

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

AD-A024 595

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,
EASTERN KAZAKH SSR, 25 DECEMBER 1975

TELEDYNE GEOTECH

PREPARED FOR
AIR FORCE TECHNICAL APPLICATIONS CENTER

10 MARCH 1976

145104



AD A 024595

**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Eastern Kazakh SSR, 25 December 1975**

**K.J. Hill, M.S. Dawkins, R.R. Baumstark, and M.D. Gillispie
Alexandria Laboratories
Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314**

March 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**



B

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

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-68	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Eastern Kazakh SSR, 25 December 1975		5. TYPE OF REPORT & PERIOD COVERED Technical
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Hill, K. J., Dawkins, M. S., Baumstark, R. R. 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 10 March 1976
		13. NUMBER OF PAGES 16
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. 68

Eastern Kazakh SSR, 25 December 1975

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	05:24:19.7	05:17:03	50 N	078 E	6.3	N/A
Hagfors	05:24:10.2	05:16:39	50 N	084 E	6.9	N/A

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

05:16:57.4 49.8N 078.8E 5.8 3.2

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. Horizontal SP channels at all SDCS stations were rotated. NORSAR "P" arrival was obtained from their bulletin; the TAL transmission was not recoverable.

ALPA recorded a long-period signal for this event. LP signals were masked by Iceland Event at RK-ON, CPSO, FN-WV, and HN-ME. WH2YK and NORSAR did not record LP signal arrivals for this event and were not included in this report. Polarity of the LP radial channel at RK-ON was reversed; to correct this, a mathematical inversion of the LP radial data was performed before the horizontal channels were rotated. Horizontal LP channels at CPSO, HN-ME, RK-ON, and FN-WV were rotated. Validity of the ALPA long-period vertical beam is uncertain and horizontal beams were not included because of program recovery problems. LASA long-period data were not included because of complicated recovery procedures.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of the LASA short-period plot. LASA SP scaling factors are millimicrons per inch.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES			ELEVATION METERS	INSTRUMENTATION	
		DEG	MN	SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	55	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
L.A.S.A	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	855	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 25 DEC 75
 05:17:00.0 50.000N 80.000E 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CAIC	REST		
NAO	05 24 19.7	-0.1	-0.1	38.5	313.1
WH2YK	05 27 48.2	0.2	0.2	66.6	17.3
RK-ON	05 29 04.3	-0.8	-0.8	79.6	355.1
HN-ME	05 29 09.4	0.9	0.9	80.2	337.2
LAO	05 29 27.9	0.2	0.2	83.8	3.4
PN-WV	05 29 57.9	0.1	0.1	90.0	343.1
CPSO	05 30 15.4	-0.5	-0.5	93.9	347.2

67 HERRIN TRAVEL TIME TABLES

ORIGIN	IAT.	LONG.	DEPTH (KM)	SDV	IT	STA
05:16:54.0	49.668N	78.787E	-18. CALC	0.5	10	7
05:16:57.4	49.765N	78.751E	0. REST	0.5	3	7

CALC			REST		
4	.	2	4	.	2
1	.	0	1	.	0
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= 0.92
 MAJOR 165.1KM. MINOR 40.7KM. AZ= 179 AREA= 21122 SQ.KM. REST

DATA SUMMARY

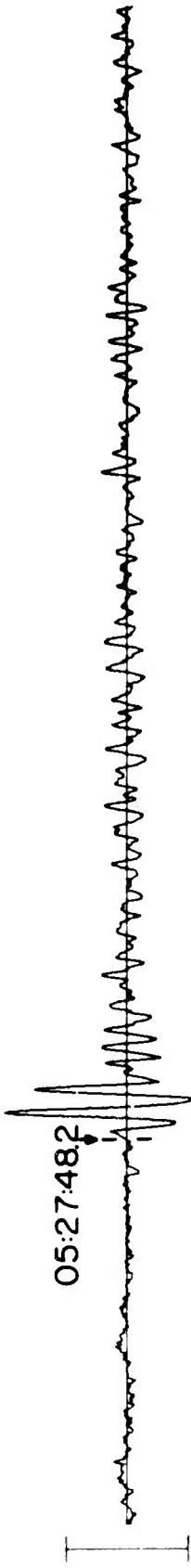
INPUT FOR EVENT 25 DEC 75
 05:17:00.0 50.000N 80.000E OKM.

STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIR	DIST
		TIME					MB	MS		
NAO	EP	05 24	19.7	AP	0.6	845.	6.08			78.5
ALPA	LR	05 54	49.0	LPZ	22.0	2.		3.20		59.8
WH2YK	EP	05 27	48.2	SPZ	0.9	156.	5.89			66.6
RK-ON	EP	05 29	04.3	SPZ	0.6	110.	5.48			79.6
HN-ME	EP	05 29	09.4	SPZ	0.9	138.	5.56			80.2
LAO	EP	05 29	27.9	SAB	1.0	232.	6.07			83.8
FN-WV	EP	05 29	57.9	SPZ	0.8	43.	5.33			90.0
CPSO	EP	05 30	15.4	SPZ	0.8	100.	5.81			93.9

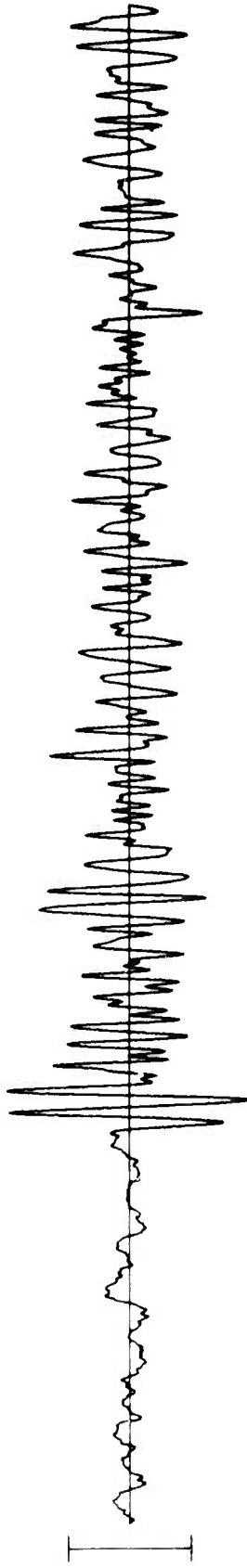
ORIGIN	IAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
05:16:54.0	49.668N	78.787E	0. CALC	5.75	0.29	7	3.20*****		1
05:16:57.4	49.765N	78.751E	0. REST	5.75	0.29	7	3.20*****		1

