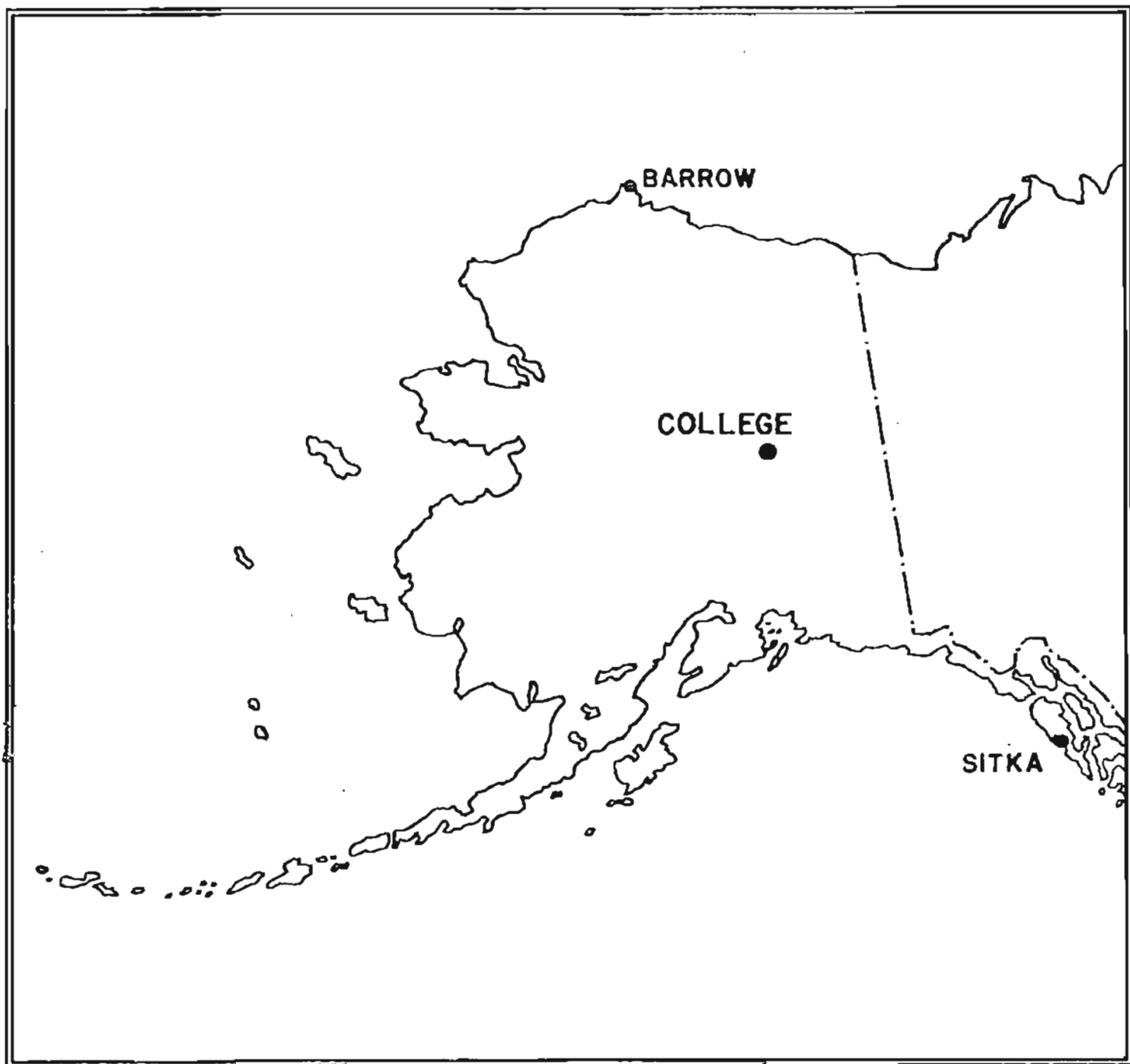


UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

FEBRUARY 1984

OPEN FILE REPORT 84-0300B



THIS REPORT WAS PREPARED UNDER THE DIRECTION OF JOHN B. TOWNSHEND, CHIEF OF THE COLLEGE OBSERVATORY, WITH THE ASSISTANCE OF THE OBSERVATORY STAFF MEMBERS: J.E. PAPP, E.A. SAUTER, L.Y. TORRENCE, P.A. FRANKLIN AND IN COOPERATION WITH THE GEOPHYSICAL INSTITUTE OF THE UNIVERSITY OF ALASKA. THE COLLEGE OBSERVATORY IS A PART OF THE BRANCH OF GLOBAL SEISMOLOGY AND GEOMAGNETISM OF THE U.S. GEOLOGICAL SURVEY.

Explanation of Data and Reports

Magnetic Activity Report

Outstanding Magnetic Effects

Principal Magnetic Storms

Preliminary Calibration Data and Monthly Mean Absolute Values

Magnetogram Hourly Scalings

Sample Format for Normal and Storm Magnetograms

Normal Magnetograms

Storm Magnetograms (When Normal is too disturbed to read)

COLLEGE OBSERVATORY PRELIMINARY GEOMAGNETIC DATA

EXPLANATION OF DATA AND REPORTS

INTRODUCTION

The preliminary geomagnetic data included here is made available to scientific personnel and organizations as part of a cooperative effort and on a data exchange basis because of the early need by some users. To avoid delay, all of the data is copied from original forms processed at the observatory; therefore it should be regarded as preliminary. Inquiries about this report or about the College Observatory should be addressed to:

Chief, College Observatory
U.S. Geological Survey
800 Yukon Drive
Fairbanks, Alaska 99701

Requests for copies of the magnetograms except for the current month should be addressed to:

World Data Center A
NOAA D63, 325 Broadway
Boulder, Colorado 80303

OBSERVATORY LOCATION

The College Observatory, operated by the U.S. Geological Survey, is located at the University of Alaska, Fairbanks, Alaska. It is near the Auroral Zone and the northern limit of the world's greatest earthquake belt, the circum-Pacific Seismic belt. Although the observatory's basic operation is in geomagnetism and seismology, it cooperates with other scientists and organizations in areas where the facility and personnel can be of service.

The observatory is one of three operated by the USGS in Alaska. The others are located at Barrow and Sitka.

The position of the observatory site is:

Geographic latitude..... $64^{\circ}51.6'N$
Geographic longitude..... $147^{\circ}50.2'W$
Geomagnetic latitude..... 64.6°
Geomagnetic longitude..... 256.5°
Elevation.....200 meters

GEOMAGNETIC DATA

Normal, Storm and Rapid Run magnetograms and appropriate calibration data are processed daily at the observatory and are available for analysis or copying. Also available, are mean hourly scalings, K-Indices, selected magnetic phenomena reports and on a real-time basis are recordings from a 3-component fluxgate magnetometer and F-component proton magnetometer.

Magnetic Activity

The K-Index: The K-Index is a logarithmic measurement of the range of the most disturbed component (D or H) of the geomagnetic field for eight intervals beginning 0000-0300, 0300-0600...2100-2400 UT. It is a measure of the difference between the highest and lowest deviation from a smooth curve to be expected for a component on a magnetically quiet day, within a three hour interval.

The Equivalent Daily Amplitude, AK: The K-Index is converted into an equivalent range, ak, which is near the center of the limiting gamma ranges for a given K. The average of the eight values is called equivalent daily amplitude AK. The unit 10γ has been chosen so as not to give the illusion of an accuracy not justified.

The schedule for converting gamma range to K, and K to ak is as follows:

Gamma Range	K - Index	ak
0 < 25	0	0
25 < 50	1	3
50 < 100	2	7
100 < 200	3	15
200 < 350	4	27
350 < 600	5	48
600 < 1000	6	80
1000 < 1650	7	140
1650 < 2500	8	240
2500+	9	400 (10γ)

The Magnetic Daily Character Figure, C: To each Universal day a character is assigned on the basis C=0, if it is quiet; C=1, if it is moderately disturbed; C=2, if it is greatly disturbed. The method used to assign characters at the College Observatory is based on AK as follows:

AK Range	C
0-11	0
11-50	1
50+	2

Routine assignment of C was discontinued at College on January 1, 1976.

Selected Phenomena & Outstanding Magnetic Effects

Prior to January 1, 1976, the Normal and Rapid Run records were reviewed at the observatory for selected magnetic phenomena and the events identified were forwarded to the IUGG Commission on Magnetic Variations and Disturbances. This was discontinued on January 1, 1976, but a report on Outstanding Magnetic Effects is prepared monthly for this report.

Principal Magnetic Storms

Gradual and sudden commencement magnetic disturbances with at least one K-Index of 5 or greater, which are believed to be part of a world-wide disturbance, are classified as principal magnetic storms. The time of the storm beginning and ending; direction and amplitude of sudden commencements; period of maximum activity; and storm range are reported. Monthly reports of these data are forwarded to the World Data Center A in Boulder, Colorado.

Magnetogram Hourly Scalings

Magnetogram hourly scalings are averages for successive periods of one hour for the D, H and Z elements. The Value in the column headed "01" is the average for the hour beginning 0000 and ending 0100. Note that the values on the scaling sheets are in tenths of mm with the decimal point omitted. The user of these scalings should keep in mind that the tabular values are hourly means and if he is interested in the detailed morphology of the magnetic field, he should refer directly to the magnetograms.

Magnetograms

The normal magnetograms in this report are reproduced at about one-third the size of the originals. Preliminary base-line values and scale values adopted for use with the original magnetograms are included. For days when the magnetic field is too disturbed for the Normal magnetogram to be readable, Storm magnetograms are reproduced.

Absolutes, Base-lines and Scale Values

To determine the absolute value of the magnetic field from the hourly means or from point scalings the following equations should be used:

$$D = B_D + d \cdot S_D; H = B_H + h \cdot S_H; Z = B_Z + z \cdot S_Z$$

where D, H and Z are absolute values;

B_D , B_H and B_Z are base-line values;

S_D , S_H and S_Z are scale values;

and d, h and z are scalings in millimeters.

COLLEGE, ALASKA

MAGNETIC ACTIVITY

(Greenwich civil time, counted from midnight to midnight)

MONTH AND YEAR

FEBRUARY 1984

DATE	K-INDICES								AK	TIME SCALE ON MAGNETOGRAMS
	00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24		
								SUM		20 mm/hr
1	3	3	5	6	2	2	3	1	25	24
2	1	1	2	2	4	4	4	4	22	16
3	5	2	2	1	1	3	3	4	21	16
4	3	4	6	5	6	6	5	5	40	53
5	3	3	4	6	5	4	1	0	26	27
6	1	1	0	3	4	2	3	3	17	11
7	2	2	3	4	4	2	1	1	19	12
8	2	1	4	4	3	1	1	1	17	11
9	2	2	2	3	4	3	1	1	18	11
10	1	1	2	6	5	6	5	3	29	36
11	5	3	3	4	4	3	2	1	25	20
12	1	1	2	1	2	3	1	3	14	07
13	4	3	4	6	6	5	5	2	35	42
14	5	5	5	6	7	6	3	4	41	61
15	4	4	4	6	2	1	0	1	22	22
16	2	2	1	2	4	1	2	1	15	08
17	1	2	2	4	3	2	1	1	16	09
18	3	4	4	6	6	5	3	1	32	37
19	1	0	1	2	4	5	3	1	17	13
20	1	1	2	1	0	3	2	3	13	07
21	3	3	3	4	5	5	2	2	27	23
22	2	2	2	2	4	3	2	1	18	10
23	1	2	4	4	6	3	2	1	23	21
24	2	1	1	6	1	3	3	1	18	16
25	2	0	2	6	2	0	1	2	15	14
26	0	0	2	5	5	5	4	3	24	24
27	3	3	6	6	4	3	3	4	32	34
28	3	2	5	3	5	4	1	1	24	21
29	0	1	4	5	4	4	2	0	20	17
30										
31										

POSSIBLE SOLAR-FLARE
EFFECTS BASED ON
INSPECTION OF GRAMS
ALONE (WITHOUT
REFERENCE TO DATA
FROM OTHER SOURCES)

BEGIN

END

d h m

d h m

K SCALE USED:

LOWER LIMIT FOR K = 9.....

