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THE OBSERVATORIES' YEAR BOOK 1957

Comprising the meteorological and geophysical results
obtained from autographic records and eye observations
at the Lerwick, Eskdalemuir, and Kew Observatories

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PREFACE

The *Observatories' Year Book* was published for the years 1922 to 1937 in continuation of Part III Section II and Part IV of the *British Meteorological and Magnetic Year Book* for the period 1908 to 1921. Further publication was resumed eventually after a long interruption because of the 1939-45 war but in an abridged form as outlined in the next paragraph.

The General Introduction to the Meteorological Tables and the parts of the Sectional Introductions which deal with site, instruments, procedure and tabulations included in the volume for 1938 have served as the standards of reference for subsequent *Year Books*; only important departures from these standards have since been mentioned explicitly. The space devoted to the discussion of observations has been reduced and the monthly tables of individual hourly values of meteorological elements have been discontinued, but summaries of the daily mean values (or Totals), monthly means (or totals) of the hourly values and some maximum and minimum values have been given. The diary of cloud, weather and visibility, and after 1939, the aerological and seismological tables have also been discontinued, but no major changes have been made in the tables of atmospheric electricity and terrestrial magnetism.

Another major review of the contents of the *Observatories' Year Book* has now been carried out and a number of important changes have been made, commencing with this volume. It has also been decided to publish the volumes for 1957 and 1958 out of turn in order that the observations for the period of the I.G.Y. may become available as early as possible. Volumes of the *Observatories' Year Book* up to and including the year 1956 will however conform in style and content to the volumes for 1939 and subsequent years as outlined above, whenever they may be published.

The biggest change in this volume is the omission of the meteorological data for Kew and Eskdalemuir; a punch-card system of recording such data has now been adopted. It has also been decided to omit all mention of the seismological work at Kew. Full details of the seismological measurements are given in the Kew Seismological Bulletin, distribution of which was resumed in 1947 after a break of seven years, and are also communicated to the International Seismological Summary. There are also some changes in the terrestrial magnetism and atmospheric electricity tables; full details of these changes are given in the Introduction to this volume. There is now to be only one Introduction, replacing the General Introduction and separate Introductions to each Observatory. This is followed by the tables; firstly the geomagnetic, auroral and atmospheric electrical data for Lerwick; secondly the geomagnetic and atmospheric electrical data for Eskdalemuir; thirdly the atmospheric electrical and atmospheric pollution data for Kew. The form of the General Auroral Table has been altered and the observations now cover the whole of the British Isles.

PREFACE

It may be of assistance to those who make use of the data in this volume to know the full range of the other work now (1960) carried out at three Observatories and this is detailed below. Requests for information about this other work should be addressed to the Director-General, Meteorological Office, Air Ministry, Victory House, London, W.C.2.

Lerwick Observatory

Full hourly synoptic observations of the weather.

Hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse solar radiation on a horizontal surface, daylight illumination on a horizontal surface (the last named from May, 1958).

Daily measurements of evaporation (from April, 1958) and atmospheric pollution.

Routine radio sonde and radar wind upper air measurements (twice and four times daily respectively).

Regular measurements, normally several times a day, of the total amount of ozone.

Chemical sampling of the air and rain water (from January, 1958).

Eskdalemuir Observatory

Full hourly synoptic observations 06-21h. G.M.T. (three-hourly 06-21h. G.M.T. before May, 1958).

Hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse solar radiation on a horizontal surface, daylight illumination on a horizontal surface (the last named from May, 1958).

Daily measurements of evaporation (from October, 1957) and atmospheric pollution.

Regular measurements several times a day of the total amount of ozone and occasional umkehr measurements of the vertical distribution.

Chemical sampling of the air and rain water (from October, 1957).

Kew Observatory

Three-hourly synoptic observations 06-21h. G.M.T.

Hourly tabulations of pressure, wind, rainfall, sunshine, temperature, humidity, total and diffuse radiation on a horizontal surface, solar radiation at normal incidence, daylight illumination on a horizontal surface, net flux of radiation.

Daily measurements of evaporation and atmospheric pollution.

Records from a set of Galitzin seismographs (3 components) and a short period vertical seismograph.

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LERWICK

INTRODUCTION

DESCRIPTION OF OBSERVATORIES

Lerwick Observatory, Shetland Isles (60°08'N, 0°11'W)

The Observatory is set on a ridge of high ground about 85 m. above M.S.L. and about 2½ km. to the south-west of the small fishing town of Lerwick (population about 6000). The surrounding country is desolate moorland. Views of the station are given in Figs. 2 and 4 together with a contoured map of the surroundings, Fig. 1, and a site plan, Fig. 3 in the *Observatories' Year Book* for 1938.

An account of the history of the Observatory is given by W. G. Harper (*Met. Mag.*, London, 79, 1950, p.309).

Eskdalemuir Observatory, Dumfriesshire (55°19'N, 3°12'W)

The Observatory is situated on a rising shoulder of open moorland about 245 m. above M.S.L. in upper part of the valley of the River Esk in the Southern Uplands of Scotland. It is surrounded by open grass covered hills rising within 8 km. to the NW to nearly 700 m. above M.S.L.

In the *Observatories' Year Book* for 1938 a general view of the Observatory and its grounds is given in Fig. 12; Fig. 13 is a site plan and Fig. 11 is a contoured map of the surrounding country.

The history of the Observatory is described by M. J. Blackwell in a paper marking the fiftieth anniversary of the commencement of observations (*Met. Mag.*, London, 87, 1958, p.129), and by J. Crichton (*Met. Mag.*, London, 79, 1950, p.337).

Kew Observatory, Richmond, Surrey (51°28'N, 0°19'W)

Kew Observatory lies in the centre of an area of parkland about 16 km. west of the centre of London. The ground level is about 5 m. above M.S.L. Outside the parkland, within 1 km., the area is extremely built-up, with a number of small factories within a few kilometres to the north and east.

In the *Observatories' Year Book* for 1938 Fig. 18, 19, 20 and 21 are respectively a plan of the surrounding country (shading indicates built up areas), an aerial photograph of the Observatory, a site plan and a photograph of the Observatory and instrument lawn.

For the early history of the Observatory reference may be made to papers by G. Rigaud¹, R. H. Scott², C. Chree³, O. J. R. Howarth⁴, R. S. Whipple⁵, F. J. W. Whipple⁶ and A. J. Drummond⁷.

Fuller descriptions of the sites of each observatory are given in the 1938 volume of the *Observatories' Year Book* (Lerwick p.14, Eskdalemuir p.84, Kew p.168).

TERRESTRIAL MAGNETISM

Regular recording of the earth's magnetic field commenced at Kew in 1857. By the beginning of the twentieth century however the extension of London's electric railway and tramway system had caused so much magnetic disturbance that it was decided to establish another magnetic observatory in an area considered unlikely to be similarly affected. This led to the building of Eskdalemuir Observatory which was opened in 1908, but magnetic observations were also continued at Kew up to 1924.

Comparisons of the magnetic results obtained at Kew and Eskdalemuir showed however that it would be very desirable to obtain magnetic records as far north as possible in the British Isles and this resulted in the establishment of Lerwick Observatory in 1921. Recording of the magnetic field has been continuous at Lerwick since January 1923.

The principal magnetographs at Lerwick and Eskdalemuir are La Cour instruments each set consisting of H , D and Z variometers. The H and D magnets are about 1 cm. in length, and each is supported by a single quartz fibre. A description of the H variometer is given in Publikationer fra det Danske Meteorologiske Institut, Communications Magnetiques, No. 11 (le variometre de Copenhague). The Z magnet is larger; it is supported by knife-edges resting on agates, and is enclosed in a sealed vessel. A description of this instrument is given in Publikationer fra det Danske Meteorologiske Institut, Communications Magnetiques, No. 8 (la balance de Godhavn).

The recording apparatus is so designed that the three elements are recorded on one sheet of photographic paper with a single electric lamp as source of light. Time marks are made by a second lamp, the circuit of which is closed by a clock contact every five minutes. The width of paper is 10 cm. for each element, but the effective range of the variometer is increased by a number of small prisms which reflect light from the lamp into the variometers, producing a series of virtual light sources.

Scale values of H and Z are measured by passing a current through Helmholtz-Gaugain coils placed over the variometers, the resulting deflexions being recorded on the photographic paper. The current is measured by a milliammeter, which is periodically calibrated. It is thought that the scale values adopted, about $4\gamma/\text{mm.}$ for H and about $6\gamma/\text{mm.}$ for Z , at both observatories are accurate to about 1 per cent. The scale value of D depends only on the geometry of the system, with a small correction for torsion, but it may also be checked by means of a Helmholtz-Gaugain coil. It is about $0.9^\circ/\text{mm.}$ The H and Z variometers are capable of accurate compensation for temperature.

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1. Rigaud, G.; Dr. Demainbray and the King's Observatory at Kew Observatory, London, 5, 1882, p.279.
 2. Scott, R.H.; The history of the Kew Observatory, Proc. roy. Soc. London, 39 1885, p.37.
 3. Chree, C.; Description of the Kew Observatory, Old Deer Park, Richmond, Surrey. Rec. roy. Soc., London, 1st. edn. 1897, p.137.
 4. Howarth, O.J.R.; The British Association for the Advancement of Science: a retrospect 1831-1921. London, 1922.
 5. Whipple, R.S.; An old catalogue and what it tells us of the scientific instruments and curious collected by Queen Charlotte and King George III. Proc. opt. Conv., London Pt. II, 1926.
 6. Whipple, F.J.W.; Some aspects of the early history of Kew Observatory. Quart. J.R. met. Soc., London, 63, 1937, p.127.
 7. Drummond A.J. Kew Observatory, Weather London, 1947, p.69.

In addition to the La Cour standard magnetograph each Observatory also has a La Cour quick run magnetograph. This is similar to the standard set but has a time scale twelve times as great and a more complicated optical system.

Complete sets (H , D and Z) of supplementary magnetographs with lower sensitivity are also operated to provide information during any breaks in the standard magnetograph records and also to provide information when rapid magnetic disturbance renders the traces of the standard magnetograph indecipherable. Details of these instruments can be found in the 1938 volume of the *Observatories' Year Book*.

The La Cour magnetographs at Lerwick are housed in a non-magnetic concrete chamber above ground whose internal size is 4.9m. by 3m. with walls 76 cm. thick. In 1947 an electric heater was installed, controlled by a thermostat. This enables the temperature to be kept reasonably constant for periods of up to few months at a time but the power is insufficient to keep it at the same temperature throughout the year. The thermostat is reset by several degrees at a time, so as to reduce the number of changes to a minimum. The time for a cycle of temperature changes (i.e. the time between successive operations of the thermostat contacts) is of the order of one hour and a small oscillation of the temperature of the magnetograph is evident from the records, but the amplitude is only about one degree Celsius.

The supplementary magnetographs are housed in a wooden hut. At Eskdalemuir the magnetographs are placed in an underground chamber constructed throughout of non-magnetic material. Within the outer shell of stone and concrete and separated therefrom and from each other by corridors and vaultings are two similar rooms of approximate internal dimensions - length 7.6 m. width 6.1 m. height 3.0 m. The ceilings of the rooms are slightly below the undisturbed level of the surrounding ground. The roof portions of the outer containing shell is covered with a thick layer of earth which forms a mound. Electrical heating, thermostatically controlled, was introduced in November 1936 but, although the diurnal range in temperature is normally negligible there is an annual range of temperature of about 4°C.

The temperature in the magnetograph chamber at both Lerwick and Eskdalemuir is read daily at 09h. and the readings are given in Table 4 (for Lerwick) and Table 25 (for Eskdalemuir).

Absolute measurements of each element of the magnetic field are made three times weekly and from these the base line values of the magnetographs are computed, using the mean ordinate of the variometer curve at the times of the absolute observation. The adopted values of the baseline are obtained by a graphical smoothing process. Normally one value is adopted for the whole of one day (0-24h. G.M.T.) except for known instrumental discontinuities, but at Lerwick the temperature compensation of the H variometer is not quite perfect and a baseline change of 2 or 3 γ may occur when the chamber thermostat is altered. Since the magnetograph record shows that the temperature change is substantially complete in 24 hours the adopted base line is on these occasions changed in 17 steps at eight or twelve hourly intervals.

TABULATIONS

Tables 1 and 22 give, for Lerwick and Eskdalemuir respectively, mean values of the horizontal component (H) of magnetic force for periods of 60 minutes ending at the exact hour G.M.T. together with hourly, daily and monthly sums and means. Tables 2 and 23, give similar information for declination (D) and Tables 3 and 24 for the vertical component (Z). Tables 4 and 25 contain the values of the daily extremes of each component, the range during the day and the magnetic character figures K and C , together with the 09h. temperature in the magnetograph chamber.

Tables 1-4 are subdivided into monthly sections and the same monthly parts of each table are grouped together on facing pages. Tables 22-25 are treated similarly. The

days selected by the International Association of Geomagnetism and Aeronomy (I.A.G.A.) as being typical "quiet" and "disturbed" days are marked by the letters "q" and "d" respectively.

In general the declination (D) is measured to the west, and is considered to increase with increasing westerly declination, in accordance with the convention adopted in previous volumes. There is, however, an important exception in the Tables 17 and 42 entitled "Noteworthy Magnetic Disturbances" (see below). In these two tables a movement of D to the east (i.e. decreasing westerly declination) is regarded as positive, in order that the data in the tables may agree in every respect with data already supplied to I.A.G.A.

The magnetic character figures K and C are derived in the conventional way (see e.g. I.G.Y. Instruction Manual Part IV Geomagnetism - Part I). The lower limit for $K = 9$ is 1000 γ for Lerwick and 750 γ for Eskdalemuir.

Tables 5 (for Lerwick) and 26 (for Eskdalemuir) give the mean monthly and annual values of the magnetic elements H , D and Z together with the values of the North Component (X), West Component ($-Y$), Inclination (I) and Total force (F). The values for H , D and Z are also given for the international quiet and disturbed days.

Tables 6 and 7 (for Lerwick) and 27 and 28 (for Eskdalemuir) give monthly seasonal and annual means and frequency distributions of the daily range for each component (H , D and Z). For this purpose "Winter" is defined as the four months November to February, "Equinox" as March, April, September and October and "Summer" as May to August.

Tables 8 and 29 contain values of the Q index (from July 1, 1957). This index gives a measure of the magnetic disturbance in the H and D traces during intervals of 15 minutes centred at 00h; 00h. 15m; 00h. 30:, etc. (i.e. covering the periods 23.52½ to 00.07½ etc.) throughout the day. The entry for each day consists of 96 figures on a scale 0-9, T, E (T standing for 10 and E standing for 11). Full details of the definition of the Q index and the methods used in scaling it are given in the I.G.Y. Instruction Manual Part IV Geomagnetism - Part I and in a paper by J. Bartels and N. Fukushima "A Q index for the Geomagnetic activity in quarter-hourly intervals" Abhandlungen Akad. Wiss. Gottingen Math-Phys. Klasse. No. 3 1956, but, briefly, it can be said that the figure allotted for each 15 minute interval is a measure of the maximum deviation of the H and D records from what it is estimated the records would have been on a perfectly quiet day. The figure is first allotted from the H magnetogram and then increased if necessary by inspection of the D record. The lower limits of the ranges corresponding to the figures 0-9. T, E. are as follows (expressed in γ):-

	Q	0	1	2	3	4	5	6	7	8	9	T	E
Lower limit		0	10	20	40	80	140	240	400	660	1000	1500	2200

There is no upper limit for the highest index. At Lerwick and Eskdalemuir the estimated quiet day curves are normally drawn lightly in pencil on the magnetograms using templates, the position of the template being adjusted by reference to the preceding and following charts as necessary.

The next set of tables (9-16 for Lerwick and 30-38 for Eskdalemuir) give data on the diurnal inequalities of each magnetic element. As recommended by a resolution of the Commission for Terrestrial Magnetism and Atmospheric Electricity and approved by the Conference of Directors at Warsaw in 1935 the diurnal inequalities are all uncorrected for non-cyclic change, but the values of the non-cyclic change are also given separately (in tables 14 and 37).

Some information is given for Eskdalemuir but not for Lerwick. This includes the

diurnal inequalities of the North (X) and West ($-Y$) components and the Inclination (I), and values of the first four harmonic components of the diurnal inequalities of the North, West and Vertical components.

The inequalities of X , $-Y$, and I have been computed from those of H , D and Z by means of the formulae:

$$\begin{aligned}\delta X &= \cos D \cdot \delta H - \frac{\pi}{180 \times 60} H \sin D \cdot \delta D \\ -\delta Y &= \sin D \cdot \delta H + \frac{\pi}{180 \times 60} H \cos D \cdot \delta D \\ \delta I &= \frac{180 \times 60}{\pi} \cos I \left\{ \frac{\delta Z \cos I - \delta H \sin I}{\pi} \right\}\end{aligned}$$

in which δD and δI are expressed in minutes of arc, and H , D , and I for any given month are the respective mean values for that month as published in Table 26.

The results of harmonic analysis of the mean diurnal inequalities of X , $-Y$ and Z for the months, seasons and year are to be found in Table 39, in which are given the values of a_n , b_n , c_n and δ_n , in the two equivalent series $\Sigma(a_n \cos 15nt^\circ + b_n \sin 15nt^\circ)$ and $\Sigma c_n \sin(15nt^\circ + \delta_n)$. In the former series t is reckoned in hours from midnight G.M.T. whilst the published values of δ_n refer to local mean time. The harmonic coefficients have been computed from the inequalities as given in Tables 30-35 but for this purpose the non-cyclic change has been eliminated. A correction has been applied where necessary, because the hourly values are not instantaneous but mean values; the factors by which the coefficients have to be multiplied (see Report of the British Association, 1883, p.98) are 1.00286 for a_1 , b_1 and c_1 ; 1.01152 for a_2 , b_2 and c_2 ; 1.02617 for a_3 , b_3 and c_3 ; and 1.04720 for a_4 , b_4 and c_4 . The values were obtained to 2 decimal places and finally were rounded off to 0.1 γ .

Tables 17 and 42 are entitled "Noteworthy Magnetic Disturbances". This was revised in content in 1947 and now includes all the disturbances which would have been included in the previous tables with, however, additional disturbances of the form of sudden commencements and those which can be recognized as being solar flare effects. The tables are divided into three parts:

- (a) Disturbances noteworthy for some reason (usually, but not always, range) and without a sudden commencement.
- (b) Well marked sudden commencements whether followed by a large disturbance or not.
- (c) Disturbances accompanying a solar flare or other known solar flare effect.

The time given of commencement and ending of disturbances in (a) must depend on an arbitrary judgement. The list of sudden commencements under (b) will usually be a little shorter than that given in the I.A.G.A. bulletins because a somewhat stricter meaning has been given to the words "well marked", and also because the sharp beginnings of small solar disturbances have been omitted. The (c) table has been made as complete as possible by a careful scrutiny of the magnetograms at the time of any known solar flare or solar flare effect, but a small "crochet" can easily be masked by other disturbances. The signs given to the movements of H , D and Z are positive for increasing H , Z and an increase of force towards the east (i.e. a decreasing westerly declination).

Particulars of the same disturbances are given in both the Lerwick and the Eskdalemuir tables, even if the disturbance at one of the stations is relatively small.

Tables 40 and 41 are based on declination data (for Eskdalemuir) supplied to mine surveyors. Each hourly period between exact hours G.M.T. has been classified into one of four groups according to the range of declination within the period. The limits are: less than 5', 5'-15', 15'-30' and greater than 30'; the range is less than 5' in about 85% of the hours.

Table 40 gives the number of occurrences of hourly ranges in each of the last three of the four divisions mentioned above, in each month of the year. Table 41 gives the hourly distribution using data for the whole year.

NOTES ON THE RESULTS

Comparing mean values on all days of 1957 with those for 1956 at Lerwick H increased by 17 γ , D (west) decreased by 5' and Z increased by 34 γ . The changes deduced in X , Y , I and F are +21 γ , -19 γ , -0.5' and +37 γ . The ranges between the extreme values recorded during 1957 were H , 2951 γ , D , 6°26.8'; Z , 1857 γ . The range of 6°26.8' in declination corresponded to a range of about 1628 γ in the component of force perpendicular to the magnetic meridian.

Similarly at Eskdalemuir H increased by 21 γ , D (west) decreased by 6', and Z increased by 19 γ . The changes deduced in X , Y , I and F are +26 γ , -25 γ , -1.0' and +25 γ . The ranges between the extreme values recorded during 1957 were H , 2793 γ ; D , 3°16.8'; Z , 1112 γ . The range of 3°16.8' in declination corresponded to a range of about 956 γ in the component of force perpendicular to the magnetic meridian.

Absolute standards of magnetic force at Lerwick and Eskdalemuir

Horizontal Component

Since January 1, 1934 the standard absolute instrument for the measurement of the horizontal component at Eskdalemuir has been a Schuster-Smith coil magnetometer. A complete description of this instrument and of the method of using it is given in the Philosophical transactions of the Royal Society A.223, 1922 p.175. Essentially the instrument consists of a Helmholtz-Gauguin system of two coils of wire accurately wound on a hollow marble cylinder, and a small magnet suspended at the centre of the coil system. Current from a 100 v. storage battery (kept solely for this purpose) can be passed through the coils and can be very accurately adjusted to a series of known values by means of a potentiometer and a standard cell. A horizontal magnetic field is set up at the centre of the coil, of a magnitude slightly greater than H and approximately opposed to it in direction. The coil is then rotated in azimuth until the resultant horizontal field, as indicated by the alignment of the small magnet at the centre is found to be exactly at right angles to the earth's field. In this position, if δ is the angle between the direction of the earth's field and that set up by the coil system, A the constant of the coil (i.e. the field due to unit current through the coil) and i the current, then

$$H = A i \cos \delta$$

Since 1939 at Lerwick the standard instrument has been a Smith portable coil magnetometer reconstructed to operate as Schuster-Smith instrument.

In addition three Copenhagen Quartz Horizontal Magnetometer instruments (Q.H.M.s) are available for intercomparison of the H standards at each Observatory and for use as standby absolute instruments.

The coil constant of the Eskdalemuir Schuster-Smith instrument was obtained by a direct comparison with the original instrument of this type, at Abinger. Its potentiometer was calibrated at the National Physical Laboratory in 1933 and again in 1938 and 1953. The recalibrations showed negligible change in the resistances.

The constant of the Lerwick coil instrument was determined in 1932 by comparison with the Schuster-Smith Coil at Abinger and this constant has since been used unchanged. During the magnetometer's modification to act as a Schuster-Smith instrument, however, a small amount of magnetic material was removed from near the suspended magnet. A comparison with the Schuster-Smith magnetometer at Eskdalemuir then showed that the Lerwick instrument read 13 γ low. This was generally confirmed when it was installed at Lerwick in 1939 as it then gave results 11 γ below those obtained with the unifilar magnetometer currently in use as a standard. It was decided that the Lerwick standard of H should be (Coil values + 11 γ) and there was no discontinuity in the published values of H , the term "coil value" meaning the results obtained using the original value of the coil constant as determined in 1932.

However in 1946 comparisons between Lerwick and Abinger using Quartz Horizontal Magnetometer Q.H.M. No. 89 indicated that the Lerwick coil magnetometer (uncorrected by any addition) gave results which were only 5 γ lower than the Abinger Schuster-Smith Coil; i.e. values of H according to the Lerwick standard (coil +11 γ) were 6 γ greater than the values given by the Abinger standard.

In 1947 it seemed desirable to assimilate the standard of H at Lerwick to that at Abinger so that the revised H standard at Lerwick became (Coil + 5 γ). This assimilation was back dated to January 1, 1934; the necessary corrections have been published (see e.g. 1938 *Observatories' Year Book* p.21).

The potentiometer in use with the Coil magnetometer had been calibrated at the N.P.L. in 1938 and this was sent for recalibration in 1953. It was then found that the resistances had changed slightly and that the effect of this, when the new values were used, was to lower the values of H observed by 7 γ . The time of this change could not be identified with certainty and it was decided that no discontinuity should be introduced and that the Lerwick H standard should be altered, from June 1, 1953, to (Coil + 12 γ) using the new calibration of the potentiometer. Although this avoided a discontinuity, it established a new standard for H at Lerwick which was 7 γ higher than the Abinger standard.

Comparisons were made fairly frequently between 1948 and 1957 between Lerwick and Eskdalemuir using Q.H.M.s but it was found that reliable results to an accuracy of 1 or 2 γ could not be obtained by using only one Q.H.M. or by using Q.H.M.s sent through the post. It has been found necessary to use at least 3 instruments, carried personally by a responsible person, with comparisons at one station made both immediately before and immediately after the travelling.

The results of what appear to be the most reliable comparisons between Lerwick and Eskdalemuir Coil instruments are given below:-

(In each case the figure for the Lerwick coil is that obtained from the use of the original coil constant without the addition of any constant factor, and using the 1938 potentiometer calibration up to 1953, and the 1953 potentiometer calibration after that.)

Date	Comparison instruments	Difference Eskdalemuir H - Lerwick H^*
Dec. 1938	Direct	γ +13
Sept. 1946	Q.H.M. 89	+11
April 1948	Q.H.M. 89	+13.5
June-Sept. 1950	Q.H.M. 90, 91, 92	+12
May-June 1957	Q.H.M. 119A, 120, 121A	+15
April 1959	Q.H.M. 119A, 120, 121A	+11

* uncorrected coil values

This evidence suggests that there has been no detectable change in the relationship between the two coils and suggests also that the change in the Lerwick potentiometer resistances occurred between 1950 and the recalibration in 1953, and that the standards currently in use at the two Observatories are in good agreement.

Comparisons between the H standards at Eskdalemuir and Abinger (1954 and earlier) and between Eskdalemuir and Hartland (1959) are given below. The table shows the difference Eskdalemuir minus Abinger (or Hartland). The comparison in 1938 has however a much higher probable error than the later observations.

Date	Instruments used for comparison	Difference Eskdalemuir H , Abinger H or Hartland H
Dec. 1930	Direct at Abinger	γ 0
Jan. 1933	Travelling Kew Instrument	-5
Sept. 1946	Q.H.M. 89	+6
April 1948	Q.H.M. 89	+6
May-Nov. 1950	Q.H.M. 91, 92	+10
July 1954	Q.H.M. 120	+5
May 1959	Q.H.Ms. 119A, 120, 477, 478, 479	+4

There is therefore no reliable evidence of a change in the relationship between the Eskdalemuir and Abinger/Hartland Schuster Smith coil instruments over the last 13 years at least, although a change of some 6γ is indicated following the installation of the coil instrument at Eskdalemuir. When compared with the results shown for the comparison between Lerwick and Eskdalemuir these seem to indicate that all three coil instruments have remained in a very constant relationship to each other over the past 13 years, and possibly therefore since they were installed at their respective Observatories. There remains however the difference of some 6γ between Abinger (and later Hartland) H standard on the one hand, and Lerwick and Eskdalemuir H standards on the other. It is possible that the difference has existed at Eskdalemuir since the coil was brought into use in 1932; at Lerwick the difference seems to have developed after 1950 and was finally accepted when the standard (Coil + 12γ) was introduced in June, 1953.

Declination

The declination is measured at each Observatory by a Kew pattern unifilar magnetometer. The azimuths of both the fixed marks were remeasured by the Ordnance Survey in 1948 and since that date the values then obtained have been used.

The 1948 determination of the azimuth of the Lerwick fixed mark confirmed that the azimuth in use up to that time (based on a determination in October 1922) was in error. From a survey of the results obtained from five determinations made at intervals from 1923 to 1948 it was concluded that (i) the original determination was in error by about $3\frac{1}{2}'$ and (ii) an apparently uniform small drift of about $1'$ occurred between 1923 and 1948. Values of westerly declination published previous to 1948 are too large by amounts ranging from $3\cdot5'$ in 1923 to $4\cdot4'$ in 1948. The corrections for 1938 and previous years are given in the 1938 *Observatories' Year Book* (p.21) and for subsequent years in succeeding volumes. Since 1948 the correct fixed mark azimuth has been used and no corrections to the tabulated values are required.

The observation of the azimuth of the fixed mark at Eskdalemuir in 1948 gave results negligibly different from previous observations and no changes were required in the tabulations.

Vertical Force

The standard instrument in use at Lerwick from 1940 to 1952 was the Copenhagen Balance Magnetometer BM No. 8 and a detailed account of its history up to 1947 is given in the 1938 *Observatories' Year Book* (p.20). Difficulties with its clamping mechanism were however often experienced and in 1952 the mechanism was unfortunately broken. Upon the advice of the Observatory at Rude-Skov it was replaced with a modern instrument, BMZ No. 83, in 1953. Since that date BMZ No. 83 has been used as the Lerwick standard using the original Rude-Skov calibration.

BMZ No. 83 on its arrival in 1953 was found to give close agreement with the existing Z standard which had been carried over from BM No. 8, by the use of the Eskdalemuir BMZ No. 35 in the interim period.

On the 24th November, 1957 the instrument suffered an accidental knock and its readings immediately afterwards were found to be 150γ lower than previously. On the 28th September, 1958 the instrument suffered a further slight jar and a further change in reading was found; the 150γ correction now became 126γ . These additive corrections have been applied to the observed readings since the appropriate dates.

The standard absolute instrument for determining vertical force at Eskdalemuir is a Schulze dip inductor. This instrument measures the inclination of the magnetic field and this has to be used in conjunction with measurements of H (from the magnetograph records) to calculate Z using the relation.

$$Z = H \tan I$$

It consists essentially of a coil which can be rotated continuously and rapidly about an axis which coincides with a diameter of the coil. This axis is itself capable of rotation about other horizontal and vertical axes so that it can be set in any required direction in space; the azimuth and inclination of the coil axis can be read from horizontal and vertical scales respectively. The windings of the coil are connected through a commutator to a Broca galvanometer.

To determine the magnetic inclination the coil is set with its axis in the magnetic meridian (as determined by other means) and the coil rotated steadily (about 360 rev./min.). The inclination of the axis of rotation is adjusted until the galvanometer deflection is the same whatever the sense of rotation. In this position the axis of rotation of the coil is parallel to the direction of the earth's total field and the inclination can be read from the vertical circle.

Two series of settings are normally made, one with the vertical circle facing east and one with the circle facing west.

Measurements are also made regularly with a Copenhagen balance magnetometer BMZ. No.35. The results with this type of instrument have less scatter than those of the dip inductor, but its constants are liable to change (either by slow drift or sudden jump). Consequently BMZ No. 35 is used to identify and measure changes in the Z baseline while the absolute value is determined by the long term measurements with the dip inductor.

The Schulze inductor is nominally an absolute instrument requiring no checking except for the engraving of its scales. Inter observatory comparisons are however a valuable means of checking this and the results of such comparisons are given below. The portable instrument most used as an intermediary has been BMZ. No. 35. It has however been subject to sudden shifts in calibration, probably associated at least in part with the mounting and demounting of the instrument, and it has not always been possible to carry out the desirable number of observations before and after each movement. The estimated probable error of each comparison should be put at least at 5γ and possibly as much as 10γ .

The difficulty of interpretation is shown by the results of particularly careful comparisons in 1954 and 1957, using two BMZ instruments which revealed very different results from those before and after, as shown in the following tables.

Date	Instruments used for comparison	Eskdalemuir Z - Lerwick Z
		γ
1948	BMZ 35	+18
1950	BMZ 35	+14
1952	BMZ 35	+18
1952-3	BMZ 35	+15
1957	BMZ 35 and 53	-23
1959	BMZ 35	+14

Comparisons between the Z standard instruments at Eskdalemuir and Abinger (up to 1954) and between Eskdalemuir and Hartland (1959) are in the next table.

Date	Instruments used for comparison	Eskdalemuir Z - Abinger Z
		γ
1949	BMZ 35	+19
1950	BMZ 35	+14
1951-2	BMZ 35	+19
1954	BMZ 35)	+1
	BMZ 53)	+6
1959	BMZ 35	+14

It is worthwhile pointing out that an error of 6γ in H at Eskdalemuir makes an error of 16γ in Z , when the dip inductor is used. The comparisons with Abinger and Hartland are thus consistent with the supposition that the Eskdalemuir H coil reads high by about 6γ . Alternative explanations seem less probable since the measurement of Z at Abinger and Hartland is by a coil method which is completely independent of the measurements of H .

There are no comparisons between Lerwick and Abinger or Hartland which did not also involve a measurement at Eskdalemuir so that, combining the information given in the two preceding tables and disregarding the anomalous 1954 and 1957 tables, it is seen that within 5γ , Lerwick and Abinger and Hartland Z measurements are in agreement and Eskdalemuir is high by some 15γ .

In view of the difficulties of the measurement of vertical force it has been decided to obtain improved instruments for both Lerwick and Eskdalemuir, and it is hoped to introduce two nuclear precession magnetometers early in 1960. These instruments will measure the total field (F) and are believed to have an absolute accuracy of $\pm 1\gamma$ when used with suitably precise frequency measuring apparatus. The vertical force can then be computed from simultaneous measurements of F and H . The error in Z caused by an error ΔH in the H measurements can easily be shown to be $-(H/Z)(\Delta H)$. For Eskdalemuir the ratio H/Z averages about 0.36 and for Lerwick 0.31. The effect of systematic errors in H (which are believed to be 6γ or less) is thus very small (2γ or less).

A description of this apparatus and details of the results obtained will be found in later volumes of this publication.

AURORA

A special watch for Aurora is kept at Lerwick Observatory. Up to 2200h. each evening observations of the northern horizon and general meteorological conditions are made at intervals of 15 to 20 minutes; if any aurorae are seen continuous observations are made and details of the phenomena observed are noted. If necessary a second observer is called. Elevations of significant points are measured with a simple alidade.

Any aurorae which commence after 2200h. are also noted by the staff making regular synoptic observations and upper air soundings, but these staff may not be able to devote long periods solely to recording the detailed auroral changes. It should be noted that in former years the auroral watch was suspended during the months May to August. During 1957 however, because of the I.G.Y., the watch was continued throughout this period although it was realised that twilight would prevent aurorae being seen for a number of weeks during mid summer, and would in the other months severely restrict the time during which faint aurorae could be seen.

A brief account of the results obtained is given in Table 18. All dates on which the sky remained completely overcast throughout the evening and on which, therefore, no opportunity arose of determining whether or not aurora occurred have been omitted. Those nights on which aurora was actually observed are indicated by the symbol Φ ; other nights on which no aurora was observed, despite at least an occasional interval of more or less clear sky, are indicated by the symbol ... In the latter case also remarks on the weather are added to assist the reader in judging how far the fact of no observation of aurora may be taken as showing that in fact there was no aurora. Each night is described by a letter code which has the following significance:-

a = Conditions favourable for seeing aurora

b = Unfavourable for faint aurora (because of moonlight, mist, thin cloud etc.) but not such as to mask bright aurora.

c = Cloudy but aurora not seen in clear intervals.

ca, cb = Cloudy but with conditions a or b respectively, in the intervals.

Changing conditions are indicated by a hyphen; e.g. a-c.

The detailed observations are available in manuscript and have also been sent to Mr. J. Paton of the Balfour Stewart Auroral Laboratory, University of Edinburgh [I.G.Y. World Data Centre C (Visual Observatory)].

Table 19 is a general auroral table giving a summary of the observations of aurorae in the British Isles. It is compiled from the detailed observations received at the Balfour Stewart Auroral Laboratory.

ATMOSPHERIC ELECTRICITY

The programme at Lerwick and Eskdalemuir is to maintain a continuous record of the atmospheric electric potential gradient as it exists over open level country in the immediate neighbourhood, at the height of one metre. This is also done at Kew Observatory but there, in addition, regular measurements are made on fine afternoons of the air-earth current. These latter are expressed as mean values covering the period of observation which is normally about 20 minutes centred on about 1430h. G.M.T.

Continuous Potential Gradient measurements

The instruments used for the recording of the potential gradient are similar in principle at all three Observatories. An insulated boom projects through the wall of the building and is caused to take up the potential of the air because a small radioactive collector is fitted to its tip. The potential of the boom is then recorded by an electrostatic voltmeter.

The collectors are of polonium deposited on a copper rod about 4 cm. long by 0.5 cm. diameter; these are recoated periodically by arrangement with the Government Chemist and a fresh collector is brought into use each quarter. Tests at Kew Observatory in 1959 showed that the strength of a new collector is usually between 80 and 200 micro-curies. A note about the supply of the collectors and of the techniques used in plating them is given in *Nature*. 1955. 175. p.965.

The potential of the boom is of course affected by the presence of buildings, although it is assumed that this potential is always proportional to the potential gradient in the open. Standardising measurements have therefore to be made of the true potential gradient at a suitable open site. The ratio of the potential gradient in the open to the potential of the boom is called the exposure factor and is expressed in the units (metre^{-1}).

The methods of making the standardisation measurements of potential gradient are different at each Observatory.

At Lerwick an insulated wire with a polonium collector fixed to its centre is stretched horizontally between two stout wooden posts about 9 m. apart. The centre of the wire is exactly 1 metre above a levelled piece of ground. The potential of this wire is observed at 1 minute intervals for a period of 10-20 minutes using a Wulf electrometer, the times of observation being chosen to coincide with the minute dots on the electrograph. From the mean value of the observed potential and the mean reading of the electrograph an exposure factor is calculated. Observations are made in fine weather and as many as possible are made. Smoothed monthly means of the factors so obtained are used in the reduction of the records.

At Eskdalemuir absolute observations of potential gradient are made with a Wulf electrometer using a small pit about 50 yards from the main building. The electrometer is placed inside the pit and from the electrometer a thin metal rod (0.4 cm. in diameter) projects vertically upwards through a hole in the metal lid covering the pit. A polonium collector is fixed to the rod at exactly one metre above the ground level. It has been shown experimentally that the potential of the rod is the same (within experimental error) as that of a stretched wire at one metre exposed to the same potential gradient.

The observer shuts himself in the pit and takes readings of the electrometer every half minute until 15-30 readings have been obtained. As at Lerwick observations are made in fine weather and at least six per month are aimed at. From the mean potential of the Wulf electrometer over the period and the corresponding mean value of the record, the exposure factor of the electrograph is obtained.

For any given month a mean exposure factor is used and this is a smoothed running mean using observations made during the preceding and following months.

The absolute measurements at Kew are made with the Wilson apparatus in the underground laboratory; these are described on page 16.

At Lerwick the boom potential is recorded by a Benndorf electrograph which since 1926 has been installed in the west corner of the Office Block. Though there is distortion of the equipotential surfaces by adjacent houses etc. and though the site is a comparatively large distance (236 m.) away from the ground where absolute determinations are made, yet the values of the reduction factor suggest that these disadvantages are less serious than might be anticipated.

The collector is screwed into the end of a tube which projects about 120 cm. through a window in the north west wall about 190 cm. from the corner of the building and 476 cm. above ground. The inner end of the tube is supported from a wooden framework by metal rods embedded in cast sulphur insulators; an electrical heater which is situated below the tube keeps the insulation dry even in wet weather. Draughts through the hole in the window are practically eliminated by a system of baffles.

A detailed description of the electrometer is to be found in the *Physikalische Zeitschrift*, Leipzig for 1906 (p.98) whilst the general principle is described in Mathias' "Traité d'électricité atmosphérique et tellurique" (p.54) and in Chauveau's "Electricité atmosphérique" (p.61).

The scale value of the record has varied slightly from time to time following adjustments but has usually been kept between 25 and 30 volts per metre per millimetre which permits a range from about +1500 to -1500 volts per metre in the open to be recorded. Tests of the scale value of the record are made daily with the aid of batteries after removing the collector from the boom; the insulation is also tested regularly. Considering the climatic difficulties the behaviour of the instrument in the matter of insulation has been satisfactory especially since electrical heating was installed in the room. The rate of leak has been small; an average value for 1957 was such that the instrument would lose half its potential in 20-30 minutes.

Tests of the rate of rise of potential of the Benndorf recorder and electrograph boom with a polonium collector fitted, after being earthed, were made at various times in the years 1954-1957. It was found that with a freshly plated collector the potential rose from zero to half the final value in about 4-6 seconds, but that this time increased after the collector had been in use. This loss of efficiency was found to depend almost as much on the weather as on the radio active decay of the polonium. The regular use of fresh collectors ensures that the time taken for the Benndorf to reach half its final potential is not allowed to exceed 20 seconds. The rate of leak is thus so very much less than the rate of charging that the difference between the potential of the boom and that of the air surrounding it is negligible.

The electrograph at Eskdalemuir consists essentially of a quadrant electrometer, with a small mirror on the vane which reflects a light spot onto a sheet of bromide paper wrapped around a drum rotated by clockwork. From 1936 until 1954 the electrograph boom projected through a pipe in the North wall a few feet to the west of its present position; it now projects through a small wooden door in the wall of a room.

The boom is supported on insulators, formerly of sulphur but now, since October 1957, of polythene. Tests of the insulation of the boom and electrograph are made frequently (about 3 times per week in 1957). The insulation was in general, very satisfactory throughout the year.

The scale value of the record was between 1.2 and 2.0 v./m./mm. during 1957 and this combined with an exposure factor of about 10 means that one mm. on the record corresponded to about between 12 and 20 volts per metre in the potential gradient over open level country.

The Kew electrograph, which is also a quadrant electrometer recording photographically, was moved in April, 1940 from a low building known as the Clinical House to a room in the main Observatory Building; the new position is 18 m. to the east of the former position. In March, 1941 a metal fire escape was erected on the wall above the boom and this reduced the recorded potential by nearly 50%. This was compensated by increasing the sensitivity of the recorder by an approximately similar amount. The radioactive collector is now 90 cm. from the window of the building through which the boom projects and 360 cm. above ground level. The scale value of the electrograph has been fixed at about 17 volts per metre per millimetre.

The electrograph became unreliable in May, 1953 and from then until the end of 1955 the continuous records of potential gradient have not been published. Reliable recording started again on 1st January 1956.

Air earth current and conductivity measurements at Kew

Measurements of the earth current and potential gradient are made in an underground laboratory using a modified Wilson apparatus. From these observations the conductivity can be calculated. The apparatus was devised by C.T.R. Wilson* and is described in detail by Scrase†. Briefly, it consists of an insulated brass plate, mounted with its top surface flush with the ground level, and connected to a sensitive electrometer. The test plate can be covered when necessary with an earthed cylindrical cover, and can be maintained at any desired potential (usually zero) by a small charged variable capacitor (called the compensator). The method of using the instrument at Kew differs slightly from that adopted by Wilson, who used the readings of the position of the Compensator to obtain the charge on the test plate. At Kew the compensator is used merely to keep the plate at zero potential and the charge is measured by reading the deflexion of the electrometer. The potential gradient is measured by the charge induced on the plate when it is exposed to the earth's field and the air earth current is measured by finding the charge collected by the plate during a known period (usually five minutes).

The potential gradient F is given in volts per centimetre by the formula

$$F = 4\pi (9 \times 10^{11}) C v / A$$

where C is the capacity, in farads, of the system (when shielded), v is the potential acquired by the test plate after being exposed to the field, earthed and then shielded, and A is the area of the test plate.‡ The potential gradient found in this way is, to a very close approximation equal to that found by measuring the potential at a height of 1 m. in the open part of the grounds with a stretched wire apparatus.

The air earth current is given in amperes per square centimetre by the formula

$$i = C \delta v / A t$$

where δv is the potential acquired by the plate in t seconds. The value of δv used is the mean result from four observations, each lasting five minutes. The observations of the current are sandwiched between measurements of the field strength and from the mean values of i and F the conductivity λ is deduced. This conductivity is that due to positive ions only since measurements are made only with positive fields. No observations are made in precipitation and fog.

From 1st July 1949 to the end of 1955 trouble was experienced with the Wilson test plate apparatus and the observations of air earth current and conductivity during the period have subsequently been found to be unreliable. These observations have not therefore been published.

* Wilson C.T.R. Camb. Proc. Phil. Soc. 13, 1906 pp.184 and 363.

† Scrase F.J. London. Meteor. Off. Geophys. Mem. VII No.60. 1934.

‡ In practice, at present, half the potential gradient observations are made by a slightly different procedure, less desirable in principle, but giving negligibly different results; the plate is shielded, earthed and then exposed to the field and its potential measured.

The observations of the potential gradient with this apparatus during this time were checked however on a number of occasions by simultaneous observations of the potential of a stretched wire at one metre above the ground level; the differences between the two methods of observations occasionally reached 15 per cent but the mean difference was only 4 per cent, the Wilson measurements being the greater. In view of the trouble with the apparatus it was decided that from July 1949 onwards until the end of 1955 the stretched wire observations should be the standard and that before being used for electrograph standardisations the Wilson observations should be corrected to allow for the differences between the two. Throughout this doubtful period the observations of potential gradient with the Wilson apparatus have been considered of sufficient value to publish, but the differences found between these observations and those made with the stretched wire apparatus must be borne in mind.

The instrument was overhauled late in 1955 and from 1st January, 1956 the records and tabulations are considered reliable.

TABULATIONS

As was stated in the preface to this Year Book the layout of the atmospheric electricity tables has been altered. The information now given is substantially similar to that provided for the I.G.Y. returns.

Table 20 (for Lerwick), 43 (for Eskdalemuir) and 45 (for Kew) contains the mean value of the potential gradient for periods of 60 minutes ending at exact hours G.M.T. The entry for those hours, however, for which the mean is indeterminate because of large fluctuations is made according to the following code:- Z+ means an indeterminate but positive value, Z- an indeterminate but negative value and Z± an hour when the gradient was indeterminate in both magnitude and sign. In addition the entry for hours when precipitation is observed or recorded is marked with an asterisk.

Mean values and sums are given for each hour and for the months and years using only hours without precipitation and for which the entry is not Z. The number of hours used for each mean is given. Estimated values are entered in brackets and are included in the sums and means. Besides this the monthly and annual mean potential gradient are given using only the entries for 0a days (or for "selected quiet days" at Kew Observatory). The definition of 0a days is given in the next paragraph; the definition of "selected quiet days" at Kew is as follows:- normally 10 quiet days are selected in each month, these being calendar days characterised by no negative potential gradient, no large irregular movements, no indication of inferior insulation and no large non-cyclic change. When there are not 10 calendar days in a month the number can sometimes be made up by using other spells of 24 hr. The purpose of these entries is to enable comparisons to be made with previous years for which corresponding information has been published.

In Tables 21, 44 and 46 (for Lerwick, Eskdalemuir and Kew respectively) the duration of negative potential is tabulated and an electrical character figure is assigned to each day. At Kew the following scheme is used for the latter entries:-

- 0 denotes a day during which, midnight to midnight, no negative potential was recorded.
- 1 denotes the existence of negative potential at one or more times during the same period but with a total duration of less than 3 hr.
- 2 denotes negative potential extending in the aggregate to 3 hr. or more during the same period.

Besides allocating to each day a number as done at Kew, Lerwick and Eskdalemuir Observatories also allocate to each day a symbol, either "a" "b" or "c". The definition

of these is as follows:-

- a denotes that within the 24 periods of 60 min. for which an estimate of the mean potential gradient has to be made there was in no case a range of potential gradient in the open exceeding 1000 v/m.
- b denotes that a range of 1000 v/m. or more was reached in one hour at least but in fewer than six individual hours.
- c denotes that a range of 1000 v/m. or more was reached in at least six individual hours.

During periods of defective record the sign of the gradient is assumed positive when no precipitation was recorded. If precipitation was recorded for less than one hour during such defective periods an approximate value for the duration of negative potential for that hour has been assigned and the total for the day is given in brackets. If this cannot be done the entry for any day with a defective record is -. When because of oscillating gradients there is uncertainty as to the times of change of sign, half the total duration of doubtful sign is accounted negative.

Table 47 contains the results of the measurements of the potential gradient, air earth current and conductivity due to positive ions made with the Wilson apparatus at Kew. Each entry is the mean value for a period of twenty minutes centred about 1430 on the date in question. Monthly and annual means are also given.

It should be pointed out that the unit of potential gradient is volts per centimetre (not volts per metre as in the other tables); the unit of air earth current is 10^{-18} ampere per square centimetre and the unit of conductivity is 10^{-18} per ohm per centimetre.

NOTES ON THE RESULTS

While no detailed discussion of the results is attempted here it is perhaps of interest to point out various marked changes which have occurred since about 1950. Most obvious is the large and continuing fall in the potential gradient at Eskdalemuir. At Kew the air earth current and conductivity are now (1957) about twice the previous long term average but the potential gradient is almost unchanged. At Lerwick the potential gradient has fallen slightly. It seems almost certain that these changes are linked with the deposition on the ground of radioactive debris from nuclear weapon tests.

ATMOSPHERIC POLLUTION

The Owens atmospheric pollution recorder at Kew Observatory was originally installed in 1926 in the building known as the Clinical House. It was transferred in July 1953 to a site in the large Calibration hut some 25 m. to the South west. The level of the intake is about two metres above that of the adjacent ground.

The instrument is described in the Report on observations in the year 1917-18, London, Meteorological Office, Advisory Committee on Atmospheric pollution. Briefly, it consists of a device for passing a fixed volume of air through a filter paper clamped between two halves of a circular orifice; the density of the black stain is then taken as being proportional to the weight of suspended solid matter in unit volume of air. In the Kew instrument each sample of air (6.4 litres) takes about 20 minutes to flow through the filter paper and a sample is taken approximately once an hour.

The density of the stain is measured by comparing it visually with a standard set of shades. The standard set now in use was originally supplied by the Department of Scientific and Industrial Research (D.S.I.R.) in 1942 and was recalibrated in 1948 and 1958.

In addition to the Owens recorder, from which of course the diurnal variation of pollution can be measured, D.S.I.R. have installed daily smoke filters at Kew, Lerwick and Eskdalemuir. These consist of an electrically operated pump which draws air through a filter paper continuously, an air meter being used to measure the volume of air. They are used to obtain the mean daily pollution concentration.

A summary of the results obtained at Kew with the Owens filter is given in Table 48. In this table are hourly means of the concentration of suspended matter, in milligrams per cubic metre, for each month, the seasons and the years. Winter is taken as the months January, February, November and December, Spring as March and April, Summer as May to August and Autumn as September and October.

The data from this instrument are also published in a different form in the various Reports of the Atmospheric Pollution Research Committee, (D.S.I.R., "The investigation of atmospheric pollution", H.M.S.O. published yearly). The results of the observations made with the daily smoke filters are also published in these volumes.

During 1957 the highest estimate of pollution at Kew was 1.9 mg./m^3 , this value occurring at 14 hr. on December 3rd. There were 9 days on which the mean hourly concentration of pollution reached 1.0 mg./m^3 ; the number of hours credited with 1.0 mg./m^3 or more was 31 of which 28 were in December.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

JANUARY 1957

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 9000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2	491	490	489	489	491	490	490	489	489	489	484	481	469	469	473	480	483	474	479	484	491	492	491	492	491	485	2641
3	491	486	490	487	487	489	491	488	488	485	483	480	469	477	488	497	498	499	510	517	574	562	540	500	439	498	2946
4	474	462	456	458	458	458	457	459	460	458	457	460	460	457	461	468	472	472	470	475	479	479	476	479	476	466	2181
5 q	478	480	479	478	476	479	481	478	469	466	466	463	463	465	472	474	476	481	484	488	489	487	487	484	488	478	2468
6	488	489	491	491	491	491	491	487	485	481	472	471	469	472	474	478	483	488	493	496	495	492	489	487	485	486	2660
7	487	486	487	492	494	502	503	501	494	486	476	468	468	462	468	480	491	496	498	501	503	507	506	503	497	491	2788
8	497	495	496	497	495	494	495	499	492	489	482	480	480	478	484	488	494	495	498	500	499	500	497	495	495	493	2823
9	490	494	489	481	485	495	495	492	490	479	472	464	464	474	476	482	486	500	496	500	500	482	478	472	476	485	2648
10 d	481	482	477	478	478	476	479	482	480	476	468	464	464	468	472	476	491	485	487	481	470	475	459	465	462	475	2412
11	463	449	436	457	476	499	468	475	480	460	462	450	450	453	478	491	498	529	494	487	486	482	485	457	462	474	2377
12	463	472	474	476	476	473	474	472	445	432	436	449	449	446	440	456	469	476	481	483	486	486	483	485	474	467	2207
13 q	481	487	483	478	467	480	485	485	476	464	460	462	462	462	469	471	476	484	488	492	494	494	492	494	488	480	2512
14 q	495	489	491	490	493	493	494	495	494	489	476	467	467	461	462	474	487	493	497	498	500	498	495	493	488	488	2712
15	490	492	493	494	495	497	500	500	493	489	482	478	478	468	468	475	484	490	495	497	492	492	495	495	496	490	2750
16	495	497	498	497	495	500	502	501	497	485	480	476	476	477	470	467	490	491	494	489	488	499	497	495	496	491	2776
17	489	494	495	495	492	498	496	496	489	479	472	468	468	463	465	475	474	487	493	490	490	491	487	491	491	486	2660
18	492	492	495	495	492	490	495	494	491	480	473	465	465	465	474	478	485	492	495	495	493	487	491	498	496	488	2703
19 q	496	497	496	495	498	501	504	501	494	483	474	469	469	471	479	481	483	487	490	492	495	496	496	494	491	490	2763
20 q	497	497	498	498	501	504	504	504	504	498	500	476	476	481	481	495	493	478	487	483	484	486	487	486	488	492	2810
21 d	487	479	486	484	488	492	492	492	490	483	473	464	464	464	470	483	495	499	495	495	498	501	503	503	503	488	2719
22 d	502	499	492	483	482	502	502	496	472	486	467	463	463	463	515	512	545	619	867	919	777	612	344	45	292	515	3356
23 d	370	132	-6	262	272	265	399	418	429	440	446	449	449	441	440	449	447	452	447	459	459	468	463	463	460	389	324
24	456	456	451	456	460	464	465	463	448	395	393	444	444	428	435	462	472	465	472	499	481	465	469	471	460	455	1930
25	458	432	455	459	456	458	457	454	452	444	444	443	443	443	451	460	471	471	477	485	535	484	489	485	498	465	2161
26	354	449	501	423	436	445	437	460	470	462	458	450	450	449	453	458	461	467	469	472	470	475	489	470	469	456	1947
27	471	465	465	466	461	478	479	477	475	466	458	454	454	447	452	460	475	464	471	470	472	475	482	483	483	469	2249
28	475	475	476	476	472	481	480	480	474	472	471	445	445	431	442	457	471	468	473	479	484	484	489	489	481	472	2325
29	480	480	478	481	483	484	485	485	482	476	470	466	466	459	459	474	477	487	491	477	484	487	488	478	481	479	2492
30 d	480	481	484	481	484	476	483	486	481	470	459	449	449	447	478	547	541	582	673	741	688	595	521	485	440	519	3452
31	354	286	410	447	401	416	464	451	421	416	430	430	430	447	452	472	498	488	483	495	476	475	480	479	485	444	1656
Mean	469	468	463	474	467	467	466	469	456	460	460	457	457	452	457	469	463	475	495	484	478	480	479	479	475	478	2262
Sum 14,000+	594	332	368	618	602	737	913	929	760	533	401	293	293	240	458	785	1023	1233	1639	1821	1711	1387	1030	597	706		Grand Total 355,710

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK

9° +

JANUARY 1957

	Hour G.M.T.																									Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1300.0+
1	59.9	60.1	59.7	59.2	58.6	58.4	58.3	58.6	58.5	58.3	59.4	62.6	62.3	63.8	66.1	65.1	63.6	63.8	62.6	60.8	59.8	59.3	58.9	59.1	60.7	156.8
2	57.5	56.8	56.9	59.2	58.8	58.2	57.6	60.2	59.2	57.4	60.8	63.1	64.1	65.2	66.5	65.5	64.7	65.5	68.2	75.3	58.4	55.8	62.8	50.8	61.2	168.5
3	56.1	55.6	54.5	53.1	55.5	56.9	57.4	57.4	56.7	56.8	57.7	59.3	61.7	63.6	63.4	62.2	62.1	61.6	60.3	60.8	60.3	59.4	59.6	58.5	58.8	110.5
4	58.3	57.8	58.7	58.7	57.9	57.4	57.8	58.0	58.4	58.8	59.5	61.8	63.2	63.9	64.0	62.7	61.7	61.2	61.8	61.7	60.7	60.2	60.4	58.4	60.1	143.0
5 q	60.2	58.8	59.7	59.3	59.6	59.2	59.0	58.9	58.7	58.1	59.7	62.1	63.7	64.6	65.4	63.4	61.8	62.5	62.2	60.7	59.0	59.9	59.3	58.8	60.6	154.6
6	59.4	58.8	58.8	58.4	57.9	58.8	59.7	59.4	58.0	58.0	60.2	63.6	65.3	66.1	66.3	64.8	64.5	64.1	63.5	62.7	62.1	61.1	60.8	60.3	61.4	172.6
7	59.0	58.3	58.4	56.9	56.5	58.5	58.5	58.6	58.6	58.7	60.6	62.2	65.6	65.0	65.3	64.5	63.7	63.5	63.2	62.2	60.7	60.1	60.2	60.3	60.8	159.1
8	59.3	51.6	52.6	54.0	57.1	58.8	59.7	59.3	59.8	59.3	61.8	62.2	66.6	65.7	66.4	65.4	66.0	70.3	70.2	66.1	60.3	54.0	52.7	55.9	60.6	155.1
9	57.9	57.9	58.7	57.4	56.9	57.0	57.4	57.5	57.5	58.6	59.1	62.2	64.1	67.4	66.5	63.3	68.2	69.0	67.3	57.4	57.9	53.9	48.4	45.9	59.5	127.4
10 d	49.2	51.6	52.4	51.2	51.9	53.6	69.3	66.0	61.7	57.9	58.4	63.6	65.6	70.8	68.7	71.2	63.3	60.9	64.9	58.9	47.8	46.3	49.5	55.2	58.7	109.9
11	43.5	55.2	58.0	57.9	58.6	59.0	58.4	58.7	60.8	60.9	61.5	60.6	65.6	65.7	65.6	62.5	61.8	60.8	60.8	59.5	58.6	58.9	56.2	57.9	59.5	127.0
12	58.3	59.1	59.3	53.1	60.6	57.9	57.7	58.6	58.4	57.9	59.4	60.9	62.4	62.7	62.8	62.4	61.7	61.7	61.7	60.8	60.4	59.8	58.8	58.4	59.8	134.8
13 q	58.8	59.8	60.1	60.5	58.8	58.5	58.7	58.6	58.8	58.3	58.3	59.9	61.9	63.8	64.6	64.1	62.6	62.1	62.3	61.2	60.8	60.7	60.7	60.6	60.6	154.5
14 q	60.1	60.1	60.3	60.1	59.3	59.3	58.8	58.7	58.0	57.9	59.3	60.8	62.2	63.6	64.1	62.7	61.7	61.7	61.6	61.0	60.3	60.4	60.3	59.9	60.5	152.2
15	60.8	60.8	60.3	58.9	59.4	59.7	60.3	60.0	59.0	57.9	59.8	62.0	64.6	65.6	66.3	65.7	64.6	62.1	62.2	61.0	60.3	60.3	59.7	53.1	61.0	164.4
16	54.0	59.3	59.6	61.0	61.0	60.8	59.7	60.2	59.7	58.4	59.6	62.3	64.9	68.9	68.6	66.1	63.8	62.2	61.6	60.7	57.6	59.3	59.7	59.7	61.2	168.7
17	58.4	59.0	57.5	58.8	59.7	58.7	58.7	58.6	58.4	58.6	60.2	62.0	63.2	65.2	64.7	63.6	62.4	62.0	61.3	59.9	58.6	59.7	60.2	60.3	60.4	150.7
18 q	60.1	60.7	61.4	60.4	60.2	59.7	59.5	58.7	58.0	57.8	58.5	60.3	63.2	65.2	65.5	63.4	62.1	61.2	60.8	60.3	59.7	59.4	59.4	59.4	60.6	154.9
19	59.8	59.7	59.8	60.2	60.2	59.8	59.5	59.4	58.7	58.3	58.7	60.8	63.5	65.6	66.6	65.9	66.3	68.7	70.7	64.0	61.5	58.9	57.5	58.6	61.8	182.7
20 q	56.3	56.0	56.5	58.7	58.6	58.7	59.6	59.3	59.8	58.8	59.4	60.5	63.6	64.1	65.1	65.3	64.9	65.2	63.4	62.5	60.7	59.7	59.2	59.3	60.6	154.3
21 d	59.3	58.8	58.4	60.1	58.7	58.7	58.7	57.5	61.2	63.3	62.7	62.7	64.5	72.9	77.6	78.1	73.2	78.0	103.0	97.6	73.9	82.6	109.4	45.1	69.8	376.0
22 d	52.7	57.0	59.7	33.0	40.6	45.2	52.4	51.6	48.5	50.4	53.9	54.8	57.8	59.7	61.4	61.3	61.4	61.5	60.6	59.2	57.8	57.5	56.9	55.9	54.6	10.8
23 d	55.4	56.8	56.9	55.4	55.3	54.9	54.9	54.0	42.8	56.1	56.9	57.4	61.2	63.2	65.7	63.8	66.3	65.3	60.6	57.9	54.8	50.5	47.2	55.9	57.5	79.2
24	56.7	55.3	44.9	48.1	48.3	55.6	55.5	54.8	54.3	55.4	57.1	59.4	62.5	65.9	66.6	66.3	65.9	66.3	65.5	48.1	56.7	61.7	57.8	44.6	57.2	73.3
25	39.7	49.5	45.7	46.7	47.6	52.9	49.1	56.7	53.1	56.0	56.4	53.5	60.9	61.9	62.0	60.5	60.2	60.4	59.7	58.8	58.8	39.4	53.9	57.6	54.2	1.0
26	58.1	59.6	56.0	54.8	55.2	55.3	55.3	56.2	56.1	55.9	54.9	56.1	60.5	63.6	64.4	63.6	59.0	61.7	62.6	61.8	60.5	57.6	52.3	53.9	58.1	95.0
27	58.1	59.6	59.9	59.3	58.9	57.2	56.9	56.7	54.9	55.2	58.1	62.3	65.4	63.6	64.8	65.9	63.7	63.4	63.3	61.4	59.0	57.4	57.0	57.9	60.0	139.9
28	58.9	59.7	58.3	57.1	58.3	56.3	56.3	56.3	55.9	55.4	56.7	58.6	61.5	63.7	64.4	63.3	63.4	65.3	62.1	63.4	61.3	58.3	55.3	58.5	59.5	128.3
29	58.7	59.4	59.1	58.3	57.2	57.1	56.2	56.3	56.0	57.1	59.1	61.4	65.2	72.2	85.2	79.3	80.2	77.9	70.4	75.9	62.5	58.5	56.5	44.5	63.5	224.2
30 d	48.2	53.5	54.1	47.1	54.3	54.8	65.4	56.7	56.8	64.1	62.3	59.6	67.9	68.1	66.8	68.0	65.4	65.4	65.4	59.7	59.9	60.2	59.1	55.9	60.0	140.4
31	54.8	54.0	53.9	52.7	51.7	53.9	55.3	56.1	54.8	56.3	58.2	60.0	62.5	63.3	64.8	63.8	62.7	63.7	67.3	59.4	58.9	59.2	55.1	56.5	58.3	98.9
Mean	56.4	57.4	57.1	55.8	56.6	57.2	58.1	58.0	57.4	57.8	59.0	60.6	63.5	65.3	66.3	65.3	64.3	64.5	64.9	62.6	59.7	58.4	58.9	56.0	60.0	
Sum 1700.0+	47.5	80.2	70.1	29.6	53.2	71.8	101.6	97.6	80.2	92.0	129.8	178.6	267.2	324.6	356.2	323.7	292.9	299.0	311.1	240.7	149.6	110.0	124.8	36.7		Grand Total 44668.7

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

JANUARY 1957

	Hour G.M.T.																								Sum		
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	4000+	
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
2	213	213	213	212	211	209	206	205	204	201	200	204	206	206	212	222	231	231	227	217	212	211	209	208	212	1083	
3	206	203	205	207	208	208	206	204	200	197	191	189	195	197	204	214	215	216	218	273	315	240	232	242	216	1185	
4	254	255	244	234	235	229	229	225	221	221	219	217	217	215	220	223	224	225	225	221	218	219	214	214	226	1418	
5	213	215	217	218	221	218	214	211	210	207	206	206	206	205	208	215	218	218	218	217	217	217	217	215	214	1127	
q	213	212	211	211	211	210	210	210	210	209	209	208	210	207	208	211	213	211	212	215	217	214	215	215	211	1072	
6	211	209	209	207	206	200	201	204	207	206	203	203	206	200	200	204	207	208	210	210	208	205	207	207	206	938	
7	204	205	203	200	203	203	202	203	204	201	198	197	196	190	196	202	207	207	208	208	209	208	207	205	203	866	
8	204	177	187	190	190	190	194	201	203	203	203	200	198	200	203	209	211	242	279	281	280	250	233	222	215	1150	
9	211	203	208	208	206	210	211	214	217	215	218	217	215	215	241	277	255	255	264	260	235	192	155	169	220	1271	
10	d	177	167	135	148	176	169	131	133	165	190	209	220	224	235	263	279	318	294	273	270	238	165	193	162	206	934
11	175	196	210	210	211	214	213	212	222	234	239	246	245	237	226	224	224	218	217	220	224	230	225	226	221	1298	
12	211	215	218	213	210	204	208	205	210	212	210	214	217	215	212	213	210	208	209	209	210	213	211	210	211	1067	
13	q	193	202	206	208	207	206	205	204	206	209	213	218	220	215	212	214	214	211	210	209	210	210	211	213	209	1026
14	212	209	210	210	208	208	205	205	206	203	206	210	210	209	211	215	214	209	208	210	209	208	207	206	209	1008	
15	205	200	200	201	201	201	200	200	202	207	207	206	203	215	220	219	218	215	222	227	212	210	206	197	208	994	
16	191	196	200	200	201	197	200	199	201	204	207	206	209	211	220	224	221	224	210	208	206	207	203	200	206	945	
17	194	191	189	193	195	197	197	197	200	201	200	201	200	201	210	212	208	206	204	207	210	205	200	199	201	817	
18	q	200	198	200	200	200	197	197	200	201	200	199	197	198	206	208	207	207	206	203	201	200	197	197	201	819	
19	196	198	199	201	200	200	200	199	196	191	194	193	191	191	194	210	219	228	268	267	243	234	222	210	210	1044	
20	q	199	197	189	199	202	203	204	203	202	198	198	196	196	196	200	202	204	205	205	202	200	197	196	200	791	
21	d	194	195	196	193	173	172	186	195	202	189	200	201	203	193	201	258	379	302	22	-4	-63	-77	170	262	173	142
22	d	197	343	331	154	147	160	223	245	257	246	244	242	234	229	228	227	227	232	235	245	251	241	241	238	234	1617
23	d	237	232	230	230	228	227	225	226	230	235	221	251	260	252	263	275	289	289	289	263	257	246	249	237	248	1941
24	229	198	173	189	179	203	218	227	227	229	230	231	228	222	224	229	227	231	244	291	287	274	268	239	229	1497	
25	118	215	258	219	200	221	210	187	223	222	235	238	239	237	236	235	227	228	233	240	238	227	219	222	222	1327	
26	225	221	205	214	218	215	215	215	217	222	231	232	228	226	228	232	244	241	241	239	237	231	231	221	226	1429	
27	213	215	217	213	204	210	217	220	223	221	218	223	224	224	226	231	232	228	227	229	232	229	226	228	222	1330	
28	227	227	225	222	215	217	217	218	218	221	221	221	221	221	222	221	221	220	221	236	230	229	232	240	229	224	1371
29	228	226	224	224	219	220	213	212	213	217	221	224	219	217	245	301	345	346	338	334	317	320	290	235	256	2148	
30	d	163	93	55	114	118	84	140	171	207	215	218	238	251	256	252	263	269	251	270	287	251	244	244	227	203	881
31	222	225	225	211	211	213	220	218	222	221	223	223	221	222	234	244	241	239	250	250	245	242	224	221	228	1467	
Mean	204	208	206	202	201	201	204	205	211	211	213	215	216	215	220	229	237	234	228	230	224	214	218	215	215	215	
Sum 6000+	335	451	392	253	214	218	317	365	525	548	592	676	689	658	820	1111	1336	1245	1078	1141	957	647	763	672		Grand Total 160,003	

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

JANUARY 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
	Horizontal force			Declination			Vertical force												
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range										
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ							
1	22 55	495	451	12 00	44	14 17	67.2	57.9	09 13	9.3	16 58	234	198	10 42	36	0,0,0,2,2,1,1,1	7	0	78.7
2	19 55	648	345	22 29	303	22 32	99.6	40.7	20 53	58.9	20 12	379	110	22 28	269	2,1,1,3,2,2,5,6	22	1	79.1
3	00 27	490	447	02 52	43	13 02	65.0	51.0	00 00	14.0	00 04	263	207	22 46	56	3,2,1,2,1,1,1,1	12	0	79.0
4	23 32	493	460	11 27	33	13 23	64.6	56.4	01 10	8.2	04 30	222	203	11 12	19	1,0,1,1,1,0,0,1	5	0	79.1
5 q	19 19	501	469	11 16	32	14 17	66.2	57.0	20 01	9.2	20 15	222	205	13 50	17	1,0,0,1,1,1,1,0	5	0	78.3
6	19 35	508	460	12 17	48	14 33	67.5	56.4	04 22	11.1	00 03	214	197	14 01	17	0,1,1,2,1,1,1,1	8	0	79.0
7	18 45	504	474	11 57	30	12 52	68.1	55.8	04 10	12.3	20 12	211	189	13 32	22	1,1,1,1,2,1,1,1	9	0	79.3
8	18 23	513	459	11 11	54	18 26	74.2	48.2	21 10	26.0	20 02	294	171	01 18	123	3,2,1,2,2,3,3,3	19	1	80.0
9	15 21	508	404	21 47	104	14 36	71.2	39.6	22 17	31.6	15 10	300	135	22 28	165	1,0,1,1,3,3,3,4	16	1	79.3
10 d	16 35	589	425	23 36	164	06 30	77.8	28.6	20 58	49.2	16 34	364	96	06 40	268	3,3,4,3,3,4,5,5	30	1	78.9
11	22 33	494	423	13 35	71	13 02	69.2	39.6	00 07	29.6	11 48	257	145	00 00	112	4,1,3,3,3,1,1,2	18	0	78.8
12	22 43	503	457	10 10	46	13 23	63.4	50.2	03 42	13.2	00 13	220	201	07 23	19	3,3,1,0,0,1,0,1	9	0	78.8
13 q	00 19	505	459	13 10	46	13 42	65.1	56.7	10 07	8.4	12 30	221	186	00 24	35	1,0,0,2,1,1,0,1	6	0	79.0
14 q	06 58	505	464	12 52	41	14 13	64.4	56.4	08 59	8.0	16 12	215	202	09 39	13	0,0,1,1,1,1,0,0	4	0	78.5
15	23 38	508	462	14 17	46	14 01	68.6	47.0	23 41	21.6	19 13	238	187	23 45	51	1,0,1,1,2,2,2,3	12	0	78.4
16	20 38	501	455	13 11	46	14 10	70.6	48.9	00 01	21.7	15 20	227	188	00 27	39	3,1,1,2,2,2,2,1	14	0	78.6
17	19 14	501	460	11 20	41	13 40	66.0	55.6	00 54	10.4	14 57	215	183	01 58	32	2,1,0,1,1,1,1,1	8	0	78.4
18 q	06 46	505	467	11 47	38	14 03	66.0	57.4	09 12	8.6	15 04	209	196	12 53	13	0,0,1,1,1,1,1,1	6	0	79.1
19	08 43	508	471	16 45	37	18 06	77.1	56.0	22 11	21.1	18 49	284	189	13 18	95	0,0,1,2,2,3,3,2	13	0	79.1
20 q	22 22	505	461	11 50	44	15 09	66.4	53.6	01 10	12.8	17 47	206	184	02 20	22	2,1,0,2,2,1,1,0	9	0	79.3
21 d	18 21	1073	-1352	22 17	2425	22 26	256.9	-15.9	22 14	272.8	22 12	612	-298	22 19	910	1,2,2,2,4,7,8,9	35	2	79.1
22 d	08 41	549	-787	01 55	1336	02 05	148.3	11.1	02 15	137.2	01 57	1061	-10	02 47	1071	9,6,6,4,4,4,3,2	38	2	78.9
23 d	18 33	569	369	09 53	200	16 37	71.7	35.6	18 30	36.1	18 27	354	215	11 01	139	2,2,3,4,3,3,5,3	25	1	78.6
24	19 15	670	340	24 00	330	12 56	68.5	37.5	24 00	31.0	19 12	326	145	24 00	181	4,3,1,2,3,2,5,6	26	1	78.6
25	02 14	577	328	00 03	249	02 02	64.8	29.0	21 15	35.8	01 54	301	87	00 37	214	6,3,3,3,1,1,2,4	23	1	78.8
26	22 55	497	443	12 22	54	14 17	65.3	46.2	22 52	19.1	16 37	253	197	02 47	56	2,2,1,2,2,2,1,3	15	0	78.4
27	22 03	501	417	12 52	84	12 20	67.7	53.3	08 59	14.4	16 32	238	203	04 27	35	1,2,1,3,3,2,2,1	15	0	79.1
28	17 30	495	456	13 26	39	17 57	66.3	52.6	22 17	13.7	18 40	243	213	04 35	30	1,1,1,1,2,1,2,2	11	0	78.7
29	17 46	858	408	23 53	450	14 52	98.5	38.0	23 23	60.5	16 46	411	204	24 00	207	1,1,1,2,5,6,6,4	26	2	79.0
30 d	23 27	523	141	01 16	382	13 23	71.1	44.7	03 43	26.4	19 06	332	35	02 00	297	6,5,4,3,3,3,4,3	31	2	78.9
31	18 02	508	446	12 39	62	18 17	69.9	48.4	22 24	21.5	19 03	260	203	03 33	57	2,2,1,2,1,3,3,3	17	1	79.0
Mean	- -	552	324	- -	224	- -	78.9	45.0	- -	34.0	- -	303	154	- -	149	-	-	0.52	78.9

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

FEBRUARY 1957

	Hour	G.M.T.																								Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		8000+	
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
2	483	480	474	476	473	479	482	484	481	467	462	457	452	455	464	475	477	484	491	493	482	485	485	484	476	3425	
3	480	481	482	483	481	482	481	484	478	470	470	465	469	459	474	473	492	497	496	461	492	492	503	487	481	3532	
4	480	481	482	483	484	484	480	476	472	464	460	457	462	465	475	479	491	495	481	487	508	471	476	475	478	3468	
d	460	448	472	469	466	464	480	483	479	470	467	466	451	476	532	524	535	564	492	527	364	366	332	238	459	3025	
5	390	362	375	395	383	333	391	422	420	398	406	451	490	541	549	501	483	481	480	476	479	476	459	467	442	2608	
6	465	459	473	471	463	470	466	466	459	458	465	460	456	462	466	482	476	474	479	481	484	481	478	479	470	3273	
7	479	478	480	482	482	482	482	474	465	457	459	457	456	460	466	472	479	484	482	481	480	487	479	479	474	3382	
8	479	477	477	489	487	484	482	480	481	476	473	463	455	462	467	475	480	490	487	491	491	496	496	485	480	3523	
9	487	484	484	478	485	488	488	489	481	473	463	456	457	464	476	481	487	498	492	491	497	485	486	490	482	3560	
10	481	480	484	484	486	487	491	493	495	493	478	468	468	477	478	478	478	485	492	495	500	498	496	496	486	3661	
11	495	495	488	498	497	500	505	502	500	492	484	481	474	479	480	493	505	478	488	488	484	484	486	488	490	3764	
12	489	488	485	474	493	494	480	474	481	480	476	478	488	495	500	489	493	489	488	502	501	500	500	493	489	3730	
13	d	494	498	486	487	498	465	482	470	460	448	452	430	475	510	475	465	500	599	541	467	463	469	469	481	3535	
14	474	480	474	477	476	476	475	477	472	467	456	456	459	459	463	462	467	478	481	483	481	484	485	484	473	3346	
15	485	487	486	485	487	489	495	497	485	463	463	469	466	460	465	486	477	481	484	478	487	481	481	485	480	3522	
16	488	488	487	491	494	494	493	494	481	481	480	474	466	465	470	472	482	491	483	478	485	487	488	488	483	3600	
17	486	491	495	492	492	492	492	492	492	488	484	472	475	493	492	511	507	505	507	507	490	495	496	492	493	3838	
18	484	478	480	484	482	489	481	481	480	484	488	488	487	491	477	493	484	494	489	492	484	475	451	457	482	3573	
19	478	478	476	479	473	482	465	450	479	488	492	485	487	480	487	484	497	493	516	494	472	465	431	424	477	3455	
20	476	448	443	468	477	475	472	473	472	463	460	465	471	478	489	481	494	493	488	488	494	494	495	489	477	3446	
21	d	478	489	484	462	480	477	483	443	420	436	446	459	488	488	505	549	511	494	503	492	410	408	383	469	3248	
22	415	414	447	473	469	465	467	484	482	467	460	459	446	473	487	495	510	501	492	503	494	481	474	497	473	3355	
23	487	480	472	476	459	476	486	482	471	465	464	464	461	481	490	506	512	512	542	539	554	534	408	275	479	3496	
d	196	30	145	128	103	145	270	423	436	400	419	457	524	523	483	483	468	483	484	482	483	479	476	474	375	994	
25	471	474	474	472	471	471	472	472	459	455	465	469	469	466	463	470	470	472	478	482	484	484	483	485	472	3331	
26	q	484	483	485	483	484	485	484	485	481	480	476	472	477	479	475	477	481	485	489	491	492	492	488	483	3581	
27	q	487	485	481	484	485	488	490	490	485	477	467	464	465	469	475	479	481	489	498	495	489	493	492	484	3606	
28	q	491	491	489	489	491	492	491	489	483	473	468	469	473	487	489	495	493	495	495	497	501	496	492	491	488	3720
Mean	466	457	463	465	464	465	472	476	473	465	464	465	467	477	483	485	490	493	495	494	486	480	471	462	474		
Sum 12,000+	1042	807	960	1012	1001	1008	1206	1329	1230	1033	1003	1013	1090	1360	1534	1594	1709	1798	1863	1827	1616	1430	1198	934		Grand Total 318,597	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)

9° +

FEBRUARY 1957

	Hour G.M.T.																									Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1300.0+
1	54.7	56.3	55.8	58.1	58.8	58.8	58.0	56.7	56.5	57.1	59.2	59.2	60.0	62.3	63.0	62.6	61.3	62.4	63.5	60.1	60.0	60.6	59.8	58.9	59.3	123.7
2	58.2	58.4	58.4	56.8	56.8	57.7	57.7	56.9	56.7	57.6	59.5	61.0	65.8	63.9	67.4	64.1	64.3	66.5	65.5	65.3	61.3	59.8	57.9	56.1	60.6	153.6
3	54.4	53.0	55.1	56.4	56.7	58.2	57.9	57.9	58.3	59.2	59.4	60.8	62.9	63.9	64.3	63.7	63.8	67.4	67.4	65.6	55.1	53.3	55.2	55.4	59.4	125.3
4 d	57.1	48.3	48.8	53.2	52.7	55.1	56.1	56.2	57.3	57.7	60.1	64.9	65.8	66.1	64.3	67.3	67.8	64.2	64.1	55.8	54.1	47.7	45.7	50.6	57.5	81.0
5 d	54.3	35.6	27.2	41.7	61.6	54.7	60.6	58.1	55.2	59.0	65.0	63.8	65.6	68.7	67.3	64.7	64.4	62.1	63.9	62.1	58.3	46.5	50.4	53.7	56.9	64.5
6	56.2	55.0	52.9	53.4	54.4	54.0	53.9	54.4	55.8	59.0	60.9	62.0	63.0	64.3	64.8	64.3	65.7	62.8	60.8	59.6	59.5	58.0	57.9	58.3	58.8	110.9
7 q	58.3	57.7	58.3	58.3	58.1	57.8	57.1	56.2	56.6	57.7	59.8	63.3	60.9	61.9	61.9	61.1	61.9	61.8	63.0	60.4	60.0	56.4	54.2	59.3	123.8	
8	51.3	50.7	51.9	52.4	53.3	53.9	55.0	56.4	58.0	59.3	60.7	60.9	60.9	62.8	63.0	62.9	62.6	63.3	63.1	63.2	60.4	60.1	60.2	56.9	58.5	103.2
9	54.1	54.8	54.6	53.0	55.5	56.8	57.0	57.4	57.2	57.0	58.6	61.0	63.3	63.2	62.6	62.4	62.1	65.4	69.6	64.9	62.9	60.5	60.5	58.5	59.7	132.9
10 q	51.9	51.6	54.8	56.1	56.6	57.1	58.2	58.4	58.3	58.4	59.1	60.9	62.2	63.0	62.0	61.1	61.4	61.6	61.6	61.2	60.8	60.2	59.9	59.3	59.0	115.7
11	59.8	58.3	59.4	60.1	59.4	59.4	59.2	60.1	59.3	58.7	59.4	62.3	63.5	64.8	64.9	64.9	58.9	62.4	61.3	60.8	58.3	57.8	58.5	59.1	60.4	150.6
12	59.3	59.7	58.2	63.1	63.5	56.7	57.8	57.8	57.7	60.6	61.3	62.1	62.5	64.4	64.9	61.2	61.2	61.8	61.0	59.4	61.5	60.4	59.1	58.1	60.6	153.3
13 d	55.6	58.9	57.1	57.7	56.2	64.0	63.2	64.5	62.8	59.9	59.5	65.6	69.1	72.5	70.1	65.7	59.9	60.2	65.3	31.6	51.2	59.0	58.2	58.9	60.3	146.7
14	57.2	56.7	58.3	58.3	58.3	58.1	57.5	57.2	56.9	58.5	59.1	61.3	60.8	61.1	61.1	60.2	58.9	58.9	59.2	58.7	56.2	58.2	58.4	58.7	58.7	107.8
15	59.1	59.7	59.7	59.8	59.4	58.8	58.2	58.7	58.5	61.4	61.5	66.1	63.9	64.0	63.1	63.7	61.8	60.3	59.6	58.9	58.9	53.8	51.0	57.8	59.9	137.7
16	58.7	58.9	59.0	60.1	58.2	58.9	59.0	60.4	60.3	59.9	61.5	61.7	63.0	62.5	63.9	63.5	61.0	59.1	63.9	61.5	59.8	59.3	58.8	56.2	60.4	149.1
17	56.9	56.6	56.3	58.6	58.6	58.2	58.0	57.8	57.9	58.0	58.9	60.2	62.6	66.8	65.0	66.7	68.0	68.3	67.3	68.6	66.8	61.9	59.9	58.3	61.5	176.2
18	48.3	46.2	46.4	47.9	50.5	52.3	54.1	56.4	58.0	58.9	59.7	63.8	64.2	66.8	65.1	66.8	62.6	58.4	52.3	50.5	65.4	55.8	49.4	46.3	56.1	46.1
19	51.4	56.3	57.1	55.2	55.9	55.4	57.8	63.9	64.3	60.8	59.3	61.9	64.3	61.5	62.9	60.6	61.8	60.9	62.6	58.0	55.4	57.6	45.0	49.8	58.3	99.7
20	54.1	51.7	43.2	46.0	50.4	51.5	55.2	56.1	57.1	59.9	63.1	65.5	66.0	64.8	64.9	62.7	61.7	61.5	60.7	59.4	61.1	54.4	53.5	55.9	57.5	80.4
21 d	54.8	49.9	38.5	41.2	48.9	52.3	53.5	64.3	62.4	60.6	60.1	61.2	65.8	70.8	71.2	69.0	69.5	60.8	63.1	57.9	53.4	49.6	45.4	45.5	57.1	69.7
22	51.6	60.2	53.7	59.1	54.4	54.4	58.1	56.7	57.7	58.3	58.2	61.8	61.0	63.9	65.9	63.1	54.2	59.1	60.0	51.2	53.1	59.2	58.1	52.9	57.7	85.5
23	46.3	46.1	53.2	56.8	60.6	59.4	57.5	59.0	61.6	61.3	62.6	63.9	63.7	65.4	64.9	65.0	62.5	59.1	35.1	61.0	66.1	66.1	57.4	38.3	58.0	92.9
24 d	41.1	35.7	22.3	33.5	28.7	56.5	66.9	59.0	60.4	56.6	57.3	61.6	62.5	64.4	60.3	61.7	58.0	57.1	61.5	61.5	59.6	58.8	59.1	57.7	54.3	2.7
25	56.7	58.7	50.1	50.5	55.4	56.5	56.5	56.8	55.8	56.1	56.8	59.6	60.2	60.6	60.8	60.7	59.2	59.1	59.6	59.1	59.1	58.8	58.7	58.3	57.7	83.7
26 q	57.7	56.9	57.4	56.5	57.1	57.2	56.8	57.7	57.1	58.2	58.7	60.6	61.6	62.3	63.0	62.3	60.6	60.1	60.1	59.6	59.3	58.8	58.2	57.3	59.0	115.1
27 q	56.8	55.8	53.8	50.3	53.9	55.4	56.3	56.9	56.7	57.0	57.7	59.7	61.9	62.5	61.7	60.4	60.1	60.1	60.5	58.7	58.9	59.2	59.8	58.9	58.0	93.0
28 q	58.9	58.4	58.2	58.0	57.8	57.4	56.8	57.0	57.3	57.6	59.8	62.1	64.5	64.9	64.2	63.0	61.6	62.6	62.4	61.3	60.8	58.6	58.0	59.1	60.0	140.3
Mean	54.8	53.8	52.1	54.0	55.4	56.7	57.6	58.2	58.3	58.7	59.9	62.1	63.3	64.4	64.2	63.4	62.0	61.7	61.3	59.2	59.2	57.6	56.1	55.3	58.7	
Sum 1400.0+	134.8	106.1	59.7	112.1	151.7	186.5	213.9	229.8	231.7	244.3	276.8	338.8	371.5	404.1	398.1	375.4	336.0	327.4	316.8	258.5	257.7	214.0	170.4	149.0		Grand Total 39465.1

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

FEBRUARY 1957

	Hour G.M.T.																									Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	4000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2	216	220	220	222	225	224	221	219	219	221	222	221	219	217	220	224	222	222	222	228	230	223	219	218	221	1314
3	221	221	224	219	212	211	214	211	213	212	210	210	212	211	215	222	222	234	273	262	241	233	215	210	222	1328
4	216	218	224	218	217	221	221	221	221	221	220	218	212	210	208	215	222	232	245	244	256	201	220	221	221	1316
5	209	180	204	227	221	222	221	218	218	218	217	221	244	261	287	292	321	365	344	332	207	168	191	215	242	1803
6	122	118	101	50	25	46	112	142	189	208	232	262	273	302	296	263	254	265	266	280	266	232	214	226	198	744
7	218	189	209	215	212	208	211	210	212	214	211	215	218	221	229	235	240	241	234	230	230	225	222	221	220	1270
8	221	220	220	218	220	220	221	223	223	223	221	220	218	215	217	217	218	222	232	238	240	234	229	228	223	1358
9	223	220	216	206	208	211	212	208	206	210	211	217	220	216	215	217	218	217	224	224	224	221	219	210	216	1173
10	209	214	209	202	197	204	210	213	215	216	217	215	214	213	212	213	215	214	227	235	231	243	234	232	217	1204
11	214	221	221	220	218	215	215	214	214	213	218	220	217	214	215	215	214	211	210	209	210	212	215	214	215	1159
12	213	210	210	197	194	196	194	198	200	204	206	209	214	214	217	224	261	263	252	241	232	226	223	219	217	1217
13	214	212	211	194	128	141	175	192	200	202	207	210	215	217	224	235	227	223	220	215	212	213	211	215	205	913
14	209	199	210	208	206	162	121	158	177	194	227	247	261	281	273	287	265	232	257	321	266	253	232	211	227	1457
15	198	207	214	218	219	219	218	218	219	220	220	221	224	229	232	235	235	230	224	220	220	216	212	213	220	1281
16	215	215	216	217	217	214	209	206	209	214	206	208	219	233	232	235	241	230	231	230	222	221	209	210	219	1259
17	213	213	214	209	206	210	209	209	209	207	207	213	216	219	224	226	240	253	263	248	228	218	215	212	220	1281
18	214	209	206	213	215	217	215	214	210	208	208	210	211	215	220	227	239	244	244	248	273	261	261	246	226	1428
19	235	208	200	194	189	183	194	197	203	197	191	198	203	211	222	238	247	244	248	244	260	266	215	159	214	1146
20	193	213	216	220	217	211	210	197	182	200	211	206	214	221	219	224	235	262	270	258	245	226	193	122	215	1165
21	194	188	157	203	210	206	206	214	223	230	227	224	230	230	224	232	237	237	239	235	228	224	208	209	217	1215
22	201	185	151	111	157	196	204	196	188	202	221	228	221	229	244	259	323	310	269	275	247	194	192	142	214	1145
23	153	159	159	206	224	220	220	224	229	230	233	233	233	231	240	251	272	257	250	246	224	235	222	170	222	1321
24	204	212	218	214	210	198	200	206	215	218	218	217	223	223	227	238	254	268	263	282	264	283	196	169	226	1420
25	198	268	76	-65	69	-9	3	98	176	248	278	283	263	263	259	255	258	251	237	239	242	239	239	235	192	603
26	231	235	220	218	225	229	230	230	232	229	221	217	218	219	219	225	229	224	223	223	222	224	225	225	225	1393
27	226	227	218	219	221	221	219	218	218	217	214	208	206	207	216	224	224	222	220	218	218	221	221	223	219	1246
28	225	217	203	200	208	214	214	214	214	215	215	211	214	214	215	216	217	217	217	219	220	219	217	218	215	1153
29	218	218	220	221	218	218	216	215	216	218	215	211	208	209	217	221	221	221	220	218	215	221	221	220	217	1216
Mean	208	208	199	193	196	194	197	203	209	215	218	220	223	227	230	234	242	243	244	245	235	227	217	208	218	
Sum 5000+	823	816	567	394	488	428	515	683	850	1008	1102	1170	1240	1345	1438	1565	1771	1811	1824	1862	1573	1352	1090	813		Grand Total 146,528

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

FEBRUARY 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force			Declination			Vertical force									
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range							
1	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	2,1,1,1,2,1,2,1	11	0	°A. 79.0			
2	19 47 500	448 13 01	52	18 41 64.3	52.3 00 09	12.0	20 10 234	210 00 16	24	1,1,1,1,2,2,3,2	13	0	78.9			
3	22 32 519	455 13 13	64	19 05 72.8	52.4 24 00	20.4	18 33 285	204 22 36	81	1,1,0,1,1,2,4,5	15	1	78.9			
4	20 51 540	418 21 13	122	21 07 74.9	38.1 21 22	36.8	20 27 296	156 21 06	140	3,2,2,2,4,5,6,7	31	2	78.9			
d	17 17 651	-17 23 11	668	23 10 79.2	40.4 23 35	38.8	17 13 402	121 20 48	281	5,5,4,3,4,4,3,3	31	1	78.8			
5	14 56 587	286 05 32	301	13 12 73.5	19.9 02 15	53.6	14 43 320	-5 04 12	325							
6	20 15 488	443 01 00	45	16 36 66.5	50.4 02 03	16.1	17 04 244	181 01 33	63	3,1,1,2,1,1,1,1	11	0	79.1			
7	21 40 497	449 11 50	48	11 30 65.7	53.2 23 38	12.5	20 11 243	214 13 44	29	0,0,1,2,1,1,2,2	9	0	79.2			
8	22 48 502	453 12 40	49	14 03 64.7	50.3 01 44	14.4	18 28 227	202 03 22	25	1,1,2,1,1,1,1,2	10	0	79.0			
9	17 46 502	453 11 46	49	18 35 71.8	50.9 03 23	20.9	21 23 254	194 04 30	60	1,2,1,2,1,2,3,2	14	0	79.2			
10	21 10 503	463 11 00	40	13 18 63.7	48.6 01 02	15.1	01 00 223	208 19 34	15	2,1,1,2,0,0,1,0	7	0	79.2			
11	16 29 524	471 17 11	53	13 53 69.2	48.5 16 42	20.7	16 40 282	186 03 50	96	1,2,1,1,2,3,2,2	14	0	79.0			
12	18 55 523	465 03 39	58	04 41 66.1	54.3 05 40	11.8	15 46 238	114 04 57	124	2,4,2,1,1,1,3,1	15	1	79.0			
13	18 56 765	387 12 40	378	13 38 75.4	14.6 19 24	60.8	19 10 361	110 06 01	251	3,4,3,3,4,4,6,3	30	1	79.1			
d	22 33 488	453 11 30	35	12 01 63.7	54.1 00 51	9.6	15 50 237	192 00 08	45	2,1,2,1,1,1,1,1	10	0	79.0			
14	07 23 505	451 13 59	54	11 28 69.6	42.3 22 01	27.3	16 20 246	203 11 18	43	0,0,2,2,2,3,1,3	13	0	78.7			
15	17 50 500	456 12 56	44	17 57 66.2	54.7 23 48	11.5	18 32 268	202 04 20	66	0,1,1,1,1,2,3,1	10	0	78.4			
16	16 12 519	463 11 45	56	20 03 71.6	51.6 22 58	20.0	20 45 282	199 02 18	83	1,1,1,2,2,2,3,3	15	1	78.7			
17	19 13 507	443 23 10	64	20 40 72.1	39.0 19 03	33.1	21 08 285	113 23 23	172	3,2,2,2,2,3,4,5	23	1	78.5			
18	18 53 587	344 22 11	243	19 07 77.3	31.7 22 30	45.6	19 30 303	86 23 28	217	3,2,3,2,2,3,5,5	25	1	78.7			
19	22 08 507	401 02 01	106	12 10 68.7	37.0 02 50	31.7	18 12 245	127 02 02	118	4,3,2,2,2,2,1,3	19	1	78.5			
20	16 20 590	257 21 59	333	13 10 79.8	35.1 02 28	44.7	16 23 366	93 03 37	273	4,4,3,3,3,4,4,3,6	30	1	78.2			
d	19 25 527	314 01 09	213	01 22 73.6	40.7 19 51	32.9	16 08 279	107 00 43	172	5,3,3,3,3,3,4,4	28	1	78.5			
21	20 22 677	124 23 40	553	20 10 75.3	15.4 18 28	59.9	20 21 303	115 23 25	188	3,2,2,1,2,3,6,7	26	2	78.4			
22	12 28 562	-180 01 25	742	06 18 83.1	-12.0 02 07	95.1	01 16 531	-157 03 35	688	7,6,6,4,4,3,2,2	34	2	78.1			
d	01 56 495	448 09 10	47	14 12 62.5	46.8 02 34	15.7	01 31 244	214 02 58	30	1,2,1,2,2,1,1,0	12	0	78.2			
23	21 55 494	469 11 55	25	15 05 63.2	55.8 02 50	7.4	01 29 228	203 12 38	25	0,0,0,1,1,1,1,1	6	0	78.2			
24	19 26 503	460 12 01	43	13 05 62.9	47.8 03 20	15.1	00 52 228	194 02 42	34	2,2,1,1,0,1,1,1	9	0	78.1			
25	20 18 504	466 10 47	38	13 57 65.8	56.2 22 08	9.6	21 58 223	206 13 05	17	1,0,0,1,1,1,1,2	7	0	78.0			
Mean	- - 538	377 - -	162	- - 70.1	41.8 - -	28.3	- - 281	150 - -	132	-	-	0.57	78.7			

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

MARCH 1957

	Hour G.M.T.																								Mean	Sum 9000+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	493	493	494	495	496	497	493	492	493	489	482	481	482	490	482	500	555	544	536	525	518	511	469	423	497	2933
2 d	405	405	426	263	315	-198	-326	92	401	457	423	476	505	696	780	629	455	497	616	603	533	276	200	241	382	170
3	311	318	297	386	415	418	406	444	443	439	443	443	445	455	478	465	497	514	493	472	472	477	476	475	437	1482
4	468	475	464	443	440	461	469	469	469	462	452	456	455	469	477	463	475	476	482	487	489	497	481	460	468	2239
5	454	465	464	478	468	476	476	474	468	456	453	457	445	479	475	488	510	512	507	488	493	482	484	475	476	2427
6	445	459	478	479	479	473	469	463	456	446	449	443	442	455	485	504	534	504	492	479	481	477	480	479	473	2351
7 q	481	480	477	480	482	480	481	476	473	461	452	452	460	481	487	507	518	492	484	495	492	477	465	447	478	2480
8	461	483	481	479	480	481	477	469	463	457	450	453	447	446	445	467	479	494	490	497	482	472	479	458	470	2290
9	447	469	469	480	474	451	483	489	484	476	463	453	461	475	484	492	506	506	500	498	492	483	484	494	480	2513
10 d	503	501	500	501	462	486	491	490	485	460	452	433	485	735	816	752	687	783	704	619	437	322	392	381	537	3877
11 q	388	427	447	449	444	440	445	442	441	438	430	425	425	428	447	444	447	450	460	471	475	475	478	479	446	1695
12 q	479	479	483	484	481	486	477	473	462	464	465	457	453	460	461	470	470	474	479	483	484	485	486	486	474	2381
13 q	484	483	481	481	479	482	481	479	471	462	445	436	449	457	467	492	522	516	518	503	484	490	486	486	481	2534
14 q	487	486	487	489	491	492	493	491	481	462	449	444	442	445	458	465	478	486	489	494	496	498	499	499	479	2501
15	500	494	493	497	497	500	505	500	481	467	452	446	446	454	462	478	483	505	510	500	509	531	512	481	488	2703
16	481	429	410	482	485	487	494	486	472	458	452	455	469	477	493	486	505	513	577	422	448	353	493	489	471	2316
17	478	462	473	481	480	463	459	474	464	448	437	438	451	459	468	484	522	517	502	493	493	499	501	492	477	2438
18	490	493	486	479	483	494	493	479	467	462	456	454	462	471	465	483	488	490	499	505	503	503	487	486	482	2578
19	495	497	494	492	491	493	490	485	471	445	446	452	455	453	463	469	491	516	509	530	514	496	494	487	485	2628
20	484	490	491	493	497	494	484	477	477	459	449	448	445	450	459	478	493	488	494	500	503	503	510	498	482	2564
21	493	494	491	497	497	490	490	487	482	472	461	459	465	488	492	553	622	741	734	669	606	501	457	423	523	3564
22	448	484	478	479	472	473	469	471	467	450	454	464	470	506	516	523	545	556	528	506	487	483	464	416	484	2609
23	370	422	455	468	476	486	487	484	487	478	464	446	466	454	467	501	508	508	505	503	500	499	487	486	475	2407
24	476	485	475	498	497	494	492	487	467	451	452	449	455	469	481	493	497	511	523	510	517	491	488	491	485	2649
25	491	486	430	343	481	461	478	486	468	426	428	438	458	496	471	453	470	482	490	492	496	493	492	492	467	2201
26	491	488	487	487	486	487	487	482	472	459	451	460	452	474	512	501	534	525	494	494	501	493	488	424	485	2629
27 d	412	484	481	475	487	483	483	468	453	443	449	466	465	449	511	502	478	519	561	540	448	278	194	235	449	1764
28 d	21	99	284	472	438	241	295	304	356	362	416	439	430	454	456	507	499	475	477	484	486	489	490	489	394	463
29 d	485	480	454	478	499	490	493	494	485	466	458	455	461	541	577	944	636	698	644	502	478	429	338	384	515	3369
30	282	346	368	440	466	467	464	458	447	439	437	439	443	455	479	492	484	480	476	488	494	493	477	476	450	1790
31	471	461	452	471	447	461	473	460	460	453	441	441	449	489	471	506	551	579	536	511	477	444	432	392	472	2328
Mean	441	452	456	465	470	448	447	459	463	454	449	450	456	484	500	516	514	527	526	508	493	465	457	449	473	
Sum 13,000+	674	1017	1150	1419	1585	889	851	1225	1366	1067	911	958	1138	2010	2485	2991	2939	3351	3309	2763	2288	1400	1163	924		Grand Total 351,873

MAGNETIC DECLINATION (WEST)
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)

9° +

MARCH 1957

	Hour G.M.T.																									Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		1200.0+	
1	58.8	59.1	56.9	56.7	55.9	56.4	57.5	57.6	57.9	59.3	61.3	64.1	66.3	69.2	69.5	70.8	75.9	82.6	68.1	64.7	64.5	62.7	57.3	50.5	62.7	303.6	
2 d	43.8	48.2	35.6	24.6	31.5	65.7	14.4	54.6	49.7	54.8	54.7	57.3	57.5	59.4	68.3	71.2	64.0	67.4	68.3	62.8	69.7	36.7	42.3	39.4	51.7	41.9	
3	55.7	49.4	51.5	53.2	56.8	52.0	50.7	57.8	58.5	56.3	56.8	59.2	61.2	66.6	67.6	64.0	61.1	51.3	58.6	56.0	58.0	52.0	55.3	58.2	57.0	167.8	
4	57.4	57.7	53.9	49.6	47.7	51.3	56.0	57.5	56.6	59.1	60.3	63.0	65.9	66.2	64.2	62.0	61.0	59.9	60.1	60.0	60.0	50.8	49.0	49.9	57.5	179.1	
5	50.3	57.3	55.5	54.6	54.7	57.4	55.3	56.4	53.9	55.6	59.0	63.1	63.8	69.0	67.3	66.1	65.8	60.9	59.2	60.7	58.9	56.4	49.7	53.4	58.5	204.3	
6	44.8	52.7	56.5	56.7	55.3	56.4	58.4	58.0	55.2	57.3	60.3	60.5	64.7	68.8	71.0	68.3	60.7	60.6	61.4	61.6	60.9	60.3	60.3	59.2	59.6	229.9	
7 q	59.2	60.6	57.9	58.0	57.4	56.8	56.7	56.1	54.9	55.9	58.4	60.7	64.7	68.6	69.4	66.6	60.7	60.4	61.6	61.5	58.5	55.5	55.1	52.0	59.5	227.2	
8	45.5	57.2	56.8	58.0	56.8	55.8	57.5	56.4	57.9	55.5	56.8	63.3	65.4	67.4	64.9	64.3	63.0	61.5	61.2	60.3	52.2	54.5	56.4	56.4	58.5	205.0	
9	50.3	48.5	47.2	42.4	46.1	54.0	56.3	57.2	54.0	57.5	59.2	63.0	66.2	69.6	70.1	67.4	67.6	61.9	61.6	60.4	59.2	58.0	55.6	56.8	57.9	190.1	
10 d	59.4	56.7	53.7	52.8	57.4	57.5	49.6	50.8	53.1	56.6	61.4	56.4	60.2	57.2	70.8	71.3	63.3	69.2	65.3	76.0	67.8	47.6	57.4	46.7	59.1	218.2	
11 q	44.3	49.5	52.0	53.5	54.4	55.4	56.3	56.3	57.2	57.9	59.2	61.3	63.1	62.8	63.0	60.7	58.3	59.1	58.9	59.2	59.6	59.4	59.5	58.7	57.5	179.6	
12 q	57.2	58.0	59.4	60.4	57.0	57.2	58.3	57.9	61.2	60.7	61.8	63.1	61.8	63.1	60.3	59.5	58.3	58.5	59.2	59.2	59.2	59.0	59.5	58.7	59.5	228.5	
13 q	58.5	58.6	58.3	57.6	57.8	57.7	56.7	53.7	52.5	55.1	58.7	62.2	66.2	68.3	67.3	65.7	61.6	65.7	64.6	59.9	58.0	57.9	55.8	58.6	59.9	237.0	
14 q	59.4	59.7	59.2	58.9	58.6	57.7	56.6	54.4	52.9	54.4	56.3	59.7	63.2	64.8	64.9	63.9	62.8	61.3	60.6	60.3	60.3	60.4	60.5	59.7	59.6	230.5	
15	59.2	59.7	62.1	60.6	58.1	56.8	56.1	55.6	52.3	52.7	56.3	61.0	65.3	67.8	67.4	65.2	61.3	60.1	61.3	57.2	58.5	62.5	59.2	51.3	59.5	227.6	
16	45.2	41.7	49.6	54.1	56.6	57.8	56.6	54.8	53.8	55.9	59.5	64.6	69.0	69.1	68.8	64.3	64.9	62.4	71.0	58.7	54.6	46.8	53.2	58.8	58.0	191.8	
17	57.0	55.8	54.6	53.9	56.1	54.5	58.6	52.6	52.0	55.1	59.4	64.7	69.9	70.9	68.9	66.2	64.1	55.0	59.2	60.4	61.5	59.2	55.6	56.8	59.3	222.0	
18	57.5	58.2	55.7	58.6	59.5	57.9	56.8	55.7	53.2	56.5	59.4	65.5	69.3	70.5	68.4	66.2	62.6	60.6	60.4	61.8	61.3	60.2	55.3	56.4	60.3	247.5	
19	52.1	52.2	55.1	55.7	54.9	54.8	55.2	52.0	52.7	58.8	62.8	66.0	69.2	70.3	69.1	66.3	66.2	64.2	62.7	59.4	55.1	56.5	56.9	58.2	59.4	226.4	
20	54.5	48.4	50.9	53.7	52.9	58.5	53.4	59.2	55.5	53.0	55.3	60.5	64.2	66.1	65.5	65.4	63.4	61.2	61.4	61.0	61.2	57.4	59.4	54.7	58.2	196.7	
21	54.9	54.9	53.7	54.3	53.6	55.0	54.6	53.2	52.6	53.7	56.7	61.4	66.4	71.6	70.5	72.1	81.8	85.4	79.7	68.4	66.2	62.4	56.5	57.6	62.4	297.2	
22	49.8	54.2	56.1	55.6	55.5	54.5	54.9	56.1	58.4	59.3	62.6	67.2	69.1	72.6	70.6	67.4	67.4	61.3	59.6	53.3	58.9	59.0	55.6	57.1	59.8	236.1	
23	58.6	53.5	49.7	50.6	55.6	55.4	55.2	54.6	54.5	55.6	60.7	63.0	67.0	67.4	66.1	65.4	62.0	58.4	59.4	61.0	60.7	51.9	54.8	55.6	58.2	196.7	
24	55.9	57.4	58.6	57.4	56.2	56.6	55.5	52.8	52.9	54.6	56.6	60.5	63.1	65.9	65.8	64.2	62.5	62.2	61.7	60.4	56.2	53.2	58.8	59.0	58.7	208.0	
25	57.8	57.8	49.2	39.4	42.6	46.1	50.7	52.0	47.9	56.8	61.0	64.2	68.0	67.7	70.0	66.3	61.6	60.1	60.4	59.2	60.3	59.5	58.6	57.5	57.3	174.7	
26	55.7	56.8	57.4	57.4	56.8	56.1	54.7	52.8	51.8	52.7	55.0	61.7	65.7	70.9	72.0	68.6	70.6	65.5	61.6	58.5	56.6	49.7	44.1	49.2	58.4	201.9	
27 d	51.8	54.4	56.0	58.0	56.1	54.2	51.7	52.7	55.3	56.8	58.3	66.1	71.4	73.7	77.3	73.4	66.0	64.7	57.5	51.8	60.9	47.7	34.8	29.6	57.5	180.2	
28 d	10.5	15.0	44.1	55.4	51.3	59.0	69.8	55.1	48.9	57.6	57.7	61.8	63.2	62.3	62.3	63.1	61.4	60.4	59.2	58.6	59.4	59.0	58.8	58.0	54.7	111.9	
29 d	57.2	56.6	57.5	57.5	54.4	48.6	49.2	47.2	53.7	53.2	56.6	64.0	68.5	80.4	77.2	99.4	67.1	76.7	74.7	56.6	61.6	59.2	49.8	49.4	61.5	276.3	
30	47.9	34.0	43.6	49.4	56.1	54.6	53.6	52.5	53.7	55.3	57.8	61.8	64.9	66.2	65.7	64.3	62.6	59.6	59.9	60.4	60.4	58.4	57.5	53.2	56.4	153.4	
31	57.4	52.2	56.6	53.7	55.6	58.5	53.7	52.7	53.9	56.1	58.5	63.5	65.9	70.0	67.1	67.1	60.4	62.6	60.6	59.2	56.8	52.2	50.3	49.6	58.1	194.2	
Mean	52.5	52.8	53.7	53.6	54.2	55.8	54.2	54.7	54.1	56.1	58.7	62.4	65.5	67.9	68.1	67.3	64.2	63.2	62.5	60.3	59.9	55.7	54.6	53.9	58.6		
Sum 1600.0+	27.6	36.0	64.9	62.3	79.3	130.2	80.6	96.3	78.6	139.7	218.4	334.4	430.3	504.4	511.3	486.7	390.0	360.7	339.0	268.5	257.0	126.0	92.9	70.2		Grand Total 43585.3	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

25

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

MARCH 1957

	Hour G.M.T.																											Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	4000+		
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
1	219	216	215	215	215	214	213	210	207	206	208	206	204	214	231	240	255	338	403	307	274	239	206	203	236	1658		
2 d	146	160	190	52	-36	99	259	-43	130	206	219	266	331	270	265	329	319	289	273	209	300	190	155	318	204	896		
3	196	136	130	191	207	220	231	239	239	249	256	257	249	252	268	276	287	289	286	288	260	241	218	228	237	1693		
4	224	179	158	146	161	180	205	214	221	217	221	227	232	245	254	242	238	234	231	230	231	227	216	198	214	1131		
5	199	184	181	209	223	225	227	231	232	231	230	229	231	227	247	254	265	286	290	275	269	224	232	212	234	1613		
6	155	149	204	218	219	224	215	205	210	213	218	225	222	226	240	268	284	274	258	268	273	255	239	235	229	1497		
7 q	227	221	208	204	212	223	227	231	229	229	229	226	223	224	238	255	282	270	241	231	239	245	242	219	232	1575		
8	183	204	219	226	227	227	221	214	211	221	223	221	227	234	225	215	221	232	233	239	259	250	238	184	223	1354		
9	134	177	175	156	161	151	152	176	197	206	214	217	216	223	241	261	268	285	255	249	252	221	226	221	210	1034		
10 d	214	212	208	193	142	114	153	175	196	214	218	248	308	269	250	268	310	308	327	329	113	191	245	244	227	1449		
11 q	181	214	238	239	244	239	241	250	253	250	250	251	248	248	242	245	247	245	239	237	236	235	235	234	239	1741		
12 q	232	231	224	206	207	210	215	218	222	221	231	241	239	240	239	241	241	236	231	230	229	229	228	228	228	1470		
13 q	229	229	229	227	226	224	222	224	225	222	229	234	237	245	248	252	268	307	307	301	270	245	240	229	245	1869		
14 q	225	228	228	229	227	225	225	227	229	232	234	233	234	234	234	235	227	225	223	220	218	218	218	219	227	1447		
15	217	217	213	196	202	211	212	215	218	219	218	218	217	218	220	223	233	236	243	252	238	212	190	187	218	1225		
16	145	95	122	182	213	220	216	219	218	222	223	223	221	234	242	242	235	240	245	209	206	129	216	237	206	954		
17	236	202	167	196	220	221	211	214	220	227	228	224	224	238	244	243	254	296	259	245	233	228	206	210	227	1446		
18	218	216	214	218	214	214	218	224	222	219	214	217	235	251	239	235	237	233	231	229	231	201	206	211	223	1347		
19	211	207	214	217	220	221	223	226	222	216	210	210	216	216	214	220	226	241	254	244	201	221	224	201	220	1275		
20	139	153	180	208	210	186	186	196	198	210	215	215	212	211	215	219	234	235	230	225	224	225	190	198	205	914		
21	206	214	215	206	190	206	214	218	216	218	215	210	206	200	215	229	295	430	413	373	339	286	253	166	247	1933		
22	160	193	215	219	215	203	213	215	211	218	221	220	234	249	277	290	294	327	303	276	242	241	224	184	235	1644		
23	132	124	125	123	183	205	215	228	226	229	235	242	242	237	232	236	258	274	256	240	238	235	222	216	215	1153		
24	193	196	178	179	204	214	221	226	229	231	227	220	213	209	210	215	218	220	228	249	243	197	221	224	215	1165		
25	221	208	144	73	-14	12	143	207	219	224	246	260	284	298	262	242	238	233	233	237	234	229	226	224	203	883		
26	220	223	223	222	222	221	222	224	223	222	221	220	229	230	244	267	285	308	287	260	245	229	176	136	232	1559		
27 d	77	169	195	178	161	197	211	217	218	221	229	229	233	225	228	266	280	250	284	252	263	309	83	183	215	1158		
28 d	3	118	138	155	190	74	-10	95	172	229	222	237	252	254	262	272	269	247	237	234	237	237	234	234	191	592		
29 d	237	231	213	204	207	206	208	213	211	222	227	231	228	227	277	132	307	314	308	332	283	229	120	149	230	1516		
30	138	83	104	148	209	227	241	247	249	252	255	257	262	266	269	264	267	261	249	238	236	234	220	198	224	1374		
31	179	197	199	200	195	175	198	212	220	227	233	235	237	243	257	257	271	271	287	295	233	164	153	178	221	1316		
Mean	184	187	189	188	190	193	205	205	216	223	226	231	237	237	243	246	262	272	269	258	244	226	210	210	223			
Sum 5000+	696	786	866	835	876	988	1348	1367	1693	1923	2019	2149	2346	2357	2529	2633	3113	3434	3344	3003	2549	2016	1503	1508		Grand Total 165,881		