WH2YK 25 DEC 75

SPZ
120.66 MU



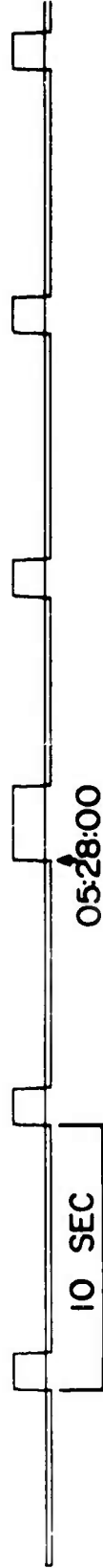
SPR
45.14 MU



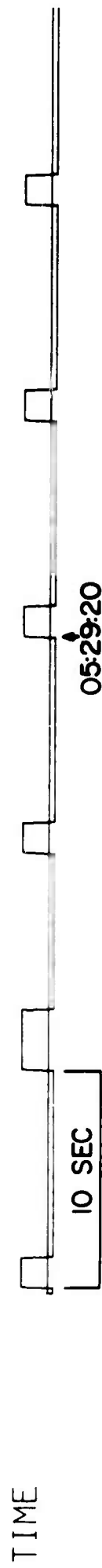
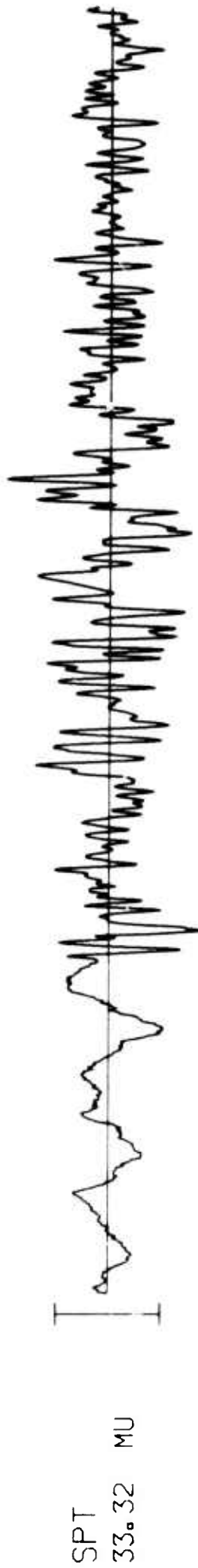
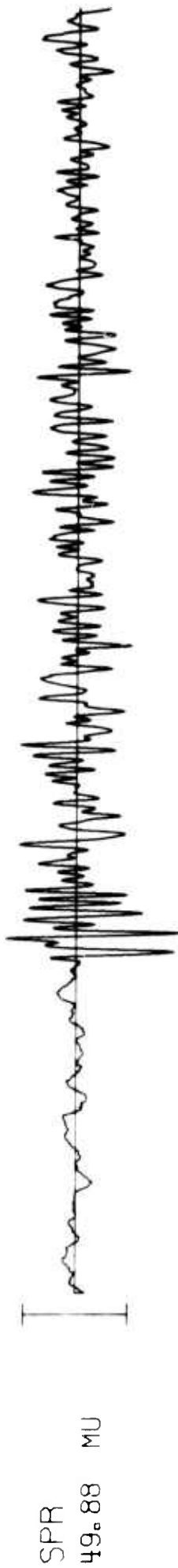
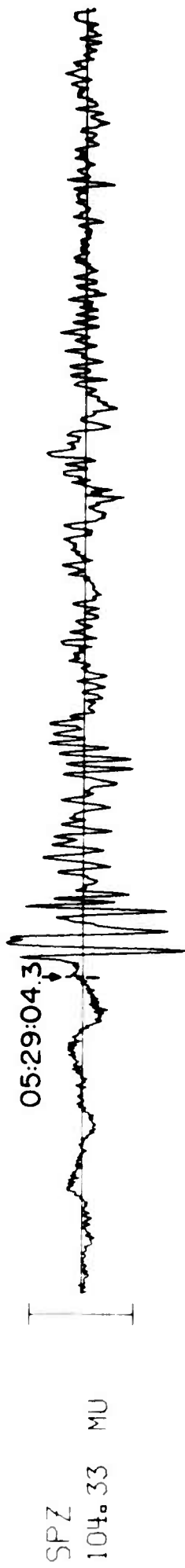
SPT
41.77 MU



