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GEOMAGNETIC DATA: BANGKOK, THAILAND
APRIL-JUNE 1966

Douglas J. Barnes, et al

Stanford Research Institute
Menlo Park, California

June 1967

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AD 667957

Geophysical Data Report

**GEOMAGNETIC DATA
BANGKOK, THAILAND — APRIL-JUNE 1966**

By: DOUGLAS J. BARNES JOHN CHAPMAN

Prepared for:

U.S. ARMY ELECTRONICS COMMAND
FORT MONMOUTH, NEW JERSEY 07703

CONTRACT DA-36-039 AMC-00040(E)
ORDER NO. 5384-PM-63-91

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SUPREME COMMAND HEADQUARTERS
BANGKOK, THAILAND



**STANFORD RESEARCH INSTITUTE
MENLO PARK, CALIFORNIA**



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I INTRODUCTION

Geomagnetic observations are being carried out at the Electronics Laboratory of the Military Research and Development Center (MRDC), a joint Thailand-United States organization at Bangkok, Thailand. The cooperation and participation of the staff members of the Thailand Ministry of Defense and the support of the United States Advanced Research Projects Agency and the United States Army Electronics Laboratory have made it possible for the data presented in this report to be accumulated.

The information about the site in Table I is pertinent.

Table I
GEOMAGNETIC SITE AT BANGKOK, THAILAND

Geographic		Geomagnetic		DIP *	Declination *
Latitude	Longitude	Latitude	Longitude		
13.72°N	100.57°E	2.5°N	169.83°E	10°27'N	0°10'W

The equipment at the site consists of the following:

Instrument: Varian V-4938A Rubidium Magnetometer

Full-Scale Sensitivity: 100γ ($10^5\gamma = 1$ gauss)

Chart Speed: One inch per hour

Time Scale: Local time GMT + 7 hours

Range: Step-Variable, in 90γ increments.

* Values obtained from the Geodesy Department, Ministry of Defense, Bangkok, Thailand.

II DISCUSSION

The data contained in this Bulletin are obtained with a Varian V-4938A rubidium magnetometer. The data base is available in two forms: (1) the continuous magnetogram recording and (2) a digital printout every 2 minutes, both measuring the total geomagnetic field intensity (F).

The hourly mean values of the total geomagnetic field intensity are given in Tables II through IV and are obtained by calculation from the digital data. The tabulation is for local mean time (GMT + 7 hours). The monthly mean values vs. local time of day are given in the bottom line of the tables and plotted in Figs. 1 through 3.

The Varian chart recorder used with the V-4938A magnetometer has an automatic range-changing system that shifts the range of the recording by 90γ when either chart extremity is reached. In Fig. 4 et seq. the range of F shown at the left of the chart is for the beginning of the day.

Magnetograms with a mean local time scale (GMT + 7 hours), showing the three most disturbed days in each month are given in Figs. 4 through 6.

Table II

MEAN HOURLY TOTAL GEOMAGNETIC FIELD INTENSITY (F) AT BANGKOK -- April 1966

* Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	765	766	767	767	770	774	775	780	790	811	820	821	806	791	785	781	780	789	787	781	783	743	735	713
2	721	733	730	745	766	766	754	755	785	801	811	815	805	791	756	757	754	753	751	758	757	760	761	763
3	762	761	760	764	765	762	761	767	785	801	811	815	805	791	732	732	732	732	732	732	732	732	732	732
4	772	771	771	771	773	781	776	776	788	803	830	832	824	810	781	774	764	766	772	776	776	775	776	774
5	776	769	733	688	775	773	773	773	781	803	819	831	833	817	799	784	775	774	776	768	756	740	738	729
6	725	702	775	776	781	778	779	778	774	797	810	816	815	805	793	784	781	775	768	755	740	724	731	716
7	701	685	712	772	770	770	777	780	781	794	795	796	795	790	786	780	773	773	767	756	749	744	736	728
8	721	762	766	772	769	767	767	770	786	797	813	821	815	807	799	786	773	771	769	760	748	738	743	732
9	730	723	693	694	695	708	702	702	701	813	832	829	821	814	800	790	783	777	774	767	759	761	755	753
10	775	775	774	775	775	776	777	783	793	812	828	832	828	821	812	799	792	784	781	774	768	758	754	752
11	741	758	754	743	733	718	782	782	792	805	820	827	828	821	812	799	792	784	781	776	768	754	750	752
12	775	780	780	782	783	784	785	794	800	815	831	836	834	833	820	802	787	783	781	774	767	761	760	750
13	782	783	779	788	789	789	790	798	790	828	838	842	831	836	821	814	792	775	755	722	715	717	724	723
14	718	716	712	726	754	758	763	766	783	801	810	810	806	796	787	772	761	754	747	737	736	749	756	754
15	760	763	772	772	773	771	772	780	795	821	834	840	826	817	800	782	773	763	769	769	769	768	766	768
16	772	775	776	777	778	780	777	774	784	799	816	826	825	813	806	797	789	785	782	780	783	786	783	785
17	788	786	788	792	790	791	793	796	804	822	842	846	837	827	816	801	779	778	780	779	774	776	779	776
18	777	777	781	782	782	782	782	787	797	814	832	838	832	820	809	795	789	786	783	782	781	783	781	782
19	782	784	785	785	787	787	790	797	810	828	846	852	842	820	800	788	781	783	787	789	788	787	788	785
20	788	789	790	791	790	792	796	799	808	842	842	849	847	834	804	781	770	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--	--	794	800	807	809	813	811	802	788	778	781	783	782	782	781	780	779
22	777	779	780	782	786	793	795	790	808	821	856	852	850	843	830	785	777	771	766	756	748	734	746	770
23	776	773	769	771	775	776	779	796	813	823	855	783	797	788	770	775	770	773	770	771	769	771	782	789
24	--	--	--	--	--	--	--	--	--	--	--	827	820	801	--	775	775	778	780	779	782	779	780	779
25	779	777	787	785	782	783	784	788	796	819	829	837	833	824	811	799	789	783	781	779	780	759	780	781
26	779	778	780	784	784	786	787	792	805	825	837	840	811	819	--	--	--	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
28	789	791	794	796	795	797	798	804	818	827	835	836	823	803	795	793	784	778	780	782	783	784	784	781
29	780	786	783	781	780	780	784	787	798	813	820	817	807	797	785	780	781	780	772	764	761	763	765	771
30	775	774	778	789	781	779	780	785	799	814	799	802	797	800	--	--	784	773	771	765	755	738	732	735
31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mean	761	763	764	769	773	774	777	781	792	812	826	826	822	810	798	796	779	776	774	769	763	761	762	761

