

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

AD-A026 608

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT
PERU, 5 JANUARY 1976

TELEDYNE GEOTECH

PREPARED FOR
AIR FORCE TECHNICAL APPLICATIONS CENTER

APRIL 1976

195135

SDCS-ER-76-80

ADA 026608

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Peru, 05 January 1976

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

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

APRIL 1976

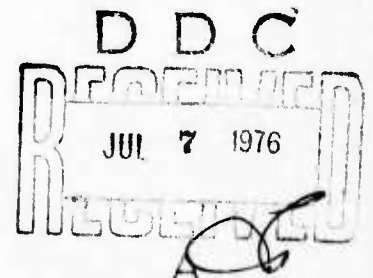
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By

The Defense Advanced Research Projects Agency
Nuclear Monitoring Research Office
1400 Wilson Boulevard, Arlington, Virginia 22209
ARPA Order No. 2897

Monitored By

VELA Seismological Center
312 Montgomery Street, Alexandria, Virginia 22314



REPRODUCED BY
**NATIONAL TECHNICAL
INFORMATION SERVICE**
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

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.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-76-80 ✓	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Peru, 5 January 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 6 April 1976	
	13. NUMBER OF PAGES 18	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 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)		

ACCESSION NO.	
NTIS	
DDC	
BY	
SIGNATURE	A

SDCS EVENT REPORT NO. 80

Peru, 5 January 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	02:45:10.1	02:31:27	14 S	074 W	6.0	N/A

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

02:31:24.8 13.6S 075.1W 6.2 4.8

All SDCS stations were operational during this period.

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.

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 and the LP radial channel at RK-ON 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	33 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	18500	SL210 V SL220 H

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

HYPOCENTER DETERMINATION

INPUT FOR EVENT 5 JAN 76
 02:31:30.0 13.999S 74.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
CPSO	02 40 19.1	-0.2	-0.2	49.9	348.9
FN-WV	02 40 35.0	-0.3	-0.3	52.0	355.7
FN-ME	02 41 31.6	0.7	0.7	59.8	5.8
RK-ON	02 42 12.5	-0.7	-0.7	66.1	347.3
LAO	02 42 13.9	0.6	0.6	66.1	337.1
WH2YK	02 " " 15.2	0.0	0.0	87.8	334.8
NAO	02 45 10.1	-0.2	-0.2	99.8	29.7

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
02:31:21.5	13.607S	75.152W	-19. CALC	0.5	5	7
02:31:24.8	13.560S	75.148W	0. REST	0.5	3	7

CALC			REST		
5	.	2	5	.	2
0	.	0	0	.	0
0	0.	0	0	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= 1.00
 MAJOR 86.7KM. MINOR 62.9KM. AZ= 28 AREA= 17152 SQ.KM. REST

DATA SUMMARY

INPUT FOP EVENT 5 JAN 76
 02:31:30.0 13.999S 74.000W 0KM.

