

ADA 026726

14

SDCS-ER-76-92

1

9 Technical rept.

6

(SDCS)

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT,  
NTS Event 'STRAIT', 17 March 1976.

10

K.J. Hill, M.S. Dawkins, and M.D. Gillispie  
Alexandria Laboratories

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

11 June 1976

12 16 p.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By

The Defense Advanced Research Projects Agency  
Nuclear Monitoring Research Office

1400 Wilson Boulevard, Arlington, Virginia 22209

15

F08606-74-C-0013, ARPA Order 100-2897

DDC  
RECEIVED  
JUL 14 1976  
A

Monitored By

VELA Seismological Center

312 Montgomery Street, Alexandria, Virginia 22314

16

VT/4703

405601

LB

Disclaimer: Neither the Defense Advanced Research Projects Agency nor the Air Force Technical Applications Center will be responsible for information contained herein which has been supplied by other organizations or contractors, and this document is subject to later revision as may be necessary. The views and conclusions presented are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency, the Air Force Technical Applications Center, or the US Government.

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER SDCS-ER-76-92	2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle)  SPECIAL DATA COLLECTION SYSTEM (SDCS) NTS Event "STRAIT", 17 March 1976		5 TYPE OF REPORT & PERIOD COVERED  Technical
		6 PERFORMING ORG REPORT NUMBER
7 AUTHOR(s) Hill, K. J., Dawkins, M. S., and Gillispie, M. D.		8 CONTRACT OR GRANT NUMBER(s)  F08606-74-C-0013
9 PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech 314 Montgomery Street Alexandria, Virginia 22314		10 PROGRAM ELEMENT PROJECT TASK AREA & WORK UNIT NUMBERS  T/4703
11 CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12 REPORT DATE May 28, 1976
		13 NUMBER OF PAGES 15
14 MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)  VELA Seismological Center 317 Montgomery Street Alexandria, Virginia 22314		15 SECURITY CLASS (of this report)  Unclassified
		15a DECLASSIFICATION DOWNGRADING SCHEDULE
16 DISTRIBUTION STATEMENT (of this Report)  APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED		
17 DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18 SUPPLEMENTARY NOTES		
19 KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20 ABSTRACT (Continue on reverse side if necessary and identify by block number)		

ADMISSION	
NTIS	Write Section <input checked="" type="checkbox"/>
DOC	Buff Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. D.C. OR SPECIAL
A	

SDCS EVENT REPORT NO. 92

NTS Event "STRAIT", 17 March 1976

↳ This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	$m_b$	$M_s$
NORSAR	14:56:32.4	14:45:06	38 N	116 W	5.6	N/A
Hagfors	14:56:40.7	14:45:02	38 N	116 W	6.1	4.5

↳ Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

*Origin time -- 14:45:01.5; Lat. -- 37.1N; Long. -- 116.1W; and  $m_b$  5.7, N/A*

The programs used for LASA, NORSAR and ALPA data recovery are presently undergoing modifications. Information for LASA short-period is reported from their Teleseism Event Report; NORSAR short-period data is obtained from their bulletin. The long-period array beam recovery for these stations will be resumed upon completion of these modifications.

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. All SP channels at HN-ME had polarity reversals; to correct this, mathematical inversions of the data were performed. Horizontal SP channels at all SDCS stations were rotated.

Long-period signals were recorded at all SDCS stations. All LP channels at HN-ME had polarity reversals; to correct this, mathematical inversions of the data were performed. Horizontal LP channels at all SDCS stations were rotated.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response).

