

ADA 026732

14  
SDCS-ER-76-84

9 Technical rept.

6

(SDCS)

**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT,  
NTS Event 'KEELSON', 04 February 1976.**

10

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

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

11 14 May 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 No. 2897

DDC  
RECEIVED  
MAY 14 1976  
A

16

VT/4703

Monitored By  
VELA Seismological Center  
312 Montgomery Street, Alexandria, Virginia 22314

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.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-76-84	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) NTS Event "KEELSON", 04 February 1976	5. TYPE OF REPORT & PERIOD COVERED Technical	
	6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(•) Hill, K. J., Dawkins, M. S., Baumstark, R. R. and Gillispie, M. D.	8. CONTRACT OR GRANT NUMBER(•) 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 VT/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 14 May 1976	
	13. NUMBER OF PAGES 15	
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)		

SDCS EVENT REPORT NO. 84

NTS Event "KEELSON", 04 February 1976

Using SDCS stations and LASA, the epicenter location and magnitudes become *for 'Keelson' Event are reported.*

Origin Time	Lat.	Long.	$m_b$	$M_s$
14:20:01.7	37.1N	116.0W	5.3	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. 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 and LASA. CPSO short-period data were retrieved from the field station digital tape. 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).

- a -

ACCESSION for	
NTIS	White Section <input checked="" type="checkbox"/>
DOC	Self Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION.....	
BY.....	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. CODE/SPECIAL
A	

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		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° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT                      4 FEB 76  
 14:20:00.0      37.000N      116.000W      0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
LAD	14 22 53.5	0.1	0.3	12.0	34.2
RK-ON	14 24 45.8	-0.2	-0.4	21.0	42.2
CPSO	14 25 21.9	0.0	0.2	24.5	84.3
WH2YK	14 25 39.6	-0.0	0.0	26.5	339.0
FN-WV	14 26 00.0	-0.2	-0.2	28.7	75.9
HN-ME	14 27 08.1	0.3	0.0	36.5	60.3

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:20:07.0	37.245N	115.936W	33. CALC	0.2	3	6
14:20:01.7	37.123N	116.018W	0. REST	0.3	2	6

CALC			REST		
1	.	0	1	.	0
0	.	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= 1.79  
 MAJOR      68.2KM. MINOR      41.1KM. AZ= 35 AREA= 8812 SQ.KM. REST

DATA SUMMARY

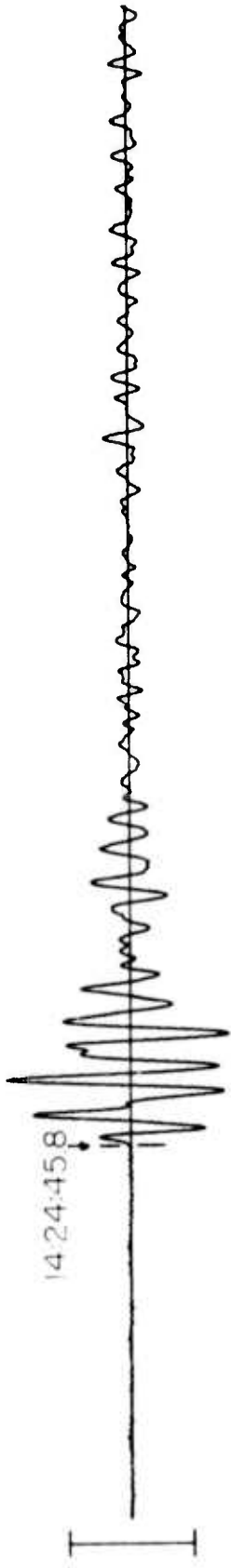
INPUT FOR EVENT 4 FEB 76  
 14:20:00.0 37.000N 116.000W OKM.

