EVALUATION OF THE DETECTION AND DISCRIMINATION CAPABILITIES OF THE VERY LONG PERIOD EXPERIMENT (VLPE) SINGLE STATIONS, VLPE NETWORK, AND THE VLPE-ALPA-NORSAR COMBINED NETWORK

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Texas Instruments, Incorporated

Prepared for:

Advanced Research Projects Agency

18 May 1973

UNCLASSIFIED
Security Classification

AD 771124

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 ACTIVITY *(Corporate author)*
Texas Instruments Incorporated
Equipment Group
P.O. Box 6015, Dallas, Texas 75222

2a. REPORT SECURITY CLASSIFICATION
UNCLASSIFIED

2b. GROUP

3. REPORT TITLE
Evaluation of the Detection and Discrimination Capabilities of the Very Long Period Experiment (VLPE) Single Stations, VLPE Network, and the VLPE-ALPA-NORSAR Combined Network. Special Report No. 6

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

5. AUTHOR(S) *(First name, middle initial, last name)*
David G. Lambert and Ervin S. Becker

6. REPORT DATE
18 May 1973

7a. TOTAL NO. OF PAGES
171 173

7b. NO. OF REFS
17

8a. CONTRACT OR GRANT NO.
Contract No. F33657-72-C-0725

b. PROJECT NO.
AFTAC Project No.
VELA T/2705/B/ASD

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)

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

10. DISTRIBUTION STATEMENT
APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

11. SUPPLEMENTARY NOTES
ARPA Order No. 1714

12. SPONSORING MILITARY ACTIVITY
Advanced Research Projects Agency
Nuclear Monitoring Research Office
Arlington, Virginia 22209

13. ABSTRACT

This report presents an evaluation of the detection and discrimination capabilities of nine VLPE stations, the VLPE network, and the VLPE-NORSAR-ALPA combined network. The data base consists of 545 Eurasian seismic events occurring during the periods January 1 through March 20 and June 1 through July 31, 1972.

DD FORM 1 NOV 65 1473

UNCLASSIFIED
Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
VLPE						
VLPE Detection Level						
VLPE Discrimination Level						
$M_s : m_b$						
LQ/ LR						

AFTAC Project No. VELA T/2705/B/ASD

EVALUATION OF THE DETECTION AND DISCRIMINATION CAPABILITIES OF THE VERY LONG PERIOD EXPERIMENT (VLPE) SINGLE STATIONS, VLPE NETWORK, AND THE VLPE-ALPA-NORSAR COMBINED NETWORK

SPECIAL REPORT NO. 6
EXTENDED ARRAY EVALUATION PROGRAM

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TEXAS INSTRUMENTS INCORPORATED
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Post Office Box 6015
Dallas, Texas 75222

Contract No. F33657-72-C-0725
Amount of Contract: $792,839
Beginning 1 April 1972
Ending 31 December 1973

Prepared for

AIR FORCE TECHNICAL APPLICATIONS CENTER
Alexandria, Virginia 22314

Sponsored by

ADVANCED RESEARCH PROJECTS AGENCY
Nuclear Monitoring Research Office
ARPA Order No. 1714
ARPA Program Code No. 2F10

18 May 1973

Acknowledgement: This research was supported by the Advanced Research Projects Agency, Nuclear Monitoring Research Office under Project VELA-UNIFORM, and accomplished under the technical direction of the Air Force Technical Applications Center under Contract No. F33657-72-C-0725.

ABSTRACT

This report presents an evaluation of the detection and discrimination capabilities of nine VLPE stations, the VLPE network, and the VLPE-NORSAR-ALPA combined network. The data base consists of 545 Eurasian seismic events occurring during the periods January 1 through March 20 and June 1 through July 31, 1972.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES
(continued)

LIST OF FIGURES
(continued)

LIST OF FIGURES
(continued)

LIST OF TABLES

SECTION I
INTRODUCTION

This report presents an evaluation of the detection and discrimination capabilities of the Very Long Period Experiment (VLPE) single stations, the VLPE network, and the VLPE-NORSAR-ALPA combined network. The purpose of the VLPE is to improve detection and discrimination capabilities with the use of a small network of high gain, high quality, long-period digital seismographs at various locations throughout the world.

The VLPE instrumentation has been described in detail by Pomeroy, et al (1969), and studies of the data from the station at Ogdensburg, New Jersey have been presented by Savino, et al (1971). A general review of eight of the long-period stations with their capabilities and the application of various filter techniques on the digitally recorded data have also been given by Savino, et al (1972). Two reports by Texas Instruments, Incorporated, Special Report No. 7 by Benno (1972) and Special Report No. 8 by Harley (1972) have presented a preliminary evaluation of the VLPE network. They presented discussions of the vertical and horizontal noise spectra and the theoretical capability of detection respectively. Their conclusions were limited by the small quantity of observational data.

The data base for this report consists of the analysis of 548 events or 2130 event-station pairs. The results of techniques applied to this data base included the following:

- A description of Rayleigh waves as a function of magnitude (m_b) and distance (Δ) for a large ensemble of Eurasian events at

(1) all available single VLPE sites, (2) the VLPE stations as a network, and (3) the VLPE-ALPA-NORSAR networks combined.

- The mean relationships of M_s at 20 seconds versus m_b for VLPE single sites, the VLPE network and the VLPE-ALPA-NORSAR combined network.
- The mean relationships of M_s at 20 seconds and also M_s at 30 seconds versus M_s at 20 seconds for VLPE stations.

This large data base covers two periods in time: January 1 - March 20 and June 1 - July 31 of 1972.

The capability to discriminate between presumed explosions and earthquakes using VLPE data is also discussed. Presumed explosion data are added to the M at 20 second period versus m data from the VLPE stations presented earlier. Finally, the Love to Rayleigh wave amplitude (LQ/LR) ratio is presented for the VLPE single stations and the VLPE network.

In Section II, the data base is presented in detail, with descriptions of the networks, a complete listing of all event data, a discussion of the problems encountered with the data from each VLPE station, the problems in using the data from the horizontal components, and the calibration curves for all the VLPE stations. Section III presents the analysis of the data base, using the previously listed results, with a discussion of the criteria used to pick the signals. In Section III, presumed explosion data are added to the earthquakes, previously analyzed, to obtain discrimination capabilities using M_s at 20 second period versus m_b and using LQ/LR for selected VLPE data. Finally, conclusions based on this analysis and recommendations for future studies are given in Section IV.

SECTION II

DATA BASE

A. GENERAL DESCRIPTION

For this study, we used digital recordings from all available VLPE stations for Eurasian events during two time periods: January 1, 1972 through March 20, 1972 and June 1, 1972 through July 31, 1972. The first time period includes station data from Thailand, Alaska, Spain, Israel, Norway, and New Jersey. The second time period includes data from Australia, Spain, Israel, Norway, New Jersey, Hawaii, and New Mexico. The geographic location of each station is given in Table II-1 and shown in Figure II-1. Tapes that were available for processing covering the two time periods of interest are listed in Table II-2.

Attempts were made to process and analyze all available data for the two time periods. Tables II-3a and II-3b summarize the number of events processed at each station. A considerable amount of data was lost at several of the stations due to the following individual problems:

- Australia (CTA) was not operational from January 1, 1972 through March 20, 1972, except for a test tape covering the days February 19 and February 20.
- From January 1, 1972 through March 20, 1972, the recordings at Thailand (CHG) and Spain (TLO) had short inter-record gaps which caused some difficulty in reading the header records.

TABLE II-1

VERY LONG PERIOD EXPERIMENT (VLPE)
STATIONS AND LOCATIONS

Station	Designator	Latitude	Longitude
Charters Towers, Australia	CTA	20.09S	146.26E
Chiang Mai, Thailand	CHG	18.79N	98.98E
Fairbanks, Alaska	FBK	64.90N	148.01W
Toledo, Spain	TLO	39.86N	4.02W
Eilat, Israel	EIL	29.55N	34.95E
Kongsberg, Norway	KON	59.65N	9.59E
Ogdensburg, New Jersey	OGD	41.07N	74.62W
Kipapa, Hawaii	KIP	21.42N	158.02W
Albuquerque, New Mexico	ALQ	34.94N	106.46W

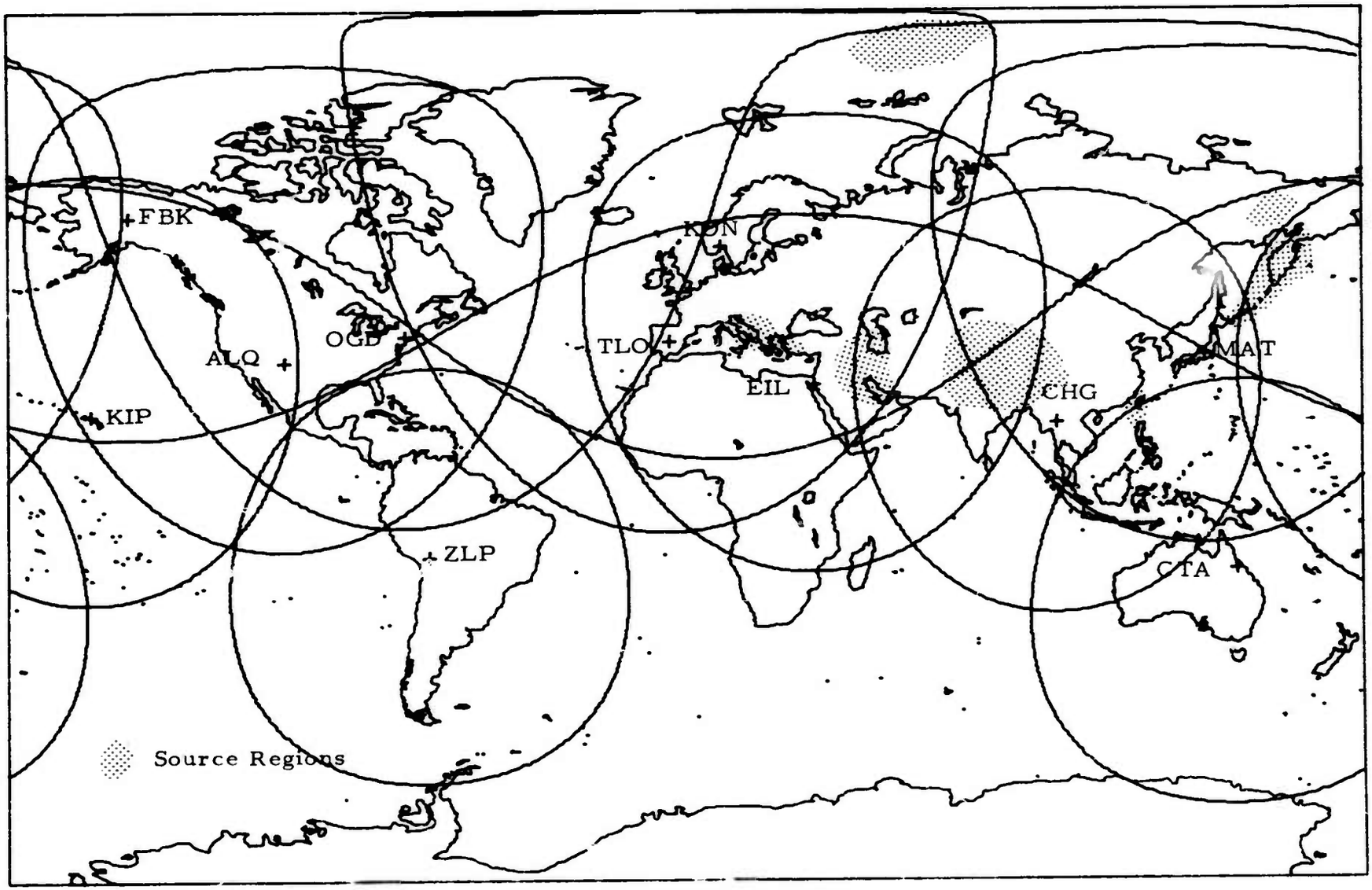


FIGURE II-1

MAP OF VLPE STATIONS AND CIRCLES AROUND EACH SITE WITH RADII OF 50° DISTANCE

TABLE II-2

VLPE DIGITAL DATA AVAILABLE AT SAAC AS OF JANUARY 1, 1972

* - TEST TAPE

Year 1972	CTA	CHG	FBK	TLO	EIL	KON	OGD	KIP	ALQ
January		1-31	1-31	1-31		1-31	1-31		
February	19-20*	1-29	1-29	1-24 28-29	24-25	1-29	1-29		
March		15-26	1-31	1-28	10-31	1-3 6-31	1-14	15-31	31
June	1-30	1-12		10-30	1-14 29-30	1-30	1 6-30	1-30	1-30
July	1-31			1-31	1-31	1-31	1-31	1-31	1-5 10-31

TABLE II-3a

SUMMARY OF VLPE EVENTS PROCESSED
JANUARY 1, 1972 - MARCH 20, 1972

Station	No Data Or Tape Malfunction	Detected	No Detection	Mixed Events	System Clipping Spikes, etc.	Totals
CTA	309	0	0	0	0	309
CHG	97	64	78	47	23	309
FBK	11	67	186	40	5	309
TLO	154	42	88	17	8	309
EIL	270	13	12	4	10	309
KON	42	76	139	49	3	309
OGD	120	34	90	21	44	309
KIP	309	0	0	0	0	309
ALQ	309	0	0	0	0	309
Totals	1621	296	593	178	93	2781

TABLE II-3b

SUMMARY OF VLPE EVENTS PROCESSED
JUNE 1, 1972 - JULY 31, 1972

Station	No Data Or Tape Malfunction	Detected	No Detection	Mixed Events	System Clipping Spikes, etc.	Totals
CTA	86	35	73	38	7	239
CHG	239	0	0	0	0	239
TLO	77	40	78	41	3	239
EIL	92	29	76	27	15	239
KON	155	27	38	19	0	239
OGD	163	19	23	13	21	239
KIP	18	58	94	38	31	239
ALQ	112	11	32	19	65	239
Totals	942	219	414	195	142	1912

- At Israel (EIL), during the same period, operational recording, and hardware problems were present.
- Operational and recording problems occurred at New Jersey (OGD), but data were available for June, 1972. In July, 1972, the record length was changed for a special noise study.
- The operation of the station at Alaska (FBK) was terminated on April 25, 1972 and no data were available for the second time period.
- At stations EIL and TLO, similar problems exist for the June-July data that were present for the January-March data. Also, no horizontal data were usable at EIL for both time periods.

It should be emphasized that we attempted to process all the available data regardless of problems encountered in reading the tapes. The results are tabulated in Section III for each station with appropriate comments in Tables III-1 through III-13. A total of 2130 event-station combinations were processed; many of the events were recorded at several stations.

The Eurasian events that were analyzed came from a reference list which is a combination of PDE, LASA, and NORSAR bulletin listings for the time periods of January 1 through February 19 and June 1 through July 31, 1972. The event listing for the International Seismological Month (ISM), February 20 through March 20, was furnished by Lincoln Laboratory of the Massachusetts Institute of Technology (LL). The LL-ISM list is comprised of event listings by PDE, unpublished PDE, NORSAR, an internal LL bulletin for LASA, Yellowknife, and a USSR bulletin.

A total of 545 Eurasian events are tabulated in Table II-4. Information for each event includes the date, origin time, epicenter location,

TABLE II-4 (PAGE 1 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0001	01/01	15.04.19	59.7	153.8	4.1	L	E SIBERIA
0002	01/01	16.55.06	50.7	155.8	4.6	L	KURIL IS
0003	01/01	18.13.54	49.4	156.5	4.0	L	KURIL IS
0004	01/02	05.37.25	46.1	146.2	4.0	L	N W OF KURIL IS
0005	01/02	09.17.53	37.9	20.7	4.2	P	IONIAN SEA
0006	01/02	10.27.35	41.8	84.5	5.2	P	S SINKIANG PROV.
0007	01/03	06.36.38	51.6	159.4	4.8	P	OFF E COAST KAMCHATKA
0008	01/03	19.26.43	52.0	159.0	4.5	N	NEAR E COAST KAMCHATKA
0009	01/03	23.40.37	58.8	130.8	3.4	L	E RUSSIA
0010	01/04	02.29.18	55.6	161.2	4.3	L	NEAR E COAST KAMCHATKA
0011	01/04	05.08.46	22.4	122.0	4.8	P	TAIWAN REGION
0012	01/04	10.42.31	55.6	163.8	4.4	L	OFF E COAST KAMCHATKA
0013	01/04	12.15.17	22.4	122.2	4.8	P	TAIWAN
0014	01/04	12.16.39	37.4	129.2	3.9	L	S KOREA
0015	01/04	13.13.01	60.0	101.7	3.8	L	CENTRAL RUSSIA
0016	01/05	02.16.10	43.8	147.2	4.5	P	KURIL IS
0017	01/05	04.57.41	47.8	16.2	4.0	P	AUSTRIA
0018	01/05	12.02.54	37.8	73.1	4.5	L	TADZHIK SSR
0019	01/05	14.26.48	56.6	169.4	4.0	L	KOMANDORSKY IS
0020	01/05	16.09.50	57.3	160.5	3.9	L	KAMCHATKA
0021	01/06	06.30.36	40.7	72.4	4.7	P	KIRGIZ SSR
0022	01/06	06.33.34	23.3	123.4	4.7	P	TAIWAN
0023	01/06	09.41.33	30.3	50.5	5.2	P	IRAN
0024	01/07	08.04.05	37.0	72.0	3.9	N	AFGHANISTAN USSR BORDER
0025	01/07	20.37.32	44.1	45.1	4.2	L	SW RUSSIA
0026	01/08	05.35.42	22.0	119.0	4.7	N	TAIWAN REGION
0027	01/08	14.32.27	23.0	119.0	4.6	N	TAIWAN REGION
0028	01/09	03.23.06	54.4	164.4	3.6	L	KOMANDORSKY
0029	01/09	14.00.59	55.7	163.6	4.3	L	OFF E COAST KAMCHATKA
0030	01/09	14.47.46	45.1	148.4	3.8	L	KURIL IS
0031	01/10	05.23.52	20.9	120.4	5.0	P	PHILIPINE ISLANDS
0032	01/10	13.56.55	55.7	163.7	4.4	P	OFF E COAST KAMCHATKA
0033	01/11	08.54.34	54.7	168.2	3.9	L	KOMANDORSKY
0034	01/11	15.46.45	43.4	147.8	4.0	L	KURIL IS
0035	01/12	06.36.28	37.7	30.0	4.4	L	TURKEY
0036	01/12	13.51.20	35.0	23.5	4.9	P	CRETE
0037	01/12	20.20.15	55.6	163.9	4.8	P	OFF E COAST KAMCHATKA
0038	01/12	20.27.39	55.5	163.6	4.0	L	OFF E COAST KAMCHATKA
0039	01/13	17.24.07	61.9	147.1	5.3	P	E SIBERIA
0040	01/14	03.20.20	67.5	171.5	3.9	P	CHUKCHI SEA
0041	01/14	22.10.04	32.8	46.9	5.1	P	IRAN-IRAQ BORDER REGION
0042	01/15	00.58.33	49.6	155.0	3.9	L	KURIL IS
0043	01/15	18.07.58	57.4	120.7	4.7	P	E RUSSIA
0044	01/15	20.21.50	40.3	79.0	5.4	P	S. SINKIANG PROVINCE
0045	01/15	20.45.22	39.3	79.9	4.6	L	S SINKIANG PROV
0046	01/15	04.38.16	55.6	162.5	3.8	L	NEAR E COAST KAMCHATKA
0047	01/16	11.00.49	55.6	163.2	3.9	L	OFF E COAST KAMCHATKA
0048	01/17	05.54.20	34.5	26.5	4.1	L	CRETE

TABLE II-4 (PAGE 2 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0049	01/18	14.02.01	44.6	149.1	4.5	P	KURIL IS REGION
0050	01/18	21.12.02	37.5	48.7	4.9	P	NW IRAN
0051	01/18	23.26.12	44.2	8.2	4.1	P	N ITALY
0052	01/20	02.15.07	36.6	27.1	4.8	P	DODECANESE ISLANDS
0053	01/21	23.30.46	43.2	45.3	3.8	L	E CAUCASUS
0054	01/22	01.41.24	50.0	152.0	4.2	N	NW KURIL IS
0055	01/22	17.17.31	37.6	29.9	4.4	P	TURKEY
0056	01/23	08.30.47	52.0	158.0	4.2	N	NE COAST KAMCHATKA
0057	01/24	05.00.37	55.8	162.6	4.0	L	NEAR E COAST KAMCHATKA
0058	01/24	12.39.29	51.7	158.0	4.0	L	NEAR E COAST KAMCHATKA
0059	01/25	10.02.40	53.9	160.9	4.6	P	NEAR E COAST KAMCHATKA
0060	01/25	20.24.39	43.8	13.4	4.5	P	CENTRAL ITALY
0061	01/25	21.03.00	22.5	122.2	4.8	P	TAIWAN
0062	01/25	23.00.39	22.3	122.4	4.6	P	TAIWAN REGION
0063	01/25	23.22.17	43.8	13.4	4.8	P	CENTRAL ITALY
0064	01/26	04.34.27	54.0	156.9	4.1	L	KAMCHATKA
0065	01/26	09.14.16	55.8	164.7	3.8	L	KOMANDORSKY
0066	01/26	09.20.17	48.9	155.9	4.1	L	KURILE IS
0067	01/26	12.11.11	47.1	141.5	3.2	L	SAKHALIN
0068	01/26	12.54.39	34.5	25.5	4.0	L	CRETE
0069	01/26	15.56.27	48.9	155.9	4.8	L	KURILE IS
0070	01/27	14.06.46	55.4	163.6	3.8	L	OFF E COAST KAMCHATKA
0071	01/27	20.37.28	55.7	162.3	3.8	L	NEAR E COAST KAMCHATKA
0072	01/28	04.22.28	27.5	126.5	4.4	L	E CHINA SEA
0073	01/28	10.26.54	26.6	66.3	5.9	P	WEST PAKISTAN
0074	01/28	13.37.28	15.0	47.0	4.0	N	W ARABIAN PENINSULA
0075	01/28	20.29.09	40.8	81.4	4.5	L	S SINKIANG PROV
0076	01/28	20.29.19	43.0	78.0	4.4	N	KIRGIZ PROV
0077	01/28	21.54.04	45.0	136.0	4.0	N	NEAR E COAST OF E RUSSIA
0078	01/28	23.42.51	49.3	157.3	3.9	L	KURIL IS REGION
0079	01/29	06.49.11	32.9	76.0	4.7	P	KASHMIR-INDIA REGION
0080	01/29	09.50.58	29.0	62.0	3.9	N	S. IRAN
0081	01/30	03.56.41	40.9	120.2	3.9	L	NE CHINA
0082	02/01	10.16.09	55.8	162.8	4.1	L	E. COAST KAMCHATKA
0083	02/01	17.06.25	59.3	155.7	3.6	L	EASTERN SIBERIA
0084	02/02	04.26.59	55.7	162.0	3.7	L	EAST COAST OF KAMCHATKA
0085	02/02	09.58.51	46.8	146.4	3.6	L	NW KURIL IS
0086	02/02	17.56.39	50.7	160.1	3.6	L	KURIL IS
0087	02/02	21.19.49	38.9	21.2	4.6	P	GREECE
0088	02/03	02.29.22	40.7	48.4	5.1	P	E CAUCASUS
0089	02/03	07.22.49	23.4	102.4	4.5	P	YUANNAN PROVINCE8 CHINA
0090	02/04	02.42.19	43.8	13.3	4.8	P	CENTRAL ITALY
0091	02/04	03.34.56	51.4	118.0	4.2	L	E LAKE BAIKAL
0092	02/04	04.40.50	43.9	13.2	4.8	P	CENTRAL ITALY
0093	02/04	07.51.14	48.3	154.2	4.8	L	KURIL IS
0094	02/04	09.18.32	43.9	13.2	4.4	P	CENTRAL ITALY
0095	02/04	14.08.22	30.4	84.6	5.2	P	TIBET
0096	02/04	16.33.24	14.0	51.0	4.5	N	EAST ARABIAN PENINSULA

TABLE II-4 (PAGE 3 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0097	02/04	17.19.52	43.9	13.3	4.4	P	CENTRAL ITALY
0098	02/04	18.17.30	43.8	13.4	4.8	P	CENTRAL ITALY
0099	02/04	19.02.56	43.9	13.3	4.8	P	CENTRAL ITALY
0100	02/04	19.03.08	45.1	13.2	3.6	L	NORTHERN ITALY
0101	02/05	01.26.23	43.8	13.3	4.8	P	CENTRAL ITALY
0102	02/05	03.49.45	43.2	13.7	4.4	P	CENTRAL ITALY
0103	02/05	05.05.51	43.7	13.5	4.6	P	CENTRAL ITALY
0104	02/05	07.08.13	43.9	13.3	4.7	P	CENTRAL ITALY
0105	02/05	15.14.48	43.7	13.4	4.7	P	CENTRAL ITALY
0106	02/06	01.34.22	44.0	13.2	4.9	P	ADRIATIC SEA
0107	02/06	04.29.05	29.0	89.0	4.1	N	TIBET
0108	02/06	07.30.11	41.6	82.2	4.7	P	S SINKIANG PROV. CHINA
0109	02/06	08.03.43	46.0	80.0	4.3	N	EASTERN KAZKH
0110	02/06	21.44.29	43.8	13.2	4.4	P	CENTRAL ITALY
0111	02/07	07.49.48	52.3	160.1	4.8	P	OFF E COAST OF KAMCHATKA
0112	02/08	03.37.52	19.3	122.0	5.7	P	PHILIPPINE ISLANDS
0113	02/08	12.19.15	43.8	13.3	4.6	P	CENTRAL ITALY
0114	02/08	15.42.55	22.7	122.6	4.8	P	TAIWAN REGION
0115	02/09	14.21.51	29.4	50.8	4.3	P	SOUTHERN IRAN
0116	02/10	05.02.57	50.0	78.9	5.5	P	EASTERN KAZAKH SSR
0117	02/10	06.49.16	29.7	50.9	4.5	P	SOUTHERN IRAN
0118	02/10	09.04.09	29.6	50.9	3.9	P	SOUTHERN IRAN
0119	02/10	16.40.16	29.5	50.9	4.1	P	SOUTHERN IRAN
0120	02/11	05.55.46	39.9	77.4	4.9	P	SOUTHERN SINKIANG PROV CHINA
0121	02/11	12.20.43	29.0	87.0	4.3	N	TIBET
0122	02/11	13.58.49	55.5	165.2	3.9	L	KORMANDORSKY
0123	02/11	21.36.17	56.1	162.9	4.6	P	NEAR E COAST OF KAMCHATKA
0124	02/13	05.24.57	43.5	147.0	3.8	L	KURIL IS
0125	02/13	13.07.11	37.1	24.0	4.5	P	SOUTHERN GREECE
0126	02/13	22.36.54	55.2	165.5	3.9	L	KORMANDORSKY
0127	02/15	16.45.22	45.0	153.0	4.1	L	KURIL IS
0128	02/16	00.42.24	36.9	24.2	4.5	P	SOUTHERN GREECE
0129	02/16	23.19.20	41.7	80.7	4.8	P	SOUTHERN SINKIANG PROV. CHINA
0130	02/18	14.30.23	46.6	151.0	3.7	L	KURIL IS
0131	02/18	18.02.34	43.6	147.8	4.7	P	KURIL IS
0132	02/19	06.48.12	55.1	161.5	4.0	L	NEAR EAST COAST KAMCHATKA
0133	02/19	13.19.25	44.4	149.1	5.2	P	KURIL IS.
0134	02/19	13.54.46	44.6	149.1	5.4	P	KURIL IS.
0135	02/20	05.09.15	30.7	73.1	3.9	I	INDIA WEST PAKISTAN BORDER
0136	02/20	10.08.47	47.9	145.9	4.2	I	SEA OF OKHOTSK (D=397 KM)
0137	02/20	10.22.46	38.5	90.5	3.9	I	S. SINKIANG PROV. (D=16KM)
0138	02/20	20.06.11	50.8	141.5	4.1	I	SAKHALIN ISLAND
0139	02/21	22.00.59	54.4	161.3	4.8	I	NEAR E COAST KAMCHATKA
0140	02/21	23.02.56	41.0	22.3	4.0	I	YUGOSLAVIA
0141	02/22	01.14.48	36.4	70.6	5.3	I	HINDU KUSH REGION (D=212 KM)
0142	02/22	01.53.36	49.0	115.0	4.1	I	USSR MONGOLIA BORDER
0143	02/22	03.38.29	56.0	156.0	3.4	I	KAMCHATKA
0144	02/22	08.14.26	36.6	68.6	4.0	I	HINDU KUSH REGION

TABLE II-4 (PAGE 4 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0145	02/23	03.07.04	43.7	148.4	4.8	I	KURILE IS REGION (D=41 KM)
0146	02/23	03.21.31	44.2	148.4	4.7	I	KURILE ISLANDS (D=40 KM)
0147	02/23	03.42.41	43.9	148.3	4.9	I	KURILE IS REGION (D=39 KM)
0148	02/23	05.11.09	45.0	150.0	3.7	I	KURILE IS
0149	02/23	09.46.50	86.0	139.0	3.7	I	LOMONOSOV RIDGE
0150	02/23	12.55.32	36.8	71.5	3.8	I	AFGHAN-USSR BORDER (D=177 KM)
0151	02/23	14.00.49	38.1	71.7	4.3	I	AFGHAN-USSR BORDER
0152	02/23	19.37.29	55.0	163.0	3.7	I	OFF E COAST KAMCHATKA
0153	02/24	00.38.00	54.0	156.0	4.5	I	KAMCHATKA
0154	02/24	01.50.05	52.0	139.0	3.7	I	NEAR EAST COAST OF SIBERIA
0155	02/24	10.14.02	46.9	153.8	3.7	I	KURILE ISLANDS
0156	02/24	10.19.37	48.8	155.7	5.0	I	KURILE ISLANDS
0157	02/24	10.26.51	49.0	155.0	3.6	I	KURILE IS
0158	02/24	10.39.23	52.3	161.9	4.3	I	OEC KAMCHATKA
0159	02/24	12.17.39	52.0	150.0	3.8	I	SEA OF OKHOTSK
0160	02/24	12.24.54	49.0	155.0	3.7	I	KURILE IS
0161	02/24	18.17.34	49.0	158.0	3.5	I	KURILE IS REGION
0162	02/25	19.59.29	46.0	147.0	3.8	I	NW OF KURILE IS
0163	02/25	22.34.49	50.0	38.0	3.7	I	W RUSSIA
0164	02/25	22.43.07	49.2	156.0	4.0	I	KURILE ISLANDS
0165	02/26	02.12.57	49.2	156.2	4.9	I	KURILE ISLANDS
0166	02/26	02.11.46	31.2	69.2	3.8	I	WEST PAKISTAN
0167	02/26	05.58.22	46.8	152.6	4.9	I	KURILE ISLANDS
0168	02/26	09.04.32	55.0	162.0	3.3	I	NEAR E COAST KAMCHATKA
0169	02/26	15.06.42	53.3	138.7	3.8	I	NEAR EAST COAST OF SIBERIA
0170	02/26	18.32.26	51.0	149.0	4.0	I	SEA OF OKHOTSK
0171	02/26	18.56.13	27.1	100.9	4.7	I	YUNNAN PROV., CHINA
0172	02/26	23.31.10	50.6	97.3	5.3	I	USSR-MONGOLIA BORDER
0173	02/27	08.42.59	88.0	-74.0	3.3	I	LOMONOSOV RIDGE
0174	02/27	08.48.08	89.0	15.0	3.3	I	LOMONOSOV RIDGE
0175	02/27	10.03.03	87.0	53.5	4.9	I	N. OF FRANZ JOSEF LAND
0176	02/27	10.08.16	76.0	119.0	4.1	I	LAPTEV SEA
0177	02/27	11.03.19	90.0	-95.0	3.5	I	LOMONOSOV RIDGE
0178	02/27	14.58.33	52.0	156.7	4.5	I	KAMCHATKA (D=66 KM)
0179	02/27	17.50.25	86.2	77.2	4.4	I	N. OF SEVERNAYA ZEMLYA
0180	02/27	19.57.43	26.3	121.0	4.0	I	TAWIAN REGION
0181	02/27	22.15.03	55.0	93.2	4.5	I	CENTRAL RUSSIA
0182	02/28	01.04.22	46.0	148.0	4.2	I	NW OF KURILE IS
0183	02/28	05.18.56	36.7	71.4	4.2	I	AFGHAN-USSR BORDER
0184	02/28	11.35.31	56.0	163.0	4.1	I	NEAR EAST COAST OF KAMCHATKA
0185	02/28	14.49.55	54.1	160.7	3.3	I	NEC KAMCHATKA
0186	02/28	15.44.20	51.9	90.2	3.9	I	CENTRAL RUSSIA
0187	02/28	16.24.08	31.8	50.1	3.6	I	IRAN
0188	02/28	16.26.57	31.8	50.1	3.7	I	IRAN
0189	02/28	16.44.58	29.5	50.7	4.4	I	SOUTHERN IRAN (D=55 KM)
0190	02/28	17.22.55	31.2	50.1	4.2	I	IRAN
0191	02/28	17.32.29	43.4	132.2	4.5	I	NEC EASTERN RUSSIA (D=457 KM)
0192	02/28	18.08.52	31.2	48.6	3.8	I	W IRAN

TABLE II-4 (PAGE 5 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0193	02/28	18.12.35	36.0	68.7	4.4	I	HINDU KUSH
0194	02/28	18.44.54	29.8	50.7	4.7	I	SOUTHERN IRAN (D=25 KM)
0195	02/28	18.47.45	27.2	53.5	3.9	I	S IRAN
0196	02/28	18.59.55	30.3	50.1	3.7	I	IRAN
0197	02/28	19.02.50	34.2	47.4	3.9	I	W IRAN
0198	02/28	19.04.08	32.3	50.4	3.4	I	IRAN
0199	02/28	19.04.57	32.3	50.4	3.3	I	IRAN
0200	02/28	19.06.57	28.2	51.2	4.4	I	SOUTHERN IRAN
0201	02/28	19.22.14	31.9	50.4	3.6	I	IRAN
0202	02/28	19.28.48	31.2	51.1	3.7	I	IRAN
0203	02/28	19.29.00	33.7	48.4	3.8	I	WESTERN IRAN
0204	02/28	19.32.19	31.3	49.7	4.2	I	WESTERN IRAN
0205	02/28	20.04.00	56.1	164.2	3.6	I	KOMANDORSKY ISLANDS
0206	02/28	23.01.26	29.8	50.4	4.2	I	SOUTHERN IRAN
0207	02/28	23.06.24	30.0	52.2	4.0	I	IRAN
0208	02/28	23.30.24	29.2	50.5	4.1	I	SOUTHERN IRAN
0209	02/28	23.38.33	27.9	56.8	3.7	I	SOUTHERN IRAN
0210	02/29	08.02.51	32.8	46.6	4.0	I	IRAN-IRAQ BORDER
0211	02/29	08.07.20	89.0	-51.0	3.4	I	LOMONOSOV RIDGE
0212	02/29	10.47.19	56.0	164.0	4.2	I	KOMANDORSKY IS REGION
0213	02/29	11.22.49	29.1	49.7	4.0	I	PERSIAN GULF
0214	02/29	19.47.58	39.0	74.0	4.0	I	S SINKIANG PROV
0215	02/29	23.42.40	55.6	163.2	4.1	I	OFC KAMCHATKA
0216	03/01	04.26.46	53.0	160.0	3.7	I	NEAR E COAST KAMCHATKA
0217	03/01	05.06.22	27.0	89.0	3.9	I	BHUTAN
0218	03/01	09.51.19	87.0	99.0	3.7	I	N OF SEVERNAYA ZEMLYA
0219	03/01	10.25.19	55.0	163.0	3.4	I	OFF EAST COAST OF KAMCHATKA
0220	03/01	16.58.59	51.0	162.0	3.5	I	OFF EAST COAST OF KAMCHATKA
0221	03/01	22.30.03	41.6	23.7	3.6	I	GREECE-BULGARIA BORDER
0222	03/02	06.17.29	53.0	167.0	3.6	I	KOMANDORSKY IS REGION
0223	03/02	12.48.48	72.4	3.3	4.5	I	NORWEGIAN SEA
0224	03/02	14.10.13	31.6	42.1	4.0	I	IRAQ
0225	03/02	19.57.42	43.0	76.0	3.5	I	ALMA ATA REGION
0226	03/02	23.09.10	44.9	148.1	4.6	I	KURILE ISLANDS (D=150 KM)
0227	03/03	00.39.23	53.0	159.2	4.1	I	NEC KAMCHATKA
0228	03/03	02.13.11	46.6	150.6	4.6	I	KURILE ISLANDS (D=136 KM)
0229	03/03	05.26.53	77.8	116.7	3.8	I	LAPTEV SEA
0230	03/03	08.13.55	55.8	163.9	4.1	I	OFC KAMCHATKA
0231	03/03	20.39.57	45.4	147.2	4.2	I	KURILE ISLANDS
0232	03/03	21.26.51	44.7	18.4	4.9	I	YUGOSLAVIA (D=32 KM)
0233	03/03	23.10.41	50.2	155.7	4.5	I	KURILE ISLANDS
0234	03/04	02.53.56	45.9	153.3	4.3	I	KURILE ISLANDS
0235	03/04	04.00.09	40.2	79.0	4.5	I	SOUTHERN SINKIANG PROV.
0236	03/04	08.22.16	42.1	83.3	4.4	I	N. SINKIANG PROV.
0237	03/04	14.42.05	41.0	21.0	3.6	I	YUGOSLAVIA
0238	03/04	18.24.11	38.3	74.0	5.1	I	S. SINKIANG PROV. (D=130 KM)
0239	03/04	19.27.57	36.8	71.4	4.0	I	AFGHAN-USSR BORDER (D=227 KM)
0240	03/05	19.07.43	21.0	73.0	4.0	I	INDIA

TABLE II-4 (PAGE 6 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0241	03/06	06.05.08	53.5	160.9	3.9	I	KAMCHATKA
0242	03/06	09.59.09	45.0	150.0	3.7	I	KURILE ISLANDS
0243	03/06	18.50.18	50.2	148.8	5.4	I	SEA OF OKHOTSK (D=592 KM)
0244	03/06	19.13.25	56.0	140.0	4.2	I	SEA OF OKHOTSK
0245	03/06	23.17.53	40.0	103.0	4.5	I	NORTHERN CHINA
0246	03/07	01.14.04	35.0	69.0	4.0	I	HINDU KUSH REGION (D=200 KM)
0247	03/07	05.21.21	43.0	21.0	2.7	I	YUGOSLAVIA
0248	03/07	07.09.49	28.0	56.0	4.0	I	SOUTHERN IRAN
0249	03/07	12.03.00	21.0	90.0	0.0	I	EAST PAKISTAN
0250	03/07	16.46.25	23.3	94.9	4.3	I	BURMA-INDIA BORDER (D=140 KM)
0251	03/08	02.39.11	51.2	151.9	4.2	I	SEA OF OKHOTSK
0252	03/08	03.51.24	49.0	157.0	4.0	I	KURILE IS REGION
0253	03/08	03.55.22	34.0	83.0	3.6	I	TIBET
0254	03/08	15.55.14	48.2	148.2	4.2	I	NW OF KURILE IS. (D=334 KM)
0255	03/08	21.49.11	27.6	56.7	4.9	I	SOUTHERN IRAN (D=45 KM)
0256	03/08	22.04.02	40.8	22.8	3.5	I	BULGARIA
0257	03/09	09.13.56	51.0	157.0	3.3	I	NEAR E COAST OF KAMCHATKA
0258	03/09	23.24.05	47.0	151.0	3.0	I	KURILE IS
0259	03/09	23.46.18	53.0	162.0	3.6	I	OFF E COAST OF KAMCHATKA
0260	03/10	04.56.57	49.8	78.2	5.5	I	EASTERN KAZAKH SSR (D=0KM)
0261	03/10	06.50.18	45.1	149.5	3.7	I	KURILE ISLANDS
0262	03/10	14.36.17	33.8	72.7	4.9	I	WEST PAKISTAN (D=45 KM)
0263	03/10	15.07.30	50.0	11.0	3.8	I	GERMANY
0264	03/10	17.44.32	55.4	164.2	3.8	I	KOMANDORSKY ISLANDS
0265	03/11	03.28.59	38.0	70.0	4.2	I	AFGHANISTAN-USSR BORDER
0266	03/11	06.47.07	82.7	143.3	3.6	I	LOMONOSOV RIDGE
0267	03/11	13.31.39	35.0	76.0	4.1	I	EASTERN KASHMIR
0268	03/12	02.04.21	45.0	155.0	4.1	I	KURILE IS REGION
0269	03/12	02.10.50	56.0	155.0	3.8	I	KAMCHATKA
0270	03/12	17.31.12	27.9	53.4	4.1	I	SOUTHERN IRAN
0271	03/13	02.11.05	49.0	158.0	3.8	I	KURILE IS REGION
0272	03/13	05.49.13	37.0	70.0	4.0	I	AFGHANISTAN USSR BORDER
0273	03/13	09.23.29	39.3	25.6	3.8	I	AEGEAN SEA (D=49 KM)
0274	03/13	13.28.33	54.9	165.6	4.0	I	KOMANDORSKY ISLANDS
0275	03/13	18.27.07	34.0	83.0	4.1	I	TIBET
0276	03/14	00.40.23	17.0	94.0	3.7	I	BURMA
0277	03/14	02.43.37	44.0	-116.0	3.7	I	WESTERN IDAHO
0278	03/14	14.05.46	39.3	29.4	5.4	I	TURKEY
0279	03/14	15.47.51	39.0	126.0	3.7	I	N KOREA
0280	03/15	00.21.25	38.5	72.3	3.7	I	TADZHIK (D=140 KM)
0281	03/15	06.00.33	30.4	84.5	5.3	I	TIBET
0282	03/15	12.08.01	39.0	30.0	3.7	I	TURKEY
0283	03/16	00.04.32	39.0	105.0	3.7	I	NORTHERN CHINA
0284	03/16	00.48.05	25.7	55.7	3.6	I	EASTERN ARABIAN PENINSULA
0285	03/16	02.59.06	33.2	71.0	3.5	I	WEST PAKISTAN
0286	03/16	05.22.59	52.2	152.2	4.5	I	NW OF KURILE IS. (D=435 KM)
0287	03/16	06.35.40	27.2	57.9	3.8	I	SOUTHERN IRAN
0288	03/16	07.52.51	36.4	82.5	3.4	I	SOUTHERN SINKIANG PROV

TABLE II-4 (PAGE 7 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0289	03/16	12.00.08	28.0	96.0	3.6	I	INDIA-CHINA BORDER REGION
0290	03/16	21.11.35	38.0	82.0	3.5	I	SOUTHERN SINKIANG PROV
0291	03/17	00.29.01	32.3	-115.6	4.1	I	CALIF-MEXICO BORDER (D=8 KM)
0292	03/17	07.49.02	49.0	156.2	5.2	I	KURILE ISLANDS
0293	03/17	07.52.33	27.9	54.3	4.0	I	SOUTHERN IRAN
0294	03/17	09.17.11	40.1	69.7	5.2	I	TADZHIK SSR (D=26 KM)
0295	03/17	17.11.28	28.0	54.0	3.9	I	SOUTHERN IRAN
0296	03/17	23.33.37	32.0	75.0	3.5	I	KASHMIR-INDIA BORDER
0297	03/18	00.41.48	46.9	143.7	5.0	I	SAKHALIN ISLAND (D=405 KM)
0298	03/18	07.11.55	47.0	81.0	3.6	I	EASTERN KAZAKH SSR
0299	03/18	13.52.14	57.0	163.0	3.6	I	NEAR E COAST OF KAMCHATKA
0300	03/18	18.29.33	50.6	156.7	4.7	I	KURILE ISLANDS
0301	03/18	19.17.25	54.0	150.0	3.7	I	SEA OF OKHOTSK
0302	03/18	19.54.18	41.0	72.0	3.2	I	KIRGIZ SSR
0303	03/19	03.34.31	42.7	38.1	3.9	I	BLACK SEA
0304	03/19	06.03.23	49.0	159.0	3.6	I	KURILE ISLANDS REGION
0305	03/20	08.04.48	44.0	147.0	4.4	I	KURILE IS
0306	03/20	10.54.35	38.0	73.0	3.9	I	TADZHIK SINKIANG BORDER
0307	03/20	14.08.12	47.0	154.0	4.0	I	KURILE IS
0308	03/20	20.08.31	30.0	61.0	3.4	I	SW AFGHANISTAN
0309	03/20	21.47.55	40.0	80.0	3.4	I	SOUTHERN SINKIANG PROV
0310	06/01	00.18.13	48.0	154.0	3.9	L	KURILE ISLANDS
0311	06/01	01.23.26	52.0	70.0	3.6	L	CENTRAL KAZAKH SSR
0312	06/01	11.22.15	44.0	103.0	3.7	N	MONGOLIA
0313	06/01	13.44.11	39.0	24.0	4.1	L	GREECE
0314	06/01	21.43.49	55.0	164.0	3.8	L	KOMANDORSKY ISLANDS
0315	06/02	00.12.13	30.0	53.0	4.1	N	SOUTHERN IRAN
0316	06/02	01.53.07	50.0	152.0	3.8	L	NW OF KURILE ISLANDS
0317	06/02	04.21.49	42.0	82.0	3.8	N	SOUTHERN SINKIANG
0318	06/02	04.22.16	42.0	82.0	3.7	N	SOUTHERN SINKIANG
0319	06/02	05.11.13	43.0	81.0	3.5	N	KAZAKH-SINKIANG BORDER
0320	06/02	06.30.49	42.0	81.0	3.9	N	SOUTHERN SINKIANG
0321	06/02	16.49.22	36.0	92.0	3.7	N	TSINGHAI PROV., CHINA
0322	06/02	20.32.55	28.4	95.9	4.3	P	CHINA-INDIA BORDER
0323	06/03	02.16.51	23.5	125.5	5.2	P	SW RYUKYU ISLANDS
0324	06/03	08.21.30	29.0	53.0	4.2	N	SOUTHERN IRAN
0325	06/04	03.37.49	30.0	54.0	4.2	N	SOUTHERN IRAN
0326	06/04	07.52.38	53.0	158.0	4.0	L	NEAR E COAST KAMCHATKA
0327	06/04	12.57.33	53.0	169.0	3.4	L	KOMANDORSKY ISLANDS
0328	06/04	13.02.07	54.0	165.0	3.5	L	KOMANDORSKY ISLANDS
0329	06/04	16.29.34	39.4	26.2	4.1	P	TURKEY
0330	06/04	23.22.18	33.0	97.0	3.5	N	TSINGHAI PROV, CHINA
0331	06/05	04.12.54	56.2	163.1	4.3	P	NEAR E COAST KAMCHATKA
0332	06/05	10.44.59	37.8	21.4	4.2	P	SOUTHERN GREECE
0333	06/05	11.17.57	34.0	46.0	3.9	N	IRAN-IRAQ BORDER
0334	06/05	11.52.53	29.8	70.3	4.8	P	PAKISTAN
0335	06/05	19.00.12	86.5	38.9	4.5	L	N. OF FRANZ JOSEF LAND
0336	06/06	02.04.44	44.0	148.0	3.4	L	KURILE ISLANDS

TABLE II-4 (PAGE 8 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	U.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0337	06/06	06.32.10	49.0	155.0	3.6	L	KURILE ISLANDS
0338	06/06	10.43.33	55.9	163.8	4.7	P	OFF E COAST KAMCHATKA
0339	06/07	01.27.57	49.8	78.2	5.5	P	EAST KAZAKH SSR
0340	06/07	06.00.20	56.0	166.0	3.8	L	KOMANDORSKY ISLANDS
0341	06/08	09.14.08	21.1	120.2	5.4	P	TAIWAN
0342	06/08	09.39.21	34.1	46.2	4.9	P	WESTERN IRAN
0343	06/08	10.17.44	21.0	120.2	4.9	P	TAIWAN
0344	06/08	12.46.15	41.0	44.0	4.1	L	TURKEY-USSR BORDER
0345	06/08	16.08.06	19.0	94.0	4.3	N	BURMA
0346	06/08	16.44.24	21.0	120.3	4.7	P	TAIWAN
0347	06/08	17.25.52	43.2	47.2	4.5	P	EASTERN CAUCASUS
0348	06/08	23.10.12	29.5	92.3	4.7	P	TIBET
0349	06/09	00.16.42	47.0	153.0	4.4	L	KURILE ISLANDS
0350	06/09	07.42.20	34.8	26.5	4.9	P	CRETE
0351	06/09	09.45.09	-8.8	-108.3	4.9	P	N. OF EASTER IS. CORDILLERA
0352	06/09	19.42.27	37.0	44.0	4.0	N	TURKEY
0353	06/10	03.39.33	31.0	51.0	3.6	N	IRAN
0354	06/10	11.29.11	28.2	66.5	4.5	P	PAKISTAN
0355	06/10	19.21.53	43.0	150.0	3.7	L	KURILE ISLANDS
0356	06/10	19.31.42	32.9	46.3	4.0	P	IRAN-IRAQ BORDER
0357	06/11	14.14.01	53.0	160.0	3.3	L	NEAR E COAST KAMCHATKA
0358	06/11	23.23.04	48.0	152.0	4.0	L	KURILE ISLANDS
0359	06/11	23.33.44	47.0	152.0	4.3	L	KURILE ISLANDS
0360	06/12	00.19.16	44.0	148.0	3.7	L	KURILE ISLANDS
0361	06/12	13.34.01	33.1	46.3	5.4	P	IRAN-IRAQ BORDER
0362	06/12	13.39.59	33.1	46.2	5.1	P	IRAN-IRAQ BORDER
0363	06/12	22.37.38	53.0	162.0	3.7	L	OFF E COAST KAMCHATKA
0364	06/13	00.55.37	33.1	46.3	5.1	P	IRAN-IRAQ BORDER
0365	06/13	04.53.30	55.0	162.0	3.8	L	NEAR E COAST KAMCHATKA
0366	06/14	00.49.54	40.1	51.9	4.7	P	CASPIAN SEA
0367	06/14	04.34.28	33.0	46.1	5.3	P	IRAN-IRAQ BORDER
0368	06/14	10.27.50	57.0	164.0	3.6	L	KOMANDORSKY ISLANDS
0369	06/14	12.11.28	31.0	52.0	3.5	N	IRAN
0370	06/14	12.35.05	27.0	56.0	3.6	N	SOUTHERN IRAN
0371	06/14	18.55.53	43.7	13.4	4.9	P	CENTRAL ITALY
0372	06/14	21.01.00	43.7	13.5	4.7	P	CENTRAL ITALY
0373	06/15	00.33.24	38.3	22.2	4.9	P	GREECE
0374	06/15	13.49.13	54.0	169.0	3.5	L	KOMANDORSKY ISLANDS
0375	06/15	14.19.02	38.0	28.0	3.3	N	TURKEY
0376	06/16	09.54.41	56.0	161.0	4.1	L	KAMCHATKA
0377	06/16	18.57.52	36.0	69.2	4.5	P	HINDU KUSH
0378	06/16	22.12.12	53.0	157.0	3.6	L	KAMCHATKA
0379	06/16	23.22.27	34.0	46.0	3.7	N	IRAN-IRAQ BORDER
0380	06/17	09.02.48	48.3	14.5	4.6	P	AUSTRIA
0381	06/17	19.18.21	44.2	149.1	4.6	P	KURILE ISLANDS
0382	06/18	04.30.47	33.0	83.0	4.3	N	TIBET
0383	06/18	09.10.54	48.0	154.0	3.9	L	KURILE ISLANDS
0384	06/18	09.18.49	40.0	73.0	4.3	L	TADZHIK-SINKIANG BORDER

TABLE II-4 (PAGE 9 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0385	06/18	22.32.52	39.0	31.0	4.4	L	TURKEY
0386	06/19	01.43.48	54.4	168.6	5.0	P	KOMANDORSKY ISLANDS
0387	06/19	18.02.29	44.0	147.0	4.C	L	KURILE ISLANDS
0388	06/19	18.07.53	43.8	151.5	4.5	P	KURILE ISLANDS
0389	06/19	22.41.42	48.0	157.0	4.1	L	KURILE ISLANDS
0390	06/20	05.17.42	29.0	52.0	4.0	N	SOUTHERN IRAN
0391	06/20	09.18.09	52.0	131.0	3.7	L	EASTERN RUSSIA
0392	06/20	15.34.37	32.C	75.0	3.6	N	KASHMIR-INDIA BORDER
0393	06/21	00.12.58	53.0	161.0	4.3	N	NEAR E COAST KAMCHATKA
0394	06/21	00.19.02	54.0	159.0	3.7	N	NEAR E COAST KAMCHATKA
0395	06/21	05.06.17	40.2	30.0	4.1	P	TURKEY
0396	06/21	10.42.45	54.0	161.0	4.3	L	NEAR E COAST KAMCHATKA
0397	06/21	14.53.09	37.0	41.0	3.8	N	TURKEY
0398	06/21	15.06.53	43.8	13.3	4.4	P	CENTRAL ITALY
0399	06/22	02.35.51	49.0	154.0	4.5	N	KURILE ISLANDS
0400	06/23	04.25.27	41.0	30.0	3.7	L	TURKEY
0401	06/23	07.18.14	37.0	21.0	3.4	N	SOUTHERN GREECE
0402	06/23	08.39.36	32.9	46.2	4.6	P	IRAN-IRAQ BORDER
0403	06/23	16.59.48	37.0	75.0	3.7	N	TADZHIK-SINKIANG
0404	06/24	06.57.02	28.0	54.0	3.5	N	SOUTHERN IRAN
0405	06/24	07.17.56	43.7	16.9	5.3	P	YUGOSLAVIA
0406	06/24	15.29.22	36.2	69.7	6.0	P	HINDU KUSH
0407	06/24	16.14.54	36.0	69.0	3.8	N	HINDU KUSH
0408	06/24	18.53.10	39.0	74.0	3.4	N	TADZHIK-SINKIANG
0409	06/25	04.59.19	44.0	15.8	4.4	P	YUGOSLAVIA
0410	06/25	07.55.45	36.3	69.6	4.7	P	HINDU KUSH
0411	06/25	17.35.50	54.0	160.0	4.1	L	NEAR E COAST KAMCHATKA
0412	06/26	08.08.25	21.1	120.3	5.0	P	TAIWAN
0413	06/26	17.32.32	56.0	158.0	3.6	L	KAMCHATKA
0414	06/26	20.59.03	36.0	69.0	3.7	N	HINDU KUSH
0415	06/27	05.07.42	38.0	65.0	4.0	N	AFGHANISTAN-USSR BORDER
0416	06/27	06.39.44	29.7	70.3	5.5	P	PAKISTAN
0417	06/27	06.49.03	54.0	159.0	3.8	L	NEAR E COAST KAMCHATKA
0418	06/27	09.05.53	26.2	96.6	4.4	P	BURMA
0419	06/27	10.48.56	29.7	70.3	5.4	P	PAKISTAN
0420	06/27	12.20.36	51.0	47.0	3.5	L	WESTERN RUSSIA
0421	06/27	15.59.35	36.3	69.5	5.1	P	HINDU KUSH
0422	06/28	01.43.56	43.0	20.5	4.9	P	YUGOSLAVIA
0423	06/28	03.09.59	33.0	91.0	3.6	N	TSINGHAI PROV., CHINA
0424	06/28	04.48.22	56.0	165.0	4.2	L	KOMANDORSKY ISLANDS
0425	06/28	06.00.22	55.0	164.0	3.4	L	KOMANDORSKY ISLANDS
0426	06/28	08.16.55	35.0	32.0	4.3	N	CYPRUS
0427	06/28	09.49.35	27.6	33.8	5.6	P	UNITED ARAB REPUBLIC
0428	06/28	14.58.49	53.0	161.0	3.9	L	OFF E COAST KAMCHATKA
0429	06/28	20.57.40	30.0	53.0	3.9	N	SOUTHERN IRAN
0430	06/29	00.41.02	54.0	69.0	3.7	L	CENTRAL KAZAKH SSR
0431	06/29	03.32.11	38.9	71.4	4.9	P	AFGHANISTAN-USSR BORDER
0432	06/30	17.49.33	27.2	56.8	4.6	P	SOUTHERN IRAN