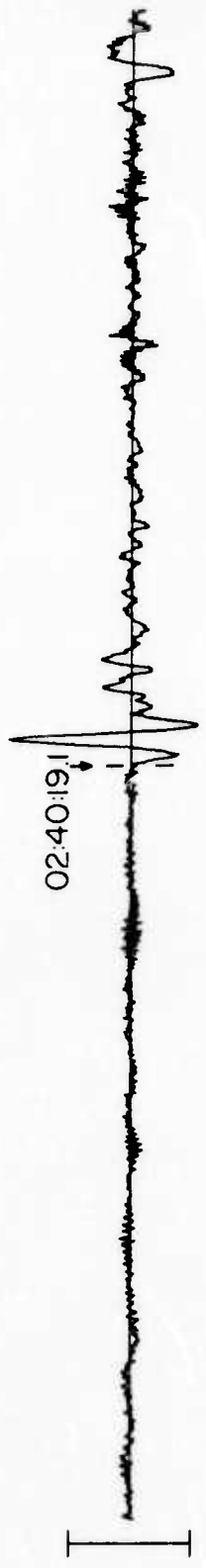
STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIP	DIST
		TIME					MB	MS		
CPSO	EP	02 40	19.1	SPZ	1.2	825.	6.33			49.9
CPSO	LQ	02 56	40.0	LPT	21.0	163.				
CPSO	LR	02 58	52.0	LPZ	30.0	106.		4.84		49.9
FN-WV	EP	02 40	35.0	SPZ	1.2	647.	6.21			52.0
FN-WV	LQ	02 57	14.0	LPT	27.0	46.				
FN-WV	LR	02 59	55.0	LPZ	33.0	314.		5.33		52.0
FN-ME	EP	02 41	31.6	SPZ	1.2	393.	6.09			59.8
HN-ME	LQ	03 00	23.0	LPT	20.0	127.				
HN-ME	LR	03 00	50.0	LPZ	45.0	96.		4.88		59.8
RK-ON	EP	02 42	12.5	SPZ	1.1	724.	6.56			66.1
RK-ON	LQ	03 04	24.0	LPT	23.0	90.				
LAO	EP	02 42	13.9	SAB	0.0	0.				
WH2YK	EP	02 44	15.2	SPZ	1.9	437.	6.42			87.8
WH2YK	LQ	03 15	06.0	LPT	28.0	39.				
WH2YK	LR	03 22	14.0	LPZ	20.0	50.		4.76		87.8
NAO	EP	02 45	10.1	AB	1.3	48.	5.80			99.8

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	IPSDV	LPSTA
02:31:21.5	13.607S	75.152W	0. CALC	6.24	0.27	6	4.76*****		1
02:31:24.8	13.560S	75.148W	0. REST	6.24	0.27	6	4.76*****		1

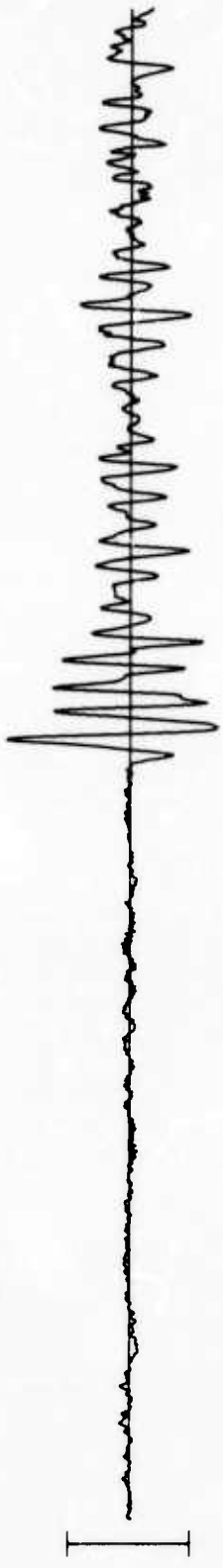
Average long-period magnitude (M_S) is based on Rayleigh wave observations in the period range of 17 to 23 seconds per cycle.