STA.	PHASE	ARRIVAL			INST	PER	A/Z	MAGNITUDE		DIR	DIST
		TIME						MB	MS		
LAO	EP	14 22	53.5	SAB	99.9	9999.					
RK-OM	EP	14 24	45.8	SPZ	1.0	1038.	5.82				21.0
RK-OM	LR	14 33	30.0	LPZ	14.0	110.		4.48			21.0
CPSO	EP	14 25	21.9	SPZ	1.0	343.	5.64				24.5
CPSO	LR	14 35	17.0	LPZ	16.0	230.		4.87			24.5
WH2YK	EP	14 25	39.6	SPZ	1.1	67.	4.97				26.5
WH2YK	LQ	14 34	40.0	LPT	22.0	34.					
WH2YK	LR	14 37	02.0	LPZ	16.0	136.		4.68			25.5
FN-WV	EP	14 26	00.0	SPZ	0.8	25.	4.70				28.7
FN-WV	LQ	14 35	38.0	LPT	25.0	42.					
FN-WV	LR	14 37	43.0	LPZ	18.0	167.		4.80			28.7
HN-ME	EP	14 27	08.1	SPZ	1.0	152.	5.43				36.5
HN-ME	LQ	14 39	54.0	LPT	17.0	77.					
HN-ME	LR	14 42	18.0	LPZ	18.0	128.		4.79			36.5

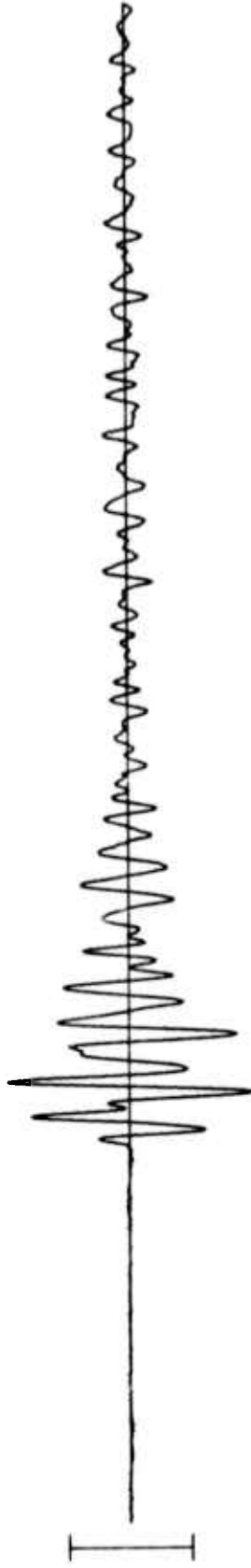
ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
14:20:07.0	37.245N	115.936W	33. CALC	5.28	0.49	5	4.79	0.0	2
14:20:01.7	37.123N	116.018W	0. REST	5.31	0.47	5	4.80	0.0	2

