UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

JULY 1982

OPEN FILE REPORT 82-0300G

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, T.K. CUNNINGHAM 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.

ORDER OF CONTENTS

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..... $+64.8^{\circ}$
Geomagnetic longitude..... $+256.9^{\circ}$
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, A_K : The K-Index is converted into an equivalent range, A_K , 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 A_K . 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 A_K is as follows:

Gamma Range	K - Index	A_K
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 A_K as follows:

A_K 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

JULY 1982

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	4	4	5	5	4	3	1	3	29	26	SUDDEN COMMENCEMENTS		
2	3	4	3	5	5	2	2	2	26	22	d	h	m
3	3	3	2	4	1	1	1	1	16	10			
4	1	1	0	2	1	0	1	0	06	02			
5	0	0	1	1	2	2	0	0	06	03			
6	2	2	3	4	3	4	3	2	23	15			
7	4	4	5	3	4	6	5	2	33	35			
8	3	4	3	5	4	5	3	3	30	26			
9	3	3	3	4	4	1	2	2	22	15			
10	3	3	2	5	4	2	2	2	23	17			
11	3	3	2	4	5	4	5	4	30	27			
12	3	3	3	5	5	6	6	4	35	41			
13	5	5	6	6	5	8	7	9	51	136			
14	9	6	5	6	6	7	4	5	48	113			
15	4	4	5	5	5	5	4	3	35	36			
16	4	3	5	7	5	5	3	5	37	49			
17	5	5	4	4	5	2	1	4	30	29			
18	4	4	3	6	6	4	3	2	32	35			
19	4	3	3	3	5	6	3	4	31	30			
20	5	5	4	4	4	1	1	2	26	24			
21	2	2	2	1	3	3	3	3	19	11			
22	4	2	3	2	5	5	2	2	25	21			
23	3	2	2	5	4	3	2	2	23	17			
24	4	6	7	6	5	6	7	3	44	76			
25	4	5	5	5	5	4	2	3	33	34			
26	4	4	5	6	5	5	3	3	35	39			
27	3	5	5	4	4	5	3	3	32	30			
28	4	4	5	6	4	4	3	3	33	33			
29	3	3	5	6	7	5	2	2	33	45			
30	3	3	6	5	4	6	4	3	34	38			
31	4	4	6	6	4	3	3	2	32	35			

K SCALE USED:

LOWER LIMIT FOR K = 9.....

CURRENT SCALE VALUE.....

LOWER LIMIT FOR K = 9.....

D

683.8

3.73

2550

H

321.7

7.79

2510

Z

(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 JULY	YEAR 1982
DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS	
			NO OUTSTANDING EFFECTS WERE DETECTED DURING THIS PERIOD.	
IDENTIFIED BY: JBT			VERIFIED BY: JEP	

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
JULY 1982

WDC-A FOR SOLAR-TERRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80502 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(Y)	Z(Y)	day	(3 hr - period)	K	D(')	H(Y)	Z(Y)	day	hr
CO	64°6 N	11	09XX	..	..	..	..	13 14	8 1	9 9	942	5100	3340	17	16
		24	02XX	..	..	..	..	24	3, 7	7	233	1710	790	25	18

JULY

1982

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 7-1-82	2400 U.T., 7-31-82	1.6/mm	3.78/mm	27° 46.8 E
H	0000 U.T., 7-1-82	2400 U.T., 7-31-82	7.88/mm		127748
Z	0000 U.T., 7-1-82	2400 U.T., 7-31-82	7.78/mm		551428

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 7-1-82	2400 U.T., 7-31-82	7.9/mm	29.68/mm	23° 40.4 E
H	0000 U.T., 7-1-82	2400 U.T., 7-31-82	44.08/mm		115378
Z	0000 U.T., 7-1-82	2400 U.T., 7-31-82	48.58/mm		540638

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H				
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
27° 57.4 E	129738	553778

* COMPUTED FROM ^{FIVE} ~~THE~~ QUIETEST DAYS DURING MONTH.

DAYS USED:

JUL

3

4

5

6

21

** (NOTE BELOW)

** DUE TO VERY DISTURBED MAGNETIC CONDITIONS DURING THE MONTH OF JULY 1982,
ONLY 5 DAYS ARE USED TO COMPUTE THE MONTHLY MEAN ABSOLUTE VALUES.