TABLE II-4 (PAGE 10 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0433	06/30	18.57.43	24.3	121.1	4.9	P	TAIWAN
0434	06/30	20.31.33	30.0	53.0	4.0	N	SOUTHERN IRAN
0435	07/01	02.10.18	54.0	166.0	3.4	L	KOMANDORSKY ISLANDS
0436	07/02	12.56.07	30.1	50.8	5.4	P	IRAN (D=31 KM)
0437	07/02	14.05.06	30.0	50.8	4.6	P	IRAN (D=31 KM)
0438	07/03	02.10.00	30.1	50.8	5.0	P	IRAN (D=38 KM)
0439	07/03	03.32.50	36.2	71.1	4.3	P	AFGHAN-USSR BORDER (D=128 KM)
0440	07/03	12.31.05	30.0	53.0	4.0	N	SOUTHERN IRAN (Q=3)
0441	07/03	19.26.22	32.0	48.0	4.0	N	IRAN-IRAQ BORDER (Q=3)
0442	07/03	21.38.22	30.0	51.0	5.1	P	IRAN (D=43 KM)
0443	07/04	04.42.34	49.0	156.0	3.7	L	KURILE ISLANDS
0444	07/04	06.17.25	41.0	33.0	3.4	L	TURKEY
0445	07/04	09.28.07	28.0	54.0	3.9	N	SOUTHERN IRAN (Q=2)
0446	07/04	13.52.19	55.0	163.0	4.4	L	NEC KAMCHATKA
0447	07/04	21.47.57	49.0	151.0	3.6	L	KURILE ISLANDS
0448	07/05	01.04.44	28.0	54.0	3.8	N	SOUTHERN IRAN (Q=3)
0449	07/05	01.09.53	44.6	81.1	4.6	P	NORTHERN SINKIANG (D=N)
0450	07/05	02.41.54	44.0	86.0	3.5	N	NORTHERN SINKIANG (Q=3)
0451	07/05	04.09.49	43.6	87.9	4.3	P	NORTHERN SINKIANG (D=N)
0452	07/05	09.59.09	33.0	50.0	3.4	N	IRAN (Q=3)
0453	07/05	16.29.27	31.0	52.0	4.0	N	IRAN (Q=2)
0454	07/05	18.04.54	36.9	21.5	4.7	P	SOUTHERN GREECE (D=17 KM)
0455	07/05	21.41.08	30.0	54.0	4.1	N	SOUTHERN IRAN (Q=2)
0456	07/06	01.02.58	49.7	78.0	4.4	P	E. KAZAKH SSR (D=0 KM)
0457	07/06	05.41.43	27.0	55.0	3.1	N	SOUTHERN IRAN (Q=3)
0458	07/06	16.05.32	30.2	69.7	4.3	P	WEST PAKISTAN (D=53 KM)
0459	07/06	19.02.20	44.0	146.0	3.9	N	KURILE ISLANDS (Q=2)
0460	07/07	05.13.06	56.0	163.0	3.7	L	NEC KAMCHATKA
0461	07/07	12.04.12	20.5	98.1	5.0	P	BURMA (D=27 KM)
0462	07/07	23.43.41	32.0	102.0	3.7	N	SZECHWAN PROV. (Q=3)
0463	07/08	05.46.14	41.6	23.6	4.7	P	GREECE-BULGARIA BOR. (D=28)
0464	07/08	08.29.27	46.1	154.6	4.9	P	KURILE ISLANDS (D=N)
0465	07/08	21.07.27	48.0	151.0	4.2	L	KURILE ISLANDS
0466	07/09	13.21.22	36.0	19.0	4.0	L	MEDITERRANEAN SEA
0467	07/10	00.41.23	28.0	130.6	4.1	P	RYUKYU IS. REG. (D=30 KM)
0468	07/10	03.02.02	30.0	129.0	3.8	N	RYUKYU ISLANDS (Q=3)
0469	07/10	12.26.31	53.6	161.7	4.1	P	OEC KAMCHATKA (D=N)
0470	07/10	19.03.33	43.4	88.6	4.7	P	NORTHERN SINKIANG (D=N)
0471	07/11	04.20.41	37.0	72.0	4.2	L	AFGHANISTAN-USSR BORDER
0472	07/11	06.58.21	48.4	154.5	5.2	P	KURILE ISLANDS (D=62 KM)
0473	07/11	08.53.49	55.0	163.0	3.6	L	NEC KAMCHATKA
0474	07/11	15.33.48	32.0	60.0	3.7	N	IRAN (Q=3)
0475	07/11	22.49.02	36.1	45.7	4.7	P	IRAN-IRAQ BORDER (D=N)
0476	07/12	00.14.27	49.3	155.4	5.2	P	KURILE ISLANDS (D=N)
0477	07/12	01.21.18	33.0	73.0	3.5	N	PAKISTAN (Q=3)
0478	07/12	14.25.30	55.0	168.0	4.0	N	KOMANDORSKY ISLANDS (Q=2)
0479	07/12	19.41.48	37.3	21.9	4.1	P	SOUTHERN GREECE (D=92 KM)
0480	07/12	20.14.51	49.0	154.0	3.7	L	KURILE ISLANDS

TABLE II-4 (PAGE 11 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0481	07/13	05.27.44	31.0	89.0	3.9	N	TIBET (Q=2)
0482	07/13	15.05.44	44.0	150.0	4.2	N	KURILE ISLANDS REGION (Q=2)
0483	07/13	18.50.53	28.0	63.0	3.7	N	WEST PAKISTAN (Q=2)
0484	07/13	22.21.17	43.8	13.3	4.4	P	CENTRAL ITALY (D=N)
0485	07/13	23.02.25	22.0	123.0	3.8	N	TAIWAN REGION (Q=3)
0486	07/14	04.33.45	36.0	31.0	3.9	N	TURKEY (Q=2)
0487	07/14	13.04.12	30.1	50.8	4.4	P	IRAN (D=34 KM)
0488	07/14	13.18.11	30.0	51.0	3.9	N	IRAN (Q=2)
0489	07/14	17.40.13	30.0	51.0	3.4	N	IRAN (Q=2)
0490	07/14	18.50.33	30.0	132.0	3.9	L	RYUKYU ISLANDS REGION
0491	07/15	00.35.52	43.0	78.0	3.8	N	KIRGIZ SSR (Q=2)
0492	07/15	02.15.42	24.2	125.1	5.1	P	SW RYUKYU ISLANDS (D=29 KM)
0493	07/15	09.51.51	47.0	152.0	4.4	L	KURILE ISLANDS
0494	07/15	13.50.04	53.0	157.0	3.7	L	KAMCHATKA
0495	07/15	17.25.37	46.0	149.0	3.5	L	KURILE ISLANDS
0496	07/16	02.20.24	32.5	95.9	5.2	P	TIBET (D=N)
0497	07/16	02.46.51	38.3	43.3	4.9	P	TURKEY (D=40 KM)
0498	07/16	03.40.00	32.6	95.8	4.7	P	TIBET (D=N)
0499	07/16	13.48.05	23.7	121.3	4.6	P	TAIWAN (D=N)
0500	07/16	17.28.03	44.0	150.0	3.7	L	KURILE ISLANDS
0501	07/16	20.04.04	54.4	162.9	4.2	P	NEC KAMCHATKA (D=N)
0502	07/16	22.41.59	27.0	101.0	3.9	N	YUNNAN PROV. (Q=2)
0503	07/17	01.17.26	51.0	158.0	4.2	L	NEC KAMCHATKA
0504	07/17	03.14.05	34.0	30.0	3.9	L	EASTERN MEDITERRANEAN SEA
0505	07/17	08.28.52	55.0	159.6	5.3	P	KAMCHATKA (D=N)
0506	07/17	11.11.46	57.0	162.0	3.3	L	NEC KAMCHATKA
0507	07/17	16.15.28	35.0	22.0	3.4	N	MEDITERRANEAN SEA (Q=3)
0508	07/17	17.02.48	43.0	149.0	4.1	L	KURILE ISLANDS REGION
0509	07/17	20.50.54	55.1	159.5	4.5	P	KAMCHATKA (D=N)
0510	07/18	03.27.07	39.0	77.0	4.0	N	SOUTH SINKIANG (Q=1)
0511	07/18	06.04.53	51.0	66.0	3.7	L	CENTRAL KAZAKH SSR
0512	07/18	13.45.48	41.6	23.8	4.0	P	GREECE-BULGARIA BORDER (D=N)
0513	07/18	22.06.50	45.0	148.0	5.0	P	KURILE ISLANDS
0514	07/19	10.26.48	52.0	162.0	4.2	L	OEC KAMCHATKA
0515	07/19	12.02.50	56.0	157.0	4.3	L	KAMCHATKA
0516	07/19	19.43.40	38.0	70.0	3.6	N	AFGHAN.-USSR BORDER (Q=3)
0517	07/20	10.04.18	28.0	91.0	3.9	N	TIBET (Q=2)
0518	07/20	13.58.43	36.0	55.0	4.3	N	IRAN (Q=2)
0519	07/21	14.07.08	37.5	73.0	4.1	P	TADZHIK SSR (D=197 KM)
0520	07/21	16.11.33	28.8	102.3	4.8	P	SZECHWAN PROV., CHINA (D=N)
0521	07/22	05.10.40	44.9	36.9	4.6	P	CRIMEA (D=N)
0522	07/22	16.41.04	31.4	91.5	5.5	P	TIBET (D=N)
0523	07/22	21.00.09	31.4	91.4	4.7	P	TIBET (D=N)
0524	07/23	18.17.25	33.0	24.0	3.9	L	MEDITERRANEAN SEA
0525	07/23	23.41.55	31.0	91.0	3.6	N	TIBET (Q=2)
0526	07/24	10.14.35	58.0	159.0	3.7	L	KAMCHATKA
0527	07/24	10.22.23	39.4	40.1	4.4	P	TURKEY (D=N)
0528	07/24	13.09.26	58.0	162.0	4.0	L	KAMCHATKA

TABLE II-4 (PAGE 12 OF 12)

EVENT LIST 1 JAN 72 THROUGH 31 JUL 72

EVENT NO.	DATE	O.T.	COORDINATES LAT	LONG	MB		SEISMIC AREA
0529	07/24	14.58.14	35.8	80.6	4.8	P	KASHMIR-TIBET BORDER (D=N)
0530	07/25	01.56.07	38.7	21.4	4.5	P	GREECE (D=45 KM)
0531	07/26	02.26.08	45.2	150.7	4.3	P	KURILE ISLANDS (D=89 KM)
0532	07/26	18.57.25	40.0	47.0	4.0	N	EASTERN CAUCASUS (Q=3)
0533	07/27	00.08.46	43.6	13.4	4.4	P	CENTRAL ITALY (D=N)
0534	07/27	00.20.55	50.0	159.1	5.1	P	KURILE ISLANDS (D=N)
0535	07/27	16.41.30	25.4	130.5	5.1	P	RYUKYU IS. REG. (D=N)
0536	07/28	05.50.29	42.0	81.0	4.3	L	SOUTHERN SINKIANG PROV.
0537	07/29	08.22.17	37.0	29.0	3.8	L	DODECANESE ISLANDS
0538	07/29	17.10.35	32.0	68.0	3.8	N	AFGHANISTAN (Q=2)
0539	07/29	21.07.16	49.2	156.2	4.8	P	KURILE ISLANDS (D=N)
0540	07/30	01.30.09	39.9	24.2	4.4	P	AEGEAN SEA (D=N)
0541	07/30	03.01.07	49.2	156.2	5.1	P	KURILE ISLANDS (D=45 KM)
0542	07/30	11.41.01	41.0	70.0	4.0	N	TADZHIK SSR (Q=2)
0543	07/30	16.00.03	21.2	121.3	4.9	P	TAIWAN REGION (D=N)
0544	07/30	19.00.54	30.0	101.0	3.5	N	SZECHWAN PROV. (Q=2)
0545	07/30	19.46.24	41.0	27.0	3.6	L	TURKEY
0546	07/31	06.40.28	56.2	162.9	4.8	P	NEC KAMCHATKA (D=N)
0547	07/31	17.04.47	23.7	121.6	4.6	P	TAIWAN (D=24 KM)
0548	07/31	21.01.25	31.0	52.0	3.6	N	IRAN (Q=3)

Abbreviations:

I = ISM

L = LASA

N = NORSAR

P = PDE

m_b, the seismic region, and a code indicating the source list for the event. (Three events, numbers 277, 291 and 351 from Western Idaho, California-Mexico border, and Easter Island region were inadvertently included in the list, and were processed and analyzed along with the 545 Eurasian events.

An important statistic, concerning any experimental network such as the VLPE and its data analyses, is the amount of data which is available and usable. From Tables II-2 and II-3, we show that only about 50% of the expected data for the two time periods were available and usable.

The detection capability based on the presence of Love waves was not attempted. Erratic static gains were encountered from time to time on the horizontal components at virtually all of the stations. However, Love wave amplitudes were measured when possible.

B. STATION CALIBRATIONS

The instrument calibration and system response data was supplied by Lamont Doherty Geological Observatory in 1971. These data are shown for all of the VLPE stations in Appendix A. In the spring of 1972, the Albuquerque Seismological Center, Environmental Research Laboratories of NOAA, became responsible for monitoring the VLPE stations. They have indicated that more recent calibration data will be available in the near future.

SECTION III
SIGNAL ANALYSIS

A. SIGNAL PROCESSING

In order to evaluate the capability of each station to detect and discriminate by surface waves (both Rayleigh and Love), the horizontal instruments were rotated analytically to form vertical, transverse, and radial components. At each station the horizontal seismograms were rotated assuming that the system responses of the horizontal seismometers were matched. This was true at most of the stations, but not all (see Appendix A), hence some of the rotations contain this source of error. Furthermore, it is well known that lateral structural variations along the propagation path can cause large deviations in the expected direction of arriving surface waves (Evernden 1953, 1954). These path effects can result in greater inaccuracies than those due to errors in the rotation process.

The seismograms were filtered in the frequency domain with a filter having a passband of 18 to 42 second periods, and then transformed to the time domain for visual analysis that included detection of surface wave phases and amplitude and period measurements. The selection of the passband filter was based on a period range of interest of 20 to 40 seconds and the high noise level for periods outside this range (hence the choice of 18 to 42 seconds). From noise studies of the VLPE sites (Benno (1972), Savino, et al (1972), Alsup and Becker (1973)), it has been shown that the noise level outside the 20-40 second passband is, on the average, 10 db higher than the noise level within the passband. On this basis, we have observational evidence to support the choice of the 18 to 42 second passband filter.

B. CRITERIA FOR PICKING SIGNALS

The estimated detection capabilities of the VLPE stations depend upon the judgment of the analyst. Therefore, it is important to state objectively the criteria used for determining the presence or absence of long-period surface waves. The criteria are as follows:

- Dispersion of the waveform is clearly visible.
- The dispersed wave falls within the expected signal group velocity window.
- The noise field, either before and/or after the proper group velocity window contains no other dispersed waveforms.

In practice, ambiguities occurred when one or more dispersed signals apparently arrive adjacent to or overlapping onto either end of the expected signal velocity window. When these situations occurred, all epicenter source reports, location determinations, and magnitudes, were reviewed in an attempt to resolve which signal was the expected one. If the problem was resolved in favor of the expected signal, a detection was indicated, but with an additional comment; the presence of mixed event signals. If the problem was not resolved, the signal was recorded as a mixed event signal.

Tables III-1 through III-6 list the results of the analysis for all of the processed events at each station for the time period of January 1 through March 20, 1972. Tables III-7 through III-13 list similar results for June 1 through July 31, 1972. These tables include epicenter-station distance (degrees), m_b, M_s at 20 seconds period, M_s at 30 seconds period, M_s at 40 seconds period when possible, Love wave/Rayleigh wave amplitude ratios when possible, and appropriate comments in the "comment" column. The first two numbers in this column are comment key numbers, and the third column is reserved for future use. The keys are as follows:

TABLE III-1 (PAGE 1 OF 5)

CHG 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
1	56.5	4.10	3.85	3.55	2.81	2.90	100
2	54.7	4.60	0.0	0.0	0.0	0.0	200
3	54.9	4.00	0.0	0.0	0.0	0.0	200
4	47.3	4.00	0.0	0.0	0.0	0.0	200
5	69.5	4.20	0.0	0.0	0.0	0.0	200
6	26.1	5.20	4.23	3.32	3.05	4.47	100
7	57.1	4.80	3.84	0.0	0.0	0.43	100
8	57.0	4.50	0.0	0.0	0.0	0.0	300
9	46.2	3.40	0.0	0.0	0.0	0.0	500
10	59.0	4.30	0.0	0.0	0.0	0.0	500
11	21.8	4.80	0.0	0.0	0.0	0.0	200
12	60.5	4.40	0.0	0.0	0.0	0.0	200
13	22.0	*4.60	4.60	3.27	2.98	1.34	100
14	32.3	3.90	4.23	4.38	3.40	0.78	100
15	41.3	3.80	0.0	0.0	0.0	0.0	200
16	47.3	4.50	0.0	0.0	0.0	0.0	200
17	71.4	4.00	0.0	0.0	0.0	0.0	200
18	29.5	4.50	0.0	0.0	0.0	0.0	200
19	63.7	4.00	3.89	3.39	0.0	1.50	100
20	59.0	3.90	0.0	0.0	0.0	0.0	200
21	31.6	4.70	3.51	0.0	0.0	3.98	100
22	23.2	4.70	3.65	3.18	0.0	4.72	100
23	45.2	5.20	3.14	0.0	0.0	3.97	100
24	29.8	3.90	0.0	0.0	0.0	0.0	200
25	51.3	4.20	2.81	0.0	0.0	0.0	600
26	19.0	4.70	5.46	3.93	0.0	1.24	100
27	19.2	4.60	4.76	4.09	4.11	1.05	100
28	60.6	3.60	0.0	0.0	0.0	0.0	300
29	60.4	4.30	3.56	0.0	0.0	2.86	100
30	48.5	3.80	0.0	0.0	0.0	0.0	200
31	20.3	5.00	4.16	4.16	3.78	1.00	100
32	60.4	4.40	0.0	0.0	0.0	0.0	200
33	62.8	3.90	0.0	0.0	0.0	0.0	200
34	47.6	4.00	3.93	0.0	0.0	0.0	100
35	62.2	4.40	0.0	2.65	0.0	0.0	100
36	67.7	4.90	3.93	4.14	3.93	2.32	100
37	60.5	4.80	4.10	0.0	3.58	0.60	100
38	60.3	4.00	4.23	0.0	3.56	0.98	100
39	54.4	5.30	5.05	4.68	4.17	6.40	100
40	66.0	3.90	3.48	0.0	0.0	5.99	300
41	48.4	5.10	0.0	3.59	2.90	2.44	100
42	54.0	3.90	0.0	0.0	0.0	0.0	200
43	41.8	4.70	3.19	0.0	0.0	5.06	100
44	27.5	5.40	0.0	0.0	0.0	0.0	300
45	26.3	4.60	0.0	0.0	0.0	0.0	300
46	59.7	3.80	0.0	0.0	0.0	0.0	200
47	60.1	3.90	0.0	0.0	0.0	0.0	200
48	65.3	4.10	0.0	0.0	0.0	0.0	200
49	48.8	4.80	0.0	0.0	0.0	0.0	200

TABLE III-1 (PAGE 2 OF 5)

CHG 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
50	47.9	4.90	3.89	0.0	2.95	0.0	100
51	77.6	4.10	0.0	0.0	0.0	0.0	200
52	64.6	4.80	0.0	0.0	0.0	0.0	200
53	51.1	3.80	0.0	0.0	0.0	0.0	200
54	52.2	4.20	0.0	0.0	0.0	0.0	200
55	62.3	4.40	0.0	0.0	0.0	0.0	200
56	56.4	4.20	0.0	0.0	0.0	0.0	200
57	59.8	4.00	0.0	0.0	0.0	0.0	300
58	56.3	4.00	0.0	0.0	0.0	0.0	300
59	58.5	4.60	0.0	3.67	0.0	1.33	100
61	22.0	4.80	4.03	0.0	3.20	0.61	100
62	22.2	4.60	3.96	3.91	0.0	0.57	100
60	74.0	*4.20	0.0	0.0	0.0	0.0	200
63	74.0	*3.70	0.0	0.0	0.0	0.0	500
65	61.0	3.80	0.0	0.0	0.0	0.0	300
66	54.4	4.10	0.0	0.0	0.0	0.0	200
67	44.7	3.20	0.0	0.0	0.0	0.0	200
68	54.4	4.00	3.19	0.0	0.0	4.01	100
69	54.4	4.80	0.0	0.0	0.0	0.0	200
70	60.3	3.80	0.0	0.0	0.0	0.0	200
71	25.6	3.80	0.0	2.54	0.0	4.17	100
72	26.7	4.40	0.0	0.0	0.0	0.0	200
73	31.0	5.90	4.17	2.80	0.0	1.69	100
74	49.7	4.00	0.0	0.0	0.0	0.0	300
75	26.7	4.50	0.0	0.0	0.0	0.0	200
76	30.0	4.40	0.0	0.0	0.0	0.0	300
77	40.4	4.00	0.0	0.0	0.0	0.0	200
78	55.4	3.80	0.0	0.0	0.0	0.0	200
79	27.9	4.40	0.0	0.0	0.0	0.0	200
80	35.1	3.90	0.0	0.0	0.0	0.0	200
83	57.2	3.60	0.0	0.0	0.0	0.0	200
84	59.5	3.70	0.0	0.0	0.0	0.0	200
85	47.7	3.60	0.0	0.0	0.0	0.0	200
87	69.0	4.60	3.40	2.52	0.0	1.55	100
88	48.2	5.10	0.0	3.93	0.0	0.0	100
89	5.6	4.50	3.52	3.07	0.0	0.0	100
90	74.1	*4.50	4.68	4.57	0.0	1.41	100
91	35.9	4.20	0.0	0.0	0.0	0.0	200
92	74.1	4.80	3.33	0.0	0.0	1.54	100
93	53.2	4.80	0.0	0.0	0.0	0.0	200
94	74.1	4.40	3.27	3.27	0.0	1.07	100
95	17.4	5.20	3.87	3.64	0.0	0.96	100
96	46.1	4.50	3.02	2.88	0.0	0.78	100
97	74.1	*4.10	3.24	3.10	0.0	1.87	100
98	74.0	*4.30	0.0	0.0	0.0	0.0	300
99	74.1	*4.10	0.0	0.0	0.0	0.0	200
100	73.9	3.60	0.0	0.0	0.0	0.0	300
101	74.1	*4.30	0.0	0.0	0.0	0.0	300
102	73.9	*3.70	0.0	0.0	0.0	0.0	300

TABLE III-1 (PAGE 3 OF 5)

CHG 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
103	73.9	*4.00	0.0	0.0	0.0	0.0	300
104	74.0	*4.30	3.30	2.98	0.0	2.12	100
105	74.0	*4.20	3.43	3.13	0.0	2.39	100
106	74.1	*4.40	3.29	3.27	0.0	1.99	100
107	13.7	4.10	0.0	0.0	0.0	0.0	200
108	26.9	4.70	0.0	0.0	0.0	0.0	300
109	31.4	4.30	0.0	0.0	0.0	0.0	200
110	74.1	*3.80	0.0	0.0	0.0	0.0	300
111	75.3	4.80	0.0	0.0	0.0	0.0	200
112	21.8	5.70	4.42	0.0	4.19	3.52	100
113	74.1	*4.30	0.0	0.0	0.0	0.0	300
114	22.4	4.80	3.93	3.61	3.56	1.41	100
115	44.9	4.30	0.0	0.0	0.0	0.0	200
116	35.1	5.50	0.0	0.0	0.0	0.0	200
117	44.8	4.50	3.72	3.31	0.0	1.81	100
118	44.8	3.90	0.0	0.0	0.0	0.0	300
119	44.8	4.10	0.0	0.0	0.0	0.0	500
120	28.1	4.90	0.0	0.0	0.0	0.0	300
121	14.9	4.30	2.63	2.42	0.0	0.0	100
122	61.2	3.90	0.0	0.0	0.0	0.0	300
123	60.0	4.60	4.04	0.0	3.30	0.76	100
145	48.1	4.80	0.0	0.0	0.0	0.0	300
146	48.6	4.70	0.0	0.0	0.0	0.0	300
147	48.1	4.90	3.11	2.49	0.0	0.0	100
148	49.6	3.70	0.0	0.0	0.0	0.0	200
149	68.2	3.70	0.0	0.0	0.0	0.0	200
150	31.8	3.80	0.0	0.0	0.0	0.0	200
151	27.9	4.30	0.0	0.0	0.0	0.0	500
152	59.9	3.70	0.0	0.0	0.0	0.0	500
153	55.7	4.50	0.0	0.0	0.0	0.0	300
154	45.6	3.70	0.0	0.0	0.0	0.0	300
155	55.1	3.70	0.0	0.0	0.0	0.0	500
156	53.8	5.00	4.01	3.51	2.63	0.0	100
157	53.8	3.60	0.0	0.0	0.0	0.0	500
158	54.5	4.30	0.0	0.0	0.0	0.0	300
159	51.7	3.80	0.0	0.0	0.0	0.0	500
160	53.8	3.70	0.0	0.0	0.0	0.0	200
161	55.8	3.50	0.0	0.0	0.0	0.0	200
162	47.8	3.80	0.0	0.0	0.0	0.0	200
165	47.5	4.90	3.79	2.66	2.29	0.83	100
168	59.3	3.30	0.0	0.0	0.0	0.0	200
169	46.1	3.80	0.0	0.0	0.0	0.0	300
170	50.7	4.00	0.0	0.0	0.0	0.0	300
171	6.8	4.70	2.55	1.66	0.0	0.0	100
172	30.6	5.30	3.82	3.90	3.00	0.0	100
173	73.2	3.30	0.0	0.0	0.0	0.0	200
174	71.1	3.30	0.0	0.0	0.0	0.0	200
175	69.1	4.90	3.79	3.30	3.02	0.0	100
177	71.3	3.50	0.0	0.0	0.0	0.0	300

TABLE III-1 (PAGE 4 OF 5)

CHG 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
178	56.4	4.50	0.0	0.0	0.0	0.0	500
179	71.3	4.40	0.0	0.0	0.0	0.0	500
180	21.7	4.00	0.0	0.0	0.0	0.0	300
181	33.7	4.50	0.0	0.0	0.0	0.0	200
182	48.5	4.20	0.0	0.0	0.0	0.0	500
183	29.7	4.20	0.0	0.0	0.0	0.0	200
184	60.1	4.10	0.0	0.0	0.0	0.0	500
186	31.2	3.90	2.36	1.59	0.0	0.0	100
187	45.6	3.60	0.0	0.0	0.0	0.0	500
188	45.6	3.70	0.0	0.0	0.0	0.0	500
189	45.0	4.40	0.0	0.0	0.0	0.0	200
190	45.6	4.20	0.0	0.0	0.0	0.0	200
191	36.9	4.50	0.0	0.0	0.0	0.0	200
192	46.9	3.80	3.03	2.46	0.0	0.0	100
193	31.1	4.40	2.77	2.13	0.0	0.0	100
194	46.0	4.70	0.0	0.0	0.0	0.0	300
195	42.5	3.90	0.0	0.0	0.0	0.0	300
196	45.6	3.70	0.0	0.0	0.0	0.0	300
197	48.1	3.90	0.0	0.0	0.0	0.0	300
198	45.4	3.40	0.0	0.0	0.0	0.0	300
199	45.4	3.20	0.0	0.0	0.0	0.0	300
200	45.8	4.40	4.11	3.74	3.08	0.0	100
201	45.2	3.60	0.0	0.0	0.0	0.0	300
202	44.8	3.70	0.0	0.0	0.0	0.0	300
203	47.2	3.80	0.0	0.0	0.0	0.0	300
204	46.0	4.20	0.0	0.0	0.0	0.0	300
205	58.4	3.60	0.0	0.0	0.0	0.0	300
206	47.4	4.20	0.0	0.0	0.0	0.0	200
207	43.7	4.00	0.0	0.0	0.0	0.0	300
208	44.9	4.10	0.0	0.0	0.0	0.0	500
209	39.6	3.70	0.0	0.0	0.0	0.0	200
210	51.8	4.00	0.0	0.0	0.0	0.0	200
211	72.1	3.40	0.0	0.0	0.0	0.0	200
212	60.6	4.20	0.0	0.0	0.0	0.0	200
213	45.7	4.00	0.0	0.0	0.0	0.0	300
214	29.6	4.00	0.0	0.0	0.0	0.0	200
216	59.9	3.70	0.0	0.0	0.0	0.0	500
218	68.2	3.70	0.0	0.0	0.0	0.0	500
219	59.9	3.40	0.0	0.0	0.0	0.0	500
220	58.6	3.50	0.0	0.0	0.0	0.0	200
231	49.6	4.20	0.0	0.0	0.0	0.0	200
232	69.9	*4.40	2.68	2.17	0.0	0.0	100
283	20.9	3.70	0.0	0.0	0.0	0.0	500
284	41.1	3.60	0.0	0.0	0.0	0.0	200
285	31.7	3.50	0.0	0.0	0.0	0.0	500
286	50.7	4.50	0.0	0.0	0.0	0.0	300
287	37.7	3.80	0.0	0.0	0.0	0.0	300
288	25.3	3.40	0.0	0.0	0.0	0.0	500
289	9.6	3.60	0.0	2.42	1.95	0.0	100

TABLE III-1 (PAGE 5 OF 5)

CHG 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
290	24.2	3.50	0.0	0.0	0.0	0.0	200
292	54.5	5.20	0.0	0.0	0.0	0.0	150
293	45.7	4.00	0.0	0.0	0.0	0.0	300
294	32.4	5.20	4.06	3.48	0.0	1.90	100
295	42.0	3.90	0.0	0.0	0.0	0.0	200
296	25.3	3.50	2.54	0.0	0.0	0.0	100
297	47.2	5.00	0.0	0.0	0.0	0.0	150
298	31.9	3.60	0.0	0.0	0.0	0.0	300
299	60.3	3.60	0.0	0.0	0.0	0.0	200
300	57.0	4.70	2.97	0.0	0.0	0.0	100
301	52.4	3.70	0.0	0.0	0.0	0.0	200
302	32.0	3.20	0.0	0.0	0.0	0.0	200
303	56.3	3.90	0.0	0.0	0.0	0.0	200
304	56.4	3.60	0.0	0.0	0.0	0.0	200
308	36.2	3.40	2.86	2.28	1.70	0.0	100
309	26.8	3.40	0.0	0.0	0.0	0.0	500

TABLE III-2 (1 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
3	32.4	4.00	0.0	0.0	0.0	0.0	200
4	39.4	4.00	0.0	0.0	0.0	0.0	300
5	76.8	4.20	0.0	0.0	0.0	0.0	200
6	65.7	5.20	0.0	0.0	0.0	0.0	200
7	29.6	4.80	0.0	0.0	0.0	0.0	200
8	29.4	4.50	0.0	0.0	0.0	0.0	200
9	36.1	3.40	0.0	0.0	0.0	0.0	200
10	26.0	4.30	0.0	0.0	0.0	0.0	200
11	69.8	4.80	0.0	0.0	0.0	0.0	200
12	24.9	4.40	0.0	0.0	0.0	0.0	200
13	69.7	*4.60	0.0	0.0	0.0	0.0	200
14	53.7	3.90	0.0	0.0	0.0	0.0	200
15	44.7	3.80	0.0	0.0	0.0	0.0	200
16	40.8	4.50	0.0	0.0	0.0	0.0	200
17	66.6	4.00	0.0	0.0	0.0	0.0	200
18	72.4	4.50	0.0	0.0	0.0	0.0	200
19	21.9	4.00	0.0	0.0	0.0	0.0	600
20	25.2	3.90	0.0	0.0	0.0	0.0	200
21	69.8	4.70	0.0	0.0	0.0	0.0	200
22	68.4	4.70	0.0	0.0	0.0	0.0	300
23	83.7	5.20	0.0	0.0	0.0	0.0	200
24	73.4	3.90	0.0	0.0	0.0	0.0	200
25	70.5	4.20	0.0	0.0	0.0	0.0	500
26	71.4	4.70	6.17	3.84	0.0	0.35	100
27	70.5	4.60	0.0	0.0	0.0	0.0	300
28	25.5	3.60	0.0	0.0	0.0	0.0	200
29	24.9	4.30	0.0	0.0	0.0	0.0	200
30	39.2	3.80	3.69	0.0	0.0	0.0	100
31	71.8	5.00	5.90	4.64	6.11	1.43	100
32	24.9	4.40	0.0	0.0	0.0	0.0	200
33	23.7	3.90	0.0	0.0	0.0	0.0	200
34	41.0	4.00	0.0	0.0	0.0	0.0	200
35	77.4	4.40	0.0	0.0	0.0	0.0	500
36	79.9	4.90	0.0	0.0	0.0	0.0	200
38	25.1	4.00	3.48	0.0	0.0	0.50	100
39	27.9	5.30	0.0	0.0	0.0	0.0	200
37	24.9	4.80	0.0	0.0	0.0	0.0	200
40	16.2	3.90	0.0	0.0	0.0	0.0	200
41	81.6	5.10	0.0	0.0	0.0	0.0	200
42	32.9	3.90	0.0	0.0	0.0	0.0	200
43	40.7	4.70	3.58	0.0	0.0	1.31	100
44	68.6	5.40	0.0	0.0	0.0	0.0	300
45	69.3	4.60	0.0	0.0	0.0	0.0	300
46	25.5	3.80	0.0	0.0	0.0	0.0	200
47	25.2	3.90	0.0	0.0	0.0	0.0	200
48	80.5	4.10	0.0	0.0	0.0	0.0	200
49	39.3	4.80	0.0	0.0	0.0	0.0	200
50	76.8	4.90	0.0	0.0	0.0	0.0	200
51	69.3	4.10	0.0	0.0	0.0	0.0	200

TABLE III-2 (2 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
52	78.4	4.80	0.0	0.0	0.0	0.0	300
53	71.4	3.80	0.0	0.0	0.0	0.0	200
54	33.9	4.20	0.0	0.0	0.0	0.0	300
55	77.5	4.40	0.0	0.0	0.0	0.0	300
56	29.9	4.20	0.0	0.0	0.0	0.0	500
57	25.3	4.00	0.0	0.0	0.0	0.0	300
58	30.1	4.00	0.0	0.0	0.0	0.0	300
59	27.3	4.60	0.0	0.0	0.0	0.0	200
60	70.3	*4.20	0.0	0.0	0.0	0.0	200
61	69.6	4.80	0.0	0.0	0.0	0.0	200
62	69.7	4.60	0.0	0.0	0.0	0.0	200
63	70.3	*3.70	0.0	0.0	0.0	0.0	200
65	24.4	3.80	0.0	0.0	0.0	0.0	200
66	33.1	4.10	0.0	0.0	0.0	0.0	200
67	40.6	3.20	0.0	0.0	0.0	0.0	200
68	80.5	4.00	0.0	0.0	0.0	0.0	200
69	33.1	4.80	0.0	0.0	0.0	0.0	200
70	25.1	3.80	0.0	0.0	0.0	0.0	200
71	25.5	3.80	0.0	0.0	0.0	0.0	200
73	84.7	5.90	0.0	3.92	0.0	0.72	100
72	63.4	4.40	0.0	0.0	0.0	0.0	200
74	99.3	4.00	0.0	0.0	0.0	0.0	200
75	67.5	4.50	0.0	0.0	0.0	0.0	200
76	66.3	4.40	0.0	0.0	0.0	0.0	200
77	44.5	4.00	0.0	0.0	0.0	0.0	200
78	32.2	3.80	3.19	0.0	0.0	0.89	100
80	83.2	3.90	0.0	0.0	0.0	0.0	200
81	54.3	3.90	0.0	3.37	0.0	2.44	100
82	25.2	4.10	0.0	0.0	0.0	0.0	200
83	26.0	3.60	0.0	0.0	0.0	0.0	200
84	25.6	3.70	0.0	0.0	0.0	0.0	200
85	38.7	3.60	0.0	0.0	0.0	0.0	200
87	75.9	4.60	0.0	3.54	0.0	0.67	100
88	73.6	5.10	0.0	0.0	4.40	0.0	100
89	75.8	4.50	4.38	0.0	0.0	1.82	100
90	70.3	*4.50	0.0	3.66	0.0	0.50	100
92	70.2	4.80	0.0	0.0	0.0	0.0	200
93	34.3	4.80	3.53	0.0	0.0	0.93	100
94	70.2	4.40	0.0	0.0	0.0	0.0	200
95	76.3	5.20	0.0	4.81	3.95	0.87	100
96	99.8	4.50	0.0	3.65	0.0	0.0	100
97	70.3	*4.10	3.37	3.11	0.0	0.78	100
98	70.3	*4.30	0.0	0.0	0.0	0.0	200
99	70.3	*4.10	0.0	0.0	0.0	0.0	200
100	69.0	3.60	0.0	0.0	0.0	0.0	200
101	70.3	*4.30	0.0	0.0	0.0	0.0	200
102	71.0	*3.70	0.0	0.0	0.0	0.0	200
103	70.9	*4.00	0.0	0.0	0.0	0.0	200
104	70.2	*4.30	0.0	0.0	0.0	0.0	200

TABLE III-2 (3 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
105	70.4	*4.10	3.72	0.0	0.0	0.0	100
106	70.1	*4.40	0.0	0.0	0.0	0.0	200
107	76.3	4.10	0.0	0.0	0.0	0.0	200
108	66.5	4.70	0.0	0.0	0.0	0.0	200
109	63.0	4.30	0.0	0.0	0.0	0.0	200
110	70.3	*3.80	0.0	0.0	0.0	0.0	200
111	28.8	4.80	3.50	0.0	0.0	1.64	100
112	72.6	5.70	5.12	0.0	4.39	2.41	100
113	70.3	*4.30	0.0	0.0	0.0	0.0	200
114	69.3	4.80	0.0	3.56	0.0	0.84	100
115	84.6	4.30	0.0	0.0	0.0	0.0	200
116	59.5	5.50	0.0	0.0	0.0	0.0	200
117	84.3	4.50	0.0	0.0	0.0	0.0	300
118	84.4	3.90	0.0	0.0	0.0	0.0	200
119	84.5	4.10	0.0	3.37	0.0	2.11	100
120	69.4	4.90	4.30	4.04	3.73	0.47	100
122	28.8	3.90	0.0	0.0	0.0	0.0	200
123	25.0	4.60	0.0	3.61	0.0	0.63	100
124	41.1	3.80	0.0	0.0	0.0	0.0	200
125	77.8	4.50	0.0	0.0	0.0	0.0	300
126	24.5	3.90	3.82	0.0	0.0	0.0	100
127	37.4	4.10	0.0	0.0	0.0	0.0	200
128	78.0	4.50	0.0	0.0	0.0	0.0	500
129	66.8	4.80	0.0	3.37	0.0	0.39	100
130	36.9	3.70	0.0	0.0	0.0	0.0	200
131	40.7	4.70	0.0	3.15	0.0	1.43	100
132	26.2	4.00	0.0	0.0	0.0	0.0	200
133	39.5	5.20	0.0	3.50	0.0	1.40	100
134	39.3	5.40	4.73	0.0	4.17	1.05	100
135	79.2	3.90	0.0	0.0	0.0	0.0	200
136	38.1	4.20	0.0	0.0	0.0	0.0	200
137	67.0	3.90	0.0	0.0	0.0	0.0	200
138	37.7	4.10	0.0	0.0	0.0	0.0	200
139	26.8	4.80	4.02	3.80	0.0	1.37	100
140	67.9	4.00	0.0	0.0	0.0	0.0	200
141	74.3	5.30	0.0	3.86	4.25	0.83	300
142	32.9	4.10	0.0	0.0	0.0	0.0	200
143	27.9	3.40	3.21	0.0	0.0	0.99	100
144	74.5	4.00	0.0	0.0	0.0	0.0	200
145	40.4	4.80	0.0	3.50	0.0	2.59	100
146	39.9	4.70	3.46	0.0	0.0	0.92	100
147	40.2	4.90	3.52	0.0	0.0	1.28	100
148	38.6	3.70	0.0	0.0	0.0	0.0	200
149	24.2	3.70	0.0	0.0	0.0	0.0	200
150	73.7	4.10	0.0	0.0	0.0	0.0	200
151	72.4	4.30	0.0	3.10	0.0	1.22	100
152	25.7	3.70	0.0	0.0	0.0	0.0	600
153	29.3	4.50	0.0	0.0	0.0	0.0	200
154	37.8	3.70	0.0	0.0	0.0	0.0	200

TABLE III-2 (4 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
155	35.5	3.70	0.0	0.0	0.0	0.0	200
156	33.2	5.00	4.33	0.0	0.0	0.95	100
157	33.4	3.60	0.0	0.0	0.0	0.0	300
158	28.0	4.30	0.0	0.0	0.0	0.0	300
159	33.3	3.80	0.0	0.0	0.0	0.0	200
160	33.4	3.70	0.0	0.0	0.0	0.0	200
161	33.1	3.50	0.0	0.0	0.0	0.0	200
162	39.1	3.80	0.0	0.0	0.0	0.0	200
163	65.0	3.70	0.0	0.0	0.0	0.0	200
164	32.8	4.00	0.0	0.0	0.0	0.0	200
165	32.7	4.90	4.23	0.0	0.0	1.64	100
167	36.1	4.90	0.0	0.0	0.0	0.0	200
166	79.6	3.80	0.0	0.0	0.0	0.0	200
168	26.1	3.30	0.0	0.0	0.0	0.0	200
169	37.0	3.80	3.13	0.0	0.0	0.85	100
170	34.4	4.00	0.0	0.0	0.0	0.0	200
171	73.9	4.70	3.93	0.0	0.0	1.93	100
172	54.7	5.30	4.82	0.0	4.36	0.63	100
173	24.6	3.30	0.0	0.0	0.0	0.0	200
174	26.1	3.30	0.0	0.0	0.0	0.0	200
175	27.9	4.90	4.26	0.0	4.37	0.66	100
176	29.2	4.10	0.0	0.0	0.0	0.0	300
177	25.0	3.50	0.0	0.0	0.0	0.0	200
178	30.4	4.50	0.0	0.0	0.0	0.0	200
179	27.9	4.40	3.24	3.14	0.0	0.0	100
180	66.8	4.00	0.0	0.0	0.0	0.0	200
181	51.3	4.50	0.0	0.0	0.0	0.0	300
182	38.7	4.20	0.0	0.0	0.0	0.0	200
183	73.8	4.20	0.0	0.0	0.0	0.0	200
184	25.0	4.10	0.0	0.0	0.0	0.0	200
185	27.3	3.30	0.0	0.0	0.0	0.0	200
186	55.0	3.90	3.14	0.0	0.0	0.97	100
187	82.3	3.60	0.0	0.0	0.0	0.0	200
188	82.3	3.70	0.0	0.0	0.0	0.0	300
189	84.5	4.30	0.0	0.0	0.0	0.0	200
190	82.9	4.20	0.0	0.0	0.0	0.0	200
191	47.1	4.50	0.0	0.0	0.0	0.0	200
192	83.0	3.80	0.0	0.0	0.0	0.0	200
193	75.1	4.40	0.0	0.0	0.0	0.0	300
194	84.2	4.70	0.0	0.0	0.0	0.0	300
195	86.4	3.90	0.0	0.0	0.0	0.0	300
196	83.8	3.70	0.0	0.0	0.0	0.0	300
197	80.2	3.90	0.0	0.0	0.0	0.0	300
198	81.7	3.40	0.0	0.0	0.0	0.0	300
199	81.7	3.30	0.0	0.0	0.0	0.0	300
200	85.7	4.40	0.0	0.0	0.0	0.0	300
201	82.1	3.60	0.0	0.0	0.0	0.0	200
202	82.7	3.70	0.0	0.0	0.0	0.0	200
203	80.6	3.80	0.0	0.0	0.0	0.0	200

TABLE III-2 (5 OF 7)

ERK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
204	82.8	4.20	0.0	0.0	0.0	0.0	300
205	24.4	3.60	3.26	0.0	0.0	7.47	100
206	84.2	4.20	0.0	0.0	0.0	0.0	200
207	83.8	4.00	0.0	0.0	0.0	0.0	200
208	84.5	4.10	0.0	0.0	0.0	0.0	200
209	85.2	3.70	0.0	0.0	0.0	0.0	200
210	81.6	4.00	0.0	0.0	0.0	0.0	200
211	25.2	3.40	0.0	0.0	0.0	0.0	200
212	24.6	4.20	0.0	0.0	0.0	0.0	300
213	85.0	4.00	0.0	0.0	0.0	0.0	300
214	71.0	4.00	3.76	0.0	0.0	0.0	100
216	28.3	3.70	0.0	0.0	0.0	0.0	200
217	78.2	3.90	0.0	0.0	0.0	0.0	200
218	26.4	3.70	0.0	0.0	0.0	0.0	300
219	25.7	3.40	0.0	0.0	0.0	0.0	300
220	28.9	3.50	0.0	0.0	0.0	0.0	200
221	73.3	3.60	0.0	0.0	0.0	0.0	200
222	25.3	3.60	0.0	0.0	0.0	0.0	200
223	41.4	*4.30	0.0	0.0	0.0	0.0	200
224	83.2	4.00	0.0	0.0	0.0	0.0	200
225	66.8	3.50	0.0	0.0	0.0	0.0	300
226	29.5	4.60	0.0	0.0	0.0	0.0	300
227	28.6	4.10	0.0	0.0	0.0	0.0	200
228	37.1	4.60	0.0	0.0	0.0	0.0	200
229	28.7	3.80	0.0	0.0	0.0	0.0	200
230	24.7	4.10	0.0	0.0	0.0	0.0	200
231	39.5	4.20	0.0	0.0	0.0	0.0	200
232	69.9	*4.40	0.0	3.18	0.0	1.73	100
233	32.2	4.50	0.0	3.42	0.0	0.81	100
234	36.5	4.30	0.0	0.0	0.0	0.0	600
235	68.6	4.50	0.0	0.0	0.0	0.0	200
236	65.8	4.40	0.0	0.0	0.0	0.0	200
237	73.8	3.60	3.14	0.0	0.0	1.14	100
238	71.7	5.10	0.0	0.0	0.0	0.0	200
239	73.7	*3.70	0.0	0.0	0.0	0.0	200
240	88.5	4.00	0.0	0.0	0.0	0.0	200
241	27.6	3.90	2.93	2.73	0.0	0.78	100
242	38.6	3.70	0.0	0.0	0.0	0.0	200
243	35.1	5.40	0.0	4.17	0.0	1.15	100
245	61.6	4.50	0.0	0.0	0.0	0.0	200
247	71.8	2.70	0.0	0.0	0.0	0.0	200
248	85.2	4.00	0.0	0.0	0.0	0.0	200
249	83.4	0.0	0.0	0.0	0.0	0.0	200
250	79.6	4.30	0.0	0.0	0.0	0.0	200
251	33.0	4.20	0.0	0.0	0.0	0.0	200
252	32.6	4.00	0.0	0.0	0.0	0.0	200
253	73.4	3.80	0.0	0.0	0.0	0.0	200
254	38.3	4.20	0.0	3.18	0.0	0.68	100
255	85.5	*4.60	0.0	3.49	0.0	1.87	100

TABLE III-2 (6 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
256	74.1	3.50	3.43	0.0	0.0	2.93	100
257	31.0	3.30	C.0	0.0	0.0	0.0	200
258	36.6	3.00	C.0	0.0	0.0	0.0	200
259	27.5	3.60	C.0	0.0	0.0	0.0	200
260	59.9	5.50	3.54	3.41	0.0	0.0	100
261	38.8	3.70	C.0	0.0	0.0	0.0	200
262	76.3	4.90	4.30	0.0	0.0	0.31	100
263	64.0	3.80	C.0	0.0	0.0	0.0	300
264	24.9	3.80	3.25	0.0	0.0	0.0	100
265	72.9	4.20	C.0	0.0	0.0	0.0	300
266	23.4	3.60	3.31	3.42	0.0	0.68	100
267	74.4	4.10	C.0	0.0	0.0	0.0	200
268	36.5	4.10	0.0	0.0	0.0	0.0	200
269	28.4	3.80	C.0	0.0	0.0	0.0	200
270	85.7	4.10	C.0	0.0	0.0	0.0	200
271	32.1	3.80	0.0	0.0	0.0	0.0	200
272	73.9	4.00	C.0	0.0	0.0	0.0	200
273	75.7	3.80	C.0	0.0	0.0	0.0	200
274	24.6	4.00	0.0	0.0	0.0	0.0	200
275	73.4	4.10	C.0	0.0	0.0	0.0	200
276	85.7	3.70	0.0	0.0	0.0	0.0	200
277	27.4	3.70	0.0	0.0	0.0	0.0	200
278	75.8	5.40	C.C	0.0	0.0	0.0	300
279	53.6	3.70	C.0	0.0	0.0	0.0	200
280	71.9	3.70	C.0	0.0	0.0	0.0	200
281	76.4	5.30	0.C	0.0	0.0	0.0	200
282	76.1	3.70	C.0	0.0	0.0	0.0	300
283	61.7	3.70	C.0	0.0	0.0	0.0	200
284	87.3	3.60	C.C	0.0	0.0	0.0	200
285	77.3	3.50	0.0	0.0	0.0	0.0	200
286	32.2	4.50	3.67	3.80	0.0	1.66	100
287	86.7	3.80	0.0	0.0	0.0	0.0	200
288	71.3	3.40	0.0	0.0	0.0	0.0	200
289	74.9	3.60	C.0	0.0	0.0	0.0	200
290	70.0	3.50	0.0	0.0	0.0	0.0	200
291	38.1	4.10	C.0	0.0	0.0	0.0	300
292	32.9	5.20	4.00	3.39	0.0	1.67	100
293	85.6	4.00	C.0	0.0	0.0	0.0	300
294	70.9	5.20	4.51	0.0	4.12	0.74	100
295	85.5	3.90	0.0	0.0	0.0	0.0	200
296	77.5	3.50	0.0	0.0	0.0	0.0	200
297	39.8	5.00	C.0	3.92	0.0	0.90	100
298	61.8	3.60	3.71	0.0	0.0	0.0	100
299	24.3	3.60	3.20	2.53	0.0	0.0	100
300	31.5	4.70	3.48	3.28	0.0	0.29	100
301	31.8	3.70	C.0	0.0	0.0	0.0	200
302	69.9	3.20	0.0	0.0	0.0	0.0	200
303	72.3	3.90	C.0	0.0	0.0	0.0	500
304	31.7	3.60	C.0	0.0	0.0	0.0	200

TABLE III-2 (7 OF 7)

FBK 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
305	40.7	4.40	0.0	0.0	0.0	0.0	300
307	35.4	4.00	0.0	0.0	0.0	0.0	200
308	82.4	3.40	0.0	3.90	0.0	0.92	100
309	68.6	3.40	0.0	0.0	0.0	0.0	200

TABLE III-3 (1 OF 4)

TLO C1/01/72 - C3/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
1	78.8	4.10	0.0	0.0	0.0	0.0	500
2	87.7	4.60	C.C	0.0	0.0	0.0	500
3	89.1	4.00	C.0	0.0	0.0	0.0	200
4	90.0	4.00	0.C	0.0	0.0	0.0	500
5	19.3	4.20	0.C	0.0	0.0	0.0	200
6	63.8	5.20	4.13	3.53	3.38	1.83	100
7	87.4	4.80	3.64	0.0	0.0	0.58	100
8	87.0	4.50	0.0	0.0	0.0	0.0	200
9	74.5	3.40	C.C	0.0	0.0	0.0	200
10	83.7	4.30	0.C	0.0	0.0	0.0	200
11	100.0	4.80	0.C	0.0	0.0	0.0	200
12	84.0	4.40	C.C	0.0	0.0	0.0	200
13	100.1	*4.60	4.10	3.72	3.69	2.56	100
14	91.6	3.90	4.08	3.64	0.0	1.09	100
15	63.2	3.80	0.C	0.0	0.0	0.0	200
16	92.4	4.50	C.C	0.0	0.0	0.0	200
17	16.5	4.00	3.17	2.97	0.0	1.24	100
18	58.1	4.50	0.0	0.0	0.0	0.0	200
19	83.4	4.00	4.05	0.0	0.0	0.37	100
20	82.0	3.90	0.0	0.0	0.0	0.0	200
21	56.3	4.70	3.23	0.C	0.0	2.54	100
22	100.1	4.70	0.0	0.0	0.0	0.0	200
23	44.9	5.20	3.42	0.0	0.0	0.0	100
24	57.7	3.90	C.C	0.0	0.0	0.0	300
25	36.2	4.20	C.C	0.0	0.0	0.0	200
26	98.5	4.70	6.31	0.0	0.0	2.01	300
27	97.7	4.60	0.0	0.0	0.0	0.0	300
28	85.2	3.60	C.0	0.0	0.0	0.0	200
29	83.9	4.30	C.C	0.0	0.0	0.0	200
30	91.5	3.80	0.0	0.0	0.0	0.0	200
31	100.2	5.00	4.11	0.0	0.0	0.87	100
32	83.9	4.40	0.0	0.0	0.0	0.0	200
33	85.2	3.90	C.C	0.0	0.0	0.0	200
34	93.1	4.00	C.0	0.0	0.0	0.0	200
35	26.4	4.40	4.12	4.26	4.09	0.94	100
36	22.3	4.90	0.0	3.33	0.0	0.83	100
37	84.0	4.80	4.46	3.78	0.0	0.49	100
38	84.1	4.00	4.25	0.0	3.55	1.00	100
39	75.6	5.30	4.89	0.0	4.78	0.0	100
40	72.6	3.90	C.0	0.0	0.0	0.0	200
41	41.1	5.10	C.C	0.0	0.0	0.0	200
42	88.7	3.90	0.0	0.0	0.0	0.0	200
43	72.3	4.70	0.0	3.68	0.0	1.29	100
44	60.9	5.40	0.0	0.0	0.0	0.0	200
45	62.C	4.60	0.0	0.0	0.0	0.0	200
46	83.9	3.80	0.C	0.0	0.0	0.0	200
47	83.9	3.90	C.0	0.0	0.0	0.0	200
48	24.8	4.10	0.0	0.0	0.0	0.0	500
49	92.1	4.80	0.0	0.0	0.0	0.0	200

TABLE III-3 (2 OF 4)

TLO 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
50	40.6	4.90	C.0	3.26	3.73	1.75	100
51	10.0	4.10	C.C	0.0	0.0	0.0	200
52	24.5	4.80	3.35	3.41	0.0	0.0	100
53	36.5	3.80	C.C	0.0	0.0	0.0	200
54	87.7	4.20	C.C	0.0	0.0	0.0	200
55	26.4	4.40	C.0	0.0	0.0	0.0	200
56	86.8	4.20	C.C	0.0	0.0	0.0	200
57	83.7	4.00	0.0	0.0	0.0	0.0	300
58	87.1	4.00	C.C	0.0	0.0	0.0	300
59	85.3	4.60	0.C	0.0	0.0	0.0	200
60	13.5	*4.20	0.0	0.0	0.0	0.0	200
61	100.0	4.80	C.0	0.0	0.0	0.0	200
62	100.3	4.60	0.0	0.0	0.0	0.0	200
63	13.5	*3.70	C.0	0.0	0.0	0.0	300
65	83.4	3.80	0.0	0.0	0.0	0.0	200
66	89.5	4.10	C.0	0.0	0.0	0.0	200
67	87.8	3.20	C.C	0.0	0.0	0.0	200
68	24.0	4.00	C.C	0.0	0.0	0.0	200
69	89.5	4.80	0.C	0.0	0.0	0.0	200
70	84.2	3.80	C.0	0.0	0.0	0.0	200
71	83.7	3.80	C.C	3.15	0.0	1.69	100
72	98.4	4.40	C.C	C.C	0.0	0.0	200
73	58.8	5.90	0.0	3.79	0.0	0.0	100
74	50.8	4.00	C.0	0.0	0.0	0.0	200
75	62.3	4.50	C.0	0.C	0.0	0.0	200
76	59.0	4.40	0.0	3.19	0.0	0.0	100
77	87.9	4.00	0.C	0.0	0.0	0.0	200
78	89.3	3.80	C.0	0.0	0.0	0.0	200
79	62.6	4.70	0.0	0.0	0.0	0.0	200
80	54.3	3.90	C.C	0.0	0.0	0.0	200
81	84.6	3.90	3.71	3.27	0.0	4.31	100
82	83.7	4.10	C.C	0.0	0.0	0.0	200
83	79.4	3.60	0.0	0.0	0.0	0.0	200
84	83.7	3.70	0.0	0.0	0.0	0.0	200
85	89.4	3.60	0.0	0.0	0.0	0.0	200
86	88.4	3.60	C.0	0.0	0.0	0.0	200
87	19.5	4.60	3.61	3.45	0.0	1.00	100
88	39.4	5.10	4.47	0.0	3.72	0.87	100
89	86.8	4.50	0.0	4.32	0.0	0.71	100
90	13.5	*4.50	3.17	0.0	0.0	6.58	100
92	13.4	4.80	C.C	0.0	0.0	0.0	200
93	89.8	4.80	C.C	0.0	0.0	0.0	200
94	13.4	4.40	3.79	3.00	2.90	1.27	100
95	70.1	5.20	3.56	0.0	0.0	1.95	600
96	54.4	4.50	C.0	0.0	0.0	0.0	200
97	13.5	*4.10	2.82	0.0	0.0	6.38	100
98	13.5	*4.30	0.0	0.0	0.0	0.0	300
99	13.5	*4.10	0.0	0.0	0.0	0.0	300
100	13.7	3.60	2.78	0.0	0.0	2.86	100

TABLE III-3 (3 OF 4)

TLO 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
101	13.5	*4.30	0.0	0.0	0.0	0.0	300
102	13.7	*3.70	0.0	0.0	0.0	0.0	200
103	13.6	*4.00	0.0	0.0	0.0	0.0	200
104	13.5	*4.30	3.76	2.85	0.0	0.50	100
105	13.5	*4.30	3.87	0.0	0.0	1.24	100
106	13.4	*4.40	3.40	0.0	0.0	2.41	100
107	74.0	4.10	0.0	0.0	0.0	0.0	200
108	62.4	4.70	0.0	0.0	0.0	0.0	200
109	58.9	4.30	0.0	0.0	0.0	0.0	200
110	13.4	*3.80	0.0	0.0	0.0	0.0	300
111	86.8	4.80	0.0	0.0	0.0	0.0	200
112	102.4	5.70	5.14	0.0	4.43	1.28	100
113	13.5	*4.30	0.0	0.0	0.0	0.0	500
114	100.1	4.80	0.0	3.80	0.0	0.99	100
115	45.6	4.30	0.0	0.0	0.0	0.0	200
116	56.5	5.50	0.0	0.0	0.0	0.0	500
117	45.5	4.50	0.0	0.0	0.0	0.0	300
118	45.6	3.90	0.0	0.0	0.0	0.0	200
119	45.6	4.10	0.0	3.62	0.0	0.51	100
120	60.1	4.90	0.0	0.0	0.0	0.0	500
122	86.8	3.90	0.0	0.0	0.0	0.0	200
123	83.4	4.60	0.0	4.09	0.0	0.93	100
124	92.6	3.80	0.0	0.0	0.0	0.0	200
125	22.0	4.50	3.44	3.23	0.0	3.12	100
126	84.5	3.90	0.0	0.0	0.0	0.0	200
278	25.6	5.40	4.71	4.39	0.0	0.52	100
279	88.9	3.70	0.0	0.0	0.0	0.0	200
280	57.2	3.70	0.0	0.0	0.0	0.0	200
281	70.0	5.30	0.0	3.25	0.0	0.0	100
282	26.1	3.70	0.0	0.0	0.0	0.0	300
283	77.9	3.70	0.0	0.0	0.0	0.0	200
284	54.2	3.60	0.0	0.0	0.0	0.0	200
285	58.9	3.50	0.0	0.0	0.0	0.0	200
286	85.6	4.50	0.0	4.45	0.0	1.27	100
287	52.1	3.80	0.0	0.0	0.0	0.0	200
288	65.3	3.40	0.0	0.0	0.0	0.0	500
289	79.5	3.60	0.0	0.0	0.0	0.0	200
290	64.1	3.50	0.0	0.0	0.0	0.0	300
291	84.0	4.10	0.0	0.0	0.0	0.0	300
292	89.4	5.20	0.0	0.0	0.0	0.0	200
293	49.0	4.00	0.0	0.0	0.0	0.0	300
294	54.7	5.20	4.21	0.0	3.45	0.37	100
295	48.7	3.90	0.0	0.0	0.0	0.0	200
296	62.4	3.50	0.0	0.0	0.0	0.0	200
297	88.6	5.00	0.0	0.0	0.0	0.0	300
298	59.1	3.60	0.0	0.0	0.0	0.0	200
299	82.5	3.60	0.0	0.0	0.0	0.0	200
300	88.0	4.70	0.0	0.0	0.0	0.0	200
301	83.5	3.70	0.0	0.0	0.0	0.0	200