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION	
				SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14 00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35 41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32 58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09 43.0 N 067 59 09.0 W	213	KS36000	KS36000
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41 41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be  $16^\circ \pm 5^\circ$  based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT            17 MAR 76  
 14:45:00.0    37.000N    116.000W    0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
LAO	14 47 53.2	-0.1	0.2	12.0	34.4
RK-ON	14 49 45.8	0.0	-0.3	21.0	42.3
CPSO	14 50 22.0	0.0	0.3	24.5	84.4
WH2YK	14 50 39.5	0.1	0.4	26.5	339.0
PN-WV	14 51 00.1	-0.1	-0.1	28.8	75.9
HN-ME	14 52 08.1	0.4	0.1	36.5	60.3
NAO	14 56 32.4	-0.3	-0.7	73.2	24.2

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:45:09.2	37.305N	115.927W	41. CALC	0.2	3	7
14:45:01.5	37.139N	116.053W	0. REST	0.4	2	7

CALC				REST			
1	.	1		1	.	1	
0	.	0		0	.	0	
0	.	3	2	0	0.	3	2
.	.	.	.	.	.	.	.
0	0.	0	0	0	0.	0	0
0	.	0		0	.	0	
0	.	0		0	.	0	

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.69  
 MAJOR    61.6KM. MINOR    37.9KM. AZ= 31 AREA= 7332 SQ.KM. REST

DATA SUMMARY

INPUT FOR EVENT 17 MAR 76  
 14:45:00.0 37.000N 116.000W OKM.

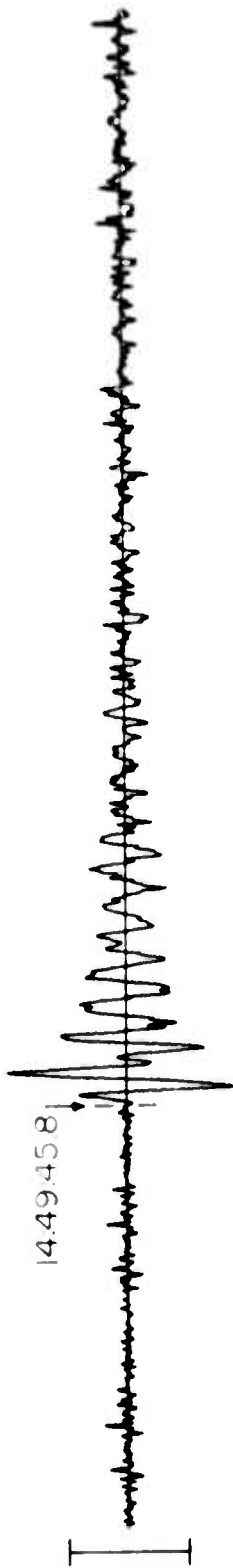
STA.	PHASE	ARRIVAL TIME	INST	PER	A/T	MAGNITUDE		DIR	DIST
						MB	MS		
LAO	EP	14 47 53.2	SAB	99.9	9999.				
RK-ON	EP	14 49 45.8	SPZ	0.9	2142.	6.13			21.0
RK-ON	LQ	14 57 32.0	LPT	21.0	930.				
RK-ON	LR	14 58 35.0	LPZ	13.0	3954.		6.04		21.0
CPSO	EP	14 50 22.0	SPZ	1.0	815.	6.02			24.5
CPSO	LQ	14 58 33.0	LPT	19.0	233.				
CPSO	LR	15 00 16.0	LPZ	14.0	669.		5.34		24.5
WH2YK	EP	14 50 39.5	SPZ	0.9	93.	5.11			26.5
WH2YK	LQ	14 59 52.0	LPT	20.0	1599.				
WH2YK	LR	15 02 00.0	LPZ	16.0	346.		5.08		26.5
PN-WV	EP	14 51 00.1	SPZ	1.0	112.	5.35			29.3
PN-WV	LQ	15 00 48.0	LPT	19.0	223.				
PN-WV	LR	15 02 43.0	LPZ	14.0	480.		5.25		29.3
HN-ME	EP	14 52 08.1	SPZ	1.0	339.	5.78			36.5
HN-ME	LQ	15 04 43.0	LPT	20.0	145.				
HN-ME	LR	15 07 28.0	LPZ	15.0	214.		5.01		36.5
NAO	EP	14 56 32.4	AB	0.9	128.	5.69			73.2