CURRENT SCALE VALUE.....

LOWER LIMIT FOR K = 9.....

D

675.7

H

322.2

Z

3.72

7.76

2510

2500

(mm)

(γ/mm)

(to nearest 10γ)

SCALINGS AND COMPUTATIONS HAVE BEEN CHECKED.

APPROVED

JOHN B. TOWNSEND, CHIEF, COLLEGE OBSERVATORY

OBSERVER IN CHARGE

OUTSTANDING MAGNETIC EFFECTS			OBSERVATORY COLLEGE, ALASKA	
			MONTH FEBRUARY	YEAR 1984
DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS	
16	08xx	pi 2		
19	08xx	pi 2	with bay	
20	16xx	pc5		
IDENTIFIED BY: JEP VERIFIED BY: JBT				

1. NATURE OF PHENOMENON: ssc, ssc*, si, si*, b, bp, bs, bps, pcl, pc2 - - - pc5, pg, pi 1, pi 2, sfe.

PRINCIPAL MAGNETIC STORMS

Data from Individual Observatories: COLLEGE OBSERVATORY, COLLEGE, ALASKA
February 1984WDC-A FOR SOLAR-TERRRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80301 U.S.A.

Obs. 2 letter IAGA code	Geomag. lat.	Commencement			SC - amplitudes			Max. 3 hr - index K			Ranges			UT End	
		day	hr min (UT)	type	D(')	H(γ)	Z(γ)	day	(3 hr - period)	K	D(')	H(γ)	Z(γ)	day	hr
CO	64°6 N	03	15xx	..	..	..	..	04 05	3, 5, 6 4	6 6	191	1440	980	05	16
		12	14xx	..	..	..	..	14	5	7	217	1670	970	15	13

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 2-1-84	2400 U.T., 2-29-84	1.0/mm	3.78/mm	27° 16.9 E
H	0000 U.T., 2-1-84	2400 U.T., 2-29-84	7.8 x/mm		126578
Z	0000 U.T., 2-1-84	2400 U.T., 2-29-84	7.6 x/mm		551838

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 2-1-84	2400 U.T., 2-29-84	7.9/mm	29.6 x/mm	24° 24.6 E
H	0000 U.T., 2-1-84	2400 U.T., 2-29-84	43.9 x/mm		107708
Z	0000 U.T., 2-1-84	2400 U.T., 2-29-84	48.0 x/mm		540928

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H				
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
27° 48.4 E	129298	553668

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED:

FEB

6

7

8

9

12

16

17

19

20

22

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)

U.S. DEPARTMENT OF JUSTICE
Sociological Survey, Sampling Division
Quantitative Research Center
BETHESDA, MD 20814

DAY.	YEAR	MONTH	ELE- MENT
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Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (50 M.T.) is hour 11 of the 8858 universal day. Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

C	Q	M	T	Q	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	SUM	
				01	319	349	308	313	320	324	350	326	320	202	272	261	01	354	353	323	317	333	357	341	352	328	327	329	314	7692
				02	320	327	328	318	317	315	307	303	341	344	367	326	02	326	324	383	427	420	373	374	232	96	346	171	241	7626
				03	258	291	272	327	328	324	318	324	340	324	320	317	03	321	327	324	321	330	308	282	260	190	241	275	300	7222
				04	240	207	242	212	167	206	247	220	365	227	274	247	04	585	517	365	490	672	584	585	394	372	246	208	290	8132
				05	280	235	246	216	220	302	285	292	273	323	363	323	05	338	376	350	304	326	344	370	374	349	332	321	314	7456
				06	282	300	303	280	281	282	309	311	327	352	282	333	06	352	343	391	368	377	417	392	278	279	289	267	220	7615
				07	245	258	292	296	294	290	278	298	334	260	285	292	07	372	352	323	329	340	331	337	336	331	315	308	242	7338
				08	264	296	306	318	309	311	306	274	218	322	307	180	08	364	357	369	341	358	358	372	391	344	322	280	234	7501
				09	244	267	291	297	274	280	268	305	324	322	363	382	09	352	328	349	348	345	410	400	347	348	307	296	272	7719
				10	272	284	317	321	290	302	298	298	306	264	361	239	10	504	502	723	566	451	784	509	272	279	210	238	209	8769
				11	244	247	275	238	232	268	252	248	270	234	280	302	11	359	417	433	350	390	401	360	330	301	270	296	274	7271
				12	292	293	301	308	305	300	274	361	305	320	322	327	12	352	342	387	412	448	371	390	378	408	379	230	223	8018
				13	195	200	293	270	277	256	254	240	280	412	587	317	13	468	484	528	614	682	531	865	176	248	246	264	303	8490
				14	305	291	298	299	263	284	317	328	333	261	316	674	14	595	589	510	618	436	323	390	408	344	282	286	301	9001
				15	220	241	260	229	257	340	274	362	358	292	523	531	15	308	313	324	331	321	336	330	332	312	311	299	289	7703
				16	293	278	286	289	300	306	312	311	310	308	311	324	16	338	262	310	325	297	322	311	320	324	328	314	290	7369
				17	289	276	297	298	254	315	343	307	321	328	316	415	17	322	306	308	296	314	341	362	345	321	318	305	322	7619
				18	293	233	267	267	272	306	336	334	300	421	220	281	18	331	383	254	542	359	347	338	332	294	312	314	309	7645
				19	305	303	301	302	303	302	306	305	310	381	331	314	19	325	332	411	352	364	374	312	299	340	326	308	296	7802
				20	284	297	304	306	311	309	299	316	338	303	318	323	20	317	326	331	332	353	378	411	421	413	360	311	284	7945
				21	289	305	255	254	248	201	213	270	341	301	282	314	21	372	387	430	394	390	346	365	388	379	355	266	262	7487
				22	287	280	264	266	249	220	289	277	317	297	322	284	22	361	323	312	321	342	355	382	378	328	298	278	290	7320
				23	288	288	283	266	263	246	287	252	256	211	300	311	23	361	602	353	361	317	358	373	351	345	334	307	302	7615
				24	288	292	283	293	307	307	317	308	307	302	346	456	24	337	327	326	317	304	351	335	314	330	284	272	284	7587
				25	302	297	311	309	313	313	307	320	320	332	411	342	25	350	338	338	331	337	348	353	350	352	355	287	290	7906
				26	300	296	303	303	303	297	300	283	307	310	300	326	26	468	473	578	570	570	507	359	329	286	304	234	237	8543
				27	283	256	248	302	274	311	183	296	244	125	367	362	27	466	395	338	297	334	316	343	274	326	220	261	307	7128
				28	306	318	307	303	283	280	287	304	146	830	372	353	28	370	464	427	509	360	333	334	319	303	304	301	306	7919
				29	305	300	297	294	299	300	294	229	202	154	238	244	29	410	383	543	546	418	393	414	370	318	290	276	276	7793
				30													30													
				31													31													

SCALED
BY

LYT

CHECKED BY

JEP EAS

BYRON A. E.
1928-1930

JEP

РУССКОЕ

Preliminary baseline and scale values:

De jure

Base-line
Value

Scale Value

{ } interpolated

[] Significant portion of
being interpolated.

☐ No record; or no values available because of faulty record.

* Derived from STORM Heph., converted to Normal Heph.

☐ Scaling, uncerain because of magnetic storm.

<> Record off sheet for part
at all of hour; if value in
given, curve was estimated
for missing part.

MONTHLY SUM	225231
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MONTHLY WEAR	324
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DATE OF REPORT:

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U.S. DEPARTMENT OF COMMERCE
Geological Survey, Washington
Bureau of Earthquake
Seismology, 3000
SWANSON, CA 94325

OBSERV. YEAR MONTH ELEMENT

CO 84 FEB 2

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150 M.T.) is hour 21 of the 8480 universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

C	Q	W	T	0	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	SUM		
					01	291	299	272	293	276	272	283	291	163*	99*	77	129	01	192	210	221	233	244	237	261	237	244	250	248	247	5559
					02	256	256	256	249	247	246	249	256	264	264	256	236	02	127	60	95	58	108	90	118	158	124	285	362	305	4925
					03	313	284	304	291	270	270	265	272	268	252	251	250	03	249	244	234	226	204	221	220	203	189	206	250	290	6026
					04	239	283	324	235	74	-114	-124	29	99	233	261	314	04	683	730	837	882	246	33	44	5	124	212	209	276	6104
					05	294	277	272	278	320	334	287	290	241	354	430	342	05	399	250	220	188	241	278	280	274	265	263	260	267	6904
					06	270	276	277	270	276	283	293	290	282	268	168	212	06	212	245	181	180	231	238	216	112	72	165	214	252	5483
					07	264	270	279	289	281	284	286	287	266	138	255	281	07	295	201	252	259	249	255	248	255	250	242	246	241	6173
					08	277	289	277	266	260	257	266	270	276	342	298	245	08	223	260	196	216	259	262	256	243	222	208	209	220	6097
					09	245	266	282	275	268	269	288	349	302	278	229	221	09	212	218	233	208	231	258	240	236	242	227	237	243	6077
					10	256	257	267	263	254	264	259	283	303	282	73	-38	10	100	97	-12	-147	-72	29	22	44	88	143	235	258	3508
					11	288	255	234	247	279	298	287	198	202	170	225	213	11	248	356	264	190	237	237	234	203	208	206	225	245	5749
					12	248	266	263	262	267	268	279	310	288	293	277	266	12	271	259	190	183	187	213	243	242	227	205	146	159	5812
					13	244	290	257	250	249	246	226	274	292	184	-23	143	13	143	372	411	346	220	-16	99	126	190	215	247	277	5256
					14	306	306	256	77	181	125	118	332	286	219	370	658	14	385	309	293	563	195	212	249	245	213	205	224	262	6589
					15	304	351	287	296	317	249	161	303	247	206	246	-28	15	171	240	253	250	250	256	254	248	247	244	245	254	5850
					16	269	273	279	287	276	279	272	267	269	246	212	203	16	168	120	200	200	213	236	236	211	232	243	244	246	5681
					17	256	256	260	255	273	330	316	278	263	247	95	88	17	167	220	232	227	228	246	246	237	244	246	248	253	5711
					18	247	287	299	336	312	335	308	310	283	194	19	164	18	215	298	142	-16	61	176	223	207	220	237	246	249	5352
					19	255	255	254	253	256	256	257	263	280	277	235	245	19	229	156	99	126	163	200	191	224	236	243	250	254	5457
					20	253	257	256	253	250	247	253	298	285	253	246	235	20	245	240	235	227	214	227	230	227	218	230	221	255	5855
					21	278	273	276	253	310	282	356	368	327	209	187	174	21	165	209	259	104	186	232	247	253	236	217	201	232	5834
					22	263	258	251	260	273	293	313	295	299	280	265	260	22	256	183	199	233	223	288	216	233	208	196	205	223	5973
					23	243	253	250	256	257	274	286	254	230	131	247	253	23	363	377	102	164	207	242	233	213	211	224	234	247	5761
					24	256	266	257	263	253	257	253	249	267	254	238	111	24	143	223	238	234	216	186	206	205	219	227	236	250	5507
					25	256	271	249	250	245	246	247	253	266	224	33	157	25	171	223	219	240	245	244	244	243	238	253	244	240	5501
					26	247	253	254	253	250	254	280	295	288	248	227	123	26	128	163	230	294	192	256	140	160	207	253	239	254	5488
					27	254	246	270	283	270	264	182	154	180	321	254	225	27	187	275	190	203	230	233	232	208	211	246	223	226	5567
					28	239	254	258	263	267	273	276	264	104	222	227	224	28	240	348	170	136	173	180	216	230	240	240	243	247	5534
					29	249	248	247	244	246	247	246	257	155	247	240	305	29	208	284	284	221	212	129	172	201	216	233	243	250	5584
					30													30													
					31													31													

SCALED BY

LYT

Preliminary base-line and scale values:

CHECKED BY

JEP, EAS

Interval

Base-line

Scale

SIGNS RE-

VIEWED BY

JEP

Beginning

Value

Value

PUNCHED BY

() Interpolated

[] Significant portion of hour interpolated.