* LOCAL TIME = GMT + 7 HOURS.

TABULATED VALUES ARE THE LAST THREE DIGITS ONLY OF THE TOTAL FIELD STRENGTH (F) IN γ .
TO OBTAIN TOTAL FIELD STRENGTH IN γ ADD 41,000

98-4240-

Table III
MEAN HOURLY TOTAL GEOMAGNETIC FIELD INTENSITY (F) AT BANGKOK -- May 1963

* Day	Hr	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	729	742	746	758	763	769	769	769	769	769	793	790	793	775	783	777	770	753	765	761	761	763	758	759	760
2	760	764	763	765	761	764	773	756	764	773	756	805	820	808	795	773	764	749	730	745	750	751	752	750	746
3	751	760	757	767	773	769	769	769	776	785	798	801	804	795	785	777	775	770	773	777	778	778	777	771	770
4	772	769	769	765	769	767	770	763	780	789	790	790	797	791	792	762	763	754	749	740	752	754	769	766	760
5	761	773	768	763	767	769	767	772	782	796	796	815	824	821	810	804	794	784	780	775	777	773	771	770	770
6	767	782	773	770	766	770	775	752	792	805	811	810	804	801	787	776	769	760	764	770	770	771	772	772	775
7	775	772	773	773	774	795	780	784	799	812	821	821	823	815	809	800	790	782	774	780	779	777	776	775	772
8	777	774	775	775	782	784	787	792	808	827	840	837	831	821	812	800	790	794	787	780	776	780	783	782	782
9	781	779	775	768	779	774	775	783	797	815	823	820	810	799	801	803	802	795	785	776	773	773	773	773	777
10	777	779	777	778	780	784	787	800	817	825	830	827	819	809	809	802	792	786	799	797	797	800	800	800	801
11	801	796	799	797	798	797	795	799	812	824	835	845	845	840	827	827	824	817	816	801	778	779	791	789	789
12	795	798	796	790	796	791	802	805	805	829	832	835	827	817	816	805	794	769	786	781	781	776	773	779	779
13	782	784	785	785	786	784	785	795	802	812	819	816	827	821	805	779	756	763	766	768	770	775	773	776	776
14	779	771	780	780	781	784	790	804	810	826	842	845	834	809	800	792	790	783	783	786	786	785	786	788	788
15	786	789	786	786	785	786	791	796	810	823	843	845	835	816	800	791	788	785	784	784	782	780	781	781	781
16	782	782	781	782	783	783	784	786	800	808	820	823	818	809	799	791	789	786	790	786	775	776	780	779	779
17	776	778	780	785	778	778	781	783	786	801	809	810	810	806	798	788	778	771	775	779	778	776	774	771	771
18	779	772	770	771	769	775	780	783	800	803	809	819	820	814	806	794	781	782	783	784	784	782	784	783	783
19	784	784	784	787	789	790	792	792	792	792	811	812	825	833	835	826	814	806	794	784	782	783	782	777	777
20	777	777	776	774	777	779	789	795	813	824	831	831	829	817	800	789	777	777	777	777	779	781	780	779	779
21	779	775	779	776	794	794	802	814	815	824	830	835	834	825	822	810	796	787	784	784	784	785	785	789	789
22	789	787	786	785	788	790	794	804	815	828	835	837	834	830	820	810	795	793	791	787	789	783	782	784	784
23	787	790	790	790	790	789	797	810	820	830	835	835	834	833	824	818	811	799	789	786	787	787	789	790	790
24	792	792	792	792	794	794	803	814	829	836	854	851	847	832	827	816	806	794	791	790	789	791	792	792	792
25	792	792	794	792	794	795	800	806	821	832	841	845	838	831	820	814	800	791	792	792	792	792	787	782	782
26	780	782	785	787	790	794	800	820	830	837	865	865	870	863	854	834	838	845	844						
27														928	825	814	812	812	813	816	815	815	817	818	818
28	820	822	824	824	827	832	830	832	837	846	848	848	850	857	850	847	846	834	831	833	840	836	832	834	834
29	835	836	842	840	840	842	847	847	853	860	866	866	878	876	874	869	857	848	845	842	842	838	837	840	844
30	845	846	847	848	847	845	846	850	860	865	874	882	886	886	884	872	859	844	840	845	845	852	851	852	850
31	849	846	861	850	843	840	842	843	860	870	887	874	874	874	878	859	802	800	773	809	819	809	816	815	816
Mean	787	789	790	789	791	792	796	802	813	826	835	835	837	832	821	811	802	793	789	792	792	790	790	790	789