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 04 FEB 76



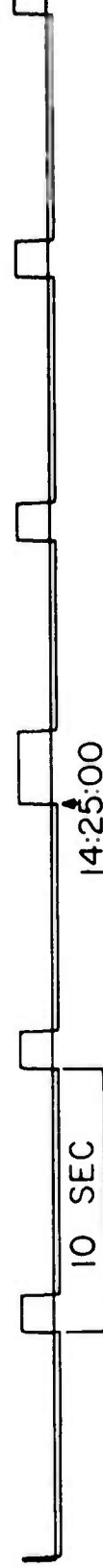
SPZ  
610.23 MU



SPR  
408.29 MU



SPT  
84.89 MU

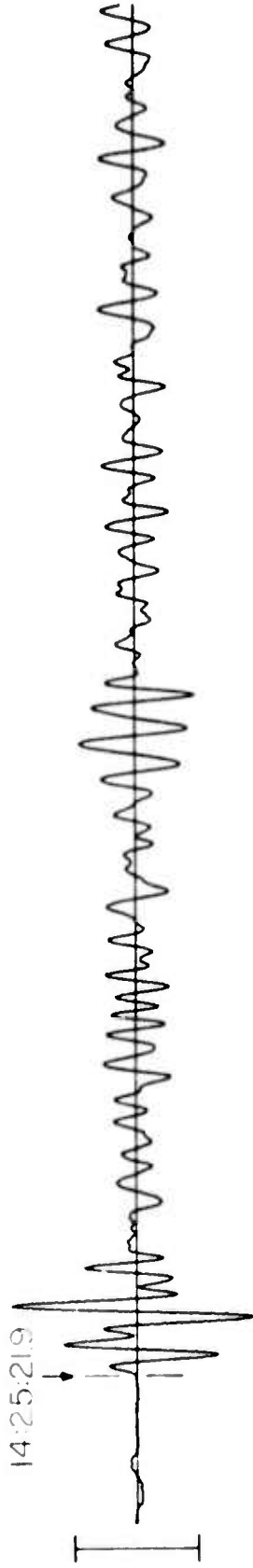


TIME

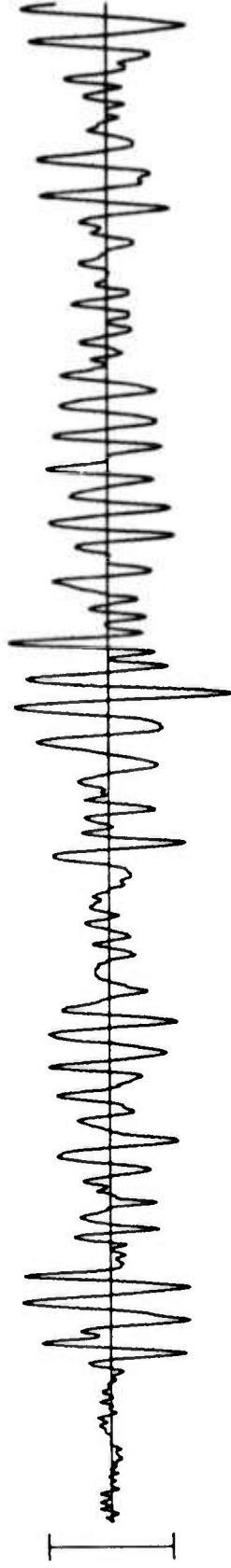


CPSO 4 FEB 76

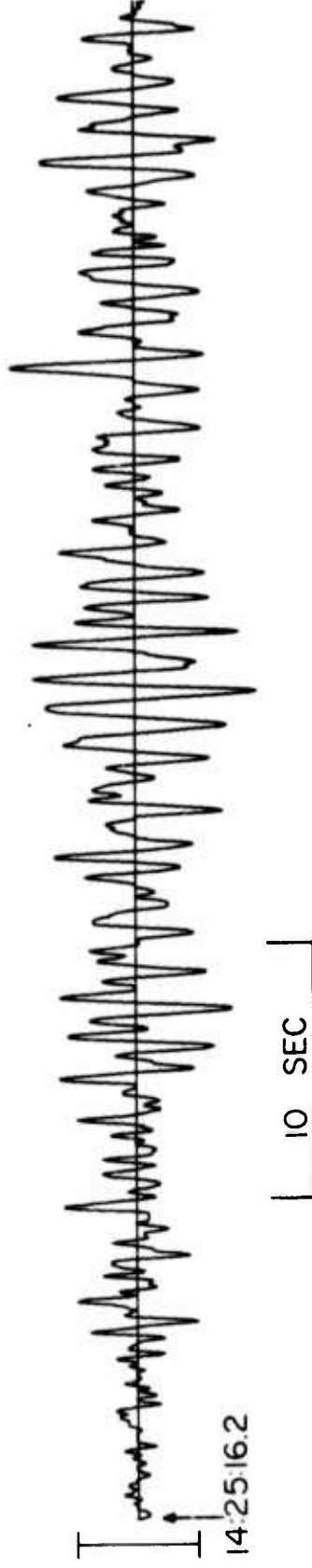
SPZ  