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

MARCH 1957

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
	Horizontal force			Declination			Vertical force										
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range								
1	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ						
2 d	17 55	584	397 23 10	187	17 15	84.3	45.3	23 41	39.0	18 10	432	172 23 55	260	1,0,1,1,2,5,5,4	19	1	78.6
3	13 51	836	-717 05 57	1553	05 54	158.9	-26.0	05 43	184.9	06 05	692	-155 05 21	847	5,9,9,5,6,6,6,7	53	2	78.8
4	17 08	555	235 02 33	320	13 39	69.1	39.5	02 07	29.6	17 05	329	77 02 00	252	5,4,4,2,2,4,3,3	27	1	79.1
5	21 15	501	432 04 38	69	13 11	67.8	42.1	03 44	25.7	14 02	259	140 03 02	119	3,3,2,1,2,1,1,3	16	0	79.0
6	18 09	535	432 00 49	103	13 19	71.9	46.0	22 31	25.9	18 19	308	159 01 59	149	3,3,2,2,3,3,4,3	23	1	78.4
7 q	16 31	549	390 00 53	159	14 13	72.1	38.0	00 37	34.1	16 15	289	109 01 07	180	4,1,1,2,3,3,2,2	18	1	78.3
8	16 35	543	419 23 59	124	14 30	70.8	50.8	24 00	20.0	16 47	302	186 23 58	116	2,2,1,1,2,3,3,3	17	0	78.8
9	23 45	519	410 24 00	109	13 12	69.5	40.8	00 21	28.7	20 32	273	110 23 58	163	3,1,2,2,2,2,3,4	19	0	79.1
10 d	20 59	556	396 00 03	160	21 04	76.5	39.0	03 39	37.5	17 56	293	118 00 25	175	4,3,3,2,2,3,3,4	24	1	79.3
11 q	14 33	891	151 21 08	740	19 53	107.4	21.6	21 10	85.8	19 49	364	-51 20 42	415	3,4,3,4,7,5,8,6	40	2	79.5
12 q	23 12	482	348 00 07	134	14 36	64.6	39.6	00 22	25.0	08 30	253	160 00 25	93	4,2,2,1,2,1,1,1	14	0	79.7
13 q	03 33	493	452 12 39	41	10 49	65.3	55.2	04 40	10.1	15 56	244	194 03 35	50	1,2,2,2,1,1,0,0	9	0	79.6
14 q	16 48	542	427 11 12	115	17 21	73.1	51.8	07 54	21.3	17 32	328	221 06 03	107	0,0,2,2,2,3,3,2	14	0	79.5
15	23 59	506	442 12 48	64	14 30	65.7	51.7	08 42	14.0	09 50	238	216 21 35	22	0,0,1,2,1,1,0,1	6	0	79.8
16	21 17	544	436 11 45	108	13 51	69.0	44.2	23 09	24.8	19 13	254	170 22 59	84	2,2,2,2,1,2,2,3	16	0	79.6
17	18 37	608	178 21 35	430	19 01	102.7	12.0	21 24	90.7	19 06	304	-17 21 30	321	5,3,3,2,2,3,6,6	30	1	79.2
18	17 09	547	427 11 04	120	13 07	73.2	50.0	07 57	23.2	17 29	303	160 02 47	143	3,3,3,2,2,3,3,2	21	1	79.2
19	21 22	526	442 12 13	84	13 00	72.9	52.3	22 16	20.6	13 35	255	187 21 54	68	1,2,1,2,3,2,1,3	15	0	79.5
20	19 50	564	441 09 50	123	13 06	71.4	48.8	20 02	22.6	19 33	261	148 24 00	113	2,1,1,2,1,3,3,3	16	0	79.3
21	21 56	571	437 12 33	134	22 03	67.0	47.0	01 00	20.0	17 23	238	128 00 12	110	3,3,3,2,2,1,1,4	19	1	79.4
22	18 07	799	295 23 48	504	17 09	94.0	37.2	23 27	56.8	17 42	454	76 23 38	378	1,2,1,1,2,6,6,6	25	1	79.5
23	17 29	580	302 23 55	278	13 45	73.7	41.0	00 19	32.7	17 46	342	121 23 53	221	4,2,2,3,3,3,4,5	26	1	79.4
24	15 57	523	320 00 04	203	00 04	70.5	43.6	02 07	26.9	17 20	278	97 03 22	181	5,4,2,3,2,3,3,3	25	1	79.4
25	21 07	543	444 11 31	99	20 29	68.2	36.4	21 03	31.8	20 03	265	172 03 03	93	2,3,2,1,1,2,4,4	19	1	79.3
26	04 17	514	278 03 25	236	14 29	71.8	36.4	03 48	35.4	13 06	321	-32 05 04	353	5,5,5,3,3,2,1,1	25	1	79.5
27 d	17 08	550	339 24 00	211	14 20	74.9	37.2	22 10	37.7	17 40	323	75 23 59	248	1,1,1,2,3,3,3,5	19	1	79.7
28 d	18 33	579	-81 21 44	660	21 46	83.9	-8.9	22 31	92.8	21 48	458	-75 22 49	533	5,3,2,3,4,3,5,7	32	2	79.8
29 d	15 20	533	-258 00 50	791	05 40	80.1	-48.5	00 57	128.6	15 49	295	-116 00 05	411	8,6,6,4,3,4,1,1	33	2	79.9
30	15 20	1388	199 22 54	1189	15 27	175.5	34.3	23 07	141.2	18 47	366	-224 15 23	590	3,4,3,3,6,8,7,6	40	2	80.0
31	03 45	510	17 00 54	493	13 07	67.6	6.2	01 11	61.4	16 30	274	27 00 53	247	6,5,3,2,2,2,2,3	25	1	80.0
Mean	16 49	611	327 23 42	284	13 30	71.2	42.0	24 00	29.2	19 26	305	134 22 30	171	2,3,3,2,3,4,5,4	26	1	79.9
Mean	-	599	282 - -	317	- -	80.8	33.8 - -	47.0	- -	319	87 - -	233	-	-	0.84	-	79.4

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

APRIL 1957

	Hour G.M.T.																										Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		10,000+		
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
1	363	468	460	467	474	455	454	432	420	434	446	451	449	471	494	558	589	591	550	505	492	486	480	458	477	1447		
2	429	386	473	483	478	468	461	453	451	448	433	431	442	442	461	483	486	513	544	523	501	495	473	462	467	1219		
3	455	497	491	490	489	483	489	482	473	470	448	446	481	510	509	523	557	574	548	509	478	464	425	320	484	1611		
4	448	438	374	438	457	447	468	460	440	443	443	450	465	449	491	530	558	546	542	534	497	482	471	450	472	1321		
5 d	456	425	433	478	489	492	486	472	441	451	452	430	484	455	468	581	511	495	517	512	507	507	470	415	476	1427		
6	351	342	286	350	457	433	454	453	439	413	400	415	435	450	469	504	509	492	487	489	490	492	492	494	441	596		
7 q	492	491	489	486	490	494	493	486	471	452	437	433	445	457	466	477	481	491	497	503	506	507	506	503	481	1553		
8	497	497	504	509	511	507	509	500	476	450	438	452	458	486	493	499	496	499	515	531	521	492	469	485	491	1794		
9	484	477	481	481	487	465	470	468	458	451	436	435	436	439	537	590	531	526	552	529	505	447	455	381	480	1521		
10 d	324	168	188	289	259	115	332	379	345	380	422	460	512	590	643	691	711	575	530	499	481	477	480	481	430	331		
11	475	483	483	478	475	479	480	471	459	449	442	430	423	438	444	462	479	494	505	508	502	495	503	504	473	1361		
12	489	490	489	481	481	475	481	475	464	445	435	439	439	457	464	491	514	520	550	522	503	491	486	483	482	1564		
13 q	483	475	464	496	496	490	478	473	458	451	446	444	465	477	466	480	503	516	509	501	499	497	505	500	482	1572		
14 q	497	493	489	486	486	486	484	479	463	448	439	437	441	453	462	473	483	496	515	512	515	521	518	517	483	1593		
15	515	512	511	509	506	505	505	508	494	466	449	439	438	451	497	493	510	526	539	532	525	410	186	427	477	1453		
16	377	385	410	474	486	481	480	481	467	457	438	411	445	483	491	515	537	579	547	512	510	509	476	459	475	1410		
17 d	463	478	482	475	476	476	483	479	466	449	438	458	494	540	516	510	509	515	524	563	582	564	509	395	493	1844		
18 d	528	512	494	490	486	494	490	479	465	456	449	433	444	454	470	517	586	631	635	564	523	435	326	356	488	1717		
19 d	276	234	158	166	365	396	349	371	417	440	452	469	493	544	597	588	628	614	632	528	488	461	425	410	438	501		
20	471	469	413	382	433	454	463	449	439	437	441	438	441	458	484	511	547	545	504	518	497	496	499	486	470	1275		
21	465	475	477	453	457	474	476	471	465	439	432	451	458	513	552	548	525	521	531	522	510	507	518	496	489	1736		
22 q	494	491	488	488	489	489	489	481	470	456	445	441	442	446	461	481	500	525	552	538	510	506	505	504	487	1691		
23	503	502	491	486	485	486	497	495	484	468	453	458	461	483	481	477	493	508	519	529	538	526	511	513	494	1847		
24	481	477	471	507	513	509	500	489	471	441	440	448	465	488	529	518	556	541	518	512	513	504	495	485	495	1871		
25 q	478	492	487	484	478	475	471	465	459	455	457	465	473	486	506	499	495	536	549	535	515	509	503	500	491	1772		
26	500	500	491	489	490	490	472	486	468	468	465	466	500	539	592	579	484	525	521	548	534	485	452	417	498	1961		
27	383	227	443	469	384	411	463	459	444	453	471	461	465	468	455	486	494	509	515	522	519	506	497	484	458	988		
28	496	494	490	489	489	483	483	484	480	475	464	472	490	520	600	670	677	618	589	551	507	455	451	434	515	2361		
29	480	444	424	410	441	470	474	472	462	446	430	453	477	493	501	522	522	508	499	500	503	500	502	499	476	1432		
30	498	486	476	467	443	471	488	480	468	457	452	453	443	458	466	521	513	551	545	551	522	499	472	489	486	1669		
Mean	455	444	444	455	465	462	471	468	456	448	443	446	460	480	502	526	533	536	536	523	510	491	469	460	478			
Sum 13,000+	651	308	310	650	950	853	1122	1032	677	448	293	369	804	1398	2065	2777	2984	3080	3080	2702	2293	1725	1060	807		Grand Total 344,438		

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)

9° +

APRIL 1957

	Hour G.M.T.																									Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1300·0+
1	47·0	52·0	55·5	56·8	52·6	53·7	54·4	52·5	56·8	56·1	58·4	62·3	68·4	71·0	69·1	69·5	66·1	64·0	61·1	56·6	55·4	55·4	52·7	47·2	58·1	94·6
2	45·8	49·6	54·7	55·1	54·6	53·7	53·6	54·2	56·5	56·6	57·3	60·2	65·1	66·6	66·6	66·0	63·3	62·8	59·0	55·1	58·0	57·0	49·0	52·7	57·2	73·1
3	57·2	57·3	56·1	56·6	54·8	57·0	55·6	55·1	54·5	53·4	58·0	62·8	67·1	67·8	67·9	66·4	64·7	64·0	58·2	50·3	53·0	51·9	49·2	49·4	57·8	88·3
4	47·0	47·6	45·6	42·5	48·4	54·6	52·4	50·0	49·8	53·6	58·6	63·1	68·7	68·8	71·8	70·9	68·5	63·5	62·4	60·8	54·5	54·7	49·9	47·3	56·5	55·0
5 d	47·7	43·4	38·7	49·9	52·0	53·4	51·6	52·9	52·0	52·8	59·3	64·0	68·2	71·2	75·3	70·2	64·5	65·3	63·7	63·0	63·4	61·6	57·1	44·9	57·8	86·1
6	42·4	35·0	42·3	46·0	54·4	60·0	65·5	59·6	54·3	52·8	62·2	66·0	67·4	69·6	68·2	66·1	62·1	60·5	60·3	59·9	59·8	59·5	58·7	58·4	58·0	91·0
7 q	58·1	56·7	56·1	56·6	56·4	55·6	53·6	51·9	52·0	52·9	55·6	59·4	63·8	65·1	65·0	64·1	62·4	62·2	61·4	60·9	60·3	59·9	59·4	60·1	58·7	109·5
8	56·8	56·1	57·0	56·7	57·0	57·8	60·6	58·6	58·0	58·0	62·3	68·4	71·4	72·9	72·5	71·8	66·1	61·5	60·2	60·4	59·4	56·1	54·5	52·6	61·1	166·7
9	54·6	55·5	54·2	54·6	53·8	57·7	63·2	60·7	61·3	61·2	63·9	66·2	68·7	70·0	67·3	67·1	67·0	65·3	65·2	58·6	55·9	52·6	47·8	46·6	60·0	139·0
10 d	44·8	25·5	33·7	36·0	61·1	47·2	49·2	52·6	59·2	58·3	60·3	61·6	64·2	65·2	63·5	62·8	60·5	57·0	55·5	56·1	58·5	60·4	59·5	59·0	54·7	11·7
11	59·4	54·7	54·6	55·0	53·7	53·0	52·0	52·0	51·5	54·4	60·4	62·8	68·3	71·4	70·3	66·2	62·1	60·3	60·4	61·3	61·4	58·0	56·6	55·9	59·0	115·7
12	57·5	57·0	55·7	55·6	54·5	54·9	53·8	54·3	51·8	53·3	57·0	60·8	63·4	66·0	64·2	64·3	61·6	55·5	56·4	57·6	59·4	57·6	57·1	59·1	57·9	88·4
13 q	63·9	60·9	59·8	55·7	53·7	56·5	58·0	55·5	56·5	56·8	56·8	60·3	64·8	65·7	64·7	64·3	62·5	61·3	60·0	59·8	60·3	59·2	58·6	59·0	59·8	134·6
14 q	58·9	57·8	56·5	56·0	55·1	53·7	52·5	51·3	51·0	52·6	56·3	59·5	62·3	64·5	64·8	64·0	62·7	61·6	61·7	61·6	60·6	60·8	60·0	58·6	106·6	
15	59·0	57·9	57·7	56·5	56·5	56·4	56·7	55·6	53·7	55·1	57·5	63·3	67·8	68·9	71·8	67·6	65·2	63·7	62·3	61·6	61·0	56·3	51·7	39·0	59·3	122·8
16	45·7	46·9	44·8	48·8	53·5	52·0	52·4	51·8	53·3	55·1	58·5	64·1	68·5	71·8	71·1	70·5	68·6	65·8	61·6	60·4	59·2	59·5	52·0	50·2	57·8	86·1
17 d	50·2	54·6	54·3	54·7	53·6	55·8	57·1	54·4	51·9	54·9	59·0	62·3	69·7	74·8	75·9	73·2	69·5	69·6	68·5	69·8	66·6	68·9	56·8	43·5	61·2	169·6
18 d	46·7	53·8	53·3	52·4	52·3	53·8	55·7	57·4	57·5	60·3	61·4	64·4	65·7	66·3	65·1	66·8	69·1	70·3	64·1	66·1	64·2	56·2	53·2	51·0	59·5	127·1
19 d	35·5	39·2	23·2	41·1	38·8	47·6	57·9	71·2	55·8	57·4	61·4	65·8	64·9	67·1	68·2	65·7	65·6	66·4	70·0	64·5	55·8	55·2	55·1	53·3	56·1	46·6
20	54·0	54·4	56·3	52·6	52·8	54·3	52·7	51·6	52·0	54·3	56·0	60·3	63·1	64·1	64·3	63·8	63·6	60·0	61·4	61·3	59·6	58·5	57·8	57·8	57·8	86·6
21	58·8	55·0	55·1	54·3	55·3	47·1	47·3	50·0	54·4	56·8	61·4	65·9	70·8	70·5	68·7	71·2	71·3	66·2	59·5	61·6	62·4	60·3	56·9	58·4	60·0	139·2
22 q	58·4	56·6	56·7	55·6	54·3	53·1	52·6	52·4	52·1	53·0	56·0	59·1	62·3	64·1	64·6	64·0	62·4	60·0	59·5	61·6	62·4	61·6	60·7	59·5	58·4	102·6
23	59·4	57·7	50·2	49·8	50·3	53·2	53·8	52·2	51·5	52·4	55·9	59·2	62·8	66·4	67·0	65·0	63·2	62·5	62·4	63·0	62·3	56·8	57·5	56·7	58·0	91·2
24	45·5	49·8	52·4	56·1	54·4	52·0	51·5	50·0	50·5	51·4	57·9	60·3	64·2	68·9	72·7	69·9	65·8	64·9	61·3	61·2	61·0	60·1	57·0	53·3	58·0	92·1
25 q	54·7	58·7	56·8	55·6	53·6	52·6	51·0	50·7	52·0	55·5	59·3	62·6	66·0	67·3	65·1	62·2	61·3	60·4	59·2	57·2	57·0	58·2	57·5	56·7	58·0	91·2
26	56·9	57·4	54·6	51·1	49·0	50·6	54·5	49·6	51·6	51·6	57·6	63·8	68·4	72·0	73·2	68·9	65·0	66·3	59·3	54·5	53·8	50·5	49·8	50·4	57·5	80·4
27	47·3	50·9	57·9	50·1	50·7	49·0	51·2	49·0	49·2	56·4	61·5	63·3	65·5	65·4	64·6	63·4	60·6	59·0	57·9	60·5	59·6	58·5	59·2	56·2	57·0	66·9
28	58·5	57·1	56·7	56·5	55·5	54·6	54·5	54·7	52·0	56·0	52·0	61·0	65·1	69·9	68·7	70·9	69·8	71·4	70·4	63·0	56·8	58·3	56·1	53·6	60·0	140·1
29	57·7	52·2	45·3	50·7	52·0	52·0	52·8	51·9	50·6	52·9	56·5	62·3	66·4	67·7	67·2	67·6	64·3	61·5	60·3	59·4	59·2	58·3	58·6	58·9	57·8	86·3
30	58·7	59·3	58·8	55·1	54·9	55·5	53·5	49·7	50·9	51·4	56·2	61·3	63·6	64·7	64·1	65·6	60·9	61·9	62·0	58·4	58·0	58·6	51·6	49·9	57·7	84·6
Mean	52·9	52·4	51·8	52·5	53·3	53·6	54·4	53·8	53·5	54·8	58·5	62·5	66·2	68·2	68·1	67·0	64·7	63·2	61·5	60·2	59·3	58·0	55·4	53·4	58·3	
Sum 1500·0+	88·1	70·6	54·6	74·1	99·6	108·4	131·2	113·4	104·2	144·3	254·5	376·4	486·6	545·7	543·5	510·0	440·2	394·7	345·2	306·1	278·8	240·5	162·4	100·6		Grand Total 41973·7

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

APRIL 1957

	Hour G.M.T.																													Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	4000+				
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ					
2	119	170	188	196	201	198	206	207	206	212	228	228	237	258	273	294	319	319	301	271	266	253	191	150	229	1491				
3	157	104	176	219	228	227	221	206	196	203	220	222	219	227	227	230	237	236	255	254	243	237	224	202	215	1170				
4	169	192	220	227	226	222	221	223	218	218	224	229	234	253	239	246	272	282	309	251	225	226	202	94	226	1422				
5 d	152	162	150	147	159	174	177	197	207	204	211	219	222	227	227	255	298	313	296	306	253	234	224	188	188	1202				
6	171	156	161	174	187	206	215	218	226	229	225	254	282	287	271	333	298	259	261	259	237	233	234	149	230	1525				
7 q	114	65	43	87	95	136	139	164	184	202	211	232	236	220	228	249	260	252	238	231	226	223	221	210	186	466				
8	209	215	215	217	217	217	221	223	226	230	229	222	213	213	210	209	213	213	213	216	217	217	217	213	217	1205				
9	203	206	208	210	209	209	199	197	206	216	215	214	216	229	261	284	297	290	278	295	307	258	215	215	235	1637				
10 d	215	196	188	203	196	186	171	183	196	200	209	220	238	247	285	346	324	301	304	320	267	202	172	104	228	1473				
11	37	64	-29	-135	-159	-116	18	178	199	241	278	313	335	377	402	398	364	343	325	292	269	248	237	237	197	716				
12	217	210	230	234	233	230	228	231	233	230	231	250	267	261	253	237	234	235	233	234	238	238	226	207	234	1620				
13 q	227	229	230	230	227	221	213	220	228	233	234	231	230	226	231	227	238	267	283	266	247	231	213	195	232	1577				
14 q	193	194	174	202	215	208	208	213	225	228	230	230	230	247	256	256	253	252	254	241	228	226	220	220	225	1403				
15	225	227	229	227	225	224	224	225	227	225	220	217	214	215	215	215	217	215	214	215	217	212	214	217	220	1275				
16	219	221	221	220	215	211	204	199	202	204	202	204	203	204	220	237	248	260	265	259	242	172	143	102	212	1077				
17 d	52	95	168	192	231	231	224	232	235	234	236	240	224	231	244	257	279	315	297	273	249	223	220	193	224	1375				
18 d	174	181	197	181	174	184	179	192	205	212	215	205	200	215	217	211	208	207	208	207	252	231	198	124	199	777				
19 d	228	243	217	220	225	217	212	215	212	212	215	217	219	221	220	220	251	312	321	276	279	193	174	232	231	1551				
20	164	257	171	56	-13	67	110	128	186	218	229	243	283	303	319	338	340	291	287	302	263	219	169	122	211	1052				
21	182	203	188	164	180	185	203	220	224	230	231	232	227	225	226	236	250	270	256	240	243	232	221	207	220	1275				
22 q	172	171	184	173	147	152	165	178	195	211	216	219	230	261	310	316	325	323	309	260	238	224	207	198	224	1384				
23	218	223	225	225	227	228	228	228	229	227	225	218	213	213	214	218	227	240	254	257	247	236	229	224	228	1473				
24	218	195	189	205	213	204	196	205	215	215	214	213	211	213	225	219	211	211	216	217	225	233	225	198	212	1086				
25 q	169	158	157	187	205	215	217	218	218	220	205	204	198	200	209	232	263	290	266	232	221	211	210	193	212	1098				
26	203	207	219	223	222	218	214	213	211	210	204	205	213	224	249	264	256	247	244	246	239	224	223	218	225	1396				
27	211	210	205	203	189	182	162	166	185	188	190	208	234	282	318	323	299	257	266	249	223	190	178	146	219	1264				
28	107	86	89	166	123	107	145	187	198	207	204	213	210	224	223	223	228	228	229	218	217	224	215	198	186	469				
29	209	222	222	223	220	215	213	210	208	208	213	211	223	241	274	318	307	302	264	286	244	171	189	172	232	1565				
30	198	168	151	141	144	200	221	225	220	215	213	206	227	264	287	319	339	311	257	231	220	218	208	213	225	1396				
Mean	214	217	211	205	208	191	198	206	207	208	205	207	211	207	211	219	253	251	242	240	234	187	160	151	210	1043				
Sum 5000+	178	182	180	181	179	185	192	204	211	216	219	224	230	241	251	264	270	270	265	255	243	221	206	183	219	Grand Total 157,463				

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

APRIL 1957

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.					
	Horizontal force			Declination			Vertical force												
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range										
	h. m.	γ	γ	h. m.	γ	h. m.	h. m.	γ	γ	h. m.	γ								
1	17 58	616	267	00 28	349	18 17	73.7	39.2	00 38	34.5	18 09	344	56	00 17	288	5,3,3,3,3,4,4,4	29	1	80.0
2	19 04	565	310	01 22	255	12 52	69.1	41.8	00 00	27.3	18 24	261	59	01 30	202	5,2,2,2,2,3,3,3	22	1	79.7
3	17 00	602	223	23 34	379	14 27	69.5	32.8	23 19	36.7	18 41	329	42	23 08	287	4,1,1,2,3,4,4,6	25	1	79.9
4	19 25	571	346	02 27	225	14 32	72.7	34.7	03 07	38.0	19 30	323	120	00 23	203	4,4,8,2,3,3,4,3	26	1	80.0
5 d	15 50	598	304	24 00	294	14 56	89.2	28.0	23 26	61.2	15 36	389	34	23 58	355	4,3,2,3,4,4,3,5	28	1	80.1
6	15 52	514	205	02 50	309	06 28	70.8	26.5	01 31	44.3	16 48	265	12	03 01	253	5,5,4,3,3,2,1,1	24	1	80.0
7 q	21 43	509	431	11 27	78	13 50	65.2	50.7	08 15	14.5	09 57	231	206	00 01	25	1,0,1,1,1,1,0,1	6	0	79.8
8	19 34	544	435	10 17	109	15 01	74.0	43.9	21 52	30.1	20 09	328	193	06 56	135	2,1,2,2,3,3,3,3	19	0	79.9
9	14 58	620	172	24 00	448	15 06	71.0	40.2	24 00	30.8	15 17	356	-24	23 56	380	3,3,3,2,5,4,4,6	30	1	83.1
10 d	16 44	754	-263	01 57	1017	05 08	91.8	-8.0	01 57	99.8	15 12	415	-223	03 06	638	7,7,6,5,5,5,4,1	40	2	83.2
11	22 57	542	367	13 07	175	13 16	73.5	50.0	08 17	23.5	13 07	282	192	23 01	90	3,1,1,3,4,3,2,3	20	1	82.2
12	18 08	566	433	10 32	133	13 40	66.7	49.1	17 51	17.6	18 24	285	179	23 40	106	1,2,2,1,1,3,4,3	17	1	82.0
13 q	17 15	520	440	02 02	80	13 38	66.6	52.6	04 52	14.0	14 30	261	158	02 29	103	3,2,2,2,2,2,2,1	16	0	81.8
14 q	22 03	525	435	11 08	90	14 04	65.3	50.3	08 25	15.0	02 50	230	210	18 02	20	1,1,1,0,1,2,1,1	8	0	81.7
15	18 32	542	40	22 11	502	14 12	74.5	22.9	23 22	51.6	18 08	266	63	23 59	203	1,1,1,2,3,3,3,7	21	1	82.0
16	17 43	622	335	00 29	287	14 28	73.5	38.8	01 53	34.7	17 44	335	11	00 20	324	5,3,2,2,3,4,4,3	26	1	82.2
17 d	23 59	782	-143	23 37	925	15 06	80.7	24.2	23 38	56.5	20 34	277	-93	23 37	370	3,3,3,4,4,3,4,8	32	2	82.2
18 d	17 55	716	218	22 27	498	17 58	79.8	40.4	00 47	39.4	18 03	371	116	22 07	255	6,2,2,3,2,6,5,6	32	1	82.1
19 d	16 44	685	-40	03 02	725	07 05	81.4	-0.1	02 07	81.5	01 36	437	-67	04 05	504	7,7,5,3,5,4,5,5	41	2	82.0
20	16 58	563	298	03 15	265	16 23	65.2	44.6	03 17	20.6	17 22	271	138	03 13	133	4,5,2,2,3,3,2,2	23	1	82.0
21	15 05	573	428	10 25	145	15 42	73.7	43.8	05 07	29.9	17 58	331	129	04 48	202	3,3,3,2,4,3,4,3	25	1	82.2
22 q	18 54	558	437	11 55	121	14 28	64.8	51.6	08 45	13.2	19 33	259	212	13 40	47	1,1,0,1,1,3,3,1	11	0	83.0
23	21 10	544	448	10 30	96	14 02	69.2	47.4	24 00	21.8	21 21	237	165	24 00	72	3,2,2,1,3,2,2,3	18	0	83.2
24	14 53	585	430	09 35	155	14 53	78.9	43.5	00 14	35.4	17 16	300	147	02 25	153	3,3,2,2,4,4,3,3	24	1	82.5
25 q	18 39	560	452	09 54	108	13 27	68.0	48.9	07 07	19.1	15 38	268	195	00 00	73	3,1,1,2,3,3,3,1	17	0	82.5
26	14 51	637	385	23 59	252	14 19	77.7	46.9	21 18	30.8	14 52	332	132	23 56	200	1,2,3,3,5,5,3,4	26	1	82.6
27	20 04	534	116	01 13	418	01 52	71.0	33.3	01 07	37.7	13 41	237	8	01 57	229	6,5,4,3,3,3,2,2	28	1	82.2
28	16 01	797	376	23 30	421	17 37	93.5	39.4	21 41	54.1	15 53	356	111	21 28	245	2,1,2,2,4,6,5,4	26	1	82.7
29	16 12	532	381	03 40	151	15 22	69.1	43.1	03 20	26.0	16 19	341	119	04 04	222	3,4,2,3,4,3,3,1	23	1	82.1
30	19 15	559	435	04 38	124	15 19	67.2	44.8	22 17	22.4	16 40	263	142	22 27	121	2,3,2,2,2,3,3,3	20	1	82.1
Mean	- -	595	290 - -	304	- -	73.6	38.2 - -	35.4	- -	306	91 - -	215	-	-	-	-	0.87	-	81.7

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

MAY 1957

	Hour G.M.T.																								Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		11,000+
1 d	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2	486	445	455	487	436	445	471	452	442	439	441	460	464	484	496	484	484	497	516	512	509	509	506	500	476	420
3	503	499	491	489	493	476	474	493	488	473	462	455	461	460	478	493	499	510	522	525	519	515	505	500	491	783
4	501	488	491	507	502	498	494	491	481	465	453	461	459	464	503	527	542	583	596	552	525	484	460	494	501	1021
5	496	500	494	491	489	489	494	492	483	463	459	457	458	478	516	525	557	587	602	564	541	517	502	479	506	1133
6	448	468	486	489	491	498	497	489	474	461	453	446	465	480	502	506	519	531	521	514	517	522	523	509	492	809
7	477	498	486	462	494	498	496	492	480	454	416	427	442	458	499	483	499	503	508	511	522	529	520	509	486	663
8	487	492	504	508	503	484	501	502	492	480	464	457	462	486	491	523	571	575	554	519	514	507	507	504	504	1087
9 d	504	504	506	509	510	509	502	488	475	461	445	444	449	471	471	490	503	530	549	555	559	572	530	472	500	1008
10	523	519	449	396	430	475	462	490	497	490	463	437	475	482	479	475	499	522	523	540	519	512	504	500	486	661
11	494	492	485	488	483	482	492	483	473	464	457	456	453	477	492	505	518	537	541	545	527	523	522	512	496	901
12 q	501	503	504	502	506	506	503	497	486	474	467	469	471	474	480	493	519	530	534	545	538	523	505	493	501	1023
13	481	491	505	507	505	501	497	488	470	464	464	463	464	473	480	497	519	528	523	526	524	518	514	521	497	923
14	502	471	497	506	505	504	505	494	479	461	452	448	457	466	497	508	549	565	575	545	541	512	503	500	502	1042
15 q	508	505	506	501	491	493	493	483	470	457	445	441	444	470	479	501	525	540	528	535	523	517	516	516	495	887
16 q	509	506	509	512	515	512	502	489	475	462	459	453	464	483	501	494	504	522	524	538	544	529	513	505	501	1024
17	506	505	507	513	515	512	502	494	481	462	454	457	464	475	490	510	535	560	576	564	534	523	515	507	507	1161
18	505	503	500	503	512	520	516	509	489	463	448	446	434	454	474	502	534	565	548	542	539	530	516	508	503	1060
19	506	502	505	514	516	518	508	486	464	447	433	438	453	475	496	513	543	558	565	567	550	522	509	501	504	1089
20 d	499	499	501	507	511	507	499	479	461	441	441	454	481	482	522	556	547	579	611	557	549	534	524	515	511	1256
21	510	494	480	478	474	453	468	475	462	436	409	429	440	489	498	493	557	585	584	564	553	521	511	506	495	869
22	500	495	506	506	495	468	472	478	458	452	438	447	468	467	499	520	519	552	574	563	542	527	509	504	498	959
23	511	512	510	507	511	503	494	487	481	473	460	458	458	469	487	500	507	527	527	528	523	515	515	517	499	980
24	521	515	514	510	506	506	502	478	478	474	463	455	457	464	506	549	589	603	593	558	535	509	496	497	512	1278
25	499	502	507	506	506	509	501	484	463	448	445	454	483	492	493	506	517	531	535	531	520	512	510	511	499	965
26 d	511	509	507	503	504	509	508	486	476	472	456	459	465	486	503	497	517	526	530	535	552	545	511	494	503	1061
27	486	468	453	474	478	490	493	469	420	388	379	444	455	507	502	598	619	560	547	547	531	478	449	465	487	700
28	473	471	493	500	493	483	466	478	470	445	435	454	474	497	503	510	517	506	514	520	522	517	507	504	490	752
29 q	501	499	507	506	505	498	482	474	455	458	466	463	470	485	507	543	545	520	523	514	511	516	512	488	498	948
30 d	504	493	496	503	505	504	490	474	468	457	459	460	474	495	517	543	512	521	525	524	521	516	515	512	499	988
31	506	493	490	502	510	506	502	494	481	447	425	408	516	483	450	507	584	667	636	591	558	499	487	473	509	1215
Mean	468	454	435	451	448	479	486	469	441	420	428	448	461	471	487	503	521	531	538	542	536	532	526	521	483	596
Sum 13,000+	2426	2295	2279	2337	2342	2335	2272	2037	1613	1151	839	948	1341	1797	2298	2854	3470	3951	4042	3773	3498	3085	2742	2537		Grand Total 370,262

MAGNETIC DECLINATION (WEST)
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)

9° +

MAY 1957

	Hour G.M.T.																								Mean	Sum 1300.0+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
1 d	51.1	41.9	49.8	49.4	53.1	62.2	61.1	57.2	53.3	53.4	56.1	61.6	63.4	65.9	66.4	65.1	64.0	62.0	61.1	59.4	59.8	59.6	58.8	58.4	58.1	94.1
2	59.8	60.6	58.8	58.4	54.7	55.9	60.4	56.1	54.2	54.5	55.9	61.0	66.4	66.9	65.9	64.5	63.3	62.3	60.3	58.4	58.9	59.4	59.8	54.0	59.6	130.4
3	52.0	51.4	52.9	55.3	51.4	52.0	52.1	53.0	54.4	55.6	60.3	63.4	67.1	68.2	68.1	66.2	63.6	62.6	64.1	63.1	59.5	59.9	52.5	54.0	58.4	102.7
4	50.9	51.7	51.3	50.9	48.1	46.1	46.0	47.2	47.9	51.9	55.6	61.2	65.4	69.6	71.2	69.4	66.0	63.8	66.3	64.7	59.2	58.0	54.5	55.1	57.2	72.0
5	56.3	49.6	49.7	47.2	46.4	47.2	47.0	49.0	52.7	54.4	57.8	60.6	64.4	66.0	67.6	65.6	65.1	62.9	59.9	61.2	60.6	59.6	59.7	56.4	57.0	66.9
6	51.8	49.6	48.6	53.1	51.0	48.9	50.0	53.5	53.4	54.2	57.5	63.4	67.1	66.2	66.0	62.1	60.7	59.1	58.0	59.1	59.8	61.3	56.8	57.1	57.0	68.3
7	54.0	52.9	54.7	54.7	52.7	57.0	53.0	51.0	52.7	55.4	59.9	62.0	64.0	65.6	64.4	62.8	61.6	61.1	59.1	62.0	62.7	62.0	60.6	59.7	58.6	105.6
8	58.9	57.7	57.0	56.0	55.1	52.7	52.2	52.9	53.2	54.8	58.0	63.9	68.1	68.2	67.5	66.2	64.2	64.3	65.0	65.2	64.1	56.5	60.2	69.4	60.5	151.3
9 d	53.4	54.1	53.0	51.7	49.7	51.2	53.6	53.4	49.7	49.8	54.7	59.0	61.5	63.8	63.5	60.4	59.4	58.5	58.2	57.5	57.0	59.3	61.1	60.1	56.4	53.6
10	59.0	57.0	56.0	53.7	51.3	50.8	51.5	50.5	51.3	54.9	59.3	62.3	64.0	63.5	62.6	61.8	60.8	61.3	60.5	61.6	56.4	59.8	56.1	53.4	57.5	79.4
11	55.6	53.2	53.1	51.2	52.0	50.8	50.7	49.6	51.4	53.2	56.7	60.8	63.9	65.1	64.2	63.2	62.4	61.3	59.9	60.3	59.5	61.0	54.9	53.2	57.0	67.2
12 q	53.2	53.5	54.7	54.9	53.4	52.7	52.4	52.1	52.2	57.5	58.3	60.3	61.5	62.0	62.5	62.1	60.9	59.8	59.6	60.3	60.2	59.9	59.2	60.3	57.6	83.5
13	61.1	56.3	49.9	52.9	50.6	51.9	48.1	48.1	49.9	53.0	57.7	61.4	64.4	64.9	65.8	63.5	61.3	57.8	59.1	58.7	59.5	57.4	56.5	59.2	57.0	69.0
14	60.3	58.4	58.0	56.5	57.4	56.7	52.2	50.4	50.7	55.3	60.4	65.9	67.9	69.9	68.3	64.9	62.8	60.7	58.7	58.6	58.5	59.1	59.5	60.5	59.7	131.6
15 q	58.2	58.5	56.4	54.9	54.7	53.5	51.5	49.8	49.7	52.0	56.3	61.9	65.9	69.1	69.1	64.9	61.6	59.2	58.0	58.7	59.0	58.4	56.3	58.4	58.2	96.0
16 q	58.0	56.8	55.2	55.6	55.1	53.2	51.2	49.6	50.5	54.6	60.3	64.6	68.2	69.2	68.0	65.9	63.5	62.2	61.1	58.0	59.0	60.4	59.4	57.8	59.1	117.4
17	55.7	54.9	53.8	54.5	51.7	52.7	52.0	50.4	50.1	51.7	55.1	61.3	65.8	66.8	66.5	65.3	63.3	61.8	57.6	59.2	61.5	61.8	61.2	59.3	58.1	94.0
18	54.9	53.3	54.4	53.4	53.0	51.4	50.0	50.1	50.7	53.8	58.0	61.8	66.3	67.6	68.6	67.3	64.8	60.5	58.3	59.0	59.3	60.4	58.8	58.0	58.1	93.7
19	56.8	53.5	54.2	54.9	54.2	52.4	51.8	48.8	49.6	53.7	59.0	65.2	70.5	71.3	69.7	70.0	67.9	66.0	65.2	61.2	58.4	55.1	56.4	58.7	59.4	124.5
20 d	60.9	55.4	49.2	55.4	56.4	57.8	54.6	49.9	51.2	55.1	62.4	65.2	68.6	71.0	67.8	68.9	69.0	66.2	63.6	60.8	61.2	62.8	62.6	60.9	60.7	156.9
21	54.6	59.7	55.6	54.6	54.2	54.9	51.6	50.0	51.4	51.8	58.5	67.0	68.6	68.1	68.5	66.6	65.2	63.1	61.6	59.4	61.4	61.4	60.9	58.5	59.5	127.2
22	55.1	55.2	55.6	56.7	54.6	51.0	49.9	49.4	50.8	55.2	60.5	63.3	65.3	66.4	66.3	64.5	61.3	61.6	61.4	61.3	59.9	59.2	58.0	57.5	58.3	100.0
23	59.0	61.1	58.6	53.8	53.2	52.6	53.6	55.6	55.3	55.7	57.8	62.2	65.2	64.9	65.7	63.6	61.4	61.5	62.2	62.8	62.8	62.8	61.1	59.0	59.6	131.5
24 q	57.3	56.6	55.9	55.1	52.5	51.7	50.8	49.4	51.6	55.6	61.4	66.9	70.0	70.3	68.6	65.8	63.0	60.5	59.0	57.6	59.4	58.7	58.0	57.8	58.9	113.5
25	58.0	57.3	57.4	51.8	47.2	47.1	44.7	44.4	50.8	53.0	58.0	64.1	67.6	71.0	72.7	69.0	66.6	63.5	61.8	61.2	60.0	62.6	54.2	54.0	58.3	98.0
26 d	54.7	50.3	53.6	45.5	50.3	49.7	48.3	45.9	48.5	50.7	58.6	66.2	68.6	70.9	68.9	70.1	63.5	59.4	60.9	63.8	59.2	59.4	56.1	58.7	57.6	81.8
27	60.3	60.5	58.2	55.6	54.5	51.8	52.2	49.9	50.8	54.4	59.0	63.5	68.0	69.3	67.6	65.3	61.6	59.2	59.0	59.4	58.6	58.6	60.4	59.3	59.0	117.0
28	59.1	57.4	57.9	56.5	55.3	53.0	49.0	47.7	47.7	52.4	57.6	62.5	68.4	69.5	67.2	63.8	59.3	56.4	57.4	58.5	59.6	61.3	61.9	59.0	58.3	98.4
29 q	58.0	55.8	54.0	53.8	52.5	51.6	48.4	47.8	49.6	54.2	57.3	62.2	66.6	67.8	66.4	64.0	60.2	60.3	59.9	59.1	57.4	58.3	59.2	59.6	57.7	84.0
30 d	59.3	55.6	53.2	51.6	51.7	49.8	49.1	49.4	47.7	44.8	49.6	65.9	71.1	68.8	69.4	70.2	68.7	69.1	63.6	61.3	60.3	58.4	55.7	55.8	58.5	102.8
31	52.8	49.0	53.9	51.1	48.8	50.7	49.1	49.4	49.9	54.2	57.6	60.4	64.1	66.1	65.1	63.8	62.4	62.0	61.8	61.6	60.3	59.5	58.6	57.5	57.1	69.7
Mean	56.5	54.8	54.3	53.6	52.5	52.3	51.2	50.4	51.1	53.6	57.9	62.9	66.4	67.5	67.1	65.4	63.2	61.6	60.7	60.4	59.9	59.7	58.3	58.1	58.3	
Sum 15,000+	250.1	198.8	184.6	160.7	126.8	121.0	88.1	61.5	82.9	160.8	295.2	451.0	557.9	593.9	580.1	526.8	459.4	410.0	382.2	373.0	355.7	351.9	309.0	300.6		Grand Total 43382.0

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

29

MAY 1957

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

	Hour	G. M. T.																													Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	4000+					
1	d	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ						
2		162	132	122	124	116	103	123	161	181	192	204	218	253	241	241	246	251	241	231	227	221	215	214	211	193	630				
3		209	202	192	192	189	198	185	187	197	201	203	204	209	219	215	219	218	217	220	227	223	216	205	194	206	941				
4		180	182	187	180	178	184	188	187	189	198	201	201	204	204	210	230	254	270	270	259	254	222	195	201	219	1028				
5		207	199	199	204	204	208	209	210	208	203	197	196	202	214	231	256	278	285	284	275	267	250	233	217	227	1436				
6		139	150	178	188	196	188	191	197	200	197	193	190	190	196	199	207	208	217	228	220	213	210	208	188	195	691				
7		145	151	163	153	145	178	190	192	200	203	210	202	212	212	213	220	218	221	219	215	213	213	218	203	196	709				
8		173	196	209	213	209	195	181	195	203	203	203	205	204	205	209	208	223	257	284	250	231	223	218	217	213	1114				
9	d	214	214	214	214	214	213	212	208	208	206	209	203	200	202	213	218	224	213	207	211	219	205	159	111	205	911				
10		144	156	99	54	74	123	134	150	180	214	221	217	219	240	245	248	238	231	225	232	240	228	215	198	189	525				
11		204	202	209	204	207	205	210	220	222	223	221	225	225	229	228	228	224	221	220	221	235	224	176	157	214	1140				
12	q	176	193	199	202	205	208	211	212	212	207	197	196	195	199	205	210	215	221	223	219	222	209	176	162	203	874				
13		167	190	210	218	222	223	222	219	214	205	203	199	194	199	205	209	213	220	220	213	212	212	215	211	209	1015				
14		183	148	150	140	160	170	181	193	195	199	200	207	215	230	234	237	244	255	240	234	217	220	209	198	202	859				
15	q	187	203	214	216	211	198	204	209	207	203	202	198	196	193	200	205	214	225	230	224	223	217	213	203	208	995				
16		194	187	200	213	216	217	226	225	218	209	199	192	183	187	202	219	223	220	216	209	213	221	213	216	209	1018				
17	q	214	216	218	219	221	223	223	221	217	209	196	184	186	193	198	207	216	226	239	245	243	230	223	219	216	1186				
18		214	220	207	206	204	197	200	210	213	208	204	193	188	188	197	208	222	237	256	241	224	217	215	213	212	1082				
19		208	209	207	207	209	210	215	217	213	207	200	194	191	192	198	214	225	240	242	236	237	233	214	206	213	1124				
20	d	197	193	194	195	200	206	212	217	214	204	194	187	191	200	206	217	234	240	270	265	237	230	211	200	213	1114				
21		193	164	142	128	122	157	152	182	201	207	204	198	205	223	260	272	265	277	269	254	241	233	221	209	207	979				
22		193	193	191	204	211	200	190	197	198	200	201	194	198	207	214	236	247	248	252	250	236	226	221	216	213	1123				
23		213	209	206	200	198	210	217	216	214	214	211	199	200	205	204	209	213	211	212	212	216	215	213	211	209	1028				
24	q	209	203	183	181	196	198	195	202	203	205	203	198	197	194	199	223	256	267	263	256	244	236	230	224	215	1165				
25		222	221	217	215	215	216	219	221	221	217	213	204	196	200	213	220	233	228	219	224	221	215	215	213	217	1198				
26	d	209	207	200	193	197	197	197	201	190	188	193	187	195	200	211	223	207	206	203	203	208	216	201	181	201	813				
27		174	149	132	147	175	197	214	223	221	220	224	236	280	263	256	252	312	302	262	236	217	185	174	199	219	1250				
28		201	188	200	213	214	215	215	223	227	224	217	209	209	221	226	226	232	230	222	219	221	220	216	218	217	1206				
29	q	219	219	221	223	223	220	217	213	209	204	200	201	201	207	213	229	243	242	224	216	213	209	201	168	214	1135				
30	d	183	198	205	214	220	219	219	220	214	206	196	196	202	215	232	243	250	233	224	220	223	219	215	211	216	1177				
31		202	170	177	190	200	214	216	214	207	206	199	194	189	233	226	214	242	296	299	275	240	236	200	189	218	1228				
Mean		172	148	152	144	175	191	214	230	226	225	216	207	203	211	218	223	229	226	224	223	222	217	216	213	205	925				
Sum 5000+		907	812	797	794	926	1081	1182	1372	1422	1407	1334	1234	1332	1522	1721	1976	2271	2423	2397	2211	2046	1822	1453	1177		Grand Total 155,619				

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

MAY 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force			Declination			Vertical force									
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range							
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ				°A.
1 d	18 48	521	402 05 01	119	14 10	67.8	37.3 01 45	30.5	12 30	260	82 05 40	178	3,4,4,3,2,2,1,0	19	1	82.0
2	19 12	533	444 12 02	89	12 59	68.3	50.6 23 38	17.7	19 58	229	179 06 55	50	2,2,3,2,2,1,1,3	16	0	82.4
3	18 12	608	390 22 03	218	04 18	69.5	45.9 22 33	23.6	18 48	282	172 03 45	110	2,2,1,1,3,3,4,4	20	1	82.0
4	18 18	618	453 11 42	165	14 15	72.4	45.0 05 54	27.4	18 58	289	178 24 00	111	1,1,2,2,3,3,4,3	19	1	81.8
5	17 43	543	430 00 07	113	14 13	68.0	45.6 04 38	22.4	18 45	229	122 00 45	107	3,1,2,2,2,2,2,2	16	0	81.2
6	21 22	536	401 10 50	135	12 21	68.7	45.5 06 06	23.2	15 12	226	128 00 26	98	3,3,2,3,3,2,2,2	20	1	81.3
7	16 38	590	453 11 37	137	13 32	66.4	49.8 07 40	16.6	18 18	295	167 00 27	128	3,3,2,2,2,3,3,1	19	0	81.0
8	21 56	590	427 10 48	163	23 13	76.9	50.6 06 11	26.3	21 07	231	95 23 28	136	1,1,1,2,2,3,2,4	16	1	81.0
9 d	19 28	551	339 03 49	212	06 55	59.8	44.7 04 35	15.1	14 47	252	43 03 01	209	4,5,4,3,3,3,3,2	27	1	81.1
10	19 37	553	442 12 09	111	12 40	64.4	46.2 22 37	18.2	20 21	239	143 22 48	96	1,1,1,2,2,2,2,4	15	0	81.2
11	19 26	551	460 11 43	91	21 44	66.7	46.2 22 43	20.5	18 10	225	157 23 47	68	3,2,1,1,2,3,2,4	18	1	81.4
12 q	17 17	542	459 12 18	83	14 27	62.8	51.3 05 46	11.5	05 15	224	161 00 28	63	3,1,1,1,1,2,0,1	10	0	82.0
13	18 10	586	441 11 40	145	14 17	66.4	46.9 06 47	19.5	17 42	261	131 03 40	130	3,3,2,2,3,3,3,2	21	1	82.0
14	19 21	549	437 11 58	112	13 43	70.9	49.6 07 12	21.3	18 30	230	183 00 12	47	2,2,1,2,2,2,2,1	14	0	82.0
15 q	20 27	547	450 11 19	97	13 51	70.3	48.9 08 23	21.4	21 37	227	185 01 12	42	1,1,1,2,2,2,2,2	13	0	82.1
16 q	18 22	586	453 10 22	133	12 57	70.0	49.4 07 40	20.6	20 01	249	182 11 50	67	1,1,1,2,1,3,3,1	13	0	82.4
17	17 21	587	431 12 27	156	13 05	67.0	49.4 07 09	17.6	18 50	259	187 13 07	72	1,2,2,2,2,4,2,2	17	0	82.0
18	19 45	571	429 10 35	142	14 29	69.1	48.1 06 36	21.0	17 52	245	188 13 11	57	2,1,3,2,3,3,2,2	18	0	82.3
19	18 06	630	438 10 17	192	13 20	71.9	47.1 07 39	24.8	19 02	278	183 11 22	95	2,1,2,2,3,4,4,3	21	1	82.0
20 d	18 03	608	400 10 19	208	13 30	71.4	47.2 07 53	24.2	17 23	285	109 04 09	176	3,3,3,3,4,4,3,2	25	1	82.0
21	18 39	579	422 10 34	157	12 13	71.0	47.9 07 13	23.1	19 23	256	181 01 45	75	3,3,2,3,3,3,3,2	22	1	81.8
22	17 18	534	445 10 56	89	14 36	67.2	47.8 05 56	19.4	20 32	219	194 11 52	25	1,2,1,2,2,2,1,1	12	0	81.9
23	18 23	608	448 12 18	160	14 30	66.2	51.9 05 33	14.3	17 15	271	170 02 49	101	3,2,2,2,3,3,4,2	21	1	81.9
24 q	18 22	540	439 10 07	101	12 53	71.1	47.4 07 32	23.7	16 40	236	191 12 17	45	1,0,2,2,2,1,2,1	11	0	82.3
25	20 58	568	439 10 55	129	14 11	73.9	43.1 06 43	30.8	15 08	225	177 23 30	48	2,2,2,2,3,2,3,3	19	1	82.1
26 d	15 56	672	352 10 15	320	15 22	73.4	39.6 03 24	33.8	16 39	323	106 02 56	217	4,4,4,4,3,4,3,3	29	1	82.3
27	20 24	527	430 10 32	97	12 48	70.6	48.3 07 40	22.3	17 05	234	183 01 15	51	2,2,2,2,2,2,2,2	16	0	82.7
28	16 05	563	440 08 56	123	12 59	70.5	45.8 08 08	24.7	17 00	249	164 23 17	85	1,1,2,2,3,3,1,3	16	0	86.8
29 q	15 33	553	454 10 47	99	13 32	68.3	46.8 07 48	21.5	16 08	256	174 00 01	82	2,1,2,2,3,3,1,1	15	0	87.9
30 d	17 51	696	378 11 12	318	12 54	73.7	41.4 09 03	32.3	17 42	330	165 01 27	165	3,2,2,4,4,5,5,3	28	1	86.3
31	19 14	547	412 02 19	135	12 55	66.3	44.0 04 06	22.3	07 56	232	139 03 12	93	3,3,2,3,1,2,1,1	16	0	85.8
Mean	- -	574	427 - -	147	- -	69.1	46.7 - -	22.3	- -	253	155 - -	98	-	-	0.48	82.5

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

JUNE 1957

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 11,000+
1 q	γ	519	515	513	513	511	504	494	481	470	461	460	454	478	498	483	486	510	531	535	532	529	530	522	523	502	1052
2 q	γ	521	519	514	509	506	519	514	503	483	463	457	466	477	491	500	529	539	545	550	541	538	535	532	537	512	1288
3	γ	535	534	538	534	518	491	498	488	480	477	505	472	466	500	566	615	647	710	723	593	549	505	460	482	537	1886
4 d	γ	480	487	379	434	474	471	488	465	456	430	427	442	470	504	555	576	648	616	609	593	540	461	345	369	488	719
5	γ	452	264	436	477	479	478	476	470	473	461	455	472	490	480	486	524	575	616	622	579	550	519	460	289	483	583
6 d	γ	416	386	355	415	393	387	399	426	451	457	456	497	559	564	544	547	521	537	555	570	549	532	521	520	482	557
7	γ	485	468	448	500	514	507	497	481	470	471	465	461	475	483	496	497	504	517	523	522	524	525	514	502	494	849
8	γ	497	487	492	492	489	486	497	498	494	485	470	468	485	489	496	523	531	541	555	565	554	535	520	510	507	1159
9 q	γ	505	505	507	506	498	506	503	488	465	448	440	441	458	481	500	527	541	548	541	536	519	509	508	509	500	989
10 q	γ	508	509	510	510	512	510	501	487	478	473	468	463	475	489	501	516	528	541	546	539	540	530	526	512	507	1172
11 q	γ	506	505	514	516	515	513	504	488	471	462	460	461	473	489	502	509	516	524	537	546	545	538	528	526	506	1148
12	γ	522	517	518	518	518	510	506	497	480	473	473	476	501	487	516	553	530	535	547	553	550	538	530	521	515	1369
13	γ	513	509	512	519	516	509	492	475	461	457	476	465	468	486	499	508	517	545	551	561	565	544	522	513	508	1183
14	γ	502	498	502	504	506	502	492	487	477	459	452	445	462	468	493	505	525	544	536	546	558	539	521	510	501	1033
15	γ	514	509	499	506	490	479	498	490	477	473	470	462	473	494	561	535	558	628	572	575	549	520	512	509	515	1353
16	γ	501	498	499	497	497	496	488	480	474	467	456	452	462	480	504	506	509	523	532	537	538	532	528	522	499	978
17	γ	523	530	516	516	509	480	496	496	479	461	452	458	441	478	536	513	521	522	529	550	542	550	521	508	505	1127
18	γ	495	447	414	451	421	449	445	435	445	444	447	462	465	503	525	519	540	556	566	593	574	540	493	454	487	683
19	γ	484	436	426	416	463	470	461	470	474	449	428	461	487	550	634	593	598	585	560	544	530	522	494	480	501	1015
20	γ	473	462	483	512	487	481	492	487	475	461	454	449	457	476	490	514	528	530	566	588	587	532	521	506	500	1011
21	γ	498	493	484	496	494	478	473	483	475	471	468	480	484	482	490	507	543	559	596	604	561	537	512	503	507	1171
22	γ	494	503	515	515	512	510	499	488	472	443	471	516	503	481	480	503	499	499	518	528	525	522	517	512	501	1025
23	γ	510	500	505	508	509	503	488	473	465	461	465	470	468	475	467	498	512	525	539	562	558	540	520	513	501	1034
24	γ	505	495	458	455	453	460	476	480	466	456	457	449	467	489	490	509	525	533	531	527	533	524	519	503	490	760
25 d	γ	497	450	431	415	447	460	465	473	461	436	436	459	421	423	482	529	571	592	607	588	563	513	502	478	487	699
26 d	γ	493	351	416	295	202	331	263	275	290	380	386	405	539	716	718	807	881	751	600	576	528	445	492	475	484	615
27	γ	498	475	492	500	497	488	475	448	422	436	442	454	471	516	498	543	541	530	526	524	530	521	518	509	494	854
28	γ	511	505	519	528	524	502	476	423	429	453	462	454	442	488	512	555	557	570	559	535	525	515	506	505	502	1055
29	γ	507	506	508	508	509	505	493	477	464	455	454	450	455	484	492	502	505	515	526	525	531	534	536	531	499	972
30 d	γ	518	515	495	484	411	372	495	528	491	503	541	626	622	696	765	1025	1117	754	781	320	202	231	-141	-127	509	1224
Mean		499	479	480	485	479	479	478	471	462	458	458	466	480	505	526	552	571	567	568	548	533	514	485	473	501	
Sum 13,000+		1982	1378	1398	1549	1374	1357	1344	1140	868	726	753	990	1394	2140	2781	3573	4137	4022	4038	3452	2986	2418	1559	1204		Grand Total 360,563

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)

9° +

JUNE 1957

	Hour G.M.T.																											Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1300.0+		
1 q	57.5	56.8	55.4	53.9	52.0	49.9	47.7	47.2	49.0	52.5	55.8	60.3	64.1	64.4	63.2	63.1	64.1	63.7	62.3	61.0	60.7	60.8	59.8	59.7	57.7	84.9		
2 q	58.9	59.8	58.9	59.0	57.1	50.7	48.9	48.8	50.0	54.0	58.7	63.2	66.2	67.0	67.1	68.6	67.0	64.0	62.2	61.3	62.3	62.3	61.4	60.3	59.9	137.7		
3	58.5	57.1	56.5	52.5	55.5	52.0	51.3	48.8	51.0	55.6	59.1	62.9	68.1	69.8	74.2	76.8	67.1	73.3	71.7	61.1	61.7	63.7	54.5	56.5	60.8	159.3		
4 d	64.1	53.6	53.0	43.3	52.7	59.4	56.7	56.6	53.6	48.9	57.7	62.5	64.8	63.9	65.1	62.8	59.1	60.8	62.9	62.3	59.4	57.4	44.6	39.9	56.9	65.1		
5	49.6	47.1	41.0	39.9	43.9	48.4	49.4	49.2	52.7	52.7	59.1	64.3	67.0	67.9	66.7	67.4	68.2	65.3	64.0	64.0	64.3	63.2	60.3	69.0	57.7	84.6		
6 d	48.8	40.4	47.8	47.1	61.2	56.6	57.6	55.9	55.0	53.3	56.9	61.3	60.3	58.3	62.5	64.2	61.6	64.1	63.9	60.5	64.1	59.9	58.4	60.4	57.5	80.1		
7	64.0	57.6	47.2	45.5	46.9	46.6	48.8	49.6	51.4	51.6	54.9	61.7	65.0	65.2	65.3	63.4	61.9	59.5	58.4	58.6	59.2	58.3	54.6	56.7	56.3	51.9		
8	56.7	60.4	56.2	49.6	50.1	48.8	48.7	47.6	49.3	51.7	55.8	59.2	62.2	64.7	64.2	62.8	61.8	61.5	61.1	61.9	61.6	61.9	62.8	62.5	57.6	83.1		
9 q	59.8	57.5	56.1	56.5	52.5	51.8	48.9	47.3	49.8	52.8	56.7	61.1	64.0	63.4	63.3	63.5	61.3	59.3	59.2	57.4	59.3	59.4	59.4	59.1	57.5	79.4		
10 q	58.5	57.4	55.9	55.4	54.0	51.8	50.9	52.0	53.2	54.6	57.4	61.5	64.2	66.2	66.0	64.7	62.9	61.0	59.3	58.2	58.7	60.4	61.5	58.8	58.5	104.5		
11 q	58.5	57.0	55.3	53.7	50.4	47.1	45.9	46.5	48.3	51.7	56.9	63.8	67.1	68.5	66.8	64.3	61.6	59.3	59.3	59.4	59.7	60.0	60.9	60.8	57.6	82.8		
12	58.4	59.5	54.9	53.7	50.7	49.2	47.0	48.5	52.0	57.0	60.7	64.4	67.2	66.9	68.9	67.6	62.3	66.5	61.0	61.4	61.8	60.4	60.3	59.3	59.1	119.6		
13	56.8	54.3	53.6	53.2	52.6	50.0	47.9	47.9	47.9	52.9	57.6	63.1	66.1	66.7	66.2	64.4	63.4	63.8	62.6	62.7	61.1	57.6	55.8	58.8	57.8	87.0		
14	56.6	57.5	54.6	55.3	53.8	51.7	50.7	50.1	52.8	55.9	58.7	63.1	68.1	70.8	68.2	68.8	67.0	65.5	61.4	61.4	58.3	57.9	59.8	59.3	59.5	127.3		
15	56.0	50.2	47.6	50.5	51.9	56.5	53.5	49.0	48.8	53.7	57.6	61.6	64.1	66.1	69.0	65.4	66.6	68.8	64.4	65.6	62.5	61.5	57.7	58.3	58.6	106.9		
16	57.4	55.9	53.8	51.8	50.4	50.1	50.2	49.1	48.7	50.9	55.3	60.4	64.2	65.2	66.0	64.9	64.0	62.4	61.5	60.8	60.6	59.5	56.3	58.1	57.4	77.5		
17	56.6	56.5	55.2	51.0	43.8	45.4	55.3	49.7	47.9	50.9	57.4	62.8	64.9	67.5	67.1	63.9	63.4	62.9	63.5	63.9	62.2	63.6	56.5	58.5	57.9	90.4		
18	58.3	52.4	54.1	43.2	55.8	55.3	51.2	53.7	52.4	53.3	55.4	60.1	64.6	66.9	68.0	67.0	65.9	65.1	63.3	60.6	63.4	63.0	64.7	60.5	59.1	118.2		
19	57.1	50.3	53.8	51.0	47.6	50.6	48.5	48.7	48.1	50.0	52.6	59.8	66.2	68.9	64.9	66.7	67.0	68.2	63.2	63.4	63.9	65.2	61.9	54.6	58.0	92.2		
20	55.9	56.2	59.1	52.6	52.2	54.3	51.9	50.1	48.0	49.6	53.5	57.6	60.8	64.0	65.8	66.4	65.8	62.3	61.2	58.9	55.3	57.2	58.2	58.6	57.3	75.5		
21	55.0	54.3	54.8	49.8	45.3	45.4	51.8	49.6	47.3	51.4	56.3	59.5	62.4	64.1	65.8	67.2	65.5	64.0	63.1	61.4	58.9	58.3	56.2	56.4	56.8	63.8		
22	53.9	47.5	50.2	52.8	50.9	51.0	49.0	46.5	44.8	52.5	56.7	66.5	68.2	74.0	73.1	69.5	65.3	64.4	60.4	59.2	59.3	59.6	59.6	57.9	58.0	92.8		
23	50.8	52.7	52.6	52.5	52.6	50.7	49.9	50.9	52.6	54.2	58.6	63.4	67.1	68.8	68.9	68.3	65.8	63.7	62.4	63.4	58.5	55.9	57.4	57.4	58.3	99.1		
24	57.9	57.2	44.3	42.3	38.4	42.3	43.4	40.4	50.0	53.5	58.7	64.4	66.3	68.2	68.9	68.7	66.8	64.9	64.2	61.8	61.5	60.6	56.0	57.3	56.7	60.0		
25 d	54.6	50.2	40.6	43.9	43.5	43.7	44.7	43.8	47.2	49.7	54.0	58.5	66.8	66.2	67.2	66.4	65.1	69.2	64.1	62.2	60.4	59.3	59.1	51.5	55.5	31.9		
26 d	50.9	40.6	42.3	46.2	39.5	59.3	53.1	54.8	65.9	60.2	54.0	57.0	57.2	52.7	56.4	58.7	68.8	64.9	64.2	62.8	63.7	57.7	62.1	58.7	56.3	51.7		
27	56.8	52.4	51.0	49.6	49.0	46.7	45.3	45.2	50.9	56.1	59.3	63.4	67.2	70.0	69.9	68.0	63.6	61.5	61.8	62.0	61.6	59.7	58.9	57.4	57.8	87.3		
28	60.1	55.7	57.2	52.5	49.5	45.6	42.3	43.7	51.3	57.4	60.4	65.3	65.3	64.5	65.1	69.1	66.2	63.7	61.4	60.2	59.6	57.7	55.3	54.1	57.6	83.2		
29	53.4	53.3	53.6	53.1	51.8	50.7	50.0	49.3	51.1	53.2	57.6	63.6	69.0	70.4	68.9	66.4	62.8	60.0	59.3	59.0	58.6	58.4	59.1	58.6	58.0	91.2		
30 d	58.4	56.8	58.7	58.2	50.9	45.3	41.8	38.3	37.5	47.7	56.1	45.0	69.8	83.1	82.4	81.2	79.9	92.1	90.7	53.2	71.6	59.4	46.2	24.4	59.5	128.7		
Mean	56.7	53.9	52.5	50.7	50.2	50.2	49.4	48.7	50.3	53.0	57.0	61.4	65.3	66.8	67.2	66.7	65.1	64.9	63.3	61.0	61.1	60.0	58.0	56.8	57.9			
Sum 1400.0+	299.8	218.2	175.3	119.6	106.5	106.9	82.3	60.8	108.5	189.5	309.5	441.3	558.5	604.3	615.1	600.2	551.8	545.7	498.0	429.6	433.8	399.8	339.3	303.4		Grand Total 41697.7		

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

31

3	LERWICK (Z)												47,000γ (0.47 C.G.S. unit) +												JUNE 1957				
	Hour	G.M.T.	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 4000+			
	0-1	1-2																											
1 q	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
2 q	214	214	215	219	219	217	214	209	207	197	195	191	187	199	219	221	211	210	211	211	210	206	207	206	209	1009			
3	209	210	214	211	200	203	214	217	216	209	200	191	190	193	198	196	206	214	220	221	217	214	211	206	207	980			
4 d	209	213	211	212	211	203	197	204	201	189	182	197	185	194	196	227	298	276	286	302	276	240	152	182	218	1243			
5	145	107	103	75	108	143	163	186	203	215	229	234	242	260	242	265	282	282	256	242	220	180	104	43	189	529			
6 d	119	20	85	121	141	175	200	211	216	224	235	227	221	244	245	241	255	278	271	271	266	257	236	127	204	886			
7	129	116	56	67	44	98	137	160	206	243	255	243	280	306	289	288	282	258	256	255	214	200	229	236	202	847			
8	173	136	111	169	211	227	236	239	235	232	236	227	217	218	224	229	232	233	238	237	235	236	227	230	216	1188			
9 q	230	199	175	180	180	194	210	221	227	236	236	227	230	242	250	256	259	245	240	243	243	239	235	227	1451				
10 q	237	239	239	235	228	229	234	237	236	229	223	218	217	227	228	227	234	238	241	243	239	237	233	234	233	1582			
11 q	235	234	235	234	233	233	231	228	224	221	217	213	214	219	226	231	230	229	235	241	237	234	232	230	229	1496			
12 q	232	234	235	236	236	236	236	234	230	226	221	219	219	214	215	220	223	225	227	229	231	233	232	227	228	1470			
13	226	223	223	230	233	232	227	228	227	221	218	218	220	232	230	242	262	255	242	233	231	234	232	219	231	1538			
14	213	218	227	234	237	237	235	229	225	227	218	224	230	234	244	243	243	236	236	233	239	243	224	221	231	1550			
15	219	221	231	235	229	236	236	234	233	228	225	223	226	230	218	221	227	228	234	230	233	239	217	215	228	1468			
16	205	190	192	202	206	187	175	196	205	206	211	212	206	206	218	265	273	273	281	257	251	237	218	186	219	1258			
17	180	197	206	214	217	221	224	224	219	214	209	202	193	185	185	206	218	216	214	217	215	214	219	210	209	1019			
18	208	206	204	181	196	210	179	189	203	200	203	210	217	198	204	234	233	218	210	208	214	208	209	206	206	948			
19	180	153	69	85	98	118	160	193	214	226	240	243	249	240	234	236	235	239	247	250	243	241	207	134	197	734			
20	118	124	61	27	131	171	198	207	206	219	229	255	276	295	323	321	309	282	283	257	245	234	214	198	216	1183			
21	184	162	130	175	195	181	190	207	216	226	227	224	216	215	216	221	234	245	236	252	252	239	230	219	212	1092			
22	209	198	169	173	191	193	155	156	177	192	200	203	204	214	227	232	243	252	260	243	227	226	235	224	208	1003			
23	203	201	208	209	210	216	219	223	223	220	211	216	249	253	245	241	236	223	225	230	223	218	213	196	221	1311			
24	178	194	205	209	212	217	223	229	227	223	220	214	214	217	212	203	204	207	217	217	235	236	226	219	215	1158			
25 d	209	129	105	101	108	131	152	158	174	178	181	194	202	205	210	209	212	213	214	217	213	215	217	215	182	362			
26 d	202	128	85	79	103	145	159	188	201	214	217	214	226	237	229	240	258	266	298	272	229	182	206	183	198	761			
27	194	99	7	-40	-6	-43	-2	118	148	207	292	325	400	381	398	462	402	387	351	317	249	200	192	183	218	1221			
28	206	223	237	242	242	242	246	245	233	216	213	193	189	211	244	265	277	269	253	252	239	228	218	218	233	1601			
29	217	226	227	228	236	230	224	229	206	200	206	194	188	180	200	208	234	245	248	243	230	223	224	221	219	1267			
30 d	219	221	221	221	223	226	227	226	232	232	229	229	223	218	223	226	229	233	233	229	224	226	223	221	226	1414			
	221	218	208	167	165	102	99	155	189	195	159	197	359	236	262	283	72	198	150	146	229	475	677	501	236	1663			
Mean	197	182	170	171	181	187	193	206	212	215	218	219	230	230	235	245	244	246	244	240	234	233	230	211	216				
Sum 5000+	923	453	94	131	437	610	798	1180	1359	1465	1537	1577	1889	1903	2054	2359	2313	2382	2318	2195	2009	1998	1903	1345		Grand Total 155, 232			

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK														JUNE 1957						
	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range											
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ				°A.				
1 q	17 24	539	450	11 10	89	13 10	66.3	45.9	07 27	20.4	15 16	226	183	12 30	43	0, 1, 1, 1, 3, 3, 1, 1	11	0	85.7	
2 q	18 41	556	453	10 30	103	15 29	69.8	47.4	07 56	22.4	19 20	223	190	12 55	33	1, 2, 1, 2, 1, 2, 1, 2	12	0	85.6	
3	18 27	794	415	22 25	379	15 47	80.4	44.4	22 45	36.0	19 29	337	104	22 18	233	1, 3, 2, 3, 4, 4, 5, 5	27	1	85.9	
4 d	16 39	692	133	22 54	559	19 12	73.0	29.0	22 58	44.0	16 14	291	-5	23 28	296	5, 5, 3, 3, 4, 4, 5, 6	35	1	85.7	
5	18 01	646	102	01 42	544	23 32	95.9	33.7	03 08	62.2	17 42	285	-62	01 48	347	6, 4, 2, 2, 3, 4, 4, 6	31	1	85.3	
6 d	20 02	595	220	02 17	375	04 55	70.0	34.1	03 21	35.9	13 40	313	23	02 17	290	5, 5, 4, 3, 3, 3, 3, 3	29	1	85.0	
7	22 00	539	397	02 09	142	00 50	69.5	43.8	02 49	25.7	07 04	242	99	02 30	143	4, 4, 1, 2, 0, 1, 1, 2	15	1	85.0	
8	19 18	569	461	11 04	108	13 40	65.5	46.9	06 55	18.6	16 21	260	174	02 48	86	3, 2, 2, 2, 2, 1, 2, 2	16	0	85.0	
9 q	17 25	553	436	10 38	117	13 43	64.3	46.1	07 43	18.2	19 18	245	214	12 18	31	1, 1, 2, 1, 2, 2, 2, 1	12	0	85.2	
10 q	18 43	550	460	11 23	90	13 33	66.4	50.7	06 22	15.7	19 43	242	211	11 42	31	1, 0, 1, 1, 1, 1, 1, 2	8	0	85.1	
11 q	19 31	549	457	11 06	92	13 07	68.8	45.1	06 00	23.7	04 33	237	212	14 17	25	1, 2, 2, 2, 1, 1, 1, 1	11	0	85.1	
12	15 44	557	471	09 29	86	14 55	69.5	46.0	06 32	23.5	16 32	265	215	01 45	50	2, 1, 2, 1, 3, 3, 2, 1	15	0	84.9	
13	19 57	577	455	09 37	122	14 09	67.1	45.9	08 22	21.2	21 26	247	210	00 43	37	1, 1, 2, 3, 1, 2, 2, 3	15	0	85.3	
14	20 42	573	435	11 40	138	13 48	87.3	48.7	07 36	38.6	21 34	245	212	24 00	33	2, 1, 1, 2, 3, 3, 3, 2	17	1	85.7	
15	17 11	648	454	10 56	194	16 56	71.0	46.0	02 27	25.0	18 23	292	170	06 12	122	3, 3, 2, 2, 4, 5, 3, 3	25	1	85.9	
16	20 14	541	440	11 02	101	14 48	66.5	47.2	08 03	19.3	07 26	226	171	00 05	55	2, 1, 1, 2, 2, 2, 1, 2	13	0	86.1	
17	21 46	562	431	12 21	131	13 54	69.9	41.9	05 18	28.0	15 41	242	165	06 41	77	2, 3, 3, 2, 4, 2, 2, 3	21	1	86.2	
18	19 53	604	375	01 59	229	14 23	70.5	37.5	03 10	33.0	19 13	256	51	02 22	205	5, 4, 4, 2, 3, 2, 3, 5	28	1	86.3	
19	14 23	662	345	03 22	317	17 31	71.9	44.2	03 50	27.7	14 53	340	-3	03 21	343	5, 5, 3, 3, 5, 4, 3, 3	31	1	86.0	
20	19 20	611	446	01 29	165	15 26	67.4	47.6	08 44	19.8	20 08	268	115	02 13	153	4, 3, 3, 1, 2, 3, 3, 3	22	1	86.1	
21	19 49	641	456	05 54	185	15 42	68.6	43.0	05 04	25.6	19 40	279	144	06 39	135	3, 3, 3, 2, 2, 3, 4, 3	23	1	85.8	
22	11 38	545	428	09 46	117	13 35	75.0	44.0	08 16	31.0	12 50	268	174	23 54	94	3, 1, 2, 4, 4, 3, 2, 3	22	1	85.6	
23	20 08	576	454	09 39	122	13 23	69.6	48.7	00 06	20.9	20 42	248	174	00 07	74	2, 1, 1, 2, 3, 2, 3, 2	16	1	85.4	
24	18 00	544	435	02 28	109	14 07	69.9	33.3	03 58	36.6	22 53	220	75	02 57	145	5, 3, 3, 2, 2, 2, 2, 2	21	1	85.3	
25 d	18 02	645	384	01 53	261	12 31	73.6	33.2	02 55	40.4	18 32	321	46	03 22	275	5, 4, 3, 4, 4, 5, 4, 4	33	1	85.0	
26 d	16 22	978	27	04 04	951	16 37	75.3	20.4	04 40	54.9	15 46	500	-700	03 26	600	6, 7, 6, 5, 6, 6, 5, 5	46	2	85.0	
27	15 42	553	416	10 41	137	14 37	72.9	43.0	06 18	29.9	16 41	283	175	12 27	108	3, 2, 3, 3, 3, 3, 2, 3	22	1	85.0	
28	16 03	591	410	07 35	181	15 46	70.9	39.8	07 05	31.1	18 50	255	171	13 29	84	2, 3, 3, 3, 4, 3, 3, 2	23	1	85.3	
29	21 22	540	443	11 54	97	13 23	71.8	47.9	07 14	23.9	17 37	235	214	13 25	21	1, 1, 1, 2, 2, 1, 1, 1	10	0	85.6	
30 d	16 22	1398	-706	22 40	2104	19 05	170.7	-37.7	22 33	208.4	22 35	1053	-94	16 16	1147	3, 5, 4, 5, 7, 7, 8, 8	47	2	86.0	
Mean	-	-	631	353	-	278	-	75.0	39.6	-	35.4	-	298	121	-	177	-	-	0.73	85.9

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)		14,000γ + (0.14 C.G.S. unit) +																							JULY 1957		
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	-75	-290	-160	-160	-1	252	188	221	343	455	458	436	439	461	469	472	489	516	589	553	558	510	491	482	321	696	
2 d	477	474	478	479	480	478	474	465	458	461	440	458	503	780	906	835	796	706	650	598	515	501	488	477	557	6377	
3 d	477	448	282	385	455	480	461	467	462	443	433	461	427	460	468	505	518	522	539	554	531	505	485	469	468	4237	
4	478	481	484	483	485	484	477	476	471	441	447	444	446	457	465	480	487	498	555	538	564	506	453	364	478	4464	
5 d	431	514	526	442	110	242	434	461	404	438	459	497	480	461	451	454	479	507	525	539	541	472	417	452	447	3736	
6	474	472	454	461	446	472	476	483	468	473	475	471	468	460	478	518	503	495	528	569	561	514	460	412	483	4591	
7	480	483	482	453	422	467	487	487	481	468	457	459	469	478	480	497	504	530	561	563	539	516	506	498	490	4767	
8	494	487	465	472	491	494	489	473	467	455	447	446	458	458	469	496	527	550	549	556	545	522	508	504	493	4822	
9	492	481	506	509	506	505	494	476	465	452	443	450	470	492	493	523	544	543	542	527	532	514	511	502	499	4972	
10 q	497	496	496	499	500	500	489	484	470	448	432	431	436	447	468	489	508	522	525	523	516	512	512	512	488	4712	
11 q	508	507	502	512	515	513	506	496	481	462	449	450	478	465	474	499	515	525	532	528	530	524	510	503	499	4984	
12	503	499	513	529	519	511	495	478	471	462	459	458	458	485	503	503	519	552	566	550	535	520	511	503	504	5102	
13 q	499	501	506	510	511	508	495	477	461	450	448	446	453	463	485	500	515	526	526	529	531	529	525	520	496	4914	
14	517	516	515	518	521	515	507	497	481	465	455	454	453	468	491	488	507	524	544	555	555	540	521	513	505	5120	
15 q	508	502	494	506	510	509	499	484	467	454	444	448	455	477	493	522	532	527	533	534	530	526	522	521	500	4997	
16	516	516	518	521	521	520	512	495	483	480	488	478	473	464	501	545	601	675	703	642	554	532	515	501	531	5754	
17	483	500	514	515	511	510	500	488	476	457	437	431	446	466	491	520	513	521	529	552	545	543	528	518	500	4994	
18	513	497	502	510	507	497	484	479	476	480	474	450	462	466	501	514	601	639	627	586	556	518	491	482	513	5312	
19 d	466	436	450	476	500	502	501	481	470	445	455	454	459	472	533	558	635	688	685	627	558	473	417	438	507	5179	
20	459	458	470	483	491	483	469	465	459	446	433	431	441	468	472	483	515	556	583	566	536	524	498	488	487	4677	
21	495	507	508	509	510	509	505	500	486	467	456	460	471	480	489	494	506	514	526	540	542	535	522	514	502	5045	
22	516	512	517	517	515	509	488	496	502	486	467	433	430	478	520	518	557	617	668	622	505	531	510	493	517	5407	
23	479	451	508	510	499	499	500	489	475	463	457	457	464	478	493	509	515	526	537	539	531	527	522	525	498	4953	
24	495	508	512	515	516	511	505	490	468	463	455	467	460	466	497	523	556	608	603	564	531	526	512	491	510	5242	
25	491	499	506	506	504	507	502	497	481	467	459	465	474	493	510	515	512	526	533	544	537	523	523	523	504	5097	
26 q	520	515	515	519	524	521	510	492	473	457	452	462	483	509	527	526	521	526	528	530	527	524	523	524	509	5208	
27	523	521	521	521	523	521	513	502	487	473	464	465	476	493	513	522	535	536	529	525	548	553	553	550	515	5367	
28	551	537	536	530	531	528	518	500	485	472	472	477	489	498	508	515	524	539	544	542	538	528	525	520	517	5407	
29	523	525	517	517	521	522	515	498	490	482	474	454	475	511	527	526	533	534	530	531	537	521	504	508	511	5275	
30	509	513	513	512	504	499	497	487	469	454	455	457	464	476	501	517	514	525	533	536	528	527	520	516	501	5026	
31	513	515	519	520	523	516	504	486	471	460	467	463	475	478	496	530	528	534	534	534	543	545	531	509	508	5194	
Mean	478	470	473	477	473	487	484	476	468	461	455	455	462	484	506	519	536	552	563	555	539	521	504	495	495		
Sum 14,000+	812	581	669	779	670	1084	994	770	501	279	111	113	335	1008	1672	2096	2609	3107	3456	3196	2699	2141	1614	1332		Grand Total 368,628	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)														9° +														JULY 1957										
	Hour G.M.T.																																					Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1200.0+												
1 d	43.9	0.8	0.4	34.4	48.8	64.3	55.2	51.5	55.7	53.8	55.5	59.4	60.7	61.9	61.9	60.1	60.9	58.6	67.4	61.7	63.7	57.6	55.4	53.5	52.0	47.1												
2 d	53.3	53.1	52.6	52.2	51.0	48.8	47.0	46.5	48.9	43.9	51.0	52.6	43.2	52.7	79.3	87.1	83.5	75.5	66.0	64.2	61.1	62.5	60.6	58.8	58.1	195.4												
3 d	57.5	61.7	59.0	45.1	43.8	46.7	47.3	46.1	47.7	49.2	53.0	57.1	58.6	64.4	62.2	61.4	60.7	59.8	58.4	59.2	58.3	57.3	58.5	57.6	55.4	130.6												
4 d	55.0	54.1	53.9	53.3	52.2	50.6	48.8	47.7	47.7	49.9	52.0	56.7	61.2	64.6	66.2	65.4	64.3	62.0	62.2	59.8	59.5	54.9	52.1	50.7	56.0	144.8												
5 d	52.2	45.0	48.0	55.2	54.2	35.2	44.3	39.0	50.2	50.3	53.7	60.4	62.9	67.0	67.1	65.0	62.6	60.7	59.6	60.2	61.6	56.4	55.8	47.4	54.7	114.0												
6	49.9	52.4	50.9	45.9	47.7	48.0	48.3	47.6	48.0	50.5	50.3	54.1	57.7	57.5	58.6	60.3	59.9	60.6	62.2	61.3	60.2	56.8	58.9	56.8	54.3	104.4												
7	53.9	52.6	53.0	54.7	56.6	54.3	51.7	51.9	54.4	54.3	57.4	60.2	63.8	64.5	64.6	65.7	65.3	63.5	60.6	60.1	61.3	61.1	59.6	57.7	58.5	202.8												
8	57.6	54.9	54.2	58.2	54.5	49.6	50.8	46.2	49.1	50.5	52.6	56.1	50.4	62.4	62.8	62.6	60.4	60.5	59.9	60.5	60.6	60.0	59.8	61.2	56.9	165.4												
9	58.8	56.2	55.2	55.1	54.6	52.6	50.6	50.4	49.2	51.2	55.8	60.4	64.2	66.3	65.3	63.8	61.4	59.8	62.0	61.5	62.3	59.8	60.7	57.4	58.1	194.6												
10 q	57.7	58.1	59.2	52.4	49.5	49.9	51.3	52.4	52.2	54.3	56.4	59.8	62.3	64.4	64.0	63.4	61.6	59.8	58.6	58.6	58.9	58.5	58.5	59.5	57.6	181.3												
11 q	58.5	57.4	56.2	53.3	51.2	49.1	47.3	47.7	49.5	52.6	55.5	57.8	62.2	65.0	65.3	64.2	62.2	60.5	59.8	59.6	59.8	57.8	57.8	56.7	57.0	167.0												
12	53.9	53.1	54.2	52.5	54.0	49.0	49.0	48.5	52.0	52.0	55.3	60.3	65.3	66.6	65.3	64.3	63.2	61.7	61.2	57.5	57.5	58.5	59.0	56.8	57.1	170.7												
13 q	56.5	55.6	53.9	53.6	52.0	49.5	48.0	47.9	49.9	53.7	58.7	64.3	67.2	69.6	69.3	67.3	63.4	60.8	59.2	58.6	58.8	59.7	59.4	58.8	58.2	195.7												
14	58.3	57.3	55.8	54.4	52.0	50.0	49.2	48.7	50.4	53.6	58.2	61.3	66.2	68.3	68.2	65.4	62.2	59.7	59.3	60.5	60.5	59.2	59.5	57.2	58.1	195.4												
15 q	58.5	59.4	55.3	52.6	50.8	49.5	48.5	49.5	51.0	54.3	58.8	62.2	65.2	66.6	64.8	63.7	62.2	60.4	60.8	61.1	60.4	60.1	59.1	58.4	58.1	193.2												
16	57.7	57.2	55.5	54.3	53.3	51.6	50.0	50.3	54.7	56.7	58.9	61.6	66.4	69.4	69.5	68.2	64.3	68.3	69.0	69.9	65.4	66.3	62.0	57.1	60.7	257.6												
17	52.9	53.9	52.0	49.0	48.0	46.9	46.1	47.3	50.6	52.9	56.1	60.6	63.0	56.7	64.1	62.3	60.2	60.6	62.1	63.5	62.3	56.9	60.8	61.2	56.3	150.0												
18	58.8	56.8	56.2	52.7	50.1	47.2	50.0	51.7	51.7	53.1	55.1	57.7	61.2	62.5	64.2	64.9	62.3	63.4	65.5	66.3	64.5	62.4	60.1	58.6	58.2	197.0												
19 d	50.8	46.3	55.5	54.9	50.9	48.3	42.9	44.6	48.1	50.9	54.5	59.7	63.4	66.0	71.3	68.4	69.3	68.2	70.2	70.1	67.7	59.7	56.1	48.0	57.7	185.8												
20	48.6	51.8	44.2	46.1	47.3	48.9	49.5	49.1	50.3	53.7	54.4	58.8	61.9	64.6	64.1	64.3	64.4	64.6	61.4	51.2	63.2	63.5	56.8	51.0	56.0	143.7												
21	54.6	53.3	52.0	51.4	51.7	50.2	48.7	50.1	50.4	52.9	57.7	63.6	66.5	65.0	64.0	63.5	62.5	61.1	60.9	60.6	60.6	56.8	53.3	56.7	160.6													
22	53.5	53.5	52.8	52.7	49.4	44.4	47.1	53.9	54.9	55.5	55.7	62.4	67.7	71.5	67.2	64.2	63.5	65.3	65.5	58.6	68.2	56.8	55.3	59.1	58.3	198.7												
23	60.0	58.6	47.9	48.7	42.0	48.0	50.1	51.9	51.0	52.1	54.2	58.4	62.3	64.8	63.5	59.7	57.0	55.5	56.4	58.2	58.3	58.8	58.2	61.6	55.7	137.2												
24	57.1	54.0	54.5	54.5	53.4	50.6	49.7	49.2	53.7	53.2	55.6	60.9	62.5	63.6	65.4	64.4	60.5	59.0	58.7	59.7	61.4	62.3	59.5	58.2	57.6	181.6												
25	61.7	57.3	54.8	55.1	54.2	53.1	53.4	50.0	49.5	49.4	52.0	57.1	61.9	64.7	65.9	63.6	60.3	58.7	57.7	59.4	59.9	58.5	58.6	58.7	57.3	175.5												
26 q	57.7	56.2	55.1	54.7	53.8	52.0	51.5	50.6	49.8	52.9	56.0	59.6	53.5	65.4	64.1	63.5	62.6	61.5	59.8	59.3	59.3	58.5	57.7	57.6	57.6	182.7												
27	57.6	56.8	56.4	55.1	53.0	50.0	48.5	48.3	48.1	50.2	53.7	59.8	64.4	67.2	67.1	64.9	63.0	61.2	60.3	59.7	61.6	60.7	60.0	58.8	57.8	186.4												
28	58.4	56.9	55.2	52.7	51.0	50.6	49.4	49.5	49.8	53.9	57.8	62.4	67.0	68.7	67.6	65.5	64.3	63.2	61.8	61.6	60.8	60.2	58.5	56.8	58.5	203.6												
29	56.4	57.4	53.2	56.4	57.9	50.2	48.1	47.1	51.2	52.8	55.5	62.1	65.5	69.2	68.6	65.1	63.7	61.6	60.6	58.8	60.7	59.3	56.4	56.4	58.1	194.2												
30	56.7	55.9	54.8	53.7	51.1	51.1	50.5	48.2	49.2	55.9	58.4	61.7	64.6	66.0	66.6	64.7	62.7	61.1	60.3	59.6	61.0	61.1	58.8	56.2	57.9	189.9												
31	54.9	55.9	55.2	54.1	53.5	50.3	47.3	47.3	50.0	52.2	55.8	61.4	66.8	66.9	65.9	65.4	62.7	61.5	59.7	59.7	61.2	58.6	52.1	54.6	57.2	173.0												
Mean	55.6	53.3	52.2	52.2	51.4	49.7	49.1	48.7	50.6	52.3	55.2	59.5	62.8	65.0	66.0	64.9	63.2	61.9	61.5	61.0	61.3	59.5	58.1	56.6	57.2													
Sum 1500.0+	222.9	153.5	117.1	119.0	93.5	40.5	20.6	9.3	68.6	119.9	210.8	344.6	446.8	515.5	545.0	512.8	458.1	420.1	407.3	390.9	400.6	344.4	302.4	255.7		Grand Total 42519.0												

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

33

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

JULY 1957

	Hour G.M.T.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 4000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 d	502	348	167	207	201	32	45	89	174	243	265	263	266	259	258	258	259	260	246	268	248	260	245	233	233	1596
2 d	234	232	234	237	242	245	246	247	246	244	245	230	288	357	276	255	296	308	297	272	241	250	257	246	259	2225
3 d	237	214	78	91	158	213	237	239	254	263	259	258	281	241	246	234	243	252	255	256	258	252	237	208	228	1464
4	221	229	230	234	237	239	240	237	238	239	235	230	225	223	224	223	223	224	222	241	241	240	183	117	225	1395
5 d	93	160	201	167	80	-29	107	216	208	214	250	295	288	262	239	241	246	254	255	254	241	138	116	142	193	638
6	198	220	211	213	209	211	223	230	242	245	256	262	258	257	247	257	268	253	238	236	220	201	166	112	226	1433
7	204	226	227	218	197	198	219	234	242	249	249	240	230	237	239	235	229	227	237	245	242	240	230	223	230	1517
8	206	201	213	203	196	211	217	224	224	222	225	223	227	231	241	245	246	247	248	243	239	228	226	223	225	1409
9	200	175	201	219	224	229	233	228	222	224	223	223	227	230	235	233	245	252	236	232	221	226	217	206	223	1361
10 q	209	210	198	183	201	210	218	224	229	224	218	215	214	214	213	220	224	223	223	223	222	221	221	220	216	1177
11 q	220	217	216	214	219	223	227	223	221	214	206	193	188	203	210	213	217	225	228	225	220	219	221	220	216	1182
12	216	210	202	196	204	218	220	221	214	212	211	206	204	197	209	218	220	222	236	247	240	233	225	219	217	1200
13 q	215	213	217	224	227	229	230	229	227	223	214	201	201	206	210	216	225	229	228	225	223	220	219	219	220	1270
14	221	223	226	230	231	230	229	230	226	218	215	210	212	216	217	229	231	233	230	227	226	224	217	200	223	1351
15 q	196	209	219	228	233	236	233	230	226	218	211	204	207	206	198	209	223	229	227	225	227	224	224	219	219	1261
16	219	219	222	224	227	227	227	227	220	212	217	228	227	237	252	274	308	337	336	320	308	266	237	236	250	2007
17	198	219	229	234	237	237	237	240	237	227	220	223	229	241	246	246	244	232	219	217	230	231	228	221	230	1522
18	213	219	217	221	226	225	223	220	222	219	218	221	218	220	219	225	252	295	292	283	274	255	242	217	235	1636
19 d	188	175	173	173	197	223	232	231	225	223	215	208	205	205	204	259	312	331	308	286	263	220	155	137	223	1348
20	182	164	138	168	194	213	217	221	226	226	229	226	222	227	247	240	234	246	266	266	255	246	192	150	216	1195
21	183	217	227	230	227	229	227	230	238	237	229	221	225	224	217	212	212	215	219	218	219	223	224	222	222	1325
22	215	214	215	214	213	211	215	202	194	194	200	211	209	200	217	260	292	319	306	248	168	222	230	213	224	1382
23	195	108	174	189	181	208	227	241	239	236	229	232	232	226	228	231	240	245	242	239	239	233	227	217	219	1258
24	197	210	221	225	224	225	224	224	215	208	213	216	224	224	225	237	251	276	294	276	250	232	227	221	231	1539
25	193	214	227	232	228	225	223	230	231	225	218	217	218	221	220	225	234	231	229	225	227	228	228	225	224	1374
26 q	225	224	228	228	226	225	222	224	221	214	210	210	211	206	211	217	223	220	219	221	220	218	217	217	219	1257
27	218	221	223	225	224	224	224	220	217	215	215	211	205	204	208	213	216	223	224	218	208	205	206	208	216	1175
28	211	219	220	223	223	219	220	215	211	196	190	185	190	196	201	209	219	223	223	221	219	215	214	214	211	1076
29	214	212	215	216	204	204	210	214	210	203	209	202	195	208	230	257	263	253	240	236	226	222	221	219	220	1283
30	216	215	219	217	220	220	223	223	219	216	211	207	211	214	218	223	230	233	231	230	221	215	212	201	219	1245
31	189	204	212	218	220	223	227	223	213	203	197	201	199	204	209	209	222	230	234	229	221	214	196	196	212	1093
Mean	214	211	207	210	211	207	216	222	224	223	223	222	224	226	226	233	243	250	248	244	234	227	215	204	223	
Sum 6000+	628	541	400	501	530	433	702	886	931	906	902	872	936	996	1014	1223	1547	1747	1688	1552	1257	1021	660	321		Grand Total 166,194

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

JULY 1957

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +					
	Horizontal force			Declination			Vertical force												
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range										
	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				°A.					
1 d	18 18	666	-475	01 36	1141	00 54	111.5	-78.5	03 23	190.0	00 50	880	-71 02 48	951	8,8,6,3,2,4,5,3	39	2	86.0	
2 d	14 04	1016	417	10 22	599	15 52	96.7	37.4	12 22	59.3	13 31	427	219 11 38	208	1,1,2,3,7,6,5,2	27	2	86.2	
3 d	19 20	564	187	02 38	377	02 27	74.8	37.6	03 29	37.2	12 23	303	27 02 23	276	6,5,3,4,5,2,3,3	31	1	86.1	
4	20 35	580	198	23 48	382	14 28	67.0	33.0	23 49	34.0	21 17	255	16 23 56	239	1,0,1,2,2,2,3,6	17	1	86.2	
5 d	20 34	573	-210	04 48	783	22 17	96.1	21.4	04 47	74.7	11 39	319	-107 05 18	426	5,8,6,5,4,3,4,6	41	2	86.2	
6	19 20	587	350	23 07	237	22 58	64.3	42.2	08 09	22.1	16 09	272	75 23 02	197	3,3,3,2,3,3,3,5	25	1	86.2	
7	18 26	578	411	04 35	167	15 28	66.3	50.0	07 45	16.3	10 41	253	154 00 01	99	3,3,2,1,2,2,3,2	18	1	86.1	
8	19 20	560	433	10 44	127	15 03	64.5	44.7	07 27	19.8	16 58	251	191 04 22	60	3,3,2,2,3,3,2,2	20	1	86.1	
9	16 45	556	436	11 02	120	13 28	67.0	47.6	08 03	19.4	17 23	258	164 01 28	94	3,1,2,1,2,3,2,2	16	0	85.9	
10 q	19 37	529	429	11 00	100	14 27	64.7	48.7	04 14	16.0	08 39	230	174 03 18	56	2,2,1,2,1,2,1,1	12	0	85.9	
11 q	20 52	540	444	11 10	96	14 22	66.3	47.0	06 28	19.3	17 37	229	185 12 37	44	1,1,1,2,3,1,1,2	12	0	85.7	
12	18 33	577	451	12 29	126	13 53	67.4	45.9	07 19	21.5	19 51	250	193 03 23	57	2,2,2,1,3,3,3,1	17	0	85.8	
13 q	21 04	533	443	11 16	90	13 43	69.8	47.0	06 56	22.8	18 16	232	200 11 34	32	1,1,2,2,1,2,1,0	10	0	85.8	
14	19 10	563	440	12 46	123	13 25	68.7	48.5	07 23	20.2	17 14	235	193 23 52	42	0,1,1,1,3,2,2,3	13	0	86.2	
15 q	16 43	536	442	10 03	94	13 20	67.1	47.6	06 00	19.5	05 23	237	190 00 36	47	2,1,2,1,2,1,0,0	9	0	86.1	
16	18 03	721	447	11 44	274	17 44	72.9	47.6	07 21	25.3	18 16	352	207 24 00	145	1,0,2,3,3,5,5,3	22	1	86.6	
17	19 08	554	425	10 58	129	14 53	66.2	45.5	06 43	20.7	16 13	249	193 00 18	56	3,1,2,2,3,2,2,3	18	0	86.3	
18	17 12	659	435	11 31	224	18 22	68.6	46.7	05 25	21.9	17 50	301	181 24 00	120	1,2,2,3,3,4,4,3	22	1	86.5	
19 d	18 04	706	277	22 28	429	22 24	74.9	38.2	22 58	36.7	17 19	341	59 22 26	282	3,3,3,2,4,5,5,5	30	1	86.2	
20	18 16	590	423	11 01	167	17 56	65.9	40.5	02 38	25.4	18 56	273	123 02 27	150	3,3,2,1,2,4,3,4	22	1	86.4	
21	19 38	547	450	11 25	97	13 45	67.8	47.2	07 02	20.6	09 15	241	143 00 01	98	4,1,1,2,1,2,2,2	15	0	86.3	
22	18 38	680	415	12 23	265	20 12	86.1	40.2	05 59	45.9	17 43	323	104 20 12	219	1,2,3,3,4,4,5,3	25	1	86.1	
23	19 38	543	409	01 25	134	00 54	66.1	39.0	04 42	27.1	17 25	246	75 01 21	171	4,3,2,1,1,1,1,2	15	0	86.2	
24	17 47	632	446	10 18	186	14 39	65.9	47.6	07 04	18.3	18 09	300	190 00 41	110	3,1,2,2,2,4,4,2	20	1	85.9	
25	19 30	549	455	10 45	94	14 07	66.3	47.3	07 57	19.0	16 03	236	177 00 19	59	3,1,2,1,2,3,2,1	15	0	86.1	
26 q	15 06	541	449	10 18	92	13 52	66.2	48.9	08 09	17.3	02 48	231	206 13 54	25	1,1,2,1,3,2,0,1	11	0	84.8	
27	20 04	569	462	10 47	107	13 51	68.0	47.9	08 19	20.1	17 49	227	201 13 32	26	0,1,1,2,2,3,2,3	13	0	84.4	
28	00 20	557	469	09 37	88	14 03	69.0	47.3	07 37	21.7	17 45	226	183 11 51	43	2,1,2,2,1,1,1,1	11	0	84.3	
29	16 45	545	438	11 50	107	14 03	70.9	44.4	07 02	26.5	16 22	268	189 12 28	79	2,3,2,3,4,2,1,2	19	1	84.2	
30	18 25	543	450	09 56	93	14 46	67.4	46.8	08 11	20.6	17 30	237	184 23 49	53	1,2,2,1,2,2,2,2	14	0	84.0	
31	21 58	553	456	12 00	97	12 43	68.3	45.8	07 29	22.5	17 54	236	183 00 20	53	2,2,2,2,2,2,1,3	16	0	84.3	
Mean	-	-	595	365	-	230	-	71.7	40.0	-	31.7	-	288	142	-	-	-	0.58	85.8

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)													14,000γ (0.14 C.G.S. unit) +													AUGUST 1957							
	Hour	G. M. T.																															Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	10,000+							
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ								
1	508	512	514	513	512	504	497	489	480	463	459	466	463	468	492	507	514	526	525	540	534	532	526	523	503	2057							
2	520	507	489	501	512	506	510	511	492	471	460	463	464	456	484	518	512	534	548	557	549	532	514	512	505	2122							
3 d	523	501	507	513	514	508	490	477	474	462	460	460	467	484	480	503	588	675	653	626	542	519	517	471	517	2414							
4	415	449	466	496	501	497	490	487	472	460	457	462	472	479	492	505	511	507	505	515	517	515	516	512	487	1698							
5	512	511	507	505	502	496	493	484	476	476	481	477	480	481	492	514	524	573	585	572	532	496	464	388	501	2021							
6 d	453	463	475	479	458	482	486	450	453	462	456	462	503	513	515	509	576	596	600	604	565	496	479	441	499	1976							
7	461	474	488	484	483	483	479	467	449	442	448	466	479	521	528	524	520	537	538	541	535	522	513	515	496	1897							
8	513	508	505	506	500	481	481	480	469	460	450	447	470	483	505	484	493	498	507	535	532	531	524	529	495	1891							
9	522	506	457	495	520	525	515	494	479	465	461	460	475	491	507	503	517	531	547	550	550	539	519	501	505	2129							
10	515	508	455	490	525	523	510	505	492	472	459	457	461	481	500	508	516	525	540	532	531	531	522	520	503	2078							
11 q	519	522	519	519	519	514	506	492	473	455	447	452	476	498	514	525	527	525	528	531	531	532	529	531	508	2184							
12	529	533	527	515	505	489	490	497	482	477	457	469	482	495	495	505	554	577	553	577	538	525	523	518	513	2312							
13 d	521	518	472	384	453	402	409	422	441	438	425	434	513	474	468	512	527	521	546	548	543	526	513	507	480	1517							
14	506	506	506	506	501	493	479	475	464	457	451	464	464	479	506	500	515	525	515	531	530	511	511	488	495	1883							
15	471	467	486	502	502	500	497	483	471	466	464	463	479	486	483	488	494	509	516	530	548	515	501	506	493	1827							
16	497	492	495	502	510	505	497	484	472	463	458	460	467	483	489	500	497	509	525	531	525	519	515	514	496	1909							
17 q	513	511	509	508	507	505	502	498	489	472	456	445	451	475	505	516	517	515	515	520	522	525	522	521	501	2019							
18	520	514	508	508	514	513	511	502	489	472	459	458	468	454	489	504	499	514	537	537	535	528	522	515	503	2070							
19	506	512	491	515	505	509	507	497	486	470	465	466	466	467	492	495	512	516	522	520	519	515	512	513	499	1978							
20	516	512	509	507	508	504	502	498	486	471	466	468	476	512	506	530	565	547	557	539	524	499	493	492	508	2187							
21	464	443	454	422	484	454	478	472	473	453	439	448	472	492	537	570	563	513	511	512	512	508	504	505	487	1683							
22 q	502	502	502	497	496	491	484	479	470	468	473	479	486	503	509	509	510	511	516	523	525	523	524	515	500	1997							
23 q	510	509	509	508	505	503	498	491	481	472	475	489	495	492	492	501	511	517	518	520	520	521	519	516	503	2072							
24 q	513	513	513	512	514	513	509	498	482	469	463	468	469	470	487	502	507	514	518	524	526	527	522	520	502	2053							
25	519	517	516	514	513	516	519	513	502	485	473	458	472	494	515	514	543	542	548	547	525	524	509	502	512	2290							
26	519	513	512	508	504	503	502	493	479	464	452	454	470	504	509	531	560	551	552	542	533	531	525	520	510	2231							
27	509	502	514	516	487	496	496	474	455	452	436	450	461	473	494	518	532	561	572	545	536	531	511	509	501	2030							
28	511	513	511	507	507	494	497	492	474	447	426	438	465	495	536	531	527	535	538	543	528	520	518	513	503	2056							
29	499	509	508	509	509	506	500	491	476	465	462	470	461	479	490	509	511	522	520	583	635	557	521	494	508	2186							
30 d	454	431	428	353	384	475	482	464	455	429	452	432	463	479	487	497	516	523	525	513	508	498	495	495	468	1238							
31 d	497	497	489	484	479	464	454	454	451	440	437	444	474	469	529	528	589	620	637	577	538	520	444	439	498	1954							
Mean	501	499	495	493	498	495	493	484	474	462	456	459	473	485	501	512	527	538	543	544	535	521	511	501	500								
Sum 14,000+	1537	1475	1341	1278	1433	1354	1270	1013	687	318	127	239	664	1030	1527	1860	2347	2669	2817	2865	2588	2168	1827	1545		Grand Total 371,979							

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)													9° +											AUGUST 1957										
	Hour G.M.T.																								Sum									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1300.0+								
1	55.1	55.5	54.9	52.2	53.0	49.3	48.0	48.8	51.0	54.3	57.7	63.3	66.4	65.9	63.4	60.7	58.8	58.5	59.7	61.6	60.0	60.0	60.0	58.7	57.4	76.8								
2	59.1	52.9	55.7	49.7	47.0	45.6	48.4	48.1	50.2	52.8	55.9	60.6	66.9	67.9	66.7	64.5	60.0	60.6	59.9	60.9	60.3	59.3	57.3	57.9	57.0	58.2								
3 d	49.3	52.7	53.9	53.0	52.0	49.2	46.4	47.0	50.2	52.2	56.8	59.0	61.9	64.4	62.2	60.6	68.4	75.1	69.9	59.7	60.2	59.7	60.0	57.8	57.6	81.6								
4	36.7	51.6	49.3	52.9	51.4	49.2	48.2	48.8	49.7	52.7	55.9	59.9	63.1	64.1	62.7	62.6	61.5	60.9	59.1	58.5	57.8	57.5	56.7	55.4	28.6									
5	55.9	55.2	54.4	53.5	52.2	49.9	49.6	51.1	52.9	54.8	57.8	60.3	62.1	62.2	61.0	60.3	62.6	62.1	59.8	57.5	58.5	54.9	51.3	46.4	56.1	46.3								
6 d	44.6	44.3	41.5	45.1	49.3	55.8	57.0	58.0	54.9	58.8	63.5	64.8	65.4	66.6	68.2	71.1	68.5	65.6	66.3	61.9	61.6	62.8	53.6	49.5	58.3	98.7								
7	55.1	55.7	54.0	51.3	51.2	51.2	51.3	52.9	53.1	54.1	56.5	60.8	64.0	64.3	63.5	62.6	60.4	60.0	59.8	59.5	59.9	60.8	58.8	57.8	57.4	78.6								
8	57.2	55.9	53.8	53.4	52.0	51.7	52.3	53.4	54.2	56.6	61.1	64.5	66.4	66.5	66.3	62.5	60.0	58.9	58.5	60.0	59.4	59.0	57.6	57.9	58.3	99.1								
9	55.9	56.0	56.0	56.3	49.8	48.4	47.7	48.9	49.5	52.2	56.4	60.7	63.7	66.7	68.3	66.2	62.8	61.6	60.8	60.8	60.6	61.5	52.9	54.6	57.4	78.3								
10	54.5	57.1	62.5	52.3	49.1	51.1	53.0	52.1	52.7	54.5	56.7	60.8	63.5	65.5	65.4	64.8	61.0	58.4	59.1	59.9	59.8	60.6	59.8	57.0	58.0	91.2								
11 q	57.1	55.5	54.3	53.2	51.7	50.8	50.1	50.4	52.0	55.8	57.5	60.3	63.5	66.3	66.1	64.8	62.9	60.9	61.1	61.9	61.1	60.4	60.1	58.8	58.2	96.6								
12	57.7	58.6	55.1	54.2	49.2	42.3	44.1	48.6	51.7	55.6	60.8	62.3	66.7	68.6	67.4	65.2	65.1	65.2	63.7	66.1	63.8	59.3	57.1	56.5	58.5	104.9								
13 d	56.9	55.9	57.7	49.3	57.7	56.6	54.7	55.3	58.0	53.1	56.9	59.9	63.7	63.8	62.5	61.8	60.0	59.8	59.0	61.6	57.5	58.9	60.7	57.0	58.3	98.3								
14	56.2	55.6	54.3	52.9	50.6	48.6	47.8	49.3	51.2	55.2	59.9	65.5	70.1	71.3	70.1	67.0	63.6	64.2	62.7	61.9	57.7	59.2	57.0	54.0	58.6	105.9								
15	55.2	55.0	52.0	48.9	50.2	50.8	50.5	49.6	50.4	52.1	55.0	59.7	63.7	65.6	64.7	63.8	61.9	60.8	59.5	59.8	59.4	59.0	60.3	51.5	56.6	59.4								
16	50.8	53.1	50.5	50.8	50.4	50.1	49.2	49.6	50.8	53.9	58.2	61.8	65.1	67.4	66.5	64.8	52.2	60.8	60.5	59.6	57.6	57.8	57.8	57.1	56.9	66.4								
17 q	57.7	55.9	55.1	54.0	53.0	51.9	50.5	49.3	49.0	50.8	49.4	59.1	63.6	67.4	69.8	68.5	65.1	62.8	61.7	61.6	60.3	59.0	57.8	57.9	58.0	91.2								
18	56.9	56.9	57.5	56.3	54.0	52.2	50.2	48.7	49.4	52.1	57.1	63.8	68.4	67.5	65.4	62.2	58.9	57.3	55.3	57.6	58.3	60.0	58.8	57.0	57.6	82.3								
19	55.4	59.6	59.4	54.9	60.8	62.5	57.0	55.6	53.7	56.9	57.5	57.9	61.7	63.8	62.6	59.3	57.0	55.9	56.0	56.2	56.1	57.8	58.9	59.8	58.2	96.3								
20	59.8	58.9	57.9	58.8	56.9	53.3	52.8	51.8	54.1	56.1	57.7	60.7	62.7	64.6	61.4	63.5	61.9	59.6	59.1	57.7	56.9	57.0	55.0	55.7	58.1	93.9								
21	52.8	42.1	45.5	56.2	53.0	54.9	52.8	51.4	50.3	53.0	55.8	60.6	62.7	62.7	62.6	59.1	58.6	57.6	58.0	58.4	58.5	58.4	58.0	56.9	55.0	55.7	36.6							
22 q	54.1	53.1	52.8	51.2	49.4	48.4	48.3	47.4	49.3	52.3	55.3	58.0	59.4	60.1	59.4	57.9	58.0	58.4	58.5	58.4	58.0	57.8	56.7	55.5	54.9	17.7								
23 q	53.6	52.7	52.6	51.8	50.7	50.1	49.6	50.3	51.2	53.9	58.1	61.9	64.8	64.8	62.8	61.6	59.6	58.7	58.6	58.6	59.4	58.8	57.9	57.3	56.6	59.4								
24 q	56.0	55.2	54.9	54.0	52.9	52.1	51.6	51.4	51.2	53.8	57.1	59.9	63.6	64.6	64.5	62.6	60.4	58.9	58.5	58.9	58.1	57.9	57.2	56.1	57.1	70.9								
25	55.5	55.0	54.6	54.0	52.2	50.3	50.3	49.8	50.2	52.2	55.5	60.7	64.6	67.1	66.6	63.8	63.6	60.9	58.9	60.1	58.9	60.0	54.1	52.2	57.1	71.1								
26	52.9	54.1	53.3	52.4	51.1	48.9	47.6	47.2	48.1	51.1	55.1	59.7	64.1	67.4	65.3	65.5	64.8	62.8	61.9	58.0	60.6	57.2	57.6	57.4	56.8	64.1								
27	51.2	47.5	54.0	51.6	47.3	44.8	45.7	45.6	50.0	53.2	59.7	63.4	64.6	65.6	65.4	63.5	59.8	56.2	60.1	59.7	58.5	52.8	55.2	53.2	55.4	29.6								
28	54.4	54.6	54.0	53.2	51.2	50.4	50.8	51.6	52.8	54.8	59.8	67.6	72.2	72.1	71.1	65.9	60.8	59.8	58.9	56.0	56.6	57.5	54.6	49.4	57.9	90.1								
29	52.9	54.1	53.3	52.8	51.9	51.1	50.2	49.3	48.3	49.5	55.1	60.9	63.7	66.4	64.7	62.3	59.7	58.0	56.8	57.0	60.8	57.7	52.9	55.3	56.0	44.7								
30 d	54.8	47.7	46.2	48.1	44.6	48.0	47.2	45.5	47.4	42.5	57.9	61.7	64.7	65.0	61.5	59.0	58.4	58.6	59.8	57.6	57.6	56.9	55.2	55.7	54.7	11.8								
31 d	55.7	53.1	52.5	50.6	48.3	47.2	43.4	45.6	48.6	51.2	55.7	60.1	65.1	68.9	69.9	64.2	63.2	59.8	56.0	56.1	54.2	52.9	54.0	45.3	55.1	21.6								
Mean	54.2	53.9	53.7	52.5	51.4	50.5	49.9	50.1	51.2	53.6	57.2	61.3	64.6	66.0	65.1	63.3	61.6	60.6	59.9	59.5	59.0	58.5	56.9	55.2	57.1									
Sum 1500.0+	181.0	171.1	163.5	128.9	94.1	66.7	46.3	52.4	86.1	161.8	273.4	400.2	502.1	545.1	519.0	462.2	409.5	378.7	357.5	343.1	328.6	312.3	264.6	212.0		Grand Total 42460.2								