* LOCAL TIME = GMT + 7 HOURS.

TABULATED VALUES ARE THE LAST THREE DIGITS ONLY OF THE TOTAL FIELD STRENGTH (F) IN γ.
TO OBTAIN TOTAL FIELD STRENGTH IN γ ADD 41,000

DB-4240-

Table IV

MEAN HOURLY TOTAL GEOMAGNETIC FIELD INTENSITY (F) AT BANGKOK -- June 1966

* Day	Hr	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		816	829	840	839	832	826	823	844	843	847	853	856	857	850	824	821	816	821	830	832	830	830	831	834
2		836	836	836	841	840	832	843	850	860	872	877	880	879	880	792	765	770	758	740	751	755	755	743	740
3		747	747	857	750	751	754	777	785	784	791	795	800	801	791	791	783	775	772	766	764	765	764	770	781
4		773	762	754	761	759	762	769	775	790	801	799	807	806	797	787	778	770	764	766	766	767	770	769	769
5		766	768	768	770	770	776	785	790	809	816	816	812	805	797	795	793	786	786	762	775	784	785	784	781
6		781	782	781	784	781	784	784	784	791	804	815	815	814	809	796	792	789	787	779	777	772	776	773	775
7		776	779	775	774	774	775	778	794	813	827	820	821	823	816	804	783	773	753	760	772	760	759	759	769
8		765	763	767	770	779	776	778	780	783	785	800	815	831	831	814	798	712	754	759	765	765	767	767	769
9		770	772	772	775	775	774	776	779	786	799	815	822	824	822	815	800	781	774	775	776	775	774	773	778
10		779	782	779	778	775	780	779	786	794	804	808	819	820	812	807	801	788	785	787	786	784	780	771	782
11		783	783	786	787	787	787	789	787	789	794	807	817	828	835	835	814	801	790	782	785	787	782	784	781
12		778	782	784	783	792	791	795	798	804	810	822	827	812	812	800	790	783	776	773	757	756	756	760	767
13		769	771	773	771	765	766	764	760	768	784	810	815	809	789	783	771	765	773	772	774	772	774	778	777
14		779	780	779	777	780	780	783	787	795	807	815	818	820	810	795	776	769	760	762	764	767	770	769	770
15		772	771	772	767	770	770	776	780	788	810	824	830	825	822	809	795	781	776	774	777	776	776	775	777
16		780	778	771	781	780	775	778	790	795	818	830	827	825	817	805	793	782	773	776	780	776	775	765	771
17		766	770	772	778	774	777	785	801	822	840	844	841	830	829	797	782	774	776	780	782	789	784	782	783
18		781	781	778	775	771	776	780	787	799	808	816	817	816	810	795	789	781	780	780	785	784	791	793	795
19		792	788	782	786	785	785	787	790	799	810	824	829	823	818	806	794	787	783	784	791	786	780	787	793
20		794	793	788	782	785	785	790	798	804	815	820	822	821	793	783	772	768	772	775	780	776	772	767	766
21		768	773	770	775	778	781	785	787	790	805	801	812	811	804	799	785	770	768	774	777	777	779	774	775
22		778	778	777	778	780	780	781	791	804	814	829	834	826	808	796	784	774	768	772	775	773	778	779	778
23		781	782	782	780	780	784	789	792	810	830	834	843	845	835	830	811	783	762	762	762	763	759	748	749
24		742	744	741	745	760	761	784	793	801	815	830	827	829	832	829	820	794	790	785	790	790	795	792	793
25		781	783	766	760	750	760	765	775	783	782	783	783	788	787	786	794	770	740	734	757	757	759	757	776
26		762	760	757	757	757	768	773	783	787	799	806	806	804	808	793	785	781	773	772	769	766	758	764	779
27		770	768	768	767	764	765	770	773	781	794	800	802	795	794	790	787	780	775	775	773	774	776	775	781
28		779	776	780	776	782	780	783	783	792	800	810	820	820	827	818	805	792	778	779	784	783	784	789	784
29		787	780	772	780	785	780	784	786	785	799	813	816	805	793	785	780	776	779	777	780	780	773	775	777
30		778	777	777	779	779	782	790	793	796	802	807	809	805	792	789	779	770	774	775	776	776	774	773	775
31																									
Mean		776	778	780	778	778	778	774	790	798	809	817	821	820	814	803	791	780	774	773	776	776	775	774	776

* LOCAL TIME = GMT + 7 HOURS.