178.00 MU



SPR  
45.00 MU



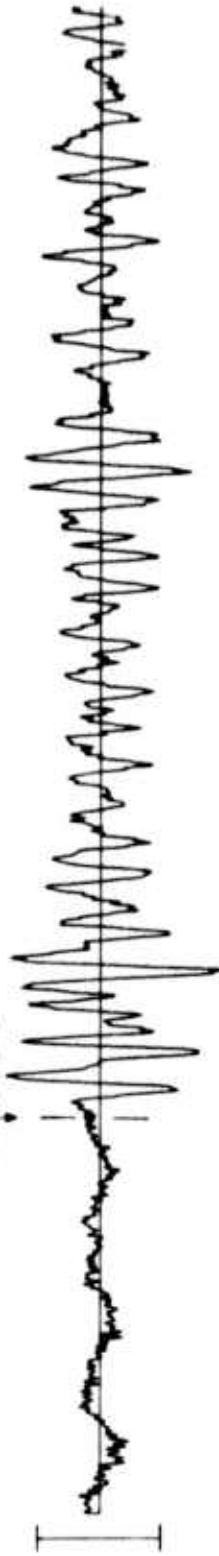
SPT  
29.00 MU



WH2YK 04 FEB 76

1425.396

SPZ  
33.06  
MU



SPR  
17.70  
MU



SPT  
15.54  
MU



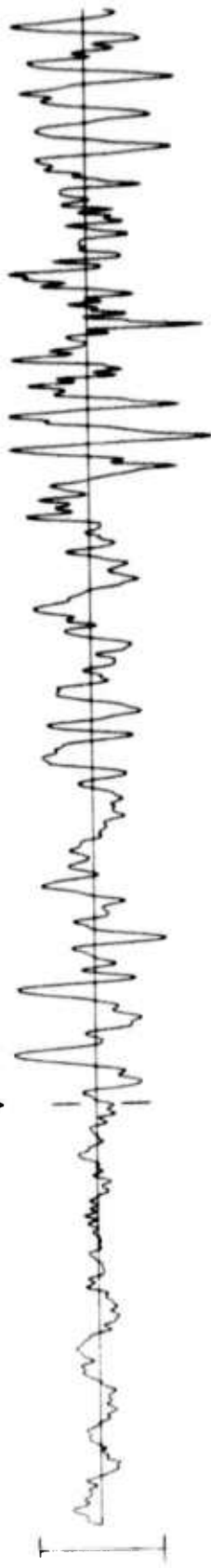
TIME



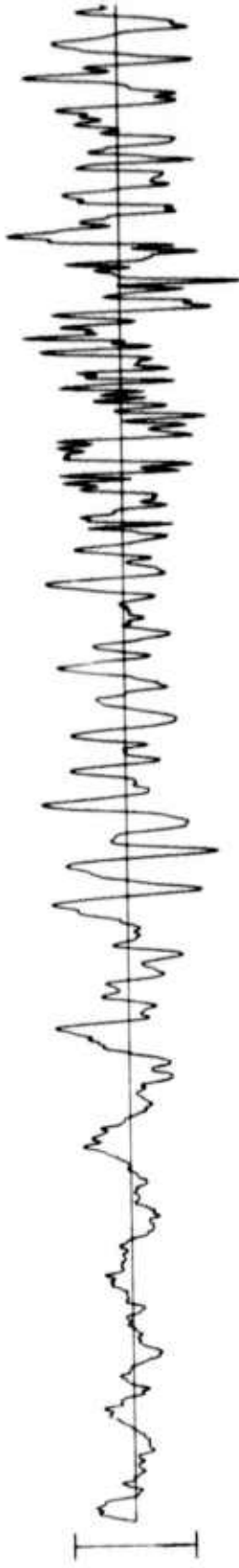
FN -WV 4 FEB 76

14:26:00.0

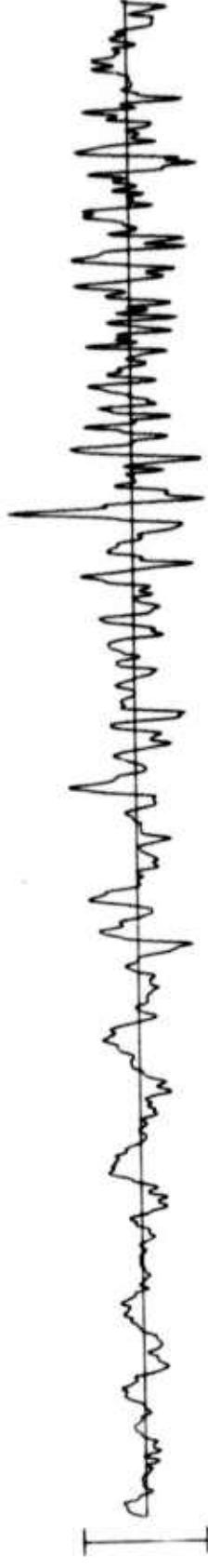