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

35

3 LERWICK (Z)		47,000γ (0.47 C.G.S. unit) +																								AUGUST 1957	
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 4000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2	197	201	205	208	214	210	212	213	209	204	197	189	198	204	205	209	210	210	213	210	215	216	212	211	207	207	972
3 d	209	210	185	163	177	190	191	200	207	212	212	209	212	216	209	206	219	224	226	228	231	228	221	192	207	207	977
4	149	186	204	211	215	219	222	216	204	201	197	196	199	201	205	206	188	226	265	286	252	229	228	203	213	213	1108
5	95	147	150	186	200	207	220	224	229	226	223	219	214	215	218	217	211	217	223	221	220	220	219	217	206	219	938
6 d	221	221	222	221	222	224	228	226	223	217	217	214	205	204	209	212	216	231	254	252	238	236	209	126	219	219	1248
7	93	99	102	134	139	120	116	145	181	202	204	222	249	266	277	292	297	275	276	270	229	212	164	147	196	711	
8	187	194	212	217	215	210	213	221	225	224	220	220	224	238	250	252	258	253	252	244	239	231	227	223	227	1449	
9	225	227	225	222	218	217	210	216	221	222	218	211	211	215	223	234	228	220	216	212	216	217	217	208	219	1249	
10	183	150	130	151	195	206	211	214	217	218	209	201	206	207	209	215	219	226	230	237	238	236	177	155	202	840	
11 q	188	198	147	156	184	212	220	225	227	225	225	224	224	228	237	244	250	252	249	246	241	232	230	227	220	1291	
12	224	223	225	226	229	229	227	225	227	223	215	206	203	208	213	218	221	221	217	213	213	214	216	214	219	1250	
13 d	215	206	183	180	153	166	178	189	202	202	208	210	207	212	230	235	247	268	274	263	259	241	222	217	215	1167	
14	217	217	189	57	39	58	120	177	202	217	225	236	279	276	244	232	236	253	253	249	247	213	187	206	201	829	
15	220	223	224	230	231	235	235	230	230	225	223	219	221	208	215	230	238	238	244	236	247	242	230	203	228	1477	
16	181	125	128	196	215	221	224	225	225	219	215	207	199	195	201	207	215	218	219	215	218	235	206	194	204	903	
17 q	189	166	161	196	212	218	218	220	220	218	212	201	195	192	195	202	213	218	220	225	231	230	223	216	208	991	
18	207	205	209	214	217	220	218	217	216	218	221	217	209	201	205	212	218	221	218	215	215	216	217	215	214	1141	
19	214	213	207	207	213	218	223	223	223	215	212	210	218	223	218	227	232	230	231	234	230	225	221	210	220	1277	
20	205	189	131	129	162	172	183	195	206	219	222	224	228	231	230	232	227	226	224	226	227	227	224	218	207	957	
21	212	213	216	215	213	215	214	215	215	215	210	213	218	223	250	242	259	283	287	278	253	230	196	183	228	1469	
22 q	127	113	93	47	75	120	131	180	202	223	230	234	232	241	250	279	317	318	263	238	228	226	226	225	201	818	
23 q	227	227	226	226	222	221	220	220	215	209	213	212	210	206	211	213	213	213	213	216	217	217	218	223	217	1208	
24 q	224	224	223	223	222	219	218	215	210	203	196	197	202	208	213	212	213	214	213	213	213	213	215	218	213	1121	
25	221	221	222	222	221	219	218	218	216	213	207	203	206	206	207	212	217	213	212	209	211	212	214	217	214	1137	
26	218	218	221	221	222	220	218	215	215	215	213	213	212	203	205	209	214	225	230	231	236	230	229	215	219	1249	
27	207	221	223	225	225	224	223	220	218	216	213	212	207	211	223	220	228	248	246	249	232	225	220	215	223	1351	
28	188	202	207	208	190	160	184	200	206	199	199	196	206	211	221	238	254	264	253	256	235	191	188	203	211	1059	
29	212	215	215	218	218	218	203	203	209	223	217	207	207	207	218	234	243	241	239	235	227	223	215	200	219	1247	
30 d	195	205	213	218	223	225	225	223	219	218	210	201	201	203	213	219	228	227	232	213	224	249	246	211	218	1241	
31 d	278	214	172	134	154	213	246	259	261	250	243	244	228	230	236	236	235	236	230	232	229	227	224	223	226	1434	
Mean	198	196	189	189	195	201	206	213	215	217	215	213	215	217	222	227	233	237	239	238	232	224	213	202	214		
Sum 5000+	1140	1066	857	861	1049	1229	1389	1594	1709	1726	1656	1591	1654	1731	1870	2036	2218	2361	2401	2366	2194	1952	1603	1251		Grand Total 159,504	

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK														AUGUST 1957					
TERRESTRIAL MAGNETIC ELEMENTS														3-hr. range indices K	Sum of K indices	Magnetic character of day (0.2)	Temperature in magnet house 200 +		
Horizontal force				Declination			Vertical force												
Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 9° +		Minimum 9° +		Range	Maximum 47,000γ +		Minimum 47,000γ +						Range	
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ	h. m.	γ				°A.	
1	19 42	547	453	12 56	94	12 43	68.2	46.6	05 58	21.6	21 03	217	186	11 42	31	1,2,1,1,2,1,2,1	11	0	84.4
2	19 59	562	445	13 31	117	13 14	68.4	44.3	05 12	24.1	02 09	215	150	24 00	65	3,2,2,2,3,2,2,3	19	1	84.3
3 d	19 16	777	337	24 00	440	17 12	79.2	44.9	06 13	34.3	19 15	332	137	00 09	195	3,1,2,2,2,6,6,5	27	1	84.2
4	00 17	524	268	00 08	256	13 53	64.5	16.6	00 29	47.9	08 14	230	24	00 39	206	6,2,2,1,1,2,2,1	17	1	84.3
5	18 57	600	241	23 33	359	16 19	64.2	35.7	23 42	28.5	18 52	267	62	23 50	205	1,1,1,1,1,3,4,6	18	1	84.4
6 d	19 41	632	413	23 47	219	15 34	72.4	35.5	02 32	36.9	17 12	307	71	00 11	236	3,4,4,3,3,4,4,4	29	1	84.7
7	17 53	545	437	09 31	108	12 56	65.6	49.9	03 58	15.7	16 26	259	168	00 01	91	3,1,1,2,3,2,1,1	14	0	84.7
8	19 40	547	440	11 08	107	14 19	67.6	49.4	06 09	18.2	15 08	234	189	24 00	45	1,2,1,2,2,1,3,2	14	0	84.7
9	18 51	558	432	02 49	126	13 53	70.3	44.3	22 31	26.0	19 59	242	121	02 36	121	4,4,2,2,4,3,2,4	25	1	84.7
10	18 14	547	431	02 45	116	02 23	71.4	47.2	04 30	24.2	17 45	254	90	02 44	164	4,4,1,1,2,1,1,2	16	1	84.7
11 q	19 12	539	444	10 26	95	13 58	67.4	49.3	06 24	18.1	05 03	230	200	12 07	30	1,1,1,1,2,2,1,1	10	0	84.7
12	19 48	590	450	10 38	140	20 11	73.3	40.6	05 24	32.7	20 27	285	145	04 32	140	3,3,3,2,4,4,3,2	24	1	84.3
13 d	20 59	583	334	03 09	249	02 54	67.3	40.5	03 41	26.8	12 30	299	75	03 27	284	4,4,4,3,4,3,4,3	29	1	84.0
14	20 05	547	448	10 49	99	14 02	73.1	46.4	06 34	26.7	20 38	252	168	23 50	84	1,1,1,2,3,3,2,3	16	0	83.6
15	20 20	556	455	01 50	101	13 24	66.3	47.0	03 09	19.3	21 33	242	101	02 22	141	4,3,1,1,2,1,3,3	18	1	83.3
16	18 58	535	450	10 54	85	13 31	67.3	47.3	02 44	20.3	20 42	234	153	02 33	81	3,2,1,1,1,2,1,1	12	0	83.2
17 q	15 17	527	444	11 43	83	15 18	70.9	48.3	08 20	22.6	17 30	223	198	14 05	25	1,0,1,2,2,2,1,0	9	0	83.5
18	18 48	547	439	11 10	108	12 32	70.3	48.2	07 15	22.1	19 13	236	201	23 42	35	2,1,1,2,3,2,1,2	14	0	84.0
19	19 03	525	460	12 12	65	02 08	65.6	51.1	08 55	14.5	14 59	235	116	03 14	119	4,3,3,2,2,1,0,2	17	0	84.0
20	16 44	574	464	10 05	110	13 40	65.7	46.7	22 06	19.0	18 49	297	168	24 00	129	1,1,1,1,3,3,3,3	16	1	84.2
21	15 59	592	370	03 07	222	03 53	65.7	39.6	01 13	26.1	16 51	333	17	03 31	316	4,4,4,2,3,4,3,1	25	1	84.1
22 q	20 10	528	467	09 03	61	13 34	60.5	46.4	07 36	14.1	01 10	228	205	13 22	23	0,1,1,2,1,2,2,1	10	0	83.9
23 q	20 55	523	467	09 51	56	12 51	65.5	49.2	06 25	16.3	00 13	225	194	11 02	31	0,0,0,2,2,0,1,0	5	0	83.7
24 q	21 25	528	460	10 37	68	14 20	65.0	51.0	08 18	14.0	03 23	223	202	11 45	27	0,0,1,1,1,1,1,1	6	0	83.8
25	19 16	557	464	12 08	93	14 11	67.6	48.4	22 58	19.2	20 03	242	199	24 00	43	0,0,1,2,2,2,2,3	12	0	83.7
26	16 42	570	444	10 39	126	13 44	69.4	46.1	07 44	23.3	17 31	254	199	00 00	55	2,1,1,1,3,3,2,1	14	0	83.7
27	18 33	581	424	10 50	157	15 00	68.5	40.5	07 37	28.0	17 42	270	148	05 25	122	3,3,3,3,3,3,3,3	24	1	83.4
28	19 23	554	412	10 39	142	12 31	73.3	46.3	23 36	27.0	16 22	246	192	23 23	54	1,2,3,3,3,4,3,2,3	21	1	83.2
29	20 56	693	404	24 00	289	21 13	69.4	47.6	08 46	21.8	20 54	296	177	23 59	119	2,1,1,2,2,1,5,5	19	1	83.0
30 d	01 39	580	259	03 25	321	00 52	68.0	26.0	01 18	42.0	00 51	357	72	01 21	285	5,5,3,3,2,3,2,1	25	1	82.8
31 d	18 17	740	392	22 49	348	14 37	72.1	36.0	23 36	36.1	19 29	333	75	23 48	258	3,2,2,2,4,5,5,5	28	1	82.6
Mean	-	574	414	-	160	-	68.5	43.8	-	24 8	-	261	140	-	121	-	-	0.55	83.9

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																				SEPTEMBER 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	457	332	278	394	483	488	479	479	470	459	458	467	468	500	490	494	498	506	512	520	521	516	516	521	471	5306	
2	503	494	488	479	394	372	376	431	487	482	476	465	542	664	896	892	813	827	779	818	415	68	281	422	536	6864	
3 d	63	146	242	340	465	482	457	468	467	416	497	469	794	984	993	1114	731	764	570	540	500	470	480	462	538	6914	
4 d	458	444	438	423	378	432	459	452	440	431	434	444	448	497	957	810	807	356	546	657	612	385	-110	24	468	5222	
5	-330	-277	-490	-448	-289	236	415	412	409	410	417	416	427	461	476	473	519	517	528	508	487	293	356	472	267	398	
6	474	464	425	374	419	433	438	449	445	423	429	469	491	576	551	600	587	598	628	506	477	474	474	480	487	5684	
7	479	481	477	471	456	464	463	452	436	429	425	439	442	451	459	459	473	481	486	496	493	497	496	492	467	5197	
8 q	489	489	486	483	479	474	468	457	443	435	427	436	442	461	478	479	479	489	492	500	502	505	503	501	475	5397	
9	502	498	486	496	499	486	475	474	458	439	430	431	454	461	474	503	504	504	506	509	505	498	497	500	483	5589	
10	499	497	497	493	489	482	474	456	446	442	443	448	446	451	466	481	501	521	503	507	512	500	500	501	481	5555	
11 q	501	501	505	502	495	492	488	470	456	445	434	425	442	454	474	494	504	506	523	515	502	502	503	508	485	5641	
12	509	499	503	502	498	495	483	469	458	450	443	449	457	476	489	502	502	501	508	513	513	515	531	511	491	5776	
13 d	517	426	152	-292	225	405	-125	-185	165	93	387	468	386	442	370	402	483	489	467	461	456	452	450	450	314	1544	
14	447	445	444	453	461	455	442	419	415	355	391	516	512	562	604	529	521	474	454	464	476	461	448	385	464	5133	
15	434	432	446	455	449	475	471	465	451	442	442	434	440	450	461	476	490	505	524	520	503	487	465	456	466	5173	
16	394	387	427	452	490	502	502	493	481	466	450	442	447	460	481	492	509	516	514	518	508	509	506	509	477	5455	
17	503	502	498	500	507	509	503	499	491	473	465	470	449	483	509	523	550	509	517	521	523	520	519	518	503	6061	
18	513	510	490	483	490	505	502	490	477	465	459	457	472	463	481	492	494	509	531	516	518	512	516	509	494	5854	
19 q	513	510	512	511	508	505	503	499	487	476	461	453	464	471	474	487	494	506	507	512	513	513	513	515	496	5907	
20 q	514	514	509	507	509	507	504	498	484	471	458	451	458	468	479	483	523	521	523	514	516	524	524	523	499	5982	
21	510	518	521	520	524	519	516	505	493	477	479	548	556	631	588	659	976	992	851	744	569	248	445	406	575	7795	
22	213	268	390	244	386	353	312	382	415	440	458	486	552	620	881	1069	991	619	554	516	694	336	31	-225	458	4985	
23 d	-300	-135	-302	-602	-697	-399	-40	111	348	461	505	609	636	860	784	695	778	694	522	474	181	323	382	388	261	276	
24	356	267	399	442	442	423	467	465	446	428	436	468	481	515	457	455	481	489	493	508	499	489	484	482	453	4872	
25	473	446	455	465	456	474	482	458	450	440	441	449	479	486	495	490	482	479	488	492	496	499	500	501	474	5376	
26	504	503	501	501	501	493	493	485	474	464	459	450	458	466	492	489	490	496	497	504	508	507	506	504	489	5745	
27 q	501	498	496	496	496	496	496	487	471	453	439	436	440	451	477	489	495	493	503	508	506	506	508	505	485	5646	
28	500	498	496	494	515	511	492	477	466	447	435	436	445	457	471	481	487	497	511	516	503	506	506	508	486	5655	
29 d	517	517	502	501	497	477	450	486	482	474	464	477	471	609	1008	609	750	359	488	290	167	327	37	-326	443	4633	
30	288	420	423	324	451	461	461	474	424	390	412	440	474	527	541	522	535	501	506	492	485	487	460	457	4959		
Mean	400	403	390	365	399	434	430	432	446	434	444	461	481	527	575	572	581	542	534	522	489	448	428	415	465		
Sum 10,000+	2001	2094	1694	963	1976	3007	2906	2964	3385	3010	3332	3820	4439	5804	7242	7162	7434	6252	6026	5673	4667	3427	2854	2462		Grand Total 334,594	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)		9° +												SEPTEMBER 1957													
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 900.0+
1		49.3	55.0	62.5	58.9	51.3	48.0	48.5	51.4	51.5	52.4	56.1	60.3	61.9	62.7	59.8	58.8	57.0	57.1	58.3	57.5	56.7	58.9	58.8	59.0	56.3	451.7
2		56.8	53.2	56.4	57.8	66.5	75.0	58.6	55.8	58.1	49.2	55.5	62.3	65.1	69.5	76.7	84.8	80.9	81.9	73.3	87.2	84.4	74.3	65.1	49.8	66.6	698.2
3 d		8.4	21.4	34.4	39.7	38.1	42.5	40.7	53.8	53.6	47.1	61.9	53.2	48.4	65.1	85.9	105.6	79.3	87.1	65.4	60.9	61.8	66.1	61.5	59.4	55.9	441.3
4 d		57.1	53.8	51.2	51.1	51.5	50.5	49.8	50.4	51.8	53.0	56.1	58.7	61.9	65.6	79.3	85.5	77.3	90.0	95.0	80.0	62.3	62.3	14.2	13.4	59.2	521.8
5		-12.2	-11.2	-38.3	38.1	-20.1	23.4	33.7	33.9	44.3	48.1	54.5	57.9	56.0	56.5	58.0	58.1	59.0	57.7	55.5	54.8	56.0	63.7	49.4	51.3	38.7	28.1
6		51.0	50.9	53.2	48.8	45.7	44.2	45.5	45.8	46.4	49.3	55.9	62.6	68.5	69.6	69.0	73.3	69.6	61.2	60.0	55.3	55.9	56.1	54.9	53.8	56.1	446.5
7		53.9	54.6	53.6	53.3	51.0	52.2	50.4	51.1	52.0	54.6	57.7	62.0	65.2	64.8	63.3	58.9	58.9	59.5	58.7	58.4	57.4	56.6	56.7	55.9	56.7	460.7
8		55.9	55.2	54.6	53.2	51.9	50.2	48.1	48.7	51.1	55.1	60.6	64.6	66.6	65.9	63.7	59.0	57.0	57.0	58.0	57.9	57.9	58.4	57.5	51.7	56.7	459.8
9		55.1	55.2	57.5	53.1	49.2	46.4	47.0	53.2	57.0	59.9	65.5	69.6	70.5	68.6	66.7	64.9	58.9	57.1	57.9	56.0	55.6	57.2	57.2	57.0	58.2	496.3
10		56.1	55.3	54.8	54.0	53.0	51.9	50.1	49.7	52.8	56.3	58.0	60.7	63.6	62.9	61.4	59.0	58.0	56.1	56.9	59.3	59.4	54.5	56.0	56.8	56.5	456.6
11 q		56.8	56.0	53.4	52.2	51.1	50.5	49.1	48.4	51.1	53.0	56.9	59.9	62.5	61.8	61.7	60.3	58.7	56.7	57.4	57.5	55.1	56.6	55.8	54.4	55.7	436.9
12		54.1	53.7	52.3	53.0	52.1	50.3	49.8	48.6	50.3	53.1	57.0	62.4	64.9	66.3	64.9	63.6	60.0	58.1	57.0	56.5	57.5	57.2	56.6	57.0	56.5	456.3
13 d		58.4	64.8	34.5	2.5	20.8	47.4	22.5	13.1	4.5	-8.1	41.6	57.3	62.5	62.4	56.5	53.9	49.1	49.3	55.3	56.6	53.0	44.3	54.1	54.1	42.1	110.4
14		53.8	51.3	50.4	52.1	51.1	48.2	42.9	39.4	44.4	53.0	54.9	62.6	66.9	70.2	65.5	62.8	59.4	56.6	55.9	56.6	57.1	54.0	53.1	52.9	54.8	415.1
15		47.2	46.0	51.1	47.0	54.0	51.8	49.2	48.2	48.4	50.8	55.3	59.0	62.4	62.7	61.4	59.7	57.8	55.3	48.5	53.3	53.2	50.5	50.3	46.9	52.9	370.0
16		37.6	41.0	56.5	49.7	48.3	50.5	50.5	50.1	48.7	50.3	53.6	57.9	62.8	65.1	65.2	61.9	58.8	57.1	47.8	53.6	56.8	57.0	55.6	52.3	53.7	388.7
17		54.0	55.9	54.8	53.6	55.0	53.1	51.9	51.2	53.0	54.5	59.3	63.5	66.7	67.6	64.7	61.7	58.7	57.4	58.5	60.8	60.8	58.8	57.8	56.8	57.9	490.1
18		55.3	57.1	55.9	55.0	52.2	51.3	50.1	49.1	49.6	51.0	53.0	56.0	61.6	61.9	62.0	61.8	61.4	60.0	59.4	59.5	54.2	57.8	58.1	55.8	56.2	449.1
19 q		54.4	54.4	54.1	53.9	52.8	52.2	52.0	51.5	50.4	52.9	55.1	59.4	61.8	62.9	61.9	61.8	59.9	58.8	57.4	57.4	57.7	57.0	56.6	56.6	56.4	452.9
20 q		55.0	53.6	53.7	53.2	53.0	52.1	50.4	49.9	50.2	50.9	54.0	58.4	62.3	64.7	64.4	62.5	61.2	58.8	58.2	56.2	57.7	58.7	56.1	55.1	56.3	450.4
21		60.7	56.2	54.1	54.2	53.9	52.7	50.4	49.3	48.4	51.1	55.1	63.2	61.8	67.4	62.6	65.9	76.1	91.2	109.2	76.6	61.4	65.8	49.7	48.8	61.9	585.8
22		46.2	51.3	44.5	51.2	52.4	55.9	50.9	52.4	45.5	50.3	54.9	59.9	65.6	66.3	46.3	61.5	80.3	61.8	58.9	55.9	61.5	65.0	57.3	68.6	56.9	464.4
23 d		55.5	25.0	31.3	-30.6	10.4	0.5	46.4	35.8	36.7	40.7	46.4	48.6	55.0	60.1	58.6	64.1	63.8	47.6	57.7	59.7	56.1	49.6	46.0	50.8	42.3	115.8
24		51.2	58.0	54.3	48.0	46.4	51.2	50.2	48.3	47.3	46.5	51.0	56.8	61.1	60.8	60.6	58.2	55.8	53.2	52.4	47.1	51.1	53.4	53.1	53.8	52.9	369.8
25		50.2	57.9	53.7	53.3	53.1	52.9	53.1	50.0	52.6	55.3	55.8	58.5	63.2	62.7	60.5	59.3	57.1	55.2	54.7	53.1	53.2	52.6	52.1	54.2	55.2	424.3
26		52.9	53.1	52.3	52.2	51.4	51.2	50.5	49.1	48.2	50.6	54.0	58.4	62.1	65.4	67.1	66.7	60.8	54.8	54.8	55.0	55.1	55.3	55.1	54.9	55.5	431.0
27		54.5	54.5	54.2	53.9	53.2	52.2	50.5	48.2	46.9	48.0	51.2	55.8	59.1	61.7	63.2	60.9	57.0	56.2	56.0	56.0	55.1	54.5	54.7	54.9	54.7	412.4
28		55.1	54.0	53.2	53.0	54.1	52.0	50.4	49.5	49.0	50.1	53.4	58.5	62.5	63.8	64.4	62.3	59.8	59.2	59.9	58.6	58.9	58.2	56.9	56.7	56.4	453.5
29 d		56.4	53.1	51.1	52.2	49.3	46.2	51.1	56.1	50.7	49.0	52.9	57.9	66.5	75.2	61.1	62.9	77.5	118.9	80.1	86.4	81.2	52.8	41.0	14.3	60.2	543.9
30		41.5	44.4	57.7	62.5	50.3	48.3	46.5	44.1	47.5	48.1	33.0	56.7	57.9	59.9	63.8	56.9	53.1	54.0	56.5	55.4	48.3	44.2	40.4	54.1	51.9	345.1
Mean		49.4	49.5	48.8	47.7	46.8	48.5	48.0	47.5	48.1	49.2	55.0	59.4	62.6	64.7	64.0	64.6	62.7	62.8	61.2	60.0	58.4	57.0	53.1	52.0	55.0	
Sum 1400.0+		82.2	84.7	63.0	30.1	3.0	54.8	40.8	26.1	42.0	76.1	250.2	382.6	476.9	540.1	520.2	536.6	482.2	484.9	434.6	399.1	352.5	311.4	191.7	161.1		Grand Total 30626.0

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

37

3 LERWICK (Z)		47,000γ (0.47 C.G.S. unit) +																				SEPTEMBER 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 4000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
1	101	75	73	125	169	212	236	235	244	250	247	247	248	259	274	267	253	243	232	232	230	222	220	201	212		1095
2	178	174	195	192	139	39	129	173	210	218	228	233	256	347	404	352	351	388	421	275	109	156	332	250	240		1749
3 d	145	166	263	224	177	218	232	212	228	278	270	313	381	310	252	105	270	293	379	350	293	269	271	275	257		2174
4 d	256	235	253	254	235	218	241	252	259	264	261	257	253	241	215	-114	-196	-96	227	244	290	296	191	-158	182		378
5	168	511	390	-395	197	79	205	274	268	279	288	294	300	292	287	277	275	304	318	318	283	136	62	194	233		1604
6	252	265	247	180	202	231	234	241	252	254	249	251	276	317	317	310	358	367	362	323	280	257	244	234	271		2503
7	243	242	243	242	243	232	235	241	242	245	245	247	246	247	250	249	244	241	240	239	239	238	238	241	242		1812
8 q	243	242	243	245	248	249	245	243	240	236	241	239	238	232	234	242	244	241	238	236	235	232	231	238	240		1755
9	234	236	226	214	218	225	226	217	220	225	230	241	255	271	269	265	280	271	257	254	250	242	236	235	242		1797
10	236	238	238	241	244	245	242	236	231	228	225	228	230	234	234	236	238	247	250	239	233	244	236	232	237		1685
11 q	232	225	231	236	241	240	238	241	235	230	228	227	224	228	229	238	243	251	252	249	252	241	234	222	236		1667
12	205	209	213	224	232	236	238	236	231	226	221	213	213	213	220	225	234	241	242	242	236	231	206	181	224		1368
13 d	175	26	-134	-141	-208	61	346	550	590	461	349	334	369	400	399	369	360	334	308	295	284	252	257	259	262		2295
14	263	263	264	263	265	271	272	264	265	267	259	264	288	307	332	348	361	331	287	265	257	257	217	154	274		2584
15	174	165	167	170	176	210	228	242	247	248	250	251	244	246	243	241	241	253	276	271	259	226	191	156	224		1375
16	123	93	127	115	171	203	219	230	232	236	238	238	236	235	236	242	247	253	261	250	243	258	214	223	213		1123
17	219	224	224	230	233	238	240	236	235	236	237	247	257	252	273	294	307	313	274	251	242	239	234	231	249		1966
18	234	229	205	194	185	207	225	234	236	238	238	235	230	224	224	229	229	228	234	241	241	239	232	234	227		1445
19 q	228	230	230	230	231	231	230	231	234	235	235	228	222	223	224	223	224	224	230	230	230	230	230	229	229		1492
20 q	225	224	226	228	227	228	228	228	229	230	230	227	219	217	217	220	223	236	235	245	236	225	217	214	226		1434
21	217	203	221	224	220	223	224	226	230	228	220	230	338	448	484	449	301	189	221	170	248	219	196	202	255		2131
22	177	136	143	79	47	78	130	139	189	206	218	245	275	293	316	72	127	409	409	336	315	336	332	263	220		1270
23 d	203	183	108	8	168	280	87	190	275	333	334	322	342	300	334	373	372	332	269	296	221	116	136	161	239		1743
24	121	104	164	220	224	237	246	254	258	265	267	276	294	307	302	294	296	296	284	267	246	241	235	223	247		1921
25	202	184	167	190	197	212	221	232	244	243	252	275	288	300	286	274	258	253	248	247	244	238	235	228	238		1718
26	209	216	227	234	238	242	242	241	241	255	255	246	249	253	265	289	304	295	273	255	244	238	234	232	249		1977
27 q	233	236	240	241	242	245	247	248	247	242	239	233	226	224	228	244	262	267	257	251	247	243	239	239	243		1820
28	239	239	239	238	211	196	210	228	238	242	241	239	238	236	238	239	242	239	238	251	258	248	244	240	236		1671
29 d	231	225	219	215	213	211	201	189	207	220	226	214	211	213	198	-5	-73	-100	51	265	446	435	511	451	216		1174
30	229	227	259	167	222	258	267	269	260	282	277	282	270	270	271	320	334	335	335	336	314	254	149	123	263		2310
Mean	207	207	204	170	194	209	225	241	251	253	250	253	264	271	275	246	247	256	270	264	257	242	233	214	238		
Sum 5000+	1195	1225	1111	87	807	1255	1764	2232	2517	2600	2498	2576	2916	3139	3255	2367	2410	2678	3107	2923	2705	2258	2004	1407			Grand Total 171,036

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

SEPTEMBER 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force			Declination			Vertical force									
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range							
	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ							°A.
1	23 21 531	213 02 15	318	02 28 67.6	43.3 06 22	24.3	14 41 279	38 02 38	241	6,5,3,3,3,2,1,2	25	1	82.6			
2	14 21 994	-121 21 48	1115	20 23 130.7	-4.7 23 46	135.4	17 57 441	-277 20 23	718	2,6,5,4,7,5,8,7	44	2	82.7			
3 d	15 17 1599	-20 00 33	1619	1516 133.6	-7.9 00 42	141.5	12 46 436	-81 15 21	517	7,7,5,6,7,8,5,3	48	2	82.8			
4 d	14 46 1279	-615 21 57	1894	15 42 166.5	-87.9 22 49	254.4	22 03 708	-369 16 31	1077	3,4,3,3,8,9,7,9	46	2	82.9			
5	16 36 556	-1025 03 48	1581	03 33 202.3	-129.9 02 03	332.2	01 57 801	-796 03 37	1597	8,9,5,4,4,4,4,7	45	2	83.0			
6	18 35 708	330 03 21	378	15 51 78.4	41.8 05 10	36.6	17 10 405	165 03 18	240	4,4,2,4,4,4,6,2	30	1	83.0			
7	21 02 501	419 10 10	82	12 18 66.7	47.3 03 59	19.4	15 09 255	230 05 23	25	2,2,2,2,2,2,1,1	14	0	83.0			
8 q	22 04 511	422 10 22	89	12 16 67.4	46.7 07 30	20.7	05 42 249	228 22 41	21	1,1,2,2,2,2,1,3	14	0	83.1			
9	15 47 516	417 11 25	99	12 43 72.2	44.9 05 48	27.3	16 33 282	210 03 16	72	2,3,3,2,2,2,2,0	16	0	83.1			
10	17 21 540	435 10 31	105	13 10 64.5	48.9 07 39	15.6	17 53 258	224 10 08	34	1,1,2,2,2,3,2,2	15	0	83.2			
11 q	18 57 527	422 11 16	105	12 33 63.6	47.0 07 12	16.6	20 27 254	212 24 00	42	2,1,2,2,2,1,2,2	14	0	83.1			
12	22 08 542	436 10 48	106	14 02 68.5	47.8 07 14	20.7	18 10 246	176 23 23	70	1,1,2,1,2,2,1,3	13	0	82.8			
13 d	00 55 579	-789 03 07	1368	02 59 96.1	-37.4 09 17	133.5	07 57 717	-317 04 05	1034	9,9,8,8,5,5,3,4	51	2	82.5			
14	14 16 678	330 23 14	348	13 30 77.9	34.7 07 25	43.2	16 38 369	58 23 09	311	2,2,4,5,5,4,3,5	30	1	82.5			
15	18 55 534	410 01 26	124	13 09 65.4	41.0 01 29	24.4	18 32 283	140 24 00	143	3,3,3,2,2,2,3,4	22	1	82.0			
16	18 53 537	354 01 44	183	14 21 65.7	32.7 00 18	33.0	18 44 270	80 01 35	190	4,4,2,2,2,2,3,2	21	1	81.7			
17	16 46 561	444 12 59	117	13 35 68.6	50.3 06 53	18.3	17 12 331	218 00 02	113	1,1,1,2,3,3,3,1	15	1	81.9			
18	18 19 543	451 11 36	92	12 32 63.7	48.2 07 39	15.5	20 49 247	178 04 24	69	3,3,2,1,2,3,3,2	19	0	82.0			
19 q	23 50 517	447 11 46	70	13 05 64.3	49.6 09 00	14.7	09 50 238	219 12 59	19	0,1,1,2,2,1,0,0	7	0	82.1			
20 q	16 53 535	448 11 28	87	14 03 65.6	48.2 07 27	17.4	19 24 249	212 23 17	37	1,0,1,2,1,3,2,1	11	0	82.2			
21	17 00 1125	-216 21 30	1341	18 26 151.7	29.7 21 49	122.0	14 02 531	-61 21 23	592	3,1,1,5,6,7,7,8	38	2	82.1			
22	16 10 1387	-440 23 50	1827	16 07 160.6	-27.5 23 37	188.1	21 58 654	-214 16 15	868	7,5,5,4,8,8,6,8	51	2	81.9			
23 d	13 34 925	-1229 04 23	2154	00 21 121.5	-108.1 04 20	229.6	04 25 721	-377 04 20	1098	9,9,8,6,6,6,8,6	58	2	81.2			
24	13 09 561	219 01 33	342	13 15 67.4	40.5 19 15	26.9	12 59 324	48 01 09	276	5,3,3,4,4,3,3,2	27	1	80.8			
25	12 58 513	423 11 00	90	12 51 67.5	48.0 07 47	19.5	13 27 307	150 02 09	157	3,2,3,3,3,2,1,2	19	1	80.4			
26	20 16 512	440 11 18	72	15 21 68.5	46.6 08 09	21.9	16 16 305	206 00 18	99	2,1,1,3,3,3,3,0	16	0	80.0			
27 q	19 17 513	433 11 41	80	14 19 63.6	44.8 08 02	18.8	17 14 270	223 13 57	47	1,0,2,1,2,2,1,1	10	0	83.4			
28	04 48 531	429 10 48	102	14 25 64.8	47.6 08 06	17.2	19 46 267	193 05 03	74	1,3,3,1,1,1,2,1	13	0	84.9			
29 d	14 32 1117	-887 23 26	2004	17 19 245.3	-80.8 23 32	326.1	22 59 907	-266 17 58	1173	3,3,3,3,8,9,8,9	46	2	84.9			
30	14 56 596	143 00 12	453	03 02 83.9	23.9 21 58	60.0	16 52 358	88 23 18	270	6,6,4,4,5,4,3,5	37	2	84.8			
Mean	- - 702	91 - -	611	- - 94.8	15.6 - -	79.2	- - 399	25 - -	374	-	-	0.93	82.6			

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)		14,000γ (0-14 C.G.S. unit) +																							OCTOBER 1957		
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 11,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	469	464	392	420	472	478	482	483	473	463	456	455	462	490	468	480	482	501	527	548	503	460	510	482	476	476	420
2	487	476	442	457	491	497	490	485	479	472	460	455	457	471	471	485	483	494	500	503	508	502	486	453	479	504	
3	493	499	493	490	492	500	503	497	486	475	465	460	463	455	498	544	502	592	522	501	500	494	471	490	495	885	
4	482	479	506	491	496	500	495	489	478	463	454	447	450	465	492	510	521	522	509	505	490	492	499	490	489	725	
5	480	497	505	505	501	493	491	486	470	459	457	465	461	474	486	508	513	518	506	517	505	506	507	509	492	819	
6 q	516	503	504	505	504	502	498	493	487	476	467	459	460	469	480	490	496	495	504	509	510	513	516	516	495	872	
7 q	516	513	511	512	511	508	510	505	495	479	464	464	470	479	492	493	501	504	513	515	519	516	512	511	501	1013	
8 q	509	512	509	506	506	503	499	492	479	461	449	448	455	468	480	491	497	506	511	514	516	516	513	513	494	853	
9	513	511	511	512	507	505	501	502	491	473	454	444	454	463	482	488	515	505	511	508	505	507	495	484	493	841	
10	465	478	491	488	501	476	475	456	458	450	442	447	469	487	503	497	488	490	501	501	500	482	495	497	481	537	
11 d	494	478	479	499	492	486	490	488	474	457	461	457	483	545	538	532	489	493	496	491	487	489	478	481	490	757	
12	483	490	477	477	483	498	497	489	475	457	444	441	450	450	469	495	523	540	511	503	503	459	461	471	481	546	
13 d	442	378	313	448	474	457	488	487	473	464	452	448	455	464	477	503	498	505	499	503	505	437	430	434	460	34	
14 d	380	358	375	422	440	370	413	459	472	461	427	434	453	474	515	599	632	575	572	561	518	477	400	362	465	149	
15	435	473	477	474	477	478	483	479	473	459	451	445	461	467	490	505	496	515	516	512	489	488	496	488	480	527	
16 q	491	492	490	491	492	492	492	488	477	462	454	448	449	458	467	480	492	501	506	508	512	511	511	509	486	673	
17	508	507	510	512	510	515	512	510	495	480	469	467	449	457	474	479	492	482	510	513	516	518	519	515	497	919	
18 q	517	511	506	506	506	507	505	501	493	478	466	460	461	466	475	486	496	505	517	521	510	510	509	509	497	921	
19	510	510	509	507	509	509	512	503	497	486	469	451	457	464	480	497	499	508	514	522	515	508	506	505	498	947	
20	508	503	502	505	506	502	499	496	488	471	463	458	474	473	479	492	507	530	524	525	526	502	451	443	493	827	
21 d	475	482	496	500	500	503	499	496	478	463	456	453	452	464	468	527	511	509	508	521	545	535	372	311	480	524	
22	368	487	487	478	485	485	480	474	469	456	445	452	468	477	474	488	495	505	503	502	503	502	490	486	477	459	
23	395	456	483	491	494	492	488	477	467	462	452	458	458	463	471	485	496	497	500	506	519	497	490	492	479	489	
24	499	499	500	496	499	500	499	497	485	470	460	467	462	471	486	492	495	502	507	495	500	506	508	504	492	799	
25	503	505	499	501	505	504	506	503	492	477	464	459	467	474	487	492	496	507	514	519	512	516	518	519	497	939	
26	497	498	503	500	500	503	507	511	505	488	476	464	466	475	485	496	503	508	514	514	517	518	516	512	499	976	
27	511	506	510	511	513	513	512	507	499	490	479	480	471	464	489	518	501	507	513	515	525	506	503	509	502	1052	
28	508	492	497	501	502	500	498	489	488	480	464	460	463	477	484	492	495	519	510	504	512	505	504	503	494	847	
29	506	496	493	496	492	498	497	501	487	472	465	453	469	470	478	490	501	511	516	514	515	510	496	483	492	809	
30	487	489	485	488	491	498	497	463	454	459	445	444	450	458	470	487	493	496	504	515	502	505	504	503	483	587	
31	503	502	502	501	504	507	508	507	499	489	475	476	473	471	477	482	489	497	500	506	504	508	507	506	496	893	
Mean	482	485	483	490	495	493	494	491	482	469	458	455	461	471	483	500	503	511	511	513	509	500	489	483	488		
Sum 14,000+	950	1044	957	1190	1355	1279	1326	1213	936	552	205	119	292	603	985	1503	1597	1839	1858	1891	1791	1495	1173	990		Grand Total 363,143	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)														9° +														OCTOBER 1957	
	Hour G.M.T.																											Mean	Sum 1200·0+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24					
1 d	52·3	50·5	52·5	52·3	52·4	54·0	52·2	50·8	51·5	52·8	54·1	55·2	58·5	64·1	61·0	61·0	59·5	58·8	61·9	62·8	57·0	59·5	54·9	56·2	56·1	145·8			
2	52·8	49·5	46·7	48·3	52·0	52·3	53·2	53·2	54·1	54·3	55·6	56·9	58·9	61·7	61·8	62·2	59·6	59·7	58·9	58·8	58·8	57·8	54·3	56·6	55·7	138·0			
3	46·4	52·4	52·4	53·1	52·6	52·3	52·3	52·0	52·1	53·7	57·1	60·0	63·8	63·0	68·5	73·4	62·3	67·5	53·0	49·4	47·2	51·4	50·9	46·5	55·6	133·3			
4	45·8	47·5	51·4	50·9	54·4	53·2	52·4	51·3	50·3	51·3	53·7	57·7	60·9	63·3	63·6	62·8	61·9	59·4	57·0	54·2	50·9	54·4	56·0	55·7	55·0	120·0			
5	56·2	47·4	51·3	51·8	51·2	53·5	53·0	51·3	51·0	53·3	57·7	61·8	62·4	63·4	62·9	62·8	62·3	60·7	58·8	55·8	56·1	55·4	57·1	55·3	56·4	152·5			
6 q	49·4	51·3	53·1	53·1	53·3	53·7	53·4	52·8	52·3	53·2	54·3	56·6	59·0	60·7	60·9	59·8	58·9	58·0	58·0	57·8	57·6	57·6	56·9	56·3	55·7	138·0			
7 q	55·9	55·4	54·9	54·2	54·0	53·1	54·2	53·2	51·4	52·3	54·2	57·6	61·5	63·6	64·8	62·4	61·8	60·9	60·0	59·8	60·0	58·9	57·8	55·2	57·4	177·1			
8 q	54·9	54·2	54·2	54·3	54·2	54·1	53·2	52·0	51·3	51·6	53·8	58·2	62·5	63·8	63·0	61·9	60·2	60·2	59·9	59·4	58·9	58·0	57·1	57·2	57·0	168·1			
9	56·2	54·7	52·9	51·3	50·4	50·4	51·8	52·9	53·4	53·7	55·8	57·8	62·0	64·8	64·6	60·1	59·5	61·1	58·9	58·0	56·4	54·1	53·7	48·9	56·0	143·4			
10	50·4	51·3	55·5	55·1	55·9	61·2	59·0	57·1	57·8	59·0	59·8	62·6	65·6	66·2	66·6	63·8	60·0	57·3	57·8	53·2	41·4	48·5	52·8	54·2	57·2	172·1			
11 d	53·3	51·9	51·2	52·3	53·7	55·2	55·0	58·0	55·3	54·2	60·2	63·9	66·7	66·6	64·4	61·8	56·3	54·7	53·2	56·0	56·9	53·1	50·4	52·3	56·5	156·6			
12	56·2	56·9	57·1	55·6	55·3	54·3	57·1	54·5	54·0	56·2	61·4	62·2	63·3	63·2	63·8	60·0	59·0	63·1	60·0	58·8	56·6	52·1	42·5	48·0	57·1	171·2			
13 d	49·5	33·6	34·2	36·2	43·1	53·3	52·9	52·1	50·3	50·5	53·3	55·4	59·3	62·6	62·3	60·2	60·7	59·8	59·9	59·7	54·8	45·6	49·2	44·6	51·8	43·1			
14 d	40·9	40·6	44·9	53·1	52·3	60·2	73·3	56·8	48·0	50·8	55·8	60·4	64·1	67·0	63·3	62·2	71·4	59·9	57·9	59·8	54·4	51·3	57·6	55·1	56·7	161·1			
15	46·4	46·5	51·2	52·1	53·0	53·0	52·0	50·2	50·6	51·2	54·7	58·9	63·7	65·7	69·3	67·8	63·5	60·8	61·7	57·0	58·0	54·6	51·8	47·8	55·9	141·5			
16 q	52·2	54·0	54·2	54·2	54·1	53·3	52·6	51·4	51·3	52·4	54·4	58·7	60·0	62·0	62·2	61·1	60·1	60·0	60·3	59·2	58·0	57·0	56·1	55·8	56·4	154·6			
17	54·4	54·1	54·2	54·3	53·7	53·5	53·1	52·2	50·8	51·3	55·8	60·9	58·8	60·2	63·2	61·5	61·2	59·7	60·0	59·0	58·1	57·6	56·7	55·4	56·7	159·7			
18 q	54·2	52·8	53·3	53·7	53·2	52·8	52·1	50·8	49·3	49·9	52·8	55·3	57·6	59·0	60·4	60·0	59·1	58·8	60·6	61·8	59·3	56·1	52·3	55·2	55·4	130·4			
19	55·6	55·0	55·2	54·7	54·1	53·0	51·3	51·0	50·4	53·1	55·2	56·6	59·8	62·4	62·0	60·2	58·1	59·8	60·0	60·6	60·2	55·4	52·3	55·1	56·3	151·1			
20	55·0	54·7	54·1	54·4	51·1	51·7	52·3	50·4	50·2	50·4	55·4	58·7	63·8	64·7	63·8	62·5	61·5	65·2	68·6	63·0	60·7	57·7	51·0	45·1	56·9	166·0			
21 d	44·9	50·2	53·9	53·7	52·8	52·3	53·0	52·9	52·8	53·0	56·1	59·7	62·6	64·7	62·8	66·8	64·7	62·8	61·1	60·1	63·0	52·3	47·0	43·6	56·1	146·8			
22	49·0	53·0	52·3	52·5	52·4	51·9	51·5	50·9	49·5	50·0	54·9	58·0	61·1	62·1	61·6	59·8	59·6	57·1	59·0	58·1	57·4	54·3	45·6	52·2	54·7	113·8			
23	46·4	49·7	51·5	53·0	53·3	53·2	53·4	51·5	49·4	50·6	54·1	58·0	60·6	61·8	60·4	58·9	58·9	58·3	57·8	55·5	43·6	40·2	49·1	53·0	53·4	82·2			
24	55·9	56·3	53·5	54·6	54·0	53·4	53·0	52·1	51·5	52·4	55·9	60·2	62·5	62·6	62·2	60·0	58·3	58·1	58·5	49·6	55·7	56·4	55·6	55·3	56·1	147·6			
25	55·5	54·4	52·4	54·1	53·6	53·6	52·7	51·8	50·3	51·6	56·0	58·7	62·4	63·3	63·1	60·2	59·9	60·5	58·8	55·5	57·4	58·0	54·3	48·8	56·1	146·9			
26	45·1	50·0	50·8	52·1	52·0	53·6	53·4	53·2	53·3	54·1	57·7	60·4	62·4	65·2	63·9	61·9	60·4	59·6	50·7	59·5	58·5	52·9	53·0	54·6	56·2	148·3			
27	53·6	52·3	54·5	54·9	53·7	54·1	54·6	54·2	52·9	53·2	58·1	63·7	66·2	65·1	65·1	66·3	61·7	61·8	60·9	60·0	60·5	56·1	54·0	55·5	58·0	193·0			
28	53·4	46·5	47·3	51·8	51·6	51·3	52·1	55·7	55·2	54·0	57·0	59·7	61·1	61·4	60·5	60·5	59·8	61·8	59·3	59·7	57·7	57·5	56·3	54·7	56·1	145·9			
29	54·7	48·8	49·1	52·6	53·7	53·3	53·4	51·3	50·6	52·0	54·1	56·1	63·3	62·0	59·6	59·0	60·6	62·5	62·4	58·7	57·1	52·0	48·6	51·3	55·3	126·8			
30	52·7	52·8	51·1	52·7	53·4	52·6	52·6	54·8	58·1	53·3	55·0	58·3	58·4	60·6	59·7	57·8	56·9	57·6	56·1	48·2	51·8	53·5	53·3	55·1	54·9	116·8			
31	55·8	55·3	54·2	54·1	53·8	53·6	53·5	52·7	51·3	52·3	55·5	61·6	62·9	63·0	61·3	60·6	59·4	59·5	59·4	58·4	57·3	55·7	54·9	54·8	56·7	160·9			
Mean	51·8	51·7	51·8	52·6	52·8	53·6	53·9	52·7	51·9	52·6	55·8	59·0	61·8	63·2	63·0	61·9	60·6	60·2	59·4	57·7	56·2	54·4	53·0	52·8	56·0				
Sum 1500·0+	105·0	83·6	105·1	131·1	138·3	161·0	169·6	135·1	110·3	131·7	229·5	329·8	415·7	459·8	452·6	419·3	377·1	365·0	340·4	287·4	241·3	185·0	143·5	135·4		Grand Total 41652·6			

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

39

3 LERWICK (Z)		47,000γ (0.47 C.G.S. unit) +																				OCTOBER 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 5000+
1 d	γ	180	213	220	204	243	258	263	260	261	262	266	261	256	251	267	261	251	249	255	302	312	296	294	254	256	1139
2	244	236	206	186	225	239	248	254	255	256	255	255	255	250	242	240	239	246	243	240	239	239	252	261	173	238	723
3	213	240	242	241	240	237	236	238	246	250	254	259	259	262	258	245	275	305	326	311	254	249	226	228	243	253	1078
4	233	229	244	248	246	242	241	246	248	249	249	252	252	249	249	258	265	266	282	285	268	240	241	237	220	249	987
5	177	202	220	230	232	236	232	236	240	238	236	232	232	231	231	234	240	254	271	272	235	245	248	248	244	236	664
6 q	239	249	248	244	241	239	239	238	239	238	238	241	241	240	238	242	241	239	237	235	234	234	234	236	235	239	738
7 q	236	238	238	238	237	237	234	232	236	234	236	232	232	231	231	232	238	237	236	234	234	232	236	238	241	235	648
8 q	242	242	242	241	239	238	238	240	243	241	232	225	225	225	227	230	231	232	231	232	232	232	233	236	236	235	640
9	238	239	239	236	237	235	232	226	230	232	232	234	234	229	231	244	257	264	274	281	278	265	238	228	200	242	799
10	175	181	193	198	153	170	179	199	210	228	231	240	240	253	274	287	300	303	270	255	270	235	210	230	234	228	478
11 d	206	206	193	212	191	188	215	212	213	222	230	264	264	296	348	343	342	340	315	303	291	267	245	235	230	254	1107
12	230	221	232	204	218	230	232	235	244	253	249	248	248	250	251	254	274	291	311	322	315	299	239	196	214	251	1012
13 d	190	178	187	167	196	199	189	222	239	248	254	252	252	251	258	278	289	280	277	267	262	264	219	189	180	231	535
14 d	174	194	144	111	105	98	68	159	216	241	269	259	259	267	266	296	339	390	409	373	321	297	292	251	135	236	674
15	190	206	227	240	247	252	257	261	262	264	259	265	265	281	289	284	294	301	313	314	314	280	271	238	221	264	1330
16 q	239	245	248	248	248	248	249	250	251	253	249	245	245	244	239	238	241	241	241	239	241	241	241	241	239	244	859
17	240	237	232	231	231	231	236	241	244	244	239	239	239	241	233	230	233	232	232	232	234	235	235	235	237	236	654
18 q	236	236	237	236	234	233	235	235	236	231	231	232	232	230	227	227	230	230	230	231	236	245	242	241	238	234	619
19	234	235	234	234	232	232	232	232	229	230	236	238	238	235	231	233	237	236	230	230	232	250	262	259	249	237	682
20	241	241	235	221	216	225	227	229	232	235	232	232	232	230	238	238	242	242	247	285	315	307	291	245	210	244	856
21 d	195	218	238	241	242	238	236	235	242	246	247	244	244	246	245	245	246	264	261	250	241	256	289	192	254	242	811
22	239	262	271	261	251	246	242	242	241	241	244	244	244	248	250	255	263	271	281	270	262	262	274	267	249	256	1136
23	147	103	203	230	236	236	236	232	232	230	232	238	238	242	245	248	248	247	246	242	244	231	215	226	226	226	415
24	231	237	237	237	237	237	237	236	231	231	230	230	233	241	242	244	248	244	244	247	261	242	236	235	236	239	727
25	236	232	226	232	237	237	237	237	239	241	237	235	235	232	237	241	248	244	239	241	233	235	232	236	222	236	666
26	222	230	236	241	241	237	238	238	237	236	235	238	238	235	235	239	239	239	239	237	237	234	231	221	224	235	639
27	226	229	228	231	231	231	230	231	231	228	222	218	218	228	232	223	235	245	238	235	233	236	256	249	238	233	584
28	234	210	199	219	228	231	232	236	236	238	241	242	242	241	239	240	238	237	232	258	250	242	247	244	239	236	653
29	233	218	215	221	233	234	239	239	243	243	241	239	239	236	244	238	231	230	235	243	262	272	274	256	216	239	735
30	223	226	218	215	226	233	229	237	231	244	249	252	252	249	248	251	248	246	243	242	238	225	228	235	236	236	672
31	234	233	231	231	231	231	232	234	236	232	233	231	231	242	243	236	235	236	234	235	235	241	238	239	240	235	643
Mean	219	221	225	223	226	228	228	233	238	241	241	243	243	245	247	250	256	261	262	261	258	253	247	238	226	240	
Sum 6000+	777	866	963	929	1004	1058	1069	1237	1373	1458	1488	1519	1519	1591	1672	1760	1947	2083	2116	2096	2003	1844	1671	1366	1013		Grand Total 178,903

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

OCTOBER 1957

		TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.
		Horizontal force			Declination			Vertical force							
		Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range					
	h. m. γ	γ h. m.	γ	h. m.	γ h. m.	γ	h. m. γ	γ h. m.	γ						
1 d	19 38 583	343 02 44	240	13 38 68.5	45.7 07 05	22.8	19 36 347	164 00 03	183	4,4,3,1,3,2,5,5	27	1	85.0		
2	20 33 514	406 02 54	108	15 28 63.8	41.7 03 07	22.1	22 08 265	147 23 42	118	4,4,1,1,2,2,1,4	19	1	85.0		
3	17 38 627	442 13 48	185	15 31 76.8	34.7 18 25	42.1	18 22 386	185 00 00	201	3,1,1,2,3,5,5,3	23	1	84.5		
4	16 40 533	439 11 18	94	13 50 65.0	44.5 01 06	20.5	18 28 299	185 24 00	114	3,2,2,2,3,2,2,3	20	1	85.1		
5	19 16 548	451 10 42	97	11 50 65.0	44.6 01 18	20.4	18 06 285	169 00 40	116	3,2,1,2,2,3,3,2	18	1	85.0		
6 q	00 04 538	457 12 10	81	14 17 61.6	48.4 00 02	13.2	00 57 253	227 00 13	26	2,0,0,1,0,0,0,0	3	0	85.9		
7 q	20 06 526	458 10 50	68	14 35 66.8	50.6 08 58	16.2	23 31 242	230 20 07	12	1,1,1,1,2,1,1,1	9	0	86.7		
8 q	21 01 518	443 11 06	75	13 10 64.0	49.5 08 35	14.5	08 48 245	225 11 48	20	1,0,1,1,0,1,0,1	5	0	87.5		
9	16 46 521	440 11 07	81	14 14 68.1	43.7 23 58	24.4	18 46 284	177 23 56	107	1,2,2,2,2,2,2,3	15	0	88.0		
10	20 09 522	437 11 26	85	14 09 67.5	36.6 20 07	30.9	16 31 311	143 04 21	168	3,3,3,2,3,3,4,3	24	1	85.7		
11 d	13 18 577	450 11 17	127	13 12 71.3	46.0 02 10	25.3	13 15 354	169 02 09	185	3,3,2,3,4,3,3,3	24	1	85.8		
12	16 58 558	396 21 51	162	17 32 66.5	35.9 22 13	30.6	17 41 327	164 22 59	163	2,3,2,2,2,3,2,4	20	1	86.3		
13 d	20 40 519	155 02 03	364	14 00 65.2	16.8 02 21	48.4	15 55 292	150 03 01	142	6,4,3,2,2,2,4,4	27	1	86.5		
14 d	16 13 707	278 23 25	429	22 52 80.1	32.2 23 00	47.9	17 15 420	14 05 45	406	4,5,5,3,4,5,4,6	36	1	(86.6)		
15	19 22 524	359 00 01	165	14 45 70.4	42.0 01 04	28.4	18 15 328	163 00 00	165	4,2,1,1,2,3,4,3	20	1	86.7		
16 q	20 22 514	445 11 36	69	14 54 63.6	50.6 07 53	13.0	09 01 254	232 00 01	22	1,0,1,1,1,2,1,0	7	0	85.6		
17	22 47 523	442 12 24	81	14 28 65.6	49.3 08 58	16.3	09 21 248	226 14 29	22	1,1,1,2,2,2,1,1	11	0	84.6		
18 q	19 00 532	458 11 20	74	19 13 62.7	47.2 08 28	15.5	20 42 248	225 14 24	23	1,0,1,1,1,2,2,2	10	0	86.0		
19	19 37 528	444 11 20	84	14 20 64.0	48.4 08 38	15.6	21 14 268	225 08 50	43	0,0,2,3,1,2,2,2	12	0	86.0		
20	17 22 537	343 22 48	194	18 20 69.8	38.6 22 40	31.2	19 27 321	180 23 46	141	1,2,1,2,1,2,3,5	17	1	85.1		
21 d	21 24 604	-65 22 43	669	15 23 72.1	30.3 23 02	41.8	21 12 353	63 22 43	290	3,2,2,1,2,3,3,7	23	1	85.0		
22	17 31 516	286 00 09	230	16 23 63.9	41.8 00 09	22.1	17 12 290	221 00 51	69	5,2,3,2,2,1,1,3	20	1	84.8		
23	20 44 529	285 00 38	244	13 21 62.6	35.6 21 12	27.0	14 43 250	21 00 55	229	5,2,3,2,1,2,4,4	23	1	84.2		
24	18 27 516	455 10 30	61	12 58 64.4	40.5 19 26	23.9	19 14 278	224 00 00	54	2,1,2,2,2,1,4,0	14	0	84.3		
25	23 09 532	454 10 50	78	12 47 66.0	46.5 23 54	19.5	15 13 250	216 23 37	34	2,1,2,2,1,1,2,3	14	0	84.3		
26	21 26 525	461 11 23	64	13 52 66.4	41.4 00 22	25.0	03 12 242	215 00 03	27	3,1,1,2,1,1,1,2	12	0	84.9		
27	15 32 535	453 12 58	82	12 39 71.0	51.1 01 17	19.9	21 36 268	216 11 19	52	1,1,1,2,2,3,1,2	13	0	85.1		
28	17 40 537	450 11 54	87	11 08 64.5	43.7 02 08	20.8	18 42 266	179 02 00	87	3,2,2,2,1,3,2,1	16	0	85.2		
29	23 00 549	444 22 47	105	12 31 70.8	37.1 22 58	33.7	20 50 286	189 23 15	97	3,2,2,2,3,2,3,4	21	1	84.8		
30	19 51 522	434 08 02	88	08 13 65.7	44.8 20 05	20.9	11 48 257	210 02 58	47	3,3,3,2,1,1,3,2	18	1	84.8		
31	19 50 512	454 12 57	58	13 13 65.0	50.6 08 37	14.4	13 04 248	230 11 30	18	1,1,1,2,2,1,1,1	10	0	84.0		
Mean	- - 543	393 - -	149	- - 67.1	42.3 - -	24.8	- - 289	180 - -	109	-	-	0.55	85.5		

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																								NOVEMBER 1957	
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 10,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	507	505	503	500	505	513	502	497	490	477	462	458	469	473	480	486	499	505	506	511	510	510	513	510	509	495	1890
2	507	508	505	503	506	509	505	501	499	491	482	471	474	481	489	495	500	505	512	515	512	516	518	481	499	1985	
3	475	471	489	496	500	503	506	497	486	473	453	464	465	467	466	471	497	510	511	497	505	506	504	502	488	1714	
4 q	505	505	503	501	501	502	501	497	488	477	469	471	476	481	486	493	503	513	508	508	502	507	500	504	496	1901	
5 q	500	505	509	510	509	508	507	503	495	485	478	481	484	492	494	499	507	514	520	522	518	515	514	511	503	2080	
6	508	508	509	511	512	515	513	511	506	497	485	484	490	497	506	503	507	509	531	540	489	470	191	261	481	1553	
7	118	-29	409	486	489	490	493	483	482	471	465	471	471	482	484	485	482	485	477	485	486	484	487	487	443	623	
8	488	489	491	494	499	496	486	490	478	454	470	470	456	445	479	479	487	500	496	496	490	457	402	424	476	1416	
9 d	464	450	456	399	475	490	503	487	477	472	470	464	479	489	494	511	497	503	509	491	481	464	470	354	473	1349	
10	442	476	483	484	444	467	499	489	470	462	456	457	475	477	494	492	512	495	507	517	503	493	488	479	482	1561	
11	470	481	465	476	482	496	504	496	481	454	440	462	471	477	488	485	487	496	495	490	489	449	445	476	477	1455	
12	478	463	481	496	496	491	487	494	486	461	463	468	470	499	506	515	499	490	496	492	496	496	493	467	487	1683	
13	466	486	489	492	493	499	498	493	486	476	465	467	464	480	475	480	496	498	492	496	499	501	503	502	487	1696	
14	492	472	463	500	502	503	510	506	503	488	486	487	494	492	491	511	508	504	509	518	512	513	512	505	499	1981	
15	493	490	464	438	492	496	496	487	485	477	473	474	477	481	486	496	500	508	507	506	511	521	509	503	490	1770	
16	502	507	502	504	503	506	505	503	497	487	476	471	475	484	484	491	500	513	504	511	507	512	509	511	499	1964	
17 q	512	510	508	507	505	509	512	508	502	490	481	472	475	479	486	494	505	508	511	513	514	513	515	524	502	2053	
18	514	474	485	492	497	497	491	501	491	489	476	463	463	465	522	517	482	497	506	510	502	500	494	492	493	1820	
19	492	490	485	489	492	495	493	485	479	476	474	472	475	474	477	486	493	499	503	507	506	499	501	499	489	1741	
20	496	496	499	503	511	515	514	505	500	491	481	480	474	471	481	481	492	500	503	508	507	503	495	502	496	1908	
21 q	503	505	503	505	505	506	503	503	497	489	483	480	481	486	490	494	501	503	506	509	512	506	512	493	499	1975	
22 q	497	501	502	503	505	509	510	509	505	499	496	495	490	492	500	515	505	514	512	512	515	514	511	510	505	2121	
23	508	507	508	507	510	512	511	509	505	505	503	504	502	505	501	506	518	532	532	530	529	526	524	522	513	2316	
24	515	512	511	508	508	518	518	513	505	492	495	500	502	503	515	518	520	522	528	533	525	524	524	514	513	2323	
25 d	513	513	518	516	505	510	504	475	468	490	487	483	481	487	493	509	517	567	596	563	513	519	500	436	507	2163	
26 d	464	441	454	482	478	492	503	495	485	480	477	481	492	500	534	518	589	808	620	516	397	299	409	171	483	1585	
27 d	269	330	171	113	370	447	436	449	442	449	461	439	464	469	485	496	506	483	523	499	496	522	485	470	428	274	
28 d	474	468	438	451	475	471	465	445	472	443	447	460	471	475	496	500	513	522	508	492	492	485	488	487	477	1438	
29	486	491	487	482	489	493	483	479	470	459	452	464	469	474	492	492	509	503	499	506	511	511	509	516	489	1726	
30	495	497	498	486	490	486	482	482	479	479	477	480	486	493	499	499	505	503	504	506	507	506	507	508	494	1854	
Mean	472	467	476	478	492	498	498	493	487	478	473	473	477	482	492	497	505	517	514	510	501	495	484	471	489		
Sum 14,000+	153	22	288	334	748	944	940	792	609	333	183	193	315	470	773	917	1136	1509	1431	1299	1036	844	529	120		Grand Total 351,918	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)		9° +												NOVEMBER 1957													
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 1100.0+
1		55.6	55.0	53.8	53.3	55.8	49.9	51.8	51.4	51.5	52.9	54.0	57.5	59.5	61.5	61.4	60.2	59.7	61.2	60.8	61.0	59.6	57.2	56.1	52.9	56.4	253.6
2		54.8	52.9	53.5	52.9	53.5	53.5	53.8	53.3	52.5	55.0	55.8	58.2	60.1	61.6	61.1	59.1	59.0	58.8	58.9	58.5	56.7	57.6	47.2	42.4	55.4	230.7
3		46.5	46.5	47.9	52.2	52.2	53.1	51.8	52.6	54.5	56.2	60.4	61.6	63.5	63.5	62.5	60.9	62.3	65.4	61.4	56.5	56.3	55.7	54.7	52.8	56.2	249.9
4 q		54.6	52.6	52.5	53.8	53.9	53.8	53.3	52.6	52.3	52.8	55.6	57.7	59.1	59.5	59.1	58.6	59.2	60.1	59.7	58.1	58.5	56.0	54.9	55.6	56.0	243.9
5 q		54.7	54.5	54.5	54.0	54.1	54.6	54.1	53.4	52.5	52.8	55.7	58.2	59.5	59.7	59.4	58.5	59.5	59.4	60.0	60.4	59.2	57.6	55.7	55.9	56.6	257.9
6		55.5	55.1	54.7	54.6	54.5	54.4	53.7	52.8	51.8	53.2	55.6	58.5	60.3	59.9	60.2	57.6	58.5	59.7	63.4	66.4	58.6	54.7	38.4	38.3	55.4	230.4
7		26.0	37.7	43.2	51.8	53.8	53.5	54.2	52.5	51.6	50.6	53.4	57.4	58.3	57.8	55.9	58.1	58.1	55.6	56.6	54.8	55.7	54.4	53.7	54.7	52.5	159.4
8		54.7	54.5	54.6	55.2	54.2	54.6	55.5	55.2	54.8	54.3	57.2	60.5	62.4	60.9	62.6	61.9	57.5	57.7	54.8	55.8	47.6	46.7	48.0	36.2	54.9	217.4
9 d		43.0	41.6	44.0	47.6	50.2	58.0	57.7	52.1	49.8	51.3	53.6	56.9	61.3	60.1	59.6	56.3	58.3	60.4	54.0	47.1	50.5	47.9	41.7	36.7	51.7	139.7
10		35.6	47.5	51.2	52.7	51.8	53.6	53.5	53.7	52.6	53.1	55.1	58.7	61.6	61.9	61.9	58.0	60.7	59.1	59.3	57.4	51.8	51.7	48.9	50.9	54.3	202.3
11		45.7	50.5	50.6	57.5	54.6	54.9	53.9	52.7	52.0	53.6	56.8	60.2	61.4	56.9	61.8	61.3	59.2	59.1	56.4	54.6	52.3	52.3	50.1	46.0	54.8	214.4
12		50.9	48.6	51.2	54.3	53.7	54.1	56.4	54.0	54.8	53.7	59.6	60.6	62.2	60.5	62.9	63.4	53.7	58.2	57.7	55.7	54.8	53.8	46.8	44.5	55.3	226.1
13		45.4	52.8	54.6	54.2	54.6	53.8	53.8	54.2	54.1	54.5	55.0	59.5	59.3	61.9	62.2	60.7	60.9	59.5	59.4	56.9	55.6	54.3	52.4	53.5	56.0	243.1
14		54.7	54.8	55.2	54.3	51.8	53.7	53.7	52.9	52.5	54.2	56.8	58.2	62.8	61.5	61.0	62.1	64.4	66.3	61.8	56.5	54.6	55.7	55.8	48.8	56.8	264.1
15		49.7	50.9	52.8	49.5	53.6	51.3	53.2	52.8	52.6	54.4	53.7	57.0	59.0	61.1	60.5	60.8	59.0	59.8	61.9	59.4	56.8	49.0	51.3	53.0	55.1	223.1
16		52.0	51.2	52.7	52.7	53.7	53.3	53.8	53.2	52.3	52.4	54.6	57.7	59.0	61.3	61.2	59.4	58.5	60.0	52.7	53.7	56.1	55.6	55.6	53.7	55.3	226.4
17 q		53.4	53.7	53.5	52.4	52.9	53.5	53.0	52.7	52.5	52.8	53.7	54.8	57.9	60.2	60.2	59.1	58.5	58.5	58.1	57.7	57.2	56.1	55.6	48.9	55.3	226.9
18		43.6	36.8	38.9	42.3	50.3	54.7	57.5	63.6	56.8	57.1	57.5	62.0	64.9	63.8	61.3	63.6	63.4	60.9	60.5	58.4	57.2	55.0	53.8	52.5	55.7	236.4
19		51.6	49.4	50.0	50.4	49.8	50.0	50.9	51.8	52.5	53.4	55.7	56.7	57.8	58.9	58.1	57.7	57.3	57.2	57.1	57.4	56.0	50.0	52.7	54.7	54.0	197.1
20		54.2	52.9	53.4	52.6	53.7	53.6	53.5	53.1	52.9	54.7	55.9	58.3	61.6	60.6	63.0	62.1	58.0	57.7	58.8	56.6	49.4	47.8	52.0	54.9	55.5	231.3
21 q		55.7	55.7	55.8	56.0	55.3	55.0	54.9	53.8	53.3	53.3	54.6	56.5	58.1	59.3	60.0	59.3	58.3	57.6	57.0	56.5	56.5	56.4	51.9	47.7	55.8	238.5
22 q		49.4	53.7	54.3	54.6	54.2	54.3	53.2	53.3	53.6	53.7	55.6	57.0	57.1	58.3	60.1	61.3	59.4	61.3	61.7	58.3	56.1	55.7	54.8	54.7	56.1	245.7
23		54.8	54.7	55.5	55.2	55.6	55.4	53.9	54.3	54.3	55.3	56.5	57.7	58.4	60.4	59.5	59.2	60.4	62.5	60.4	58.6	58.4	56.9	55.5	54.4	57.0	267.8
24		51.4	49.4	53.5	52.5	52.8	53.6	53.6	54.1	53.8	55.5	57.0	59.4	61.5	61.7	63.1	64.0	64.3	64.0	62.5	61.3	58.9	53.7	53.1	53.7	57.0	268.8
25 d		53.5	52.4	51.8	52.8	55.2	50.8	53.7	59.6	62.8	57.6	56.6	58.3	58.6	58.6	59.5	62.2	63.9	68.0	66.1	56.6	51.9	51.1	51.7	51.9	56.9	265.2
26 d		38.3	40.2	39.1	47.3	51.2	50.7	51.8	52.8	50.0	53.6	58.2	60.5	59.0	61.4	67.2	64.1	73.4	84.9	63.3	58.5	31.8	16.4	48.0	58.3	53.3	180.0
27 d		38.5	30.7	26.6	11.0	35.2	45.3	46.0	51.0	55.9	54.2	54.9	56.9	54.8	57.1	59.9	60.3	63.2	62.4	65.5	61.5	58.7	53.5	43.2	45.9	49.7	92.2
28 d		48.0	46.9	47.5	43.9	52.9	52.3	52.0	55.7	56.0	59.8	56.0	55.8	63.1	60.7	62.4	60.1	60.8	63.1	55.4	60.7	57.3	48.9	47.9	52.3	55.0	219.5
29		50.9	47.5	50.5	54.9	54.6	55.1	54.6	54.0	53.9	55.2	59.0	59.1	59.6	59.4	59.6	58.8	63.6	61.4	60.5	56.7	55.5	56.9	54.5	54.4	56.3	250.2
30		55.4	54.5	50.7	51.6	52.9	52.3	52.3	52.6	53.2	54.8	57.0	58.1	59.3	58.9	58.3	57.8	59.0	58.6	57.5	56.5	55.7	55.6	55.2	53.8	55.5	231.6
Mean		49.3	49.5	50.3	50.9	52.8	53.2	53.5	53.7	53.5	54.2	56.0	58.3	60.0	60.3	60.9	60.2	60.4	61.3	59.4	57.6	54.8	52.5	51.4	50.5	55.2	
Sum 1400.0+		78.1	85.2	108.1	128.1	182.7	195.5	205.1	211.8	203.7	225.0	281.1	349.5	401.0	408.9	425.5	406.5	412.0	438.8	383.2	328.1	245.3	174.2	141.2	114.0		Grand Total 39733.6

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

41

3 LERWICK (Z)

47,000γ (0.47 C.G.S. unit) +

NOVEMBER 1957

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 5000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2	236	235	234	231	212	202	215	225	228	229	233	234	234	234	231	235	238	234	234	235	239	248	248	249	245	233	584
3	237	234	233	229	228	225	228	229	230	230	233	234	234	232	228	230	228	228	226	228	231	234	232	236	223	230	526
4	210	173	212	228	229	226	222	226	228	231	239	245	245	255	264	264	247	245	257	263	257	244	240	236	239	237	680
5 q	233	228	230	232	232	231	231	234	239	239	239	237	237	234	232	234	232	230	231	238	245	254	258	258	252	238	703
6	248	241	237	235	234	233	232	233	236	235	236	235	235	233	231	231	231	226	226	226	234	243	245	246	245	235	652
7	244	239	236	234	231	228	226	226	229	227	230	229	229	229	228	226	234	234	234	225	210	273	262	369	238	239	741
8	232	330	91	216	248	250	243	247	243	244	247	248	248	262	279	290	289	278	271	275	266	254	247	245	244	252	1039
9	245	245	244	244	240	241	239	238	241	248	247	257	257	263	272	272	271	268	256	260	266	272	219	195	197	247	940
10 d	172	192	195	157	163	172	183	209	231	240	248	249	249	258	280	292	316	281	274	305	275	272	255	199	124	231	542
11	143	196	226	242	205	169	211	229	244	247	251	250	250	249	256	265	284	276	279	267	293	278	257	235	202	240	754
12	207	210	209	193	199	218	229	238	242	246	252	254	254	256	282	282	280	267	270	274	275	275	225	190	203	241	776
13	190	156	190	217	225	227	224	228	234	244	248	256	256	270	304	301	301	328	292	267	265	254	246	231	207	246	905
14	203	216	231	237	242	242	242	244	245	246	247	247	247	257	258	259	256	259	274	282	269	258	252	237	218	247	921
15	198	193	162	203	222	232	236	237	236	235	230	231	231	233	239	242	244	260	281	291	272	244	253	275	283	239	732
16	261	250	216	181	202	220	229	237	245	245	246	246	246	242	242	241	243	248	250	257	262	270	261	245	248	241	787
17 q	249	244	234	236	237	234	235	237	241	245	246	242	242	242	240	245	242	240	241	258	246	244	241	239	234	241	792
18	229	231	234	234	233	229	228	230	235	240	241	241	241	238	235	236	234	228	227	227	228	230	233	233	226	233	580
19	178	157	154	156	173	186	192	170	189	201	218	234	234	264	293	317	290	269	265	271	266	252	251	252	251	227	449
20	245	240	239	235	226	215	216	228	234	233	235	238	238	239	242	242	240	237	235	234	234	239	252	233	232	235	643
21 q	238	238	236	230	230	228	228	231	231	229	234	236	236	244	246	246	254	261	255	250	244	251	236	242	241	240	759
22 q	241	239	238	236	236	235	234	231	232	231	232	232	232	234	233	233	236	234	232	229	228	229	237	221	234	233	597
23	234	236	238	238	234	230	227	225	224	222	223	225	225	228	229	233	236	242	238	239	239	234	231	232	232	232	569
24	233	234	233	233	233	231	229	228	223	220	220	221	221	222	221	226	228	228	226	226	225	223	226	228	230	227	447
25 d	229	231	234	232	231	227	225	224	222	217	213	212	212	215	219	222	226	233	241	253	266	274	258	241	244	233	589
26 d	240	232	218	215	226	228	223	214	216	213	229	237	237	240	238	240	241	257	355	393	382	314	296	263	229	256	1139
27 d	175	162	170	219	240	250	240	230	234	227	219	213	213	223	230	228	267	308	268	291	215	155	78	183	164	225	389
28 d	95	95	82	72	163	167	210	216	219	229	248	268	268	259	256	257	289	271	285	297	323	318	322	310	259	230	510
29	248	238	187	196	246	252	244	214	217	236	241	245	245	264	275	283	271	274	286	305	302	326	293	283	271	258	1197
30	274	270	261	264	257	249	256	257	258	257	255	255	255	258	262	257	259	251	258	259	258	258	259	257	248	258	1197
Mean	221	221	212	218	224	224	228	229	233	235	238	240	240	244	250	252	255	254	257	266	262	255	245	244	230	239	
Sum 6000+	628	644	361	534	734	729	828	865	976	1035	1126	1197	1197	1321	1489	1572	1650	1634	1709	1968	1859	1664	1357	1307	907		Grand Total 172,094

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK

NOVEMBER 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 9° +	Minimum 9° +	Range	Maximum 47,000γ +	Minimum 47,000γ +	Range										
	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ							°A.			
1	22 10	523	453	10 42	70	14 06	63.0	48.0	05 33	15.0	22 38	255	201	05 25	54	1,3,2,2,1,2,2,2	15	0	84.4
2	22 41	524	464	23 52	60	14 15	63.5	39.9	22 53	23.6	00 01	241	214	23 59	27	1,1,1,2,1,1,1,3	11	0	84.2
3	18 18	529	447	10 11	82	17 41	68.4	41.5	01 54	26.9	18 05	275	164	01 16	111	3,0,2,2,2,3,2,1	15	0	84.2
4 q	17 25	519	467	10 43	52	18 53	60.8	51.8	02 15	9.0	21 14	261	222	00 58	39	1,0,1,1,0,2,2,1	8	0	84.0
5 q	19 25	527	476	12 11	51	13 54	60.7	51.7	08 35	9.0	00 00	252	224	17 43	28	1,0,1,1,1,2,1,1	8	0	84.1
6	19 27	568	-82	22 31	650	19 00	74.4	10.9	22 31	63.5	22 25	471	149	20 09	322	1,0,1,1,1,2,5,7	18	2	83.6
7	06 06	513	-286	01 36	799	01 33	89.4	10.9	01 53	78.5	01 29	617	-33	01 50	650	8,4,2,3,3,2,2,1	25	2	83.2
8	17 10	507	286	23 00	221	23 01	70.1	24.8	23 55	45.3	23 09	338	159	22 58	179	0,1,2,2,3,3,3,5	18	1	82.9
9 d	15 30	528	279	23 40	249	12 18	66.1	25.8	00 01	40.3	15 25	331	56	23 51	275	4,4,3,2,3,3,4,5	28	1	82.6
10	16 35	543	309	00 00	234	12 34	65.6	21.2	00 10	44.4	20 32	321	101	00 01	220	5,4,3,2,3,3,3,4	27	1	83.0
11	06 25	516	356	21 49	160	12 43	66.1	38.4	21 57	27.7	13 46	291	129	21 46	162	3,3,3,3,3,2,2,5	24	1	83.8
12	15 23	525	435	01 17	90	15 46	64.9	43.3	23 19	21.6	16 28	342	150	01 34	192	3,2,2,3,3,3,2,3	21	1	83.7
13	23 43	510	455	12 28	55	13 48	65.4	43.7	00 23	21.7	18 19	284	192	23 55	92	3,1,1,2,2,2,2,3	16	0	83.8
14	19 53	542	381	12 06	161	17 43	72.9	45.1	24 00	27.8	17 58	301	133	01 59	168	4,3,2,3,3,3,3,3	24	1	84.0
15	21 49	533	410	03 25	123	12 28	65.1	43.7	03 37	21.4	20 55	279	169	03 32	110	4,4,3,2,2,2,2,3	22	1	83.8
16	17 10	519	466	12 04	53	13 48	64.0	48.1	18 49	15.9	18 30	269	229	02 43	40	2,1,1,2,2,2,3,1	14	0	83.8
17 q	23 44	537	469	11 54	68	14 08	61.1	43.5	23 40	17.6	11 21	243	209	23 59	34	1,1,1,2,1,1,0,3	10	0	83.8
18	15 07	554	435	12 14	119	12 22	69.3	34.3	01 28	35.0	14 48	324	143	03 15	181	3,3,3,3,4,4,2,2	24	1	83.6
19	20 09	513	466	11 05	47	13 17	62.9	47.5	05 07	15.4	21 12	259	210	06 04	49	1,2,2,2,2,1,2,2	14	0	84.0
20	05 56	519	463	13 07	56	13 58	64.5	44.2	21 45	20.3	16 03	266	226	09 21	40	1,1,1,1,2,2,3,3	14	0	84.8
21 q	22 18	516	478	11 35	38	14 43	60.5	45.6	22 52	14.9	21 51	242	213	22 42	29	0,0,1,1,1,1,1,3	8	0	85.0
22 q	15 30	519	489	13 32	30	18 04	64.1	46.4	00 04	17.7	16 18	245	222	10 12	23	2,1,0,1,2,2,2,0	10	0	84.8
23	17 16	540	496	12 47	44	13 20	64.0	50.8	24 00	13.2	03 49	235	216	13 22	19	0,0,0,1,2,2,1,2	8	0	84.2
24	19 30	537	490	09 24	47	17 27	66.2	47.9	01 08	18.3	20 45	280	210	11 24	70	2,2,2,1,2,2,2,2	15	0	83.8
25 d	17 23	644	301	23 54	343	17 22	74.2	42.6	21 58	31.6	19 00	405	172	23 54	233	2,3,4,3,2,5,4,6	29	1	84.4
26 d	17 32	1138	-61	23 52	1199	17 23	142.2	-5.8	21 39	148.0	18 34	433	-37	17 21	470	5,3,3,3,4,7,7,7	39	2	85.2
27 d	21 35	581	-84	02 47	665	19 03	70.9	-11.3	03 04	82.2	22 02	373	-1	02 10	374	7,7,3,4,3,3,3,4	34	2	85.3
28 d	21 07	541	381	02 58	160	19 27	69.8	35.5	03 23	34.3	20 08	336	157	03 06	179	4,4,3,3,3,3,4,4	28	1	85.7
29	23 30	538	448	10 27	90	16 49	65.1	45.1	00 52	20.0	00 44	286	240	23 31	46	3,2,2,2,2,3,2,3	19	1	85.3
30	18 52	515	476	09 15	39	12 57	65.2	47.9	03 08	17.3	02 11	266	238	16 56	28	2,2,1,2,2,1,1,0	11	0	85.6
Mean	- -	554	352 - -	202	- -	69.3	36.8 - -	32.6	- -	311	163 - -	148	-	-	-	-	-	0.63	84.2

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

1 LERWICK (H)		14,000γ (0·14 C.G.S. unit) +																						DECEMBER 1957			
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 11,000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	508	496	474	467	498	510	515	509	499	491	482	470	477	486	477	478	488	490	498	499	497	487	465	482	489	743	
2	484	472	500	495	497	501	497	489	493	484	479	463	459	477	484	493	499	497	490	495	498	498	492	499	489	735	
3	495	495	494	499	505	508	497	492	495	485	472	458	464	481	487	493	495	489	492	495	499	495	493	482	490	760	
4	483	492	500	500	504	507	490	493	498	492	484	473	473	481	486	490	493	499	506	505	506	496	479	473	492	803	
5	468	409	471	482	484	507	508	478	479	476	473	478	484	482	489	496	503	528	528	534	452	492	479	370	481	550	
6 d	419	454	472	436	465	479	494	497	487	467	471	455	454	486	481	497	529	507	503	493	493	471	468	467	477	445	
7	476	490	487	489	500	501	501	494	479	458	471	473	477	464	475	483	493	500	495	492	492	492	490	489	486	661	
8	484	486	489	489	488	497	505	505	497	485	482	482	481	485	490	495	499	499	508	503	508	504	499	489	494	849	
9	490	489	492	503	503	505	508	504	493	479	477	483	481	493	495	512	498	495	497	498	495	489	479	500	494	858	
10	498	499	479	478	498	504	502	502	486	483	471	469	479	496	513	534	533	505	508	531	492	458	454	451	493	823	
11 d	471	456	454	461	392	425	489	460	482	492	486	480	487	499	520	503	504	523	582	573	513	412	440	485	483	589	
12 d	498	480	469	473	479	472	478	491	487	472	472	481	476	486	495	504	520	512	527	531	506	495	498	507	492	809	
13	497	494	492	482	490	497	501	501	502	487	451	478	485	489	507	486	501	499	508	511	505	504	503	500	495	870	
14	500	498	494	496	496	499	501	498	493	488	484	482	483	492	498	506	511	514	514	518	514	509	509	502	500	999	
15	506	507	504	505	507	514	522	516	507	489	490	496	495	509	520	513	499	509	505	505	505	509	507	504	506	1143	
16	486	483	506	503	504	502	504	505	503	498	488	483	483	494	503	510	509	515	511	494	508	508	522	495	501	1017	
17	496	499	512	505	513	496	494	493	504	501	498	492	494	498	503	505	508	519	507	497	505	510	516	499	503	1064	
18	492	492	487	504	506	508	506	503	502	497	488	478	482	494	505	507	505	509	510	511	511	512	511	513	501	1033	
19	500	498	498	495	503	507	505	503	504	501	512	502	498	498	509	514	514	514	539	555	530	530	558	520	513	1307	
20	486	478	481	496	495	496	489	498	495	491	486	482	483	486	493	497	501	504	509	502	507	506	504	496	494	861	
21	498	493	496	495	485	503	501	503	511	498	487	482	479	488	496	504	514	509	510	517	518	508	499	506	500	990	
22 q	502	495	495	501	500	496	498	497	492	482	473	466	462	472	486	495	502	507	511	512	514	512	511	511	495	892	
23 q	507	502	504	505	505	507	506	505	499	491	482	482	486	493	499	507	509	514	517	519	523	520	517	516	505	1115	
24	514	508	507	511	514	518	513	515	511	504	498	491	491	496	504	511	514	519	522	513	511	507	510	512	509	1214	
25	512	509	510	505	518	521	516	501	507	506	496	490	492	492	502	510	512	517	530	528	518	529	502	492	509	1215	
26	508	504	499	488	476	498	504	499	494	478	464	475	485	484	490	496	494	501	519	505	499	504	503	502	495	869	
27 q	501	503	499	499	502	502	498	498	494	486	476	471	472	478	482	492	498	506	512	512	502	509	511	507	496	910	
28 q	504	502	500	497	499	499	494	495	494	489	485	486	485	485	491	499	504	509	514	520	516	507	511	514	500	1000	
29 q	511	510	511	512	512	517	514	513	511	502	494	492	486	489	496	502	510	512	520	523	524	510	496	501	507	1168	
30	502	508	505	499	502	505	509	504	502	489	487	486	462	488	482	496	495	498	505	510	512	513	509	499	497	937	
31 d	502	491	469	443	512	505	487	431	440	419	446	452	492	523	551	598	621	612	623	557	357	509	449	346	493	835	
Mean	493	490	492	491	495	500	501	497	495	486	481	478	480	488	497	504	509	511	517	515	501	500	496	488	496		
Sum 14,000+	1298	1192	1250	1213	1352	1506	1546	1392	1330	1060	905	831	888	1134	1409	1626	1775	1831	2020	1958	1530	1505	1384	1129		Grand Total 369,064	

321 at 0-1h. January 1, 1958

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

2 LERWICK (D)		9° +												DECEMBER 1957													
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 1200·0+
1 d	51·1	47·4	31·6	36·5	44·1	50·2	50·9	52·8	53·5	54·6	56·2	58·5	60·6	61·5	60·0	59·1	58·7	58·3	57·5	56·6	55·3	47·0	35·4	48·5	51·9	45·9	
2	53·5	53·3	49·3	47·9	52·8	53·0	54·1	56·4	55·2	54·5	57·9	60·0	60·6	61·0	59·5	62·9	63·0	59·5	56·5	55·2	54·7	53·5	50·9	51·6	55·7	136·8	
3	52·7	52·8	54·7	56·5	55·7	54·2	55·7	58·6	54·1	54·6	54·3	55·5	59·7	59·4	60·7	59·9	57·7	59·6	58·2	53·7	54·0	53·7	51·1	46·4	55·6	133·5	
4	48·9	52·0	53·3	55·8	55·8	55·0	55·9	57·5	54·6	54·8	56·5	58·1	58·7	60·7	59·7	59·0	58·4	57·4	56·8	55·9	55·7	53·8	48·5	47·3	55·4	130·1	
5	46·0	47·7	43·2	47·0	54·6	56·8	57·7	59·7	55·6	52·8	53·8	58·4	60·3	63·0	59·1	57·1	60·1	66·1	64·7	55·7	48·7	52·4	50·9	40·5	54·7	111·9	
6 d	47·6	43·1	50·3	48·6	57·2	56·8	55·9	55·8	52·7	52·8	56·5	57·2	58·5	64·6	62·4	61·4	59·6	61·1	59·3	53·7	44·3	46·9	48·5	49·5	54·3	104·3	
7	50·2	53·1	53·5	55·2	54·3	54·3	56·1	58·7	53·9	54·5	57·4	57·8	59·2	62·4	61·0	58·4	57·5	56·3	54·8	54·3	53·8	53·2	48·5	44·1	55·1	122·5	
8	47·7	50·0	53·1	54·2	54·2	55·2	54·0	54·1	55·3	52·1	53·5	56·1	57·5	58·0	58·5	57·6	57·3	55·7	57·1	56·8	55·7	53·7	53·4	51·1	54·7	111·9	
9	46·4	47·5	50·9	52·8	53·7	55·3	54·8	55·1	55·1	54·7	55·4	60·2	58·5	63·1	62·5	65·9	60·5	57·5	57·6	55·8	55·3	41·5	50·4	51·8	55·1	122·3	
10	53·4	53·8	52·7	53·8	53·4	54·7	54·8	55·7	55·8	54·2	58·1	59·2	58·5	57·8	59·0	57·8	69·4	64·6	62·5	56·2	45·1	43·4	48·7	38·4	55·0	121·0	
11 d	46·1	49·5	45·6	46·8	60·5	59·2	57·6	50·9	55·7	51·8	51·8	56·5	57·1	62·1	62·5	61·6	64·3	67·3	67·2	61·6	56·6	46·1	38·9	46·5	55·2	123·8	
12 d	49·4	37·9	44·3	47·0	51·4	51·1	51·8	53·2	52·3	50·9	52·5	56·7	55·7	58·5	59·5	58·4	55·0	52·8	62·5	58·2	50·9	49·4	54·5	46·6	52·5	60·5	
13	50·4	50·2	52·9	53·2	51·9	53·3	52·8	52·9	52·8	53·6	55·2	57·8	59·5	58·7	61·9	56·4	59·0	61·6	60·1	58·3	55·1	53·3	53·4	54·0	55·3	128·3	
14	54·5	53·7	52·1	50·4	54·9	52·3	51·7	53·0	53·3	54·1	54·8	56·6	58·5	60·0	58·8	57·5	57·0	57·2	57·2	58·3	57·7	55·2	51·8	52·7	55·1	123·3	
15	51·8	53·5	54·5	53·5	52·3	54·9	53·7	55·9	54·7	52·9	55·2	59·5	58·0	61·1	63·2	59·0	60·0	60·7	58·3	57·1	55·2	53·7	53·9	53·3	56·1	145·9	
16	55·7	52·3	52·7	52·0	52·8	53·8	54·2	54·2	53·7	54·6	56·6	57·6	58·1	59·3	60·5	58·6	58·4	58·1	53·8	55·7	57·1	54·6	46·1	51·5	55·1	122·0	
17	50·6	52·3	41·3	43·2	46·5	50·8	49·8	55·0	52·3	51·8	53·7	56·1	57·6	58·7	59·2	57·6	58·5	62·1	54·7	55·9	57·1	55·9	51·8	51·8	53·5	84·3	
18	47·0	53·7	53·6	53·5	52·6	53·3	52·3	52·7	52·3	52·3	54·2	55·7	57·3	59·2	60·6	57·9	56·6	55·5	58·5	57·3	56·7	56·0	54·3	51·0	54·8	114·1	
19	48·5	52·3	52·5	53·5	54·0	52·3	53·6	54·7	55·9	55·2	55·9	57·2	57·5	60·2	61·6	62·7	64·6	62·4	68·4	69·1	61·7	56·3	58·1	50·1	57·4	178·6	
20	44·1	50·4	49·7	46·7	47·4	55·6	50·2	50·7	51·8	52·3	54·2	56·4	57·5	59·3	58·3	57·6	57·7	58·5	61·9	58·3	54·7	48·7	52·3	49·9	53·5	84·2	
21	51·1	52·9	48·9	49·7	47·0	49·0	47·5	48·5	50·9	53·3	54·6	56·9	58·3	59·3	58·7	58·3	58·4	59·5	59·6	59·0	59·0	54·4	55·1	53·2	54·3	103·1	
22 q	50·4	50·8	50·4	50·4	54·7	54·6	53·7	52·8	52·5	51·7	52·6	54·7	56·5	58·3	58·5	56·6	56·6	56·8	57·4	56·7	56·1	54·9	54·5	54·2	54·4	106·4	
23 q	53·8	53·8	52·9	53·3	54·6	55·8	54·2	53·5	52·3	52·0	53·0	55·7	58·5	58·6	58·5	57·9	57·3	58·0	57·0	55·9	55·6	55·5	55·9	55·5	55·4	129·1	
24	54·9	55·2	54·4	54·5	54·4	54·1	53·9	53·6	52·8	52·7	54·4	57·1	57·9	58·5	58·8	58·3	58·5	60·0	59·3	60·0	56·4	55·2	53·9	53·7	55·9	142·5	
25	53·9	53·9	54·2	51·6	54·4	51·6	53·3	51·8	51·1	51·8	54·2	57·1	59·5	60·9	59·2	59·6	59·5	60·9	63·8	59·3	55·8	53·7	53·7	52·5	55·7	137·3	
26	52·4	53·8	54·4	48·9	55·4	50·9	52·2	53·5	53·0	52·8	53·7	57·1	61·4	62·1	60·4	61·6	59·4	60·6	64·4	55·8	54·5	54·7	53·8	53·3	55·8	140·1	
27 a	52·8	52·8	52·8	54·7	55·7	55·2	54·2	53·3	52·4	52·5	53·7	55·6	56·0	60·0	58·1	57·1	57·5	57·6	58·6	59·9	60·5	56·6	55·7	51·8	55·6	135·1	
28 q	53·5	53·6	53·7	52·5	52·3	52·1	52·4	52·5	52·7	53·7	54·7	55·2	56·0	58·3	58·5	57·5	57·4	57·7	57·5	58·4	58·5	56·6	54·7	53·8	55·2	123·8	
29 q	54·0	54·4	54·7	54·2	54·5	54·2	53·7	53·4	52·7	52·8	53·6	55·2	55·9	58·3	58·5	58·2	58·1	58·0	57·2	57·9	57·4	51·1	48·6	49·0	54·8	115·6	
30	50·9	47·6	42·9	50·6	52·0	50·1	50·9	53·1	51·0	53·3	54·7	58·5	60·7	63·0	60·5	60·5	59·5	58·5	56·6	56·7	56·1	55·7	54·7	54·1	54·7	112·0	
31 d	52·1	47·9	47·2	50·9	50·9	58·1	57·1	63·0	55·9	51·8	52·9	54·7	57·6	61·0	59·4	60·7	67·3	78·4	74·6	61·7	52·5	53·1	44·4	41·3	56·4	154·5	
Mean	50·8	51·1	50·3	50·9	53·1	53·8	53·6	54·4	53·5	53·1	54·7	57·1	58·3	60·2	59·9	59·1	59·4	59·9	59·8	57·6	55·1	52·6	51·2	50·0	55·0		
Sum 1500·0+	75·4	83·2	58·3	79·4	146·0	167·8	160·7	186·6	157·9	147·5	195·8	268·9	307·2	366·9	357·9	332·7	342·8	358·1	353·6	285·0	207·8	129·8	86·4	49·0		Grand Total 40904·7	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

43

3 LERWICK (Z)		47,000γ (0.47 C.G.S. unit) +																				DECEMBER 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 5000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d	243	241	213	219	236	248	241	240	246	244	244	248	251	262	270	269	265	265	254	250	256	262	246	232	248	248	945
2	233	198	192	220	229	231	230	233	234	244	247	255	259	265	278	291	292	282	280	268	257	247	237	243	248	248	945
3	241	238	238	226	219	224	230	227	233	243	245	246	248	265	264	261	263	266	263	268	256	248	240	213	244	865	
4	189	215	216	221	225	226	231	227	229	233	242	247	247	247	246	243	242	237	236	237	247	260	249	235	639		
5	215	119	171	194	194	184	194	211	213	227	234	243	249	258	268	272	277	300	340	319	254	277	274	112	233	599	
6 d	133	180	210	188	184	199	213	230	238	240	237	252	261	260	270	287	320	312	309	295	308	277	247	230	245	880	
7	198	215	228	238	238	240	236	233	239	246	246	254	268	289	272	262	256	260	268	284	271	257	231	230	248	959	
8	198	207	225	232	234	233	236	238	236	239	241	242	243	242	243	244	246	248	246	252	247	250	250	244	238	716	
9	203	203	216	217	224	229	230	234	238	237	233	240	255	254	266	274	315	282	271	264	264	265	227	228	245	869	
10	234	236	224	154	200	224	231	231	236	236	236	236	246	263	274	311	348	324	344	351	325	265	183	165	253	1077	
11 d	189	158	120	161	122	95	131	176	174	195	219	225	227	224	233	244	244	259	323	364	315	192	216	259	211	65	
12 d	271	236	218	223	238	256	230	227	238	247	250	256	250	244	250	257	267	264	284	313	297	260	243	224	252	1043	
13	206	227	231	230	231	244	247	246	244	244	251	243	240	238	244	271	277	260	262	268	274	265	253	247	248	943	
14	241	238	228	227	225	228	237	240	243	241	238	238	237	233	235	234	233	234	236	238	244	251	269	258	239	726	
15	247	240	238	236	230	227	224	227	229	236	233	230	231	231	251	297	268	255	278	290	272	253	246	244	246	913	
16	221	199	218	226	230	230	224	229	233	236	237	236	234	233	237	238	238	240	253	256	243	250	221	233	233	595	
17	235	240	225	225	182	207	209	207	209	223	228	234	236	236	238	238	236	238	293	275	258	251	241	190	231	554	
18	211	205	233	221	223	228	232	233	234	233	236	238	234	234	238	242	241	240	236	237	237	238	242	243	233	589	
19	237	237	238	237	231	224	229	229	219	219	214	222	225	228	234	234	241	243	248	345	356	326	340	338	234	1094	
20	306	271	258	246	231	209	237	238	241	244	247	251	248	244	248	244	241	240	248	271	265	226	229	241	247	924	
21	241	231	228	222	207	171	171	199	224	230	236	237	239	240	241	241	244	248	249	250	255	261	257	247	232	569	
22 q	238	225	209	221	231	240	241	241	241	241	244	243	241	238	241	243	243	241	241	241	238	238	237	237	237	694	
23 q	240	243	243	246	246	243	242	240	238	237	237	238	240	240	244	243	242	240	238	238	237	237	240	238	240	770	
24	240	241	242	240	237	235	236	234	234	233	232	231	229	230	231	235	236	236	239	255	261	257	247	237	239	728	
25	233	234	234	237	227	223	220	227	231	232	233	231	229	231	233	233	236	237	262	339	313	320	305	256	248	956	
26	240	240	241	236	205	180	200	217	229	234	236	233	235	243	256	259	260	254	277	277	267	253	247	241	240	760	
27 q	238	230	229	224	234	241	246	247	247	243	243	241	237	233	241	238	244	246	241	246	259	250	248	244	241	790	
28 q	247	244	243	243	243	240	243	243	243	243	241	241	237	233	234	234	234	233	234	236	244	253	247	241	240	769	
29 q	241	239	237	236	235	236	234	234	236	238	238	240	237	231	229	230	228	229	230	231	237	254	260	263	238	703	
30	256	247	240	238	237	233	224	212	217	223	225	231	241	259	250	244	248	249	247	242	238	237	234	234	238	706	
31 d	217	211	216	167	158	187	184	206	201	222	241	278	285	297	309	324	278	353	367	309	238	193	279	224	248	944	
Mean	228	222	223	221	219	220	223	228	231	235	238	241	243	246	251	256	258	259	268	274	265	254	248	235	241		
Sum 6000+	1082	888	902	851	786	815	913	1056	1147	1281	1364	1477	1539	1625	1769	1940	2004	2020	2298	2508	2223	1860	1696	1285		Grand Total 179,329	

238 at 0-1h. January 1, 1958

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

4 LERWICK		TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K		Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
Horizontal force				Declination			Vertical force												
Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 9° +		Minimum 9° +		Range	Maximum 47,000γ +		Minimum 47,000γ +					Range		
	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ					
1 d	06 47	531	445	03 07	86	13 59	63.6	25.5	02 55	38.1	21 53	285	186	02 54	99	4,4,3,2,2,1,1,4	21	1	86.0
2	16 18	515	456	12 34	59	15 48	66.4	44.9	03 12	21.5	14 58	298	166	01 58	132	3,3,2,2,3,2,2,1	18	0	86.2
3	05 49	515	451	12 09	64	12 35	64.0	43.9	23 33	20.1	19 41	272	157	24 00	115	1,1,2,2,2,2,2,4	16	0	85.5
4	05 32	510	467	12 08	43	13 35	62.4	43.8	23 58	18.6	22 12	264	155	00 02	109	3,1,2,2,1,1,0,3	13	0	85.0
5	19 52	608	268	23 34	340	17 34	74.4	21.1	23 40	53.3	18 30	363	-38	23 53	401	5.3.3.2.2.3.6.6	30	1	85.4
6 d	16 18	586	334	00 01	252	13 40	67.2	33.7	01 30	33.5	16 17	354	-15	00 00	369	6,4,3,3,3,4,4,4	31	1	85.0
7	04 21	510	450	09 10	60	13 40	64.1	41.4	23 33	22.7	13 20	296	191	00 32	105	3,2,3,3,3,2,2,3	21	1	85.0
8	18 35	512	471	00 02	41	13 54	59.6	43.8	00 19	15.8	22 01	255	186	00 37	69	3,2,2,2,1,1,1,2	14	0	84.0
9	15 50	528	455	22 10	73	15 24	67.2	31.8	21 38	35.4	16 24	326	188	01 08	138	3,2,2,2,3,3,1,4	20	1	82.9
10	16 03	581	409	22 15	172	16 17	87.1	32.7	22 29	54.4	16 38	377	123	22 42	254	3,4,2,2,3,5,3,4	28	1	81.9
11 d	19 10	694	242	21 32	452	19 10	76.8	23.6	21 26	53.2	19 29	396	61	05 09	335	4,4,4,3,3,3,5,6	32	1	80.2
12 a	19 39	553	439	05 58	114	18 41	67.6	29.1	01 19	38.5	19 36	341	188	23 59	153	4,3,3,3,2,3,4,4	26	1	80.2
13	14 48	520	436	10 22	84	16 59	68.0	46.9	15 50	21.1	16 05	292	188	00 00	104	3,2,2,3,2,4,2,2	20	1	80.6
14	19 09	523	479	12 48	44	12 56	61.1	48.6	03 10	12.5	22 28	275	218	02 59	57	2,2,1,1,1,1,1,2	11	0	80.1
15	15 20	553	481	09 37	72	15 47	70.0	43.9	15 10	26.1	15 05	319	221	06 39	98	2,1,2,3,3,4,3,1	19	1	79.4
16	22 31	554	467	00 56	87	00 32	65.0	40.3	22 27	24.7	19 12	268	179	01 00	89	3,2,2,2,2,2,3,3	19	1	80.0
17	22 49	534	466	24 00	68	17 57	66.5	37.4	02 29	29.1	18 24	326	165	23 48	161	3,3,3,1,1,2,3,4	20	1	81.0
18	23 18	520	463	00 03	57	14 14	62.0	40.3	00 14	21.7	22 57	247	196	00 00	51	3,1,2,2,2,2,0,2	14	0	81.0
19	22 16	597	473	09 41	124	19 28	79.2	39.8	24 00	39.4	19 59	378	206	10 25	172	2,1,2,3,2,2,4,4	20	1	81.8
20	21 10	539	470	02 52	69	18 10	63.8	39.1	21 20	24.7	00 00	343	188	21 44	155	4,4,2,2,2,2,3,3	22	1	82.1
21	20 16	524	462	04 49	62	13 12	61.1	42.5	06 12	18.6	21 50	266	157	05 59	109	2,3,3,2,1,1,2,2	16	0	81.9
22 q	20 00	516	460	12 23	56	14 08	59.5	48.8	03 10	10.7	11 10	244	205	02 33	39	2,2,1,1,1,1,0,0	8	0	82.0
23 q	20 38	526	479	11 15	47	12 21	59.3	51.1	08 52	8.2	03 40	247	234	09 59	13	1,2,1,1,1,0,1,1	8	0	82.7
24	18 52	527	484	11 50	43	18 30	62.3	50.4	09 08	11.9	20 17	266	225	12 33	41	1,0,1,2,1,1,2,1	9	0	82.4
25	19 02	563	481	23 32	82	13 06	66.6	48.1	05 57	18.5	22 00	354	216	06 10	138	1,2,2,2,2,2,4,4	19	1	81.6
26	18 58	569	456	10 53	113	12 50	69.2	45.6	05 49	23.6	18 58	316	168	05 27	148	2,3,3,3,2,3,4,1	20	1	81.7
27 q	23 14	529	469	12 12	60	20 19	65.2	49.1	23 49	16.1	20 39	265	222	03 24	43	1,1,1,1,2,1,2,3	12	0	82.4
28 q	19 58	524	483	13 16	41	13 57	59.6	51.0	05 27	8.6	21 33	254	231	03 15	23	1,0,0,0,1,1,1,1	5	0	83.0
29 q	20 57	541	483	12 34	58	13 45	61.2	44.0	21 39	17.2	21 36	270	226	16 54	44	0,0,0,1,2,1,2,3	9	0	82.4
30	06 23	523	446	12 56	77	13 27	65.2	39.4	02 20	25.8	00 00	262	202	07 30	60	3,2,2,3,3,1,1,1	16	0	81.3
31 d	16 27	736	16	23 55	720	16 49	91.2	10.1	23 06	81.1	17 55	396	102	21 17	294	3,5,4,4,4,5,7,7	39	2	80.6
Mean	-	550	430	-	120	-	67.0	39.7	-	27.2	-	304	171	-	133	-	-	0.58	82.4

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS
 For all, *a*, quiet, *q*, and disturbed, *d*, days for *H*, *D* and *Z* and for all days for *N*, *W*, *I* and *F*

5 LERWICK

1957

	Horizontal force			Declination (west)			Vertical force (Z)			North component all days	West component (−γ) all days	Inclination (north) all days	Total force (F) all days
	<i>a</i>	<i>q</i>	<i>d</i>	<i>a</i>	<i>q</i>	<i>d</i>	<i>a</i>	<i>q</i>	<i>d</i>				
	14,000γ +			.9° +			47,000γ +						
	γ	γ	γ				γ	γ	γ	γ	γ	°	γ
January	478	488	455	60.0	60.6	60.1	215	206	213	14258	2514	72 57.1	49385
February	474	483	445	58.7	59.1	57.2	218	218	215	14255	2508	72 57.5	49387
March	473	472	455	58.6	59.2	56.9	223	234	213	14254	2507	72 57.6	49391
April	478	485	465	58.3	58.7	57.8	219	223	214	14260	2507	72 57.2	49389
May	498	501	491	58.3	58.3	58.2	209	213	205	14279	2511	72 55.7	49385
June	501	505	490	57.9	58.2	57.1	216	221	209	14282	2509	72 55.6	49392
July	495	498	460	57.2	57.7	55.6	223	218	227	14277	2505	72 56.1	49398
August	500	503	492	57.1	57.0	56.8	214	215	212	14282	2506	72 55.7	49391
September	465	488	405	55.0	55.9	51.9	238	235	231	14249	2491	72 58.5	49403
October	488	494	474	56.0	56.4	55.4	240	238	244	14271	2499	72 57.0	49412
November	489	501	473	55.2	55.9	53.3	239	234	240	14272	2496	72 56.9	49411
December	496	501	487	55.0	55.1	54.1	241	239	241	14280	2496	72 56.5	49415
Year	486	493	466	57.3	57.7	56.2	225	225	222	14268	2504	72 56.8	49396

DAILY RANGE AND MEAN MONTHLY VALUES

6 LERWICK

1957

	Mean daily range			Mean daily range expressed as percentage of yearly mean		
	1957			1957		
	<i>H</i>	<i>D</i>	<i>Z</i>	<i>H</i>	<i>D</i>	<i>Z</i>
January	224	143	149	93	97	88
February	162	119	132	67	80	78
March	317	198	233	131	134	137
April	304	149	215	126	101	127
May	147	94	98	61	63	58
June	278	149	177	115	101	104
July	230	133	146	95	90	86
August	160	104	121	66	70	71
September	611	333	374	252	225	220
October	149	104	109	62	70	64
November	202	137	148	83	92	87
December	120	115	133	50	78	78
Winter	177	129	141	73	87	83
Equinox	345	196	233	143	132	137
Summer	204	120	135	84	81	80
Year	242	148	170	—	—	—

"Winter" comprises the four months January, February, November, December;
 "Equinox" the months March, April, September, October; and "Summer" May to August.