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA
14:45:09.2	37.305N	115.927W	41. CALC	5.63	0.41	6
14:45:01.5	37.139N	116.053W	0. REST	5.68	0.39	5

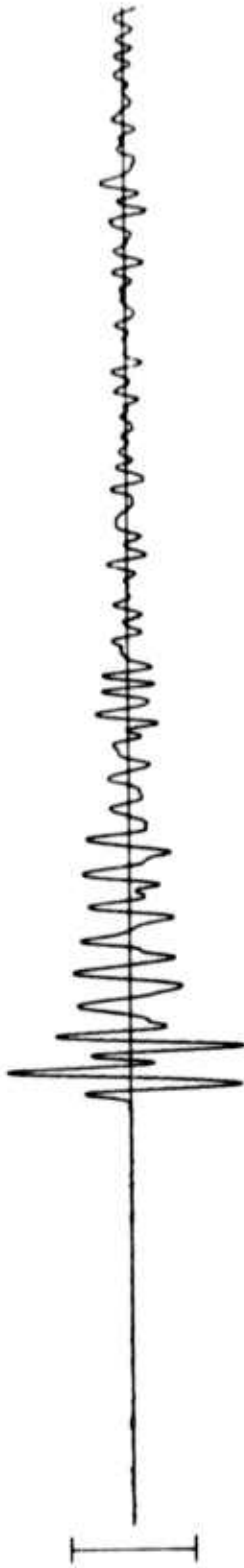
Average long-period magnitude ( $M_S$ ) is based on Rayleigh wave observations in the period range of 17 to 23 seconds per cycle.