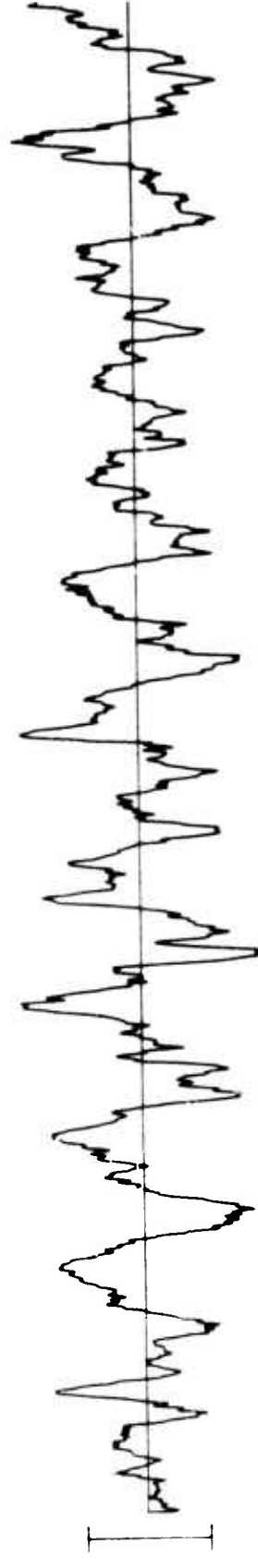
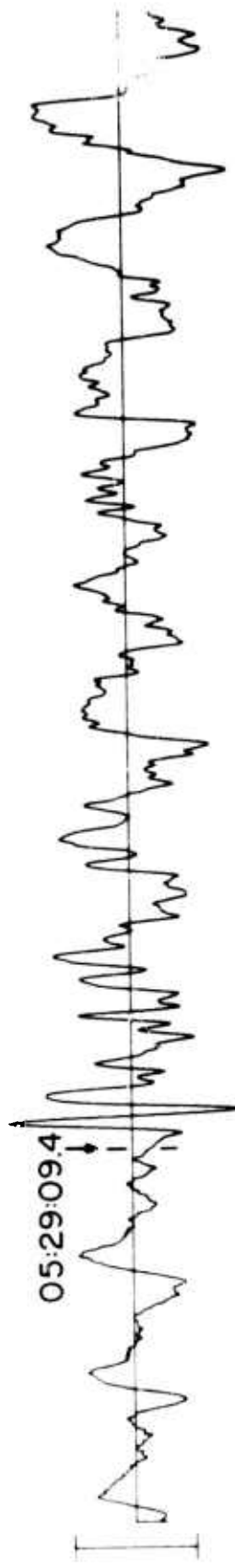
TIME