TABLE III-3 (4 OF 4)

TLO 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
302	55.9	3.20	C.C	0.0	0.0	0.0	200
303	31.5	3.90	C.C	0.0	0.0	0.0	200
304	89.9	3.60	0.0	0.0	0.0	0.0	200
305	92.2	4.40	C.0	0.0	0.0	0.0	300
306	55.9	3.90	C.0	0.0	0.0	0.0	200
307	91.0	4.00	C.0	0.0	0.0	0.0	200
308	53.0	3.40	3.32	0.0	0.0	2.46	100
309	61.8	3.40	C.0	0.0	0.0	0.0	200

TABLE III-4

EIL 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
262	32.6	4.90	C.C	0.0	0.0	0.0	500
263	27.3	3.80	C.C	0.0	0.0	0.0	500
264	85.0	3.80	C.0	0.0	0.0	0.0	500
265	30.6	4.20	C.C	0.0	0.0	0.0	500
266	63.2	3.60	C.0	0.0	0.0	0.0	500
267	35.3	4.10	C.0	0.0	0.0	0.0	500
268	88.1	4.10	C.0	0.0	0.0	0.0	500
269	80.9	3.80	C.C	0.0	0.0	0.0	150
270	19.0	4.10	1.83	1.61	0.0	0.0	200
271	86.9	3.90	C.0	0.0	0.0	0.0	300
272	30.5	4.00	0.C	0.0	0.0	0.0	150
273	12.4	3.80	1.33	1.13	0.0	0.0	500
274	85.9	4.00	C.C	0.0	0.0	0.0	500
275	41.1	4.10	C.C	0.0	0.0	0.0	300
276	55.5	3.70	0.0	0.C	0.0	0.0	200
277	67.2	3.70	C.C	0.0	0.0	0.0	150
278	10.3	5.40	1.63	1.63	0.0	0.0	200
279	73.1	3.70	0.C	0.0	0.0	0.0	150
280	32.4	3.70	0.C	2.35	0.0	0.0	200
281	43.0	5.30	0.C	0.0	0.0	0.0	150
282	10.4	3.70	1.61	1.64	0.0	0.0	200
283	57.7	3.70	0.0	0.0	0.0	0.0	150
284	19.1	3.60	2.61	2.80	0.0	0.0	150
285	31.3	3.50	2.29	2.01	0.0	0.0	150
286	82.0	4.50	3.07	2.64	0.0	0.0	150
287	20.7	3.80	1.95	2.02	0.0	0.0	200
288	40.5	3.40	C.0	0.0	0.0	0.0	200
289	53.2	3.60	0.0	0.0	0.0	0.0	150
290	40.0	3.50	3.74	3.55	0.0	0.0	300
291	112.2	4.10	0.C	0.0	0.0	0.0	150
294	30.6	5.20	3.36	3.21	0.0	0.0	150
295	17.1	3.90	2.19	1.54	0.0	0.0	150
296	34.7	3.50	2.23	2.27	0.0	0.0	300
297	80.7	5.00	0.0	0.0	0.0	0.0	200
298	39.8	3.60	0.0	0.0	0.0	0.0	200
299	83.4	3.60	C.C	0.0	0.0	0.0	200
300	85.7	4.70	C.C	0.0	0.0	0.0	200
301	79.9	3.70	C.0	0.0	0.0	0.0	200
302	32.5	3.20	C.0	0.0	0.0	0.0	

TABLE III-5 (1 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LP RATIO	COMMENT
1	57.4	4.10	0.0	0.0	0.0	0.0	200
2	66.3	4.60	0.0	0.0	0.0	0.0	200
3	67.7	4.00	0.0	0.0	0.0	0.0	200
24	45.1	3.90	0.0	4.24	0.0	0.0	100
25	26.4	4.20	0.0	0.0	0.0	0.0	200
26	80.3	4.70	6.27	5.60	0.0	0.0	300
27	79.5	4.60	0.0	0.0	0.0	0.0	300
28	64.2	3.60	0.0	0.0	0.0	0.0	200
29	62.8	4.30	0.0	0.0	0.0	0.0	200
30	69.9	3.80	0.0	0.0	0.0	0.0	200
31	81.9	5.00	4.77	4.77	4.39	1.26	100
32	62.8	4.40	0.0	0.0	0.0	0.0	200
33	64.4	3.90	0.0	0.0	0.0	0.0	200
34	71.6	4.00	0.0	0.0	0.0	0.0	200
35	25.5	4.40	4.26	4.05	4.07	0.62	100
36	26.3	4.90	3.52	3.73	3.41	0.48	100
37	62.9	4.80	4.27	0.0	3.62	1.23	100
38	63.0	4.00	4.24	0.0	3.64	1.09	100
39	54.1	5.30	5.40	0.0	4.68	0.34	100
40	52.2	3.90	3.75	3.12	0.0	0.72	100
41	36.3	5.10	0.0	3.57	0.0	0.85	100
42	67.2	3.90	0.0	0.0	0.0	0.0	200
43	51.0	4.70	0.0	3.37	0.0	2.07	100
44	46.1	5.40	0.0	0.0	0.0	0.0	200
45	47.3	4.60	0.0	0.0	0.0	0.0	200
46	62.7	3.80	0.0	0.0	0.0	0.0	200
47	62.8	3.90	0.0	0.0	0.0	0.0	200
48	27.5	4.10	0.0	0.0	0.0	0.0	200
49	70.6	4.80	0.0	0.0	0.0	0.0	200
50	33.2	4.90	4.11	3.61	0.0	0.47	100
51	15.5	4.10	0.0	0.0	0.0	0.0	200
53	27.1	3.80	0.0	0.0	0.0	0.0	200
54	66.2	4.20	0.0	0.0	0.0	0.0	200
55	25.6	4.40	0.0	0.0	0.0	0.0	200
56	65.5	4.20	0.0	0.0	0.0	0.0	300
57	62.6	4.00	0.0	0.0	0.0	0.0	300
58	65.8	4.00	0.0	0.0	0.0	0.0	300
59	64.1	4.60	0.0	0.0	0.0	0.0	200
60	16.0	*4.20	3.37	3.32	2.84	2.70	100
61	81.3	4.80	0.0	3.63	0.0	1.31	100
62	81.6	4.60	0.0	0.0	3.79	2.81	100
63	16.0	*3.70	0.0	0.0	0.0	0.0	300
65	62.9	3.80	0.0	0.0	0.0	0.0	200
66	68.0	4.10	0.0	0.0	0.0	0.0	200
67	66.3	3.20	0.0	0.0	0.0	0.0	200
68	27.2	4.00	0.0	0.0	0.0	0.0	300
69	68.0	4.80	0.0	0.0	0.0	0.0	300
70	63.1	3.80	0.0	0.0	0.0	0.0	200
71	62.6	3.80	0.0	0.0	0.0	0.0	200

TABLE III-5 (2 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
72	78.7	4.40	C.C	0.0	0.0	0.0	200
73	50.6	5.90	0.0	4.04	0.0	0.72	100
74	52.3	4.00	0.0	0.0	0.0	0.0	200
75	46.9	4.50	C.0	2.77	0.0	2.28	100
76	43.6	4.40	C.0	0.0	0.0	0.0	200
77	66.5	4.00	C.C	0.0	0.0	0.0	200
78	67.9	3.80	C.0	0.0	0.0	0.0	200
79	50.3	4.70	0.0	0.0	0.0	0.0	200
80	46.5	3.90	0.C	0.0	0.0	0.0	200
81	64.5	3.90	3.96	3.74	0.0	0.94	100
82	62.6	4.10	0.C	0.0	0.0	0.0	200
83	59.1	3.60	C.C	0.0	0.0	0.0	200
84	62.6	3.70	C.0	0.0	0.0	0.0	200
85	67.8	3.60	0.0	4.42	0.0	0.0	300
86	67.1	3.60	C.C	0.0	0.0	0.0	200
87	14.6	4.60	3.60	3.45	0.0	1.71	100
88	30.5	5.10	4.47	0.0	4.07	0.86	100
89	71.3	4.50	4.00	0.0	0.0	1.95	100
90	16.0	*4.50	3.91	3.90	0.0	1.43	100
92	68.3	4.80	C.C	0.0	0.0	0.0	200
93	68.3	4.80	C.C	0.0	0.0	0.0	300
94	15.9	4.40	3.32	3.44	0.0	5.06	100
95	56.7	5.20	4.15	3.89	3.38	1.26	100
96	54.8	4.50	3.60	0.0	0.0	0.78	100
97	16.0	*4.10	3.49	3.45	2.97	2.04	100
98	16.0	*4.30	3.17	3.18	2.77	1.88	100
99	16.0	*4.10	2.89	2.64	0.0	3.02	100
100	14.7	3.60	2.76	2.59	0.0	3.12	100
101	16.0	*4.30	0.0	0.0	0.0	0.0	300
102	16.6	*3.70	0.0	0.0	0.0	0.0	300
103	16.1	*4.00	3.20	3.01	0.0	2.05	100
104	15.9	*4.30	3.45	3.40	0.0	2.58	100
105	16.1	*4.20	3.58	3.59	0.0	1.58	100
106	15.8	*4.40	3.14	3.24	0.0	3.27	100
107	60.0	4.10	0.0	0.0	0.0	0.0	200
108	46.7	4.70	C.0	0.0	0.0	0.0	200
109	42.4	4.30	C.0	0.0	0.0	0.0	200
110	16.0	*3.80	C.0	0.0	0.0	0.0	300
111	65.6	4.80	4.31	4.10	0.0	1.80	100
112	94.0	5.70	4.80	0.0	4.45	0.93	100
113	16.C	*4.30	C.C	0.0	0.0	0.0	200
114	81.3	4.80	0.0	3.70	0.0	0.0	100
115	41.0	4.30	0.0	0.0	0.0	0.0	200
116	39.1	5.50	0.C	0.0	0.0	0.0	200
117	40.8	4.50	3.69	0.0	0.0	3.46	100
118	40.8	3.90	C.0	0.0	0.0	0.0	200
119	40.9	4.10	0.C	0.0	0.0	0.0	500
120	45.6	4.90	4.52	0.0	3.31	0.89	100
122	65.6	3.90	C.0	3.69	0.0	2.40	100

TABLE III-5 (3 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
123	62.3	4.60	C.0	3.84	0.0	0.71	100
124	71.1	3.90	0.0	0.0	0.0	0.0	200
125	24.4	4.50	C.0	3.25	0.0	2.02	100
126	63.5	3.90	C.C	0.0	0.0	0.0	200
129	45.9	4.80	3.72	0.0	0.0	0.64	100
130	69.2	3.70	C.C	0.0	0.0	0.0	200
131	71.2	4.70	C.0	0.0	0.0	0.0	200
132	63.1	4.00	C.0	0.0	0.0	0.0	200
133	70.8	5.20	4.12	0.0	0.0	0.59	100
134	70.6	5.40	4.79	0.0	0.0	0.78	100
135	50.6	3.90	C.0	0.0	0.0	0.0	200
136	66.7	4.20	0.C	0.0	0.0	0.0	200
137	53.1	3.90	C.C	0.0	0.0	0.0	200
138	62.9	4.10	0.C	0.0	0.0	0.0	200
139	63.7	4.80	C.0	3.49	0.0	0.96	100
140	20.2	3.50	3.64	0.0	0.0	0.0	300
141	44.8	5.30	3.83	3.66	0.0	0.58	300
142	55.7	4.10	C.0	0.0	0.0	0.0	200
143	61.3	3.40	C.0	0.0	0.0	0.0	200
144	43.6	4.00	3.30	0.0	0.0	0.49	100
145	71.2	4.80	3.77	3.44	0.0	1.94	100
146	70.8	4.70	3.71	0.0	0.0	1.83	100
147	71.0	4.90	3.95	0.0	0.0	1.33	100
148	70.4	3.70	C.C	0.0	0.0	0.0	200
149	33.0	3.70	C.C	0.0	0.0	0.0	200
150	45.0	3.80	C.C	0.0	0.0	0.0	200
151	44.1	4.30	C.0	0.0	0.0	0.0	200
152	63.4	3.70	C.C	0.0	0.0	0.0	200
153	63.2	4.50	C.C	0.0	0.0	0.0	200
154	61.1	3.70	C.C	0.0	0.0	0.0	300
155	69.5	3.70	C.0	0.0	0.0	0.0	300
156	68.1	5.00	4.84	0.0	4.28	0.12	100
157	67.8	3.60	0.0	0.0	0.0	0.0	300
158	65.8	4.30	C.0	0.0	0.0	0.0	300
159	63.9	3.80	0.0	0.0	0.0	0.0	200
160	67.8	3.70	0.0	0.0	0.0	0.0	200
161	68.3	3.50	C.C	0.0	0.0	0.0	200
162	68.7	3.80	C.C	0.0	0.0	0.0	200
163	18.8	3.70	C.0	0.0	0.0	0.0	200
164	67.8	4.00	0.C	0.0	0.0	0.0	200
165	67.8	4.90	4.48	3.94	0.0	0.92	100
167	69.3	4.90	0.0	3.27	0.0	0.80	100
166	48.2	3.80	C.0	0.0	0.0	0.0	300
168	63.2	3.30	0.0	0.0	0.0	0.0	200
169	59.9	3.80	0.0	3.43	0.0	0.85	100
170	64.6	4.00	C.C	0.0	0.0	0.0	200
171	67.5	4.70	C.0	0.0	0.0	0.0	500
172	47.2	5.30	5.51	0.0	4.34	0.64	100
173	30.2	3.30	C.0	0.0	0.0	0.0	200

TABLE III-5 (4 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
174	29.4	3.30	0.0	0.0	0.0	0.0	200
175	28.3	4.90	4.20	4.04	0.0	0.58	100
176	37.2	4.10	0.0	0.0	0.0	0.0	300
177	30.4	3.50	0.0	0.0	0.0	0.0	200
178	65.2	4.50	0.0	0.0	0.0	0.0	200
179	29.1	4.40	3.14	2.93	0.0	1.00	100
180	77.5	4.00	0.0	0.0	0.0	0.0	200
181	42.3	4.50	0.0	0.0	0.0	0.0	200
182	69.0	4.20	0.0	0.0	0.0	0.0	200
183	45.0	4.20	0.0	0.0	0.0	0.0	200
184	62.4	4.10	0.0	0.0	0.0	0.0	200
185	63.9	3.30	0.0	0.0	0.0	0.0	300
186	43.2	3.90	0.0	0.0	0.0	0.0	200
187	38.6	3.60	0.0	0.0	0.0	0.0	200
188	38.6	3.70	0.0	0.0	0.0	0.0	200
189	40.8	4.40	0.0	3.11	0.0	2.10	100
190	39.1	4.20	0.0	0.0	0.0	0.0	200
191	66.7	4.50	0.0	0.0	0.0	0.0	200
192	38.5	3.80	0.0	0.0	0.0	0.0	200
193	44.2	4.40	3.90	0.0	0.0	0.54	100
194	40.6	4.70	0.0	0.0	0.0	0.0	300
195	44.1	3.90	0.0	0.0	0.0	0.0	300
196	39.9	3.70	0.0	0.0	0.0	0.0	300
197	35.4	3.90	0.0	0.0	0.0	0.0	300
198	38.3	3.40	0.0	0.0	0.0	0.0	300
199	38.3	3.30	0.0	0.0	0.0	0.0	300
200	42.2	4.40	0.0	0.0	0.0	0.0	300
201	38.7	3.60	0.0	0.0	0.0	0.0	200
202	39.6	3.70	0.0	0.0	0.0	0.0	300
203	36.2	3.80	0.0	0.0	0.0	0.0	200
204	38.9	4.20	0.0	0.0	0.0	0.0	200
205	62.5	3.60	4.09	0.0	0.0	0.34	100
206	40.5	4.20	0.0	0.0	0.0	0.0	200
207	41.1	4.00	0.0	0.0	0.0	0.0	200
208	40.9	4.10	3.32	0.0	0.0	0.0	600
209	45.0	3.70	0.0	0.0	0.0	0.0	200
210	36.2	4.00	0.0	0.0	0.0	0.0	200
211	29.9	3.40	0.0	0.0	0.0	0.0	200
212	62.6	4.20	0.0	0.0	0.0	0.0	200
213	40.8	4.00	0.0	0.0	0.0	0.0	300
214	44.5	4.00	0.0	0.0	0.0	0.0	200
216	64.9	3.70	0.0	0.0	0.0	0.0	200
217	61.7	3.90	0.0	0.0	0.0	0.0	200
218	30.5	3.70	3.26	0.0	0.0	1.18	100
219	63.4	3.40	0.0	0.0	0.0	0.0	300
220	67.1	3.50	0.0	0.0	0.0	0.0	200
221	20.0	3.60	0.0	0.0	0.0	0.0	300
222	65.9	3.60	0.0	0.0	0.0	0.0	200
223	13.0	*4.30	3.58	3.44	0.0	0.62	100

TABLE III-5 (5 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
224	35.4	4.00	3.32	0.0	0.0	1.13	100
225	42.6	3.50	0.0	0.0	0.0	0.0	200
226	69.9	4.20	0.0	0.0	0.0	0.0	300
227	64.7	4.10	0.0	0.0	0.0	0.0	200
228	69.1	4.60	0.0	0.0	0.0	0.0	200
229	35.7	3.80	0.0	0.0	0.0	0.0	200
230	62.8	4.10	0.0	0.0	0.0	0.0	200
231	69.4	4.20	0.0	0.0	0.0	0.0	500
245	57.9	4.50	0.0	0.0	0.0	0.0	200
247	18.0	2.70	0.0	0.0	0.0	0.0	200
248	44.5	4.00	0.0	0.0	0.0	0.0	200
249	67.2	0.0	0.0	0.0	0.0	0.0	300
250	67.4	4.30	0.0	0.0	0.0	0.0	200
251	65.0	4.20	0.0	0.0	0.0	0.0	200
252	68.2	4.00	0.0	0.0	0.0	0.0	300
253	53.0	3.80	0.0	0.0	0.0	0.0	300
254	67.0	4.20	0.0	0.0	0.0	0.0	200
255	45.2	*4.60	3.77	0.0	0.0	0.0	300
256	20.6	3.50	3.34	3.20	0.0	0.40	100
257	66.2	3.30	0.0	0.0	0.0	0.21	100
258	68.8	3.00	0.0	0.0	0.0	0.0	200
259	65.2	3.60	0.0	0.0	0.0	0.0	200
260	38.9	5.50	3.43	3.33	0.0	0.0	200
261	70.2	3.70	0.0	0.0	0.0	0.56	100
262	47.9	4.90	3.92	0.0	0.0	0.0	200
263	9.7	3.80	0.0	0.0	0.0	0.45	100
264	63.2	3.80	0.0	0.0	0.0	0.0	300
265	43.3	4.20	0.0	0.0	0.0	0.0	200
266	35.7	3.60	0.0	0.0	0.0	0.0	300
267	48.6	4.10	0.0	0.0	0.0	0.0	200
268	71.6	4.10	0.0	0.0	0.0	0.0	200
269	61.1	3.80	0.0	0.0	0.0	0.0	200
270	43.4	4.10	0.0	0.0	0.0	0.0	200
271	68.3	3.80	0.0	0.0	0.0	0.0	200
272	44.0	4.00	0.0	0.0	0.0	0.0	300
273	22.7	3.80	0.0	0.0	0.0	0.0	300
274	63.9	4.00	0.0	0.0	0.0	0.0	300
275	53.0	4.10	0.0	0.0	0.0	0.0	200
276	72.6	3.70	0.0	0.0	0.0	0.0	200
277	101.9	3.70	0.0	0.0	0.0	0.0	200
278	23.9	5.40	4.76	4.51	0.0	0.0	300
279	68.4	3.70	0.0	0.0	0.0	2.22	100
280	44.0	3.70	0.0	0.0	0.0	0.0	200
281	56.6	5.30	3.64	3.38	0.0	0.0	200
282	24.3	3.70	0.0	0.0	0.0	1.55	100
283	59.6	3.70	0.0	0.0	0.0	0.0	300
284	46.4	3.60	0.0	0.0	0.0	0.0	200
285	46.5	3.50	0.0	0.0	0.0	0.0	200
286	64.2	4.50	5.02	0.0	0.0	1.39	100

TABLE III-5 (6 OF 6)

KON 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
287	46.1	3.80	C.C	0.0	0.0	0.0	200
288	50.8	3.40	C.0	2.99	0.0	0.63	100
289	64.3	3.60	3.42	3.73	0.0	0.43	100
290	49.3	3.50	3.83	3.64	0.0	2.04	100
291	77.6	4.10	C.C	0.0	0.0	0.0	300
292	68.0	5.20	3.67	4.02	0.0	0.68	100
293	43.8	4.00	C.C	0.0	0.0	0.0	300
294	41.5	5.20	5.05	0.0	3.74	0.51	100
295	43.6	3.90	0.C	0.0	0.C	0.0	200
296	50.5	3.50	C.0	0.0	0.0	0.0	200
297	67.0	5.00	0.0	0.0	0.0	0.0	300
298	42.2	3.60	0.0	0.0	0.0	0.0	200
299	61.5	3.60	C.C	0.0	0.0	0.0	200
300	66.6	4.70	0.0	4.46	3.97	0.45	100
301	62.0	3.70	C.C	0.0	0.0	0.0	200
302	42.0	3.20	0.C	0.0	0.0	0.0	200
304	68.5	3.60	0.0	0.0	0.0	0.0	200
305	70.6	4.40	C.C	0.0	0.0	0.0	300
306	44.8	3.90	C.0	0.0	0.0	0.0	200
307	69.4	4.00	C.C	0.0	0.0	0.0	200
308	45.2	3.40	3.28	2.94	0.0	0.42	100
309	46.8	3.40	C.0	0.0	0.0	0.0	200

TABLE III-6 (1 OF 4)

GGD 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
1	71.6	4.10	C.C	4.71	0.0	0.0	100
2	78.2	4.60	0.C	C.0	0.0	0.0	200
3	79.0	4.00	C.0	0.0	0.0	0.0	200
4	85.5	4.CC	0.0	0.0	0.0	0.0	200
5	69.0	4.20	C.C	0.0	0.0	0.0	200
6	95.C	5.2C	C.C	0.0	0.0	0.0	300
7	76.1	4.8C	0.0	4.34	0.0	0.0	100
8	76.C	4.50	C.C	C.0	0.0	0.0	200
9	77.9	3.40	C.C	0.0	0.0	0.0	500
10	72.4	4.30	0.C	0.0	0.0	0.0	200
11	114.7	4.80	C.C	0.0	0.0	0.0	200
12	71.4	4.40	C.C	0.0	0.0	0.0	200
13	114.6	*4.60	0.C	0.0	0.0	0.0	200
14	98.6	3.90	C.0	0.0	0.0	0.0	200
15	78.9	3.80	C.C	0.0	0.0	0.0	200
16	87.2	4.50	C.0	0.0	0.0	0.0	200
17	61.4	4.00	C.C	0.0	0.0	0.0	200
18	95.8	4.50	0.C	C.0	0.0	0.0	200
19	68.5	4.CC	C.0	C.0	0.0	0.0	500
20	71.3	3.90	0.0	0.0	0.0	0.0	200
21	92.9	4.70	0.0	0.0	0.0	0.0	200
22	113.5	4.70	C.C	0.0	0.0	0.0	200
23	95.2	5.20	0.C	0.0	0.0	0.0	200
24	96.2	3.90	C.C	0.C	0.0	0.0	200
25	79.1	4.20	0.C	0.0	0.0	0.0	200
26	115.7	4.70	6.13	6.10	0.0	1.61	100
27	114.7	4.60	C.0	4.39	3.73	1.07	100
28	72.0	3.60	0.0	0.0	0.0	0.0	200
29	71.4	4.30	C.C	0.0	0.0	0.0	200
30	85.6	3.8C	0.0	0.0	0.0	0.0	200
31	116.5	5.00	4.C7	4.05	3.65	0.0	100
32	71.4	4.40	C.C	0.0	0.0	0.0	200
33	7C.3	3.9C	C.C	0.0	0.0	0.0	200
34	87.5	4.00	C.0	0.0	0.0	0.0	200
35	75.5	4.40	0.C	0.0	0.0	0.0	200
36	73.2	4.90	4.C8	0.0	0.0	0.30	100
37	71.4	4.80	4.23	0.0	3.27	1.33	100
38	71.6	4.CC	4.23	0.C	3.25	1.55	100
39	71.7	5.30	5.10	4.94	4.49	2.02	100
40	60.7	3.90	3.66	0.0	0.0	1.27	300
41	88.6	5.10	0.0	0.C	0.0	0.0	300
42	79.4	3.90	0.0	0.0	0.0	0.0	200
43	8C.7	4.7C	0.C	0.0	0.0	0.0	200
44	95.2	5.40	0.C	0.0	0.0	0.0	300
45	96.3	4.60	C.0	0.0	0.0	0.0	300
46	71.9	3.80	C.0	0.0	0.0	0.0	200
47	71.6	3.90	C.C	0.0	0.0	0.0	200
48	75.4	4.10	C.C	0.0	0.0	0.0	200
49	85.8	4.80	C.C	0.0	0.0	0.0	300

TABLE III-6 (2 OF 4)

OGD 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
50	85.9	4.90	C.C	0.0	0.0	0.0	200
51	58.3	4.1C	C.C	0.0	0.0	0.0	200
52	74.4	4.80	0.0	0.0	0.0	0.0	200
55	75.5	4.4C	C.C	0.C	0.0	0.0	200
56	76.4	4.2C	0.C	0.0	0.0	0.0	300
57	71.7	4.CO	C.0	0.0	0.0	0.0	200
58	76.6	4.00	C.C	0.0	0.0	0.0	200
59	73.8	4.60	0.0	0.0	0.0	0.0	500
60	61.7	*4.20	C.C	0.0	0.0	0.0	200
61	114.5	4.80	0.0	0.0	0.0	0.0	500
62	114.7	4.60	C.C	4.02	0.0	0.80	100
63	61.7	*3.70	C.C	0.0	0.0	0.0	300
65	70.9	3.8C	C.C	4.00	0.0	0.0	100
66	79.6	4.10	C.C	0.C	0.0	0.0	300
67	86.2	3.20	0.C	0.C	0.0	0.0	200
68	74.8	4.CC	C.0	0.0	0.0	0.0	300
69	79.6	4.80	0.0	0.0	0.0	0.0	300
70	71.6	3.80	C.0	0.0	0.0	0.0	200
71	71.9	3.8C	C.C	3.41	0.0	1.09	100
72	108.7	4.40	C.0	0.0	0.0	0.0	200
73	103.2	5.90	0.0	4.06	0.0	0.0	100
74	102.2	4.CO	C.C	0.C	0.0	0.0	200
75	95.3	4.50	0.0	0.0	0.0	0.0	200
76	92.4	4.4C	0.0	0.C	0.0	0.0	200
77	89.7	4.CC	0.C	0.C	0.0	0.0	200
78	78.8	3.80	C.C	0.C	0.0	0.0	200
79	101.2	4.70	C.C	0.0	0.0	0.0	200
80	99.3	3.90	C.0	0.0	0.0	0.0	200
81	96.9	3.90	0.0	3.88	0.0	0.76	100
82	71.6	4.10	C.C	0.0	0.0	0.0	200
83	71.4	3.60	C.C	0.0	0.0	0.0	200
84	72.0	3.70	0.C	0.0	0.0	0.0	200
85	84.9	3.60	C.C	0.0	0.0	0.0	200
86	76.6	3.60	0.0	0.0	0.0	0.0	200
87	69.3	4.6C	C.0	3.38	0.0	0.71	100
88	83.3	5.10	4.93	4.72	0.0	0.72	100
89	115.5	4.50	C.C	4.27	0.0	0.47	100
90	61.7	*4.50	4.C5	3.79	0.0	0.88	100
92	80.8	4.80	C.C	0.0	0.0	0.0	200
93	80.8	4.80	0.C	C.0	0.0	0.0	200
94	61.6	4.40	3.87	0.0	0.0	0.92	100
95	106.0	5.2C	0.0	3.92	0.0	0.53	100
96	105.5	4.50	C.0	0.0	0.0	0.0	200
97	61.7	*4.10	3.96	3.34	0.0	0.54	100
98	61.7	*4.3C	3.60	0.0	0.0	0.46	100
99	61.7	*4.10	C.C	0.0	0.0	0.0	200
100	60.9	3.60	C.0	0.0	0.0	0.0	200
101	61.7	*4.30	0.C	0.0	0.0	0.0	300
102	62.2	*3.70	C.0	0.0	0.0	0.0	200

TABLE III-6 (3 OF 4)

OGD 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
103	61.9	*4.00	0.0	0.0	0.0	0.0	200
104	61.6	*4.30	3.71	0.0	0.0	0.68	100
105	61.8	*4.20	3.82	0.0	0.0	0.78	100
106	61.5	*4.40	0.0	3.50	0.0	0.72	100
107	108.3	4.10	0.0	0.0	0.0	0.0	200
108	94.7	4.70	0.0	0.0	0.0	0.0	200
109	90.0	4.30	0.0	0.0	0.0	0.0	200
110	61.6	*3.80	0.0	0.0	0.0	0.0	200
111	75.3	4.80	0.0	0.0	0.0	0.0	200
112	117.7	5.70	5.27	0.0	4.69	1.20	100
113	61.7	*4.30	0.0	0.0	0.0	0.0	200
114	114.3	4.80	0.0	0.0	0.0	0.0	500
122	75.3	3.90	0.0	3.58	0.0	0.0	100
127	84.0	4.10	0.0	0.0	0.0	0.0	200
128	72.4	4.50	0.0	0.0	0.0	0.0	500
129	94.3	4.80	0.0	0.0	0.0	0.0	300
130	83.4	3.70	0.0	0.0	0.0	0.0	200
131	87.1	4.70	3.81	0.0	0.0	0.32	100
132	72.6	4.00	0.0	0.0	0.0	0.0	200
133	86.0	5.20	0.0	4.20	0.0	0.28	100
134	85.8	5.40	4.98	0.0	4.15	0.26	100
135	102.3	3.90	0.0	0.0	0.0	0.0	200
136	84.1	4.20	0.0	0.0	0.0	0.0	200
137	99.3	3.90	0.0	0.0	0.0	0.0	200
138	82.9	4.10	0.0	0.0	0.0	0.0	200
139	73.2	4.80	0.0	0.0	0.0	0.0	300
140	68.7	4.00	0.0	0.0	0.0	0.0	200
141	96.2	5.30	4.14	4.03	0.0	0.60	300
142	89.5	4.10	0.0	0.0	0.0	0.0	200
143	73.9	3.40	3.84	0.0	0.0	0.0	100
144	95.3	4.00	0.0	0.0	0.0	0.0	200
214	95.0	4.00	0.0	0.0	0.0	0.0	200
216	74.8	3.70	0.0	0.0	0.0	0.0	200
217	110.3	3.90	0.0	0.0	0.0	0.0	200
218	51.9	3.70	0.0	0.0	0.0	0.0	300
219	72.2	3.40	0.0	0.0	0.0	0.0	300
220	75.6	3.50	0.0	0.0	0.0	0.0	200
221	69.2	3.60	0.0	0.0	0.0	0.0	200
222	72.0	3.60	0.0	0.0	0.0	0.0	200
223	47.6	*4.30	0.0	3.87	0.0	0.40	100
224	86.8	4.00	0.0	0.0	0.0	0.0	200
225	91.9	3.50	0.0	0.0	0.0	0.0	200
226	85.9	4.60	0.0	0.0	0.0	0.0	200
227	75.1	4.10	0.0	0.0	0.0	0.0	200
228	83.5	4.60	0.0	0.0	0.0	0.0	200
229	60.9	3.80	0.0	0.0	0.0	0.0	500
230	71.2	4.10	0.0	0.0	0.0	0.0	500
231	85.8	4.20	0.0	0.0	0.0	0.0	500
232	64.3	*4.40	0.0	0.0	0.0	0.0	500

TABLE III-6 (4 OF 4)

GGD 01/01/72 - 03/20/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
233	78.7	4.50	C.C	0.0	0.0	0.0	600
234	83.1	4.30	C.C	0.0	0.0	0.0	500
235	95.3	4.50	C.C	0.0	0.0	0.0	300
236	94.5	4.40	C.C	0.0	0.0	0.0	500
237	68.0	3.60	0.0	0.0	0.0	0.0	500
238	95.6	5.10	C.C	0.0	0.0	0.0	300
239	96.1	*3.70	0.0	0.0	0.0	0.0	500
240	111.0	4.00	0.0	0.0	0.0	0.0	500
241	74.1	3.90	C.0	0.0	0.0	0.0	500
242	85.1	3.70	0.0	0.0	0.0	0.0	500
243	91.1	5.40	0.0	0.0	0.0	0.0	500
245	98.9	4.50	C.C	0.0	0.0	0.0	500
247	66.8	2.70	C.C	0.0	0.0	0.0	500
248	97.2	4.00	C.C	0.0	0.0	0.0	500
249	116.3	0.0	C.C	0.0	0.0	0.0	500
250	114.9	4.30	C.C	0.0	0.0	0.0	200
251	79.2	4.20	0.C	0.0	0.0	0.0	500
252	79.1	4.00	C.C	0.0	0.0	0.0	300
253	102.3	3.80	C.C	0.0	0.0	0.0	300
254	83.0	4.20	0.0	0.0	0.0	0.0	500
255	97.9	*4.60	C.0	0.0	0.0	0.0	500
256	69.2	3.50	C.C	0.0	0.0	0.0	500
257	77.5	3.30	C.C	0.0	0.0	0.0	500
258	83.1	3.00	C.C	0.0	0.0	0.0	500
259	74.0	3.60	C.0	0.0	0.0	0.0	500
260	86.1	5.50	0.C	0.0	0.0	0.0	500
261	85.2	3.70	0.0	0.0	0.0	0.0	500
262	99.3	4.90	C.0	0.0	0.0	0.0	600
263	57.3	3.80	0.0	0.0	0.0	0.0	500
264	71.4	3.80	0.C	0.0	0.0	0.0	500
265	94.6	4.20	C.C	0.0	0.0	0.0	500
266	54.8	3.60	C.0	0.0	0.0	0.0	500
267	99.3	4.10	0.C	0.0	0.0	0.0	500
268	83.2	4.10	0.0	0.0	0.0	0.0	500
269	74.2	3.80	C.C	0.0	0.0	0.0	500
270	95.9	4.10	0.0	0.0	0.0	0.0	500
271	78.7	3.80	C.0	0.0	0.0	0.0	500
272	95.5	4.00	C.C	0.0	0.0	0.0	500
273	71.8	3.80	0.C	0.0	0.0	0.0	500
274	71.2	4.00	0.0	0.0	0.0	0.0	500
275	102.2	4.10	C.0	0.0	0.0	0.0	500
285	99.3	3.50	C.0	0.0	0.0	0.0	200

TABLE III-7 (1 OF 4)

CTA 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
310	68.4	3.90	C.C	0.0	0.0	0.0	200
311	97.7	3.60	4.15	3.93	0.0	1.25	100
312	75.3	3.70	0.0	0.0	0.0	0.0	200
313	127.3	4.10	C.0	0.0	0.0	0.0	200
314	76.6	3.80	0.0	0.0	0.0	0.0	200
315	102.6	4.10	C.C	0.0	0.0	0.0	200
316	70.3	3.80	4.18	3.80	3.11	0.34	100
317	85.8	3.80	C.C	0.0	0.0	0.0	200
318	85.8	3.70	0.0	0.0	0.0	0.0	200
319	86.9	3.50	C.C	0.0	0.0	0.0	200
320	86.4	3.90	4.27	3.76	0.0	0.0	600
321	76.0	3.70	3.77	3.28	0.0	0.0	100
322	68.7	4.30	C.C	3.56	0.0	0.0	300
323	48.1	*5.00	4.24	4.03	3.36	0.94	100
324	102.3	4.20	0.0	0.0	0.0	0.0	200
326	73.8	4.00	C.C	0.0	0.0	0.0	200
327	75.7	3.40	3.38	C.0	0.0	0.83	100
328	75.8	3.50	3.49	0.C	0.0	0.84	100
329	114.7	4.10	C.C	0.0	0.0	0.0	300
330	70.9	3.50	C.C	0.0	0.0	0.0	200
331	77.6	4.00	C.C	0.0	0.0	0.0	300
332	129.4	4.20	C.C	3.59	0.0	0.0	100
333	109.3	3.90	0.C	0.0	0.0	0.0	200
334	88.4	4.80	0.0	C.0	0.0	0.0	200
335	111.1	4.00	C.C	0.0	0.0	0.0	300
336	64.1	3.40	C.C	0.0	0.0	0.0	300
337	69.5	3.60	C.C	0.0	0.0	0.0	300
338	77.4	4.70	C.C	0.0	0.0	0.0	300
339	92.0	5.50	C.0	0.0	0.0	0.0	300
340	77.9	3.80	0.0	0.0	0.0	0.0	200
341	48.4	5.40	5.08	4.61	4.23	3.21	100
342	109.2	4.90	4.37	4.00	0.0	1.00	100
343	48.3	4.90	C.C	0.0	0.0	0.0	300
344	112.1	4.10	0.C	0.0	0.0	0.0	200
345	64.4	4.30	0.0	C.0	0.0	0.0	300
346	48.3	4.70	3.74	3.33	0.0	3.10	100
347	110.0	4.50	C.0	0.0	0.0	0.0	300
348	71.8	4.70	0.0	0.0	0.0	0.0	100
349	67.4	4.40	C.C	0.0	0.0	0.0	200
350	125.4	4.90	C.C	3.47	3.14	2.68	100
351	101.2	4.90	4.61	4.43	3.80	2.22	100
352	111.5	4.00	0.C	0.0	0.0	0.0	200
353	104.5	3.60	0.C	0.0	0.0	0.0	300
354	90.9	4.50	0.C	0.0	0.0	0.0	300
355	63.2	3.70	C.C	0.0	0.0	0.0	300
356	108.8	4.00	C.C	0.0	0.0	0.0	300
357	74.1	3.30	C.0	0.0	0.0	0.0	300
358	68.3	4.00	0.0	0.0	0.0	0.0	500
359	67.3	4.30	0.0	0.0	0.0	0.0	500

TABLE III-7 (2 OF 4)

CTA 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
360	64.1	3.70	C.C	0.0	0.0	0.0	500
361	108.9	5.40	0.C	0.0	0.0	0.0	500
362	109.0	5.10	4.98	4.56	3.99	4.72	100
363	74.3	3.70	0.C	0.0	0.0	0.0	200
365	76.3	3.80	C.0	0.0	0.0	0.0	300
366	106.C	4.70	0.C	0.0	0.0	0.0	300
367	109.0	5.30	C.C	4.01	0.0	0.81	100
369	103.7	3.50	3.85	3.41	2.85	0.0	100
370	99.2	3.60	0.0	0.0	0.0	0.0	300
371	134.4	*4.50	4.04	3.93	3.49	0.69	100
415	95.7	4.00	C.C	0.0	0.0	0.0	200
416	88.4	5.50	0.C	0.0	0.0	0.0	500
417	74.9	3.80	C.C	0.0	0.0	0.0	200
418	66.8	4.40	C.C	0.0	0.0	0.0	200
419	88.4	*5.20	C.C	0.0	0.0	0.0	300
420	111.2	3.50	C.C	0.0	0.0	0.0	500
421	91.7	5.10	4.01	3.61	0.0	0.0	100
422	129.5	*4.60	C.0	0.0	0.0	0.0	200
423	74.8	3.60	0.0	0.0	0.0	0.0	200
424	77.7	4.20	C.C	0.0	0.0	0.0	300
425	76.6	3.40	C.C	0.0	0.0	0.0	200
426	120.9	4.30	C.C	C.0	0.0	0.0	200
427	118.5	5.60	4.92	4.63	4.28	2.06	100
428	74.2	3.90	C.0	0.C	0.0	0.0	200
429	102.6	3.90	0.0	0.0	0.0	0.0	300
430	99.0	3.70	C.0	0.0	0.0	0.0	200
431	91.4	*4.60	0.0	0.0	0.0	0.0	300
463	127.4	4.70	C.C	0.0	0.0	0.0	300
464	66.6	4.90	0.0	0.0	0.0	0.0	300
465	68.2	4.20	C.0	0.C	0.0	0.0	200
466	131.4	4.00	C.C	0.0	0.0	0.0	300
467	50.4	4.10	3.80	3.44	2.95	0.0	100
468	52.8	3.80	C.C	0.0	0.0	0.0	200
469	74.9	4.10	0.C	0.0	0.0	0.0	200
470	82.6	4.70	0.0	3.42	0.0	0.0	130
471	90.2	4.20	0.0	0.0	0.0	0.0	300
472	68.9	5.20	3.79	3.56	0.0	1.25	100
473	76.4	3.60	C.0	0.0	0.0	0.0	200
474	97.5	3.70	C.C	0.0	0.0	0.0	200
475	110.0	4.70	0.C	0.0	0.0	0.0	500
476	69.9	5.20	3.84	3.80	3.24	0.0	100
477	87.7	3.50	0.0	0.0	0.0	0.0	200
478	77.3	4.00	0.C	0.0	0.0	0.0	200
479	129.0	4.10	C.C	0.0	0.0	0.0	200
480	69.4	3.70	C.0	0.0	0.0	0.0	200
481	75.0	3.90	C.C	0.0	0.0	0.0	200
482	64.2	4.20	C.0	0.0	0.0	0.0	200
483	93.7	3.70	0.C	0.0	0.0	0.0	200
484	134.4	4.40	0.0	0.0	0.0	0.0	200

TABLE III-7 (3 OF 4)

CTA 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
485	47.8	3.80	C.C	0.0	0.0	0.0	200
486	121.7	3.90	C.0	0.0	0.0	0.0	200
487	104.4	4.40	C.C	0.0	0.0	0.0	200
488	104.3	3.90	C.0	0.0	0.0	0.0	200
489	104.3	3.40	C.C	0.0	0.0	0.0	200
490	51.9	3.90	C.C	0.C	0.0	0.0	200
491	88.8	3.80	0.0	0.0	0.0	0.0	200
492	48.8	5.10	4.52	3.94	3.38	0.0	100
493	67.3	4.40	C.C	0.0	0.0	0.0	200
494	73.7	3.70	0.C	0.0	0.0	0.0	200
495	66.1	3.50	0.0	0.0	0.0	0.0	300
496	71.3	5.20	3.87	3.73	3.43	0.0	100
498	71.4	4.70	C.C	0.0	0.0	0.0	200
499	50.1	4.60	3.93	3.69	3.21	0.93	100
500	64.2	3.70	0.C	0.0	0.0	0.0	200
501	75.8	4.20	C.C	0.0	0.0	0.0	200
502	64.3	3.90	C.C	0.0	0.0	0.0	300
503	71.8	4.20	3.94	3.28	0.0	0.0	100
504	122.4	3.90	C.C	0.0	0.0	0.0	300
505	75.9	5.30	3.95	4.01	3.64	0.0	100
506	78.2	3.30	C.C	0.0	0.0	0.0	200
507	129.0	3.40	0.C	0.0	0.0	0.0	200
508	63.1	4.10	0.C	0.0	0.0	0.0	300
509	76.C	4.50	0.C	0.0	0.0	0.0	200
510	87.6	4.00	C.C	0.0	0.0	0.0	200
511	99.6	3.70	C.C	0.0	0.0	0.0	200
512	127.2	4.00	C.C	0.0	0.0	0.0	200
513	65.1	5.00	0.0	0.0	0.0	0.0	300
514	73.4	4.20	C.C	0.0	0.0	0.0	200
515	76.6	4.30	C.C	0.0	0.0	0.0	200
517	71.9	3.90	0.0	0.0	0.0	0.0	200
518	102.6	4.30	C.C	0.0	0.0	0.0	200
521	117.6	4.60	C.C	0.0	0.0	0.0	300
522	73.5	5.50	4.91	4.69	4.29	1.00	100
523	73.6	4.70	0.0	0.0	0.0	0.0	200
524	127.4	3.90	C.C	0.0	0.0	0.0	200
525	73.6	3.60	C.0	0.0	0.0	0.0	200
526	78.8	3.70	0.C	0.0	0.0	0.0	300
527	114.8	4.40	C.C	0.0	0.0	0.0	200
528	79.2	4.00	C.C	0.0	0.0	0.0	200
529	83.5	4.80	0.0	0.0	0.0	0.0	200
530	129.3	4.50	C.C	0.C	0.0	0.0	300
531	65.4	4.30	C.C	0.0	0.0	0.0	200
532	109.7	4.00	C.C	0.0	0.0	0.0	200
533	134.4	4.40	C.C	0.0	0.0	0.0	300
534	71.0	5.10	4.15	3.88	0.0	1.43	100
535	48.0	5.10	4.13	3.98	3.24	0.0	100
536	86.4	4.30	0.0	0.0	0.0	0.0	200
541	69.8	5.10	4.06	3.78	3.72	0.0	100

TABLE III-7 (4 OF 4)

CTA 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MP	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
542	93.3	4.00	C.C	0.0	0.0	0.0	300
543	48.0	4.90	3.72	3.86	0.0	0.76	100
544	66.4	3.50	C.C	0.0	0.0	0.0	300
546	77.6	4.80	C.C	0.0	0.0	0.0	200
547	49.9	4.60	4.44	3.69	3.35	0.0	100
548	103.7	3.60	C.0	0.0	0.0	0.0	200

TABLE III-8 (1 OF 4)

TLG 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
354	58.1	4.50	3.56	3.29	3.06	0.0	100
355	93.9	3.70	0.0	0.0	0.0	0.0	200
356	40.6	4.00	0.0	0.0	0.0	0.0	200
357	86.1	3.30	0.0	0.0	0.0	0.0	300
358	89.6	4.00	0.0	0.0	0.0	0.0	200
359	90.5	4.30	0.0	0.0	0.0	0.0	500
360	92.4	3.70	0.0	0.0	0.0	0.0	200
361	40.5	5.40	4.42	4.35	3.68	3.67	100
362	40.4	5.10	0.0	0.0	0.0	0.0	300
363	86.4	3.70	0.0	0.0	0.0	0.0	300
364	40.5	5.10	3.81	3.70	3.12	0.0	300
365	84.4	3.80	0.0	0.0	0.0	0.0	200
366	42.1	4.70	3.41	3.38	2.74	0.0	300
369	45.7	3.50	0.0	2.66	2.19	0.0	100
370	50.7	3.60	0.0	0.0	0.0	0.0	300
372	13.5	*4.30	3.01	2.97	0.0	0.0	100
373	20.3	4.90	3.66	3.67	0.0	0.0	100
374	85.9	3.50	3.50	3.49	2.03	0.0	100
375	24.8	3.30	2.93	2.98	2.52	0.0	100
376	83.3	4.10	0.0	0.0	0.0	0.0	200
377	56.2	4.50	0.0	0.0	0.0	0.0	300
378	85.7	3.60	0.0	0.0	0.0	0.0	200
379	39.9	3.70	0.0	0.0	0.0	0.0	300
380	15.7	*4.30	2.78	0.0	0.0	0.0	100
381	92.5	4.60	0.0	3.54	0.0	0.0	300
382	67.5	4.30	3.44	3.36	2.68	0.0	100
383	90.0	3.90	0.0	0.0	0.0	0.0	300
384	57.0	4.30	0.0	0.0	0.0	0.0	200
385	26.9	4.40	2.60	2.54	0.0	0.0	100
386	85.5	5.00	0.0	0.0	0.0	0.0	300
387	93.5	4.00	0.0	0.0	0.0	0.0	200
388	93.5	4.50	3.54	3.13	2.90	3.34	100
389	90.5	4.10	0.0	0.0	0.0	0.0	200
403	59.8	3.70	0.0	0.0	0.0	0.0	200
404	48.7	3.50	0.0	0.0	0.0	0.0	300
405	16.0	*4.50	3.28	2.63	2.38	5.49	100
408	58.2	3.40	0.0	0.0	0.0	0.0	200
409	15.3	*3.70	0.0	0.0	0.0	0.0	200
410	56.4	4.70	3.60	3.49	3.21	0.0	100
411	85.1	4.10	0.0	0.0	0.0	0.0	200
412	100.0	5.00	4.00	3.80	3.16	0.0	100
413	82.9	3.60	0.0	0.0	0.0	0.0	300
414	56.1	3.70	0.0	0.0	0.0	0.0	200
415	52.3	4.00	3.03	3.08	2.68	0.0	300
416	60.1	5.50	3.66	3.40	3.32	0.0	300
417	85.0	3.80	0.0	0.0	0.0	0.0	300
418	81.0	4.40	0.0	0.0	0.0	0.0	200
419	60.1	*5.20	3.27	3.18	2.73	0.0	100
420	36.7	3.50	0.0	0.0	0.0	0.0	200

TABLE III-8 (2 OF 4)

TLO 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
424	83.7	4.20	0.0	0.0	0.0	0.0	200
425	84.6	3.40	0.0	0.0	0.0	0.0	300
426	28.8	4.30	0.0	0.0	0.0	0.0	200
428	86.2	3.90	0.0	0.0	0.0	0.0	200
429	47.0	3.90	0.0	0.0	0.0	0.0	300
430	49.4	3.70	0.0	0.0	0.0	0.0	200
431	56.4	*4.60	0.0	0.0	0.0	0.0	200
432	51.3	4.40	0.0	0.0	0.0	0.0	300
433	98.0	4.90	4.38	4.00	3.42	1.03	100
435	85.7	3.40	0.0	0.0	0.0	0.0	200
436	45.2	5.40	4.83	4.42	4.06	1.22	100
437	45.3	4.60	0.0	0.0	0.0	0.0	300
438	45.2	5.00	3.67	3.33	3.00	0.0	100
439	57.5	4.30	0.0	0.0	0.0	0.0	300
440	47.0	4.00	0.0	0.0	0.0	0.0	200
441	42.2	4.00	0.0	0.0	0.0	0.0	300
442	45.4	5.10	0.0	0.0	0.0	0.0	300
443	89.4	4.00	0.0	0.0	0.0	0.0	200
444	28.0	3.40	0.0	0.0	0.0	0.0	200
445	48.7	3.90	0.0	0.0	0.0	0.0	300
446	84.5	4.40	0.0	0.0	0.0	0.0	500
447	88.4	3.60	0.0	0.0	0.0	0.0	200
448	48.7	3.80	0.0	0.0	0.0	0.0	200
449	60.2	4.60	3.94	3.60	2.91	0.64	100
450	63.6	3.50	0.0	0.0	0.0	0.0	300
451	65.0	4.30	0.0	0.0	0.0	0.0	300
452	43.3	3.40	0.0	0.0	0.0	0.0	300
453	45.7	4.00	0.0	0.0	0.0	0.0	200
454	20.2	4.70	0.0	0.0	0.0	0.0	300
455	47.7	4.10	0.0	0.0	0.0	0.0	300
456	56.1	4.40	3.17	2.99	0.0	0.0	100
457	50.0	3.10	0.0	0.0	0.0	0.0	200
458	59.4	4.30	0.0	0.0	0.0	0.0	300
459	91.9	3.90	0.0	0.0	0.0	0.0	300
460	83.5	3.70	0.0	0.0	0.0	0.0	300
461	85.8	5.00	4.67	4.45	3.81	0.0	100
462	80.8	3.70	0.0	0.0	0.0	0.0	200
463	20.9	4.70	0.0	0.0	0.0	0.0	200
464	91.9	4.90	4.07	0.0	0.0	0.0	100
465	89.4	4.20	0.0	0.0	0.0	0.0	200
466	18.5	4.00	0.0	2.55	0.0	0.0	100
467	100.1	4.10	0.0	0.0	0.0	0.0	200
468	97.6	3.80	0.0	0.0	0.0	0.0	200
469	85.7	4.10	0.0	0.0	0.0	0.0	200
470	65.5	4.70	0.0	0.0	0.0	0.0	500
471	57.7	4.20	0.0	0.0	0.0	0.0	300
472	89.7	5.20	3.96	3.88	3.33	1.53	100
473	84.5	3.60	0.0	0.0	0.0	0.0	200
474	51.3	3.70	0.0	0.0	0.0	0.0	200

TABLE III-8 (3 OF 4)

TLG 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
475	38.9	4.70	3.91	3.23	2.67	3.00	100
476	89.0	5.20	4.12	3.78	3.20	0.0	100
477	60.4	3.50	0.0	0.0	0.0	0.0	200
478	84.9	4.00	0.0	0.0	0.0	0.0	200
479	20.4	4.10	3.29	2.59	0.0	0.0	100
480	89.0	3.70	0.0	0.0	0.0	0.0	200
481	72.8	3.90	0.0	0.0	0.0	0.0	200
482	92.9	4.20	0.0	0.0	0.0	0.0	200
483	55.6	3.70	0.0	0.0	0.0	0.0	200
484	13.5	4.40	0.0	0.0	0.0	0.0	200
485	100.9	3.80	0.0	0.0	0.0	0.0	200
486	27.7	3.90	0.0	0.0	0.0	0.0	200
487	45.2	4.40	0.0	0.0	0.0	0.0	200
488	45.4	3.90	0.0	0.0	0.0	0.0	200
489	45.4	3.40	0.0	0.0	0.0	0.0	200
490	99.1	3.90	0.0	0.0	0.0	0.0	200
491	59.0	3.80	0.0	0.0	0.0	0.0	200
492	100.3	5.10	4.09	3.77	3.19	1.37	100
493	90.5	4.40	3.12	3.03	2.79	0.0	100
494	85.7	3.70	0.0	0.0	0.0	0.0	200
495	90.8	3.50	0.0	0.0	0.0	0.0	200
496	76.5	5.20	4.75	4.21	3.80	0.0	100
497	36.3	4.90	4.43	4.31	3.97	2.05	100
498	76.4	4.70	0.0	0.0	0.0	0.0	200
499	98.6	4.60	3.57	3.43	2.75	0.93	100
500	92.9	3.70	0.0	0.0	0.0	0.0	200
501	85.1	4.20	0.0	0.0	0.0	0.0	200
502	83.5	3.90	0.0	0.0	0.0	0.0	300
503	87.8	4.20	0.0	3.13	0.0	0.0	100
504	27.6	3.90	0.0	0.0	0.0	0.0	200
505	84.1	5.30	0.0	3.74	3.16	2.26	100
506	82.4	3.30	0.0	0.0	0.0	0.0	200
508	93.6	4.10	3.87	3.67	2.73	0.0	100
509	84.0	4.50	0.0	0.0	0.0	0.0	200
510	60.2	4.00	0.0	0.0	0.0	0.0	300
511	48.5	3.70	0.0	0.0	0.0	0.0	200
513	91.5	5.00	4.07	3.82	3.15	0.0	100
514	87.3	4.20	0.0	0.0	0.0	0.0	200
515	82.8	4.30	0.0	0.0	0.0	0.0	200
516	55.9	3.60	0.0	0.0	0.0	0.0	300
517	76.0	3.90	0.0	0.0	0.0	0.0	200
518	45.9	4.30	0.0	0.0	0.0	0.0	300
521	30.3	4.60	0.0	3.39	2.98	0.0	100
522	74.3	5.50	5.11	4.86	3.87	0.0	100
523	72.4	4.70	0.0	0.0	0.0	0.0	200
524	23.5	3.90	0.0	0.0	0.0	0.0	200
525	74.2	3.60	0.0	0.0	0.0	0.0	200
526	81.1	3.70	0.0	0.0	0.0	0.0	300
527	33.6	4.40	2.99	3.09	0.0	0.0	100

TABLE III-8 (4 OF 4)

TLO 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
528	81.4	4.00	0.0	0.0	0.0	0.0	200
529	64.3	4.80	0.0	0.0	0.0	0.0	200
530	19.6	4.50	3.55	3.24	0.0	0.0	100
537	25.9	3.80	0.0	0.0	0.0	0.0	200
538	57.3	3.80	0.0	0.0	0.0	0.0	200
539	89.2	4.80	0.0	0.0	0.0	0.0	200
540	21.6	4.40	0.0	0.0	0.0	0.0	300
541	89.2	5.10	0.0	0.0	0.0	0.0	300
542	54.6	4.00	0.0	0.0	0.0	0.0	200
543	100.5	4.90	0.0	0.0	0.0	0.0	300
544	81.5	3.50	0.0	0.0	0.0	0.0	200
545	23.5	3.60	0.0	0.0	0.0	0.0	200
546	83.3	4.80	0.0	0.0	0.0	0.0	200
547	98.7	4.60	0.0	0.0	0.0	0.0	200
548	45.7	3.60	0.0	0.0	0.0	0.0	200

TABLE III-9 (1 OF 3)

