ZAP	2359					
BLR67 7 5ID	2121110				I 369	3 14
SCM67 7 5E	2121110					2 5
BLR67 7 5EC	2155285				I 486	2 5
00067 7 5	2210					
SCM67 7 5EC	2210294	313				1 11
BLR67 7 5E	2210485					
PJD67 7 5	221057					
ZAP	2359					
SCM67 7 5IC	2308592E	09010			I 09066	2 23
SCM67 7 6EC	0140058				I 150	2 20
00067 7 6	0507	CGS623	1474	56		
SCM67 7 6ID	0506246					
BLR67 7 6ID	0506371					

GEO67	7	6E	050654			07246		2L14	
PJD67	7	6ID	0506560						
TNN67	7	6IC	0507078						
BIG67	7	6EC	0507248					10270	
ZAP			2359						
BLR67	7	6ID	0540559	TEL	5				16
SCM67	7	6ID	0540564	TEL	6				4
PJD67	7	6ID	0540573	ITEL	13				4
00067	7	6	0751						
TNN67	7	6ID	0751555						
BLR67	7	6E	0751559			5220		2	11
SCM67	7	6E	0751588						
ZAP			2359						
00067	7	6	1316		28				
GEO67	7	6EC	1315372			I	403		
PJD67	7	6I	1315380						
BLR67	7	6ED	1315573						
TNN67	7	6E	131605						
SCM67	7	6E	131621					3	10
ZAP			2359						
BIG67	7	6EC	134448	TEL	13				16
SCM67	7	6EC	134547	TEL	13				21
TNN67	7	6ID	1345593	TEL	13				11
BLR67	7	6E	134606	TEL	13				8
PJD67	7	6ID	1346106	TEL	12				5
SCM67	7	6	135017	TEL					
BLR67	7	6	135038	TEL					
PJD67	7	6	135042	TEL					
00067	7	6	1506						
SCM67	7	6EC	1505546			0614		2	11
BLR67	7	6IC	1505579						
PJD67	7	6IC	1506052			278		3	10
ZAP			2359						
00067	7	6	1548		28				
GEO67	7	6IC	1548000						
PJD67	7	6IC	1543012						
BLR67	7	6E	154822						
TNN67	7	6E	154829						
SCM67	7	6E	154845					6	4
ZAP			2359						
BIG67	7	6EC	1559283	TEL	3				4
SCM67	7	6ED	156023	TEL	3				8
BLR67	7	6IC	1560495	TEL	3				8
BIG67	7	6E	1616485	TEL	10				3
SCM67	7	6E	161746	ITEL	6				9
TNN67	7	6IC	1618016	TEL	14				9
BLR67	7	6IC	1618086	TEL	10				7
PJD67	7	6E	1618095	TEL	8				8
SCM67	7	6IC	1808012					4	5
BLR67	7	6E	180824					4	12
BLR67	7	6IC	1843244	TEL	6				6
PJD67	7	6EC	1843276	TEL	10				4
BIG67	7	6EC	2033555			I	340731	106	3 7
SCM67	7	6E	2049297			I	50010		3 8
BLR67	7	6E	2049557						
BIG67	7	6E	2118332			I	4591	482	2 6
SCM67	7	6ED	2322024				102		2 11
BLR67	7	6ED	2322103						
00067	7	7	0042		602	1529	27		
BIG67	7	7ID	0041513			I	42100		4 5 2
SCM67	7	7EC	0042160						2 11 2

[illegible]