[] No record; or no values available because of faulty record.

[] Scaling uncertain because of magnetic storm.

[] Record off sheet for part or all of hour; if value is given, error was estimated for missing part.

* Derived from STORM Magph., converted to Normal Magph.

MONTHLY SUM

167907

MONTHLY MEAN

241

DATES WITH GAPS:

MAGNETOGRAM HOURLY SCALINGS

(UNIVERSAL TIME)

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150 M.T.) is hour 11 of the universal day.

Shrinkage corrections have been applied. Negative values are in red, with minus signs above.

C. Q. of Tm		H. L. DEPARTMENT OF AGRICULTURE Geological Survey Bureau of Meteorology Washington, D. C. 20540																								OBS. YR.		YEAR		MONTH		DAY	
01		02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24																								00		84		FEB		H	
01	36.9	36.0	39.6	37.9	39.3	38.0	38.0	43.6	38.2	58	15.0	17.4	01	38.2	34.0	34.3	35.2	35.0	32.1	33.6	35.1	35.7	36.2	36.2	35.5	35.2	79.63						
02	34.9	36.3	36.2	36.0	35.3	35.7	36.8	36.0	37.0	37.2	38.2	33.0	02	7.3	14.5	2.18	2.40	3.20	3.00	98	19.4	2.40	3.28	3.68	4.09	72.59							
03	46.0	55.6	44.0	37.9	34.4	34.0	35.3	38.2	36.7	34.8	34.6	35.1	03	35.0	34.4	33.7	2.93	2.82	3.42	3.12	2.90	2.11	2.48	2.54	33.4	82.63							
04	52.8	50.1	51.0	66.7	72.7	60.3	46.9	62.4	29.8	-53	-89	-21.1	04	-29.0	-19.5	-7.5	-5.7	-2.85	-4.0	-2.16	-9.3	1.79	1.70	8.66	4.11	3.98.9							
05	36.8	35.5	37.8	41.2	48.7	38.8	40.0	41.6	30.6	44	-48	-7.5	05	-1.3	3.5	9.9	30.2	40.4	36.1	34.6	34.2	33.8	34.9	34.4	34.3	6.58.1							
06	35.2	35.1	34.8	36.7	37.2	37.9	37.0	37.0	36.2	38.3	37.6	29.2	06	32.6	28.3	24.8	34.9	37.8	35.6	27.9	20.2	28.9	33.0	30.6	36.9	80.37							
07	34.6	35.6	37.4	40.3	41.4	39.7	40.4	40.3	45.8	40.9	41.2	41.5	07	24.5	34.0	38.1	35.8	34.7	34.8	34.0	34.5	34.3	34.4	33.1	32.9	88.42							
08	37.2	36.2	36.7	35.7	36.4	36.4	36.4	42.0	55.4	42.1	38.7	23.2	08	34.7	32.6	28.6	37.6	36.1	37.2	34.8	33.2	32.2	35.0	34.9	35.2	86.85							
09	34.8	36.5	37.7	38.5	38.7	39.2	44.6	42.8	38.5	39.5	36.0	34.9	09	23.2	36.1	30.8	30.6	39.0	35.2	35.0	35.2	34.0	33.8	34.6	33.8	86.40							
10	35.1	35.8	36.9	35.7	37.0	36.7	37.8	38.9	41.3	43.8	34.4	6.0	10	9.2	2.0	-7.3	3.2	10	-1.98	2.6	9.6	2.93	2.77	2.94	2.94	53.57							
11	38.3	43.2	6.41	43.8	41.8	41.4	53.2	53.4	48.3	38.6	28.6	29.6	11	24.3	11.2	9.8	35.4	36.9	34.8	33.2	32.4	33.3	32.7	34.7	33.1	87.61							
12	34.3	34.8	35.2	35.3	36.7	37.3	38.4	41.3	38.9	37.3	36.2	35.1	12	35.0	33.6	29.0	29.0	31.6	36.7	36.0	35.0	33.7	30.3	27.3	33.7	83.17							
13	25.7	41.5	47.5	43.3	46.9	50.9	62.8	52.2	42.5	33.7	10	-9.7	13	-11.3	-23.3	-9.4	-17.8	-18.0	-6.8	-2.3	2.53	3.77	3.40	3.23	3.50	51.37							
14	43.1	44.5	55.5	75.2	62.1	62.8	69.5	43.7	40.4	39.4	18.9	-35.2	14	-58.9	5.0	16.0	-17.0	12.1	43.9	37.8	34.3	30.3	32.7	34.3	28.0	71.24							
15	32.3	38.4	39.0	41.0	47.5	45.8	48.0	50.7	45.6	35.0	10	6.7	15	39.5	36.8	35.9	34.2	34.9	34.5	33.9	34.9	35.0	35.0	34.1	34.7	85.44							
16	33.0	36.9	36.0	36.2	34.7	35.1	34.7	35.3	36.0	34.5	33.1	30.7	16	23.8	25.0	34.6	34.3	35.9	35.7	32.7	36.1	36.0	35.3	34.9	34.1	81.46							
17	35.0	35.3	34.7	36.3	36.7	38.6	37.8	36.0	34.2	33.5	18.8	22.9	17	37.4	37.8	36.4	34.9	35.3	36.4	35.5	35.5	35.2	34.5	34.0	36.1	82.88							
18	31.9	40.5	40.0	48.3	50.0	49.8	49.3	38.0	36.0	23.8	14.3	32.0	18	31.0	13	-3.5	10.6	31.6	33.6	35.0	30.0	35.1	34.8	34.0	34.0	76.14							
19	34.2	34.9	35.3	35.3	36.0	36.1	35.3	35.5	37.9	35.9	35.6	36.1	19	26.9	26.1	10.4	18.6	36.7	32.5	35.4	36.9	36.2	34.2	34.0	33.7	78.97							
20	33.8	34.9	35.6	35.9	36.0	36.9	37.3	39.7	37.9	36.5	36.0	36.4	20	37.0	36.9	37.0	36.8	38.1	39.7	36.3	39.4	31.3	27.8	28.9	34.1	85.42							
21	39.4	33.9	36.3	42.0	48.5	43.6	50.8	53.2	48.0	41.1	33.4	18.6	21	16.8	15.7	-4.8	10.8	34.9	39.2	37.1	34.7	31.7	29.9	30.9	35.0	80.07							
22	33.9	33.4	34.3	39.6	40.4	43.2	41.6	44.3	43.8	38.8	37.0	34.6	22	22.8	32.7	34.7	34.9	29.2	26.6	34.5	32.9	30.4	33.3	34.0	33.6	84.45							
23	33.7	33.6	33.1	36.9	39.8	42.0	52.3	63.4	61.7	45.6	42.0	40.3	23	10.0	-11.3	2.70	31.9	36.6	38.6	36.3	35.1	35.3	35.7	34.1	33.9	86.76							
24	33.0	32.2	35.3	35.9	36.5	36.2	36.0	36.8	39.1	38.5	24.2	5.7	24	37.2	38.0	36.8	35.7	31.3	30.9	34.1	34.3	34.2	32.1	31.9	32.9	79.82							
25	34.9	35.2	34.9	35.3	35.9	35.9	35.3	35.3	35.3	26.4	5	31.8	25	34.5	35.5	36.1	36.0	35.9	35.9	35.9	35.6	35.4	34.4	32.3	33.0	79.72							
26	33.1	33.8	34.0	34.9	35.3	35.4	37.3	39.2	40.3	36.8	31.0	8.3	26	20.4	11.9	-4	-1.6	8.7	6.2	2.52	3.57	3.62	3.56	31.9	34.3	64.55							
27	34.5	38.0	41.9	40.3	49.0	51.8	56.0	54.5	24.9	17	13.6	22.6	27	17.3	18.4	17.1	34.9	33.1	35.0	32.6	25.6	23.7	30.8	30.8	34.6	76.27							
28	32.6	34.0	35.2	35.9	37.0	36.4	37.4	41.0	20.8	32.3	34.8	32.6	28	27.5	88	7.3	18.3	18.7	34.7	37.0	36.3	36.3	35.3	34.9	34.9	74.00							
29	34.8	34.8	34.6	35.3	36.0	36.3	36.9	41.2	52.1	49.7	41.4	16.1	29	22.4	27.2	2.5	11.0	10.8	26.2	33.3	33.8	34.4	35.6	36.1	36.1	75.86							
30													30																				
31													31																				

SCALED BY: LYT

CHECKED BY: JEP, EAS

MON. REC. VIEWED BY: JEP

PUNCHED BY:

Full-hour base-line and scale values:

Interval	Base-line Value	Scale Value
LYT		
JEP, EAS		
JEP		

(1) Interpolated

(2) Significant portion of hour interpolated.

(3) Significant portion of hour interpolated.

(4) No record or no value available because of faulty record.

(5) Derived from STORM Map, converted to Normal Map.

(6) Scaling corrections because of magnetic storm.

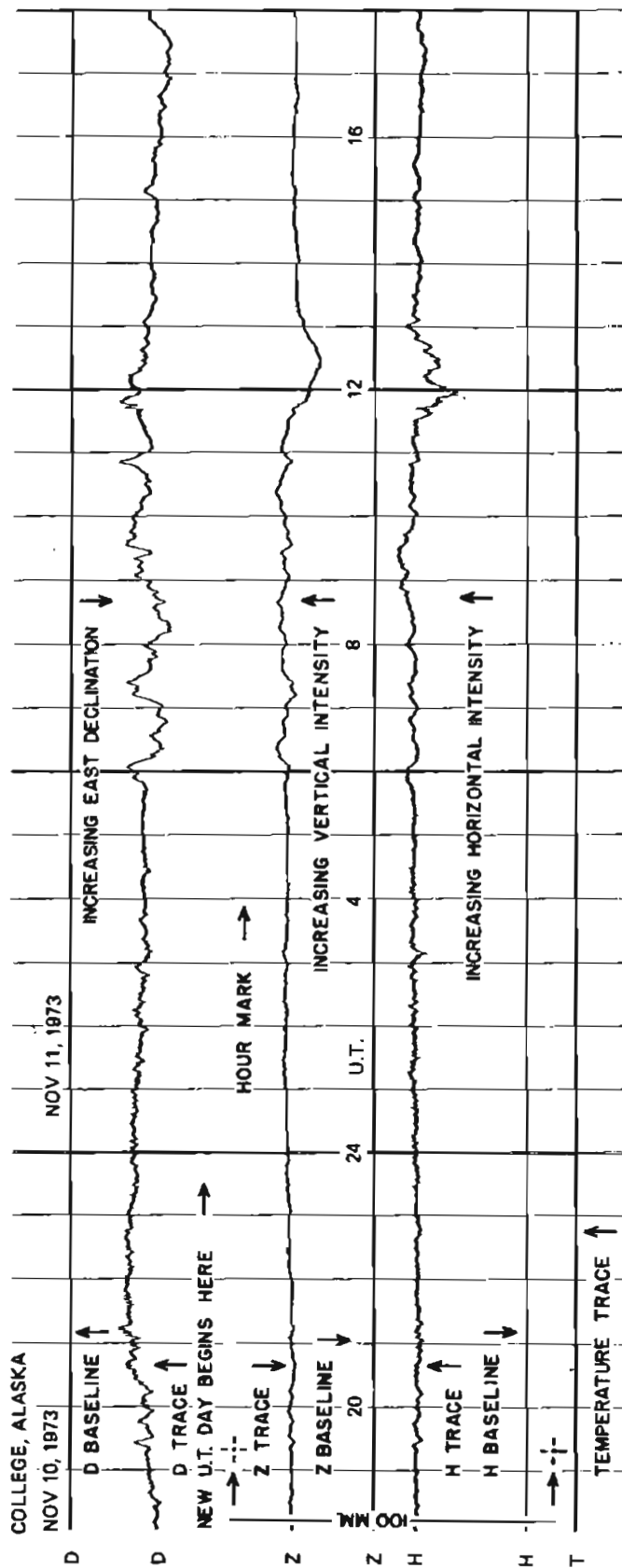
(7) Record off sheet for part or all of hour if value in place, same was estimated for missing part.