FORM 14-10

MAGNETOGRAM HOURLY SCALINGS

UNIVERSAL TIME

Values are in tenths of mm, and are averages for successive periods of one hour beginning at midnight. Near 01 of local day (122 M.T.) is hour 11 of the 5322 universal day.

FORM NO. 10		MAGNETOGRAM HOURLY SCALINGS																								UNIVERSAL TIME		M.T.		CO		MONTH		YEAR		DATE		TIME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
C		U		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H		M		S		H	

FORM 78-108

MAGNETOGRAM HOURLY SCALINGS

Values are in tenths of mm. Use one average for consecutive periods, and use two for jumping or irregular. Hours of no tape: May 1, 1952 (4.30 to 11.00) and May 2, 1952 (1.00 to 1.30).
 Quarterly corrections have been applied. Negative values are in red, with minus sign before.

U.S. DEPARTMENT OF AGRICULTURE
 Biological Service, Wildlife Division
 Bureau of Federal Lands
 Denver, Colorado 80225

DATE: 82 JUL 2

CD

C	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	329	329	334	331	350	343	309	344	308	259	163	300	422	447	397	339	293	315	302	282	285	299	320	345	7176
02	323	324	323	350	368	370	372	326	360	326	292	162	157	233	261	298	275	273	263	284	263	279	297	307	7108
03	312	323	321	320	352	348	341	349	336	258	214	292	316	324	315	315	308	309	310	290	282	281	286	303	7417
04	322	323	325	321	326	320	319	320	310	307	260	267	279	284	298	291	297	302	310	314	306	294	292	300	7327
05	309	312	324	330	323	316	316	314	314	316	336	328	301	320	303	304	306	313	305	300	294	284	278	284	7442
06	283	304	298	305	306	307	306	303	301	169	317	314	314	306	311	313	302	271	213	218	232	223	278	299	6833
07	319	346	385	393	374	346	322	241	265	317	339	361	419	370	299	279	372	269	194	285	299	296	309	323	7824
08	329	332	343	352	386	419	402	390	349	317	349	376	254	217	259	329	343	221	302	312	322	313	312	352	7910
09	366	273	352	361	377	366	264	265	307	313	352	316	258	266	298	311	315	336	331	323	298	311	316	337	7924
10	359	351	336	361	367	429	416	396	363	328	349	431	414	281	328	336	345	318	283	287	273	280	288	291	8215
11	314	312	299	329	353	362	371	326	332	282	318	216	374	566	702	695	576	494	304	192	253	276	297	327	6932
12	341	368	422	425	495	391	370	358	340	313	317	319	603	567	789	690	572	461	309	77	163	260	334	351	9754
13	361	335	316	327	381	258	56	507	290	261	587	643	407	441	456	420	770	198	645	1389	1345	499	417	347	12345
14	82	259	216	200	120	38	57	58	158	448	418	349	231	531	203	208	188	284	284	261	256	341	310	290	4428
15	245	209	215	271	349	373	181	262	271	236	462	475	534	553	612	490	276	222	264	296	316	364	377	371	8254
16	392	367	372	383	430	431	419	340	277	512	342	338	461	398	397	446	557	384	376	339	289	321	269	309	5190
17	366	335	394	371	356	357	384	333	269	266	272	324	336	267	221	275	338	351	333	332	342	341	340	361	7864
18	403	265	356	367	366	380	363	374	323	213	236	551	411	252	461	383	368	357	266	310	307	332	358	362	8554
19	561	342	442	416	422	394	359	352	336	342	331	323	483	363	259	240	241	312	321	329	319	283	311	326	6331
20	363	309	194	123	149	94	32	286	329	348	318	281	286	316	339	341	337	332	335	326	321	312	310	326	6709
21	324	326	339	324	329	350	339	354	339	337	331	329	325	324	315	258	259	305	306	314	265	277	299	320	7632
22	348	365	354	338	329	329	326	289	289	289	321	312	301	378	336	199	289	336	323	323	298	293	300	297	7825
23	317	230	361	362	340	332	263	362	350	329	310	208	174	332	347	262	318	313	282	260	231	260	264	309	7355
24	301	552	347	319	237	56	5	303	336	220	382	367	386	543	352	379	214	145	119	82	264	263	301	341	6726
25	354	368	361	312	226	361	346	202	314	350	254	191	247	342	276	178	212	246	299	300	295	329	309	319	7012
26	334	335	375	380	385	371	263	221	243	281	306	332	266	254	255	391	221	264	318	299	300	275	274	316	7539
27	349	343	340	338	367	367	299	246	341	336	334	344	311	252	260	291	250	295	319	302	311	296	305	291	7211
28	332	312	362	367	331	369	278	202	321	292	361	454	146	266	291	240	231	213	239	285	292	299	316	329	7165
29	367	371	340	343	323	318	234	218	277	307	295	419	387	226	314	325	224	203	317	223	287	294	312	322	7461
30	348	339	350	348	346	350	265	254	204	144	308	436	372	330	344	369	393	267	136	248	273	307	333	349	7315
31	331	346	347	374	332	289	14	187	253	369	564	481	441	417	309	402	308	299	278	318	316	312	335	342	7924
SCALED BY																								THC	
CHECKED BY																								JEP EAS	
LISTED BY																								JEP	
PUNCHED BY																								BT	