RK-ON 17 MAR 76

SPZ  
1316.70 MU



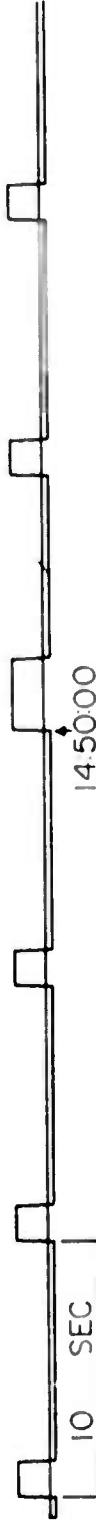
SPR  
913.78 MU



SPT  
195.54 MU



TIME



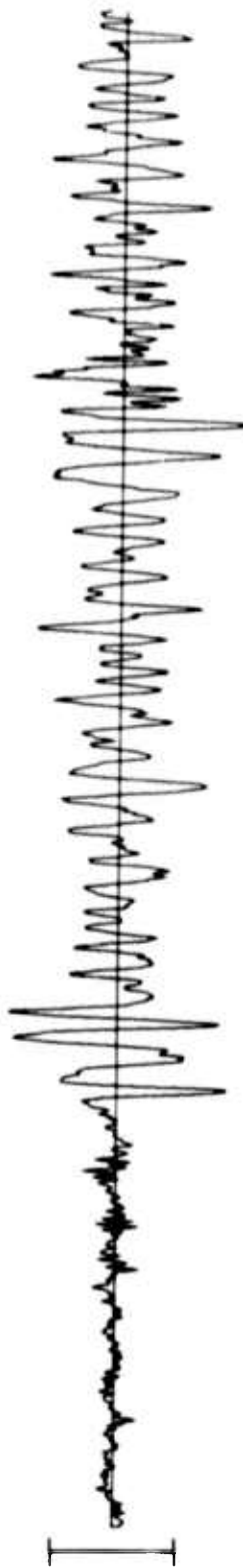


CPSO 17 MAR 76

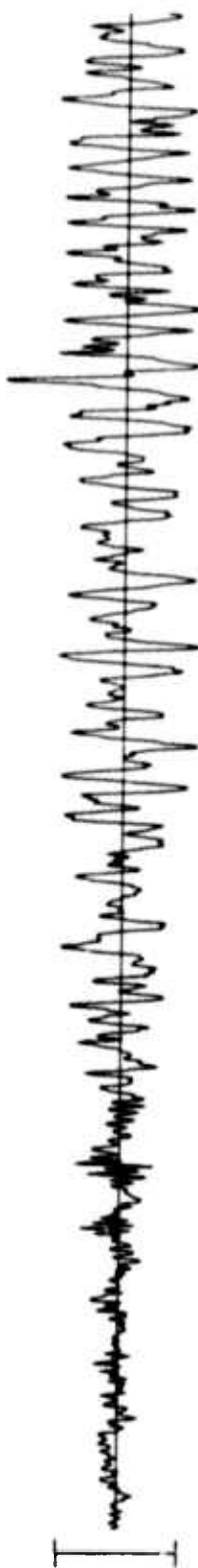
SPZ  
418.11 MU



SPR  
93.73 MU



SPT  
85.44 MU

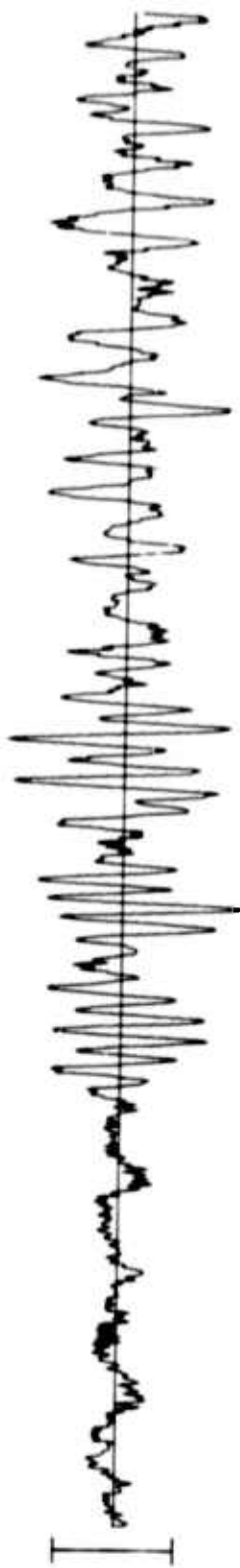
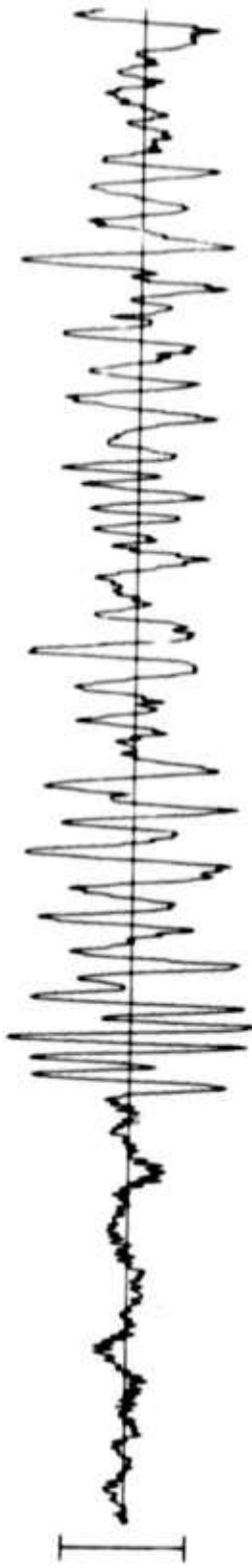
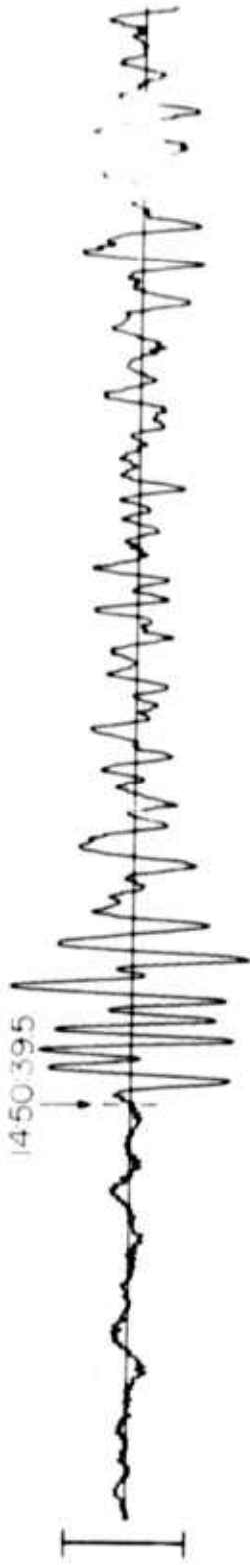