SPZ  
35.43 MU



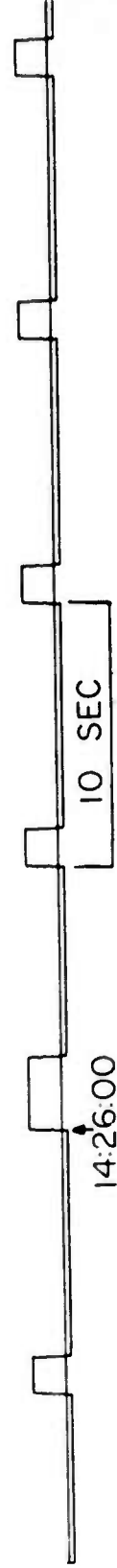
SPR  
22.55 MU



SPT  
26.45 MU

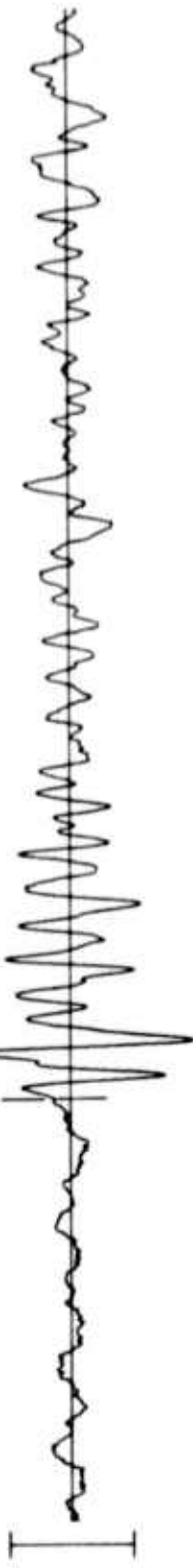


TIME

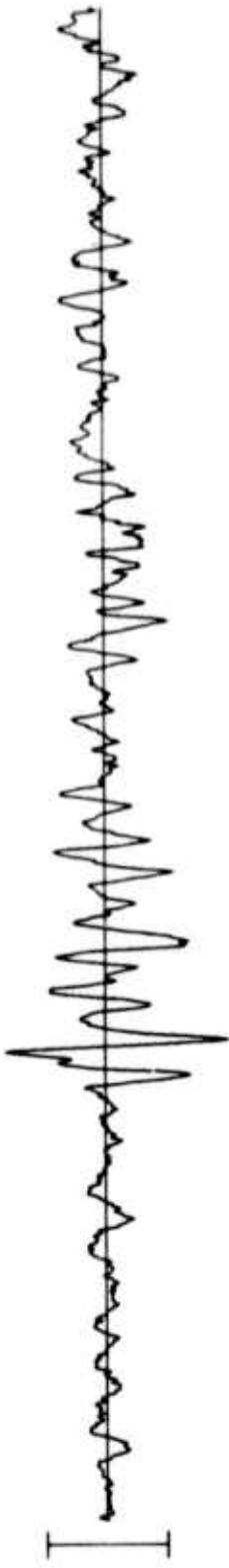


HN-ME 4 FEB 76

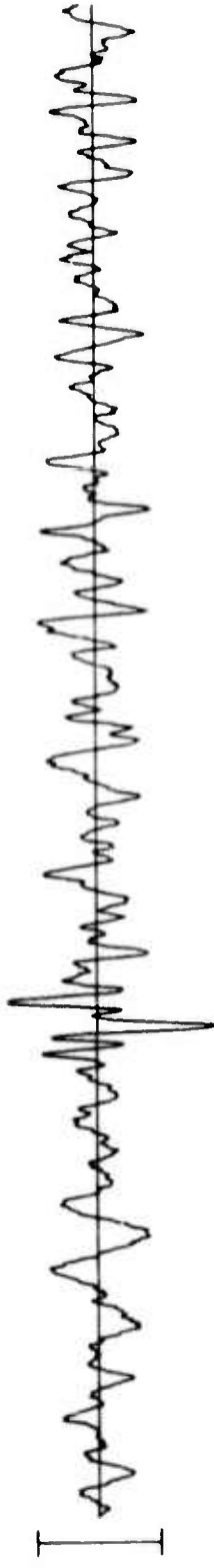
14:27:08.1



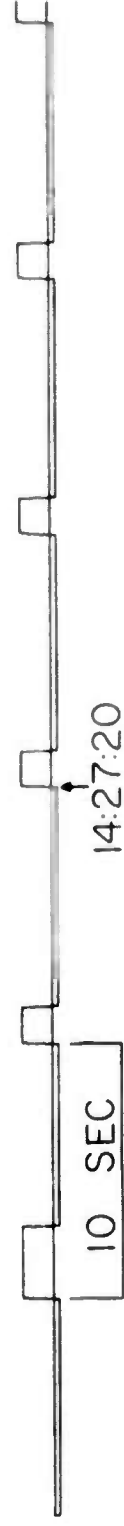
SPZ  