MONTHLY SUM 241314

MONTHLY MEAN 324

DATES WITH DATA:

[] Scaling uncertain because of magnetic storm.

[] Significant portion of record off chart for part or all of hour; if value is available, it is estimated for missing part.

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

[] Derived from STORM Magnet, converted to Normal Magnet.

MAGNETOGRAM HOURLY SCALINGS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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10	127	240	232	240	11	115	144	250	245	181	161
10	127	240	232	240	11	111	141	250	245	181	161

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523</
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	268	-1	216	279	317	303	482	414	299	257	260	250	261	234	116	57	57	2c2	244	30c	116	234	301	250	199	20
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	8												

[illegible][illegible][illegible]

573	598	619	700	543	406	305	163	230	281	-27	-51	"	48	-89	-55	-100	92	-1	173	224	231	26
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

353	475	335	445	332	761	84	101	511	202	265	222	2
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15	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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17	201	SEC	15C	25C	15C	25C
16	201	SEC	15C	25C	15C	25C
15	201	SEC	15C	25C	15C	25C
14	201	SEC	15C	25C	15C	25C
13	201	SEC	15C	25C	15C	25C
12	201	SEC	15C	25C	15C	25C
11	201	SEC	15C	25C	15C	25C
10	201	SEC	15C	25C	15C	25C
9	201	SEC	15C	25C	15C	25C
8	201	SEC	15C	25C	15C	25C
7	201	SEC	15C	25C	15C	25C
6	201	SEC	15C	25C	15C	25C
5	201	SEC	15C	25C	15C	25C
4	201	SEC	15C	25C	15C	25C
3	201	SEC	15C	25C	15C	25C
2	201	SEC	15C	25C	15C	25C
1	201	SEC	15C	25C	15C	25C

152	210	263	315	367
153	210	263	315	367
154	210	263	315	367
155	210	263	315	367
156	210	263	315	367
157	210	263	315	367
158	210	263	315	367
159	210	263	315	367
160	210	263	315	367
161	210	263	315	367
162	210	263	315	367
163	210	263	315	367
164	210	263	315	367
165	210	263	315	367
166	210	263	315	367
167	210	263	315	367
168	210	263	315	367
169	210	263	315	367
170	210	263	315	367
171	210	263	315	367
172	210	263	315	367
173	210	263	315	367
174	210	263	315	367
175	210	263	315	367
176	210	263	315	367
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178	210	263	315	367
179	210	263	315	367
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199	210	263	315	367
200	210	263	315	367

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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370	277	240	223	382	386	414	360	282	-79	327	33	-69	174	202	214	15
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Preliminary base-line and scale values:

5573 JET
BRANDING
value
value
how interpreted.
> Record all sheets for part
of all of how: a value in

[illegible]

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

NORMAL MAGNETOGRAMS

STORM MAGNETOGRAMS

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STORM MAGNETOGRAMS