TABULATED VALUES ARE THE LAST THREE DIGITS ONLY OF THE TOTAL FIELD STRENGTH (F) IN γ .
TO OBTAIN TOTAL FIELD STRENGTH IN γ ADD 41,000

DB-4240

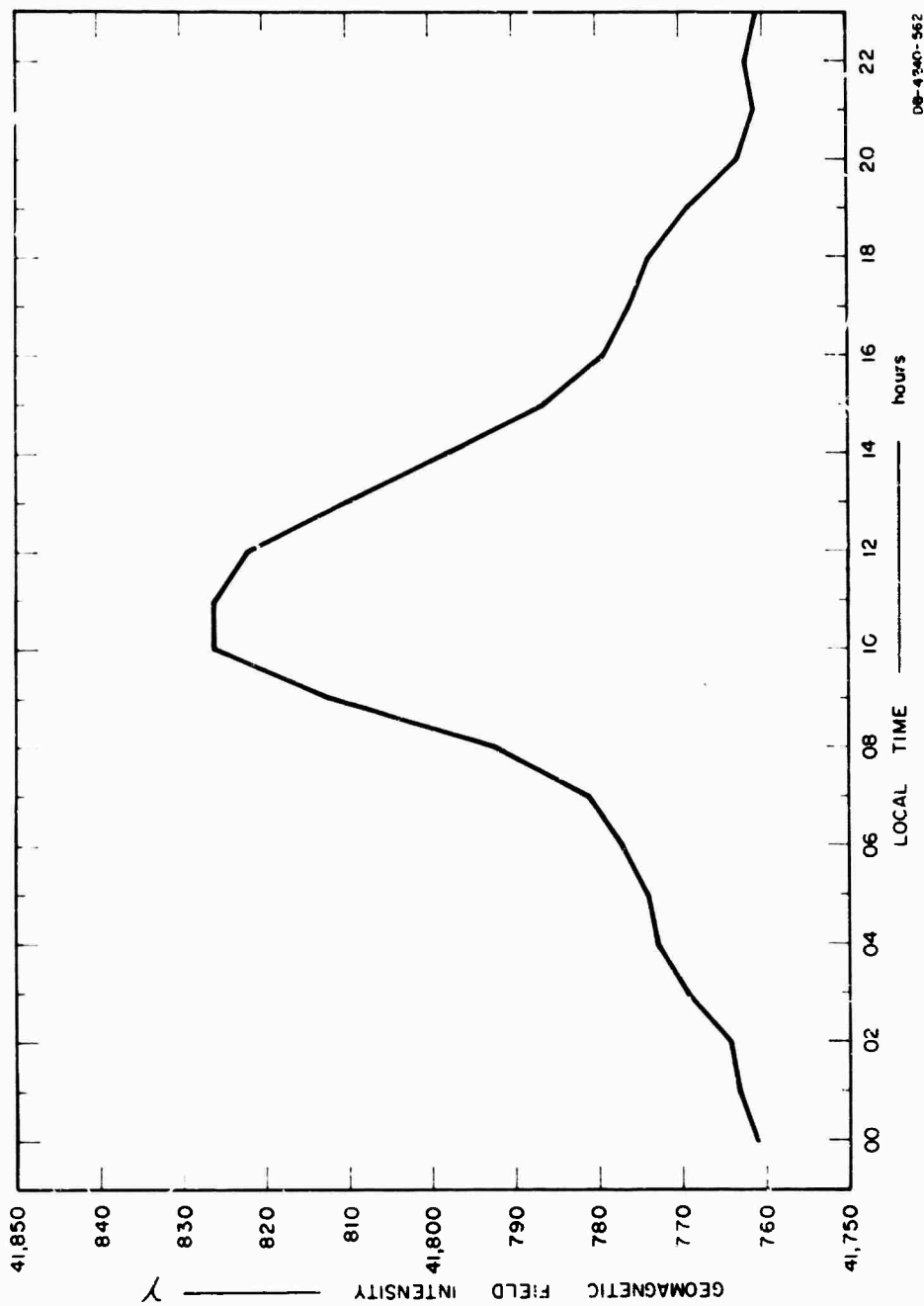
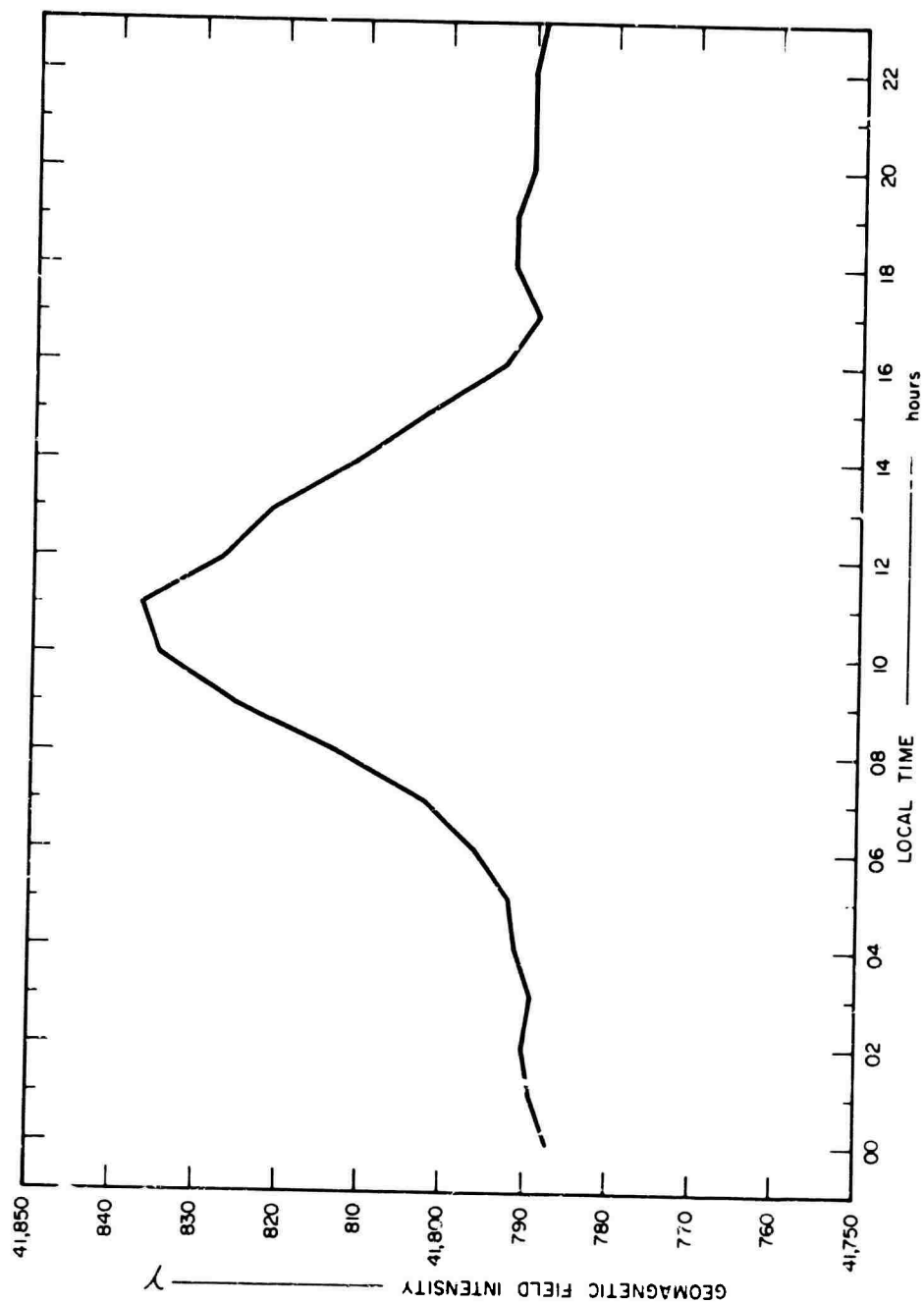


