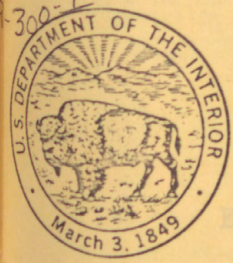


UNITED STATES DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA



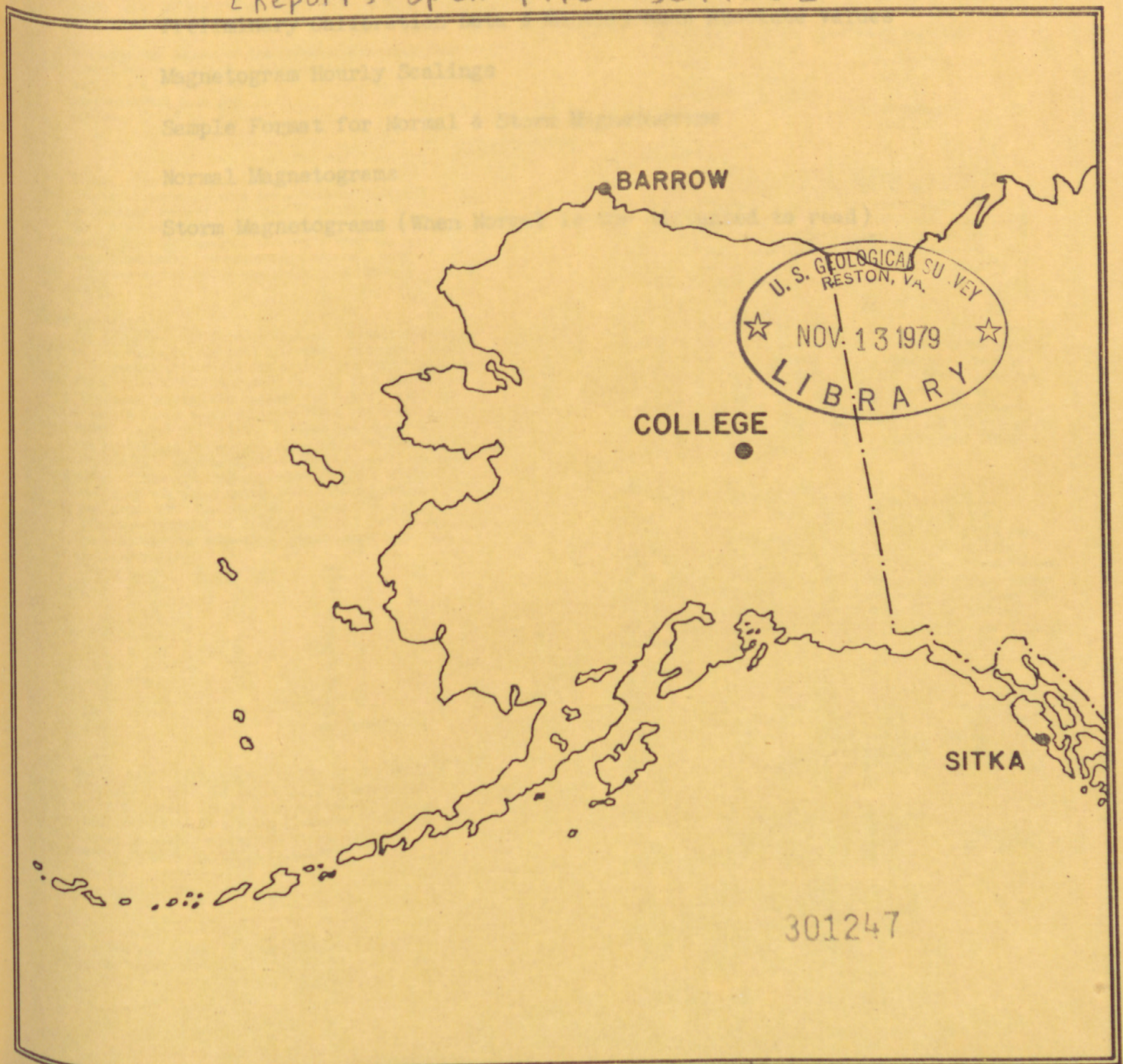
SEPTEMBER 1979

OPEN FILE REPORT

79-300I

[Reports - open file series]

TM
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U.S. GEOLOGICAL SURVEY

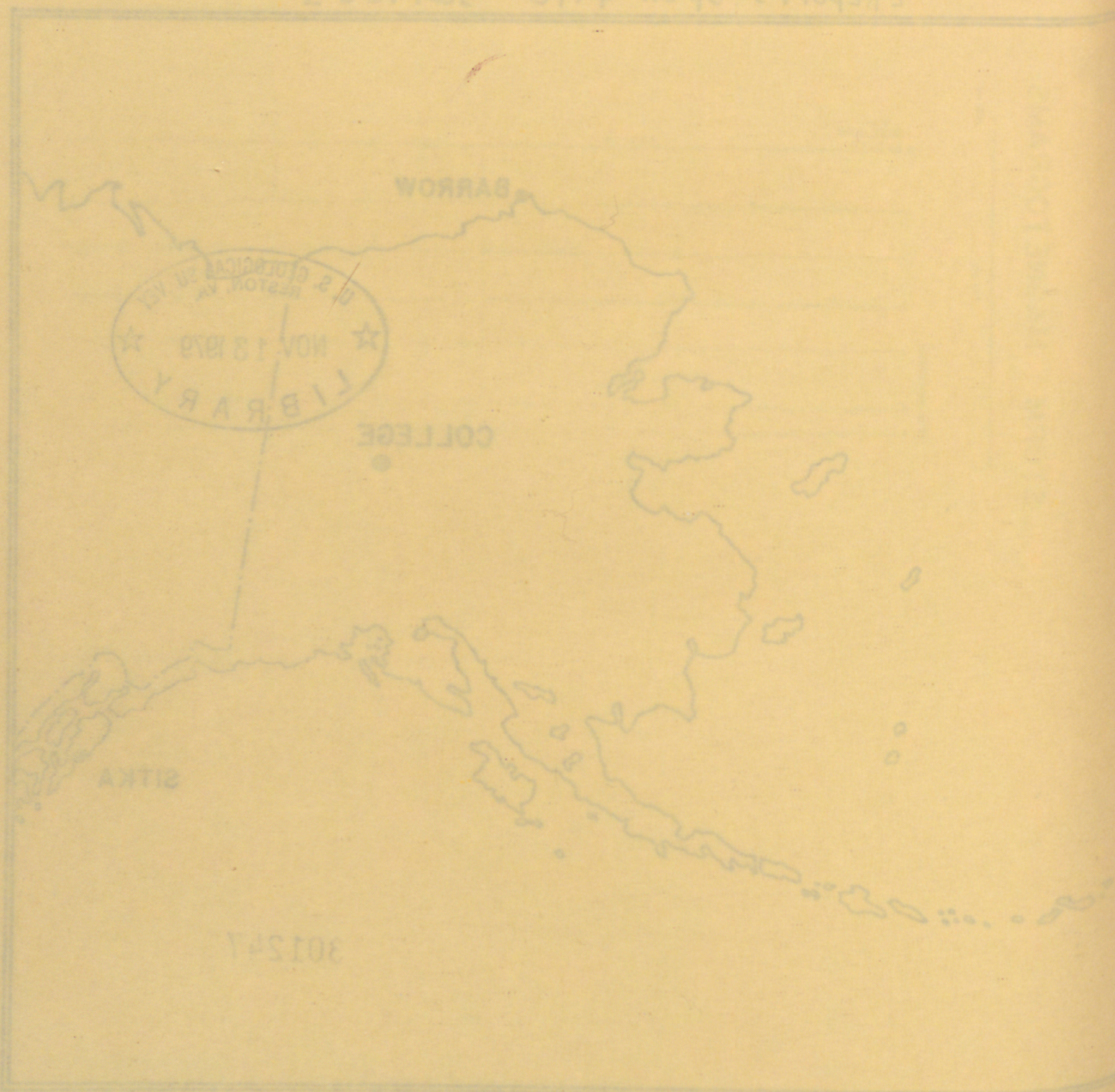
PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA



OPEN FILE REPORT

SEPTEMBER 1979

79-3001



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Preliminary Calibration Data & Monthly Mean Absolute Values

Magnetogram Hourly Scalings

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Normal Magnetograms

Storm Magnetograms (When Normal is too disturbed to read)

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

COLLEGE OBSERVATORY PRELIMINARY GEOMAGNETIC DATA

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
Yukon Drive on West Ridge
Fairbanks, Alaska 99701

Requests for copies of the magnetograms except for the current month should be addressed to:
World Data Center A-NOAA
Environmental Data Service
Boulder, Colorado 80302

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 10 γ 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 (10 γ)

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.

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°51.6'N
Geographic longitude.....147°50.2'W
Geomagnetic latitude.....+64.6°
Geomagnetic longitude.....+256.5°
Elevation.....200 meters

Selected Phenomena & Outstanding Magnetic Effects

Prior to January 1, 1976, the Normal & 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

SEPTEMBER 1979

DATE	K-INDICES								SUM	AK	TIME SCALE ON MAGNETOGRAMS												
	00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24			20 mm/hr												
1	2	1	0	1	2	2	3	3	14	07	SUDDEN COMMENCEMENTS d h m												
2	3	1	1	1	1	2	0	1	10	05													
3	2	2	3	2	3	2	2	1	17	09													
4	0	3	4	4	4	3	3	2	23	17													
5	3	3	2	5	5	5	3	3	29	26													
6	2	5	4	4	4	3	1	1	24	20													
7	2	2	1	2	2	1	1	1	12	05													
8	1	2	4	4	1	1	2	1	16	10													
9	2	1	1	0	0	2	1	1	08	03													
10	2	3	3	3	2	3	4	1	21	13													
11	2	3	4	6	4	4	2	2	27	25	POSSIBLE SOLAR-FLARE EFFECTS BASED ON INSPECTION OF GRAMS ALONE (WITHOUT REFERENCE TO DATA FROM OTHER SOURCES)												
12	3	1	1	0	2	2	2	2	13	06													
13	2	1	1	0	1	1	1	1	08	03													
14	1	1	1	1	0	1	3	2	10	05													
15	2	1	2	2	2	2	2	2	15	07													
16	2	2	3	4	3	2	2	2	20	12													
17	2	2	2	3	2	3	1	2	17	09													
18	4	5	6	8	5	5	3	2	38	64													
19	2	2	1	0	1	1	2	2	11	05													
20	2	1	2	2	6	6	3	3	25	27													
21	2	4	5	4	3	2	3	2	25	19	<table><tr><th colspan="3">BEGIN</th><th colspan="3">END</th></tr><tr><th>d</th><th>h</th><th>m</th><th>d</th><th>h</th><th>m</th></tr></table>	BEGIN			END			d	h	m	d	h	m
BEGIN			END																				
d	h	m	d	h	m																		
22	2	2	0	2	5	2	2	1	16	11													
23	2	2	2	0	3	3	1	1	14	07													
24	1	2	2	5	4	4	2	3	23	18													
25	3	3	4	3	3	5	3	2	26	20													
26	3	3	3	4	5	4	4	3	29	24													
27	3	5	1	3	5	3	3	1	24	20													
28	2	3	5	5	4	4	3	3	29	25													
29	3	3	4	2	6	4	3	2	27	24													
30	3	4	5	4	3	4	2	2	27	22													
31																							

K SCALE USED:

LOWER LIMIT FOR K = 9.....