EIL 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
310	85.6	3.90	C.C	0.0	0.0	0.0	200
311	34.6	3.60	3.65	0.0	0.0	0.0	100
312	55.2	3.70	3.67	0.0	3.28	0.0	100
313	13.0	4.10	C.C	0.0	0.0	0.0	200
314	85.1	3.80	0.0	0.0	0.0	0.0	300
315	16.0	4.10	3.03	2.70	0.0	0.0	100
316	83.3	3.80	C.C	0.0	0.0	0.0	500
317	40.0	3.80	0.0	0.0	0.0	0.0	300
318	40.0	3.70	C.C	0.0	0.0	0.0	200
319	39.4	3.50	C.C	3.64	3.29	0.0	100
320	39.3	3.90	C.C	0.0	0.0	0.0	200
321	48.1	3.70	C.C	0.0	0.0	0.0	500
322	53.1	4.30	0.0	0.0	0.0	0.0	500
323	79.5	*5.00	C.C	0.0	0.0	0.0	500
324	16.1	4.20	C.C	0.0	0.0	0.0	500
325	16.9	4.20	C.C	0.0	0.0	0.0	200
326	84.2	4.00	C.C	0.0	0.0	0.0	200
327	88.6	3.40	C.C	0.0	0.0	0.0	200
328	86.3	3.50	C.C	0.0	0.0	0.0	200
330	52.8	3.50	3.83	3.21	0.0	0.0	100
331	84.0	4.00	C.C	0.0	0.0	0.0	300
332	13.8	4.20	0.0	0.0	0.0	0.0	200
333	10.8	3.90	C.C	2.60	0.0	0.0	100
334	31.0	4.80	0.0	0.0	0.0	0.0	200
335	57.2	4.00	C.C	0.0	0.0	0.0	500
336	84.8	3.40	0.0	0.0	0.0	0.0	500
337	85.4	3.60	0.0	0.0	0.0	0.0	300
338	84.5	4.70	C.C	0.0	0.0	0.0	300
339	38.6	5.50	C.C	0.0	0.0	0.0	200
340	85.2	3.80	C.C	0.0	0.0	0.0	200
341	76.2	5.50	0.0	0.0	0.0	0.0	200
343	76.3	4.90	4.26	4.00	3.91	0.0	100
344	14.0	4.10	C.C	0.0	0.0	0.0	200
345	54.7	4.30	C.C	0.0	0.0	0.0	300
346	76.4	4.70	3.24	3.16	0.0	0.0	100
347	17.2	4.50	0.0	0.0	0.0	0.0	300
348	49.8	4.70	C.C	0.0	0.0	0.0	200
349	85.7	4.40	C.C	0.0	0.0	0.0	200
350	8.7	4.90	2.66	0.0	1.75	0.0	100
351	139.6	4.90	C.C	0.0	0.0	0.0	200
352	11.0	4.00	0.0	0.0	0.0	0.0	200
353	14.3	3.60	C.C	0.0	0.0	0.0	200
354	28.0	4.50	0.0	0.0	0.0	0.0	200
355	86.6	3.70	C.C	0.0	0.0	0.0	200
356	10.7	4.00	C.C	0.0	0.0	0.0	300
361	10.7	5.40	5.03	4.47	4.30	0.0	100
362	10.7	5.10	C.C	0.0	0.0	0.0	300
363	85.9	3.70	C.C	0.0	0.0	0.0	200
365	84.4	3.80	0.0	0.0	0.0	0.0	200

TABLE III-9 (2 OF 3)

EIL 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
428	85.4	3.90	C.C	0.0	0.0	0.0	200
432	19.7	4.40	3.94	3.28	2.71	0.0	100
433	75.6	4.90	3.87	3.87	3.10	0.0	100
435	86.7	3.40	C.0	0.0	0.0	0.0	200
437	14.1	4.60	3.62	3.19	2.77	0.0	100
438	14.1	5.00	3.74	3.37	3.02	0.0	100
439	31.3	4.30	C.0	0.0	0.0	0.0	200
441	11.9	4.00	3.48	2.72	2.49	0.0	100
442	14.3	5.10	3.86	3.71	3.36	0.0	100
443	85.9	4.00	0.0	0.0	0.0	0.0	200
444	11.7	3.40	C.0	0.0	0.0	0.0	200
445	17.1	3.90	C.0	0.0	0.0	0.0	300
446	84.8	4.40	0.C	0.0	0.0	0.0	200
447	83.4	3.60	0.0	0.0	0.0	0.0	200
449	39.6	4.60	3.57	3.13	0.0	0.0	100
450	43.0	3.50	C.C	0.0	0.0	0.0	200
451	44.4	4.30	C.0	0.0	0.0	0.0	300
452	13.7	3.40	3.67	2.97	0.0	0.0	100
453	15.2	4.00	3.27	2.91	0.0	0.0	100
454	13.3	4.70	3.10	2.54	2.02	0.0	100
455	16.9	4.10	0.0	0.0	0.0	0.0	300
456	38.5	4.40	C.C	0.0	0.0	0.0	300
457	18.2	3.10	2.70	2.52	0.0	0.0	100
458	49.3	4.30	3.67	3.37	0.0	0.0	100
459	83.6	3.90	C.C	0.0	0.0	0.0	300
460	84.1	3.70	C.0	0.0	0.0	0.0	200
461	57.6	5.00	4.59	4.56	3.83	0.0	100
462	57.1	3.70	C.C	0.0	0.0	0.0	200
463	15.1	4.70	C.C	0.0	0.0	0.0	200
464	87.1	4.90	3.96	3.58	0.0	0.0	100
465	84.0	4.20	C.C	0.0	0.0	0.0	200
466	14.7	4.00	C.0	0.0	0.0	0.0	200
467	81.5	4.10	C.0	0.0	0.0	0.0	200
469	85.3	4.10	0.0	0.0	0.0	0.0	300
470	44.9	4.70	C.C	0.0	0.0	0.0	300
471	32.1	4.20	0.C	0.0	0.0	0.0	300
472	85.6	5.20	C.0	0.0	0.0	0.0	300
473	84.8	3.60	0.0	0.0	0.0	0.0	500
474	22.0	3.70	C.0	0.0	0.0	0.0	200
475	11.6	4.70	0.0	0.0	0.0	0.0	200
476	85.4	5.20	C.0	0.0	0.0	0.0	200
477	32.9	3.50	C.0	0.0	0.0	0.0	300
478	86.7	4.00	C.0	0.0	0.0	0.0	200
479	13.2	4.10	C.C	0.0	0.0	0.0	200
481	46.6	3.90	C.0	0.0	0.0	0.0	200
482	85.9	4.20	C.C	0.0	0.0	0.0	200
483	24.9	3.70	C.C	0.0	0.0	0.0	200
484	22.2	4.40	C.C	0.0	0.0	0.0	200
485	78.2	3.80	0.0	0.0	0.0	0.0	200

TABLE III-9 (3 OF 3)

FIL 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
486	7.3	3.90	0.0	0.0	0.0	0.0	200
487	14.1	4.40	0.0	0.0	0.0	0.0	200
488	14.3	3.90	0.0	0.0	0.0	0.0	200
489	14.3	3.40	0.0	0.0	0.0	0.0	200
490	81.6	3.90	0.0	0.0	0.0	0.0	300
491	37.2	3.80	0.0	0.0	0.0	0.0	200
492	78.9	5.10	0.0	0.0	0.0	0.0	500
499	76.0	4.60	3.74	3.28	2.80	0.0	100
500	85.9	3.70	0.0	0.0	0.0	0.0	200
501	85.2	4.20	0.0	0.0	0.0	0.0	200
502	57.8	3.90	0.0	0.0	0.0	0.0	500
503	85.5	4.20	0.0	0.0	0.0	0.0	300
504	6.1	3.90	0.0	0.0	0.0	0.0	200
505	83.5	5.30	4.70	4.10	3.93	0.0	100
506	83.0	3.30	0.0	0.0	0.0	0.0	200
508	86.0	4.10	0.0	0.0	0.0	0.0	300
509	83.3	4.50	0.0	0.0	0.0	0.0	300
510	36.1	4.00	0.0	0.0	0.0	0.0	200
511	31.9	3.70	0.0	0.0	0.0	0.0	200
512	21.1	4.00	0.0	0.0	0.0	0.0	200
513	84.2	5.00	0.0	0.0	0.0	0.0	300
514	86.6	4.20	0.0	0.0	0.0	0.0	200
515	81.7	4.30	0.0	0.0	0.0	0.0	500
516	30.6	3.60	0.0	0.0	0.0	0.0	200
517	49.1	3.90	3.83	3.40	0.0	0.0	100
518	18.4	4.30	0.0	0.0	0.0	0.0	200
521	15.7	4.60	3.42	3.06	0.0	0.0	100
522	48.6	5.50	4.79	4.50	3.87	0.0	100
523	48.5	4.70	0.0	0.0	0.0	0.0	200
524	9.7	3.90	0.0	0.0	0.0	0.0	200
525	48.3	3.60	0.0	0.0	0.0	0.0	200
526	81.1	3.70	0.0	0.0	0.0	0.0	200
527	11.1	4.40	0.0	0.0	0.0	0.0	200
528	82.3	4.00	0.0	0.0	0.0	0.0	200
529	39.0	4.80	0.0	0.0	0.0	0.0	200
530	14.3	4.50	0.0	0.0	0.0	0.0	200
531	85.6	4.30	0.0	0.0	0.0	0.0	200
532	14.8	4.00	0.0	0.0	0.0	0.0	500
533	22.1	4.40	0.0	0.0	0.0	0.0	300
534	86.7	5.10	0.0	0.0	0.0	0.0	200
535	82.6	5.10	0.0	0.0	0.0	0.0	500
536	39.3	4.30	0.0	0.0	0.0	0.0	500
542	31.0	4.00	0.0	0.0	0.0	0.0	200
543	77.1	4.90	0.0	0.0	0.0	0.0	300
544	56.9	3.50	0.0	0.0	0.0	0.0	300
545	13.2	3.60	0.0	0.0	0.0	0.0	200
546	83.9	4.80	0.0	0.0	0.0	0.0	500
547	76.2	4.60	0.0	0.0	0.0	0.0	200
548	15.2	3.60	0.0	0.0	0.0	0.0	200

TABLE III-10 (1 OF 2)

KON 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MP	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
310	68.5	3.90	C.C	0.0	0.0	0.0	200
311	33.5	3.60	3.11	2.58	0.0	0.0	100
312	54.7	3.70	0.0	0.0	0.0	0.0	200
313	22.6	4.10	C.0	0.0	0.0	0.0	200
314	63.5	3.80	0.0	0.0	0.0	0.0	200
315	41.4	4.10	C.0	0.0	0.0	0.0	300
316	66.2	3.80	0.0	0.0	0.0	0.0	300
317	46.3	3.80	C.0	0.0	0.0	0.0	200
318	46.3	3.70	C.C	0.0	0.0	0.0	200
319	45.0	3.50	C.C	0.0	0.0	0.0	200
320	45.8	3.90	C.0	0.0	0.0	0.0	160
321	55.8	3.70	C.0	0.0	0.0	0.0	200
322	63.9	4.30	C.C	0.0	0.0	0.0	300
323	81.8	*5.00	4.42	3.78	2.96	7.14	100
324	42.3	4.20	C.C	0.0	0.0	0.0	300
325	41.9	4.20	C.C	0.0	0.0	0.0	200
326	64.5	4.00	C.C	0.0	0.0	0.0	200
327	66.1	3.40	0.0	0.0	0.0	0.0	200
328	64.6	3.50	0.0	C.C	0.0	0.0	200
330	60.7	3.50	C.C	0.0	0.0	0.0	200
331	62.6	4.00	C.C	0.0	0.0	0.0	300
332	23.1	4.20	3.96	4.18	0.0	8.00	100
333	30.9	3.90	C.0	2.64	0.0	0.0	100
334	49.9	4.80	3.27	2.93	0.0	1.69	100
335	27.3	4.00	3.29	3.12	2.57	0.62	100
336	70.9	3.40	C.C	0.0	0.0	0.0	200
337	67.8	3.60	C.C	0.0	0.0	0.0	200
338	62.6	4.70	3.50	3.05	0.0	0.0	300
339	38.9	5.50	C.0	0.0	0.0	0.0	300
340	62.8	3.80	C.C	0.0	0.0	0.0	300
341	81.7	5.40	5.30	4.88	4.46	0.0	100
343	81.7	4.90	0.0	0.0	0.0	0.0	300
344	28.2	4.10	C.0	0.0	0.0	0.0	200
345	70.9	4.30	C.C	0.0	0.0	0.0	300
346	81.8	4.70	3.91	3.16	0.0	0.0	100
347	28.0	4.50	4.22	3.92	3.52	0.0	100
348	61.2	4.70	0.C	4.78	0.0	0.0	100
349	69.2	4.40	0.0	0.0	0.0	0.0	200
350	27.2	4.90	4.43	4.02	3.42	0.0	100
351	111.5	4.90	4.27	4.40	4.25	0.91	100
352	31.5	4.00	C.C	0.0	0.0	0.0	300
412	81.7	5.00	4.42	3.70	0.0	2.68	100
413	61.7	3.60	C.0	0.0	0.0	0.0	300
414	44.3	3.70	3.29	0.0	0.0	0.0	100
415	40.8	4.00	0.0	0.0	0.0	0.0	200
416	50.0	5.50	4.56	4.08	3.52	7.08	100
417	63.7	3.80	C.C	0.0	0.0	0.0	300
418	66.1	4.40	C.0	0.C	0.0	0.0	200
419	50.0	5.40	4.36	3.68	3.15	5.18	100

TABLE III-10 (2 OF 2)

KON 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
420	22.6	3.50	C.C	C.C	0.0	0.0	200
421	44.3	5.10	4.65	3.86	3.47	0.0	100
422	17.9	*4.60	3.01	2.72	2.43	0.77	100
423	57.8	3.60	0.C	0.0	0.0	0.0	200
424	62.7	4.20	C.C	0.0	0.0	0.0	200
425	63.5	3.40	0.0	0.0	0.0	0.0	200
426	28.6	4.30	0.C	0.0	0.0	0.0	200
427	36.1	5.60	4.70	4.57	4.41	2.60	100
428	65.0	3.90	C.C	0.0	0.0	0.0	200
429	41.4	3.90	C.C	0.C	0.0	0.0	300
430	31.8	3.70	C.C	0.0	0.0	0.0	200
431	43.3	*4.60	3.73	3.28	2.89	0.0	100
467	79.9	4.10	0.C	0.C	0.0	0.0	300
469	64.6	4.10	C.0	0.0	0.0	0.0	200
470	48.5	4.70	0.C	0.0	0.0	0.0	300
471	45.1	4.20	0.C	0.0	0.0	0.0	200
472	68.2	5.20	3.96	3.94	3.63	1.63	100
473	63.4	3.60	0.0	0.0	0.0	0.0	200
474	43.1	3.70	C.C	0.0	0.0	0.0	200
475	33.0	4.70	3.84	3.33	2.89	0.0	100
476	67.6	5.20	4.35	3.93	3.52	0.54	100
477	48.7	3.90	C.C	0.0	0.0	0.0	200
478	64.1	4.00	C.0	0.0	0.0	0.0	200
479	23.7	4.10	3.38	3.47	0.0	0.22	100
481	58.4	3.90	C.C	C.0	0.0	0.0	300
482	71.4	4.20	3.65	0.0	0.0	0.44	100
483	47.8	3.70	C.C	0.0	0.0	0.0	300
484	16.0	4.40	0.0	0.C	0.0	0.0	200
485	82.1	3.80	C.0	0.0	0.0	0.0	300
486	27.4	3.90	C.C	0.0	0.0	0.0	200
487	40.4	4.40	0.C	0.0	0.0	0.0	200
488	40.5	3.90	0.C	0.0	0.0	0.0	200
489	40.5	3.40	0.0	0.0	0.0	0.0	200
490	78.6	3.90	0.0	0.0	0.0	0.0	200
512	15.0	4.00	2.63	3.19	2.68	0.0	100

TABLE III-11 (1 OF 2)

OGD 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
310	81.1	3.90	C.C	0.0	0.0	0.0	500
321	102.0	3.70	0.0	0.0	0.0	0.0	200
339	86.1	5.50	0.0	0.0	0.0	0.0	300
340	70.3	3.80	0.0	0.0	0.0	0.0	300
341	116.3	5.40	0.0	0.0	0.0	0.0	500
342	87.2	4.90	C.C	0.0	0.0	0.0	500
343	116.4	4.90	0.0	0.0	0.0	0.0	500
348	108.4	4.70	C.C	0.0	0.0	0.0	500
349	82.3	4.40	0.0	0.0	0.0	0.0	500
350	75.2	4.90	3.47	3.10	2.46	10.80	100
351	58.7	4.90	4.07	3.69	3.48	0.0	100
352	83.9	4.00	C.C	0.0	0.0	0.0	300
353	92.2	3.60	C.C	0.0	0.0	0.0	200
354	101.9	4.50	3.39	2.96	2.51	6.57	100
355	86.8	3.70	0.0	0.0	0.0	0.0	200
356	88.2	4.00	C.C	0.0	0.0	0.0	300
357	74.8	3.30	0.0	0.0	0.0	0.0	500
358	81.9	4.00	C.C	0.0	0.0	0.0	500
359	82.7	4.30	0.0	0.0	0.0	0.0	500
360	86.7	3.70	C.0	0.0	0.0	0.0	200
361	88.0	5.40	C.C	0.0	0.0	0.0	300
362	88.0	5.10	4.10	3.98	3.36	10.04	100
363	74.0	3.70	C.C	0.0	0.0	0.0	300
365	72.5	3.80	C.C	0.0	0.0	0.0	500
366	85.4	4.70	0.0	0.0	0.0	0.0	300
367	88.0	5.30	0.0	0.0	0.0	0.0	500
369	92.7	3.50	C.C	0.0	0.0	0.0	500
370	98.0	3.60	C.0	0.0	0.0	0.0	200
371	61.8	*4.50	4.18	4.13	3.95	0.17	100
373	70.3	4.90	4.27	4.20	3.75	0.0	100
374	70.5	3.50	0.0	0.0	0.0	0.0	500
375	74.1	3.30	C.C	0.0	0.0	0.0	500
376	72.1	4.10	C.C	C.0	0.0	0.0	200
377	96.1	4.50	C.0	0.0	0.0	0.0	200
378	75.9	3.60	C.0	0.0	0.0	0.0	200
379	87.2	3.70	0.0	0.0	0.0	0.0	500
380	60.1	*4.30	0.0	0.0	0.0	0.0	200
381	86.1	4.60	C.0	3.43	0.0	0.0	100
383	81.1	3.90	0.0	0.0	0.0	0.0	500
384	93.8	4.30	C.C	0.0	0.0	0.0	150
385	75.2	4.40	3.01	2.50	2.36	0.0	100
386	70.3	5.00	0.0	0.0	0.0	0.0	150
388	85.6	4.50	0.0	C.C	0.0	0.0	300
389	79.9	4.10	C.C	0.0	0.0	0.0	200
390	94.3	4.00	C.0	0.0	0.0	0.0	200
391	84.2	3.70	C.C	0.0	0.0	0.0	500
392	101.7	3.60	0.C	0.0	0.0	0.0	500
402	88.1	4.60	2.83	0.0	0.0	0.0	300
403	97.1	3.70	C.0	0.C	0.0	0.0	500

TABLE III-11 (2 OF 2)

OGD 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
404	96.1	3.50	0.0	0.0	0.0	0.0	300
405	63.9	*4.50	3.41	3.04	0.0	0.0	100
407	96.0	3.80	0.0	0.0	0.0	0.0	200
408	95.8	3.40	0.0	0.0	0.0	0.0	200
409	63.1	*3.70	0.0	0.0	0.0	0.0	500
410	96.1	4.70	4.38	3.93	3.33	3.07	100
411	74.0	4.10	4.13	3.53	3.42	0.52	100
412	116.3	5.00	4.60	4.29	3.98	0.0	100
413	73.2	3.60	0.0	0.0	0.0	0.0	300
414	96.0	3.70	0.0	0.0	0.0	0.0	200
415	92.8	4.00	0.0	0.0	0.0	0.0	200
416	102.1	5.50	4.63	4.27	4.13	0.0	200
417	74.4	3.80	0.0	0.0	0.0	0.0	200
418	112.2	4.40	3.93	3.61	0.0	0.0	100
419	102.1	*5.20	4.31	3.79	3.54	0.0	100
420	74.8	3.50	0.0	0.0	0.0	0.0	200
421	95.5	5.10	4.26	3.98	3.66	0.0	100
422	66.5	*4.60	0.0	0.0	0.0	0.0	300
423	104.8	3.60	0.0	0.0	0.0	0.0	200
424	70.6	4.20	0.0	0.0	0.0	0.0	200
425	71.8	3.40	0.0	0.0	0.0	0.0	200
428	74.4	3.90	0.0	0.0	0.0	0.0	200
429	94.0	3.90	0.0	0.0	0.0	0.0	500
430	74.9	3.70	0.0	0.0	0.0	0.0	200
431	94.2	*4.60	0.0	0.0	0.0	0.0	300

TABLE III-12 (1 OF 5)

KIP C6/C1/72 - C7/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
310	46.5	3.90	C.C	0.0	0.0	0.0	200
311	95.5	3.60	0.0	0.0	0.0	0.0	500
312	81.4	3.70	C.C	0.0	0.0	0.0	500
313	119.5	4.10	0.C	0.0	0.0	0.0	500
314	43.9	3.80	C.0	0.0	0.0	0.0	500
315	120.6	4.10	C.0	0.0	0.0	0.0	500
316	48.4	3.80	C.C	0.0	0.0	0.0	500
317	95.8	3.80	C.C	0.0	0.0	0.0	500
318	95.8	3.70	0.C	0.0	0.0	0.0	500
319	95.8	3.50	C.C	0.0	0.0	0.0	500
320	96.4	3.90	0.C	0.0	0.0	0.0	500
321	92.4	3.70	0.C	0.0	0.0	0.0	500
323	69.8	*5.00	4.37	4.04	0.0	0.0	100
324	121.4	4.20	3.81	0.0	0.0	0.0	100
326	46.0	4.00	0.C	0.0	0.0	0.0	500
327	40.4	3.40	C.0	0.0	0.0	0.0	500
328	42.9	3.50	C.0	0.0	0.0	0.0	500
329	122.3	4.10	C.C	0.0	0.0	0.0	500
330	90.2	3.50	C.C	0.C	0.0	0.0	500
331	45.0	4.00	C.C	0.0	0.0	0.0	500
332	120.8	4.20	3.81	3.50	0.0	0.0	100
333	120.0	3.90	C.0	0.0	0.0	0.0	500
334	110.8	4.80	C.C	0.0	0.0	0.0	500
335	71.9	4.00	3.61	3.55	0.0	0.0	100
336	49.6	3.40	C.C	0.0	0.0	0.0	200
337	46.2	3.60	0.C	0.0	0.0	0.0	500
338	44.5	4.70	3.49	3.71	0.0	0.0	100
339	93.2	5.50	0.0	0.0	0.0	0.0	300
340	43.6	3.80	C.C	0.0	0.0	0.0	300
341	75.2	5.40	5.64	5.28	0.0	0.22	100
342	119.9	4.90	4.63	0.C	0.0	0.0	100
343	75.2	4.90	0.0	0.0	0.0	0.0	300
344	114.3	4.10	C.C	0.0	0.0	0.0	200
345	98.8	4.30	C.C	0.0	0.0	0.0	200
346	75.1	4.70	C.C	0.0	0.0	0.0	300
347	111.3	4.50	C.C	0.0	0.0	0.0	300
348	95.3	4.70	0.0	0.0	0.0	0.0	200
349	46.9	4.40	4.05	C.C	0.0	0.0	100
350	123.6	4.90	C.C	3.6[illegible]	0.0	0.0	100
351	57.4	4.90	5.17	5.08	4.49	4.38	100
352	118.0	4.00	3.88	3.57	3.66	0.0	100
353	120.6	3.60	C.0	0.0	0.0	0.0	200
354	114.4	4.50	3.77	3.51	3.14	5.77	100
355	48.1	3.70	C.C	0.0	0.0	0.0	200
356	120.9	4.00	C.C	0.0	0.0	0.0	300
357	44.9	3.30	C.C	0.0	0.0	0.0	300
358	47.8	4.00	0.C	0.0	0.0	0.0	100
359	47.5	4.30	C.C	0.0	0.0	0.0	500
360	49.6	3.70	0.C	0.0	0.0	0.0	200

TABLE III-12 (2 OF 5)

KIP 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
361	120.7	5.40	0.0	0.0	0.0	0.0	300
362	120.8	5.10	5.00	4.74	4.32	0.0	100
363	43.9	3.70	0.0	0.0	0.0	0.0	300
365	44.9	3.80	3.29	3.13	2.82	0.0	100
366	112.5	4.70	0.0	3.96	0.0	0.0	100
367	120.9	5.30	0.0	0.0	0.0	0.0	150
369	120.2	3.50	0.0	0.0	0.0	0.0	200
370	121.4	3.60	0.0	0.0	0.0	0.0	200
371	114.4	*4.50	4.20	3.65	3.51	0.0	100
373	120.3	4.90	0.0	0.0	0.0	0.0	150
374	41.0	3.50	0.0	0.0	0.0	0.0	200
375	120.3	3.30	0.0	0.0	0.0	0.0	300
376	45.9	4.10	0.0	0.0	0.0	0.0	200
377	107.3	4.50	0.0	0.0	0.0	0.0	200
378	46.5	3.60	0.0	0.0	0.0	0.0	200
379	120.0	3.70	0.0	0.0	0.0	0.0	200
380	110.0	*4.30	0.0	0.0	0.0	0.0	200
381	48.9	4.60	0.0	0.0	0.0	0.0	200
383	46.5	3.90	0.0	0.0	0.0	0.0	500
384	120.3	4.30	0.0	0.0	0.0	0.0	200
385	119.0	4.40	0.0	0.0	0.0	0.0	300
386	41.5	5.00	4.57	4.18	0.0	1.92	200
388	47.1	4.50	2.94	2.76	2.54	5.18	100
389	44.6	4.10	0.0	0.0	0.0	0.0	200
390	121.9	4.00	3.46	3.36	3.23	1.69	100
391	61.7	3.70	0.0	0.0	0.0	0.0	200
392	106.3	3.60	3.85	3.32	0.0	0.0	100
393	44.4	4.30	3.37	2.99	2.74	0.0	100
394	45.9	3.70	0.0	0.0	0.0	0.0	300
395	73.8	4.10	0.0	0.0	0.0	0.0	200
396	44.9	4.30	3.03	2.75	2.46	3.98	100
397	118.9	3.80	0.0	0.0	0.0	0.0	300
398	114.3	*3.80	0.0	0.0	0.0	0.0	300
399	46.8	4.50	3.93	3.48	3.05	0.0	100
402	121.0	4.60	3.73	3.45	0.0	1.25	100
403	103.1	3.70	0.0	0.0	0.0	0.0	200
404	121.7	3.50	0.0	0.0	0.0	0.0	200
405	114.7	*4.50	0.0	0.0	0.0	0.0	300
407	107.4	3.80	0.0	0.0	0.0	0.0	500
408	102.4	3.40	0.0	0.0	0.0	0.0	200
409	114.3	*3.70	0.0	0.0	0.0	0.0	200
410	106.8	4.70	4.05	3.45	3.01	4.63	100
411	45.4	4.10	3.50	3.46	0.0	0.0	100
412	75.1	5.00	4.40	4.32	0.0	0.0	100
413	47.4	3.60	0.0	0.0	0.0	0.0	500
414	107.4	3.70	0.0	0.0	0.0	0.0	300
415	108.1	4.00	0.0	0.0	0.0	0.0	200
416	110.9	5.50	3.94	3.62	0.0	0.0	100
417	45.9	3.80	0.0	0.0	0.0	0.0	300

TABLE III-12 (3 OF 5)

KIP 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
418	93.5	4.40	0.0	0.0	0.0	0.0	200
419	110.9	*5.20	0.0	0.0	0.0	0.0	300
420	104.3	3.50	0.0	0.0	0.0	0.0	200
421	106.9	5.10	0.0	0.0	0.0	0.0	300
422	115.6	*4.60	3.92	3.92	3.59	0.0	100
423	94.6	3.60	0.0	0.0	0.0	0.0	200
424	44.1	4.20	0.0	0.0	0.0	0.0	200
425	43.9	3.40	0.0	0.0	0.0	0.0	200
426	122.8	4.30	0.0	0.0	0.0	0.0	200
427	129.7	5.60	5.06	5.14	5.11	0.26	100
429	120.6	3.90	4.08	3.79	3.52	2.68	100
430	94.4	3.70	0.0	0.0	0.0	0.0	200
431	104.0	*4.60	0.0	0.0	0.0	0.0	300
432	120.9	4.40	0.0	0.0	0.0	0.0	200
433	73.5	4.90	4.43	4.06	0.0	1.45	100
435	42.4	3.40	0.0	0.0	0.0	0.0	200
436	121.5	5.40	0.0	0.0	0.0	0.0	500
437	121.6	4.60	0.0	0.0	0.0	0.0	300
438	121.5	5.00	4.19	3.66	3.42	0.0	100
439	106.0	4.30	0.0	0.0	0.0	0.0	200
440	120.6	4.00	0.0	0.0	0.0	0.0	200
441	121.1	4.00	0.0	0.0	0.0	0.0	200
442	121.5	5.10	0.0	0.0	0.0	0.0	300
443	45.6	4.00	0.0	0.0	0.0	0.0	300
444	116.7	3.40	0.0	0.0	0.0	0.0	200
445	121.7	3.90	0.0	0.0	0.0	0.0	300
446	44.8	4.40	3.40	3.16	0.0	0.0	100
447	48.7	3.60	0.0	0.0	0.0	0.0	300
448	48.7	3.80	0.0	0.0	0.0	0.0	200
449	94.8	4.60	4.00	3.49	3.30	0.0	100
450	92.3	3.50	0.0	0.0	0.0	0.0	200
451	91.3	4.30	3.70	3.24	2.88	0.0	100
452	119.4	3.40	0.0	0.0	0.0	0.0	200
453	120.2	4.00	0.0	0.0	0.0	0.0	500
454	121.7	4.70	0.0	0.0	0.0	0.0	200
455	120.1	4.10	0.0	0.0	0.0	0.0	300
456	93.3	4.40	0.0	0.0	0.0	0.0	200
457	122.0	3.10	0.0	0.0	0.0	0.0	200
458	111.0	4.30	0.0	0.0	0.0	0.0	300
459	51.1	3.90	0.0	0.0	0.0	0.0	200
460	45.0	3.70	0.0	0.0	0.0	0.0	300
461	94.7	5.00	4.50	4.62	3.93	1.25	100
462	86.8	3.70	0.0	0.0	0.0	0.0	200
463	117.0	4.70	0.0	0.0	0.0	0.0	300
464	45.6	4.90	4.03	3.95	3.35	0.25	100
465	48.4	4.20	0.0	0.0	0.0	0.0	200
466	122.5	4.00	0.0	0.0	0.0	0.0	300
467	64.3	4.10	3.63	3.27	0.0	0.0	100
469	44.3	4.10	0.0	0.0	0.0	0.0	500

TABLE III-12 (4 OF 5)

KIP 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LQ/LR RATIO	COMMENT
470	91.0	4.70	C.0	0.0	0.0	0.0	300
471	104.9	4.20	C.0	0.0	0.0	0.0	200
472	46.3	5.20	4.11	4.30	3.62	0.0	100
473	44.4	3.60	C.0	0.0	0.0	0.0	200
474	115.4	3.70	0.0	0.0	0.0	0.0	200
475	118.3	4.70	0.0	0.0	0.0	0.0	500
476	46.C	5.20	3.89	4.05	3.32	0.50	100
477	107.0	3.50	C.C	C.0	0.0	0.0	200
478	42.1	4.00	C.C	0.0	0.0	0.0	200
479	121.3	4.10	C.C	0.0	0.0	0.0	200
482	48.2	4.20	3.70	3.10	0.0	0.0	100
483	116.7	3.70	C.C	0.0	0.0	0.0	200
484	114.3	4.40	C.C	0.0	0.0	0.0	200
485	72.4	3.80	C.C	0.0	0.0	0.0	200
486	121.9	3.90	C.C	0.0	0.0	0.0	200
487	121.5	4.40	C.C	0.0	0.0	0.0	200
488	121.5	3.90	C.0	0.0	0.0	0.0	200
489	121.5	3.40	C.C	0.0	0.0	0.0	200
490	62.7	3.90	C.C	C.C	0.0	0.0	200
491	97.6	3.80	C.C	0.0	0.0	0.0	200
492	70.0	5.10	4.11	3.78	0.0	0.0	100
493	47.5	4.40	0.0	0.0	0.0	0.0	200
494	46.5	3.70	C.0	0.0	0.0	0.0	200
495	49.3	3.50	C.0	0.0	0.0	0.0	200
496	91.2	5.20	3.98	3.57	0.0	0.0	100
497	117.C	4.90	4.44	4.34	3.76	1.82	100
498	91.2	4.70	C.0	0.0	0.0	0.0	500
499	73.5	4.60	4.06	3.78	3.21	0.0	100
500	48.2	3.70	C.C	0.0	0.0	0.0	300
501	44.1	4.20	0.0	0.0	0.0	0.0	200
502	89.6	3.90	3.62	3.39	2.96	0.0	100
503	45.1	4.2C	0.C	0.0	0.0	0.0	200
504	124.1	3.90	C.C	0.0	0.0	0.0	200
505	46.1	5.3C	4.56	4.33	3.90	2.16	100
506	46.0	3.30	C.C	0.0	0.0	0.0	200
508	48.8	4.10	C.0	0.0	0.0	0.0	200
509	46.2	4.50	C.C	0.0	0.0	0.0	300
510	100.7	4.00	C.0	0.0	0.0	0.0	200
511	97.9	3.70	0.0	0.0	0.0	0.0	200
512	117.0	4.00	C.0	0.0	0.0	0.0	200
513	49.8	5.00	3.97	4.06	0.0	0.0	100
514	43.4	4.20	0.0	0.0	0.0	0.0	200
515	47.9	4.30	C.0	0.0	0.0	0.0	200
516	105.4	3.60	C.0	0.0	0.0	0.0	200
517	97.1	3.90	C.C	0.0	0.0	0.0	200
518	114.6	4.30	C.C	0.0	0.0	0.0	200
520	87.8	4.80	0.0	0.0	0.0	0.0	200
521	112.3	4.6C	0.0	0.0	0.0	0.0	200
522	95.0	5.50	5.03	4.69	4.32	2.56	100

TABLE III-12 (5 OF 5)

KIP 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
523	95.1	4.70	0.0	0.0	0.0	0.0	200
524	125.5	3.90	0.0	0.0	0.0	0.0	200
525	95.6	3.60	0.0	0.0	0.0	0.0	200
526	47.9	3.70	0.0	0.0	0.0	0.0	200
527	116.9	4.40	0.0	0.0	0.0	0.0	300
528	46.5	4.00	0.0	0.0	0.0	0.0	200
529	100.3	4.80	0.0	0.0	0.0	0.0	200
530	119.9	4.50	0.0	0.0	0.0	0.0	200
531	48.0	4.30	0.0	0.0	0.0	0.0	300
532	114.3	4.00	0.0	0.0	0.0	0.0	200
533	114.5	4.40	0.0	0.0	0.0	0.0	300
534	44.1	5.10	4.49	3.94	3.57	0.0	100
535	64.9	5.10	4.49	4.23	0.0	0.0	100
537	121.4	3.80	0.0	0.0	0.0	0.0	200
538	110.8	3.80	0.0	0.0	0.0	0.0	300
539	45.5	4.80	3.95	3.78	3.18	0.0	100
540	118.6	4.40	0.0	0.0	0.0	0.0	200
541	45.5	5.10	4.77	4.63	0.0	0.50	100
542	103.3	4.00	0.0	0.0	0.0	0.0	200
543	74.2	4.90	0.0	0.0	0.0	0.0	500
544	88.3	3.50	0.0	0.0	0.0	0.0	200
545	117.4	3.60	0.0	0.0	0.0	0.0	300
546	45.1	4.80	3.61	3.47	3.21	0.0	100
547	73.2	4.60	0.0	0.0	0.0	0.0	500
548	120.2	3.60	0.0	0.0	0.0	0.0	200

TABLE III-13 (1 OF 3)

ALQ 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
310	70.4	3.90	0.0	0.0	0.0	0.0	500
311	93.0	3.60	0.0	0.0	0.0	0.0	500
312	96.6	3.70	0.0	0.0	0.0	0.0	500
313	93.0	4.10	0.0	0.0	0.0	0.0	500
314	61.8	3.80	0.0	0.0	0.0	0.0	500
315	112.2	4.10	0.0	0.0	0.0	0.0	500
316	70.5	3.80	0.0	0.0	0.0	0.0	500
317	102.7	3.80	0.0	0.0	0.0	0.0	500
318	102.7	3.70	0.0	0.0	0.0	0.0	500
319	101.8	3.50	0.0	0.0	0.0	0.0	500
320	102.8	3.90	0.0	0.0	0.0	0.0	500
321	107.0	3.70	0.0	0.0	0.0	0.0	500
323	103.6	*5.00	0.0	0.0	0.0	0.0	500
324	113.2	4.20	0.0	0.0	0.0	0.0	530
326	65.8	4.00	0.0	0.0	0.0	0.0	500
327	59.7	3.40	0.0	0.0	0.0	0.0	500
328	61.6	3.50	0.0	0.0	0.0	0.0	500
329	104.2	4.10	0.0	0.0	0.0	0.0	500
330	108.6	3.50	0.0	0.0	0.0	0.0	500
331	61.8	4.00	0.0	0.0	0.0	0.0	500
332	92.7	4.20	0.0	0.0	0.0	0.0	500
333	106.4	3.90	0.0	0.0	0.0	0.0	500
334	115.2	4.80	0.0	0.0	0.0	0.0	500
335	58.0	4.00	3.21	3.03	2.78	0.46	100
336	76.1	3.40	0.0	0.0	0.0	0.0	200
337	69.4	3.60	0.0	0.0	0.0	0.0	200
338	61.6	4.70	0.0	0.0	0.0	0.0	500
339	95.2	5.50	0.0	0.0	0.0	0.0	500
340	60.4	3.80	0.0	0.0	0.0	0.0	300
341	108.6	5.40	4.37	4.27	4.05	1.16	100
342	106.4	4.90	0.0	0.0	0.0	0.0	200
343	108.7	4.90	3.61	3.36	0.0	0.58	100
344	99.4	4.10	0.0	0.0	0.0	0.0	500
345	122.7	4.30	0.0	0.0	0.0	0.0	500
346	108.6	4.70	0.0	0.0	0.0	0.0	500
347	98.2	4.50	0.0	0.0	0.0	0.0	300
348	113.2	4.70	0.0	0.0	0.0	0.0	200
349	71.5	4.40	0.0	0.0	0.0	0.0	300
350	97.6	4.90	3.87	3.58	2.91	4.60	100
351	43.8	4.90	4.31	4.01	0.0	0.0	100
381	75.4	4.60	0.0	0.0	0.0	0.0	300
383	70.4	3.90	0.0	0.0	0.0	0.0	500
384	105.1	4.30	0.0	0.0	0.0	0.0	500
385	96.3	4.40	0.0	0.0	0.0	0.0	500
386	59.5	5.00	3.73	3.67	3.41	0.0	100
388	74.2	4.50	0.0	0.0	0.0	0.0	500
389	68.7	4.10	0.0	0.0	0.0	0.0	200
390	112.4	4.00	0.0	0.0	0.0	0.0	300
391	79.6	3.70	0.0	0.0	0.0	0.0	500

TABLE III-13 (2 OF 3)

ALQ C6/C1/72 - C7/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LP RATIO	COMMENT
392	113.0	3.60	C.C	0.0	0.0	0.0	500
393	64.2	4.30	C.0	0.0	0.0	0.0	510
394	64.8	3.70	C.C	0.0	0.0	0.0	300
395	117.9	4.10	C.C	0.0	0.0	0.0	500
396	63.8	4.30	C.0	0.0	0.0	0.0	500
397	102.0	3.8C	C.0	0.0	0.0	0.0	500
398	84.1	*3.8C	C.0	0.0	0.0	0.0	300
399	69.9	4.50	C.C	0.0	0.0	0.0	500
402	107.5	4.60	C.C	0.0	0.0	0.0	300
403	108.0	3.70	C.C	0.0	0.0	0.0	500
404	114.4	3.50	C.C	0.0	0.0	0.0	300
405	86.0	*4.50	0.0	0.0	0.0	0.0	500
407	108.9	3.80	C.C	0.0	0.0	0.0	200
408	106.1	3.40	C.C	0.0	0.0	0.0	200
409	85.2	*3.70	C.0	0.0	0.0	0.0	300
410	108.7	4.70	3.67	3.50	3.09	0.0	100
411	64.3	4.10	C.C	0.0	0.0	0.0	500
453	111.0	4.00	0.0	0.0	0.0	0.0	200
454	93.4	4.7C	0.C	0.0	0.0	0.0	500
455	112.5	4.1C	C.C	0.0	0.0	0.0	300
470	100.5	4.7C	C.0	0.0	0.0	0.0	300
471	108.0	4.2C	0.C	0.0	0.0	0.0	200
472	70.0	5.2C	C.C	0.0	0.0	0.0	300
473	62.3	3.60	C.C	0.0	0.0	0.0	500
474	111.9	3.70	0.0	0.C	0.0	0.0	500
475	104.4	4.70	0.0	0.0	0.0	0.0	500
476	69.0	5.20	0.C	0.0	0.0	0.0	500
477	112.1	3.50	C.0	0.0	0.0	0.0	200
478	59.6	4.00	0.0	0.0	0.0	0.0	200
479	93.3	4.10	C.C	0.0	0.0	0.0	200
482	74.9	4.20	C.C	0.0	0.0	0.0	200
483	116.3	3.70	0.0	0.0	0.0	0.0	300
484	84.1	4.40	C.0	0.0	0.0	0.0	200
485	106.2	3.8C	C.0	0.0	0.0	0.0	200
486	98.7	3.90	0.0	0.0	0.0	0.0	200
487	111.5	4.4C	C.0	0.0	0.0	0.0	200
488	111.7	3.90	C.C	0.0	0.0	0.0	200
489	111.7	3.40	C.0	0.0	0.0	0.0	200
490	94.9	3.90	C.C	0.0	0.0	0.0	200
491	102.0	3.8C	C.0	0.C	0.0	0.0	500
492	103.0	5.1C	3.01	2.83	0.0	0.0	500
493	72.1	4.40	C.C	0.0	0.0	0.0	500
494	66.3	3.7C	C.0	0.0	0.0	0.0	500
495	74.4	3.50	C.C	0.0	0.0	0.0	500
496	109.4	5.20	C.C	0.0	0.0	0.0	300
497	101.6	4.90	4.06	3.77	3.35	0.0	100
498	109.3	4.70	0.0	0.0	0.0	0.0	300
499	105.9	4.60	3.04	2.73	0.0	0.0	500
500	74.9	3.7C	C.0	0.0	0.0	0.0	300

TABLE III-13 (3 OF 3)

ALQ 06/01/72 - 07/31/72

EVENT NO.	DISTANCE (DEGREES)	MB	MS T=20SEC	MS T=30SEC	MS T=40SEC	LG/LR RATIO	COMMENT
501	62.6	4.20	0.0	0.0	0.0	0.0	200
502	112.8	3.90	3.08	2.67	0.0	0.0	500
503	66.7	4.20	0.0	0.0	0.0	0.0	500
504	99.9	3.90	0.0	0.0	0.0	0.0	300
505	64.1	5.30	3.31	3.04	2.56	2.87	100
506	62.1	3.30	0.0	0.0	0.0	0.0	200
507	95.1	3.40	0.0	0.0	0.0	0.0	200
508	76.1	4.10	0.0	0.0	0.0	0.0	200
509	64.1	4.50	0.0	0.0	0.0	0.0	500
510	106.0	4.00	0.0	0.0	0.0	0.0	200
511	93.8	3.70	0.0	0.0	0.0	0.0	200
512	90.9	4.00	0.0	0.0	0.0	0.0	200
513	75.5	5.00	0.0	0.0	0.0	0.0	200
514	64.0	4.20	0.0	0.0	0.0	0.0	500
515	65.0	4.30	0.0	0.0	0.0	0.0	500
516	107.0	3.60	0.0	0.0	0.0	0.0	500
517	114.9	3.90	0.0	0.0	0.0	0.0	500
518	107.0	4.30	0.0	0.0	0.0	0.0	500
538	112.9	3.80	0.0	0.0	0.0	0.0	200
539	68.6	4.80	3.18	3.06	2.77	0.0	100
540	92.4	4.40	0.0	0.0	0.0	0.0	500
541	68.6	5.10	3.81	3.75	3.28	0.0	100
542	104.0	4.00	0.0	0.0	0.0	0.0	500
543	107.9	4.90	2.99	2.69	2.67	0.0	500
544	110.1	3.50	0.0	0.0	0.0	0.0	300
545	92.9	3.60	0.0	0.0	0.0	0.0	200
546	61.9	4.80	0.0	0.0	0.0	0.0	200
547	105.8	4.60	0.0	0.0	0.0	0.0	200
548	111.0	3.60	0.0	0.0	0.0	0.0	500

(1) Signal detected

(2) No signal detected

(3) Mixed signals

(5) System malfunction, clipping, spikes, erratic static gain variations, etc.

(6) Threshold event (i.e., questionable detection due to low S/N.)

The column labeled Event No. identifies the event for cross referencing with the epicenter data listed in Table II-4. As previously stated, these tables list all events processed for each station. Event numbers missing from any given station table indicates that either no data were available or that the data available were not usable (see Section II for details). Totals for the number of events detected, not detected and mixed, and for system malfunction for each station are given in Tables II-3a and b. All detections (comment key numbers 1 and 6) are included in the detection totals for each station.

C. DETECTION AS A FUNCTION OF DISTANCE (Δ) AND MAGNITUDE (m_b)

1. VLPE Single Stations

Figures III-1 through III-6 show event detection as a function of distance and magnitude for the winter period of January 1, 1972 through March 20, 1972. These figures show information obtained at the VLPE stations CHG, FBK, TLO, EIL, KON, and OGD. Figures III-7 through III-13 also show event detection as a function of distance and magnitude, but these are for the summer period of June 1, 1972 through July 31, 1972 at the VLPE stations CTA, TLO, EIL, KON, OGD, KIP, and ALQ. A detected signal is

indicated on all of the figures with a plus (+) symbol, and a zero (0) symbol indicates that the signal was not detected.

Figure III-1 shows event detection at Thailand (CHG) during the winter months as a function of magnitude (m_b) and distance in degrees (Δ). The 90% detection level appears to be at an m_b of 4.6 for $\Delta \leq 50^o$ and at an m_b of 4.8 to 4.9 for $\Delta > 50^o$. The non-detection at $m_b = 5.5$ is from Eastern Kazakh and presumed to be an explosion. Benno (1972) shows the 90% detection level at about an m_b of 4.6 at $\Delta = 45^o$. His ensemble of events covers both winter and spring months during 1971, while our ensemble covers only the winter months of January 1 through March 20, 1972.

Figure III-2 shows the event detection at Alaska (FBK) during the same winter months of 1972. From these data, it appears that the 90% detection level for this site is about 4.9 (m_b) for $\Delta \leq 50^o$ and greater than an m_b of 5.0 for $\Delta > 50^o$. The relatively large events ($4.5 \leq m_b \leq 5.0$) not detected at small distances (Δ) are from the Kuriles. Those from greater distances are located at about 40^oN latitude and 80^oE longitude with one presumed to be an explosion. Benno (1972) shows a 90% detection level of 4.6 (m_b) for this site; that estimate appears to be somewhat optimistic.

Figure III-3 shows the detection of events at Toledo, Spain (TLO) during the winter months. The 90% detection level appears to be at $m_b = 4.8$ for $\Delta \leq 50^o$ and lies above an m_b of 5.0 for $\Delta > 50^o$. This missed detection at $\Delta = 14^o$ is an event from Italy, and the more distant ones are located at about 40^oN latitude and 80^oE longitude. Benno (1972) shows a 90% detection threshold at an m_b of 4.4 for event data at this site during the month of August 1971.

Figure III-4 showing event detection during the winter months at Israel (EIL) was included only for completeness. Section II and Table III-4

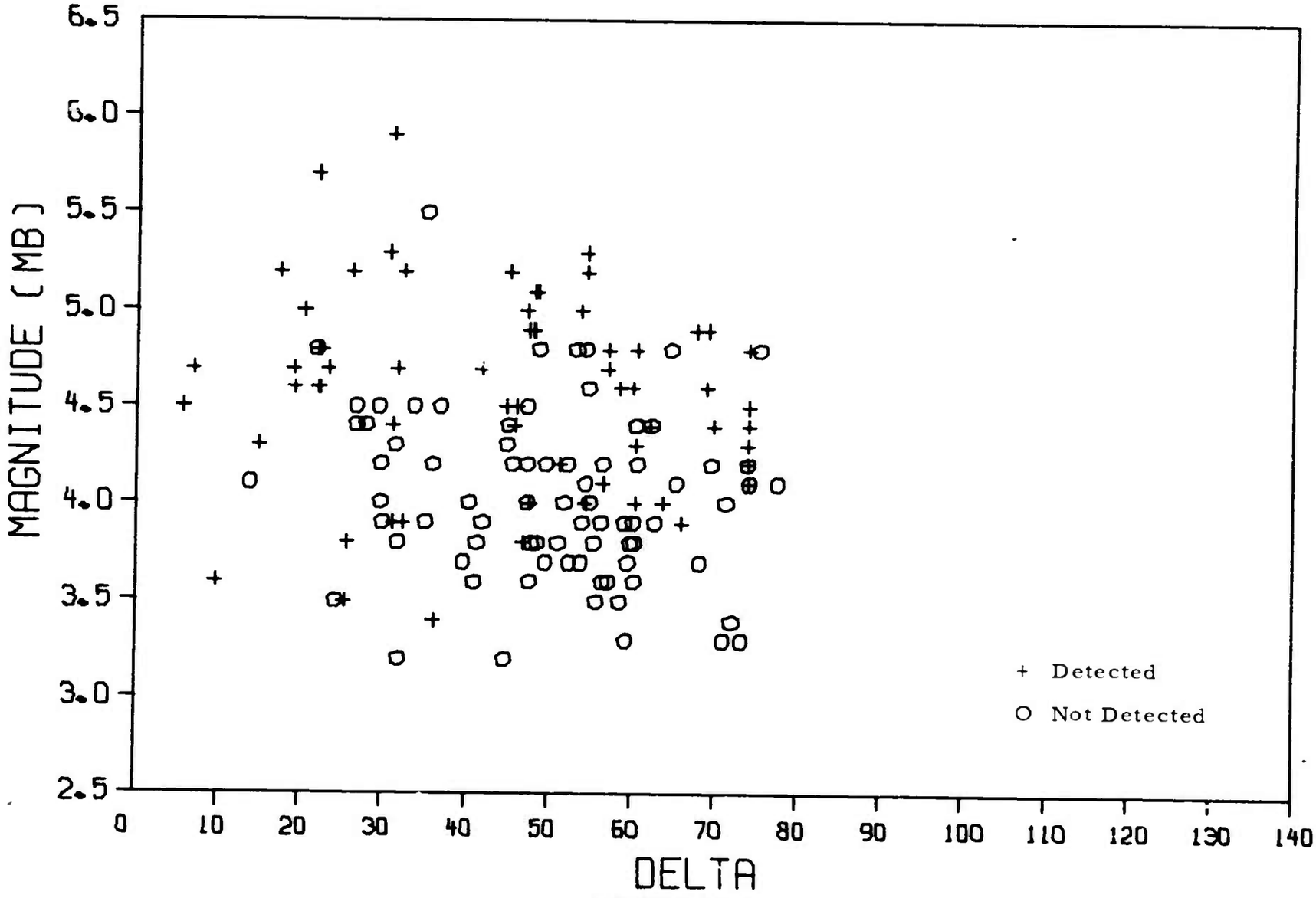


FIGURE III-1

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT CHG, 1/1/72 - 3/20/72

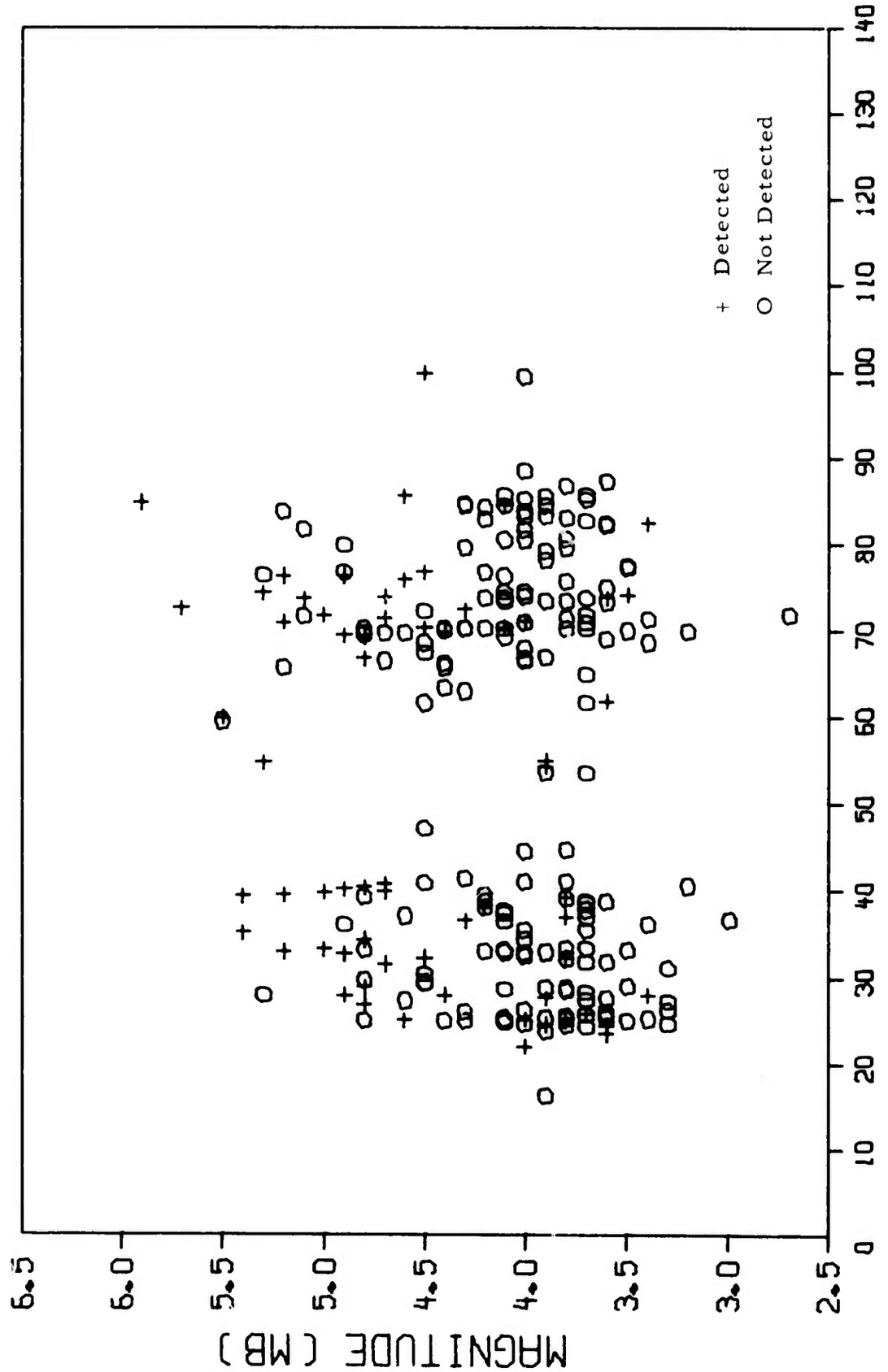


FIGURE III-2

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT FBK, 1/1/72 - 3/20/72

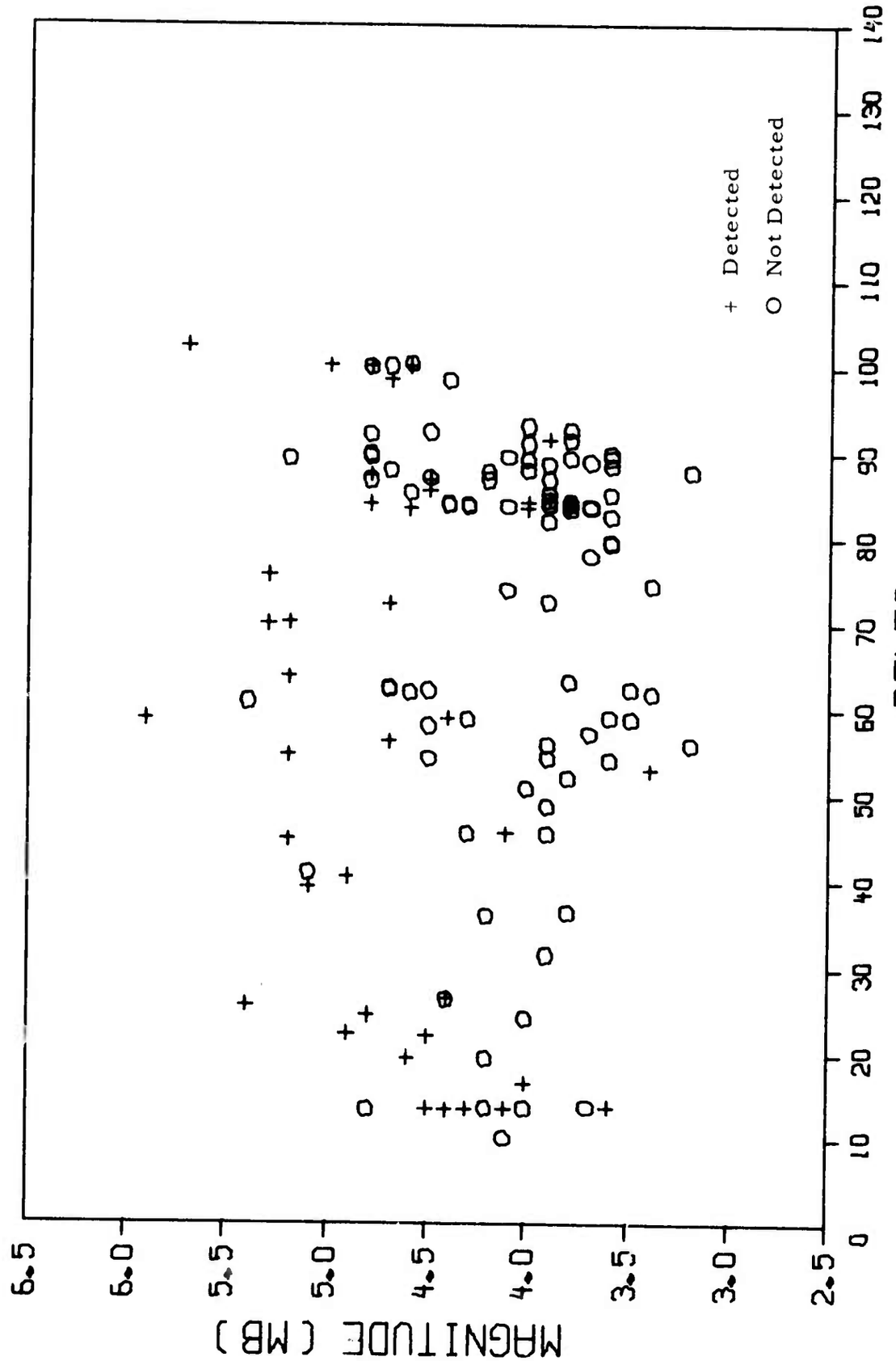


FIGURE III-3

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT TLO, 1/1/72 - 3/20/72

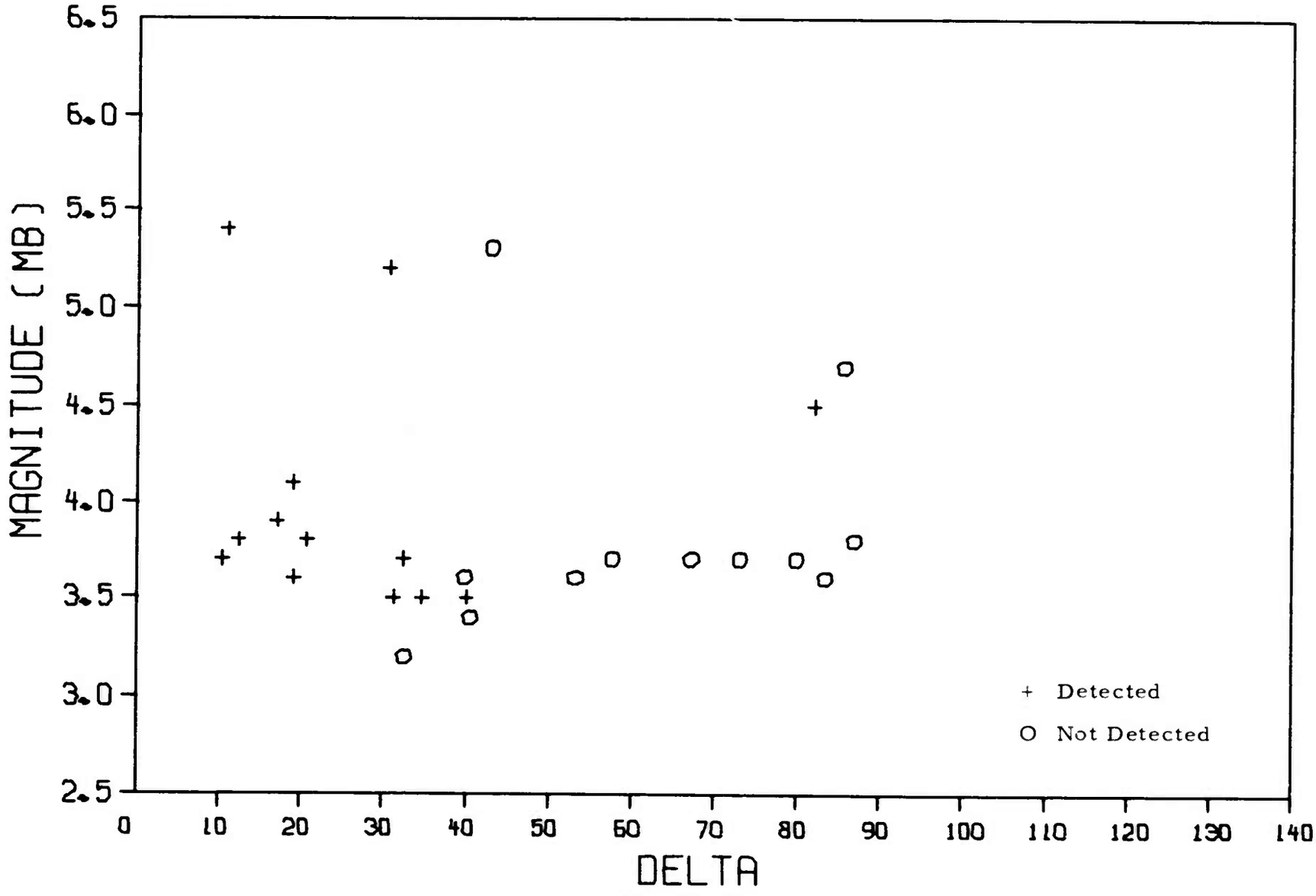


FIGURE III-4

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE(m_b) AT EIL, 1/1/72 - 3/20/72

have appropriate comments regarding the reliability of the EIL data.