FREQUENCY DISTRIBUTION OF DAILY RANGE

7 LERWICK

1957

Range	Number of cases 1957			Percentage distribution					
	1957			1957		1957		1957	
	<i>H</i>	<i>D</i>	<i>Z</i>	<i>H</i>	<i>D</i>	<i>H</i>	<i>D</i>	<i>H</i>	<i>D</i>
0 - 9	0	0	0	0.0	0.0	0.0	0.0	0.0	0.3
10 - 19	0	0	13	0.0	1.4	0.0	0.4	3.6	6.8
20 - 29	1	0	30	0.3	4.9	0.0	2.3	8.2	10.5
30 - 39	11	11	24	3.1	6.3	3.0	4.0	6.6	9.3
40 - 49	28	10	26	7.7	7.5	2.7	7.3	7.1	7.2
50 - 59	18	15	22	4.9	9.3	4.1	10.0	6.0	6.2
60 - 69	20	34	13	5.5	9.2	9.3	12.3	3.6	5.1
70 - 79	11	24	11	3.1	8.6	6.6	10.5	3.0	4.4
80 - 89	28	50	12	7.7	7.4	13.7	9.2	3.3	3.9
90 - 99	29	41	19	7.9	5.8	11.4	7.0	5.2	3.4
100 - 109	25	30	11	6.9	4.3	8.2	5.6	3.0	3.3
110 - 119	14	22	18	3.8	3.5	6.0	4.0	4.9	2.9
120 - 129	21	14	9	5.7	2.9	3.8	3.6	2.5	2.6
130 - 139	12	16	9	3.3	2.2	4.4	3.1	2.5	2.6
140 - 149	5	12	12	1.4	2.4	3.3	2.9	3.3	2.3
150 - 159	6	16	6	1.6	1.6	4.4	1.8	1.6	2.0
160 - 169	13	9	10	3.6	1.5	2.5	1.9	2.7	1.8
170 - 179	2	3	10	0.5	1.1	0.8	1.4	2.7	1.4
180 - 189	6	5	7	1.6	1.1	1.4	1.5	1.9	1.4
190 - 199	3	3	4	0.8	1.0	0.8	1.1	1.1	1.5
200 +	112	50	99	30.6	18.3	13.7	10.0	27.2	21.1
Days omitted	0	0	0	—	—	—	—	—	—

8 LERWICK

JULY 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	7777	7777	7777	7777	7777	5666	6666	6665	5554	3212	1222	2111	1121	0001	1001	0211	2211	0023	4444	3334	4433	3321	0000	0000
2	0000	0000	0000	0000	0000	0000	0000	0110	0002	2322	2221	2133	3433	3666	7766	6666	6666	6555	5445	5443	2222	3232	2222	2222
3	2222	2233	5566	5544	4322	2212	2332	2112	1211	1111	1222	2222	4333	3222	2321	1222	2222	2222	2232	3333	3322	2211	1111	1121
4	1000	0000	0000	0000	0000	0000	0000	0111	1111	1111	1111	1100	0000	0000	1111	1111	1111	1101	2334	3323	3444	3222	1223	3346
5	5332	3333	3333	3334	5666	6555	4433	3444	4433	3333	3223	3432	3332	2111	1222	2222	2221	0011	1222	3322	3333	2345	5553	3343
6	3322	2222	2222	2333	3322	2222	2211	1222	2322	2221	2222	2232	1222	1222	2212	2332	2121	0111	1123	3433	3332	2221	2123	4434
7	3111	1001	0100	1223	3333	3322	2100	0011	2111	1000	0000	0000	0101	0100	0000	0111	1111	1222	3333	3333	3222	2100	0000	0000
8	1100	0001	1122	2221	1000	0011	1000	1222	2120	0000	0001	1111	0002	2121	1122	2111	1133	3333	3223	3333	3333	2211	1211	2222
9	2221	2211	1122	2111	1111	1111	1100	0000	1111	1000	0000	0011	1112	2222	2211	2233	3333	3332	2322	2211	2222	2110	1222	1100
10	0000	0011	1112	2111	1110	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0011	1112	2222	2222	2222	1111	1111	1111	1111
11	1111	1111	1100	1111	1111	1111	1100	0000	0000	0000	0000	0000	0022	2002	2111	0000	1111	1111	1121	1111	1122	2211	0000	0000
12	0111	1111	1122	2222	2222	1111	1111	2210	0000	1222	2111	1100	0111	0012	2111	0000	0012	2223	3333	3332	2221	1000	0000	0000
13	0000	0000	0000	1111	1110	0000	0000	0000	1111	1222	1110	0000	0000	0000	0000	0000	0001	1110	0001	0111	1111	1111	1111	1101
14	1101	1111	1001	1011	1010	0000	0000	0000	0000	1111	1100	0000	1222	1010	1001	1111	1001	0111	2223	3323	3333	3322	1111	1210
15	0111	1111	1001	0111	1111	1111	1110	0000	0000	0111	1100	0000	0000	0000	0000	1222	2222	2110	0011	1110	0000	0000	0000	0000
16	0000	0000	0000	0000	0000	0000	0000	0212	2211	1000	0112	2122	2212	2333	2222	2223	3334	4445	5555	5444	3322	2223	3321	1112
17	2222	1100	0001	1112	1111	1111	1111	1110	0000	1111	1001	1100	0110	0001	1112	3223	2222	2222	2222	3333	3333	3333	2222	2222
18	2222	2110	1111	2122	2211	1221	1100	0111	1001	0111	1221	1122	1012	2221	1012	1001	3444	5555	5544	4433	3333	2111	1112	2221
19	2223	3333	3333	3221	0011	1122	2233	2222	2012	2111	1110	0000	0000	0002	3334	4444	4555	5555	5555	5444	4333	2233	3454	3333
20	3322	2221	1233	3222	1121	0000	0110	0000	0010	0000	0111	1000	0000	0000	0121	1111	1111	2222	3333	4443	3333	3222	2221	3333
21	3232	2200	0011	0110	0000	0000	0000	0000	0000	0121	1111	1110	0000	0001	0001	1121	0000	0000	0000	0012	1111	1111	0111	2222
22	2122	2211	2111	1111	1122	2233	3322	2111	1101	0001	1102	2233	3333	2222	2223	3201	2233	3444	4455	5444	5433	3220	1211	1112
23	2113	3443	2223	2222	2333	3110	1000	0000	0000	0001	1111	0000	0000	0000	0000	1111	1111	1111	1211	1121	2110	0100	0011	1222
24	2221	1100	0010	1000	1110	0001	0000	0001	1111	1111	0100	0100	0111	1111	0010	2212	2333	3444	4444	3332	2111	1111	1100	1111
25	2211	0000	0000	0000	0000	0010	0000	0001	2111	1000	0000	0000	0000	0011	2211	1211	1000	0000	0011	1221	1110	0000	0000	0000
26	0000	0000	0000	0000	0000	0000	0000	0111	1122	2221	1211	1110	0000	0122	2222	2211	0000	0000	0000	0000	0000	0000	0000	0000
27	0000	0000	0000	0000	0000	0000	0000	0000	0001	1122	2211	1111	1100	0000	1001	1110	0111	0000	0000	0110	3212	2222	2222	2222
28	2222	2122	2111	1111	1111	1010	1111	0012	1111	1111	1111	1100	0000	1000	0000	0000	0000	0101	0010	0000	1100	0000	0000	0000
29	0000	0000	0112	1111	1222	1111	2202	2221	1011	2100	1122	1122	2211	1123	3221	1122	1112	2011	0100	0000	1111	1100	1110	0000
30	0000	0111	1011	1110	1100	0000	0000	0111	1211	1000	0000	0000	0000	0000	0002	2211	0000	1001	1221	1211	1111	1111	1110	1111
31	1110	1111	1111	1111	1111	1111	1111	1111	0000	1110	0000	0111	2222	2222	2211	1222	3211	1221	1111	1111	2222	2222	2211	0000

8 LERWICK

AUGUST 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0000	0111	1111	1111	1011	1000	0000	0000	0000	0000	0111	2222	2222	2111	1100	0000	0000	0001	1111	1222	2211	1112	2222	1111
2	2222	2001	3322	1100	1111	1221	0000	1111	0000	0011	1111	1112	2222	2233	2222	2221	1111	1111	1222	2222	2211	1111	1100	1122
3	2222	2000	0000	0000	0000	0000	1111	1122	1111	1111	1000	0000	0000	0111	1221	0011	5334	5554	4444	4653	4322	1112	2222	2233
4	5554	4323	3332	1010	1111	1001	1101	1011	0000	0000	0000	0000	0001	1011	1100	1111	0111	1111	1110	0000	0000	0000	0010	1101
5	1211	1111	1111	1110	0000	0000	0000	0000	0000	0111	2222	2222	1111	0010	0001	1112	3223	3333	3333	4333	3222	1112	2233	3465
6	3333	3333	3344	3332	2233	3312	2223	3233	2321	1111	2222	2221	2333	3333	3332	2233	3444	4444	4444	4444	4433	2221	0332	3333
7	3222	2211	0011	1111	1110	0000	0000	0000	0011	1110	0000	1111	2212	3333	3333	3332	2222	2223	3222	2222	2222	2222	1111	1122
8	2222	2222	2111	1111	1111	1111	1100	0000	0000	0000	1111	1111	1111	1011	2222	0111	1111	1111	1112	1122	2112	1211	1111	2222
9	2222	2111	1333	3311	1112	2222	2221	0000	0001	1110	0111	1111	1111	1114	3222	2222	2212	2111	1112	2212	2222	2222	2332	3221
10	1110	0111	2333	3331	1122	1111	0000	0000	0000	0011	1221	2212	2222	1100	1000	0010	0000	0000	1110	0000	0000	0111	1101	1000
11	0000	0111	1000	0000	0000	0000	0000	0000	1111	2222	2222	2222	1100	0111	1111	2211	1111	1000	0000	1111	1011	1010	0011	1111
12	1112	2222	2221	1001	1122	2333	3322	2221	1111	2000	1222	1112	1222	2222	2223	3211	2233	3333	2222	3333	3331	0011	1000	0000
13	0111	0111	0024	5554	4333	3444	4444	4444	3333	2233	3333	3333	2233	3123	3322	2111	1001	2122	2222	2222	2112	3223	3222	1110
14	0000	0000	0000	0000	0000	1111	1222	2222	1111	1111	1111	2222	2322	2323	3322	2222	2211	2222	2222	2222	2111	0111	1100	1122
15	2322	2223	3222	2211	1100	0000	0000	0010	0100	0000	0000	0000	0111	1111	0111	1111	1111	1111	1110	1102	2332	2111	1331	1122
16	1112	2110	0022	2101	1110	0000	0000	0000	0000	0000	1111	1111	1112	2222	2221	2222	2111	1111	1111	1111	1100	0011	1111	1000
17	1111	1101	1000	0000	0111	1111	1000	0000	0000	0000	1112	2222	2222	2222	2222	2223	3323	2222	2222	2222	2222	2111	1111	1111
18	1111	1112	2221	2221	1111	1111	1000	0000	0000	0000	0111	0222	2322	2233	3333	2221	1111	1222	2221	0001	1000	0111	1221	1111
19	2101	0113	3322	1011	2323	3333	3222	2221	1111	1221	1110	0001	1111	1222	2111	1111	1011	1111	0000	1111	1000	0100	0000	0001
20	1111	1111	1011	1112	2111	0000	0000	0000	0000	0011	0000	0000	0000	0133	2222	1123	3333	3212	2332	2221	1110	1212	3312	1111
21	1224	4333	3333	4444	3222	3332	2211	1111	0000	1111	2221	1111	1111	1222	3333	3334	4333	3210	0000	0011	1111	1111	1110	0000
22	0000	0011	1101	0000	0000	0000	0000	0000	0000	0000	1111	1112	2112	2222	2211	1100	0000	0011	1111	1110	1011	1110	1111	1000
23	0000	0000	1010	0000	0000	0000	0000	0000	0000	0000	0111	1112	2222	1100	0000	0000	0000	0000	0011	0000	0000	0000	0000	0000
24	0000	0000	0000	0000	0000	0000	0000	0000	0001	1111	1111	1110	0122	2222	2111	1111	1111	1111	1111	1100	0000	0000	0000	0000
25	0000	0000	0000	0000	0000	0000	0011	1111	1111	0000	0000	0011	1111	1222	2222	2111	2222	2111	2221	2221	1111	2222	1112	2221
26	0110	0000	0000	0000	0010	0000	0000	0000	0000	1110	1122	1122	2222	2223	2222	2222	2222	3333	3222	2222	3221	1111	1111	2222
27	2222	2222	1111	2212	2122	1221	2201	1122	2222	2222	2223	2233	2222	2222	2222	2222	3222	1222	3333	3333	3221	2222	3222	1121
28	0111	1111	0111	1111	1000	0000	0001	1001	1122	2222	2333	3333	3333	3333	3333	3333	3322	2211	1121	1111	1222	0011	1111	1101
29	2200	0001	1010	0000	0011	1111	1000	0000	0001	1111	0000	1111	1111	1122	1111	1111	1110	0111	1000	0444	4444	5554	4322	2122
30	4553	5555	5435	5554	4455	4311	1221	1132	1112	3332	2221	2222	2222	2222	1110	0000	1113	2113	2222	1222	2111	1111	1111	1100
31	1121	1000	0000	0000	1111	2222	3322	2222	1221	1000	0111	1112	2233	3332	3344	4333	4454	4555	5654	4444	4333	3323	2234	3333

Q - INDICES OF GEOMAGNETIC ACTIVITY
Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

8 LERWICK

SEPTEMBER 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3222	2555	6665	4454	3112	3222	2233	2000	1222	2212	1111	1223	2122	3333	3222	2111	1111	1222	2222	2222	2222	2222	2222	3322
2	1122	2110	0000	0322	2345	5544	4445	5333	3322	2222	2123	2323	3445	5566	7777	7777	7666	6766	6666	6666	6666	6777	7665	4346
3	7777	7766	6567	6554	4444	3444	3544	4422	4333	3333	4455	5434	6677	7777	7787	8987	6666	6666	6544	3443	2222	3333	3322	2321
4	2222	2223	3222	1233	3444	3332	1112	1011	1111	1111	1111	1222	2222	5444	4688	8767	7776	4577	6666	6655	5545	5545	8888	6678
5	8888	8888	8888	9899	8888	7765	4444	4544	3333	3332	3332	2222	1132	1223	4333	3233	3344	3443	3443	3333	3223	3566	6654	3212
6	2222	1322	1223	4443	3222	2222	2221	0110	0001	0011	1222	2233	3443	4555	5543	4455	5544	5555	5566	4332	2211	1111	1221	1222
7	2222	2222	2222	2222	2111	0011	1111	0110	0110	0111	1111	2222	2222	1122	2212	1112	2212	2222	2222	2222	2222	2222	2222	2222
8	2222	2222	2222	2222	2222	2211	1111	1121	0000	0011	2222	2222	2222	2222	3222	2122	2211	2222	2222	2222	2222	2222	2222	2222
9	2222	2222	2212	2222	2222	2333	3322	2201	0001	2222	2222	3333	3222	2222	2211	2233	3222	2222	2222	2222	2222	2221	1222	2222
10	2222	2222	2222	2222	2212	1111	1111	1111	1111	1111	1110	0001	1110	0000	1110	0012	2222	3333	3222	2222	2222	2211	1211	2222
11	2222	2222	2222	2222	2222	1111	1111	1111	0000	0111	1111	1111	1111	0000	1112	2222	2222	2322	3333	3332	2222	2222	2222	2223
12	3322	2222	2222	2222	2222	2222	1111	1111	1110	0000	1111	1222	2222	2223	3332	2333	3333	2332	3333	3333	3333	3333	3333	3333
13	3334	4444	5557	8888	7765	3345	7778	8887	7676	7777	5553	4444	4344	4443	4444	4432	1133	3333	2222	2222	1212	3432	1221	1111
14	1122	1011	0011	1011	2221	1111	1233	3333	3333	4443	3332	4444	4444	4455	5654	4444	4433	2221	1111	1111	1221	1111	1114	5444
15	2222	2332	1222	2222	1222	1222	1111	1100	1100	0000	1111	2221	1112	2211	1110	0111	1111	2122	3333	3332	1111	1012	3222	2223
16	3444	4444	4334	3332	2110	0111	1111	1000	0000	1000	0121	1221	2222	2222	2222	2111	1111	2111	1233	3210	0000	0011	0000	0022
17	0000	0111	0000	0000	0100	0000	0000	0000	0000	0001	1121	1222	2222	2222	2122	2122	3333	3021	1102	1122	2222	2111	1111	1111
18	1121	1222	2212	2111	1121	0000	0000	0000	1110	0000	0000	0110	0121	0111	1111	1112	2222	2222	3322	2222	2211	1111	1222	1111
19	1111	1111	1111	1111	0100	0000	0000	0100	0000	0010	0111	1112	2111	1111	1122	2111	1111	1111	0000	1000	0110	0111	1111	1111
20	1101	1111	0000	0000	0000	0000	0010	0110	0000	0101	1111	1121	1111	1111	1111	1221	2222	2221	1122	1000	0011	1111	1111	1111
21	1223	3211	1111	1111	1121	1110	1110	0101	1111	0001	4322	2444	4355	4456	5443	4456	6777	7777	7776	6666	6532	5787	5433	3455
22	5577	6666	6445	6666	6544	4555	5555	5444	4443	3332	2222	2222	3344	4446	5568	8878	8876	5445	4444	3423	5655	4458	8777	8888
23	8888	8878	8789	9999	9999	8889	8877	7777	6555	4333	3333	5564	5555	6777	7666	7666	5677	6665	4333	3324	5777	6665	4554	4444
24	5555	5666	5543	3333	4333	3444	3222	2222	2233	3323	3212	2223	3333	4442	2222	3322	2111	1110	1000	2321	1111	0111	1111	1212
25	1022	2333	3322	2222	2222	2111	1222	2123	3222	2222	2222	2222	2223	3322	2222	2221	1111	1111	1000	0000	0000	0000	0000	0012
26	1111	1111	1111	1111	1110	0000	0000	0000	1100	0222	2122	1222	2222	2222	2333	3333	3222	1100	0000	0000	0000	0111	1111	1111
27	1111	1111	1111	1111	1111	1000	0000	0000	2111	1111	2222	2222	2222	2222	1222	2222	1110	0011	1111	1111	0000	0000	0011	1111
28	1111	1000	0000	0000	1122	2211	0111	1111	2122	2222	2222	2222	2222	2211	1111	1111	1111	1011	1111	1210	0111	0011	1000	0000
29	0222	2222	2122	2012	2122	2233	3333	2221	1112	2111	2011	2222	2233	4456	6777	7643	4776	5866	6554	5666	6887	7566	6668	9998
30	6665	5543	3344	6655	4333	3333	3333	3334	3233	3344	4444	4443	3333	3333	3334	4333	3323	3333	2112	1220	2333	2233	4444	2233

7th: 0815 Q = 1, Q' = 0

12th: 1515 Q = 3, Q' = 2

Q - INDICES OF GEOMAGNETIC ACTIVITY
1 - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

8 LERWICK

OCTOBER 1957

	Hour G.M.T.																								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	2222	2223	3445	4443	3312	2111	1121	2132	1121	1100	0000	1111	1100	1233	1222	2111	1111	1001	2222	3244	3212	5531	2222	1122	
2	1111	1122	3234	4332	1111	1100	0000	0000	0110	0100	0000	0000	1111	1100	0012	2122	1112	2001	1001	0010	0001	0111	1112	3333	
3	3332	2101	0111	0000	0000	0000	0000	0000	0000	0001	1111	1111	1111	2122	2233	3333	3322	3344	4344	2223	3332	2111	2332	2232	
4	2222	2221	2111	1001	1111	0000	1101	1210	0100	0011	1100	0111	1111	1111	1112	2222	2222	2222	1222	1122	2222	1100	0111	0012	
5	2211	2222	2111	1111	1111	0000	0000	0000	0001	1000	1111	1222	2110	0001	1011	1112	2222	2222	2111	2321	1000	0011	0000	0001	
6	2222	1111	1001	1000	0000	0000	0000	0000	0000	0000	0000	0000	0111	1000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	
7	0000	1100	0000	0000	0000	0000	0011	0000	0000	0000	0111	1111	0000	1100	0022	1111	1111	1111	1111	1111	1111	1110	1110	0001	
8	0000	0111	0000	0000	0000	0000	0000	0000	0111	1122	2222	2222	2221	1111	1111	1111	1111	1111	1111	1111	1111	1111	0001	1111	
9	1000	0000	0000	0111	1111	1110	0000	0001	1110	0000	1112	2222	2111	1112	1211	1110	0112	2110	1110	0000	0111	1112	2211	1222	
10	3332	2222	1001	1111	1111	2222	2222	2222	2222	1221	1211	1121	0111	0112	2222	0012	2112	2111	1111	1123	4444	3333	2222	1221	
11	1013	2222	3332	1123	3211	1212	2111	1111	0000	0111	1011	1111	1123	4443	3333	3333	2222	2222	2322	1222	2111	1123	3333	2222	
12	1111	1101	1112	2111	2110	1011	0111	0000	0000	0011	1222	2222	1111	2112	2121	1111	1223	3333	2211	1112	1000	1234	4433	2222	
13	3333	3445	6654	4443	2333	3332	1002	1111	1100	0100	1100	0001	0000	0101	2122	1222	1221	1121	1122	2221	1213	4434	4433	3334	
14	4445	5554	4554	4434	3333	4554	4444	4333	2222	1122	3322	2332	2222	2233	3333	4444	5555	4334	4444	3334	4222	3332	2255	5554	
15	4433	3222	1110	0111	1110	1100	0001	1001	1100	0000	0100	0011	1211	2222	2333	3333	2222	2222	2223	3322	2111	1100	2212	2321	
16	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0011	1111	1111	2211	1111	1111	1121	1111	1111	1000	0000	0000	0000	
17	0000	0000	0000	0000	0000	0000	0000	0000	0000	0101	1111	1222	2222	2222	2222	2222	2221	1111	1111	1111	0001	1110	0100	0000	
18	0011	1000	0000	0000	0000	0000	0000	0011	0010	0000	0000	0111	1111	1112	2111	1111	1111	1111	1122	2222	2211	1110	0110	0011	
19	1111	1000	0000	0000	0000	0000	0000	0000	0001	1121	1111	2222	2222	2222	2211	2211	1111	1122	2221	1222	2122	2001	0100	0011	
20	1110	0000	0000	0011	0000	0000	0000	0000	0000	1100	0001	1101	2211	1111	1111	1111	1222	2233	3333	3222	2222	2211	1335	4433	
21	3333	3320	0010	0000	0000	0121	0000	0100	1111	1111	1100	1111	1111	1222	1111	2333	2233	2222	2222	1112	2333	3444	3337	7654	
22	2555	3211	1111	1111	1100	1111	1111	1122	1211	2211	2111	1110	1211	1112	1110	0111	1221	0222	1111	1111	0111	1112	2332	2110	
23	5555	4322	2122	1111	1111	1101	1101	1112	2211	1110	1111	0000	0000	0001	1100	0001	1000	0000	0000	0012	2234	3433	3221	1111	
24	0011	1100	0010	0000	0000	0001	0000	0010	1201	1000	0011	0111	1111	1000	0001	1010	0110	0000	0111	2333	1100	0000	0000	0000	
25	0000	0011	1010	0000	0000	1000	0001	0110	1012	0001	1111	1111	0112	1110	0111	1111	1111	1111	1110	0111	1000	0010	0011	2222	
26	2332	2221	1222	1111	1111	1100	0000	0000	0110	0011	1011	1221	1112	2211	1112	2111	1111	1111	1110	0111	1000	0000	1122	2111	0000
27	0001	1211	0000	0000	0000	0000	0000	0000	0001	1110	0001	1222	2222	2222	2122	2222	1110	0100	0100	0000	0110	1112	2111	0000	
28	0111	2333	3332	2222	2222	1222	2221	1111	0111	0000	0002	2211	1101	1101	1100	0001	0000	0122	2111	0110	0000	0000	0000	0000	
29	0000	1223	2221	1110	1011	1111	1001	1022	1000	0111	0111	2111	1232	1210	1110	0000	0112	2222	2222	2210	0122	1221	2333	3332	
30	2111	1101	0102	2121	1111	1122	1111	1233	3332	1111	1122	2222	2221	1121	1111	1110	1101	1111	0001	2233	3321	1110	0001	1100	
31	0000	0000	0000	0000	0000	0000	0000	0000	1000	0000	0100	1222	2222	2222	2222	2222	2221	1111	1111	1111	1111	1111	0111	0010	0000

Q - INDICES OF GEOMAGNETIC ACTIVITY
Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

47

8 LERWICK

NOVEMBER 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1000	0000	0000	0000	1111	1122	1000	0010	0011	0101	1122	2222	2222	2222	2112	2211	1100	1111	1111	2112	2210	0111	1110	1000
2	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1000	1111	1111	1112	2221	1111	1111	1111	1111	1100	1111	1111	1123	3333
3	3222	2223	3321	1000	0000	0000	1100	0000	0000	0002	2221	1112	2222	1222	1222	2221	1112	2233	2221	1000	0001	1111	1111	1100
4	0112	2111	1111	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1111	1111	1100	1110	0111	1000	0010
5	0000	0001	1111	1111	0000	0000	0000	0000	0011	1000	0110	0000	0100	0000	0001	0000	0011	1000	0111	1111	1111	1000	0000	0000
6	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1000	1111	1100	0111	1110	0001	1111	1133	3333	3344	3333	5677	6577
7	6777	7777	7543	4322	2121	1122	2111	1000	1101	0110	0121	0012	2111	0000	0022	1110	0111	0012	1111	1000	0000	0000	0000	0000
8	0000	0000	0000	0000	1101	1000	0011	0001	0100	1111	1010	1211	1112	2222	2222	2211	1000	1111	1110	1111	1222	2322	3335	5444
9	4322	3333	3233	3444	3322	2221	2222	2222	1221	1001	1002	2101	2322	0122	2111	2332	1211	1122	2122	2333	2211	2223	3234	3555
10	5433	2221	1111	0122	2233	3321	2122	1121	0121	1111	1112	2222	1222	2221	1222	2211	1233	2210	1121	2332	1111	1111	1122	2233
11	3222	2111	1222	2122	1201	1110	1222	1000	1211	2222	2222	2222	1122	1122	2121	1111	1101	1100	0000	1001	1122	1134	4432	2333
12	2211	2332	2211	1100	0000	0010	0000	0001	0000	1212	2111	1110	1111	2122	2211	2222	2222	1000	0000	0001	1000	0000	2232	3333
13	3333	2100	0001	1000	0000	0000	0000	0000	0000	0000	1110	0011	1222	1012	2111	1111	1111	1110	0111	0000	0000	0000	0111	0101
14	2111	1123	4322	1000	0011	1000	0011	0001	1211	0111	2121	1110	0122	2112	2111	1122	2223	3233	3220	1122	3221	1111	2122	1222
15	2211	1111	0223	3343	2110	1111	2121	1111	1001	2111	2101	1111	0121	1112	2222	2212	2211	0022	2222	2111	1100	1122	2110	0000
16	0000	1111	0011	0000	0000	1001	0000	0001	0000	0100	0011	1111	1111	1112	2211	2111	1000	1111	1022	2211	0000	0110	0000	0001
17	1111	0001	1000	0000	0000	0000	0000	0000	0000	0000	0001	1112	2221	1112	2111	1111	0000	0100	0000	0000	0000	0000	0001	1123
18	2233	3444	3334	3333	3221	1000	0122	2233	2100	0000	1101	2222	2322	2222	2123	3332	2221	1111	2221	0111	1000	0000	0000	0100
19	0001	1222	2221	1112	2112	2211	1111	1000	0100	0000	1210	1100	1111	1111	1111	1000	0000	0000	0000	0000	1110	2212	1110	0000
20	0000	0000	1100	0011	0000	0001	1100	0000	0000	0000	0001	0001	1112	2222	2112	2222	2111	1000	0000	0000	0133	2223	2111	0000
21	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1112	2222
22	2211	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1111	1000	0012	2210	0000	0000	0000	0000	0000
23	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1120	0000	0001	1000	1222	1111	1111	1111	1111	1111	1111
24	1111	2221	1111	1011	1100	0000	0000	0000	0000	1111	0010	1111	1122	1112	2222	2222	2222	2222	2222	2222	2211	1111	2122	1001
25	1110	0001	1111	2221	0112	1222	2112	2332	3333	3221	2111	1133	1110	0010	0020	1212	2222	3443	3444	4432	2211	1113	3222	2135
26	5343	3333	3344	3222	2222	1222	2111	2222	2222	2111	1111	1111	1211	1222	2334	4323	3345	6676	5554	3333	3565	5566	4344	5677
27	7655	5555	5767	7776	6544	4322	3233	3321	1222	1221	2122	2242	2112	2111	1123	3332	2333	3332	3333	4332	2222	2244	4333	3222
28	2222	2223	3233	4332	0000	1011	2102	3332	2122	2222	2211	1232	2221	2111	2221	1122	2222	2233	3323	3332	3211	3323	3322	1100
29	1102	2222	2221	1011	1011	1111	0000	1000	0101	0000	0011	1112	2111	1000	1211	1101	2222	2321	2221	1222	2222	2222	2222	2333
30	2111	2221	1221	2210	0010	0000	0000	0000	0010	0000	0000	0000	1000	2000	1000	0100	0110	0010	0001	1000	0000	0000	0000	0010

5th: 1215 Q = 1, Q' = 0

Q - INDICES OF GEOMAGNETIC ACTIVITY
Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

8 LERWICK

DECEMBER 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0111	1123	3444	4443	3332	1222	2211	2222	2112	1111	1100	1222	2111	1011	1222	2222	1111	1111	0000	0000	0000	0024	4443	3222
2	1001	2221	1122	2322	1100	1000	0000	0011	1100	0112	1110	1111	1222	2111	1112	2222	2222	1000	0011	1000	0000	1011	2211	1111
3	0000	0000	0000	0000	0100	0011	1000	0111	1001	1111	0011	1222	2221	2121	1110	0000	0112	1111	1111	0111	1111	1111	1112	2333
4	3221	2211	0120	0000	0000	0000	0011	1011	0000	0100	0000	0111	1111	0110	1100	0000	0000	0000	0000	0000	0012	2222	2222	2223
5	3333	3444	3333	3333	2111	0112	2211	1222	2111	1011	1110	0110	0000	0122	1000	1100	0122	2233	3332	2224	6542	2122	1222	3455
6	5543	3343	2122	3333	3222	2321	1121	1111	1121	1222	2111	1223	2222	2212	1112	2111	2432	2221	2211	0112	3333	3333	3222	3222
7	2222	2111	1111	0011	1111	1111	0111	0121	1112	2211	2111	1111	1122	1212	1111	1001	0000	0001	1112	1111	1111	0111	1133	3333
8	2331	2221	0001	2100	0110	0000	0110	1100	0000	1111	0000	1000	0001	0000	0000	0000	0000	0000	0000	0000	0001	0001	1000	1111
9	2232	2222	2111	0011	1001	0000	0100	1000	0000	0010	1000	1211	0111	1221	0122	2222	2122	1000	0000	0000	0000	1344	3212	2210
10	1111	0000	1222	2222	1110	0000	1000	0100	0000	0111	0000	0000	0001	1012	2222	3323	4432	2222	2321	2333	2333	3333	3344	4443
11	3332	2233	3333	3322	4444	4443	3221	1222	3322	3222	2211	1011	1002	1111	3321	1112	2222	2333	3344	5543	2122	1465	5443	3232
12	2334	3443	3323	2222	1221	2222	3222	3121	3322	2112	2321	2102	1101	1111	1101	1112	1232	2331	1233	2333	1213	2223	1212	3233
13	2111	2211	0000	1211	1111	0100	1000	0100	0100	0002	2333	2222	1122	1100	0222	2322	2123	3221	1222	1111	0000	0000	0000	0000
14	0000	0000	0111	2110	0001	0000	0010	0000	0000	0000	0000	0000	0001	1000	0000	0000	0000	0000	0000	1110	0110	0000	2121	1101
15	2110	0000	0000	0100	1110	0000	0111	1110	1100	0011	0210	1113	2201	0002	2233	3333	3211	1111	2200	1100	0000	0000	0000	0000
16	0133	2221	0000	0000	0110	0100	0000	1002	1111	1010	0000	0001	1111	0100	1011	0001	1000	0001	2222	2220	0000	0001	2332	2211
17	1111	1001	2333	3333	3332	2111	1212	2211	1101	0111	1100	0000	0000	0000	0111	0000	0011	1122	2232	2211	1100	0000	0002	2333
18	3331	1101	1121	0000	0001	1000	0000	0110	0000	0001	0001	0111	1111	1001	1111	1110	0000	1100	0000	0000	0000	0000	0000	0122
19	2222	1001	1011	1110	0110	1111	1011	0000	0000	0023	1222	1010	0101	1111	1211	1222	2322	2112	2233	3343	3233	2222	3443	2232
20	3332	2122	1122	3322	2233	2222	1011	2101	0001	0221	0000	0101	1001	0010	1100	0000	0000	0001	2222	2111	0000	2333	2101	1210
21	0000	0111	1111	1121	1123	3202	2221	1111	1010	0000	0000	0001	1111	1111	1111	0111	1111	1121	1122	1111	1221	1111	2100	0000
22	0001	1110	0011	1111	0000	1000	0000	0000	0000	0000	0000	1111	1222	2211	1000	0000	0000	0000	0000	0000	1011	1111	1111	1100
23	0000	0000	0000	0000	0000	0110	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1111	1111	0010	0100
24	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0100	0000	0111	1011	0000	0100	0000	0000	1111	1122	1221	1100	0000	0000
25	0000	0000	0000	0122	0000	0000	1111	0001	1000	1010	1001	0011	0112	2211	1100	0022	1110	1112	2222	3211	1001	2222	1001	1121
26	1110	0100	0001	2222	1223	2212	2111	0111	1000	1011	2222	2111	0023	3122	2212	2221	1111	1112	2332	3321	1000	0000	0000	0000
27	0000	1100	0000	0000	1000	0000	0000	0000	0000	0000	0000	0011	1111	1111	1111	1000	0000	0000	1111	1112	2332	0111	1111	2211
28	1000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0111	1111	1110	0000	0000
29	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0111	1111	1111	1000	0001	1000	0000	0111	1111	1223	1221	1210
30	0000	0112	3332	2100	0000	0000	0001	1110	1111	1000	0122	1000	1122	3333	3332	2333	3332	2222	2222	2222	2222	2222	2222	2222
31	2222	3222	2221	3433	3333	3333	3332	2332	3222	1222	2112	1211	3333	3334	4444	5555	5565	5555	5555	5544	5655	4545	3333	5447

DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

9 LERWICK

1957

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HORIZONTAL FORCE																								
Jan.	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Feb.	-7.3	-15.8	-14.6	-6.6	-7.1	-2.8	+3.0	+3.5	-2.0	-9.3	-13.6	-17.0	-18.7	-11.7	-1.2	+6.5	+13.3	+26.3	+32.3	+28.7	+18.3	+6.7	-7.2	-3.7
Mar.	-8.3	-16.7	-11.2	-9.4	-9.8	-9.5	-2.5	+1.9	-1.6	-8.6	-9.7	-9.4	-6.6	+3.0	+9.3	+11.4	+15.5	+18.7	+21.0	+19.7	+12.2	+5.5	-2.7	-12.2
Apr.	-31.8	-20.8	-16.4	-7.9	-2.5	-24.9	-26.2	-14.1	-9.5	-19.2	-24.2	-22.7	-16.8	+11.2	+26.6	+42.8	+41.2	+54.6	+53.1	+35.5	+20.3	-8.5	-16.0	-23.8
May	-23.4	-34.8	-34.6	-23.4	-13.4	-16.6	-7.7	-10.7	-22.4	-30.1	-35.3	-32.8	-18.3	+1.5	+23.9	+47.5	+54.4	+57.6	+57.6	+45.0	+31.5	+12.4	-9.7	-18.2
June	0.0	-4.3	-4.8	-2.9	-2.8	-3.0	-5.0	-12.6	-26.3	-41.1	-51.3	-47.7	-35.1	-20.3	-4.2	+13.7	+33.7	+49.1	+52.0	+43.5	+34.5	+21.2	+10.2	+3.5
July	-1.4	-21.4	-20.9	-15.8	-21.7	-22.1	-22.7	-29.5	-38.5	-43.2	-42.4	-34.5	-21.0	+4.0	+25.2	+51.6	+70.4	+66.7	+67.1	+47.6	+32.1	+13.2	-15.5	-27.3
Aug.	-17.7	-25.1	-22.2	-18.8	-22.3	-8.8	-11.8	-19.0	-27.6	-34.9	-40.3	-40.1	-33.1	-11.4	+10.1	+23.7	+40.3	+56.4	+67.6	+59.2	+43.3	+25.2	+8.2	-0.9
Sept.	+1.3	-0.8	-5.1	-7.1	-2.2	-4.7	-7.3	-15.7	-26.2	-38.0	-44.3	-40.7	-26.9	-15.2	+0.9	+11.7	+27.3	+37.7	+42.6	+44.0	+35.1	+21.6	+10.5	+1.5
Oct.	-64.7	-61.6	-74.9	-99.4	-65.5	-31.1	-34.5	-32.6	-18.5	-31.0	-20.3	-4.1	+16.6	+62.1	+110.0	+107.4	+116.4	+77.0	+69.5	+57.6	+24.2	-17.1	-36.2	-49.3
Nov.	-5.8	-2.8	-5.6	+1.9	+7.2	+4.9	+6.3	+2.6	-6.3	-18.7	-29.9	-32.6	-27.1	-17.0	-4.7	+12.0	+15.0	+22.9	+23.4	+24.5	+21.3	+11.7	+1.4	-4.6
Dec.	-17.0	-21.4	-12.4	-11.0	+2.8	+9.3	+9.2	+4.3	-1.7	-11.0	-16.0	-15.7	-11.6	-6.5	+3.7	+8.4	+15.7	+28.2	+25.6	+21.2	+12.5	+6.0	-4.5	-18.1
Year	-2.5	-6.0	-4.2	-5.3	-0.9	+4.1	+5.5	+0.4	-1.6	-10.2	-15.3	-17.6	-15.8	-7.8	+1.0	+8.0	+12.9	+14.6	+20.7	+18.8	+4.9	+4.1	+0.3	-8.1
Winter	-14.9	-19.3	-18.9	-18.0	-11.5	-8.8	-7.8	-10.1	-14.3	-24.6	-28.5	-26.2	-17.9	-0.7	+16.7	+28.7	+38.0	+42.5	+44.4	+37.1	+24.2	+8.5	-5.1	-13.4
Equinox	-8.8	-15.0	-10.6	-8.1	-3.7	+0.3	+3.8	+2.5	-1.7	-9.8	-13.7	-14.9	-13.2	-5.7	+3.2	+8.6	+14.3	+21.9	+24.9	+22.1	+12.0	+5.6	-3.5	-10.5
Summer	-31.4	-30.0	-32.9	-32.2	-18.5	-16.9	-15.5	-13.7	-14.2	-24.7	-27.4	-23.1	-11.4	+14.5	+38.9	+52.4	+56.7	+53.0	+50.9	+40.7	+24.3	-0.4	-15.1	-24.0
	-4.5	-12.9	-13.3	-11.1	-12.3	-9.7	-11.7	-19.2	-29.7	-39.3	-44.6	-40.7	-29.0	-10.7	+8.0	+25.2	+42.9	+52.5	+57.3	+48.6	+36.3	+20.3	+3.3	-5.8
DECLINATION																								
Jan.	-3.67	-2.61	-2.93	-4.25	-3.49	-2.89	-1.92	-2.05	-2.60	-2.23	-1.01	+0.56	+3.42	+5.27	+6.30	+5.24	+4.25	+4.44	+4.83	+2.56	-0.37	-1.65	-1.18	-4.02
Feb.	-3.92	-4.93	-6.60	-4.73	-3.31	-2.06	-1.09	-0.52	-0.46	+0.01	+1.16	+3.37	+4.54	+5.71	+5.49	+4.68	+3.27	+2.97	+2.58	+0.50	+0.47	-1.08	-2.64	-3.41
Mar.	-6.08	-5.81	-4.88	-4.96	-4.41	-2.77	-4.37	-3.86	-4.44	-2.46	+0.08	+3.82	+6.91	+9.30	+9.52	+8.73	+5.61	+4.67	+3.97	+1.69	+1.31	-2.90	-3.97	-4.70
Apr.	-5.35	-5.95	-6.48	-5.82	-4.98	-4.69	-3.92	-4.52	-4.83	-3.48	+0.18	+4.26	+7.92	+9.90	+9.82	+8.70	+6.38	+4.86	+3.21	+1.91	+0.99	-0.28	-2.88	-4.95
May	-1.86	-3.51	-3.97	-4.73	-5.83	-6.02	-7.08	-7.94	-7.25	-4.74	-0.40	+4.64	+8.07	+9.24	+8.79	+7.07	+4.90	+3.30	+2.41	+2.12	+1.55	+1.43	+0.04	-0.23
June	-1.26	-3.97	-5.40	-7.27	-7.69	-7.68	-8.51	-9.22	-7.63	-4.94	-0.93	+3.47	+7.36	+8.90	+9.26	+8.75	+7.15	+6.95	+5.35	+3.08	+3.22	+2.07	+0.07	-1.13
July	-1.57	-3.81	-4.99	-4.92	-5.75	-7.47	-8.10	-8.46	-6.55	-4.90	-1.96	+2.33	+5.65	+7.87	+8.82	+7.78	+6.01	+4.78	+4.38	+3.85	+4.16	+2.35	+0.99	-0.51
Aug.	-2.84	-3.16	-3.41	-4.52	-5.65	-6.54	-7.19	-6.99	-5.91	-3.46	+0.14	+4.23	+7.51	+8.90	+8.06	+6.23	+4.53	+3.52	+2.85	+2.38	+1.92	+1.39	-0.15	-1.84
Sept.	-5.63	-5.55	-6.26	-7.37	-8.27	-6.55	-7.01	-7.50	-6.96	-5.84	-0.03	+4.38	+7.52	+9.63	+8.98	+9.51	+7.70	+7.79	+6.11	+4.93	+3.39	+2.01	-1.98	-3.00
Oct.	-4.22	-4.90	-4.21	-3.36	-3.14	-2.40	-2.13	-3.23	-4.04	-3.34	-0.20	+3.05	+5.81	+7.24	+7.00	+5.93	+4.56	+4.18	+3.38	+1.68	+0.18	-1.63	-2.97	-3.24
Nov.	-5.91	-5.68	-4.91	-4.25	-2.43	-2.00	-1.69	-1.46	-1.72	-0.99	+0.86	+3.13	+4.85	+5.11	+5.67	+5.03	+5.21	+6.11	+4.25	+2.41	-0.34	-2.72	-3.81	-4.72
Dec.	-4.16	-3.91	-4.71	-4.03	-1.88	-1.18	-1.41	-0.57	-1.50	-1.83	-0.28	+2.09	+3.32	+5.24	+4.95	+4.14	+4.47	+4.96	+4.81	+2.60	+0.11	-2.41	-3.81	-5.01
Year	-3.87	-4.48	-4.90	-5.02	-4.74	-4.35	-4.53	-4.69	-4.49	-3.18	-0.20	+3.28	+6.07	+7.69	+7.72	+6.82	+5.34	+4.88	+4.01	+2.48	+1.38	-0.29	-1.86	-3.06
Winter	-4.41	-4.28	-4.79	-4.31	-2.78	-2.03	-1.53	-1.15	-1.57	-1.26	+0.18	+2.29	+4.03	+5.33	+5.60	+4.77	+4.30	+4.62	+4.12	+2.02	-0.03	-1.97	-2.86	-4.29
Equinox	-5.32	-5.55	-5.46	-5.38	-5.20	-4.10	-4.36	-4.78	-5.07	-3.78	+0.01	+3.88	+7.04	+9.02	+8.83	+8.22	+6.06	+5.37	+4.17	+2.55	+1.47	-0.70	-2.95	-3.97
Summer	-1.88	-3.61	-4.44	-5.36	-6.23	-6.93	-7.72	-8.15	-6.83	-4.51	-0.79	+3.67	+7.15	+8.73	+8.73	+7.46	+5.65	+4.64	+3.75	+2.86	+2.71	+1.81	+0.24	-0.93
VERTICAL FORCE																								
Jan.	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Feb.	-10.6	-7.0	-8.9	-13.3	-14.6	-14.5	-11.2	-9.8	-4.6	-3.8	-2.5	+0.4	+0.7	-0.2	+4.9	+14.3	+21.6	+18.6	+13.2	+15.4	+9.3	-0.7	+3.2	+0.1
Mar.	-10.1	-10.3	-19.3	-25.4	-22.1	-24.1	-21.1	-15.0	-9.2	-3.4	-0.2	+2.4	+4.8	+8.6	+11.8	+16.5	+23.7	+25.3	+25.6	+27.1	+16.6	+8.9	-0.6	-10.5
Apr.	-39.3	-36.3	-33.8	-34.7	-33.5	-29.7	-18.2	-17.5	-7.1	+0.4	+3.4	+7.7	+14.0	+14.4	+19.9	+23.3	+38.7	+49.2	+46.2	+35.3	+20.5	+3.4	-13.2	-13.1
May	-40.5	-37.1	-38.8	-38.0	-39.7	-33.7	-27.0	-15.1	-7.8	-2.4	+0.7	+5.4	+11.3	+21.8	+32.8	+45.6	+51.6	+51.0	+46.1	+36.1	+23.8	+2.2	-12.7	-35.6
June	-18.7	-21.7	-22.1	-22.3	-18.0	-12.9	-9.8	-3.7	-1.9	-2.5	-4.9	-8.0	-4.9	+1.2	+7.7	+15.8	+25.3	+30.4	+29.4	+23.4	+18.2	+10.9	-1.0	-9.9
July	-18.2	-33.8	-45.8	-44.6	-34.4	-28.6	-22.3	-9.6	-3.6	-0.1	+2.3	+3.7	+14.0	+14.5	+19.5	+29.7	+28.2	+30.5	+28.3	+24.2	+18.0	+17.7	+14.5	-4.1
Aug.	-9.6	-12.3	-16.9	-13.7	-12.8	-15.9	-7.1	-1.3	+0.2	-0.6	-0.8	-1.6	+0.3	+2.3	+2.9	+9.6	+20.2	+26.5	+24.6	+20.2	+10.7	+3.2	-8.6	-19.5
Sept.	-16.3	-18.7	-25.4	-25.3	-19.3	-13.5	-8.3	-1.7	+2.1	+2.6	+0.3	-1.8	+0.2	+2.7	+7.3	+12.6	+18.4	+23.1	+24.3	+23.2	+17.8	+9.9	-1.4	-12.8
Oct.	-31.1	-30.0	-33.9	-67.9	-44.0	-29.0	-12.1	+3.6	+13.0	+15.8	+12.3	+15.0	+26.3	+33.8	+37.6	+8.1	+9.4	+18.4	+32.6	+26.6	+19.2	+4.4	-4.1	-24.0
Nov.	-21.8	-19.0	-15.8	-17.0	-14.6	-12.7	-12.5	-7.0	-2.6	+0.1	+1.1	+2.0	+4.5	+7.0	+9.9	+15.9	+20.2	+21.4	+20.7	+17.7	+12.6	+7.0	-2.8	-14.3
Dec.	-18.1	-17.5	-27.1	-21.2	-14.5	-14.7	-11.4	-10.2	-6.6	-4.5	-1.5	+0.9	+5.0	+10.6	+13.3	+16.0	+15.5	+18.0	+26.6	+23.0	+16.4	+6.2	+4.6	-8.8
Year	-12.6	-18.8	-18.4	-20.1	-22.1	-21.2	-18.1	-13.4	-10.5	-6.2	-3.5	+0.2	+2.1	+5.0	+9.6	+15.0	+17.2	+17.7	+26.6	+33.5	+24.3	+12.4	+7.3	-6.0
Winter	-20.6	-21.9	-25.5	-28.6	-24.1	-20.9	-14.9	-8.4	-3.2	-0.4	+0.6	+2.2	+6.5	</										

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

10 LERWICK

1957

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HORIZONTAL FORCE																								
Jan.	+2.9	+0.8	+3.0	+2.5	+4.6	+6.4	+7.9	+6.6	+2.8	-3.3	-13.0	-18.6	-21.1	-17.8	-10.2	-1.9	+3.0	+5.6	+7.3	+7.6	+7.4	+7.3	+6.0	+4.2
Feb.	+1.5	+0.5	+0.8	+1.5	+2.7	+3.9	+4.7	+3.3	-1.2	-6.9	-13.3	-16.7	-16.1	-8.9	-5.6	-3.1	-1.3	+3.9	+7.5	+9.1	+10.4	+9.5	+7.5	+6.3
Mar.	-7.8	-0.6	+3.4	+5.0	+3.8	+4.5	+3.8	+0.6	-6.0	-14.2	-23.4	-28.8	-25.8	-17.4	-7.6	+4.0	+15.4	+12.1	+14.4	+17.6	+14.6	+13.4	+11.2	+7.8
Apr.	+3.9	+3.6	-1.5	+3.2	+3.0	+1.9	-1.8	-8.0	-20.7	-32.4	-40.1	-40.8	-31.7	-21.0	-12.7	-2.8	+7.6	+27.9	+39.6	+33.0	+24.1	+23.2	+22.5	+20.0
May	-0.7	-1.1	+4.3	+7.7	+8.7	+7.0	-2.1	-14.7	-29.1	-41.9	-44.3	-43.1	-30.7	-16.9	-4.3	+9.5	+16.9	+31.8	+36.1	+36.1	+28.1	+19.1	+12.9	+10.7
June	+6.4	+5.2	+6.2	+5.4	+3.0	+4.9	-2.2	-16.0	-32.0	-44.0	-48.4	-48.4	-33.2	-15.8	-8.2	+8.0	+21.4	+32.3	+36.4	+33.4	+28.8	+23.0	+17.8	+16.0
July	+8.0	+5.7	+4.2	+10.7	+13.5	+11.8	+1.3	-11.9	-28.0	-44.3	-53.4	-51.1	-37.4	-26.3	-9.0	+8.7	+19.7	+26.8	+30.3	+30.3	+28.4	+24.5	+20.0	+17.5
Aug.	+8.7	+8.7	+7.7	+6.1	+5.5	+2.4	-2.9	-11.1	-23.7	-35.5	-39.9	-36.1	-27.3	-15.1	-1.3	+7.9	+11.7	+13.6	+16.3	+20.9	+22.1	+22.9	+20.5	+17.9
Sept.	+15.5	+14.3	+13.5	+11.7	+9.3	+6.6	+3.7	-5.9	-19.9	-32.1	-44.3	-47.9	-38.9	-27.1	-11.7	-1.7	+10.9	+14.8	+21.5	+21.7	+19.7	+21.9	+22.1	+22.3
Oct.	+15.3	+11.8	+9.6	+9.5	+9.4	+8.0	+6.3	+1.4	-8.2	-23.3	-34.4	-38.6	-35.5	-26.4	-15.6	-6.5	+2.0	+7.8	+15.7	+19.0	+19.0	+18.7	+17.8	+17.2
Nov.	+2.3	+4.1	+4.0	+4.1	+3.9	+5.7	+5.5	+2.9	-3.6	-13.1	-19.7	-21.3	-19.9	-15.1	-9.8	-2.1	+3.1	+9.3	+10.3	+11.7	+11.2	+9.9	+9.3	+7.3
Dec.	+4.3	+1.7	+1.1	+2.1	+2.9	+3.4	+1.3	+0.9	-2.7	-10.7	-18.7	-21.3	-22.3	-17.3	-9.9	-1.7	+3.9	+8.8	+14.1	+16.5	+15.1	+10.9	+8.5	+9.1
Year	+5.0	+4.6	+4.7	+5.8	+5.9	+5.5	+2.1	-4.3	-14.4	-25.1	-32.7	-34.4	-28.3	-18.8	-8.8	+1.5	+9.5	+16.2	+20.8	+21.4	+19.1	+17.0	+14.7	+13.0
Winter	+2.7	+1.8	+2.2	+2.5	+3.5	+4.9	+4.9	+3.4	-1.2	-8.5	-16.2	-19.5	-19.9	-14.8	-8.9	-2.2	+2.1	+6.9	+9.8	+11.2	+11.0	+9.4	+7.8	+6.7
Equinox	+6.7	+7.3	+6.3	+7.3	+6.4	+5.3	+3.0	-3.0	-13.7	-25.5	-35.5	-39.0	-33.0	-23.0	-11.9	-1.7	+9.0	+15.7	+22.8	+22.8	+19.3	+19.3	+18.4	+16.8
Summer	+5.6	+4.6	+5.6	+7.5	+7.7	+6.5	-1.5	-13.4	-28.2	-41.4	-46.5	-44.7	-32.1	-18.5	-5.7	+8.5	+17.4	+26.1	+29.8	+30.2	+26.9	+22.4	+17.8	+15.5
VERTICAL FORCE																								
Jan.	-1.49	-1.50	-0.99	-0.79	-1.29	-1.50	-1.47	-1.75	-2.11	-2.40	-1.55	+0.13	+2.33	+3.68	+4.35	+3.19	+2.03	+1.96	+1.47	+0.55	-0.49	-0.56	-0.81	-0.99
Feb.	-2.34	-2.99	-2.56	-3.23	-2.37	-2.08	-2.03	-1.83	-1.86	-1.29	-0.04	+2.25	+3.16	+3.85	+3.50	+2.51	+1.89	+2.20	+2.21	+1.69	+0.98	+0.29	-0.60	-1.31
Mar.	-3.47	-1.91	-1.83	-1.51	-2.15	-2.23	-2.27	-3.51	-3.45	-2.39	-0.31	+2.21	+4.61	+6.33	+5.79	+4.09	+1.15	+1.81	+1.79	+0.83	-0.07	-0.75	-1.11	-1.65
Apr.	+0.09	-0.56	-1.53	-2.80	-4.08	-4.41	-5.16	-6.34	-5.99	-4.54	-1.91	+1.48	+5.13	+6.64	+6.13	+5.02	+3.56	+2.39	+1.66	+1.52	+1.41	+1.24	+0.69	+0.36
May	-1.34	-2.05	-3.05	-3.42	-4.65	-5.75	-7.42	-8.55	-7.57	-3.50	+0.43	+4.89	+8.16	+9.39	+8.63	+6.26	+3.55	+2.11	+1.24	+0.45	+0.71	+0.86	+0.13	+0.49
June	+0.39	-0.54	-1.93	-2.54	-5.04	-7.99	-9.78	-9.88	-8.19	-5.12	-1.15	+3.74	+6.87	+7.66	+7.03	+6.60	+5.14	+3.21	+2.22	+1.22	+1.89	+2.34	+2.35	+1.50
July	+0.12	-0.33	-1.72	-4.35	-6.21	-7.66	-8.35	-8.05	-7.18	-4.11	-0.58	+3.07	+6.42	+8.53	+7.84	+6.75	+4.73	+2.94	+1.97	+1.77	+1.78	+1.25	+0.84	+0.53
Aug.	-1.26	-2.49	-3.02	-4.13	-5.42	-6.31	-6.94	-7.21	-6.42	-3.75	-1.48	+2.87	+6.02	+7.67	+7.56	+6.11	+4.24	+2.97	+2.72	+2.91	+2.42	+1.81	+0.98	+0.15
Sept.	-0.61	-1.20	-1.94	-2.65	-3.54	-4.50	-5.91	-6.60	-6.00	-3.95	-0.38	+3.68	+6.53	+7.46	+7.04	+4.97	+2.82	+1.56	+1.47	+1.06	+0.78	+1.11	+0.20	-1.40
Oct.	-3.08	-2.86	-2.47	-2.50	-2.64	-3.00	-3.30	-4.36	-5.29	-4.52	-2.50	+0.88	+3.72	+5.42	+5.85	+4.64	+3.62	+3.18	+3.36	+3.19	+2.36	+1.12	-0.36	-0.46
Nov.	-2.38	-1.90	-1.82	-1.78	-1.86	-1.71	-2.24	-2.78	-3.10	-2.86	-0.90	+0.90	+2.40	+3.46	+3.82	+3.42	+3.04	+3.43	+3.36	+2.26	+1.56	+0.42	-1.36	-3.38
Dec.	-2.19	-2.00	-2.18	-2.07	-0.72	-0.70	-1.45	-1.98	-2.56	-2.55	-1.56	+0.20	+1.49	+3.62	+3.34	+2.37	+2.30	+2.54	+2.45	+2.68	+2.54	-0.15	-1.20	-2.22
Year	-1.46	-1.69	-2.09	-2.65	-3.33	-3.99	-4.69	-5.24	-4.98	-3.41	-0.99	+2.19	+4.74	+6.14	+5.91	+4.66	+3.17	+2.53	+2.16	+1.68	+1.32	+0.75	-0.02	-0.70
Winter	-2.10	-2.10	-1.89	-1.97	-1.56	-1.50	-1.80	-2.09	-2.41	-2.27	-1.01	+0.87	+2.35	+3.65	+3.75	+2.87	+2.31	+2.53	+2.37	+1.79	+1.15	0.00	-0.99	-1.97
Equinox	-1.77	-1.53	-1.94	-2.37	-3.10	-3.53	-4.16	-5.20	-5.18	-3.85	-1.27	+2.06	+5.00	+6.46	+6.20	+4.68	+2.79	+2.23	+2.07	+1.65	+1.12	+0.68	-0.15	-0.79
Summer	-0.52	-1.35	-2.43	-3.61	-5.33	-6.93	-8.12	-8.42	-7.34	-4.12	-0.69	+3.64	+6.87	+8.31	+7.77	+6.43	+4.41	+2.81	+2.04	+1.59	+1.70	+1.57	+1.07	+0.67
VERTICAL FORCE																								
Jan.	-2.5	-2.4	-2.8	-0.3	-0.4	-0.6	-1.7	-2.2	-1.2	-1.9	-0.8	+0.6	+0.7	-1.0	+0.6	+3.7	+4.0	+2.4	+2.3	+2.4	+1.8	+0.5	-0.6	-0.6
Feb.	+3.1	+2.8	-1.4	-2.1	-0.8	-0.2	-0.7	-1.0	-0.8	-0.5	-1.2	-3.8	-5.1	-6.0	-1.8	+0.9	+1.0	+0.8	+2.1	+2.6	+2.8	+3.7	+2.8	+2.8
Mar.	-15.4	-9.6	-8.7	-13.2	-11.0	-10.0	-8.2	-4.2	-2.5	-3.4	+0.4	+2.8	+2.0	+4.0	+6.1	+11.4	+18.8	+22.4	+14.0	+9.6	+4.3	+0.2	-1.4	-8.4
Apr.	-13.4	-9.7	-10.5	-4.2	-1.7	-3.9	-4.0	-2.5	+0.7	+1.0	-1.3	-4.5	-6.4	-0.5	+5.9	+9.4	+10.3	+10.5	+12.8	+12.1	+6.7	0.0	-2.3	-4.5
May	-17.3	-10.9	-3.2	+2.5	+5.5	+6.3	+8.5	+7.9	+3.6	-4.1	-11.9	-18.3	-21.1	-14.5	-3.2	+6.3	+13.7	+12.1	+10.3	+8.9	+9.2	+6.1	+2.9	+0.7
June	+4.2	+5.1	+6.4	+5.9	+2.1	+2.4	+4.7	+3.9	+1.4	-4.7	-10.0	-14.7	-15.8	-10.7	-4.0	-2.1	-0.3	-2.0	+5.7	+7.9	+5.6	+3.7	+1.8	-0.5
July	-4.9	-3.3	-2.3	-2.5	+3.3	+6.8	+8.1	+8.1	+6.9	+0.7	-6.1	-13.3	-13.7	-10.9	-9.5	-2.9	+4.5	+7.4	+7.1	+5.9	+4.5	+2.5	+2.5	+1.1
Aug.	+5.1	+4.6	+5.5	+6.7	+6.7	+6.2	+4.7	+3.5	+1.3	-2.2	-5.1	-8.5	-9.5	-9.6	-5.7	-2.1	+0.9	+1.0	-0.9	-2.3	-1.7	-1.0	+0.5	+1.9
Sept.	-2.6	-3.3	-0.7	+1.2	+3.1	+3.9	+2.8	+3.5	+2.3	-0.2	-0.1	-3.9	-9.0	-9.9	-8.3	-1.4	+4.5	+9.1	+7.6	+7.5	+5.3	-0.6	-4.5	-6.3
Oct.	+0.8	+4.5	+5.1	+3.8	+2.3	+1.5	+1.4	+1.5	+3.5	+1.8	-0.3	-2.5	-3.6	-5.1	-3.7	-1.4	-1.7	-2.5	-3.4	-2.1	-0.7	-0.4	+0.9	+0.3
Nov.	+2.8	+0.9	+1.2	+0.8	-0.4	-2.5	-3.8	-3.6	-1.0	-0.7	0.0	-0.2	-0.8	-2.1	-0.8	-0.4	-2.2	-3.3	-2.4	+0.6	+3.8	+6.7	+3.8	+3.6
Dec.	+1.4	-3.2	-7.1	-5.4	-1.6	+0.6	+1.8	+1.6	+1.7	+0.6	+1.2	+0.6	-1.0	-4.4	-1.5	-1.8	-1.2	-1.6	-2.6	-1.0	+3.7	+7.0	+7.0	+5.2
Year	-3.2	-2.0	-1.5	-0.6	+0.6	+0.9	+1.1	+1.4	+1.3	-1.1	-2.9	-5.5	-6.9	-5.9	-2.2	+1.6	+4.4	+5.0	+4.4	+4.3	+3.8	+2.4	+1.1	-0.4
Winter	+1.2	-0.5	-2.5	-1.7	-0.8	-0.7	-1.1	-1.3	-0.3	-0.6	-0.2	-0.7	-1.5	-3.4	-0.9	+0.6	+0.4	-0.4	-0.1	+1.1	+3.0	+4.5	+3.3	+2.7
Equinox	-7.7	-4.5	-3.7	-3.1	-1.8	-2.1	-2.0	-0.4	+1.0	-0.2	-0.3	-2.0	-4.3	-2.9	0.0	+4.5	+8.0	+9.9	+7.7	+6.8	+3.9	-0.2	-1.8	-4.7
Summer	-3.2	-1.1	+1.6	+3.1	+4.4	+5.4	+6.5	+5.9	+3.3	-2.6	-8.3	-13.7	-15.0	-11.4	-5.6	-0.2	+4.7	+5.6	+5.5	+5.1	+4.4	+2.8	+1.9	+0.8

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

11 LERNICK

1957

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HORIZONTAL FORCE																								
Jan.	-26.3	-91.0	-98.7	-34.4	-37.2	-26.1	+4.2	+5.2	-5.3	-16.0	-15.7	-8.2	-8.9	+8.6	+21.9	+36.6	+55.2	+97.3	+116.4	+80.4	+45.1	-7.2	-72.3	-23.6
Feb.	-41.5	-79.7	-52.6	-56.9	-59.1	-68.3	-23.9	+3.1	-2.0	-14.7	-7.1	+7.7	+26.1	+55.5	+67.4	+52.5	+54.9	+62.7	+64.7	+60.7	+12.0	-6.3	-16.3	-38.9
Mar.	-90.1	-61.6	-26.3	-17.6	-15.2	-154.9	-168.2	-85.8	-19.3	-17.8	-15.7	-1.6	+13.9	+119.6	+172.7	+211.4	+95.6	+139.1	+145.0	+94.2	+21.1	-96.6	-132.5	-109.4
Apr.	-55.7	-101.8	-114.2	-85.5	-50.2	-70.6	-37.1	-29.2	-38.4	-29.9	-22.6	-15.2	+20.3	+51.4	+73.6	+112.3	+123.8	+100.8	+102.5	+68.0	+51.0	+23.7	-23.2	-53.8
May	+11.6	-6.7	-25.2	-23.1	-24.9	-16.8	-11.3	-14.5	-30.2	-50.5	-67.2	-54.9	-20.6	-1.5	-5.6	+20.9	+58.1	+75.6	+70.7	+60.3	+43.4	+13.3	+0.8	-1.7
June	-9.3	-52.3	-75.0	-81.5	-104.7	-85.9	-68.1	-56.7	-60.4	-48.9	-40.9	-4.3	+32.1	+90.5	+122.6	+206.7	+257.5	+159.9	+140.3	+39.3	-13.8	-53.7	-146.3	-147.1
July	-105.0	-143.8	-145.0	-135.8	-131.4	-69.5	-48.6	-41.2	-32.8	-11.8	-11.2	+1.0	+1.4	+66.6	+105.2	+104.6	+123.2	+127.5	+137.4	+114.0	+80.4	+32.0	-0.6	+3.4
Aug.	-2.9	-10.5	-18.3	-49.9	-34.9	-26.2	-28.3	-39.1	-37.7	-46.3	-46.5	-46.1	-8.5	-8.7	+3.3	+17.3	+66.7	+94.6	+99.7	+81.1	+46.7	+19.3	-2.9	-21.9
Sept.	-153.9	-125.3	-198.5	-330.9	-231.3	-125.6	-164.7	-138.5	-24.5	-29.9	+52.5	+88.5	+142.1	+273.5	+417.5	+321.1	+304.9	+127.4	+113.7	+79.5	-21.7	-13.5	-157.1	-205.3
Oct.	-22.1	-42.0	-63.0	-16.3	+1.6	-15.2	+0.3	+8.6	0.0	-12.5	-23.6	-24.6	-13.1	+13.4	+19.2	+54.1	+48.4	+42.6	+46.3	+50.8	+37.6	+5.5	-36.0	-60.0
Nov.	-36.6	-33.0	-66.0	-81.2	-12.8	+8.5	+8.8	-3.2	-4.6	-6.6	-5.0	-8.0	+4.0	+10.6	+27.0	+33.4	+51.0	+103.1	+77.8	+38.8	+2.4	-15.6	-3.0	-89.8
Dec.	-7.3	-11.4	-19.3	-30.8	-17.6	-8.7	+5.8	-9.2	-7.9	-18.6	-15.5	-19.2	-9.7	+9.2	+17.9	+29.2	+45.6	+41.9	+59.8	+43.8	-13.7	-12.0	-22.9	-29.4
Year	-44.9	-63.3	-75.2	-78.7	-61.5	-54.9	-44.3	-33.4	-21.9	-25.3	-18.2	-7.1	+14.9	+57.4	+86.9	+100.0	+107.1	+97.7	+97.9	+67.6	+24.2	-9.3	-51.0	-64.8
Winter	-27.9	-53.8	-59.1	-50.8	-31.8	-23.7	-1.3	-1.0	-4.9	-14.0	-10.8	-6.9	+2.9	+21.0	+33.5	+37.9	+51.7	+76.3	+79.7	+55.9	+11.5	-10.3	-28.6	-45.4
Equinox	-80.5	-82.7	-100.5	-112.6	-73.8	-91.6	-92.4	-61.2	-20.5	-22.5	-2.3	+11.8	+40.8	+114.5	+170.7	+174.7	+143.2	+102.5	+101.9	+73.1	+22.0	-20.2	-87.2	-107.1
Summer	-26.4	-53.3	-65.9	-72.6	-79.0	-49.6	-39.1	-37.9	-40.3	-39.4	-41.5	-26.1	+1.1	+36.7	+56.4	+87.4	+126.4	+114.4	+112.0	+73.7	+39.2	+2.7	-37.3	-41.8
DECLINATION																								
Jan.	-7.17	-4.60	-3.83	-10.78	-7.98	-6.69	0.00	-2.98	-3.93	-1.76	-0.97	-0.52	+3.27	+6.80	+7.91	+8.34	+5.78	+6.09	+10.76	+6.52	-1.29	-0.72	+4.29	-6.54
Feb.	-4.62	-11.53	-18.42	-11.75	-7.58	-0.69	+2.86	+3.39	+2.42	+1.55	+3.20	+6.21	+8.56	+11.29	+9.44	+8.47	+6.72	+3.67	+6.38	-3.43	-1.88	-4.89	-5.44	-3.93
Mar.	-12.37	-10.72	-7.53	-7.24	-6.76	+0.09	-9.96	-4.82	-4.77	-1.10	+0.83	+4.22	+7.25	+9.70	+14.27	+18.78	+7.46	+10.77	+8.10	+4.26	+6.97	-6.86	-8.29	-12.28
Apr.	-12.86	-14.55	-17.20	-11.02	-6.28	-6.29	-3.54	-0.14	-2.56	-1.11	+2.44	+5.78	+8.70	+11.07	+11.76	+9.90	+7.98	+7.87	+6.52	+6.06	+3.86	+2.61	-1.50	-7.50
May	-2.37	-6.78	-6.48	-7.53	-6.00	-4.10	-4.91	-7.08	-8.16	-7.49	-1.96	+5.34	+8.39	+9.84	+8.96	+8.69	+6.68	+4.80	+3.23	+2.32	+1.80	+1.65	+0.62	+0.54
June	-1.78	-8.83	-8.66	-9.41	-7.59	-4.28	-6.37	-7.27	-5.30	-5.19	-1.40	-0.29	+6.64	+7.69	+9.58	+9.51	+9.75	+13.08	+12.01	+3.05	+6.70	+1.59	-3.06	-10.17
July	-4.07	-14.22	-12.51	-7.25	-5.87	-6.94	-8.27	-10.07	-5.49	-5.98	-2.07	+2.23	+2.15	+6.80	+12.75	+12.79	+11.79	+8.96	+8.71	+7.47	+6.87	+3.10	+1.67	-2.55
Aug.	-4.50	-6.03	-6.41	-7.54	-6.39	-5.41	-7.02	-6.49	-4.95	-3.16	+1.39	+4.33	+7.40	+8.97	+8.09	+6.58	+6.93	+7.01	+5.44	+2.61	+1.45	+1.48	-0.07	-3.71
Sept.	-4.79	-8.32	-11.44	-28.97	-17.92	-14.52	-9.85	-10.10	-12.48	-15.61	-0.16	+3.20	+6.91	+13.74	+16.34	+22.45	+17.46	+26.64	+18.75	+16.78	+10.94	+3.07	-8.58	-13.54
Oct.	-7.26	-10.09	-8.10	-5.93	-4.58	-0.45	+1.84	-1.33	-3.86	-3.19	+0.46	+3.47	+6.80	+9.55	+7.32	+6.95	+7.08	+3.75	+3.36	+4.23	+1.78	-3.09	-3.62	-5.09
Nov.	-9.04	-10.95	-11.50	-12.79	-4.36	-1.89	+1.06	+0.93	+1.60	+1.99	+2.56	+4.37	+6.06	+6.27	+8.42	+7.29	+10.62	+14.45	+7.56	+3.57	-3.26	-9.75	-6.80	-4.29
Dec.	-4.82	-8.91	-10.28	-8.11	-1.26	+1.01	+0.58	+1.07	-0.06	-1.69	-0.10	+2.65	+3.82	+7.47	+6.68	+6.17	+6.90	+9.51	+10.14	+4.29	-2.16	-5.57	-9.74	-7.59
Year	-6.30	-9.63	-10.20	-10.69	-6.88	-4.18	-3.81	-3.74	-3.96	-3.56	+0.35	+3.42	+6.33	+9.10	+10.13	+10.49	+8.76	+9.72	+8.41	+4.81	+2.65	-1.45	-3.38	-6.39
Winter	-0.41	-9.00	-11.01	-10.86	-5.29	-2.07	+0.59	+0.60	+0.01	+0.02	+1.17	+3.18	+5.43	+7.96	+8.11	+7.57	+7.51	+8.43	+8.71	+2.74	-2.15	-5.24	-4.42	-5.59
Equinox	-9.32	-10.92	-11.07	-13.29	-8.89	-5.29	-5.38	-4.10	-5.92	-5.25	+0.89	+4.17	+7.41	+11.01	+12.42	+14.52	+9.99	+12.26	+9.18	+7.84	+5.89	-1.07	-5.50	-9.60
Summer	-3.18	-8.97	-8.51	-7.93	-6.46	-5.18	-6.64	-7.73	-5.97	-5.45	-1.01	+2.90	+6.15	+8.33	+9.85	+9.39	+8.79	+8.46	+7.35	+3.86	+4.21	+1.95	-0.21	-3.97
VERTICAL FORCE																								
Jan.	-19.0	-6.7	-23.2	-44.8	-44.2	-50.3	-31.6	-18.6	-0.4	+2.3	+5.8	+17.8	+21.8	+20.3	+28.8	+47.8	+83.8	+60.9	+5.2	-0.4	-25.8	-48.9	+6.8	+12.6
Feb.	-26.8	-24.6	-66.2	-108.4	-79.0	-91.2	-82.4	-52.2	-25.0	-0.6	+20.4	+33.6	+37.8	+52.6	+57.2	+56.6	+69.6	+70.0	+60.0	+74.8	+31.0	+2.6	-1.0	-8.8
Mar.	-78.0	-35.5	-24.6	-57.0	-80.6	-75.5	-49.2	-82.0	-28.0	+4.9	+9.6	+28.8	+57.0	+35.5	+43.0	+40.0	+83.6	+68.1	+72.4	+57.8	+25.8	+17.7	-46.0	+12.2
Apr.	-58.7	-33.3	-70.1	-114.3	-130.7	-102.0	-66.7	-27.3	-7.9	+8.9	+18.9	+32.9	+50.3	+67.1	+72.3	+86.5	+78.7	+68.8	+66.9	+53.7	+46.5	+11.3	-11.1	-40.7
May	-30.1	-50.9	-70.7	-76.5	-67.7	-46.3	-37.3	-19.1	-7.1	+2.7	+5.3	+7.5	+24.1	+34.9	+40.5	+41.3	+56.5	+64.3	+52.1	+39.7	+26.7	+14.3	-0.3	-3.9
June	-30.3	-74.9	-116.7	-138.9	-125.7	-119.6	-97.3	-47.1	-19.1	+6.3	+21.9	+34.1	+92.9	+75.5	+75.5	+99.1	+50.7	+69.6	+53.7	+37.9	+19.7	+38.9	+73.1	+20.7
July	+23.6	-1.5	-56.6	-52.3	-51.7	-90.4	-53.9	-22.9	-5.8	+10.1	+19.6	+23.5	+38.4	+37.5	+17.4	+22.1	+43.9	+53.8	+44.9	+39.9	+23.0	-3.3	-25.2	-34.1
Aug.	-22.5	-30.5	-41.5	-65.1	-60.1	-45.8	-27.5	-8.1	+2.9	+8.7	+7.5	+12.1	+23.5	+30.7	+26.1	+28.9	+29.7	+36.0	+48.3	+57.9	+35.7	+5.7	-19.3	-33.3
Sept.	-29.3	-64.4	-89.6	-119.3	-114.4	-33.8	-9.9	+47.2	+80.4	+79.9	+56.6	+56.6	+79.9	+61.4	+48.2	-85.7	-84.8	-78.8	+15.5	+58.6	+75.4	+42.3	+41.8	-33.8
Oct.	-54.9	-42.1	-47.4	-56.9	-48.5	-47.7	-49.7	-26.3	-9.6	-0.1	+9.3	+12.1	+19.3	+29.7	+42.0	+51.5	+61.1	+58.3	+45.7	+39.5	+33.4	+24.3	-11.7	-33.3
Nov.	-53.8	-56.0	-69.4	-68.0	-32.2	-26.1	-19.8	-23.2	-16.4	-10.8	-2.8	+2.6	+9.0	+16.0	+20.2	+37.0	+38.4	+53.7	+98.4	+79.6	+37.2	+9.0	+7.8	-30.4
Dec.	-30.1	-35.4	-45.3	-49.0	-53.0	-43.7	-40.8	-24.8	-21.3	-11.0	-2.5	+11.2	+14.1	+16.8	+25.7	+35.6	+34.2	+49.9	+66.8	+65.6	+42.1	-3.8	+5.5	-6.8
Year	-34.2	-38.0	-60.1	-79.2	-74.0	-64.4	-47.2	-25.4	-4.8	+8.4	+14.1	+22.7	+39.0	+39.8	+41.4	+38.4	+45.5	+47.9	+52.5	+50.4	+31.1	+9.2	+1.7	-15.0
Winter	-32.4	-30.7	-51.0	-67.5	-52.1	-52.8	-43.7	-29.7	-15.8	-5.0	+5.2	+16.3	+20.7	+26.4	+33.0	+44.3	+56.5	+58.6	+57.6	+54.9	+21.1	-10.3	+4.8	-8.3
Equinox	-55.2	-43.8	-57.9	-86.9	-93.3	-64.7	-43.9	-22.1	+8.7	+23.4	+23.6	+32.6	+51.6	+48.4	+51.4	+23.1	+34.7	+29.1	+50.1	+52.4	+45.8	+23.9	-6.7	-23.9
Summer	-14.8	-39.5	-71.4	-83.2	-76.3	-75.5	-54.0	-24.3	-7.3	+6.9	+13.6	+19.3	+44.7	+44.7	+39.9	+47.9	+45.2	+55.9	+49.7	+43.9	+26.3	+13.9	+7.1	-12.7

"Winter" comprises the four months January, February, November, December; "Equ

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE
MONTHS SEASONS AND YEAR OF 1957

AVERAGE DEPARTURE

51

The ranges are derived from the diurnal inequalities
printed in Tables 9-11

Arithmetical average of diurnal inequalities in
Tables 9-11 taken regardless of sign

12 LERWICK 1957									
	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	51.0	10.55	36.2	29.0	6.75	6.8	215.1	21.54	134.1
Feb.	37.7	12.31	52.5	27.1	7.08	9.7	147.1	29.71	183.2
Mar.	86.4	15.60	88.5	46.4	9.84	37.8	379.6	31.15	165.6
Apr.	92.9	16.38	92.1	80.4	12.98	26.2	238.0	28.96	217.2
May	103.3	17.18	52.7	80.4	17.94	34.8	142.8	18.00	140.8
June	113.6	18.48	76.3	84.8	17.54	23.7	404.6	23.25	238.0
July	107.9	17.28	46.0	83.7	16.88	21.8	288.8	27.01	144.2
Aug.	88.3	16.09	49.7	62.8	14.88	16.3	149.6	16.51	123.0
Sept.	215.8	17.90	105.5	70.2	14.06	19.0	748.4	55.61	199.7
Oct.	57.1	12.14	43.2	57.6	11.14	10.2	117.1	19.64	118.0
Nov.	49.6	12.02	53.7	33.0	7.20	10.5	192.9	27.24	167.8
Dec.	38.3	10.25	55.6	38.8	6.18	14.1	90.6	20.42	119.8
Year	72.9	12.74	57.3	55.8	11.38	11.9	185.8	21.18	131.7
Winter	39.9	10.39	44.7	31.1	6.16	7.9	138.8	19.72	126.1
Equinox	89.6	14.57	75.8	61.8	11.66	17.6	287.3	27.81	145.7
Summer	101.9	16.88	55.1	76.7	16.73	21.5	205.4	18.82	139.1

13 LERWICK 1957									
	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	11.5	3.07	8.5	7.2	1.64	1.6	39.2	4.98	26.2
Feb.	9.9	2.90	14.3	6.1	2.04	2.1	38.9	6.18	47.2
Mar.	23.8	4.63	23.0	11.0	2.38	8.0	84.4	7.73	46.4
Apr.	27.6	4.84	27.4	17.8	3.10	5.8	60.6	7.05	55.2
May	21.8	4.46	13.5	19.1	3.94	8.7	29.6	5.24	34.2
June	31.5	5.47	20.4	20.7	4.35	5.2	87.4	6.63	64.1
July	26.2	4.92	10.1	21.8	4.05	5.8	74.7	7.11	33.1
Aug.	19.5	4.31	12.0	16.1	4.04	4.1	35.7	5.14	29.5
Sept.	53.4	6.00	23.0	19.1	3.22	4.2	160.1	13.02	62.0
Oct.	12.9	3.58	11.7	15.7	3.11	2.3	27.4	4.72	35.7
Nov.	12.2	3.55	13.0	8.7	2.34	2.0	30.5	6.31	34.1
Dec.	7.9	3.06	14.2	8.7	1.96	2.7	21.1	5.02	30.6
Year	20.0	4.14	15.2	13.9	2.94	2.7	54.5	6.18	36.9
Winter	9.9	3.11	12.5	7.6	1.97	1.4	30.9	5.17	33.3
Equinox	27.6	4.72	20.9	15.5	2.91	3.5	79.6	7.97	41.5
Summer	24.5	4.78	13.4	19.3	4.07	5.1	54.2	5.94	38.3

NON-CYCLIC CHANGE

14 LERWICK 1957									
	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	-0.4	-0.13	+0.2	+3.0	+0.56	-1.9	+7.3	+1.56	+11.8
Feb.	+0.5	+0.12	0.0	+3.5	-0.05	-2.2	+25.8	+2.12	-1.7
Mar.	-3.7	-0.34	-2.3	+17.8	+0.70	-4.9	-67.4	-2.81	+22.9
Apr.	+3.7	+0.73	+0.3	+13.4	+0.41	+10.4	+7.0	+2.62	+15.4
May	+1.5	+0.23	+1.8	+8.8	+1.12	+13.9	-11.1	+0.94	+25.6
June	-20.7	-0.78	+9.6	+6.5	+0.07	-3.1	-111.9	-6.96	+52.1
July	+19.7	+0.67	-9.8	+6.2	-0.15	+5.4	+122.9	+2.59	-53.0
Aug.	-2.0	-0.24	-2.8	+6.7	+0.49	-3.3	-16.6	-1.48	-20.8
Sept.	+0.5	+0.20	+1.4	+4.8	-0.39	-6.7	-71.6	-14.39	-19.4
Oct.	+1.4	+0.06	+2.8	+2.6	+2.01	+0.9	-34.2	+1.02	+22.4
Nov.	+0.1	-0.09	+0.2	+4.0	-1.17	-5.9	-14.6	-1.09	-4.1
Dec.	-5.6	-0.36	-0.4	+2.2	+0.06	+3.3	-14.8	-0.24	+24.8
Year	-0.4	+0.01	+0.1	+6.6	+0.31	+0.5	-14.9	-1.34	+6.3
Winter	-1.3	-0.11	0.0	+3.2	-0.15	-1.7	+0.9	+0.59	+7.7
Equinox	+0.5	+0.16	+0.5	+9.7	+0.68	-0.1	-41.5	-3.39	+10.3
Summer	-0.4	-0.03	-0.3	+7.1	+0.38	+3.2	-4.2	-1.23	+1.0

AVERAGE RANGE OF DIURNAL INEQUALITY 1932-53

15 LERWICK		WITH 1957 AS PERCENTAGE OF THIS									1957		
		All days			International quiet days			International disturbed days					
		Z	H	D	Z	H	D	Z	H	D			
Year	1932-53	53.3	49.4	9.36	10.3	37.4	8.68	131.1	131.6	14.22			
	1957(%)	107	148	136	116	149	131	101	141	149			
Winter	1932-53	41.1	24.4	7.87	7.7	15.1	4.65	116.6	85.0	13.84			
	1957(%)	109	163	132	103	206	133	108	163	143			
Equinox	1932-53	68.8	59.2	10.94	12.9	42.3	9.54	168.9	193.4	18.89			
	1957(%)	110	151	133	136	146	122	86	149	147			
Summer	1932-53	53.0	72.6	12.72	17.0	57.5	12.77	134.0	156.9	15.61			
	1957(%)	104	140	133	127	133	131	104	131	121			

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

RATIO OF RANGE OF INEQUALITY AT LERWICK TO THAT AT ESKDALEMUIR 1957

16 LERWICK													
Type of day	Element	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	D	0.98	1.20	1.02	1.01	1.14	1.07	1.09	1.11	1.03	0.97	1.02	0.92
d	D	1.60	1.40	1.40	1.46	1.07	1.30	1.53	1.10	2.25	1.38	1.73	1.50
q	H	0.88	1.22	1.00	1.21	1.25	1.19	1.16	1.11	1.08	1.03	1.01	0.99
d	H	1.98	3.03	3.46	2.38	1.43	1.64	1.54	1.38	1.76	2.39	5.21	2.05
q	Z	0.69	0.60	1.78	0.88	0.82	0.74	0.62	0.67	0.79	0.60	1.11	1.17
d	Z	0.97	1.94	0.88	1.84	2.00	1.30	1.17	1.82	0.60	1.95	1.87	1.56

17 LERWICK

1957

(a) Disturbances without S.C's

Serial Number	From		To		Range (γ)			Notes
	Date	Hour	Date	Hour	H	D	Z	
1a	Feb. 3	12	Feb. 6	06	668	248	407	
2a	Mar. 1	12	Mar. 4	17	1553	775	847	
3a	Mar. 21	12	Mar. 24	12	504	238	378	
4a	Mar. 27	11	Mar. 28	21	837	555	574	
5a	Apr. 9	11	Apr. 10	21	1017	418	638	
6a	Apr. 26	06	Apr. 28	03	521	186	324	
7a	June 3	02	June 7	08	692	280	399	
8a	July 4	15	July 9	03	797	313	426	
9a	Aug. 31	05	Sept. 1	16	527	151	295	
10a	Oct. 21	10	Indeterminate		669	175	290	
11a	Nov. 25	04	Nov. 30	09	1222	643	470	

(b) Disturbances with a S.C.

Serial Number	Date	Time of S.C.	End of Disturbance		With initial reversed stroke			Magnitude main stroke of S.C.			Range of following disturbance (γ)		
			Date	Hour	H	D	Z	H	D	Z	H	D	Z
1b	Jan. 2	09.10			Yes	Yes	Yes	γ -61	γ +29	γ -26			
2b	Jan. 21	12.55	Jan. 24	08	Yes	Yes	Yes	+41	+13	+15	2425	Small 1143	910
3b	Jan. 24	19.10			No	No	-	+45	+80	0		Small	
4b	Jan. 29	13.11	Feb. 1	06	Yes	Yes	Yes	+15	-4	+6	717	253	376
5b	Feb. 12	18.50	Feb. 14	08	No	No	No	+33	-13	-13	378	255	251
6b	Feb. 23	18.05	Feb. 25	04	Yes	Yes	Yes	+35	+67	-18	857	398	688
7b	Mar. 10	00.23	Mar. 11	16	No	Yes	-	+22	-25	0	740	360	415
8b	Mar. 29	03.36	Mar. 31	18	No	Yes	Yes	+69	-54	-47	1371	699	590
9b	Apr. 17	11.37			Yes	Yes	Yes	-67	+25	-41		Small	
10b	Apr. 18	15.08			No	Yes	No	+70	-20	+5		Small (see 11b)	
11b	Apr. 18	15.38	Apr. 20	09	Yes	Yes	Yes	+89	-32	-24	156	341	504
12b	May 30	08.22	June 1	00	Yes	Yes	No	-30	-24	-4	318	135	191
13b	June 25	00.47	June 29	00	Yes	Yes	Yes	+15	-16	+2	951	230	600
14b	June 30	05.28	July 2	00	Yes	Yes	Yes	-136	-108	-57	1776	344	640
15b	July 2	08.56	July 4	01	Change of chart			Change of chart			829	248	400
16b	July 16	07.14			Yes	Yes	Yes	-15	+17	-6		Small	
17b	July 19	13.46			Yes	No	Yes	+30	0	+6		Small	
18b	Aug. 3	15.58	Aug. 4	09	Yes	Yes	Yes	+167	-46	-47	509	262	308
19b	Aug. 6	05.09			Yes	Yes	No	-41	-25	-10		Small	
20b	Aug. 9	13.49			Yes	Yes	Yes	+85	-8	+11		Small	
21b	Aug. 29	19.20	Aug. 30	23	Yes	Yes	Yes	+102	+30	-35	434	285	182
22b	Sept. 2	03.12	Sept. 4	10	Yes	Yes	Yes	-41	-30	-11	1720	593	718
23b	Sept. 4	13.00	Sept. 6	07	Yes	Yes	Yes	+212	-42	+88	2304	1391	1597
24b	Sept. 6	11.21			Yes	Yes	Yes	-15	+21	+6		Small	
25b	Sept. 13	00.47	Sept. 16	21	No	Yes	No	+43	-79	+6	1467	559	1034
26b	Sept. 21	10.05	Sept. 25	18	Yes	No	Yes	+89	+59	+44	2616	1125	1098
27b	Sept. 29	00.16	Oct. 2	06	No	Yes	Yes	+24	-18	-7	2004	1366	1173
28b	Nov. 6	18.20	Nov. 7	21	Yes	Yes	Yes	+56	-25	-24	854	329	650

17 LERWICK

1957

(c) Disturbances due to Solar Flare

Serial Number	Date	Commence- ment	Max.	End	(Movement (γ))			K	K'	Flare or S.F.E.
					H	D	Z			
1c	Jan. 6	11.36	11.38	11.41	+7	-6	-3	2	2	S.E.A.
2c	Jan. 10	11.00	11.03	11.06	+11	-16	0	3	3	S.E.A.
3c	Apr. 16	10.44	10.54	12.00	-74	0	+23	4	2	S.E.A.
4c	Apr. 17	14.59	15.07	15.22	+48	-26	+3	3	3	S.E.A.
5c	May 13	11.35	11.42	11.54	-7	+2	0	2	2	S.E.A. S.W.F.
6c	May 16	12.43	12.50	13.05	-10	-6	0	1	1	S.E.A.
7c	May 25	14.55	15.05	15.10	-15	0	0	3/2	3/2	S.E.A.
8c	June 5	13.28	13.31	13.56	0	-10	0	3	3	S.E.A. S.W.F.
9c	Aug. 2	14.35	14.39	14.45	0	-6	0	3	3	S.E.A.
10c	Sept. 7	08.10	08.18	08.30	-11	+12	+4	2	2	S.E.A.
11c	Sept. 12	15.14	15.17	15.30	0	-14	0	2	2	S.E.A.
12c	Oct. 20	16.44	17.00	17.35	0	+24	0	2	2	S.E.A.
13c	Nov. 5	12.07	12.10	12.28	-8	-3	+3	1	1	S.E.A. S.W.F.
14c	Dec. 14	12.35	12.47	13.00	-9	-8	+6	1	0	S.E.A.

S.E.A. = Sudden enhancement of Atmospherics

S.W.F. = Short wave fade-out

18 LERWICK

1957

Night commencing		Night commencing		Night commencing	
JANUARY		FEBRUARY (contd.)		APRIL (contd.)	
2 c ..	Mainly overcast	22 ca-a ☐	Cloudy then fine. Moderate rays 19h.20m., moderate glow 19h.45m., moderate glow with corona 19h.50m. to 20h.15m., only visible through cloud breaks. Faint glow 01h.50m.	22 a-c ..	Fine becoming overcast
4 c-a ..	Overcast becoming cloudy then fine			23 c-a ☐	Variable cloud. Faint glow 22h.50m. to 01h.
5 c-a ..	Overcast then fine			24 a ☐	Fine. Faint glow with some rays 22h.40m. Brighter rays in bundles 23h.40m. No aurora 01h. but faint glow again 01h.50m.
6 ca-c ..	Mainly fine then cloudy	23 ca ☐	Variable cloud. Faint to moderate aurora 19h.50m. to 21h.30m. with diffuse surfaces, rays, homogeneous and rayed arcs, fading by 21h.40m. Moderate rayed band from 22h.35m., corona forming 23h.30m. moderate to bright with pulsations at times. Faint rays only 03h. to 04h. then glow till dawn	25 a ..	Fine
7 c ..	Overcast then cloudy			26 ca ☐	Mainly cloudy. Aurora suspected behind cloud at first, then faint to moderate glow partly visible with suggestion of rays 00h.50m. and 01h.30m. to 02h.
8 c-cb ☐	Cloudy then variable cloud. Moonlight. Faint glow 02h.50m. and 03h.50m.			27 c' ..	Overcast becoming cloudy. Suspicion of aurora 02h.
9 cb ☐	Variable cloud. Moonlight. Faint glow 00h.50m.	24 ca ☐	Variable cloud. Faint glow 00h.54m.	28 a ☐	Fine. Faint rays 23h.50m. faded to glow by 00h.05m.
10 b-c ..	Fair then mainly overcast. Moonlight	25 ca-a ☐	Variable cloud soon becoming fine. Faint glow 19h.55m.	29 c ..	Cloudy. Suspicion of aurora 24h.
12 ca ..	Variable cloud	26 ca ☐	Variable cloud. Faint glow 02h.50m.		
13 ca ..	Variable cloud	27 ca ..	Mainly cloudy	MAY	
14 c-a ..	Cloudy then fine	28 ca-c ..	Variable cloud then cloudy	4 c-a ☐	Cloudy, soon becoming fine. Faint glow 23h.50m.
15 ca ..	Variable cloud				
16 cb-c ..	Variable cloud then cloudy. Moonlight			AUGUST	
17 a-c ..	Fair soon becoming overcast			17 a-cb ☐	Fine then fair. Bright moonlight
18 c ..	Cloudy			20 ca ☐	Faint corona 23h.50m. to 00h.01m.
20 ca ..	Variable cloud			24 ca ☐	Mainly cloudy. Faint rays 23h.45m. to 24h.
21 a-c ☐	Fine soon becoming overcast. Faint rays 17h.50m. to 19h. developing into rayed arc by 19h.48m. and corona by 20h. fading to glow by 20h.15m.			29 ca ☐	Variable cloud then overcast. Pulsating surface showing up very faintly 21h.50m. while still twilight
22 ca-c ..	Variable cloud then cloudy	2 ca-c ☐	Variable cloud then cloudy. Faint aurora 19h.50m. to 22h.35m. consisting of rays, diffuse surface, glows, and pulsating arc at 22h.15m. and 22h.30m. Usually visible only through cloud breaks	31 ca ☐	Variable cloud. Faint diffuse surface seen first, with rays, through cloud breaks 21h.40m., then occasionally. Faint rayed arc 00h.55m. faint corona 01h.20m., then faint rays and moderate corona again 02h.25m. to 02h.50m. with faint diffuse surface at times. Aurora last seen as faint diffuse surface 03h.10m.
23 c ..	Cloudy then overcast	3 ca ☐	Variable cloud. Faint glow visible through cloud breaks 20h.00m. to 21h.30m.		Variable cloud. Aurora seen through cloud breaks 23h. Homogeneous arc 00h.50m.
24 ca ☐	Variable cloud. Faint diffuse surface seen in clear periods 19h.50m. to 01h.53m. with faint to moderate rays 00h.55m. to 01h.53m. Faded to faint glow 02h.50m. to 04h.54m.	4 ca ☐	Variable cloud. Faint glow visible through cloud breaks 23h.50m.	SEPTEMBER	
25 a-c ..	Fair soon becoming overcast	11 c-ca ..	Overcast becoming fair	2 ca ☐	Variable cloud. Faint aurora, usually corona and covering most of sky, from 20h.50m. till 02h. when it had faded to a glow. Homogeneous arc from 21h.35m. till 23h. Rayed arc from 22h.45m. till 23h.15m.
26 ca ☐	Variable cloud. Faint glow 04h. and 06h.	12 c ..	Cloudy	3 ca-c ☐	Variable cloud then overcast. Moderate rays 21h.50m. Glow seen through cloud breaks 22h.50m.
27 a-c ..	Fair to fine then cloudy	17 ca-a ☐	Cloudy becoming fair. Faint glow 21h.52m.	5 cb-b ☐	Mainly cloudy then fine. Moonlight. Faint rays from 21h.05m. till 23h. visible in clear breaks, fading to glow 24h., then not visible because of moonlight. Faint homogeneous arc 02h.50m. Faint rays, flaming, 03h.05m. to 03h.20m.
28 ca ☐	Variable cloud. Faint glow 02h.20m.	18 ca-c ☐	Mainly cloudy. Moderate glow 20h.20m. partly obscured by cloud	9 c ..	Mainly cloudy becoming overcast
29 ca-a ☐	Variable cloud then fine. Faint aurora from 18h.05m. mainly rays and diffuse surfaces with homogeneous or rayed arcs at times. Rayed band and homogeneous band 22h.50m. Moderate homogeneous arc 00h.20m., pulsating 00h.50m., flaming 01h.10m. Fading to faint glow 01h.45m. to 04h.50m.	19 c-ca ☐	Overcast then variable cloud. Faint glow 03h.55m.	10 cb ..	Cloudy. Bright moonlight
30 c ☐	Overcast then cloudy	20 ca ..	Variable cloud	15 b-c ..	Fair soon becoming cloudy. Moonlight
31 c-ca ..	Overcast then variable	21 ca ☐	Variable cloud. Faint to moderate aurora 20h.05m. to 24h. consisting of rayed and homogeneous arcs, diffuse surface, and rays. Corona from 21h.50m. Pulsating rays 24h.	19 ca-a ..	Variable cloud then fine
		22 c-ca ☐	Overcast becoming variable cloud. Moderate rays with pulsations 23h.40m. fading to faint glow by 00h.50m. Glow observed again 02h.50m.	20 a ☐	Fine. Faint homogeneous arc 21h.45m. faded to glow by 00h.40m. Aurora gone 02h.45m.
				21 ca-a ☐	Fair to cloudy becoming fine. Faint aurora all night. Corona with rayed band at first, 19h.45m., then corona with rayed arc, either disappearing occasionally for short periods. Pulsating at time. Moderate brightness at 20h.15m. and 21h.18m.
		24 ca ..	Mainly fine	22 c-a ☐	Cloudy soon becoming fair. Active moderate corona most of night, occasionally only rays or draperies, first visible 21h.50m. when cloud cleared. Flaming 22h.30m. Rayed band 01h.25m. Aurora fading in brightness to faint from 01h.40m.
				23 a ☐	Fine. Faint to moderate aurora commenced 19h.40m. Corona, rays, draperies, rayed arcs and bands, homogeneous arc. Mainly faint after 21h. Flaming or pulsating at times. Faded to glow 02h. Still seen pulsating 03h.51m.
				24 ca ☐	Fair to fine. Very faint glow 02h.40m. to 03h.45m.
FEBRUARY					
1 ca ..	Variable cloud				
2 ca ☐	Mainly fine. Very faint glow 22h. to 01h., 05h.				
4 ca ☐	Cloudy to overcast. Faint glow visible through cloud breaks 20h.10m. and 20h.20m.				
5 ca ☐	Variable cloud. Faint glow 22h. 22h.50m. and 23h.50m. Faint homogeneous arc 00h.50m.	4 c-ca ☐	Cloudy becoming variable. Faint glow 01h.50m.		
6 c-a ..	Cloudy then fine	5 ca ☐	Variable cloud. Faint to moderate glow 23h.50m. homogeneous arc 02h.15m.		
8 c-ca ..	Overcast then variable cloud	6 c ..	Cloudy		
9 c-ca ..	Overcast then variable cloud	10 c ..	Cloudy becoming fair		
10 c-b ..	Overcast then fine. Moonlight	11 a-ca ..	Fair becoming variable		
12 c-ca ..	Overcast then variable	12 a-c ..	Fair to fine		
13 ca-c ..	Variable cloud then cloudy	15 cb ☐	Variable cloud. Bright moonlight. Moderate rays 21h.50m. Faint rays 00h.50m. and 01h.50m.		
14 b-a ..	Fine. Moonlight	17 a ☐	Fine. Moderate to bright rays 21h.40m. becoming faint by 01h.50m. Rayed arc and bright corona 23h.50m.		
15 c ..	Mainly cloudy	18 ca ☐	Cloudy becoming variable, Faint aurora seen through cloud breaks 21h.50m. but moderate to bright corona afterwards observed most of night, becoming faint by 02h.40m. Brightest around 01h. Moderate homogeneous band 23h.30m.		
19 ca ☐	Variable cloud. Faint rayed arc 18h.45m. to 19h. deteriorating to faint glow by 19h.15m. Faint rayed arc reappearing with diffuse surface 21h.30m. Back to glow 22h. to 04h.	19 a ☐	Mainly fine. Faint glow first seen 21h.50m. fading 24h. until barely visible 00h.20m.		
20 a ☐	Fine. Faint glow 20h.15m. to 01h.50m. Faint glow reappearing 02h.50m. Faint diffuse surface 03h.50m.	20 a-b ☐	Fine becoming cloudy. Very faint glow 00h.50m. to 02h.		
21 ca ☐	Variable cloud. Faint glow 20h.00m. to 20h.30m. seen through cloud breaks. Faint diffuse surface seen through cloud breaks 22h.50m., with rays 23h.50m. Faint diffuse surface 01h.30m., glow 01h.45m.	21 c ..	Variable cloud becoming overcast		

18 LERWICK (contd.)

1957

Night commencing		Night commencing		Night commencing	
	SEPTEMBER (contd.)		OCTOBER (contd.)		DECEMBER
25 c-ca ..	Mainly cloudy	24 a-ca ..	Fine becoming variable	1 cb-a ☐	Variable cloud then fine. Moonlight at first. Faint glow 22h. to 23h. developing into faint homogeneous arc 23h.30m. and then faint rayed arc 01h.20m. to 02h. Faded by 02h.20m.
26 c ..	Overcast. Fine break 04h.	27 ca ☐	Variable cloud but mainly fine. Faint glow observed in clear periods 01h.50m. to 04h.10m. disappeared 04h.50m.	2 b-ca ☐	Fine with moonlight most of night then cloudy. Faint homogeneous band 18h.40m. developing into rayed band, 19h.20m. to 22h. Faded by 20h.30m.
27 a-c ..	Fair to fine then cloudy	28 a-c ☐	Fine then cloudy. Faint glow seen through cloud breaks 23h.50m.	3 c ..	Overcast most of night then fair break with suspicion of aurora behind cloud
28 a ☐	Fair to fine. Faint homogeneous arc 03h. to 04h.	29 c-a ☐	Cloudy at first then fine. Faint homogeneous arc 21h.30m. to 22h. Brighter rays with corona 22h.30m. to 23h. deteriorating to faint glow by 23h.30m. Glow persisted to 03h.	4 b-cb ..	Fair to fine becoming cloudy. Moonlight
29 ca-a ☐	Variable cloud becoming fair to fine. Faint rays from 19h.40m. corona 21h.05m. then a diffuse surface. Moderate corona again at 22h.45m. Aurora gone 01h. but faint rays, flaming 01h.10m. and 01h.40m. becoming diffuse surface. Faint corona with glow again at 03h.50m.	30 c ..	Overcast most of night then clearing	6 cb ..	Mainly cloudy. Bright moonlight
30 c ..	Clear breaks with moonlight then mainly cloudy	31 ca ..	Variable cloud	7 cb-c ..	Variable cloud then mainly overcast. Bright moonlight
	OCTOBER		NOVEMBER	8 cb ..	Variable cloud. Moonlight
2 c-ca ..	Overcast then variable cloud	2 ca ..	Variable cloud then cloudy	9 cb ..	Fair then cloudy. Moonlight
3 ca ..	Cloudy then fair to fine	3 c ..	Cloudy	10 a-cb ☐	Fine soon becoming cloudy. Moonlight
6 c ..	Overcast then fair to cloudy	4 c ..	Cloudy		Faint homogeneous band 19h. to 20h. Bright homogeneous arc 20h.50m. Bright rays 22h.10m. developing into very bright rayed arc 22h.25m. Presence of aurora uncertain 23h. to 24h. but bright rays again observed 00h.20m.
7 a-b-c ..	Fair to fine with moonlight then Overcast	6 cb ☐	Mainly cloudy. Bright moonlight. Suspicion of aurora 22h. Bright rays 22h.30m. Rays and corona 23h. and 24h. Suspicion of aurora again at 01h. and 03h.	12 ca-cb ☐	Variable cloud. Moonlight. Faint rayed arc 18h.50m. becoming rayed band then homogeneous arc by 20h., fading to glow and again becoming first single then double homogeneous arc by 21h.05m. Deteriorating to diffuse surface by 21h.20m. then glow seen occasionally behind cloud till 24h.
8 cb ..	Mainly cloudy. Moonlight	7 cb ..	Fair to cloudy. Bright moonlight	13 a ..	Fine then fair
9 cb ..	Cloudy. Moonlight	8 cb ..	Cloudy. Moonlight	14 a-c ..	Fine then mainly cloudy
10 c-ca ..	Cloudy becoming fair	10 cb-b ..	Cloudy becoming fair. Moonlight	15 c-ca ..	Overcast becoming variable cloud
11 ca ..	Mainly cloudy	11 b-cb ☐	Fine becoming cloudy. Moonlight. Faint homogeneous arc becoming double arc then glow 20h.08m. to 20h.20m. Disappeared 20h.23m. Bright rayed arc 21h.25m. becoming faint homogeneous arc with bright draperies, then faint draperies alone becoming rays in bundles 22h. Faint glow 23h. Bright double rayed arc 00h.15m. becoming faint diffuse surface with rays 00h.40m., disappearing by 00h.55m.	16 ca-a ☐	Variable cloud then fine. Faint rayed arc 21h.40m. to 22h., deteriorated to diffuse surface by 23h. which continued till 03h.
12 c ..	Mainly overcast. Aurora suspected behind cloud 04h.			17 c ..	Mainly cloudy
13 ca-b ☐	Variable cloud. Faint rays seen through cloud breaks 00h.50m. Faint rayed arc 01h.50m., moonlight. Faint homogeneous arc 02h.50m. Faint rays 03h.50m.	13 c ..	Mainly cloudy	18 c-a ..	Mainly cloudy then fine
16 a-ca ..	Fine then variable	14 ca ..	Fine soon becoming mainly cloudy. Suspicion of aurora 22h. and 23h.	20 ca ☐	Variable cloud. Faint diffuse surface 22h. to 24h. with rays 22h.30m. and 22h.40m.
17 c ..	Overcast. Fine break 05h.	19 c ..	Overcast most of the night then cloudy. Suspicion of aurora 04h.	21 ca ..	Mainly cloudy
18 a ☐	Fair soon becoming fine. Suspicion of aurora behind cloud 20h.50m. Faint homogeneous arc 21h.15m. becoming rayed arc 21h.25m. Arc gone leaving rays 21h.50m., soon disappearing	20 ca-c ..	Variable cloud then overcast	22 c-a ..	Cloudy soon becoming fine
19 ca-c ☐	Variable cloud then fair. Faint glow 20h.50m. continuing all night but fading in moonlight 05h.	21 ca-c ☐	Variable cloud, fine, then overcast. Faint glow 22h. and 23h. Suspicion of aurora behind cloud 02h.	23 a ..	Variable cloud. Mainly fine
20 ca ☐	Variable cloud. Faint glow 20h.50m. developing into homogeneous arc 21h.05m., back to glow by 21h.15m. Moderate corona with flaming, 22h.55m. and 23h.05m., changed to faint rayed arc and pulsating surface by 23h.45m. Faint partial corona with pulsating rays 00h.04m., fading again then becoming rayed arc 00h.50m. and back to corona. Faded completely 01h.26m.	22 c ..	Mainly cloudy then overcast	24 a-c ..	Fine soon becoming cloudy
21 ca-c ☐	Mainly cloudy then fine. Faint rays seen through cloud breaks 21h. Visible again 23h. but form indistinguishable. Faint rays and corona 00h.40m. to 01h., disappeared by 01h.10m.	23 c ..	Mainly overcast	25 ca ☐	Variable cloud then mainly cloudy. Faint diffuse surface 19h. to 20h. Faint glow 22h. to 24h.
23 ca-a ☐	Variable cloud then fair to fine. Faint glow 21h.50m. to 01h.50m. disappeared 02h.40m.	25 ca-c ☐	Variable cloud then mainly overcast. Faint glow 18h. then occasionally seen through cloud breaks till 22h.	26 c ..	Mainly cloudy
		26 ca ☐	Mainly overcast. Faint glow 18h.50m. to 23h. Faint rays visible through cloud breaks 21h.25m. to 22h.	27 a ..	Mainly fair to fine
		27 ca ☐	Variable cloud mainly fair to fine. Faint diffuse surface 21h.30m. to 03h., partially obscured by cloud. Faint rays 21h.50m.	28 c ..	Mainly cloudy
				29 ca ..	Variable cloud
				30 a-ca ..	Variable cloud
				31 a-cb ☐	Fine soon becoming variable cloud with moonlight. Faint diffuse surface 20h.40m. with faint rayed band 20h.40m. to 21h.40m. Moderate rays seen in clear periods 23h. to 02h. Faint diffuse surface observed in clear periods 07h.

In the interests of brevity there have been omitted from Table 18 all dates on which the sky throughout the evening remained completely overcast and on which, therefore, no opportunity arose of determining whether or not aurora occurred. The nights on which aurora was actually seen are indicated by the symbol ☐. The nights on which aurora was not seen, despite at least an occasional interval of more or less clear sky, are indicated by the symbol ..; in the latter case also, remarks on the weather are added to assist the reader in judging how far the fact of no observation of aurora may be taken as indicating that there was not actual aurora.

The letters a, b, c, have the following significance:-

- a = Conditions favourable for seeing aurora
- b = Unfavourable for faint aurora (moonlight, mist, Cs, etc.) but not such as to mask bright aurora
- c = Cloudy, but aurora not seen in clear intervals
- ca, cb = Have been used for "Cloudy, with conditions a or b in the intervals"
- Changing conditions have been indicated by a hyphen, e.g., a-c

19 BRITISH ISLES

DATE	Φ_1	FORMS	TIME	Φ_2	DATE	Φ_1	FORMS	TIME	Φ_2	DATE	Φ_1	FORMS	TIME	Φ_2
JANUARY					APRIL (Contd.)					SEPT. (Contd.)				
1-2	61	G			22-23	61	G			29-30	42	HA, RA, HB, RB, R, S, P, F	1905-0330	53
2-3	54	HA, RA, R, F	1930-0545	61	23-24	59	HA, RA	2230-0250	65	30-1	56	G		
6-7	60	G			24-25	60	HA, RA, R	2145-0100	63	OCTOBER				
7-8	60	R	2330-0550		25-26	61	G			1-2	59	G		
8-9	60	G			26-27	57	HA, RA, RB, R, F	2200-0200	62	2-3	59	R	2100-2400	
9-10	57	R	1730-0445		28-29	56	HA, RA, RB, R, S	2110-0200	65	3-4	62	RB	2350-0300	66
10-11	56	G			29-30	60	HA	2300-0200	66	4-5	60	G		
11-12	60	G			30-1	54	G			10-11	60	RA, R	1930-0200	
20-21	62	G			MAY					11-12	60	G		
21-22	54	HA, HB, RB, R, S	1730-0100	54	1-2	61	G			12-13	60	G		
23-24	55	HA	2000-0400		2-3	60	G			13-14	54	HA, RA, HB, R	1900-0600	63
24-25	54	HA, RA, R, S	1830-0630	61	3-4	56	G			14-15	58	HA, RA, P	1935-0500	63
25-26	58	G			4-5	59	HA	2230-0145	65	18-19	60	HA, RA, R	1900-0030	65
26-27	60	G			5-6	61	G			19-20	54	RA, R, P	2025-2300	66
28-29	58	G			6-7	62	G			20-21	47	HA, RA, RB, R, S	2100-0110	60
29-30	54	HA, RA, HB, RB, R, S, F	1800-0500	61	7-8	61	G			21-22	54	HA, RA, R, S	1800-0055	61
30-31	61	G			8-9	61	G			22-23	54	HA, RA, R	2350-0230	63
31-1	59	G			13-14	59	G			23-24	57	G		
FEBRUARY					25-26	54	HB	2145-0130	62	24-25	57	G		65
1-2	61	G			JUNE					25-26	61	HA, RA, R	1900-0145	67
2-3	59	G			5-6	56	G			26-27	61	G		
3-4	58	R	2300-0420		17-18	58	G			27-28	60	HA, RA, R	2050-0200	65
4-5	56	RA, RB, R, S	1930-0500	61	25-26	58	G			28-29	60	RA, R	0145-0200	66
5-6	58	HA, R	1830-0400	66	26-27	55	R	2200-2230		29-30	56	HA, HB, RB, R	2145-0300	62
7-8	62	G			30-1	45	HA, RA, R, P, F	2200-0200	56	30-31	60	L		
13-14	60	L			JULY					31-1	62	G		
16-17	59	R	2200-2400		1-2	59	G			NOVEMBER				
17-18	59	HA	2010-2300		4-5	61	L			2-3	61	L		
18-19	58	HA, HB, R	1830-0500	64	5-6	54	G			4-5	59	HA, RB	1910-2300	65
19-20	56	HA, RA, HB, RB, R, S, F, F	1845-0400	63	17-18	55	G			6-7	52	HA, RA, HB, RB, R, S	1940-0230	57
20-21	58	HA, RA, R	2015-0515	65	25-26	55	G			8-9	59	HA, RA, R	2300-0315	65
21-22	54	HA, RA, HB, R, S, F	2000-0400	63	26-27	60	L			9-10	56	HA, RA, R	2220-0015	65
22-23	56	HB, R	1920-0530	62	30-1	60	L			10-11	58	G		
23-24	54	HA, RA, RB, R, S, P, F	1945-0620	60	14-15	60	L			11-12	60	HA, RA, S	1900-0040	65
24-25	63	G			16-17	60	L			12-13	60	G		
25-26	61	G			20-21	60	L			13-14	62	G		
26-27	62	G			27-28	59	L			14-15	58	G		
MARCH					31-1	60	G			16-17	61	G		
1-2	58	HA, RA, R	2200-0600	60	AUGUST					20-21	62	G		
2-3	54	HA, RA, HB, RB, R, S	1845-0245	56	1-2	61	G			21-22	57	R, S	2150-0500	
3-4	62	R			2-3	61	HA	2245-0045		23-24	60	G		
4-5	61	HA	1950-0300	67	6-7	54	RB, R	2335-0025		24-25	61	G		
7-8	59	RB	2025-0040		13-14	59	G			25-26	58	HA, RA	1800-0400	65
8-9	60	HA	2400-0500	66	15-16	61	G			26-27	55	RA, R, S, F	1700-0015	61
9-10	61	HA, RA	0350-0500	64	20-21	58	RA, R	2205-2355		27-28	58	R, S	1745-0300	65
10-11	61	RA	2000-2030		25-26	61	G			28-29	57	G		
15-16	58	G			26-27	59	G			30-1	61	G		
17-18	63	G			27-28	59	G			DECEMBER				
18-19	60	G			28-29	60	G			1-2	59	HA, RA, HB	2110-0220	64
19-20	58	R	2145-0355		29-30	50	HA, RA, RB, R, S, F	2120-0310	60	2-3	63	HB, RB	1840-2030	63
20-21	61	G			31-1	56	HA, RA, R	2155-0405	64	4-5	61	HA, RA	2145-0245	65
21-22	54	HA, RA, R	2005-0400	61	SEPTEMBER					5-6	60	G		
22-23	56	HA, R	2300-0430	63	1-2	62	L			8-9	60	G		
24-25	60	HA, R, F			2-3	46	RA, HB, RB, R, F	2015-0325	56	9-10	58	G		
25-26	61	G			3-4	58	R	2055-0230	63	10-11	57	HA, RA, HB, R	1900-0020	65
26-27	57	RA, RB, R	2030-0200	64	4-5	48	RA, RB, R, S, P, F	2130-0430	57	11-12	55	G		64
27-28	54	HA, RA, HB, RB, R, S, F	1930-0500	57	5-6	59	RA, R, F	2045-0320	61	12-13	57	HA, RA, RB, R, S	1810-0050	64
28-29	60	RA, R	2030-0340		8-9	60	G			13-14	60	G		
29-30	58	HA, RA, S, P, F	2140-0130	60	10-11	61	G			14-15	60	G		
30-31	61	G			12-13	54	HA, RA, RB, S, P	0255-0405	58	15-16	61	G		
31-1	59	G			14-15	58	R	2245-2340		16-17	61	RA, S	2140-0500	66
APRIL					15-16	59	R	1945-2150		17-18	61	HA, RA	1800-0330	66
3-4	60	HA, RA, RB, R, S	2135-0400	64	17-18	61	G			18-19	61	G		
4-5	57	HA, RA, RB	2000-0215	65	20-21	63	HA	2145-2350	67	19-20	60	G		65
5-6	55	HA, RA, HB, RB, R	2000-0400	63	21-22	46	HA, RA, RB, R, S, F	1900-0405	60	20-21	57	HA, R, S	1735-0245	64
6-7	61	R	2100-2300		22-23	52	HA, RB, R, S, P, F	2105-0505	57	21-22	60	G		
8-9	60	RA, RB, R	2130-2230	65	23-24	59	HA, RA, RB, S, F	1945-0355	59	22-24	62	G		
9-10	59	HA, RA, RB	2030-2340	64	24-25	60	G			24-25	61	G		
15-16	58	HA, RA, HB, R, P	2120-0300	61	26-27	61	HA, RA			25-26	57	HA, R, S	1750-0600	65
17-18	58	HA, RA, HB, R, S	2055-0215	62	27-28	62	G			26-27	61	HA, RA	1745-0200	67
18-19	54	HA, RA, HB, RB, R, S, P, F	2045-0400	59	28-29	60	G			29-30	60	G		64
19-20	56	RA, R	2150-0050		30-31	60	G			30-31	60	G		64
20-21	59	G				60	HA	0250-0400	66	31-1	57	HA, RA, HB, RB, R, S	1700-0700	60
21-22	60	G												

The above table was compiled in the Balfour Stewart Auroral Laboratory of the University of Edinburgh from all data available for the longitude of the British Isles, using mainly observations made at British Meteorological Office stations and by British voluntary observers, but including also some of the data from the Faroes, from Ireland, and from France. Acknowledgements are made to the Directors of the Meteorological Services of Denmark (for the Faroes data), Ireland, and France.

In the table, Φ_1 is the lowest geomagnetic latitude from which aurora was seen in the longitudes considered. On any night, if more than a horizon glow was seen from the British Isles, the other forms reported are listed, and the period of time (G.M.T.) during which the display was observed from the British Isles is stated. The standard abbreviations are used for the forms and types of activity: G = horizon glow; HA = homogeneous arc; RA = rayed arc; HB = homogeneous band; RB = rayed band; R = rays; S = surface; P = pulsating; F = flaming. If the forms could not be determined because of cloud or twilight, but auroral light was positively identified, the abbreviation L is used. Under Φ_2 is given the lowest geomagnetic latitude of overhead occurrence in the longitudes considered. In the absence of direct visual observations, Φ_2 is deduced from elevation measurements made in other latitudes, assuming a height of 100 Km. for the lower edges of arcs and bands.

Because of varying observing conditions, these data are in some cases incomplete: aurora may have been overhead in latitudes lower than those listed, and other forms may have occurred. Fuller details may be obtained from the Laboratory on request.