RK-ON 25 DEC 75



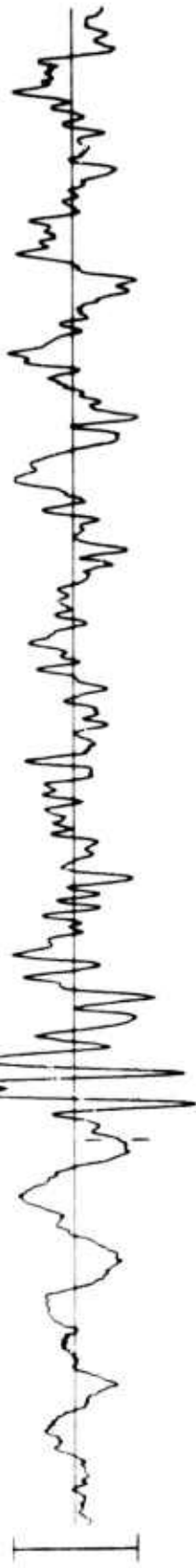
HN-ME 25 DEC 75



FN--WV 25 DEC 75

SPZ
31.15 MU

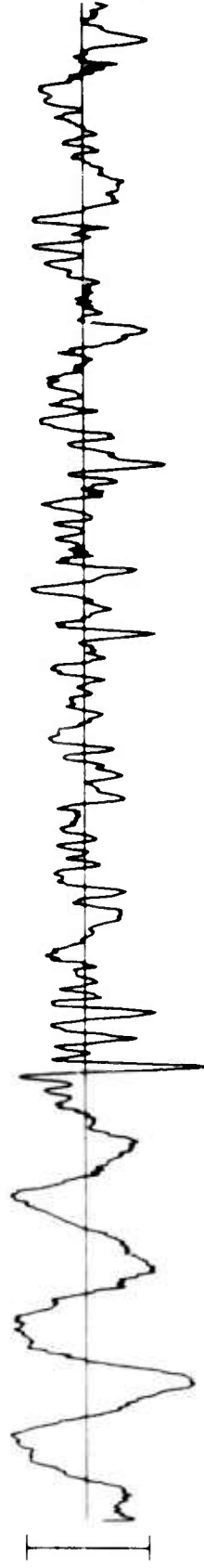
05:29:57.9



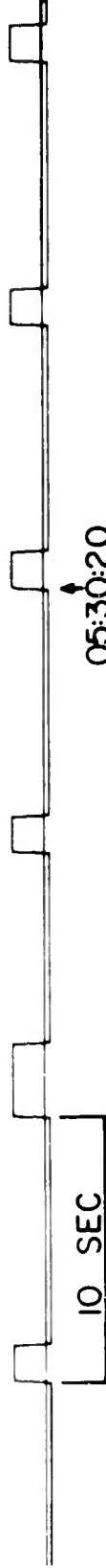
SPR
12.52 MU



SPT
21.75 MU

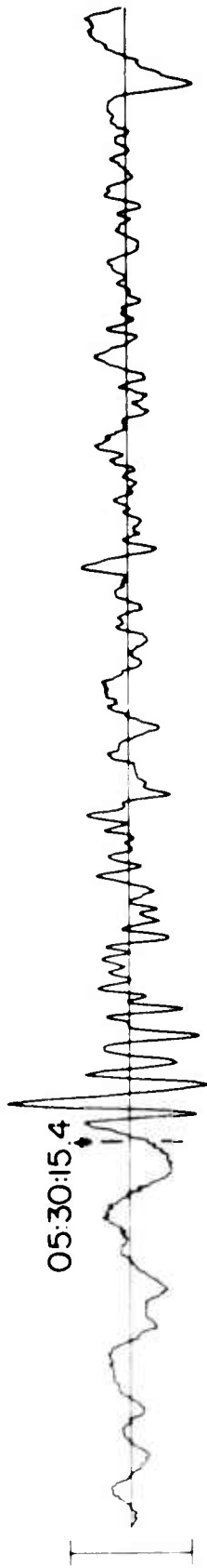


TIME

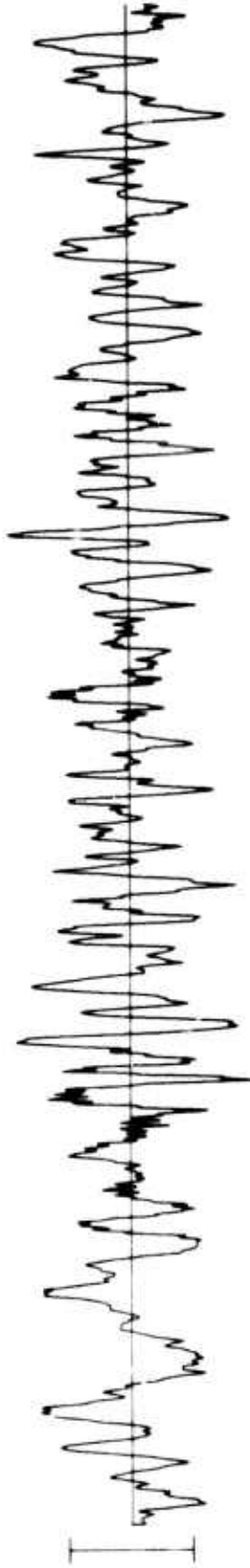


CPSO 25 DEC 75

SPZ
54.88 MU



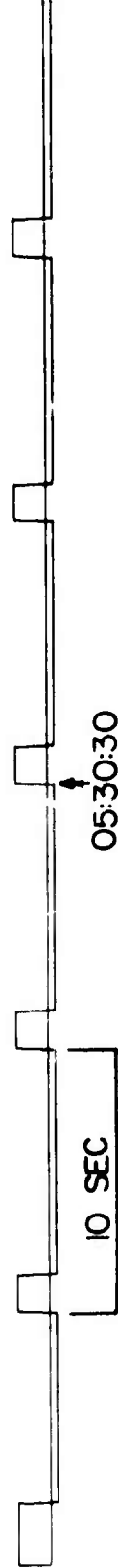
SPR