FIG. 1 MONTHLY MEAN TOTAL GEOMAGNETIC FIELD INTENSITY γ AT BANGKOK - APRIL 1966



08-4240-563

FIG 2 MONTHLY MEAN TOTAL GEOMAGNETIC FIELD INTENSITY γ AT BANGKOK - MAY 1966

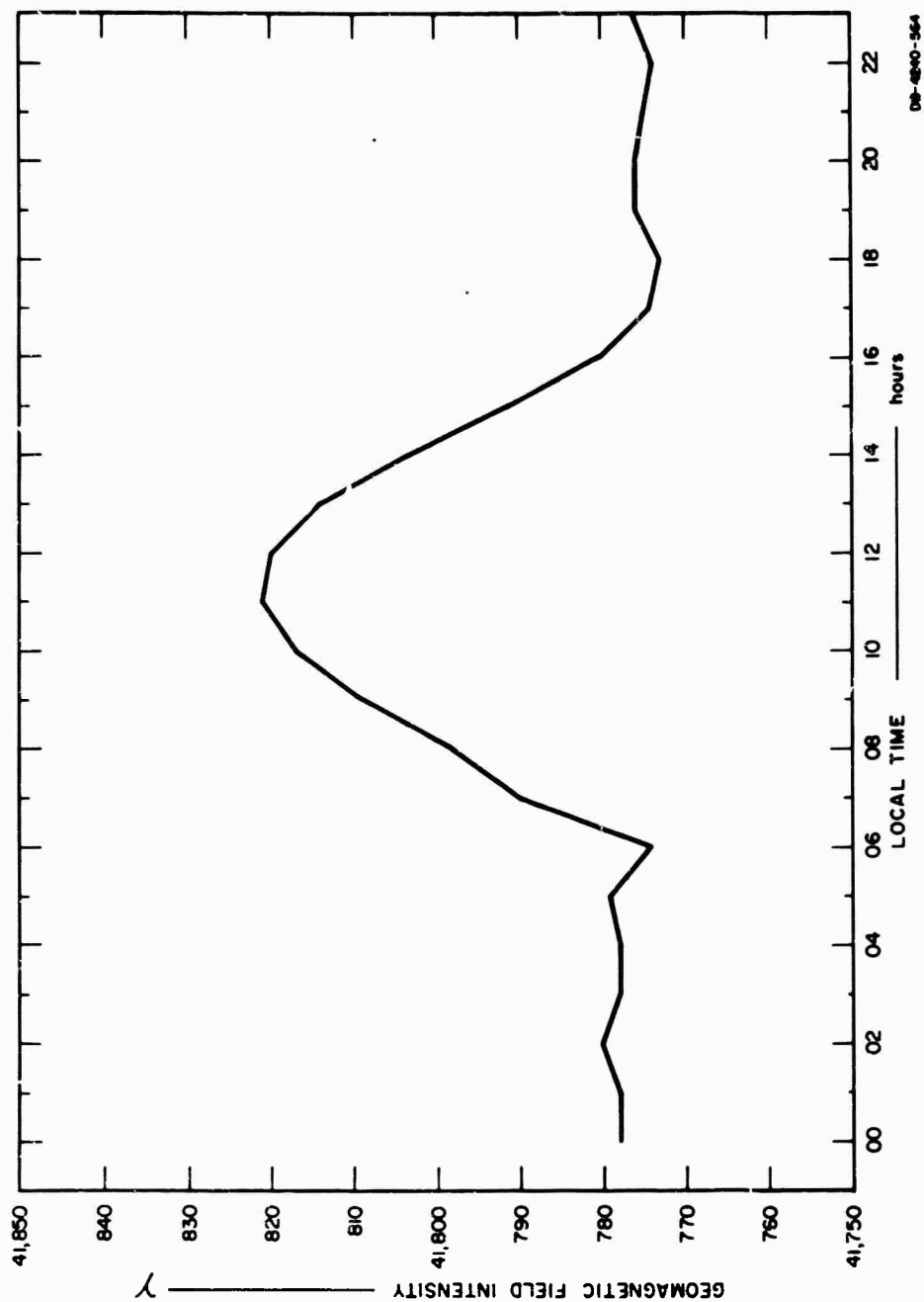