TIME



14:50:30

WH2YK 17 MAR 76



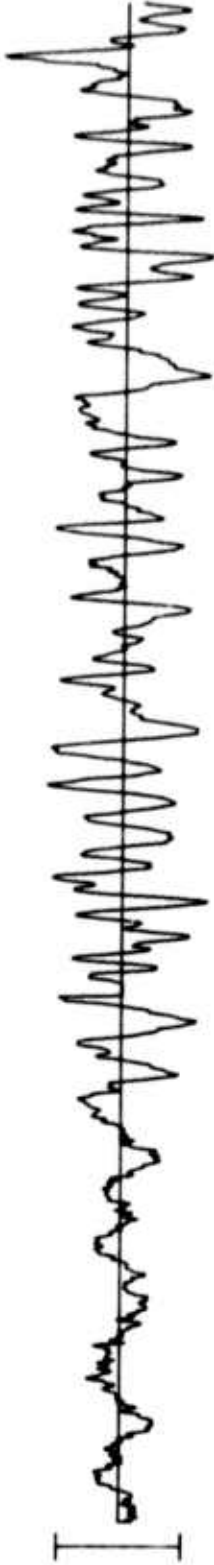
FN-WV 17 MAR 76

14:51:00.1

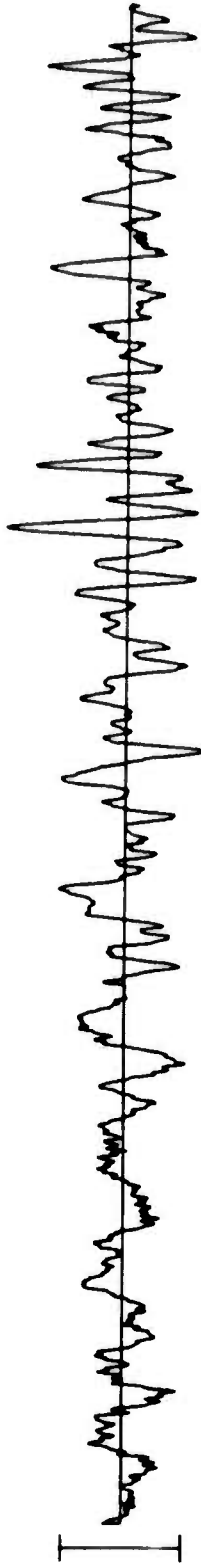
SPZ  
65.97 MU



SPR  
51.26 MU



SPT  
38.17 MU



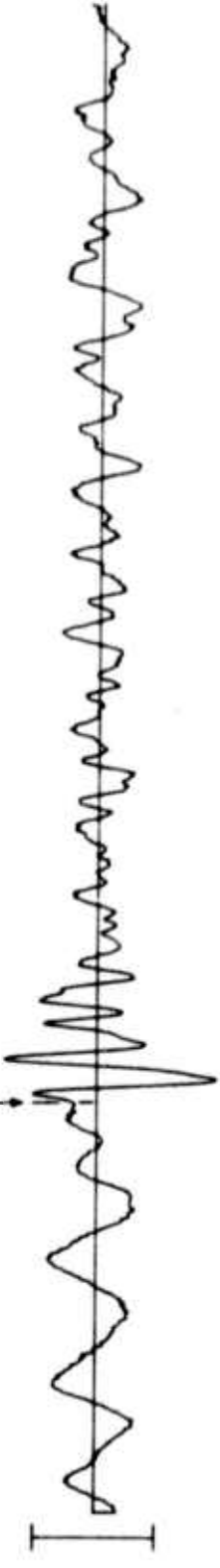
TIME



HN-ME 17 MAR 76

14:52:08.1

SPZ  
226.66 MU



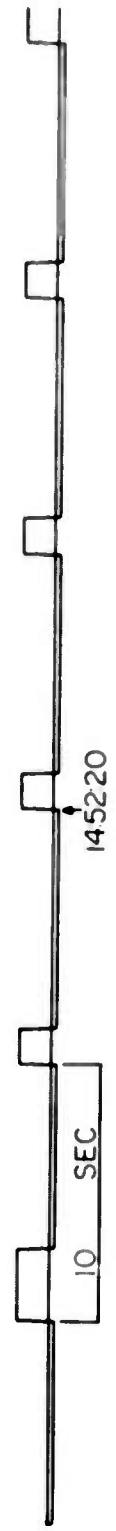