MONTHLY MEAN: 122.136

MONTHLY MEAN: 319

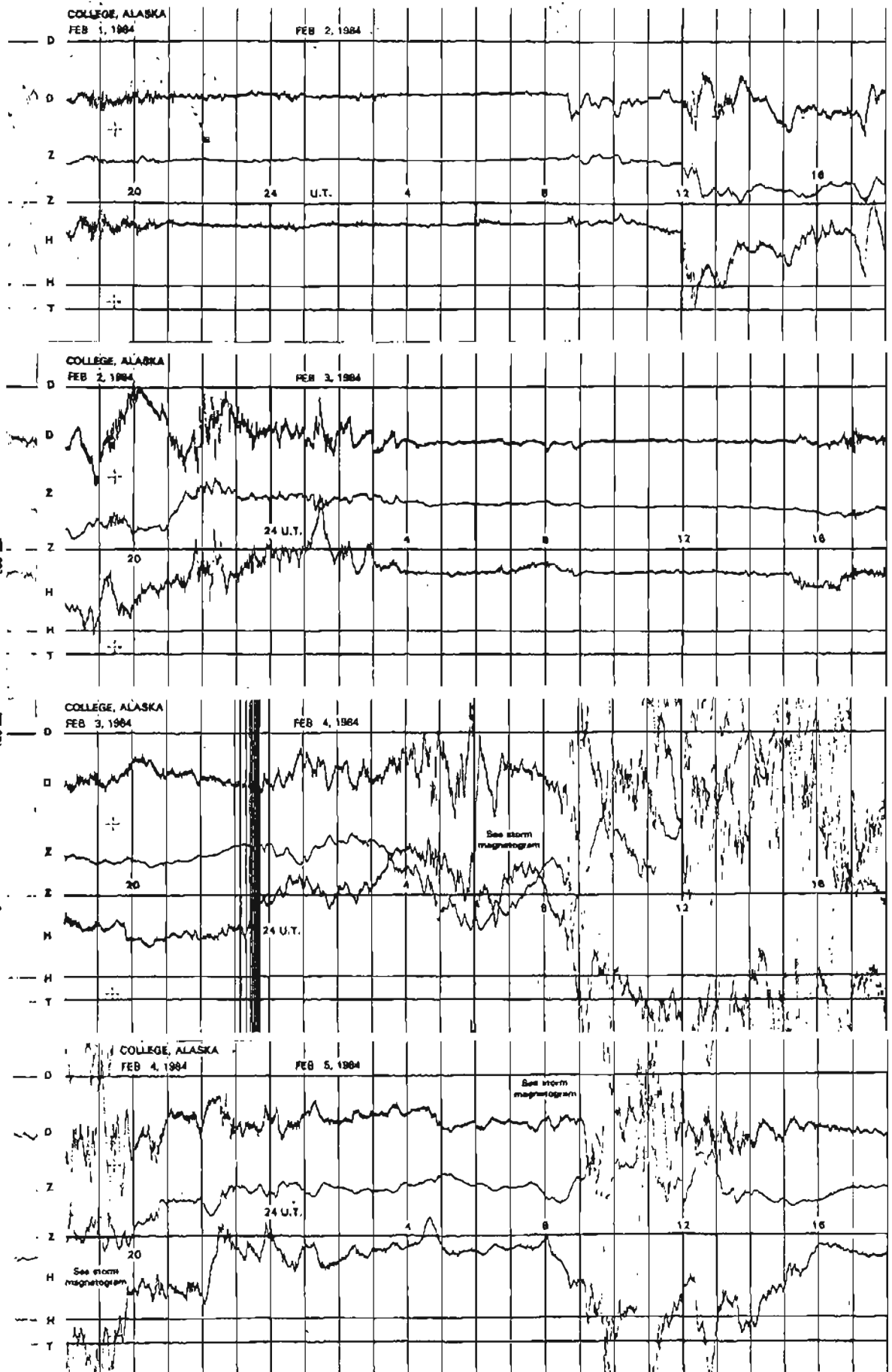
DATES WITH GAPS:

FORMAT FOR NORMAL & STORM MAGNETOGRAMS (SAMPLE ONLY)

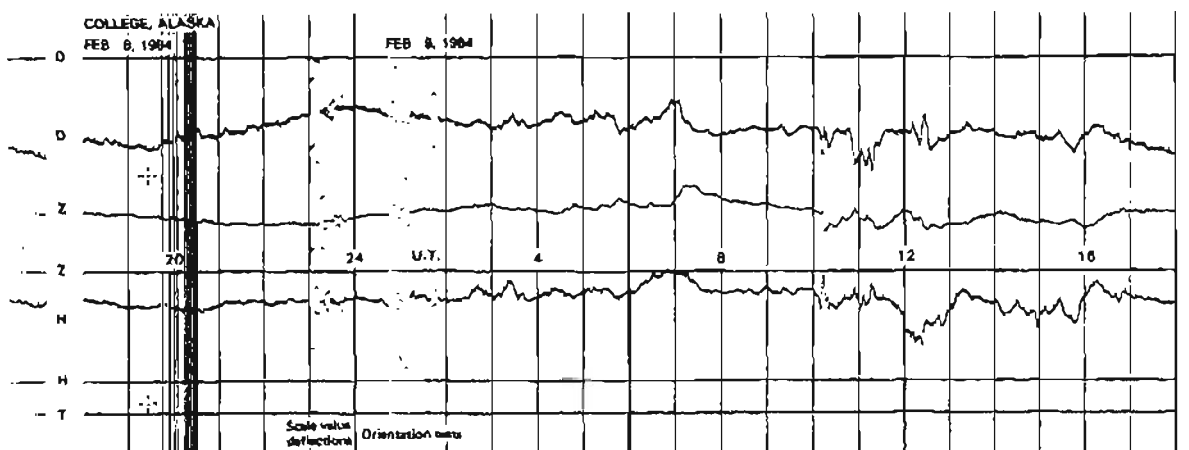
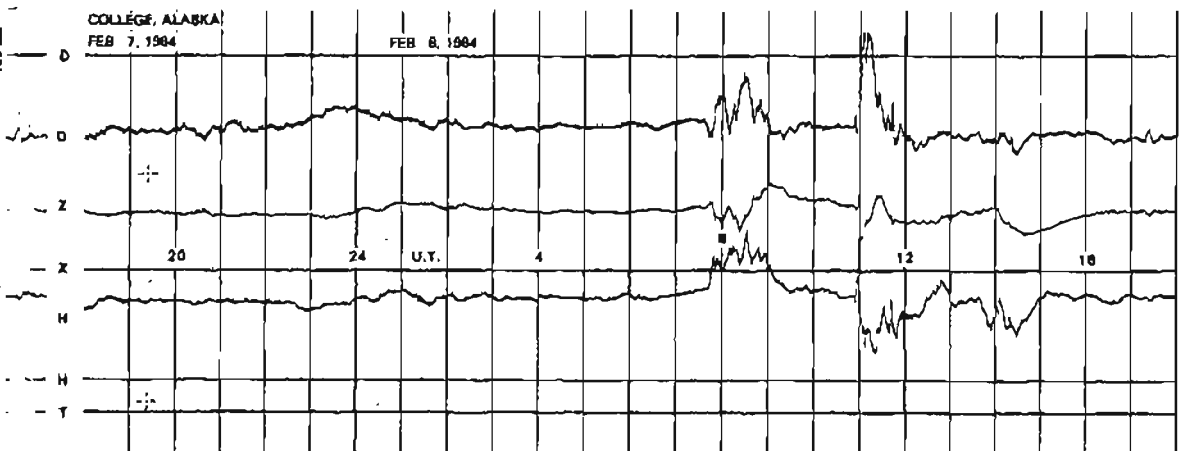
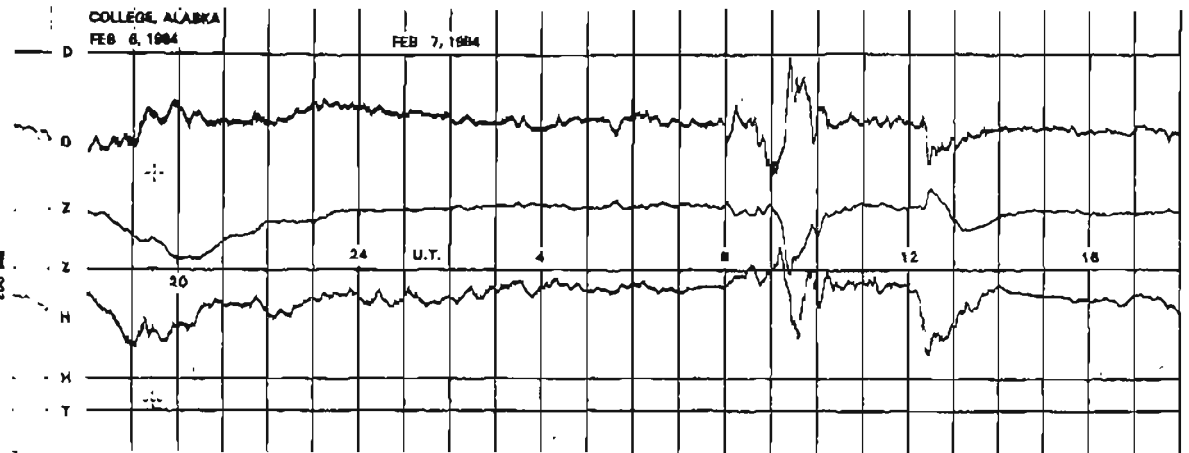
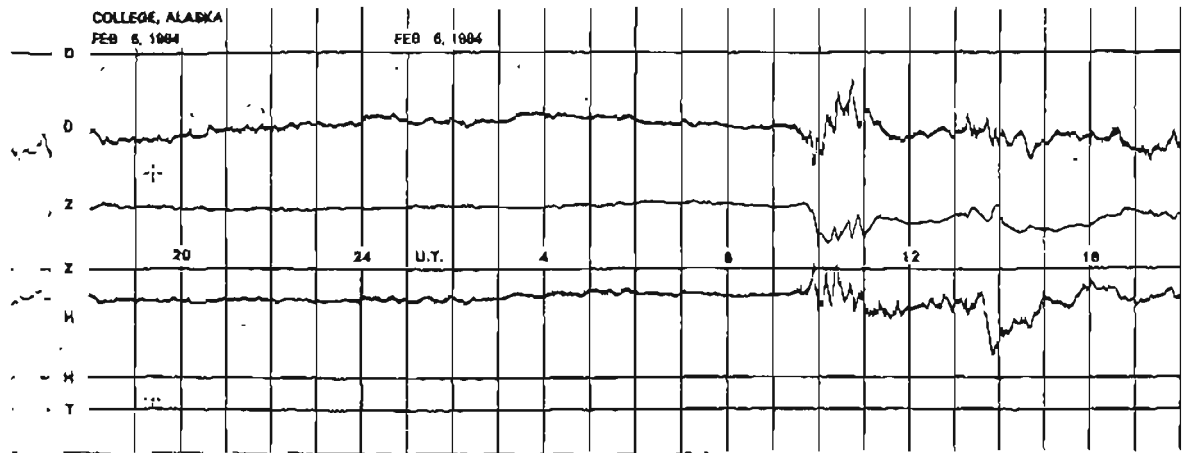


SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

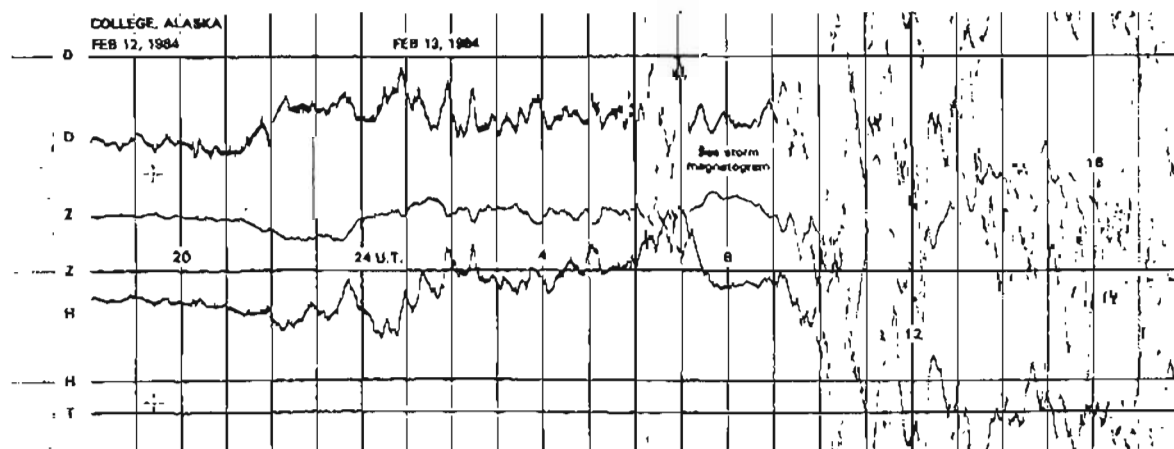
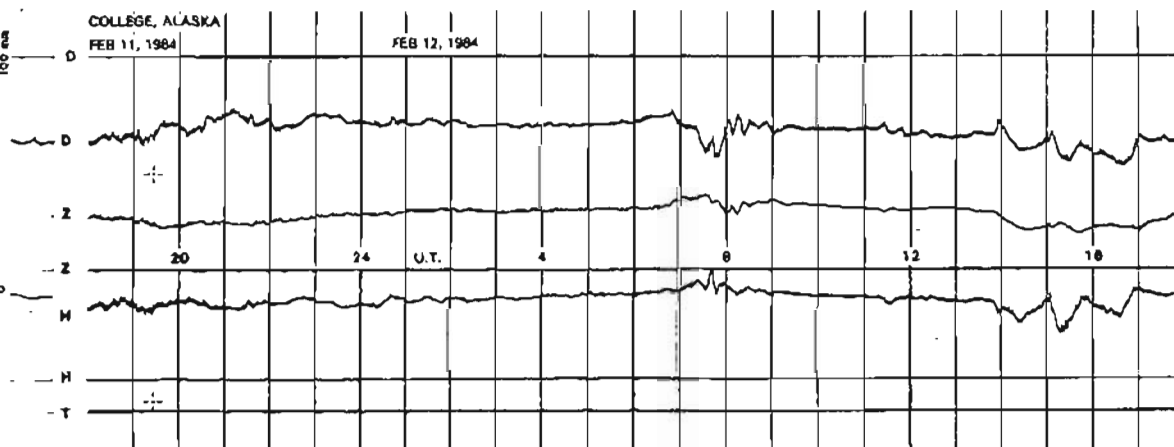
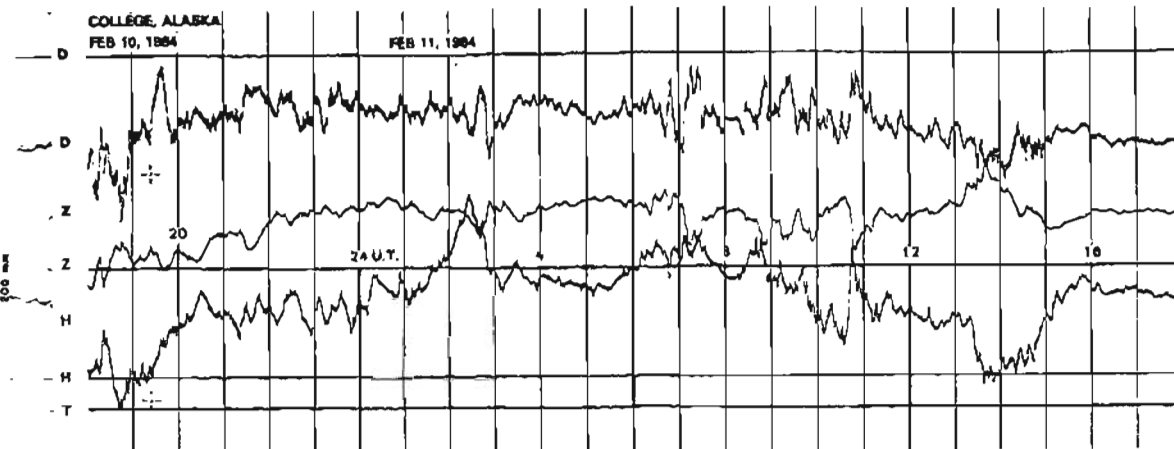
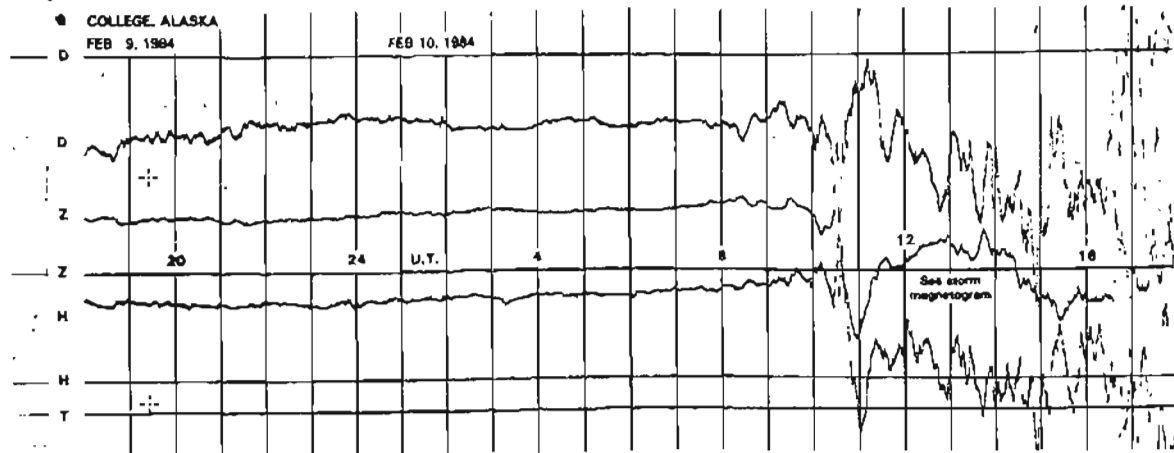
NORMAL MAGNETOGRAMS



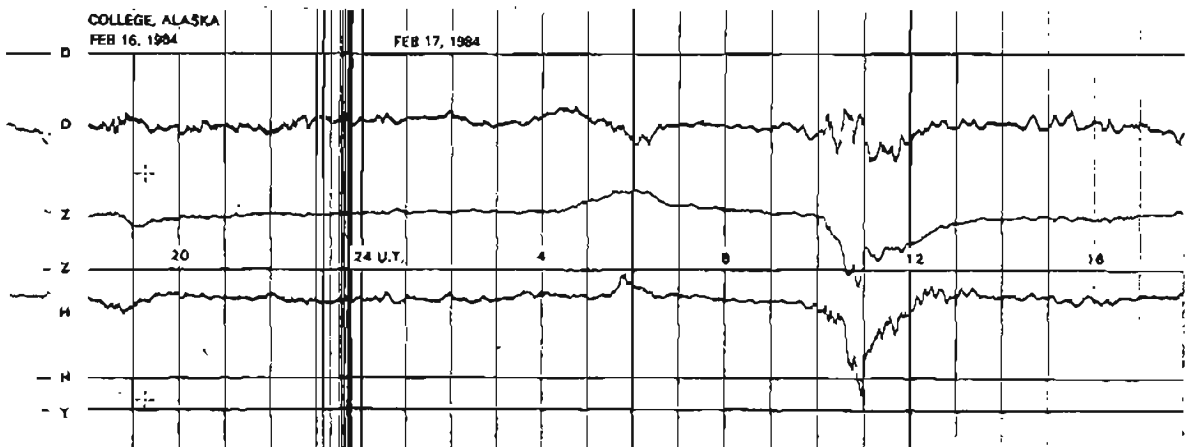
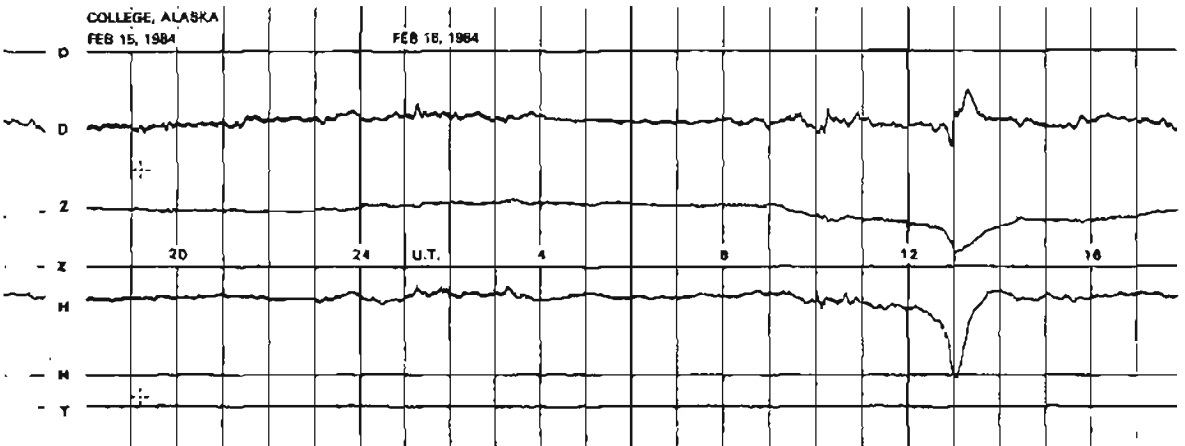
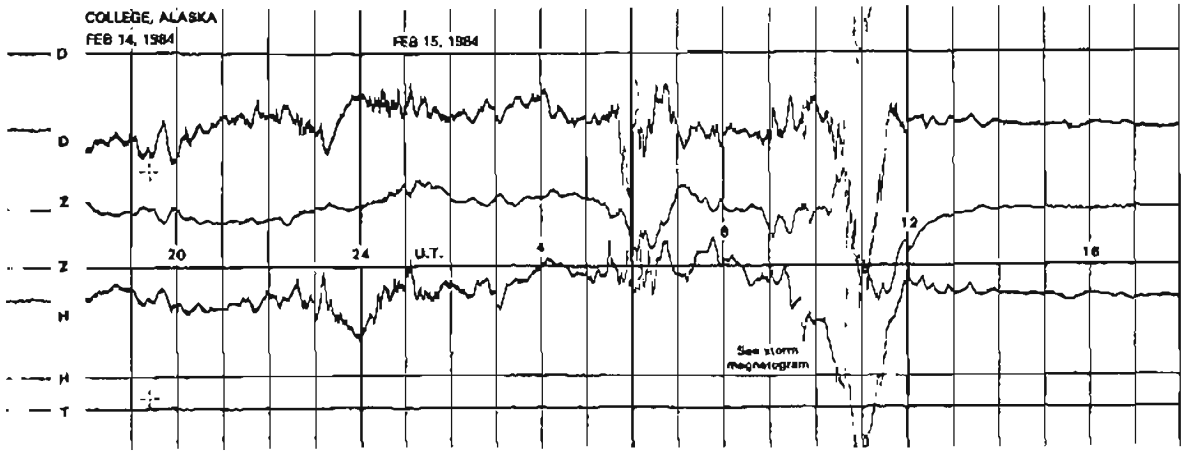
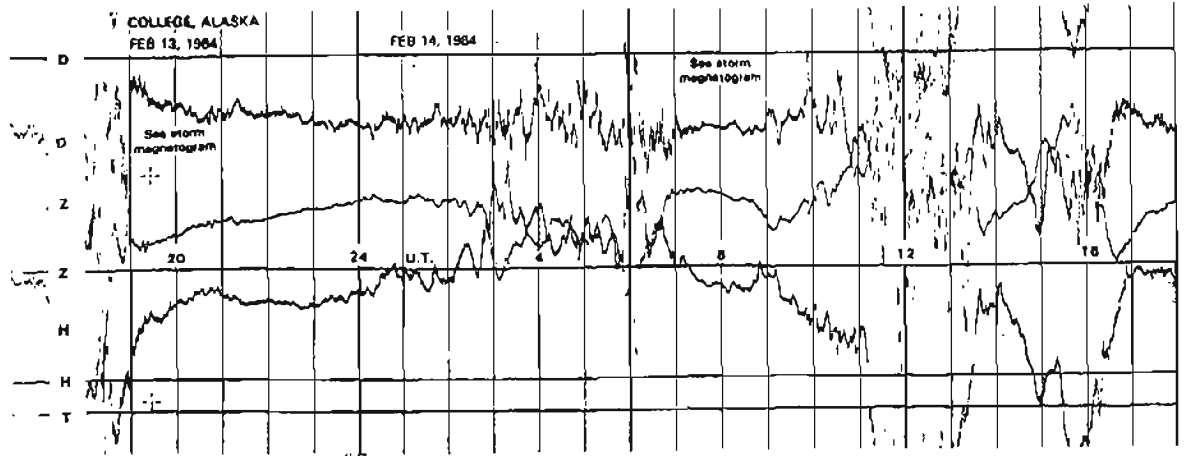
NORMAL MAGNETOGRAMS