12.64 MU



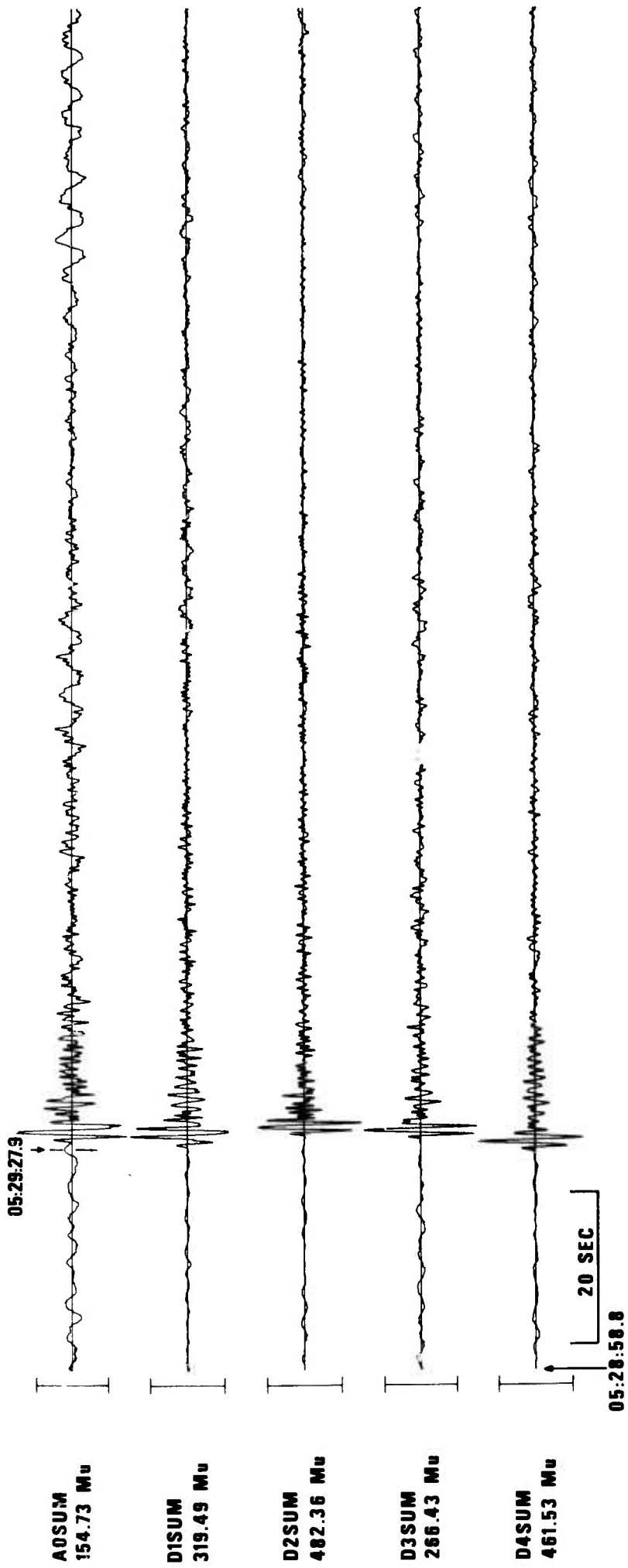
SPT
10.18 MU



TIME



LASA INFINITE VELOCITY SUBARRAY SUMS 25 DEC 75



RK-ON 25 DEC 75

ICELAND EVENT
060749

LPZ
1024.37 MU



LPR
616.27 MU



LPT
473.61 MU



TIME



HN-ME 25 DEC 75

ICELAND EVENT
06:02:55

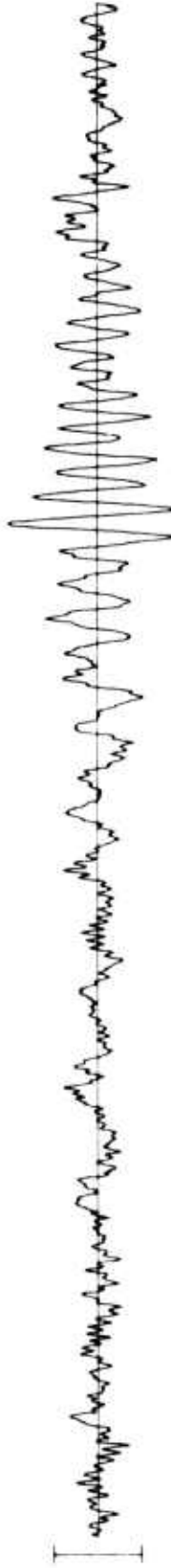
L PZ
353.35 MU



L PR
612.69 MU



L PT
320.11 MU



TIME



2 MIN

06:00:00

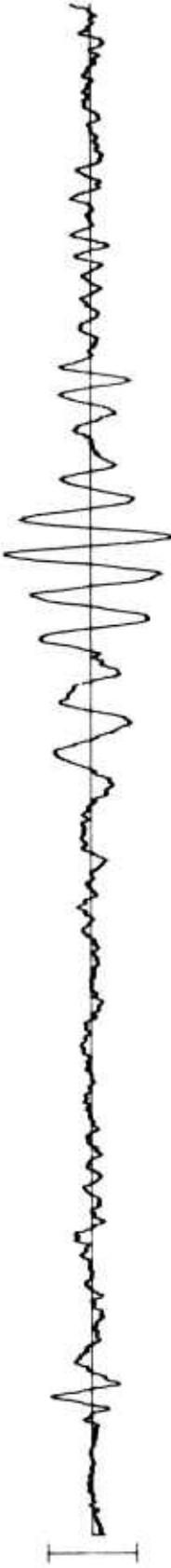