BLR67 7 7ID	1710400				I 11030		4 32
TNN67 7 7ID	1710430						
SCM67 7 7ED	1710475						3 5
ZAP	2359						
00067 7 7	1758						
PJD67 7 7ID	1758116				15		
SCM67 7 7E	1758160				297		3 9
BLR67 7 7E	175835						
ZAP	2359						
TNN67 7 7E	193541	TEL	5	5			
PJD67 7 7E	1935425	TEL	3	4			
BLR67 7 7ID	1935456	TEL	5	5			
BIG67 7 7ED	2013398				515		2 30
00067 7 7	2035						
GEO67 7 7E	203509				118		
PJD67 7 7E	203510						
BLR67 7 7E	203530						
TNN67 7 7E	203536						
ZAP	2359						
TNN67 7 7	2233253						2 15
00067 7 8	0021	604	1521	28			
BIG67 7 8E	0020430				21054		2 20
SCM67 7 8ED	0020538				E 2116	2126	3 15
BLR67 7 8IC	0021165						
PJD67 7 8IC	0021262						2 14
ZAP	2359						
BLR67 7 8E	0102225				I 409		2 16
SCM67 7 8EC	0105118				I 390		5 14
BLR67 7 8E	010543						
BIG67 7 8E	011051	TEL	10	2			
SCM67 7 8ED	0111148	TEL	8	4			
TNN67 7 8ID	0111212	TEL	6	6			
BLR67 7 8E	011123	TEL	8	4			
PJD67 7 8E	0111238	TEL	7	5			
BIG67 7 8E	063512	TEL	8	4			
SCM67 7 8ED	0635336	TEL	8	4			
TNN67 7 8E	063541	TEL	9	8			
BLR67 7 8E	063543	TEL	10	6			
PJD67 7 8ED	0635434	TEL	8	8			
00067 7 8	0702	CGS624	1557	54			
BIG67 7 8ED	0701404				E 02124		
TNN67 7 8EC	0701520						
SCM67 7 8ID	0702012						12135
PJD67 7 8E	0702080						
BLR67 7 8E	0702104						
ZAP	2359						
00067 7 8	0919	CGS624	1557	54			
BIG67 7 8IC	0918593				1932	39	4 48
TNN67 7 8E	091911						
SCM67 7 8ED	0919196						11150
PJD67 7 8ED	0919272						
BLR67 7 8E	091930						
ZAP	2359						
00067 7 8	1007	622	1570	37			
BIG67 7 8ID	1007092				424		
TNN67 7 8ID	1007214						
SCM67 7 8E	1007335						9 4
ZAP	2359						
BIG67 7 9IC	0132140				I 324		2 10
SCM67 7 9E	0132381						
00067 7 9	0221			23			

GEO67 7 9I	0220550				575	
PJD67 7 9ID	0220566					
BLR67 7 9E	0221184				368	
TNN67 7 9E	0221275					
SCM67 7 9E	0221407		3	3		
ZAP	2359					
PJD67 7 9E	0316464 TEL					
BLR67 7 9E	0316548 TEL					
SCM67 7 9E	0316513 TEL					
BIG67 7 9E	0537411 TEL					
SCM67 7 9E	0538372 TEL					
PJD67 7 9E	0539009 TEL					
PJD67 7 9E	0539096 TEL					
00067 7 9	0546		30			
GEO6 7 9I	0545588				I 46013	
PJD67 7 9E	0546003					
BLR67 7 9E	0546222				E 402	
TNN67 7 9E	0546306					
SCM67 7 9E	0546442				E 47276	3 12
ZAP	2359					
00067 7 9	0612		18			
GEO67 7 9I	0612144				I 169	
PJD67 7 9ID	0612160					
BLR67 7 9E	061236				E 476	3 12
ZAP	2359					
00067 7 9I	0626		17			
GEO67 7 9I	0626345				I 370	
PJD67 7 9ID	0626360					
BLR67 7 9E	0626588				E 2717	3 10
ZAP	2359					
00067 7 9	0809		19			
GEO67 7 9I	0809299				I 334	
PJD67 7 9ID	0809312					
BLR67 7 9E	0809506				E 1007	3 15
ZAP	2359					
00067 7 9	1124		20			
GEO67 7 9I	1123156				I 181	
PJD67 7 9IC	1123172					
BLR67 7 9I	1123389					
TNN67 7 9E	112343				E 24103	
SCM67 7 9E	112406				E 43	4 5
ZAP	2359					
00067 7 9	1153	593	1488	28		
SCM67 7 9E	1152296				E 5306	5 8
BIG67 7 9E	115239					
BLR67 7 9E	1152544					
PJD67 7 9E	1153110					
ZAP	2359					
00067 7 9	1444		18			
GEO67 7 9I	1444322				E 353	
PJD67 7 9ID	1444327					
BLR67 7 9E	1444544				E 123	3 15
ZAP	2359					
00067 7 9	1505		16			
GEO67 7 9I	1505031				I 63	
PJD67 7 9ID	1505044				E 78	
BLR67 7 9	1505				E 43	
ZAP	2359					
00067 7 9	1601	577	1515	36		2 15
BIG67 7 9EC	1600202					