FIG 3 MONTHLY MEAN TOTAL GEOMAGNETIC FIELD INTENSITY (F) AT BANGKOK - JUNE 1966

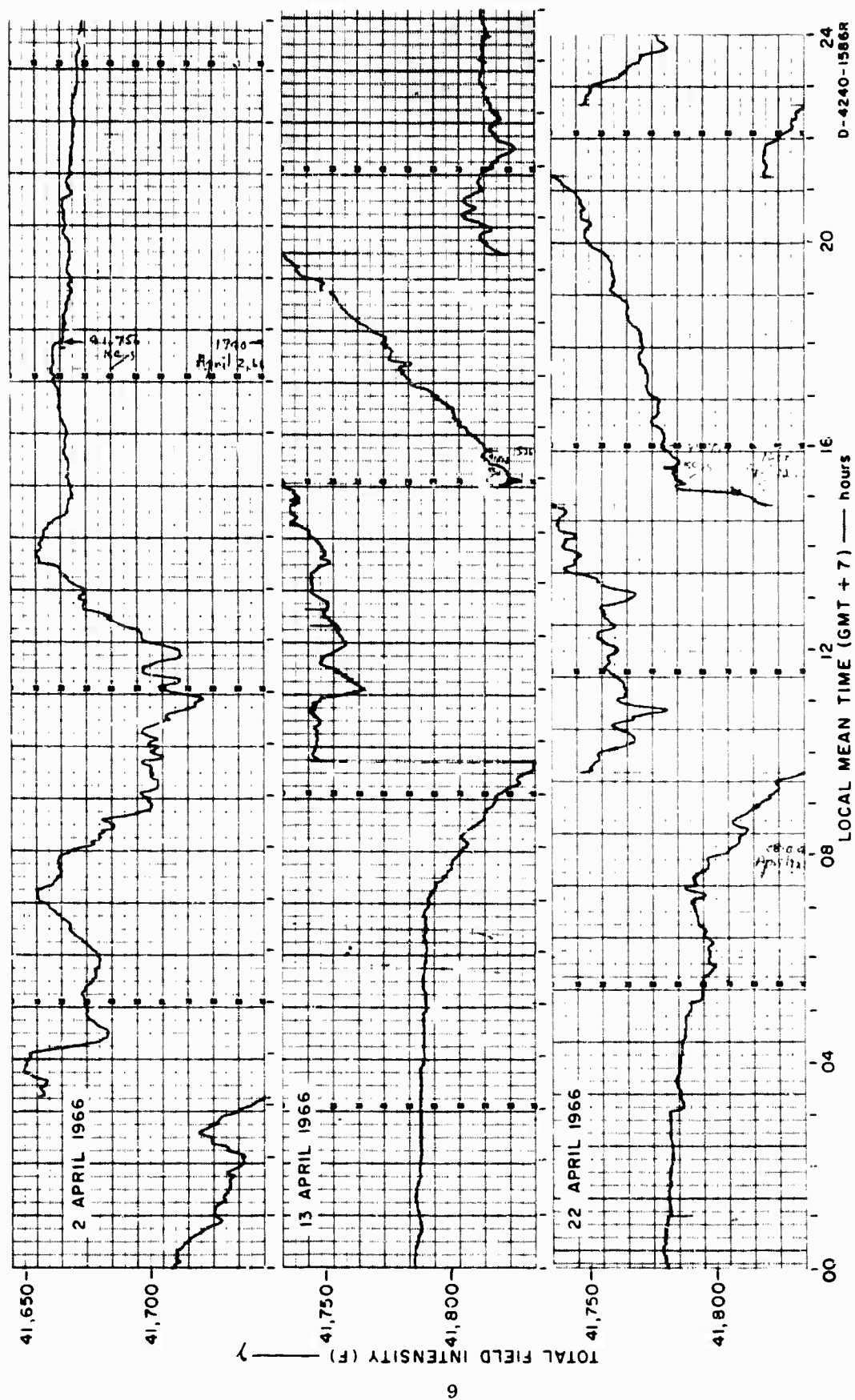


FIG. 4 MAGNETOGRAMS FOR THE THREE MOST DISTURBED DAYS IN APRIL 1966 (2nd, 13th, and 22nd)