CPS0 05 JAN 76

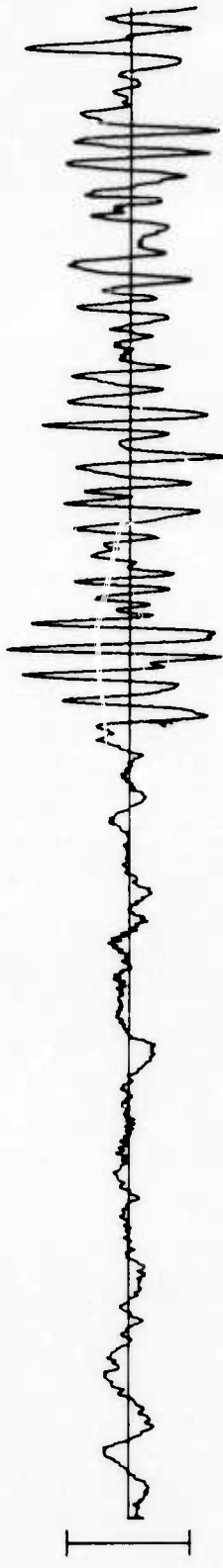
SPZ
477.07 MU



SPR
157.81 MU



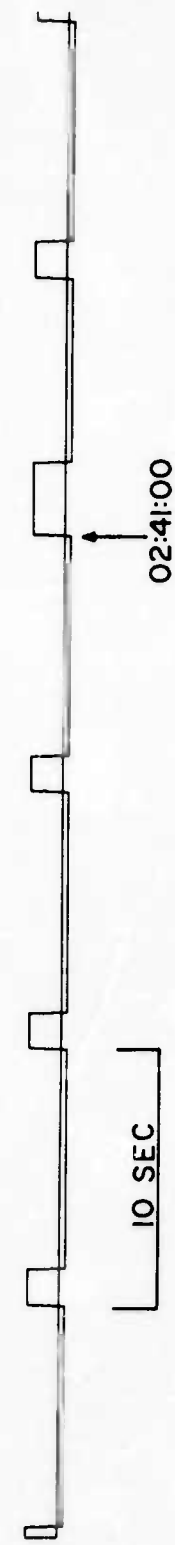
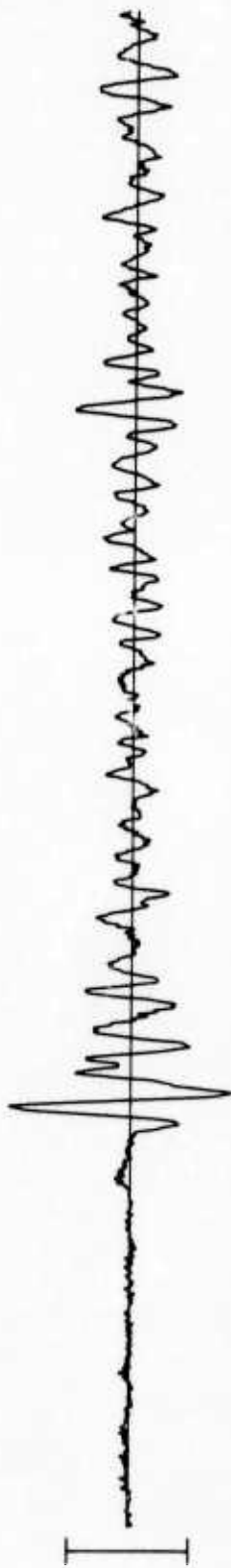
SPT
40.07 MU