CURRENT SCALE VALUE.....

LOWER LIMIT FOR K = 9.....

D

683.8

3.75

2560

H

321.7

7.79

2510

Z

(mm)

(Y/mm)

(to nearest 10Y)

SCALINGS AND COMPUTATIONS HAVE BEEN CHECKED.

APPROVED

JOHN B. TOWNSHEND, CHIEF, COLLEGE OBSERVATORY

OBSERVER IN CHARGE

OUTSTANDING MAGNETIC EFFECTS

OBSERVATORY
COLLEGE, ALASKA

MONTH

SEPTEMBER

YEAR

1979

DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS
21	1901	si*	
22	13XX	bp	
IDENTIFIED BY: JBT VERIFIED BY: EAS/JBT			

1. NATURE OF PHENOMENON: ssc, ssc*, si, si*, b, bp, bs, bps, pc1, pc2 - - - pc5, pg, pi 1, pi 2, sfe.

NOAA FORM 86-500
(11/73)

PRINCIPAL MAGNETIC STORMS

Data from Individual Observatories:

COLLEGE OBSERVATORY, COLLEGE, ALASKA
SEPTEMBER 1979

WDC-A FOR SOLAR-TERRRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80302 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	17	23XX	...	...	...	...	18	4	8	204	2020	900	18	21

SEPTEMBER

1979

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE	BASELINE	
D	0000 U.T., 9-1-79	2400 U.T., 9-30-79	1.0 γ /mm	3.8 γ /mm	27° 47' 4 E
H	0000 U.T., 9-1-79	2400 U.T., 9-30-79	7.8 γ /mm	12774	
Z	0000 U.T., 9-1-79	2400 U.T., 9-30-79	7.3 γ /mm	55165	

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE	BASELINE	
D	0000 U.T., 9-1-79	2400 U.T., 9-30-79	7.8 γ /mm	27.7 γ /mm	23° 48.6 E
H	0000 U.T., 9-1-79	2400 U.T., 9-30-79	44.0 γ /mm	11534	
Z	0000 U.T., 9-1-79	2400 U.T., 9-30-79	48.6 γ /mm	54027	

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H	DISCONTINUED OPERATION		4-1-78	
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
28° 10' 8 E	13014	55385

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED: SEP. 1, 2, 7, 9, 12, 13, 14, 15, 19, 23

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

OBSY. YEAR MONTH ELEMENT

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150W.M.T.) is hour 11 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

CO 79 SEP D

C	Q	S	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	184	182	207	210	208	211	209	217	216	219	231	227	01	228	219	216	286	320	371	369	338	188	150	221	257	5604
					02	201	198	228	221	221	218	213	216	221	269	229	241	02	219	220	231	268	332	321	311	277	232	198	173	174	5632
					03	174	171	168	189	161	221	220	179	213	201	209	202	03	266	249	228	287	303	290	301	228	200	188	200	207	5255
					04	199	207	219	211	191	201	223	306	276	200	198	231	04	249	229	239	289	321	329	334	342	257	194	186	169	5800
					05	179	168	158	107	128	209	222	203	199	222	196	183	05	563	471	464*	302	341	441	337	251	216	162	168	182	6072
					06	174	158	102	162	145	109	99	269	220	289	268	261	06	229	219	266	368	374	349	338	306	269	231	228	181	5614
					07	200	183	188	209	207	227	231	239	259	249	227	228	07	224	223	247	290	331	330	286	265	246	218	217	209	5733
					08	191	183	172	182	194	184	208	184	184	202	233	232	08	232	247	265	290	318	323	315	304	298	237	207	178	5563
					09	168	152	163	156	175	187	191	193	202	198	212	221	09	233	248	272	302	306	344	323	303	238	153	145	143	5228
					10	142	135	144	167	193	190	222	208	162	229	269	245	10	321	292	366	436	351	379	426	295	207	146	128	109	5762
					11	142	155	152	133	150	129	163	158	109	176	393*	174	11	272	244	300	443	389	410	291	239	248	198	207	198	5473
					12	178	160	181	201	203	201	193	217	222	232	232	241	12	238	232	233	280	300	319	249	249	189	257	211	188	5406
					13	168	171	179	203	199	199	193	202	209	228	238	239	13	247	238	259	287	312	321	309	327	308	242	228	211	5717
					14	209	208	210	201	198	197	199	190	203	211	229	248	14	269	271	289	302	307	338	331	361	242	128	108	152	5601
					15	202	207	189	219	209	202	207	208	197	201	202	237	15	268	277	282	303	332	348	332	302	267	228	201	202	5822
					16	189	138	138	191	182	187	171	150	171	162	187	241	16	284	280	288	284	327	312	272	268	241	239	209	189	5300
					17	179	180	203	179	192	169	201	217	198	211	209	232	17	242	282	297	323	323	348	353	342	337	297	249	291	6054
					18	236	118	134	151	198	52	171*	42*	282*	145*	19*	75*	18	320*	362	458	368*	438*	398	279	239	202	172	191	190	4334
					19	200	220	222	220	222	219	224	225	229	229	232	231	19	251	250	268	298	333	364	381	342	329	261	226	203	6179
					20	191	219	209	208	216	211	213	208	202	178	188	220	20	328*	780*	644*	486*	526*	391*	331	298	266	211	128	171	7023
					21	183	149	138	142	166	272	221	201	148	127	227	312*	21	292	281	262	272	308	341	361	260	221	208	211	198	5501
					22	212	222	222	223	218	211	212	217	212	222	230	261	22	279	326	352	291	328	338	338	298	268	249	211	209	6149
					23	208	211	219	221	199	198	211	202	210	229	230	241	23	242	238	262	270	348	291	302	277	219	216	201	189	5634
					24	199	208	200	169	181	179	187	200	210	201	238	379	24	280	264	391*	295	299	331	324	329	291	238	179	158	5930
					25	188	167	137	132	109	151	191	231	216	210	238	248	25	238	227	214	415*	449	368*	294	257	244	184	228	189	5525
					26	182	159	113	122	172	208	180	231	187	220	269	311	26	241	270	350	305	300	269	272	231	211	279	208	171	5461
					27	178	140	161	182	190	218	218	219	239	268	241	249	27	231	231	189	227	241	282	251	260	277	221	228	193	5334
					28	213	198	219	201	152	292	173	217	194	170*	257	252	28	242	342	241	281	306	318	266	229	208	274	101	134	5480
					29	181	198	182	229	222	211	236	224	171	213	234	247	29	279	384	293	256	287	288	289	288	278	256	236	221	5903
					30	211	179	161	163	174	151	171	199	212	168	232	252	30	261	271	221	298	289	278	261	308	246	236	210	208	5360
					31													31													

SCALED BY SPT, PEF
 CHECKED BY JEP, SPT, ERS, JBT
 SIGNS RE-VIEWED BY JEP, SPT
 PUNCHED BY

Preliminary base-line and scale values:
 Interval Base-line Scale
 Beginning Value Value

() Interpolated

☐ Significant portion of hour interpolated.☐ No record; or no values available because of faulty record.

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

☐ Scaling uncertain because of magnetic storm.

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

MONTHLY SUM 169529

MONTHLY MEAN 235

DATES WITH GAPS:

Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150W M.T.) is hour 11 of the same universal day. Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

All measurements must be taken at the same time. Corrections must be applied. Negative values are in italics, with minus signs shown.																													
C	O or S	In Q	01	02	03	04	05	06	07	08	09	10	11	12	In Q	13	14	15	16	17	18	19	20	21	22	23	24	SUM	
			01	296	316	313	314	300	300	307	320	318	325	319	326	01	325	326	268	289	294	290	281	239	230	270	308	316	7192
			02	286	329	281	300	308	313	321	329	330	334	321	330	02	323	319	300	292	325	310	292	276	266	271	292	291	7339
			03	319	343	339	332	351	311	370	439	373	349	337	296	03	211	181	309	337	321	311	289	260	306	309	298	309	7600
			04	319	321	322	331	366	419	410	350	290	363	352	273	04	98	262	307	289	261	290	276	267	269	296	301	307	7339
			05	309	339	374	460	467	396	366	409	389	292	124	34	05	-255*	-151	-66	141	147	-13	251	256	219	291	307	311	5397
			06	341	350	380	409	599	649	625	359	329	257	67	96	06	271	199	206	199	299	353	320	303	292	299	300	296	7798
			07	300	339	364	293	340	336	319	326	330	315	319	320	07	319	276	281	297	277	272	282	298	292	282	303	312	7392
			08	307	308	313	319	328	365	373	418	329	316	353	338	08	319	319	325	322	311	293	290	287	280	271	272	293	7649
			09	300	332	333	336	332	346	357	336	330	331	323	323	09	323	321	312	320	284	260	259	262	257	253	267	282	7379
			10	302	320	291	290	312	366	372	402	363	306	171	205	10	179	201	157	189	254	201	51	211	276	272	280	301	6272
			11	296	309	327	348	361	458	491	376	361	243	-210*	189	11	210	122	88	79	66	94	331	351	344	338	323	311	6206
			12	319	325	338	313	313	314	330	320	330	331	332	332	12	336	329	290	327	344	316	320	300	337	303	317	289	7705
			13	279	314	316	306	321	317	321	329	321	321	329	330	13	329	316	308	309	311	303	318	303	297	290	291	289	7468
			14	301	297	293	300	326	330	330	341	336	343	333	324	14	329	328	321	320	323	300	300	238	208	258	290	310	7379
			15	309	284	318	301	309	321	330	331	357	381	381	369	15	331	333	321	337	321	309	300	300	298	308	301	316	7766
			16	319	342	317	296	310	321	350	418	380	420	351	211	16	280	339	323	328	289	258	258	273	283	289	301	323	7579
			17	313	300	310	329	323	341	361	357	341	340	341	343	17	371	328	309	251	309	316	310	307	289	291	292	319	7691
			18	303	401	469	319	362	481	430	-21*	201*	71*	9	71*	18	-332*	-47	-145*	-32*	-9*	279	340	356	333	329	321	311	4800
			19	316	301	296	303	299	300	291	300	300	297	300	299	19	298	297	299	299	291	282	279	276	261	271	279	274	7008
			20	311	291	289	297	299	311	311	320	358	361	369	353	20	167*	-179*	-229*	-212*	-184*	253	328	327	287	281	287	349	5345
			21	391	396	439	596	591	433	351	367	336	171	214	122	21	151	203	256	319	351	339	280	281	300	305	320	304	7816
			22	301	313	312	311	307	310	313	318	320	329	329	310	22	260	-42*	117	348	331	321	309	298	298	295	307	308	6923
			23	313	321	323	316	330	359	373	339	328	317	318	319	23	315	287	199	209	264	268	264	279	283	285	299	310	7218
			24	311	307	320	344	363	351	385	351	321	312	250	-94*	24	4	92	-80	250	360	340	329	287	256	232	251	317	6151
			25	379	406	458	513	536	544	579	439	381	330	279	291	25	293	296	283	-94*	-286*	-31*	251	291	269	281	309	292	7229
			26	323	349	431	421	340	330	449	448	401	219	240	163	26	230	-37	-12	132	264	284	74	222	281	331	301	319	6563
			27	339	419	399	496	352	312	319	319	328	313	281	221	27	129	113	331	324	244	224	259	271	289	298	304	286	7190
			28	290	309	299	324	369	414	487	461	384	213	263	294	28	249	103	243	129	19	229	328	299	250	217	257	310	6740
			29	301	279	356	403	357	520	321	369	298	339	321	309	29	109*	-26*	314	321	249	193	316	329	297	291	297	291	6949
			30	301	341	330	357	467	525	456	399	251	243	336	287	30	213	184	229	219	269	306	330	308	289	267	287	303	7497
			31													31													
SCALED BY SPT, PEF, EAS																													
CHECKED BY JEP, SPT, EAS, JET																													
SIGNED BY JEP, SPT																													
PUNCHED BY																													
Preliminary base-line and scale values:																													
Interval Base-line Scale																													
Beginning Value Value																													
() 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, curve was estimated for missing part.																													
* Derived from Storm Mph., converted to Normal Mph.																													
MONTHLY SUM 210580																													
MONTHLY MEAN 292																													
DATES WITH GAPS:																													