BLR67 7 9E	1601263				
PJD67 7 9E	1601400				
ZAP	2359				
00067 7 9	1634	17			
GEO67 7 9I	1633547			573	
PJD67 7 9ID	1633560				
BLR67 7 9	1634			E 36	2 20
ZAP	2359				
SCM670709ED	1604376			E 499	2 7
SCM670709ED	1606222			E 296	2 10
000670709	2007	20			
BLR670709E	2007478			E 68	3 22
SCM670709I	2007513			I 08113	2 15
PJD670709E	2007585			I 08251	3 18
ZAP	2359				
000670709	2016		CGS		
PJD670709E	2016072				
BLR670709E	2016206				
TNN670709E	201641				
SCM670709	201645				4 2
ZAP	2359				
000670709	2201	19			
GEO670709I	2201365			E 396	
PJD670709ID	2201381				
BLR670709E	2201584			E 154	3 20
ZAP	2359				
000670709	2214	596	1475	33	
SCM670709ID	2213401			E 14082	5 40
BLR670709E	2214012				
PJD670709E	221421				
ZAP	2359				
00067 710	0321	38			
GEO67 710IC	0320381			415	
PJD67 710IC	0320398				
BLR67 710IC	0320578				
TNN67 710EC	0321058				
SCM67 710EC	0321207			22045	4 60
ZAP	2359				
SCM67 710ED	0341570	TEL	6	3	
BLR67 710E	0341585	TEL	7	6	
SCM67 710E	0605078	TEL	6	4	
BIG67 710ID	0640397	TEL	5	4	
SCM67 710ID	0641002	TEL	5	3	
BLR67 710E	064109	TEL	6	7	
TNN67 710E	064111	TEL	3	3	
PJD67 710ED	0641126	TEL	7	5	
00067 710	0825		26		
GEO67 710EC	0824318				
PJD67 710I	0824332				
BLR67 710E	082454				
TNN67 710E	082503				
SCM67 710E	082516				6 3
ZAP	2359				
SCM67 710E	0930540			E 31258	7 5
SCM67 710ID	0950168			22	2 75
SCM67 710ED	1030068	TEL	6	10	
BLR67 710ID	1030151	TEL	7	11	
TNN67 710IC	1030163	TEL	5	6	
PJD67 710IC	1030188	TEL	6	5	
00067 710	1130		26		
GEO67 710E	1129222			F 253	

PJD67 710I	1129232						
BLR67 710E	1129444						
TNN67 710E	1129535						
SCM67 710E	113007					7	2
ZAP	2359						
00067 710	1545		27				
GEO67 710EC	1545099						
PJD67 710ID	1545111						
BLR67 710E	1545305						
TNN67 710E	154538						
SCM67 710E	154554					3	7
ZAP	2359						
TNN67 710ED	1930234 TEL		12	8			
PJD67 710ED	1930314 TEL		6	4			
SCM67 710ED	1930314 TEL		12	5			
BLR67 710ED	1930352 TEL		12	24			
BIG67 710E	2145098 TEL		4	2			
SCM67 710E	214609 TEL		2	1			
BLR67 710EC	214632 TEL		5	7			
00067 710	2154	633	1513	18			
TNN67 710E	215418				I	428	
PJD67 710E	215424					49	3 5
BLR67 710ID	2154260						
SCM67 710E	215426						
ZAP	2359						
SCM67 710E	222413					34	3 9
BLR67 710E	2224378				E	2517	
SCM67 711E	0304355				I	518	3 6
00067 711	0350						
TNN67 711E	035015						
PJD67 711E	0350340				E	51052	2 8
BLR67 711E	035041						
ZAP	2359						
PJD67 711E	042917 TEL		10	2			
SCM67 711E	042920 TEL		10	3			
TNN67 711E	0510368						
PJD67 711E	0510444				E	11150	3 4
00067 711	0603						
GEO67 711F	0602560						
PJD67 711ID	0602575						
BLR67 711ID	0603188						2 30
ZAP	2359						
SCM67 711E	0605088				E	205	6 5
SCM67 711ED	0730074				E	32	38 6 6
BLR67 711ID	0902144 TEL		6	10			
PJD67 711E	0902128 TEL		7	2			
TNN67 711ED	0902002 TEL		6	4			
00067 711	0945						
GEO67 711E	0945047				I	075	
PJD67 711I	0945062						
BLR67 711ID	0945277						2 21
ZAP	2359						
00067 711	1252						
SCM67 711IC	1251412						
BLR67 711I	1252056					35	4 30
PJD67 711E	1252162						
ZAP	2359						
00067 711	1322	586	1542	18			
BIG67 711ID	1321258				E	443	4 14
SCM67 711EC	1322200						
BLR67 711E	132244						