TIME

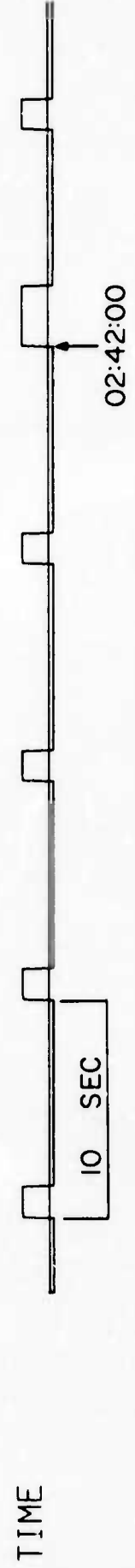
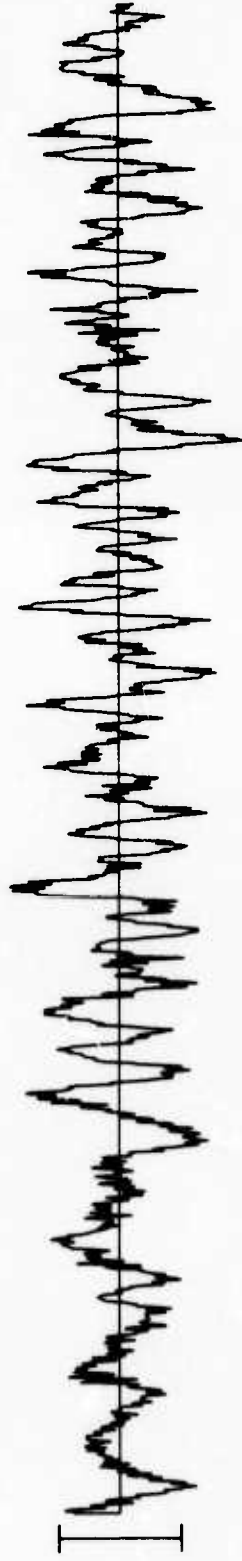
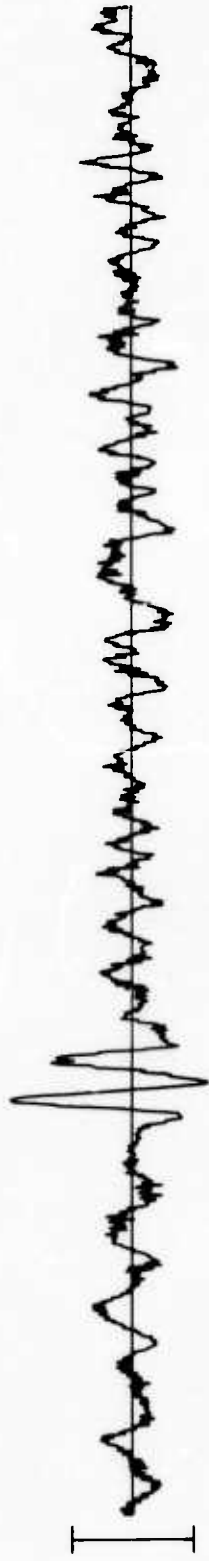
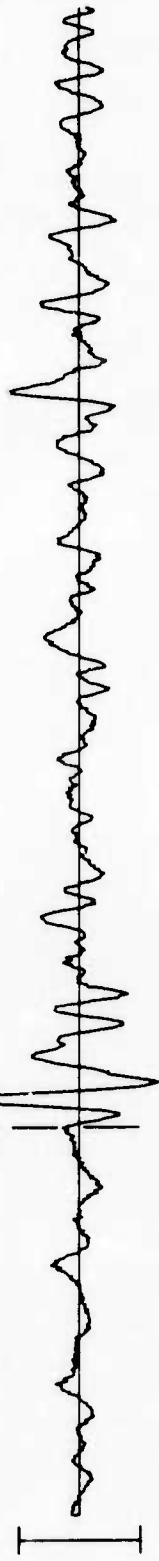