Figure III-5 gives event detection for Norway (KON) during the winter months. The 90% detection level is about $m_b = 4.7$ for $\Delta \leq 50^o$ and is about $m_b = 4.8$ at $\Delta > 50^o$. The two missed detections with m_b's of 5.5 and 5.4 are respectively a presumed explosion and an event located about 40^oN latitude and 80^oE longitude. Benno (1972) shows a 90% level at about 4.0 (m_b) during September, October, and November 1971.

Figure III-6 shows event detection for New Jersey (OGD) during the winter months. The 90% detection level lies above an m_b of 4.9 at a Δ of 90^o. The missed detection at $m_b = 5.2$ is another event located at about 40^oN latitude and 80^oE longitude. Benno (1972) shows a 90% level at an m_b of 4.8.

Figure III-7 shows an event detection as a function of distance (Δ) and magnitude (m_b) for Australia (CTA) during the summer months. The 90% detection level lies above an m_b of 4.7 at a Δ of about 90^o.

Figure III-8 shows the event detection for Spain (TLO) during the summer months. The 90% detection level appears to be at $m_b = 4.5$ for $\Delta \leq 50^o$ and about 4.9 (m_b) for $\Delta > 50^o$. This is about 0.2 of a magnitude lower than that observed at TLO during the winter months (Figure III-3).

Figure III-9 shows the Israel (EIL) event detection during the summer months. The results for the winter evaluation are not considered reliable because of erratic instrument behavior.

Figure III-10 shows the Norway (KON) event detection during the summer months. The 90% detection level lies at an m_b of 4.5 at all distances. This is about 0.3 of a magnitude less than that observed at KON for the winter months (Figure III-5).

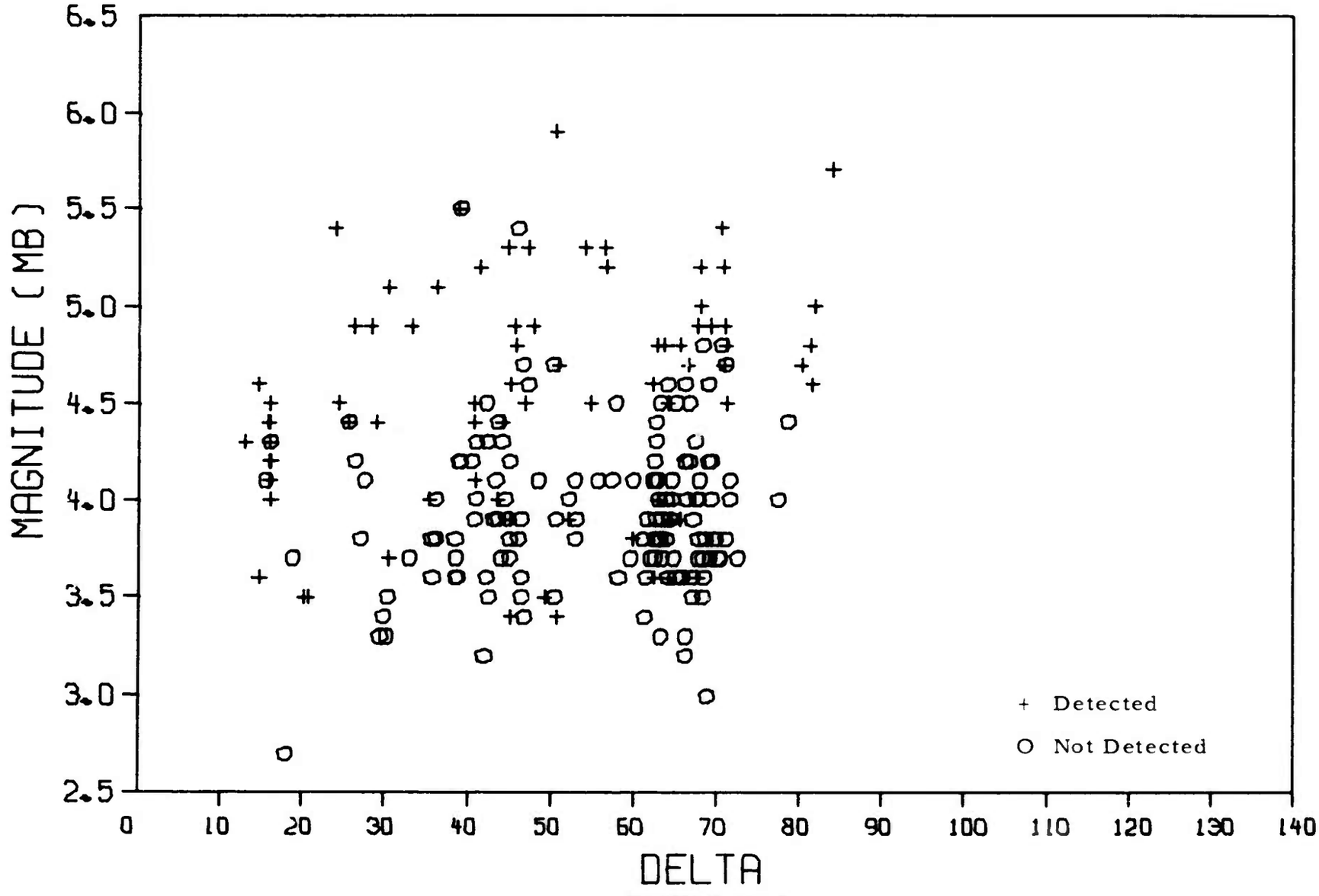


FIGURE III-5

EVENT DETECTION AND FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT KON, 1/1/72 - 3/20/72

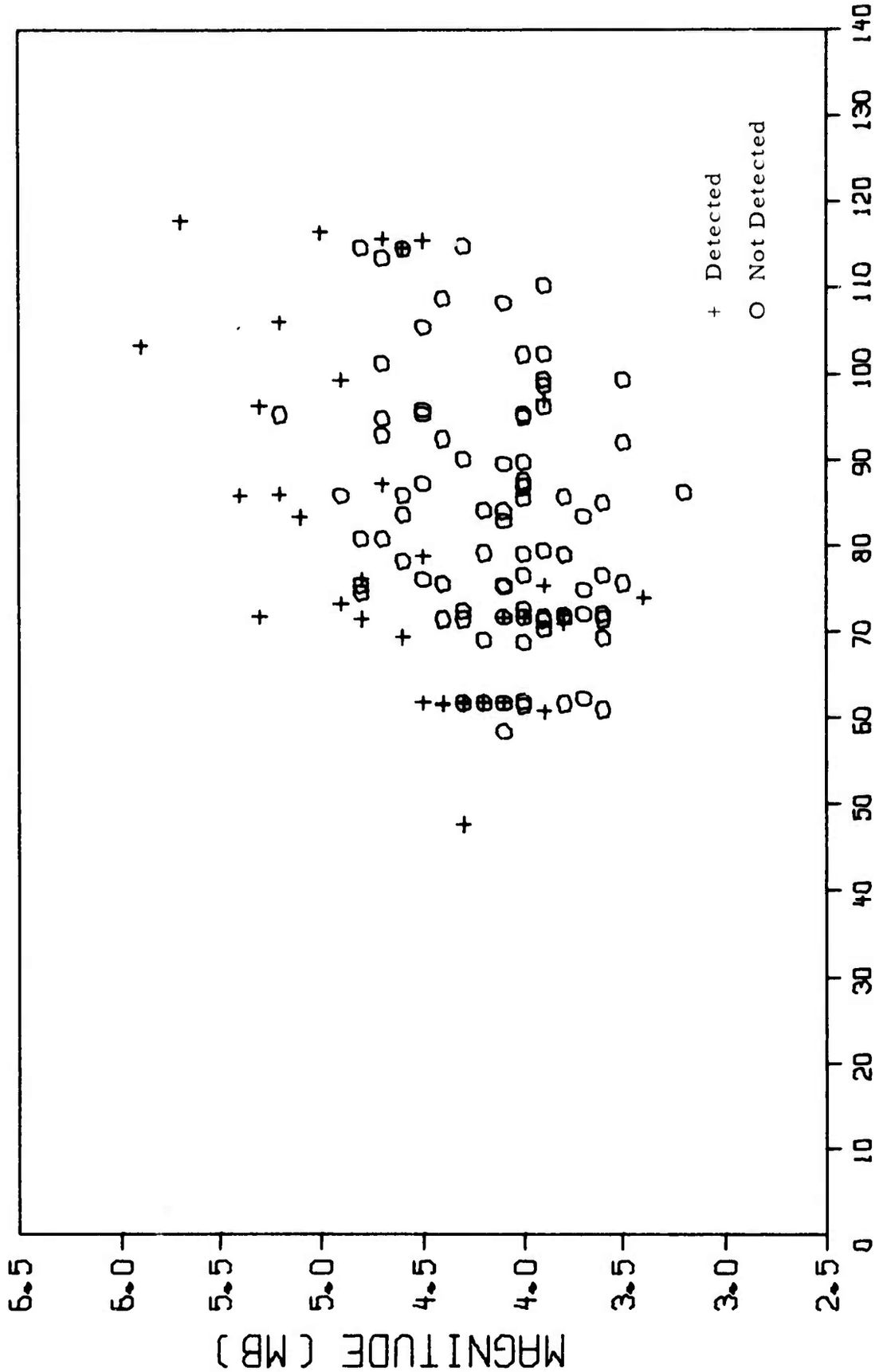


FIGURE III-6

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT OGD, 1/1/72 - 3/20/72

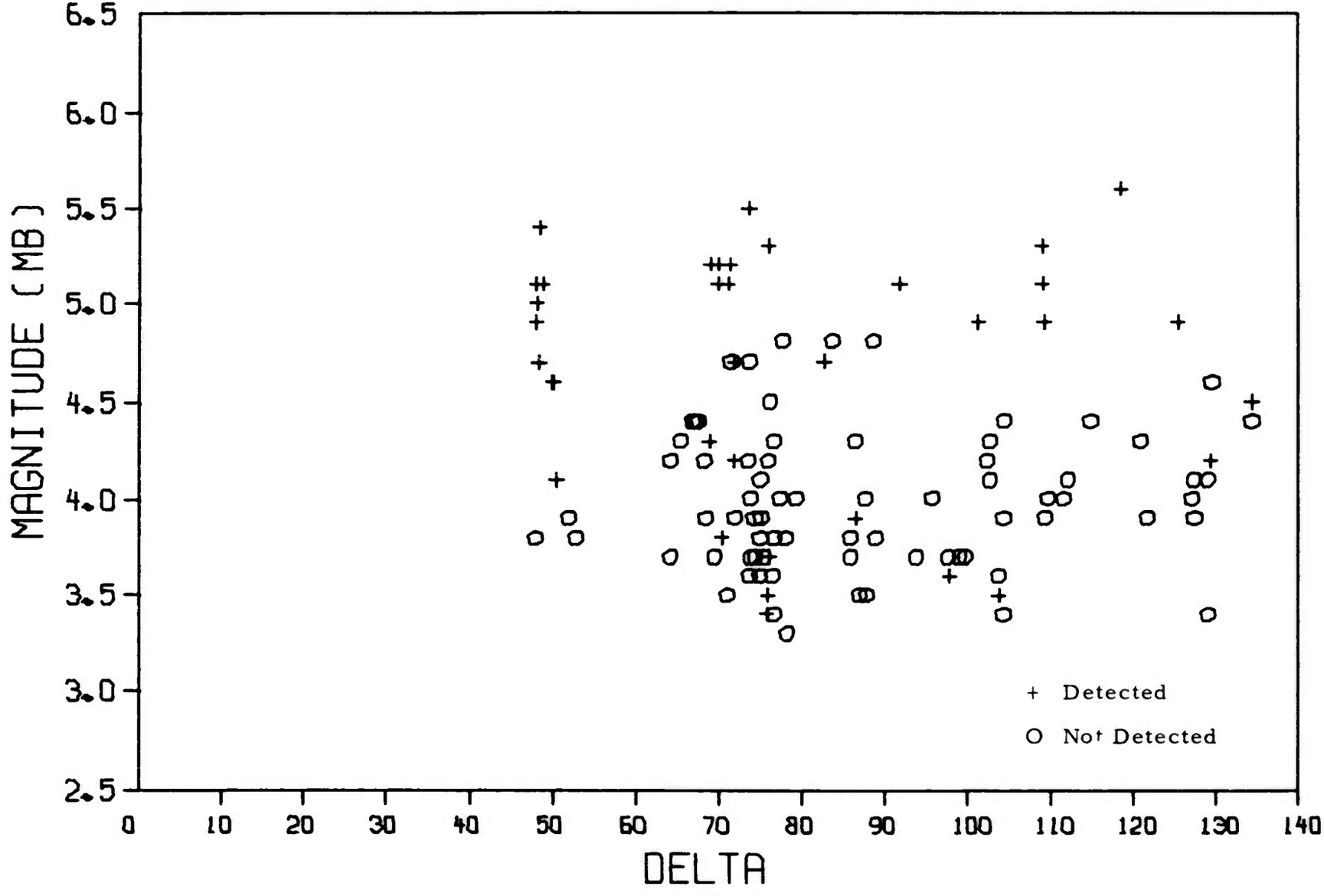


FIGURE III-7

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT CTA, 6/1/72 - 7/31/72

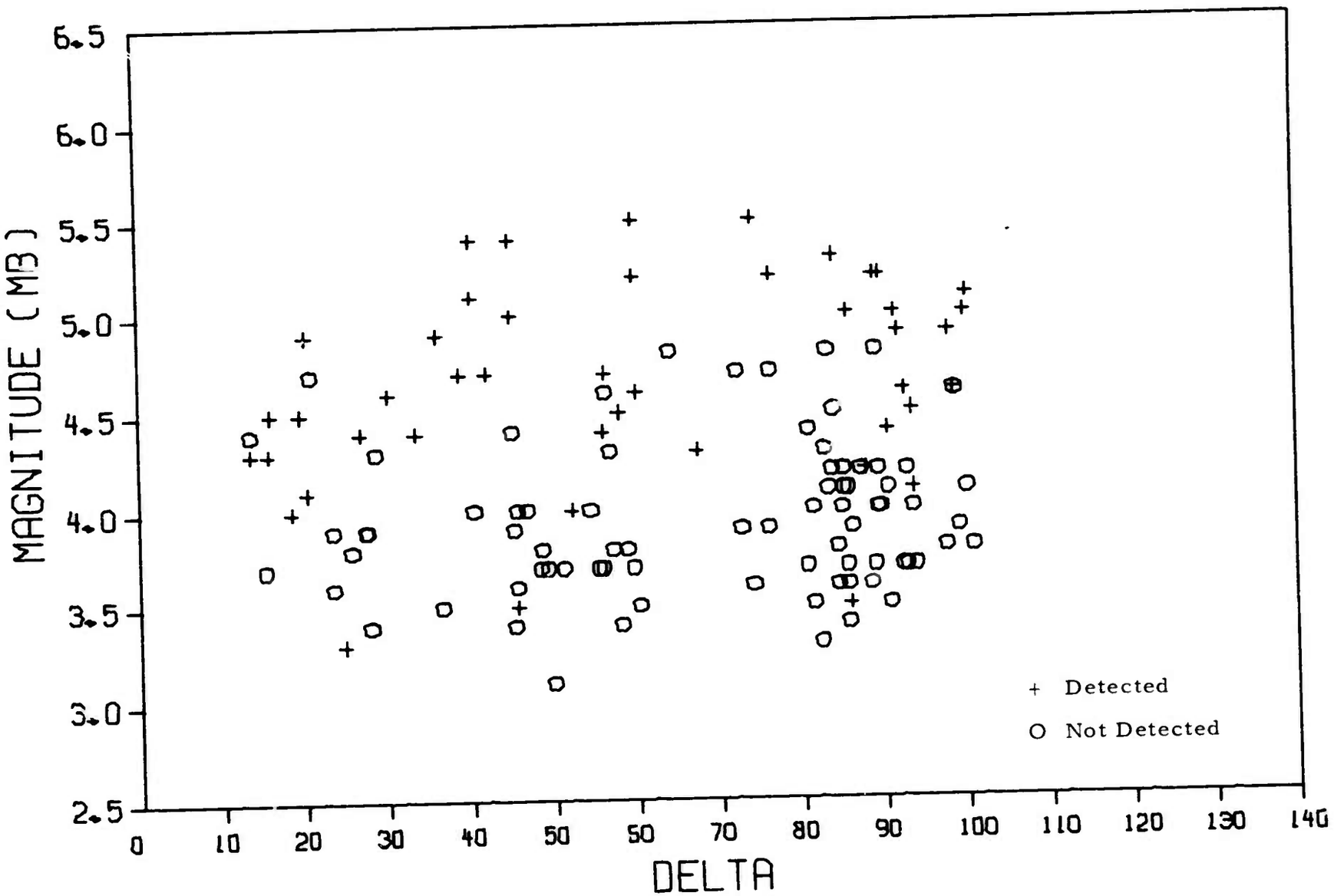


FIGURE III-8

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT TLO, 6/1/72 - 7/31/72

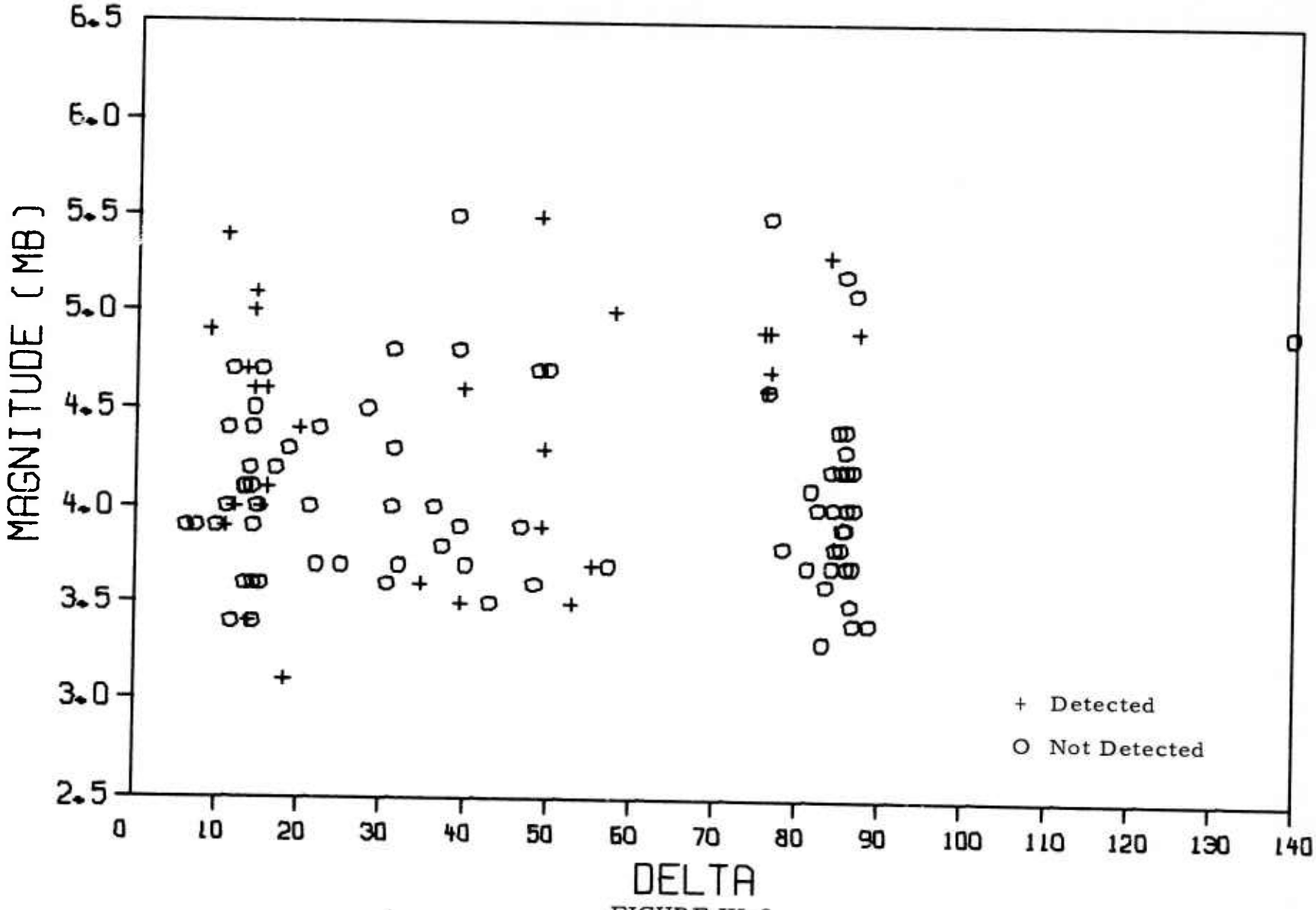


FIGURE III-9

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT EIL, 6/1/72 - 7/31/72

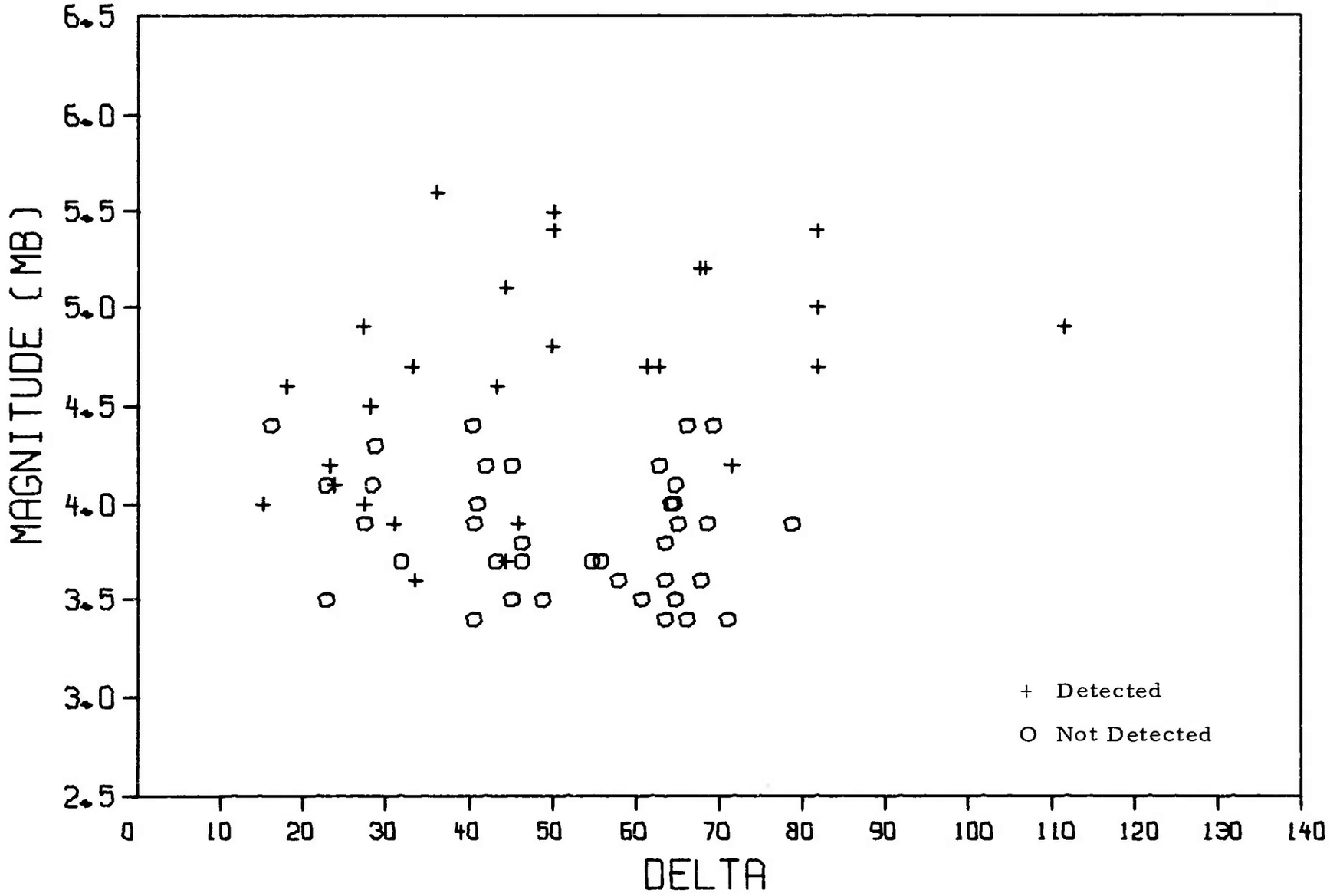


FIGURE III-10

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT KON, 6/1/72 - 7/31/72

The New Jersey (OGD) event detection during the summer months is shown in Figure III-11. The 90% detection level lies about an m_b of 4.5 at $\Delta = 90^\circ$. The missed detection at $m_b = 5.5$ is another event located at about 40°N latitude and 80°E longitude. The summer detection level is, however, 0.4 of a magnitude lower than that for the winter months (Figure III-6).

Figure III-12 shows the Hawaii (KIP) event detection during the summer months. Here the 90% detection level can be best described for two distance ranges. For a Δ of 40° to 70°, the m_b is 4.4, and for a Δ of 80° to 125°, the m_b is 4.7.

Figure III-13 shows the New Mexico (ALQ) event detection for the summer months. The 90% detection level lies above an m_b of 4.9 for a Δ of 90°.

In summary, the 90% level for the winter months at single VLPE stations ranges from 4.6 to 4.9 (m_b), $\Delta \leq 50^\circ$ and 4.8 to 5.0, $\Delta > 50^\circ$, while for the summer months the 90% detection level lies between 4.4 and 4.5 (m_b), for $\Delta \leq 50^\circ$ and 4.5 to 4.9 for $\Delta > 50^\circ$. The 0.2, 0.3, and 0.4 magnitude differences in the detection levels at TLO, KON, and OGD respectively between the winter and summer months agree with differences in the noise levels for the corresponding time periods by Alsup (1973) and Swindell (1973). Our detection levels do not, however, correspond to those obtained by Benno (1972) for CHG, TLO, KON, and OGD. In all the comparisons, with the exception of OGD, his 90% detection levels are lower than those presented here. This is probably due to the lack of more lower magnitude events in his event ensembles. No comparison was possible for CTA and EIL. Benno (1972) analyzed only 7 events for CTA and the data for EIL were not considered reliable.

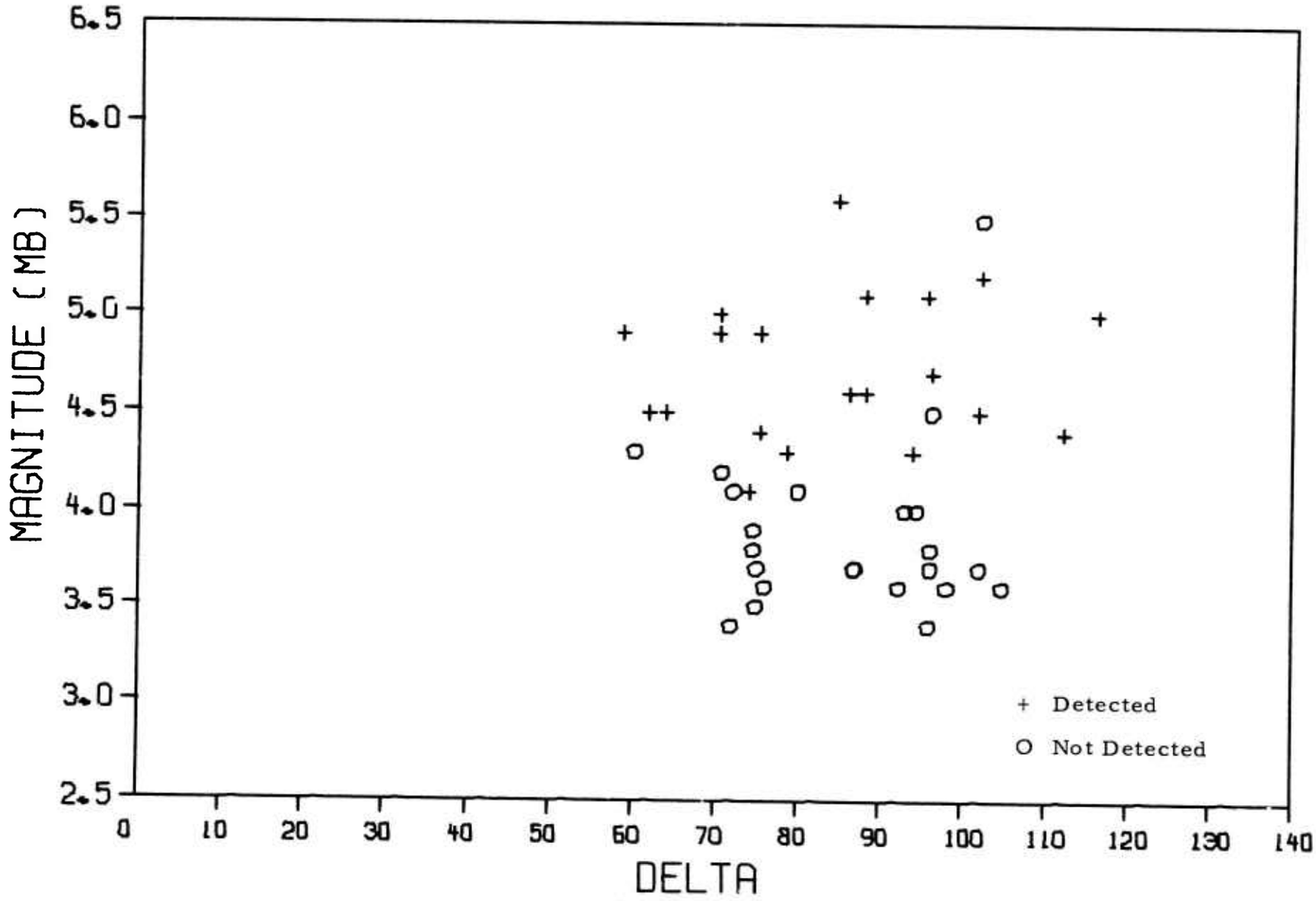


FIGURE III-11

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT OGD, 6/1/72 - 7/31/72

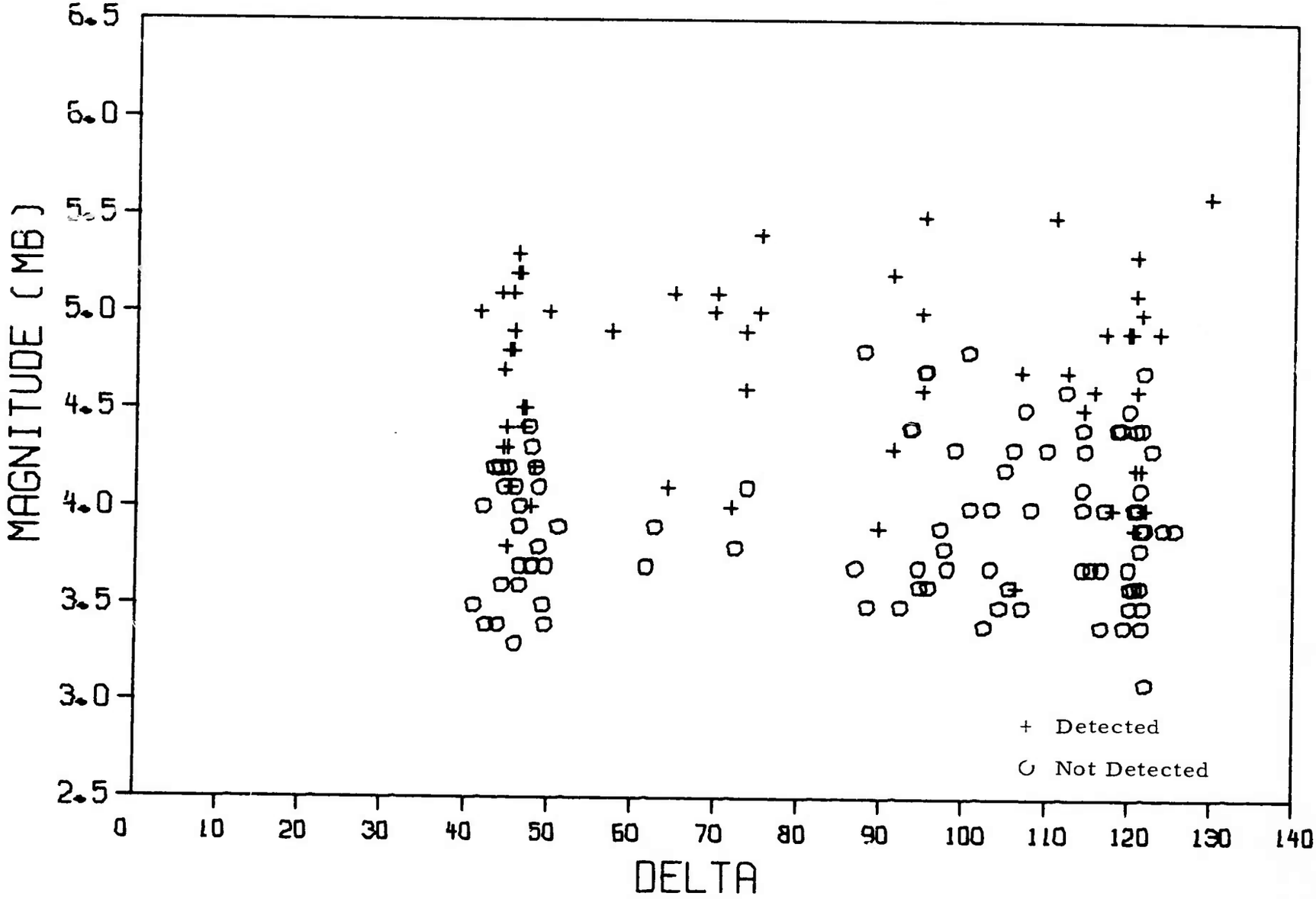


FIGURE III-12

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT KIP, 6/1/72 - 7/31/72

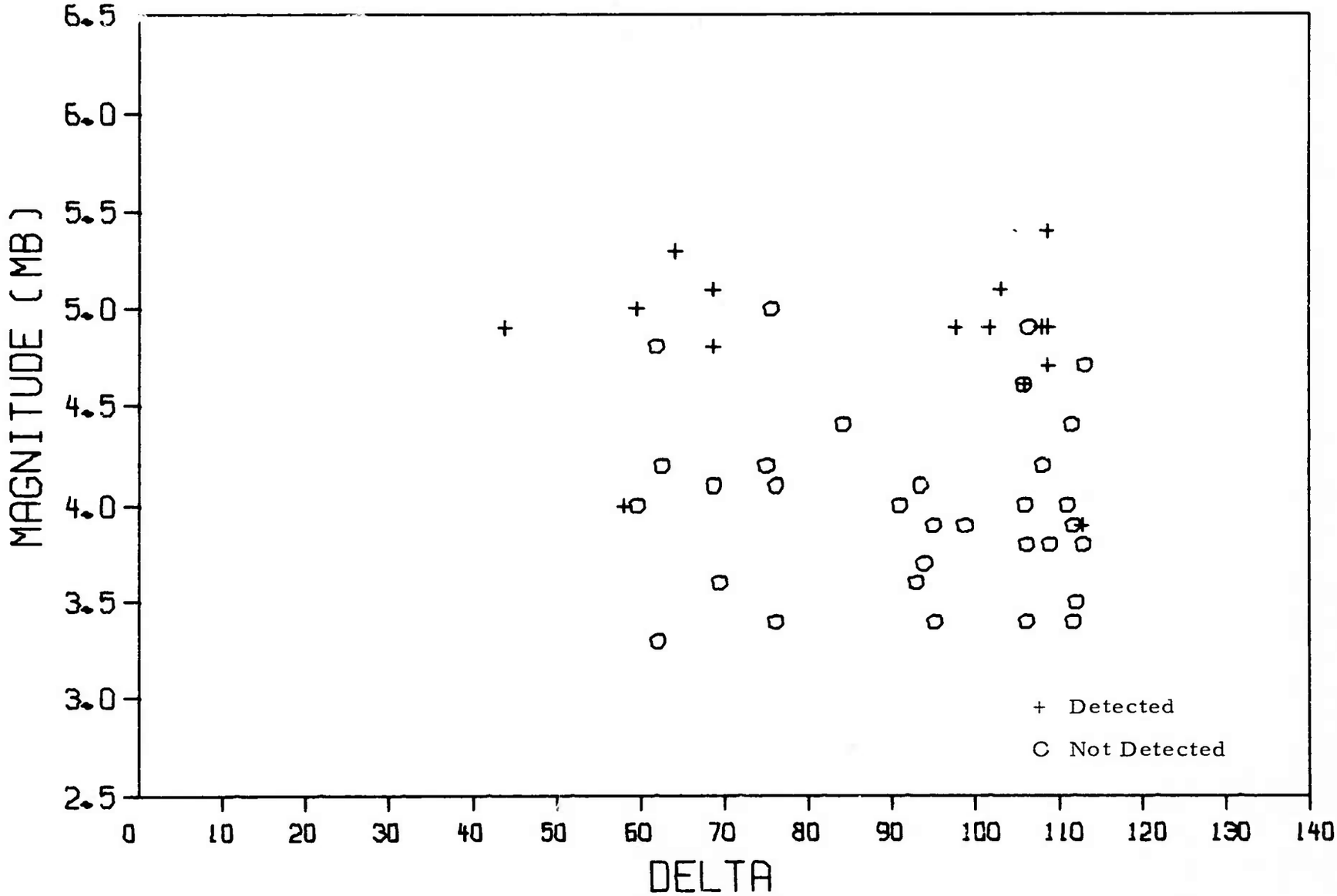


FIGURE III-13

EVENT DETECTION AS A FUNCTION OF DISTANCE AND MAGNITUDE (m_b) AT ALQ, 6/1/72 - 7/31/72

2. Network Detection Capabilities

One of the objectives of this study is to determine the network detection capability of the VLPE stations, and compare these results to those obtained for the ALPA and NORSAR networks. The same winter and summer ensemble of events were analyzed at ALPA and NORSAR by Strauss (1973) and Swindell (1973).

Figure III-14a shows the distribution of events by magnitude for the winter ensemble. Two networks are formed for this analysis. One summarizes all events detected by one or more VLPE stations, and includes six stations (CHG, FBK, TLO, EIL, KON, and OGD). The second network includes the same six VLPE stations and both ALPA and NORSAR. These results show that the 90% detection capability of the VLPE network occurs at about an $m_b = 4.8$, while the addition of ALPA and NORSAR to this network lowers the level to an m_b of 4.6 or 4.7. It should be emphasized that, if all the stations comprising a network were malfunctioning for any specific event, the event is considered as not detected.

The summer ensemble is displayed the same way in Figure III-14b. The VLPE network for this time period consists of seven stations (CTA, TLO, EIL, KON, OGD, KIP, and ALQ). Again, the second network includes these stations and both ALPA and NORSAR. The 90% detection level of the VLPE network occurs at about an $m_b = 4.6$, while including ALPA and NORSAR decreases the m_b level to 4.3 or 4.4.

In summary, when the ALPA and NORSAR networks are combined with the VLPE network, the 90% detection level decreases about 0.2 units of a magnitude for both the winter and summer events. In addition, for the combined networks, the detection level of the summer events is 0.3 of a magnitude less than that of the winter events. Based on the data presented, the

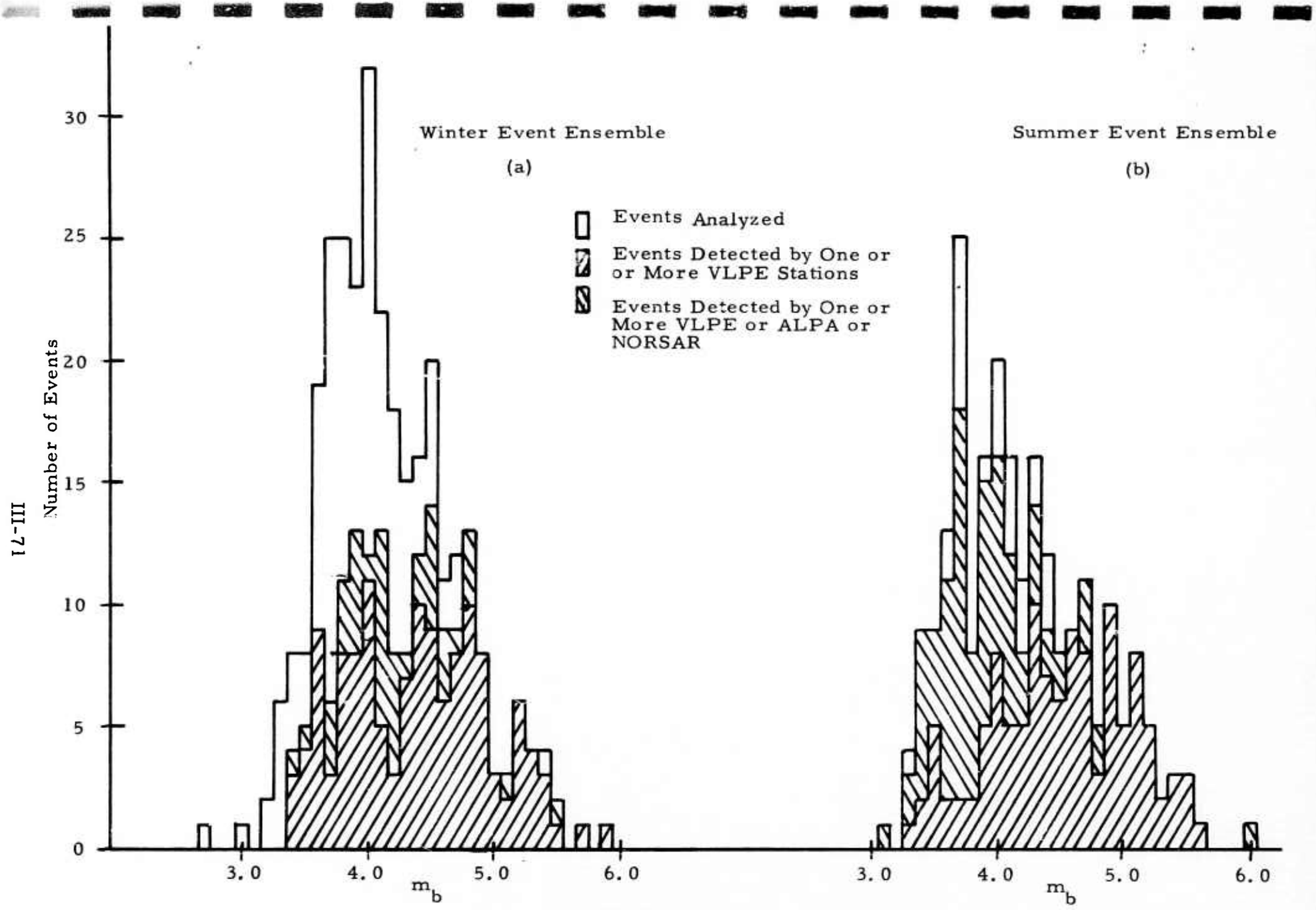


FIGURE III-14

DISTRIBUTION OF EVENTS BY m_b AND DETECTIONS BY ONE OR MORE VLPE STATION OR ALPA OR NORSAR

VLPE network has a 90% detection level about as good as the best single VLPE station.

3. Operational Problems

Since the VLPE network detection capability is not much better than the best station in the network, it is important to discuss the VLPE operational problems in terms of the network detection capability. Figure III-15 shows the number of stations that should have been available versus those that were available and usable as a function of epicentral distance. Results for both the winter and summer event ensembles are shown. These histograms show the following:

- The distribution of station-events versus distance shows two distinct groupings, one at $\Delta \leq 50^{o}$ and the other at $\Delta > 50^{o}$.
- Using the event list as standard of operation status, less than 50% of the stations were operational at all distances.
- Comparing the possible stations operational per event versus the actual, we find the following:

	Stations Operational Per Event			
	$\Delta \leq 50^{o}$		$\Delta > 50^{o}$	
	Possible	Actual	Possible	Actual
Winter Ensemble	2.54	1.41	6.46	2.34
Summer Ensemble	2.33	1.06	5.67	2.98

The fact that there should have been more than two operational stations located with $\Delta \leq 50^{o}$ is further verified in Figure II-1, which shows the VLPE station locations with circles of 50^{o} radius around each station.

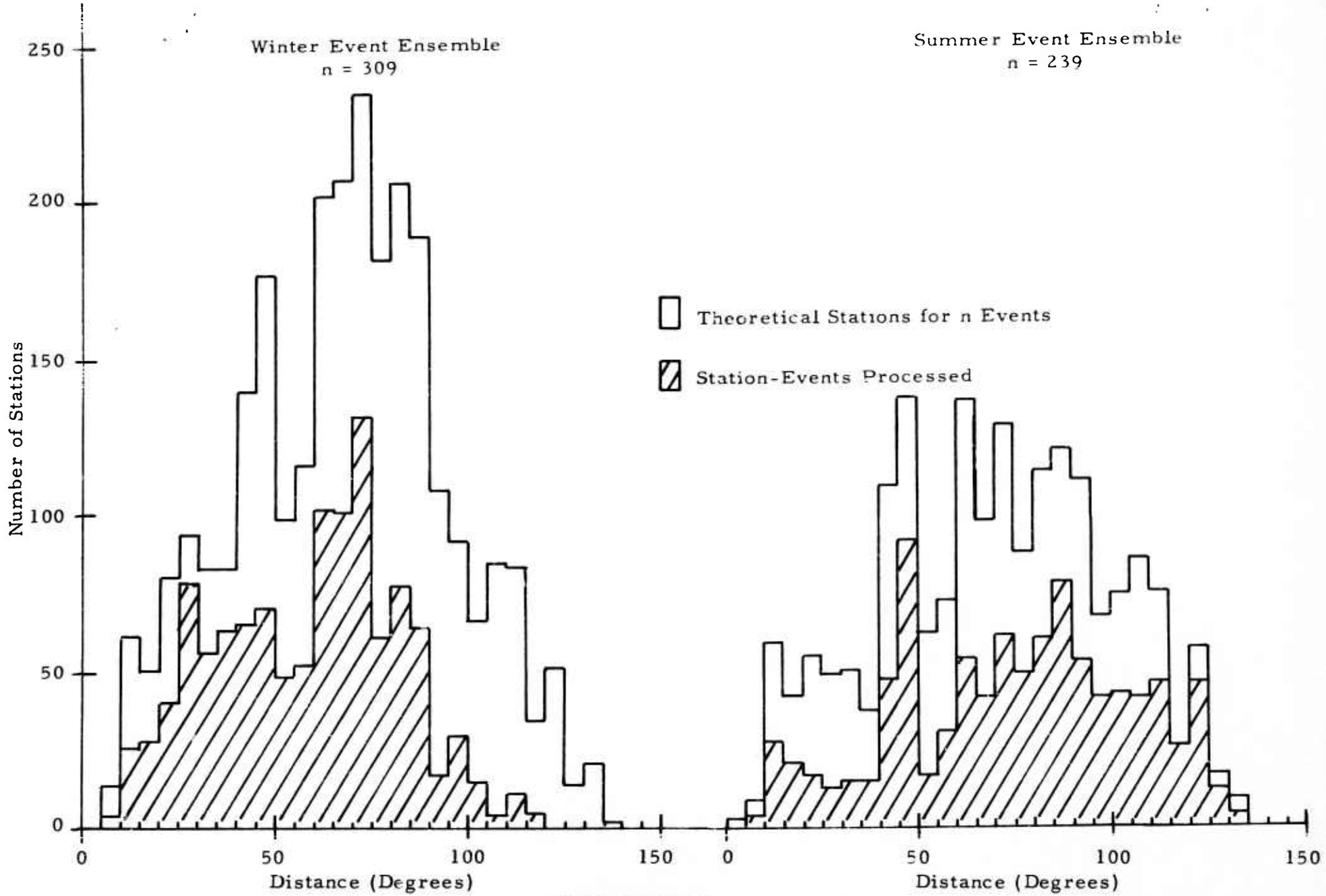


FIGURE III-15

STATIONS-EVENTS PER 5° INCREMENTS OF EPICENTRAL DISTANCE

From the preceding table, we see that, on the average, only about one station per event was available and usable for this study at $\Delta \leq 50^{o}$. In Figures III-16 and III-17, we show the distribution of events processed, detected, and with malfunctions (system clipping, spiking, etc.) versus magnitude for the two distance ranges. We observe the following:

- Both the winter and summer event ensembles had slightly fewer events processed at distances equal to or less than 50^{o} than those for distances greater than 50^{o}.
- Approximately 7% of these events were not detectable due to system malfunctions.
- The 90% network detection level shows little or no improvement at $\Delta \leq 50^{o}$ over that for $\Delta > 50^{o}$ for both the winter and summer networks.

Therefore, had most of the stations been operational in both distance ranges, we would expect the network detection level to improve significantly relative to the best single station detection level.

D. M_s (T = 20 SECONDS) VERSUS m_b

1. VLPE Single Stations

For this study, the surface wave magnitude M_s is defined as (Harley, 1972),

$$M_s = \log A/T + \log \Delta + 1.12$$

where: M_s = surface wave magnitude

A = peak-to-peak displacement in $m\mu$

T = period in seconds for A

Δ = epicentral distance in degrees.