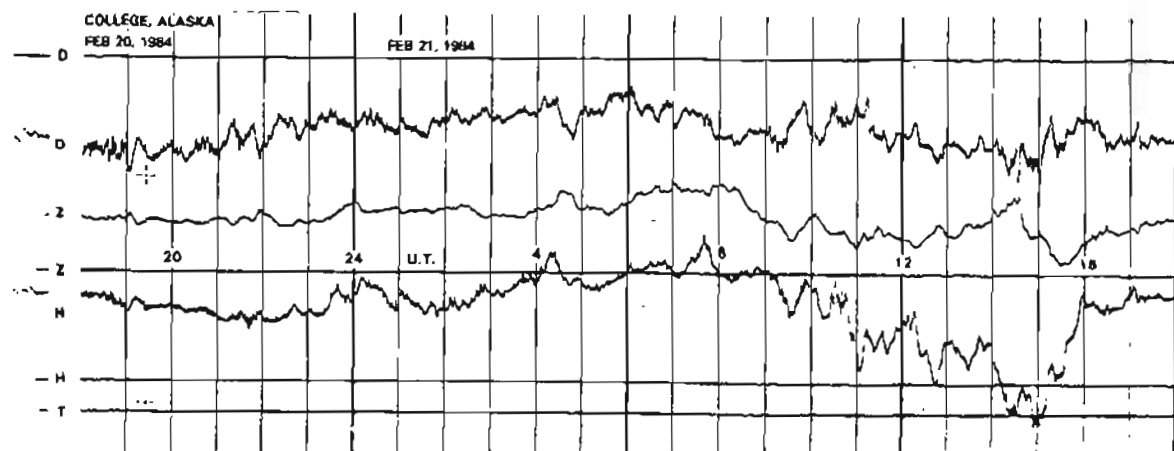
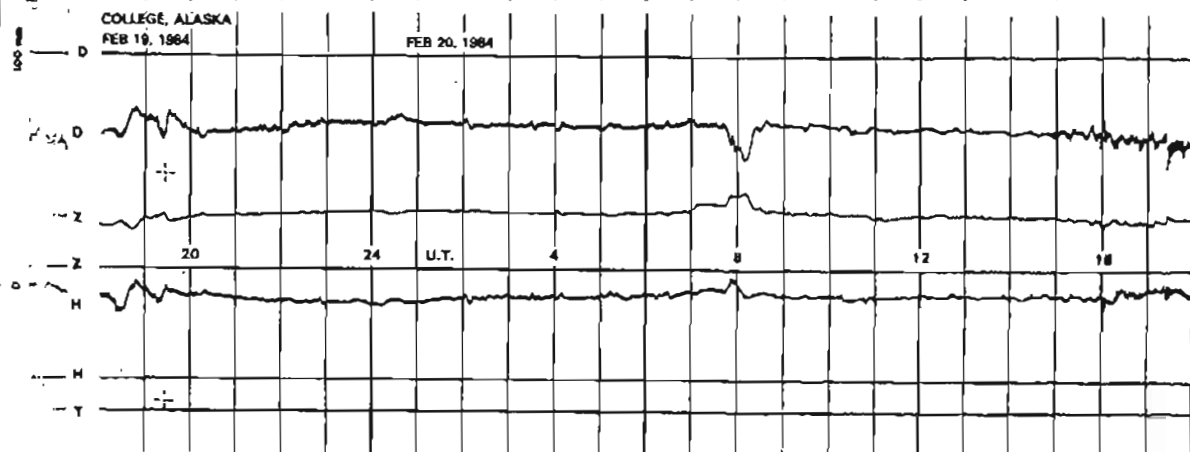
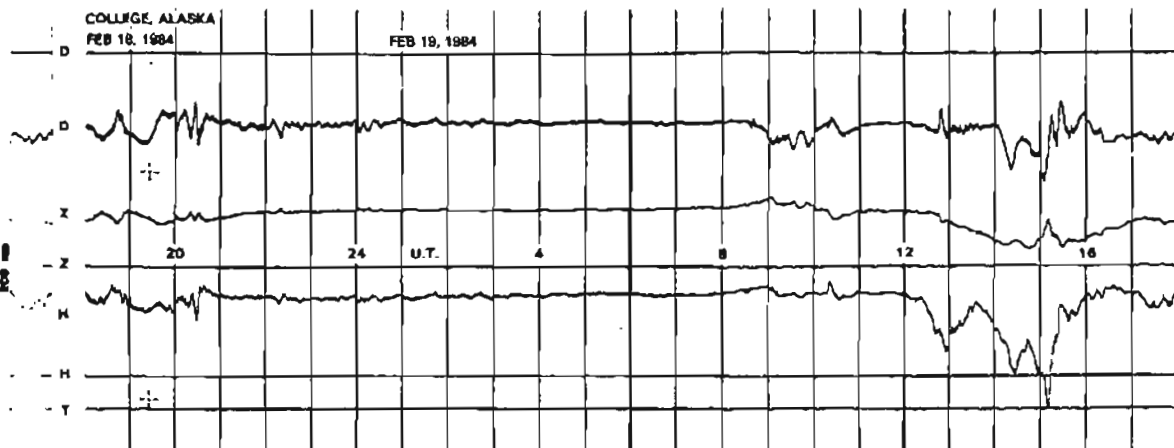
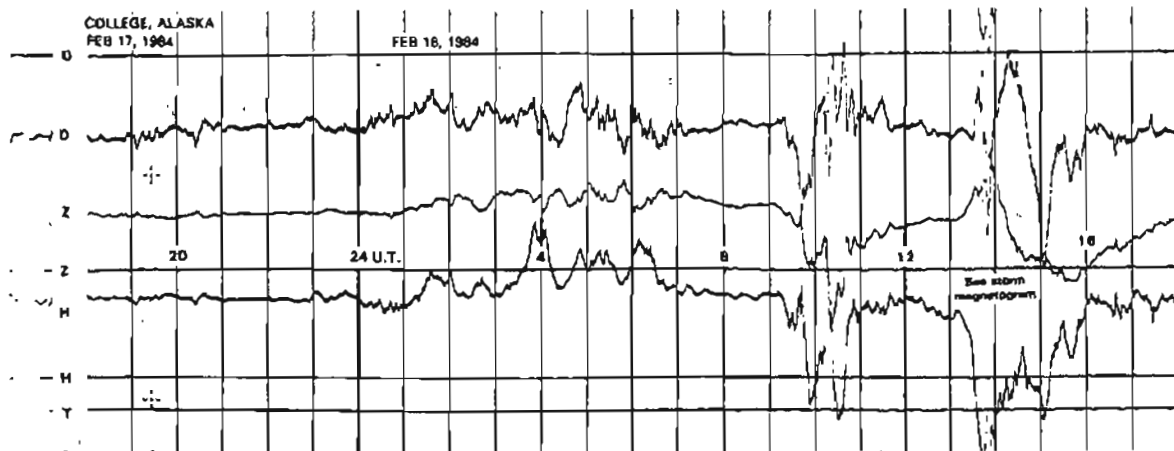
NORMAL MAGNETOGRAMS