FN-WV 5 JAN 76
02:40:35.0



HN-ME 5 JAN 76

02:41:31.6 ↓



RK-ON 05 JAN 76

SPZ
316.64 MU



SPR
138.91 MU



SPT
49.82 MU

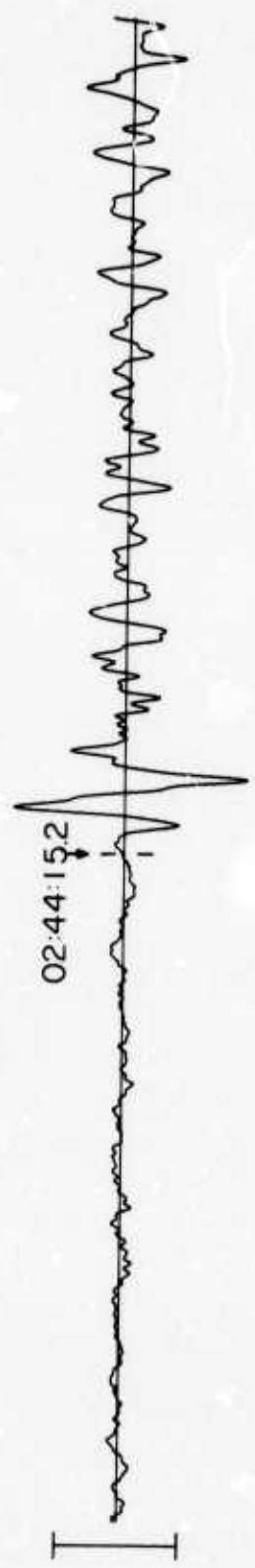


TIME



WH2YK 05 JAN 76

SPZ
69.52 MU



SPR
28.86 MU



SPT
27.13 MU



TIME



CPS0 5 JAN 76

LPZ
1431.85 MU

POSSIBLE LR
03:02:32

02:58:52



LPR
1200.36 MU



02:56:40

LPT
1859.49 MU

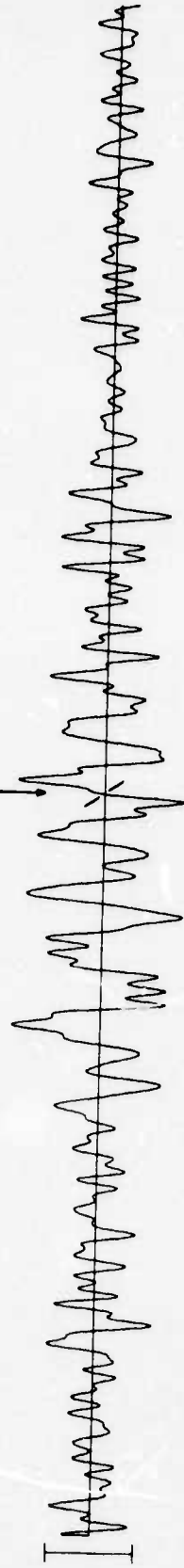


TIME

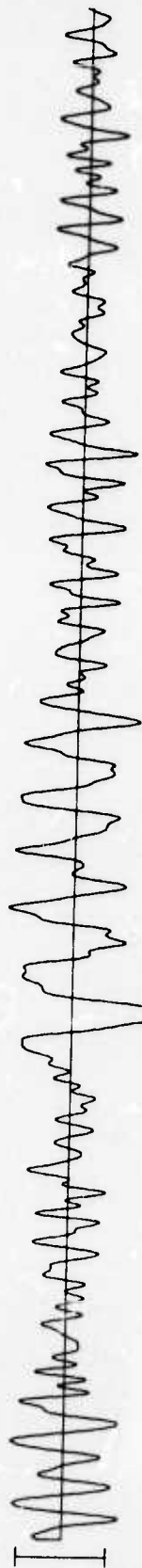


FN-WV 05 JAN 76

02:59:55

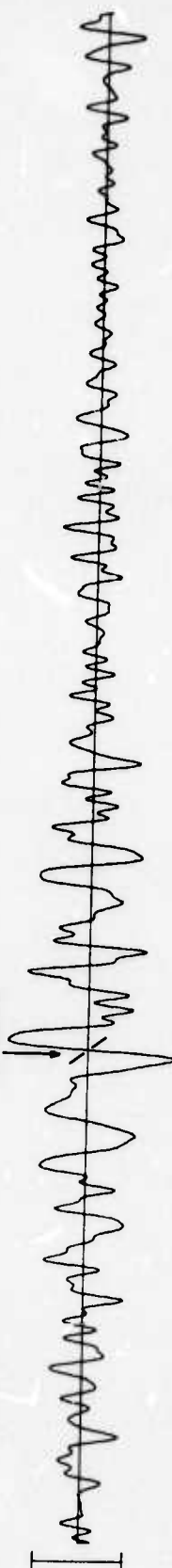


LPZ
5234.38 MU



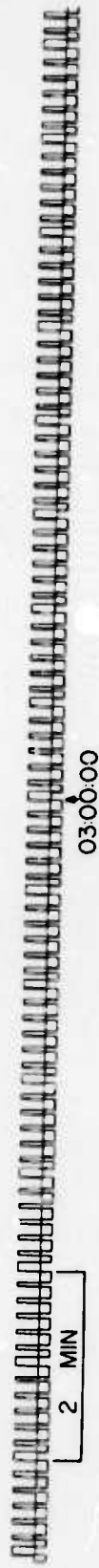
02:57:14

LPR
446.96 MU



LPT
650.39 MU

TIME



HN-ME 5 JAN 76

03:00:50

LPZ
1766.95 MU



LPR
1641.90 MU



03:00:23

LPT
1183.73 MU



TIME



2 MIN

03:05:00

RK-ON 5 JAN 76

POSSIBLE LR
03:10:01

LPZ
2191.84 MU



LPR
1169.87 MU



LPT
1165.42 MU



TIME



2 MIN

03:10:00

WH2YK 05 JAN 76

LPZ
826.67 MU

03:22:14



LPR
661.05 MU

03:5:06



LPT
602.41 MU



TIME