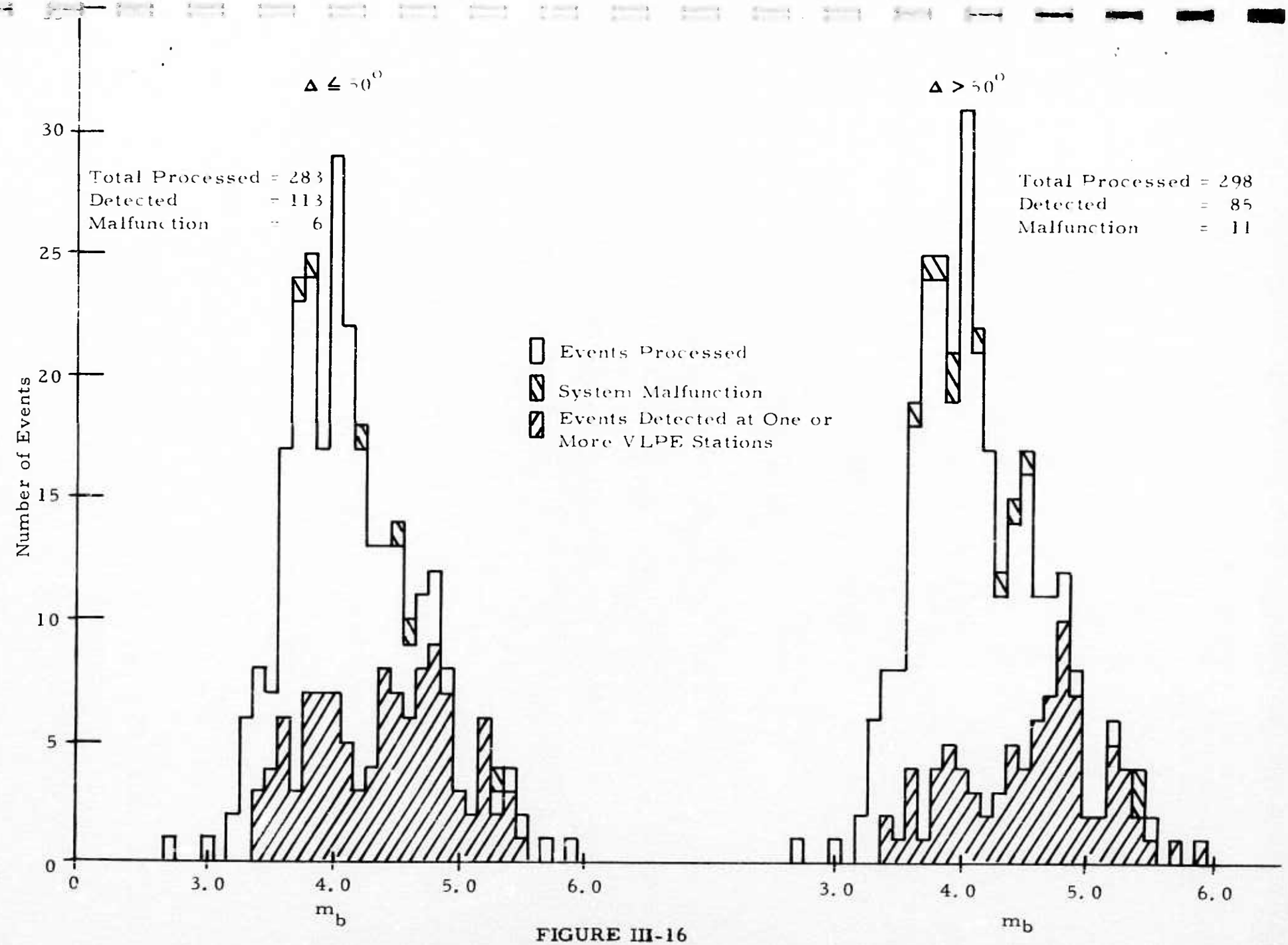


FIGURE III-16

DISTRIBUTION OF WINTER EVENTS BY m_b, DISTANCE AND DETECTIONS BY ONE OR MORE VLPE STATIONS

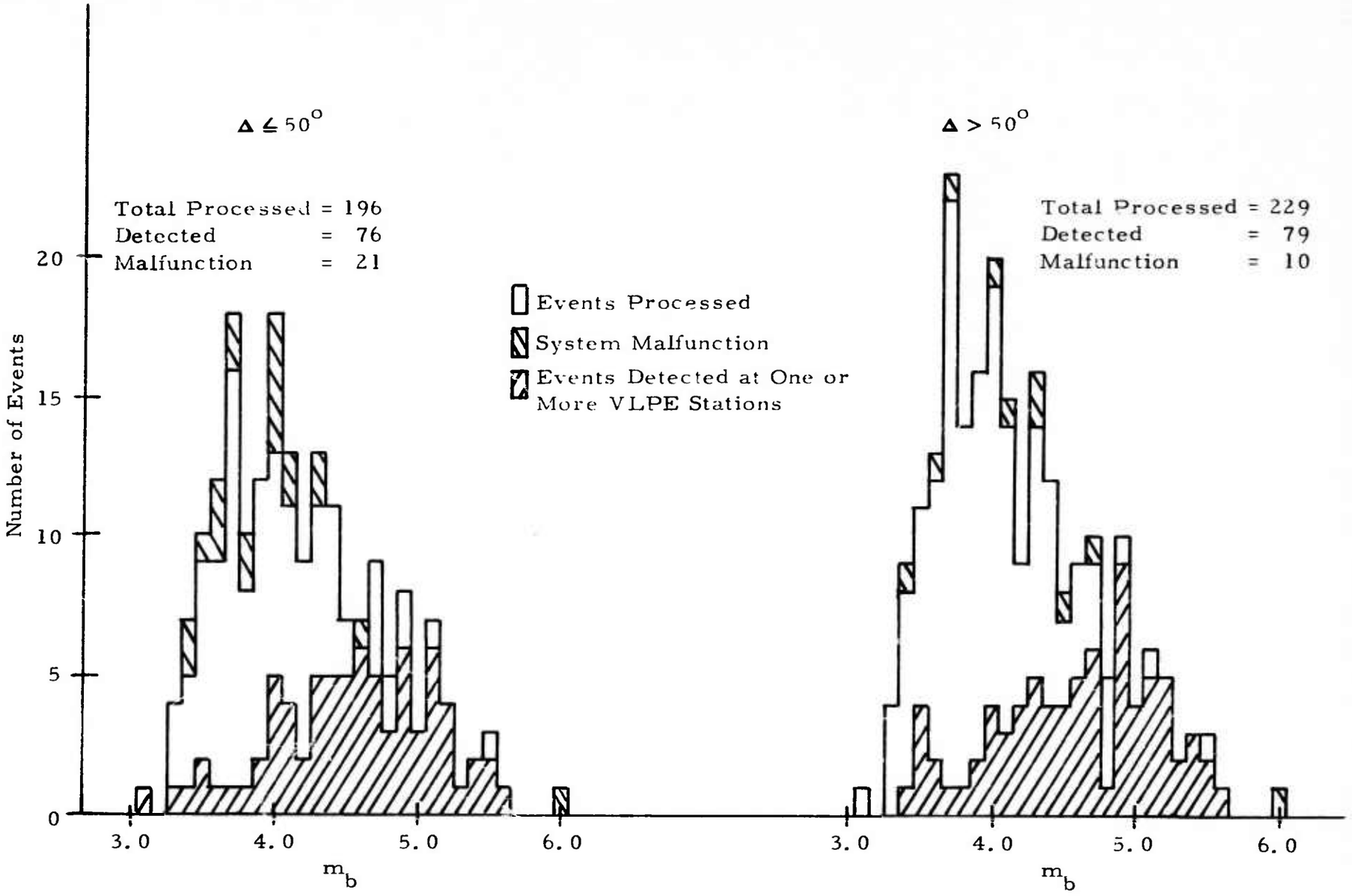


FIGURE III-17

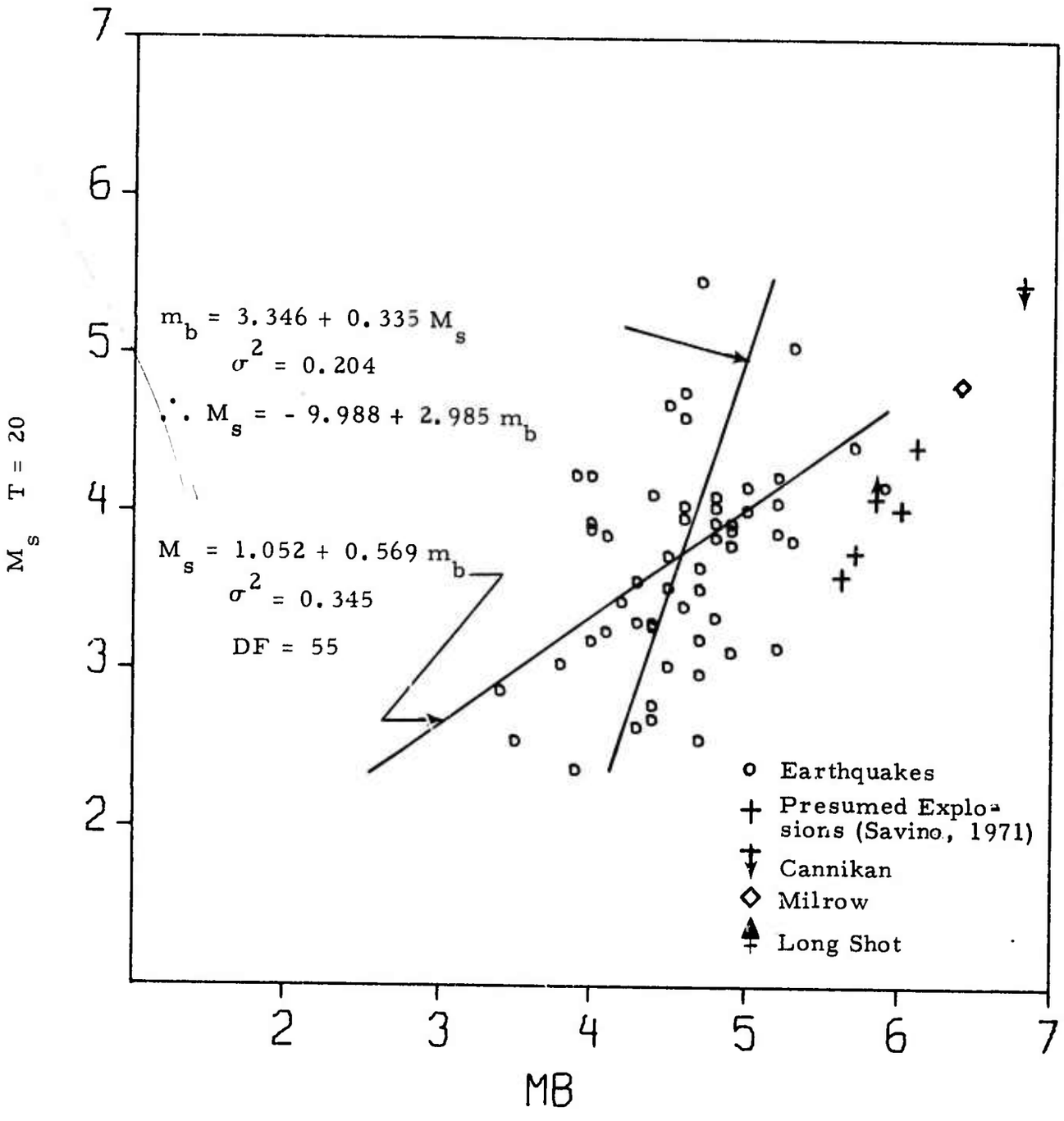
DISTRIBUTION OF SUMMER EVENTS BY m_b, DISTANCE AND DETECTIONS BY ONE OR MORE VLPE STATIONS

We reviewed the m_b determinations for all events where possible to determine whether any regional or near regional distance m_b values were included in the average m_b. It was found that the PDE lists several events from Italy where near station values of m_b had been included. The reported m_b values for these events were from 0.2 to 0.6 units of magnitude larger than the average of the teleseismic values. We accepted only the teleseismic m_b values as valid estimates. Those values of m_b which were changed are recorded and noted with an asterisk in Tables III-1 through III-13. The original m_b values are listed in Table II-1. All graphs in this report which have m_b values as parameters use the revised teleseismic parameters.

Figures III-18 through III-30 show M_s measured at T = 20 seconds versus m_b at the individual VLPE stations. Figures III-18 through III-23 are for the winter and Figures III-24 through III-30 are for the summer ensemble of events. The best least squares linear fit, regressed both on M_s and m_b, was determined for these data. (This was not done for the winter ensemble of events at EIL, Figure III-21, because of previously discussed problems). These lines along with the variance (σ^2) and the degrees of freedom (DF = n - 2; n = number of points) are given on each figure. Also, we have plotted M_s versus m_b for CANNIKAN, MILROW, LONG SHOT, and four presumed explosions listed by Savino et al (1971).

From Figures III-18 through III-30, we observed the following general results:

- The variances of the least squares linear fits are significantly greater for the winter ensemble of events (Figures III-18 through III-23) than those for the summer ensemble (Figures III-24 through III-30).



CHG 01/01/72 - 03/20/72

FIGURE III-18

M_s (T = 20 SEC.) VERSUS m_b

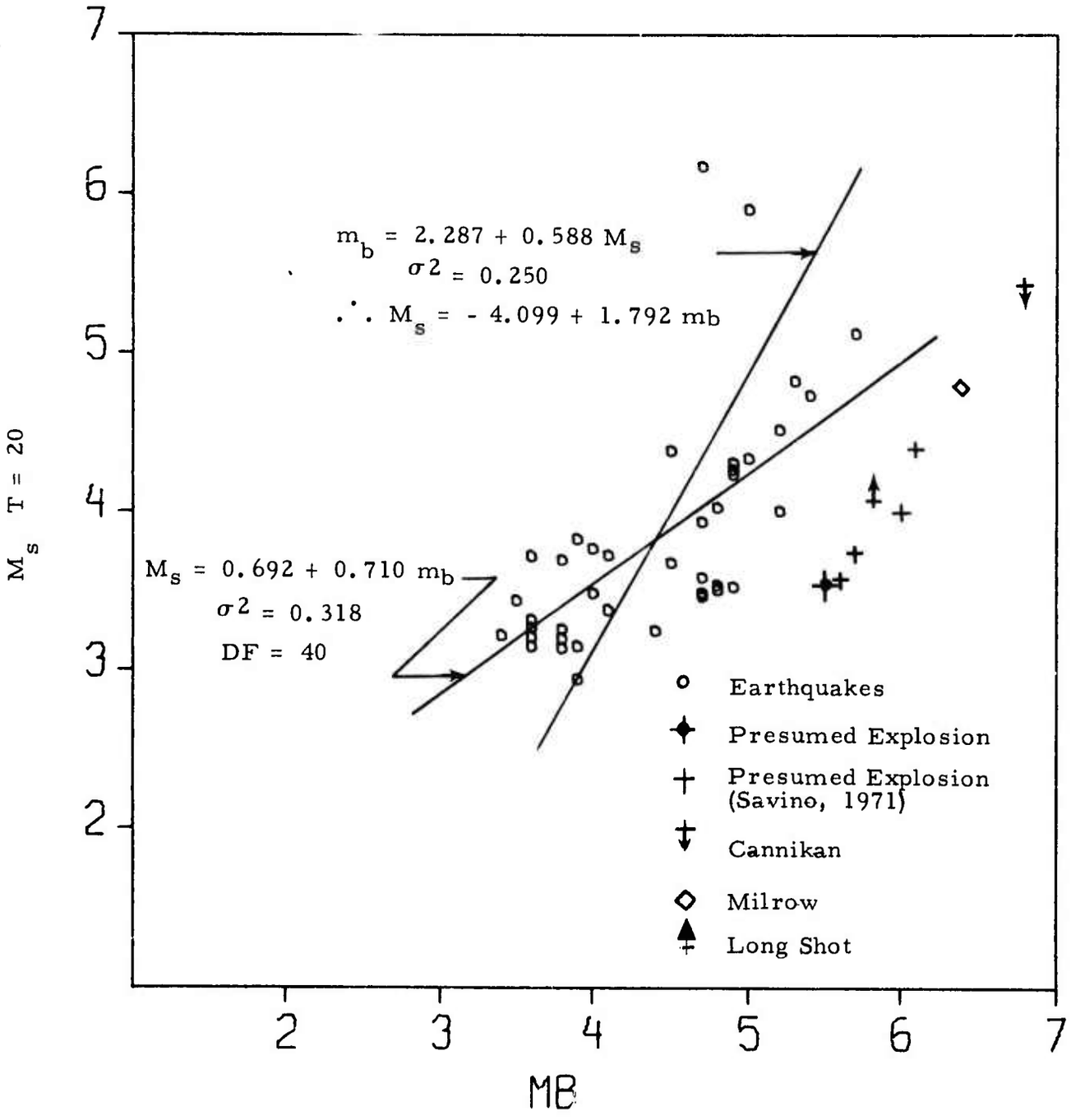
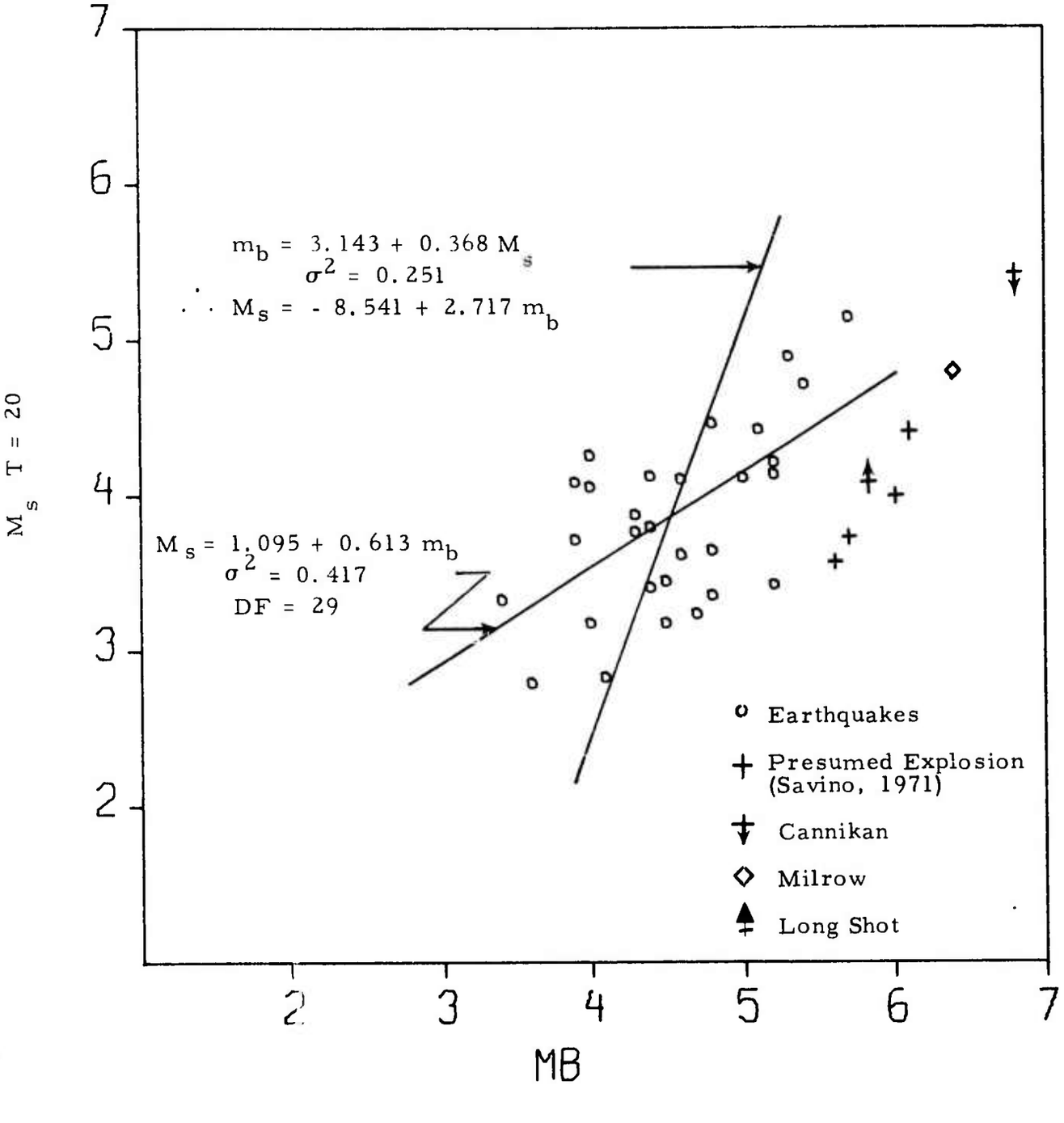


FIGURE III-19

M_s (T = 20 SEC.) VERSUS m_b



TLO 01/01/72 - 03/20/72

FIGURE III-20

M_s (T = 20 SEC.) VERSUS m_b

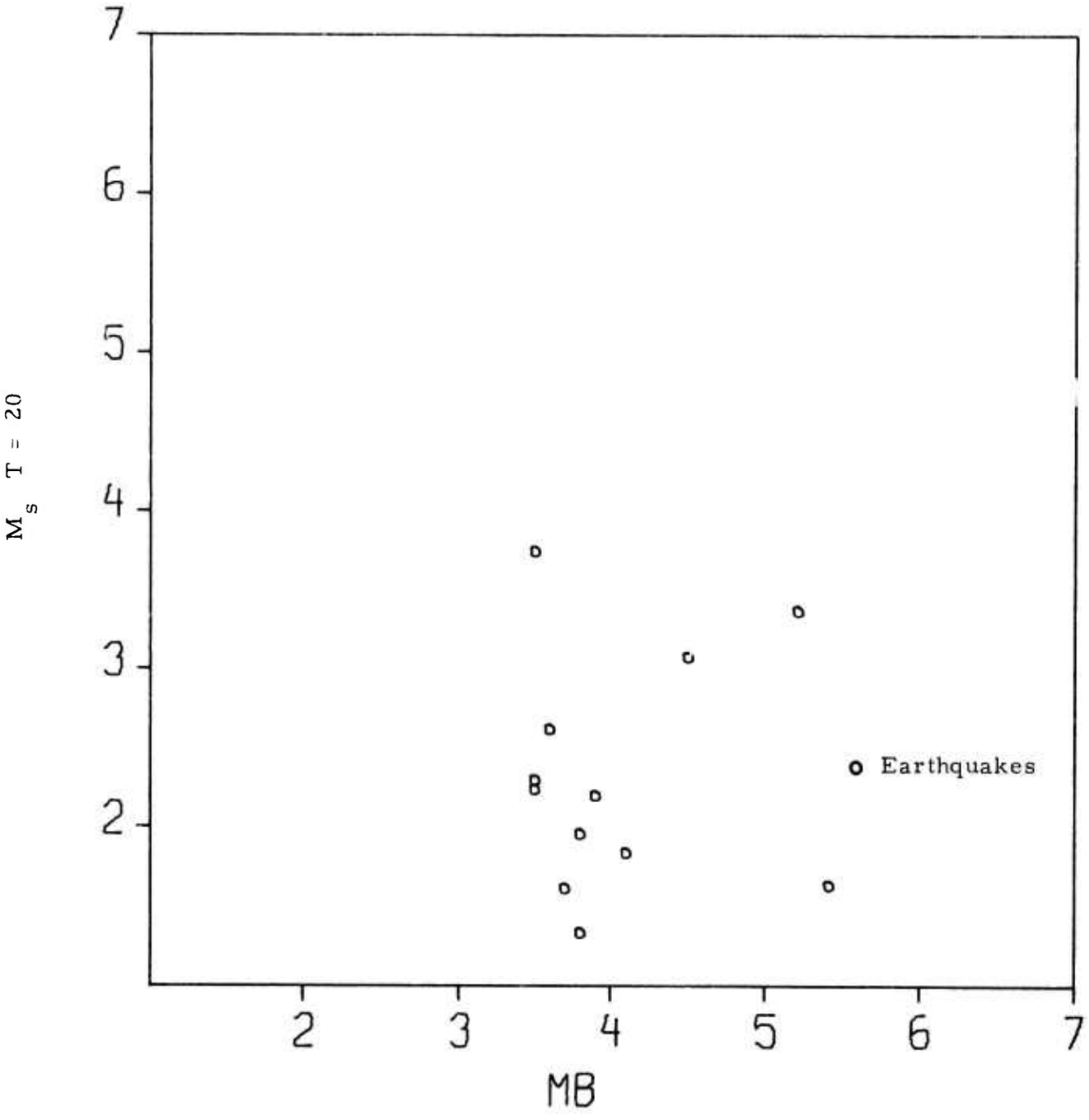


FIGURE III-21

M_s (T = 20 SEC.) VERSUS m_b

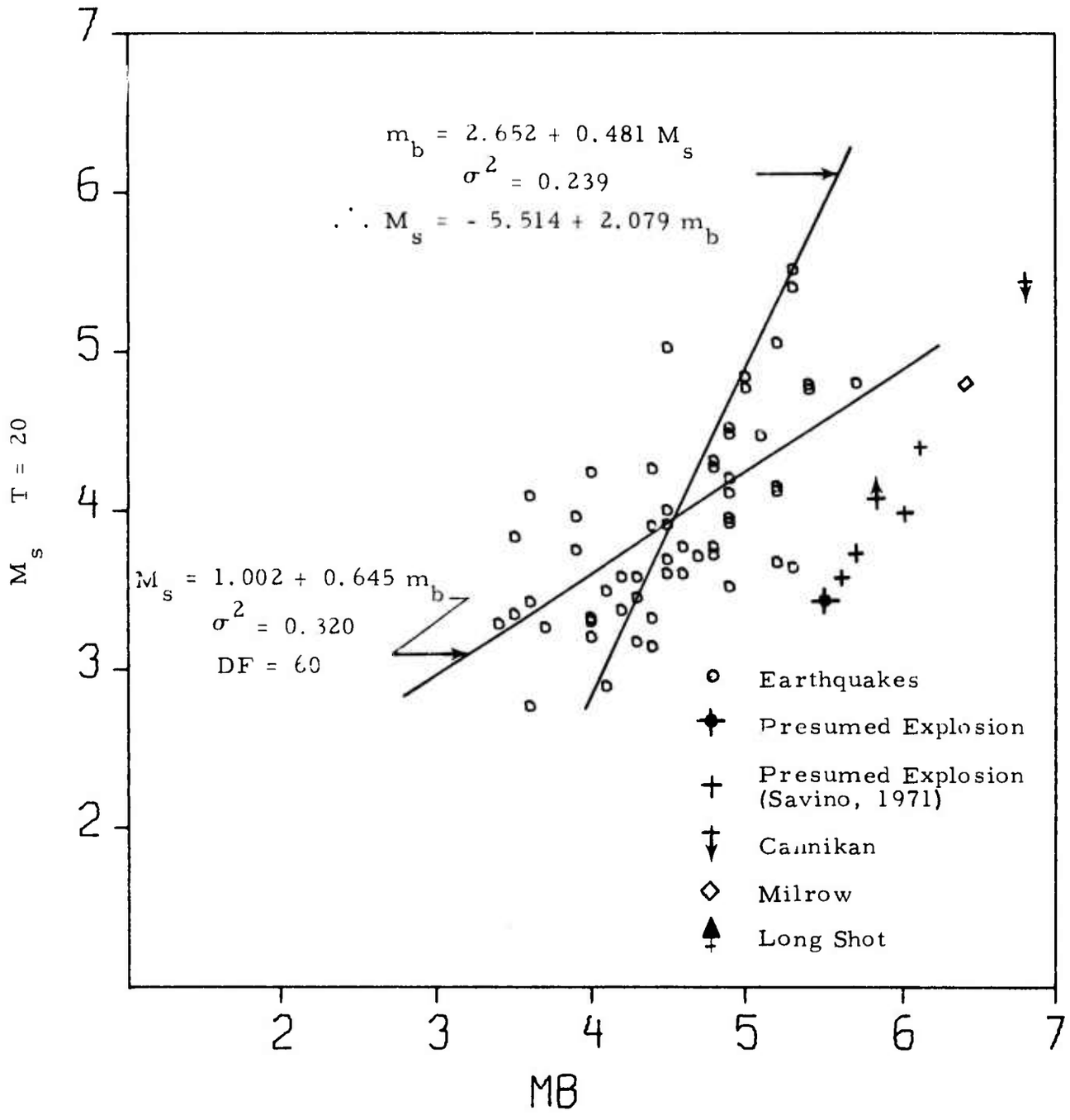
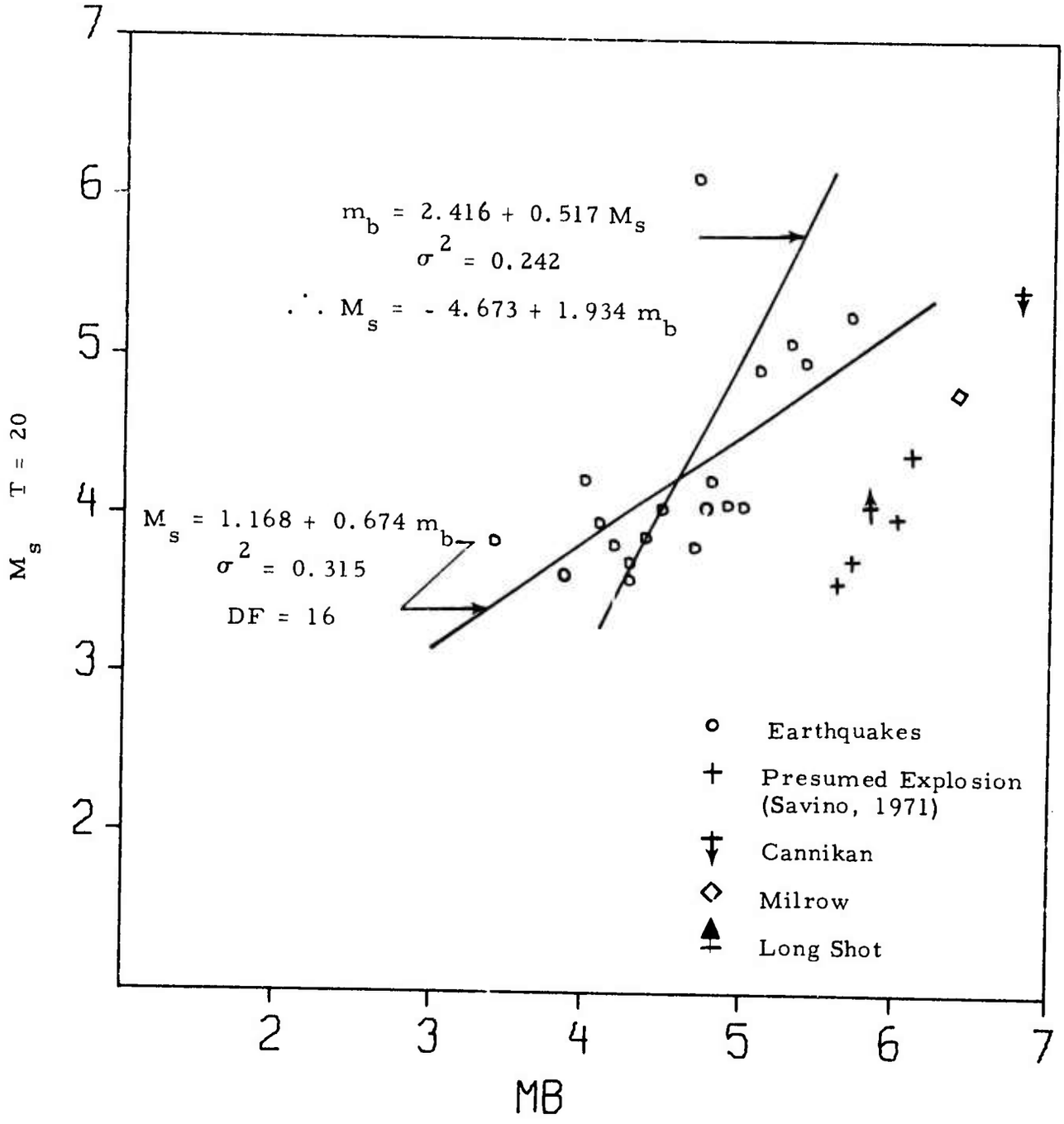


FIGURE III-22

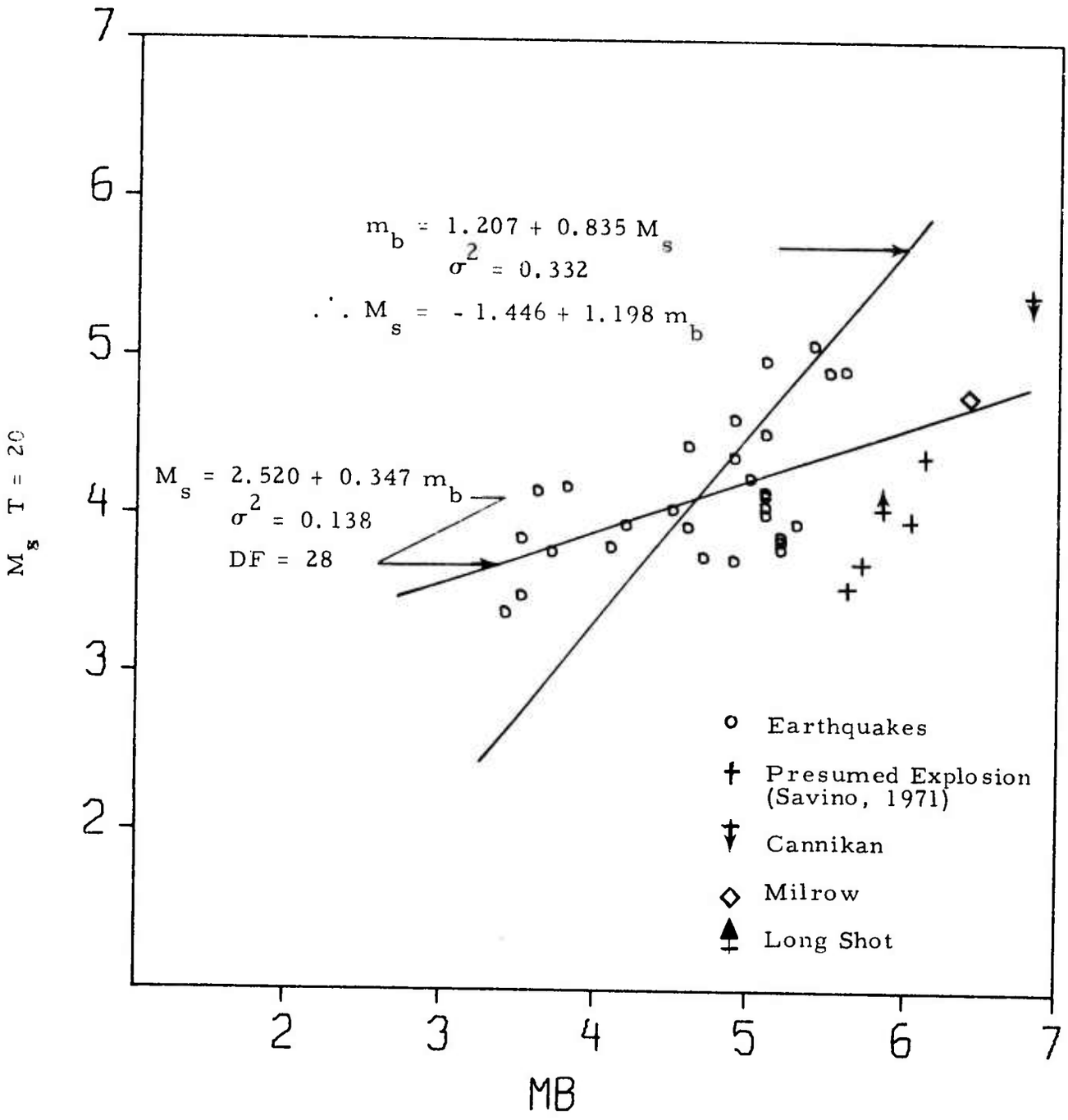
M_s (T = 20 SEC.) VERSUS m_b



OGD 01/01/72 - 03/20/72

FIGURE III-23

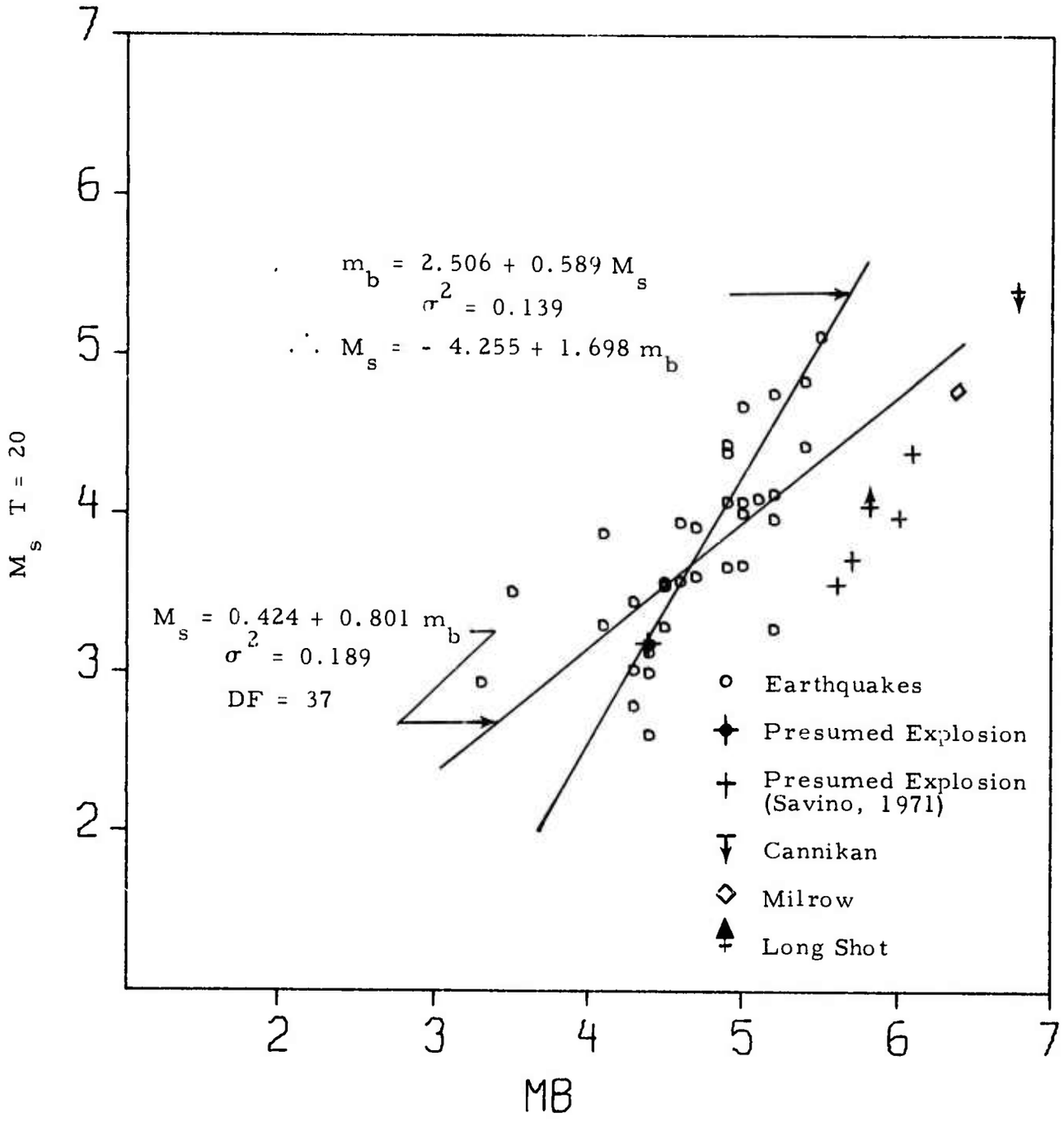
M_s (T = 20 SEC.) VERSUS m_b



CTA 06/01/72 - 07/31/72

FIGURE III-24

M_s (T = 20 SEC.) VERSUS m_b



TLO 06/01/72 - 07/31/72

FIGURE III-25

M_s (T = 20 SEC.) VERSUS m_b

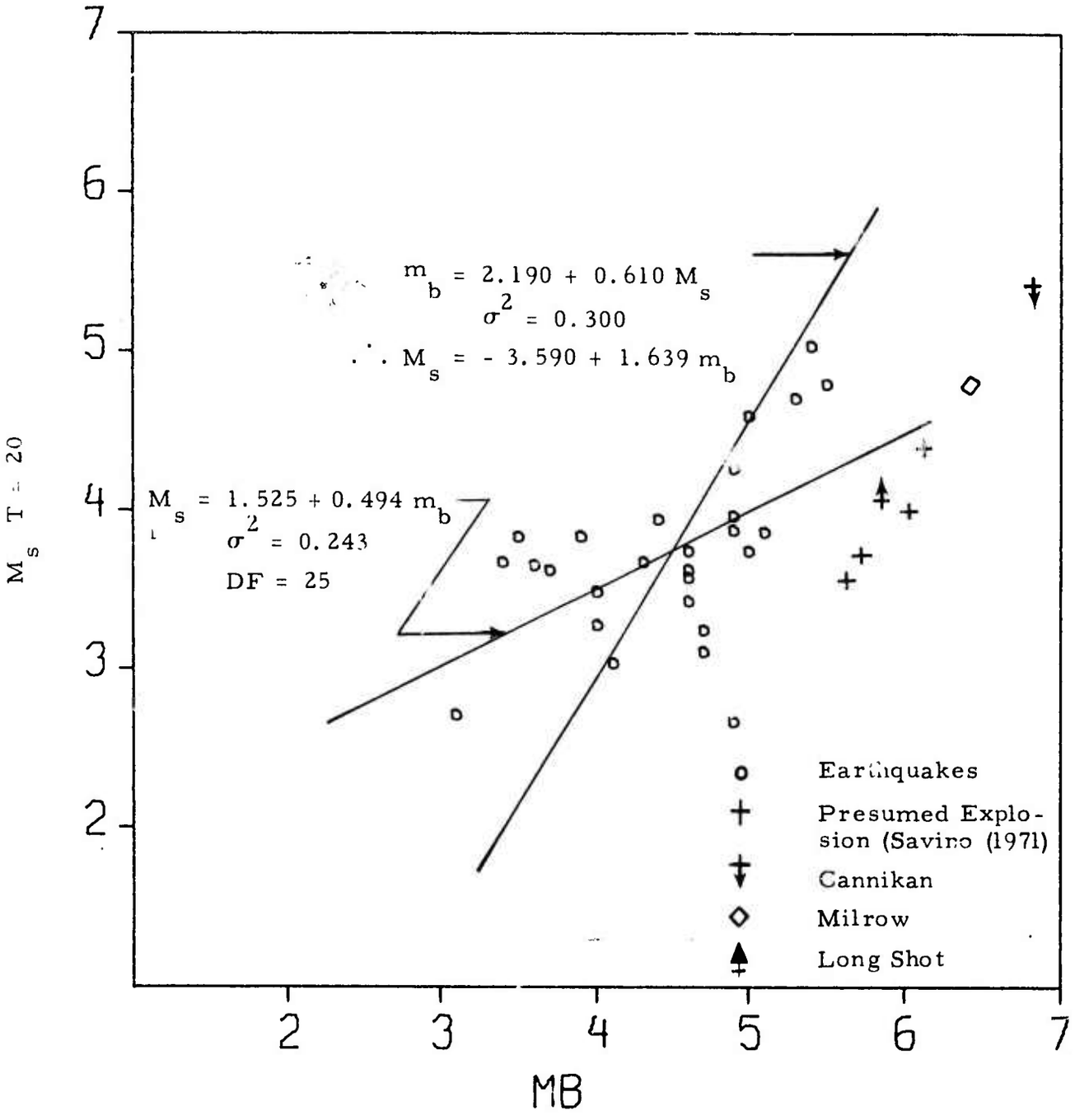
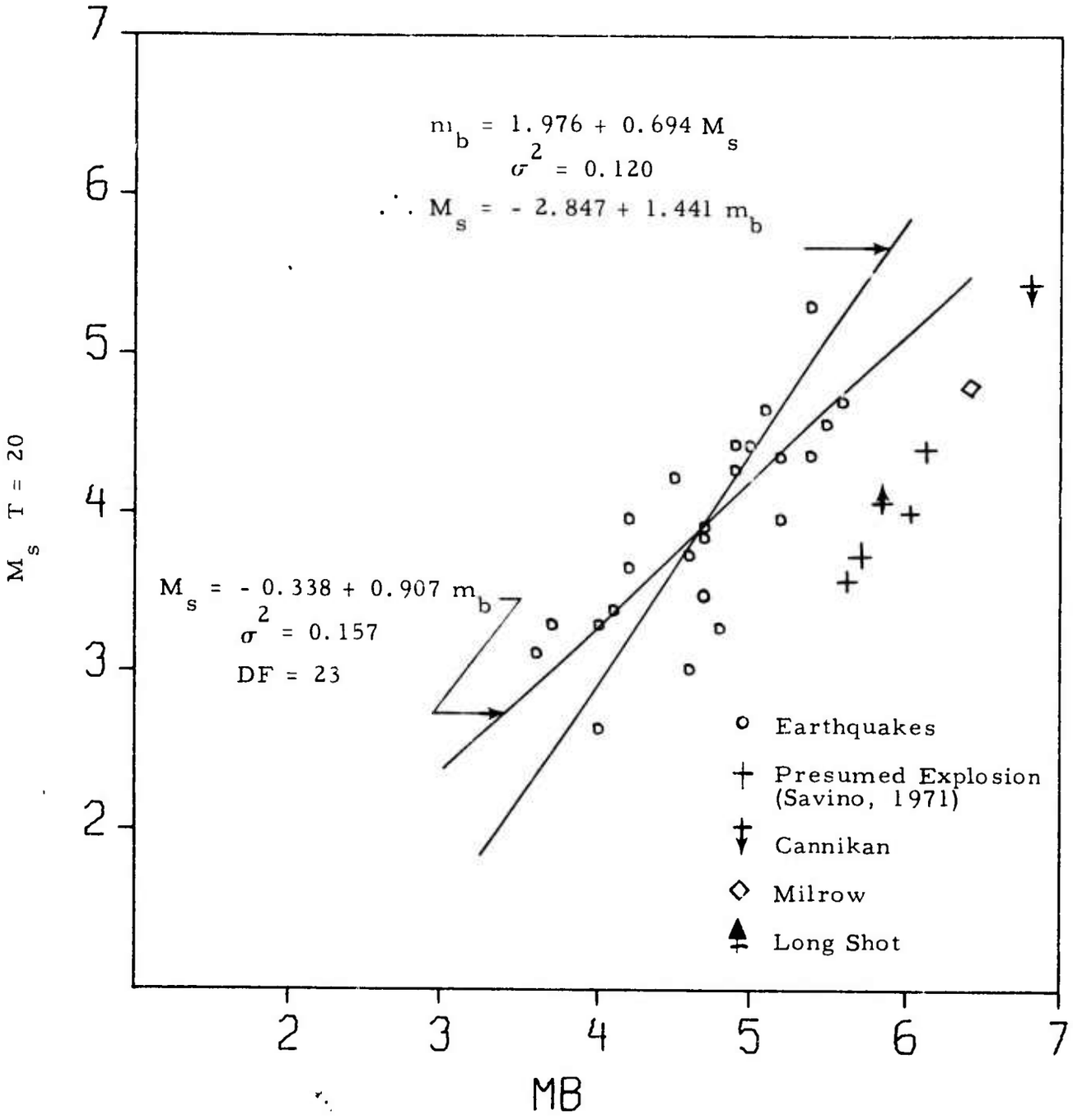


FIGURE III-26

M_s (T = 20 SEC.) VERSUS m_b



KON 06/01/72 - 07/31/72

FIGURE III-27

M_s (T = 20 SEC.) VERSUS m_b

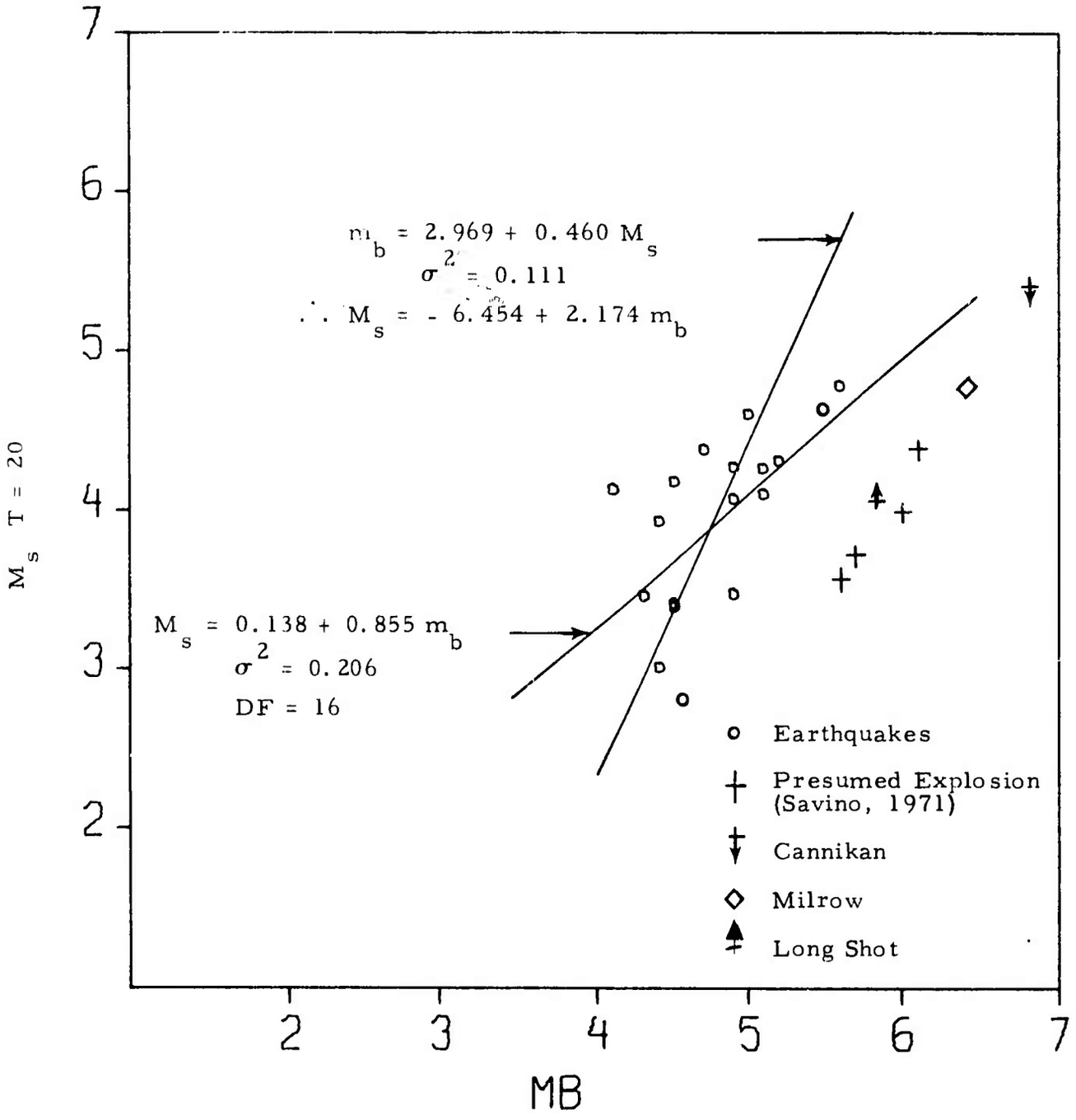


FIGURE III-28

M_s (T = 20 SEC.) VERSUS m_b

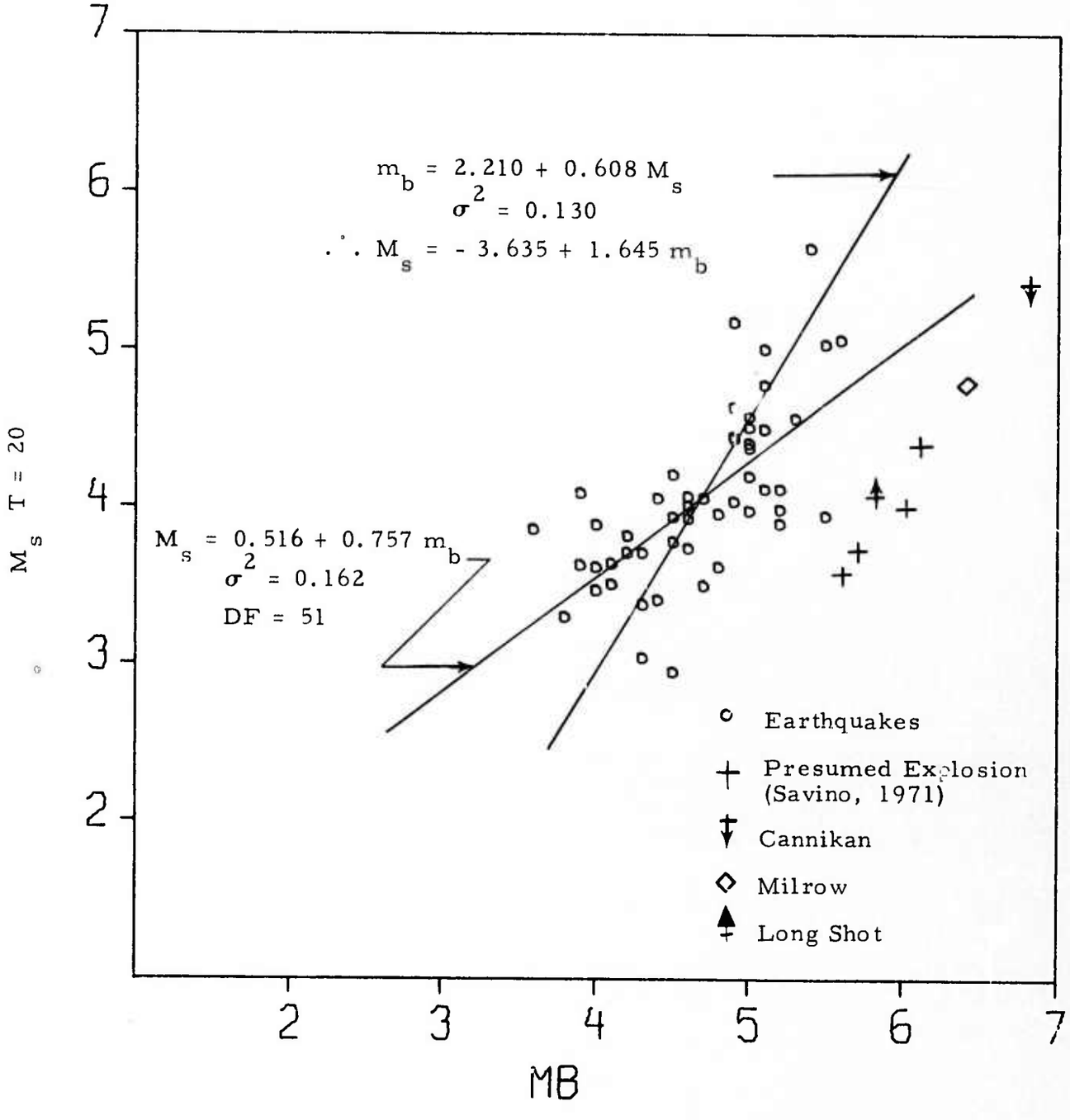


FIGURE III-29

M_s (T = 20 SEC.) VERSUS m_b

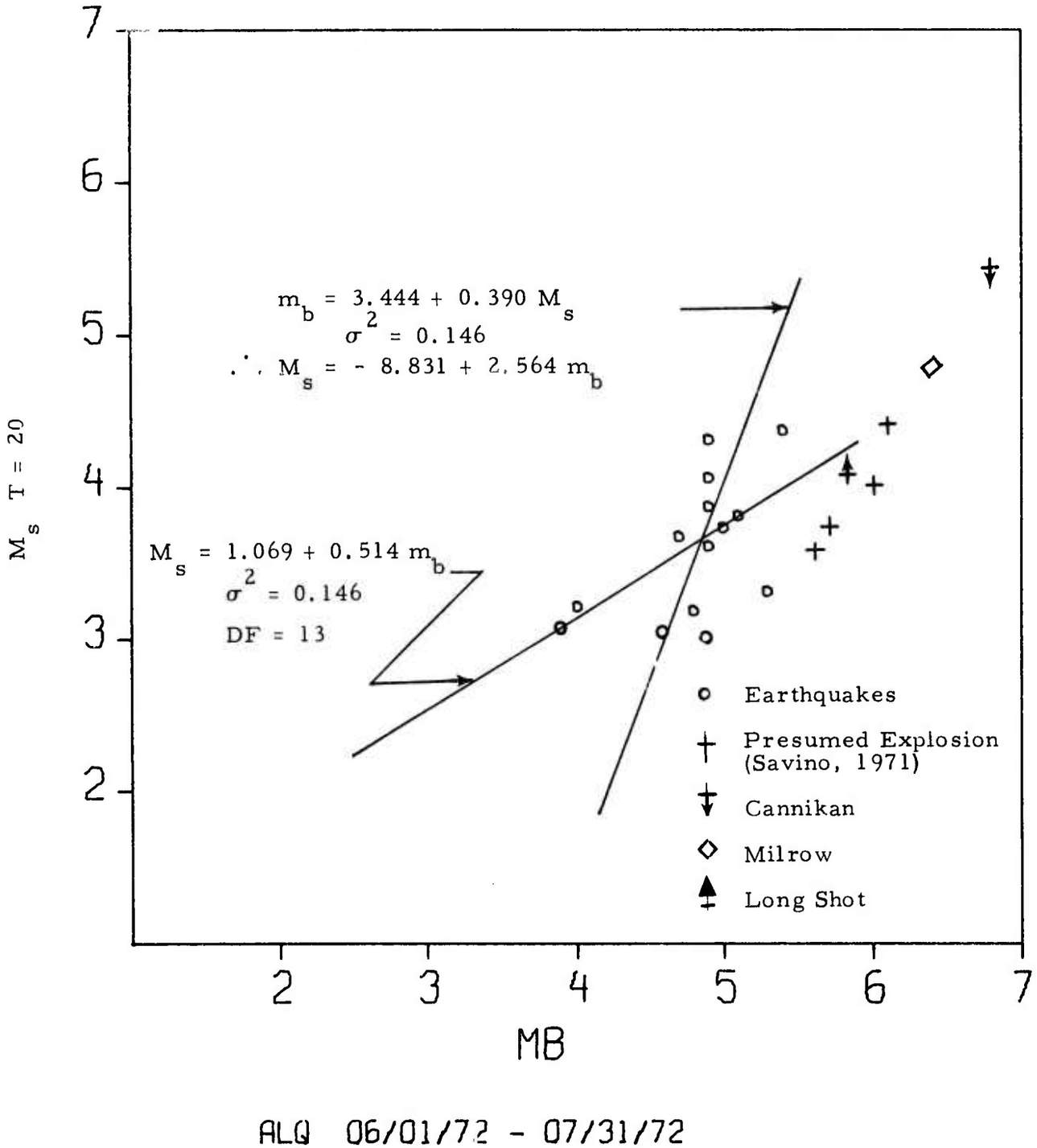


FIGURE III-30

M_s (T = 20 SEC.) VERSUS m_b

- The average Rayleigh wave magnitude (M_s) of all the stations is 3.9 with a standard deviation of $\pm$ 0.3 for an m_b of 4.5. Because of this small standard deviation, we see that the M_s values between stations for corresponding m_b values do not vary a great deal.

- Separation between explosions, presumed explosions, and earthquakes is distinct at several sites for both of the winter and summer ensembles of events.

We can make the following comments about certain individual figures:

- Figure III-18 (CHG - winter): Three earthquakes appear close to or in the explosion population. Two of the events (numbers 23 and 73), are located in Pakistan and Iran at 30°N latitude and 50°-60°E longitude. The third event (number 171) is located in China at about 27°N latitude and 100°E longitude.

- Figure III-20 (TLO - winter): One event (number 18) is close to the explosion population. This event is located in Iran at 30°N latitude and 50°E longitude.

- Figure III-22 (KON - winter): Two events (numbers 281 and 291) are close to the explosion population. The first is located in Tibet at 30°N latitude and 80°E longitude, with the second a Kurile Island event.

- Figure III-25 (TLO - summer): One presumed explosion (event number 456) and one earthquake (event number 419) are misclassified. We cannot completely reconcile the reason for misclassifying the presumed explosion, but there is some

evidence from NORSAR seismograms that this may be a mixed event (Swindell, 1973). The earthquake was located in Pakistan at 30°N latitude and 70°E longitude.

- Figure III-29 (KIP - summer): One event (number 416) is close to the explosion population, and it is also from Pakistan and located at 30°N latitude and 70°E longitude.

- Figure III-30 (ALQ - summer): One event (number 505) falls into the explosion population, and originated in Kamchatka.

2. VLPE Networks

One of the purposes of this study is to determine the capability of the VLPE network to distinguish between earthquakes and explosions. For this part of the study, we use the maximum amplitude of the Rayleigh wave for the magnitude determination. In most cases, the M_s determined at 20 seconds period is the largest value (see Tables III-1 through III-13). However, in some instances the M_s determined at 30 seconds period is either the largest or the only M_s reported.

Tables III-14 and III-15 list the average M_s for each event, for the winter and summer event ensembles. Included with this M_s is the number of stations (n) taken in forming the average and the standard deviation (SD) where at least three stations provided useful signals. Figures III-31 and III-32 are the M_s versus m_b plots for the winter ensemble of events. Figure III-31 shows all events with their M_s value determined by one or more estimates. Figure III-32 shows only those events with their M_s value determined by two or more estimates. Figures III-33 and III-34 show similar information for the summer ensemble of events.