PJD67 711E	1222532			
ZAP	2359			
00067 711	1441			
GEO67 711EC	1440518			
PJD67 711ID	1440533			
BLR67 711E	144113			3 45
ZAP	2359			
00067 711	1554			
GEO67 711ED	1554167			
PJD67 711I	1554185			
BLR67 711IC	1554385			3 25
ZAP	2359			
00067 711	1605			
PJD67 711I	1604208			
SCM67 711IC	1604313	E	535	4 15
BLR67 711E	160500			
ZAP	2359			
BIG67 711IC	1712515	I	13070	2 14
00067 711	1714			
GEO67 711E	171408			
PJD67 711I	1714093			
BLR67 711ID	1714308			2 20
TNN67 711E	171441			
ZAP	2359			
BIG67 711IC	1742538 TEL	6	4	
SCM67 711IC	1743139 TEL	6	4	
BLR67 711E	174323 TEL	6	4	
PJD67 711IC	1743265 TEL	5	3	
00067 711	1811			
GEO67 711E	1810594		11026	
PJD67 711IC	1811010			
BLR67 711E	181121			3 15
ZAP	2359			
BLR67 711E	195909 TEL	4	4	
SCM67 711IC	2030330	I	596	6 14
BLR67 711E	2031035			6 11
SCM67 711E	2051404 TEL	5	7	
BLR67 711IC	2052035 TEL	7	5	
00067 711	2244			
SCM67 711IC	2244048			1 7
BLR67 711ID	2244287	E	45135	
PJD67 711IC	2244415			
ZAP	2359			
SCM67 711ED	2257190		36	2 7
00067 712	0100			
BLR67 712E	0100030	I	254	3 26
PJD67 712ED	0100034			
SCM67 712E	010004			
ZAP	2359			
00067 712	0111			
PJD67 712ID	0110570			
BLR67 712IC	0111060	I	262	
TNN67 712E	011117	I	397	4 9
ZAP	2359			
BIG67 712E	015049 TEL	5	3	
SCM67 712E	0151425 TEL	3	3	
TNN67 712ID	0151440 TEL	5	5	
PJD67 712E	015156 TEL	4	2	
BIG67 712E	0216082	I	241	3 6
BIG67 712IC	0548382	E	584	5 8
BIG67 712EC	0552232			

TNN67 712EC	0552465							
BIG67 712	0552514					584		
BIG67 712E	055653	TEL		10	2			
PJD67 712E	055727	TEL		8	3			
BLR67 712E	055727	ITEL	34	5	2			
BIG67 712I	0628262					E 434	2	6
TNN67 712IC	0641147					I 202	2	12
BIG67 712ED	0940398							
SCM67 712E	0941150							
00067 712	1034	CGS593	1548	46				
BIG67 712ID	1033270							
SCM67 712E	1034250						7	50
TNN67 712E	103448							
BLR67 712ED	1034484							
PJD67 712E	103454							
ZAP	2359							
TNN67 712E	124014					E 380	2	18
SCM67 712IC	1322359					E 565	2	10
BLR67 712IC	1323030							
TNN67 712	1406330					0711	4	15
00067 712	1444							
SCM67 712EC	1443498						2	9
BLR67 712IC	1444049						3	10
PJD67 712EC	1444092							
ZAP	2359							
000670712	1516	CGS628	1493	41				
SCM670712IC	1516014							
BLR670712ID	1516084							
GEO670712ED	1516137					E 40		
PJD670712ID	1516166							
TNN670712IC	1516204							
BIG670712ID	1516436						4	30
ZAP	2359							
000670712	1655	611	1516	21				
SCM670712ID	1655296					E 552	2	8
BIG670712I	1655330							
BLR670712ID	1655542						5	9
PJD670712ID	1655598							
ZAP	2359							
SCM670712EC	2040412					E 41056	7	15
BLR670712E	2011490	ETEL	1425	9	3			
SCM670712E	201150	TEL		8	2			
PJD670712E	2011575	TEL		8	3			
BIG670712E	201208	TEL		12	3			
BIG670712E	212651	TEL		14	2			
SCM670712E	212713	TEL		13	2			
BLR670712IC	2127218	TEL		14	6			
PJD670712IC	2127254	TEL		13	6			
PJD670712E	213410	TEL		14	2			
BLR670712E	221216	TEL		12	4			
PJD670712E	2212185	TEL		12	3			
SCM670712EC	2212194	TEL		10	2			
SCM670712E	2322508					I 23090	2	6
000670713	0022							
GEO670713E	0021590							
PJD670713I	0021597							
BLR670713IC	0022212					I 406	3	30
TNN670713E	002232							
ZAP	2359							
SCM670713EC	01252601		342			E 418	2	17
BLR670713E	0125473							