SPR  
124.49 MU



SPT  
129.96 MU

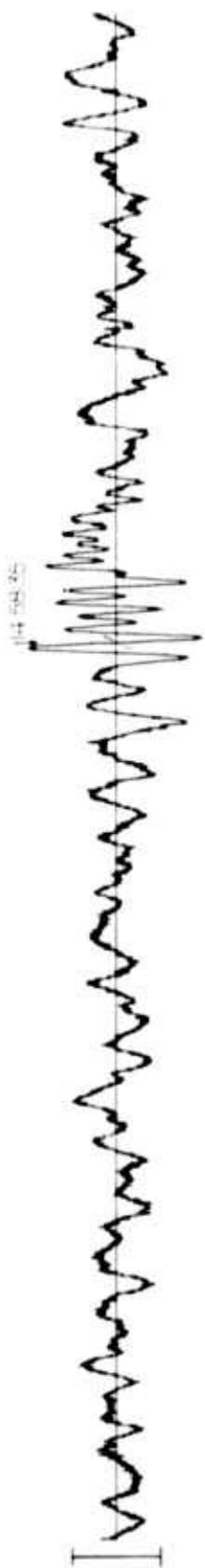


TIME



RK-DN 17 MAR 76

LPZ  
10977.08 MU



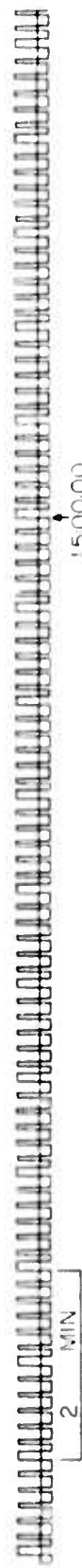
LPR  
16533.51 MU



LPT  
12617.52 MU



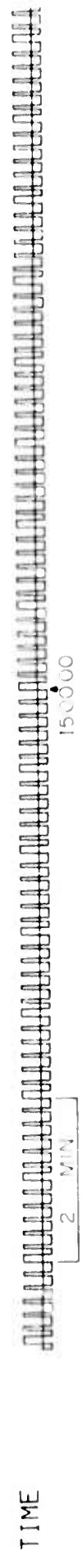
TIME



CPS0 17 MAR 76

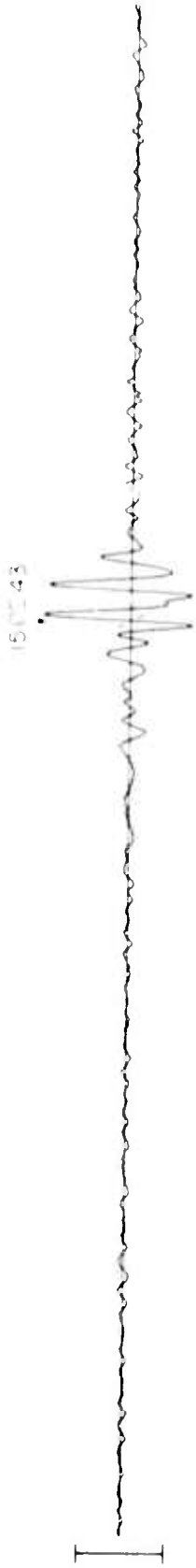


WH2YK 17 MAR 76