80.61 MU



SPR  
66.72 MU



SPT  
43.69 MU



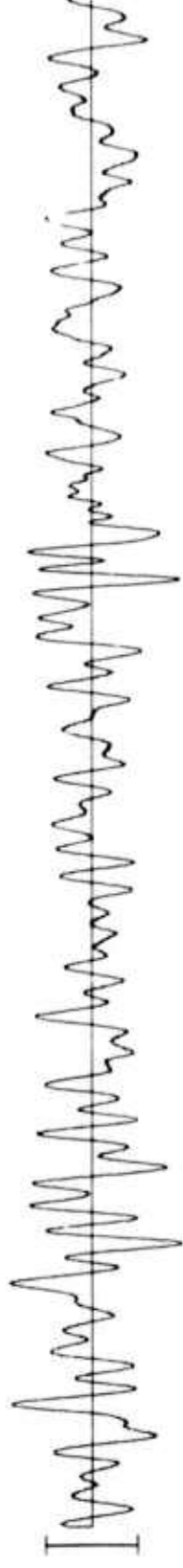
TIME

RK-ON 4 FEB 76

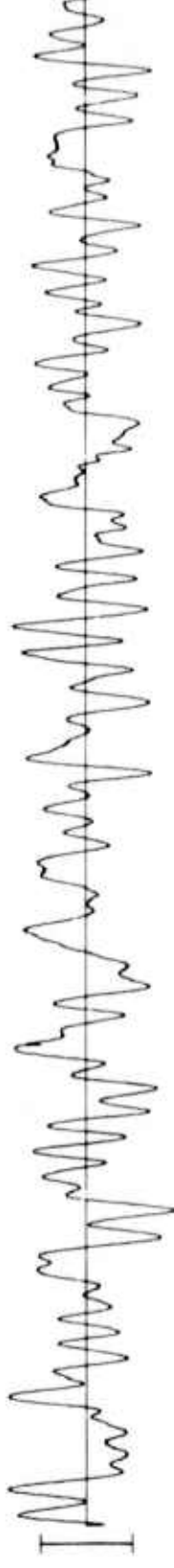
14:33:30



LPZ  
905.72 MU



LPR  
761.99 MU



LPT  
217.40 MU



TIME

CPS0 4 FEB 76

14:35:17

LPZ  
1347.83 MU

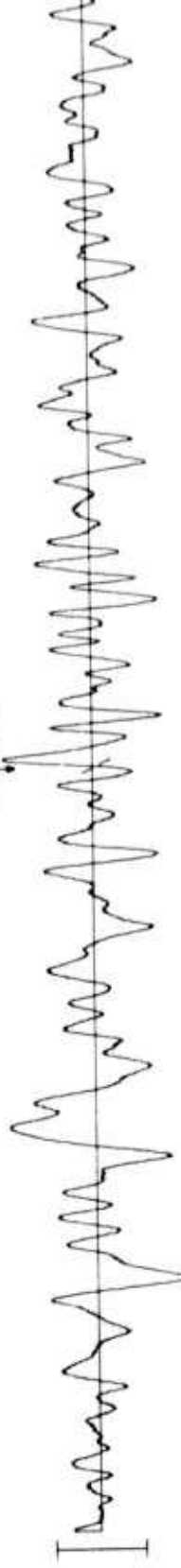


LPR  
1113.22 MU