000670713	1741								
GEO6707131D	1741250					E	285		
PJD6707131	1741261								
BLR670713E	1741486					E	42060	3	10
ZAP	2359								
000670713	1743								
SCM670713E	1742562							2	6
BLR670713E	1742597								
PJD670713E	1743008								
ZAP	2359								
000670713	1818	628	1506	21					
SCM6707131C	1818212							3	9
BLR6707131D	1818280								
PJD6707131C	1818309							3	8
BIG670713EC	1818526								
ZAP	2359								
BIG6707131C	1825470					I	26039	2	45
BIG6707131C	1848242						413	2	40
SCM670713ED	2113347	TEL		10	2				
PJD670713ED	2113400	TEL		8	3				
BLR670713E	211334	TEL		6	3				
SCM670713EC	2208581					E	0914	2	5
BIG670713E	2254173					I	219	1	19
BLR6707141D	2118085					I	107	3360	
BIG670714EC	0259352	TEL	379	55	7	7			
SCM670714ED	0300004	TEL	037		7	3			
TNN670714E	0300006	TEL			12	4			
000670714	0300				33				
GEO670714E	0259525								
PJD6707141	0259542								
BLR670714E	030012								
TNN670714E	030021								
SCM670714E	030035						0119	10	5
ZAP	2359								
000670714	0331								
SCM670714ED	0330490							5	13
BLR6707141D	0331160					I	524	4	9
PJD670714ED	0331385								
ZAP	2359								
000670714	0400	620	1532	28					
SCM670714EC	0400078							4	6
BIG670714E	0400082					E	510	4	13
TNN670714E	040015								
BLR6707141C	0400200								
PJD670714E	040024							4	7
ZAP	2359								
000670714	0429								
SCM6707141C	0429072						138	2120	
BLR6707141	0429288								
PJD670714ED	042946								
ZAP	2359								
000670714	0713			26					
GEO6707141	0713129						16		
PJD6707141	0713138								
BLR670714ED	0713326								
TNN670714E	071343								
SCM670714EC	0713568							5	4
ZAP	2359								
PJD6707141C	1021183	TEL		7	3				
000670714	1124			25					
GEO6707141D	1123270					I	299		

000670713	0545				
GE0670713E	0544582			I	45011
PJD670713I	0544597				
BLR670713E	0545203			I	380 3 19
ZAP	2359				
000670713	0618				
GE0670713EC	06182231	230			248
PJD670713I	0618238				
BLR670713IC	0618463				1907 3 40
TNN670713E	0618555				
ZAP	2359				
000670713	0717				
GE0670713ID	0717283			I	310
PJD670713I	0717289				
BLR670713IC	0717517			E	18082 3 9
ZAP	2359				
BIG670713IC	0748032	TEL	10 4		
SCM670713EC	0748253	TEL	10 2		
BLR670713IC	074834	TEL	16 14		
PJD670713ED	074838	TEL	13 13		
000670713	0906		30		
GE0670713ED	0906054				
PJD670713I	0906059				
BLR670713ED	0906254				
TNN670713E	090637				
SCM670713E	0906500			E	0733 5 8
ZAP	2359				
000670713	1011		42		
PJD670713ID	10101701	180			
GE0670713ED	1010173				206
BLR670713ID	1010388				1102
TNN670713ID	1010454				
SCM670713E	101102				475 8 55
ZAP	2359				
BIG670713ED	1016484	TEL	8 9		
PJD670713ID	1048038				
BLR670713E	1049578				097 2 17
000670713	1128				
GE0670713E	1127499				
PJD670713I	1127512				
BLR670713E	112813				2 40
TNN670713E	112823				
ZAP	2359				
000670713	1159	628	1542	31	
TNN670713ID	1158574				
PJD670713E	1159044				4 15
SCM670713E	115907				
BIG670713E	115908			I	262 3 6
BLR670713E	1159082			I	373 4 12
ZAP	2359				
SCM670713ED	1401275				508 6 9
SCM670713IC	1410512				1100 4 13
SCM670713IC	1425180			E	323 2 5
SCM670713E	1633100				40 2 4
000670713	1643		31		
GE0670713IC	1642153				
PJD670713ID	1642160				
BLR670713IC	1642382				
TNN670713E	164248				
SCM670713E	1643045				10 3
ZAP	2359				