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSV. YEAR MONTH ELE-
MENTValues are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (1500H.T.) is hour 11 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

CO 79 SEP 7

C	Q	S	Ten	Q	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h	SUM		
					01	333	337	359	348	344	322	312	314	316	311	301	303	01	300	301	281	278	301	291	289	291	270	271	299	337	7409
					02	346	351	334	321	322	313	311	311	312	311	272	301	02	300	301	300	287	300	301	301	301	291	290	294	308	7379
					03	309	336	358	376	377	357	341	329	368	341	330	291	03	293	349	282	301	317	309	300	261	250	281	302	308	7666
					04	310	309	309	314	336	362	339	288	196	259	321	311	04	302	250	281	277	277	271	291	297	284	286	310	314	7094
					05	321	321	359	408	447	451	386	321	299	259	63	179	05	287	208	301	249	291	185	130	193	237	269	289	303	6756
					06	313	322	319	334	339	371	357	427	347	299	156	179	06	223	299	276	272	257	301	312	307	306	311	320	309	7256
					07	298	300	334	347	331	311	310	311	303	271	279	282	07	274	250	257	281	283	269	253	261	287	300	303	308	7003
					08	309	312	322	323	326	337	353	332	257	281	322	308	08	306	308	307	309	307	300	298	293	298	297	297	298	7400
					09	307	308	327	338	332	319	347	327	313	312	312	306	09	301	302	302	298	285	262	263	253	258	273	297	315	7257
					10	319	329	359	347	309	337	347	331	293	322	411	368	10	394	351	352	284	260	270	137	138	182	249	299	330	7318
					11	348	343	333	351	377	387	391	237	251	368	529*	394	11	395	368	361	362	315	184	169	239	271	281	313	321	7948
					12	326	330	337	319	301	301	298	311	310	309	303	300	12	299	291	269	280	296	298	277	270	259	291	304	336	7217
					13	324	333	338	339	307	304	292	300	300	301	300	299	13	300	291	292	281	280	290	296	293	290	289	302	303	7244
					14	303	310	311	303	300	300	309	300	304	310	316	298	14	293	294	298	299	297	292	281	282	252	210	233	281	6976
					15	302	302	300	312	309	301	301	302	311	328	303	313	15	319	292	298	302	301	292	291	280	278	273	280	299	7189
					16	301	311	321	332	302	299	300	313	314	300	322	268	16	277	279	290	291	299	278	248	260	264	283	302	334	7088
					17	349	292	300	292	310	309	332	328	308	309	300	268	17	300	309	280	238	241	261	261	279	281	273	262	261	6943
					18	302	320	353	341	319	279	62	100	149	593*	618	626*	18	646*	621	709	852*	665*	217	216	298	316	321	331	327	9581
					19	327	327	330	329	328	322	328	321	328	327	326	318	19	317	321	329	337	332	331	327	310	303	290	297	293	7698
					20	300	340	327	310	313	310	310	310	321	301	281	319	20	469*	536*	403*	490*	416*	124	223	288	299	301	310	329	7930
					21	341	361	336	320	99	271	349	291	210*	309	349	351	21	329	300	309	307	321	328	331	289	287	299	313	327	7327
					22	321	319	312	311	307	308	311	313	314	319	313	309	22	279	228	132	278	306	301	301	297	298	299	298	303	7077
					23	308	309	321	328	332	356	342	337	329	319	307	299	23	297	283	248	242	228	267	270	289	287	296	301	303	7198
					24	305	303	313	313	376	361	370	371	341	321	283	288	24	368	348	492	298	287	301	320	327	326	331	346	378	8067
					25	400	389	378	372	399	411	267	369	338	321	320	301	25	293	278	299	403*	222*	121	201	273	309	318	342	348	7672
					26	342	352	348	399	391	368	346	299	316	320	310	274	26	289	297	138	146	161	250	251	237	310	328	317	351	7140
					27	379	339	347	319	361	350	329	330	301	271	270	271	27	250	181	239	288	292	278	242	250	281	294	319	317	7098
					28	321	320	331	320	331	351	368	209	224	252	313	292	28	284	301	177	191	103	82	229	304	277	301	317	339	6531
					29	350	367	337	353	331	349	340	302	250	319	341	303	29	371	307	191	269	277	254	309	327	317	311	321	329	7505
					30	328	323	339	354	251	331	334	271	277	272	327	304	30	261	193	173	196	271	321	308	320	317	327	327	329	7054
					31													31													

SCALED BY
SPT, PEF

CHECKED BY
JEP, SPT, EAS, JBT

SIGNS RE-
VIEWED BY
JEP, SPT

PUNCHED
BY

Preliminary base-line and scale values:
Interval Beginning

Base-line
Value

Scale
Value

() 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, curve was estimated
for missing part.

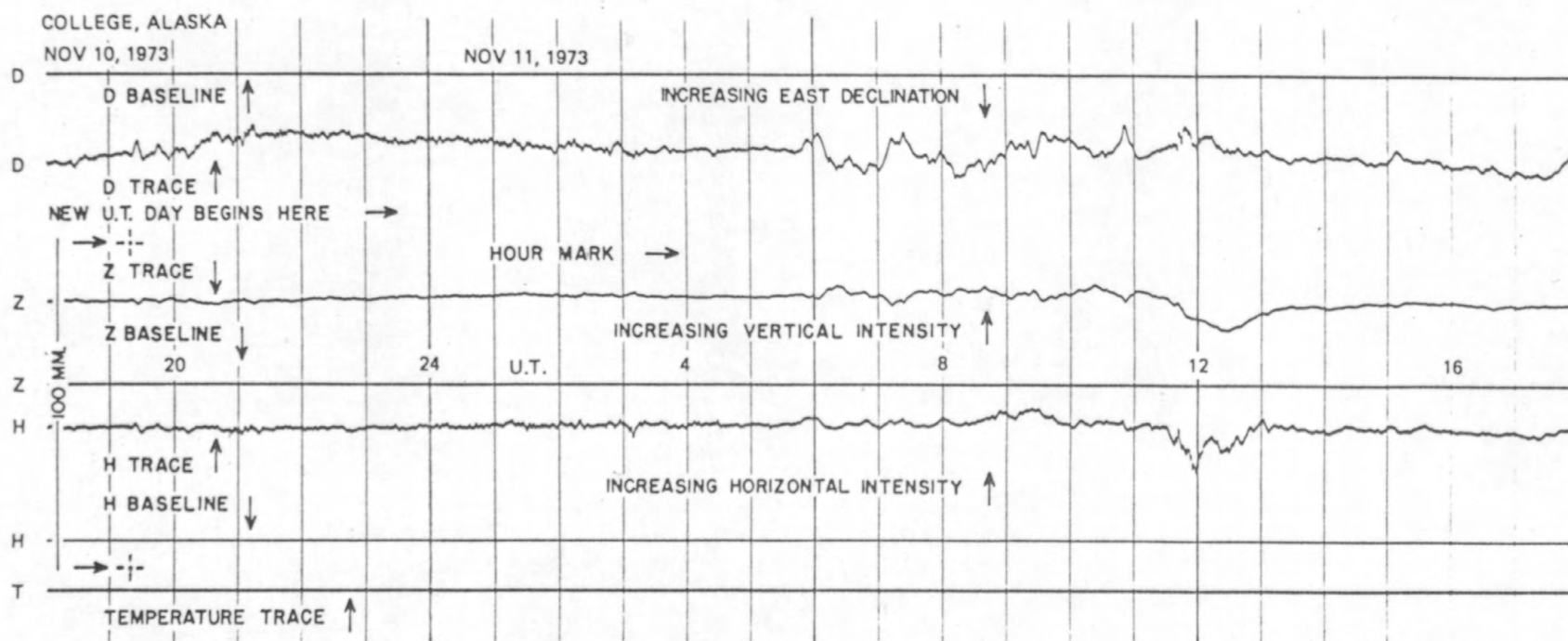
* Derived from Storm Mph., converted to Normal Mph.

MONTHLY SUM
221021

MONTHLY MEAN
307

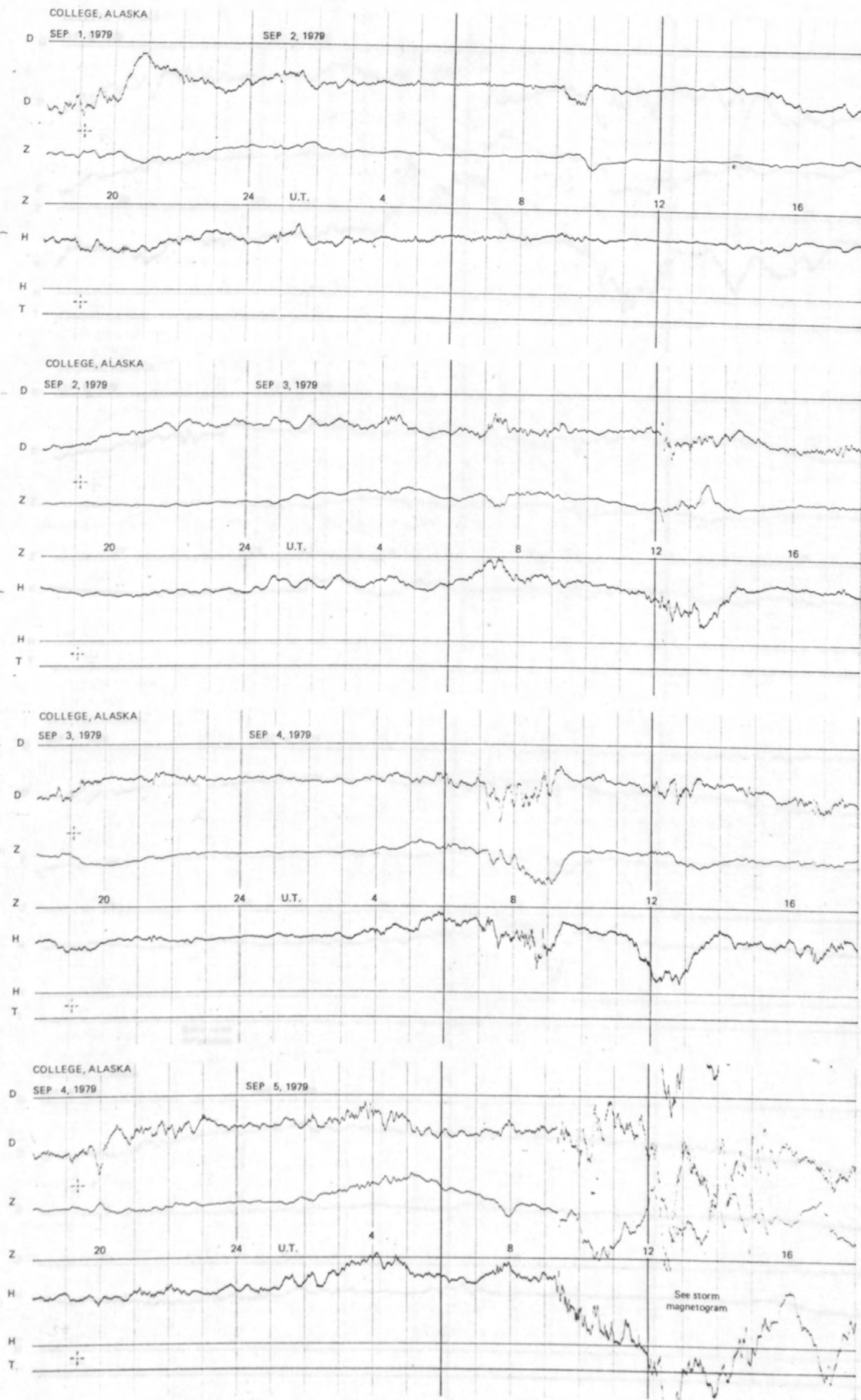
DATES WITH GAPS:

FORMAT FOR NORMAL & STORM MAGNETOGRAMS (SAMPLE ONLY)

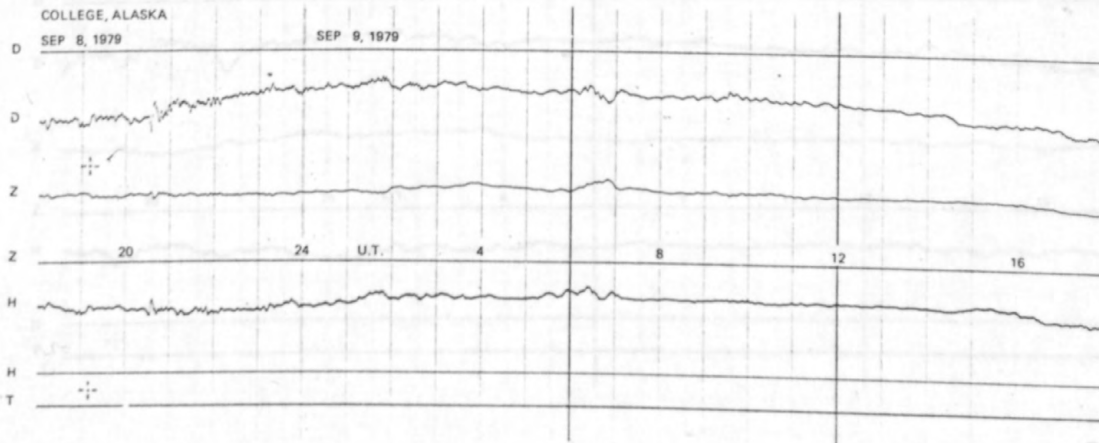
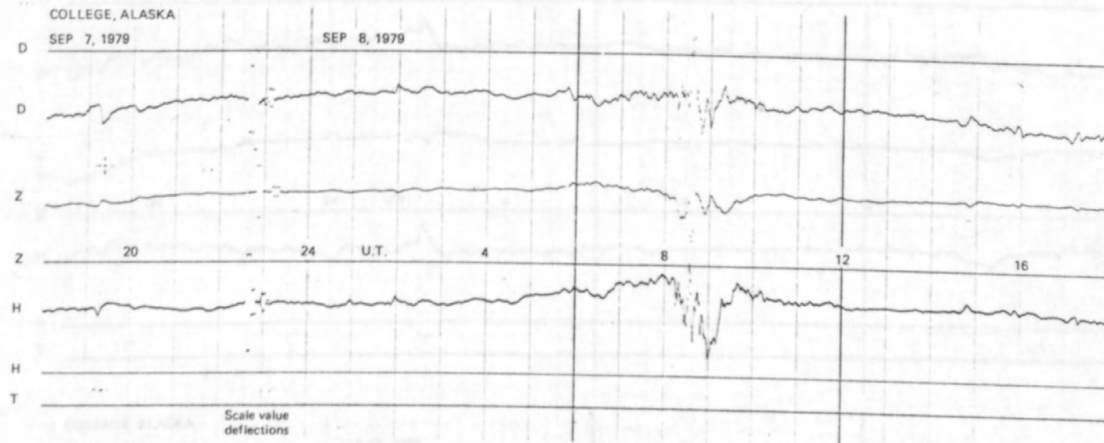
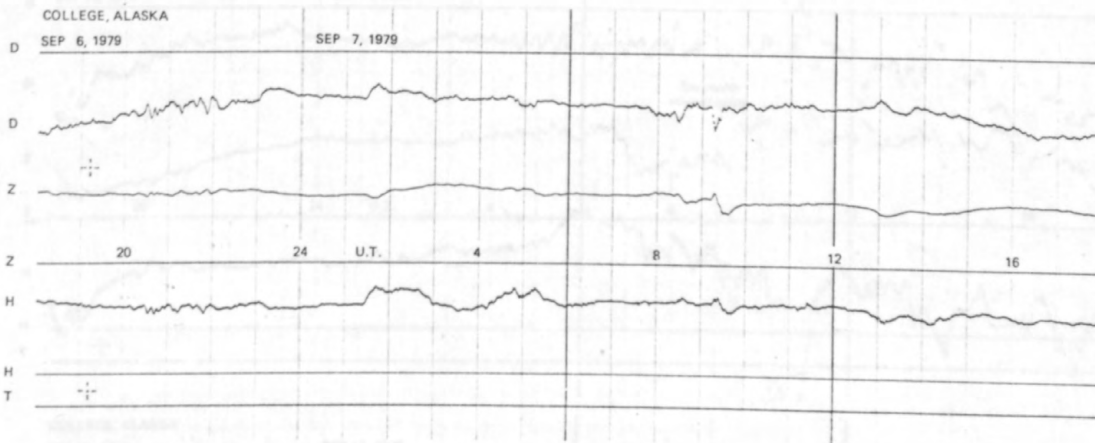
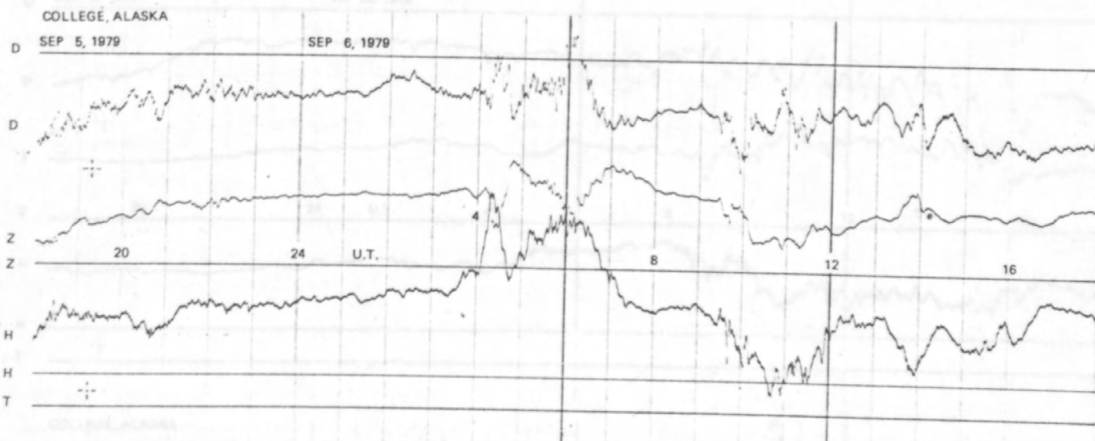


SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

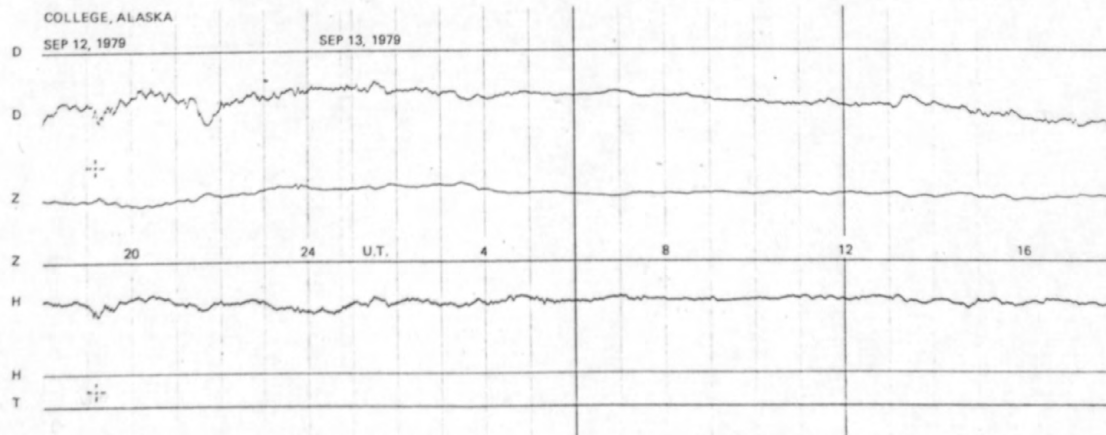
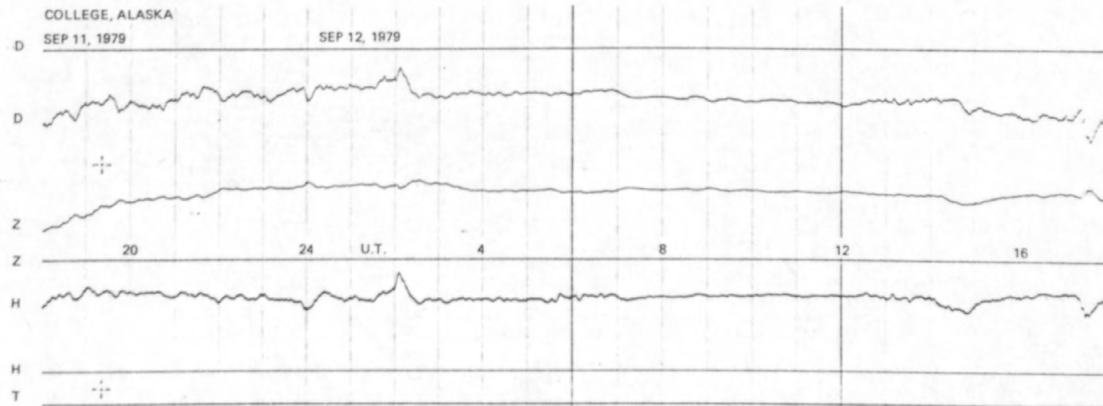
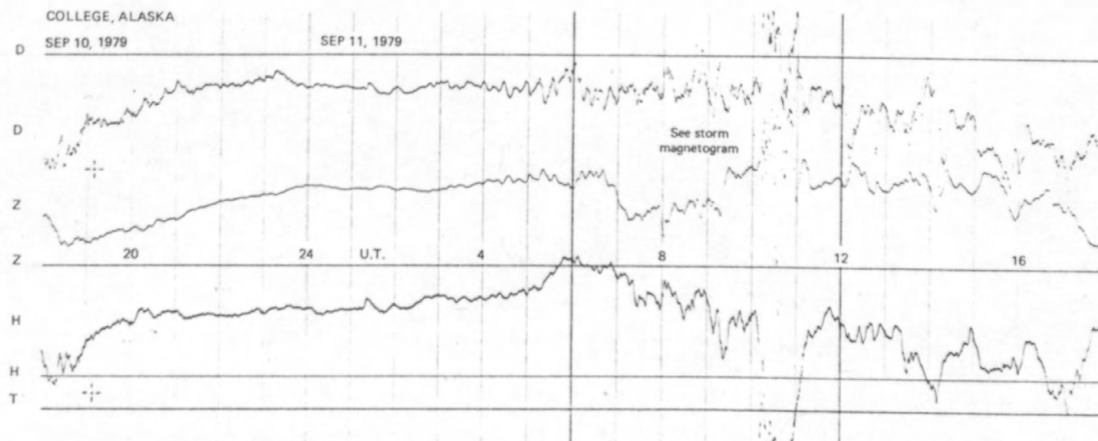
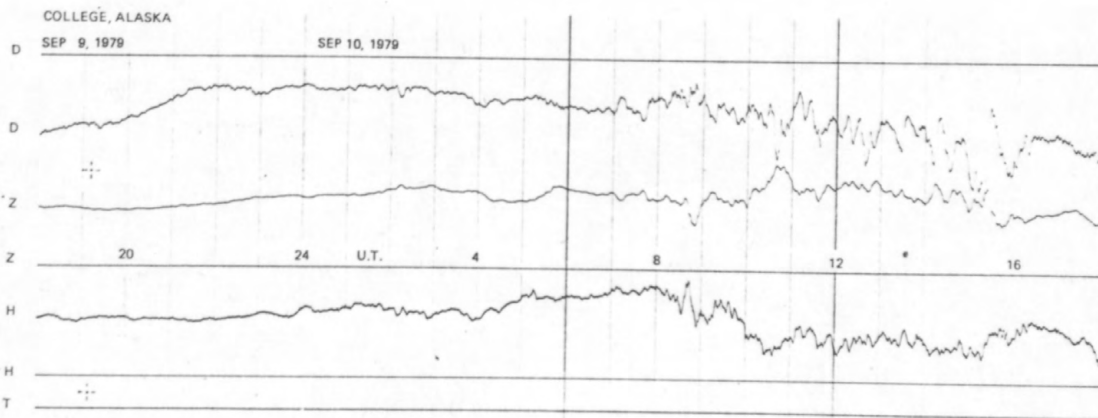
NORMAL MAGNETOGRAMS