TABLE III-14

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR WINTER EVENTS (1/1/72 - 3/20/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
1	4.1	1	3.85	-	1	3.85	-
3	4.0	2	3.01	-			
5	4.2	1	2.46	-			
6	5.2	4	4.19	0.04	2	4.18	
7	4.8	5	3.79	0.42	3	3.94	0.36
10	4.3	1	2.60	-			
11	4.8	1	3.92	-			
13	4.6*	3	4.53	0.40	2	4.53	-
14	3.9	2	4.23	-	2	4.23	-
16	4.5	2	3.04	-			
17	4.0	2	2.89	-	1	3.17	-
18	4.5	1	3.00	-			
19	4.0	2	3.97	-	2	3.97	-
20	3.9	1	2.80	-			
21	4.7	3	3.38	0.14	2	3.37	-
22	4.7	3	3.68	0.30	1	3.65	-
23	5.2	4	3.42	0.20	2	3.28	-
25	4.2	2	3.53	-	2	3.53	-
26	4.7	4	6.07	0.35	4	6.07	0.35
27	4.6	3	4.35	0.43	2	4.58	-
29	4.3	2	3.38	-	1	3.56	-
30	3.8	1	3.69	-	1	3.69	-
31	5.0	7	4.47	0.78	5	4.64	0.87
33	3.9	1	2.40	-			
34	4.0	1	3.93	-	1	3.93	-
35	4.4	3	3.72	0.93	3	3.72	0.93
36	4.9	6	3.95	0.35	4	3.82	0.37
37	4.8	6	4.21	0.16	4	4.27	0.15
38	4.0	5	4.09	0.34	5	4.09	0.34
39	5.3	6	5.04	0.27	4	5.11	0.21
40	3.9	5	3.38	0.39	3	3.63	0.14
41	5.1	3	3.61	0.05	2	3.58	-
43	4.7	6	3.39	0.30	4	3.46	0.22
46	3.8	1	2.50	-			
48	4.1	1	2.75	-			

TABLE III-14

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR WINTER EVENTS (1/1/72 - 3/20/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
50	4.9	5	3.79	0.25	3	3.91	0.19
52	4.3	3	3.66	0.28	1	3.41	-
54	4.2	1	2.40	-			
55	4.4	1	2.69	-			
56	4.2	1	2.50	-			
59	4.6	2	3.54	-	1	3.67	-
60	4.2*	2	3.49	-	1	3.37	
61	4.8	3	3.69	0.32	2	3.83	
62	4.6	4	3.84	0.19	3	3.92	0.12
65	3.8	2	3.35	-	1	4.00	
68	4.0	1	3.18	-	1	3.18	
69	4.8	1	2.80	-			
70	3.8	1	2.40	-			
71	3.8	4	2.98	0.38	3	3.03	0.45
72	4.4	1	3.99	-			
73	5.9	7	3.99	0.14	5	4.00	0.15
75	4.5	1	2.77	-	1	2.77	
76	4.4	2	3.06	-	1	3.19	
78	3.8	1	3.19	-	1	3.19	
80	3.9	1	3.14	-			
81	3.9	6	3.77	0.30	4	3.73	0.26
82	4.1	1	2.40	-			
85	3.6	1	4.42	-	1	4.42	
87	4.6	7	3.47	0.11	5	3.51	0.12
88	5.1	6	4.43	0.32	4	4.43	0.35
89	4.5	7	4.12	0.30	5	4.10	0.35
90	4.5*	7	3.83	0.46	5	3.89	0.55
91	4.2	1	3.37	-			
92	4.8	2	3.17	-	1	3.33	
93	4.8	2	3.37	-	1	3.53	
94	4.4	6	3.51	0.26	4	3.59	0.28
95	5.2	5	4.06	0.47	5	4.06	0.47
96	4.5	3	3.42	0.35	3	3.42	0.35
97	4.1*	7	3.37	0.34	5	3.38	0.41
98	4.3*	3	3.26	0.31	2	3.39	

TABLE III-14

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR WINTER EVENTS (1/1/72 - 3/20/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
99	4.1*	3	2.84	0.19	1	2.89	
100	3.6	2	2.77	-	2	2.77	
102	3.7*	1	2.33	-			
103	4.0*	3	3.02	0.18	1	3.20	
104	4.3*	6	3.42	0.28	4	3.56	0.22
105	4.2*	7	3.62	0.19	5	3.69	0.18
106	4.4*	5	3.31	0.15	4	3.36	0.12
108	4.7	1	3.20	-			
111	4.8	3	3.64	0.62	2	3.91	
112	5.7	6	4.93	0.31	5	4.95	0.34
113	4.3*	1	2.48	-			
114	4.8	5	3.70	0.18	4	3.75	0.16
116	5.5	1	2.75				
117	4.5	3	3.37	0.58	2	3.71	-
118	3.9	2	3.23	-			
119	4.1	4	3.38	0.18	2	3.50	-
120	4.9	4	4.25	0.22	2	4.41	-
121	4.3	2	2.87	-	1	2.63	
122	3.9	3	3.16	0.83	2	3.64	
123	4.6	6	3.85	0.21	4	3.90	0.22
125	4.5	3	3.30	0.12	1	3.35	
126	3.9	1	3.82	-		3.82	
127	4.1	2	2.75	-			
128	4.5	1	2.89	-			
129	4.8	4	3.67	0.25	2	3.55	
130	3.7	1	2.40	-			
131	4.7	4	3.46	0.38	2	3.48	
132	4.0	1	2.40	-			
133	5.2	3	3.94	0.38	3	3.94	0.38
134	5.4	3	4.83	0.13	3	4.83	0.13
137	3.9	1	3.21	-			
138	4.1	1	3.18	-			
139	4.8	4	3.70	0.23	2	3.76	
140	3.5	1	3.64	-		3.64	
141	5.3	4	4.06	0.18	3	4.07	0.22

TABLE III-14

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR WINTER EVENTS (1/1/72 - 3/20/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
143	3.4	3	3.15	0.72	2	3.53	
144	4.0	2	3.26	-	1	3.30	
145	4.8	4	3.67	0.28	2	3.64	0.19
146	4.7	4	3.62	0.23	2	3.59	
147	4.9	5	3.58	0.40	3	3.53	0.42
148	3.7	1	2.30	-			
151	4.3	1	3.10	-	1	3.10	
153	4.5	1	2.70	-			
156	5.0	5	4.42	0.44	3	4.39	0.42
164	4.0	2	2.91	-			
165	4.9	5	4.26	0.39	3	4.17	0.35
167	4.9	3	3.23	0.32	1	3.27	
169	3.8	3	3.02	0.48	2	3.28	
171	4.7	4	3.57	0.68	2	3.24	
172	5.3	4	4.60	0.68	3	4.74	0.81
175	4.9	5	4.05	0.23	3	4.12	0.30
179	4.4	4	3.03	0.19	2	3.19	
181	4.5	1	3.14	-			
184	4.1	1	2.50	-			
186	3.9	3	2.80	0.40	2	2.75	
189	4.4	2	3.16	-	1	3.11	
192	3.8	1	3.03	-	1	3.03	
193	4.4	3	3.53	0.66	2	3.34	
200	4.4	1	4.11	-	1	4.11	
205	3.6	3	3.45	0.57	2	3.68	
208	4.1	1	3.32	-	1	3.32	
211	3.4	1	2.30	-			
214	4.0	1	3.76	-	1	3.76	
218	3.7	1	3.26	-	1	3.26	
220	3.5	1	2.30	-			
223	4.3*	2	3.73	-	2	3.73	
224	4.0	2	3.21	-	1	3.32	
226	4.6	1	2.60	-			
227	4.1	1	2.50	-			
228	4.6	1	2.60	-			

TABLE III-14

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR WINTER EVENTS (1/1/72 - 3/20/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
229	3.8	1	2.20	-			
230	4.1	1	2.30	-			
232	4.4*	4	3.12	0.31	2	2.93	
233	4.5	3	3.41	0.40	1	3.42	
235	4.5	2	3.72	-			
236	4.4	1	3.40	-			
237	3.6	1	3.14	-	1	3.14	
238	5.1	1	3.00	-			
241	3.9	2	2.67	-	1	2.93	
243	5.4	2	4.09	-	1	4.17	
254	4.2	2	2.99	-	1	3.18	
255	4.6*	4	3.66	0.12	2	3.63	
256	3.5	3	3.23	0.28	2	3.39	
260	5.5	4	3.34	0.19	2	3.49	
262	4.9	2	4.11	-	2	4.11	
264	3.8	1	3.25	-	1	3.25	
266	3.6	2	3.21	-	1	3.42	
273	3.8	1	3.30	-			
275	4.1	1	2.90	-			
278	3.7	2	4.74	-	2	4.74	
280	3.7	1	2.90	-			
281	5.3	4	3.54	0.28	2	3.45	
286	4.5	3	4.42	0.61	3	4.42	0.61
288	3.4	1	2.98	-	1	2.98	
289	3.6	2	3.08	-	2	3.08	
290	3.5	1	3.83	-	1	3.83	
292	5.2	4	3.84	0.22	2	4.01	
294	5.2	6	4.53	0.36	4	4.46	0.44
296	3.5	2	2.67	-	1	2.54	
297	5.0	2	3.81	-	1	3.92	
298	3.6	2	3.31	-	1	3.71	
299	3.6	1	3.20	-	1	3.20	
300	4.7	5	3.50	0.58	3	3.64	0.76
303	3.9	1	2.70	-			
308	3.4	3	3.35	0.52	3	3.35	0.52
				$\overline{\text{S. D.}}$ 0.341			$\overline{\text{S. D.}}$ 0.352

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
310	3.9	2	2.90				
311	3.6	4	3.43	0.60	3	3.64	0.52
312	3.7	3	3.17	0.39	1	3.62	
314	3.8	2	3.00				
315	4.1	2	3.12	-	1	3.03	
316	3.8	2	3.54	-	1	4.18	
319	3.5	2	3.27	-	1	3.64	
320	3.9	3	3.42	0.73	1	4.27	
321	3.7	3	3.56	0.19	1	3.77	
322	4.3	2	3.33	-	1	3.56	
323	5.0*	5	4.25	0.45	3	4.34	0.09
324	4.2	3	3.24	0.61	1	3.81	
325	4.2	1	2.90				
326	4.0	2	2.80				
327	3.4	1	3.38	-	1	3.38	
328	3.5	1	3.49	-	1	3.49	
329	4.1	2	2.75				
330	3.5	2	3.47	-	1	3.83	
331	4.0	2	2.90				
332	4.3*	5	3.71	0.17	3	3.79	0.19
333	3.9	4	2.79	0.23	2	2.62	
334	4.8	3	3.26	0.25	1	3.27	
335	4.0	5	3.24	0.23	3	3.37	0.21
338	4.7	3	3.53	0.06	2	3.50	
339	5.5	1	3.40				
341	5.4	5	4.86	0.71	4	5.10	0.54
342	4.9	2	4.50	-	2	4.50	
343	4.9	4	4.04	0.41	2	3.94	
344	4.1	2	2.90				
345	4.3	1	3.70				
346	4.7	3	3.63	0.35	3	3.63	0.35
347	4.5	1	4.22	-	1	4.22	
348	4.7	3	4.16	0.54	1	4.78	
349	4.4	1	4.05	-	1	4.05	
350	4.9	8	3.71	0.53	6	3.60	0.58

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S.D.	n	Average M_s	S.D.
351	4.9	5	4.49	0.43	5	4.49	0.43
352	4.0	1	3.88	-	1	3.88	
354	4.5	5	3.66	0.18	3	3.57	0.19
355	3.7	2	2.60				
356	4.0	2	3.15				
357	3.3	2	2.35				
361	5.4	4	4.74	0.25	2	4.73	
362	5.1	3	4.69	0.51	3	4.69	0.51
364	5.1	3	4.04	0.20	1	3.81	
365	3.8	2	2.80	-	1	3.29	
366	4.7	3	3.69	0.28	2	3.69	
367	5.3	3	4.00	0.10	1	4.10	
368	3.6	1	2.10				
369	3.5	2	3.26	-	2	3.26	
370	3.6	1	3.00				
371	4.5*	4	4.11	0.10	3	4.14	0.09
372	4.3*	2	2.91	0.15	1	3.01	
373	4.9	3	4.04	0.33	2	3.97	
374	3.5	1	3.50	-	1	3.50	
375	3.3	1	2.93	-	1	2.93	
376	4.1	1	2.40				
379	3.7	2	2.95				
380	4.6	3	2.79	0.01	1	2.78	
381	4.6	4	3.34	0.24	2	3.49	
382	4.3	3	3.65	0.19	1	3.44	
383	3.9	1	2.50				
384	4.3	1	2.80				
385	4.4	4	2.73	0.19	2	2.81	
386	5.0	3	4.10	0.43	2	4.15	
388	4.5	3	3.39	0.40	2	3.24	
389	4.1	2	2.55				
390	4.0	1	3.46	-	1	3.46	
391	3.7	2	2.45				
392	3.6	1	3.85	-	1	3.85	
393	4.3	2	3.24	-	1	3.37	

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
394	3.7	1	2.70				
395	4.1	2	3.05				
396	4.3	3	2.78	0.23	1	3.03	
399	4.5	1	3.93	-	1	3.93	
400	3.7	2	2.75				
401	3.4	1	2.40				
402	4.6	4	3.23	0.36	2	3.28	
403	3.7	1	2.70				
404	3.5	1	3.00				
405	4.5*	3	3.20	0.27	2	3.35	
406	6.0	1	6.00				
409	3.7*	2	2.65				
410	4.7	6	4.02	0.34	4	3.93	0.36
411	4.1	4	3.58	0.37	2	3.82	
412	5.0	6	4.37	0.32	4	4.36	0.25
413	3.6	1	2.40				
414	3.7	3	3.03	0.23	1	3.29	
415	4.0	2	2.82	-	1	3.03	
416	5.5	6	4.30	0.47	4	4.20	0.47
417	3.8	1	3.60				
418	4.4	3	3.91	0.02	1	3.93	
419	5.2*	5	3.99	0.52	3	3.98	0.62
421	5.1	5	4.28	0.25	3	4.31	0.32
422	4.6*	3	3.18	0.68	2	3.47	
423	3.6	2	2.95				
424	4.2	2	2.45				
425	3.4	1	2.00				
426	4.3	2	3.13	-	1	3.46	
427	5.6	6	4.83	0.17	4	4.87	0.16
428	3.9	2	2.50				
429	3.9	1	4.08	-	1	4.08	
430	3.7	2	2.55				
431	4.6*	3	3.84	0.10	1	3.73	
432	4.4	2	3.67	-	1	3.94	
433	4.9	5	4.24	0.45	3	4.23	0.31

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
434	4.0	1	2.80				
435	3.4	1	2.40				
436	5.4	3	4.94	0.22	1	4.83	
437	4.6	3	3.47	0.16	1	3.62	
438	5.0	4	3.90	0.24	3	3.87	0.28
439	4.3	1	2.70				
440	4.0	1	2.80				
441	4.0	2	3.29	-	1	3.48	
442	5.1	3	3.89	0.10	1	3.86	
444	3.4	2	2.80				
445	3.9	1	3.00				
446	4.4	3	3.11	0.34	1	3.40	
447	3.6	1	2.70				
449	4.6	5	3.87	0.17	3	3.84	0.23
450	3.5	1	2.80				
451	4.3	3	3.37	0.30	1	3.70	
452	3.4	1	3.67	-	1	3.67	
453	4.0	3	3.30	0.09	1	3.27	
454	4.7	2	3.04	-	1	3.10	
455	4.1	2	2.85				
456	4.4	2	2.89	-	1	3.17	
457	3.1	3	2.80	0.10	1	2.70	
458	4.3	1	3.67	-	1	3.67	
460	3.7	1	2.70				
461	5.0	3	4.59	0.09	3	4.59	0.09
462	3.7	1	3.70				
463	4.7	1	2.70				
464	4.9	3	4.02	0.06	3	4.02	0.06
465	4.2	1	3.10				
466	4.0	2	2.53	-	1	2.55	
467	4.1	3	3.34	0.65	2	3.72	
469	4.1	1	2.77				
470	4.7	3	3.55	0.14	1	3.42	
471	4.2	1	2.90				
472	5.2	6	3.86	0.28	4	3.96	0.13

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
473	3.6	1	2.52				
474	3.7	1	2.80				
475	4.7	4	3.72	0.26	2	3.86	
476	5.2	6	3.94	0.34	4	4.05	0.23
477	3.5	1	3.10				
479	4.1	2	3.34	-	2	3.34	
481	3.9	1	3.20				
482	4.2	4	3.50	0.26	2	3.68	
483	3.7	1	3.30				
485	3.8	2	3.43				
486	3.9	1	3.00				
487	4.4	2	3.06				
488	3.9	1	2.70				
489	3.4	1	2.79				
490	3.9	1	2.50				
491	3.8	2	2.85				
492	5.1	5	4.22	0.33	3	4.24	0.50
493	4.4	2	2.81	0.44	1	3.12	
494	3.7	1	2.20				
495	3.5	1	2.40				
496	5.2	5	4.18	0.36	3	4.20	0.48
497	4.9	5	4.34	0.16	3	4.31	0.23
498	4.7	2	3.70				
499	4.6	7	3.83	0.44	5	3.83	0.21
501	4.2	2	3.05				
502	3.9	2	3.16	-	1	3.62	
503	4.2	2	3.54	-	2	3.54	
504	3.9	1	3.00				
505	5.3	7	3.91	0.57	5	4.05	0.58
506	3.3	1	2.00				
507	3.4	1	3.00				
508	4.1	1	3.87	-	1	3.87	
509	4.5	1	2.80				
510	4.0	2	2.75				
511	3.7	1	2.60				

TABLE III-15

NETWORK RAYLEIGH WAVE MAGNITUDES (M_s)
FOR SUMMER EVENTS (6/1/72 - 7/31/72)

Event Number	m_b	VLPE, NORSAR, and ALPA			VLPE		
		n	Average M_s	S. D.	n	Average M_s	S. D.
512	4.0	3	3.00	0.20	1	3.19	
513	5.2	2	4.02	-	2	4.02	
516	3.6	1	2.80				
517	3.9	2	3.49	-	1	3.83	
518	4.3	1	3.38				
520	4.8	1	4.20				
521	4.6	4	3.68	0.34	2	3.41	
522	5.5	6	5.02	0.18	4	4.96	0.14
523	4.7	2	3.04				
524	3.9	1	2.90				
525	3.6	2	3.00				
526	3.7	1	2.87				
527	4.4	3	3.06	0.06	1	3.09	
528	4.0	1	3.30				
529	4.8	2	3.57				
530	4.5	2	3.38	-	1	3.55	
531	4.3	1	2.40				
532	4.0	2	3.14				
534	5.1	4	4.33	0.25	2	4.32	
535	5.1	4	4.36	0.18	2	4.31	
537	3.8	1	2.80				
538	3.8	2	3.43				
539	4.8	4	3.66	0.43	2	3.57	
541	5.1	3	4.21	0.50	3	4.21	0.50
543	4.9	2	3.74	-	1	3.72	
546	4.8	3	3.53	0.14	1	3.61	
547	4.6	1	4.44	-	1	4.44	
548	3.6	2	2.75				
				$\overline{\text{S. D.}}$ 0.295			$\overline{\text{S. D.}}$ 0.328

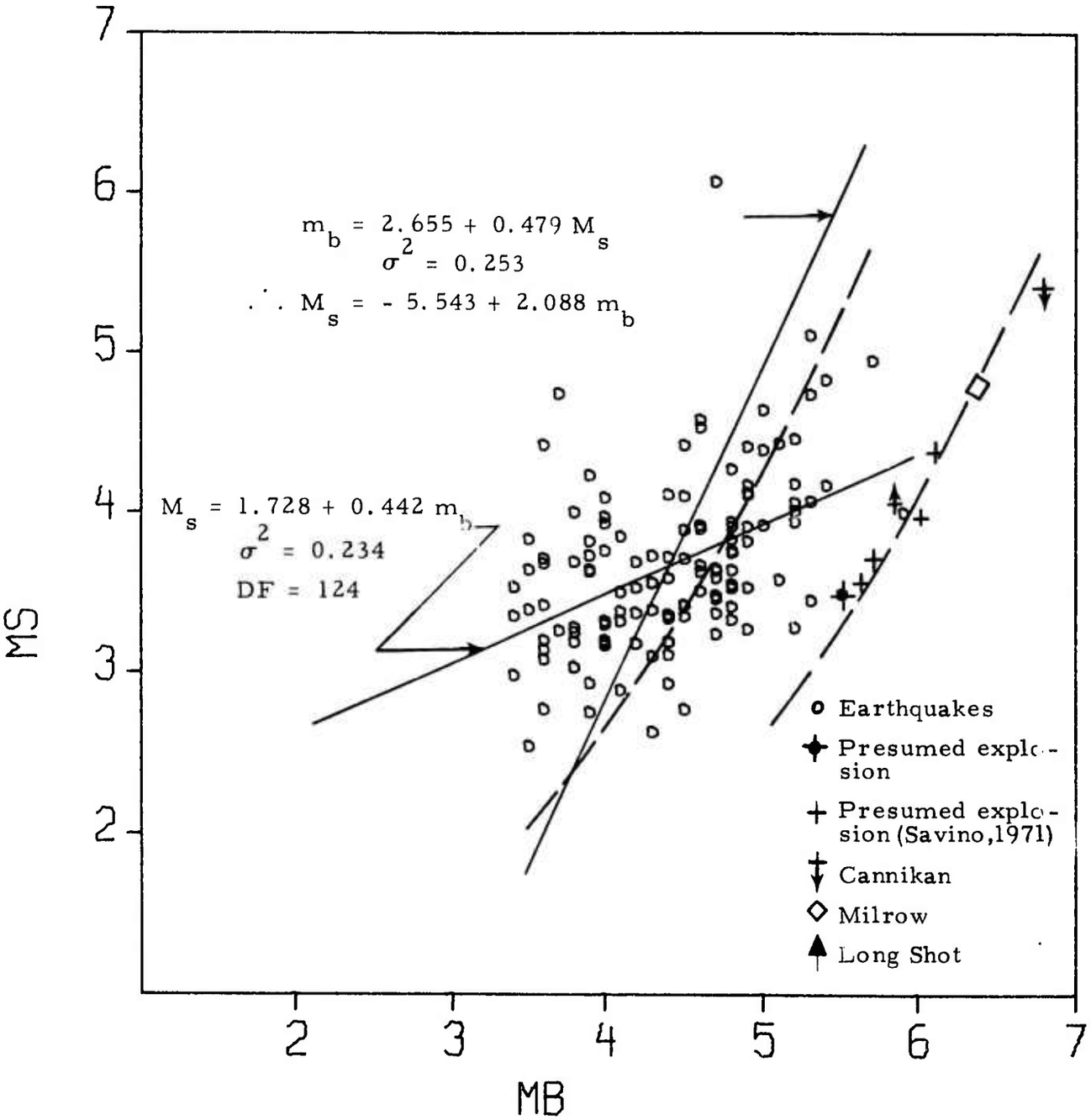


FIGURE III-31

M_s VERSUS m_b FOR 1/1/72 - 3/20/72 (M_s DETERMINED BY ONE OR MORE VLPE STATION ESTIMATES)

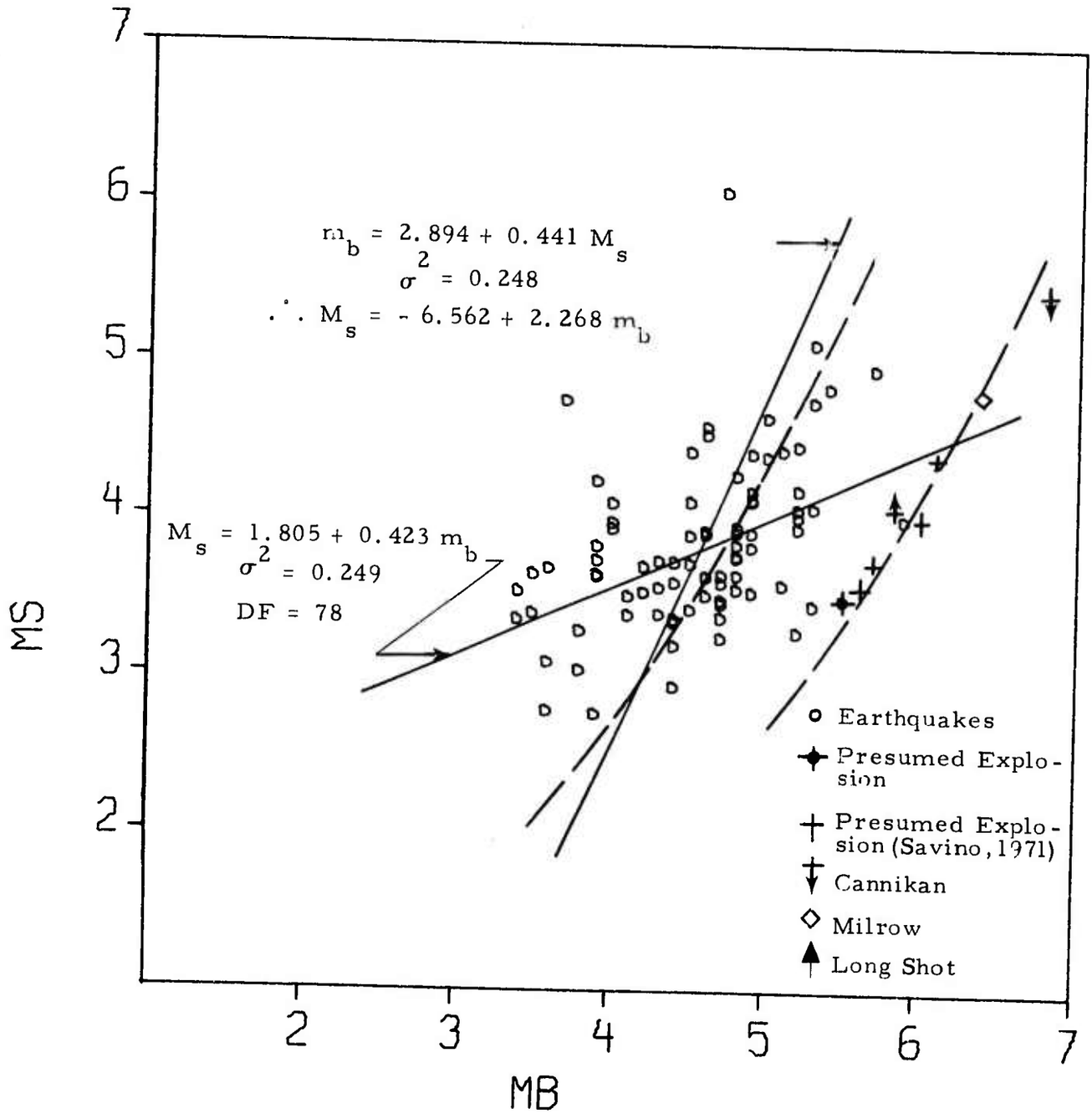


FIGURE III-32

M_s VERSUS m_b FOR 1/1/72 - 3/20/72 (M_s DETERMINED BY TWO OR MORE VLPE STATION ESTIMATES)

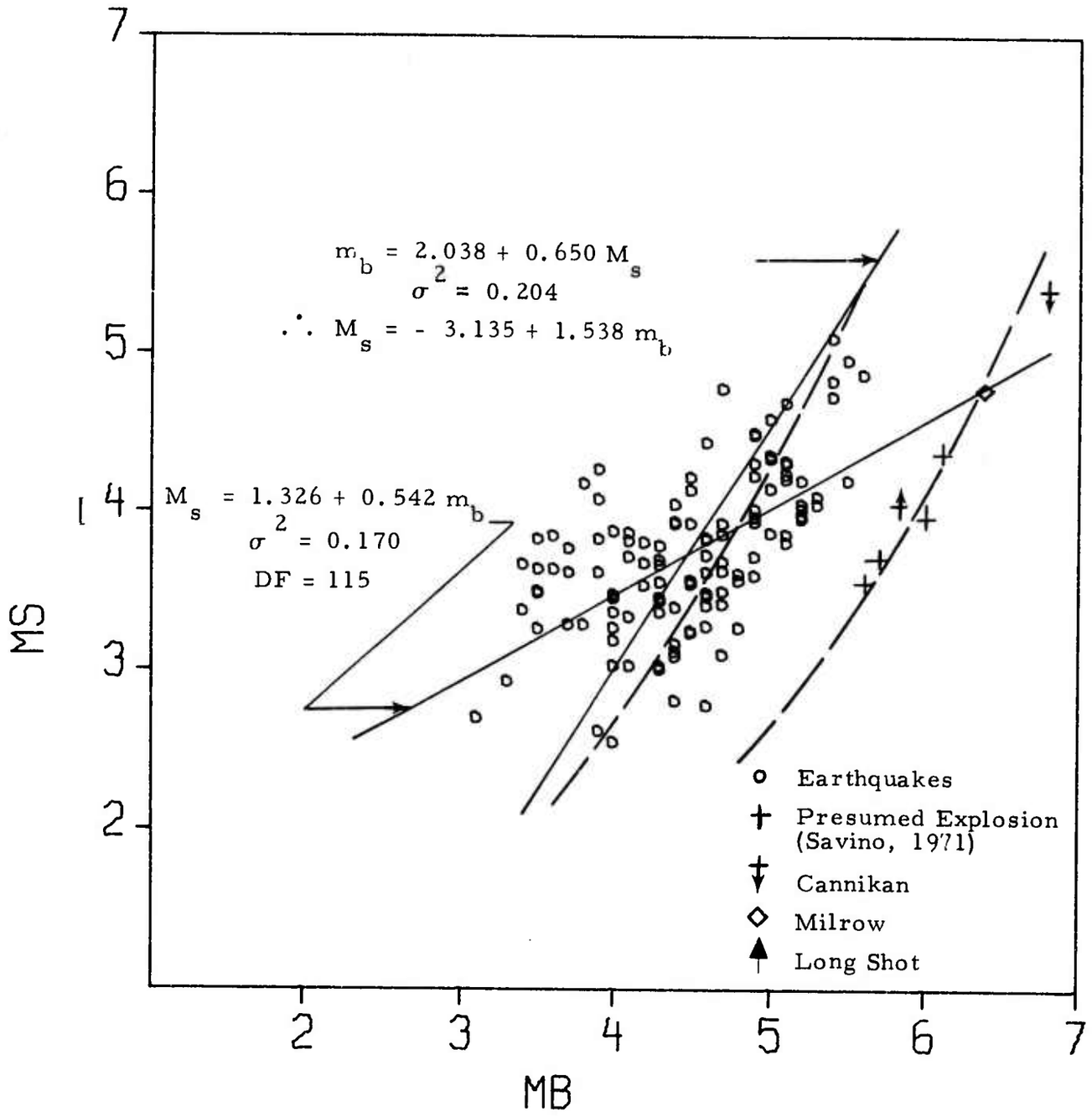


FIGURE III-33

M_s VERSUS m_b FOR 6/1/72 - 7/31/72 (M_s DETERMINED BY ONE OR MORE VLPE STATION ESTIMATES)

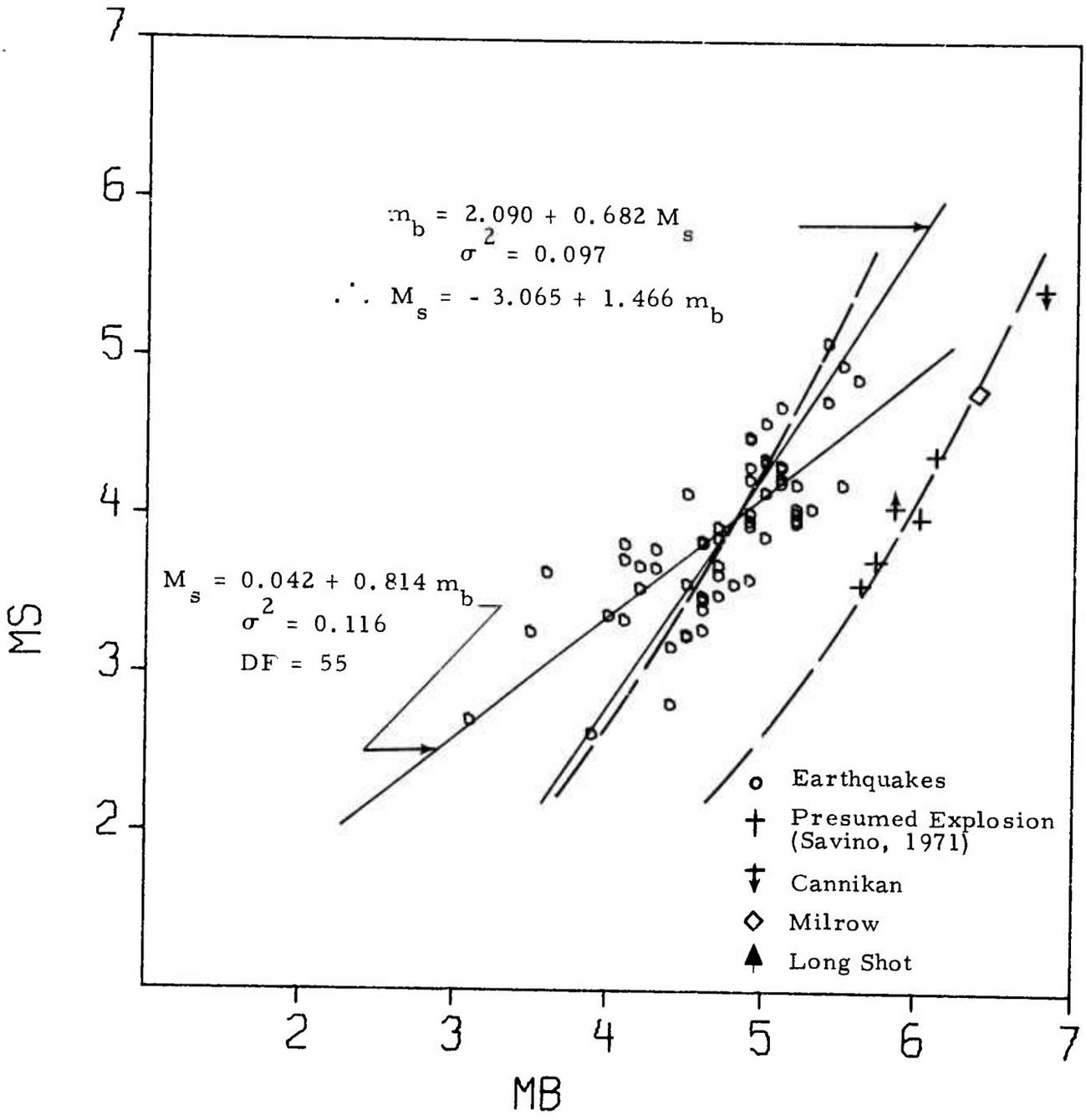


FIGURE III-34

M_s VERSUS FOR 6/1/72 - 7/31/72 (M_s DETERMINED BY TWO OR MORE VLPE STATION ESTIMATES)

In regards to the single station $M_s:m_b$ discussed above, the best least squares linear fit regressed both on M_s and m_b was determined for this data. The $M_s:m_b$ curves determined by Tsai (1972) from theoretical source spectra and scaled to Eurasian earthquake and explosion magnitudes are included for comparison. From these figures we observe the following results:

- The variance of the least squares linear fit are significantly greater for the winter network (Figures III-29 and III-30) than those for the summer network (Figures III-31 and III-32).
- Three events from Pakistan, Iran, and Tibet, located at about 30°N latitude and 60° to 80°E longitude (discussed earlier with the single station winter data), remain misclassified even with the M_s value determined by two or more estimates (Figure III-30).
- No events are misclassified where M_s is determined from two or more values for the summer network (Figure III-34).
- Close agreement is demonstrated between the least squares linear fit regressed on m_b for the earthquake data and Tsai's theoretical $M_s:m_b$ earthquake curve. Further, agreement between the empirical explosion data and the theoretical curve is excellent.
- Based on the 90% detection level for the winter VLPE network ($m_b = 4.9$), and Tsai's theoretical curve, we find that the discrimination level for the winter network is about $M_s = 4.1$. Similarly the 90% detection level for the summer VLPE network of about $m_b = 4.6$ to 4.7, yields a discrimination level

of about $M_s = 3.6$.

The definition of the discrimination level is predicated on the fact that the surface waves are detected with certainty and that Tsai's theoretical curve is valid. Hence, the m_b for the 90% detection level projected to Tsai's curve yields a corresponding M_s value which is termed the discrimination level.

3. VLPE, ALPA, and NORSAR Combined

The M_s data for ALPA and NORSAR are from Strauss (1973) and Swindell (1973). The average M_s values for the winter and summer networks are tabulated in Tables III-14 and III-15. With the inclusion of ALPA and NORSAR we now have for the winter period two VLPE stations, FBK and KON, which are close to ALPA and NORSAR. For the summer period, FBK is no longer in operation.

Examination of the average M_s and its standard deviation between the VLPE network and the combined network (VLPE, ALPA, and NORSAR) (Tables III-14 and III-15) indicates that little or no bias is introduced in the $M_s:m_b$ relationships due to this redundancy.

Figures III-35 through III-38 show $M_s:m_b$ data in a similar fashion to that presented for the VLPE networks only. Virtually all of the comments pertaining to the VLPE network regarding the misclassification of events, the variance associated with the least squares linear fits, and Tsai's theoretical curve comparison, also apply to the combined network.

In particular, the following was observed from these figures:

- One event (number 456) a presumed explosion, is again misclassified by the summer network (Figures III-37 and III-38).

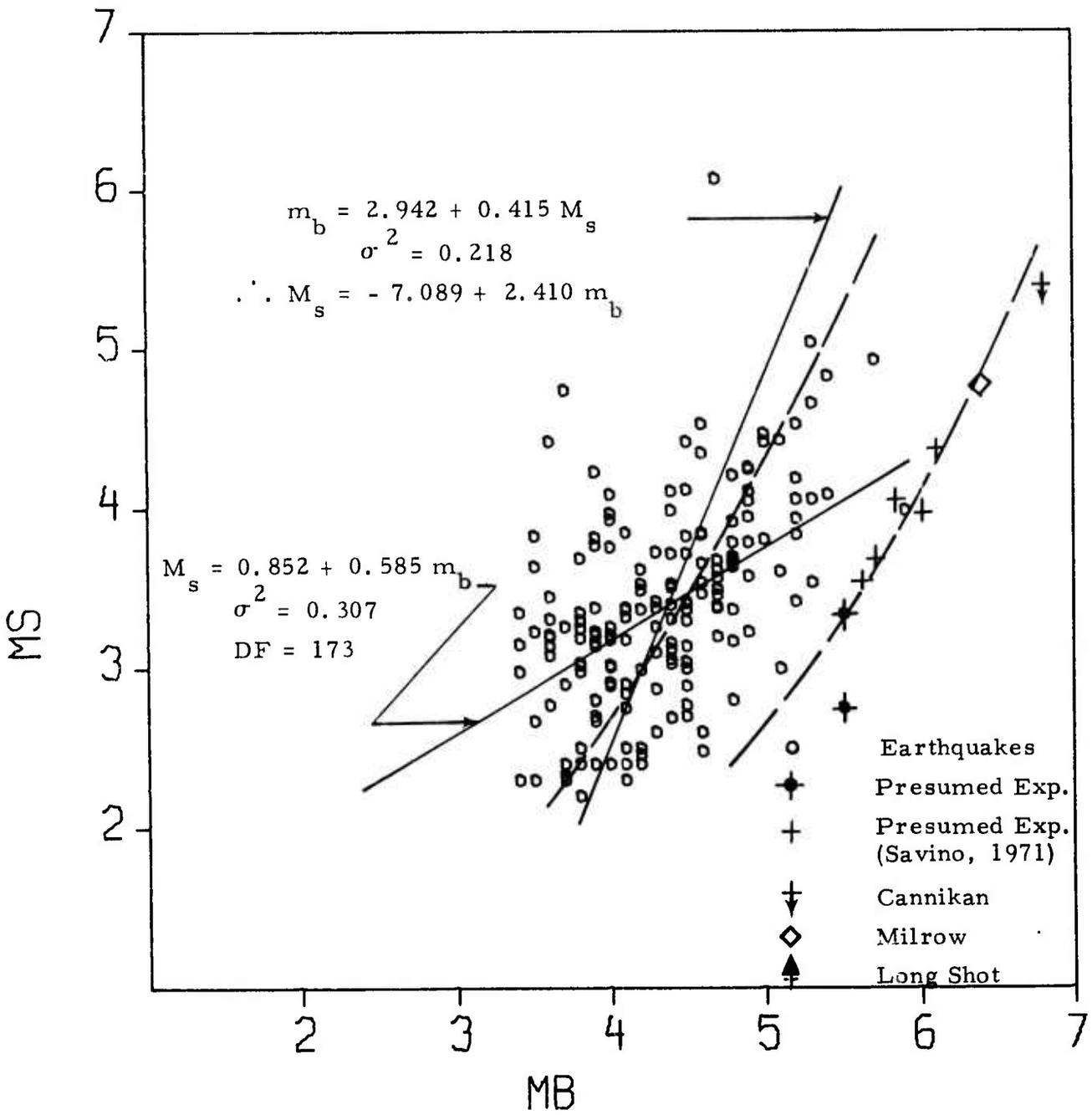


FIGURE III-35

M_s VERSUS m FOR 1/1/72 - 3/20/72 (M_s DETERMINED BY ONE OR MORE STATION ESTIMATES FROM VLPE, ALPA AND/OR NORSAR)

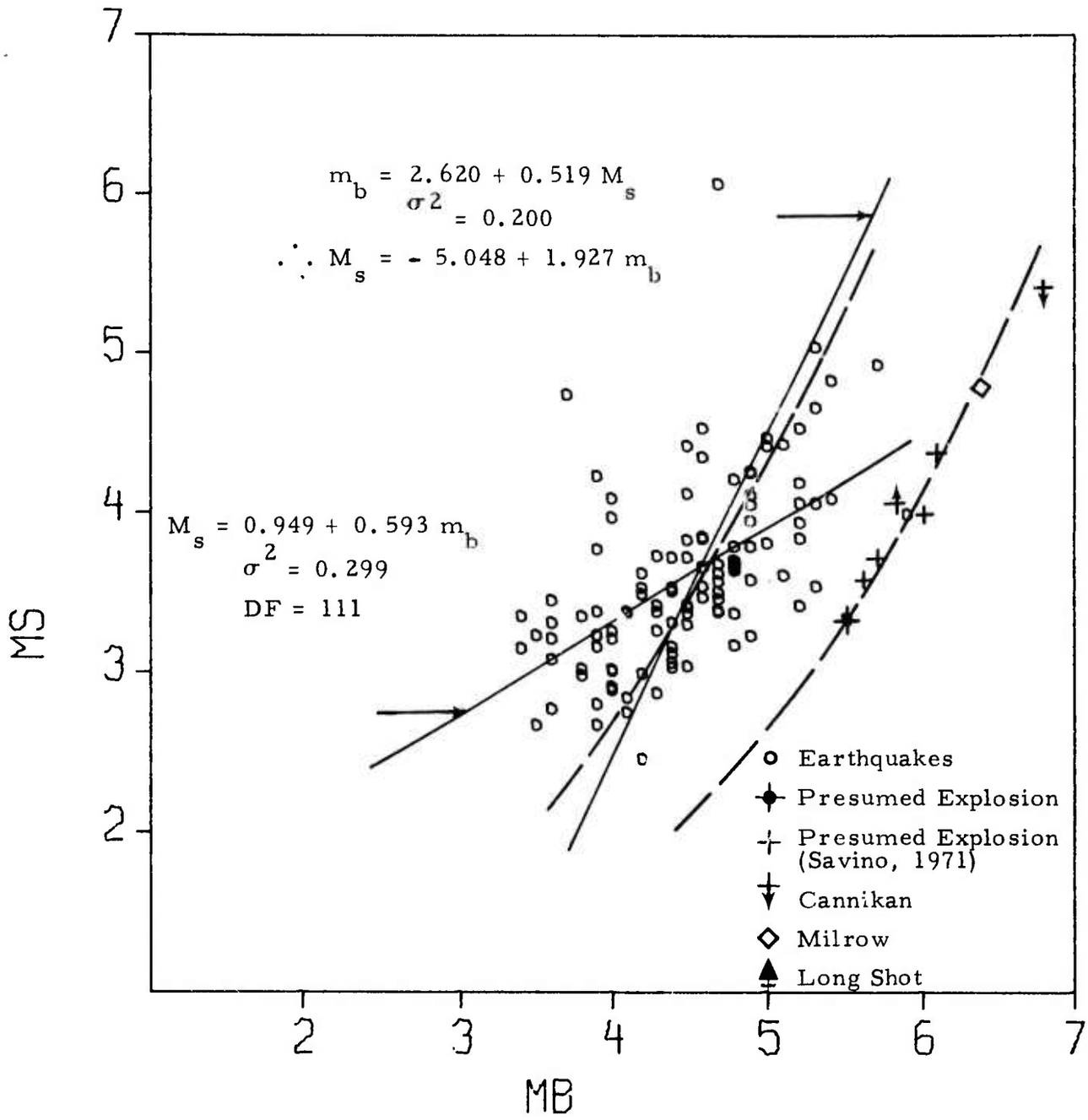


FIGURE III-36

M_s VERSUS m_b FOR 1/1/72 - 3/20/72 (M_s DETERMINED BY TWO OR MORE STATION ESTIMATES FROM VLPE, ALPA AND/OR NORSAR)

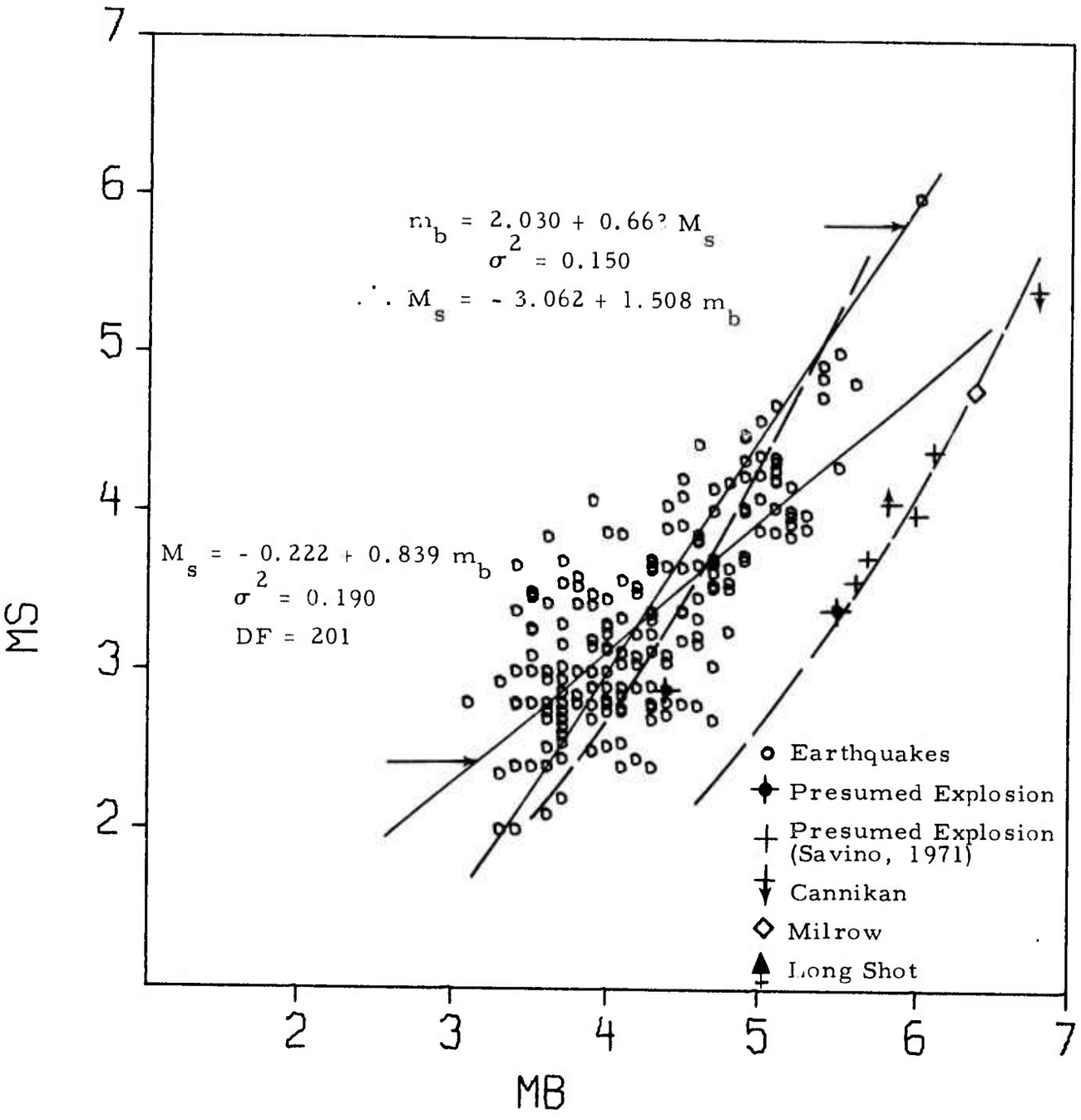


FIGURE III-37

M_s VERSUS m_b FOR 6/1/72 - 7/31/72 (M_s DETERMINED BY ONE OR MORE STATION ESTIMATES FROM VLPE, ALPA AND/OR NORSAR)

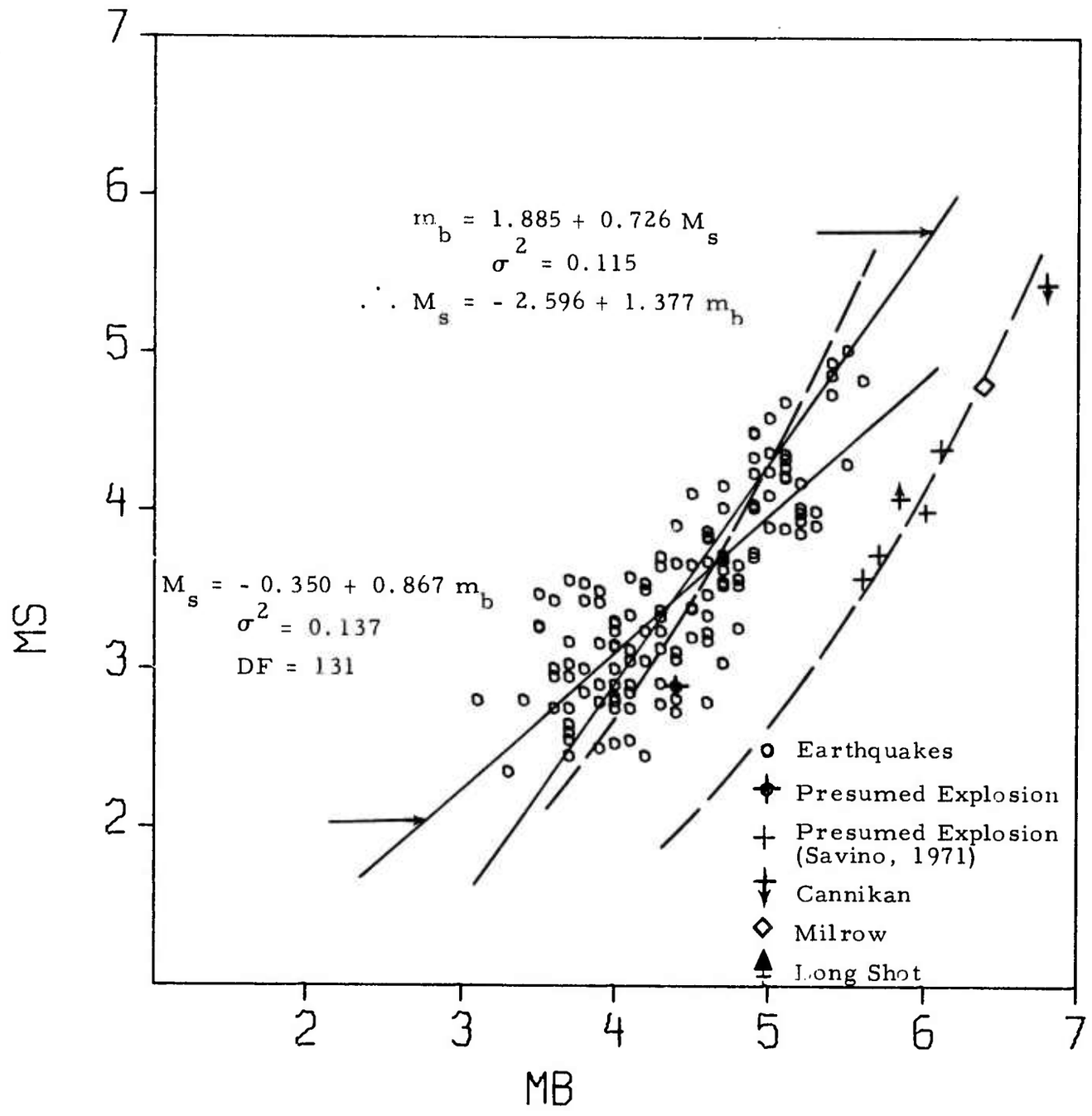


FIGURE III-38

M_s VERSUS m_b FOR 6/1/72 - 7/31/72 (M_s DETERMINED BY TWO OR MORE STATION ESTIMATES FROM VLPE, ALPA AND/OR NORSAR)

- Based on the 90% detection level for VLPE-ALPA-NORSAR winter network (m_b = 4.6), the discrimination level for the network is about M_s = 3.5. Similarly, for the summer network, a 90% detection level (m_b = 4.3 to 4.4) yields a discrimination level of about M_s = 3.2.

4. Summary

The following statements can be made from the preceding analysis.

- The variance of the least squares linear fits for all $M_s : m_b$ data is significantly greater for the winter period than for the summer period. This is mainly due to the increased noise level during the winter period, but also may be due, in part, to erratic gains at some of the stations.
- On the basis of the VLPE data presented, single station discrimination between earthquakes and explosions may be possible at selected sites.
- The discrimination level of the VLPE network is about M_s = 4.1 for the winter and about M_s = 3.5 for the summer.
- The discrimination level for the VLPE-NORSAR-ALPA combined networks is about M_s = 3.6 for the winter and M_s = 3.2 for the summer.
- Several earthquakes located at about 30°N latitude and 50° to 80°E longitude are consistently misclassified.

The network discrimination levels indicated above in terms of surface wave magnitudes (M_s) are based on the body wave magnitude (m_b) 90% detection levels. We have previously indicated that the network detection

levels could not be fully evaluated since less than 50% of the station data were available and usable. Thus, both the indicated detection levels and the indicated discriminant levels can be considered as conservative estimates.

E. $M_s(30) : M_s(20)$ AND $M_s(40) : M_s(20)$

1. VLPE Winter and Summer Data

One important feature of the VLPE instrumentation is the capability for recording a relatively broad band of frequencies. Savino, et al (1971), using data recorded at OGD, suggested that the $M_s:m_b$ discriminant for $M_s(40)$ produced larger separation between earthquakes and explosions than $M_s(20)$. However, we observed that 40 second period Rayleigh waves are not as readily detected or measurable as the 20 second period Rayleigh waves. We also found that the 30 second period Rayleigh waves are, in many instances, more readily detected than either 20 or 40 second period Rayleigh waves (Tables III-1 through III-13).