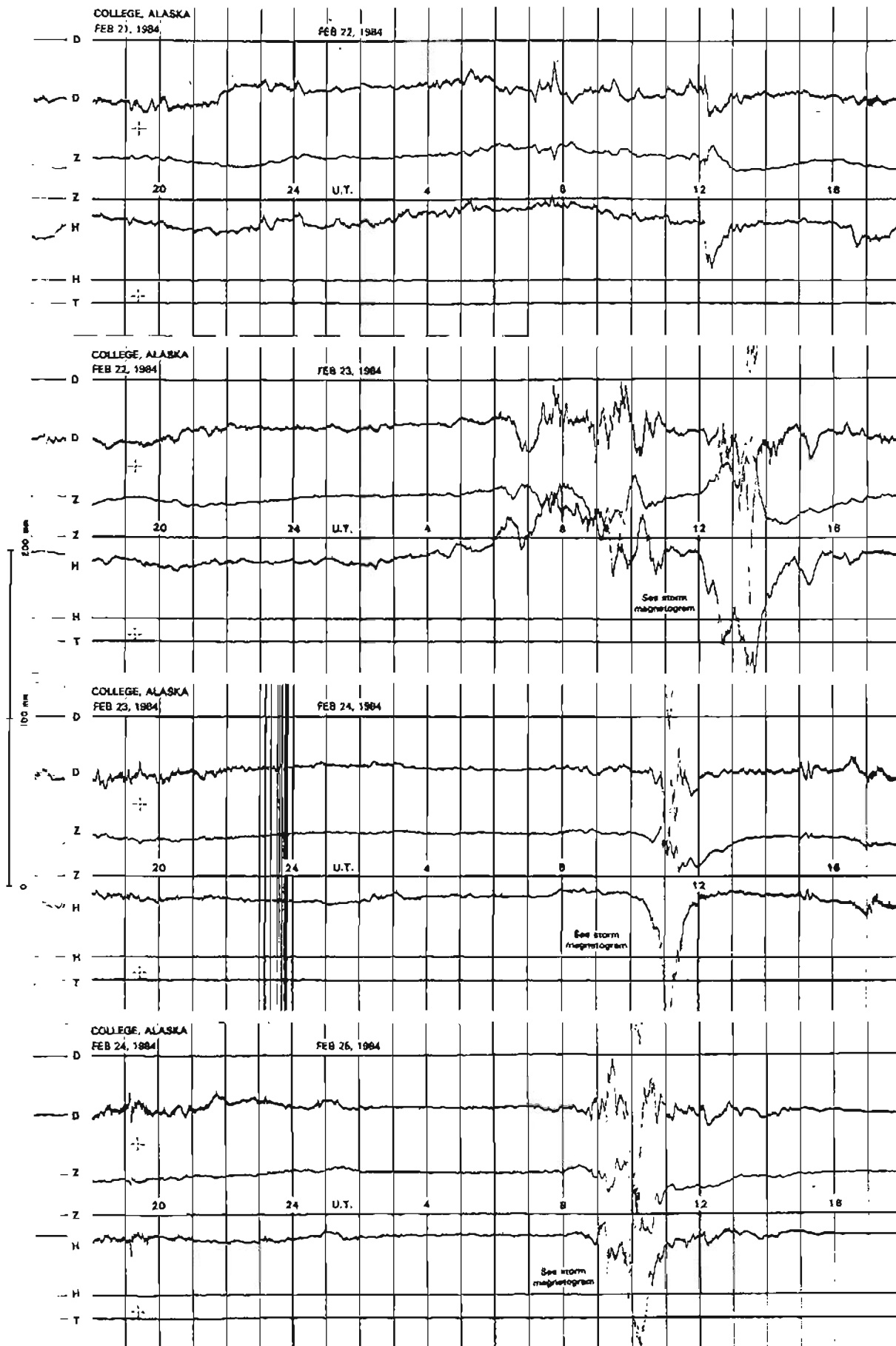
NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS

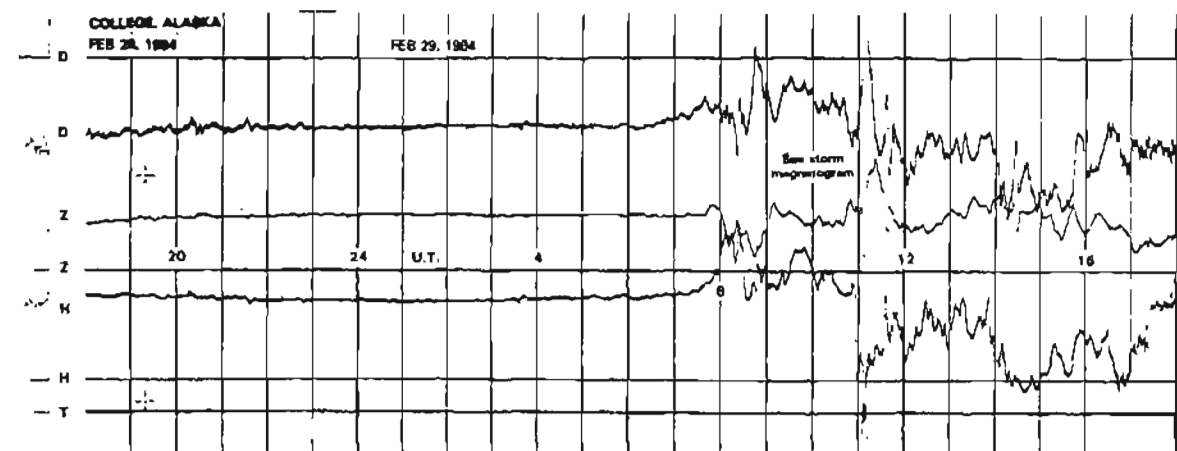
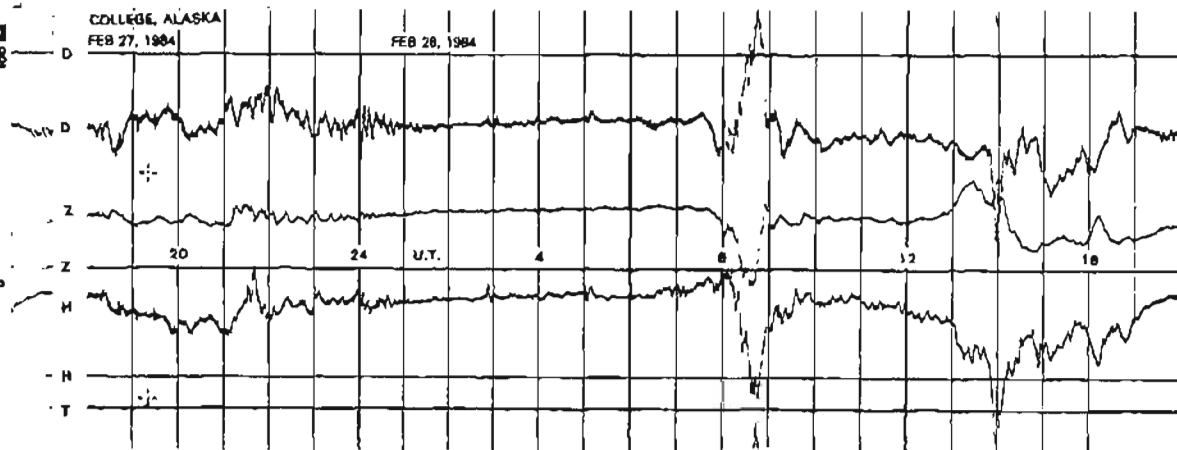
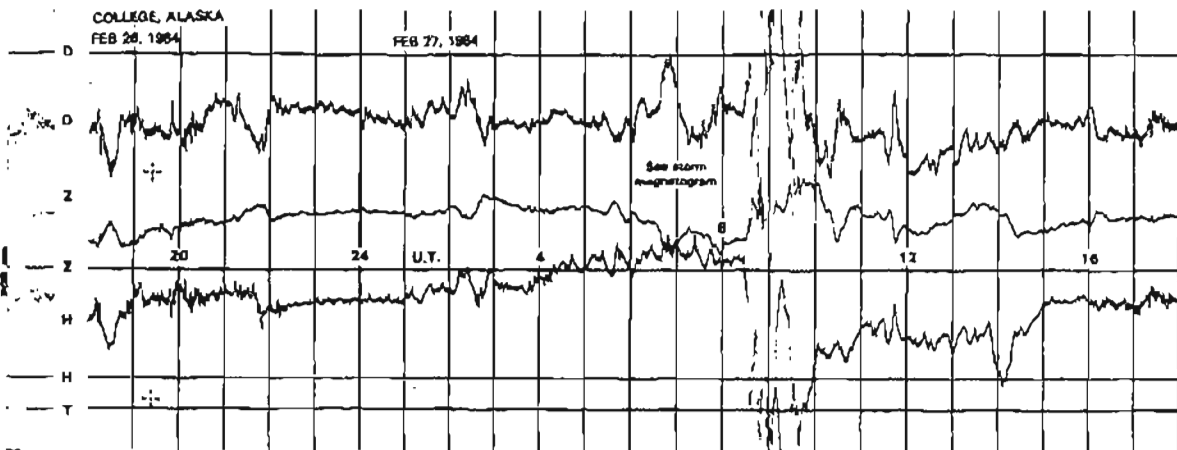
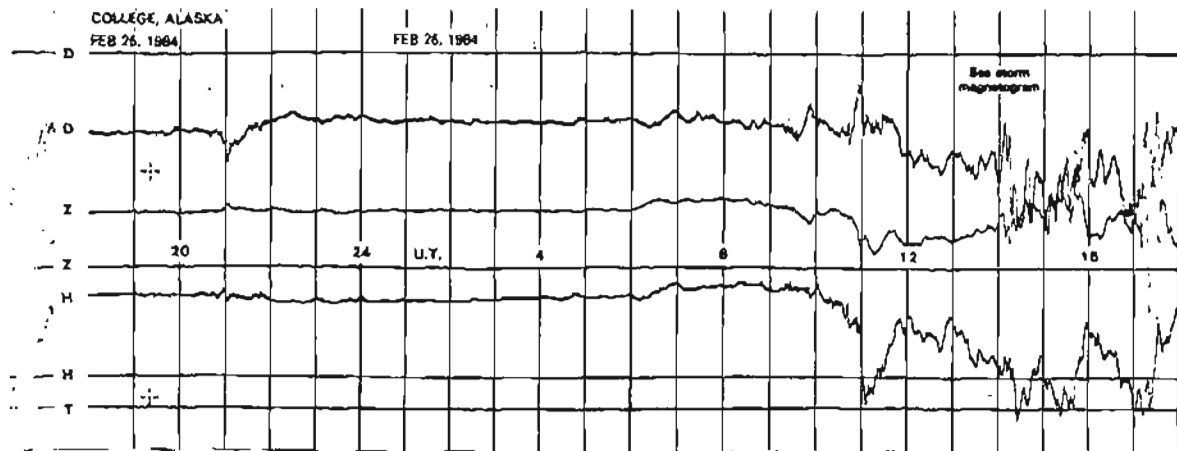
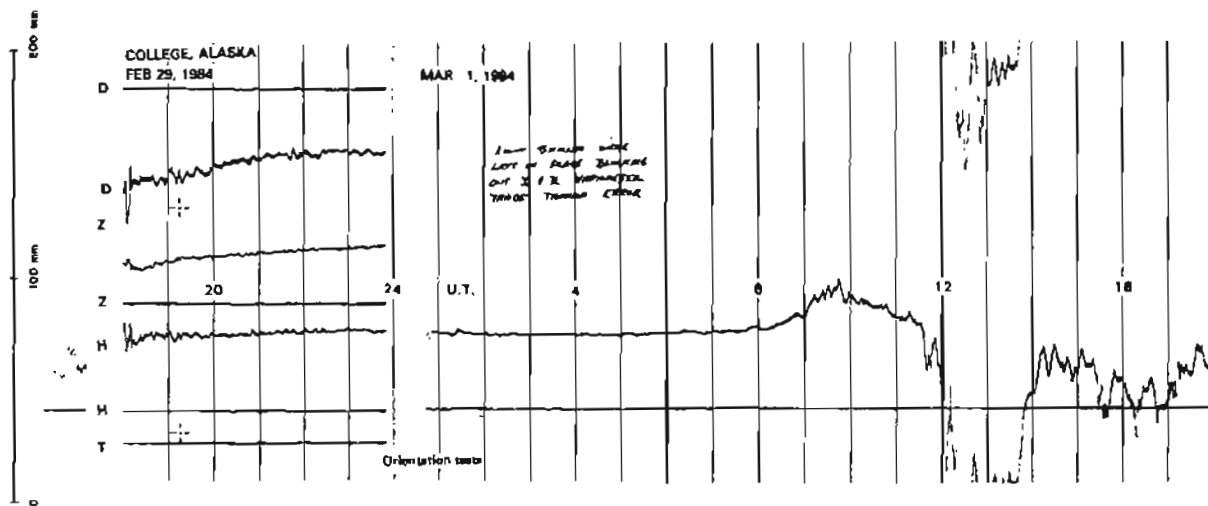
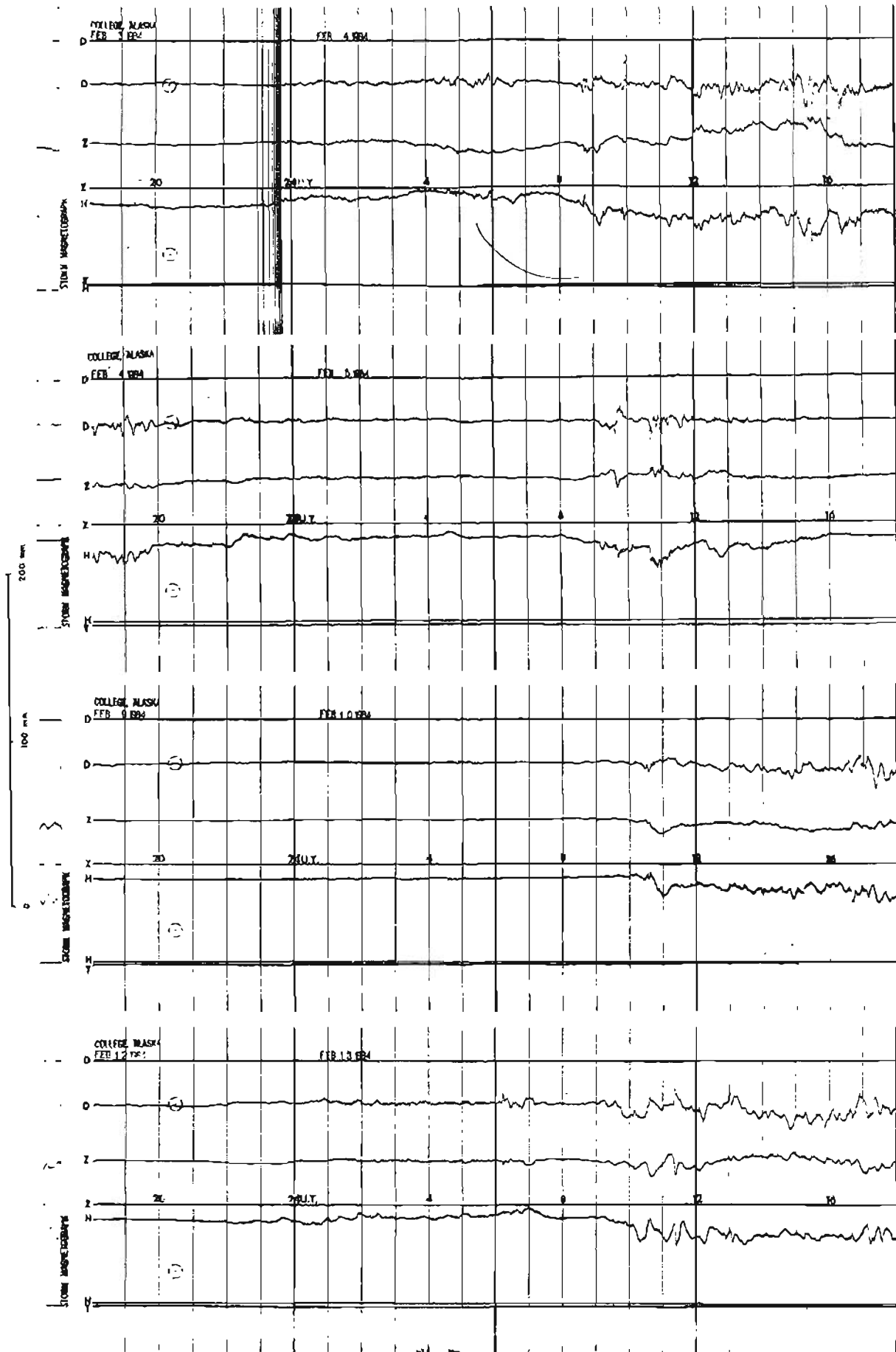