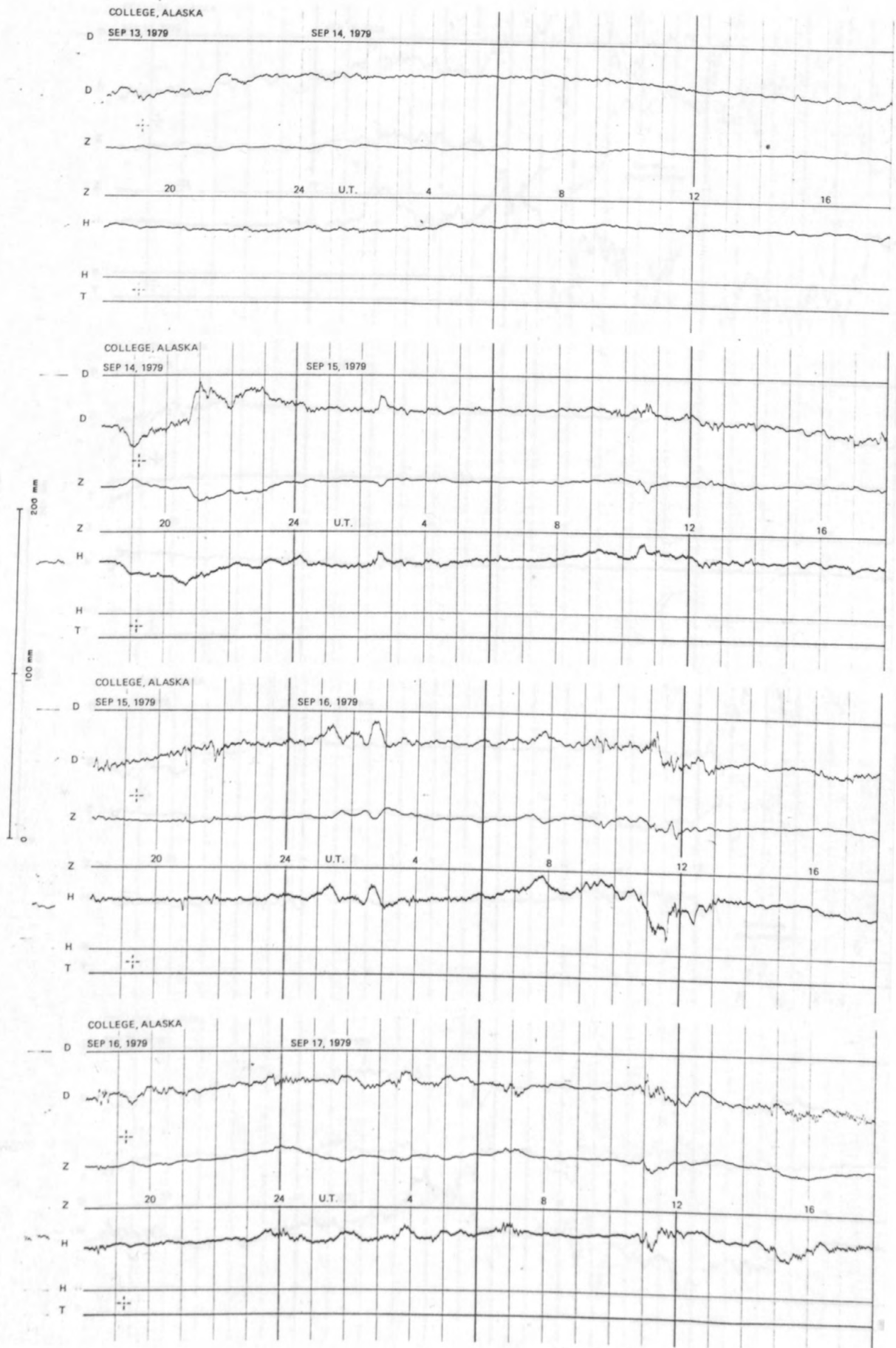
NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS

200 mm
100 mm
0

COLLEGE, ALASKA

SEP 17, 1979

SEP 18, 1979

D

D

Z

Z

H

H

T

U.T.

See storm magnetogram

COLLEGE, ALASKA

SEP 18, 1979

SEP 19, 1979

D

D

Z

Z

H

H

T

U.T.

COLLEGE, ALASKA

SEP 19, 1979

SEP 20, 1979

D

D

Z

Z

H

H

T

U.T.

See storm magnetogram

COLLEGE, ALASKA

SEP 20, 1979

SEP 21, 1979

D

D

Z

Z

H

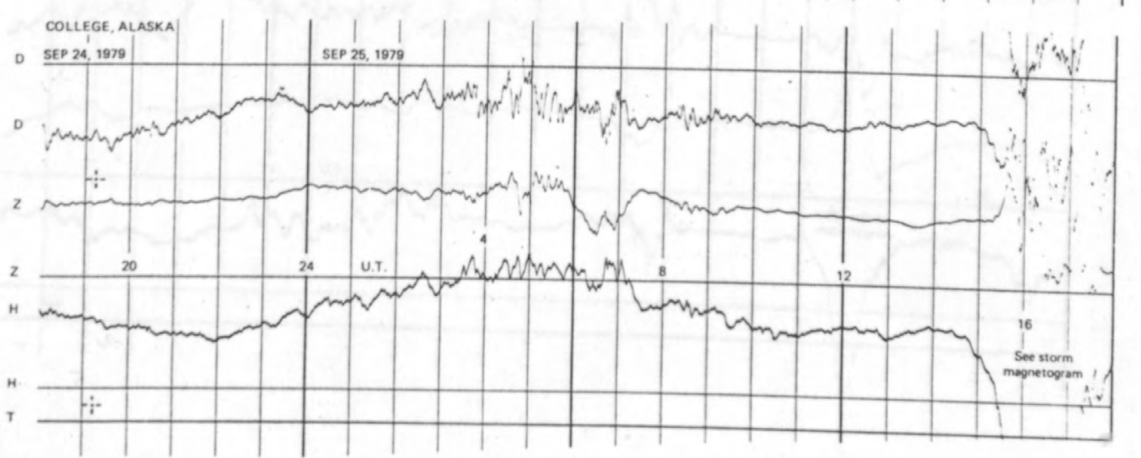
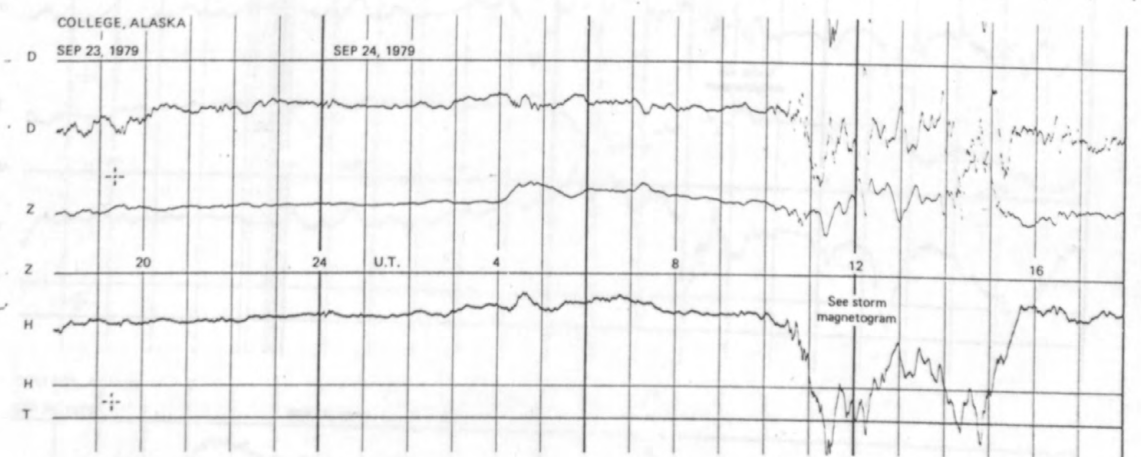
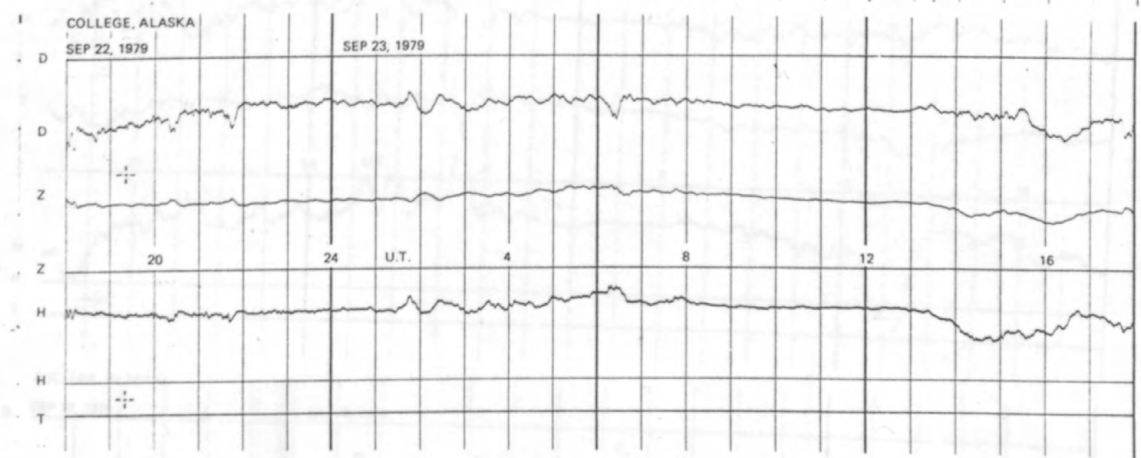
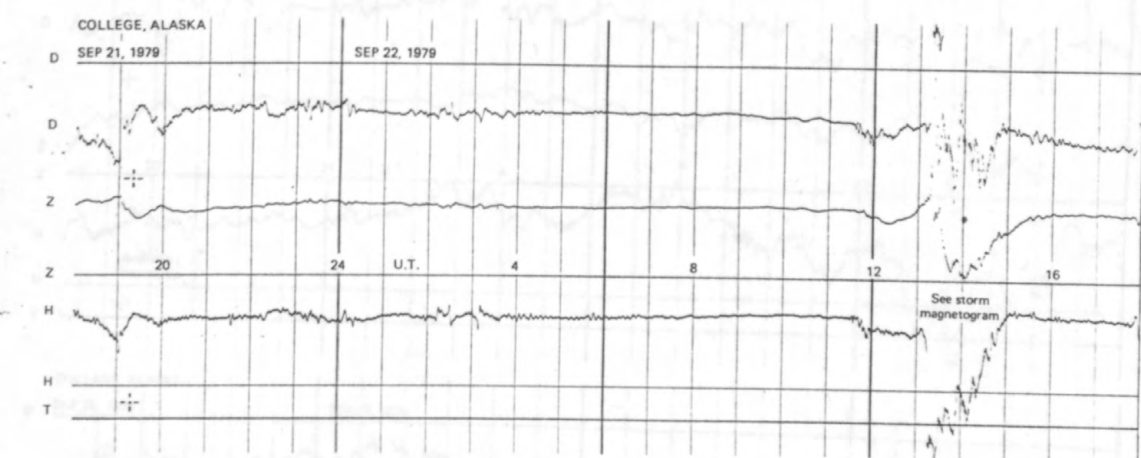
H