FN-WV 25 DEC 75

ICELAND EVENT
06:08:48

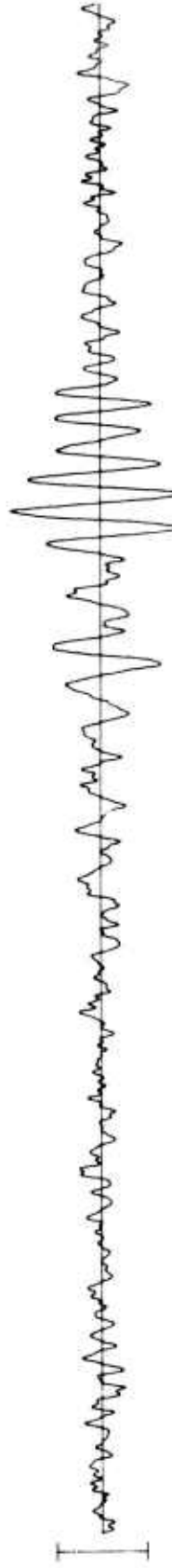
LPZ
402.14 MU



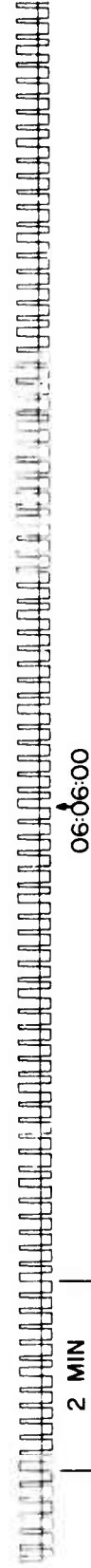
LPR
375.50 MU



LPT
304.76 MU



TIME



CPSO 25 DEC 75

ICELAND EVENT
06:12:30

LPZ
962.79 MU



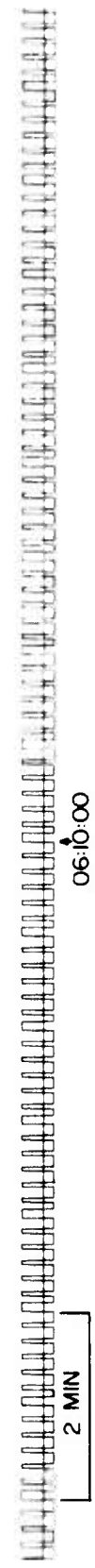
LPR
857.14 MU



LPT
526.53 MU



TIME



ALPA LONG PERIOD VERTICAL BEAM 25 DEC 75

LP VERTICAL
53.23 Mu

05:54:49