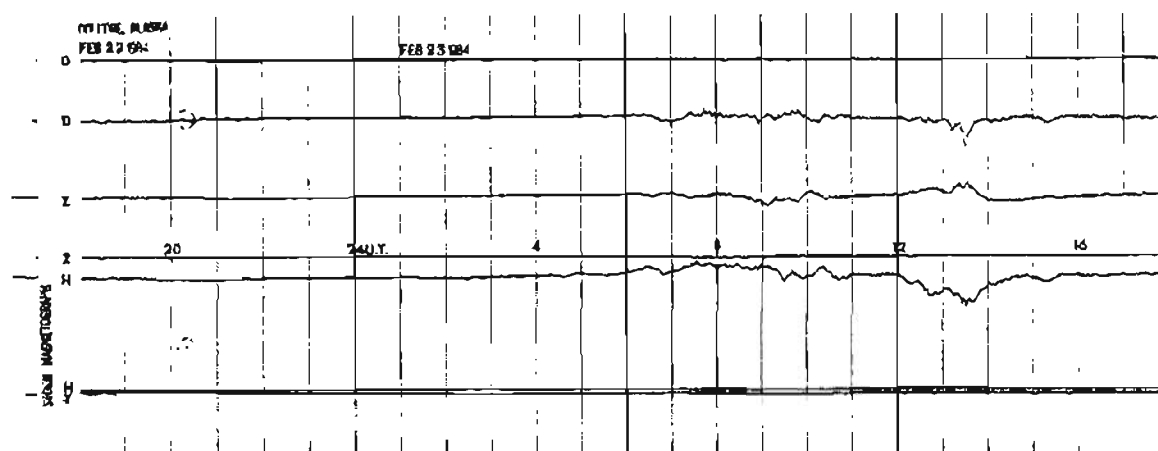
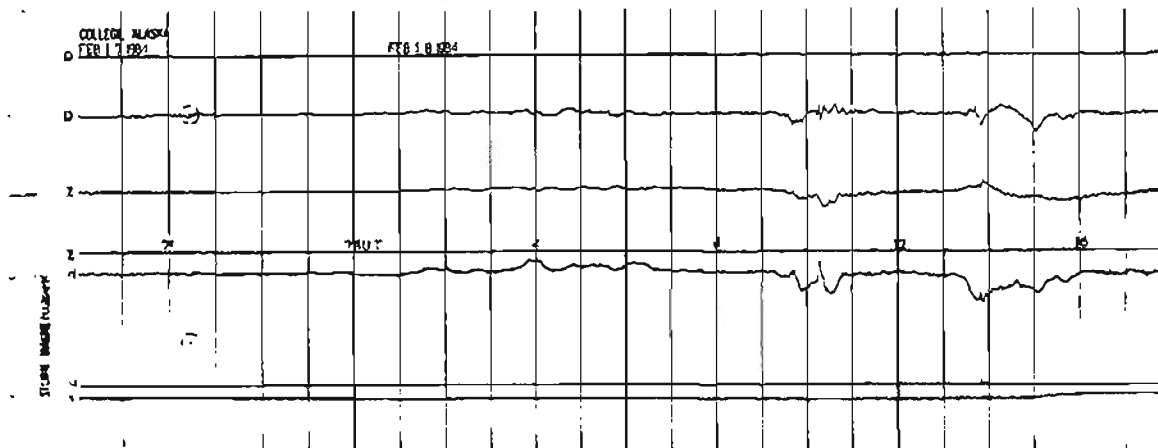
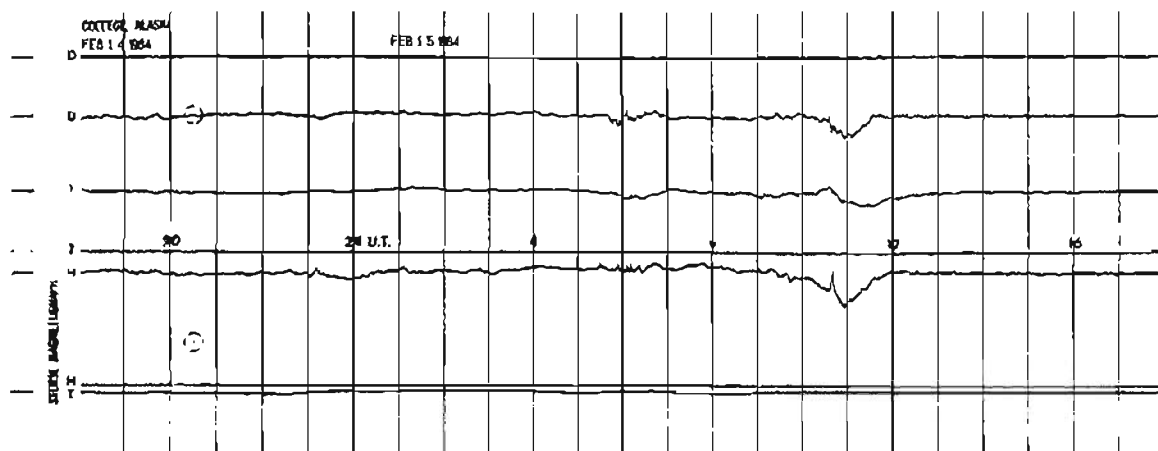
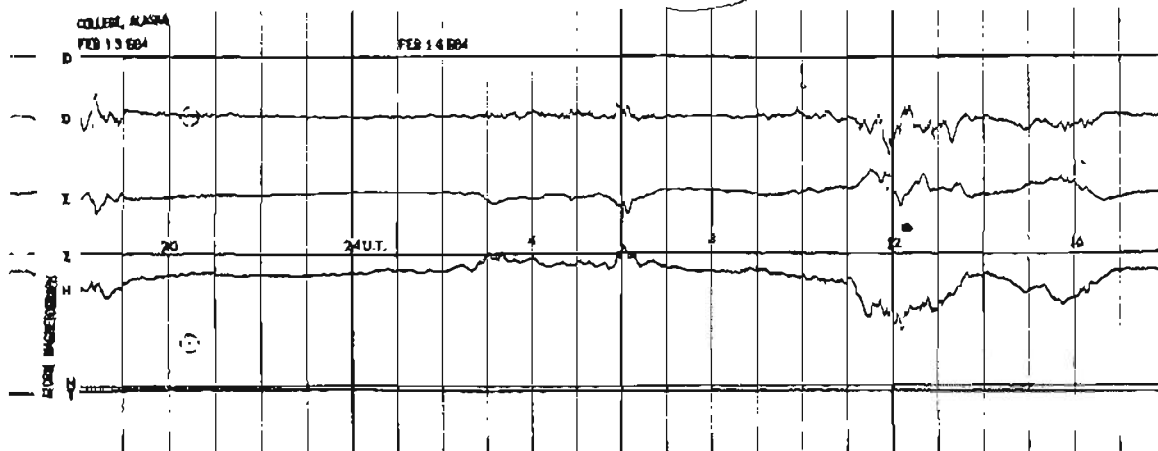
Figure 1 consists of two columns of magnetograms. The left column shows magnetograms for stations D, D, Z, Z, H, H, and T, recorded on February 29, 1984, at College, Alaska. The right column shows a summary plot for March 1, 1984, with handwritten notes: "1 - 15 MINUTE WORK", "LOVE IN PLANT ZONE", "OUT OF Z & ZONE", "THINGS", "THINGS", "THINGS". The summary plot shows magnetic field variations over time (0 to 18 hours UT) with a scale of 100 mT. The plot shows a significant decrease in the magnetic field starting around 12 hours UT, reaching a minimum around 14 hours UT, and then recovering.



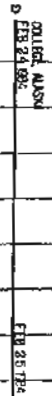
STORM MAGNETOGRAMS



STORM MAGNETOGRAMS



A horizontal number line with arrows at both ends. It has three major tick marks labeled 0, 100 m, and 200 m. The distance between 0 and 100 m is approximately equal to the distance between 100 m and 200 m.



STORM MAGNETOGRAMS