T

U.T.

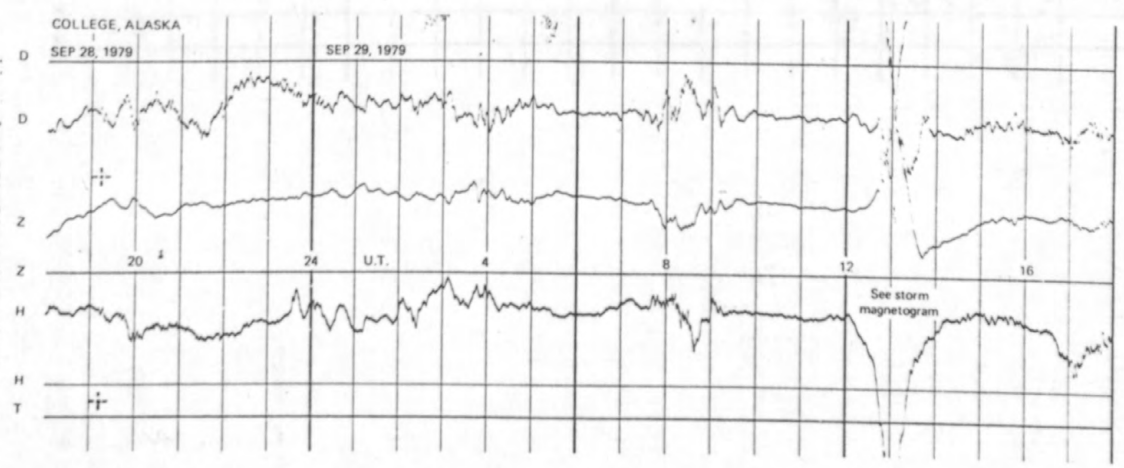
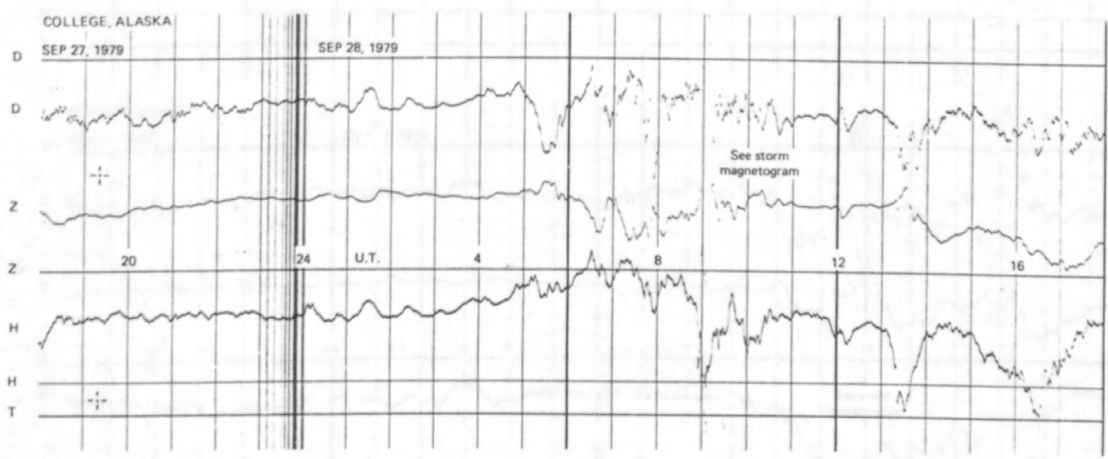
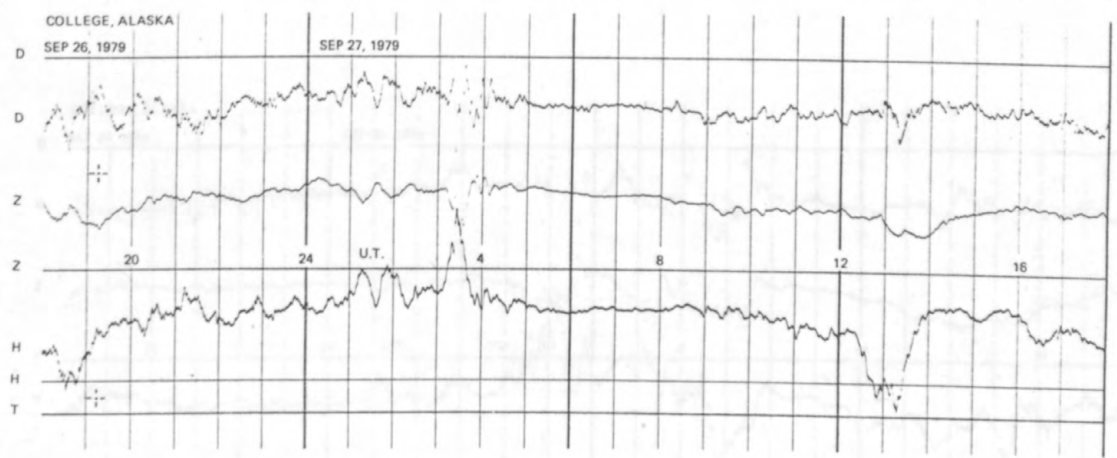
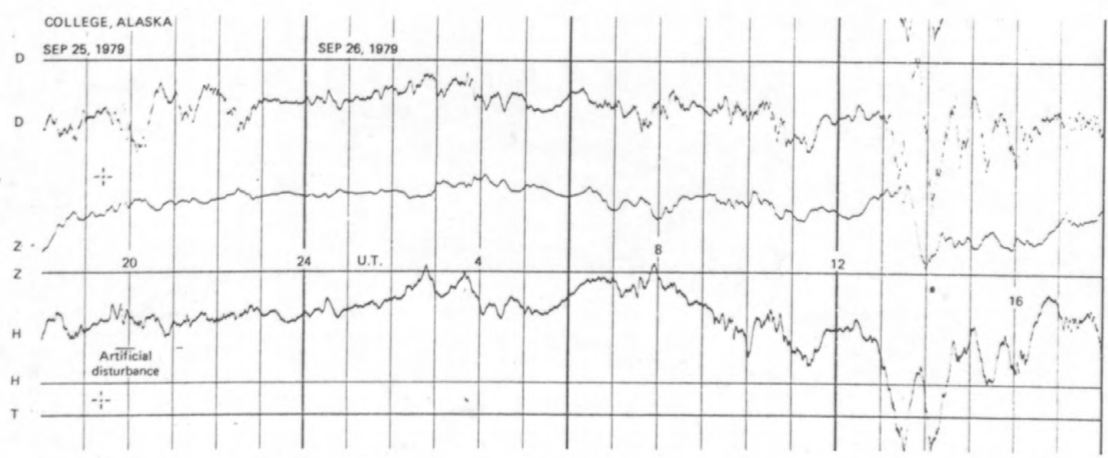
NORMAL MAGNETOGRAMS