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

Factor 1.05 (metre⁻¹)

JANUARY 1957

20	LERWICK												Factor 1.05 (metre ⁻¹)												JANUARY 1957			
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean			
	0-1	1-2																										
	Volts per metre																											
1	205	175	125	125*	150*	125*	150*	175*	150*	175	-	-	-	-	-	-	-	-	-	-	-	-*	-*	-	170 (4)			
2	-	-*	-*	-	-*	-*	-	-	-*	-*	-	-*	-	-	-	-	-	-	-	-	-	125	125*	150	140 (2)			
3	125	125	105	30*	105*	150	175	105	-	Z-	Z+	175	205	150	175	230	355	230*	255*	280	255	230	230	175	190 (17)			
4	-80*	Z-	Z-	Z-	80*	0	105	105*	105*	-	-	-	-	-	-	-	-	-*	-*	-*	-*	125*	205*	80*	55 (2)			
5	55*	80*	105*	105*	150*	125	125	125	150	Z+	110*	80*	105	125*	105	105	105	105	150	125	125	105	80*	Z-	120 (13)			
6	Z-	Z-	Z+	220*	255	Z+	Z+	150	220	105	105	Z+	Z+	Z+	140*	Z+	Z+	Z+	Z+	Z+	220*	150	175*	Z+	165 (6)			
7	255	125	-	105	-	-*	-*	-*	-*	-*	(105*)	105*	125	105	125*	105*	-*	-*	-*	-	125	105	105	50	120 (9)			
8	105	80*	80	50*	25*	25	25	25	25	50	80*	50*	-*	-*	-*	-*	-*	-*	-*	-105*	0*	125*	105*	105*	50 (7)			
9	105*	Z+	125*	Z+	205	125*	105	Z+	Z+	Z+	Z+	-	-*	-*	Z+	-	-	Z+	Z+	205*	205*	Z+	Z+	Z+	155 (2)			
10	125	125	Z+	250*	Z+	80*	105	80	80	80	105	105	105	105	105	105	105	105*	125	125	105	80	80	80	100 (19)			
11	55*	-195*	-305*	-250*	-390*	-140*	30*	-170*	-305*	-*	-140*	30*	105*	80*	0*	80*	105*	80*	105*	105*	80*	0*	-110*	125*	-	(0)		
12	-220*	-195*	Z+	Z+	Z+	Z+	Z+	150*	105*	50*	50*	Z+	Z+	80*	125*	80*	105	80	80	105*	110*	125	125	105	105 (6)			
13	80*	105	80	105	105	80*	105	80	55*	30*	80	Z+	80	105*	105	80	80	105	105	125*	150*	125	105	105	95 (16)			
14	80	105	80	80	80	80	80	80	105	80	80	80	105	50*	105	105	55	30*	0*	-80*	105*	80	105	80	85 (19)			
15	80	80	80	105	80	80	50	50	50	80	80	50	50	80	105	80	80	80	50	80	80	105	105	105	80 (24)			
16	80	105	105	105	105	80	80	50	50	80	50*	80*	80*	105	105	105	80	105	105	125	105	80	80	80	80 (15)			
17	80	50	80*	80*	80*	80	30	80	50	80*	-80*	50*	105	105	105	80	105	105	105	125	105	80	80	80	85 (18)			
18	50	30	50*	50*	50*	25*	80*	105*	50*	50*	80	105	125	125	125	105	80	30	105*	80*	105	50	80*	85 (13)				
19	80*	0*	80	80	50	0	55*	0	80*	-	-	80	105	105	80	105	125	105	0	80	-110*	-170*	-220*	-195*	70 (14)			
20	-420	-140*	50*	80*	50*	50	50	80	50	25*	80	30	50*	105*	105*	80*	105*	80	205*	150	125	-	-*	-*	75 (9)			
21	-*	-	-	-*	-*	-	-	-*	-*	Z+	Z+	Z+	125*	Z+	205	150	175	150	Z+	Z+	Z+	-55	205	150	140 (7)			
22	Z+	105*	175	Z+	175*	150*	Z+	125*	125*	125	105	205	150	125	230	105	125	140*	105	105	105	Z+	-220*	105	135 (13)			
23	105	175	150	125	150	140*	0*	-195*	-280*	Z-	0*	430	405	380	330	280	240	255	255	255	255	255	170	250 (18)				
24	175*	150*	175*	280*	Z-	175*	150	150*	175*	150	105	50	0	110*	105	125	125	105	150	-	150	175	125	80	115 (14)			
25	105	80	80	80	125	150	105	125	205	255	230	205	230	230	255	175	205	255	175	150	125	105	150	110*	165 (23)			
26	-530*	-445*	-420*	-280*	230*	150*	205	205	110*	-	-*	-*	-	-*	-*	-*	-*	Z+	Z+	280*	405	405	125	270 (5)				
27	125	125	Z-	150*	Z+	Z+	Z+	170*	125*	205*	Z+	Z+	Z+	Z+	Z+	Z+	Z+	220*	150*	170*	230*	140	140	105	125 (5)			
28	80	80	80	50	50	80	105	150	175	-*	-110*	0*	125	125	110	150*	150*	170*	-*	-	-	-	-	-	100 (12)			
29	Z+	80	105	105	105	125	105	105	105	105	105	80*	305	Z+	105	125	125	150	-	-	-	-	-	-	125 (15)			
30	-	-	-	-	-	-	-	-	-	-	150	125	150	150	150	150	150	150*	110	85*	30*	105*	80*	105*	145 (9)			
31	150	175*	175	175	205	255	255	225	-110*	-55*	170*	Z-	220*	255*	255	205	Z-	Z+	Z-	-*	140*	-140*	0*	0*	215 (9)			
Mean	115	105	105	100	125	90	110	105	105	120	105	140	145	145	155	130	135	120	110	150	140	135	150	110	125 (345)			
No. of days	(15)	(15)	(14)	(11)	(12)	(14)	(18)	(17)	(12)	(12)	(12)	(12)	(17)	(13)	(18)	(18)	(18)	(14)	(13)	(10)	(11)	(19)	(15)	(15)				
	Mean for 0a days																										[75 (2)]	

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

Factor 1.02 (metre⁻¹)

FEBRUARY 1957

20	LERWICK												Factor 1.02 (metre ⁻¹)												FEBRUARY 1957							
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean							
	0-1	1-2																														
	Volts per metre																															
1	Z+	470*	260*	80*	210*	Z+	185*	170	Z+	-	-	-	95*	120	120	120	120	120	Z+	Z+	Z+	145	Z+	Z+	130 (7)							
2	170	Z+	Z+	185	Z+	Z+	Z+	-55*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175 (2)							
3	-	-	-	-	-	-	-	-	-	-	105	240	190	205	260	260	80	0*	105*	-55*	-130*	80*	95*	55*	205 (7)							
4	105*	-370*	-445*	-130*	80*	25*	155*	80*	80*	70*	70*	70	95	70	70	95	145	190	170	170	120	-55*	0*	-260	120 (10)							
5	170	145	95	95	95*	55*	50*	50*	80*	25*	-	-	-	-	-	-	Z+	Z+	Z+	Z+	240*	170*	205	95	135 (6)							
6	95	120	120	145	130*	95*	95	120	95	95	95	120	120	95	70	95	120	120	120	95	95	70	70	105 (22)								
7	70	70	50	50	50	50	70	70	70	-	-	120	120	120	145	120	240	425	405	330	170	170	0	Z+	140 (21)							
8	Z+	-260*	-155*	-210*	-155*	-210*	145*	170*	155*	Z+	330	425*	450	355	260	-105*	0*	355*	305*	380*	380	80	-55*	95*	310 (6)							
9	105*	Z+	-240*	50*	70	50	95	50	70	70*	95	95	70	Z+	55*	50*	80	95*	55*	55*	95*	170*	70*	55*	75 (9)							
10	50*	25	145	50*	25	25	25	25	25	50	70	95	95	70	70	95	95	70	95	120*	0*	Z+	-370*	25*	65 (17)							
11	70	70	50	50	50	70	120	145	170	190	240	205	190	190	205	170	170	145	80*	25*	95*	50*	-80*	-25*	140 (18)							
12	-605*	-260*	-315*	-370*	55*	95*	145	145	120	145	70	70	70	95	70	105*	-155*	0*	-340*	-370*	Z+	Z+	95	95	100 (11)							
13	70	95	120	120	145	170	145	95	Z+	25*	Z+	Z+	Z+	260*	145	145	145	145	145	190	240	170	145	95	140 (18)							
14	95	210	Z+	25*	Z+	95	95	95*	Z+	95	95	95	95	95	70	70	70	95	95	95	50	50	50	50	90 (19)							
15	50	50	50	50	50	25	70	Z+	Z+	105	240	120*	145	145	120	120	205*	190*	170	170	145	145	120	110 (19)								
16	95	95	95*	95	95	120	95	95	55*	(95*)	50*	50	70*	70*	70*	105*	105*	70*	95*	145*	210*	145*	Z+	-55	95 (8)							
17	-260*	-470*	-25*	70*	25	-260*	105*	55*	50*	Z+	70	-155*	70*	0*	70*	70	Z+	Z+	Z+	Z+	Z+	95	70	70	65 (6)							
18	50	55*	25*	130*	145*	120*	50	70	50	95	Z+	Z+	0*	25	170*	Z+	105*	50*	70	25	55*	70*	80*	50*	55 (8)							
19	70*	50*	120*	120*	170*	Z+	Z+	Z+	Z+	Z+	Z+	80*	55*	Z+	0*	Z+	155*	145	145	120	120	120	95	95	120 (7)							
20	95	70	70	70	305	190	170	95	120	120	95	120	170	120	95	120	145	120	95	70	70	95	95	70	115 (24)							
21	95	95	95	95	95	95	95	95	95*	130*	120	Z+	240	Z+	Z+	120	120	120	95	95	70	70	70	70	105 (19)							
22	70	70	50	50	50	50	50	70	70	70	50	50	70	70	70	70	70	70	50	70	95	95	70*	70*	65 (22)							
23	70	70	70	50	70	70	70	70	70	70	70	120	120	95	120	120	210*	Z+	205*	370*	170	145	145	120	100 (20)							
24	170	170	145	190	145	170	145	205	190*	-	Z+	Z+	Z+	260*	205*	205	190	205	170*	170*	190	145	120	95	95	160 (16)						
25	95	95	70	95*	120	120	Z+	Z+	185*	Z+	Z+	Z+	Z+	Z+	210*	95*	120*	80*	(130*)	95	95	95	95	95	95	95 (10)						
26	95	95	95	170	120*	145	120	120	120	120	120	95	120*	120	-	-	-	95*	120*	145*	145*	145	145	120	120 (15)							
27	120	95	95	70	70	50	50	95	145	120	95	95	95	120	120	145	170	205	260	305	305	305	240	285	150 (24)							
28	260	240	240	285	285	305	355	405	380	405	405	425	405	380	355	305	305	305	330	330	330	305	305	305	330	240 (24)						
Mean	105	105	100	110	105	105	110	120	115	130	150	130	160	140	140	135	140	165	160	160	165	135	120	115	130 (395)							
Nq. of days	(19)	(18)	(16)	(16)	(16)	(17)	(19)	(18)	(13)	(13)	(17)	(16)	(17)	(18)	(17)	(18)	(16)	(15)	(14)	(15)	(16)	(18)	(17)	(16)								
	Mean for 0a days																								180 (3)							

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

59

20	LERWICK													Factor 1.01 (metre ⁻¹)													MARCH 1957									
	Hour G.M.T.																																			
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean											
	Volts per metre																																			
1	320	270	245	195	195	-325*	0*	195	320	490	665	740	765	690	740	715	640	665	640	565	445	370	295	295	475 (22)											
2	240	220*	-300*	-105*	195	345	465	370	320	245	195	170	150	150	150	170	170	125	170	245	220	195	195	125*	225 (20)											
3	215*	125*	-135*	100*	Z+	165*	100	125	100*	Z+	125	150	105*	125*	125	125	125	100	100	100	125	215*	Z+	Z+	120 (11)											
4	-	-*	-	-	-	-	-	-	-	-	-	100	100	100*	100	100*	100	75	75	150	100	100	100	100	100 (12)											
5	100	75	75	75	75	75	75	75	75	75	75	75	75	105	55*	135*	-270*	105*	-215*	0*	50*	80*	-105*	50*	80 (14)											
6	25*	50*	30*	30*	100*	75*	75*	100*	50*	100	150	125	150	125	75	100	100	125	170	195	150	165	Z-	Z-	135 (13)											
7	Z-	Z-	Z-	Z-	-315*	170*	170*	195*	220*	195	245	295	295	395	515	Z+	565	Z+	Z+	Z+	590	515	445	395	405 (11)											
8	395	465	215	445	445	420	490	370	320	370	345	320	245	195	195	295	220	170	150*	190*	0*	135*	215*	170*	330 (18)											
9	125*	30*	80*	245*	100*	170	195	245	465	395	445	420	Z+	Z+	615	540	515	490	445	370	320	295	195	Z-	385 (16)											
10	135*	190*	100*	25*	125	395	615	665	615	640	490	590	Z+	Z+	Z+	345	420	690	Z+	420	125	165*	465*	490	475 (14)											
11	270	245	445	490	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	540	565	395	150	435*	105*	215*	395	390 (9)												
12	445	465	345	270	195	195	220	245	370	445	465	345	270	320	270	445	640	715	490	270	345	270	220	195	350 (24)											
13	170	170	150	125	125	150	170	125	125	245	395	345	270	245	195	170	150	0	0	165*	-	-	-	-	175 (19)											
14	-	-	-	-	-	-	-	-	-	-	-	125*	75*	30	55*	75*	100*	125*	150*	170*	195	150	150	125	75 (6)											
15	75	100	125	100	100	75	100	75	125	100	125	125	125	150	150	170	195	170	170	150	125	100	100	100	125 (24)											
16	100	100	75	75	55*	75	75	100	190*	Z+	-215*	30*	75*	Z+	165*	105*	80*	0*	-135*	0*	170*	195*	245*	Z-	85 (7)											
17	Z-	0*	-240*	105*	100*	100	100	100	100	100	100	125	150	125	100	100	100*	100	125	150	150	125	125	100	115 (18)											
18	100	125	100	75*	75	75	75	75	75	75	75	75	75	50	75*	-80*	55*	150*	135*	190*	150	150	100	75	90 (17)											
19	75	75	75	75	75	75	75	75	100	100	125	100	240*	-55*	30*	0*	-30*	80*	245*	295*	420*	Z+	Z+	Z-	85 (12)											
20	Z+	125*	220*	195	100	100	100	100	-55*	-	-	-	-	-	-	-	-	-	-	-	-	-	150*	0*	120 (5)											
21	30*	75	75	75	75	0*	100*	100*	-55*	(75*)	75	75	Z+	Z+	Z+	150*	150	125	125	150	100	75	75*	75	95 (13)											
22	75	Z+	30*	Z-	-55	75	75	75	75	75	75	75	75	100	125	125	150	150	150	295	445	420	420	395	160 (21)											
23	295	320	345	270	170	150	170	195	220	195	245	220	220	-	-	-	-	-	-	75	75	50	-55*	100*	200 (16)											
24	100*	150	Z+	100*	100*	100*	75*	75*	50*	75*	100*	75*	30*	-300*	-	-	-	-	(125*)	150	150	170	245	245	185 (6)											
25	220	220	270	270	270	245	245	220	195	170	195	245	245	170	195	245	270	295	220*	245*	220	170	170	170	225 (22)											
26	195	125	100*	100*	125*	150*	75*	170	170	100	125	150	195	245	245	245	270	320	320	245	245	105	270	125	205 (19)											
27	170	270	370	320	245	270	245	150	125	150	50	75	100*	75*	75*	125*	125	100	100	75	50*	75*	55*	30	170 (17)											
28	-30	30	75	100	125	150	170	125	100	125	125	100	100	75	100	150	150	150	150	100	125	125	125	100	110 (24)											
29	75	50	50	75	100	75	75	125	75	75	125	170	170	170	150	150	170	170	220	195	245	220	170	150	135 (24)											
30	150	125	125	100	125	170	150	170	170	150	150	195	195	170	125	195	195	195	195	170	150	220	150	170*	165 (23)											
31	170*	170*	150*	150*	150	150	170	195	220	170	170	195	195	195	170	170	170	170	170	170	125	125	75	100	165 (20)											
Mean	180	180	185	190	145	170	190	180	210	210	210	215	195	205	230	245	275	260	220	210	210	195	195	190	205 (497)											
No. of days	(19)	(19)	(17)	(17)	(20)	(21)	(22)	(24)	(21)	(23)	(26)	(26)	(21)	(18)	(19)	(18)	(22)	(22)	(19)	(22)	(23)	(21)	(18)	(19)												
	Mean for 0a days																							[165* (5)]												

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20	LERWICK													Factor 1.03 (metre ⁻¹)													APRIL					1957
	Hour G.M.T.																															
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean							
	Volts per metre																															
1	105	150	125	125	175	150	175	205	150	150*	125*	205	205	230	205	175	205	205	230	175	205	150	175	255		180 (22)						
2	150*	125*	125	125	150	125	150	175	150	150	175	230	85	Z-	85*	175	330	305	305	305	430	355	330	255		220 (20)						
3	280	330	355	330	305	355	355	330	280	280	330*	305*	405*	430	380	330	105*	-30*	115*	150*	-115*	0*	355	280		330 (15)						
4	230	125	125	175	125	125	125	105	105	105	105	105	105	105	105	105	125	125	50	50	50	25	25	25		100 (24)						
5	25	25	25	50	50	50	80	80	80	80	80	80	105*	85*	105*	105	80*	105	105	105	80	80	50	50		70 (20)						
6	50	30*	30	25	55	30	55	55*	50*	55*	50	30*	50	80	80	80	80	80	50	50	25	50	50	50		55 (19)						
7	50	80*	80*	80	80	80	80	80	80	80	80	80	80	80	80	105	80	105	125	150	175	125	105	50		90 (22)						
8	50	50	50	50	50	50*	50*	50*	50*	50*	80*	80*	50*	80	105	105	105	105	80	80	80	80	80	80		75 (16)						
9	80	-115*	0*	25*	50	50	50	50*	25*	25*	50*	50	80	50	50*	125*	150	125	125	105	125	105	80	80		85 (15)						
10	25	25	25	50*	80*	80*	Z+	Z+	150*	125*	105*	Z+	Z-	125*	105	Z+	Z+	150*	125*	Z+	Z+	Z+	Z+	Z+		45 (4)						
11	Z+	105	Z+	Z+	80	115	125	125*	150*	150	125	55	230*	380	175	Z+	150*	Z+	125*	125	125	125	150	175		145 (14)						
12	170*	80	Z+	Z+	105*	105	105*	105	105	105	105	125	105*	85*	Z+	Z-	Z+	380*	125	105	105	105	105	105		105 (13)						
13	105	105	105	105	105	105	105	105	105	105	125	125	105	125	150	175	105	150	105	80*	105	85	115*	105*		115 (21)						
14	115*	-55*	-460*	205*	55	150	205	125	80	105	80*	80	80	80	105*	55*	-30*	55*	80*	175*	125*	205*	145*	285*		105 (9)						
15	205*	150*	125*	175*	-85*	50*	-115*	-145*	-85*	-285*	0*	85*	175*	105	105	80*	105	105	80*	80*	80*	80*	80	80		95 (6)						
16	80	80	80	80	80*	80	55*	80	55	80	80	80	80	105	125	125	105	105	125	125*	50*	80*	55*	-345*		90 (17)						
17	-490*	-460*	-345*	-200*	0*	55*	0*	-85*	-230*	0*	80*	105*	125	125	105	105	105	105	105	80	80	80	80	80		100 (12)						
18	80	80	80	80	105	125	230	205	150	150	Z-	Z-	55*	105	80*	50*	80	105*	105*	125	Z+	230*	255*	Z+		125 (13)						
19	Z+	205*	305	Z+	Z+	380*	Z+	Z+	285	125	Z+	105	Z+	Z+	175	285*	105	105	Z+	Z+	Z+	Z	Z-	80		160 (8)						
20	80	105	105	125	125	125	125	125	125	150	125	150	125	125	150	175	355	380	255	280	175	230	305	355		180 (24)						
21	305	280	305	330	355	330	175*	255*	230*	230*	205	125	-85*	80*	105	125	125	105	105	125	105	105	105	175		190 (18)						
22	405	Z+	Z+	Z+	380	230	150	175	80	80	80	80*	80*	80*	80	80	105	150	125	150	105	125	105	80		150 (18)						
23	80	105	105	125	175	205	230	255	280	255	255	175	125	175	205	230	255	280	380	405	205	125	175	125		205 (24)						
24	105	105	125*	105*	Z+	Z-	50	105	80*	80	105	105	125	125	150	150	150	150	150	150	150	150	125	105		125 (19)						
25	80	80	80	80	80	80	105	105	105	80	80	80	105	105	105	105	105	105	105	105	105	80	80	80		95 (24)						
26	80	80	80	80	80	80	80	80	80	80	105	80	80	50	50	50	50	50	50	50	50	50	50	50		65 (24)						
27	50	50	25	25	50	50	50	50	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-		45 (9)						
28	-	-	-	-	-	-	-	-	-	-	-	80	80	80	80*	80*	80	80	80	80	80	80	-	-		80 (10)						
29	-	-	-	-	-	-	-	-	-	85	55	55*	55*	Z-	85*	-	-	115	Z+	Z+	145*	115	85	55		85 (6)						
30	55	55	55	55	30	30	30	30	55	30	30*	30*	-485*	-215*	115*	170*	145*	85*	85*	85*	85*	55*	145*	145*		45 (10)						
Mean	115	105	115	115	125	125	130	135	125	120	110	110	100	135	135	140	140	145	140	140	130	115	130	120		125 (476)						
No. of days	(21)	(19)	(19)	(18)	(21)	(22)	(20)	(19)	(19)	(20)	(18)	(19)	(16)	(20)	(20)	(18)	(21)	(22)	(20)	(20)	(20)	(21)	(21)	(22)								
	Mean for 0a days																												[125 (8)]			

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20 LERWICK		Factor 1.07 (metre ⁻¹)																				MAY 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
Volts per metre																											
1	85*	85*	115*	85*	85*	55*	85*	145*	170*	-90*	-125*	30*	55*	30*	55*	85*	115*	55	85	115*	55	55	55	55	55	60	(6)
2	30	30	30	30	55*	55*	55	55	30	30	55	30*	55*	85*	85*	55*	30*	55*	55*	55*	55*	85*	85*	85	45	(10)	
3	55*	55*	85*	90*	55*	55*	90*	145	115	55*	55	55	55	55*	55*	30*	55*	55*	85*	85*	115*	115*	85*	115*	85	(5)	
4	85*	90*	Z+*	85*	85	85	115*	Z+*	90*	115*	Z+*	115*	170*	85*	Z+*	Z+*	Z+*	Z+*	115	115	Z+*	200*	Z+*	Z+*	100	(4)	
5	Z+*	150*	145*	Z+*	Z+*	Z+*	115*	170*	230*	Z+*	Z+*	Z+*	115*	115	145	115	115*	115*	115*	125*	115*	115*	115*	Z+*	125	(3)	
6	85*	Z+	85	115	85*	85*	85*	115	85	55	90	55*	55*	85	125*	Z-*	125*	115*	85	85	85	55	55	85	85	(13)	
7	55	Z-*	30*	55	55	85	Z+*	Z+*	115*	115	85	55	55	85	115	115	115	145	145*	-	170	170	145	100	(17)		
8	145	115	115	115*	170	170	170	170	180*	200*	145*	Z+*	Z+*	Z+*	Z-*	145	145	145	145	145	145	Z+	215	170	155	(14)	
9	145	170	170	170	115	170	115	Z±	0	Z+*	145	150	115	115	115*	145*	Z+*	Z+*	170*	150	Z+	Z-*	215*	230	140	(14)	
10	90	200	230	170	145	145	90*	115*	60*	30*	-90*	145*	170	230	200	345	285	200	145	145	85	85	85	55*	175	(17)	
11	85	115	145	145	115	145	145	115	115	85	85	55	55	85	85	85	85	115	85	55	55	55	55	85	95	(24)	
12	85	0	-30	-30	0	55	85	85	115	85	55	55	55	85	115	115	85	55	30	55	55	55	55	55	55	(24)	
13	30	-30	30*	-125*	-275*	Z-*	90*	115	115	55	145	145	85	-305	Z-*	115*	345*	200	150	Z±	Z+*	Z+*	Z+*	80	(12)		
14	Z+*	Z+*	430*	115*	170*	200*	145	115	55	145	145	55	85	115	115	170	400	375	430	375	515	285	200	200	220	(18)	
15	200	230*	Z-*	375*	430*	315*	Z+*	345*	Z+*	Z+*	490	490	285	400	515	545	460	285	200	200	400	745	805	715	450	(15)	
16	600	690	490	315	315	200	145	170	170	-	-	90	Z+*	Z+*	549*	400*	115	315*	345	460	460	460	515	575	360	(17)	
17	630	430	345	285	260	285	260	230	230	200	230	285*	170*	90*	Z+*	-60*	-490*	Z+*	Z-*	200	145	170	145	115	260	(16)	
18	115	85	55	55	55	85	170	115	145	145	145	170	145	200	115	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	200*	120	(15)	
19	Z-*	Z+*	Z±	Z+*	Z+*	Z+*	Z+*	Z+*	90*	-30	-60*	0*	0	0*	30	55*	55*	90*	85*	115	85	85	55*	55	50	(7)	
20	0*	30	55	55	30	30	30	30	30	55	55	55	55	115	115	145*	85*	145	85	85	85	85	85	85	65	(21)	
21	55	30	30	30	30	55	55	85	85	85	115	115	85	115	145	145	145	115	115	-	-	-	-	85	(19)		
22	-	-	-	-	-	-	-	-	-	115	115	115	145	145	145	145	145	145	170	170	145	145	145	145	140	(15)	
23	200	145	145	145	85	115	145	115	115	115	115	115	115	170	145	170	115	115	145	115	115	115	115	85	130	(24)	
24	115	115	115	115	115	85	115	115	115	115	145	170	145	85	115	115	145	55	85	60	60	55	55	55	105	(24)	
25	30	30	55	55	85	115	115	115	115	115	115	145	145	145	145	145	145	115	115	115	115	115	85	85	105	(24)	
26	85	85	85	85	85	85	145	200	230	200	115	145	115	115	55	115	115	145	170	85	55	55	30	30	110	(24)	
27	55	30	30	55	55	55	55	55	145	170	170	115	170	145	115	115	85	55	30	55	55	55	55	85	85	(24)	
28	55	55	55	55	55	55	85	85	85	85	85	85	85	85	85	85	85	85	85	85	55	55	30	30	70	(24)	
29	55	30	30	30	30	55*	55*	55*	55	55	55	30	30	30*	30*	55*	55*	85*	85*	145*	170*	170*	170*	40	(11)		
30	145*	85*	55*	85	55	55*	55	55	55	55	55	30	30	30*	30*	30	30	55	30	30	55	55	30*	30	45	(17)	
31	55	30	30	30*	30*	30*	30*	30*	55*	30*	-60*	-60*	55*	85	30*	30	30	30*	125*	125*	60*	-90*	-215*	-275*	45	(6)	
Mean	140	120	115	100	95	110	115	115	105	100	125	115	100	115	140	150	145	135	135	140	140	150	155	150	125	(484)	
No. of days	(21)	(20)	(20)	(20)	(20)	(18)	(18)	(20)	(21)	(21)	(23)	(21)	(22)	(21)	(18)	(17)	(19)	(19)	(22)	(21)	(20)	(20)	(19)	(23)			
Mean for 0a days																											
[85 (9)]																											

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20	LERWICK												Factor 1.12 (metre ⁻¹)												JUNE 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

61

20 LERWICK		Factor 1.15 (metre ⁻¹)																						JULY 1957					
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean		
			volts per metre																										
1	240	410	Z+	680	Z±	Z±*	Z±*	Z±*	Z±*	375*	135	100	135	270*	90*	70*	100	35	70	100	135	240	270	270	210	(14)			
2	270	270	240	205	240	240	205	170	135	135	170	240	135	70	135	135	135	170	170	170	170	170	135	170	180	(24)			
3	135	70	70	100	100	100	100	135	135	170	170	135	205	240	135	100	170	170	135	170	205	170	135	135	145	(24)			
4	70	100	270	305	205	240	135	135	135	135	100	135	135	135	135	135	100	100	100	135	135	100	100	135	145	(24)			
5	135	135	135	100	100	70	70*	70*	70*	70*	70*	70*	70*	100	135	100	100	100	70	100	100	135	70	35	35	95	(18)		
6	35*	35*	35*	-60*	70*	135	135	100	170	135	100	135	170	205*	170	205*	170	100*	100*	100*	135*	100*	70	70	130	(12)			
7	100*	100*	135	100	100	100*	100*	100*	60*	30*	0*	60*	Z+	Z±	Z±*	Z±*	Z±*	135*	135*	70*	340*	645*	580	375	260	(5)			
8	240	170	135	170	340	340	270*	Z±*	545*	305*	270*	270*	170*	135*	35*	70*	30	100*	100*	70*	-30*	70*	70*	100*	205	(7)			
9	70*	-60*	90*	70*	35*	100	135*	205*	135*	100*	100*	100*	100*	100*	70*	-90*	-270*	-60*	135*	170*	205*	170*	135*	0*	100*	100	(1)		
10	100	100	100	100*	70*	100*	70*	100*	100*	135*	100*	135*	100*	70*	100*	170	100*	135*	100*	100*	100*	70*	70*	30*	30*	115	(4)		
11	0*	-300*	-690*	-480*	-210*	-30*	135*	70*	70*	170*	135*	270*	170*	100*	100*	100*	170*	135*	205	170	100	135	70	170	140	(6)			
12	135*	135*	135	70	70	135	170	205	205	170	35	35*	35*	Z±	Z±*	Z±*	-240*	Z±*	-150*	-90*	135*	170*	135*	135*	135	(9)			
13	100*	135*	170*	135*	135	170	90*	Z±*	Z±*	240*	135	170	Z±*	-240*	270	375	340	305*	305	270	375	340	305	305	270	(13)			
14	205	170	240	305	120	Z±*	150*	410	340	170	205	170	135	170	170	205	170	270	375	375	340*	Z±*	Z±*	150*	235	(18)			
15	170	240	150*	375*	340*	270	340	410	440	Z+	Z±*	Z±*	Z±*	Z±*	715	Z±*	610	645	545	410	545	375	240	170	170	395	(16)		
16	70	170*	170*	205*	205*	100*	135	240	205	-	100	100	135	135	135	205	170	135	135	35	30	100	70*	100	125	(17)			
17	100	100	100	100	100	100	100	100	100	-	100	100	100	100	100	100	135	270	410	475	270	240	205	170	160	(23)			
18	135	135	135	135	135	135	135	135	135	135	135	135	135	135	170	205	135	135	135	135	135	135	170	170	135	140	(24)		
19	135	100	100	70	35	70	35	35*	70*	(70)*	--	--	--	--	-	--	--	--	--	--	--	70*	135*	205*	270*	80	(7)		
20	240*	205*	135*	135*	135*	135*	135*	135*	135*	135*	135*	35	35	-30*	-120*	-90*	30*	Z±*	Z±*	170	135	70*	390*	170*	170*	95	(4)		
21	135*	135*	135*	135*	135*	100*	135*	205*	170*	170*	135	135	135*	135*	135*	135*	135*	135*	135*	135*	135*	135*	135*	170*	135	(2)			
22	135*	135*	170*	170*	135*	135*	135*	205*	135*	135	100*	100*	100*	35*	70*	35*	35*	35*	-	-	-	-	-	-	135	(1)			
23	-	-	-	-	-	-	-	--	--	--	--	(70)*	70*	70*	35	35*	35*	35*	35	35*	135*	170	205	170	135	100	120	(7)	
24	100	100	100	100	100	100	100*	100*	135	100	70	70	100	170	135	135	135	135	135	135	135	135	135	135	135	120	(22)		
25	135	135	135	135	135	170	240	305	240	205	135	170	170	170	170	205	205	240	240	240	240	270	170	70	190	(24)			
26	100	100*	170*	170*	240*	90*	205*	135*	170*	170*	60*	340*	270*	270*	270*	205*	205*	135*	135*	135*	135*	305*	375*	340*	100	(1)			
27	205*	375*	170*	100	100	240*	35*	70	70	100	120	90	Z-	135	135	170	205*	135*	270	170	270	340	205	100	155	(16)			
28	135	60*	100*	Z±*	-90*	60*	205*	205*	135*	100	70	0*	35*	0*	35	70	70	100	100	135	240	340	305	270	150	(13)			
29	240	270*	240*	270*	270*	(270)*	-	-	270	170	135	100	135	100	100	70	70	100	135*	340*	270*	170	240	205	150	(14)			
30	135	170	170	170	205	240	205	170	205	205	135	135	170	170	135	135	35	35	30	100	135	240	205	205	155	(24)			
31	170	135	70	70	100*	100	100	100	135	135	35	0	0	0*	70	100	100	70*	135	135	205	205	205	205	115	(21)			
Mean	150	160	140	170	140	160	160	190	195	145	110	125	135	170	135	180	155	165	195	195	190	200	190	170	165	(415)			
No. of days used	(20)	(16)	(16)	(17)	(16)	(17)	(13)	(14)	(16)	(15)	(20)	(18)	(15)	(15)	(18)	(17)	(20)	(15)	(19)	(20)	(18)	(19)	(20)	(21)					
Mean for 0a days																										[145 (9)]			

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20 LERWICK		Factor 1.17 (metre ⁻¹)												AUGUST 1957															
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean		
			volts per metre																										
1	170	Z--	100*	70	35	170	205	170	135	135	100	135	135	135	135	135	135	135	135	170	170	100*	135*	205*	205*	135	(18)		
2	205	205	205	205	240	170	135	100*	70*	35*	135*	170	205*	205*	170*	135*	170*	100*	170*	170*	240*	270*	270*	305*	190	(8)			
3	--	--	--	--	--	--	--	--	--	--	135	100	135	100	70	100	135	170	170	170	170	205	135	100	130	(14)			
4	70	70	35	35	35	35	70	100	100	100	135	135	100	100	135	135	170	135	170	170	205	205	205	205	120	(24)			
5	170	135	100	70	35	135	205	240	270	-	205	340	305	270	270	305	435	340	305	375	375	305	270	240	250	(23)			
6	240	170	70	100	100	100	70	35	35	70	135	100	100	100	70	135	135	135	135	100	205	170	135	170	100	115	(24)		
7	70	70	70	35	35	35	35*	70*	100*	135	100	70	100	100	100	100	135	135	135	135	170	240	240	205	135	115	(21)		
8	135	100	100	100	100	70	70	100	135	135	135	170	135	170	170	205	240	205	205	240	240	240	205	170	155	(24)			
9	135	100	135	100	135	135	135	135	170	135	135	70	100	100	100	0*	0*	0	35	70	70	100	70	100	105	(22)			
10	70	100*	205	170	100*	60*	135*	205*	70*	-	-	35*	35	35	70	70	135	205*	100*	70*	70*	100	70	70	95	(11)			
11	70	70	70	70	35	35*	35	35	70*	70*	70*	70*	70*	70*	70*	70*	70*	70	70	70	70	70	70	135*	100*	60	(11)		
12	100*	100	100	100	100	100	100	100	100*	100*	100*	100*	100*	100*	100	100	100	70	70	70	100	170	170	135	135	100	(18)		
13	35	35	35	70	100	100	135	135	100	135	135	35	35	35	35	35	35	0	70	135	170	205	205	170	90	(24)			
14	100	170	100	100	100	100	70	70	135*	35*	-125*	Z--	-60*	-370*	-155*	-30*	-340*	-715*	-465*	-125*	-215*	30*	70*	70*	100	(8)			
15	135*	135*	100*	70	70	100	100	100	70*	(35)*	35*	0	0	35	70	70	70	70	70	70	100	70	135	70	70	(18)			
16	70	70	70	70	70	35	70	35	70	70	70	35	35	70	70	70	70	135	240	340	440*	440	580	305	135	(23)			
17	240	270	205	240	205	305	270	205*	205*	205*	100	70	135	170	135	70	70	70	100	70	100	100	100	70	145	(21)			
18	70	35	35	70	35	70	100	70	70	70	100	100	100	100	100	135	100	70	70	135	135*	135	135*	100*	85	(21)			
19	70*	35*	-370*	-340*	-900*	--	--	--	240*	410*	305*	205*	--	--	70	100*	135*	135*	240*	270*	240*	205	205*	170*	140	(2)			
20	100*	100*	100*	--	--	--	-	70	70*	(135)*	125*	Z+*	170	135	100	100*	100	100*	100	100	100	135*	100*	100*	70	105	(8)		
21	70	70	70	135	70	35*	35	70	100	100	100	100	100	70	70	100	135	135	135	135	135*	70	100*	135*	100	90	(20)		
22	Z+	Z+*	135	95*	Z--	170*	205*	135*	135*	70	70	135	170	170	170	135	135	135	170	205	170	170	135	70	140	(16)			
23	135*	205*	170*	170*	135*	205	270	240	205	170	135	70	70	100*	205	170	205	205	205	-95*	Z+*	Z+*	405*	545	205	(14)			
24	610	410	240	205	205	170	135	70	-60*	70*	100	70*	35	-30	0*	30	35	35*	35	70	170	100	135	135*	150	(18)			
25	100	0*	Z+*	Z+*	35*	35	100	100	70	70	70	35*	35	35	35	35	70	70	35*	35*	35	35	35	70	60	(17)			
26	35	70*	30*	-185*	-125*	35*	-60*	-310*	-525*	Z--	-435*	-370*	-250*	30*	35*	70*	35*	70*	205*	100*	125*	60*	95*	100*	35	(1)			
27	100*	70*	100*	70*	135*	100*	205*	270	205	135	35	35	35*	100*	100	70	70*	100*	100	100*	Z+*	100*	-250*	-155*	120	(8)			
28	Z+*	Z+*	95*	Z+	70*	70*	35*	100*	135	100	70	70*	35*	35	35	70	35	35	35	70	70	70	70	70	65	(14)			
29	70	70	35	35	35	35	35	-	-	-	-	-60*	-155*	-465*	Z+*	Z+*	Z+*	Z--	305*	270*	240	270	Z+*	Z+*	90	(9)			
30	170*	60*	170*	95*	Z+*	135*	95*	170	135	135*	135*	135	135	170	135	135	135*	100	135	135	170	170	135	135	145	(14)			
31	170	170	170	135	135	135	170	170	240	270	205	135	170	170	205	170	135	100	70	100	205	170	135	170	165	(24)			
Mean	140	130	110	105	95	110	120	120	135	115	110	110	105	105	105	105	120	115	125	155	160	170	165	150	125	(498)			
No. of days used	(21)	(18)	(20)	(21)	(20)	(20)	(21)	(20)	(16)	(16)	(20)	(20)	(23)	(23)	(25)	(22)	(23)	(21)	(24)	(21)	(20)	(23)	(19)	(21)					

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20	LERWICK													Factor 1.21 (metre ⁻¹)													SEPTEMBER 1957				
	Hour G.M.T.																														
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean						
	volts per metre																														
1	115	115	85	115	85	115	115*	115*	145*	320	175	115	115	115	85	145	115	115	85*	60*	85*	115*	115	85	125	(17)					
2	85	85	85	85	85	85	115	115	85*	115	85	85	60*	85*	85	115	115	115	115	115	85	115	115	115	100	(21)					
3	85	115	115	85	85	115	115*	115*	85	-	85	115	85	115	85	115	115	145	115	145	115	115	85	115	105	(21)					
4	115	115	85	85	85	60*	145*	145*	-	-*	-*	-*	-*	-*	-*	-	-	145	320	200	175	145	60	60	135	(12)					
5	145	115	145	60	115	115	-	-	-	-	145	115	60	115	200	-	-	Z+*	320*	85*	85	60	85	60	110	(15)					
6	60	60	60	85	85	60	85	85	85	60	85	115	115	145	175	200	230	200*	-60*	-30*	230	Z+*	Z+*	230*	110	(18)					
7	Z-*	Z-*	Z+*	Z+	375	290	290	290	230	200	145	175	175	200	175	85	115	85	60	85	Z-*	85*	85*	85*	185	(16)					
8	60*	-60*	30*	-30*	-30	30	30	30	30*	60	30*	30	60	30*	0*	85	85	85	85	60	85*	115	60*	60*	60	(12)					
9	30	30*	0*	-30*	60	85	115	145	350	260	175	175*	175*	175*	175*	115*	145*	175*	200*	200	175	175	230	230	170	(13)					
10	200*	260*	145*	145*	85	115	145	145	145	175*	200	85	0*	60*	60	60*	115*	90*	85*	115*	85*	115*	115*	60	115	(9)					
11	85	60	60*	60*	30	30*	60*	85*	85	(85)*	60*	30*	60	85	85	60	85	60	85	85	115	85	85	60	75	(16)					
12	115*	115*	85*	60	85	85	85	60*	30*	60*	30*	30	60	60	60	60*	60*	85*	85*	85*	115	60*	-120*	-240*	70	(9)					
13	-120*	-150*	-270*	-390*	0*	60*	85*	85*	85*	85*	60*	85	60	85	60	60*	60*	60*	60*	60*	0*	60	60	85	70	(7)					
14	85*	85*	60*	-60*	-30*	-120*	-90*	-60*	-60*	(-60)*	0*	60*	30*	-30*	-60*	30*	60*	60*	60*	85*	30*	60*	60*	0*	-	(0)					
15	60*	60*	60*	30*	60*	30*	60*	30*	60*	-90*	-*	-*	-*	-*	-*	-	-	-	-	60	85	85	60	60	70	(5)					
16	30	60	85	85	85	60	60	85	85	60	85	60	85	85	85	115	115	85	85	115*	115*	60	85	60	80	(24)					
17	60	60	30	30	30	30	30	30	85	60	60	60	85	85	85	115	85	85	115*	-240*	-180*	-90*	0*	0*	60	(18)					
18	200*	280*	320*	230*	85*	-60*	175*	145	290	145	280	230	Z+	60	280	Z+	Z+	115	145*	115*	Z+*	Z+	85	85	170	(10)					
19	145*	115*	115*	175*	200*	115*	60*	175*	175	-90*	85*	85	85	60	85	85	60	85	85	115	145	115	115	85	100	(14)					
20	85	85	115	85	85	85	30	-*	-*	-	-	-	-	-	115	85	85	60	60	85	145	145	115	85	90	(17)					
21	60	60	30	60	60	85	85	85	175	115	85	85	115	145	115	115	175	145	175	175	175	200	145	115	115	(24)					
22	60	60	30	30	60	60	85	115	115	85	-	-	-	-	-*	-*	-*	-	-	-*	85	115	85	85	75	(14)					
23	0	60	85	85	85	115	145	175	145	145	85	85	115	115	85	115	145	145	115	115	145	85	85	85	105	(24)					
24	85	85	60	60	60	85	60*	60*	60	85	60*	30*	30*	60*	60*	85	145*	145	85	85	85	115	85	60	85	(16)					
25	60	85	85	60	60	60	60	115*	85	85	-	-*	-	-	-	-	-	-	-	-	-	-	-	-	70	(9)					
26	-*	-*	-*	-*	-*	-*	-	-	-*	-*	0	-30*	-210*	-150*	-150*	-30*	-330*	-60*	60*	30*	60*	60*	-120*	60*	0	(1)					
27	85*	85*	85*	85*	115*	60*	85	30*	60*	85*	30*	60*	85	85	60	60*	85*	115*	115	115	85	85	85*	60	85	(9)					
28	60*	60	-90*	60*	60	30*	60*	30	-90*	90*	60	145	85	Z+*	60*	-210*	-450*	-240*	85*	85	115	60*	115*	115*	80	(8)					
29	115	145	85*	60	60	60*	60	60	30*	30*	60*	30*	30*	60*	60*	60*	30*	60*	85*	0*	60*	30*	85	115	85	(8)					
30	85	85*	60*	60*	-30*	85	85	85	85	60*	30	60	60	30*	60*	60*	60*	85	115	145	115	115	115	60*	85*	90	(14)				
Mean	75	85	80	70	80	95	95	115	140	135	105	100	90	105	110	110	115	110	115	115	125	110	95	90	105	(401)					
No. of days used	(18)	(17)	(14)	(16)	(22)	(19)	(17)	(14)	(17)	(13)	(17)	(18)	(16)	(15)	(18)	(14)	(14)	(16)	(14)	(17)	(19)	(18)	(18)	(20)							
	Mean for 0a days																									[100 (6)]					

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20	LERWICK													Factor 1.19 (metre ⁻¹)													OCTOBER 1957				
	Hour G.M.T.																														
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean						
	volts per metre																														
1	85*	85	85	85	85	60	85	60	90	-	60*	60*	60*	60*	85*	85*	85*	30*	145*	60*	60*	0*	85*	60*	80	(8)					
2	0*	-120*	85*	85*	85*	115*	115*	175*	85*	115*	85*	115*	145*	145*	115*	-120*	-*	-*	-*	115*	85*	60*	115*	115*	-	(0)					
3	115*	85*	85*	85*	115*	145	115	115	145	-	-	85*	85*	85	115	85	85	85	115	115	85	85	85	85	105	(15)					
4	85	85	60	60	60	85	85	85	85	60	30	60	115	85*	60*	85	85*	85	30*	90*	60*	0*	-390*	-*	75	(15)					
5	-*	-*	-*	-*	-*	145	145	115	85	85	60	60	60	60	60*	85*	85	115*	145*	60*	85*	145*	85*	405*	90	(10)					
6	145*	30*	60*	60*	85*	85*	115	115*	85	60	85	60	30	60	60*	30*	115*	85*	175*	175*	85*	85*	85*	115	75	(8)					
7	85	85	85	85	115	115	85	115	145	145	115	175	175	205	175	230	260	290	320	320	260	230	115	115	170	(24)					
8	60	85	85	85	115	115	115	85	85	85	85	85	115	85	85	85	145	230	205	205	290	260	205*	230*	125	(22)					
9	145*	145	115	85	60	60	60	60	85*	60	30	60*	115*	115	85	115	115	85	85	85	85	85	115	85	85	(20)					
10	115	85	60	60	85	85	60	85	85	85	60	60	30	60	60	60	85	60	85	85	60	30	60	60	70	(24)					
11	60	60	60	60	60	60	85	85	60	85*	85	60	-	60	85	60*	85*	85	-*	85*	60*	85*	85	0*	70	(15)					
12	30*	30*	60*	60*	60*	30*	30*	30*	85	85	60	-*	-*	-*	30*	30*	30*	-30*	60*	60*	30*	-90*	85*	60*	75	(3)					
13	60*	30*	85*	85*	85	115	85	85	60	85	60	60	60	85	85	85*	115	60	115	115	60	60*	60	60	80	(18)					
14	30	60*	30	60	30	60	30	60	60	60	60	60	85	85	60	0	115*	-60*	115*	85*	-150	145*	145*	230*	45	(15)					
15	145	115*	115	205	205	205*	230*	320*	230*	205*	230*	60*	115*	-90*	0*	175*	-*	-*	-	-*	350*	115*	-150*	290*	165	(4)					
16	150*	115*	-150*	-150*	85*	-90*	60*	85*	175*	85	30*	30	60	60	85	60	85	115	60	Z+*	290	115	145	85	100	(13)					
17	145	85	85*	85	85*	85	85	85	85	85*	60*	85*	85*	30*	60*	85*	60*	-420*	-480*	60*	60*	Z+*	-300*	95	(7)						
18	205*	-120*	-210*	115*	115	115	Z+*	0*	Z+*	Z+*	Z+*	Z+*	145*	145*	85*	85	115	Z+	230*	145*	115	60	60	60	90	(8)					
19	-	-	-	-	-	-	-	-	-*	-*	60	60	60	30	85	85	85	85	85	85*	60	85	60	60	70	(13)					
20	85	60	60	60	60	60	85	115	85	60	180	-480*	-540*	-120*	-90*	115*	115	115	180*	145	85*	85	85*	60	90	(16)					
21	85	115	115*	Z+*	Z+*	85*	115*	Z+*	Z+*	-*	60*	85*	115*	85*	60*	85*	60	115	115*	60*	145	Z+*	0*	115*	105	(5)					
22	85*	85	85*	85	85*	85*	85	85	85	85	60*	60	60	60	60	60	60	60*	85*	115	-300*	-390*	-510*	-330*	75	(13)					
23	-210*	-420*	-570*	-300*	-120*	30*	60*	85*	60*	60	60	60*	60*	85	115*	115*	85	145	145	115	Z+*	Z+	Z+	Z+*	100	(7)					
24	Z+*	Z+*	Z+	145*	85*	60*	85	90*	60*	60	-	-	-	-	-	-	-	-	-	-	60	60*	60	60*	65	(4)					
25	60	60	115	115	115	145	85	0	60*	-60*	-180*	90*	175*	260*	350*	290*	175*	175*	175*	205*	290*	375*	320*	320*	85	(8)					
26	175*	180*	0*	85*	85*	115*	60*	115	145	115	85	85*	60*	60*	85	115	85	115	115	115	85	85	60	60*	100	(13)					
27	30	60	30	30*	30*	30*	120*	420*	330*	-*	-*	-*	150*	90*	0*	145*	175*	Z+*	175*	115	145	145	145	205	120	(7)					
28	115*	145	175	145*	115	115*	Z+*	Z+	115	Z+	Z+*	Z+*	Z+*	Z+*	Z+*	Z+*	-	-	-*	-	-*	-*	-*	-*	135	(4)					
29	-*	-*	-*	-*	-	-	-*	-*	-*	-*	-*	-*	-*	115	115	-*	-*	85*	230*	145	85	60	60	60	90	(7)					
30	60	60	60	60	60	60	60	60	60	60	60	60	60	115*	60	-60*	60*	85*	60	60	60	30*	85*	0*	60	(17)					
31	60*	115*	60*	60*	115*	115	115	115	115	115*	145	175	115	115	115	Z+	115*	145*	145*	Z+*	Z+*	Z+*	Z+*	175*	125	(9)					
Mean	85	85	80	85	90	95	90	85	95	80	80	80	80	85	90	95	105	120	125	135	110	110	85	85	95	(352)					
No. of days used	(12)	(15)	(14)	(14)	(15)	(17)	(19)	(18)	(19)	(17)	(17)	(14)	(13)	(16)	(15)	(11)	(15)	(14)	(11)	(13)	(16)	(12)	(13)	(12)	115	(4)					
	Mean for 0a days																														

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

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20 LERWICK		Factor 1.07 (metre ⁻¹)																				NOVEMBER 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
volts per metre																											
1	80	80	105	105	-85*	Z±	Z±	105	80	80	80	50	105*	80	105*	55*	80	80	80*	-55*	140*	130*	80*	105	85	(13)	
2	Z±	80	105	105*	105*	105	50	50	50	50	50	80	105*	140*	-85*	105	155	260	195	180*	235	235	260	210	135	(17)	
3	Z±	Z±	130*	180	235	Z±	Z±	-140*	30*	105*	180*	210	155	235	260	310	235	Z±	Z±	Z±	Z±	-365*	30*	225	(8)		
4	55*	-170*	25	50*	80	Z±	Z±	105*	105	180	155	235	155	105	105	105	130	105	105*	80	105	130	105	120	(17)		
5	50	30	130*	80	80	155	Z±	250	210	105*	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	-505*	-85*	-30*	120	(7)	
6	-85*	0*	-170*	55*	50*	50	85	55*	50*	85*	Z±	210*	Z±	250*	Z±	Z±	105*	Z±	Z±	155	0*	Z±	80*	55*	95	(3)	
7	Z±	Z±	Z±	Z±	Z±	-85*	Z±	Z±	80	105	105	105	180	105	105	130	105	105	155	55	-110*	Z±	80*	80	110	(13)	
8	55*	-85*	50	80	80	80	50	50	50	50	50	-	50	50	50	50	50	50	50	50	50	50	25	25	50	(20)	
9	0	0*	25	-30*	25*	0*	25*	25	25	25	25	50	50	50	80	50	105	155	130	105	80*	50*	80	50*	60	(16)	
10	50*	25*	25	25	0*	-30*	25*	0*	25	25	25	50	80	105*	105	105*	155*	155*	180*	155*	155*	155	105	105	70	(11)	
11	105	105	105	105	105	80	105	105	130	130	155	105	105	105	130	180	180	180	210	235	155	105	105	80	130	(24)	
12	80	50	50	50	80	50	50	50	50	-	-	50	50	80*	25*	25*	50	85	50*	50*	80	105	105	105*	65	(16)	
13	80	80	80	80	105	80	80	80	80	80	25	25*	50*	50	50*	50*	50*	130*	155*	105*	80	80	80	75	(15)		
14	80	80	80	50	50	50	50	50	50	50	105	80	105	105	105	80	80	80	105	80	50	50	50	50	70	(24)	
15	25	25	25	25	25	50	50	50	80	80	80	50	80	80	50	50	50	80	80	80	80	50*	50*	50*	55	(21)	
16	50	50	50	50	50	50	25*	0*	0*	25*	25	50	80	80	80	55*	55*	105	105	105	55*	50*	50	80	65	(16)	
17	50	50	80	50	50	80	80	80	80	80	50	80	80	105	105	105	105	130*	180*	155	130	105	105	85	(21)		
18	105	80	55*	80*	105*	80*	105*	155*	180*	180*	210*	210*	210*	210*	260*	340*	340*	310*	285*	340	310	340	260	235	240	(7)	
19	210*	155*	130	130	155	155	210	210	210	235	260	260	260	285	310	285	210	285	285	310	810	235	180	210	230	(22)	
20	180	155	235*	235*	210*	180*	130*	80	50	80	80	50*	80*	80	50	50	105	260	235	130	105	105	105	105	115	(17)	
21	80	80	80	105	210	155	210	180	155	210	-225*	Z±	-85*	-55*	85	55*	105*	Z±	Z±	130	130	Z±	105	Z±	135	(14)	
22	Z±	55*	Z±	140*	50*	50*	50	80	Z±	80*	80	105*	50	50	80	80*	50	50	80	105	105	80	80	50	70	(14)	
23	80	80	Z±	Z±	50*	85*	80*	80	105*	80*	(80)*	30*	25*	25*	25*	25*	25*	25	50*	50*	50	50	50*	50*	60	(6)	
24	80*	50*	50*	30*	80*	55*	0*	55*	50*	50*	25*	0*	25*	25*	25*	25*	30*	25*	50*	50*	105	130	105	155*	115	(3)	
25	130	80	80	80	55*	105*	180*	235*	180	105*	80*	105*	130*	105*	80*	105*	80*	80*	105	105	105	105	80	80*	105	(10)	
26	50*	25*	Z±	80*	55*	55*	105	85	85*	105	105	105	105	105	105	105	80*	80*	105	-	-	-	-	-	105	(10)	
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	(4)	
28	50	30*	50	50	50	80	50	80	80	80	50	50	105	130	155	235	260	180	180	155	105	105	105*	105*	80*	110	(20)
29	50*	50*	50*	0*	80*	55*	55*	55*	80*	105*	210*	310*	340*	285*	180*	155*	210*	235*	235*	155*	180*	155*	130*	80	80	(1)	
30	50	50	80	50	80	105	105	105	80	105	-	80	50	130*	130*	105*	210*	210*	155	140	80	130	105	155	95	(18)	
Mean		75	70	70	75	95	90	90	95	95	95	90	105	105	105	120	135	115	130	140	140	125	130	110	110	105	(408)
No. of days used		(17)	(16)	(18)	(17)	(15)	(15)	(15)	(19)	(20)	(18)	(16)	(17)	(17)	(17)	(17)	(14)	(16)	(17)	(16)	(16)	(19)	(18)	(20)	(18)		
		Mean for 0a days																								110	(8)

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

20	LERWICK													Factor 1.01 (metre ⁻¹)													DECEMBER 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

ELECTRICAL CHARACTER OF EACH DAY AND APPROXIMATE DURATION OF NEGATIVE POTENTIAL GRADIENT

21 LERWICK

1957

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	-	hr.	(1c)	1.7	1b	0.8	0a	...	1b	1.6	-	hr.
2	-	-	-	-	1b	1.3	1b	0.9	0a	...	0a	...
3	(1b)	(0.5)	(1b)	2.3	1b	1.2	1b	1.8	1b	0.1	0a	...
4	(2b)	-	2b	5.3	-	-	0a	...	1c	1.7	0a	...
5	1b	1.1	(1b)	-	1b	2.9	1a	0.1	1c	0.7	1c	2.5
6	1c	2.1	1a	0.1	1b	2.3	1a	0.9	1b	0.6	(1b)	-
7	-	-	1b	1.2	2b	4.6	0a	...	1b	0.7	1b	1.3
8	-	-	2c	(6.5)	1b	1.2	0a	...	1c	0.9	2c	4.0
9	(1c)	-	1b	2.4	1b	0.4	1a	0.7	1c	1.8	(1b)	-
10	1b	0.3	1b	2.0	1b	0.9	1c	1.5	1b	1.5	1a	0.3
11	2b	(9.5)	1a	1.9	1b	0.9	1c	1.1	0a	...	1a	0.4
12	1c	2.9	2b	(8.1)	1a	0.2	1c	1.4	1a	1.3	0a	...
13	1b	0.5	1b	1.0	-	-	1a	0.3	2c	5.4	0a	...
14	1a	1.5	1b	0.6	-	-	2b	3.6	1b	0.5	0a	...
15	0a	...	1b	0.9	0a	...	2a	4.5	1b	0.3	0b	...
16	0a	...	1b	1.1	2b	4.4	1a	1.4	1b	0.9	(0a)	...
17	1a	0.6	2c	(4.9)	1b	2.2	2a	6.8	2b	3.5	1b	0.6
18	1a	0.4	1b	(1.8)	1a	0.9	1b	1.5	2c	6.9	0a	...
19	2b	4.9	2c	(4.5)	2b	3.0	1c	1.4	2c	3.9	0a	...
20	(1b)	(2.9)	0b	...	-	-	0a	...	1a	0.1	0a	...
21	-	-	1b	0.5	1b	1.5	1a	0.4	0a	...	1b	1.6
22	1c	0.7	0a	...	1b	1.2	0b	...	0a	...	2c	3.2
23	2b	4.5	1b	0.1	-	-	0a	...	0a	...	1b	0.7
24	1b	1.3	1b	0.5	-	-	1b	0.6	1a	0.1	1a	0.3
25	1a	0.1	1c	2.7	0a	...	0a	...	0a	...	0a	...
26	2c	-	(0b)	...	1a	0.2	0a	...	0a	...	1a	0.2
27	1c	2.8	0a	...	1a	0.1	-	-	0a	...	1b	0.3
28	(1a)	(1.7)	0a	...	1a	0.3	-	-	0a	...	1b	0.9
29	1b	0.2	-	-	0a	...	-	-	0a	...	1a	0.6
30	1a	0.3	-	-	0a	...	1b	1.7	0a	...	1a	0.1
31	(2c)	6.1	-	-	0a	...	-	-	2a	5.0	-	-
Total	-	44.9	-	50.1	-	30.5	-	30.6	-	37.5	-	17.0
No. of days used	-	23	-	26	-	25	-	27	-	31	-	27
Mean	-	2.0	-	1.9	-	1.2	-	1.1	-	1.2	-	0.6

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	1c	hr.	1b	hr.	0a	hr.	1a	hr.	1b	hr.	0a	hr.
2	0a	2.4	0a	0.5	0a	...	-	0.7	1b	1.9	0a	...
3	0a	...	-	-	0a	...	-	-	1b	0.6	0a	...
4	0a	...	0a	-	0a	...	1a	0.1	2c	5.2	1a	1.0
5	0a	...	0a	...	(0b)	-	2a	-	1b	1.9	1a	0.4
6	1a	0.5	0a	...	-	-	-	-	2c	10.6	1a	1.8
7	2b	4.1	0a	...	1b	1.4	1a	0.1	2c	3.2	2c	3.4
8	1b	0.7	0a	...	1b	2.4	0a	...	1c	2.4	-	-
9	2a	3.2	1a	0.2	2b	3.8	0a	...	1a	0.4	1b	1.4
10	1a	0.3	-	-	1a	0.9	0a	...	1a	0.6	-	-
11	2b	4.5	0a	...	1a	1.1	0a	...	1a	0.8	0a	...
12	2c	3.7	0a	...	0a	...	1b	1.0	0a	...	1c	2.7
13	1c	0.9	0a	...	1b	1.8	1a	2.7	1a	0.1	1a	0.2
14	1b	2.6	2b	9.5	2a	4.8	1a	0.5	0a	...	0a	...
15	1b	0.3	1a	0.1	2a	9.0	1a	2.1	0a	...	0a	...
16	1a	0.1	-	-	-	-	-	-	0a	...	2b	4.2
17	0a	...	0a	...	0a	...	1c	2.7	1a	0.4	1c	1.1
18	0a	...	0a	...	1b	3.0	2b	3.9	0a	...	(1b)	0.2
19	-	-	0a	...	1b	1.5	1c	2.4	1a	0.3	1b	1.9
20	1b	2.5	-	-	1a	1.0	-	-	0a	...	2b	5.3
21	0a	...	-	-	-	-	2a	4.0	0a	...	1b	2.2
22	-	-	1a	0.1	0a	...	(1c)	-	2c	3.3	2c	6.1
23	-	-	1b	1.1	-	-	2a	4.0	1b	0.8	1b	1.7
24	0a	...	1b	1.0	1a	0.2	2b	5.1	1b	0.5	1b	0.7
25	0a	...	1b	1.1	1a	0.6	-	-	1a	1.6	1b	0.5
26	1a	0.9	1b	0.6	-	-	1b	2.4	0a	...	1c	2.6
27	1b	0.5	2b	7.9	-	-	1a	1.3	1b	1.0	1b	2.8
28	1b	1.2	1b	0.9	1a	0.7	-	-	-	-	1b	2.4
29	-	-	1b	0.8	2b	4.0	-	-	1a	0.2	1c	0.8
30	1a	0.1	-	-	1b	1.5	-	-	1a	0.8	1c	1.4
31	1a	0.3	1b	1.6	1a	0.8	1b	1.4	1a	0.1	1c	1.2
Total	-	28.8	0a	...	1c	1.1	-	-	-	-	1c	2.1
No. of days used	-	27	-	26	-	23	-	21	-	29	-	29
Mean	-	1.1	-	1.0	-	1.7	-	1.7	-	1.3	-	1.7

Annual values: Character 0 1 2
No. of days used 90 186 47

Duration: Total 423.6
No. of days 314
Mean 1.35 hr.

ESKDALEMUIR

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

JANUARY 1957

	Hour G.M.T.																								Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		14,000+
1	701	700	699	700	700	699	701	700	701	698	697	680	682	684	686	683	678	686	694	703	703	701	701	701	695	2678
2	702	697	698	697	698	699	702	702	701	699	700	694	690	699	702	702	702	714	720	705	660	649	662	644	693	2678
3	667	659	659	661	663	665	664	665	666	663	661	662	658	665	669	673	676	677	682	687	687	683	690	686	670	2638
4	688	688	689	688	684	689	690	688	678	678	678	677	682	686	686	685	688	693	695	698	697	695	693	697	688	2088
5 q	699	699	700	701	702	702	701	697	695	690	683	682	683	690	695	694	698	703	706	703	704	700	698	693	697	2510
6	697	696	697	702	706	716	716	713	705	697	687	682	673	682	692	700	706	710	712	716	719	718	714	708	703	2718
7	708	705	707	707	705	705	707	710	704	702	694	690	692	701	700	700	703	707	708	711	710	710	708	706	704	2864
8	702	704	698	691	698	707	707	704	703	692	685	680	686	690	697	693	701	688	687	684	673	682	680	684	692	2900
9	692	692	686	687	687	686	688	692	692	685	676	672	675	675	667	680	684	682	678	676	680	688	687	677	683	2616
10 d	676	673	675	683	686	710	709	693	692	666	663	652	650	663	658	662	670	678	675	683	681	694	657	690	677	2384
11	671	677	680	682	682	680	682	683	657	646	643	643	642	642	661	672	678	687	687	692	690	688	690	686	673	2239
12	695	693	690	689	683	694	695	696	684	674	673	669	667	672	681	684	693	699	702	703	703	701	703	699	689	2141
13 q	705	700	702	702	703	703	705	705	704	699	684	671	663	669	680	693	700	706	707	710	709	705	703	697	689	2542
14 q	699	700	703	704	706	707	710	710	703	698	686	683	677	679	685	690	698	705	706	702	703	706	704	706	699	2725
15	707	709	708	707	706	711	714	709	707	694	690	684	687	676	673	695	698	703	696	698	709	707	704	703	700	2770
16	701	702	705	705	705	710	705	707	702	690	680	676	672	674	680	682	693	698	699	699	701	698	702	702	695	2795
17	702	706	706	706	703	703	706	705	702	690	686	677	678	689	687	695	705	706	706	700	698	703	706	708	699	2688
18 q	707	709	708	707	710	714	718	713	705	693	683	675	678	689	690	693	698	701	702	705	707	706	706	705	701	2773
19	710	711	714	717	720	724	717	718	720	712	694	694	696	701	714	694	681	690	677	684	694	692	695	700	703	2822
20 q	698	692	697	695	700	703	705	706	701	697	686	676	673	681	695	706	710	706	710	712	714	715	714	714	700	2869
21 d	714	713	705	702	703	715	712	705	692	703	674	670	669	704	714	714	686	739	784	781	1031	1015	506	485	718	3236
22 d	567	486	518	530	536	552	596	601	618	631	626	628	633	637	648	649	654	649	661	658	665	666	665	662	614	736
23 d	658	664	658	663	665	669	673	669	652	609	605	614	609	623	636	650	650	656	666	673	662	666	669	666	651	1625
24	664	661	669	667	665	663	663	662	660	653	650	645	644	657	670	673	680	685	688	686	670	682	681	677	667	2015
25	634	646	651	645	646	648	654	676	673	667	658	651	651	659	664	666	675	675	675	677	682	689	679	677	663	1918
26	680	680	678	674	672	685	688	687	686	673	663	656	651	657	665	676	659	674	675	680	682	688	685	691	675	2205
27	686	685	686	688	686	688	687	691	687	685	678	649	643	654	667	675	670	682	689	691	692	697	695	690	681	2341
28	690	690	688	690	697	695	696	697	695	686	680	675	670	670	684	690	695	696	683	695	697	695	688	694	689	2536
29	690	692	694	690	694	687	696	697	694	681	670	659	663	691	713	703	701	696	660	642	646	646	656	649	680	2310
30 d	631	659	677	677	658	687	690	665	632	637	640	622	630	633	657	678	676	682	673	673	680	683	684	690	663	1914
31	679	677	672	683	677	677	673	677	664	667	669	666	663	666	671	663	678	694	683	688	687	686	688	680	676	2228
Mean	685	683	684	685	685	690	693	692	686	679	672	666	665	673	680	684	687	693	693	694	701	702	684	683	685	
Sum 20,000+	1220	1165	1217	1240	1246	1393	1470	1443	1275	1055	842	654	630	858	1087	1213	1284	1467	1486	1515	1736	1754	1213	1167		Grand Total 509,630

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)

10° +

JANUARY 1957

	Hour G. M. T.																								Mean	Sum	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		1000.0+	
1	46.4	46.7	46.2	46.0	45.4	45.3	45.1	45.3	45.2	44.9	45.6	48.2	48.4	49.6	52.2	51.0	49.6	49.7	48.7	46.9	46.3	46.0	45.6	45.8	47.1	130.1	
2	44.8	44.2	44.2	46.2	45.7	45.3	44.5	46.8	45.6	44.9	46.9	48.6	50.1	51.1	51.2	51.2	49.8	50.2	51.4	55.6	42.3	39.3	42.8	39.4	46.8	122.1	
3	43.8	43.3	42.8	41.8	43.7	44.5	44.6	44.6	44.2	43.6	44.1	45.8	47.7	49.6	50.2	49.2	48.7	48.1	47.2	47.6	46.9	46.3	45.9	45.6	45.8	99.8	
4	45.4	45.0	45.8	45.9	45.3	44.7	44.5	44.6	45.0	45.2	46.5	48.6	50.0	50.3	50.1	49.2	48.4	47.8	48.2	47.9	47.2	46.8	46.8	45.5	46.9	124.7	
5 q	46.4	45.9	46.2	46.0	46.1	45.8	45.9	45.4	45.3	45.0	46.1	48.3	50.2	51.3	51.3	49.9	48.6	48.5	48.1	46.8	46.4	46.5	46.2	45.7	47.2	131.9	
6	45.9	45.7	45.8	45.2	44.9	45.9	46.0	46.0	45.0	44.0	45.6	49.0	51.0	52.7	52.8	51.3	50.3	49.7	49.3	48.6	48.2	47.4	46.9	46.4	47.7	143.6	
7	45.9	45.1	44.9	43.9	43.6	45.1	45.1	45.1	45.1	44.5	45.9	48.0	51.0	50.7	50.7	50.1	49.6	49.0	49.0	48.2	47.0	46.4	46.4	46.4	46.9	126.7	
8	45.6	40.6	41.0	42.0	44.6	45.6	45.9	45.9	46.0	45.3	48.7	49.1	52.4	51.0	51.8	51.3	51.4	54.0	54.5	51.3	46.9	42.7	41.5	43.6	47.2	132.7	
9	44.7	44.7	45.4	44.6	44.2	44.6	44.7	44.6	44.5	44.6	45.2	48.1	50.3	53.1	52.7	49.9	52.4	52.8	51.4	44.6	45.0	42.3	37.5	36.1	46.2	108.0	
10 d	39.3	40.8	42.0	40.4	40.9	41.0	51.4	49.6	46.9	44.7	45.1	49.9	51.3	55.8	55.0	55.3	49.6	44.3	50.3	46.0	38.9	33.9	39.4	41.7	45.5	93.0	
11	34.6	43.0	45.5	45.2	45.6	45.9	45.6	45.9	47.5	48.3	48.1	48.1	51.5	51.8	51.7	49.6	48.8	47.8	47.5	46.9	46.1	45.9	43.6	45.4	46.7	119.9	
12	45.6	46.0	46.0	41.6	48.1	45.7	44.6	44.9	44.3	44.0	45.9	47.5	49.0	49.5	49.1	49.4	48.7	48.0	47.8	46.9	46.7	46.0	45.4	45.1	46.5	115.8	
13 q	45.3	46.4	46.7	47.0	45.9	45.3	45.3	45.3	45.9	44.6	44.4	46.2	48.2	50.5	51.0	50.9	59.2	48.2	48.0	47.4	47.1	46.8	46.8	46.8	47.1	129.2	
14 q	46.7	46.7	47.0	46.8	46.1	45.9	45.6	45.0	44.3	43.8	45.4	47.1	47.9	49.5	50.6	49.7	48.5	47.8	47.6	47.0	46.5	46.4	46.5	46.1	46.9	124.5	
15	46.7	46.8	46.7	45.9	46.0	46.0	46.1	46.0	45.3	44.0	45.0	47.2	50.1	51.0	52.0	52.1	50.0	48.2	47.9	47.7	46.8	46.4	46.0	41.5	47.1	131.4	
16	42.3	45.7	46.2	47.1	47.4	46.9	46.2	46.3	45.7	43.6	45.1	48.2	50.3	53.8	53.6	52.5	50.4	48.6	48.2	47.2	45.0	46.0	46.2	46.1	47.4	138.6	
17	45.2	45.9	44.9	46.0	46.3	46.3	45.9	45.6	45.1	44.9	45.9	47.2	49.5	49.4	51.8	51.2	50.3	49.0	48.4	48.2	46.7	45.6	46.6	46.7	46.8	47.1	130.0
18 q	46.9	47.1	47.4	47.4	46.9	46.8	46.4	45.7	44.6	43.9	44.9	47.1	49.7	52.6	51.9	49.9	48.7	48.1	47.8	47.2	46.5	46.2	46.4	46.4	47.4	136.5	
19	46.2	46.2	46.7	46.8	46.8	46.6	46.5	46.0	45.4	43.8	43.8	46.7	50.1	51.9	53.5	52.1	51.7	53.3	55.1	50.2	48.0	45.9	45.1	45.5	48.1	153.9	
20 q	43.7	43.5	43.8	45.6	45.9	45.6	46.3	45.9	45.5	45.1	45.9	48.4	50.4	51.4	52.1	51.8	50.5	50.4	49.3	48.7	47.1	46.4	46.0	45.9	47.3	135.2	
21 d	46.0	45.3	45.1	46.8	46.4	45.9	45.2	44.2	47.7	48.2	48.2	48.7	51.1	57.3	61.2	61.4	59.3	61.0	65.4	57.1	56.4	51.4	41.3	34.1	50.6	214.7	
22 d	43.2	37.9	33.8	33.4	37.1	41.9	41.1	41.0	39.0	39.6	42.0	43.3	45.5	47.4	48.6	48.2	48.1	48.3	47.9	46.9	45.9	45.2	44.7	43.8	43.1	33.8	
23 d	43.4	44.5	44.5	44.0	43.8	43.7	43.1	42.3	41.0	45.0	45.8	45.2	48.3	50.8	53.2	51.1	51.8	50.7	47.8	45.6	42.8	39.2	37.7	43.2	45.4	88.5	
24	43.8	42.7	34.8	38.4	38.2	43.8	43.2	42.7	42.0	42.0	43.8	46.3	48.7	52.3	53.1	53.0	51.3	51.5	51.0	37.8	45.2	48.2	44.8	33.1	44.7	71.7	
25	30.9	37.4	35.1	38.2	38.1	41.8	39.2	43.5	41.0	43.1	43.6	45.5	47.6	49.2	49.2	47.6	47.2	47.0	46.7	46.0	45.8	33.2	42.8	44.9	42.7	24.6	
26	45.2	46.2	43.3	42.9	43.3	43.0	42.8	44.1	43.1	42.6	42.3	43.3	47.0	50.3	51.3	50.0	45.9	47.9	48.7	48.0	46.9	45.0	40.8	42.7	45.3	86.6	
27	45.1	46.7	46.7	46.3	45.4	44.6	44.2	43.5	41.8	42.1	45.0	48.0	51.0	49.6	51.2	51.9	49.7	49.6	49.2	47.8	46.0	44.6	43.9	45.0	46.6	118.9	
28	46.0	46.2	45.2	44.1	44.7	43.6	43.8	43.7	42.8	42.3	43.4	45.1	47.4	50.0	50.8	49.6	49.6	50.4	48.2	49.0	47.4	46.0	43.2	45.3	46.2	107.8	
29	45.6	46.3	46.0	45.5	44.6	45.0	43.9	43.5	42.9	43.6	45.5	47.4	50.5	56.9	65.8	60.4	61.4	60.7	53.2	52.2	44.8	44.2	42.8	34.8	48.6	167.5	
30 d	39.2	45.3	41.0	39.0	44.3	44.7	49.3	43.7	45.6	51.0	49.6	46.4	53.5	54.6	53.0	52.6	50.5	50.6	50.4	46.9	46.5	46.4	45.6	42.7	47.2	132.0	
31	42.5	42.2	41.8	40.8	40.2	41.8	43.1	43.0	42.8	44.0	45.1	46.1	47.4	49.3	51.3	50.6	49.4	49.3	51.4	46.4	45.9	46.2	43.3	43.6	45.3	87.5	
Mean	43.9	44.5	43.9	43.9	44.4	44.8	45.0	44.8	44.4	44.4	45.4	47.2	49.6	51.5	52.4	51.4	50.3	50.0	49.9	47.8	46.3	44.8	44.1	43.4	46.6		
Sum 1300.0+	62.3	80.0	62.5	60.8	75.5	88.6	95.1	89.7	76.1	75.7	108.0	162.6	237.1	296.7	323.4	293.1	258.1	249.9	245.4	183.1	134.1	89.8	68.6	45.0		Grand Total 34661.2	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

67

24 ESKDALEUIR (Z)													45,000γ (0.45 C.G.S. unit) +												JANUARY 1957	
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	287	286	286	285	284	283	282	281	281	278	275	276	281	275	282	292	297	294	293	289	287	287	287	286	285	834
2	284	284	283	282	282	281	281	278	276	266	265	267	270	271	280	286	288	288	287	312	354	359	345	327	291	996
3	319	315	309	304	303	299	299	297	294	294	291	289	288	287	294	299	299	297	297	294	293	293	293	292	297	1139
4	293	292	293	292	293	292	288	287	286	280	278	279	280	281	282	288	292	292	290	289	289	289	289	288	288	902
5 q	288	287	287	287	286	286	285	285	283	284	282	277	280	275	276	281	287	285	285	287	288	287	287	287	284	822
6	287	287	287	286	284	280	278	279	281	282	276	274	275	270	271	281	284	281	281	281	281	281	281	282	280	730
7	281	281	281	280	280	277	276	277	278	275	270	270	267	269	270	277	281	281	281	281	282	282	281	281	277	659
8	282	275	276	276	275	274	274	276	276	275	271	270	269	270	273	279	275	294	308	314	316	308	304	294	283	804
9	288	285	286	286	285	285	286	285	285	282	281	278	281	282	297	319	310	309	311	310	303	291	280	280	291	985
10 d	281	275	263	263	273	269	247	247	259	269	274	275	281	288	309	321	335	333	320	317	310	294	292	281	287	876
11	281	282	285	287	286	287	286	286	290	292	292	296	297	296	288	293	294	294	293	293	296	297	296	296	291	983
12	290	289	289	288	286	282	286	284	286	282	278	277	280	282	281	281	287	287	287	287	288	287	287	286	285	837
13 q	280	281	281	281	281	281	281	281	282	286	283	286	287	285	287	288	289	287	286	286	287	286	286	287	284	825
14 q	286	284	282	282	282	282	281	281	282	282	281	284	282	281	282	287	288	286	286	286	287	285	285	285	284	809
15	282	281	280	280	277	277	278	280	281	281	280	277	276	281	284	289	288	287	289	293	287	287	287	284	283	786
16	280	279	281	280	280	277	278	277	279	281	277	273	273	275	282	289	289	288	287	287	287	287	286	285	282	757
17	282	280	278	277	277	278	279	280	281	281	276	273	274	277	286	289	287	285	283	286	288	286	283	283	281	749
18 q	281	281	281	281	281	281	279	280	281	280	276	277	277	276	281	286	287	286	284	283	282	281	281	281	281	744
19	273	273	273	273	273	274	278	276	274	271	270	275	275	274	274	288	294	293	305	311	304	301	297	292	283	791
20 q	287	287	282	282	283	282	281	281	281	277	273	274	274	270	275	281	285	283	281	282	282	281	281	279	280	724
21 d	278	278	280	277	270	269	273	276	280	274	276	275	276	274	281	308	342	423	535	523	494	250	-107	264	299	1169
22 d	349	296	278	274	278	251	304	320	325	323	326	328	322	317	316	315	312	310	311	315	315	313	311	310	309	1419
23 d	310	308	308	308	305	304	303	304	306	304	298	309	319	316	328	336	338	339	339	327	324	322	322	311	316	1588
24	309	299	291	292	287	292	299	303	304	304	303	300	301	297	297	304	304	304	308	338	330	321	322	328	306	1337
25	286	312	326	307	299	301	299	284	298	300	305	306	305	304	305	304	307	305	307	311	310	310	301	300	304	1292
26	300	299	294	298	299	297	296	296	298	299	303	300	294	293	299	306	314	309	309	308	308	305	308	299	301	1231
27	296	294	293	293	288	292	294	294	294	293	289	293	291	288	294	303	305	303	300	304	305	304	304	303	297	1117
28	300	299	299	297	293	293	293	293	292	292	292	293	290	287	292	294	294	296	303	301	303	304	305	300	296	1105
29	299	299	297	296	293	294	291	290	289	288	288	292	284	284	304	330	345	359	407	454	411	371	351	330	323	1746
30 d	293	235	241	258	251	233	253	270	280	283	288	301	308	316	319	328	327	317	321	328	316	313	313	308	292	1000
31	305	304	304	300	298	296	298	295	297	299	299	296	294	293	301	310	307	309	311	312	311	311	307	304	303	1261
Mean	291	287	286	285	284	282	284	285	286	286	284	285	285	285	290	298	301	303	309	313	310	299	285	294	292	
Sum 8000+	1037	907	874	852	812	749	806	823	879	857	816	840	851	834	899	1232	1331	1404	1585	1689	1618	1273	845	1113		Grand Total 217,017

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR												JANUARY 1957				
	TERRESTRIAL MAGNETIC ELEMENTS									3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
	Horizontal force			Declination			Vertical force									
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range							
	h. m.	γ	γ h. m.	γ	h. m.	γ	h. m.	γ	γ h. m.	γ						
1	22 00	707	656 12 00	51	14 17	52.6	44.5 09 50	8.1	16 42	297	273 10 40	24	1,1,0,3,2,1,2,1	11	0	85.3
2	18 46	737	613 21 13	124	20 03	59.1	33.4 21 23	25.7	21 13	382	263 10 48	119	2,1,2,4,2,2,5,5	23	1	85.2
3	22 44	701	650 11 43	51	14 33	51.3	40.4 00 00	10.9	00 00	326	287 11 10	39	3,2,2,3,2,1,1,2	16	0	85.2
4	23 41	700	670 11 23	30	13 23	51.0	44.2 09 39	6.8	02 22	293	276 11 11	17	1,1,2,2,1,1,0,1	9	0	85.0
5 q	19 10	712	680 10 45	32	14 16	52.2	44.5 09 48	7.7	20 11	289	275 14 15	14	1,1,1,1,1,1,1,1	8	0	84.8
6	19 34	724	670 12 37	54	14 35	54.1	43.8 10 03	10.3	00 00	287	270 13 55	17	0,2,2,2,2,1,1,2	12	0	84.9
7	07 10	716	682 11 55	34	12 52	53.7	42.8 06 54	10.9	17 11	283	266 12 36	17	2,1,1,2,2,1,1,1	11	0	84.6
8	00 56	720	660 20 46	60	18 15	56.9	39.1 01 32	17.8	20 03	319	267 11 56	52	3,2,1,3,3,3,3,3	21	1	84.5
9	22 25	718	653 14 54	65	14 36	56.0	34.1 23 13	21.9	15 14	325	276 11 19	49	2,1,1,2,3,3,3,4	19	1	84.5
10 d	06 29	732	631 17 14	101	13 08	58.0	26.4 21 02	31.6	16 38	346	236 06 51	110	2,3,4,3,3,4,5,4	28	1	84.5
11	23 50	699	619 13 19	80	13 00	54.7	32.3 00 26	22.4	20 48	293	275 00 00	18	4,1,3,2,3,2,1,2	18	0	84.5
12	22 44	710	665 12 13	45	13 24	50.5	40.1 03 44	10.4	00 11	293	277 10 40	16	2,3,2,1,1,1,0,2	12	0	84.5
13 q	00 18	718	662 12 23	56	13 43	51.8	43.3 10 08	8.5	16 30	289	278 00 25	11	2,1,0,2,1,1,0,1	8	0	-
14 q	06 58	718	673 12 30	45	14 50	51.0	42.8 08 57	8.2	16 05	289	280 10 10	9	1,0,1,1,1,1,1,0	6	0	84.5
15	06 14	716	665 14 16	51	14 01	54.1	37.4 23 44	16.7	19 14	296	275 12 30	21	1,1,1,2,2,2,3,3	15	0	84.5
16	05 51	712	663 13 10	49	14 10	55.0	38.8 00 02	16.2	15 55	291	271 12 05	20	3,1,1,1,2,1,2,1	12	0	84.8
17	22 19	714	670 11 19	44	13 40	52.5	43.6 00 53	8.9	15 15	291	271 11 10	20	2,1,0,2,2,1,2,2	12	0	84.8
18 q	06 45	718	673 11 41	45	13 45	52.6	43.8 09 42	8.8	16 21	287	274 12 52	13	1,0,1,1,1,1,0,0	5	0	84.6
19	08 27	723	682 11 05	41	18 10	57.9	43.0 09 26	14.9	19 07	314	269 10 30	45	0,1,1,2,2,3,3,2	14	0	84.6
20 q	22 20	718	669 12 00	49	15 02	53.2	42.8 01 10	10.4	00 17	288	270 13 41	18	2,1,1,1,2,1,1,0	9	0	84.3
21 d	20 33	1348	100 22 30	1248	22 00	158.0	27.6 22 16	185.6	19 38	603	-482 22 24	1085	1,2,3,3,4,6,8,9	36	2	84.3
22 d	16 39	721	-992 02 01	1713	02 06	118.8	9.9 02 19	108.9	00 16	368	-148 02 00	516	9,5,5,4,4,4,3,2	36	2	84.1
23 d	19 19	723	585 09 46	138	14 24	54.7	34.8 22 01	19.9	18 30	353	294 10 49	59	3,3,4,3,3,3,4,3	26	1	84.4
24	19 16	751	626 24 00	125	13 40	54.9	29.7 23 23	25.2	19 26	350	287 04 00	63	4,4,2,2,3,2,5,4	26	1	84.4
25	21 16	706	609 00 57	97	14 06	50.5	24.7 00 13	25.8	02 24	334	276 00 45	58	4,3,3,3,2,2,2,4	23	1	84.4
26	22 55	702	648 12 20	54	14 16	52.3	37.7 22 51	14.6	16 45	316	292 13 24	24	2,2,2,3,2,3,2,3	19	0	84.1
27	22 03	709	631 12 50	78	12 20	53.2	40.4 09 00	12.8	16 35	307	288 10 28	19	1,2,2,3,2,2,2,2	16	0	84.2
28	20 00	704	665 13 11	39	14 01	52.4	41.4 22 16	11.0	22 30	308	285 13 51	23	1,1,1,2,2,1,3,2	13	0	84.0
29	14 29	745	626 20 29	119	14 51	71.2	30.4 23 24	40.8	19 40	471	278 13 16	193	1,2,1,3,4,4,4,4	23	1	84.0
30 d	23 29	733	604 00 55	129	13 20	57.1	35.6 01 56	21.5	19 06	340	214 01 17	126	5,4,4,3,3,3,3,3	28	1	83.8
31	22 27	705	654 15 56	51	14 11	52.4	39.1 04 26	13.3	21 14	312	292 12 55	20	2,3,2,2,2,3,3,3	20	0	83.8
Mean	- -	737	579 - -	158	- -	59.8	35.4 - -	24.4 - -	- -	327	236 - -	91	- -	-	0.42	84.5

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEUIR (H)

16,000γ (0.16 C.G.S. unit) +

FEBRUARY 1957

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 15,000+
1	γ	690	686	681	683	684	689	692	694	690	676	673	668	669	671	676	684	687	692	699	698	691	697	697	695	686	1462
2	γ	690	691	693	694	695	693	693	693	689	684	685	679	678	681	686	683	700	695	688	686	701	699	709	694	691	1579
3	γ	687	685	690	694	693	693	689	685	682	676	672	671	678	683	693	689	695	693	688	694	706	676	677	682	686	1471
4 d	γ	674	669	676	676	676	676	691	691	688	677	671	668	647	669	687	686	679	681	658	659	624	626	616	621	666	986
5 d	γ	671	652	661	674	676	647	657	651	634	625	617	624	640	661	673	691	678	675	674	670	676	684	665	673	660	849
6	γ	681	677	677	680	678	683	677	675	667	669	674	668	669	673	672	682	677	681	687	692	691	691	689	688	679	1298
7 q	γ	689	687	689	691	691	691	692	684	676	667	671	666	668	669	671	680	685	691	689	688	690	696	689	687	683	1397
8	γ	688	685	685	695	694	692	694	696	699	691	686	673	666	673	677	684	685	700	694	702	702	706	706	695	690	1568
9	γ	695	691	695	687	696	694	697	699	696	689	677	671	672	679	688	693	693	703	701	702	707	697	699	700	693	1621
10 q	γ	693	690	693	694	695	698	702	704	704	702	685	680	680	687	687	686	688	696	705	708	713	711	709	708	697	1718
11	γ	707	706	704	717	711	717	719	717	714	705	697	690	685	692	691	720	705	678	689	697	694	696	698	701	702	1850
12	γ	701	702	700	703	729	705	690	688	697	694	689	689	697	706	705	693	700	696	699	713	715	712	713	702	702	1838
13 d	γ	712	709	697	701	717	696	713	690	684	663	655	642	620	661	682	666	676	708	697	647	663	668	681	685	681	1333
14	γ	684	685	683	687	685	685	683	684	681	676	668	669	668	668	673	673	674	684	689	693	692	694	695	694	682	1367
15	γ	696	698	698	698	700	702	707	711	694	681	682	681	676	666	681	690	678	689	689	689	696	690	694	696	691	1582
16	γ	698	699	699	705	706	705	705	708	697	694	691	683	678	679	683	685	680	686	684	689	698	699	700	701	694	1652
17	γ	697	704	705	704	704	706	705	705	704	698	694	681	685	696	705	711	705	701	707	709	688	696	691	693	700	1794
18	γ	693	689	690	696	697	701	691	690	691	701	706	706	704	700	688	689	685	693	683	698	682	666	671	673	691	1583
19	γ	681	683	685	690	683	693	679	674	697	689	697	693	689	683	697	685	694	682	701	681	666	675	670	667	685	1434
20	γ	676	683	670	672	683	686	684	676	670	666	664	666	674	684	692	684	697	692	695	697	705	702	704	699	684	1421
21 d	γ	693	703	702	691	685	682	691	676	644	649	650	664	668	678	684	696	687	681	689	687	700	667	665	655	679	1287
22	γ	681	690	675	677	676	674	678	685	685	670	660	659	653	676	684	687	697	698	692	705	704	685	700	699	683	1390
23	γ	690	680	681	686	679	698	696	690	681	677	675	679	675	695	700	706	697	700	730	712	718	695	679	630	690	1549
24 d	γ	688	449	592	603	565	650	610	656	636	582	587	616	676	681	672	669	658	678	686	683	685	683	684	679	637	288
25	γ	680	677	679	678	676	677	677	676	667	665	677	683	686	683	678	679	676	680	687	691	692	694	693	695	681	1346
26 q	γ	693	692	697	691	693	694	694	696	696	694	691	694	700	701	698	685	684	691	696	698	700	701	702	700	695	1681
27 q	γ	697	700	701	695	695	697	701	702	701	690	683	682	681	685	690	693	691	698	704	705	706	701	705	702	696	1705
28 q	γ	701	702	699	701	702	702	702	702	697	687	685	689	693	705	702	708	704	706	706	709	713	705	704	703	701	1827
Mean		687	681	686	688	688	690	690	689	684	676	674	673	674	682	686	689	688	691	693	693	693	690	689	686	686	
Sum 18,000+		1246	1064	1197	1263	1264	1326	1309	1298	1161	937	862	834	875	1085	1215	1277	1255	1348	1406	1402	1418	1312	1305	1217		Grand Total 460,876

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEUIR (D)

10° +

FEBRUARY 1957

	Hour G.M.T.																									Sum	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	1000.0+	
1	42.7	43.8	43.4	45.0	45.3	45.8	44.8	43.5	43.3	43.6	45.3	45.4	46.4	48.9	49.9	49.2	47.6	48.6	49.3	46.9	46.8	46.9	46.1	45.5	46.0	104.0	
2	45.2	45.3	45.3	44.0	44.1	44.6	44.7	44.1	44.1	44.5	45.8	47.4	51.5	50.1	53.2	50.0	50.2	50.9	50.4	50.2	47.4	46.8	44.8	43.4	47.0	128.0	
3	42.4	41.4	43.3	43.9	43.8	45.2	44.9	44.7	44.5	44.7	45.0	46.2	48.6	50.5	50.4	49.9	49.9	51.6	52.4	51.2	44.6	42.0	43.4	42.6	46.1	107.1	
4 d	43.3	38.4	39.5	41.8	41.7	43.6	44.0	43.8	44.3	44.5	46.8	51.3	52.3	53.8	52.2	51.8	53.2	48.2	49.6	45.0	42.6	37.6	35.7	41.5	45.3	86.5	
5 d	41.0	31.4	24.4	34.6	46.9	45.2	47.7	43.8	42.4	46.6	51.9	51.0	54.0	55.0	52.4	48.7	49.6	47.9	49.2	48.2	45.1	37.1	39.4	42.1	44.8	75.6	
6	43.5	42.4	41.4	41.6	42.2	41.7	41.6	42.3	43.0	46.2	47.2	48.1	49.5	50.9	51.4	50.8	51.2	49.2	47.7	46.5	46.2	44.9	45.0	45.0	45.8	99.5	
7 q	44.9	44.6	45.1	45.1	44.8	44.8	44.1	43.3	43.5	44.1	46.0	48.2	47.2	48.3	48.4	48.1	48.1	48.2	48.1	49.0	47.4	46.4	43.7	42.5	46.0	103.9	
8	40.4	40.2	41.0	40.8	41.5	41.9	42.5	43.3	44.1	45.7	46.8	47.2	47.2	49.2	49.8	49.4	49.1	49.4	49.2	49.0	46.8	46.3	46.1	43.8	45.4	90.7	
9	42.0	42.3	42.0	41.0	42.4	43.6	43.9	44.3	44.1	43.9	44.8	46.8	48.9	49.4	49.0	48.3	48.4	50.7	53.5	50.4	48.6	46.8	46.5	45.0	46.1	106.6	
10 q	39.8	40.5	42.7	43.4	44.0	44.5	45.1	45.1	44.8	45.1	45.5	47.5	48.2	49.3	48.6	47.5	47.8	48.1	47.8	47.5	47.1	46.4	46.1	45.9	45.8	98.3	
11	46.1	45.0	46.4	45.9	45.2	45.6	45.0	45.8	45.3	44.6	45.1	48.1	49.1	50.7	50.3	50.4	45.7	48.7	47.9	47.0	45.2	45.0	45.4	45.7	46.6	119.2	
12	45.8	46.1	45.1	49.3	47.5	43.6	44.0	44.8	44.7	46.9	47.4	48.1	48.7	50.3	50.7	47.5	47.8	47.9	47.2	45.8	47.4	46.7	45.4	44.9	46.8	123.6	
13 d	42.8	44.9	44.4	45.0	43.3	49.0	47.6	49.0	47.5	45.9	47.4	51.7	55.0	57.9	55.0	51.4	47.0	47.2	50.0	25.8	40.6	45.9	45.6	45.5	46.9	125.4	
14	44.2	44.0	45.1	45.4	45.6	45.1	44.7	44.5	43.9	45.0	45.7	47.8	47.7	48.5	48.6	47.8	46.6	46.1	46.1	45.6	43.7	45.1	45.3	45.4	45.7	97.5	
15	45.9	46.2	46.4	46.4	46.1	45.2	44.4	44.6	44.3	46.7	46.3	51.1	50.2	50.4	49.9	50.0	48.2	47.6	46.4	46.0	45.7	42.0	40.8	45.0	46.5	115.8	
16	45.5	45.7	45.8	46.4	45.1	45.7	45.8	46.4	46.4	46.1	45.6	46.9	47.8	49.3	49.3	50.3	49.8	47.8	46.4	49.0	47.4	46.0	46.0	45.3	43.4	46.8	122.8
17	44.4	43.8	43.5	45.4	45.4	45.3	44.8	44.8	44.7	44.5	45.4	46.5	49.2	51.9	51.0	51.2	52.3	52.6	52.0	52.6	52.3	47.4	46.0	41.5	47.4	138.5	
18	37.8	36.2	36.4	37.0	38.7	39.6	41.4	43.5	45.4	46.3	46.4	49.7	49.9	52.2	51.1	51.8	48.9	46.0	41.3	40.1	50.0	42.8	38.7	36.4	43.7	47.6	
19	40.1	43.8	44.6	43.2	43.7	42.9	44.8	50.0	49.1	47.3	46.4	47.8	50.7	48.1	49.2	47.1	48.1	47.0	48.0	44.5	43.5	45.2	34.5	37.9	45.3	87.5	
20	42.4	40.6	35.1	36.6	39.8	40.4	42.6	43.3	43.8	45.6	48.2	50.6	51.7	51.0	50.7	48.5	48.6	48.2	47.6	46.4	47.4	42.9	42.0	43.5	44.9	77.5	
21 d	42.5	40.1	31.3	33.0	38.1	40.8	41.0	49.2	48.1	47.1	46.8	47.9	52.5	55.4	55.6	54.6	53.9	47.4	49.2	45.9	41.8	39.3	36.4	35.9	44.7	73.8	
22	40.7	46.1	42.3	45.8	42.5	43.1	45.8	44.2	44.3	44.2	45.1	48.2	47.9	50.0	51.6	49.4	43.0	46.0	46.6	40.3	40.8	45.8	44.6	39.5	44.9	77.8	
23	36.1	36.7	42.2	44.6	47.9	47.3	44.2	45.3	47.7	47.4	48.2	49.8	50.0	51.4	51.0	50.6	48.6	46.1	27.6	49.3	49.6	49.3	41.4	31.1	45.1	83.4	
24 d	34.8	36.4	26.3	25.4	36.3	53.6	53.0	45.9	46.3	46.1	46.9	49.4	49.0	49.6	46.1	47.4	44.7	44.3	47.3	47.1	46.1	45.9	45.9	44.7	44.1	58.5	
25	43.3	42.1	39.1	39.5	43.3	43.9	43.9	44.3	43.2	43.8	44.6	46.9	47.9	48.2	47.7	47.7	46.4	46.8	46.2	46.3	45.9	45.6	45.4	44.9	44.9	78.7	
26 q	44.8	44.6	44.4	44.0	44.6	44.5	44.2	44.8	44.0	44.6	45.1	46.4	47.7	48.2	48.6	48.0	47.4	46.9	46.7	46.4	46.0	45.6	45.3	44.4	45.7	97.2	
27 q	44.1	43.1	41.6	39.1	41.7	43.0	43.8	44.0	43.7	43.8	44.7	46.6	48.5	49.2	48.6	47.1	46.5	46.9	46.9	45.6	45.5	45.9	46.3	45.4	45.1	81.6	
28 q	45.5	45.1	44.9	44.9	44.8	44.2	43.8	44.0	43.7	43.8	45.9	48.5	50.1	51.0	50.3	49.1	47.7	48.6	48.2	47.5	47.0	45.4	44.9	45.4	46.4	114.3	
Mean	42.6	42.2	41.2	42.1	43.4	44.4	44.6	44.9	44.8	45.3	46.3	48.3	49.6	50.7	50.4	49.4	48.4	48.0	47.6	46.2	46.0	44.8	43.4	42.8	45.7		
Sum 1100.0+	92.0	80.8	53.0	78.1	116.3	143.7	148.1	156.6	153.9	168.1	197.6	252.0	288.9	318.7	311.6	283.1	254.6	243.1	232.0	193.4	187.5	153.3	116.2	98.3		Grand Total 30720.9	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

69

24 ESKDALEMUIR (Z)												45,000γ (0.45 C.G.S. unit) +												FEBRUARY 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEMUIR													FEBRUARY 1957							
TERRESTRIAL MAGNETIC ELEMENTS													3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.				
Horizontal force				Declination				Vertical force												
Maximum 16,000γ +	Minimum 16,000γ +	Range		Maximum 10° +	Minimum 10° +	Range		Maximum 45,000γ +	Minimum 45,000γ +	Range										
h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ									
1	19 51	704	662	11 18	42	15 18	51.1	41.2	00 13	9.9	00 30	303	283	13 17	20	2,1,1,2,2,2,2,1	13	0	83.6	
2	22 34	723	668	13 06	55	14 39	55.6	41.0	24 00	14.6	18 31	316	279	13 51	37	1,1,1,2,3,2,3,3	16	0	83.6	
3	20 56	762	634	21 18	128	18 20	53.1	34.9	21 24	18.2	20 29	320	271	13 05	49	1,2,1,1,2,2,4,5	18	1	-	
4 d	17 36	714	561	23 25	153	16 20	59.6	33.0	22 55	26.6	17 21	371	207	23 19	164	3,2,2,3,4,4,4,5	27	1	83.6	
5 d	15 08	712	604	09 45	108	13 08	60.3	21.8	02 17	38.5	14 51	364	203	05 25	161	5,5,3,3,4,3,3,3	29	1	83.6	
6	00 51	704	654	08 53	50	14 56	52.3	39.6	02 04	12.7	15 35	309	287	11 00	22	3,1,2,2,2,2,1,1	14	0	-	
7 q	21 44	706	652	11 50	54	11 30	51.0	41.8	23 57	9.2	20 58	307	287	13 26	20	0,1,2,2,1,2,1,2	11	0	83.6	
8	22 43	713	665	12 23	48	14 02	50.9	39.5	03 30	11.4	00 28	301	282	08 58	19	1,2,2,2,2,2,2,2	15	0	83.0	
9	24 00	708	667	11 46	41	18 35	54.9	39.4	03 16	15.5	21 24	308	280	12 11	28	1,2,1,1,1,2,2,2	12	0	83.0	
10 q	21 10	716	672	10 58	44	13 19	49.5	38.5	00 22	11.0	01 00	300	284	10 17	16	2,0,1,3,1,1,1,1	10	0	83.6	
11	05 40	724	668	16 39	56	13 52	54.4	39.0	16 42	15.4	16 40	327	280	03 46	47	1,2,1,3,2,4,2,2	17	0	83.6	
12	18 53	758	676	07 20	82	14 22	51.2	41.2	05 39	10.0	15 30	308	250	04 56	58	2,3,2,2,2,1,4,2	18	1	83.6	
13 d	17 59	774	579	12 40	195	13 38	59.7	12.8	19 20	46.9	19 16	396	250	06 04	146	3,4,3,3,5,5,6,3	32	2	83.6	
14	22 34	699	662	13 40	37	12 00	49.5	42.2	00 51	7.3	17 05	304	290	00 05	14	2,2,2,2,1,1,1,1	12	0	83.5	
15	07 23	717	660	14 00	57	11 28	53.7	35.1	22 03	18.6	16 10	308	276	11 29	32	1,1,3,3,2,3,2,3	18	0	-	
16	04 11	713	668	16 36	45	14 23	50.7	42.3	23 47	8.4	18 31	312	281	10 32	31	0,1,2,2,2,2,2,2	13	0	83.6	
17	19 20	719	669	11 44	50	20 20	54.1	40.6	22 59	13.5	21 07	317	281	12 10	36	2,1,1,3,3,2,3,3	18	0	-	
18	12 40	718	655	18 38	63	15 30	54.4	32.7	19 30	21.7	21 26	321	273	11 54	48	3,2,3,3,3,3,4,4	25	1	83.6	
19	19 06	738	620	19 30	118	19 09	56.0	27.1	22 32	28.9	19 33	329	268	23 29	61	3,2,3,3,3,3,5,4	26	1	83.6	
20	22 09	716	653	02 44	63	12 10	54.1	31.6	02 50	22.5	18 01	308	275	02 00	33	4,3,2,2,3,2,2,3	21	1	83.6	
21 d	20 15	725	630	22 12	95	13 10	63.1	28.9	02 30	34.2	16 35	349	255	03 38	94	4,3,4,3,3,4,4,4	29	1	83.6	
22	23 01	740	640	12 05	100	14 10	55.2	33.5	19 50	21.7	16 54	332	257	01 25	75	4,3,3,3,4,4,4,4	29	1	83.6	
23	18 34	758	612	23 31	146	20 04	56.8	14.6	18 26	42.2	21 07	336	265	23 41	71	3,3,2,1,3,3,6,5	26	1	83.6	
24 d	12 20	699	197	01 17	502	06 08	65.1	15.7	02 10	49.4	13 48	343	88	01 13	255	7,5,4,4,4,3,2,1	30	2	-	
25	02 00	699	656	08 54	43	11 40	49.3	37.4	02 33	11.9	01 26	311	286	12 40	25	3,2,2,3,2,2,1,0	15	0	83.6	
26 q	21 59	706	680	16 30	26	15 07	49.2	43.3	02 48	5.9	00 35	300	271	12 40	29	1,0,1,1,1,2,1,1	8	0	83.6	
27 q	17 26	711	679	12 00	32	13 08	49.3	37.4	03 24	11.9	00 54	299	281	12 58	18	2,3,1,1,0,1,1,1	10	0	83.6	
28 q	20 16	716	682	10 47	34	13 55	51.4	43.4	08 36	8.0	21 56	296	275	12 01	21	1,0,1,1,2,2,1,1	9	0	83.6	
Mean	- -	721	633	- -	88	- -	54.1	34.6	- -	19.5	- -	321	263	- -	58	-	-	-	0.50	83.5

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)												16,000γ (0.16 C.G.S. unit) +												MARCH 1957		
	Hour		G. M. T.																						Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		14,000 +
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	703	707	704	707	707	707	705	705	708	703	696	697	697	704	692	708	735	697	678	716	725	722	696	688	704	2907
2 d	681	664	679	644	678	474	405	546	592	629	621	579	569	638	781	697	626	668	657	648	636	603	596	553	619	864
3	611	628	608	619	637	637	624	648	644	635	635	635	641	646	657	654	676	696	675	663	674	685	683	680	650	1591
4	681	705	692	672	668	670	679	677	675	671	657	656	658	665	674	675	681	684	692	693	696	697	697	671	679	2286
5	671	696	682	682	680	687	686	681	676	665	661	667	661	688	682	695	703	691	690	688	703	692	686	689	683	2402
6	690	678	684	688	688	683	685	683	673	665	662	655	660	664	684	688	712	700	693	682	683	684	691	690	682	2365
7 q	692	695	695	696	693	690	690	687	684	668	665	667	676	688	688	696	698	695	697	706	700	685	675	672	687	2498
8	692	689	691	689	692	693	696	689	683	669	662	663	654	651	668	687	689	697	699	702	682	682	691	701	684	2411
9	691	687	690	694	692	688	707	701	700	689	676	666	671	677	680	681	696	689	702	701	696	688	693	703	690	2558
10 d	716	715	711	722	711	717	709	702	682	671	662	605	599	676	749	735	715	745	690	684	675	606	631	624	685	2452
11 q	628	638	648	651	646	645	644	643	640	634	624	619	623	629	648	647	647	655	666	678	681	684	690	688	650	1596
12 q	687	688	695	702	690	697	688	688	679	676	674	663	663	666	669	675	678	684	688	690	692	694	694	694	684	2414
13 q	694	693	691	691	689	694	694	690	685	674	653	646	654	660	669	689	703	686	700	688	691	698	698	699	685	2429
14 q	700	699	699	700	701	703	705	702	690	672	655	648	649	653	667	680	694	699	701	705	710	710	712	712	690	2566
15	713	708	712	715	710	714	720	712	695	677	643	657	663	671	680	692	693	706	708	702	721	750	735	707	701	2824
16	720	696	676	690	690	695	707	696	681	664	657	661	675	682	696	693	710	715	756	664	667	659	683	689	688	2522
17	684	691	700	684	684	673	679	682	671	652	643	644	662	661	676	691	707	694	704	701	703	708	708	701	683	2403
18	699	701	696	693	698	706	707	694	686	675	665	656	651	667	684	691	696	699	705	710	713	718	699	696	692	2605
19	702	699	701	701	701	701	701	697	687	667	665	668	666	671	676	684	701	714	709	731	725	702	702	715	695	2688
20	718	704	697	700	707	720	697	701	691	670	661	662	661	668	675	688	696	696	704	710	710	720	716	708	695	2680
21	700	701	698	711	706	700	701	702	697	684	675	670	681	703	702	748	754	735	714	706	697	686	652	688	700	2811
22	684	686	684	684	686	688	679	688	684	665	664	672	668	689	684	692	707	702	701	701	688	691	681	681	685	2449
23	684	693	697	685	682	694	692	670	692	676	658	644	659	662	676	696	692	698	705	710	704	705	701	699	686	2474
24	703	704	703	709	703	702	700	696	678	661	662	662	673	685	697	704	705	716	722	705	716	705	695	699	696	2705
25	701	704	707	679	752	695	680	687	673	644	634	634	640	655	667	669	683	691	698	699	703	701	701	700	683	2397
26	697	696	696	696	696	696	698	697	689	675	661	664	656	674	697	692	709	696	690	696	707	697	704	681	690	2560
27 d	694	695	697	707	705	689	695	685	674	648	643	657	652	650	702	680	667	716	730	728	685	624	639	629	679	2291
28 d	561	561	638	678	667	641	641	572	570	574	617	620	610	630	639	667	690	684	686	689	695	697	697	695	642	1419
29 d	690	691	687	699	711	707	701	705	699	613	658	654	670	700	721	870	718	761	716	655	674	677	633	646	697	2716
30	629	677	651	666	671	669	665	654	640	627	622	622	629	640	660	680	676	681	684	695	698	698	690	695	663	1919
31	687	683	680	692	685	693	692	678	670	658	640	639	648	678	670	697	734	748	714	695	692	685	672	663	683	2393
Mean	684	686	687	689	691	683	680	679	674	662	655	650	653	667	684	695	697	701	699	695	695	689	685	683	682	
Sum 20,000+	1203	1272	1289	1346	1426	1168	1072	1058	888	511	291	152	239	691	1212	1541	1591	1738	1674	1541	1542	1353	1241	1156		Grand Total 507,195

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)													10° +												MARCH 1957	
	Hour G.M.T.																								Mean	Sum 1000.0+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
1	45.4	45.5	44.0	43.8	43.3	43.3	44.1	44.2	44.2	44.8	46.5	49.2	51.8	54.6	54.4	54.9	58.5	62.6	54.4	50.1	49.7	47.4	43.4	38.7	48.3	158.8
2 d	35.1	37.5	32.0	24.4	28.2	60.7	43.1	50.3	38.2	41.9	43.6	46.7	49.1	55.1	55.9	52.2	47.7	51.4	50.0	44.3	47.8	22.8	34.6	39.2	43.0	31.8
3	42.7	38.2	41.3	42.5	44.4	41.7	41.2	45.0	44.6	43.1	44.2	46.8	47.9	52.3	53.2	50.6	48.4	40.9	44.3	43.3	46.0	41.1	43.0	45.1	44.7	71.8
4	43.8	43.8	40.4	38.2	39.1	40.2	43.4	43.8	42.9	44.9	46.5	49.5	52.1	52.8	50.7	49.2	47.6	46.5	46.3	46.0	46.4	39.1	38.5	39.0	44.6	70.7
5	40.2	44.7	42.3	42.0	42.4	44.1	42.4	43.4	41.2	43.2	45.6	48.7	49.5	54.2	52.2	51.8	50.6	47.3	45.3	46.4	45.1	43.1	38.7	41.2	45.2	85.6
6	35.5	39.9	43.4	43.4	42.6	43.2	44.2	43.7	42.0	43.6	45.5	46.0	49.8	53.3	54.9	52.8	46.8	46.3	47.1	47.3	46.6	46.0	45.8	45.6	45.6	95.3
7 q	45.4	45.7	44.2	44.0	43.9	44.0	43.8	43.3	42.3	42.6	45.1	47.3	51.6	54.3	54.7	52.4	47.6	46.4	47.4	47.2	45.0	43.1	42.3	40.2	46.0	103.8
8	36.0	43.8	43.7	44.6	43.9	43.0	43.8	42.9	43.7	42.1	43.4	48.9	51.0	52.6	50.8	50.1	49.2	47.9	47.4	45.8	40.8	42.5	43.2	42.0	45.1	83.1
9	38.3	37.8	36.8	33.2	36.2	42.5	42.6	42.9	40.8	42.4	43.9	47.7	51.3	54.4	55.0	52.1	52.2	47.5	47.5	46.0	45.8	42.5	42.8	43.5	44.4	65.7
10 d	45.5	43.2	41.6	41.2	44.4	42.8	37.1	38.7	40.9	43.2	47.4	48.2	52.3	52.0	60.0	54.5	48.0	55.4	48.7	54.5	50.6	33.4	42.8	31.4	45.7	97.8
11 q	34.7	38.4	40.2	41.0	42.0	42.5	42.8	42.8	43.8	44.2	45.6	47.8	50.0	49.9	50.3	47.9	45.7	46.2	46.1	46.1	46.2	46.1	46.0	45.0	44.6	71.3
12 q	44.2	44.6	45.5	45.8	43.6	43.7	44.8	44.3	46.7	45.9	46.9	48.5	48.6	50.0	48.2	47.2	45.9	45.5	45.6	45.7	45.6	45.6	45.6	45.1	46.0	103.1
13 q	44.8	44.7	44.6	44.0	44.2	44.1	43.6	40.8	39.1	41.4	44.6	48.8	52.3	53.9	53.1	51.8	48.1	49.4	48.3	44.8	44.6	44.2	43.3	45.0	46.0	103.5
14 q	45.4	45.8	45.5	45.3	44.8	44.2	43.5	41.0	39.1	40.3	42.0	45.4	49.6	51.3	51.9	50.5	49.2	47.4	46.6	46.3	46.3	46.0	46.3	45.6	45.8	99.3
15	44.8	45.5	46.9	45.3	44.3	43.4	42.9	41.4	38.2	37.9	41.5	46.6	51.4	53.6	53.6	52.0	48.2	46.9	46.5	44.1	45.3	48.2	45.0	39.7	45.5	93.2
16	34.8	34.3	39.4	42.9	43.8	44.1	43.4	41.5	39.8	41.1	45.1	50.1	54.5	55.0	54.6	51.0	50.9	48.2	51.1	41.1	40.0	35.1	41.0	45.1	44.5	67.9
17	44.1	43.7	40.7	41.5	43.2	42.3	45.0	39.8	39.0	40.5	44.8	49.8	55.6	56.4	55.0	52.4	49.7	42.5	45.8	46.8	47.0	45.0	42.7	43.7	45.7	97.0
18	44.4	44.7	42.9	45.6	46.3	44.6	43.3	42.0	39.6	41.9	44.7	52.3	56.4	56.2	54.2	52.2	48.9	47.2	46.7	47.2	47.1	44.5	42.8	43.0	46.6	118.7
19	40.5	40.3	42.4	42.8	42.4	42.4	42.8	39.3	39.1	44.5	48.1	51.5	54.3	55.4	54.8	52.8	51.8	49.9	48.4	45.5	41.2	43.0	43.9	45.0	45.9	102.1
20	40.6	36.5	38.9	42.1	41.1	43.7	40.9	44.3	40.7	38.8	40.7	45.6	49.6	51.8	51.8	51.8	49.6	48.0	47.7	47.2	46.9	44.2	44.4	42.0	44.5	68.9
21	42.4	42.4	41.4	41.4	40.5	42.2	42.3	41.0	38.9	39.6	42.5	46.9	51.7	55.8	55.1	56.4	62.0	63.3	56.8	48.5	46.4	45.5	41.7	42.4	47.0	127.1
22	38.2	41.5	42.8	42.4	42.0	40.7	41.9	42.4	42.9	44.4	47.6	51.7	54.0	57.2	55.3	52.7	51.1	45.8	44.7	40.5	44.5	45.2	43.2	45.1	45.7	97.8
23	47.1	40.6	38.1	38.3	43.2	42.4	42.4	42.6	41.6	42.1	46.7	49.5	52.9	53.0	52.4	52.2	48.3	45.0	45.6	46.8	46.4	40.9	42.7	43.2	45.2	84.0
24	43.2	44.9	44.6	43.2	43.1	43.7	43.0	40.1	39.6	40.7	42.9	46.4	49.6	51.9	51.9	50.6	48.6	48.3	47.2	45.9	43.4	42.1	45.6	45.4	45.2	85.9
25	44.8	44.6	39.2	34.9	30.7	33.1	39.3	40.2	36.1	44.0	47.7	50.2	54.2	53.1	54.5	52.3	48.3	46.6	46.5	45.6	46.0	45.8	45.3	44.6	44.5	67.6
26	43.2	43.9	44.3	44.2	43.9	43.5	42.6	40.5	38.3	38.5	40.6	46.9	50.8	55.4	55.8	53.9	53.6	50.1	48.1	45.5	43.6	39.0	34.1	38.3	44.9	78.6
27 d	39.5	41.9	42.9	44.2	41.3	41.5	39.6	39.5	40.9	42.1	44.4	52.0	57.0	58.6	62.2	58.4	52.8	50.6	46.4	37.4	42.4	31.6	32.8	29.0	44.5	69.0
28 d	16.6	20.5	37.6	43.5	38.4	47.4	50.8	45.4	40.1	47.8	43.8	47.7	48.5	49.2	49.9	49.6	48.1	46.8	45.4	45.2	45.8	45.6	45.4	44.8	43.5	43.9
29 d	44.1	43.4	44.7	44.2	41.5	37.9	38.3	35.9	39.5	39.6	42.6	49.4	53.9	63.3	62.1	66.3	46.2	53.3	47.6	43.1	47.4	45.1	37.8	39.3	46.1	106.5
30	39.5	28.5	33.0	40.5	43.0	42.3	41.5	40.0	40.8	42.9	45.2	49.3	52.4	54.1	53.2	51.3	48.6	46.7	46.5	46.4	46.4	44.7	43.8	40.8	44.2	61.4
31	43.3	40.6	44.0	40.9	42.9	43.3	41.0	40.4	40.1	41.5	44.0	49.4	51.9	55.9	53.0	53.1	47.3	46.0	44.5	44.2	42.2	39.7	38.7	39.7	44.5	67.6
Mean	40.9	41.0	41.6	41.7	41.8	43.2	42.6	42.1	40.8	42.3	44.6	48.5	51.8	54.1	54.0	52.5	50.0	48.6	47.4	45.6	45.4	42.2	42.2	41.9	45.3	
Sum 1200.0+	68.1	71.4	89.3	91.3	94.6	138.5	121.4	103.4	64.7	111.5	183.7	304.8	405.6	476.6	474.7	427.0	339.5	305.9	270.5	214.8	208.5	108.1	107.2	97.7		Grand Total 33678.8