POSSIBLE "LQ"  
14:33:32



LPT  
444.16 MU



TIME

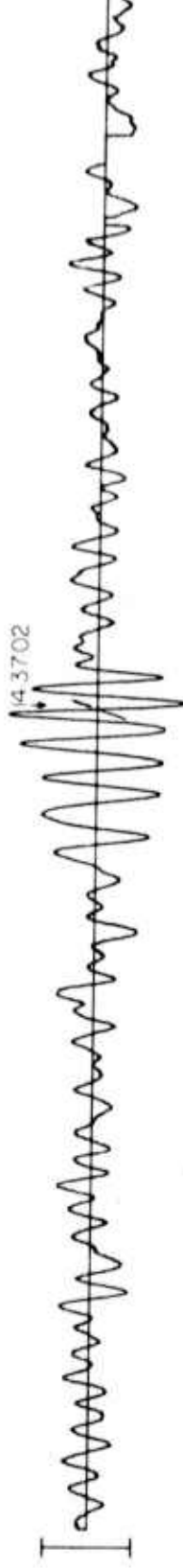
2 MIN

14:30:00

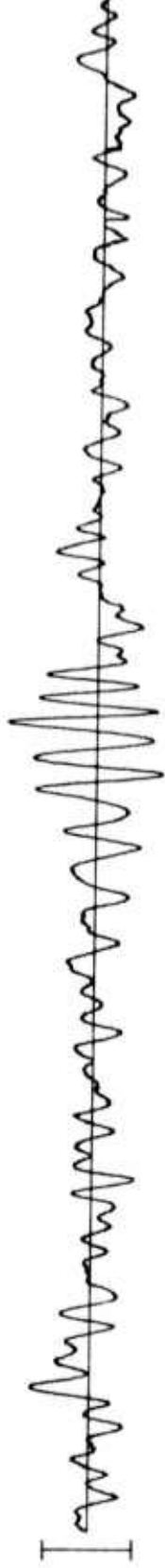


WH2YK 4 FEB 76

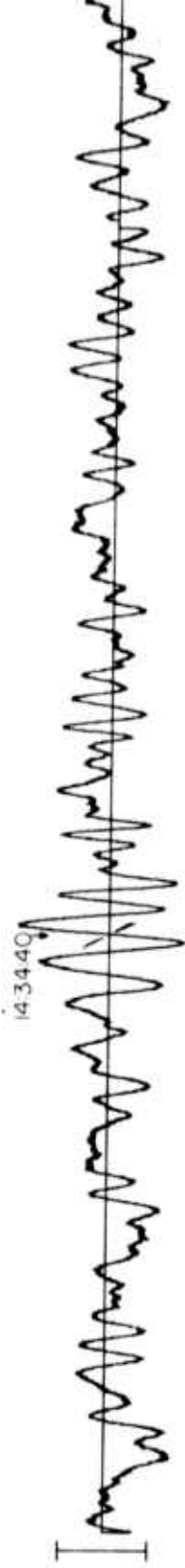
LPZ  
773.54 MU



LPR  
657.59 MU



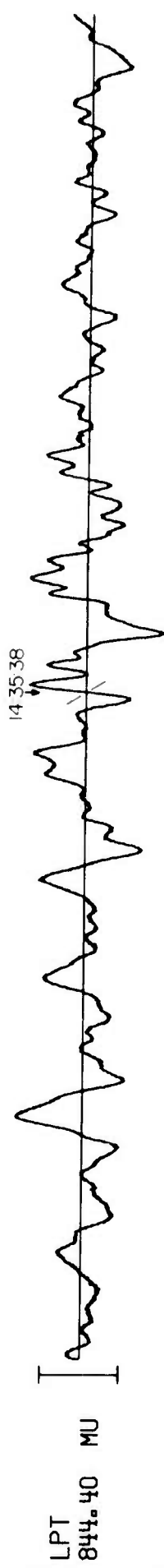
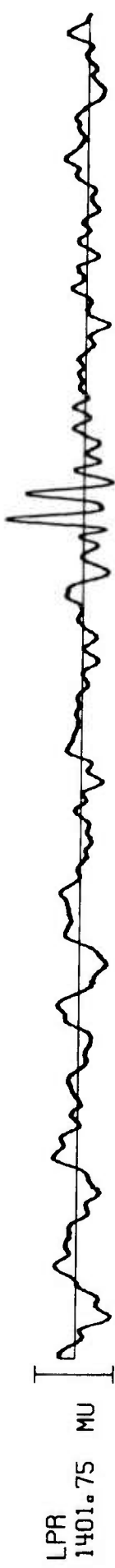