200 mm
100 mm
0

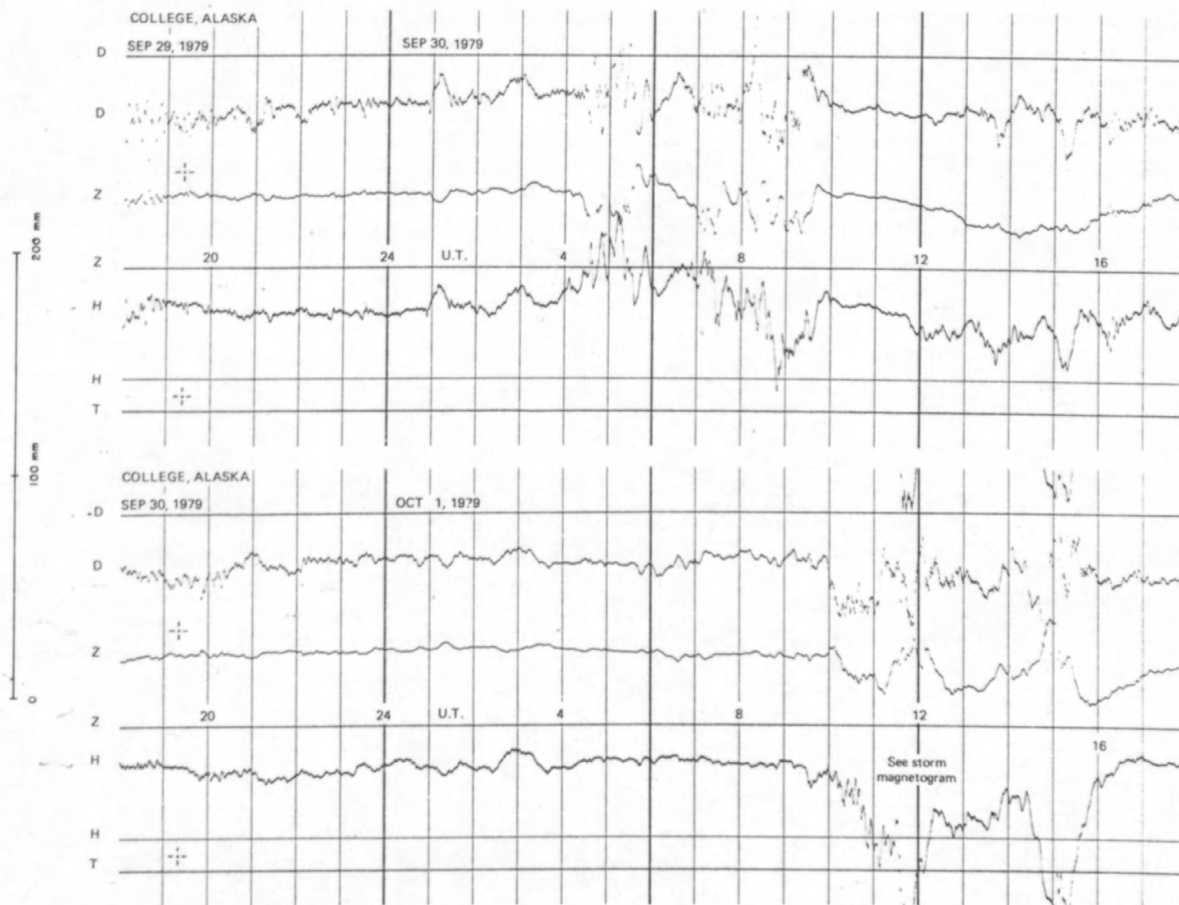


NORMAL MAGNETOGRAMS

200 mm
100 mm
0

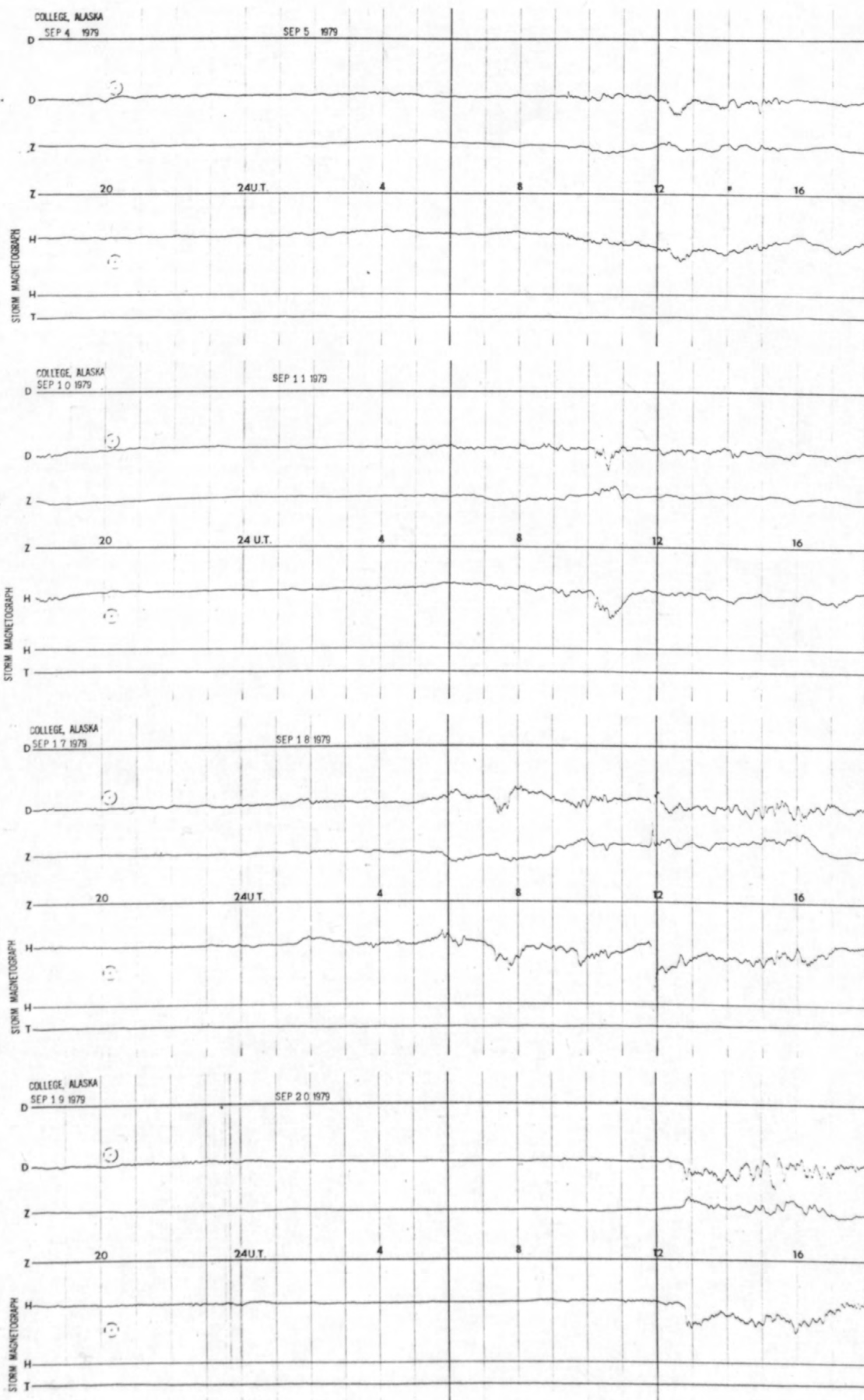


NORMAL MAGNETOGRAMS



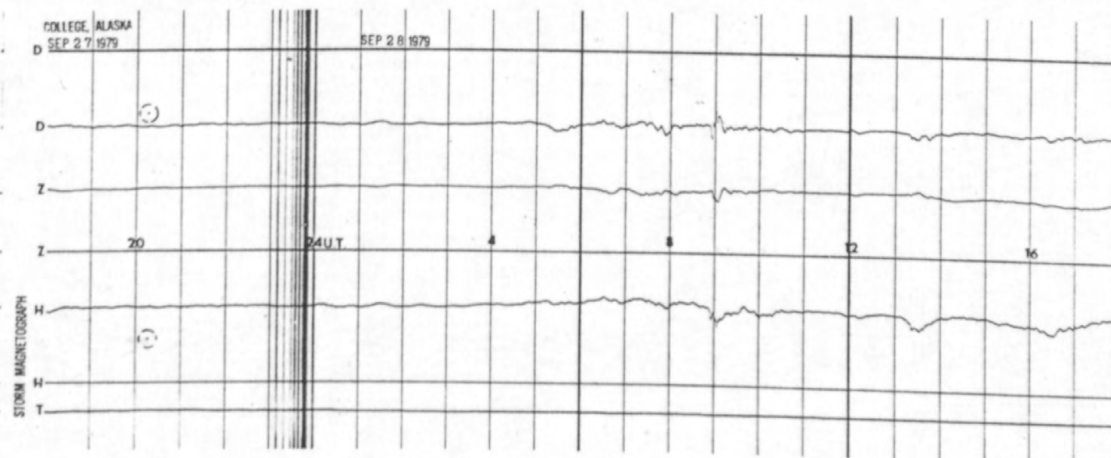
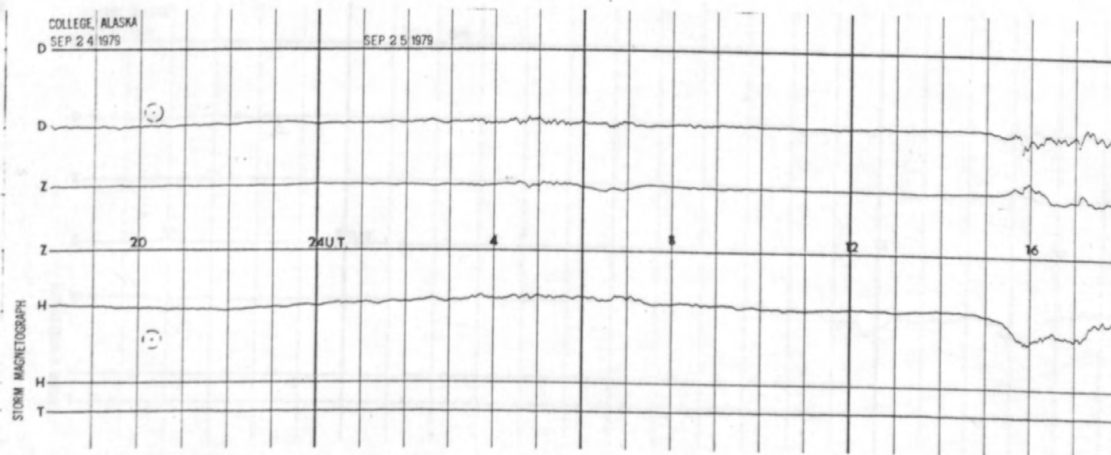
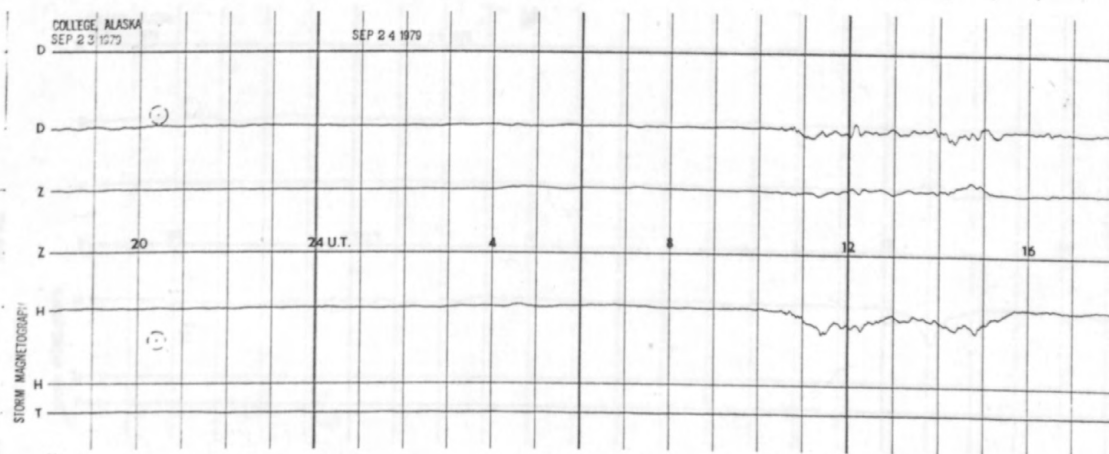
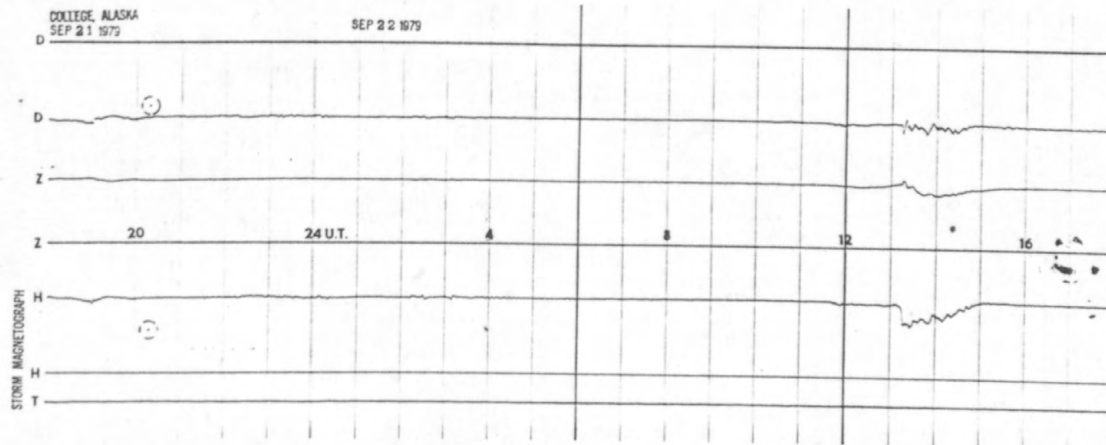
STORM MAGNETOGRAMS