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

71

24 ESKDALEUIR (Z)

45,000γ (0.45 C.G.S. unit) +

MARCH 1957

	Hour G. M. T.																								Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		6,000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2 d	293	291	290	290	288	288	287	285	285	285	282	277	275	281	286	289	310	332	358	335	319	307	304	302	297	1139
3	284	287	287	218	178	54	47	128	248	300	300	340	376	440	469	435	378	362	443	457	407	372	286	241	306	1337
4	279	261	253	282	295	300	303	309	311	320	322	318	316	321	332	331	345	350	340	338	323	316	308	308	312	1481
5	308	293	281	270	273	281	290	294	299	294	294	293	299	305	311	304	308	305	304	305	306	307	303	300	297	1127
6	300	287	287	294	299	297	299	300	300	297	298	299	298	299	304	312	324	330	335	324	312	308	312	304	305	1325
7 q	290	280	294	299	300	300	295	289	288	286	288	290	286	290	304	322	338	332	319	323	324	317	311	308	303	1273
8	305	303	296	293	294	299	301	304	304	301	299	293	289	293	304	320	333	327	310	304	308	313	316	312	305	1321
9	298	298	299	301	303	302	298	292	288	289	288	285	288	291	288	292	297	304	304	309	319	315	309	295	298	1152
10 d	274	285	284	277	275	266	264	275	282	287	286	281	281	290	299	311	321	329	316	313	315	307	305	300	293	1023
11 q	295	294	293	286	266	253	263	271	277	287	284	292	317	378	459	484	454	464	443	393	374	330	341	349	339	2147
12 q	322	316	319	320	320	316	315	317	317	315	311	307	305	307	309	311	315	313	311	311	310	311	311	310	313	1519
13 q	308	307	304	294	294	294	294	297	298	296	300	306	305	307	308	311	311	308	305	305	304	304	304	304	303	1268
14 q	304	303	303	303	303	300	299	299	302	299	295	293	290	290	295	300	309	326	340	343	339	326	316	315	305	1394
15	303	301	301	301	300	300	301	305	307	305	301	295	292	293	298	300	299	299	299	298	297	297	297	297	299	1186
16	293	294	292	282	285	288	290	296	299	293	287	279	277	277	279	288	296	302	307	310	303	288	288	291	291	984
17	279	257	257	278	287	291	291	295	296	294	288	286	286	293	299	305	305	308	314	319	323	298	311	309	295	1069
18	309	297	285	291	296	296	291	294	298	294	287	282	280	287	296	305	319	340	319	309	303	300	293	294	299	1165
19	294	293	292	293	289	290	289	293	292	288	287	281	292	304	301	305	308	305	302	301	302	293	293	295	295	1082
20	296	294	293	294	294	294	294	298	295	286	277	275	275	277	282	288	297	309	311	308	295	298	299	291	293	1020
21	272	273	279	287	289	277	279	281	282	278	280	276	272	271	277	287	298	299	298	295	295	295	283	287	284	810
22	288	292	294	288	281	283	287	291	290	287	281	276	269	268	278	298	323	375	420	421	386	347	337	299	311	1459
23	288	292	295	296	295	291	291	289	284	280	279	280	286	298	309	322	336	356	350	333	317	308	308	290	303	1272
24	247	249	260	255	273	287	291	299	299	299	294	292	291	294	295	302	319	325	318	308	306	306	299	297	292	1005
25	286	284	277	276	286	290	295	299	298	294	287	280	276	277	283	292	295	296	302	310	309	294	295	295	291	976
26	294	288	268	231	192	199	245	278	286	283	288	297	305	324	314	309	306	305	303	305	303	302	299	299	284	823
27 d	298	298	296	295	296	295	296	299	298	294	287	279	281	287	299	310	323	334	327	318	313	310	295	277	300	1205
28 d	244	273	281	276	269	282	288	291	287	278	275	268	268	267	272	292	298	298	318	329	335	310	225	208	281	732
29 d	124	126	152	217	260	188	130	161	212	272	286	298	310	320	319	335	328	314	307	306	306	305	305	305	258	186
30	305	302	294	291	289	286	291	296	292	291	295	291	287	292	318	416	431	418	444	374	338	323	296	295	323	1755
31	275	237	249	264	288	299	308	315	314	313	313	310	310	312	318	324	327	322	314	310	310	309	305	298	302	1244
Mean	288	292	290	290	284	272	285	292	293	293	293	288	290	296	304	312	327	341	342	339	319	294	294	293	300	1211
Sum 8,000+	843	747	745	732	738	557	597	835	1018	1074	1030	1004	1072	1334	1614	1921	2095	2248	2326	2149	1907	1600	1346	1158		Grand Total 222,690

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR

MARCH 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.				
	Horizontal force				Declination			Vertical force												
	Maximum 16,000γ +	Minimum 16,000γ +	Range		Maximum 10° +	Minimum 10° +	Range		Maximum 45,000γ +	Minimum 45,000γ +	Range									
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ								
1	16 37	754	655	18 25	99	17 46	64.1	35.2	23 40	28.9	18 25	362	275	12 43	87	1,1,1,1,3,4,4,4	19	1	83.6	
2 d	14 26	867	15	06 00	852	05 29	109.7	10.4	21 29	99.3	13 58	504	-133	05 53	637	4,8,8,6,7,5,5,7	50	2	83.6	
3	17 03	736	577	01 01	159	14 15	54.5	32.9	01 56	21.6	17 14	357	240	02 38	117	4,3,4,3,2,4,3,3	26	1	83.6	
4	01 36	714	640	10 46	74	13 11	53.7	34.4	03 44	19.3	14 09	313	266	03 22	47	3,3,2,2,2,1,1,3	17	0	83.6	
5	20 46	729	650	10 26	79	13 18	56.4	36.7	22 44	19.7	18 20	339	281	01 55	58	3,2,2,2,3,2,3,3	20	0	83.6	
6	16 30	729	643	11 50	86	13 04	55.5	32.7	00 21	22.8	17 00	343	271	01 10	72	3,1,1,2,3,3,3,2	18	0	83.6	
7 q	16 34	712	660	10 25	52	14 45	55.2	39.6	23 11	15.6	16 46	342	289	12 44	53	2,1,1,2,2,3,2,2	15	0	83.6	
8	23 49	768	646	13 45	122	13 07	54.6	33.5	00 23	21.1	20 35	321	269	24 00	52	3,1,2,2,2,2,3,4	19	0	83.6	
9	21 00	772	661	11 56	111	14 57	55.9	31.3	03 38	24.6	17 15	331	259	05 51	72	3,4,2,2,2,3,4,4	24	1	83.6	
10 d	14 34	828	541	21 30	287	14 34	75.7	15.6	23 40	60.1	15 50	496	249	05 15	247	3,3,3,5,6,4,5,5	34	2	83.6	
11 q	23 04	692	607	00 22	85	14 13	51.5	31.2	00 27	20.3	16 37	316	304	13 14	12	3,2,2,1,2,2,2,1	15	0	83.6	
12 q	03 34	716	656	11 31	60	13 40	51.9	42.3	04 40	9.6	15 54	311	290	03 34	21	2,3,2,2,2,1,0,0	12	0	83.6	
13 q	16 40	720	655	11 10	65	14 05	55.1	38.3	07 55	16.8	19 12	345	278	11 54	67	0,1,2,2,2,4,2,2	15	0	83.6	
14 q	24 00	718	644	11 25	74	14 28	52.8	38.0	08 44	14.8	08 17	308	292	12 44	16	1,1,2,2,1,2,0,1	10	0	83.6	
15	21 18	768	651	11 49	117	13 51	55.1	36.2	23 09	18.9	19 22	310	275	12 25	35	2,2,2,2,1,2,3,4	18	0	83.5	
16	18 13	774	584	21 36	190	19 06	59.6	20.7	21 25	38.9	19 29	332	243	02 06	89	4,3,4,2,3,3,5,5	29	1	83.5	
17	22 06	733	631	11 06	102	13 06	58.1	37.8	07 59	20.3	17 25	346	280	12 19	66	3,2,3,2,3,3,2,3	21	1	83.6	
18	21 22	741	629	12 11	112	12 59	59.8	39.2	08 35	20.6	16 15	310	280	11 05	30	1,2,2,3,3,2,2,3	18	0	83.6	
19	19 51	766	658	10 54	108	13 06	56.6	37.4	08 14	19.2	17 55	314	270	12 02	44	2,1,2,2,2,3,4,3	19	0	83.6	
20	21 58	789	651	12 21	138	14 37	52.3	36.1	01 25	16.2	16 56	300	270	13 11	30	3,3,3,2,2,1,2,4	20	0	83.6	
21	16 31	769	632	22 30	137	16 55	67.6	35.5	23 27	32.1	19 00	440	264	13 11	176	1,2,2,1,3,4,4,5	22	1	83.6	
22	17 28	723	649	11 20	74	13 18	58.8	36.0	00 21	22.8	17 48	364	277	10 56	87	3,2,3,3,3,3,3,4	24	1	83.6	
23	21 11	716	629	11 19	87	12 29	54.5	34.3	03 34	20.2	17 10	329	244	00 23	85	4,3,2,3,3,3,3,3	24	1	83.9	
24	21 07	758	657	11 23	101	13 30	52.5	33.0	21 03	19.5	20 03	315	275	12 35	40	2,2,2,2,1,2,4,4	19	1	-	
25	04 17	782	616	12 58	166	12 36	56.8	25.9	04 22	30.9	13 30	327	184	05 04	143	3,5,3,3,3,2,2,1	22	1	83.8	
26	15 43	727	640	12 22	87	14 20	59.4	29.3	22 12	30.1	17 39	337	249	24 00	88	1,1,2,3,4,3,3,4	21	1	83.8	
27 d	19 11	765	542	22 29	223	14 30	63.3	11.4	23 50	51.9	20 56	357	150	24 00	207	3,3,2,3,4,4,5,5	29	1	83.9	
28	16 36	705	425	00 49	280	05 43	56.3	-4.2	00 57	60.5	15 47	341	93	01 05	248	6,5,5,5,4,4,2,1	32	2	83.9	
29 d	15 25	1253	573	23 00	680	15 25	86.8	29.3	08 02	57.5	15 58	491	280	13 21	211	2,4,4,3,6,8,6,5	38	2	83.8	
30	23 52	724	604	00 56	120	13 02	54.9	14.8	01 14	40.1	16 26	328	226	01 22	102	5,4,3,1,2,2,2,3	22	1	83.8	
31	16 50	778	629	11 20	149	13 30	56.7	34.1	22 25	22.6	18 10	346	269	05 28	77	3,2,3,2,3,4,4,4	25	1	84.0	
Mean	-	-	765	602	-	164	-	59.9	30.3	-	29.6	-	351	244	-	107	-	-	0.71	83.7

$16,000\gamma$ (0.16 C.G.S. unit) +

APRIL 1957

		Hour G. M. T.																								APRIL 1957	
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 15,000+
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1		682	685	687	688	692	674	682	659	649	651	645	646	649	662	680	715	731	734	719	698	687	691	707	688	683	1401
2		674	691	687	687	686	682	683	678	674	659	639	641	651	650	670	689	695	716	728	718	704	700	684	681	682	1367
3		696	703	695	697	699	696	701	677	691	684	658	654	679	693	704	712	735	739	715	723	681	676	677	680	694	1665
4		681	677	667	688	686	683	689	677	661	664	655	655	666	660	694	713	715	711	722	713	704	689	684	679	685	1433
5	d	685	692	684	694	700	701	697	688	674	662	654	614	654	643	670	698	698	707	715	717	717	615	699	705	687	1483
6		679	663	671	678	708	676	702	692	664	634	621	621	634	658	674	694	699	695	699	699	702	702	702	706	678	1273
7	q	702	699	698	697	702	707	710	702	684	662	647	643	655	667	684	694	697	707	709	713	716	717	716	716	693	1644
8		710	707	715	717	721	720	730	723	692	666	661	672	676	689	684	687	689	699	714	712	700	698	694	695	699	1771
9		696	702	696	698	704	694	707	699	691	676	659	651	644	650	700	709	698	715	723	701	706	683	689	695	691	1586
10	d	680	639	674	715	688	613	654	615	604	606	609	598	627	657	674	707	732	698	680	675	681	686	691	691	662	894
11		697	688	687	685	683	694	691	686	670	660	647	622	616	652	664	685	691	700	709	712	706	703	711	709	682	1368
12		698	701	698	692	692	698	701	687	674	655	645	648	650	673	679	704	711	700	724	715	710	703	703	707	690	1568
13	q	709	695	707	706	710	709	703	685	673	666	661	655	666	671	670	686	708	715	709	709	711	709	718	710	694	1661
14	q	709	704	701	699	700	697	695	690	677	662	654	654	659	671	681	692	704	715	726	724	726	732	729	728	697	1729
15		726	722	723	720	723	723	725	726	705	678	662	651	657	677	704	696	714	720	730	724	731	696	666	719	705	1918
16		680	676	685	697	688	688	686	679	667	659	636	622	653	682	686	702	712	729	716	708	714	718	691	690	686	1464
17	d	691	697	700	710	702	701	711	695	680	663	650	673	707	733	731	724	734	735	740	768	759	757	711	723	712	2095
18	d	694	707	706	701	693	710	704	696	685	674	663	649	652	666	686	734	752	756	759	733	706	682	654	647	696	1709
19	d	642	592	604	625	681	658	633	642	629	641	633	632	625	661	690	676	714	759	772	695	680	687	677	691	664	939
20		682	682	668	657	680	679	680	657	648	639	636	633	645	659	681	703	724	726	708	718	703	704	709	701	680	1322
21		702	698	694	686	703	702	693	688	680	654	647	660	665	692	704	694	694	701	715	724	722	720	732	707	695	1677
22	q	704	700	700	699	699	700	699	694	681	667	660	659	661	662	676	692	705	723	740	728	718	717	717	716	697	1717
23		719	721	702	695	696	706	712	703	692	680	666	668	673	692	686	695	712	722	729	737	739	726	718	727	705	1916
24		703	700	695	717	717	714	709	701	682	657	666	669	682	703	738	706	738	720	713	727	723	720	706	703	705	1909
25	q	689	703	696	694	691	690	688	685	678	676	677	682	680	688	697	690	698	731	741	724	716	718	714	710	698	1756
26		710	711	705	703	709	708	712	703	690	692	686	668	687	700	723	702	667	728	714	741	738	702	688	689	703	1876
27		697	678	704	689	672	684	690	673	662	688	702	665	679	665	669	693	696	712	718	729	722	713	708	705	692	1613
28		703	702	700	700	703	700	702	706	702	694	679	686	690	705	746	767	768	748	755	714	699	710	673	688	710	2040
29		697	694	677	666	686	682	683	684	677	661	646	664	664	669	677	678	680	688	707	710	710	710	711	709	685	1430
30		709	698	698	690	679	701	708	696	685	674	663	656	653	669	680	720	703	742	740	743	719	724	709	708	699	1767
Mean		695	691	691	693	696	693	696	686	674	663	654	650	660	674	690	702	711	720	723	718	712	707	700	701	692	
Sum 19,000+		1846	1727	1724	1790	1893	1790	1880	1586	1221	904	627	511	799	1219	1702	2057	2314	2591	2689	2552	2350	2208	1988	2023		Grand Total 497,991

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)

 $10^\circ +$

APRIL 1957

	Hour G.M.T.																								Mean	Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		1000-0+
1	36.4	40.3	43.1	43.3	40.1	41.5	41.9	39.1	42.4	40.6	42.5	47.2	51.8	55.9	54.5	54.8	50.0	46.6	42.2	41.2	41.5	42.2	40.5	36.1	44.0	55.7
2	36.2	40.3	41.9	42.3	41.7	41.1	40.7	40.2	41.3	41.2	42.4	45.3	50.8	52.6	53.3	52.7	49.5	43.6	44.1	41.3	43.9	43.3	37.6	40.7	43.7	48.0
3	44.0	43.4	42.7	43.4	42.2	43.5	43.2	41.9	40.6	39.2	43.9	48.4	52.3	52.9	52.7	52.1	49.5	46.5	42.1	36.3	39.4	38.9	38.1	38.6	44.0	55.8
4	36.6	37.0	38.3	34.0	36.9	42.2	39.6	37.5	37.7	39.5	43.8	48.1	53.0	53.2	55.8	54.9	52.0	48.1	46.8	44.9	40.4	40.5	37.9	36.0	43.1	34.7
5 d	36.1	34.4	33.3	37.5	39.6	40.6	38.9	39.1	37.9	38.6	44.3	49.7	54.5	56.1	59.1	57.3	49.8	49.9	48.4	48.1	48.2	46.5	44.5	37.5	44.6	69.9
6	33.3	29.9	39.2	39.7	40.8	45.9	48.6	45.7	40.9	41.0	48.5	51.0	53.1	54.9	54.9	52.1	48.6	47.2	46.6	46.2	45.9	45.6	45.0	44.6	45.4	89.2
7 q	44.2	43.3	42.7	43.2	43.2	43.1	41.4	38.9	38.2	38.6	40.9	45.4	49.9	52.2	52.0	50.5	48.5	47.9	47.1	46.8	46.2	45.9	45.7	45.4	45.1	81.2
8	42.7	42.7	43.7	43.2	43.5	44.3	46.2	43.6	42.8	43.5	46.8	53.0	56.7	58.3	57.0	55.7	51.6	47.8	46.1	45.7	44.0	41.9	41.7	40.4	46.8	122.9
9	41.9	42.7	40.6	41.7	40.7	44.4	47.3	43.7	44.4	44.5	47.3	49.8	53.2	55.3	54.4	51.7	50.9	49.5	47.6	43.2	40.9	39.1	37.0	38.0	45.4	89.4
10 d	35.3	34.5	33.9	28.7	40.9	44.3	40.7	40.9	49.0	45.6	46.8	49.5	52.6	53.8	51.6	52.2	45.8	40.8	40.7	42.3	45.1	45.9	45.8	45.3	43.8	52.0
11	45.0	42.1	42.3	42.2	41.6	40.9	39.4	39.1	38.1	40.1	45.7	49.4	53.9	56.7	54.5	51.4	48.2	46.3	45.9	46.8	46.7	45.1	43.7	42.9	45.3	88.0
12	44.6	44.1	43.2	42.9	42.0	42.7	41.8	40.5	38.2	40.4	43.9	47.6	50.2	52.8	51.3	51.1	48.1	42.7	42.1	43.4	45.3	44.0	43.7	45.0	44.7	71.6
13 q	47.9	46.6	46.5	42.8	41.4	43.1	43.7	41.4	41.9	41.7	42.7	46.2	51.0	52.2	51.3	50.3	48.5	47.3	45.8	45.9	46.2	45.3	44.8	45.3	45.8	99.8
14 q	45.3	44.4	43.3	42.8	43.1	41.3	40.2	38.5	37.4	39.3	42.3	46.0	49.5	50.7	51.7	50.4	49.1	48.1	47.7	47.5	46.5	46.9	46.7	45.9	45.2	84.6
15	45.3	44.6	44.5	43.2	43.6	43.5	43.4	41.4	38.3	39.7	42.0	49.2	53.7	55.0	58.5	53.8	51.1	49.4	47.3	46.3	45.4	43.3	41.8	29.8	45.6	94.1
16	36.0	37.1	37.0	38.2	41.0	40.5	40.0	39.1	38.9	40.3	43.2	48.7	53.0	57.2	56.6	55.3	53.1	49.3	46.8	46.3	45.0	44.9	40.5	39.5	44.5	67.5
17 d	39.4	42.2	42.1	41.4	41.4	40.3	42.7	39.0	38.7	40.9	44.6	48.7	54.3	58.7	58.9	56.0	53.9	53.9	52.7	52.6	49.5	50.2	41.4	35.6	46.7	121.8
18 d	34.1	40.5	40.2	39.9	39.5	40.9	41.8	42.7	41.9	44.1	45.5	48.1	50.4	52.4	51.2	53.0	52.3	53.0	45.2	45.5	46.9	41.6	40.1	38.3	44.5	69.1
19 d	30.1	33.2	27.5	34.2	28.9	35.9	46.1	53.9	41.5	44.5	46.1	49.7	50.8	52.7	53.6	50.3	50.2	47.3	46.3	45.8	40.5	40.9	41.0	40.0	43.0	31.0
20	41.9	41.8	44.9	42.7	41.4	41.6	39.9	38.9	39.1	40.5	42.1	47.7	49.9	51.1	51.2	50.1	49.4	45.6	46.9	46.2	45.7	44.9	44.4	44.0	44.6	70.3
21	44.6	41.2	41.7	41.9	41.6	35.5	35.5	36.9	39.7	42.8	47.1	51.2	55.4	56.8	54.6	55.4	54.9	51.1	45.3	46.6	47.4	45.5	42.5	43.7	45.8	98.9
22 q	44.2	43.4	43.5	42.7	41.8	40.9	40.1	39.2	38.5	39.3	42.0	45.2	48.7	50.7	51.5	50.5	49.1	46.6	44.6	46.5	47.7	47.3	46.3	45.5	44.8	75.8
23	45.1	42.9	38.1	38.9	39.3	41.5	40.7	39.0	38.1	38.7	41.7	45.4	49.1	52.7	52.7	51.2	49.5	48.4	48.0	47.7	47.2	43.2	44.1	43.1	44.4	66.3
24	35.6	39.0	41.0	42.7	41.6	39.9	38.6	36.7	36.0	38.0	42.3	44.6	49.5	54.9	56.8	53.4	51.1	50.0	46.6	47.4	46.0	45.1	43.4	39.1	44.1	59.3
25 q	42.0	44.6	43.3	42.5	41.0	40.1	38.4	37.8	38.9	41.3	44.0	47.7	51.4	53.5	51.2	48.3	47.3	45.5	44.2	41.9	42.4	44.5	43.7	43.1	44.1	58.6
26	43.2	43.5	40.9	38.9	36.8	37.9	40.5	36.9	38.0	37.3	42.4	49.5	55.0	57.5	57.1	52.8	49.9	49.8	44.5	40.2	39.0	37.2	37.7	38.3	43.5	44.8
27	36.9	41.9	42.7	38.3	40.7	37.5	38.3	35.5	37.0	41.9	45.8	48.6	51.1	51.4	50.9	49.8	47.5	45.7	44.0	45.2	44.1	43.6	44.5	42.7	43.6	45.6
28	44.4	43.8	43.4	43.1	42.3	41.8	41.5	40.7	38.6	38.4	41.9	46.3	51.3	55.3	54.2	54.1	50.4	50.3	47.6	44.6	40.6	41.4	42.7	41.5	45.0	80.2
29	43.4	41.0	36.0	37.9	40.3	39.2	39.3	37.7	36.0	38.6	41.5	47.0	51.7	53.3	53.1	52.3	50.1	46.9	45.9	45.1	44.8	44.3	44.3	44.5	43.9	54.2
30	44.9	44.7	44.5	42.0	43.3	42.3	40.4	36.9	36.7	37.1	42.8	46.4	48.8	50.8	50.2	51.4	47.2	47.4	46.8	43.1	42.2	44.0	39.3	38.2	43.8	51.4
Mean	40.7	41.0	40.9	40.5	40.7	41.3	41.4	40.1	39.6	40.6	43.9	48.0	51.9	54.1	53.9	52.5	49.9	47.7	45.9	45.0	44.5	43.8	42.3	40.9	44.6	
Sum 1100-0+	120.6	131.1	126.0	116.2	122.2	140.5	140.8	102.4	86.7	116.9	216.4	339.7	456.6	521.6	516.4	474.9	397.1	332.5	275.9	250.6	234.6	213.0	170.4	128.6		Grand Total: 32131.7

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

73

24 ESKDALEUIR (Z)

45,000γ (0.45 C.G.S. unit) +

APRIL 1957

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+
1	γ	260	282	284	287	288	285	284	285	280	281	286	288	290	298	311	331	351	358	360	341	327	321	298	285	303	1261
2	γ	285	254	281	295	299	299	296	290	283	281	286	279	279	287	290	295	303	305	321	319	311	309	310	300	294	1057
3	γ	285	290	299	300	299	295	295	295	292	291	289	287	292	305	310	318	330	342	350	331	318	318	310	252	304	1293
4	γ	280	285	269	269	273	272	273	281	284	281	277	281	283	287	293	312	334	341	336	341	326	316	315	304	296	1113
5 d	γ	299	288	281	283	283	288	294	296	295	293	287	289	299	303	303	336	336	316	316	314	306	306	310	278	300	1199
6	γ	253	242	213	217	238	249	249	259	268	273	269	276	281	287	297	314	322	317	278	275	302	300	299	296	274	574
7 q	γ	296	298	298	298	297	296	299	300	299	295	291	281	276	281	283	286	291	292	293	294	295	293	294	293	292	1019
8	γ	292	292	292	292	291	290	284	283	283	281	275	268	267	282	303	316	326	326	324	332	337	325	310	305	299	1176
9	γ	300	293	287	288	287	279	268	271	270	270	265	273	280	288	310	345	340	336	344	350	334	313	300	271	298	1162
10 d	γ	244	221	171	137	123	120	181	238	245	265	291	316	334	364	394	421	438	416	372	346	326	315	309	309	287	896
11	γ	301	299	304	305	305	303	303	302	298	292	287	290	293	295	297	298	301	306	309	306	309	310	306	300	301	1219
12	γ	303	303	302	301	300	294	292	296	297	292	292	287	283	283	288	287	301	319	334	326	315	309	301	295	300	1200
13 q	γ	287	286	277	288	293	290	287	293	293	293	288	285	286	299	306	306	311	313	314	307	301	300	299	298	296	1100
14 q	γ	299	299	299	299	296	295	296	297	293	287	282	274	271	274	277	280	283	286	287	288	291	291	291	294	289	929
15	γ	295	294	294	293	290	287	284	286	284	276	270	263	260	262	280	293	299	310	317	318	311	294	243	265	286	868
16	γ	248	254	271	282	298	299	299	302	299	292	283	276	276	281	292	304	319	341	340	322	313	305	306	295	296	1097
17 d	γ	288	287	288	280	276	275	271	279	278	276	272	269	272	282	283	282	279	281	283	287	306	301	313	269	282	777
18 d	γ	311	308	298	298	299	291	288	284	280	276	275	272	275	281	287	292	311	338	373	360	345	315	302	317	303	1276
19 d	γ	300	299	241	167	183	212	220	226	258	277	288	305	324	344	368	387	390	383	387	367	350	323	302	275	299	1176
20	γ	290	297	288	265	273	279	288	294	290	288	289	286	286	291	299	305	316	329	318	310	311	305	300	302	296	1099
21	γ	283	281	286	280	264	263	264	265	270	276	278	276	277	298	326	338	340	343	340	323	310	305	298	293	295	1077
22 q	γ	296	299	300	300	300	300	300	300	299	292	284	279	297	281	287	288	296	306	318	317	308	305	300	299	297	1131
23	γ	296	288	287	290	293	287	283	287	289	281	277	272	275	277	286	286	287	291	293	297	300	305	300	292	288	919
24	γ	284	276	271	278	287	295	299	298	292	285	275	271	267	271	282	294	315	322	315	301	299	295	298	293	290	963
25 q	γ	293	292	296	298	298	297	293	287	280	275	270	266	270	278	299	310	309	313	316	318	311	302	301	299	295	1071
26	γ	295	293	292	290	286	280	266	269	272	270	262	264	275	298	327	345	332	317	322	321	314	302	296	284	295	1072
27	γ	264	218	237	272	250	232	252	263	263	261	261	260	267	276	276	286	295	300	305	299	302	305	299	294	272	537
28	γ	292	296	295	292	290	294	288	283	277	279	272	267	273	287	317	350	368	367	358	354	337	301	299	288	305	1324
29	γ	294	285	276	271	257	279	287	287	280	270	265	261	269	291	309	327	340	338	318	308	303	299	296	296	292	1006
30	γ	295	298	293	292	287	276	281	283	281	280	273	270	274	277	283	292	305	310	312	317	315	293	281	277	289	945
Mean		287	283	279	277	277	279	283	282	281	279	278		281	290	302	314	322	325	325	320	314	306	299	291	294	
Sum 8000+		608	497	370	307	303	301	364	479	472	429	359	331	431	708	1063	1424	1668	1762	1753	1589	1433	1181	986	718		Grand Total 211,536

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR

APRIL 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range											
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ					°A.				
1	18 10	751	634	10 35	117	13 47	58.0	32.9	23 57	25.1	18 10	369	248	00 24	121	3,3,3,2,3,3,4,3	24	1	84.2	
2	19 07	749	634	10 42	115	14 13	54.9	33.1	00 01	21.8	18 39	322	237	01 23	85	3,1,2,2,2,3,3,3	19	0	84.2	
3	17 00	765	642	10 56	123	12 43	54.0	33.7	19 24	20.3	18 42	353	233	23 28	120	3,1,2,3,2,3,4,4	22	1	84.2	
4	19 00	734	646	13 08	88	14 34	56.9	35.0	23 30	21.9	19 31	345	254	02 53	91	3,3,2,1,3,3,4,2	21	1	84.2	
5 d	14 58	764	598	11 26	166	14 58	69.4	28.8	23 33	40.6	15 53	356	250	24 00	106	3,2,2,4,5,4,2,4	26	1	84.2	
6	04 13	722	608	09 56	114	13 25	55.5	26.7	01 24	28.8	16 44	325	183	02 58	142	5,4,4,3,3,2,1,1	23	1	84.2	
7 q	23 04	717	640	11 24	77	13 51	52.6	36.8	08 15	15.8	07 19	302	275	12 20	27	1,1,2,2,1,1,1,1	10	0	84.3	
8	06 33	732	654	10 04	78	14 04	59.1	33.7	21 50	25.4	20 10	348	264	12 20	84	2,2,3,2,3,2,3,3	20	0	84.3	
9	18 19	741	624	12 49	117	14 07	55.8	27.3	24 00	28.5	19 12	355	235	23 59	120	2,3,3,2,4,3,3,4	24	1	84.3	
10 d	15 58	768	557	05 30	211	15 12	55.3	22.7	03 48	32.6	16 56	460	109	05 13	351	5,6,5,4,4,4,3,2	33	2	84.3	
11	22 56	745	594	13 04	151	13 14	58.2	36.9	08 27	21.3	21 43	310	287	10 36	23	2,2,2,4,4,2,2,3	21	1	84.3	
12	18 07	740	642	10 27	98	13 39	53.7	37.3	07 57	16.4	18 26	337	281	13 17	56	1,1,3,1,2,3,3,2	16	0	84.3	
13 q	22 17	724	650	11 24	74	13 35	53.0	40.1	08 09	12.9	18 14	314	273	02 29	41	3,2,3,2,3,3,1,2	19	0	84.3	
14 q	22 00	738	651	11 52	87	14 01	52.5	37.2	08 24	15.3	02 50	300	270	12 36	30	1,1,1,0,0,3,2,2	10	0	84.2	
15	20 53	763	637	22 10	126	14 12	61.8	23.7	23 26	38.1	19 35	319	231	22 14	88	0,1,2,3,3,3,3,5	20	1	84.3	
16	17 36	746	562	10 54	184	13 29	58.2	31.5	00 00	26.7	17 54	353	241	00 24	112	4,2,2,4,3,3,3,3	24	1	84.3	
17 d	23 39	860	629	11 37	231	13 29	65.4	25.1	23 59	40.3	22 10	322	212	23 48	110	2,3,3,4,5,4,5,6	32	1	84.3	
18 d	18 26	808	623	00 04	185	15 57	59.0	25.9	00 00	33.1	18 11	384	270	11 43	114	6,3,2,3,3,5,5,4	31	1	84.3	
19 d	17 58	791	503	01 44	288	07 05	61.6	15.3	02 12	46.3	16 55	406	141	03 26	265	5,5,5,3,4,5,5,4	36	1	84.4	
20	17 24	733	629	11 29	104	13 10	52.2	36.9	07 04	15.3	17 36	332	255	03 16	77	3,3,3,1,3,3,2,2	20	0	84.4	
21	22 34	744	641	10 25	103	15 06	58.1	34.2	06 18	23.9	17 11	345	259	04 49	86	3,3,3,2,3,4,3,3	24	1	84.3	
22 q	18 54	746	656	11 54	90	14 27	51.7	38.1	08 44	13.6	18 50	321	276	12 10	45	1,0,1,1,1,3,3,1	11	0	-	
23	19 58	749	661	10 28	88	14 03	55.5	37.2	02 53	18.3	21 40	305	272	11 40	33	3,2,2,2,3,2,2,3	19	0	84.3	
24	14 52	803	646	09 31	157	14 51	62.4	33.8	08 54	28.6	17 11	325	265	12 54	60	3,2,3,3,5,4,3,4	27	1	84.3	
25 q	18 34	749	671	12 46	78	13 27	53.6	36.5	07 06	17.1	19 17	319	265	11 50	54	3,1,2,2,2,3,3,2	18	0	84.2	
26	19 21	761	644	16 10	117	14 17	61.2	34.9	19 56	26.3	15 14	348	259	10 48	89	2,2,3,3,4,4,3,3	24	1	84.4	
27	20 05	737	641	01 15	96	12 50	54.4	31.1	01 53	23.3	18 10	305	200	01 41	105	4,3,3,3,3,3,2,2	23	1	84.4	
28	15 54	815	661	22 08	154	13 29	55.9	33.8	21 49	22.1	16 05	374	265	11 40	109	1,1,2,2,3,3,4,5,4	22	1	-	
29	20 30	720	635	10 48	85	13 15	54.0	34.3	08 15	19.7	16 59	342	252	04 18	90	3,3,2,3,2,2,2,1	18	0	84.4	
30	19 36	753	646	12 10	107	15 17	52.7	35.2	07 47	17.5	19 19	320	267	11 01	53	2,3,2,2,3,4,3,3	22	1	84.4	
Mean	- -	756	629	- -	127	- -	56.9	32.3	- -	24.6	- -	341	244	- -	96	-	-	-	0.67	84.3

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)												16,000γ (0.16 C.G.S. unit) +												MAY 1957				
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 16,000+		
	0-1	1-2																										
1 d	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
2	703	691	701	714	685	703	706	677	665	658	656	667	659	680	684	683	687	709	723	718	719	719	715	711	693	633		
3	719	719	712	715	713	701	711	706	694	680	666	661	670	668	695	703	712	725	730	727	726	723	721	717	705	914		
4	717	704	709	726	715	713	712	707	696	678	662	667	663	676	706	720	725	754	765	736	719	712	704	702	708	988		
5	703	708	703	703	696	696	700	697	690	680	677	674	673	690	708	716	736	760	759	736	723	715	706	700	706	949		
6	725	702	698	701	704	713	707	699	687	678	671	670	680	691	709	711	728	735	720	725	728	730	731	728	707	971		
7	715	712	703	704	716	708	712	707	698	669	638	657	654	668	698	692	709	715	715	723	735	736	729	727	702	840		
8	708	703	713	717	719	714	723	717	710	698	680	670	676	697	702	728	756	751	728	725	724	721	720	718	713	1118		
9 d	718	717	718	722	723	723	715	710	694	679	663	669	674	691	690	699	715	743	756	759	763	777	749	744	717	1211		
10	734	736	716	693	702	708	704	719	712	694	667	668	670	674	678	683	707	720	732	735	719	720	721	717	705	929		
11	710	708	702	704	700	697	701	692	684	681	672	663	663	678	697	705	723	742	744	742	726	729	743	725	705	931		
12 q	713	710	715	712	715	714	709	703	698	694	692	691	692	693	696	709	726	731	735	744	734	735	729	712	713	1102		
13	699	705	710	714	714	709	703	695	688	689	688	689	690	695	702	711	729	733	729	733	730	730	723	733	710	1041		
14	733	714	720	726	717	716	710	698	689	673	660	654	662	673	698	711	739	744	766	740	740	717	714	717	710	1031		
15 q	722	713	714	713	710	708	699	692	683	671	659	654	664	689	701	716	733	742	728	734	729	723	724	730	706	951		
16 q	723	722	716	719	723	719	706	695	688	679	679	675	686	706	718	705	714	727	730	745	744	734	717	714	712	1084		
17	715	716	716	721	722	718	712	701	690	679	678	682	685	690	705	720	739	758	767	752	729	726	723	716	715	1160		
18	715	715	714	718	724	731	723	714	693	673	664	669	666	681	694	714	735	755	717	745	745	735	727	720	712	1087		
19	718	711	717	723	726	726	714	695	679	669	660	663	683	701	718	723	744	751	759	761	740	746	721	714	715	1162		
20 d	714	712	713	721	723	718	708	686	673	665	667	677	689	696	731	751	742	766	784	746	749	730	731	725	717	1217		
21	727	715	709	718	710	694	701	692	681	658	639	648	651	682	681	689	735	762	752	753	740	726	719	722	704	904		
22	713	718	715	715	709	696	694	694	679	673	658	666	673	675	706	714	718	742	757	750	735	729	717	713	707	959		
23	718	720	720	721	722	712	707	701	696	685	679	683	676	686	706	710	715	734	733	734	727	725	723	725	711	1058		
24 q	730	728	733	718	715	720	709	694	690	689	682	674	682	686	723	741	763	774	768	744	724	717	707	710	718	1221		
25	711	713	716	716	718	718	708	688	668	656	661	680	708	710	705	713	721	737	741	733	727	723	720	720	709	1011		
26 d	721	719	725	720	720	728	718	699	701	688	673	685	687	702	707	706	735	742	744	743	756	744	725	709	717	1197		
27	714	709	716	698	707	707	697	670	634	605	607	651	657	687	693	753	737	720	731	746	730	706	684	686	694	645		
28	696	699	708	708	706	699	682	688	680	660	656	670	692	709	713	718	718	715	725	727	727	726	718	715	702	855		
29 q	714	713	718	717	716	713	698	690	677	681	686	682	693	702	719	743	735	724	732	724	723	729	733	714	711	1076		
30 d	714	706	706	713	716	716	702	681	685	682	685	681	690	702	715	734	714	733	739	734	727	726	729	725	711	1055		
31	729	723	713	717	718	716	709	699	694	650	634	643	724	661	670	723	749	791	760	746	745	709	702	695	709	1020		
Mean	695	692	695	699	688	702	692	673	648	635	641	655	670	681	696	707	723	735	740	746	742	735	734	729	698	753		
Sum	716	712	712	714	713	711	706	696	685	673	665	669	677	688	702	715	728	741	742	739	733	727	721	717	708			
20,000+	2186	2073	2084	2126	2092	2056	1892	1579	1244	849	600	738	1002	1320	1764	2151	2562	2970	3009	2906	2725	2553	2359	2233		Grand Total 527,073		

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)													10° +												MAY 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

75

24 ESKDALEUIR (Z)

45,000γ (0.45 C.G.S. unit) +

MAY 1957

	Hour G. M. T.																											
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+		
1 d	281	270	259	254	242	231	241	254	259	259	260	264	278	289	299	303	304	301	300	300	296	294	295	294	276	627		
2	292	288	286	281	281	281	273	279	281	280	275	267	266	276	284	292	294	294	299	300	296	294	289	288	285	836		
3	282	283	281	276	277	277	277	277	274	269	264	264	265	269	284	307	318	328	341	340	330	310	300	302	291	995		
4	303	300	296	296	297	300	301	301	294	281	273	265	266	277	293	308	323	332	338	335	330	320	314	277	301	1220		
5	274	274	284	287	290	285	285	284	278	269	261	258	258	267	273	284	285	291	296	291	290	290	291	286	280	731		
6	272	273	277	267	261	272	275	275	272	268	263	258	269	276	284	292	295	296	296	292	293	292	294	290	279	702		
7	282	288	292	295	295	288	281	283	284	281	278	274	269	273	285	290	304	320	330	311	301	297	296	296	291	993		
8	292	292	293	295	296	295	291	285	284	273	268	262	261	269	278	283	289	290	290	292	296	295	277	253	283	800		
9 d	267	268	251	232	228	244	244	251	262	269	273	271	272	283	288	295	296	302	301	307	305	298	291	286	274	584		
10	285	285	287	286	288	286	288	290	290	281	276	271	269	279	283	288	291	292	294	295	301	295	281	271	285	852		
11	274	279	281	282	286	288	288	289	284	270	262	258	256	259	269	276	283	288	291	292	293	287	279	271	279	685		
12 q	271	278	284	288	291	291	290	287	275	269	252	248	246	255	267	274	281	287	288	287	287	286	287	286	277	655		
13	276	263	264	258	264	268	275	276	275	271	269	265	270	278	287	293	302	317	311	307	298	295	290	283	281	755		
14	276	281	287	287	286	278	281	277	270	263	257	252	251	253	260	270	281	293	296	295	293	289	288	286	277	650		
15 q	284	281	276	285	286	289	291	287	281	271	256	252	248	249	260	275	283	287	288	287	287	291	291	288	278	673		
16 q	287	287	287	289	298	298	292	288	286	270	252	245	246	256	267	279	287	294	306	311	305	295	293	292	283	799		
17	290	287	286	283	281	281	282	282	273	271	263	253	246	252	260	273	286	298	305	305	292	287	287	287	280	710		
18	287	287	284	283	286	287	286	283	275	265	257	249	244	251	260	277	291	305	310	306	305	298	289	283	281	748		
19	282	281	280	279	281	284	283	281	276	276	255	243	253	265	273	285	295	305	321	318	307	300	288	283	283	794		
20 d	279	271	264	253	247	254	254	262	262	257	248	244	253	269	292	299	312	326	327	318	312	298	292	287	278	680		
21	283	279	280	283	288	281	276	275	269	257	255	252	255	268	275	289	298	305	311	309	303	296	293	290	282	770		
22	290	287	286	280	282	286	284	281	277	268	259	253	256	263	265	276	283	285	288	287	288	287	286	285	278	682		
23	284	282	275	275	279	280	277	276	276	276	267	259	257	257	268	288	310	323	325	317	311	301	296	293	285	852		
24 q	292	292	290	288	288	290	292	292	287	277	268	263	259	264	272	282	294	297	298	296	293	288	288	287	285	837		
25	287	286	281	280	281	280	280	276	269	266	263	253	255	261	273	280	281	286	287	287	290	293	294	286	278	676		
26 d	280	271	263	263	270	278	285	284	280	269	263	260	271	284	299	312	349	344	326	311	308	292	287	287	289	936		
27	287	281	282	288	288	292	292	287	285	276	271	265	264	269	277	287	298	300	298	295	294	294	291	291	285	852		
28	291	291	289	291	289	289	288	287	280	268	264	260	254	265	281	294	305	305	298	291	287	284	281	271	283	803		
29 q	276	280	283	287	290	291	291	290	284	278	271	264	264	274	286	296	303	299	295	292	293	290	288	287	285	852		
30 d	285	274	275	276	280	287	287	290	285	272	261	257	259	269	270	281	306	345	356	340	322	312	301	294	291	984		
31	288	278	274	267	273	272	284	285	277	269	265	260	261	266	278	291	299	300	297	294	294	293	291	290	281	746		
Mean	283	281	280	279	279	281	281	281	277	271	263	258	259	267	277	288	298	304	307	303	300	295	291	285	283			
Sum 8000+	779	717	677	633	659	703	714	715	604	389	169	9	42	285	590	919	1226	1435	1507	1408	1300	1141	1008	850		Grand Total 210,479		

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR

MAY 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.
	Horizontal force				Declination				Vertical force							
	Maximum 16,000γ +	Minimum 15,000γ +	Range		Maximum 10° +	Minimum 10° +	Range		Maximum 45,000γ +	Minimum 45,000γ +	Range					
1 d	h. m. γ	γ h. m.	γ		h. m. γ	γ h. m.	γ		h. m. γ	γ h. m.	γ		3,4,3,2,2,3,1,1	19	1	84.4
2	18 45 727	649 09 44	78		14 10 53.1	32.2 01 47	20.9		16 06 305	255 05 38	50		1,3,3,3,3,2,1,2	18	0	84.4
3	18 36 733	649 12 00	84		12 48 53.8	38.7 09 00	15.1		18 59 302	264 12 22	38		2,2,1,2,3,3,4	20	1	84.4
4	18 40 773	656 10 45	117		14 15 55.4	35.6 22 34	19.8		18 48 343	264 12 10	79		1,1,2,1,3,3,3,2	16	0	84.4
5	18 23 772	669 11 19	103		14 15 55.5	33.2 08 14	22.3		18 57 340	263 12 09	77		3,2,1,2,2,3,1,2	16	0	-
6	17 40 748	662 11 01	86		13 57 52.8	34.2 06 17	18.6		18 25 298	257 12 05	41		3,2,3,3,3,2,2,2	20	0	84.4
7	20 55 745	623 10 36	122		14 26 53.8	34.5 06 06	19.3		17 00 297	258 04 15	39		2,2,2,2,2,3,2,1	16	0	84.4
8	16 37 771	664 11 38	107		13 31 52.9	37.4 07 41	15.5		18 18 334	267 12 29	67		0,1,2,2,3,3,4	17	1	84.4
9 d	21 57 811	651 10 45	160		23 13 54.8	38.1 06 11	16.7		21 18 301	258 01 47	43		3,3,3,3,3,3,3,2	23	1	84.4
10	18 48 756	647 11 10	109		13 10 52.1	34.0 08 48	18.1		19 42 308	219 03 53	89		2,2,1,2,2,3,3,3	18	0	84.4
11	22 36 769	651 12 04	118		13 11 50.6	36.3 07 53	14.3		20 22 305	269 12 20	36		2,2,1,1,2,2,2,3	15	0	84.4
12 q	18 58 754	684 10 59	70		14 26 51.0	36.2 07 15	14.8		20 30 295	253 13 00	42		1,1,1,1,2,2,1,2	12	0	-
13	17 14 746	683 02 08	63		15 04 48.7	38.5 08 20	10.2		05 28 291	243 12 33	48		3,2,1,2,3,3,3,2	19	0	84.4
14	15 12 780	648 11 41	132		14 08 52.7	35.0 07 39	17.7		17 34 317	255 03 38	62		1,2,2,2,2,2,3,2	16	0	-
15 q	19 17 750	652 11 51	98		13 41 55.6	35.9 08 14	19.7		18 05 297	249 12 10	48		1,1,1,1,2,2,2,2	12	0	84.4
16 q	19 53 748	671 11 18	77		14 51 55.0	35.6 07 57	19.4		06 15 295	248 12 45	47		1,0,1,0,1,3,3,1	10	0	84.4
17	18 23 774	675 10 25	99		13 47 53.5	36.6 08 05	16.9		19 18 312	244 11 38	68		1,2,2,2,1,4,2,2	16	0	84.4
18	17 20 780	662 10 57	118		13 43 53.1	36.2 08 54	16.9		18 42 309	244 12 30	65		1,1,2,2,3,2,3,2	16	0	84.4
19	19 44 766	654 10 34	112		14 29 54.2	34.9 08 14	19.3		18 27 311	242 12 23	69		2,1,2,2,4,4,4,3	22	1	-
20 d	18 08 804	663 09 21	141		14 55 56.7	34.5 07 39	22.2		18 55 326	245 11 41	81		3,3,3,3,3,4,3,2	24	1	84.4
21	17 52 780	630 10 19	150		13 23 56.3	35.0 07 51	21.3		18 25 330	243 04 03	87		3,2,2,3,3,3,3,2	21	1	84.4
22	18 38 768	644 10 33	124		14 28 55.0	35.7 09 14	19.3		18 24 311	248 11 50	63		2,3,2,2,2,3,1,1	16	0	84.4
23	17 16 743	670 12 28	73		14 34 53.1	35.4 05 55	17.7		20 26 290	252 11 48	38		2,1,2,2,3,3,4,1	18	0	84.4
24 q	18 24 785	670 12 12	115		14 30 51.7	39.1 06 47	12.6		18 12 326	256 13 00	70		1,1,2,3,3,2,2,0	14	0	84.3
25	18 18 746	650 10 01	96		12 50 54.5	35.8 07 31	18.7		18 30 298	259 12 29	39		1,2,3,2,3,3,3,3	20	1	84.2
26 d	20 55 767	666 10 51	101		14 10 58.5	31.7 07 20	26.8		22 23 298	253 11 30	45		3,3,4,4,3,4,3,3	27	1	84.3
27	15 53 786	577 10 07	209		13 32 58.6	32.5 03 12	26.1		16 45 355	256 11 30	99		2,2,2,3,2,2,1,2	16	0	84.3
28	19 06 734	649 10 28	85		13 35 56.8	36.4 07 55	20.4		17 12 302	264 11 11	38		2,1,2,2,3,3,2,2	17	0	84.3
29 q	15 54 762	665 08 58	97		13 02 55.2	33.9 08 06	21.3		16 57 309	253 12 28	56		1,1,2,1,2,3,2,1	13	0	84.3
30 d	15 30 743	673 07 55	70		13 03 55.0	35.5 07 30	19.5		16 25 306	264 12 20	42		2,1,2,3,4,5,3,2	22	1	84.3
31	17 30 808	599 11 10	209		15 43 57.4	30.7 09 00	26.7		18 06 357	256 11 02	101		3,3,3,2,1,2,3,2	19	0	84.3
Mean	- - 764	653 - -	111		- - 54.2	35.3 - -	18.9		- - 312	253 - -	59		-	-	0.32	84.4

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)													16,000γ (0.16 C.G.S. unit) +													JUNE 1957	
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 16,000+
1 q	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2 q	725	723	721	722	718	717	709	698	689	680	673	671	671	691	701	688	698	723	743	742	736	736	737	730	731	713	1102
3	729	729	725	727	728	728	720	709	690	674	676	684	684	695	705	714	747	749	749	754	742	745	742	741	747	723	1349
4 d	743	743	747	739	736	709	717	704	701	704	718	681	681	688	714	765	794	775	827	837	748	728	718	716	702	736	1654
5	732	722	682	693	713	702	719	694	679	656	644	653	653	668	688	726	730	775	757	779	783	753	697	681	704	710	1030
6 d	693	685	698	712	697	689	680	674	672	658	664	678	678	685	677	688	724	757	769	787	757	742	722	698	704	705	910
7	688	684	689	714	694	657	656	664	664	653	651	681	681	700	693	695	708	701	733	753	760	769	749	723	727	700	806
8	746	722	705	704	709	706	696	683	676	673	667	672	672	688	697	704	705	709	718	722	726	728	726	724	710	705	916
9 q	709	723	723	715	713	699	703	701	695	684	674	680	680	689	683	691	712	720	741	752	761	748	734	726	722	712	1098
10 q	715	712	713	718	715	725	713	692	671	660	658	658	658	670	685	706	738	741	747	739	732	724	717	718	719	708	986
11 q	719	718	719	719	722	718	711	702	698	692	687	688	688	694	700	707	724	736	746	745	735	741	736	734	738	718	1229
12	717	716	722	724	723	717	709	697	684	675	672	675	675	691	707	717	724	727	732	742	745	745	741	735	736	716	1173
13	730	733	726	724	728	721	712	701	692	683	684	689	689	694	692	722	746	725	737	750	754	753	741	737	733	722	1317
14	726	717	719	724	722	716	701	686	676	672	690	676	676	682	696	709	720	728	750	756	763	761	746	734	725	716	1195
15	717	713	711	717	720	714	704	697	686	675	668	662	662	671	683	706	730	739	750	738	752	759	734	729	724	712	1099
16	726	726	711	721	711	715	714	700	689	685	680	676	676	689	700	751	713	749	801	757	765	744	728	726	732	721	1309
17	717	711	713	713	711	707	697	691	691	683	678	680	680	688	709	727	718	721	734	746	748	749	746	741	739	715	1158
18	738	746	741	743	741	699	724	711	694	680	669	665	665	652	698	741	718	734	739	747	762	747	762	726	725	721	1302
19	725	704	724	718	696	709	679	661	661	662	660	663	663	665	705	719	722	741	752	762	781	766	737	726	728	711	1066
20	726	701	697	694	702	692	681	690	684	653	633	651	651	662	702	736	713	742	758	739	741	735	732	717	704	704	885
21	704	705	725	721	707	719	705	703	687	667	661	659	659	672	692	704	724	732	729	765	771	769	728	730	722	713	1101
22	717	720	721	718	711	703	715	709	689	685	685	690	690	684	680	684	702	729	747	773	778	749	734	716	715	715	1154
23	715	715	722	725	722	721	705	693	677	653	681	711	711	684	684	696	706	709	713	724	729	733	732	728	732	709	1010
24	722	710	711	717	719	710	693	677	672	669	672	680	680	678	684	685	710	722	730	743	766	748	737	726	725	709	1006
25 d	724	746	701	702	691	696	704	702	692	683	680	666	666	676	693	699	723	730	742	742	733	738	732	725	717	710	1037
26 d	713	717	713	707	704	697	696	691	679	670	665	681	681	658	665	715	739	766	796	763	764	759	734	721	709	713	1122
27	725	703	726	683	650	684	579	585	574	592	544	571	571	629	731	759	745	822	762	726	722	733	702	722	711	683	380
28	705	685	697	702	702	691	673	652	640	655	657	679	679	698	713	693	722	714	715	726	726	740	733	733	722	699	773
29	726	715	730	730	724	716	690	646	653	668	671	682	682	676	709	720	758	744	761	750	737	729	714	711	717	712	1077
30 d	716	715	719	722	721	717	707	693	676	666	664	660	660	667	698	707	719	715	722	732	732	739	738	744	738	709	1027
	728	729	724	728	679	669	744	746	699	702	740	733	733	649	807	821	918	1074	887	887	723	584	403	59	161	691	594
Mean	701	716	716	717	714	705	699	688	678	670	669	673	673	678	700	717	732	748	753	756	749	740	721	703	704	711	
Sum 20,000+	1616	1488	1475	1496	1329	1163	956	652	330	112	66	195	195	343	991	1495	1950	2449	2587	2678	2472	2194	1632	1077	1119		Grand Total 511,865

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)													10° +													JUNE 1957	
	Hour G.M.T.																									Mean	Sum 1000.0+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24			
1 q	43.6	43.2	42.3	41.4	40.1	38.0	35.1	34.1	34.7	37.7	40.8	45.0	49.5	50.4	50.2	49.8	49.7	48.9	47.2	45.9	45.6	45.5	44.9	44.9	43.7	48.5	
2 q	44.2	45.0	44.6	45.2	43.2	38.6	36.8	36.3	37.3	39.2	43.7	48.1	51.6	53.5	53.5	54.1	52.1	48.8	47.1	45.8	46.6	46.8	46.2	45.3	45.6	93.6	
3	43.9	43.2	42.9	40.4	42.4	39.9	37.9	36.0	37.8	41.1	44.9	47.5	51.9	53.2	56.7	58.4	51.1	53.2	50.0	42.9	45.2	47.7	40.9	43.2	45.5	92.3	
4 d	46.9	39.6	44.8	35.6	40.7	45.4	43.0	41.6	39.0	37.4	44.1	48.1	50.9	50.3	51.1	48.6	44.7	44.0	45.9	42.7	41.9	41.5	37.2	33.3	43.3	38.3	
5	38.0	39.0	32.5	31.6	33.3	37.0	36.2	35.7	39.2	40.1	44.1	48.6	51.8	53.1	52.0	52.5	52.4	48.7	46.3	46.1	46.8	46.2	45.7	49.7	43.6	46.6	
6 d	38.1	34.0	38.7	36.4	44.4	44.4	45.0	43.3	42.0	40.6	43.3	47.0	48.9	47.3	50.2	50.4	47.9	49.0	47.6	44.1	45.7	43.7	43.2	45.1	44.2	60.3	
7	45.6	42.4	36.7	34.8	35.5	34.6	35.2	35.4	36.4	37.0	40.9	45.8	48.9	49.8	50.3	49.3	47.2	45.0	43.6	44.0	44.3	43.2	41.1	43.1	42.1	10.1	
8	43.2	45.4	41.8	37.3	37.8	36.8	36.5	35.5	36.4	37.7	41.8	44.5	47.3	49.6	50.3	49.2	47.7	46.3	45.3	45.0	44.9	45.6	46.6	46.7	43.3	39.2	
9 q	45.1	43.7	43.0	43.2	40.4	38.6	35.9	34.4	36.4	38.6	42.0	45.9	49.4	50.7	50.4	49.7	46.9	44.5	43.7	42.9	44.6	44.9	45.0	44.9	43.5	44.8	
10 q	44.5	43.7	42.9	42.2	41.1	39.4	38.4	38.6	38.9	40.8	43.5	46.1	49.8	51.2	51.2	50.4	48.1	45.8	44.5	43.3	43.4	44.8	50.5	44.5	44.5	67.6	
11 q	44.0	43.5	42.6	41.1	39.3	35.8	34.5	34.2	34.9	38.3	43.2	48.4	52.8	53.6	52.6	49.9	46.9	44.8	44.4	44.4	44.5	44.9	45.8	45.4	43.7	49.8	
12	43.8	44.8	42.1	40.5	38.9	36.8	34.1	35.2	38.5	42.1	45.1	49.4	52.7	52.2	53.5	52.1	48.3	47.3	45.7	44.9	45.3	44.7	44.8	44.1	44.5	66.9	
13	42.7	40.7	41.0	40.8	40.0	37.4	35.1	35.2	34.9	39.2	42.1	47.8	50.4	50.5	51.0	49.6	48.4	48.0	46.9	46.4	44.8	42.8	41.7	43.8	43.4	41.2	
14	42.9	43.5	42.1	43.0	41.1	39.1	37.4	36.0	38.2	40.6	43.5	47.2	52.3	54.7	54.0	53.9	52.2	50.3	47.2	46.9	43.7	43.6	45.1	44.8	45.1	83.3	
15	42.0	39.0	37.0	39.2	40.3	42.9	39.4	36.4	35.4	39.3	42.6	46.2	48.4	50.4	54.2	51.3	52.2	52.0	49.0	48.8	46.4	46.1	43.1	43.3	44.4	64.9	
16	42.8	42.4	41.3	39.5	38.5	37.5	37.4	36.6	36.2	38.6	41.7	46.0	49.5	50.5	51.6	50.3	49.7	48.1	47.2	45.8	45.6	44.8	42.6	43.5	43.7	47.7	
17	43.1	42.6	41.6	38.2	33.7	34.9	41.5	36.0	33.4	36.7	42.1	47.1	49.4	51.0	52.2	49.4	48.3	47.2	47.5	47.7	46.2	47.3	42.0	43.9	43.5	43.0	
18	42.9	40.8	42.6	34.9	44.8	42.4	38.2	39.6	38.9	40.0	42.7	47.2	50.8	53.3	54.3	52.6	51.0	49.6	48.0	44.8	45.6	45.5	47.0	44.9	45.1	82.4	
19	42.1	44.4	41.7	40.2	36.4	37.6	36.1	35.8	34.8	38.7	42.2	48.1	52.4	55.6	53.4	53.7	52.6	50.3	46.8	47.0	47.5	48.1	45.7	41.5	44.7	72.7	
20	42.3	43.9	42.9	39.5	39.9	41.8	38.2	37.3	35.7	37.4	41.2	44.1	47.2	50.1	51.7	52.3	52.2	48.6	45.8	43.1	39.6	41.7	43.7	44.1	43.5	44.3	
21	42.1	41.8	41.1	37.6	35.1	35.0	37.7	35.4	33.6	37.6	41.2	45.0	47.9	49.7	51.7	52.8	51.1	49.4	47.3	43.9	41.9	42.2	41.9	42.0	42.7	25.0	
22	40.9	36.4	38.6	40.1	38.5	38.2	35.9	33.8	32.8	39.4	42.8	52.0	54.4	58.1	56.7	54.4	50.9	49.3	46.3	44.7	44.7	44.9	44.8	43.5	44.3	62.1	
23	38.6	40.4	40.4	40.1	40.1	38.0	36.8	37.3	38.7	41.2	44.7	48.4	47.8	54.0	53.6	52.8	51.4	49.6	46.7	46.6	42.9	41.4	43.0	43.2	44.1	57.7	
24	43.7	41.8	33.3	33.0	30.2	32.2	30.9	29.5	35.6	38.6	43.4	48.1	50.9	52.8	52.6	52.5	50.9	49.5	49.0	46.8	46.1	45.3	42.4	43.2	42.6	22.3	
25 d	41.1	39.4	31.5	34.3	32.7	31.6	33.9	32.2	34.3	37.4	41.7	46.5	51.2	52.1	52.5	51.7	50.8	52.9	48.2	45.4	43.2	41.7	43.7	38.7	42.0	8.7	
26 d	39.1	37.0	32.0	32.7	34.3	42.8	41.6	45.1	53.7	50.0	47.4	50.9	52.7	49.9	49.5	50.3	50.3	46.7	47.0	45.7	46.7	44.7	45.9	43.4	45.0	79.4	
27	42.6	39.6	39.5	38.1	36.7	34.3	32.8	33.3	38.4	42.0	44.4	47.9	51.6	55.1	55.3	54.0	49.7	47.6	47.1	46.8	46.6	44.9	44.5	43.0	44.0	55.8	
28	44.8	42.2	43.6	40.5	37.8	34.5	31.3	32.8	36.7	42.4	45.4	48.7	49.8	49.9	50.3	52.6	50.4	48.6	45.9	44.7	44.4	43.0	41.8	41.2	43.5	43.3	
29	40.7	40.4	41.0	40.6	39.3	37.6	35.9	35.9	37.2	39.6	43.4	48.6	53.5	55.0	54.0	52.4	49.0	46.1	44.5	43.9	43.6	43.4	44.1	43.6	43.9	53.3	
30 d	43.8	42.8	44.2	43.3	40.3	37.4	31.7	28.7	26.9	35.0	42.8	41.2	60.5	61.9	60.6	59.6	50.3	59.0	56.9	38.4	45.8	38.1	42.2	14.2	43.6	45.6	
Mean	42.6	41.5	40.3	38.8	38.6	38.0	36.7	35.9	36.9	39.5	43.1	47.2	50.9	52.3	52.7	52.0	49.8	48.6	46.9	45.0	44.8	44.3	43.9	42.5	43.9		
Sum 1000.0+	279.1	246.6	210.3	165.3	156.8	140.5	100.4	77.2	106.9	184.3	292.7	415.4	526.2	569.5	581.2	560.6	494.4	459.1	408.6	349.4	344.1	329.0	317.1	276.0		Grand Total 31590.7	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

77

24 ESKDALEUIR (Z)													45,000γ (0.45 C.G.S. unit) +													JUNE 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR											JUNE 1957									
TERRESTRIAL MAGNETIC ELEMENTS											3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +						
Horizontal force			Declination			Vertical force														
Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range												
h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				°A.							
1 q	17 23	750	664	11 10	86	13 10	51.8	33.0	07 27	18.8	19 07	291	259	12 28	32	0,0,1,2,3,3,1,1	11	0	84.2	
2 q	18 41	761	670	10 29	91	15 20	55.0	35.2	07 55	19.8	18 25	294	259	12 35	35	1,2,2,1,2,2,2,2	14	0	-	
3	18 13	858	653	11 36	205	15 48	61.1	34.3	22 45	26.8	18 39	375	252	10 58	123	2,3,2,4,4,4,5,4	28	1	84.0	
4 d	19 08	812	625	10 44	187	14 31	51.1	28.3	22 27	22.8	17 03	351	220	03 08	131	4,4,3,3,3,4,4,4	29	1	84.0	
5	18 06	795	638	01 29	157	13 32	54.8	29.3	03 09	25.5	18 34	337	171	01 45	166	4,3,2,3,3,4,4,4	27	1	84.0	
6 d	20 31	797	638	10 35	159	15 49	51.2	30.1	03 20	21.1	16 15	324	173	04 37	151	4,4,3,3,3,3,3,4	27	1	84.0	
7	22 01	745	653	10 33	92	14 56	50.4	32.7	05 26	17.7	18 40	298	229	02 21	69	4,1,1,2,1,1,1,3	14	1	84.0	
8	19 15	766	670	10 36	96	14 56	50.7	35.2	06 50	15.5	16 58	305	258	04 29	47	3,2,1,0,2,1,0,0	9	0	84.0	
9 q	17 23	752	654	10 37	98	13 20	50.8	33.6	07 44	17.2	18 07	299	259	11 40	40	0,0,0,0,2,1,2,1	6	0	-	
10 q	17 12	751	685	11 03	66	14 16	51.3	38.2	06 24	13.1	19 10	298	252	11 40	46	0,0,0,0,0,2,1,2	5	0	84.0	
11 q	20 28	749	668	11 06	81	13 06	54.2	33.9	07 20	20.3	05 52	297	262	11 42	35	1,1,1,1,2,2,1,1	10	0	83.9	
12	18 36	757	680	09 36	77	14 55	54.0	33.3	06 32	20.7	19 40	299	258	11 30	41	2,1,1,1,3,3,2,2	15	0	83.9	
13	19 56	779	668	09 35	111	14 10	51.4	33.4	08 18	18.0	21 12	297	252	10 20	45	1,1,2,3,2,3,3,3	18	0	83.9	
14	20 43	767	650	11 34	117	13 49	55.2	34.7	07 35	20.5	18 10	297	256	11 55	41	1,2,1,2,3,2,3,2	16	0	83.9	
15	17 08	815	665	10 53	150	14 42	54.7	34.7	08 41	20.0	18 16	325	264	13 30	61	3,3,2,2,3,5,3,2	23	1	-	
16	21 03	757	666	10 56	91	14 54	51.7	35.4	08 03	16.3	22 25	289	240	12 38	49	1,1,1,2,3,2,1,2	13	0	-	
17	21 46	771	637	12 21	134	13 56	52.9	32.6	05 12	20.3	22 30	292	263	10 42	29	2,3,3,3,4,3,2,3	23	1	83.9	
18	19 54	792	645	10 52	147	14 24	56.0	32.5	03 09	23.5	19 20	319	221	04 40	98	4,4,3,2,4,3,3,3	26	1	84.0	
19	17 09	772	626	10 43	146	13 20	57.0	34.1	08 17	22.9	16 20	358	205	03 22	153	4,4,3,3,4,4,2,3	27	1	84.0	
20	19 18	805	657	11 11	148	17 08	53.0	35.4	06 43	17.6	20 14	321	258	02 19	63	3,3,3,1,2,4,3,2	21	1	84.0	
21	19 51	819	679	08 59	140	15 43	53.6	31.6	08 44	22.0	19 42	331	260	07 00	71	2,2,3,2,2,4,4,3	22	1	83.9	
22	19 22	741	641	09 47	100	13 24	59.3	32.0	08 16	27.3	19 05	300	263	11 21	37	2,2,2,4,4,3,2,2	21	1	83.9	
23	20 07	773	666	09 38	107	13 24	54.5	36.5	06 39	18.0	20 53	313	259	12 48	54	2,2,1,2,3,2,3,2	17	0	83.9	
24	01 48	756	651	11 43	105	14 07	53.5	27.0	04 04	26.5	19 24	295	240	03 52	55	4,3,3,3,3,3,2,2	23	1	83.9	
25 d	17 56	837	641	11 51	196	12 31	56.5	28.0	05 09	28.5	18 27	339	227	03 23	112	4,3,3,5,4,5,5,4	33	1	83.9	
26 d	16 34	872	487	10 48	385	08 35	57.4	27.8	03 48	29.6	16 40	502	136	05 29	366	4,5,5,5,5,5,4,5	38	2	83.9	
27	20 27	756	630	08 18	126	14 37	57.5	31.1	06 20	26.4	17 08	328	260	12 25	68	3,2,3,3,4,3,3,4	25	1	83.9	
28	15 39	795	633	12 08	162	15 37	55.3	29.6	06 57	25.7	18 31	320	260	11 55	60	3,3,4,3,4,4,3,2	26	1	83.9	
29	22 30	749	653	11 27	96	13 13	56.0	34.9	06 16	21.1	18 51	305	271	12 31	34	1,1,1,2,3,3,2,2	15	0	83.9	
30 d	16 10	1244	-532	22 21	1776	16 09	69.5	-12.1	22 21	81.6	16 29	576	-48	22 48	624	2,5,4,6,7,7,7,9	47	2	83.9	
Mean	-	-	796	609	-	-	54.7	31.2	-	23.5	-	-	329	231	-	98	-	-	0.67	83.9

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22	ESKDALEMUIR (E)												16,000γ (0.16 C.G.S. unit) +												JULY 1957		
	Hour G.M.T.																								Mean	Sum	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		14,000+	
1 d	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
2 d	125	398	544	524	555	580	543	545	578	613	622	622	623	643	654	663	683	709	771	746	741	701	695	687	607	565	
3 d	683	684	687	687	687	685	680	668	659	656	641	643	618	731	904	924	874	827	786	761	717	697	684	679	719	3262	
4	684	688	682	659	664	669	671	664	642	624	616	634	610	665	674	711	717	716	733	745	724	705	697	689	678	2283	
5 d	685	691	694	694	696	696	692	691	684	671	661	655	662	667	674	689	704	712	760	739	763	723	692	686	695	2681	
6	692	729	731	719	627	627	667	649	647	644	646	644	644	657	671	676	689	703	721	731	737	727	683	676	681	2337	
7	683	684	682	682	683	685	687	685	671	671	661	660	659	654	671	689	691	700	734	764	748	721	712	688	690	2565	
8	690	693	695	684	676	690	693	688	680	668	661	667	678	684	693	707	720	737	752	753	734	721	719	712	700	2795	
9	712	703	691	707	715	706	700	680	680	675	663	663	669	664	675	698	724	745	742	750	745	728	718	722	703	2875	
10 q	720	710	713	716	714	712	701	688	680	670	658	665	679	695	699	729	741	742	746	735	741	720	727	718	709	3019	
11 q	712	714	719	714	713	712	698	687	675	661	647	647	656	673	695	706	720	732	733	730	727	723	723	725	702	2842	
12	723	722	718	723	727	725	716	708	696	680	674	676	697	684	693	718	731	733	737	735	741	731	721	716	714	3125	
13 q	717	716	729	738	731	718	704	688	678	667	663	671	682	708	718	719	733	756	758	743	734	725	721	714	714	3131	
14	714	714	714	720	723	719	706	687	669	659	659	664	672	680	702	719	729	736	733	738	738	738	735	729	708	2997	
15 q	727	727	725	728	729	725	717	706	693	680	671	673	672	689	708	708	725	736	752	760	759	745	732	727	717	3214	
16	725	714	708	718	719	720	710	698	683	667	663	667	674	696	718	736	738	734	742	741	736	733	731	731	713	3102	
17	728	727	728	729	733	732	720	704	700	696	697	677	683	675	704	731	760	806	809	778	727	732	728	717	726	3421	
18	705	712	720	720	719	719	708	692	679	667	654	646	657	669	692	719	717	714	746	762	750	748	739	733	708	2987	
19 d	727	714	718	721	719	711	704	700	691	691	684	663	673	677	708	718	772	792	780	760	742	719	705	708	717	3197	
20	696	680	699	712	714	717	708	686	679	662	670	675	679	691	740	746	774	804	804	804	780	740	700	699	688	714	3143
21	679	693	697	699	698	691	682	677	666	651	640	642	649	668	665	688	721	748	757	753	732	730	725	719	695	2670	
22	707	713	715	716	720	719	716	704	686	675	674	680	684	691	704	714	721	725	731	746	749	744	731	725	712	3090	
23	727	724	728	731	733	723	708	718	721	709	682	655	663	705	728	713	730	768	800	797	746	735	715	718	724	3377	
24	714	733	721	737	720	706	703	688	678	670	668	660	669	689	704	713	715	724	736	741	732	732	732	740	709	3025	
25	716	719	718	721	725	719	709	692	684	677	674	679	667	684	710	728	746	772	760	740	732	735	724	711	714	3142	
26 q	716	710	714	716	716	719	712	703	693	691	684	685	690	704	722	727	720	732	736	747	740	730	729	732	715	3168	
27	730	727	724	728	732	727	714	699	687	679	675	680	669	723	731	736	731	736	735	733	732	732	731	733	719	3254	
28	733	730	729	729	732	728	720	712	699	683	676	684	699	714	732	737	748	744	737	733	766	764	764	762	727	3455	
29	761	747	745	740	741	740	727	709	700	697	699	703	712	720	725	731	738	745	750	728	744	740	735	731	729	3508	
30	735	739	725	735	744	737	728	706	698	694	678	666	692	713	719	722	725	736	735	735	744	727	712	717	719	3262	
31	720	723	723	724	716	712	708	696	683	674	674	673	679	688	710	724	727	733	740	741	740	738	729	737	713	3112	
Mean	723	724	727	726	731	727	713	700	691	687	686	677	692	699	715	742	733	737	739	739	750	755	743	723	720	3279	
Sum 20,000+	694	703	709	710	708	706	699	688	679	671	665	664	670	687	708	722	732	743	751	748	740	729	720	716	707	Grand Total 525,883	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)													10° +												JULY 1957	
	Hour G.M.T.																									Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	900'0+
1 d	30.8	25.5	22.2	48.0	46.9	50.6	44.0	43.0	43.2	41.4	42.1	45.4	47.5	47.9	47.5	47.1	46.8	45.1	50.9	45.8	45.7	41.7	41.2	40.5	42.9	130.8
2 d	40.4	40.3	40.1	39.7	38.7	36.9	35.8	35.1	35.8	32.2	37.8	40.4	39.3	50.0	56.7	59.5	56.2	51.6	45.9	42.8	43.0	46.0	45.5	44.9	43.1	134.6
3 d	43.3	46.1	43.7	35.2	34.2	35.4	36.1	34.3	35.0	36.3	40.7	45.7	48.1	51.1	48.9	47.5	45.8	44.5	43.5	43.2	42.2	42.3	43.8	43.3	42.1	110.4
4	41.9	41.9	41.2	41.0	40.2	38.6	36.7	35.5	35.9	36.9	39.1	42.9	46.6	49.8	52.0	51.6	50.0	47.8	47.4	44.9	43.0	40.0	38.6	40.5	42.7	124.0
5 d	39.2	34.2	36.2	42.3	48.2	30.3	32.5	27.9	38.3	37.0	40.6	47.5	48.9	51.6	52.0	50.3	48.1	46.0	44.9	44.6	44.6	40.2	41.4	35.8	41.8	102.6
6	37.1	39.8	38.0	35.2	36.7	36.0	37.0	35.4	36.0	37.6	38.1	41.8	44.7	44.1	46.6	47.6	47.0	47.1	46.8	44.7	42.7	40.6	42.3	42.4	41.1	85.3
7	41.3	40.6	40.7	42.3	44.5	40.8	38.7	39.2	40.4	40.4	43.5	46.6	50.4	51.5	51.6	51.4	50.4	48.4	45.6	43.9	44.4	45.1	44.3	43.1	44.5	169.1
8	42.6	41.2	42.1	44.0	40.5	36.7	37.5	34.3	36.7	36.8	38.7	42.3	46.8	48.9	49.5	49.3	47.3	46.4	45.0	44.7	44.4	43.9	44.4	45.4	42.9	129.4
9	44.2	42.4	41.9	41.9	41.2	39.2	37.6	36.8	35.5	37.7	41.7	46.4	49.5	51.8	50.4	49.3	46.8	45.0	45.8	45.3	45.8	44.2	44.9	43.0	43.7	148.2
10 q	43.3	44.0	44.5	39.4	37.7	37.3	38.0	38.6	37.9	39.4	42.8	46.7	49.0	49.7	49.7	49.4	47.8	45.7	44.1	44.1	44.4	44.4	44.3	44.7	43.6	146.9
11 q	44.1	43.3	42.8	40.8	39.1	36.9	35.0	34.8	35.3	37.8	40.6	42.9	47.8	50.4	51.5	49.9	47.6	46.3	44.8	44.2	42.1	42.8	43.4	42.7	42.8	126.9
12	41.2	40.4	41.2	39.7	40.4	36.7	35.7	34.5	37.0	37.9	42.2	47.5	50.5	51.7	51.2	50.2	49.0	46.3	44.9	41.7	42.4	43.5	44.1	42.8	43.0	132.7
13 q	42.4	41.9	41.0	40.9	39.7	37.0	34.9	34.2	35.8	42.2	44.9	49.3	52.5	54.0	54.1	51.9	48.7	46.5	44.8	44.0	44.1	44.7	44.7	44.1	44.1	158.3
14	43.8	43.2	42.4	41.9	39.9	37.4	36.2	35.6	37.1	40.2	43.4	47.7	52.3	55.1	54.5	51.7	48.6	45.8	44.1	44.6	44.2	43.0	43.8	42.5	44.1	159.0
15 q	43.5	44.5	42.3	40.5	38.7	36.7	34.9	35.5	36.9	39.4	42.5	46.3	50.0	51.7	51.3	49.8	47.5	45.8	45.2	45.3	44.9	44.9	44.4	43.7	43.6	146.2
16	43.6	43.0	42.0	41.5	40.5	38.2	36.5	35.8	39.8	40.6	42.9	46.6	51.3	53.1	54.7	53.7	50.9	50.1	47.2	47.3	47.7	49.0	46.0	43.6	45.2	185.6
17	39.9	41.1	39.6	37.3	36.8	34.9	34.0	34.5	36.0	37.1	41.0	44.2	47.8	50.7	48.9	48.6	46.8	45.0	46.3	47.7	46.4	42.4	45.3	45.2	42.4	117.5
18	43.6	42.4	42.3	39.9	38.2	35.5	37.7	38.6	38.5	39.8	41.3	43.0	46.2	47.3	48.8	49.6	47.2	46.0	46.8	46.6	45.8	45.1	44.8	43.8	43.3	138.8
19 d	38.7	37.6	43.6	41.3	37.8	36.0	30.8	31.6	35.0	36.3	39.1	44.9	48.5	50.5	54.9	53.3	52.5	50.4	49.3	47.3	46.9	42.1	41.7	37.4	42.8	127.5
20	37.3	37.8	33.1	34.7	35.4	35.7	36.2	35.3	36.3	38.8	40.7	44.0	47.3	50.8	50.7	49.7	48.9	48.5	44.8	45.3	46.6	46.7	41.4	38.7	41.9	104.7
21	41.0	40.6	39.9	39.7	39.6	37.8	36.6	35.8	36.4	36.3	38.4	42.7	48.1	50.9	50.1	49.5	48.9	47.7	45.8	45.6	44.8	44.9	42.4	40.0	42.6	123.5
22	40.5	40.5	40.0	39.7	37.0	32.5	35.1	39.2	38.8	40.1	42.3	48.6	51.6	54.1	52.2	50.0	49.3	48.9	46.1	38.1	47.4	41.3	41.0	44.1	43.3	138.4
23	45.1	43.5	36.1	36.9	31.5	36.5	37.9	40.4	36.7	37.9	40.4	44.2	47.8	50.1	49.3	46.2	43.5	42.0	42.0	43.4	43.6	43.7	43.5	45.9	41.8	104.2
24	42.3	40.7	41.3	40.9	40.3	37.4	36.5	36.3	38.7	37.8	41.6	45.7	47.8	49.5	51.5	50.3	46.6	44.5	43.1	43.3	45.4	46.3	44.4	44.1	43.2	136.3
25	45.3	43.1	41.5	42.3	41.8	40.8	39.9	36.7	35.2	36.0	38.3	43.2	47.2	50.3	51.1	48.5	46.0	44.1	43.3	44.0	44.5	43.7	43.8	44.0	43.1	134.6
26 q	43.1	42.3	41.7	41.8	40.6	38.5	37.6	35.9	34.7	37.4	40.1	45.0	48.8	49.5	49.7	49.0	47.9	46.4	45.0	44.6	44.6	44.0	43.4	43.3	43.1	134.9
27	43.1	43.0	42.8	41.8	40.1	37.2	35.9	35.4	34.6	37.4	40.6	45.7	49.7	52.3	52.1	49.7	48.0	46.1	45.3	44.9	46.6	45.4	45.0	44.0	43.6	146.7
28	43.7	42.6	41.4	39.9	38.3	37.3	36.1	35.4	36.3	39.8	43.5	47.4	51.6	53.7	53.2	51.2	49.6	47.6	46.1	45.4	45.3	45.0	43.7	42.5	44.0	156.6
29	42.4	42.8	39.8	43.2	44.1	37.2	35.4	34.4	36.4	38.0	42.1	46.3	49.9	52.6	53.0	50.8	49.0	46.4	45.0	43.6	44.8	43.1	41.7	42.4	43.5	144.4
30	42.5	42.1	41.4	40.8	39.4	38.6	37.6	35.1	35.8	41.1	44.1	47.2	50.2	51.8	52.1	50.3	47.8	46.5	45.4	44.6	45.3	45.2	43.3	42.5	43.8	150.7
31	40.8	42.0	41.7	41.1	40.4	37.2	34.6	34.1	35.1	37.3	40.7	46.0	51.0	52.1	51.6	51.1	47.5	46.0	44.7	45.0	45.6	43.2	38.3	40.5	42.8	127.6
Mean	41.7	41.1	40.3	40.5	39.6	37.3	36.4	35.7	36.8	38.2	41.1	45.3	48.7	50.9	51.3	50.3	48.3	46.6	45.5	44.5	44.8	43.8	43.3	42.6	43.1	
Sum 1100.0+	192.0	174.4	148.5	155.6	128.4	57.8	28.1	6.2	41.1	85.1	175.8	304.1	408.7	478.6	491.4	458.0	398.0	344.5	309.9	280.5	289.2	258.3	240.8	221.4		Grand Total 32076.4

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

79

24 ESKDALEUIR (Z)

45,000γ (0.45 C.G.S. unit) +

JULY 1957

	Hour G.M.T.																								Mean	Sum 5000+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
1 d	130	29	87	65	55	156	166	188	234	297	321	322	323	322	323	326	325	328	325	334	332	327	317	309	248	941
2 d	309	304	304	308	309	310	311	312	313	309	294	287	317	372	424	417	423	414	397	377	340	326	321	316	338	3114
3 d	314	303	228	234	270	298	304	313	322	310	308	326	302	298	305	309	316	321	325	327	326	317	307	295	303	2278
4	299	303	302	303	304	305	304	304	304	298	289	282	282	287	292	293	291	296	305	313	316	316	297	274	298	2159
5 d	254	272	286	259	198	165	218	276	270	282	294	305	309	307	294	297	304	316	320	324	322	295	273	280	280	1720
6	294	299	297	297	288	291	298	308	309	310	311	312	304	303	307	320	323	316	312	321	321	311	291	262	304	2305
7	291	299	299	292	279	283	297	306	310	310	302	288	284	287	294	298	294	302	313	318	314	310	304	301	299	2175
8	293	291	291	285	282	291	294	294	287	282	277	280	284	287	292	301	308	315	320	318	315	309	303	298	296	2097
9	291	281	289	296	298	301	304	300	295	288	282	280	286	292	296	303	314	317	313	308	301	304	297	292	297	2128
10 q	292	291	287	281	286	291	294	298	297	287	279	267	267	268	274	282	291	296	298	297	297	296	295	295	288	1906
11 q	294	293	293	294	296	298	299	299	295	286	272	263	261	266	276	282	291	298	300	298	298	297	296	301	289	1946
12	293	291	286	283	285	295	297	289	284	282	279	275	268	272	279	285	288	299	310	316	310	305	299	296	290	1966
13 q	295	292	291	293	297	301	303	298	296	291	283	271	258	263	272	285	294	298	299	297	295	293	292	293	290	1950
14	293	293	295	297	299	302	301	299	294	287	280	275	275	271	275	286	293	299	299	299	298	299	295	290	291	1994
15 q	286	288	293	297	299	304	301	294	287	281	272	266	265	268	279	286	294	298	294	293	293	292	292	291	288	1913
16	291	291	292	293	294	295	297	294	286	285	284	282	278	284	290	310	333	355	381	372	347	320	308	308	307	2370
17	296	298	300	303	305	308	311	310	304	295	279	275	280	289	294	304	309	301	294	294	298	298	296	293	297	2134
18	291	292	292	294	297	298	291	287	287	285	278	272	273	281	284	289	312	334	344	344	335	321	310	300	300	2191
19 d	293	287	278	274	285	297	299	297	293	282	278	271	269	271	280	306	335	355	362	357	343	323	285	280	300	2200
20	291	282	270	275	281	288	291	286	294	287	282	276	271	279	290	292	297	311	331	330	317	310	293	276	292	2000
21	284	293	298	298	300	303	302	304	304	295	283	272	268	276	282	282	286	291	293	294	293	293	293	294	291	1981
22	290	288	287	286	287	287	283	274	267	267	258	258	260	270	287	304	321	343	359	358	310	318	315	307	295	2084
23	291	262	280	287	280	292	306	310	310	302	295	287	284	282	287	299	309	314	312	310	309	304	301	297	296	2110
24	288	291	294	297	298	299	299	292	280	270	266	267	269	269	275	291	306	325	341	333	312	301	298	296	294	2057
25	283	290	294	297	298	299	299	299	297	290	285	279	277	280	282	287	297	299	302	297	297	297	297	297	292	2019
26 q	294	294	294	297	298	299	299	298	294	282	270	264	268	275	284	287	290	290	293	294	293	292	291	291	289	1931
27	291	292	292	292	294	297	296	294	292	286	280	270	264	265	275	282	291	298	296	291	294	282	282	285	286	1871
28	285	287	287	289	290	289	286	285	276	265	261	258	258	266	275	282	288	292	292	291	291	287	287	287	281	1754
29	287	286	287	286	280	281	284	285	280	274	268	263	265	270	287	298	309	309	304	300	296	297	297	293	287	1886
30	291	290	291	290	292	292	291	287	282	272	271	275	272	277	286	292	293	297	297	294	290	286	288	284	287	1880
31	280	284	286	290	292	294	295	289	280	269	263	262	259	266	275	280	293	297	295	293	291	287	286	281	283	1787
Mean	286	282	282	282	281	287	291	293	291	287	282	278	277	283	291	299	307	314	317	316	309	304	297	292	293	
Sum 8000+	854	736	750	732	716	909	1020	1069	1023	906	744	630	600	763	1015	1255	1518	1724	1826	1792	1584	1413	1206	1062		Grand Total 217,847

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR

JULY 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range										
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ				°A.			
1 d	18 16	925	-157	00 49	1082	03 33	70.1	5.4	02 01	64.7	19 09	342	-64	19 09	406	9,7,5,3,2,5,6,5	42	2	83.9
2 d	15 49	966	571	12 47	395	15 51	63.4	29.9	09 10	33.5	14 22	445	283	11 32	162	2,1,2,4,7,5,5,2	28	2	83.9
3 d	19 20	758	588	12 19	170	02 02	55.3	30.4	06 19	24.9	20 53	328	208	02 42	120	5,4,4,3,4,2,3,3	28	1	83.9
4	20 36	782	650	11 45	132	14 28	52.5	33.2	23 53	19.3	21 06	321	240	23 53	81	1,1,1,2,2,4,3,4	18	1	83.9
5 d	21 57	789	550	04 47	239	04 54	55.4	19.1	07 51	36.3	20 27	327	149	05 06	178	3,6,5,4,3,2,3,6	32	2	83.9
6	19 18	784	646	11 03	138	15 08	49.1	31.4	08 07	17.7	20 09	327	257	22 33	70	2,2,3,3,3,3,4,4	24	1	83.9
7	18 21	774	656	10 39	118	13 24	52.3	37.6	07 45	14.7	19 38	320	274	04 50	46	2,3,2,2,3,2,3,2	19	0	-
8	14 33	758	641	13 03	117	15 02	50.6	33.3	07 26	17.3	19 11	321	275	10 24	46	3,3,2,2,3,3,2,2	20	1	83.9
9	16 43	756	654	10 57	102	13 27	52.1	34.3	08 02	17.8	17 17	319	278	01 24	41	2,1,2,1,2,2,2,2	14	0	83.9
10 q	19 36	740	644	10 57	96	14 29	50.3	37.0	05 30	13.3	18 40	299	266	12 44	33	2,2,1,1,1,2,1,1	11	0	-
11 q	20 51	749	668	11 04	81	14 21	52.4	34.5	07 38	17.9	07 20	303	260	12 49	43	1,1,1,1,3,1,2,2	12	0	83.9
12	18 31	768	663	10 31	105	13 53	53.0	32.9	07 18	20.1	19 36	318	266	12 38	52	3,2,2,2,3,3,3,2	20	0	84.1
13 q	17 01	741	657	10 39	84	13 57	54.7	33.8	07 08	20.9	06 00	304	257	12 10	47	1,1,2,1,2,1,1,0	9	0	84.6
14	19 06	770	660	12 37	110	13 26	55.5	35.2	07 23	20.3	21 08	303	270	13 57	33	0,1,1,2,3,2,2,2	13	0	84.6
15 q	19 17	746	658	09 49	88	13 16	51.9	34.3	06 57	17.6	05 32	304	263	12 48	41	2,1,1,1,2,2,2,1	12	0	84.7
16	18 36	822	651	11 41	171	15 18	55.5	33.5	07 20	22.0	18 40	385	276	12 28	109	0,0,3,3,4,4,4,2	20	1	-
17	19 02	774	640	10 51	134	13 41	51.1	33.5	06 40	17.6	16 33	310	274	11 07	36	2,1,0,2,2,2,3,3	15	0	84.8
18	17 14	812	649	11 31	163	16 06	50.8	35.1	05 39	15.7	18 44	347	270	12 05	77	2,2,2,3,3,4,4,2	22	1	84.8
19 d	18 21	817	657	09 35	160	14 30	57.4	29.0	06 43	28.4	18 30	362	269	11 40	93	4,2,3,2,4,4,4,4	27	1	84.8
20	17 57	764	632	10 44	132	14 17	51.7	30.9	02 27	20.8	18 52	336	269	02 24	67	3,3,2,2,3,3,3,4	23	1	84.8
21	19 37	756	669	09 32	87	13 43	52.1	34.4	07 02	17.7	08 13	305	267	12 30	38	2,1,1,1,2,2,3,2	14	0	-
22	19 56	851	644	12 24	207	13 27	55.3	28.0	19 48	27.3	19 28	366	255	10 47	111	1,2,3,4,3,4,5,3	25	1	84.9
23	19 37	746	654	11 38	92	14 03	50.4	29.6	04 32	20.8	17 40	316	257	01 29	59	3,3,1,2,1,1,1,3	15	0	84.9
24	17 38	792	650	12 18	142	14 32	52.6	34.9	07 44	17.7	18 40	343	265	11 06	78	3,2,2,2,3,3,3,2	20	1	84.9
25	15 17	760	682	12 10	78	14 07	51.7	34.2	07 57	17.5	18 44	302	276	12 35	26	3,1,1,1,2,3,2,2	15	0	84.9
26 q	15 04	745	673	10 33	72	14 26	50.1	34.2	08 08	15.9	06 03	301	264	11 45	37	1,1,0,1,2,2,1,1	9	0	84.9
27	20 05	789	674	10 23	115	13 27	53.0	34.4	08 20	18.6	17 47	299	263	13 04	36	0,0,0,1,2,3,4,2	12	1	84.9
28	00 23	770	694	09 34	76	14 06	54.2	33.7	07 38	20.5	17 42	293	257	11 17	36	3,1,2,1,2,1,2,1	13	0	-
29	04 31	753	636	10 39	117	14 03	54.9	32.5	07 18	22.4	17 13	310	263	11 12	47	2,3,2,3,3,2,2,2	19	0	84.9
30	18 22	751	669	10 48	82	14 44	52.6	33.5	08 12	19.1	18 44	298	269	10 18	29	1,2,2,1,2,2,2,2	14	0	84.9
31	22 03	767	670	11 55	97	13 13	52.4	32.9	07 27	19.5	17 42	298	257	12 28	41	1,1,2,2,2,3,2,3	16	0	-
Mean	- -	783	622	- -	161	- -	53.7	31.8	- -	21.9	- -	324	249	- -	75	-	-	0.55	84.5

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEUIR (H)													16,000γ (0.16 C.G.S. unit) +													AUGUST 1957	
	Hour G.M.T.																									Mean	Sum 16,000+
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24			
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
2	721	723	725	723	724	720	712	707	699	691	686	693	681	688	705	721	728	737	738	750	742	741	736	734	718	1225	
3 d	733	717	723	721	725	723	731	722	703	682	671	672	669	668	699	726	720	740	750	758	750	736	725	736	717	1200	
4	733	706	714	719	722	717	700	692	737	688	689	687	692	703	701	716	802	839	788	747	731	723	724	713	724	1383	
5	703	689	700	713	710	706	695	691	679	675	673	678	685	695	703	713	723	716	712	723	724	723	723	723	703	875	
6 d	721	721	720	715	710	706	699	697	692	691	690	694	700	703	706	723	742	759	761	759	725	703	689	700	714	1126	
7	699	703	704	701	695	737	721	673	662	671	660	668	704	692	680	691	727	739	756	763	754	708	717	686	705	911	
8	693	703	702	699	699	699	684	669	656	654	661	678	691	717	717	716	713	728	729	737	732	728	721	722	702	848	
9	721	717	713	717	712	699	695	684	678	668	666	669	690	699	709	695	703	710	720	742	740	740	732	740	707	959	
10	739	740	693	719	723	725	716	699	687	674	675	684	695	706	720	718	725	737	746	748	748	741	742	723	718	1223	
11 q	721	721	713	720	729	728	714	706	696	680	668	667	675	690	701	709	716	724	738	733	735	739	735	729	712	1087	
12	731	733	731	731	728	723	713	700	683	668	667	676	696	713	727	737	738	737	740	742	742	744	740	740	720	1280	
13 d	740	748	744	737	729	705	707	712	700	696	672	683	694	707	691	712	748	761	739	764	733	733	732	727	721	1314	
14	731	732	721	713	732	677	654	654	660	640	632	634	661	648	678	716	721	718	738	738	735	733	728	713	696	707	
15	713	716	715	716	709	700	691	684	672	669	664	675	673	697	708	711	720	733	721	737	731	722	721	711	705	909	
16	708	720	723	706	710	713	709	697	683	678	675	676	696	703	700	708	708	719	728	742	753	721	726	720	709	1022	
17 q	713	721	720	714	717	716	712	703	687	676	674	681	692	704	708	715	710	721	733	736	731	728	727	727	711	1066	
18	729	723	721	718	719	717	718	713	703	682	667	662	671	701	718	730	732	731	733	737	738	741	735	735	716	1174	
19	733	730	728	727	727	727	723	713	701	693	679	675	676	674	708	715	712	725	738	742	742	740	733	731	716	1192	
20	725	736	731	744	728	740	735	720	704	689	679	683	681	681	700	744	721	727	731	729	729	727	726	728	718	1238	
21	731	725	723	725	725	720	716	710	703	693	694	685	687	714	701	735	748	724	736	731	728	717	719	716	717	1206	
22 q	719	698	706	705	728	697	707	692	680	663	650	658	679	697	727	739	720	693	717	724	725	719	716	715	703	874	
23 d	714	712	712	708	708	702	698	693	687	688	691	693	704	725	721	719	721	722	725	731	732	732	733	724	712	1095	
24 q	720	719	720	719	717	714	708	705	699	698	703	708	708	706	707	715	720	727	728	729	731	732	731	728	716	1192	
25	725	725	724	724	725	725	720	708	697	688	678	683	683	689	705	714	721	727	730	736	737	739	732	731	715	1166	
26	730	729	728	727	726	729	731	723	710	696	683	679	686	713	733	729	752	743	750	744	731	730	721	716	722	1339	
27	727	724	723	720	717	716	712	701	691	679	667	671	689	711	717	745	763	746	751	739	741	740	735	735	719	1260	
28	730	714	729	731	721	722	709	687	673	671	656	672	678	692	705	719	733	746	761	738	745	745	723	719	713	1119	
29	720	721	720	723	720	711	711	697	677	652	638	659	684	711	734	729	732	738	742	746	736	729	729	725	712	1084	
30 d	715	718	718	720	720	717	713	706	693	681	680	684	677	695	707	716	719	731	724	795	799	717	712	715	715	1172	
31 d	712	644	650	681	648	676	671	653	641	627	646	643	672	679	687	698	720	729	735	742	714	707	704	703	683	382	
Mean	721	717	716	717	716	713	706	696	687	676	670	675	685	696	708	719	730	736	739	742	737	729	725	721	712		
Sum 20,000+	2362	2240	2198	2232	2195	2088	1897	1576	1289	945	773	917	1244	1581	1946	2296	2622	2811	2916	3003	2852	2606	2458	2362		Grand Total 529,409	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEUIR (D)													10° +											AUGUST 1957										
	Hour G.M.T.																								Sum									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	900.0+								
1	41.4	41.6	41.6	39.8	40.6	36.6	35.4	36.3	37.4	39.0	42.8	47.3	50.7	51.2	48.7	46.1	44.1	43.5	44.2	45.7	44.7	44.8	44.9	43.9	43.0	132.3								
2	43.8	39.7	42.4	36.8	35.2	34.9	36.0	35.2	36.7	38.7	42.1	46.7	51.8	53.1	52.2	50.0	46.2	46.0	44.9	44.8	44.2	43.5	40.7	43.1	42.9	128.7								
3 d	36.2	39.6	40.8	40.4	39.4	36.5	33.5	34.2	36.2	38.4	41.9	44.4	47.2	48.6	47.3	46.9	52.0	54.9	50.5	40.9	43.3	44.8	45.3	43.8	42.8	127.0								
4	25.7	39.4	37.3	39.9	38.1	36.3	35.4	35.5	36.4	38.6	42.8	45.5	48.2	49.2	49.0	48.0	47.1	46.3	45.1	44.4	43.3	43.4	43.2	42.6	41.7	100.7								
5	41.8	41.7	40.8	40.4	39.2	37.0	36.9	37.7	38.7	39.3	43.3	45.9	47.2	46.7	46.4	46.4	47.2	46.1	43.9	40.6	41.6	40.2	38.7	37.2	41.9	104.9								
6 d	33.6	33.5	30.6	33.8	37.8	38.5	38.8	42.5	40.8	44.4	49.4	51.3	51.4	51.5	52.8	55.1	52.0	49.0	48.0	43.9	43.0	45.2	38.8	37.8	43.5	143.5								
7	42.6	42.2	40.3	38.7	38.9	37.7	37.6	38.8	39.3	40.8	42.6	47.2	50.4	50.8	49.6	47.9	45.7	44.7	44.3	44.0	44.2	44.7	43.8	43.3	43.3	140.1								
8	42.8	41.8	40.4	39.9	38.5	37.7	38.7	39.4	40.0	42.6	46.0	49.9	52.0	52.2	52.4	48.5	46.4	44.7	44.1	44.9	44.3	44.4	43.0	42.5	44.0	157.1								
9	41.1	41.3	42.7	41.4	37.4	36.4	35.4	35.5	35.4	37.4	42.2	45.6	49.9	52.2	53.6	51.6	48.7	47.0	45.9	45.1	44.9	45.8	38.8	40.8	43.2	136.1								
10	40.9	42.8	47.9	41.5	36.5	38.1	39.0	37.7	37.7	39.3	42.2	45.5	48.0	50.6	51.0	49.6	47.2	44.6	44.5	44.6	44.5	45.1	44.2	42.6	43.6	145.6								
11 q	42.6	41.8	41.0	40.4	39.1	37.8	36.4	36.6	37.4	39.3	42.3	45.8	49.8	51.5	51.6	49.7	47.7	45.4	45.4	46.3	45.6	44.9	44.8	43.7	43.6	146.9								
12	42.6	42.7	39.4	39.9	34.4	31.2	33.3	35.4	37.4	41.0	44.9	48.6	51.9	53.7	52.3	51.1	49.5	47.7	47.2	48.6	46.8	44.4	42.4	42.3	43.7	148.7								
13 d	42.5	41.8	45.7	40.3	42.1	44.6	41.9	44.5	44.4	38.8	43.6	47.1	51.2	49.7	49.0	47.7	45.6	44.2	43.7	45.3	43.5	43.9	44.2	42.5	44.5	167.8								
14	42.3	41.9	40.8	39.9	37.7	36.4	35.3	35.9	37.2	40.5	44.6	50.8	54.1	54.9	54.5	52.0	48.6	48.9	46.9	46.4	42.4	43.9	42.2	39.9	44.1	158.0								
15	41.9	40.8	37.6	37.1	37.7	37.8	37.1	36.0	36.4	37.2	39.3	44.1	49.2	51.1	51.0	49.6	47.7	46.4	44.7	44.4	43.5	43.0	43.8	38.0	42.3	115.4								
16	37.9	39.0	36.9	37.8	37.0	36.7	35.7	35.4	36.0	38.2	42.1	46.3	49.9	51.7	51.3	49.6	47.6	46.4	45.7	44.7	42.8	43.1	43.1	42.4	42.4	117.3								
17 q	42.3	41.4	41.1	40.0	39.5	38.3	37.0	36.0	35.5	36.3	40.5	44.9	48.7	52.3	53.9	52.7	49.7	47.2	46.3	45.8	44.9	44.0	42.8	42.9	43.5	144.0								
18	42.0	41.9	42.4	41.8	40.5	39.0	37.2	35.1	35.7	38.2	42.9	49.3	54.0	52.7	50.4	47.6	45.0	43.2	41.0	42.6	43.1	43.7	43.2	42.1	43.1	134.6								
19	41.4	43.6	44.0	40.5	45.0	46.3	41.8	40.1	38.4	41.5	41.4	43.2	47.3	49.0	47.8	44.9	43.0	41.6	41.2	41.8	41.7	42.9	43.7	44.3	43.2	136.4								
20	43.9	43.3	43.1	43.8	42.6	44.0	38.2	37.4	38.7	40.8	42.2	46.2	48.3	50.1	48.2	49.0	47.2	44.8	43.2	42.1	41.5	41.9	40.7	41.3	43.4	142.5								
21	38.9	33.8	35.3	42.0	39.0	41.4	39.2	37.9	37.2	39.4	43.2	47.8	49.8	49.5	49.6	46.8	45.4	44.2	44.3	44.4	44.6	44.5	43.4	42.4	42.7	124.0								
22 q	41.8	41.3	40.5	39.5	38.2	37.4	36.8	36.2	37.3	39.6	43.5	46.0	46.2	46.7	45.8	44.5	44.4	44.4	44.9	44.8	44.8	44.4	43.7	42.8	42.3	115.5								
23 q	41.4	40.8	40.7	39.9	39.2	38.3	38.0	38.6	39.0	41.4	44.8	47.7	50.7	50.8	48.9	47.1	45.5	44.2	44.2	44.3	44.6	44.2	43.5	43.0	43.4	140.8								
24 q	42.3	41.6	41.0	40.5	39.8	39.0	38.6	38.0	37.1	38.6	42.3	46.0	49.4	50.8	50.5	49.0	46.6	44.5	43.9	44.3	43.8	43.6	42.8	42.5	43.2	136.5								
25	42.1	41.6	41.3	40.8	39.6	37.9	37.6	36.4	36.4	38.8	42.1	46.8	50.8	52.4	52.2	49.5	48.2	46.1	44.2	44.2	43.9	44.6	40.8	39.6	43.2	137.9								
26	40.2	41.1	40.5	39.8	38.9	36.9	35.6	34.6	35.5	38.5	41.3	45.0	50.3	53.2	50.9	50.5	49.3	47.1	45.9	43.1	45.3	42.9	43.2	43.2	43.0	132.8								
27	38.5	36.7	40.4	40.8	38.8	35.2	32.6	33.3	32.2	35.9	39.1	44.6	48.3	50.4	52.3	52.3	50.2	46.3	42.7	44.7	43.9	43.2	39.3	41.7	40.5	41.8	103.2							
28	41.5	41.4	41.4	40.8	39.2	38.8	38.3	38.6	38.8	40.1	45.0	52.9	57.1	57.6	56.6	51.9	47.3	45.6	44.8	42.6	42.8	43.5	41.9	37.9	44.4	166.4								
29	40.9	41.5	41.2	40.6	40.1	39.2	37.8	36.7	35.1	36.7	41.6	47.7	50.8	53.4	51.7	49.4	46.6	44.6	40.8	42.4	42.7	37.5	38.5	42.1	42.5	119.6								
30 d	40.2	31.2	35.9	37.9	36.6	36.9	34.9	33.0	34.3	39.2	44.2	47.3	49.9	51.1	48.3	45.6	44.4	44.0	44.8	43.0	43.3	43.0	41.8	42.2	41.4	93.0								
31 d	41.8	39.6	39.4	38.5	36.9	36.0	32.9	33.8	35.8	37.9	41.6	46.0	51.7	56.1	56.3	50.2	47.8	43.1	37.1	39.2	38.8	39.4	39.6	34.1	41.4	93.6								
Mean	40.6	40.4	40.5	39.8	38.7	37.9	36.9	36.8	37.4	39.3	43.1	47.0	50.3	51.5	50.8	49.0	47.1	45.6	44.5	44.0	43.6	43.4	42.4	41.5	43.0									
Sum 1100.0+	158.9	152.4	154.5	133.2	99.9	76.2	43.6	41.2	58.1	119.6	233.3	357.1	458.3	496.7	476.1	418.7	360.0	313.1	280.3	263.1	251.6	244.5	213.2	187.3		Grand Total 31990.9								

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

81

24 ESKDALEUIR (Z)		45,000γ (0.45 C.G.S. unit) +																				AUGUST 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	779
2	280	282	286	287	291	290	287	280	276	274	267	264	270	278	283	288	290	290	285	286	287	286	286	286	286	282	795
3 d	285	287	277	268	274	276	276	282	281	280	281	278	275	276	275	280	287	293	297	298	298	296	293	282	283	785	
4	269	277	283	287	291	292	291	286	278	266	263	259	264	267	275	278	273	297	321	343	323	304	298	295	287	880	
5	266	268	269	278	286	287	292	292	286	277	274	274	271	270	276	285	289	289	293	292	293	293	291	291	283	782	
6 d	291	292	292	292	294	296	297	290	282	275	275	271	268	267	274	285	290	302	315	321	314	308	300	269	290	960	
7	253	251	249	258	256	242	236	244	258	260	254	259	280	295	314	320	332	344	343	342	323	304	289	280	283	786	
8	285	281	287	290	289	286	286	289	287	281	276	275	280	297	309	310	315	315	312	310	306	300	298	296	294	1060	
9	294	294	294	292	291	290	286	287	287	280	274	266	268	276	287	293	293	291	288	287	289	288	290	287	286	872	
10	278	263	252	257	276	284	291	293	288	278	270	260	260	263	267	274	280	288	293	297	298	298	285	272	278	665	
11 q	278	280	258	262	275	286	286	291	292	287	279	273	273	278	289	295	303	306	304	302	299	297	293	293	287	879	
12	291	289	290	291	292	294	294	293	289	282	272	263	265	273	280	291	291	291	286	285	286	286	286	287	285	847	
13 d	287	284	292	270	259	263	266	272	274	265	270	271	270	275	286	288	301	312	314	310	310	303	295	291	285	828	
14	288	287	274	225	206	204	226	251	268	274	272	271	292	309	304	308	309	310	313	310	307	296	282	287	278	673	
15	291	291	291	293	294	297	293	292	289	287	278	273	274	275	285	291	298	299	301	299	306	304	303	295	292	999	
16	284	271	260	282	290	293	297	297	292	287	280	273	271	268	275	278	286	289	291	289	293	299	288	287	284	820	
17 q	286	276	274	282	289	291	290	290	288	282	276	267	258	261	268	275	287	290	293	294	298	291	293	290	283	789	
18	288	286	287	291	292	292	290	290	289	286	281	275	271	270	276	282	287	289	286	286	286	286	286	286	285	838	
19	286	286	282	282	286	289	292	293	289	280	269	268	274	279	284	294	298	298	299	297	297	293	291	286	287	892	
20	286	278	256	254	261	266	272	280	282	286	285	278	276	283	292	298	298	299	298	294	293	292	291	288	283	786	
21	286	286	286	286	288	291	291	293	286	279	270	271	276	286	298	302	314	323	330	326	314	304	287	285	294	1058	
22 q	264	257	248	220	223	236	242	259	279	281	278	274	280	290	302	321	337	332	312	303	298	297	295	295	280	723	
23 q	294	294	294	293	293	292	291	289	284	275	271	269	271	275	279	281	282	286	286	286	287	287	289	291	285	839	
24 q	291	291	290	289	289	287	286	286	280	268	263	263	263	264	268	274	281	285	283	285	285	286	286	287	280	730	
25	288	287	287	287	287	289	290	291	288	276	266	262	265	268	271	279	282	282	281	280	282	284	286	286	281	744	
26	286	286	286	286	287	289	290	293	289	287	280	269	266	268	274	281	285	291	290	298	298	297	298	291	286	865	
27	286	287	287	287	288	290	292	291	288	283	275	268	268	275	281	285	294	305	304	306	297	294	291	287	288	909	
28	281	286	282	282	274	260	268	270	270	261	258	256	263	272	280	296	304	310	310	309	299	299	282	278	281	732	
29	284	285	286	286	287	287	283	285	286	282	274	265	265	271	280	295	299	302	298	298	293	291	288	284	286	854	
30 d	280	282	285	287	288	289	287	282	280	277	268	266	265	267	278	288	293	293	293	285	297	331	315	297	286	873	
31 d	279	305	299	253	272	295	309	313	310	299	286	286	286	289	298	304	307	308	300	301	298	297	297	296	295	1087	
Mean	292	288	282	287	292	295	294	293	291	291	286	282	282	290	295	307	320	338	356	351	331	303	288	270	300	1204	
Sum 8000+	777	757	665	584	660	718	771	837	806	646	471	349	410	575	803	1026	1205	1347	1375	1370	1285	1177	1036	898		Grand Total 212,548	

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR												AUGUST 1957							
TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.				
Horizontal force				Declination				Vertical force											
Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +						Minimum 45,000γ +		Range	
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ					
1	19 42	759	673	12 57	86	13 33	51.8	33.7	05 57	18.1	05 05	298	264	10 50	34	1, 2, 2, 1, 3, 2, 2, 1	14	0	84.9
2	18 38	762	660	13 31	102	13 13	53.5	33.4	05 13	20.1	20 23	302	267	02 58	35	3, 2, 2, 2, 3, 2, 2, 2	18	0	84.9
3 d	17 12	909	677	09 41	232	17 08	58.1	32.4	06 13	25.7	19 22	362	258	11 19	104	3, 1, 2, 1, 3, 6, 5, 3	24	1	84.9
4	00 23	786	646	00 57	140	15 06	49.7	12.2	00 20	37.5	18 20	294	257	00 41	37	5, 2, 2, 1, 2, 3, 2, 2	19	1	-
5	18 58	776	666	23 38	110	16 19	48.3	27.9	23 56	20.4	19 18	325	256	24 00	69	2, 1, 1, 0, 2, 3, 3, 4	16	1	-
6 d	19 58	791	637	07 44	154	15 38	55.9	28.1	02 25	27.8	19 52	354	232	05 54	122	3, 4, 4, 2, 4, 4, 4, 4	29	1	84.9
7	19 08	742	649	09 30	93	12 56	51.6	36.5	06 00	15.1	17 42	315	274	11 10	41	3, 2, 2, 1, 2, 2, 2, 1	15	0	84.9
8	19 40	765	659	10 07	106	14 18	53.7	36.0	06 08	17.7	15 54	296	263	11 45	33	1, 2, 2, 2, 3, 1, 3, 3	17	0	85.2
9	13 52	794	664	09 07	130	13 53	57.2	33.3	22 33	23.9	21 37	300	248	03 08	52	4, 3, 2, 2, 5, 3, 2, 3	24	1	85.2
10	18 11	749	660	11 07	89	02 23	53.2	35.3	04 28	17.9	17 28	308	247	02 44	61	4, 3, 1, 1, 0, 1, 2, 2	14	0	85.2
11 q	19 12	753	662	10 26	91	13 57	52.5	35.8	07 17	16.7	05 47	294	259	12 04	35	2, 0, 0, 1, 1, 2, 2, 1	9	0	85.2
12	19 27	782	660	14 48	122	13 54	56.3	30.3	05 23	26.0	18 02	315	258	04 50	57	2, 3, 3, 3, 4, 4, 4, 2	25	1	85.2
13 d	21 02	774	622	11 20	152	12 05	52.7	32.9	03 38	19.8	18 47	314	199	05 01	115	3, 4, 3, 3, 3, 4, 3, 4	27	1	85.2
14	19 26	752	661	10 48	91	14 04	56.6	34.1	06 33	22.5	20 40	309	271	11 03	38	1, 2, 1, 2, 3, 3, 3, 3	18	0	85.2
15	20 19	763	667	10 51	96	14 14	51.7	34.3	02 43	17.4	21 32	302	223	02 20	79	3, 2, 1, 2, 2, 2, 3, 3	18	0	85.2
16	18 52	740	669	10 53	71	13 43	52.1	34.7	07 19	17.4	20 40	298	256	12 45	42	2, 2, 1, 2, 2, 2, 2, 1	14	0	85.2
17 q	15 17	748	658	11 20	90	15 16	55.3	35.1	08 08	20.2	04 55	294	269	13 33	25	1, 1, 1, 1, 2, 3, 1, 1	11	0	85.2
18	21 20	756	663	11 09	93	12 30	55.2	34.6	07 54	20.6	18 18	302	264	11 05	38	2, 1, 0, 2, 3, 2, 2, 3	15	0	85.3
19	03 13	755	677	13 12	78	13 02	50.0	36.7	08 53	13.3	16 59	302	251	03 09	51	3, 3, 3, 2, 2, 2, 1, 1	17	0	85.3
20	16 00	759	680	14 48	79	13 40	51.3	35.2	22 05	16.1	18 48	332	270	10 30	62	1, 1, 1, 2, 4, 3, 2, 3	17	1	85.3
21	15 57	751	644	10 21	107	12 33	50.3	32.7	02 54	17.6	17 11	340	213	03 54	127	3, 4, 2, 2, 3, 4, 2, 1	21	1	85.3
22 q	20 00	739	685	08 44	54	11 55	47.6	35.2	07 37	12.4	05 31	293	268	11 08	25	0, 1, 1, 2, 2, 2, 2, 1	11	0	85.3
23 q	20 54	735	694	09 52	41	13 10	51.5	37.3	06 25	14.2	00 20	291	262	10 30	29	0, 0, 1, 2, 1, 1, 1, 0	6	0	85.3
24 q	19 56	742	674	10 35	68	14 20	51.3	36.9	08 21	14.4	07 57	291	260	11 38	31	0, 0, 0, 1, 2, 1, 1, 1	6	0	85.3
25	19 14	764	671	11 57	93	14 12	53.1	35.9	08 37	17.2	20 02	302	266	12 31	36	0, 1, 1, 2, 3, 3, 3, 3	16	0	-
26	16 14	772	659	10 41	113	13 39	54.9	33.7	07 44	21.2	19 19	308	266	12 07	42	1, 1, 1, 2, 2, 3, 2, 2	14	0	85.4
27	18 30	776	644	10 29	132	14 55	54.0	27.2	07 34	26.8	17 52	314	254	11 34	60	3, 3, 3, 3, 3, 3, 3, 3	24	1	85.4
28	19 29	760	625	10 39	135	13 12	58.4	36.3	23 34	22.1	17 32	304	263	11 39	41	1, 1, 3, 3, 3, 3, 2, 3	19	0	85.4
29	20 10	874	673	10 41	201	13 37	54.9	34.2	22 03	20.7	21 47	339	263	10 50	76	2, 1, 1, 1, 2, 2, 5, 4	18	1	85.4
30 d	16 33	795	588	01 15	207	13 17	52.2	27.8	01 42	24.4	01 46	321	235	03 28	86	5, 4, 3, 3, 3, 4, 3, 1	27	1	85.4
31 d	18 19	929	636	10 36	293	13 22	58.4	30.0	23 50	28.4	18 38	360	262	23 47	98	2, 2, 2, 2, 4, 5, 6, 4	27	1	85.4
Mean	- -	776	658 - -	118	- -	53.3	32.9 - -	20.4	- -	312	255 - -	57	-	-	-	-	0.42	-	85.2