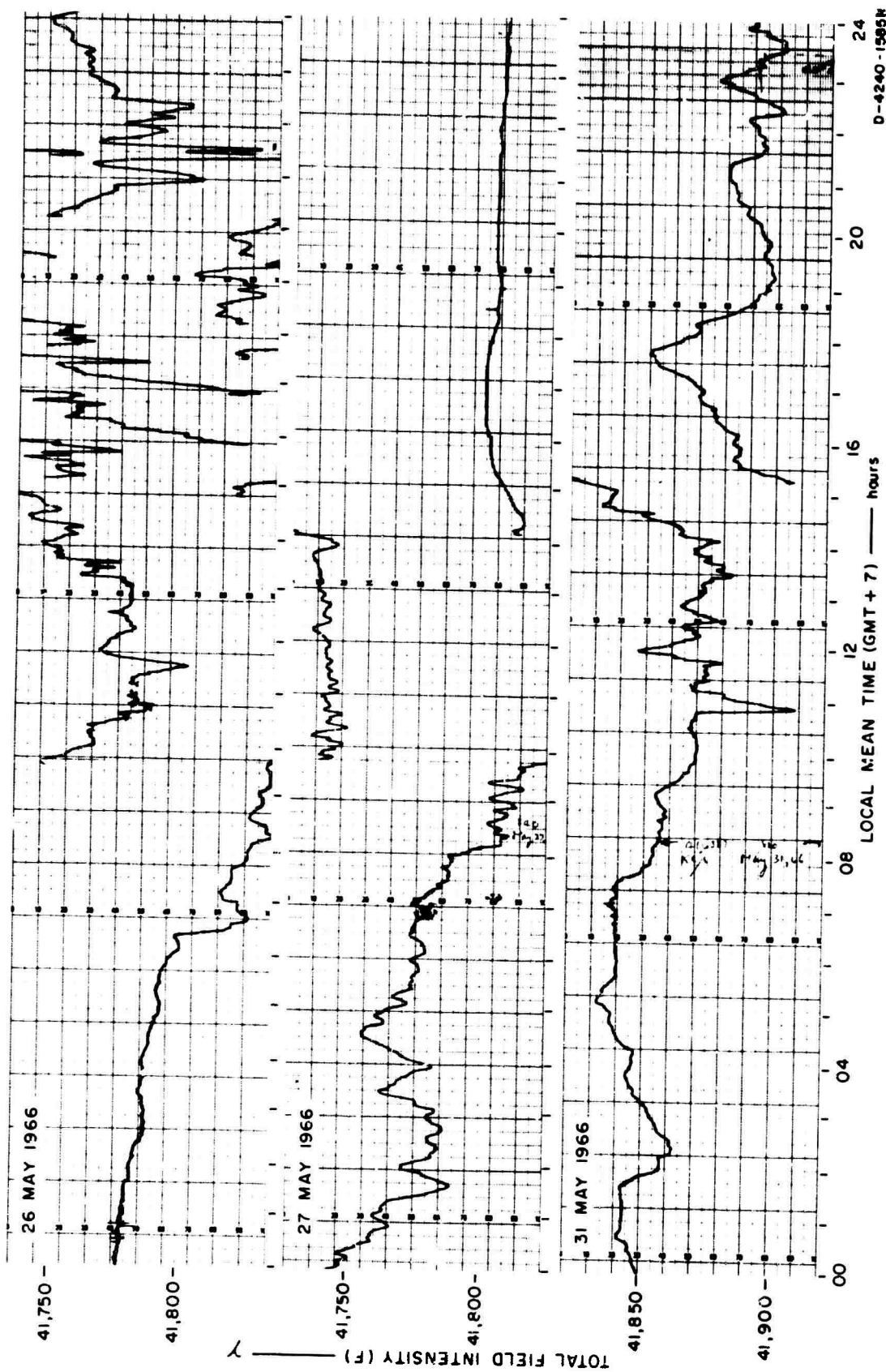


FIG. 5 MAGNETOGRAMS FOR THE THREE MOST DISTURBED DAYS IN MAY 1966 (26th, 27th, and 31st)

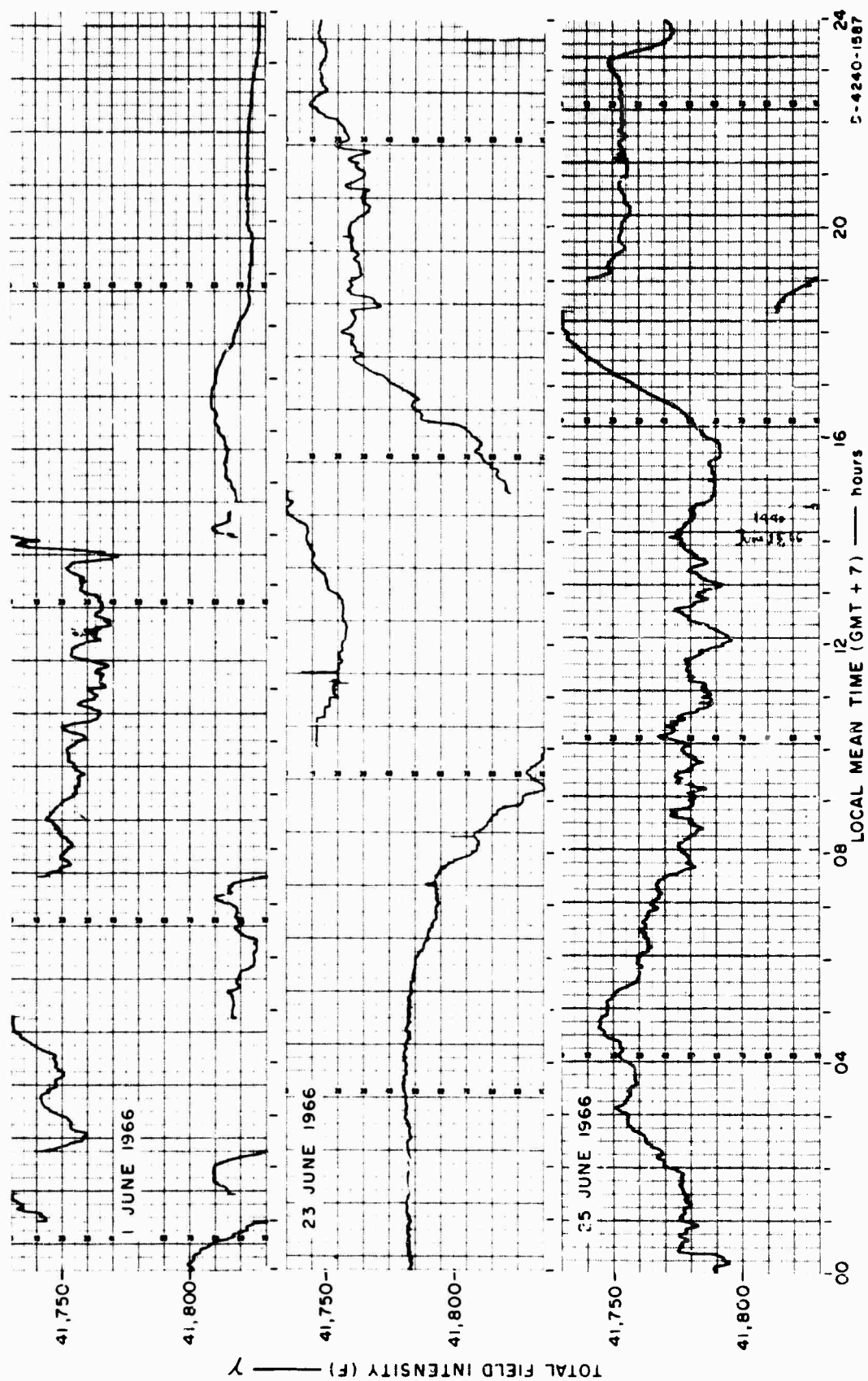


FIG. 6 MAGNETOGRAMS FOR THE THREE MOST DISTURBED DAYS IN JUNE 1966 (1st, 23rd, and 25th)

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Security Classification

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14	KEY WORDS	LINK A		LINK B		LINK C	
		ROLE	WT	ROLE	WT	ROLE	WT
	Magnetometer						
	Total field intensity						
	Rubidium vapor						
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