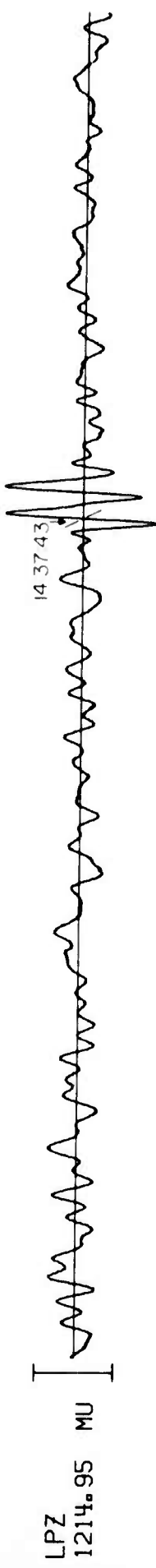
LPT  
466.47 MU



TIME



FN-WV 4 FEB 76



TIME



14:35:00



HN-ME 4 FEB 76

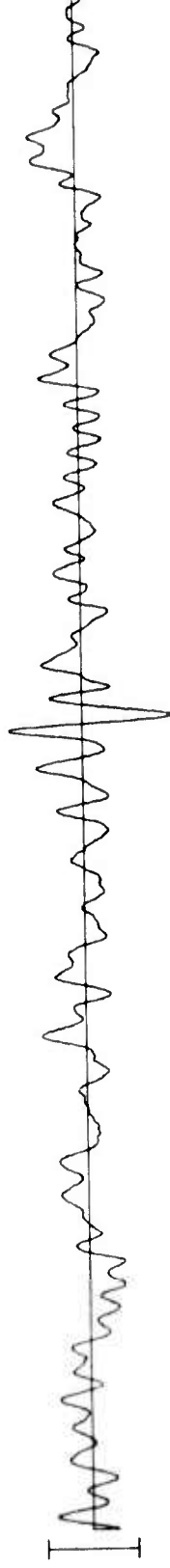
LPZ  
1115.52 MU

14:42:18

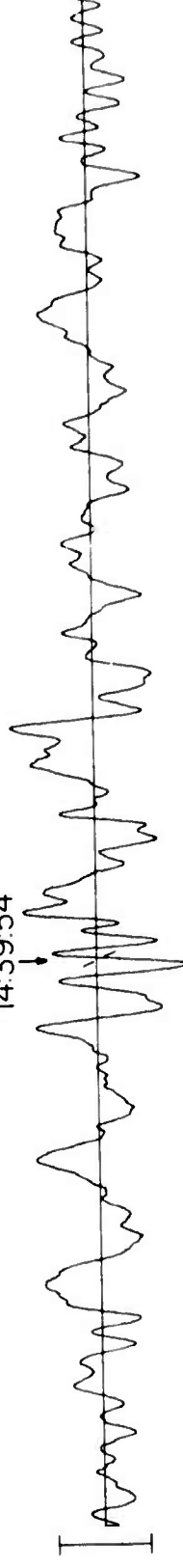


LPR  
837.44 MU

14:39:54



LPT  
626.09 MU



TIME

2 MIN

14:40:00