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)													16,000γ (0.16 C.G.S. unit) +													SEPTEMBER 1957				
	Hour G.M.T.		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 12,000+		
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
1	702	691	670	686	705	690	685	683	666	655	658	662	670	684	675	688	699	712	720	726	729	724	727	738	694	4645				
2	726	708	704	668	691	694	638	671	695	689	676	659	692	701	803	828	841	819	783	817	786	577	506	660	710	5032				
3 d	555	604	586	647	679	679	672	675	641	569	631	599	731	883	966	1067	875	830	650	659	664	662	664	657	702	4845				
4 d	666	661	647	641	619	656	656	650	634	622	626	639	644	691	961	1200	1237	1231	681	719	671	587	446	540	722	5325				
5	285	-126	-1	420	129	498	580	562	573	581	583	585	596	632	656	673	698	679	684	682	680	693	674	667	528	683				
6	670	664	660	645	653	642	650	649	634	618	625	658	658	711	697	739	709	708	708	678	680	686	688	693	672	4123				
7	690	694	687	687	674	679	674	662	646	641	636	651	655	665	670	675	690	695	697	705	703	707	706	701	679	4290				
8 q	700	699	698	693	690	686	679	670	658	650	641	647	662	680	697	696	698	703	705	711	713	719	714	709	688	4518				
9	711	710	713	712	711	698	689	694	674	653	643	640	660	662	680	708	705	711	715	715	714	709	711	713	694	4651				
10	711	709	709	706	701	695	690	671	662	659	661	661	663	667	682	699	714	719	709	717	723	709	712	713	694	4662				
11 q	715	717	716	713	707	705	700	680	670	660	651	647	666	677	693	703	711	712	723	720	711	715	717	722	698	4751				
12	725	715	718	714	711	706	695	683	676	669	664	673	683	702	708	720	715	711	719	723	725	728	746	731	707	4960				
13 d	747	744	631	574	658	653	444	197	252	144	549	593	549	563	541	562	617	662	654	660	661	666	662	660	568	1643				
14	656	658	657	665	669	666	658	639	606	576	596	663	667	688	691	663	660	660	668	678	689	676	688	678	659	3815				
15	683	676	706	694	685	689	683	672	658	645	638	634	651	659	676	692	699	704	715	716	710	706	696	690	682	4377				
16	668	681	708	711	706	714	716	707	694	678	661	656	658	674	694	704	715	720	716	727	722	721	716	723	700	4790				
17	716	716	714	713	719	718	714	713	704	690	675	670	656	684	700	707	723	702	722	736	735	734	734	734	710	5029				
18	726	732	723	712	715	717	715	703	693	678	669	669	684	682	696	706	709	724	732	722	728	724	724	720	708	5003				
19 q	721	721	723	720	717	715	717	710	698	683	677	673	687	688	692	705	708	717	717	721	724	724	723	728	709	5009				
20 q	724	726	720	719	719	719	717	712	700	683	674	669	683	686	698	703	728	725	728	720	728	740	738	735	712	5094				
21	733	732	732	731	736	728	728	718	702	690	691	730	668	675	648	732	830	860	832	813	661	664	675	660	724	5369				
22	638	657	663	658	699	639	606	631	630	649	658	661	696	741	752	900	789	654	639	663	695	631	527	525	667	4001				
23 d	444	506	551	425	290	353	450	402	484	520	560	630	658	827	826	719	738	745	681	647	636	652	660	660	586	2064				
24	681	645	657	669	670	643	670	667	646	621	626	641	643	669	649	651	672	679	687	702	701	698	696	702	666	3985				
25	696	694	701	698	685	692	702	666	658	649	636	634	653	654	683	688	692	692	698	702	705	709	707	713	684	4407				
26	715	712	709	710	708	703	704	699	683	663	659	656	659	672	689	683	684	698	707	715	720	722	720	719	696	4709				
27 q	714	710	709	709	709	709	708	699	687	670	657	655	663	677	696	700	700	700	717	720	719	719	722	719	699	4788				
28	713	711	710	712	743	729	704	691	679	658	647	646	658	675	691	700	705	713	725	719	717	720	720	721	700	4807				
29 d	740	731	722	724	716	694	698	715	723	691	686	686	686	764	889	1086	1206	1024	800	707	462	488	249	129	709	5016				
30	644	655	644	644	649	660	660	665	675	611	605	611	640	670	696	679	677	698	683	682	682	696	722	691	664	3939				
Mean	674	662	663	671	662	672	667	652	647	629	642	650	661	690	717	746	751	744	711	711	697	687	670	672	681					
Sum 18,000+	2215	1853	1887	2120	1863	2169	2002	1556	1401	865	1259	1498	1839	2703	3495	4376	4544	4307	3315	3322	2894	2606	2090	2151		Grand Total 490,330				

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)														10° +										SEPTEMBER 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

83

24		ESKDALEUIR (Z)												45,000γ (0.45 C.G.S. unit) +												SEPTEMBER 1957							
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 6000+					
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ						
1	258	232	213	234	266	286	298	298	304	303	299	291	290	297	311	314	312	309	304	302	299	295	294	287	287	287	287	896					
2	278	277	280	279	253	206	235	257	279	287	286	285	292	333	413	459	475	469	450	474	404	140	176	343	318	318	1630						
3 d	242	230	236	237	283	309	311	303	313	321	321	333	392	506	514	519	517	458	465	408	360	337	337	339	358	2591							
4 d	331	320	323	320	303	298	318	326	326	326	328	326	316	305	396	513	435	180	348	458	449	391	120	102	327	1858							
5	-29	52	-32	-86	10	179	301	345	349	356	359	359	359	355	354	347	353	364	373	372	350	280	251	305	259	226							
6	322	328	317	283	296	309	309	314	321	321	314	308	315	342	351	355	376	391	394	368	340	328	321	316	331	1939							
7	317	315	314	310	312	307	309	308	308	305	304	299	299	302	306	309	308	305	307	309	310	310	310	312	308	1395							
8 q	311	310	310	312	313	313	313	310	306	299	290	286	286	286	291	299	302	301	298	302	304	304	305	309	303	1260							
9	305	304	298	294	296	299	299	294	295	295	286	285	293	307	312	315	325	321	313	316	314	309	306	305	304	1286							
10	305	305	305	306	307	308	308	304	299	293	290	287	286	289	295	298	301	309	307	302	302	309	305	304	301	1224							
11 q	303	299	301	303	304	305	306	304	303	295	283	282	284	286	291	300	304	307	309	310	311	308	304	301	300	1203							
12	293	292	293	296	298	299	302	299	294	292	283	276	277	280	293	299	302	304	303	304	302	300	293	282	294	1056							
13 d	279	245	155	-12	86	205	169	126	262	314	356	380	387	406	395	385	402	393	363	350	345	340	332	332	291	995							
14	332	332	332	329	331	332	330	327	323	314	305	328	344	360	404	392	391	363	337	329	327	328	316	276	337	2082							
15	291	287	282	285	281	297	306	311	315	316	314	312	307	308	306	310	315	321	335	332	323	315	301	287	307	1357							
16	276	258	259	257	278	287	288	300	302	304	302	296	293	297	301	306	314	317	320	314	309	306	305	302	295	1091							
17	298	298	299	302	303	306	309	309	305	299	298	302	303	305	321	334	348	338	322	310	309	305	304	302	310	1429							
18	304	299	289	284	281	290	298	299	298	301	298	290	285	282	287	293	293	297	303	305	306	303	301	302	295	1088							
19 q	299	299	298	299	300	301	299	300	303	299	292	281	279	280	282	285	289	294	296	297	298	298	298	297	294	1063							
20 q	297	295	296	297	297	297	297	297	295	290	286	280	276	276	279	280	290	300	299	304	301	296	294	292	292	1011							
21	287	286	291	291	290	292	296	297	297	292	273	275	320	373	403	396	481	549	540	522	430	290	320	312	350	2043							
22	256	234	268	217	217	235	245	252	274	292	298	310	336	355	420	529	486	432	401	372	424	339	243	138	316	1573							
23 d	72	126	21	-105	-178	-8	104	216	305	377	400	436	437	476	476	460	466	458	391	385	280	275	291	299	269	460							
24	273	237	265	298	297	302	313	323	326	335	328	333	339	346	341	337	343	344	339	334	325	318	316	310	318	1622							
25	302	289	281	286	287	294	298	307	312	310	309	311	318	333	333	331	326	317	315	316	314	313	313	309	309	1424							
26	303	303	306	308	309	309	309	309	310	309	304	300	304	306	314	326	336	338	328	320	315	310	309	309	312	1494							
27 q	310	310	310	310	310	312	316	317	316	310	301	290	286	284	293	307	318	320	316	313	311	309	308	308	308	1385							
28	309	309	309	308	293	287	291	300	304	304	299	298	294	293	294	304	306	306	305	312	313	309	309	308	303	1264							
29 d	304	302	299	294	294	301	286	280	287	283	282	271	261	272	415	525	455	319	443	317	232	350	264	-79	302	1257							
30	231	301	321	256	307	319	325	327	318	330	320	325	325	328	343	378	383	386	366	363	355	340	299	276	326	1822							
Mean	275	276	268	253	261	279	290	295	305	309	307	308	313	326	345	360	362	347	350	344	329	309	291	279	307								
Sum 7000+	1259	1274	1039	592	824	1376	1688	1859	2149	2272	2208	2235	2383	2768	3334	3805	3852	3410	3490	3320	2862	2255	1745	1385			Grand Total 221,384						

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR											SEPTEMBER 1957									
TERRESTRIAL MAGNETIC ELEMENTS											3-hr. range indices	Sum of K indices	Magnetic character of day (0.2)	Temperature in magnet house 200 +						
Horizontal force				Declination			Vertical force													
Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 10° +		Minimum 10° +		Range	Maximum 45,000γ +					Minimum 45,000γ +		Range			
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ	h. m.	γ						
1	23 20	747	633	02 11	114	06 20	54.0	32.4	02 06	21.6	15 36	314	198	02 39	116	4,4,3,3,3,2,2,2	23	1	85.4	
2	15 21	888	392	21 50	496	20 28	104.3	0.5	23 55	103.8	20 26	607	85	21 52	522	2,5,5,4,6,5,7,7	41	2	85.4	
3 d	15 18	1689	500	00 49	1189	15 19	104.3	3.5	00 00	100.8	15 14	593	195	00 37	398	5,5,5,6,7,9,6,4	47	2	85.4	
4 d	17 29	1689	-599	22 19	2288	15 45	103.2	-5.2	22 22	108.4	15 28	581	-144	17 36	725	3,4,2,3,7,8,7,9	43	2	85.4	
5	21 16	787	-734	02 01	1521	21 18	55.3	-38.8	04 55	94.1	18 49	378	-199	03 55	577	9,8,5,4,5,4,4,6	45	2	85.4	
6	15 48	790	611	09 51	179	15 49	61.0	31.4	07 18	29.6	18 44	410	304	11 26	106	4,3,2,4,4,5,4,2	28	1	85.5	
7	21 47	715	630	10 08	85	11 09	51.6	34.3	08 14	17.3	00 56	319	294	12 03	25	2,3,2,3,2,3,2,2	19	0	85.5	
8 q	21 58	726	635	11 03	91	12 13	54.0	33.3	07 31	20.7	23 25	309	286	12 12	23	1,0,1,2,2,3,1,3	13	0	-	
9	20 08	722	626	11 26	96	12 42	57.3	32.9	05 47	24.4	16 42	326	284	10 55	42	2,2,3,3,2,2,2,1	17	0	85.5	
10	17 19	745	651	10 29	94	13 08	50.9	35.1	07 37	15.8	17 49	312	286	12 18	26	1,1,2,2,2,3,2,1	14	0	85.5	
11 q	24 00	735	641	10 45	94	12 34	49.9	33.7	07 11	16.2	20 24	313	281	10 38	32	1,2,2,2,2,2,2,2	15	0	85.6	
12	23 10	756	656	10 41	100	14 01	53.7	34.7	07 48	19.0	19 20	305	275	11 50	30	2,2,2,2,3,2,2,3	18	0	85.6	
13 d	00 54	863	-59	09 28	922	06 49	60.6	-6.9	08 32	67.5	13 31	436	-48	03 13	484	7,7,7,8,6,6,3,4	48	2	85.6	
14	14 00	745	549	09 12	196	13 28	63.5	25.2	07 18	38.3	14 27	409	265	23 29	144	2,2,4,5,4,3,3,4	27	1	85.6	
15	19 19	731	626	11 13	105	13 08	51.0	32.7	24 00	18.3	18 19	337	277	02 38	60	3,3,2,2,2,2,3,3	20	0	85.7	
16	18 57	743	647	11 14	96	14 20	51.7	28.1	00 17	23.6	18 47	324	247	03 10	77	4,3,2,2,2,1,3,2	19	1	85.6	
17	18 43	752	653	12 47	99	13 33	54.0	37.2	06 53	16.8	16 49	350	293	10 18	57	1,1,1,2,3,3,3,3	17	1	85.6	
18	18 03	751	658	11 36	93	14 17	49.5	35.5	07 38	14.0	20 47	308	279	04 28	29	3,2,2,2,2,3,3,3	20	0	85.6	
19 q	23 46	730	664	11 42	66	13 07	49.5	36.3	08 58	13.2	08 42	303	276	12 55	27	1,1,2,2,2,2,1,0	11	0	85.6	
20 q	21 40	747	666	11 27	81	14 01	51.8	35.8	09 13	16.0	19 15	306	275	13 01	31	1,0,2,2,2,3,3,2	15	0	85.6	
21	16 58	942	508	21 42	434	17 08	63.9	26.7	21 50	37.2	18 30	509	160	21 36	430	3,1,1,5,5,6,6,6	33	1	85.6	
22	16 07	1801	246	22 01	1555	16 05	101.3	4.4	23 40	96.9	15 53	630	-18	23 43	648	4,5,4,3,6,7,5,7	41	2	85.6	
23 d	13 16	924	-159	02 57	1083	20 25	66.4	-16.6	02 58	83.0	16 42	512	-244	04 39	756	7,7,7,6,7,6,6,4	50	2	85.6	
24	00 26	718	599	10 38	119	13 00	53.9	32.0	19 14	21.9	13 38	353	226	01 43	127	4,3,3,3,4,3,3,2	25	1	85.6	
25	23 43	723	606	11 01	117	12 51	54.4	36.1	07 46	18.3	13 38	336	275	02 07	61	3,3,4,3,3,2,1,2	21	1	85.6	
26	20 16	723	647	11 17	76	14 23	55.1	35.1	08 07	20.0	17 14	342	298	11 12	44	2,1,1,2,3,3,1,1	14	0	85.6	
27 q	22 36	728	649	11 39	79	14 20	50.7	32.8	08 03	17.9	16 55	323	283	12 58	40	0,0,2,2,2,2,1,2	11	0	85.6	
28	04 47	752	637	10 46	115	13 41	51.0	34.5	08 58	16.5	19 43	317	286	05 32	31	0,3,3,2,2,2,3,1	16	0	85.6	
29 d	17 15	1695	-219	23 13	1914	17 30	101.8	-8.2	23 41	110.0	15 25	601	-219	23 32	820	3,3,4,3,6,9,8,7	43	2	-	
30	14 50	775	478	00 12	297	03 00	64.5	20.9	22 02	43.6	17 40	390	40	00 00	350	7,4,3,4,5,5,3,5	36	2	85.6	
Mean	- -	894	435	- -	460	- -	63.1	21.7	- -	41.5	- -	398	170	- -	228	-	-	0.87	-	85.6

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEMUIR (H)													16,000γ (0.16 C.G.S. unit) +													OCTOBER 1957	
	Hour G.M.T.																								Mean	Sum 16,000+	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24			
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
1 d	695	683	663	679	679	687	690	692	682	675	664	662	666	685	665	690	696	708	727	692	679	680	703	702	685	444	
2	702	698	688	699	701	705	699	692	689	684	675	670	676	689	688	699	697	707	713	718	722	711	698	717	697	737	
3	700	705	702	701	705	714	717	714	700	685	675	668	670	671	715	723	695	735	710	707	709	710	694	703	701	828	
4	703	698	712	702	711	713	707	699	687	675	664	654	661	679	696	712	719	711	705	708	710	702	716	723	699	767	
5	722	711	715	713	711	709	707	699	683	677	674	683	684	694	702	720	718	716	714	730	718	720	723	724	707	967	
6 q	719	715	718	720	717	716	713	710	702	690	683	675	678	690	699	709	713	716	720	724	725	729	731	732	710	1044	
7 q	732	729	728	728	728	725	729	724	712	700	682	683	690	700	712	713	723	724	731	733	739	736	730	730	719	1261	
8 q	724	728	726	726	725	722	719	710	694	681	679	678	682	693	706	717	720	727	732	734	735	735	733	733	715	1159	
9	733	731	729	730	725	723	724	725	711	694	676	666	678	684	695	703	717	711	717	715	720	727	718	709	711	1061	
10	704	706	715	720	743	711	702	678	683	664	660	660	671	676	688	688	686	703	714	707	721	698	702	710	696	710	
11 d	719	702	702	719	723	710	709	719	702	684	674	656	663	679	687	688	675	687	691	671	702	704	691	696	694	653	
12	702	705	701	707	707	715	715	703	691	671	664	658	663	666	682	692	708	722	704	698	700	697	699	695	694	665	
13 d	698	663	666	690	690	698	709	703	691	679	659	655	661	669	674	696	703	711	715	716	711	683	676	683	687	499	
14 d	671	676	690	712	705	681	714	682	681	664	638	658	658	679	684	716	718	672	686	680	671	670	681	686	682	373	
15	691	691	692	691	694	694	696	692	682	663	653	641	643	656	682	690	694	700	707	702	700	701	713	703	686	471	
16 q	703	704	705	707	709	709	708	702	690	675	664	661	660	673	686	696	708	715	723	724	728	727	726	724	701	827	
17	722	723	726	726	726	731	729	725	710	692	683	679	667	680	698	699	711	720	728	730	732	734	736	731	714	1138	
18 q	732	726	719	720	721	722	721	719	713	700	683	675	679	687	696	703	714	720	732	730	724	723	724	725	713	1108	
19	724	725	725	723	724	726	728	722	719	704	683	666	674	682	694	707	711	724	729	738	723	712	716	717	712	1096	
20	719	715	719	723	720	715	714	711	700	689	677	675	686	684	696	707	716	732	719	710	716	704	698	698	706	943	
21 d	702	706	709	712	713	718	713	710	687	672	666	667	665	679	688	723	714	719	724	736	743	696	670	628	698	760	
22	674	690	688	692	698	698	693	684	679	668	652	658	673	680	681	689	691	706	709	711	709	696	690	698	688	507	
23	710	710	696	702	705	705	702	698	682	674	664	663	666	670	680	692	703	708	713	715	729	711	699	704	696	701	
24	712	711	709	710	710	715	715	712	697	683	672	677	672	683	698	702	707	713	718	702	718	720	720	717	704	893	
25	717	723	717	716	720	720	720	717	699	684	670	672	679	685	697	702	710	719	724	732	728	730	727	732	710	1040	
26	709	710	710	711	711	719	720	724	722	704	690	677	682	692	699	711	718	722	729	727	732	728	730	726	713	1103	
27	723	719	723	724	727	727	727	724	717	708	694	694	678	680	707	723	715	722	727	731	737	708	718	723	716	1176	
28	722	720	712	712	715	712	713	708	705	694	676	669	679	692	702	708	715	732	717	723	727	721	722	720	709	1016	
29	724	720	706	707	707	715	713	717	702	688	679	666	677	682	695	710	719	725	728	724	722	712	709	706	706	953	
30	708	709	712	712	711	715	713	690	686	670	656	651	662	668	677	698	706	710	717	730	720	724	718	719	699	782	
31	720	718	718	717	719	723	726	726	719	706	692	692	679	682	694	698	703	714	715	723	719	726	723	722	711	1074	
Mean	711	709	708	711	713	713	713	707	697	684	672	668	672	681	692	704	708	715	717	717	718	712	711	711	703		
Sum 20,000+	2036	1970	1941	2051	2100	2093	2105	1931	1617	1197	821	709	822	1109	1463	1824	1943	2151	2238	2221	2269	2075	2034	2036		Grand Total 522,756	

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEMUIR (D)													10° +										OCTOBER 1957									
	Hour G.M.T.																										Sum					
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	900°0+						
1 d	38.9	38.2	39.2	39.9	39.8	40.6	39.3	37.7	37.8	39.1	39.6	41.6	44.2	48.0	46.7	47.1	45.5	44.8	46.2	46.0	41.7	44.3	41.8	42.0	42.1	110.0						
2	39.7	37.1	35.5	36.9	38.6	38.8	39.2	39.3	39.9	40.1	41.5	43.1	44.5	46.8	46.9	47.4	45.9	45.4	44.5	44.4	43.8	43.3	41.2	41.3	41.9	105.1						
3	35.6	39.5	39.1	39.2	39.2	39.1	39.0	37.9	37.4	38.5	41.7	45.1	49.0	47.8	52.4	55.2	48.0	48.3	39.9	37.8	36.4	39.0	38.3	34.6	41.6	98.0						
4	34.7	36.4	38.5	38.3	41.1	39.9	39.3	37.6	35.9	37.0	39.6	43.1	46.6	49.4	49.3	48.3	46.5	44.0	41.6	40.3	38.1	40.8	42.0	42.1	41.3	90.4						
5	41.3	36.3	38.5	38.8	38.2	40.3	39.0	37.8	36.8	39.1	42.8	47.6	48.9	49.7	48.4	48.2	47.0	45.3	44.2	41.5	42.5	42.1	42.6	41.8	42.4	118.7						
6 q	37.0	39.1	39.8	39.9	40.1	39.8	39.7	38.8	37.8	37.7	39.4	42.6	45.4	47.1	47.6	46.2	44.5	43.9	43.7	43.3	42.9	43.0	42.5	41.9	41.8	103.7						
7 q	41.7	41.2	40.9	40.5	40.0	39.7	40.2	39.1	37.2	37.2	38.7	42.4	46.7	48.8	50.2	47.9	47.3	45.8	45.1	44.7	44.6	43.8	43.0	46.3	43.0	133.0						
8 q	40.7	40.2	40.3	40.7	40.4	40.0	39.5	38.7	36.6	36.6	39.6	44.3	48.1	49.6	49.1	48.1	45.9	45.5	44.5	44.2	44.0	43.5	42.7	42.4	42.7	125.2						
9	41.7	40.5	39.2	37.8	37.3	37.2	38.2	38.6	38.6	38.5	40.1	43.1	47.5	49.8	50.0	46.9	45.1	45.4	43.7	43.1	42.2	41.0	40.5	36.5	41.8	102.5						
10	36.1	38.0	41.2	41.4	40.4	44.5	43.3	42.1	42.6	42.1	43.6	47.2	51.5	52.6	52.5	49.7	46.0	43.6	43.2	39.9	32.0	36.6	39.2	40.7	42.9	130.0						
11 d	40.3	39.2	38.2	38.8	40.4	40.5	41.8	42.2	38.5	37.4	43.2	47.8	52.0	51.5	49.7	46.7	42.4	41.8	39.9	41.8	42.0	39.7	37.4	39.6	42.2	112.8						
12	42.2	41.9	41.8	41.5	41.6	41.0	42.6	40.4	40.2	41.2	44.8	46.4	47.9	48.9	49.9	45.9	44.5	46.0	44.8	44.6	42.0	39.4	33.2	36.0	42.9	128.7						
13 d	36.9	28.6	31.1	29.1	33.2	40.6	38.6	38.5	36.5	35.6	38.2	41.2	44.9	48.3	48.0	46.9	46.2	45.3	45.5	44.7	40.8	33.6	36.4	42.5	39.6	51.2						
14 d	32.0	33.1	37.0	39.6	39.0	48.0	52.9	40.0	35.0	38.3	42.7	44.8	47.6	51.5	49.8	46.3	50.6	45.1	42.2	42.4	38.6	36.5	42.3	39.3	42.3	114.6						
15	34.6	35.0	38.4	39.2	40.0	39.8	38.7	36.9	36.1	36.8	40.3	44.0	49.1	51.3	54.3	52.7	48.2	45.9	45.5	43.1	43.6	40.8	38.9	36.7	42.1	109.9						
16 q	39.2	40.4	40.6	40.6	40.4	39.9	39.1	37.7	36.8	37.6	40.5	44.0	46.6	47.9	47.8	47.3	46.0	45.4	45.6	45.0	44.1	42.9	42.3	41.7	42.5	119.4						
17	40.9	40.2	40.3	40.4	40.0	40.2	39.8	38.2	36.6	36.8	40.8	45.6	44.6	46.8	49.3	47.7	46.3	45.2	45.3	44.4	43.7	43.1	42.3	41.3	42.5	119.8						
18 q	40.7	39.2	39.5	39.7	39.4	39.1	38.7	37.5	35.2	35.0	37.8	41.1	43.4	45.1	46.3	46.3	45.2	44.6	45.4	45.8	43.9	42.2	39.9	41.7	41.4	92.7						
19	41.8	41.0	41.1	40.5	40.1	39.9	37.9	37.5	35.5	37.5	39.9	42.6	46.3	48.2	47.8	46.5	44.1	45.2	45.2	45.4	44.6	41.4	39.9	41.5	42.1	111.4						
20	41.1	41.0	40.6	40.2	38.1	38.5	39.1	37.0	36.0	36.3	40.4	43.5	49.1	49.8	49.2	48.1	47.2	48.6	51.5	47.8	45.6	42.2	36.5	33.2	42.5	120.6						
21 d	34.4	38.5	40.2	40.1	39.5	39.1	39.4	38.7	37.9	38.5	41.4	45.1	47.9	49.6	48.4	51.2	49.2	48.1	46.2	45.4	46.8	36.4	33.0	33.4	42.0	108.4						
22	42.8	39.1	39.0	39.9	39.6	39.1	38.3	37.3	36.6	36.8	40.7	44.2	46.8	47.2	47.2	45.7	44.6	43.3	44.0	43.2	42.7	40.5	34.5	39.0	41.3	92.1						
23	36.2	36.3	38.6	40.2	40.0	39.7	39.5	37.0	34.8	35.9	40.0	44.1	46.4	47.7	47.3	45.6	44.2	43.7	43.4	41.5	33.2	30.3	37.5	39.2	40.1	62.3						
24	41.7	42.0	40.1	41.1	40.4	39.9	39.2	37.9	41.2	37.0	41.2	46.3	48.1	48.0	48.0	45.6	43.6	43.3	44.2	37.5	42.0	42.0	41.5	41.0	42.2	112.8						
25	41.3	40.2	39.0	40.1	40.0	40.0	39.3	38.2	36.1	36.4	40.5	43.8	47.5	48.8	49.1	46.8	45.3	45.4	44.0	41.7	42.9	43.1	40.7	36.5	41.9	106.7						
26	34.0	37.2	37.5	39.1	38.6	40.0	39.9	39.6	38.5	38.4	41.8	44.4	46.6	49.4	48.5	47.4	45.5	44.6	45.2	44.0	43.5	39.6	39.1	40.3	41.8	102.7						
27	39.6	38.9	40.3	40.7	40.0	40.1	40.2	40.1	38.5	38.3	41.8	47.7	50.8	50.1	50.2	50.5	46.2	46.3	45.7	44.9	45.1	41.2	40.2	40.9	43.3	138.3						
28	39.6	35.3	35.7	38.6	38.3	38.2	38.2	40.8	40.0	39.0	41.5	44.3	46.8	47.5	47.2	45.5	45.3	46.1	44.4	44.5	43.4	43.1	41.9	41.0	41.9	106.2						
29	40.9	36.9	37.0	38.9	40.7	40.1	40.3	38.0	36.5	37.9	40.0	41.8	48.0	48.1	46.2	44.7	45.6	47.1	47.2	44.9	43.5	38.5	37.2	38.3	41.6	98.3						
30	39.2	39.0	38.5	39.2	40.1	40.0	38.8	41.4	42.7	37.8	40.7	43.5	45.0	46.9	47.0	44.7	43.0	43.4	42.9	37.1	39.9	40.7	40.5	41.1	41.4	93.1						
31	41.9	41.3	40.8	40.6	40.8	40.4	40.1	39.7	37.6	37.4	40.5	47.3	47.9	48.9	47.0	46.4	45.4	45.0	44.7	44.1	43.1	41.9	41.4	41.3	42.7	125.5						
Mean	39.0	38.4	38.9	39.4	39.5	40.1	40.0	38.8	37.7	37.8	40.8	44.3	47.3	48.7	48.7	47.5	45.8	45.2	44.5	43.2	42.0	40.5	39.7	39.8	42.0							
Sum 1000°0+	208.7	190.8	207.5	221.5	225.3	244.0	239.1	202.2	167.4	171.8	265.3	373.6	465.7	511.1	511.3	473.5	420.3	401.4	379.4	339.0	303.2	256.5	230.4	235.1		Grand Total 312,441						

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

85

24 ESKDALEMUIR (2)		45,000γ (0.45 C.G.S. unit) +																				OCTOBER 1957									
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 7000+			
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ				
1 d	288	301	291	286	314	320	321	321	321	325	323	321	315	314	321	318	316	316	321	344	363	347	343	325	320	675					
2	320	315	300	288	303	309	312	313	316	314	310	303	299	299	299	302	307	309	309	309	310	316	323	295	307	380					
3	306	312	313	314	313	311	310	310	310	313	312	305	304	304	304	298	320	335	345	346	327	321	312	311	316	315	562				
4	310	309	310	311	309	314	309	311	310	309	304	302	298	295	304	315	320	331	335	328	315	313	309	299	311	470					
5	286	294	298	300	302	301	299	302	301	294	291	286	282	285	292	299	312	321	320	310	310	311	310	309	301	215					
6 q	309	309	308	305	304	303	304	306	308	306	301	294	294	297	298	302	304	302	302	302	303	301	302	301	303	265					
7 q	302	302	301	299	298	298	295	297	299	294	290	286	282	285	290	297	298	297	298	298	299	299	302	304	296	110					
8 q	304	304	302	301	299	299	299	302	304	299	288	276	275	278	283	290	292	293	293	295	297	297	298	298	294	66					
9	298	299	299	297	298	297	294	292	295	295	290	286	283	285	295	305	314	316	321	321	316	305	300	297	300	198					
10	288	287	286	286	266	265	269	278	283	294	288	288	294	309	324	331	332	320	310	316	309	298	303	304	297	128					
11 d	296	292	287	290	282	278	287	284	286	289	285	295	314	344	355	366	354	343	337	331	321	314	311	307	310	448					
12	304	298	302	288	292	295	297	301	304	304	301	299	298	302	308	324	333	341	343	340	338	321	306	305	310	444					
13 d	297	291	255	281	290	285	280	290	297	301	303	304	305	310	320	330	327	323	317	315	316	317	305	299	302	258					
14 d	293	276	261	249	247	229	240	247	276	286	297	297	306	313	332	369	395	401	386	375	368	329	325	264	307	361					
15	286	302	307	309	311	314	317	321	322	324	315	314	323	328	326	337	339	345	345	344	334	331	317	311	322	722					
16 q	310	310	310	311	310	310	311	315	315	312	308	305	304	303	303	307	309	308	305	305	305	305	305	304	308	390					
17	305	304	302	301	302	301	302	307	309	307	295	293	296	292	293	297	300	301	298	299	299	301	302	302	300	208					
18 q	300	302	302	302	301	300	300	302	300	294	286	286	287	286	287	293	297	297	298	301	304	304	304	301	297	134					
19	298	298	298	298	298	297	298	298	293	287	286	286	282	284	291	300	298	293	294	297	305	315	314	307	296	115					
20	304	301	299	292	291	293	295	298	298	298	290	286	287	291	293	299	304	308	321	340	343	343	336	318	305	328					
21 d	309	305	305	305	304	304	303	302	304	302	298	293	291	292	289	305	310	309	308	305	314	350	325	290	305	322					
22	285	317	325	318	314	312	309	309	308	304	306	308	309	309	311	320	322	323	321	320	320	327	331	319	314	547					
23	282	259	291	301	304	304	304	302	302	297	292	296	299	303	307	310	311	309	306	309	309	304	306	305	301	212					
24	304	305	305	304	304	304	300	299	302	294	289	293	297	299	305	309	308	305	304	316	305	303	302	303	302	259					
25	303	302	298	298	298	298	299	304	302	305	299	287	287	298	302	309	305	302	303	301	299	298	302	299	300	198					
26	301	302	304	304	303	300	298	299	299	299	296	293	293	294	299	303	302	299	298	298	298	302	298	297	299	179					
27	298	298	298	298	298	297	295	294	298	296	286	281	287	291	291	301	304	298	298	299	301	310	309	303	297	129					
28	302	297	291	295	297	297	297	298	301	301	298	297	298	301	303	304	302	300	310	308	305	305	304	303	301	214					
29	302	299	298	298	300	301	304	305	309	304	302	298	298	303	302	301	298	300	304	311	317	325	321	307	304	307					
30	304	305	301	294	296	299	298	303	301	305	301	301	304	305	311	314	313	309	308	309	302	299	302	302	304	286					
31	299	300	301	299	299	299	300	303	305	304	296	291	300	302	301	303	305	304	303	304	307	305	304	304	302	238					
Mean	300	300	298	297	298	298	298	300	303	302	297	295	297	300	304	312	315	315	315	315	315	313	311	303	304						
Sum 9000+	293	295	248	222	247	234	246	313	381	355	219	149	191	301	433	680	766	768	762	777	753	707	630	398		Grand Total 226,368					

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEMUIR

OCTOBER 1957

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range											
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ						°A.			
1 d	19 03	739	647	14 33	92	13 33	52.6	33.6	07 04	19.0	19 54	374	274	03 02	100	3,3,3,2,4,2,4,4	25	1	85.6	
2	23 41	731	666	11 47	65	15 38	49.3	34.2	03 09	15.1	22 28	325	282	03 11	43	2,2,1,1,3,3,2,3	17	0	85.6	
3	18 33	756	658	11 52	98	15 32	57.4	31.2	18 24	26.2	18 24	362	296	14 14	66	3,2,1,3,3,4,4,3	23	1	85.6	
4	23 41	740	642	11 18	98	13 39	50.4	33.9	01 04	16.5	18 01	336	289	24 00	47	3,2,2,3,2,3,3,3	21	0	85.6	
5	19 16	762	667	10 43	95	11 49	50.3	34.2	01 17	16.1	18 14	324	281	12 34	43	3,2,2,2,2,3,3,2	19	0	85.6	
6 q	00 04	740	672	11 35	68	14 17	48.0	36.2	00 07	11.8	00 57	310	293	11 50	17	2,0,1,1,0,0,1,1	6	0	-	
7 q	20 06	751	676	10 41	75	14 32	52.0	35.4	08 58	16.6	23 30	304	282	13 06	22	1,1,2,2,2,1,2,2	13	0	85.6	
8 q	21 01	739	674	11 56	65	13 12	49.8	35.1	08 33	14.7	08 29	306	274	11 49	32	2,0,1,1,0,1,0,0	5	0	85.6	
9	21 48	735	661	11 07	74	14 12	52.7	34.2	23 57	18.5	19 03	322	282	12 40	40	0,1,2,2,2,2,2,3	14	0	85.6	
10	20 08	736	650	10 26	86	13 50	53.8	29.1	20 15	24.7	16 20	338	263	04 40	75	3,3,3,2,2,3,4,3	23	1	-	
11 d	04 06	734	650	11 52	84	13 11	55.6	34.3	02 09	21.3	15 36	367	275	05 31	92	3,3,2,3,2,2,2,2	19	0	85.7	
12	16 58	737	651	11 45	86	14 48	50.9	30.0	22 17	20.9	18 16	344	288	03 18	56	2,2,2,2,2,3,2,4	19	1	85.8	
13 d	18 55	722	621	02 07	101	13 59	50.6	24.9	01 34	25.7	21 02	333	230	02 19	103	4,4,2,2,3,2,4,4	25	1	-	
14 d	16 12	796	614	10 07	182	16 16	58.6	28.2	00 52	30.4	17 19	406	205	06 26	201	3,5,4,3,4,5,3,5	32	1	85.8	
15	22 46	720	631	12 00	89	14 11	55.4	32.5	01 05	22.9	18 17	350	275	00 01	75	2,1,2,2,2,2,3,3	17	0	85.8	
16 q	18 28	731	655	12 10	76	14 54	49.7	36.2	09 06	13.5	08 25	316	301	14 22	15	1,0,1,1,2,2,2,1	10	0	85.8	
17	22 47	741	655	12 12	86	14 28	51.6	35.1	08 54	16.5	08 51	311	291	11 38	20	1,2,2,2,3,2,1,1	14	0	85.8	
18 q	18 47	747	672	11 11	75	14 23	47.2	33.4	08 24	13.8	20 39	305	283	11 04	22	1,1,2,1,1,2,2,2	12	0	85.7	
19	19 36	743	656	11 17	87	14 18	50.1	34.4	09 12	15.7	21 48	316	281	13 03	35	0,1,1,3,1,2,3,2	13	0	85.7	
20	17 23	743	667	11 09	76	18 23	52.3	32.1	23 59	20.2	21 49	344	282	11 58	62	2,2,1,2,2,3,3,4	19	1	-	
21 d	15 26	758	583	23 17	175	15 27	51.8	25.5	23 12	26.3	21 31	363	259	23 07	104	3,2,2,2,2,4,3,5	23	1	85.7	
22	17 29	724	638	10 30	86	16 23	49.3	31.8	08 42	17.5	22 13	337	264	00 29	73	4,2,3,3,3,3,2,3	23	1	85.7	
23	00 53	757	651	10 39	106	13 18	48.4	28.5	21 13	19.9	00 01	314	246	01 03	68	4,2,3,2,2,2,4,3	22	1	85.7	
24	18 27	728	663	11 08	65	12 58	49.5	31.1	19 27	18.4	19 20	321	289	10 18	32	2,1,2,2,2,2,4,1	16	0	85.7	
25	23 16	746	658	10 47	88	12 48	50.8	33.2	08 36	17.6	15 49	310	294	12 47	16	2,2,2,2,2,2,2,3	17	0	85.7	
26	22 02	740	670	11 22	70	14 14	50.4	31.3	00 23	19.1	15 59	304	290	11 50	14	3,2,1,2,2,1,1,2	14	0	85.7	
27	20 21	745	660	12 59	85	12 39	55.0	36.8	09 10	18.2	21 42	314	280	11 21	34	1,1,1,2,3,3,2,2	15	0	-	
28	17 37	754	654	11 24	100	12 27	49.2	31.7	02 18	17.5	18 42	313	287	02 11	26	3,1,2,3,2,3,3,1	18	0	85.7	
29	20 18	743	660	12 55	83	12 32	54.6	34.2	22 58	20.4	22 17	333	294	03 04	39	3,3,2,2,3,2,3,3	21	1	85.7	
30	19 53	741	640	11 41	101	08 12	49.0	35.5	19 28	13.5	15 39	316	293	03 43	23	2,3,4,3,2,2,3,1	20	1	85.7	
31	21 39	731	659	12 58	72	13 15	50.2	37.0	09 45	13.2	20 27	308	289	11 26	19	1,1,2,2,3,2,2,1	14	0	85.7	
Mean	-	-	742	652	-	90	-	51.5	32.7	-	18.8	-	330	278	-	52	-	-	0.39	85.7

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22	ESKDALEUIR (H)												16,000γ (0.16 C.G.S. unit) +													NOVEMBER					1957
	Hour G.M.T.																														
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	Sum 15,000+					
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ						
1	723	722	718	716	727	728	718	714	710	693	678	674	684	692	694	699	713	717	720	723	722	725	721	723	711	2054					
2	723	721	718	716	721	724	722	719	719	711	698	689	691	701	705	714	716	722	728	729	727	732	726	699	715	2171					
3	696	710	699	707	713	716	719	711	703	689	669	675	672	672	671	687	704	711	707	712	719	719	718	714	701	1813					
4 q	719	717	714	713	714	716	714	710	697	688	682	683	690	697	702	711	719	722	719	719	709	714	709	716	708	1994					
5 q	716	719	723	723	723	723	722	717	709	698	689	692	701	710	712	715	724	727	733	731	728	725	725	723	717	2208					
6	722	723	722	723	726	730	728	727	720	710	698	695	703	709	721	715	717	719	751	721	686	663	553	637	705	1919					
7	580	490	701	685	691	696	702	693	690	676	668	670	660	664	661	672	680	683	681	694	699	697	699	699	672	1131					
8	699	699	702	706	711	706	702	708	692	664	671	666	654	646	672	678	695	709	704	699	691	682	664	684	688	1504					
9 d	695	684	685	684	711	719	723	695	689	679	672	663	670	674	673	683	695	697	689	681	674	674	694	665	686	1468					
10	688	691	695	694	691	708	715	700	676	674	662	662	678	682	691	687	708	698	710	697	706	704	703	702	693	1622					
11	690	701	694	710	713	707	718	707	690	669	655	668	674	669	683	683	697	699	699	692	685	698	698	695	691	1594					
12	716	704	701	708	710	706	706	709	677	670	672	671	663	672	679	688	677	691	706	703	711	709	704	691	693	1644					
13	689	701	699	704	706	711	712	706	698	678	675	675	667	686	686	692	701	697	699	711	717	716	717	723	699	1766					
14	721	714	711	715	712	715	723	721	717	704	704	704	706	704	701	716	703	708	706	727	723	720	702	700	712	2077					
15	699	699	710	695	712	709	712	697	699	691	681	680	689	691	697	704	706	720	716	718	715	723	725	712	704	1900					
16	711	716	716	714	715	718	717	716	711	699	686	685	685	695	692	704	713	721	712	725	721	727	725	725	710	2049					
17 q	727	722	720	719	718	724	725	723	716	701	693	685	690	693	697	705	718	721	724	725	727	726	728	736	715	2163					
18	738	700	701	713	714	718	719	731	712	706	687	670	669	648	664	682	685	702	704	716	713	711	704	704	700	1811					
19	701	699	695	698	707	709	704	695	689	687	682	682	681	682	689	696	706	710	716	719	718	710	714	713	700	1802					
20	708	711	714	721	725	727	725	719	717	710	699	690	683	687	693	694	703	715	716	724	721	722	707	717	710	2048					
21 q	719	721	720	720	722	723	720	719	715	705	699	696	699	703	708	711	716	721	722	725	727	719	731	708	715	2169					
22 q	712	715	717	719	722	725	726	724	721	717	712	708	706	710	718	725	719	727	726	727	731	729	726	725	720	2287					
23	723	723	725	724	727	729	727	725	723	717	718	717	716	720	720	723	734	746	743	745	744	742	738	735	729	2484					
24	729	723	723	724	724	733	731	727	723	711	711	715	717	719	726	729	731	730	733	735	727	731	733	723	725	2408					
25 d	723	726	736	726	719	722	724	703	700	704	696	689	688	695	700	718	711	691	682	663	701	699	706	698	705	1920					
26 d	698	689	690	691	689	695	716	716	719	699	701	701	701	708	731	699	725	710	657	685	695	644	642	649	694	1650					
27 d	652	640	592	585	627	664	657	677	665	662	658	638	661	670	689	679	713	687	698	669	675	673	671	676	662	878					
28 d	681	682	690	675	679	681	675	685	682	656	659	669	667	670	676	690	701	706	693	691	674	686	683	691	681	1342					
29	690	697	693	691	702	706	695	694	680	666	665	675	675	678	702	694	714	712	713	721	723	723	722	729	698	1760					
30	710	711	708	695	703	700	694	695	693	691	688	691	699	706	714	715	720	717	718	719	722	721	722	722	707	1974					
Mean	703	699	704	704	709	713	713	709	702	691	684	683	685	688	696	700	709	711	711	711	709	704	705	702							
Sum 20,000+	1098	970	1132	114	1274	1388	1391	1283	1052	725	528	478	539	653	867	1008	1264	1336	1325	1346	1331	1264	1110	1134		Grand Total 505,610					

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEUIR (D)													10° +										NOVEMBER 1957				
	Hour	G.M.T.																						Sum			
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	900.0+	
1	41.5	41.2	40.1	39.9	41.2	36.4	38.7	38.6	37.9	38.7	39.9	44.1	46.2	47.6	47.5	46.2	45.2	45.9	45.9	46.0	44.9	43.2	42.2	40.0	42.5	119.0	
2	41.1	39.7	39.9	39.5	39.7	39.7	40.0	39.6	38.5	40.0	40.8	43.8	45.9	47.5	47.1	45.1	44.9	44.4	44.2	43.9	42.3	43.2	37.2	32.1	41.7	100.1	
3	35.1	35.8	36.8	39.2	39.3	38.7	38.3	38.8	40.4	41.7	46.3	47.2	48.9	49.3	48.6	46.7	47.2	48.4	46.3	42.6	42.4	41.8	41.4	39.9	42.5	121.1	
4 q	40.7	39.3	39.4	40.4	40.5	40.4	39.7	39.0	38.3	38.3	40.6	43.6	45.5	45.9	45.5	44.9	44.9	45.2	44.4	43.7	43.9	41.8	41.1	41.4	42.0	108.4	
5 q	40.9	40.5	40.4	40.3	40.4	40.8	40.2	39.0	37.9	37.8	40.6	43.9	45.4	45.3	45.4	44.5	44.9	44.8	45.0	44.9	43.7	42.6	41.2	41.4	42.2	111.8	
6	41.4	41.3	41.1	41.0	40.8	40.7	40.0	39.0	37.4	38.3	41.2	44.2	46.2	46.0	46.1	43.8	44.1	45.1	48.7	48.2	37.2	36.7	29.4	29.2	41.1	87.1	
7	24.7	35.2	33.6	39.6	41.2	41.0	41.1	39.8	38.0	35.9	39.9	43.0	44.2	44.9	43.2	43.5	43.8	42.1	43.4	41.8	41.9	41.1	40.7	41.2	40.2	64.8	
8	41.2	41.2	41.3	41.8	41.0	41.1	41.8	41.1	40.3	40.0	42.6	45.8	47.2	46.9	49.0	47.0	44.0	43.7	41.8	42.8	36.9	35.2	37.2	30.2	41.7	101.1	
9 d	32.8	32.2	34.3	39.3	38.1	43.0	41.4	38.6	36.7	37.3	39.9	42.3	47.2	46.6	45.5	42.5	44.5	45.4	41.0	36.1	38.2	35.4	39.4	30.0	39.5	47.7	
10	27.9	36.0	38.9	40.0	41.8	41.2	40.2	39.4	38.8	39.4	41.3	44.8	47.1	47.3	47.3	44.1	45.3	44.8	44.8	42.7	38.6	38.2	36.1	35.0	40.9	81.0	
11	35.1	38.4	39.4	43.3	41.8	41.7	40.2	39.1	38.2	39.6	42.9	45.8	46.9	43.9	47.6	47.4	45.4	44.5	42.9	41.2	39.4	39.2	36.2	34.2	41.4	94.3	
12	37.6	36.9	38.6	40.8	40.7	40.8	42.0	40.0	40.0	39.5	44.4	46.1	47.8	47.6	48.4	48.1	41.4	44.4	43.6	41.8	40.4	41.2	35.6	33.1	41.7	100.8	
13	34.3	39.8	40.8	41.0	41.0	40.4	40.4	40.3	39.8	40.6	41.1	44.9	45.5	47.4	47.5	46.6	46.5	45.1	45.4	43.2	42.0	40.8	39.2	39.7	42.2	113.3	
14	41.5	41.8	41.9	39.8	38.4	40.3	40.2	39.6	39.0	40.0	42.4	44.0	48.0	46.6	46.5	46.9	47.7	50.0	46.7	42.7	41.4	41.7	41.8	36.8	42.7	125.7	
15	37.2	37.9	39.8	38.7	39.6	38.5	39.5	39.2	39.1	39.8	40.0	42.9	45.1	46.9	45.9	46.2	44.6	44.9	46.9	45.0	42.8	38.4	38.0	39.9	41.5	96.8	
16	39.6	38.4	40.1	39.2	40.7	40.0	40.3	40.0	39.0	38.1	40.0	42.9	44.9	46.9	46.7	45.3	44.5	45.0	40.3	40.8	42.0	41.3	41.4	39.9	41.6	97.3	
17 q	39.9	40.3	40.0	39.1	39.6	39.7	39.2	39.0	38.3	38.5	39.9	41.3	43.5	45.9	46.2	45.3	44.9	44.0	43.6	43.3	42.8	42.2	41.7	36.9	41.5	95.1	
18	31.5	28.1	29.9	33.1	38.1	40.6	42.7	45.9	41.5	41.6	43.3	47.1	49.5	49.2	48.9	49.1	48.4	46.7	45.7	44.0	42.5	41.0	40.2	39.1	42.0	107.7	
19	39.0	36.7	37.4	37.8	37.0	37.1	37.4	38.5	39.0	38.8	41.4	42.9	43.5	45.4	44.5	44.6	43.6	43.1	43.0	43.0	42.2	38.4	39.5	41.0	40.6	74.8	
20	40.8	40.1	40.6	39.3	40.2	39.8	39.4	39.3	39.2	40.2	41.1	43.7	47.3	46.2	47.3	47.1	44.0	44.0	44.1	42.4	37.8	36.4	39.3	41.2	41.7	100.8	
21 q	41.8	41.7	42.1	42.2	41.6	41.3	40.9	40.0	39.3	39.0	40.3	42.4	44.2	45.3	45.4	45.4	44.0	43.4	42.8	42.4	42.3	42.0	38.1	36.4	41.8	104.3	
22 q	41.4	40.3	40.8	41.1	40.7	40.7	39.9	39.5	39.5	39.4	40.9	42.8	43.4	44.5	45.6	46.5	44.7	45.6	46.0	43.9	42.3	41.8	41.1	41.0	42.1	109.4	
23	41.2	41.3	41.8	41.5	41.8	41.7	40.1	40.6	40.2	40.9	41.9	43.5	44.2	45.7	45.0	45.5	45.6	46.6	45.3	43.9	43.2	41.9	41.0	40.5	42.7	124.9	
24	38.2	37.2	40.2	39.4	39.9	40.3	39.8	40.0	39.6	40.0	41.9	44.7	46.5	47.3	48.0	48.0	48.2	48.6	47.1	45.9	44.0	40.3	39.6	40.1	42.7	124.8	
25 d	39.6	38.8	38.7	39.2	40.6	38.2	40.3	45.1	47.3	42.6	42.1	43.3	44.0	44.4	45.6	47.2	47.3	50.1	48.7	38.5	38.8	38.3	37.8	38.7	42.3	115.2	
26 d	32.1	30.5	30.9	34.2	37.0	39.2	39.1	39.5	37.2	39.3	43.0	44.9	44.4	46.7	51.4	46.8	54.9	52.3	45.9	42.8	22.8	15.4	35.0	34.3	39.1	39.6	
27 d	27.9	28.1	29.7	27.1	33.0	34.3	35.5	39.5	42.3	43.0	40.1	41.7	43.6	41.0	43.3	45.9	45.0	46.0	46.6	48.9	45.1	43.6	37.7	33.0	34.0	38.9	32.9
28 d	35.3	35.1	34.2	33.3	39.3	39.2	38.4	41.1	41.3	43.6	41.9	42.3	48.4	47.2	48.0	45.4	45.5	47.1	42.7	45.0	43.0	36.0	36.7	38.8	41.2	88.8	
29	38.4	35.4	37.8	40.5	41.0	40.8	40.3	40.0	39.5	41.2	44.2	45.7	46.0	45.6	45.6	44.8	47.7	46.0	45.4	40.6	41.4	42.2	40.5	39.5	42.1	110.1	
30	41.2	40.4	37.6	38.4	39.2	38.4	38.3	38.6	38.8	41.0	42.4	44.0	44.5	44.6	44.7	44.2	44.2	44.0	43.4	42.3	41.4	41.4	41.3	40.2	41.4	94.5	
Mean	37.2	37.7	38.3	39.0	39.8	39.9	39.8	39.9	39.4	39.7	41.7	44.1	45.7	46.3	46.7	45.8	45.6	45.7	44.8	43.0	40.9	39.2	38.8	37.5	41.5		
Sum 1100.0+	16.9	29.6	48.1	70.0	95.2	96.0	95.3	97.7	82.3	91.2	149.9	221.5	272.4	287.9	299.9	273.7	267.9	271.8	243.9	190.5	126.1	76.8	62.9	25.7		Grand Total 29893.2	

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

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24	ESKDALEUIR (Z)												45,000γ (0·45 C.G.S. unit) +												NOVEMBER 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR												NOVEMBER 1957							
	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +					
	Horizontal force			Declination			Vertical force												
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range										
	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ									
1	22 59	738	669	10 43	69	14 08	49·1	35·4	05 33	13·7	22 40	309	287	05 52	22	1,3,2,2,2,2,1,2	15	0	85·7
2	21 27	739	684	11 38	55	14 18	49·4	30·2	22 53	19·2	22 50	309	290	13 24	19	1,1,1,2,2,1,1,4	13	0	85·6
3	21 43	723	663	12 34	60	13 34	51·1	31·6	01 53	19·5	18 06	316	284	01 30	32	3,1,2,2,3,3,2,1	17	0	85·7
4 q	17 22	733	679	10 44	54	12 45	46·3	37·7	08 24	8·6	21 17	318	297	01 59	21	2,0,1,1,1,2,2,2	11	0	-
5 q	18 33	739	686	10 33	53	13 52	46·5	37·2	09 17	9·3	00 01	312	293	12 50	19	1,1,1,1,2,2,2,1	11	0	85·6
6	18 24	810	408	22 35	402	19 04	55·4	17·3	22 36	38·1	20 24	389	229	22 29	160	0,0,1,1,2,3,5,6	18	1	-
7	02 40	727	189	01 25	538	01 33	55·7	19·5	01 54	36·2	14 44	344	3	01 22	341	8,4,3,3,3,2,2,1	26	1	85·6
8	23 23	734	642	12 51	92	14 43	50·9	22·0	23 56	28·9	14 58	328	292	23 03	36	1,2,3,3,3,3,3,4	22	1	85·6
9 d	06 27	730	647	12 47	83	12 17	51·0	20·2	22 43	30·8	15 26	352	259	03 42	93	4,3,4,2,3,3,3,4	26	1	85·6
10	23 31	736	647	10 53	89	12 31	50·3	21·4	00 07	28·9	19 34	339	265	05 11	74	4,3,3,3,3,3,3,3	25	1	-
11	06 41	733	644	10 14	89	12 42	51·1	31·4	22 02	19·7	20 29	333	283	03 22	50	3,2,3,3,3,2,3,4	23	1	85·6
12	00 22	725	643	12 58	82	13 33	50·4	31·4	23 38	19·0	16 38	355	280	01 37	75	3,2,2,2,3,3,1,3	19	0	85·6
13	23 46	742	661	12 27	81	13 48	49·6	32·9	00 23	16·7	18 06	324	298	00 39	26	2,1,2,1,2,2,2,3	15	0	-
14	19 54	754	682	16 48	72	17 45	53·8	34·4	24 00	19·4	22 42	330	268	02 08	62	3,2,2,3,3,3,3,3	22	1	85·7
15	21 59	742	667	10 14	75	12 28	50·4	33·4	00 03	17·0	20 59	321	279	03 34	42	3,3,3,3,3,3,2,3	23	1	85·7
16	19 50	731	676	12 06	55	13 49	49·3	37·0	09 21	12·3	18 25	316	294	11 33	22	2,2,2,2,2,3,2,1	16	0	85·7
17 q	23 49	750	679	11 54	71	14 08	47·2	32·9	23 46	14·3	09 19	304	293	13 03	11	1,1,1,1,2,1,0,3	10	0	-
18	06 56	744	623	13 55	121	12 23	53·8	25·7	01 27	28·1	14 59	348	269	07 12	79	3,3,3,3,4,3,3,2	24	1	85·7
19	22 08	731	670	10 42	61	13 17	48·5	34·7	05 08	13·8	21 18	315	294	06 02	21	1,2,2,2,2,1,2,2	14	0	85·7
20	21 09	739	670	12 59	69	13 59	49·4	34·6	20 46	14·8	16 10	315	291	10 51	24	1,1,1,2,2,3,3,3	16	0	85·7
21 q	22 19	739	671	11 35	68	13 53	45·9	34·2	22 51	11·7	21 47	307	297	08 56	10	1,0,0,0,1,1,1,3	7	0	85·7
22 q	18 57	734	702	12 03	32	18 04	48·1	35·4	00 04	12·7	00 47	301	289	10 48	16	2,1,0,1,2,2,2,0	10	0	85·7
23	17 17	755	702	13 32	53	13 13	48·8	36·9	24 00	11·9	24 00	301	289	08 26	12	0,1,1,1,3,3,1,3	13	0	85·7
24	17 58	747	702	12 53	45	13 57	51·2	35·7	01 08	15·5	20 47	317	282	10 10	35	3,2,2,1,2,2,2,2	16	0	-
25 d	06 50	747	645	19 28	102	17 24	53·5	32·3	22 08	21·2	19 22	386	280	08 39	106	2,3,4,3,3,4,3,3	25	1	85·7
26 d	17 23	831	596	21 37	235	17 26	81·4	1·0	21 39	80·4	17 37	575	157	24 00	418	4,3,4,3,3,6,6,5	35	2	85·7
27 d	16 08	723	527	02 57	196	18 17	51·9	17·7	03 48	34·2	22 08	383	156	00 06	227	5,5,3,4,3,4,3,4	31	1	85·7
28 d	21 15	726	645	09 34	81	12 18	52·6	28·3	03 23	24·3	20 29	350	287	03 02	63	3,3,3,3,3,2,4,4	25	1	85·6
29	23 20	747	658	11 52	89	11 48	49·2	34·4	02 58	14·8	00 52	331	309	23 30	22	3,3,2,3,3,3,2,3	22	1	85·6
30	18 51	733	682	09 17	51	12 56	54·9	35·9	02 57	19·0	03 15	320	301	12 55	19	2,2,1,2,3,2,2,1	15	0	85·6
Mean	- -	743	635	- -	107	- -	51·6	29·8	- -	21·8	- -	338	267	- -	72	-	-	0·50	85·7

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

22 ESKDALEUIR (H)													16,000γ (0° 16 C.G.S. unit) +													DECEMBER 1957			
	Hour G.M.T.																												Sum
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	16,000+			
1 d	719	712	690	682	703	722	730	726	710	708	699	689	692	690	682	685	699	703	716	716	712	691	688	699	703	703	863		
2	703	711	717	706	712	716	712	709	707	695	688	672	671	681	681	689	695	699	697	707	714	713	705	713	701	813			
3	710	710	713	723	723	725	715	716	710	693	677	670	675	685	695	699	699	699	705	706	716	711	711	709	704	895			
4	707	710	715	719	720	723	707	715	715	703	691	686	689	694	703	704	709	716	722	722	721	706	692	689	707	978			
5	696	697	699	705	716	735	727	706	699	688	688	685	687	683	689	692	698	711	679	674	665	697	684	702	696	702			
6 d	688	689	691	686	701	704	712	715	700	685	687	660	667	690	683	691	697	695	693	691	681	681	688	693	690	568			
7	704	707	703	704	715	715	723	716	691	676	683	679	676	661	688	697	706	707	697	693	703	705	708	704	698	761			
8	706	701	704	706	706	715	720	721	713	695	689	687	695	699	705	707	712	714	720	716	721	714	712	701	707	979			
9	718	705	711	719	718	719	726	719	709	695	693	690	681	692	691	703	687	704	703	710	702	689	703	712	704	899			
10	711	712	710	729	716	717	717	717	703	697	688	682	682	689	696	691	694	695	679	676	663	667	693	678	696	702			
11 d	693	697	710	691	694	692	716	681	705	708	695	689	692	705	710	706	711	719	710	682	698	687	655	673	697	719			
12 d	686	683	679	681	685	683	699	704	702	682	682	684	681	694	694	703	712	712	710	700	697	709	710	719	695	691			
13	710	707	704	703	704	707	714	715	715	694	662	694	699	699	710	678	706	711	712	715	711	715	713	711	705	909			
14	710	710	712	705	712	709	711	707	702	695	694	696	697	706	708	720	723	726	725	726	725	719	716	710	711	1064			
15	714	717	716	715	719	729	737	731	721	699	703	711	703	718	708	694	705	716	706	706	715	718	718	713	714	1132			
16	718	712	714	713	713	718	718	719	718	709	702	697	701	708	714	718	718	723	720	710	720	713	734	705	714	1135			
17	706	708	724	729	723	706	705	715	717	708	705	703	704	708	712	716	718	719	699	706	713	718	722	725	713	1109			
18	699	702	706	721	719	718	717	717	716	710	699	690	695	710	712	710	714	719	720	722	722	723	721	721	713	1103			
19	710	711	710	712	721	724	721	720	724	720	731	719	712	714	717	722	722	723	741	701	683	701	701	703	715	1163			
20	678	687	693	701	713	714	692	706	705	699	689	683	689	695	700	708	712	715	714	706	706	723	711	708	702	847			
21	705	710	711	713	708	735	721	709	710	702	689	690	689	699	708	715	722	716	718	723	722	711	711	716	711	1053			
22 q	714	712	717	714	711	708	711	710	705	696	682	676	677	684	698	708	714	719	723	723	726	724	724	721	708	997			
23 q	720	713	717	717	719	721	720	718	713	703	694	691	694	704	710	721	722	727	729	731	734	732	729	727	717	1206			
24	727	721	721	725	729	731	726	728	725	718	710	701	704	711	719	724	728	730	733	724	720	715	723	725	722	1318			
25	723	720	722	717	729	734	731	713	716	718	706	699	703	701	714	721	724	727	721	689	700	689	689	701	713	1107			
26	720	714	712	703	715	730	720	712	702	684	683	692	699	689	691	691	703	711	714	705	711	714	714	715	706	944			
27 q	714	715	714	715	716	716	710	711	707	702	689	684	689	695	695	709	714	719	724	723	714	727	724	717	710	1043			
28 q	718	715	713	710	714	712	708	709	709	701	697	697	696	700	707	714	719	723	729	735	728	721	725	727	714	1127			
29 q	723	724	725	727	727	730	727	728	726	719	707	704	699	707	713	716	725	727	735	736	736	714	703	704	720	1282			
30	710	714	711	708	714	718	720	726	714	703	699	697	667	655	684	704	701	709	717	723	725	726	723	715	708	983			
31 d	719	709	689	705	738	727	711	674	676	642	655	625	636	661	667	691	699	669	653	643	618	652	628	627	671	114			
Mean	709	708	709	710	715	718	717	713	709	698	692	688	688	694	700	705	710	713	712	708	707	707	706	706	706	706			
Sum 21,000+	979	955	973	1004	1153	1253	1224	1113	985	647	456	322	341	527	704	847	1008	1108	1064	940	922	925	878	883		Grand Total 525,206			

606 at 0-1h. January 1, 1958.

MAGNETIC DECLINATION (WEST)
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23 ESKDALEUIR (D)													10° +													DECEMBER		1957
	Hour G.M.T.																										Sum	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	900.0+		
1 d	38.3	35.0	24.7	29.5	35.0	37.5	38.1	38.7	38.6	40.2	42.3	43.9	46.1	46.2	45.4	44.9	44.3	43.6	43.1	42.3	41.3	35.6	27.6	37.0	39.1	39.2		
2	39.9	39.4	36.8	36.3	40.0	39.8	40.1	41.7	40.0	39.9	42.7	46.0	46.3	46.9	46.4	48.0	47.4	44.3	42.0	41.3	41.0	40.2	38.2	38.7	41.8	103.3		
3	39.2	39.4	41.1	42.0	41.0	40.0	41.2	43.6	40.0	39.9	39.5	42.1	46.0	46.2	46.5	45.4	43.4	44.7	43.7	40.5	40.6	40.0	38.2	34.9	41.6	99.1		
4	36.9	39.6	40.3	41.8	41.5	40.8	41.8	42.1	40.0	41.6	41.9	43.2	44.9	45.6	45.4	45.0	44.3	42.9	42.5	42.0	41.8	40.4	36.5	36.1	41.6	98.9		
5	34.7	36.6	34.2	36.6	41.5	41.9	42.4	44.0	40.8	38.9	39.3	43.2	45.6	47.8	45.1	43.3	44.6	48.1	47.3	40.3	36.0	38.6	36.9	30.7	40.8	78.4		
6 d	33.4	33.9	38.5	39.4	44.1	43.3	41.7	41.8	38.6	38.4	42.1	43.1	45.1	49.0	46.8	46.0	44.7	45.6	44.6	40.6	34.4	35.7	36.3	37.2	41.0	84.3		
7	37.0	39.5	40.5	41.8	40.8	40.9	41.9	43.4	38.9	40.4	42.7	43.7	45.3	47.7	46.7	45.0	43.6	42.1	41.5	41.4	40.5	39.1	35.5	33.8	41.4	93.7		
8	34.9	37.9	40.1	41.2	41.0	41.0	40.0	40.0	40.2	38.0	39.6	42.0	43.7	43.9	44.4	43.8	43.2	41.9	42.7	42.6	41.5	40.4	40.0	38.3	40.9	82.3		
9	34.8	35.6	38.5	39.3	40.3	41.3	41.1	41.2	41.0	40.8	41.1	45.1	45.2	48.3	48.2	49.5	44.7	43.6	43.6	41.8	41.2	31.0	38.3	39.1	41.4	94.6		
10	40.1	40.5	40.2	40.4	40.1	40.8	40.8	41.2	41.8	39.4	42.8	42.8	44.7	44.4	45.4	42.9	50.8	47.4	47.4	41.7	33.3	32.8	32.5	29.4	41.1	85.8		
11 d	34.4	36.9	33.6	35.7	46.9	46.0	41.8	38.3	41.3	38.8	38.2	42.2	43.0	46.9	47.5	46.5	48.2	51.1	51.1	45.5	42.2	33.7	29.3	34.0	41.4	93.1		
12 d	33.9	29.2	33.2	35.6	38.5	39.7	39.5	40.0	38.7	37.0	38.4	43.0	41.7	44.0	45.4	44.1	41.1	40.5	46.6	43.6	38.5	37.5	39.6	34.6	39.3	43.9		
13	37.1	37.4	39.3	40.1	39.3	40.4	39.8	39.6	39.1	39.9	41.5	43.5	45.2	44.4	47.7	43.3	45.4	45.6	45.2	43.7	41.5	40.0	40.0	40.2	41.6	99.2		
14	40.6	40.0	40.0	37.8	40.6	38.7	38.6	39.7	39.5	39.8	40.8	42.5	44.0	45.8	45.2	43.8	42.6	42.8	42.8	43.7	43.0	41.2	39.2	43.2	41.5	95.9		
15	38.1	39.7	40.5	39.5	38.9	40.6	40.1	41.4	40.4	39.0	40.5	44.8	43.8	47.0	47.5	44.1	44.5	46.2	44.0	43.0	41.5	40.1	40.0	40.4	41.9	105.6		
16	41.4	39.8	39.4	38.8	39.6	40.0	39.9	39.8	39.5	39.8	41.8	43.0	44.5	45.2	46.0	44.4	43.8	43.7	39.8	42.3	42.6	40.9	34.3	38.6	41.2	88.9		
17	37.8	38.8	31.3	32.7	34.6	38.2	37.3	41.0	38.6	38.2	40.0	42.2	43.3	44.1	45.0	43.6	43.6	46.0	41.2	42.2	42.1	41.4	38.8	36.6	39.9	58.6		
18	36.6	40.6	40.7	40.4	38.8	40.4	39.0	39.1	38.9	38.6	39.8	41.9	43.5	45.1	45.9	43.9	42.6	42.0	43.9	42.9	42.2	41.6	40.4	42.7	41.3	91.5		
19	40.3	39.3	39.0	40.1	40.4	39.2	40.3	40.5	40.7	40.1	40.2	41.8	42.6	45.7	47.2	47.1	47.7	46.6	51.1	51.4	47.0	42.2	42.3	36.6	42.9	129.4		
20	33.6	37.5	37.1	34.9	34.9	40.3	37.5	37.8	38.1	37.9	39.8	41.8	42.8	45.1	45.1	44.3	43.3	43.8	46.0	43.7	41.2	36.5	38.7	37.8	40.0	59.5		
21	37.8	39.0	37.3	37.6	35.3	36.7	34.4	35.9	37.8	39.0	40.3	42.7	44.0	45.0	44.5	43.9	43.6	44.4	44.6	44.0	43.9	41.0	41.1	39.7	40.6	73.5		
22 q	37.3	37.9	37.4	37.6	40.5	41.0	39.9	39.2	38.6	37.0	38.2	40.4	42.6	45.0	45.0	43.6	43.0	43.1	43.2	42.6	41.6	40.8	40.4	40.2	40.7	76.1		
23 q	40.0	40.1	39.4	39.8	40.5	41.5	40.4	39.9	38.9	37.8	39.0	41.9	44.5	44.8	44.9	44.0	43.3	43.8	42.8	42.0	41.5	41.2	41.5	41.0	41.4	94.5		
24	40.5	40.9	40.7	40.6	40.5	40.2	40.3	39.9	39.0	37.9	40.0	42.3	43.6	44.2	44.7	44.0	44.0	44.8	43.7	44.9	42.3	41.2	39.9	39.5	41.7	99.6		
25	39.7	40.2	40.5	38.8	40.3	38.3	38.4	38.4	37.6	37.6	39.4	42.3	45.3	46.7	45.7	45.3	44.7	45.4	47.6	44.8	42.4	40.2	39.9	39.4	41.6	98.9		
26	38.3	40.2	40.0	36.2	41.1	37.1	38.4	39.5	38.8	38.5	40.4	42.9	46.8	46.6	46.6	46.1	44.9	45.5	47.5	42.0	40.8	40.4	39.9	39.6	41.6	98.1		
27 q	39.2	39.1	39.0	39.8	41.3	41.1	40.3	39.6	38.6	38.0	39.0	40.5	41.9	45.7	44.1	43.1	43.0	43.3	44.1	44.8	44.7	41.8	41.0	38.3	41.3	91.3		
28 q	39.8	39.2	39.3	38.8	38.8	38.6	38.9	38.8	38.7	39.0	40.0	41.3	42.1	44.2	45.0	44.0	43.5	43.2	43.2	43.6	43.6	42.4	40.5	40.0	41.1	86.5		
29 q	39.9	40.4	40.5	40.2	40.5	40.1	40.0	39.6	38.8	38.3	39.6	41.3	42.1	43.9	44.6	44.2	43.8	43.3	42.9	43.1	42.8	38.7	37.7	37.5	41.0	83.8		
30	38.0	36.0	33.4	38.2	39.5	37.6	37.9	38.7	37.2	39.0	40.3	43.6	44.9	48.2	46.5	46.1	45.0	43.7	42.3	42.4	43.8	41.4	40.7	40.4	41.0	84.8		
31 d	38.6	35.8	36.0	41.0	38.6	44.1	42.9	48.2	42.8	40.6	40.2	42.6	45.3	46.5	45.2	45.4	48.2	53.1	51.6	38.3	34.4	37.7	31.7	28.5	41.6	97.3		
Mean	37.8	38.2	37.8	38.5	39.8	40.2	39.8	40.4	39.4	39.0	40.4	42.8	44.2	45.8	45.8	44.8	44.5	44.7	44.6	42.9	41.1	39.2	38.0	37.5	41.1			
Sum 1100.0+	72.1	85.4	72.5	92.5	134.7	147.1	134.7	152.6	121.5	109.3	151.4	225.7	270.4	320.1	319.7	288.6	280.8	286.1	283.6	229.0	175.2	115.7	76.9	64.0		Grand Total 30609.6		

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

89

24 ESKDALEUIR (Z)													45,000γ (0.45 C.G.S. unit) +													DECEMBER 1957									
	Hour G.M.T.																											Sum 7000+							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean										
1 d	307	309	305	304	307	309	304	304	306	304	300	301	305	312	317	319	319	317	314	313	315	319	320	309	310	439									
2	304	293	290	298	299	299	299	299	302	299	299	302	306	313	322	327	328	327	327	322	317	314	310	309	309	405									
3	309	306	304	298	295	297	298	298	302	309	310	305	305	316	316	319	320	320	319	324	317	314	311	304	309	416									
4	290	297	295	294	297	298	298	297	298	298	302	304	303	305	309	309	309	306	305	305	305	311	318	317	303	270									
5	306	268	280	285	282	276	280	287	291	299	299	301	305	313	319	325	321	329	346	362	345	336	336	284	307	375									
6 d	268	286	294	288	280	284	293	298	305	307	305	309	310	312	318	335	344	340	341	337	346	335	321	313	311	469									
7	298	298	303	305	304	304	301	299	302	303	299	308	318	321	316	316	316	318	320	328	324	320	313	310	310	444									
8	297	298	299	302	302	302	304	304	301	303	303	302	302	304	303	305	309	309	306	309	309	311	312	313	305	309									
9	298	297	297	295	295	297	298	299	301	299	297	299	308	311	320	324	338	328	324	320	320	328	310	306	309	409									
10	307	309	305	278	289	295	298	298	298	299	295	294	302	315	328	345	352	348	355	368	364	346	320	306	317	614									
11 d	306	293	279	279	257	239	254	271	269	281	290	294	299	302	313	313	312	318	344	373	347	325	323	341	301	222									
12 d	340	325	314	311	313	316	305	302	306	306	306	308	306	308	315	321	324	323	326	340	340	330	318	312	317	615									
13	304	307	307	306	306	310	311	310	308	304	307	301	299	301	309	330	328	317	320	321	322	318	314	312	311	472									
14	309	308	304	304	300	305	305	308	308	304	302	300	299	299	304	308	308	307	306	308	310	314	320	318	307	358									
15	314	309	308	306	305	301	299	300	301	304	299	295	297	297	320	339	322	320	326	329	325	318	314	314	311	462									
16	304	294	299	302	304	302	301	302	302	300	298	295	295	301	305	310	308	310	315	315	310	315	306	306	304	299									
17	308	308	305	289	285	291	292	290	293	299	303	301	303	304	306	307	305	307	327	323	318	317	318	301	304	300									
18	300	305	305	301	300	302	303	303	302	302	299	302	300	299	305	310	309	308	305	306	306	307	309	310	304	298									
19	309	307	305	304	302	297	300	300	297	293	291	295	294	293	300	302	304	305	309	345	364	358	360	360	312	494									
20	352	332	323	317	308	295	305	306	307	310	313	315	308	307	310	311	310	309	312	320	323	313	310	314	314	530									
21	314	308	307	302	297	280	278	288	298	301	302	303	299	301	306	309	309	309	310	312	315	318	317	314	304	297									
22 q	314	308	299	300	301	304	305	305	306	308	306	309	303	299	303	308	309	306	305	308	307	304	304	305	305	326									
23 q	306	308	309	309	309	307	305	306	305	302	299	301	303	305	308	309	305	304	302	302	302	304	304	304	305	318									
24	304	304	304	303	301	299	299	299	299	298	298	298	294	296	298	301	303	303	304	310	314	315	310	305	302	259									
25	304	304	304	306	302	299	297	299	303	304	304	302	300	298	300	302	305	305	317	344	343	348	345	326	311	461									
26	317	313	312	311	293	284	289	295	302	300	297	293	293	297	310	320	317	316	324	327	322	315	313	311	307	371									
27 q	310	306	306	304	305	308	309	310	311	307	303	302	302	298	305	307	308	308	309	310	314	313	313	313	308	381									
28 q	311	309	309	310	309	309	309	308	308	302	299	302	302	293	298	304	303	302	302	304	308	310	310	306	305	327									
29 q	305	305	304	304	302	301	302	301	301	302	300	301	298	294	297	299	299	299	301	301	303	316	318	321	303	274									
30	315	313	309	306	305	304	300	291	295	294	297	297	291	304	310	310	311	310	310	310	308	305	306	305	304	306									
31 d	300	298	302	280	276	279	280	284	285	291	297	314	341	363	379	383	391	402	415	447	368	396	385	351	338	1107									
Mean	307	304	303	300	298	297	297	299	300	301	301	302	303	306	312	317	318	317	321	327	324	322	319	313	309										
Sum 9000+	530	425	386	301	230	193	221	261	312	332	319	353	390	481	669	827	846	830	946	1143	1031	993	888	720		Grand Total 229,627									

316 at 0-1h. January 1, 1958.

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS, MAGNETIC CHARACTER FIGURES AND TEMPERATURE IN MAGNET HOUSE

25 ESKDALEUIR												DECEMBER 1957									
TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +						
Horizontal force			Declination			Vertical force															
Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 45,000γ +	Minimum 45,000γ +	Range													
h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ												
1 d	07 16	754	665	03 00	89	11 57	48.3	20.6	02 42	27.7	21 54	332	298	11 53	34	4,4,3,3,2,2,2,4	24	1	-		
2	21 52	725	658	14 46	67	13 41	49.3	33.9	03 10	15.4	14 58	331	285	01 54	46	3,2,2,3,3,2,2,2	19	0	85.6		
3	23 52	736	662	11 56	74	12 35	49.5	32.4	24 00	17.1	19 43	322	286	24 00	36	1,1,2,2,3,3,2,3	17	0	85.5		
4	05 33	729	678	12 02	51	13 35	46.9	32.4	00 00	14.5	22 59	320	286	00 02	34	3,1,2,2,2,2,1,3	16	0	85.5		
5	05 43	750	638	20 05	112	17 33	52.0	24.4	23 48	27.6	19 56	377	247	24 00	130	4,3,3,2,2,3,4,4	25	1	85.5		
6 d	06 05	722	645	11 46	77	13 40	51.6	29.0	01 28	22.6	20 12	351	247	00 04	104	3,4,2,3,3,3,3,2	23	1	85.5		
7	06 27	727	642	12 56	85	13 39	49.5	31.6	23 32	17.9	19 30	329	296	00 34	33	2,2,3,3,3,2,2,3	20	1	85.5		
8	20 10	727	681	11 41	46	12 21	45.6	33.0	00 18	12.6	22 00	315	293	00 55	22	3,2,2,2,2,1,2,2	16	0	-		
9	00 09	738	666	16 05	72	15 20	50.9	25.0	21 38	25.9	16 24	341	293	01 07	48	3,2,2,3,3,3,2,4	22	1	85.5		
10	22 39	761	657	20 08	104	16 18	54.7	23.1	22 32	31.6	19 35	373	272	03 29	101	3,3,2,2,2,4,4,4	24	1	85.5		
11 d	14 06	747	608	22 10	139	19 09	55.6	19.0	21 22	36.6	19 12	389	230	05 04	159	3,4,4,4,4,3,4,5	31	1	85.5		
12 d	23 49	746	657	01 42	89	18 42	50.2	23.6	01 19	26.6	19 37	351	299	07 08	52	4,3,4,3,2,3,4,3	26	1	85.2		
13	00 00	728	643	10 24	85	17 00	50.1	35.2	00 55	14.9	15 44	334	298	12 25	36	2,2,2,4,2,4,2,1	19	1	85.1		
14	19 04	734	686	12 48	48	12 55	46.9	36.7	03 02	10.2	22 24	321	298	11 54	23	2,2,2,2,2,1,1,2	14	0	85.2		
15	06 37	742	645	15 00	97	11 43	53.0	36.6	15 04	16.4	15 14	344	293	11 42	51	2,2,2,4,4,4,2,1	21	1	-		
16	22 32	771	681	19 13	90	14 02	48.5	32.4	22 34	16.1	18 54	318	291	01 13	27	3,2,2,2,2,2,3,4	20	1	85.2		
17	04 08	751	682	18 21	69	17 55	47.9	28.7	02 25	19.2	18 26	335	280	04 10	55	3,3,3,2,2,3,3,3	22	1	85.2		
18	21 16	729	682	11 48	47	14 15	46.2	31.8	00 18	14.4	15 55	312	297	10 04	15	3,2,2,2,2,2,1,2	16	0	85.2		
19	18 36	756	654	20 03	102	19 26	57.9	31.0	24 00	26.0	20 06	368	287	10 53	81	2,2,2,3,3,3,4,4	23	1	85.2		
20	21 23	746	656	00 01	90	14 04	48.1	30.3	03 12	17.8	00 01	364	290	05 25	74	3,3,2,2,2,2,2,3	20	1	85.2		
21	05 50	748	683	12 28	65	13 10	46.8	31.9	06 12	14.9	21 40	321	274	05 54	47	2,3,3,2,2,1,2,2	17	0	85.2		
22 q	00 58	729	673	11 55	56	14 05	45.8	36.2	01 13	9.6	09 05	309	297	02 48	12	2,2,1,1,2,1,1,0	10	0	-		
23 q	20 25	735	688	11 45	47	13 58	45.3	37.5	09 40	7.8	14 55	310	297	10 54	13	1,1,1,2,1,1,0,1	8	0	85.2		
24	17 14	740	691	11 49	49	14 15	46.5	37.2	09 25	9.3	21 20	316	292	12 32	24	1,1,0,2,2,1,2,2	11	0	85.2		
25	06 10	745	664	21 58	81	13 06	51.4	35.6	05 57	15.8	22 00	357	294	12 53	63	1,2,3,3,3,2,3,3	20	0	85.2		
26	19 11	744	663	14 04	81	12 47	53.4	33.7	05 50	19.7	19 01	332	280	05 20	52	2,3,3,2,3,3,3,1	20	1	85.1		
27 q	23 07	735	679	12 10	56	20 20	47.1	37.0	09 25	10.1	20 50	317	298	13 10	19	2,1,1,0,2,2,2,3	15	0	84.9		
28 q	19 57	738	694	10 26	44	14 25	45.7	37.7	05 25	8.0	00 01	313	292	13 15	21	1,0,0,0,1,1,2,1	7	0	84.8		
29 q	20 57	746	695	12 31	51	13 47	46.6	37.6	09 48	9.0	23 20	322	293	14 05	29	0,0,0,2,2,1,2,3	10	0	-		
30	07 25	738	647	12 55	91	13 25	50.0	30.0	02 13	20.0	00 00	318	287	09 45	31	3,2,3,3,3,1,1,2	18	0	84.6		
31 d	04 45	751	562	20 15	189	16 52	59.7	18.4	23 07	41.3	19 34	486	268	03 55	218	3,4,4,3,3,5,5,5	32	1	84.6		
Mean	-	-	741	662	-	79	-	49.7	31.1	-	18.6	-	340	282	-	58	-	-	0.52	85.2	

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS
 For all, a, quiet, q, and disturbed, d, days for H, D and Z and for all days for N, -Y, I and F

26 ESKDALEMUIR										1957			
	Horizontal force (H)			Declination (west) (D)			Vertical force (Z)			North component (N) all days	West component (-Y) all days	Inclination (north) (I) all days	Total force (F) all days
	a	q	d	a	q	d	a	q	d				
	16,000γ +			10° +			45,000γ +						
	γ	γ	γ	°	°	°	γ	γ	γ	γ	γ	°	γ
January	685	699	665	46·6	47·1	46·4	292	283	300	16391	3120	69 46·6	48267
February	686	694	665	45·7	45·8	45·2	294	292	294	16392	3116	69 46·6	48270
March	682	679	665	45·3	45·7	44·6	299	306	301	16389	3113	69 47·0	48273
April	692	696	684	44·6	45·0	44·5	294	294	294	16399	3112	69 46·2	48272
May	708	711	701	44·3	44·3	44·3	283	282	282	16416	3113	69 44·8	48267
June	711	715	699	43·9	44·2	43·6	284	283	283	16419	3112	69 44·7	48269
July	707	711	680	43·1	43·4	42·5	293	289	294	16415	3107	69 45·2	48276
August	712	716	701	43·0	43·2	42·7	286	283	289	16420	3108	69 44·7	48270
September	681	701	657	42·1	42·5	41·3	307	299	310	16391	3097	69 47·3	48281
October	703	712	689	42·0	42·3	41·6	304	300	309	16412	3101	69 45·7	48285
November	702	715	686	41·5	41·9	40·2	305	300	311	16412	3099	69 45·8	48285
December	706	714	691	41·1	41·1	40·5	309	305	315	16416	3098	69 45·6	48290
Year	698	705	682	43·6	43·9	43·1	296	293	299	16406	3108	69 45·8	48276

DAILY RANGE AND MEAN MONTHLY VALUES

27 ESKDALEMUIR

	Mean daily range						Mean daily range expressed as percentage of yearly mean					
	1957			Mean 1932-53			1957			Mean 1932-53		
	H	D	Z	H	D	Z	H	D	Z	H	D	Z
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	158	119	91	78	83	47	103	103	103	76	90	75
February	88	95	58	84	89	53	57	83	66	82	97	84
March	164	144	107	126	113	85	106	125	122	124	123	135
April	127	120	96	125	103	77	82	104	109	123	112	122
May	111	92	59	116	91	71	72	80	67	114	99	113
June	188	114	98	105	84	55	122	99	111	103	91	87
July	161	106	75	110	85	56	105	92	85	108	92	89
August	118	99	57	113	93	68	77	86	65	111	101	108
September	460	202	228	117	106	81	199	176	159	115	116	129
October	90	91	52	107	102	76	58	79	59	105	111	121
November	107	106	72	73	79	47	69	92	82	72	86	75
December	79	90	58	66	74	42	51	78	67	65	80	67
Winter	108	103	70	75	81	47	70	90	80	74	88	75
Equinox	210	139	121	119	106	80	136	121	137	117	115	127
Summer	145	103	72	111	88	63	94	63	82	109	96	100
Year	154	115	88	102	92	63	-	-	-	-	-	-

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

FREQUENCY DISTRIBUTION OF DAILY RANGE

28 ESKDALEMUIR

Range	Number cases, 1957			Percentage distribution					
				H		D		Z	
	H	D	Z	1957	1932-53	1957	1932-53	1957	1932-53
γ				%	%	%	%	%	%
0 - 9	0	0	1	0.0	0.0	0.0	0.0	0.3	2.3
10 - 19	0	0	32	0.0	0.8	0.0	0.4	8.7	14.1
20 - 29	1	1	46	0.3	3.9	0.3	2.5	12.6	19.8
30 - 39	8	6	56	2.2	6.0	1.6	5.0	15.3	16.0
40 - 49	21	15	48	5.7	7.8	4.1	7.4	13.2	10.2
50 - 59	25	16	26	6.8	10.4	4.4	12.1	7.1	7.5
60 - 69	22	22	29	6.0	11.7	6.0	12.9	7.9	5.6
70 - 79	36	43	24	9.8	10.6	11.8	12.3	6.6	3.6
80 - 89	47	56	16	12.9	9.0	15.3	10.7	4.4	3.0
90 - 99	42	54	9	11.5	7.3	14.8	8.3	2.5	2.4
100 - 109	32	40	14	8.7	5.8	10.9	5.9	3.8	2.1
110 - 119	27	16	10	7.4	5.1	4.4	4.0	2.7	1.7
120 - 129	14	23	9	3.8	3.3	6.3	3.5	2.5	1.7
130 - 139	13	16	2	3.6	2.9	4.4	2.6	0.6	1.2
140 - 149	9	9	4	2.5	2.3	2.5	2.2	1.1	0.8
150 - 159	11	6	3	3.0	1.9	1.6	1.7	0.8	0.9
160 - 169	6	4	5	1.6	1.5	1.1	1.6	1.4	0.7
170 - 179	4	3	2	1.1	1.5	0.8	1.2	0.6	0.4
180 - 189	5	7	0	1.4	0.9	1.9	1.0	0.0	0.6
190 - 199	5	4	1	1.4	0.9	0.8	0.8	0.3	0.5
200 +	37	24	28	10.1	6.3	6.6	4.0	7.7	4.8
Days omitted	0	0	0	..	..	..	..	..	..

Q - INDICES OF GEOMAGNETIC ACTIVITY

91

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEMUIR

JULY 1957

	Hour G. M. T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	7878	8766	6555	5565	5664	3333	3334	5432	2222	0221	2222	2211	0010	0101	2101	0211	2200	0023	4553	4435	5432	3420	0001	1000
2	0000	0000	0000	0000	0000	0000	0000	0110	0000	3222	2222	2123	3334	3444	5665	5566	6555	5544	4434	4332	2211	1222	2211	1111
3	1101	2222	3343	2222	2222	1111	1321	1121	2121	1111	1223	1222	1333	2332	2222	2222	2222	2112	2223	2332	2211	1100	0001	1111
4	1110	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0010	0011	1001	2333	3213	3333	2222	2222	2113
5	3212	2333	2333	3233	3345	4443	3333	3334	4423	3332	2222	3222	1212	1110	2100	0111	1100	0000	0001	2212	2233	2234	4443	2233
6	2220	0000	0000	0111	1000	0100	1121	1001	2111	1211	1211	0110	1112	2122	2112	1110	1111	1121	1223	3333	3333	2221	1003	3312
7	2211	1111	1111	0112	2222	2100	0100	0011	2100	1100	0000	0000	1201	0100	0101	0111	0011	2222	2332	2222	2211	1000	0000	1001
8	2100	0000	1122	2111	1000	0111	0001	0210	0011	1000	0011	1000	0012	2121	1122	2000	0132	2222	2111	2222	2221	1000	0000	0100
9	0111	1100	0000	0000	0000	0000	1000	0000	0000	0000	0001	1100	0000	0100	0011	0011	0112	1000	1100	0000	0111	0111	0210	0000
10	0001	1011	1111	1100	0000	0000	0111	1111	1000	0000	0000	0000	0000	0000	0100	0000	0000	0000	0000	0011	0000	0000	0000	0000
11	0000	0000	0011	0000	0000	0000	0000	0000	0000	0000	0000	0001	0012	1112	2112	0000	0000	0000	0000	0000	0001	1000	0000	1111
12	0000	1110	0011	1111	0110	0110	1110	1110	1100	0000	0000	0000	0001	0112	2111	0000	0101	2222	2222	2111	0000	1110	0011	0010
13	1010	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0010	0000	0000	0000	1000	0000	0000	0000	0000	0000	0000
14	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1122	1111	1112	1111	1000	1001	1112	2211	2212	1110	0000	1210
15	1100	0111	1100	0000	0000	0000	0000	0000	0001	0000	0000	0000	0000	0000	0000	0011	1000	0000	0000	0000	0000	0000	0000	0000
16	0000	0000	0000	0000	0000	0000	0000	0212	2110	0000	0101	1122	2222	1121	1222	2112	2123	3333	3333	3322	2222	2222	2212	2211
17	2222	1110	0000	0000	0000	0000	0000	0000	0000	0011	0011	1001	0010	0111	1111	1101	1001	1010	1112	3222	1111	1222	1111	1000
18	0000	0000	0000	0010	0010	1111	1111	1211	1000	1111	1110	1222	1112	2221	0011	0112	3333	3433	3333	3332	2222	2110	0000	0011
19	2102	2222	2112	1111	1111	1222	2211	1010	1101	1000	0011	1111	1110	1103	3233	3233	3333	4344	4443	3333	3232	1122	2332	2222
20	2222	2111	1222	2211	1000	0011	1111	1100	0000	0000	0001	0000	0000	0000	0222	1110	0111	2222	3222	2222	2111	1111	0222	3321
21	1210	0000	0000	0000	0000	0000	1100	0000	0000	0010	0000	0011	1000	0000	0000	0120	0000	0000	0000	0022	1112	1221	1100	1111
22	0111	1100	0000	0000	0011	1122	2221	1121	1111	1001	1012	3333	3332	2121	1201	2232	0110	1222	2333	3334	4422	2211	1211	1122
23	1112	3211	2122	1221	2222	2211	1011	1111	0000	0000	0000	0011	1100	0000	0000	0011	0000	1100	0000	0000	0000	0001	0001	1221
24	2211	1100	0000	0000	0110	0001	0000	0011	1211	0010	0000	1100	1221	2210	1020	2212	2232	2333	3333	2220	1000	0011	1000	0100
25	2211	1000	0000	0011	1111	1122	2222	1111	0000	0000	0000	0000	0000	0000	1000	1211	2211	1111	0112	0100	0000	0001	1000	0000
26	0000	0000	0000	0000	0001	0000	0011	1000	0000	0000	0000	0000	0001	1112	1110	1000	0100	1011	1111	1110	0100	0000	0000	0000
27	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0011	1000	1120	0120	0011	1222	2222	3202	2211	1122	1122
28	2221	2110	0000	0000	0000	0100	0000	0012	1110	0000	0000	0000	0000	0000	0000	0000	0000	0001	0000	0000	0000	0000	0000	0000
29	0001	0011	1011	0122	2232	1000	1102	1110	0000	0011	2122	1112	2221	1122	2210	0100	0101	0010	0001	0000	1111	0000	1111	1000
30	0000	0000	0000	0000	0000	1111	1111	1000	0000	0000	0000	0000	0000	0010	0001	1100	0000	0000	0002	1000	0000	0000	0000	1111
31	1111	0000	0000	0000	1110	1001	0000	0001	0110	0000	0000	0000	1110	0000	0000	1112	2100	0110	1000	0001	1211	2222	3322	2111

Q - INDICES OF GEOMAGNETIC ACTIVITY

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEMUIR

AUGUST 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0001	0000	0000	0100	0000	1001	1100	0000	0000	0000	0000	0011	1201	2111	1000	0000	0000	0011	1001	1122	1111	1111	1110	0100
2	1110	1121	2222	2222	2222	2221	0111	1111	1000	0010	0001	1111	1122	2222	2210	1110	0000	1111	0222	2222	2222	2110	0000	1012
3	2222	2221	1100	0000	0000	0000	1111	1111	0000	1110	0000	0000	0000	1101	2222	1212	5334	5544	4333	2331	3102	1221	2121	2112
4	3554	3210	1221	0000	1001	0000	1101	1010	0000	0000	0000	0000	0001	0011	1000	1101	0111	1000	1210	0000	0000	0000	0010	1100
5	0100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0000	0000	0012	2212	2222	2232	3322	1111	1122	2222	2223
6	3333	3333	3333	3333	2222	2223	3322	0123	2221	0100	0111	1111	0333	2222	2122	2221	1122	1122	2322	3323	3332	2211	1332	3323
7	2220	0001	1111	1111	1000	0000	0000	0000	0000	0000	0001	1111	1112	2222	1111	0000	0001	0000	0000	0000	0000	0000	0000	0001
8	1111	0111	1100	0001	0000	0000	0110	0000	0000	0000	0000	0000	1220	0021	1221	0011	0000	0000	0002	2122	2111	1211	1111	1122
9	2211	2221	2233	2211	0110	0000	0010	0000	0000	1101	0000	0000	0010	0004	4210	0100	1113	1000	0001	1000	1120	1210	1233	2211
10	1111	1000	2332	2211	1111	0000	0110	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0000	0000	0101	1111	0210
11	1100	0110	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	2111	2222	2221	2211	1110	1000	0000	0111	1000	0010	0011	0011
12	0001	1111	2122	1101	1122	3332	2222	1100	0212	1111	1111	0122	2213	3222	2123	3201	2222	2332	0112	2232	2222	1112	2222	2222
13	2222	2222	2222	2233	2322	2222	2222	3323	2211	2211	1000	1112	2221	2122	1100	1222	2222	3222	1222	2221	2212	3312	2222	1100
14	0000	1111	1111	1111	1110	0000	0000	0000	0000	0000	0000	0022	0111	1202	2211	1021	1112	1111	1111	0011	1111	0000	0000	0112
15	2211	0022	2222	2210	0000	0000	0000	0010	0000	0000	0010	0000	0111	1110	0000	0001	1111	1100	1100	1001	1222	0111	1110	1122
16	1111	1000	0112	1110	0000	0000	0000	0000	0000	0000	0000	0001	0001	0111	1000	0100	1111	1110	0000	0000	0000	0000	0000	0000
17	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0000	0111	0000	0021	2211	1311	0000	0000	0000	0000	0011	1100	0000
18	0000	0001	0000	0000	0000	0000	0000	0000	0000	0000	0001	1111	1121	1222	2222	1000	0000	0010	0001	1122	1101	1110	0221	0000
19	1000	0012	2211	1210	1223	3333	3222	2222	2111	1100	1001	1111	1000	0111	0010	1111	0000	0000	0000	0000	0000	0000	0000	0000
20	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0122	1122	2122	2112	1111	1011	0101	0000	0111	3211	0100
21	0122	2112	2100	2202	2322	1223	2211	1111	0000	0011	1110	0000	0001	1111	2222	2222	2212	2332	2211	1000	0000	0000	0000	0000
22	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0002	1011	2221	1101	0000	0000	0111	1011	1000	0000	0100	0111	0000
23	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	1100	0000	0000	0000	0000	0000	0000	0000	0000
24	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0000	1000	0000	0000	0000	0000	0000	0000	0000	0000
25	0000	0000	0000	0000	0000	0000	0100	0000	0000	0000	0000	0000	1100	0011	1111	1100	1222	1000	1100	1111	2110	0011	1112	2210
26	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1110	0001	0222	1100	1222	2333	2212	2111	1100	1111	0011	1100	0112
27	2322	2222	0111	1212	1100	2221	1211	1122	1111	1122	1221	1121	2222	2121	1121	2211	1221	2222	2232	2200	1211	3321	1000	1100
28	0000	0000	0000	0000	0000	0000	0001	2001	0011	1122	2222	1211	2222	2222	2232	2222	2222	1221	1211	2221	2210	0000	0112	2222
29	1110	0000	0000	0000	0001	0011	1111	0000	0000	0000	0000	0000	0011	1001	1111	0000	0000	1000	0122	2354	5543	3323	4322	0000
30	3233	4433	3233	3331	1233	2222	1210	0010	1111	2111	1112	2211	2111	1100	1010	0000	1043	2222	0222	2110	0000	0000	0000	0000
31	0011	1111	1110	0000	0000	0001	1010	0000	0000	0000	0000	0001	1222	1221	2333	3222	4443	3344	3553	3322	2123	2223	3222	2233

Q - INDICES OF GEOMAGNETIC ACTIVITY

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEUIR

SEPTEMBER 1957

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3222	3322	3333	2332	1112	3321	2232	0011	1212	2222	2112	1223	1222	2222	2212	1000	0000	0001	1111	1111	1222	2211	1112	2222
2	1111	1000	0001	1322	2344	4444	4444	4333	3332	2111	1012	1322	3323	3322	5544	5555	5445	5544	4443	4444	5544	3456	6655	5565
3	5555	5444	3455	5533	3333	3334	2444	3412	4232	2443	4445	4443	3455	5655	6666	7876	6666	5543	4323	3543	2212	2222	3220	1221
4	2112	1112	2212	1112	2333	2211	1012	1102	1000	1110	0112	2222	2112	4443	3576	0000	7777	8765	5565	5434	4322	2345	5565	4556
5	7776	5555	5554	5555	5556	6544	4443	3444	4333	3333	2233	2232		2223	4221	2232	2333	3421	2322	2212	2224	2533	3443	1110
6	0012	0322	1112	2221	0001	1221	1110	0000	0010	1111	1011	2133	2332	3333	3322	2244	4432	2212	3332	2222	2111	1001	0110	0110
7	0000	1212	2111	0121	2011	1100	1000	0110	0200	0000	1000	2211	2111	1111	1111	2212	1221	0001	1100	0011	1001	1001	1011	0110
8	0000	0011	1111	1000	0000	0000	0000	0010	0000	1012	0001	1101	1101	0102	1111	0120	0001	1011	0111	1100	0000	0001	1101	2210
9	0000	0000	1011	1111	1111	1112	1111	0001	1001	0111	0110	1222	1111	1111	2100	1122	1001	1111	0000	0011	1111	0000	0000	0000
10	0110	0111	1111	1111	0000	0000	0000	1001	1110	0000	1100	0000	0100	0001	1001	0010	0010	2200	0111	1111	1111	1110	0000	0000
11	0001	1010	1111	1100	0000	0000	0000	1111	0110	0110	0001	0110	0000	0000	0000	1100	0010	0110	1110	1001	0000	0000	0000	0001
12	2211	0000	0110	1111	0000	0000	0000	1111	1100	0000	0100	0010	0000	0011	2210	1211	0000	0011	1100	0000	0000	0001	2222	2320
13	1214	5543	3344	6644	4433	3235	5567	7777	7766	6665	4434	4334	5545	4455	5555	5544	3433	3332	3222	2222	2222	3331	0100	0000
14	0101	1011	0010	1112	2222	2221	2222	2332	2222	3322	2222	3433	3332	3244	4332	1111	2222	1012	2210	0110	0000	0111	1113	2322
15	1222	2220	0222	2211	1211	1111	0100	0000	0000	0000	0010	1110	1001	1200	2100	0000	0110	1010	2222	2211	0011	0113	3222	2222
16	3333	3322	2122	2211	2111	0000	1100	1111	0000	0000	0011	0100	0000	0111	0000	0000	0000	0000	0233	3201	1000	0000	0000	0122
17	1000	0000	0000	0000	0000	0000	0001	0000	0000	0000	0001	0001	2222	2220	0010	1222	2112	3221	2212	1211	1000	0001	1100	0110
18	2112	1222	1210	0000	0010	1000	0000	0000	0000	0000	0000	0111	1111	0110	0100	1000	0000	0001	2111	0111	1122	1000	0021	1100
19	0000	0000	0000	0000	0000	0000	0000	0100	0000	0000	0000	0001	0000	1000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000
20	0000	0000	0000	0000	0000	0000	0000	0000	0000	0100	0000	0000	0000	0001	0000	0111	0111	1000	0001	0211	0000	0111	1000	0000
21	0222	2100	0000	0000	0000	0000	0000	0000	0000	0000	3332	2433	4321	2233	3433	3223	3355	5544	5553	3455	4443	4565	3333	3344
22	4444	4444	4333	3333	4223	3444	4554	4444	4443	3322	2121	2221	2122	3334	4455	5667	8763	4334	4444	4433	2233	3335	6444	5444
23	5555	4444	4346	7767	6667	7665	5555	5554	5444	5555	4444	4355	4433	6556	5455	5444	3444	3555	3222	2333	3454	4433	2323	2122
24	1331	0333	3221	1100	2101	2232	2212	2223	2211	0211	1012	1012	2222	3332	2222	2222	2110	1111	1111	3332	2222	1110	1100	0001
25	1111	1122	2211	0011	0110	0100	1221	1022	2211	1110	1102	2222	1112	1222	2211	1021	1000	0011	1000	1100	0000	0000	0000	0001
26	1100	0000	0000	0000	0000	0000	0000	0000	0000	0110	0000	0100	0110	1111	1111	1112	2222	1211	1100	0000	0000	0000	0000	0000
27	0000	0000	0000	0000	0000	0000	0000	0000	1000	0000	0000	0000	0000	0001	1111	0010	0000	0100	0000	0000	0000	0000	0010	0000
28	0000	0000	0000	0000	0000	1223	2221	1210	0000	0000	0000	0001	0000	0000	0000	0000	0000	0001	1111	0000	0000	0000	0000	0000
29	0222	2122	2111	1011	0122	2223	3332	3332	1100	0111	1011	1222	2122	3454	4445	5566	6766	7666	4342	3334	4555	4444	4557	7765
30	4433	3333	3444	3433	3433	3332	2222	2223	3222	2333	3333	3333	3322	3333	3334	4332	2323	3322	2212	2222	2222	1123	4344	3222

7th 0815 Q = 2, Q' = 1.

12th 1515 Q = 2, Q' = 2.

Q - INDICES OF GEOMAGNETIC ACTIVITY

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEUIR

OCTOBER 1957

	Hour G. M. T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1121	1112	2222	2212	1211	1111	1111	2213	1021	1000	1000	1100	0100	1222	0222	2100	0001	1111	2222	2222	2222	2221	1121	0101
2	1100	0012	2222	2210	0000	1000	0000	0000	0010	1100	0000	0000	0000	1101	1022	2121	2012	1000	0001	1010	0010	0001	1212	2212
3	2222	1001	0111	1111	1111	0000	0000	0000	0000	0011	1211	0101	1100	1022	1122	2333	2212	2322	2333	2223	3222	1111	2122	2112
4	2222	2221	2111	1111	1000	0100	0000	0210	0100	1010	0000	0111	1111	1101	0012	2122	2222	2211	1121	1112	2222	1000	0121	0022
5	2221	1221	1111	1111	1100	0000	0000	0000	0000	0000	0000	0212	1000	0001	1121	1022	1101	1010	1212	2222	1111	1110	0000	0001
6	2222	1111	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1000
7	0110	1100	0000	0000	0000	0001	0010	0000	0000	0000	1000	0100	0000	0000	0011	0100	0000	0000	0000	0000	1111	0000	1000	0001
8	0110	0000	0000	0000	0000	0000	0000	0000	0010	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000
9	0000	0000	0000	0111	1111	1110	0000	0010	1211	0000	0000	1100	0000	0000	1111	1000	0011	1010	0000	0000	0111	1112	2200	2222
10	3332	2222	1111	1222	3322	1111	2000	1222	2211	0000	0000	0100	1111	0001	1111	0100	0121	1001	0011	0012	3333	2222	1111	1000
11	1122	2201	2220	0012	2221	1122	1101	1110	0000	0000	1211	0111	1111	2211	1110	1010	2222	1212	2222	2111	1000	0122	2222	1211
12	0000	1100	0001	1010	0000	0011	0101	0000	0000	0112	0110	0000	0111	0001	1011	1110	1112	2221	0000	0001	0000	1123	3332	2222
13	2222	3333	3333	3333	2222	1221	1111	1011	0000	0010	1100	0000	0000	0101	1122	1121	1112	2221	1112	2211	2213	4332	2222	2332
14	3333	3333	2222	0112	2222	3343	3333	3222	2222	1212	2210	1211	1122	2033	3322	2111	3312	1121	1111	1122	1222	2222	2133	4322
15	2222	2221	1100	0000	0000	0000	0000	0001	1100	0000	0100	0111	2111	1111	2222	2222	2211	1110	0012	2222	2110	0100	2211	2221
16	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0001	1000	0001	0010	0000	0000	0000	0000	0000
17	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0022	1221	1110	0111	1211	0010	0001	0000	0000	0000	0000	0001	1000
18	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	0102	2111	0000	0000	0110	0000
19	0000	0000	0000	0000	0000	0000	0000	0000	0001	1221	0111	2211	1111	1111	1000	1110	0000	0121	0111	1122	1111	1100	1111	0000
20	0000	0000	0000	0011	0010	0000	0000	0000	0000	0000	0000	0001	1100	0000	0000	0000	1111	2222	2222	2211	0001	0222	2233	3333
21	3332	2221	1011	1011	1111	1121	1001	1110	1101	0000	0100	0000	0111	1011	0001	2333	1222	2222	1222	2223	3333	2233	3334	4443
22	3322	1111	2221	1011	0000	1111	1110	1121	0221	1211	2111	1001	0211	0012	1101	1111	1221	0222	1101	1111	1110	1012	2332	2111
23	1223	3323	2121	1111	1011	1101	1101	1122	3211	0000	0001	0000	0100	1101	1101	0010	1100	1100	0001	1112	2233	3333	3220	0111
24	0011	1111	0000	0000	0000	0000	0000	0010	0201	1000	0001	0101	1101	0010	0001	1110	1100	0000	0112	2332	1000	0000	0000	0000
25	0000	0011	0000	0000	1000	1000	0100	1110	1021	0001	1001	0000	0001	0000	0000	0000	0100	0010	0001	1221	1000	0100	1001	1222
26	2332	2221	1111	1000	0000	0000	0000	0000	0000	0001	0011	1110	0110	0100	0101	1000	0000	0000	0000	0000	0001	1122	2211	1000
27	0000	1110	0000	0000	0001	0000	0000	0000	0000	1000	0000	0100	1212	2222	1122	2221	1111	0000	0100	0101	1110	1222	2211	0000
28	0111	1222	3332	2111	2112	1111	1110	0010	1111	0100	1012	2210	0100	0000	0011	1111	0011	1233	2111	1100	0112	1000	0000	0000
29	1001	2122	2221	1110	1010	0011	1000	1021	1100	0111	0111	2111	1232	2210	1000	1111	1111	2221	1211	1110	2211	1222	2222	2211
30	0101	1011	0111	2110	0101	0022	2211	1112	3322	0011	1211	1122	2111	0111	1111	1111	1111	1000	0001	2222	2221	1110	0100	0000
31	0000	0000	0000	0000	0000	0000	0000	0000	1000	1000	0100	1110	0012	2210	1100	0000	0000	0000	0000	0000	0000	0001	0000	0000

Q - INDICES OF GEOMAGNETIC ACTIVITY

93

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEUIR

NOVEMBER 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0000	0000	0000	0100	0111	1222	1000	0000	0010	0000	0011	1111	0100	0000	0000	0000	0000	0000	0000	1001	1100	0000	0100	1010
2	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0100	0000	0000	0000	0110	0000	0000	0111	1123	3333
3	3222	2122	3221	0000	0000	0000	1100	0000	0100	0111	1111	0001	1000	0011	1122	2100	0000	0011	1200	1100	0000	0000	0000	0000
4	0001	1000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0110	0000	0000	0111	1100	1100	0000
5	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000
6	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0111	1121	0000	0000	0043	3322	2343	3334	4566	4344
7	4455	5665	4333	3321	2021	1011	2111	1110	1101	1101	0120	0022	1000	0010	1122	0000	0000	0011	1011	0000	0000	0000	0000	0000
8	0000	0000	0000	0011	1111	1100	0010	0001	1000	2000	0021	2111	1011	2222	2211	1010	0001	2211	1101	1001	0222	2222	2222	2333
9	3311	2322	2122	2122	1222	2222	2222	2222	1110	1111	0012	1000	2212	1111	1110	1221	0100	0122	2112	2232	2222	2222	2144	3223
10	4432	2211	0010	0122	1111	2221	1222	2121	0221	1100	1012	2211	1121	1101	1211	1211	0222	0000	0112	1221	2211	1111	1222	2222
11	2222	2001	1011	1221	1111	1100	2222	1001	1111	0010	1111	0111	1022	1222	2000	0000	0001	1000	0001	1111	1222	1133	3222	2232
12	2221	2222	2100	0110	0000	0000	0000	0001	1000	1111	1100	0000	0000	2121	1100	0111	2222	1100	0000	0000	0000	0100	1222	2233
13	2222	2000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0011	1111	0000	0000	0000	1000	1101	1000	0000	0000	0111	0002
14	2110	0001	2200	0000	0111	1010	0000	0012	2201	0012	2121	0111	1122	2112	2021	1111	2112	2133	2210	1012	3210	1111	1121	0222
15	2200	1111	0011	1122	1110	0111	2221	1121	1002	2101	2110	0111	1121	1000	1110	1101	1100	1111	1000	1110	1000	0122	2211	0000
16	0000	0111	0000	0000	0000	0000	2000	0001	1010	0000	0000	1110	1000	0001	0000	1100	0000	1100	0122	2210	1000	0000	0000	0000
17	0000	0000	0000	0001	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1122
18	2233	3333	3333	3332	2221	1000	1122	2222	2000	1111	0111	1111	2211	2233	3322	1122	2211	0000	1111	0111	0000	0000	1200	0100
19	0000	0001	1000	0001	1000	1111	0000	0000	0000	0000	1220	1110	1111	1101	0000	0000	0000	0000	0000	0000	0000	2211	1110	0000
20	0000	0000	0000	0110	0000	0000	0000	0000	0000	0000	0001	1000	0011	2100	1000	0112	1111	1000	1000	1001	0123	2222	2111	0000
21	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1222	2222
22	2210	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1110	0001	1110	0000	0000	0000	0000	0000
23	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1220	0101	0110	0000	1111	0000	0000	0000	0000	0000	1221
24	2111	2221	1112	1012	0001	0010	1001	0101	0000	1100	0000	0000	0022	1001	1001	0010	1111	1121	1011	0110	1111	1122	2211	1101
25	0111	0012	2222	2111	1023	2231	2112	2222	2323	2221	2112	2132	2110	0010	0020	2212	2222	3333	3332	3333	2200	0012	2210	1101
26	2333	3322	3333	3222	2211	1022	2222	1321	2122	2211	1111	0010	1111	1111	1223	4222	2234	4554	4433	2222	2454	4455	4433	3334
27	4443	4433	3445	4444	4333	3223	3333	3221	2222	1311	1112	1232	1222	1111	1222	2323	3222	2221	2212	2122	2210	0123	3332	3222
28	2222	2223	3233	3332	2111	2112	1222	2221	2122	1221	1111	2221	2221	1121	1101	0121	1111	0100	1123	3222	2222	2323	3322	1111
29	2112	2222	2221	1012	1011	2111	0001	1100	1100	0000	0001	0112	1100	1221	0100	0011	1111	1211	1100	0000	0100	0000	0000	0221
30	1000	0100	1112	2210	0000	0011	1000	0000	0010	0000	0000	0000	1001	2011	0000	0110	0100	0000	0111	1000	0000	0000	0000	0000

5th 1215 Q = 1, Q' = 1.