PJD670714I	1123287						
BLR670714IC	1123487						
TNN670714E	112359						
SCM670714E	112415						7 2
ZAP	2359						
000670714	1314						
GEO670714ID	1314184				E	218	
PJD670714I	1314200						
BLR670714IC	1314404				I	573	3 45
TNN670714E	1314514						
ZAP	2359						
BIG670714E	13551371TEL	142		9	3		
SCM670714ED	1356128 TEL	166		6	3		
TNN670714E	1356285 TEL			7	4		
BLR670714ID	1356346 TEL			5	6		
PJD670714EC	1356388 TEL			6	2		
000670714	1555			33			
GEO670714IC	15544861	490				513	
PJD670714I	1554502						
BLR670714E	155511						
TNN670714E	155517						
SCM670714E	155535						8 7
ZAP	2359						
SCM670714ED	1936525				I	37273	3 6
BLR670714ED	1937128						
000670714	1953	613	1527	26			
BIG670714ED	1952451						3 5
SCM670714E	1952500	533					3 9
BLR670714ID	1953125						
PJD670714ED	1953256						
ZAP	2359						
000670714	2133						
PJD670714IC	2133004				I	234	
TNN670714E	213302						
BLR670714E	213352					3416	3 17
ZAP	2359						
PJD670714IC	2139113					21	2 25
TNN670714E	213915					36	
SCM670714E	2228200				I	359	2 5
BLR670714EC	2241054					4200	3 7
/*							
/+							

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING AGENCY (Complete address)

Geophysical Institute
University of Alaska

College, Alaska 99735

2a. REPORT SECURITY CLASSIFICATION

Unclassified

2b. GROUP

3. REPORT TITLE

The June 21, 1967 Earthquake Series at Fairbanks, Alaska:
Aftershock Locations, Depths and Magnitudes

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Scientific

Interim

5. AUTHOR(S) (First name, middle initial, last name)

Eduard Berg, Larry Godney, Susumu Kubota, Ken Hanson and Jurgen Kienle

6. REPORT DATE

July 1967

7a. TOTAL NO. OF PAGES

54

7b. NO. OF REFS

7

8a. CONTRACT OR GRANT NO.

9a. ORIGINATOR'S REPORT NUMBER(S)

AF-AFOSR-701-66

9. PROJECT NO.

8652

6250601R

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

10. DISTRIBUTION STATEMENT

1. Distribution this document is unlimited

11. SUPPLEMENTARY NOTES

Tech, Other

12. SPONSORING MILITARY ACTIVITY

(SRPG)

1400 Wilson Blvd, Arlington, VA 22209

Air Force Office of Scientific Research

13. ABSTRACT

Aftershock recordings have been obtained to determine the extent of the fracture area which using some 50 shocks, was found to be an area of 10 x 15 km with the major axis roughly oriented in a NW-SE direction. Hypocenter depth varies from 6-19 km, with most of the shocks being confined to a depth of 10 to 13 km. It was found that the Jeffreys-Bullen velocities, $V_p = 5.56$ and $V_s = 3.37$ km/sec, represent a close approximation of the velocities in the area. Presented also are the tele-meter network readings from June 21, 1800 GMT to July 14. These readings include the aftershocks of magnitude 2.5 and upward.

14.

KEY WORDS

LINK A

LINK B

LINK C

ROLE

WT

ROLE

WT

ROLE

WT

Hypocenter

Aftershocks

Magnitude

Seismicity

Official Use Only - Do Not Release