Rayleigh wave magnitude relationships as functions of period, path, and depth, have recently been described by Marshall and Basham (1972). The M_s relationship between 20 and 30 second periods and between 20 and 40 second periods for Continental Eurasian paths are

$$M_s(30) = M_s(20) - 0.30$$
$$M_s(40) = M_s(20) - 0.41$$

Figures III-39 and III-40 show $M_s(30):M_s(20)$ for all possible station values of the winter and summer event ensembles respectively. The best least squares linear fit regressed on both ($M_s(30)$ and $M_s(20)$ was determined. The following results were obtained by interchanging dependent and independent regression variables:

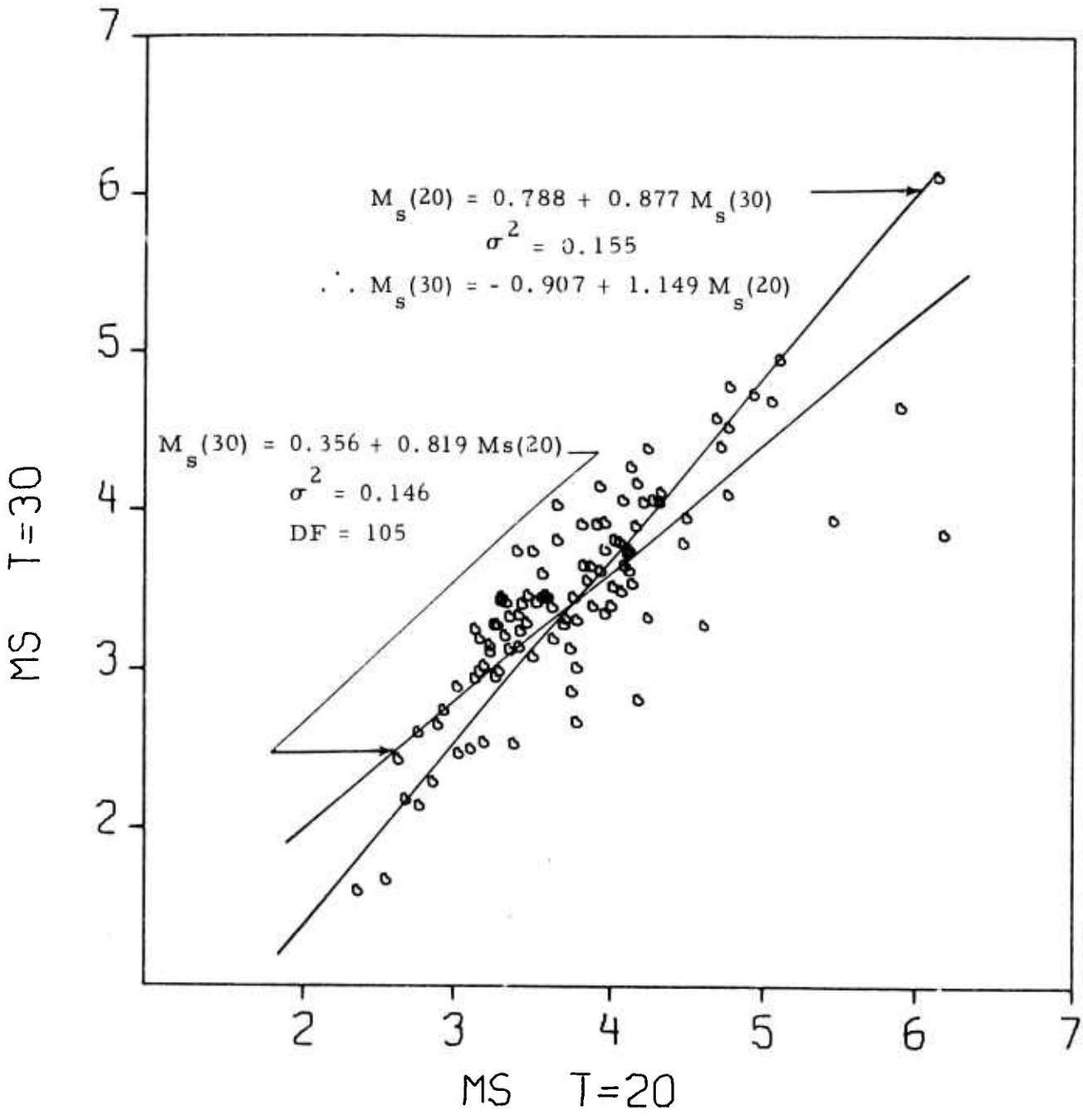


FIGURE III-39

M_s (T - 30 SEC.) VERSUS M_s (T = 20 SEC.), 1/1/72 - 3/20/72

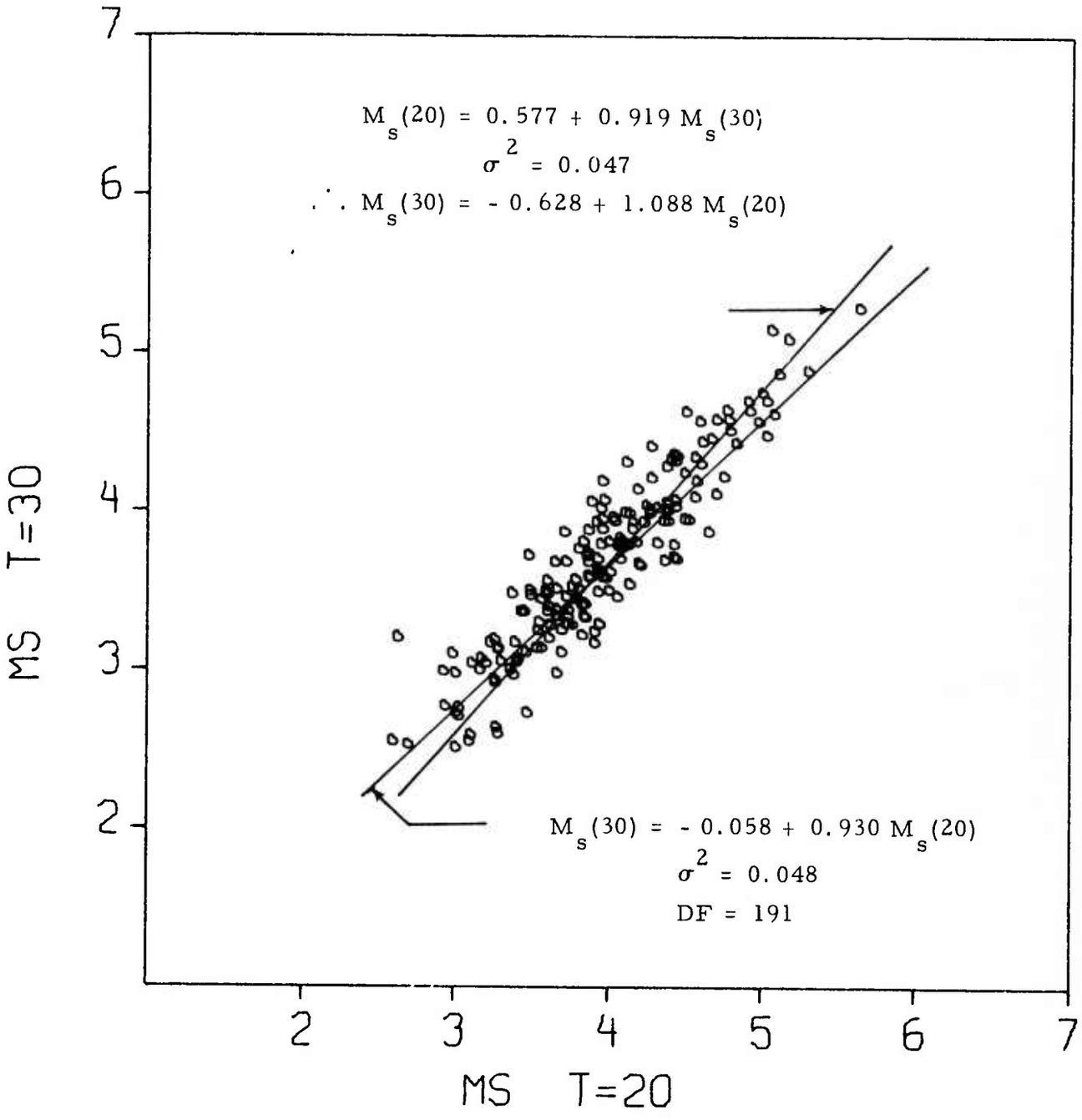


FIGURE III-40

M_s (T = 30 SEC.) VERSUS M_s (T = 20 SEC.), 6/1/72 - 7/31/72

Figure III-39: Winter Ensemble

$$M_s(30) = 1.149\ M_s(20) - 0.907,\ \sigma^2 = 0.155$$
$$M_s(30) = 0.819\ M_s(20) + 0.356,\ \sigma^2 = 0.146$$

Figure III-40: Summer Ensemble

$$M_s(30) = 1.088\ M_s(20) - 0.628,\ \sigma^2 - 0.047$$
$$M_s(30) = 0.930\ M_s(20) - 0.058,\ \sigma^2 - 0.048$$

If we constrain the slopes to 1.00 for each of these examples as suggested by source theory (Tsai, 1972) we obtain:

Figure III-39

$$M_s(30) = M_s(20) - 0.33$$

Figure III-40

$$M_s(30) = M_s(20) - 0.29$$

These results are in good agreement with those of Marshall and Basham for for Continental Eurasian paths.

Figures III-41 and III-42 give the following results for $M_s(40):M_s(20)$:

Figure III-41: Winter Ensemble

$$M_s(40) = 1.466\ M_s(20) - 2.691,\ \sigma^2 = 0.096$$
$$M_s(40) = 1.054\ M_s(20) - 0.899,\ \sigma^2 = 0.148$$

Figure III-42: Summer Ensemble

$$M_s(40) = 1.149\ M_s(20) - 1.306,\ \sigma^2 = 0.074$$
$$M_s(40) = 0.890\ M_s(20) - 0.266,\ \sigma^2 = 0.076$$

Again, constraining the slopes to 1.00 we obtain:

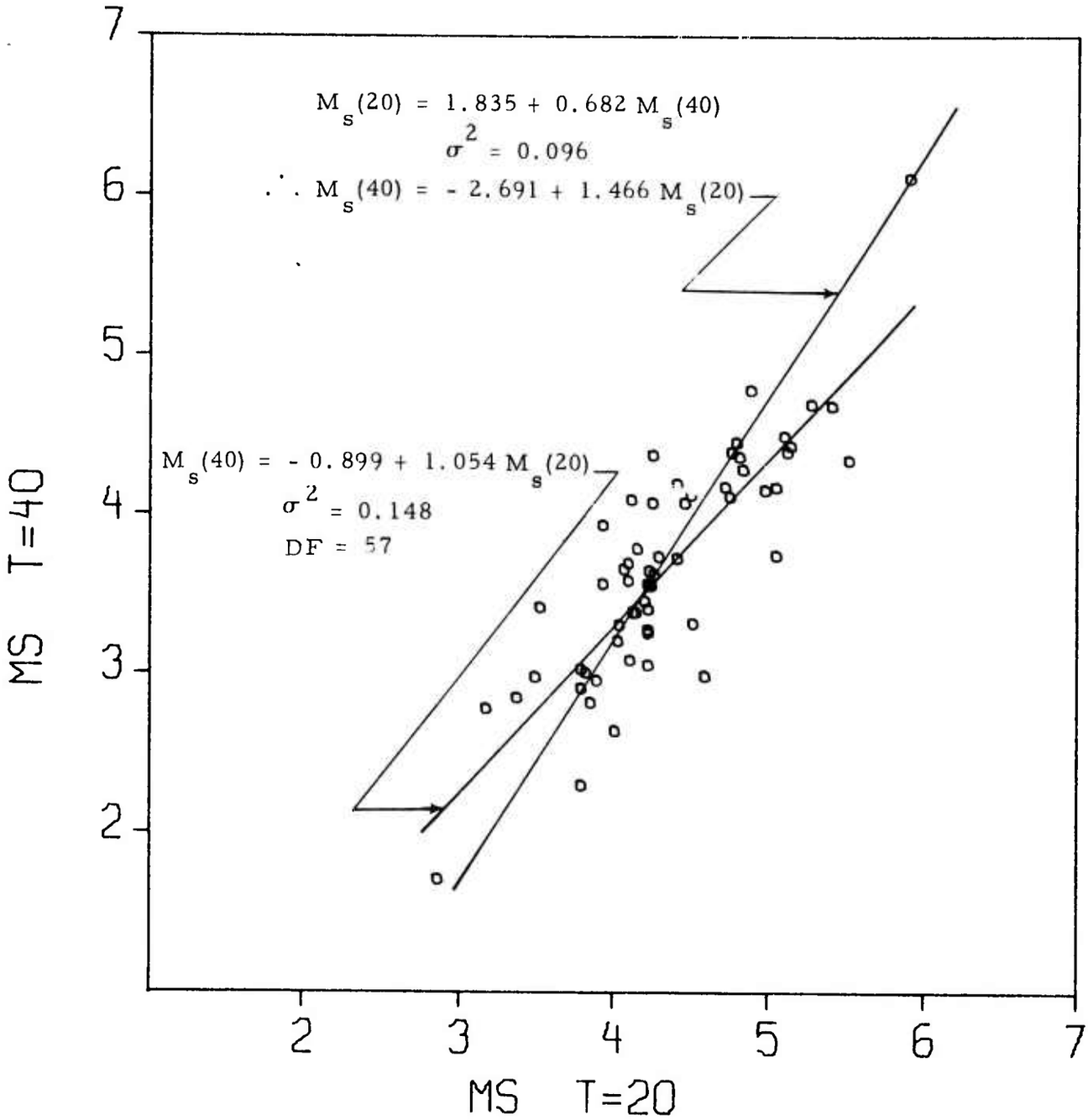


FIGURE III-41

M_s (T = 40 SEC.) VERSUS M_s (T = 20 SEC.), 1/1/72 - 3/20/72

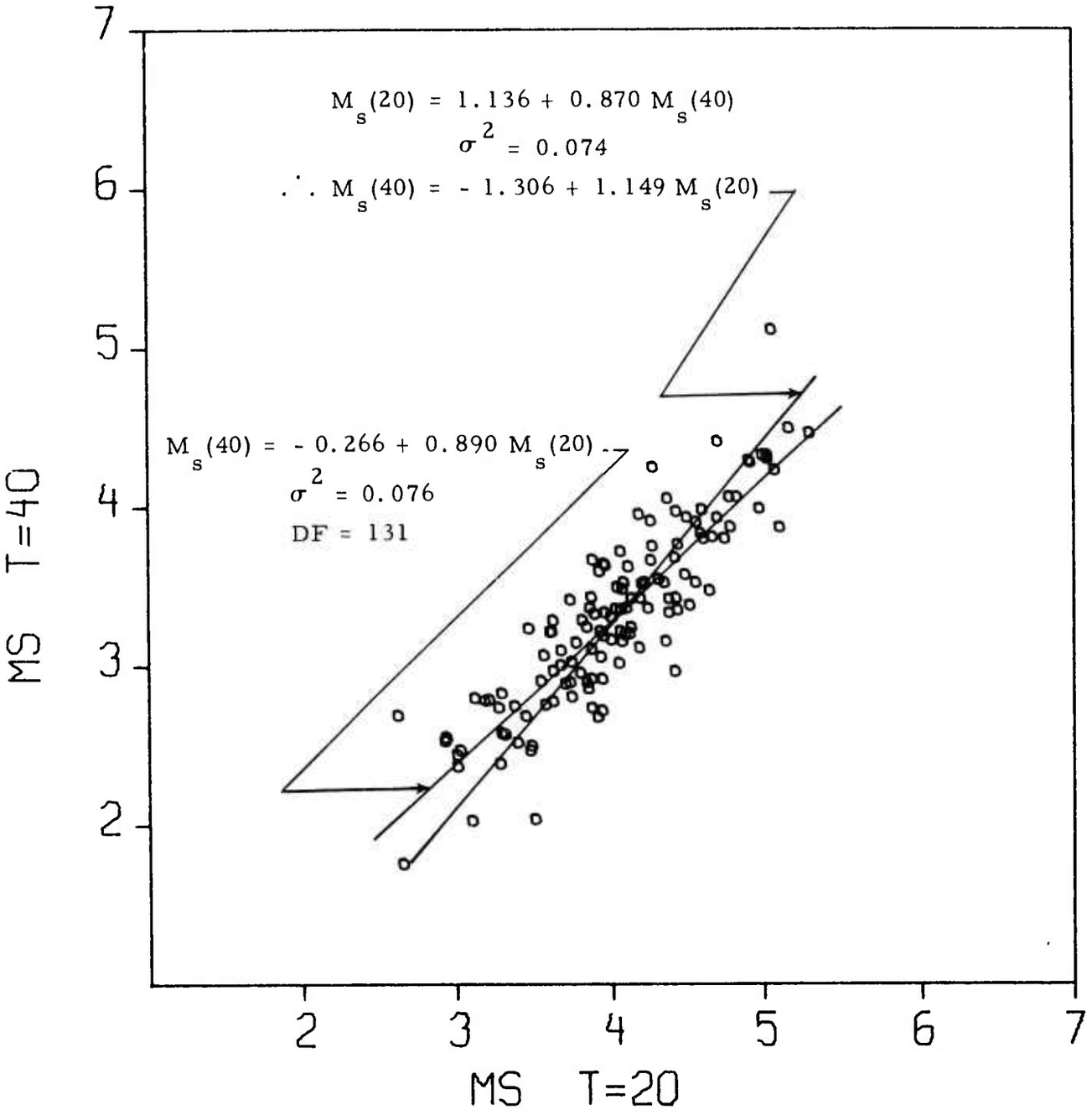


FIGURE III-42

M_s (T = 40 SEC.) VERSUS M_s (T = 20 SEC.), 6/1/72 - 7/31/72

Figure III-41

$$M_s(40) = M_s(20) - 0.67$$

Figure III-42

$$M_s(40) = M_s(20) - 0.70$$

These results do not agree with those of Marshall and Basham. Beno (1972) examined $M_s(40) : M_s(20)$ data, and upon constraining the slope to 1.00 for his data, we obtained an intercept of 0.62.

F. LOVE: RAYLEIGH WAVE AMPLITUDE RATION (LQ/LR)

One of the important measures of both discrimination and detection for the VLPE network may possible be the LQ/LR ratio. Various authors have reported larger shear-to-compressional amplitudes for earthquakes than for underground nuclear explosions [Press, et al (1968), Booker and Mitronovas (1964), DeNoyer (1966), Pasechnik (1970)]. Von Seggern (1972) reported a mean LQ/LR ratio of 0.9 for the LRSM and VELA station network. In his study, the detection rates for both Love and Rayleigh waves were nearly equal. This result was based on the analysis of a large ensemble of events, so little or no bias exists in the distribution. However, the Love wave amplitudes were measured on unrotated horizontal components and the mean LQ/LR of 0.9 approaches a lower bound since 50% of the events are arriving off azimuth relative to the unrotated horizontal instruments. An upper bound for the LQ/LR ratio can be estimated from vector sum of the horizontal components and the lower bound of 0.9 (i.e., $0.9 \times \sqrt{2}$), which is 1.27. Therefore, the upper bound for the LQ/LR ratios is probably somewhat less than 1.27.

Figure III-43 shows the log distribution of the LQ/LR ratios for the VLPE network. We obtained a mean value of 1.20 for this ratio. No

Total 303 LQ/LR Ratios

117 Values (Log LQ/LR $\leq$ - 0.05)

33 Values (Log LQ/LR = 0.00)

153 Values (Log LQ/LR $\geq$ 0.05)

Average Log LQ/LR = 0.079 $\pm$ 0.334

Or LQ/LR = 1.20

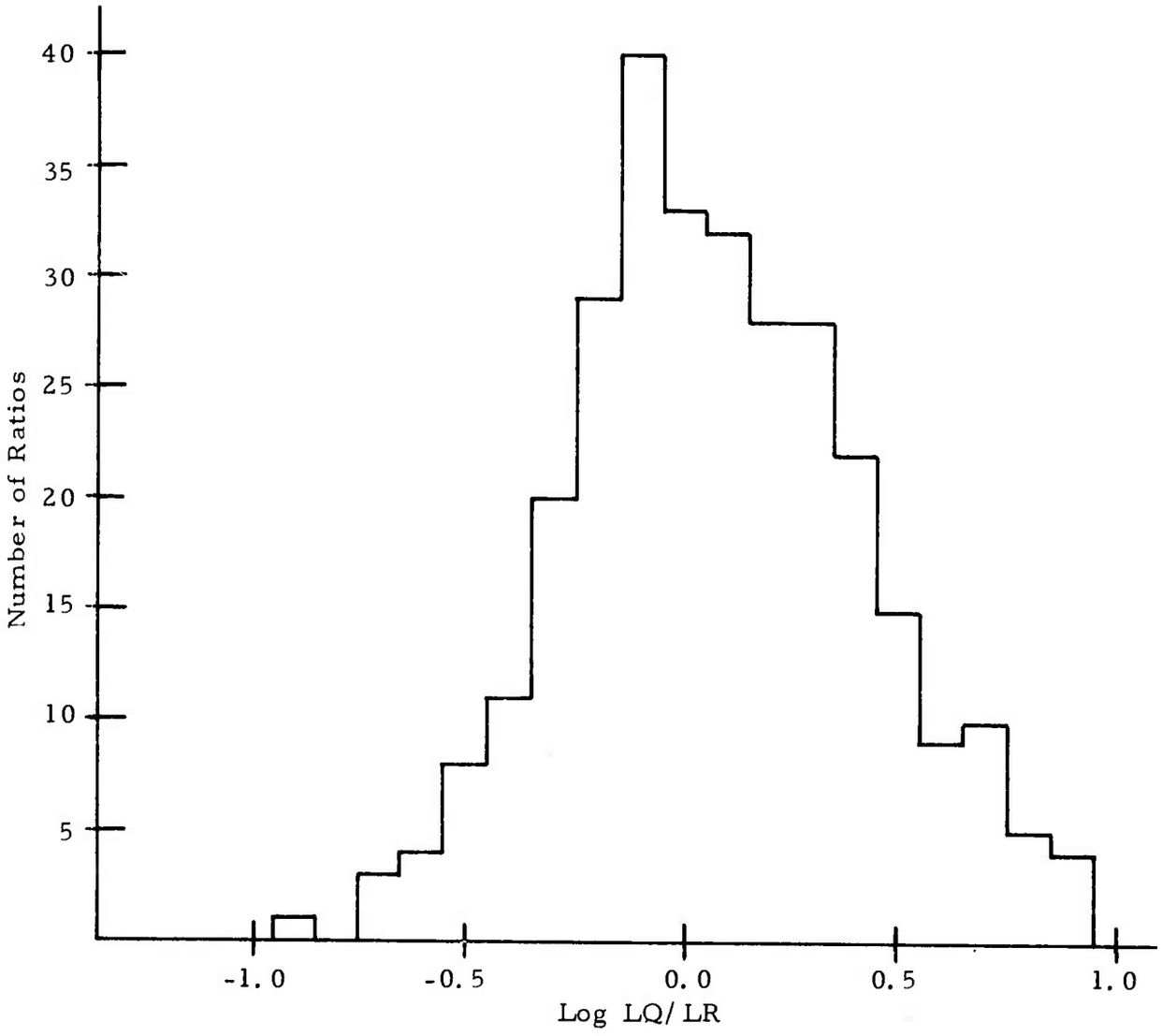


FIGURE III-43

RATIOS OF LOVE TO RAYLEIGH WAVE AMPLITUDES FOR EURASIAN EVENTS OBSERVED AT THE VLPE STATIONS

LQ/LR ratios were obtained at EIL for either winter or summer event ensembles. Further, the ratios determined at OGD for the summer event ensemble were not included due to erratic gains encountered on the horizontal components. Individual station and event LQ/LR ratios are tabulated in Tables III-1 through III-13. The average LQ/LR value of 1.20 may be biased due to problems associated with the horizontal instruments and due to the fact that the detection rate for Love waves could not be determined.

Strauss (1973) reports a mean LQ/LR ratio of 1.16 for ALPA with nearly equal detection rates for LQ and LR. Similarly, Swindell (1973) reports a value of 1.35 for NORSAR with the LQ and LR detection rates again nearly equal. Both values are close to the estimated upper bound of 1.27 mentioned previously. Thus, the mean LQ/LR ratio of 1.20 determined for the VLPE network is consistent with those independently determined at ALPA and NORSAR.

SECTION IV

SUMMARY AND CONCLUSIONS

We can summarize the results from this study of the VLPE network as follows:

- A measure of the reliability of a network is the amount of data that is available and usable. We show that less than 50% of the expected data from the VLPE network were available and usable.

- Detection capability based on the presence of Love waves was not attempted due to erratic static gains that were frequently encountered on the horizontal components at virtually all VLPE sites.

- The 90% detection level for Rayleigh waves at single VLPE stations ranges from an m_b of 4.6 to 4.9 at $\Delta \leq 50^o$ and an m_b of 4.8 to 5.0 at $\Delta > 50^o$ for the winter event ensemble. The detection level for the summer event ensemble ranges from an m_b of 4.4 to 4.5 for $\Delta \leq 50^o$ and an m_b of 4.5 to 4.9 for $\Delta > 50^o$.

- The 0.2, 0.3, and 0.4 magnitude differences in the winter and summer detection levels at TLO, KON, and OGD respectively, agree with differences in the noise levels for corresponding time periods (Alsup (1973) and Swindell (1973).

- The VLPE network has a 90% detection level as good as the best single VLPE station; that is, an m_b of about 4.8 at either KON or CHG for the winter events at all distances and an m_b of about 4.6 at either KON or OGD for the summer events at all distances.

- Two or more VLPE stations should have been operational at distances less than 50° for all events. However, only about one station was operational and less than 50% of the VLPE stations were operational at all distances. The 90% network detection level shows little or no improvement at $\Delta \leq 50^{\circ}$ over that for $\Delta > 50^{\circ}$ for all events. Therefore, had most of the stations been operational in both distances ranges, we would expect the VLPE network detection level to improve significantly relative to the best single station.

- When the ALPA and NORSAR networks are combined with the VLPE network, the 90% detection level decreases (relative to the VLPE network alone) about 0.2 units of magnitude for both the winter and summer events.

- The variance of the least squares linear fit for all $M_s : m_b$ data is significantly greater for the winter period than for the summer period. This is mainly due to the increased noise level during the winter period, but also may be due, in part, to erratic gains at some of the stations.

- Single station discrimination between earthquakes and explosions may be possible at selected sites on the basis of the data presented.

- The discrimination level for the VLPE network is about $M_s = 4.1$ and $M_s = 3.6$ for the winter and summer months respectively.

- The discrimination level for the VLPE-NORSAR-ALPA combined networks is about $M_s = 3.6$ and $M_s = 3.2$ for the winter and summer months respectively.

- The network discrimination levels stated in the previous two paragraphs are conservative estimates. These estimates are based on the 90% detection level (m_b) and Tsai's theoretical $M_s : m_b$ curve for earthquakes.

- Several earthquakes located at about 30°N latitude and 50° to 80°E longitude are consistently misclassified.

- The relationships for M_s determined at 40 seconds period and at 30 seconds period relative to M_s at 20 seconds period are as follows:

$$M_s(40) = M_s(20) - (0.62 \text{ to } 0.70)$$
$$M_s(30) = M_s(20) - (0.29 \text{ to } 0.33)$$

The $M_s(30) : M_s(20)$ relationship agrees with that of Marshall and Basham for continental Eurasian paths. However, $M_s(40) : M_s(20)$ does not agree with their results.

- The mean Love to Rayleigh wave amplitude ratio, LQ/LR, of 1.20 determined for the VLPE network, is consistent with those of 1.16 and 1.35 independently determined at ALPA and NORSAR. The detection rate of Love and Rayleigh waves is nearly equal at both ALPA and NORSAR. However, we were unable to determine the detection rate of Love waves for the VLPE network.

For future studies, we can make the following recommendations:

- Certain events were not detected and others were misclassified. We need to look in detail at smaller subregions within the areas of interest in Eurasia, and determine the detection and discrimination capabilities of each station with respect to these subregions.

- The processing of the data from the VLPE network consisted of passband filtering only. The application of three component processing and matched and chirp filtering could be advantageous in the previously mentioned detailed examination of the regions of interest.

SECTION V

ACKNOWLEDGEMENTS

We wish to thank T. W. Harley, S. A. Alsup and L. S. Turnbull for their many helpful discussions and critical reading of this paper.

SECTION VI
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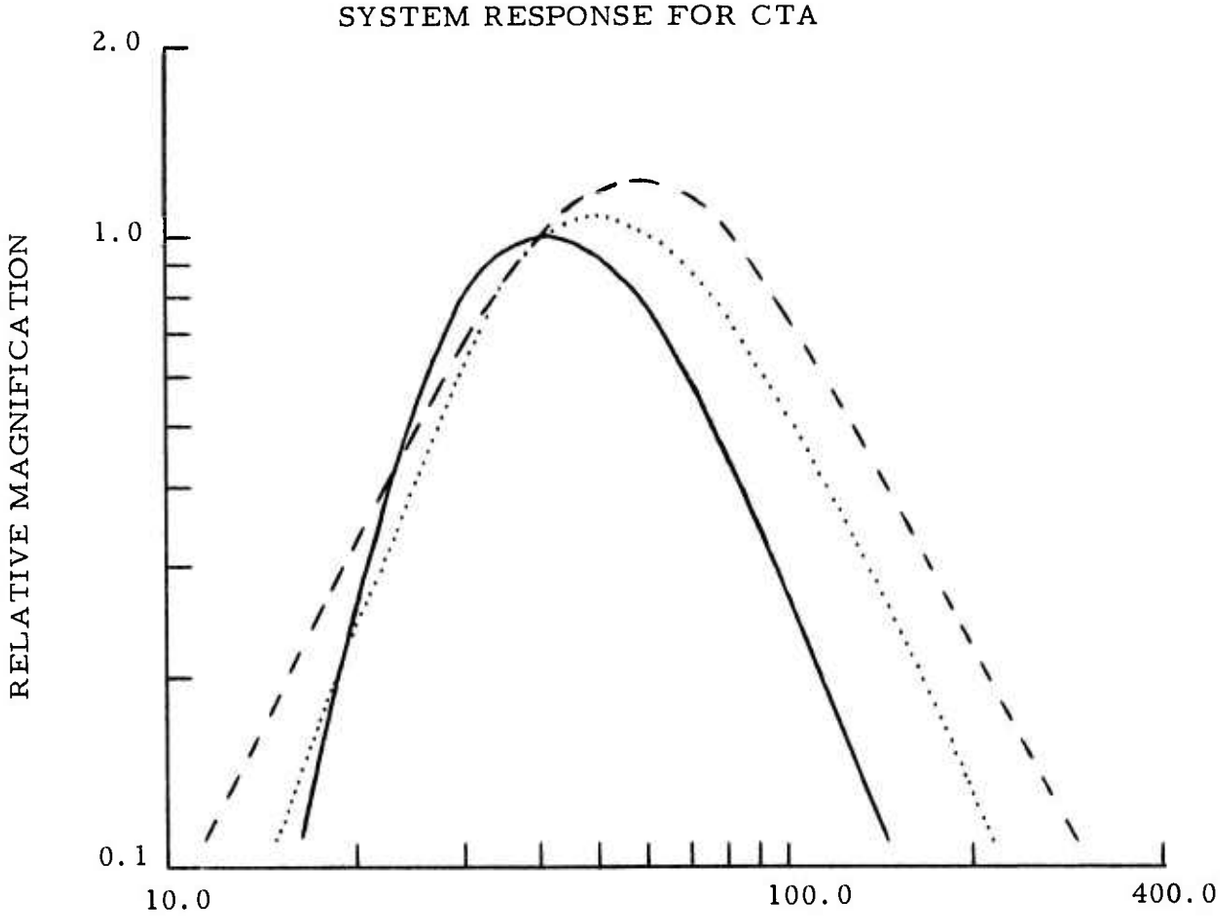
APPENDIX A

SYSTEM RESPONSE FOR CTA

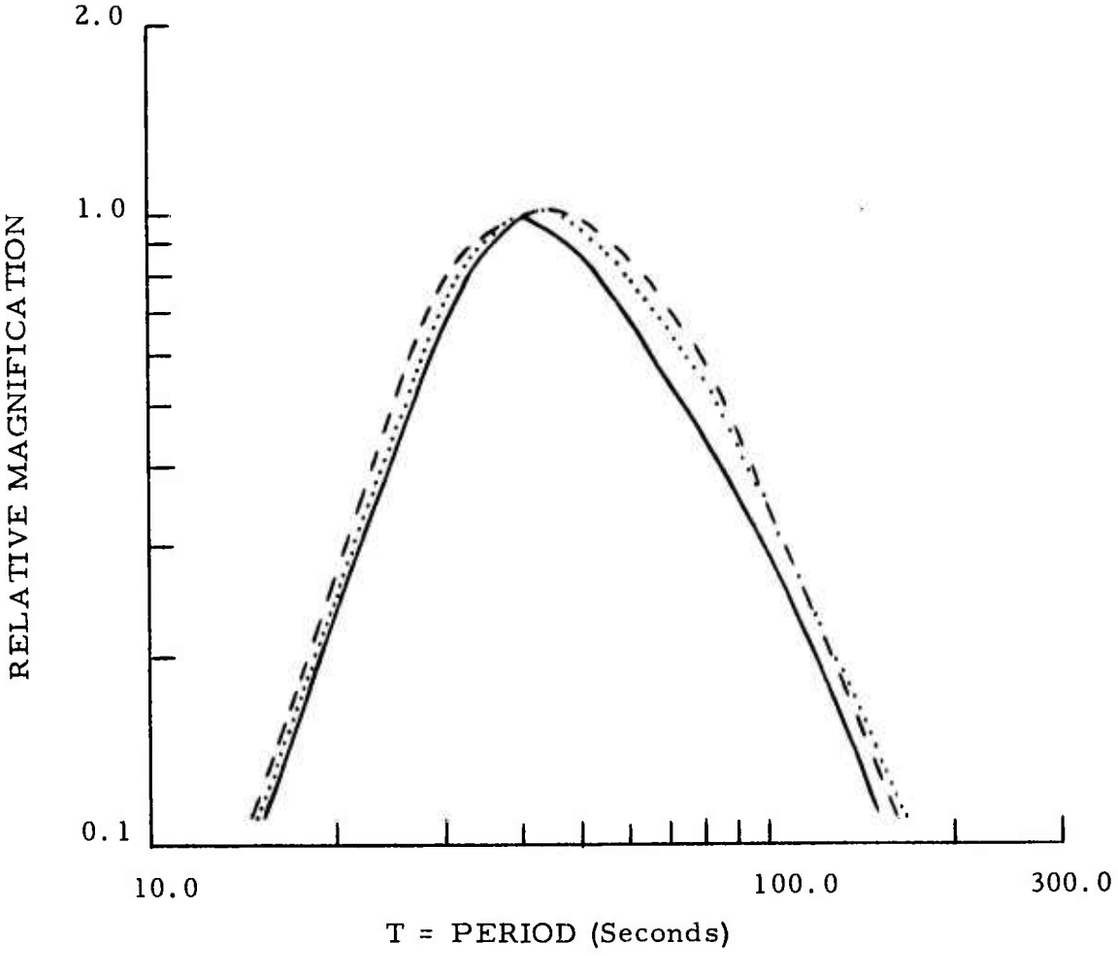


Gain at T = 40.0 Sec.

———	Z	0.721 mμ/count
- - -	N	1.48 mμ/count
. . . .	E	1.28 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR CHG

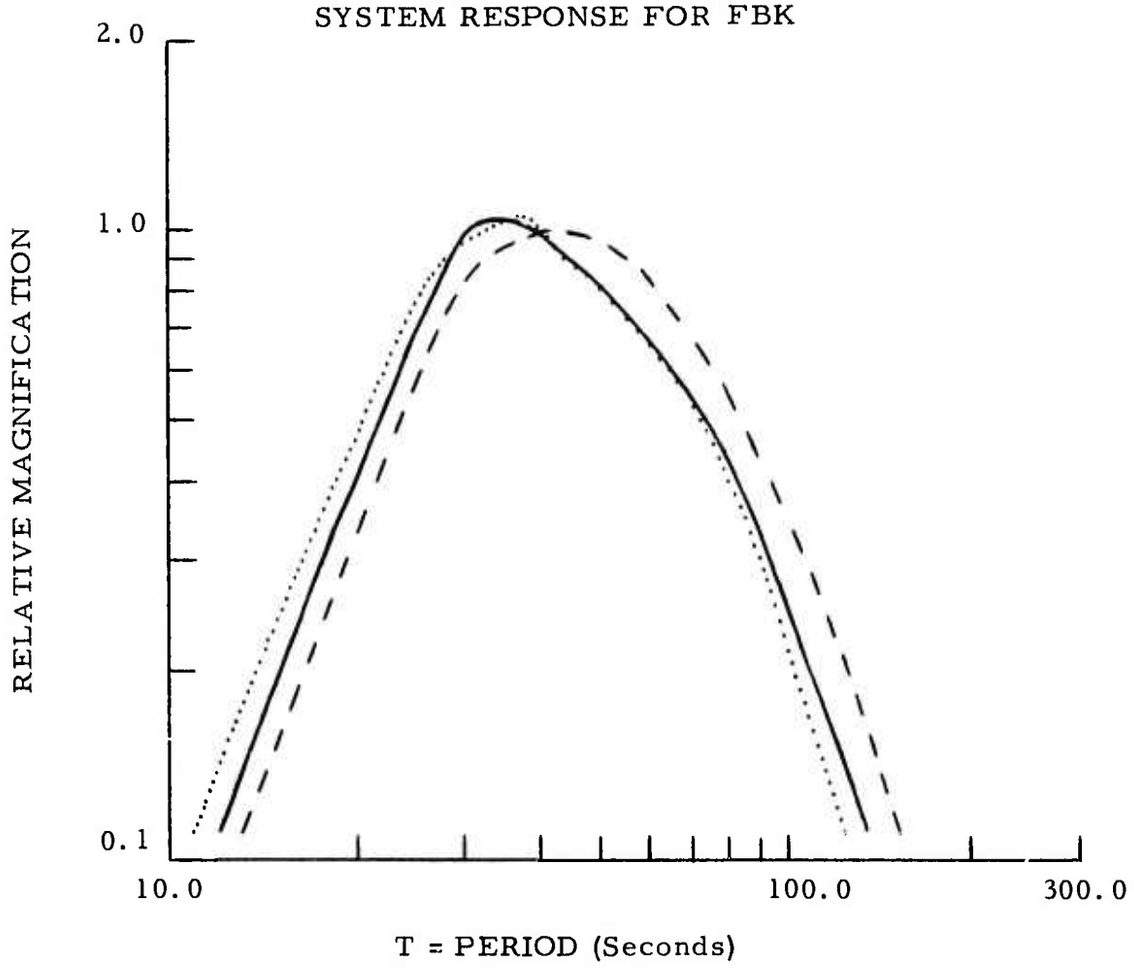


Gain at T = 40.0 Sec.

———	Z	0.806 mμ/count
- - -	N	1.14 mμ/count
. . . .	E	0.806 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR FBK

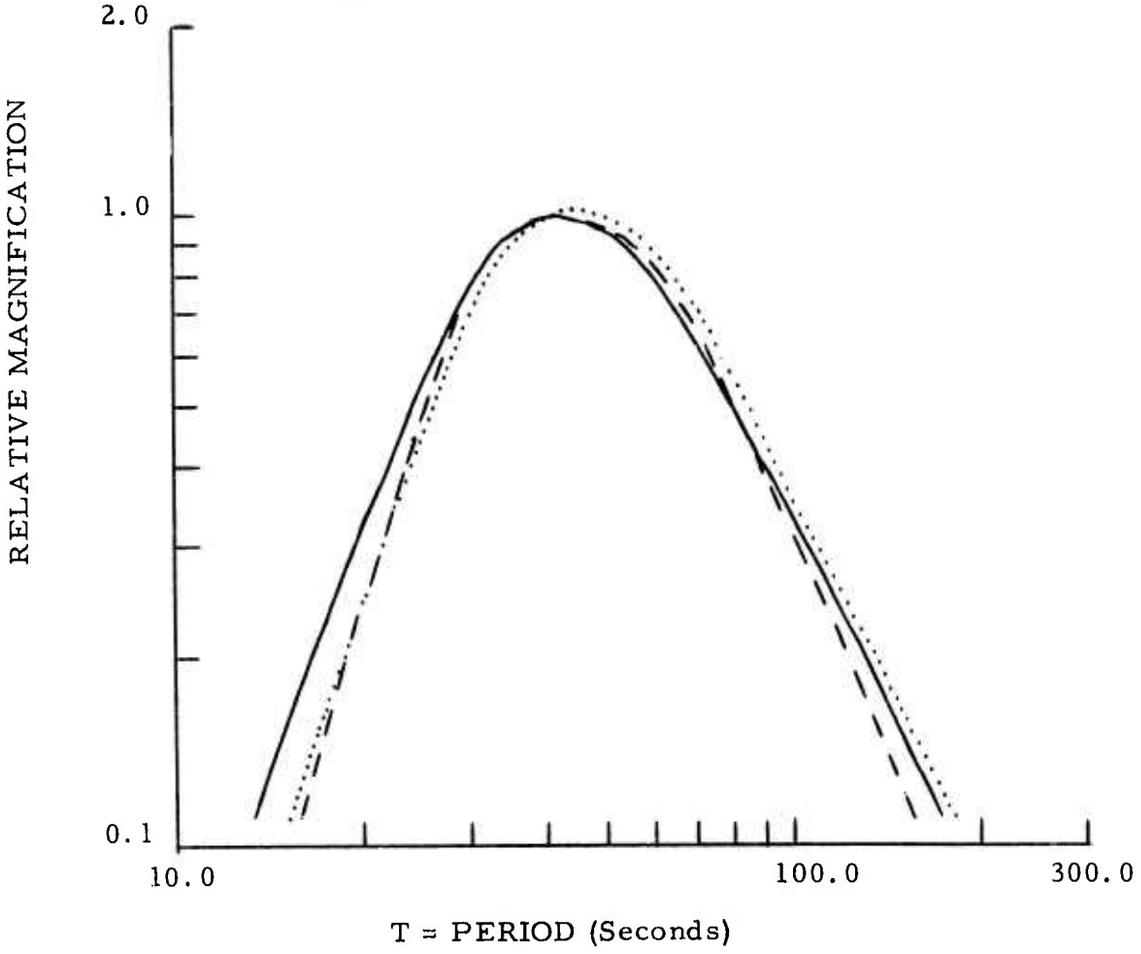


Gain at T = 40.0 Sec.

——	Z	1.33 mμ/count
- - -	N	1.64 mμ/count
. . . .	E	1.26 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR TLO

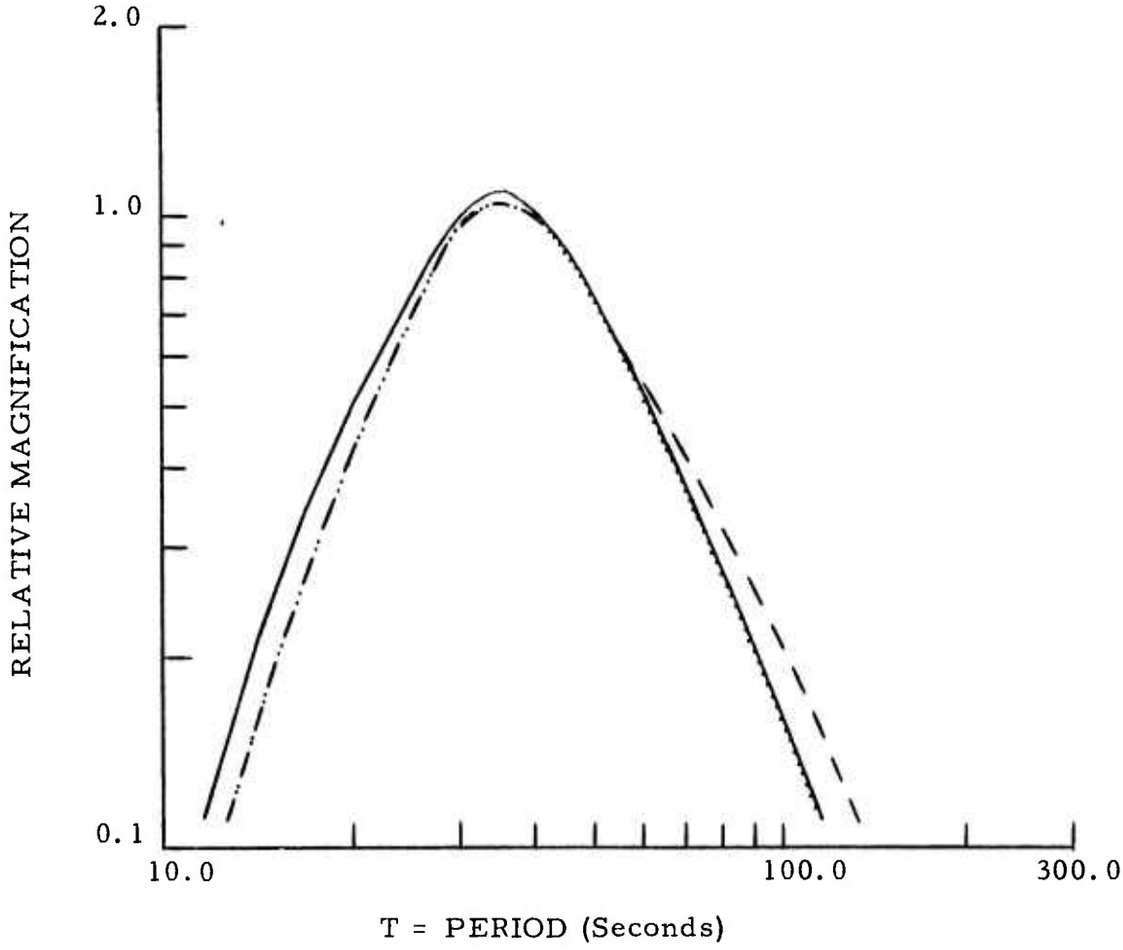


Gain at T = 40.0 Sec.

———	Z	0.708 mμ/count
- - -	N	0.625 mμ/count
. . . .	E	0.584 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR EIL

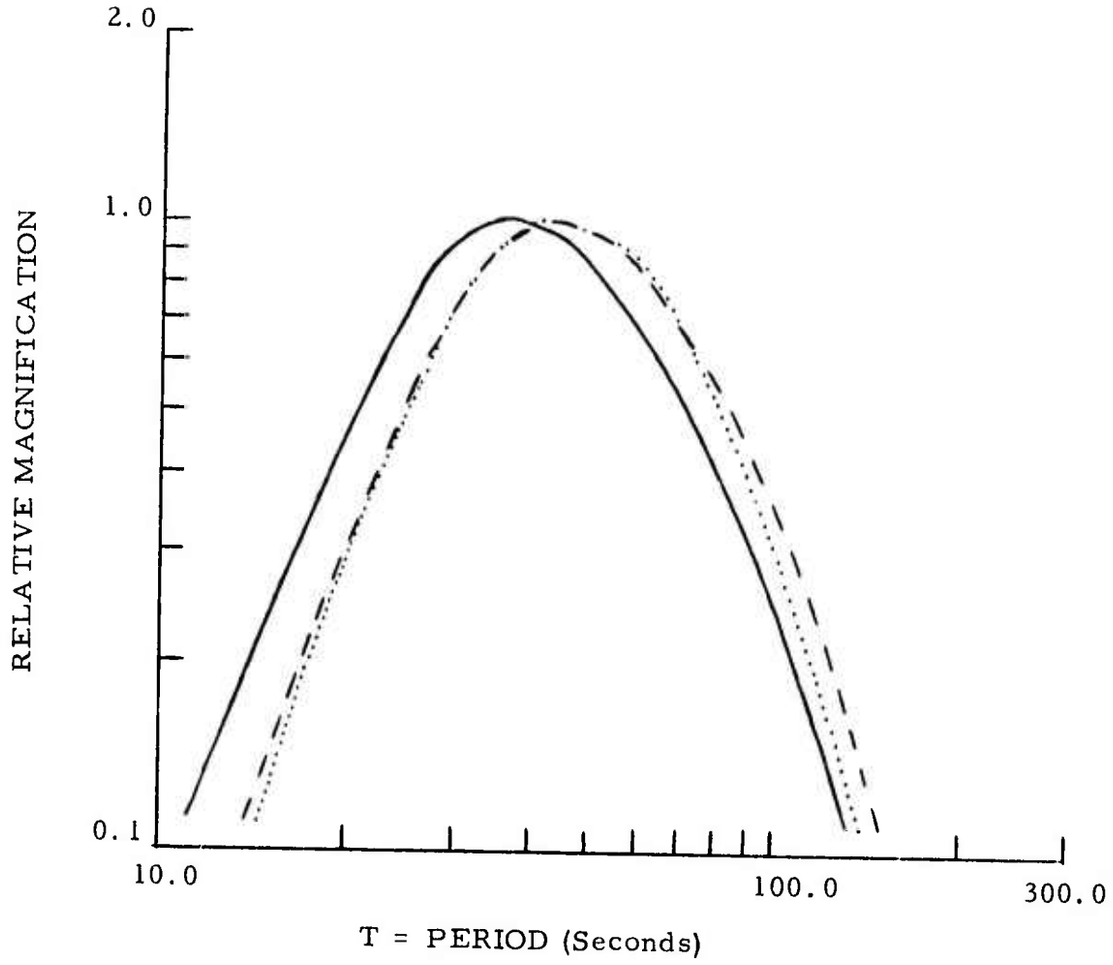


Gain at T = 40.0 Sec.

———	Z	0.794 mμ/count
- - -	N	1.34 mμ/count
. . . .	E	1.75 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR KON



Gain at T = 40.0 Sec.

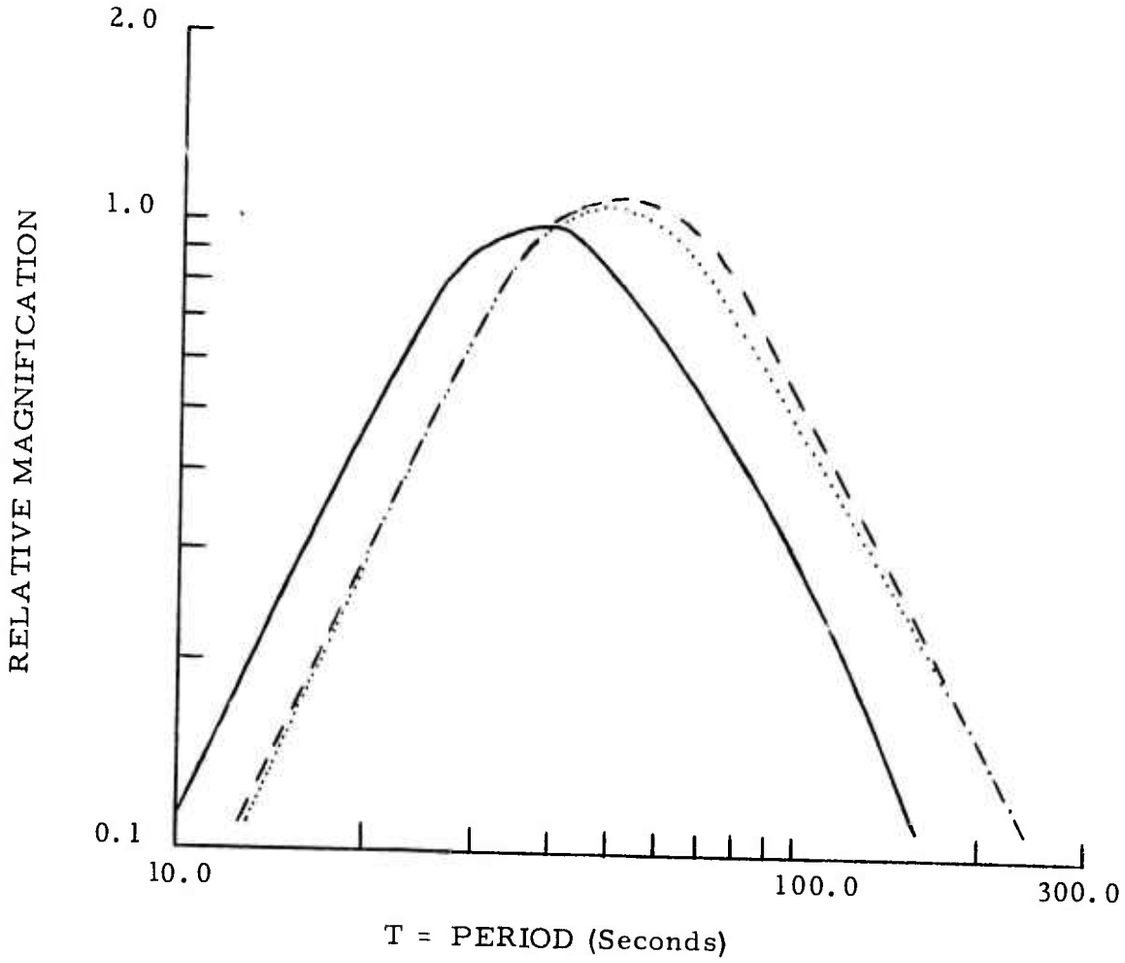
——— Z 0.656 mμ/count

- - - N 0.530 mμ/count

. . . . E 0.470 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR OGD



Gain at T = 40.0 Sec.

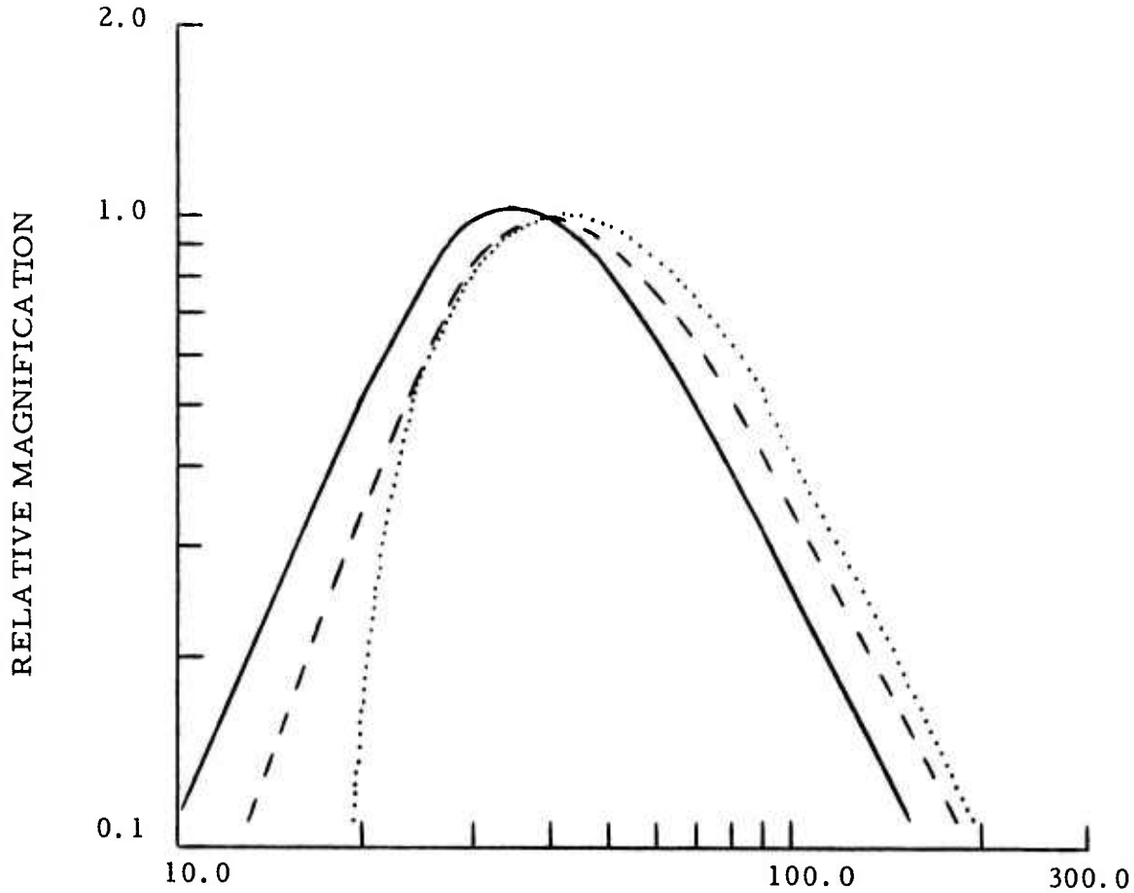
——— Z 0.927 mμ/count

- - - N 0.355 mμ/count

. . . . E 0.397 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR KIP



Gain at T = 40.0 Sec.

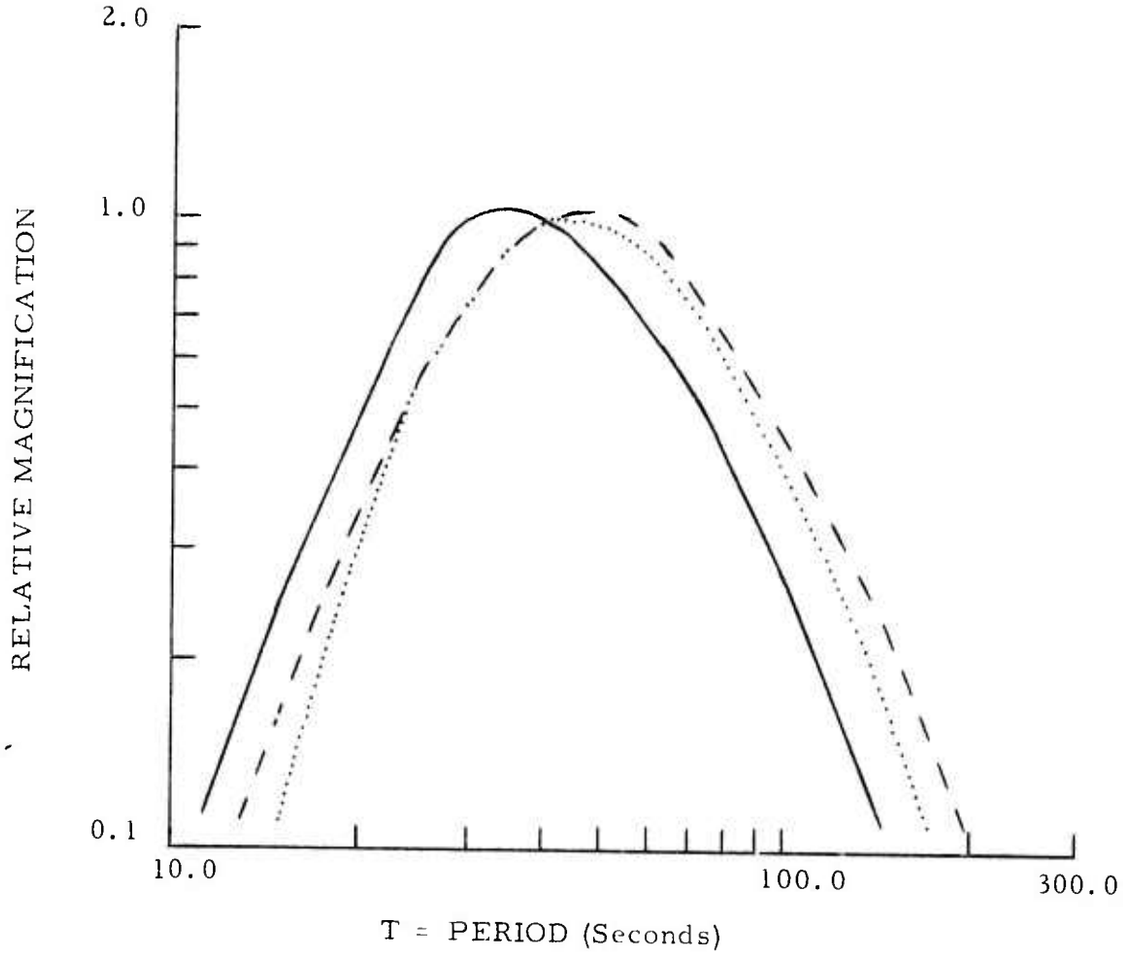
——— Z 1.15 mμ/count

- - - N 1.41 mμ/count

. . . . E 1.14 mμ/count

APPENDIX A

SYSTEM RESPONSE FOR ALQ



Gain at T = 40.0 Sec.

——— Z 1.12 mμ/count

- - - N 0.697 mμ/count

. . . . E 0.819 mμ/count