200 mm
100 mm
0



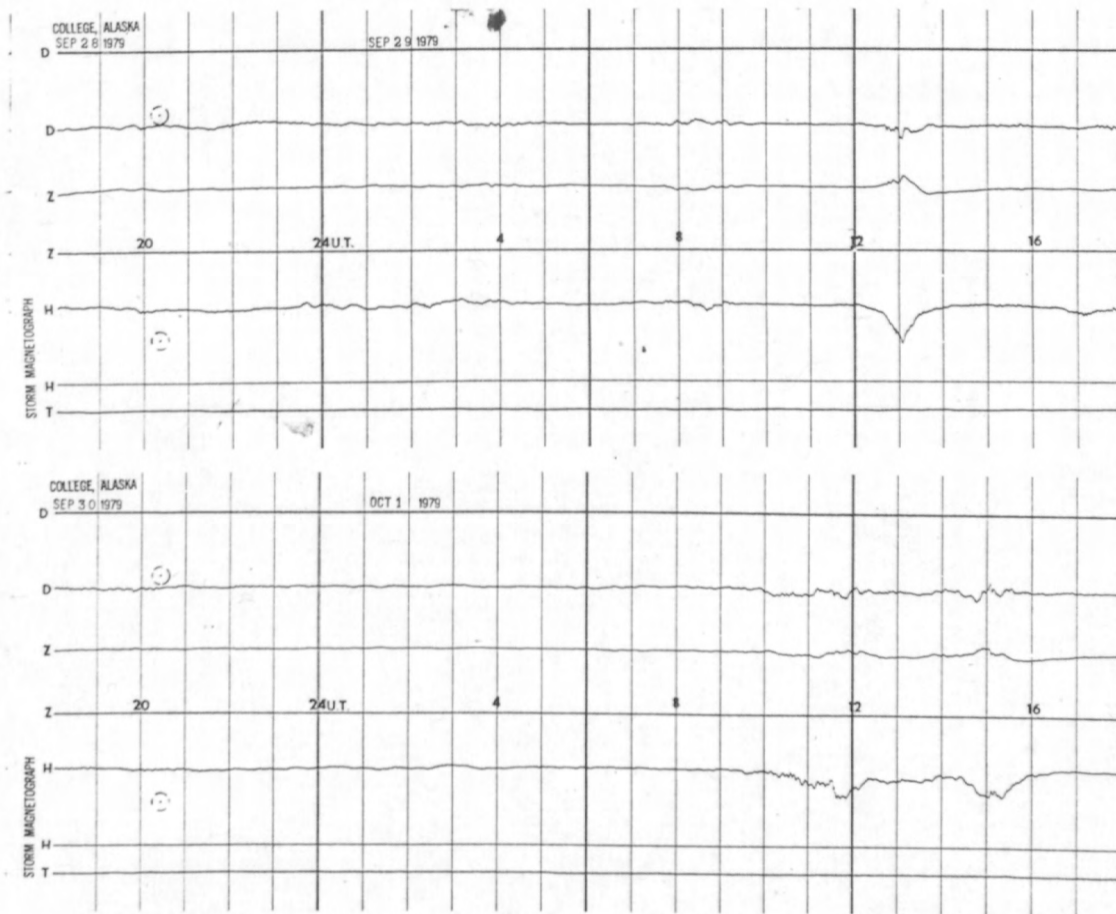
STORM MAGNETOGRAMS

200 mm
100 mm
0



STORM MAGNETOGRAMS

200 mm
100 mm
0



UNITED STATES DEPARTMENT OF THE INTERIOR

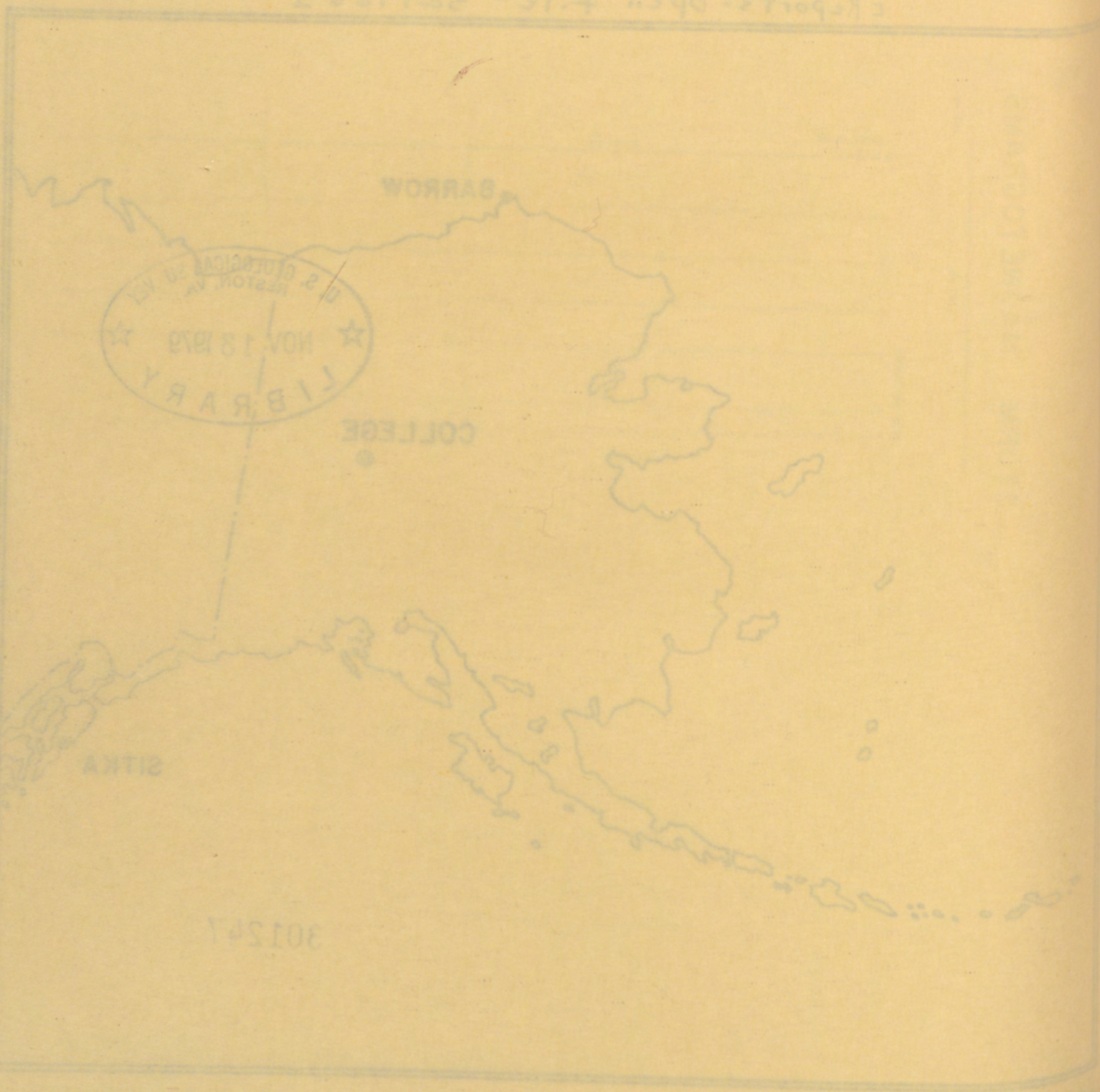
U.S. GEOLOGICAL SURVEY



PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

OPEN FILE REPORT

SEPTEMBER 1979



UNITED STATES DEPARTMENT OF THE INTERIOR

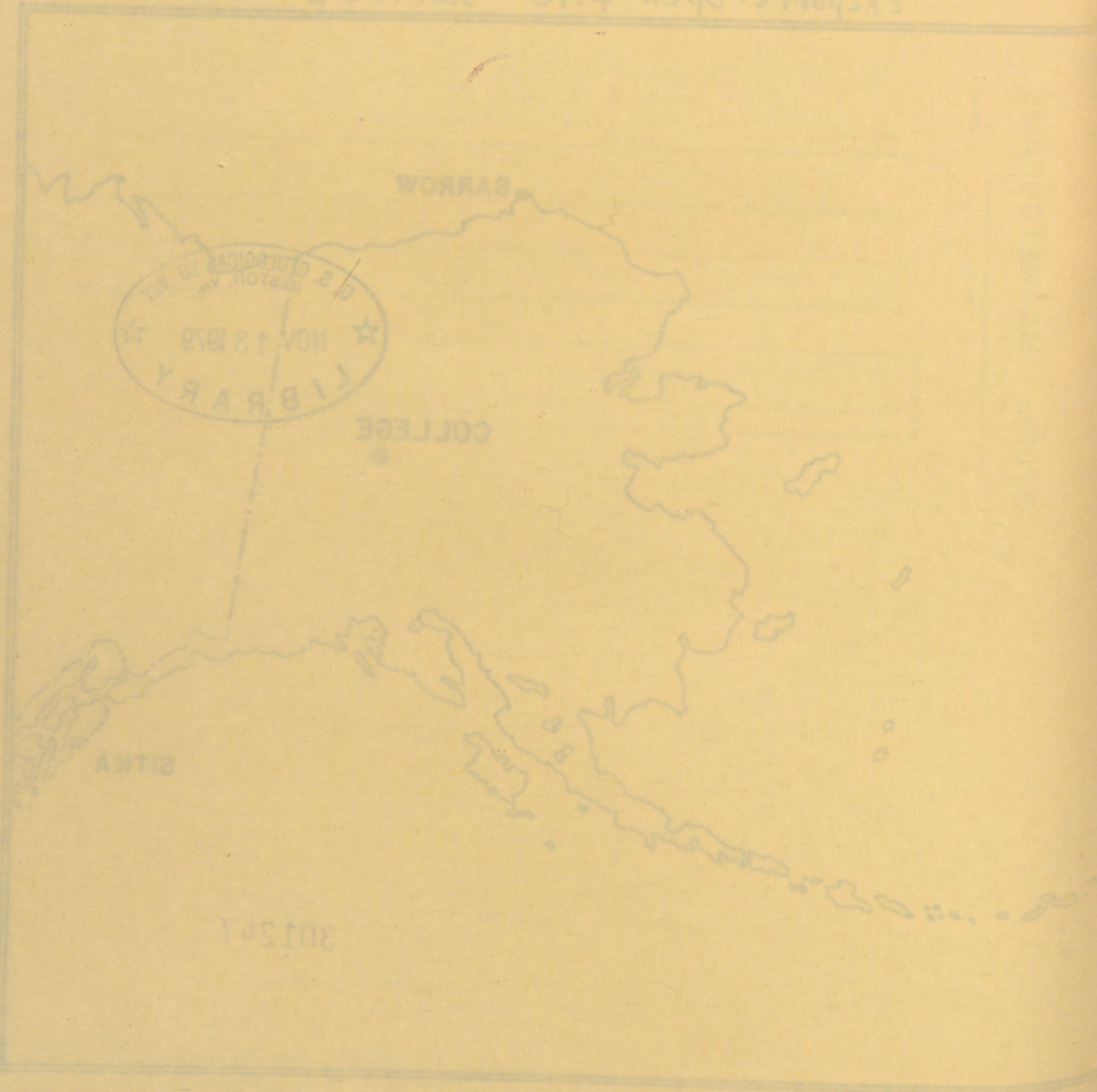
U.S. GEOLOGICAL SURVEY



PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

OPEN FILE REPORT

SEPTEMBER 1979



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