FN-WV 17 MAR 76

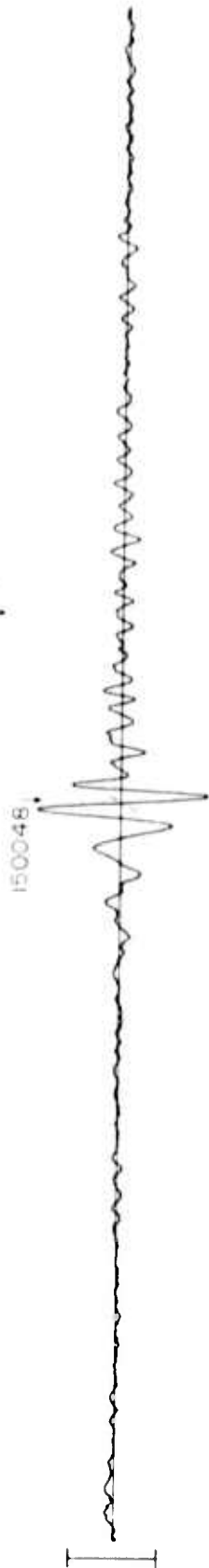
LPZ  
1912.45 MU



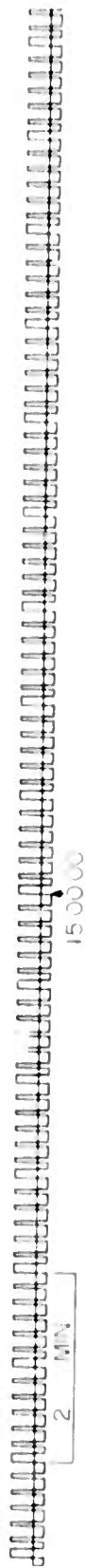
LPR  
1434.26 MU



LPT  
1783.82 MU



TIME

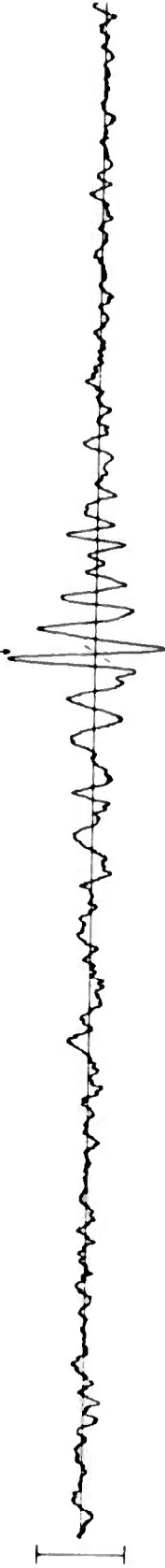




HN-ME 17 MAR 76

LPZ  
1014.62 MU

150728

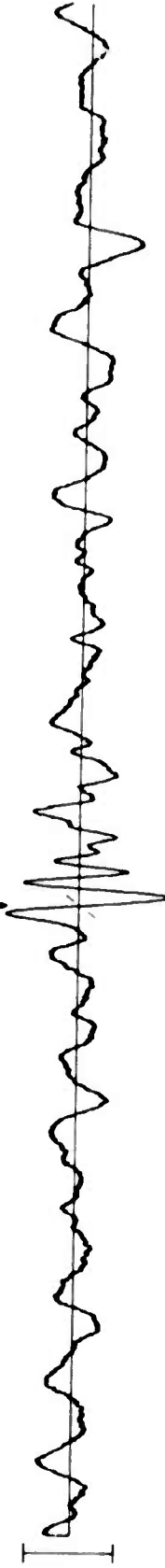


LPR  
891.75 MU

150443



LPT  
1404.95 MU



TIME