Q - INDICES OF GEOMAGNETIC ACTIVITY

Q - indices for 4 consecutive intervals of 15 minutes centred at the full hour, 15 minutes later, etc.

29 ESKDALEUIR

DECEMBER 1957

	Hour G.M.T.																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0011	1222	3344	4333	3322	1211	2112	2222	2121	2120	1100	1112	2111	1111	1122	2222	1000	1000	0111	1111	0111	1023	4433	3211
2	0000	0121	1122	2222	1110	1100	0000	0111	1100	1112	0000	1111	1111	1012	1112	1122	1221	1000	0000	0000	1111	1112	2100	0011
3	1110	1110	0111	1222	2221	1112	1101	1222	1001	0110	0122	2222	2222	2222	2211	1101	0101	1111	0010	0000	0000	0000	0001	1222
4	2210	1100	1110	0000	0000	0000	0001	1111	0000	0100	0011	1100	1100	0000	0000	0000	0000	0001	1111	1111	1111	1111	1112	2112
5	2222	2123	3222	2221	0112	2223	3222	1233	2210	0000	0001	0110	1111	1222	2100	1100	0122	1232	2321	2222	3331	0000	0111	2333
6	3232	2332	1012	2210	2222	2222	2112	1221	1000	0112	2101	2122	2210	2222	1102	2111	1221	2211	0110	0012	3322	2222	2121	2111
7	1111	1111	1020	1121	2222	2222	2222	2222	2120	2111	2122	1022	2222	2221	1111	1001	1101	1000	1011	0110	0010	0000	0122	2222
8	2221	2210	0000	0000	0000	0000	1111	1101	1000	1000	0000	1100	0101	0011	1010	0000	0000	0000	0111	1000	1111	1100	0000	1100
9	2222	2222	2110	0011	0001	0100	0100	0100	0000	0111	1110	1101	1212	1210	1112	2222	2212	1010	0000	0000	0011	1333	3211	2100
10	1110	0000	1122	2222	1110	0001	1000	0000	0001	0010	0000	0110	0121	1000	0001	2222	3322	2222	2222	2222	3333	3233	3343	3333
11	2222	0332	2233	3222	2233	3233	3221	2322	2222	3322	2211	1121	1112	1112	3311	1112	2222	2233	3233	3232	2100	1444	4423	3222
12	2223	3333	2222	2222	1221	2222	2122	2121	2222	1111	1321	2212	2011	1111	1112	1012	1121	2221	1222	2232	0122	1121	2202	2223
13	3112	2210	0000	1110	0111	1111	1010	0001	1110	1112	2332	2222	0121	1000	1111	2333	2122	2110	0110	0000	0000	0000	0000	0000
14	0000	0000	1111	1111	0000	0000	0000	0000	0000	0000	0000	0000	0001	1000	0100	0000	0000	0000	0000	1100	0000	0000	1111	1111
15	1110	0000	0000	0110	1111	1100	0111	1111	1110	1111	0110	1123	2211	1122	2223	3332	2101	1212	2210	0111	0000	0000	0000	0000
16	0122	0000	0000	0010	1110	0110	0000	0001	1121	1110	0000	0001	1100	0100	1001	0001	1001	0001	1222	2210	0010	1000	2232	2101
17	1111	1002	3333	2333	3222	1111	1222	2111	1000	0000	0000	0000	1000	0000	0111	0000	0001	1122	2221	2211	1100	0001	1002	2222
18	2221	1101	1110	0000	0111	0100	0000	1120	0100	0001	0011	1111	1110	0012	1111	1110	0000	1100	0000	0000	0000	0101	1100	0112
19	2222	1001	0011	1000	0110	1110	0000	0000	0010	1123	2232	2222	1211	1110	1211	1221	2222	1112	1233	3333	3322	2001	0121	0232
20	3332	2111	1121	3329	2222	2211	1111	2100	0010	0221	1101	1111	1111	0111	2100	0000	0100	1002	2212	2111	1210	2222	1101	1200
21	0000	0011	1111	1112	1222	3222	2221	1111	0010	1010	0000	0000	0000	0000	0000	0111	1111	1000	0110	1111	1111	1101	1000	0111
22	0111	2111	0111	1110	0000	0000	0000	0000	0000	0000	0011	1111	1111	1111	1000	0000	0000	0000	0000	0000	0000	0000	0000	0000
23	0000	0000	0000	0000	0000	0100	0000	0000	0000	0000	0000	0101	0000	0000	0000	0000	0000	0100	0111	0110	0000	0110	1110	0010
24	0001	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0111	1111	0010	0000	0000	0000	0100	0111	0110	0000	0110	0000	0000
25	0100	0000	0000	0111	1001	0011	1110	0111	1100	0000	1001	1102	1112	2111	1100	0022	0110	2101	2222	1222	2210	0022	3222	1101
26	1121	1100	0001	2222	2011	1222	2221	0121	1011	0110	1001	2100	1023	2122	2212	2211	1101	1012	2222	2211	0000	0000	0000	0010
27	0001	1100	0000	0000	0000	0000	0000	0000	0000	0000	0001	1111	1110	1111	1111	0000	0000	0000	1001	0110	1110	0111	1111	2211
28	0111	1100	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0001	1111	1100	0010	0000	0000
29	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	1100	0001	0111	1101	0000	0000	0000	0001	0011	1111	1112	2221	1111	1110
30	0000	1112	3322	2000	0000	0001	1221	1121	1000	0022	1110	1111	1223	3333	3221	0001	0000	0001	0111	1212	2222	2222	2222	2112
31	2222	2222	2222	2223	3333	3322	3321	2332	2221	2222	1011	2233	3222	1122	2112	2222	2234	4433	3332	3333	3443	3332	3333	4434

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

30 ESKDALEMUIR

1957

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
NORTH COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	+1.9	-0.4	+1.8	+2.7	+2.4	+6.7	+8.9	+8.2	+3.3	-3.7	-11.4	-18.8	-21.9	-16.5	-10.0	-5.1	-1.8	+4.3	+5.0	+7.8	+16.2	+18.0	+1.5	+0.7
Mar.	+4.4	-1.6	+3.8	+5.5	+4.2	+5.4	+4.8	+4.1	-0.7	-8.9	-12.5	-15.4	-15.0	-8.6	-3.9	-0.7	-0.5	+2.9	+5.5	+6.5	+7.2	+4.7	+5.7	+3.1
Apr.	+6.2	+8.2	+8.3	+10.1	+12.5	+3.0	+0.3	+0.6	-3.7	-17.1	-26.1	-34.1	-34.2	-22.0	-5.4	+6.4	+10.4	+16.7	+15.2	+12.6	+12.8	+9.7	+6.3	+3.9
May	+6.8	+2.5	+2.5	+5.1	+8.2	+4.3	+7.3	-2.2	-12.8	-23.9	-36.1	-43.5	-37.7	-25.9	-10.0	+2.9	+14.7	+24.7	+29.6	+26.0	+19.8	+15.7	+9.9	+12.3
June	+8.6	+5.9	+6.3	+8.1	+7.7	+7.2	+3.4	-5.7	-16.7	-31.0	-42.4	-42.1	-36.8	-28.2	-14.0	-0.2	+14.9	+29.5	+32.3	+29.3	+23.8	+18.3	+13.1	+9.0
July	+10.4	+7.3	+7.8	+10.0	+7.7	-0.2	-5.8	-15.0	-26.5	-35.9	-40.8	-40.2	-38.8	-18.8	-2.7	+12.9	+31.2	+36.9	+41.3	+36.5	+27.4	+9.5	-8.4	-5.7
Aug.	-11.6	-1.6	+4.1	+5.1	+4.4	+4.6	-1.7	-12.1	-21.8	-30.5	-39.2	-43.6	-40.9	-26.4	-6.0	+8.5	+20.3	+32.3	+41.8	+39.1	+31.4	+21.2	+13.1	+9.4
Sept.	+11.8	+8.1	+6.8	+8.4	+8.2	+5.5	+0.4	-9.8	-19.3	-32.1	-40.9	-39.8	-32.4	-22.8	-10.6	+2.1	+14.1	+21.6	+25.7	+29.0	+24.7	+17.0	+13.3	+10.9
Oct.	-3.8	-16.2	-14.5	-6.2	-14.6	-4.5	-9.9	-23.5	-28.0	-47.3	-38.4	-34.5	-26.3	+0.4	+27.2	+56.9	+64.9	+58.8	+27.6	+27.9	+14.4	+6.0	-9.3	-6.9
Nov.	+10.8	+9.2	+7.8	+10.9	+12.3	+11.5	+12.1	+7.7	-1.4	-14.7	-29.4	-36.2	-35.1	-27.4	-16.2	-3.6	+1.7	+8.7	+12.3	+12.9	+15.4	+10.7	+10.1	+10.0
Dec.	+4.9	+0.3	+5.0	+3.8	+8.3	+11.9	+12.1	+8.5	+1.3	-9.6	-17.7	-21.7	-21.1	-17.8	-11.2	-5.7	+2.8	+5.0	+5.5	+7.8	+9.1	+8.5	+3.9	+5.9
	+6.1	+4.9	+5.7	+6.2	+9.7	+12.5	+12.0	+7.9	+4.7	-5.5	-12.9	-19.2	-20.0	-15.5	-10.0	-4.5	+0.9	+4.0	+2.6	+0.2	+1.2	+3.1	+2.7	+3.2
Year	+4.7	+2.3	+3.8	+5.8	+6.0	+5.7	+3.7	-2.6	-10.2	-21.7	-29.1	-32.4	-29.9	-19.2	-6.1	+5.8	+14.4	+20.4	+20.3	+19.6	+16.9	+11.9	+5.1	+4.7
Winter	+4.3	+0.8	+4.1	+4.6	+6.1	+9.1	+9.5	+7.2	+2.2	-7.0	-13.6	-18.8	-19.5	-14.6	-8.7	-4.0	+0.3	+4.0	+4.7	+5.5	+8.4	+8.5	+3.5	+3.2
Equinox	+5.1	+0.9	+1.1	+5.0	+4.6	+3.6	+2.5	-4.3	-11.4	-25.7	-32.6	-37.1	-33.4	-18.7	-1.2	+15.6	+22.9	+27.1	+21.2	+19.9	+15.6	+10.5	+4.3	+4.8
Summer	+4.8	+4.9	+6.3	+7.9	+7.0	+4.4	-0.9	-10.6	-21.0	-32.4	-40.8	-41.4	-37.3	-24.1	-8.4	+5.8	+20.0	+30.1	+35.3	+33.5	+26.8	+16.6	+7.8	+5.8
WEST COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-12.7	-10.3	-12.7	-12.8	-10.5	-7.6	-6.1	-7.1	-10.3	-11.6	-7.9	-0.6	+10.6	+21.2	+26.7	+22.8	+17.9	+17.7	+17.1	+7.7	+1.5	-5.2	-11.8	-15.7
Mar.	-14.7	-17.8	-21.7	-16.9	-10.5	-5.3	-4.8	-3.3	-4.8	-3.8	+0.7	+9.8	+16.3	+22.9	+22.4	+18.1	+13.1	+11.7	+10.2	+3.6	+2.7	-3.8	-10.2	-13.8
Apr.	-20.4	-19.5	-16.6	-16.0	-15.0	-9.8	-12.9	-15.8	-22.8	-17.9	-8.1	+9.7	+25.7	+39.4	+42.2	+36.9	+23.7	+19.4	+13.6	+4.2	+3.3	-13.3	-14.1	-16.1
May	-18.2	-17.2	-18.1	-19.3	-17.7	-15.4	-14.7	-17.9	-27.5	-24.6	-10.6	+8.4	+28.7	+41.7	+43.8	+39.4	+23.9	+20.1	+11.7	+6.8	+3.1	-1.3	-9.3	-15.9
June	-6.3	-12.0	-12.5	-14.3	-17.8	-21.6	-29.4	-35.7	-36.4	-28.9	-11.9	+10.3	+28.2	+37.6	+39.4	+33.7	+25.7	+18.7	+11.1	+9.3	+6.7	+5.9	+0.4	-0.1
July	-4.1	-10.1	-16.0	-23.1	-24.9	-29.0	-36.8	-42.3	-39.5	-28.6	-11.6	+8.7	+27.3	+38.2	+43.3	+42.8	+35.3	+30.6	+23.0	+12.3	+9.8	+3.9	-1.4	-7.8
Aug.	-9.3	-10.2	-13.3	-12.0	-16.4	-27.6	-33.6	-39.1	-35.3	-30.0	-17.1	+2.5	+19.7	+33.7	+39.6	+37.0	+29.6	+23.4	+19.6	+14.4	+14.4	+7.5	+3.2	-0.6
Sept.	-9.6	-11.4	-11.2	-14.3	-19.7	-24.0	-30.2	-32.5	-31.6	-24.2	-7.2	+12.3	+29.9	+37.8	+36.8	+30.0	+23.0	+16.8	+12.4	+10.3	+7.7	+5.0	-0.7	-5.2
Oct.	-18.8	-18.1	-20.7	-22.5	-24.6	-23.2	-25.4	-32.7	-36.5	-30.7	-7.0	+14.7	+33.2	+46.9	+47.6	+48.6	+35.9	+26.4	+12.9	+12.1	+7.4	-0.3	-11.5	-13.7
Nov.	-12.8	-15.9	-13.6	-10.7	-9.9	-7.0	-7.7	-14.4	-21.7	-23.5	-11.4	+4.6	+19.4	+28.2	+30.3	+26.7	+19.2	+17.5	+14.7	+8.4	+3.1	-5.2	-9.5	-8.7
Dec.	-20.3	-19.1	-15.0	-11.7	-6.7	-5.9	-6.0	-6.3	-10.1	-10.7	-2.7	+8.4	+16.9	+20.0	+23.3	+20.0	+20.7	+21.7	+17.3	+8.9	-1.4	-9.7	-12.9	-18.7
	-15.3	-13.5	-15.3	-12.0	-4.7	-2.1	-4.3	-2.1	-7.7	-11.6	-6.2	+4.3	+11.4	+20.2	+21.2	+17.2	+16.9	+18.4	+17.7	+8.6	+0.2	-9.0	-15.2	-17.2
Year	-13.5	-14.6	-15.5	-15.5	-14.8	-14.9	-17.6	-20.7	-23.7	-20.5	-8.4	+7.7	+22.3	+32.3	+34.7	+31.1	+23.7	+20.2	+15.1	+8.9	+4.8	-2.1	-7.8	-11.1
Winter	-15.7	-15.1	-16.2	-13.4	-8.1	-5.2	-5.3	-4.7	-8.2	-9.4	-4.0	+5.5	+13.8	+21.1	+23.4	+19.5	+17.1	+17.4	+15.6	+7.2	+0.7	-6.9	-12.5	-16.3
Equinox	-17.5	-17.7	-17.3	-17.1	-16.8	-13.9	-15.1	-20.2	-27.1	-24.2	-9.3	+9.3	+26.7	+39.1	+41.0	+37.9	+25.7	+20.9	+13.3	+7.9	+4.2	-5.0	-11.1	-13.6
Summer	-7.4	-10.9	-13.3	-15.9	-19.7	-25.6	-32.5	-37.4	-35.7	-27.9	-11.9	+8.5	+26.3	+36.8	+39.8	+35.9	+28.4	+22.4	+16.5	+11.6	+9.6	+5.6	+0.4	-3.4
VERTICAL COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-0.2	-4.4	-5.4	-6.2	-7.4	-9.4	-7.6	-7.1	-5.3	-6.0	-7.3	-6.5	-6.2	-6.7	-1.7	+6.1	+9.3	+11.8	+17.5	+20.8	+18.6	+7.4	-6.4	+2.3
Mar.	-0.8	-4.5	-5.2	-8.9	-11.7	-12.4	-10.9	-8.8	-7.3	-6.0	-6.2	-6.7	-4.3	-0.6	+4.0	+8.5	+12.5	+13.4	+13.6	+15.1	+11.5	+9.9	+6.2	-0.4
Apr.	-14.0	-17.1	-17.3	-17.6	-17.4	-23.3	-22.0	-14.3	-8.5	-6.6	-8.0	-8.8	-6.7	+1.8	+10.7	+20.7	+26.3	+31.3	+33.8	+28.1	+20.2	+10.4	+2.2	-3.9
May	-6.9	-10.6	-14.8	-16.9	-17.0	-17.0	-15.0	-11.2	-11.4	-12.8	-15.2	-16.1	-12.8	-3.5	+8.3	+20.3	+28.5	+31.7	+31.3	+25.8	+20.6	+12.2	+5.7	-3.2
June	+0.3	-1.7	-3.0	-4.4	-3.6	-2.2	-1.8	-1.8	-5.4	-12.3	-19.4	-24.6	-23.5	-15.6	-5.8	+4.8	+14.7	+21.5	+23.8	+20.6	+17.1	+12.0	+7.7	+2.6
July	-2.1	-8.9	-15.5	-16.5	-15.3	-13.1	-10.6	-6.2	-6.3	-9.8	-14.4	-17.9	-18.3	-4.5	+4.5	+17.0	+30.0	+28.9	+29.8	+23.6	+16.0	+9.9	+1.9	-7.2
Aug.	-7.2	-11.0	-10.5	-11.2	-11.6	-5.4	-1.8	-0.3	-1.7	-5.5	-10.7	-14.5	-15.4	-10.1	-2.0	+5.7	+14.2	+20.9	+24.2	+23.0	+16.4	+10.8	+4.2	-0.5
Sept.	-2.6	-3.2	-6.1	-8.8	-6.3	-4.5	-2.8	-0.6	-1.5	-6.8	-12.4	-16.4	-14.4	-9.1	-1.6	+5.5	+11.2	+15.8	+16.7	+16.6	+13.9	+10.3	+5.8	+1.3
Oct.	-32.2	-31.7	-39.4	-54.4	-46.7	-28.3	-17.9	-12.2	-2.4	+1.6	-0.6	+0.3	+5.3	+18.1	+37.1	+52.7	+54.2	+39.5	+42.2	+36.5	+21.3	+1.0	-16.0	-28.0
Nov.	-4.4	-4.5	-5.9	-6.8	-6.0	-6.3	-6.0	-3.9	-1.6	-2.5	-6.8	-9.2	-7.7	-4.3	+0.1	+8.0	+10.7	+10.9	+10.6	+11.1	+10.4	+8.8	+6.4	-1.1
Dec.	-6.6	-11.5	-11.4	-10.8	-7.6	-7.9	-6.7	-6.6	-5.3	-5.4	-5.8	-5.1	-2.5	+1.3	+6.3	+8.6	+7.8	+12.4	+12.7	+13.6	+14.1	+10.8	+5.7	-0.1
	-1.2	-4.6	-5.9	-8.6	-10.9	-12.2	-11.1	-9.9	-8.3	-7.6	-8.0	-7.0	-5.7	-2.8	+3.2	+8.4	+9.0	+8.4	+12.2	+18.6	+14.9	+13.8	+10.4	+4.9
Year	-6.5	-9.5	-11.7	-14.3	-13.5	-11.8	-9.5	-6.9	-5.4	-6.6	-9.6	-11.0	-8.9	-3.0	+5.3	+13.9	+19.0	+20.5	+22.4	+21.1	+16.3	+9.8	+2.8	-2.8
Winter	-2.2	-6.3	-7.0	-8.6	-9.4	-10.5	-9.1	-8.1	-6.5	-6.3	-6.8	-6.3	-4.7	-2.2	+2.9	+7.9	+9.7	+11.5	+14.0	+17.0	+14.8	+10.5	+4.0	+1.7
Equinox	-14.4	-16.0	-19.3	-23.9	-21.8	-18.7	-15.2	-10.4	-6.0	-5.1	-7.7	-8.5	-5.5	+3.0	+14.1	+25.4	+29.9	+28.3	+29.5	+25.4	+18.1	+8.1	-0.4	-9.1
Summer	-2.9	-6.2	-8.8	-10.2	-9.2	-6.3	-4.3	-2.2	-3.7	-8.6	-14.2	-18.3	-16.7	-9.8	-1.2	+8.3	+17.5	+21.8	+23.6	+20.9	+15.9	+10.7	+4.9	-0.9

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

31 ESKDALEMUIR

1957

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the west)																								
Jan.	-2.64	-2.06	-2.64	-2.69	-2.22	-1.80	-1.58	-1.76	-2.20	-2.21	-1.17	+0.60	+2.99	+4.92	+5.78	+4.80	+3.68	+3.41	+3.26	+1.25	-0.33	-1.75	-2.44	-3.20
Feb.	-3.15	-3.54	-4.54	-3.64	-2.28	-1.29	-1.15	-0.83	-0.94	-0.42	+0.62	+2.58	+3.88	+4.96	+4.69	+3.69	+2.66	+2.26	+1.85	+0.48	+0.26	-0.95	-2.28	-2.92
Mar.	-4.36	-4.25	-3.68	-3.62	-3.51	-2.09	-2.63	-3.22	-4.47	-2.96	-0.63	+3.28	+6.52	+8.81	+8.75	+7.21	+4.40	+3.31	+2.17	+0.37	+0.17	-3.06	-3.10	-3.41
Apr.	-3.94	-3.58	-3.76	-4.09	-3.89	-3.28	-3.26	-3.55	-5.07	-4.07	-0.75	+3.37	+7.26	+9.42	+9.25	+7.87	+4.28	+3.12	+1.23	+0.39	-0.14	-0.86	-2.27	-3.68
May	-1.60	-2.65	-2.77	-3.21	-3.89	-4.64	-6.07	-6.99	-6.71	-4.64	-0.78	+3.69	+7.10	+8.68	+8.49	+6.81	+4.62	+2.65	+1.00	+0.75	+0.44	+0.50	-0.42	-0.36
June	-1.23	-2.33	-3.53	-5.04	-5.32	-5.85	-7.20	-7.97	-6.97	-4.40	-0.78	+3.30	+7.00	+8.44	+8.84	+8.14	+5.93	+4.77	+3.07	+1.10	+0.93	+0.42	+0.03	-1.35
July	-1.44	-2.00	-2.84	-2.62	-8.48	-6.76	-6.73	-7.43	-6.30	-4.89	-1.96	+2.18	+5.55	+7.81	+8.23	+7.14	+5.21	+3.49	+2.36	+1.42	+1.70	+0.70	+0.14	-0.48
Aug.	-2.39	-2.61	-2.53	-3.22	-4.29	-5.07	-6.11	-6.19	-5.64	-3.67	+0.10	+4.00	+7.27	+8.50	+7.84	+5.99	+4.10	+2.57	+1.53	+0.97	+0.60	+0.36	-0.64	-1.47
Sept.	-3.66	-3.05	-3.64	-4.31	-4.41	-4.53	-4.77	-5.72	-6.31	-4.40	+0.06	+4.29	+7.72	+9.48	+8.60	+7.66	+4.79	+3.09	+1.56	+1.39	+0.94	-0.29	-1.98	-2.51
Oct.	-3.01	-3.58	-3.05	-2.59	-2.47	-1.86	-3.03	-3.21	-4.34	-4.19	-1.18	+2.32	+5.28	+6.76	+6.75	+5.54	+3.82	+3.22	+2.50	+1.20	+0.04	-1.46	-2.31	-2.15
Nov.	-4.29	-3.87	-3.24	-2.52	-1.68	-1.65	-1.68	-1.60	-2.10	-1.61	+0.14	+2.53	+4.23	+4.74	+5.15	+4.27	+4.08	+4.21	+3.28	+1.50	-0.64	-2.29	-2.76	-4.00
Dec.	-3.33	-2.91	-3.32	-2.67	-1.31	-0.91	-1.82	-0.73	-1.74	-2.13	-0.77	+1.61	+3.07	+4.67	+4.66	+3.65	+3.39	+3.57	+3.49	+1.73	0.00	-1.93	-3.18	-3.59
Year	-2.92	-3.04	-3.29	-3.35	-3.23	-3.23	-3.71	-4.10	-4.40	-3.32	-0.59	+2.81	+5.66	+7.27	+7.25	+6.06	+4.25	+3.31	+2.27	+1.05	+0.33	-0.88	-1.77	-2.43
Winter	-3.35	-3.09	-3.43	-2.88	-1.87	-1.41	-1.43	-1.23	-1.75	-1.64	-0.29	+1.83	+3.54	+4.82	+5.07	+4.10	+3.45	+3.36	+2.97	+1.24	-0.18	-1.73	-2.67	-3.43
Equinox	-3.74	-3.61	-3.53	-3.65	-3.57	-2.94	-3.15	-3.93	-5.05	-3.91	-0.63	+3.31	+6.69	+8.62	+8.34	+7.07	+4.32	+3.19	+1.87	+0.84	+0.25	-1.42	-2.41	-2.94
Summer	-1.67	-2.40	-2.92	-3.52	-4.25	-5.33	-6.53	-7.15	-6.41	-4.40	-0.85	+3.29	+6.73	+8.36	+8.35	+7.02	+4.97	+3.37	+1.99	+1.06	+0.92	+0.49	-0.22	-0.91
INCLINATION																								
Jan.	+0.03	+0.05	-0.09	-0.17	-0.21	-0.57	-0.69	-0.62	-0.22	+0.24	+0.67	+1.08	+1.15	+0.65	+0.28	+0.20	+0.12	-0.21	-0.11	-0.10	-0.62	-0.93	-0.11	+0.20
Feb.	-0.13	+0.22	-0.11	-0.37	-0.43	-0.59	-0.52	-0.44	-0.07	+0.49	+0.66	+0.72	+0.68	+0.27	+0.07	+0.03	+0.18	-0.01	-0.15	-0.10	-0.23	-0.02	-0.09	-0.04
Mar.	-0.50	-0.71	-0.76	-0.89	-1.06	-0.64	-0.40	-0.19	+0.32	+1.18	+1.62	+1.90	+1.76	+0.99	+0.09	-0.37	-0.84	-0.54	-0.84	-0.19	-0.39	-0.21	-0.18	-0.15
Apr.	-0.39	-0.21	-0.30	-0.51	-0.73	-0.50	-0.66	+0.09	+0.90	+1.56	+2.13	+2.36	+1.80	+1.09	+0.81	-0.18	-0.55	-1.09	-1.32	-1.16	-0.83	-0.72	-0.39	-0.69
May	-0.48	-0.28	-0.33	-0.46	-0.37	-0.25	+0.10	+0.78	+1.42	+2.09	+2.45	+2.03	+1.48	+1.00	+0.29	-0.29	-0.93	-1.64	-1.67	-1.53	-1.22	-0.98	-0.67	-0.52
June	-0.68	-0.57	-0.70	-0.77	-0.57	+0.05	+0.58	+1.36	+2.07	+2.47	+2.46	+2.88	+1.87	+0.64	-0.25	-0.96	-1.74	-2.09	-2.26	-1.96	-1.32	-0.43	+0.61	+0.30
July	+0.70	-0.04	-0.37	-0.46	-0.37	-0.09	+0.48	+1.27	+1.82	+2.24	+2.52	+2.47	+2.06	+1.07	-0.14	-0.67	-1.35	-1.90	-2.39	-2.18	-1.83	-1.22	-0.80	-0.62
Aug.	-0.72	-0.47	-0.46	-0.59	-0.45	-0.18	+0.28	+1.03	+1.62	+2.24	+2.47	+2.05	+1.40	+0.80	+0.20	-0.37	-0.93	-1.23	-1.43	-1.62	-1.37	-0.92	-0.72	-0.62
Sept.	-0.31	+0.51	+0.24	-0.65	+0.11	-0.11	+0.52	+1.64	+2.23	+3.53	+2.59	+2.09	+1.45	-0.16	-1.46	-3.04	-3.37	-3.21	-0.93	-1.09	-0.51	-0.36	+0.36	-0.07
Oct.	-0.66	-0.52	-0.49	-0.75	-0.84	-0.82	-0.85	-0.42	+0.32	+1.19	+1.90	+2.09	+1.87	+1.34	+0.69	+0.10	-0.08	-0.52	-0.73	-0.68	-0.79	-0.42	-0.39	-0.57
Nov.	-0.23	-0.07	-0.42	-0.37	-0.65	-0.90	-0.89	-0.64	-0.09	+0.63	+1.65	+1.19	+1.11	+0.95	+0.60	+0.34	-0.25	-0.29	-0.26	-0.29	-0.23	-0.17	+0.04	-0.16
Dec.	-0.24	-0.27	-0.33	-0.47	-0.85	-1.09	-1.01	-0.74	-0.42	+0.32	+0.73	+1.04	+1.03	+0.70	+0.47	+0.28	-0.05	-0.28	-0.09	+0.34	+0.29	+0.25	+0.27	+0.12
Year	-0.30	+0.20	-0.34	-0.54	-0.54	-0.48	-0.25	+0.26	+0.83	+1.51	+1.77	+1.76	+1.47	+0.78	+0.10	-0.43	-0.77	-1.09	-0.97	-0.88	-0.77	-0.51	-0.17	-0.24
Winter	-0.14	-0.02	-0.24	-0.35	-0.53	-0.79	-0.78	-0.61	-0.20	+0.42	+0.77	+1.01	+0.99	+0.64	+0.35	+0.21	+0.01	-0.20	-0.16	-0.04	-0.20	-0.22	+0.03	+0.03
Equinox	-0.47	-0.23	-0.33	-0.70	-0.63	-0.52	-0.35	+0.28	+0.94	+1.87	+2.06	+2.11	+1.72	+0.81	-0.09	-0.87	-1.09	-1.34	-0.83	-0.78	-0.63	-0.43	-0.15	-0.38
Summer	-0.29	-0.34	-0.46	-0.57	-0.44	-0.12	+0.36	+1.11	+1.73	+2.26	+2.47	+2.16	+1.71	+0.88	+0.02	-0.62	-1.24	-1.71	-1.93	-1.82	-1.48	-0.89	-0.39	-0.36
HORIZONTAL FORCE																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-0.5	-2.3	-0.6	+0.3	+0.4	+5.1	+7.6	+6.7	+1.3	-5.8	-12.7	-18.6	-19.5	-12.2	-4.8	-0.7	+1.6	+7.5	+8.1	+9.1	+16.2	+16.7	-0.7	-2.2
Mar.	+1.6	-4.9	-0.3	+2.2	+2.2	+4.3	+3.8	+3.4	-1.6	-9.5	-12.2	-13.3	-11.7	-4.2	+0.4	+2.7	+1.9	+5.1	+7.3	+7.1	+7.6	+3.9	+3.7	+0.5
Apr.	+2.3	+4.4	+5.0	+6.9	+9.5	+1.1	-2.1	-2.4	-7.9	-20.1	-27.2	-31.7	-28.8	-14.2	+2.6	+13.2	+14.7	+19.5	+17.5	+13.2	+13.2	+7.0	+3.5	+0.8
May	+3.3	-0.8	-0.9	+1.4	+4.7	+1.3	+4.4	-5.5	-17.7	-28.1	-37.5	-41.2	-31.7	-17.6	-1.6	+10.2	+18.9	+28.0	+31.3	+26.8	+20.0	+15.2	+8.0	+9.1
June	+7.3	+3.6	+3.9	+5.3	+4.2	+3.0	-2.2	-12.3	-23.2	-35.9	-43.9	-39.5	-30.9	-20.7	-6.4	+6.1	+19.4	+32.5	+33.8	+30.5	+24.6	+19.1	+12.9	+8.8
July	+9.4	+5.3	+4.7	+5.5	+2.9	-5.6	-12.6	-22.6	-33.4	-40.6	-42.2	-37.8	-33.0	-11.3	+5.4	+20.7	+37.2	+41.9	+44.8	+38.1	+28.7	+10.1	-8.5	-7.1
Aug.	-13.1	-3.5	+1.6	+2.8	+1.3	-0.6	-7.9	-19.1	-27.9	-35.5	-41.7	-42.4	-36.5	-19.7	+1.4	+15.2	+25.4	+36.1	+44.7	+41.1	+33.5	+22.2	+13.5	+9.1
Sept.	+9.8	+5.8	+4.6	+5.6	+4.4	+1.0	-5.2	-15.6	-24.8	-36.0	-41.5	-36.8	-26.3	-15.4	-3.6	+7.6	+18.1	+24.3	+27.6	+30.4	+25.7	+17.6	+12.9	+9.8
Oct.	-7.2	-19.3	-18.1	-10.8	-18.9	-8.7	-14.4	-29.1	-34.3	-52.2	-39.0	-31.2	-19.7	+9.1	+35.5	+64.9	+70.4	+62.6	+29.5	+29.7	+15.5	+5.8	-11.3	-9.3
Nov.	+8.2	+6.1	+5.1	+8.7	+10.3	+10.0	+10.5	+4.9	-5.4	-18.8	-31.0	-34.7	-30.9	-21.7	-10.3	+1.4	+5.2	+11.8	+14.8	+14.2	+15.7	+9.5	+8.2	+8.2
Dec.	+1.1	-3.2	+2.1	+1.6	+6.9	+10.6	+10.8	+7.2	-0.6	-11.4	-17.9	-19.7	-17.6	-13.8	-6.7	-1.9	+6.6	+8.9	+8.6	+9.3	+8.7	+6.6	+1.5	+2.3
Year	+3.1	+2.3	+2.8	+3.9	+8.7	+11.9	+11.0	+7.4	+3.2	-7.6	-13.8	-18.1	-17.5	-11.5	-5.9	-1.2	+4.0	+7.3	+5.8	+1.8	+1.2	+1.4	-0.2	0.0
Year	+2.1	-0.5	+0.8	+2.8	+3.1	+2.8	+0.3	-6.4	-14.4	-25.1	-30.1	-30.4	-25.3	-12.8	+0.5	+11.5	+18.6	+23.8	+22.8	+20.9	+17.5	+11.3	+3.6	+2.5
Winter	+1.3	-2.0	+1.0	+2.0	+4.5	+8.0	+8.3	+6.2	+6.6	-8.6	-14.1	-17.4	-16.6	-10.4	-4.2	-0.3	+3.5	+7.2	+7.5	+6.8	+8.4	+7.1	+1.1	+0.1
Equinox	+1.7	-2.4	-2.2	+1.7	+1.4	+0.9	-0.4	-8.0	-16.3	-29.8	-33.7	-34.7	-27.8	-11.1	+6.5	+22.4	+27.3	+30.5	+23.3	+21.0	+16.1	+9.4	+2.1	+2.2
Summer	+3.3	+2.8	+3.7	+4.8	+3.2	-0.5	-7.0	-17.4	-27.3	-37.0	-42.3	-39.1	-31.7	-16.8	-0.8	+12.4	+25.0	+33.7	+37.7	+35.0	+28.1	+17.3	+7.7	+5.1

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE

INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

32 ESKDALEMUIR

1957

	Hour G.M.T.												12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12												
NORTH COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	+4.1	+2.5	+4.1	+3.6	+6.3	+8.2	+10.1	+8.9	+4.7	-0.7	-12.4	-21.2	-25.4	-20.3	-13.4	-6.4	+0.3	+4.2	+6.4	+7.3	+8.9	+8.3	+6.9	+5.1
Mar.	+2.0	+1.8	+3.2	+2.3	+2.4	+3.4	+5.2	+4.5	+2.1	-4.9	-10.9	-13.5	-12.1	-8.0	-7.5	-5.9	-5.5	+0.2	+3.9	+5.8	+9.1	+8.1	+7.8	+6.5
Apr.	+3.5	+5.0	+7.8	+10.1	+6.3	+8.4	+6.7	+5.7	-0.4	-11.6	-23.8	-31.8	-30.0	-25.3	-16.2	-5.7	+3.2	+3.4	+10.0	+13.6	+15.5	+15.3	+15.2	+14.9
May	+6.8	+4.7	+5.5	+5.0	+7.1	+7.7	+6.9	+0.7	-11.5	-24.3	-33.1	-37.6	-35.8	-29.9	-20.0	-9.6	+3.3	+20.1	+27.8	+22.6	+20.4	+21.4	+22.1	+19.7
June	+2.4	+2.5	+3.2	+7.1	+9.7	+8.9	+0.7	-12.3	-21.0	-30.3	-32.1	-32.6	-25.2	-18.2	-9.6	-0.4	+8.7	+24.4	+29.2	+28.0	+19.9	+16.0	+11.0	+10.1
July	+5.7	+4.5	+5.6	+8.0	+8.9	+11.1	+4.5	-7.5	-21.3	-33.7	-39.9	-41.7	-32.5	-22.5	-15.5	+4.7	+15.4	+25.4	+27.5	+22.1	+21.8	+17.8	+13.9	+17.8
Aug.	+9.8	+7.3	+6.4	+11.9	+15.5	+15.0	+4.5	-8.1	-21.9	-37.3	-45.5	-45.8	-36.4	-26.3	-10.2	+5.9	+14.5	+20.4	+23.4	+23.1	+22.9	+19.4	+16.4	+15.3
Sept.	+8.8	+8.0	+7.7	+6.9	+7.1	+4.9	+0.8	-6.4	-16.4	-26.8	-33.6	-33.7	-28.3	-15.5	-6.5	+2.1	+7.1	+11.0	+13.5	+17.1	+18.4	+20.4	+17.7	+15.6
Oct.	+13.9	+14.1	+13.2	+11.4	+9.7	+8.9	+7.5	-1.5	-12.6	-27.6	-39.8	-44.6	-34.5	-25.9	-12.1	-4.4	+4.9	+8.4	+15.0	+16.0	+16.8	+20.8	+21.0	+21.7
Nov.	+12.4	+10.6	+9.3	+10.2	+10.2	+9.4	+8.8	+4.8	-4.2	-17.3	-30.1	-37.2	-36.6	-27.6	-16.9	-8.4	+0.7	+6.2	+13.4	+14.9	+16.8	+17.3	+17.1	+16.3
Dec.	+4.9	+5.0	+4.8	+4.7	+5.7	+8.2	+7.8	+5.7	-0.6	-10.1	-18.5	-22.8	-19.9	-15.4	-11.0	-4.8	+1.4	+5.9	+7.2	+8.6	+8.1	+7.2	+9.6	+8.5
Year	+5.6	+3.5	+5.1	+4.4	+4.2	+4.2	+2.5	+2.9	+0.4	-6.7	-17.9	-23.0	-23.8	-18.8	-12.3	-2.6	+2.9	+7.1	+12.0	+13.6	+12.0	+9.7	+7.9	+6.8
Winter	+6.6	+5.8	+6.4	+7.1	+7.7	+8.2	+5.5	-0.1	-8.6	-19.3	-28.1	-32.1	-28.4	-21.2	-12.6	-3.0	+4.7	+11.4	+15.7	+16.1	+15.8	+15.2	+13.9	+13.2
Equinox	+4.1	+3.2	+4.3	+3.8	+4.7	+6.0	+6.4	+5.5	+1.7	-5.6	-15.0	-20.1	-20.3	-15.7	-11.1	-5.0	-0.2	+4.3	+7.4	+8.8	+9.5	+8.4	+8.1	+6.7
Summer	+9.2	+8.6	+9.0	+9.2	+8.3	+8.7	+7.5	+2.5	-7.2	-20.2	-31.6	-37.9	-34.3	-27.2	-16.3	-7.0	+3.0	+9.5	+16.5	+16.8	+17.3	+18.7	+18.9	+18.2
Year	+6.6	+5.5	+5.8	+8.4	+10.3	+10.0	+2.6	-8.6	-20.2	-32.0	-37.8	-38.4	-30.6	-20.7	-10.5	+3.0	+11.4	+20.3	+23.4	+22.6	+20.7	+18.5	+14.7	+14.7
WEST COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-5.9	-5.6	-3.8	-2.2	-3.5	-4.7	-4.2	-6.6	-9.1	-13.3	-11.3	-2.6	+5.7	+15.5	+18.4	+15.1	+9.7	+8.0	+6.3	+2.8	-0.4	-1.8	-2.5	-3.8
Mar.	-9.4	-10.6	-9.6	-11.9	-8.5	-7.3	-6.9	-6.8	-8.8	-8.4	-3.9	+5.6	+10.3	+15.3	+13.9	+9.6	+7.4	+9.6	+9.4	+8.1	+5.7	+2.3	-1.2	-4.1
Apr.	-13.1	-8.1	-6.8	-6.2	-8.6	-8.1	-8.5	-14.9	-17.3	-16.0	-8.7	+3.3	+17.7	+25.9	+26.4	+20.1	+8.6	+7.1	+7.4	+4.3	+2.3	-0.4	-1.9	-4.5
May	-0.1	-1.8	-4.6	-9.9	-13.0	-14.8	-19.6	-28.7	-32.0	-29.1	-19.3	-1.7	+18.4	+28.2	+28.5	+22.9	+17.9	+14.1	+9.6	+7.9	+7.8	+8.9	+6.4	+3.9
June	-6.1	-7.1	-8.5	-8.9	-12.1	-20.9	-31.0	-38.3	-36.3	-24.3	-7.6	+11.5	+28.9	+38.3	+38.6	+30.2	+19.1	+12.9	+6.2	+3.1	+3.4	+4.2	+1.9	+2.6
July	+1.4	-1.1	-4.5	-6.3	-15.1	-28.3	-39.1	-44.4	-42.5	-32.6	-15.3	+4.5	+25.7	+33.7	+33.6	+33.5	+25.4	+16.4	+11.1	+5.5	+7.8	+9.2	+13.9	+7.3
Aug.	+1.0	+0.2	-3.6	-11.5	-18.3	-27.7	-35.6	-39.3	-40.4	-27.9	-14.8	+4.2	+23.7	+32.7	+36.8	+33.5	+24.8	+17.2	+11.0	+9.3	+7.2	+7.2	+6.1	+4.2
Sept.	-3.9	-7.4	-10.1	-14.3	-18.7	-24.0	-28.8	-31.5	-32.5	-25.6	-8.9	+7.9	+23.2	+32.9	+33.1	+27.1	+19.1	+11.7	+11.2	+12.6	+11.1	+9.0	+4.9	+1.9
Oct.	-1.2	-3.0	-5.8	-9.5	-12.9	-17.3	-24.4	-30.6	-34.3	-27.3	-11.7	+3.9	+25.4	+30.7	+31.3	+23.5	+15.5	+10.0	+10.2	+7.4	+6.7	+8.6	+4.8	-0.2
Nov.	-9.7	-9.2	-8.4	-8.0	-9.1	-11.0	-12.5	-18.5	-28.3	-30.3	-20.9	-4.1	+11.6	+21.6	+26.1	+22.5	+17.5	+14.8	+15.2	+14.3	+11.2	+7.2	+2.2	+5.7
Dec.	-7.8	-6.4	-5.8	-5.5	-5.6	-5.0	-8.1	-11.9	-16.2	-18.3	-10.7	+0.1	+8.5	+14.3	+16.3	+16.0	+14.0	+14.4	+13.5	+10.2	+7.0	+2.2	-4.5	-10.7
Year	-8.1	-8.0	-8.9	-8.4	-3.1	-2.4	-5.5	-7.8	-11.7	-16.5	-13.0	-4.3	+3.1	+14.4	+15.6	+12.8	+11.5	+12.4	+12.9	+13.1	+10.8	+1.2	-2.9	-7.1
Winter	-5.2	-5.9	-6.7	-8.6	-10.7	-14.3	-18.7	-23.3	-25.8	-22.5	-12.2	+2.3	+16.9	+25.3	+26.6	+22.3	+15.9	+12.4	+10.3	+8.2	+6.7	+4.8	+2.3	-0.4
Equinox	-7.8	-7.7	-7.0	-6.9	-5.2	-4.8	-6.2	-8.2	-11.4	-14.1	-9.7	-0.3	+6.9	+14.9	+16.0	+13.3	+10.7	+11.1	+10.5	+8.5	+5.7	+1.0	-2.8	-6.4
Summer	-6.0	-5.5	-6.4	-8.4	-10.9	-12.8	-16.2	-23.2	-28.0	-25.7	-15.2	+0.4	+18.3	+26.6	+28.0	+22.3	+14.9	+11.5	+10.6	+8.5	+7.0	+6.1	+2.9	+1.2
Year	-1.9	-3.9	-6.7	-10.0	-16.0	-25.2	-33.6	-38.4	-37.9	-27.6	-11.7	+7.0	+25.4	+34.4	+35.5	+31.1	+22.1	+14.6	+9.9	+7.6	+7.3	+7.4	+6.7	+4.0
VERTICAL COMPONENT																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	+1.7	+1.3	-0.1	-0.1	-0.1	-0.3	-1.3	-1.1	-0.9	-0.9	-3.7	-3.1	-2.7	-5.3	-2.5	+1.9	+4.5	+2.7	+1.7	+2.1	+2.5	+1.3	+1.3	+1.1
Mar.	+5.7	+4.6	+2.3	+1.5	+1.5	+1.4	+1.1	-0.1	-0.9	-2.8	-4.5	-8.9	-10.5	-8.6	-3.9	+0.5	+0.3	+0.6	+1.7	+2.9	+3.7	+4.6	+3.9	+3.9
Apr.	+2.6	+0.3	-1.1	-3.6	-4.1	-4.1	-3.8	-0.7	-0.7	-3.4	-4.9	-7.5	-9.6	-6.7	-1.9	+4.4	+11.1	+11.7	+7.8	+5.7	+3.3	+2.4	+2.9	-0.1
May	+0.4	+1.1	+0.2	+2.9	+3.0	+1.9	+1.2	+1.7	-1.0	-5.3	-10.8	-16.7	-17.8	-11.1	-3.4	+0.3	+4.2	+8.3	+11.8	+11.1	+7.4	+4.5	+3.2	+2.9
June	+0.2	+1.8	+2.2	+5.4	+6.8	+10.0	+9.4	+7.0	+0.8	-8.8	-22.0	-27.4	-29.2	-22.2	-11.4	-0.6	+7.8	+11.0	+13.2	+12.8	+11.2	+8.2	+7.6	+6.2
July	+4.7	+5.6	+6.1	+6.3	+5.7	+7.4	+7.1	+4.7	-0.7	-9.6	-16.9	-22.5	-21.5	-14.6	-9.1	-1.5	+2.9	+7.8	+9.7	+8.9	+8.1	+5.0	+3.5	+2.9
Aug.	+3.5	+2.9	+2.8	+3.7	+6.5	+9.9	+10.5	+8.7	+5.0	-3.3	-13.5	-22.5	-24.9	-20.7	-11.8	-4.3	+3.3	+7.3	+8.1	+7.1	+6.4	+5.3	+4.5	+5.5
Sept.	+7.1	+6.1	+6.2	+6.9	+7.3	+7.5	+6.9	+6.5	+2.6	-5.9	-12.7	-16.9	-16.3	-13.3	-8.6	-1.9	+1.3	+3.3	+1.1	+1.1	+1.8	+2.5	+3.3	+4.1
Oct.	+4.6	+3.3	+3.6	+4.9	+5.4	+6.3	+6.8	+6.3	+5.2	-0.7	-9.0	-15.5	-17.2	-16.9	-12.2	-5.1	+1.2	+5.1	+4.2	+5.9	+5.6	+3.7	+2.4	+2.1
Nov.	+5.3	+5.7	+4.9	+3.9	+2.7	+2.2	+2.1	+4.7	+5.5	+1.3	-5.1	-10.3	-11.3	-9.9	-7.5	-1.9	+0.3	-0.4	-0.5	+0.5	+1.9	+1.5	+2.5	+1.9
Dec.	+3.5	+1.2	+0.7	+0.5	-0.3	-1.6	-1.7	-1.1	+0.7	-0.6	-3.5	-3.9	-3.9	-3.8	-1.7	+0.1	-0.9	-2.2	-1.5	+0.9	+3.7	+5.6	+4.9	+4.9
Year	+4.0	+2.0	+0.1	+0.2	0.0	+0.6	+0.8	+0.8	+0.9	-1.0	-3.8	-2.2	-3.6	-7.4	-3.1	+0.2	-0.4	-1.4	-1.4	-0.2	+1.5	+4.2	+4.6	+4.6
Winter	+3.6	+3.0	+2.3	+2.7	+2.9	+3.4	+3.3	+3.1	+1.4	-3.4	-9.2	-13.1	-14.0	-11.7	-6.4	-0.7	+3.0	+4.5	+4.7	+4.9	+4.8	+4.0	+3.7	+3.3
Equinox	+3.7	+2.3	+0.7	+0.5	+0.3	0.0	-0.3	-0.4	-0.1	-1.3	-3.9	-4.5	-5.2	-6.3	-2.8	+0.7	+0.9	-0.1	+0.1	+1.4	+2.9	+3.9	+3.7	+3.6
Summer	+3.2	+2.6	+1.9	+2.0	+1.7	+1.6	+1.6	+3.0	+2.3	-2.0	-7.5	-12.5	-14.0	-11.1	-6.3	-0.6	+4.2	+6.2	+6.1	+5.8	+4.5	+2.8	+2.7	+1.7
Year	+3.9	+4.1	+4.3	+5.6	+6.6	+8.7	+8.5	+6.7	+1.9	-6.9	-16.3	-22.3	-23.0	-17.7	-10.2	-2.1	+3.8	+7.3	+8.0	+7.5	+6.9	+5.3	+4.7	+4.7

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE
INTERNATIONAL QUIET DAYS

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Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

33 ESKDALEMUIR

1957

Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the west)																								
Jan.	-1.35	-1.22	-0.93	-0.58	-0.96	-1.27	-1.24	-1.68	-2.03	-2.66	-1.81	+0.28	+2.13	+3.92	+4.23	+3.30	+1.96	+1.45	+1.02	+0.28	-0.43	-0.68	-0.77	-0.96
Feb.	-1.98	-2.21	-2.06	-2.49	-1.81	-1.60	-1.59	-1.55	-1.86	-1.51	-0.36	+1.65	+2.54	+3.41	+3.10	+2.17	+1.71	+1.94	+1.75	+1.41	+0.80	+0.15	-0.54	-1.07
Mar.	-2.78	-1.83	-1.68	-1.65	-1.98	-1.97	-1.98	-3.23	-3.48	-2.79	-0.84	+1.89	+4.74	+6.21	+5.96	+4.29	+1.62	+1.31	+1.12	+0.35	-0.14	-0.67	-0.98	-1.49
Apr.	-0.28	-0.54	-1.14	-2.20	-2.90	-3.30	-4.24	-5.84	-6.02	-4.96	-2.62	+1.10	+5.10	+6.86	+6.54	+5.00	+3.50	+2.08	+0.88	+0.72	+0.80	+0.98	+0.44	+0.04
May	-1.32	-1.52	-1.84	-2.06	-2.82	-4.55	-6.28	-7.26	-6.52	-3.74	-0.30	+3.56	+6.80	+8.42	+8.16	+6.12	+3.52	+1.67	+0.14	-0.44	-0.08	+0.24	-0.04	+0.14
June	+0.08	-0.39	-1.12	-1.58	-3.38	-6.13	-8.06	-8.68	-7.76	-5.29	-1.56	+2.50	+6.42	+7.67	+7.38	+6.58	+4.54	+2.35	+1.18	+0.26	+0.74	+1.17	+2.28	+0.80
July	-0.17	-0.24	-0.98	-2.77	-4.28	-6.16	-7.37	-7.64	-7.32	-4.21	-1.26	+2.60	+6.17	+7.62	+7.82	+6.55	+4.46	+2.70	+1.33	+1.00	+0.58	+0.71	+0.60	+0.26
Aug.	-1.12	-1.81	-2.34	-3.14	-4.04	-5.03	-5.84	-6.12	-5.94	-4.15	-0.52	+2.88	+5.76	+7.23	+6.94	+5.40	+3.58	+1.95	+1.74	+1.90	+1.54	+1.03	+0.32	-0.22
Sept.	-0.77	-1.15	-1.67	-2.37	-2.97	-3.84	-5.23	-6.13	-6.45	-4.47	-0.85	+2.51	+6.47	+7.21	+6.79	+4.93	+2.95	+1.70	+1.49	+0.89	+0.71	+0.95	+0.17	-0.87
Oct.	-2.43	-2.26	-2.06	-2.01	-2.22	-2.58	-2.85	-3.92	-5.56	-5.47	-3.08	+0.60	+3.75	+5.42	+5.92	+4.87	+3.50	+2.76	+2.57	+2.32	+1.62	+0.79	-0.20	+0.52
Nov.	-1.77	-1.49	-1.36	-1.29	-1.35	-1.33	-1.93	-2.61	-3.24	-3.31	-1.45	+0.89	+2.49	+3.47	+3.72	+3.41	+2.77	+2.69	+2.45	+1.73	+1.10	+0.17	-1.27	-2.49
Dec.	-1.86	-1.76	-1.99	-1.86	-0.78	-0.64	-1.20	-1.68	-2.39	-3.08	-1.94	-0.02	+1.54	+3.62	+3.61	+2.68	+2.22	+2.24	+2.14	+2.12	+1.73	-0.12	-0.88	-1.70
Year	-1.31	-1.37	-1.60	-2.00	-2.46	-3.20	-3.98	-4.69	-4.88	-3.80	-1.38	+1.70	+4.49	+5.92	+5.85	+4.61	+3.03	+2.07	+1.48	+1.05	+0.75	+0.39	-0.07	-0.59
Winter	-1.74	-1.67	-1.59	-1.55	-1.23	-1.21	-1.49	-1.88	-2.38	-2.64	-1.39	+0.70	+2.17	+3.61	+3.67	+2.89	+2.17	+2.08	+1.84	+1.39	+0.80	-0.12	-0.87	-1.55
Equinox	-1.57	-1.45	-1.64	-2.06	-2.52	-2.92	-3.57	-4.78	-5.38	-4.42	-1.85	+1.53	+5.01	+6.43	+6.30	+4.77	+2.89	+1.96	+1.51	+1.07	+0.75	+0.51	-0.14	-0.45
Summer	-0.63	-0.99	-1.57	-2.39	-3.63	-5.47	-6.89	-7.43	-6.89	-4.35	-0.91	+2.89	+6.29	+7.73	+7.57	+6.16	+4.02	+2.17	+1.10	+0.68	+0.69	+0.79	+0.79	+0.25
INCLINATION																								
Jan.	-0.15	-0.06	-0.22	-0.21	-0.37	-0.49	-0.64	-0.53	-0.22	+0.19	+0.86	+1.35	+1.53	+1.01	+0.59	+0.28	-0.03	-0.31	-0.46	-0.46	-0.52	-0.49	-0.39	-0.26
Feb.	+0.13	+0.13	-0.04	+0.04	-0.02	-0.10	-0.23	-0.22	-0.05	+0.36	+0.65	+0.60	+0.41	+0.12	+0.23	+0.28	+0.27	-0.12	-0.33	-0.41	-0.58	-0.45	-0.40	-0.28
Mar.	0.00	-0.22	-0.46	-0.68	-0.41	-0.55	-0.43	-0.20	+0.22	+0.88	+1.55	+1.86	+1.51	+1.17	+0.69	+0.23	-0.05	-0.03	-0.56	-0.81	-0.96	-0.94	-0.90	-0.92
Apr.	-0.44	-0.26	-0.30	-0.14	-0.23	-0.27	-0.18	+0.36	+1.13	+1.83	+2.15	+2.08	+1.68	+1.34	+0.87	+0.35	-0.33	-1.29	-1.65	-1.31	-1.25	-1.41	-1.45	-1.27
May	-0.07	-0.03	-0.05	-0.22	-0.32	-0.07	+0.57	+1.46	+1.85	+2.07	+1.66	+1.32	+0.57	+0.17	-0.13	-0.37	-0.61	-1.49	-1.67	-1.56	-1.07	-0.90	-0.56	-0.53
June	-0.27	-0.14	-0.16	-0.29	-0.25	-0.19	+0.37	+1.17	+1.91	+2.38	+2.39	+2.12	+1.28	+0.69	+0.37	-0.77	-1.26	-1.68	-1.70	-1.30	-1.33	-1.16	-1.00	-1.19
July	-0.57	-0.41	-0.31	-0.55	-0.63	-0.40	+0.41	+1.23	+2.06	+2.71	+2.83	+2.40	+1.48	+0.81	-0.08	-0.91	-1.17	-1.37	-1.47	-1.45	-1.43	-1.23	-1.04	-0.92
Aug.	-0.35	-0.28	-0.23	-0.10	-0.05	+0.16	+0.47	+0.97	+1.54	+1.93	+2.00	+1.69	+1.17	+0.28	-0.19	-0.52	-0.67	-0.79	-0.99	-1.25	-1.30	-1.39	-1.14	-0.95
Sept.	-0.78	-0.81	-0.71	-0.51	-0.34	-0.21	-0.02	+0.63	+1.38	+2.13	+2.54	+2.50	+1.53	+0.90	+0.11	-0.13	-0.48	-0.55	-1.01	-1.00	-1.04	-1.38	-1.38	-1.37
Oct.	-0.57	-0.44	-0.39	-0.47	-0.49	-0.43	-0.37	+0.03	+0.66	+1.53	+2.11	+2.24	+1.98	+1.30	+0.60	+0.23	-0.25	-0.60	-1.07	-1.14	-1.11	-1.19	-1.09	-1.09
Nov.	-0.14	-0.22	-0.22	-0.23	-0.31	-0.51	-0.46	-0.25	+0.26	+0.87	+1.26	+1.40	+1.11	+0.74	+0.48	+0.12	-0.29	-0.62	-0.68	-0.66	-0.52	-0.36	-0.45	-0.31
Dec.	-0.17	-0.09	-0.23	-0.18	-0.24	-0.23	-0.07	-0.07	+0.14	+0.62	+1.24	+1.51	+1.43	+0.87	+0.54	+0.02	-0.34	-0.65	-0.98	-1.06	-0.89	-0.55	-0.37	-0.25
Year	-0.28	-0.23	-0.28	-0.29	-0.30	-0.28	-0.05	+0.38	+0.92	+1.46	+1.77	+1.75	+1.31	+0.79	+0.34	-0.10	-0.43	-0.79	-1.05	-1.03	-1.00	-0.96	-0.85	-0.78
Winter	-0.08	-0.06	-0.18	-0.15	-0.23	-0.33	-0.35	-0.27	+0.03	+0.51	+1.01	+1.21	+1.12	+0.69	+0.46	+0.18	-0.10	-0.42	-0.61	-0.65	-0.62	-0.47	-0.40	-0.27
Equinox	-0.45	-0.43	-0.46	-0.45	-0.37	-0.37	-0.25	+0.20	+0.88	+1.59	+2.08	+2.17	+1.67	+1.18	+0.57	+0.17	-0.28	-0.61	-1.07	-1.07	-1.11	-1.23	-1.21	-1.17
Summer	-0.31	-0.21	-0.19	-0.29	-0.31	-0.13	+0.46	+1.21	+1.84	+2.27	+2.22	+1.88	+1.12	+0.49	-0.01	-0.64	-0.93	-1.34	-1.46	-1.39	-1.28	-1.17	-0.93	-0.90
HORIZONTAL FORCE																								
Jan.	+2.9	+1.4	+3.3	+3.1	+5.5	+7.2	+9.1	+7.5	+2.9	-3.2	-14.3	-21.3	-23.9	-17.0	-9.7	-3.5	+2.1	+5.6	+7.5	+7.7	+8.7	+7.8	+6.3	+4.3
Feb.	+0.2	-0.2	+1.4	0.0	+0.8	+2.0	+3.8	+3.2	+0.4	-6.4	-11.4	-12.2	-10.0	-5.0	-4.8	-4.0	-4.0	+2.0	+5.6	+7.2	+10.0	+8.4	+7.4	+5.6
Mar.	+1.0	+3.4	+6.4	+8.8	+4.6	+6.7	+5.0	+2.8	-3.6	-14.4	-25.0	-30.6	-26.2	-20.0	-11.0	-1.8	+4.8	+4.7	+11.2	+14.2	+15.6	+15.0	+14.6	+13.8
Apr.	+6.7	+4.3	+4.5	+3.1	+4.5	+4.8	+3.1	-4.7	-17.3	-29.3	-36.1	-37.3	-31.7	-24.1	-14.3	-5.1	+6.5	+22.4	+29.1	+23.7	+21.5	+22.7	+22.9	+20.1
May	+1.2	+1.1	+1.6	+5.3	+7.3	+4.8	-5.1	-19.3	-27.4	-34.3	-33.0	-29.9	-19.4	-10.7	-2.2	+5.3	+12.1	+26.4	+29.9	+28.1	+20.2	+16.5	+11.2	+10.3
June	+5.7	+4.2	+4.7	+6.7	+5.9	+5.6	-2.9	-15.7	-28.9	-39.2	-42.1	-40.1	-27.1	-15.8	-8.9	+10.9	+19.9	+28.0	+29.1	+22.7	+22.9	+19.2	+16.3	+18.9
July	+9.8	+7.2	+5.6	+9.6	+11.8	+9.6	-2.2	-15.2	-29.0	-41.8	-47.4	-44.2	-31.4	-19.8	-3.2	+12.0	+18.8	+23.2	+25.0	+24.4	+23.8	+20.4	+17.2	+15.8
Aug.	+7.9	+6.5	+5.7	+4.1	+3.5	+0.4	-4.5	-12.1	-22.1	-31.1	-34.7	-31.5	-23.5	-9.1	-0.3	+7.1	+10.5	+13.0	+15.3	+19.1	+20.1	+21.7	+18.3	+15.7
Sept.	+13.4	+13.3	+11.9	+9.4	+7.1	+5.5	+2.8	-7.1	-18.7	-32.2	-41.3	-43.1	-29.2	-19.7	-6.1	0.0	+7.7	+10.1	+16.6	+17.1	+17.7	+22.0	+21.5	+21.3
Oct.	+10.4	+8.7	+7.6	+8.5	+8.3	+7.2	+6.3	+1.3	-9.4	-22.5	-33.4	-37.3	-33.8	-23.1	-11.8	-4.1	+3.9	+8.8	+15.9	+17.3	+18.6	+18.3	+17.2	+17.1
Nov.	+3.4	+3.7	+3.6	+3.6	+4.6	+7.1	+6.2	+3.4	-3.6	-13.3	-20.2	-22.4	-18.0	-12.5	-7.8	-1.8	+4.0	+8.5	+9.6	+10.2	+9.2	+7.5	+8.6	+6.4
Dec.	+4.0	+2.0	+3.4	+2.8	+3.6	+3.7	+1.4	+1.4	-1.8	-9.6	-20.0	-23.4	-22.8	-15.8	-9.2	-0.2	+5.0	+9.3	+14.2	+15.8	+13.8	+9.8	+7.2	+5.4
Year	+5.5	+4.6	+5.0	+5.4	+5.6	+5.4	+1.9	-4.5	-13.2	-23.1	-29.9	-31.1	-24.7	-16.1	-7.4	+1.2	+7.6	+13.5	+17.4	+17.3	+16.8	+15.8	+14.1	+12.9
Winter	+2.6	+1.7	+2.9	+2.4	+3.6	+5.0	+5.1	+3.9	-0.5	-8.1	-16.5	-19.8	-18.7	-12.6	-7.9	-2.4	+1.8	+6.3	+9.2	+10.2	+10.4	+8.4	+7.4	+5.4
Equinox	+7.9	+7.4	+7.6	+7.5	+6.1	+6.1	+4.3	-1.9	-12.3	-24.6	-33.9	-37.1	-30.2	-21.7	-10.8	-2.7	+5.7	+11.5	+18.2	+18.1	+18.3	+19.5	+19.1	+18.1
Summer	+6.1	+4.7	+4.4	+6.4	+7.1	+5.1	-3.7	-15.6	-26.9	-36.6	-39.3	-36.4	-25.3	-13.9	-3.7	+8.8	+15.3	+22.7	+24.8	+23.6	+21.7	+19.5	+15.7	+15.2

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

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	Hour G.M.T.												12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12												
DECLINATION (measured positive towards the west)																								
Jan.	-4.13	-3.59	-5.07	-5.63	-3.85	-2.91	-0.33	-2.19	-2.31	-0.75	-0.29	+0.35	+3.59	+6.83	+7.85	+7.37	+5.51	+4.63	+6.01	+2.15	-0.25	-3.13	-4.61	-5.25
Feb.	-4.28	-6.93	-11.98	-9.21	-3.90	+1.27	+1.50	+1.17	+0.56	+0.87	+2.80	+5.09	+7.40	+9.17	+7.10	+5.61	+4.52	+1.83	+3.90	-2.77	-1.92	-4.01	-4.56	-3.23
Mar.	-8.42	-7.27	-4.82	-5.07	-5.82	+1.49	-2.80	-2.61	-4.66	-1.65	-0.22	+4.23	+7.58	+11.07	+13.44	+11.63	+3.98	+6.93	+3.04	+0.33	+2.22	-8.87	-5.90	-7.83
Apr.	-9.53	-7.57	-9.14	-8.19	-6.47	-3.59	-2.49	-1.41	-2.74	-1.79	+0.93	+4.61	+7.99	+10.21	+10.34	+9.23	+5.87	+4.45	+2.13	+2.33	+1.50	+0.49	-1.97	-5.19
May	-2.28	-5.11	-4.92	-5.26	-4.38	-3.55	-4.56	-6.26	-7.16	-6.23	-1.06	+4.84	+8.10	+9.65	+8.82	+8.16	+5.96	+3.43	+1.14	+0.44	-0.12	+0.25	-0.12	+0.22
June	-1.80	-5.05	-5.36	-7.14	-5.12	-3.29	-4.56	-5.42	-4.42	-3.53	+0.26	+3.14	+9.24	+8.69	+9.18	+8.52	+5.20	+6.71	+5.52	-0.34	+1.06	-1.67	-1.16	-8.66
July	-4.07	-5.81	-5.39	-1.25	-1.39	-4.70	-6.71	-8.17	-5.09	-5.87	-2.49	+2.23	+3.91	+7.67	+9.45	+8.99	+7.33	+4.98	+4.35	+2.19	+1.93	-0.09	+0.17	-2.17
Aug.	-3.85	-5.56	-4.23	-4.53	-4.15	-4.20	-6.31	-5.11	-4.41	-2.96	+1.43	+4.51	+7.57	+8.70	+8.03	+6.39	+5.65	+4.34	+2.11	-0.25	-0.33	+0.56	-0.77	-2.63
Sept.	-4.10	-5.47	-8.92	-10.98	-8.18	-7.93	-2.04	-3.34	-8.44	-6.87	+1.56	+4.42	+8.32	+13.25	+13.78	+12.94	+9.62	+7.53	+2.72	+4.52	+3.06	-1.53	-6.32	-7.60
Oct.	-5.14	-6.12	-4.51	-4.14	-3.26	+0.12	+0.76	-2.22	-4.51	-3.86	-0.62	+2.46	+5.68	+8.14	+6.87	+6.00	+5.14	+3.38	+2.36	+2.42	+0.33	-3.54	-3.46	-2.28
Nov.	-6.66	-7.26	-6.65	-5.58	-2.60	-1.42	-1.26	+0.56	+0.75	+0.38	+1.52	+3.08	+4.80	+5.44	+7.07	+5.18	+7.44	+8.10	+5.24	+1.30	-2.93	-7.64	-3.82	-5.04
Dec.	-4.76	-6.32	-7.29	-4.24	+0.14	+1.64	+0.32	+0.92	-0.49	-1.48	-0.24	+2.48	+3.76	+6.04	+5.57	+4.90	+4.82	+6.30	+6.92	+1.58	-2.33	-4.44	-7.58	-6.22
Year	-4.92	-6.01	-6.52	-5.93	-4.08	-2.26	-2.37	-2.84	-3.58	-2.81	+0.30	+3.45	+6.49	+8.74	+8.96	+7.91	+5.92	+5.22	+3.79	+1.16	+0.19	-2.80	-3.34	-4.66
Winter	-4.96	-6.03	-7.75	-6.17	-2.55	-0.35	+0.06	+0.11	-0.37	-0.25	+0.95	+2.75	+4.89	+6.87	+6.90	+5.77	+5.57	+5.21	+5.52	+0.57	-1.86	-4.81	-5.14	-4.93
Equinox	-6.80	-6.61	-6.85	-7.09	-5.94	-2.48	-1.64	-2.39	-5.09	-3.54	+0.41	+3.93	+7.39	+10.67	+11.11	+9.95	+6.15	+5.57	+2.56	+2.40	+1.78	-3.36	-4.41	-5.73
Summer	-3.00	-5.38	-4.97	-4.55	-3.76	-3.93	-5.53	-6.24	-5.27	-4.65	-0.47	+3.68	+7.21	+8.68	+8.87	+8.01	+6.03	+4.87	+3.28	+0.51	+0.63	-0.24	-0.47	-3.31
INCLINATION																								
Jan.	+1.07	+1.17	+0.55	+0.31	+0.39	-1.00	-1.37	-0.55	+0.23	+0.79	+1.34	+1.76	+1.78	+0.89	+0.38	+0.12	+0.57	0.00	-0.23	-0.42	-4.03	-5.41	+0.07	+1.60
Feb.	-0.81	+1.22	-0.71	-1.37	-1.19	-1.59	-1.59	-1.27	+0.03	+1.44	+1.79	+1.50	+1.26	+0.24	-0.17	-0.26	+0.18	-0.41	-0.29	+0.77	+0.31	+0.43	+0.44	+0.05
Mar.	-1.51	-1.15	-2.17	-2.78	-3.20	-0.92	-0.11	-0.27	+0.48	+1.32	+1.30	+2.69	+3.23	+1.32	-1.97	-2.12	+0.63	-1.64	+0.12	+0.65	+0.69	+2.20	+1.43	+1.81
Apr.	+0.25	+0.92	-0.24	-1.82	-2.09	-0.90	-0.77	+0.41	+1.43	+1.94	+2.55	+3.31	+2.26	+1.33	+0.41	-0.35	-1.40	-1.83	-1.98	-1.23	-0.83	-0.97	+0.18	-0.59
May	-1.44	-1.19	-1.14	-1.11	-0.92	-0.87	-0.64	+0.31	+1.30	+2.81	+3.53	+2.50	+1.56	+1.55	+1.52	+0.06	-0.69	-1.60	-1.58	-1.75	-1.31	-0.58	-0.19	-0.15
June	-1.35	-1.36	-1.60	-1.86	-0.93	-0.50	-0.02	+0.65	+2.05	+2.63	+3.08	+2.20	+2.89	-0.35	-1.79	-2.70	-5.73	-3.63	-3.58	-2.31	-1.07	+2.77	+7.23	+5.29
July	+6.11	+1.60	-0.65	-0.30	+0.31	+0.43	+0.90	+2.10	+2.42	+2.74	+2.86	+2.63	+3.26	+0.67	-2.47	-3.37	-3.36	-3.50	-4.27	-3.62	-2.51	-1.15	-0.61	-0.21
Aug.	-1.38	-0.04	-0.09	-0.70	-0.38	-0.31	+0.75	+1.99	+1.83	+2.90	+2.82	+2.62	+1.18	+1.70	+0.72	-0.12	-2.55	-3.28	-2.92	-1.72	-1.25	-0.94	-0.71	-0.14
Sept.	+0.23	-1.05	-0.52	-0.32	+0.60	+1.19	+3.13	+7.19	+7.12	+10.26	+3.83	+2.84	+1.46	-3.84	-8.78	-13.80	-14.94	-14.81	-0.12	+0.41	+3.16	+3.81	+7.10	+5.83
Oct.	-0.81	-0.16	-0.49	-1.52	-1.37	-1.25	-1.73	-1.28	-0.25	+0.77	+1.76	+1.82	+1.73	+0.89	+1.01	-0.17	-0.01	+0.07	-0.66	-0.02	-0.11	+0.74	+0.66	+0.40
Nov.	-0.91	-0.37	-0.35	-0.13	-0.53	-1.16	-1.28	-1.10	-0.80	+0.02	+0.28	+0.70	+0.44	+0.22	-0.33	-0.15	-1.22	+0.26	+1.30	+1.59	+0.96	+1.24	+0.90	+0.40
Dec.	-0.93	-0.77	-0.44	-0.41	-1.57	-1.70	-2.19	-1.16	-1.01	-0.01	+0.13	+1.21	+1.10	+0.32	+0.59	+0.20	-0.27	+0.04	+0.46	+1.47	+1.36	+1.11	+1.61	+0.85
Year	-0.12	-0.09	-0.65	-1.00	-0.90	-0.72	-0.41	+0.58	+1.24	+2.29	+2.10	+2.15	+1.84	+0.41	-0.90	-1.89	-2.40	-2.53	-1.14	-0.51	-0.39	+0.27	+1.51	+1.26
Winter	-0.39	+0.31	-0.24	-0.40	-0.73	-1.37	-1.61	-1.02	-0.39	+0.55	+0.89	+1.29	+1.15	+0.41	+0.12	-0.02	-0.18	-0.03	+0.31	+0.85	-0.35	-0.65	+0.75	+0.73
Equinox	-0.46	-0.36	-0.85	-1.61	-1.51	-0.47	+0.13	+1.51	+2.20	+3.57	+2.36	+2.67	+2.17	-0.07	-2.33	-4.11	-3.93	-4.55	-0.67	-0.05	+0.72	+1.45	+2.34	+1.87
Summer	+0.49	-0.25	-0.87	-0.99	-0.47	-0.31	+0.25	+1.26	+1.90	+2.77	+3.08	+2.49	+2.22	+0.89	-0.50	-1.54	-3.08	-3.00	-3.09	-2.35	-1.54	+0.02	+1.43	+1.20
HORIZONTAL FORCE																								
Jan.	-15.4	-25.6	-17.9	-13.6	-15.0	+2.0	+11.4	+2.0	-7.3	-15.4	-23.0	-27.4	-26.4	-12.6	-1.9	+6.0	+2.6	+16.2	+27.2	+29.0	+79.3	+80.2	-28.4	-26.0
Feb.	+7.1	-28.2	+1.1	+4.5	-0.7	+5.6	+7.9	+8.3	-7.3	-25.4	-28.5	-21.7	-14.3	+5.4	+15.1	+17.1	+11.1	+20.0	+16.3	+4.7	+5.1	+1.0	-2.3	-1.9
Mar.	+3.9	+0.7	+17.8	+25.5	+29.9	-18.9	-34.3	-22.5	-21.2	-25.5	-24.3	-41.5	-44.5	-5.7	+53.8	+65.3	+18.7	+50.3	+31.3	+16.3	+8.4	-23.1	-25.3	-35.1
Apr.	-6.0	-18.9	-10.7	+4.6	+8.5	-7.7	-4.6	-17.1	-29.9	-35.2	-42.5	-51.1	-31.4	-12.3	+5.9	+23.4	+41.7	+46.7	+48.8	+33.3	+24.3	+21.0	+2.1	+7.1
May	+20.3	+13.7	+9.9	+6.9	+3.3	+4.6	+2.3	-9.7	-23.9	-48.1	-60.5	-45.7	-28.9	-24.3	-19.9	+5.1	+21.9	+39.4	+38.5	+38.5	+29.5	+14.9	+7.1	+5.1
June	+17.7	+11.6	+7.4	+5.5	-11.4	-17.6	-20.7	-23.4	-40.4	-44.9	-50.6	-35.6	-38.7	+17.4	+43.8	+68.5	+128.2	+87.6	+82.1	+51.0	+20.2	-42.5	-118.2	-97.0
July	-103.9	-44.1	-11.4	-19.7	-30.5	-24.3	-26.1	-37.5	-39.0	-40.1	-40.9	-36.3	-45.1	-2.5	+48.6	+64.1	+67.5	+71.9	+83.1	+72.6	+51.9	+26.1	+11.7	+3.9
Aug.	+16.1	-2.0	-2.8	+0.7	-3.6	-3.8	-17.7	-34.0	-30.2	-47.3	-48.2	-45.6	-20.5	-25.0	-7.6	+7.3	+45.4	+60.4	+57.7	+40.8	+29.0	+18.5	+11.4	+1.0
Sept.	-27.1	-8.2	-30.1	-55.2	-65.0	-50.5	-73.4	-129.6	-110.7	-148.2	-47.1	-28.0	-3.9	+88.2	+179.1	+269.4	+277.2	+240.9	+35.8	+21.0	-38.7	-46.4	-121.3	-128.2
Oct.	+7.6	-3.4	-3.4	+13.0	+12.6	+9.3	+17.6	+11.8	-0.8	-14.6	-29.2	-29.8	-26.8	-11.2	-9.8	+13.2	+11.8	+9.9	+19.2	+9.6	+11.8	-2.8	-5.2	-10.4
Nov.	+4.3	-1.3	-6.8	-13.3	-0.5	+10.7	+13.5	+9.7	+5.6	-5.5	-8.3	-13.5	-8.1	-2.1	+8.4	+8.3	+23.5	+12.7	-1.7	-7.7	-1.6	-10.3	-6.3	-9.7
Dec.	+9.7	+6.7	+0.5	-2.3	+12.9	+14.4	+22.3	+8.7	+7.3	-6.3	-7.7	-21.9	-17.7	-3.3	-4.1	+3.9	+12.3	+8.4	+5.1	-4.9	-10.1	-7.3	-17.5	-9.1
Year	-5.5	-8.3	-3.9	-3.6	-5.0	-6.3	-8.5	-19.4	-24.8	-38.0	-34.2	-33.2	-25.5	+1.0	+25.9	+46.0	+55.2	+55.4	+36.9	+25.3	+17.4	+2.4	-24.3	-25.0
Winter	+1.4	-12.1	-5.8	-6.2	-0.8	+8.2	+13.8	+7.2	-0.4	-13.1	-16.9	-21.1	-16.6	-3.1	+4.4	+8.8	+12.4	+14.3	+11.7	+5.3	+18.2	+15.9	-13.6	-11.7
Equinox	-5.4	-7.5	-6.6	-3.0	-3.5	-16.9	-23.7	-39.3	-40.7	-55.9	-35.8	-37.6	-26.7	+14.7	+57.3	+92.8	+87.3	+86.9	+33.8	+20.1	+1.5	-12.8	-37.4	-41.7
Summer	-12.5	-5.2	+0.8	-1.7	-10.5	-10.3	-15.5	-26.1	-33.4	-45.1	-50.1	-40.8	-33.3	-8.6	+16.2	+36.3	+65.7	+64.8	+65.3	+50.7	+32.7	+4.3	-22.0	-21.7

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE
INTERNATIONAL DISTURBED DAYS

99

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

35 ESKDALEMUIR

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
NORTH COMPONENT																								
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-11.4	-21.9	-13.0	-8.2	-11.2	+4.6	+11.5	+3.9	-5.1	-14.4	-22.3	-27.2	-29.2	-18.6	-9.0	-0.8	-2.5	+11.7	+21.2	+26.5	+78.1	+81.6	-23.7	-20.7
Feb.	+10.8	-21.5	+11.9	+12.7	+2.8	+4.4	+6.4	+7.1	-7.7	-25.7	-30.5	-25.9	-20.7	-2.9	+8.4	+11.7	+6.8	+18.0	+12.5	+7.1	+6.7	+4.6	+1.8	+1.0
Mar.	+11.4	+7.2	+21.8	+29.6	+34.6	-19.9	-31.2	-19.7	-16.6	-23.5	-23.7	-44.6	-50.5	-15.6	+40.7	+53.7	+14.8	+43.1	+28.0	+15.7	+6.3	-14.7	-19.5	-27.4
Apr.	+2.7	-11.7	-2.3	+11.9	+14.2	-4.3	-2.3	-15.5	-26.9	-33.0	-42.6	-54.3	-38.0	-21.3	-3.5	+14.7	+35.7	+41.9	+46.0	+30.6	+22.5	+20.2	+3.8	+11.6
May	+22.0	+18.1	+14.2	+11.6	+7.2	+7.7	+6.4	-3.8	-16.9	-41.6	-58.5	-49.3	-35.7	-32.6	-27.6	-2.4	+16.1	+35.6	+36.8	+37.4	+29.1	+14.4	+7.1	+4.8
June	+19.0	+15.9	+12.1	+11.8	-6.6	-14.3	-16.3	-18.1	-35.7	-41.0	-50.0	-37.8	-46.4	+9.3	+34.8	+59.7	+121.3	+80.1	+75.7	+50.4	+18.9	-40.3	-115.1	-87.6
July	-98.5	-38.1	-6.4	-18.2	-28.7	-19.7	-19.6	-29.5	-33.8	-34.1	-38.0	-37.7	-47.9	-9.4	+39.3	+54.9	+59.7	+66.2	+77.8	+69.4	+49.3	+25.7	+11.3	+5.8
Aug.	+19.3	+3.0	+1.1	+4.8	+0.2	0.0	-11.7	-28.8	-25.7	-43.8	-48.7	-48.9	-27.0	-32.4	-14.7	+1.4	+39.5	+55.5	+54.8	+40.3	+28.8	+17.7	+11.9	+3.3
Sept.	-22.9	-3.1	-21.6	-44.4	-56.5	-42.5	-70.3	-124.4	-101.2	-139.5	-47.7	-31.5	-11.3	+74.8	+163.7	+253.2	+263.8	+230.0	+32.7	+16.6	-40.8	-44.2	-113.5	-119.2
Oct.	+12.1	+2.2	+0.7	+16.5	+15.3	+9.0	+16.6	+13.6	+3.3	-10.9	-28.1	-31.5	-31.5	-18.3	-15.8	+7.6	+7.0	+6.7	+16.7	+7.3	+11.3	+0.4	-2.0	-8.2
Nov.	+10.2	+5.3	-0.7	-8.1	+1.9	+11.8	+14.4	+9.0	+4.8	-5.7	-9.5	-16.0	-12.3	-7.0	+1.9	+3.5	+16.4	+5.2	-6.4	-8.7	+1.1	-3.2	-2.7	-5.0
Dec.	+13.8	+12.3	+7.1	+1.6	+12.5	+12.7	+21.6	+7.7	+7.6	-4.9	-7.3	-23.8	-20.8	-8.7	-9.0	-0.6	+7.7	+2.6	-1.2	-6.2	-7.8	-3.2	-10.4	-3.4
Year	-1.0	-2.7	+2.0	+1.8	-1.2	-4.2	-6.2	-16.5	-21.2	-34.8	-33.9	-35.7	-30.9	-6.9	+17.4	+38.1	+48.9	+49.8	+32.9	+23.8	+16.9	+4.9	-20.9	-20.4
Winter	+5.8	-6.5	+1.3	-0.5	+1.5	+8.4	+13.5	+7.0	-0.1	-12.7	-17.5	-23.2	-20.7	-9.2	-1.9	+3.5	+7.2	+9.4	+6.5	+4.7	+19.6	+20.0	-8.7	-7.1
Equinox	+0.8	-1.4	-0.3	+3.4	+1.9	-14.4	-21.8	-36.5	-35.4	-51.8	-35.6	-40.5	-32.9	+4.9	+46.3	+82.3	+80.3	+80.4	+30.9	+17.6	-0.1	-9.6	-32.8	-35.8
Summer	-9.6	-0.3	+5.3	+2.4	-6.9	-6.6	-10.3	-20.0	-28.1	-40.1	-48.8	-43.4	-39.2	-16.3	+7.9	+28.5	+59.1	+59.3	+61.2	+49.4	+31.6	+4.5	-21.2	-18.3
WEST COMPONENT																								
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-22.5	-21.9	-27.5	-29.3	-21.1	-13.5	+0.6	-10.1	-12.4	-6.5	-5.7	-3.5	+12.1	+30.1	+37.0	+36.2	+26.7	+25.1	+33.7	+15.7	+13.6	+0.1	-27.3	-29.5
Feb.	-19.0	-38.3	-56.8	-43.0	-18.7	+7.1	+8.6	+7.1	+1.3	-0.6	+8.0	+20.2	+32.5	+44.7	+36.6	+29.9	+23.6	+12.5	+21.6	-12.3	-8.2	-18.9	-22.1	-15.7
Mar.	-39.3	-34.5	-19.6	-19.4	-22.1	+3.6	-19.7	-16.6	-26.1	-12.6	-5.6	+12.4	+27.8	+51.6	+74.0	+67.5	+22.4	+42.3	+20.3	+4.6	+12.1	-46.5	32.8	-43.8
Apr.	-46.6	-39.6	-45.6	-38.2	-29.3	-18.5	-12.7	-9.9	-18.6	-15.1	-3.5	+12.5	+32.3	+46.4	+50.4	+48.4	+35.8	+29.9	+19.2	+17.3	+11.7	+6.3	-9.0	-23.4
May	-7.1	-21.8	-21.6	-23.8	-20.3	-16.1	-21.3	-31.7	-38.6	-38.7	-16.3	+14.6	+33.3	+41.5	+38.4	+40.0	+32.5	+23.7	+12.6	+9.3	+4.9	+4.0	+0.7	+2.4
June	-5.3	-21.9	-24.2	-33.0	-26.5	-19.0	-25.6	-30.2	-28.6	-25.2	-8.2	+8.4	+36.9	+44.7	+51.9	+53.4	+48.7	+48.3	+41.6	+7.9	+8.8	-15.9	-27.5	-89.1
July	-38.7	-35.9	-27.8	-9.6	-12.3	-26.9	-36.9	-45.9	-31.5	-35.5	-19.5	+3.9	+10.3	+36.1	+54.1	+54.8	+47.5	+37.1	+36.2	+23.9	+18.9	+4.4	+3.0	-9.4
Aug.	-15.4	-26.9	-20.7	-21.5	-20.5	-20.7	-33.4	-30.7	-26.7	-22.9	-2.1	+13.0	+32.3	+36.9	+36.9	+31.8	+35.4	+31.9	+20.8	+6.4	+3.8	+6.1	-1.5	-12.4
Sept.	-24.5	-27.6	-48.0	-62.5	-51.0	-47.1	-23.3	-39.9	-60.7	-60.1	-1.3	+15.9	+38.9	+79.4	+98.7	+111.4	+97.2	+80.4	+19.6	+25.3	+7.4	-15.9	-52.5	-59.1
Oct.	-23.1	-29.8	-22.1	-17.3	-13.2	+2.3	+6.9	-8.4	-21.7	-21.1	-8.4	+6.2	+22.1	+36.7	+30.9	+31.1	+26.7	+18.0	+14.8	+13.3	+3.8	-17.4	-17.5	-12.1
Nov.	-31.0	-34.9	-33.0	-29.1	-12.5	-4.8	-3.5	+4.5	+4.6	+0.8	+5.7	+12.2	+21.4	+25.6	+35.3	+26.3	+39.8	+41.0	+24.7	+4.8	-14.3	-38.3	-19.4	-25.1
Dec.	-20.9	-28.9	-34.7	-20.7	+3.1	+10.5	+5.7	+6.0	-1.0	-8.2	-2.6	+7.8	+14.7	+28.2	+25.8	+24.1	+25.3	+31.6	+33.9	+6.6	-13.0	-22.5	-39.4	-31.1
Year	-24.5	-30.2	-31.8	-29.0	-20.4	-11.9	-12.9	-17.2	-21.7	-20.5	-4.9	+10.3	+26.3	+41.9	+47.6	+46.3	+38.5	+35.2	+24.9	+10.2	+4.1	-12.9	-20.5	-26.1
Winter	-23.4	-31.0	-38.1	-30.6	-12.3	-0.1	+2.9	+1.9	-1.8	-3.6	+1.4	+9.2	+20.2	+32.2	+33.7	+29.2	+28.9	+27.5	+28.5	+3.7	-5.5	-20.0	-27.1	-25.1
Equinox	-33.4	-32.9	-33.9	-34.4	-29.0	-15.0	-12.2	-18.7	-31.9	-27.3	-4.7	+11.8	+30.3	+53.6	+63.7	+64.7	+45.6	+42.7	+18.5	+15.2	+8.8	-18.4	-28.0	-35.1
Summer	-16.6	-26.6	-23.6	-22.0	-19.9	-20.7	-29.3	-34.6	-31.3	-30.6	-11.6	+10.0	+28.2	+39.8	+45.3	+45.0	+41.0	+35.3	+27.8	+11.9	+9.1	-0.3	-6.3	-19.1
VERTICAL COMPONENT																								
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+1.7	-22.0	-26.4	-24.5	-25.0	-35.2	-24.5	-17.0	-10.4	-9.9	-8.0	-2.8	+0.7	+1.8	+10.2	+21.1	+30.4	+44.0	+64.7	+61.6	+51.4	-2.1	-74.2	-5.7
Feb.	-13.7	-26.9	-25.8	-43.3	-50.3	-49.5	-43.1	-28.9	-18.8	-10.5	-4.5	+2.1	+12.5	+24.3	+34.0	+35.9	+37.5	+37.5	+32.3	+44.1	+26.6	+20.3	+11.5	-3.1
Mar.	-50.9	-44.9	-39.9	-43.7	-48.9	-88.8	-97.5	-71.9	-38.1	-15.7	-13.3	-3.5	+10.3	+38.1	+66.1	+91.1	+76.5	+69.8	+89.7	+70.5	+50.7	+26.7	-10.7	-21.1
Apr.	-5.9	-13.8	-38.6	-61.3	-61.6	-57.2	-43.5	-29.8	-23.2	-16.9	-11.8	-4.2	+6.5	+20.4	+32.6	+49.3	+56.4	+52.4	+51.9	+40.4	+32.2	+17.7	+12.8	-4.1
May	-3.3	-11.0	-19.3	-26.2	-28.4	-22.9	-19.6	-13.6	-12.1	-16.6	-20.7	-22.6	-15.1	-3.0	+7.9	+16.2	+31.6	+41.9	+40.2	+33.4	+26.9	+17.0	+11.5	+7.1
June	-7.0	-23.9	-45.0	-60.6	-68.6	-68.3	-57.2	-37.2	-26.2	-15.3	-12.2	-7.4	+12.4	+33.1	+46.0	+76.4	+115.2	+90.5	+77.4	+44.8	+11.4	-2.7	-27.2	-48.1
July	-33.8	-54.7	-57.2	-65.8	-70.4	-48.5	-34.2	-16.6	-7.4	+2.3	+5.2	+8.4	+10.2	+20.3	+31.4	+37.2	+46.8	+53.1	+52.0	+50.0	+38.8	+23.9	+6.8	+2.1
Aug.	-12.4	-7.0	-11.1	-26.6	-25.2	-23.0	-17.4	-11.2	-7.5	-10.6	-16.4	-17.2	-7.8	+1.4	+8.7	+14.8	+19.6	+30.8	+38.0	+40.8	+27.9	+12.2	+2.2	-3.1
Sept.	-64.1	-65.0	-102.9	-162.9	-152.1	-88.6	-72.1	-59.5	-11.1	+14.6	+27.7	+39.5	+48.9	+83.4	+129.5	+170.7	+145.3	+52.0	+92.3	+73.9	+23.5	+29.0	-40.9	-111.1
Oct.	-12.2	-15.9	-29.1	-26.6	-21.5	-25.7	-22.6	-20.1	-12.1	-8.2	-7.7	-6.9	-2.6	+5.7	+14.5	+28.8	+31.5	+29.5	+25.0	+25.1	+27.5	+22.6	+12.9</	

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1957

The ranges are derived from the diurnal inequalities printed in Tables 30 to 35

36 ESKDALEUIR												1957								
	All days			Quiet days			Disturbed days			All days			Quiet days			Disturbed days				
	N	W	Z	N	W	Z	N	W	Z	D	I	H	D	I	H	D	I	H		
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ		
Jan.	39.9	42.4	30.2	35.5	31.7	9.8	110.8	66.9	138.9	8.98	2.08	36.2	6.89	2.17	33.0	13.48	7.19	108.6		
Feb.	22.6	44.6	27.5	22.6	27.2	16.2	48.5	101.5	94.4	9.50	1.31	20.9	5.90	1.23	22.2	21.15	3.38	48.5		
Mar.	50.3	65.0	57.1	47.3	43.7	21.3	104.2	120.5	188.6	13.28	2.96	51.2	9.69	2.82	46.2	22.31	6.43	109.8		
Apr.	73.1	71.3	48.7	65.4	60.5	29.6	100.3	97.0	118.0	14.49	3.68	72.5	12.88	3.80	66.4	19.87	5.40	99.9		
May	74.7	75.8	48.4	61.8	76.9	42.4	95.9	80.2	70.3	15.67	4.12	77.7	15.68	3.74	64.2	16.81	5.28	99.9		
June	82.1	85.6	47.9	69.2	78.1	32.2	236.4	111.2	183.8	16.81	4.73	87.0	16.35	4.09	71.2	17.90	12.96	246.4		
July	85.4	78.7	39.6	69.2	77.2	35.4	176.3	100.7	123.5	15.66	4.91	87.1	15.46	4.30	72.4	17.62	10.38	187.0		
Aug.	69.9	70.3	33.1	54.1	65.6	24.4	104.4	70.3	67.4	14.69	4.09	71.9	13.35	3.39	56.4	15.01	6.18	108.6		
Sept.	112.2	85.1	108.6	66.3	65.6	24.0	403.3	173.9	333.6	15.79	6.09	122.6	13.66	3.92	65.1	24.76	25.20	425.4		
Oct.	51.6	53.8	20.3	54.5	56.4	17.0	48.2	66.5	60.6	11.10	2.94	50.4	11.48	3.43	55.9	14.26	3.55	49.0		
Nov.	33.8	43.6	25.6	32.4	34.6	9.5	32.4	73.6	89.6	9.44	2.09	30.5	7.03	2.08	32.6	15.74	2.87	37.0		
Dec.	32.5	38.4	30.8	37.4	32.1	12.0	45.4	73.3	76.6	8.26	2.13	30.0	6.70	2.57	39.2	13.62	3.80	44.2		
Year	52.8	58.4	36.7	48.2	52.4	18.9	85.5	79.4	102.8	11.67	2.86	54.2	10.80	2.82	48.5	15.48	4.82	93.4		
Winter	29.0	39.7	27.5	29.8	30.1	10.2	43.2	71.8	82.2	8.50	1.80	25.8	6.31	1.86	30.2	14.65	2.90	39.3		
Equinox	64.2	68.1	53.8	56.8	56.0	20.2	134.1	99.8	158.6	13.67	3.45	65.2	11.81	3.40	64.1	18.20	8.12	115.8		
Summer	76.7	77.2	41.9	61.8	73.9	31.7	110.0	79.9	102.2	15.51	4.40	80.0	15.16	3.73	48.5	15.11	6.17	93.4		

NON-CYCLIC CHANGE

37 ESKDALEUIR												1957								
	All days			Quiet days			Disturbed days													
	H	D	Z	H	D	Z	H	D	Z											
	γ	γ	γ	γ	γ	γ	γ	γ	γ											
Jan.	-0.5	-0.10	+0.5	+3.3	+0.37	-3.3	-0.1	+0.72	+5.4											
Feb.	+0.6	+0.08	-0.3	+3.8	+0.08	-2.4	+1.8	+1.44	+7.4											
Mar.	-1.0	-0.20	-0.5	+15.5	+0.95	-8.4	-47.2	-1.38	+5.9											
Apr.	+1.1	+0.03	+0.1	+10.8	+0.55	+1.4	+2.5	+1.87	+0.5											
May	+0.7	+0.15	+0.3	+7.9	+0.90	+4.6	-15.4	+1.10	+10.5											
June	-19.5	-0.70	-6.4	+6.5	-0.05	-2.2	-115.0	-5.66	-35.9											
July	+18.7	+0.60	+6.0	+4.2	+0.09	+0.2	+103.2	+2.56	+42.7											
Aug.	-0.7	-0.16	-0.5	+6.4	+0.17	-3.3	-13.3	-1.05	+0.4											
Sept.	-0.2	+0.08	+0.6	+6.4	-0.05	-4.6	-86.8	-5.63	-50.7											
Oct.	+1.0	+0.10	+0.7	+4.9	+1.35	-3.7	-12.7	+1.53	-1.2											
Nov.	-0.1	-0.07	+0.1	+4.6	-1.00	-1.9	-9.1	-0.76	+2.4											
Dec.	-3.4	-0.30	+0.9	+0.9	+0.12	-0.5	-17.5	-0.30	+12.5											
Year	-0.3	-0.04	+0.1	+6.3	+0.29	-2.0	-17.5	-0.46	0.0											
Winter	-0.9	-0.10	+0.3	+3.1	-0.11	-2.0	-6.2	+0.27	+6.9											
Equinox	+0.2	0.00	+0.2	+9.4	+0.70	-3.8	-36.1	-0.90	-11.4											
Summer	-0.2	-0.03	-0.1	+6.3	+0.28	-0.2	-10.1	-0.76	+4.4											

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

AVERAGE RANGE OF DIURNAL INEQUALITY 1932-53 WITH 1957 AS PERCENTAGE OF THIS

38 ESKDALEUIR												1957								
		All days			International quiet days			International disturbed days												
		Z	H	D	Z	H	D	Z	H	D										
Year	1932-53	28.7	37.8	8.66	13.7	34.4	8.43	82.1	53.9	11.93										
	1957(%)	128	144	135	138	141	128	125	173	130										
Winter	1932-53	21.2	19.3	6.95	5.9	16.2	4.44	66.5	34.4	11.45										
	1957(%)	130	134	122	173	186	142	124	114	128										
Equinox	1932-53	37.1	43.1	10.18	14.8	39.7	9.69	108.9	75.4	15.11										
	1957(%)	145	151	134	136	161	122	146	154	120										
Summer	1932-53	33.9	59.7	11.84	21.9	50.4	11.76	82.4	83.7	13.11										
	1957(%)	124	134	131	145	96	129	124	112	115										

"Winter" comprises the four months January, February, November, December; "Equinox" the months March, April, September, October; and "Summer" May to August.

IRREGULAR CHANGES IN DECLINATION - SEASONAL FREQUENCIES

40 ESKDALEMUIR

1957

Number of cases per month

<i>Range interval</i>	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
5' to 15'	110	126	183	147	60	121	61	95	176	129	159	166	1533
15' to 30'	11	11	31	15	0	13	11	4	53	7	11	12	179
>30'	5	1	7	0	0	3	4	1	36	0	3	0	60

41 ESKDALEMUIR

1957

*Hourly distribution**Hour ending at (G.M.T.)*

<i>Range interval</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Year
5' to 15'	75	75	72	69	53	54	58	56	48	50	89	106	74	46	44	46	54	52	55	64	68	69	87	69	1533
15' to 30'	7	12	12	5	6	5	6	6	5	1	2	3	1	7	6	2	4	4	11	18	8	17	14	17	179
>30'	6	3	3	4	3	3	3	1	1	1	1	0	0	0	1	4	5	3	1	2	3	4	4	4	60

TABLE 42 - NOTEWORTHY MAGNETIC DISTURBANCES AT ESKDALEMUIR

103

(a) Disturbances without S.C's

Serial Number	From		To		Range (γ)			Notes
	Date	Hour	Date	Hour	H	D	Z	
1a	Feb. 3	12	Feb. 6	06	201	185	168	
2a	Mar. 1	12	Mar. 4	17	852	477	637	
3a	Mar. 21	12	Mar. 24	12	140	160	196	
4a	Mar. 27	11	Mar. 28	21	340	324	264	
5a	Apr. 9	11	Apr. 10	21	211	158	351	
6a	Apr. 26	06	Apr. 28	01	120	144	148	
7a	June 3	02	June 7	08	233	157	204	
8a	July 4	15	July 9	03	239	174	178	
9a	Aug. 31	05	Sept. 1	16	296	136	162	
10a	Oct. 21	10	Indeterminate		175	126	104	
11a	Nov. 25	04	Nov. 30	09	304	386	419	

(b) Disturbances with a S.C.

Serial Number	Date	Time of S.C.	End of Disturbance		With initial Reversed stroke			Magnitude main stroke of S.C.			Range of following disturbance (γ)		
			Date	Hour	H	D	Z	H	D	Z	H	D	Z
1b	Jan. 2	09.10			illegible			γ	γ	γ	Small		
2b	Jan. 21	12.55	Jan. 24	08	Yes	Yes	No	+40	-58	-6	2340	893	1085
3b	Jan. 24	19.10			Yes	Yes	No	+73	+61	0	Small		
4b	Jan. 29	13.11	Feb. 1	06	Yes	Yes	-	+42	-4	0	141	197	257
5b	Feb. 12	18.50	Feb. 14	08	No	No	No	+54	-15	-6	195	226	146
6b	Feb. 23	18.05	Feb. 25	04	Yes	Yes	-	+61	+63	0	561	197	255
7b	Mar. 10	00.23	Mar. 11	16	No	Yes	-	+40	-24	0	287	288	247
8b	Mar. 29	03.36	Mar. 31	18	Yes	Yes	No	+65	-59	-8	680	346	265
9b	Apr. 17	11.37			doubtful			time gap			Small		
10b	Apr. 18	15.08			Yes	Yes	No	+80	-31	-3	Small (see 11b)		
11b	Apr. 18	15.38	Apr. 20	09	Yes	Yes	-	+126	-40	0	305	222	265
12b	May 30	08.22	June 1	00	Record missing			Record missing			209	128	126
13b	June 25	00.47	June 29	00	Yes	Yes	-	+36	-17	0	385	143	366
14b	June 30	05.32	July 2	00	Yes	Yes	Yes	-97	-105	-6	1776	344	640
15b	July 2	08.56	July 4	01	Yes	Yes	-	-67	+27	0	395	161	237
16b	July 16	07.14			Yes	Yes	No	-14	+27	0	Small		
17b	July 19	13.46			Yes	No	No	+40	0	0	Small		
18b	Aug. 3	15.58	Aug. 4	09	Yes	Yes	Yes	+211	-57	-6	263	220	105
19b	Aug. 6	05.09			Yes	Yes	No	-20	-27	0	Small		
20b	Aug. 9	13.49			Yes	Yes	No	+109	-29	0	Small		
21b	Aug. 29	19.20	Aug. 30	23	Yes	Yes	No	+148	+30	-3	286	117	104
22b	Sept. 2	03.12	Sept. 4	08	Yes	Yes	No	-47	-38	0	1189	498	522
23b	Sept. 4	13.00	Sept. 6	07	Yes	Yes	Yes	+196	-48	+11	2423	682	780
24b	Sept. 6	11.21			Yes	Yes	-	-16	+19	0	Small		
25b	Sept. 23	00.47	Sept. 16	21	No	Yes	-	+85	-83	0	922	295	484
26b	Sept. 11	10.05	Sept. 25	18	Yes	No	Yes	+101	+48	-3	1960	566	874
27b	Sept. 29	00.16	Oct. 2	06	No	Yes	No	+36	-19	-5	1914	528	820
28b	Nov. 6	18.20	Nov. 7	23	Yes	Yes	No	+101	-28	-6	621	161	386

(c) Disturbances due to Solar Flare

Serial Number	Date	Commence-ment	Max.	End	Movement (γ)			K	K'	Flare or S.F.E.
					H	D	Z			
1c	Jan. 6	11.36	11.38	11.41	+16	-4	-2	2	2	S.E.A.
2c	Jan. 10	11.00	11.03	11.06	+20	-20	-1	3	3	S.E.A.
3c	Apr. 16	10.44	10.55	12.00	-85	+19	+2	4	2	S.E.A.
4c	Apr. 17	14.59	15.07	15.22	+56	-21	0	4	4	S.E.A.
5c	May 13	11.33	11.40	11.54	-9	+2	0	2	2	S.E.A. S.W.F.
6c	May 16	12.43	12.50	13.05	-6	-4	0	1	2	S.E.A.
7c	May 25	14.55	15.02	15.12	-14	+4	0	3	3	S.E.A.
8c	June 5	13.28	13.31	13.50	0	-11	0	3	3	S.E.A. S.W.F.
9c	Aug. 2	14.35	14.39	14.45	0	-4	0	3	3	S.E.A.
10c	Sept. 7	08.10	08.18	08.27	-12	+19	-2	2	1	S.E.A.
11c	Sept. 12	15.14	15.17	15.30	0	-22	+3	2	1	S.E.A.
12c	Oct. 20	16.44	17.00	17.35	-16	+22	0	3	3	S.E.A.
13c	Nov. 5	12.05	12.08	12.25	-20	-2	+3	2	2	S.E.A. S.W.F.
14c	Dec. 14	12.35	12.47	13.00	-12	-9	0	2	1	S.E.A.

S.E.A. = Sudden Enhancement of Atmospherics.

S.W.F. = Short wave fade-out.

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

The potential gradient is reckoned as positive when the potential increases upwards. The symbol Z indicates either that the trace fluctuates rapidly so that estimation of mean value is impracticable, or that the trace is limited by the range of the instrument (see Introduction); and the suffix +, - or ± indicates that the mean value is plainly positive, plainly negative, or indeterminate in sign. The occurrence of precipitation of any sort is indicated by an asterisk. Round brackets round any hourly mean indicate that the record during that hour is somehow imperfect.

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

105

43 ESKDALEMUIR		Factor 10.73 (metre ⁻¹)																							MARCH 1957				
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean			
volts per metre																													
1	30	25	25	40	35	45	40	50	75	115	135	170	175	170	155	120	140	100	90	85	105	175	150	135	99	(24)			
2	130	140	45*	55	65*	85*	0*	-5*	80*	120*	210*	360*	310*	265*	220*	305*	295*	135*	80	70	95	120	65	110	96	(9)			
3	180	280	120	105	70	115	80	105	105	175	145	335	335	240	185	150	65	25	60	40	105	155	0	80	136	(24)			
4	40	15	50	40	70	90	105	-15	-15	-55	-40	-35	-55	-55	-25	-40*	-135*	-40*	-135*	-65*	-45*	5*	5	-15	6	(17)			
5	25	25	15	40	50	50	45	65	45	40	40	45	40	45	15	45	35	35	40	40	40	40	55	25	39	(24)			
6	0	25	15	20	-5	-40	-60	-15	15*	-80	20*	30*	20*	20	-5	45*	25*	5*	40*	130*	125*	160	180	185*	17	(13)			
7	165	105	95	85	135	105	85	40	55	40	65	120	195	120	110	40*	50*	135*	35*	50	125*	Z-*	75	100	97	(18)			
8	105	35	-65*	90*	90*	120*	115*	90*	35*	45*	80*	5*	-50*	Z-*	140*	Z-*	Z-*	Z-*	Z-*	-270*	220*	310	240	173	(4)				
9	295	230*	210	150*	320*	375	440	295	105	165	175	175	160	165	100	40*	-100*	-45*	105*	255*	320*	375	320	150*	240	(14)			
10	120*	120	105	100	75	70	65*	70*	-105*	20	105	140	60*	175*	225	175	100	65	125	65	55*	-65*	40*	40	102	(15)			
11	25	50	110	45	15	60	40	105	65	160	170	170	210	200	160	115	90	110	40	15	70	30	50	50	90	(24)			
12	65	55	55	80	80	70	80	105	110	135	175	170	160	185	175	175	190	105	110	160	190	145	100	70	123	(24)			
13	90	85	85	65	70	65	35	15	20	40	100	200	150	130	120	105	25	Z-*	-5*	Z-*	Z-*	125	150	120	90	(20)			
14	90	105	95	70	65	85	95	90	100	65	45	15	30	15	5	0	5*	55*	55*	65	100*	40*	135*	55*	61	(17)			
15	105*	65*	80	130	80	65	95	85	40	-175*	-290*	-10*	140*	Z-*	Z-*	Z-*	-95*	Z-*	Z-*	-90*	15*	65*	175*	190	96	(8)			
16	120	115	120	65*	120	110	40	95	65	40	140	135	140	120*	145*	50*	Z-*	115*	135	145	155	85	5*	20*	110	(16)			
17	55	5*	Z-*	Z-*	-25*	-25*	25	75	100	65	35	50	70	60	55	65*	20*	-75*	15	90	85*	70	70	65	60	(15)			
18	55*	65	65	70	70*	55*	25*	70	70	80	70	95	95	90	65	50	95	155	145	130	80	50	-20	25	77	(20)			
19	-25*	-35*	20*	0*	45*	95*	200*	65*	75*	80*	130	150*	175	295	105*	Z-*	45*	110*	105*	115*	-55*	Z-*	135*	110*	200	(3)			
20	150	70	50	40*	Z-*	Z-*	45*	85	40	105	95	135	Z-*	Z-*	Z-*	Z-*	Z-*	-165*	Z-*	Z-*	Z-*	90*	90	155	97	(10)			
21	135	130	Z-*	95*	70	95	Z-*	115*	100	30	10*	90	80	100	105	90	100	140	105	110	70	110	115	120	100	(19)			
22	65	70	65	80	80	55	30	55	95	135	170	175	165	145	90	105	50	55	40	40	60	25	40	25	80	(24)			
23	35	40	25	25	40	40	40	45	50	80	110	145	105	135	155	175	160	135	95	35	25	25	25	75	76	(24)			
24	45	45	45	15	25	30*	Z-*	100*	0	45	80		105	100	105	105	95	65	65	60	50	55	45	50	60	(20)			
25	55	55	55	70	65	70	60	70	85	180	205	160	120	105	120	65	5*	75*	145*	120*	5*	-25*	55*	45*	96	(16)			
26	350*	330*	75*	315*	145*	165*	125*	Z-*	80*	85*	10*	Z-*	Z-*	-140*	105	125	115	135	120	140	105	130	130	95	120	(10)			
27	65	70	55	55	60	55	25*	105	105	Z-*	Z-*	30	45	55	55	70	45	30	30	30	35	45	60	70	56	(21)			
28	45	30	45	40	15	45	65	70	75	80	85	90	95	95	100	100	105	80	45	65	50	35	80	60	66	(24)			
29	70	65	75	90	120	125	50	80	115	35	-15	-25	-65	-45	-50*	-25*	-25*	-10*	20*	20*	15*	40*	40*	25*	48	(14)			
30	40*	25*	65	50	20*	-100*	65*	35	65	100	115	60	50	120	105	145	120	100	110	95	35	65	60	55	82	(19)			
31	45	40	30	25	40	50	55	65	70	65	85	105	110	120	115	120	135	90	90	105	90	30	25	25	72	(24)			
Mean	85	74	70	61	63	82	72	74	73	73	99	113	112	109	100	107	98	89	81	78	80	98	90	82	86	(534)			
No. of days used	(25)	(25)	(25)	(23)	(22)	(22)	(20)	(24)	(24)	(25)	(24)	(25)	(24)	(24)	(24)	(19)	(17)	(16)	(19)	(21)	(17)	(21)	(24)	(24)					
Mean for 0a days																												[80	(1)]

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

43 ESKDALEMUIR		Factor 10.17 (metre ⁻¹)																				APRIL 1957					
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
volts per metre																											
1	35	25	20	25	20	25	40	65	85	90	85	80	110	90	90	90	90	65	40	35	35	35	40	40	56	(24)	
2	65	50	45	25	25	40	30	40	35	50	75	5	20	5	90	180	220	220	115	25	15	25	5	-10	58	(24)	
3	90*	70*	-40*	25*	90*	5*	190	165*	110*	145	210	180	125	205	85	-140*	Z-*	Z-*	85*	85*	65*	120*	220*	255*	163	(7)	
4	280*	270*	255*	245*	225*	220*	115*	180	190	140	70	105	65	35	65	50	90	85	115	115	125	75	35	75	95	(17)	
5	110	25	5	70	130*	20*	40	65	100	115	95	90	105	155	115	90	90	35	25	25	40	25	45	40	68	(22)	
6	35	25	115	80	60	60	75	65	Z-*	35	75	85	115	125	120	115	115	95	40	35	40	50	60	50	73	(23)	
7	40	35	40	40	25	20	20	30	30	40	40	40	45	75	65	35	30	50	40	30	50	65	55	50	41	(24)	
8	55	60	50	55	50	35	50	50	60	65	70	90	-	-	-	-	90	80	45	60	10	10	0	25	51	(20)	
9	40	65	65	75	75	50	50	85	80	90	75	75	120	65	85	90	90	65	65	50	75	50	55	40	70	(24)	
10	15	25	15	25	25	10	25	100	100	100	100	90	60	70	40	30	40	75	120	75	95	105	90	90	63	(24)	
11	70	70	75	80	80	90	100	145	185	165	170	155	145	135	135	145	140	Z+	95	50	Z+	65	110	5	110	(22)	
12	25	45	65	85	135	120	115	130	160	150	115	100	100	Z-*	Z-*	15*	190*	50*	205	175	160	105	45	70	111	(19)	
13	80	130	100	85	70	95	115	140	115	145	175	130	75	85	145	90	85	75	Z-	70	65	60	60	55	98	(23)	
14	60	50	50	50	60	65	115	155	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	(9)	
15	-	-	-	-	-	-	-	-	(90)	90	75*	90*	100	95*	105	125	75*	-100*	Z-*	Z-*	80*	90*	50*	15*	102	(5)	
16	80	130*	110*	-25*	100*	155*	165	165	175	105	140	135	115	100	105	90	105	105	100	115	130	115	85	135	119	(19)	
17	85	100	105	100	35	-190*	Z-*	Z-*	Z-*	15*	80	115*	135	85	75	115	75	75	70	70	100	100	50	35	83	(18)	
18	40	35	40	15	80	65*	15*	35*	Z+*	65*	0*	80	-40*	115	150	125	115	115	125	140	105	115	130	Z-	95	(16)	
19	140*	110	115	70	60	70	70	85	85	Z-	60	110	110	90	85	70	65	75	60	100	80	65	40	30	77	(22)	
20	25	25	40	30	65	85	90	90	150	145	125	105	85	100	105	110	115	100	90	50	60	55	Z+	Z+*	84	(22)	
21	65	Z-*	Z+*	Z*	30	60*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	Z-*	-205*	Z-*	Z-*	Z-*	-255*	90*	40*	155	145*	83	(3)	
22	195	230	190	205	165	105	95*	-240*	-60*	20*	65	65	80	90	70	65	50	50	50	65	90	25	25	20	95	(20)	
23	35	45	35	35	50	40	40	50	20	25	60	30	Z+	Z+*	Z+*	Z+*	Z+	40	25	10	10	20	15	15	32	(19)	
24	15	20	25	25	35	30	25	40	65	80	75	65	65	75	65	60	65	70	55	20	25	25	25	45	46	(24)	
25	35	40	95	90	75	60	70	55	65	65	75	90	100	110	105	105	105	105	95	60	25	25	15	20	70	(24)	
26	35	30	25	25	20	25	30	35	35	35	85	90	90	95	90	105	105	110	100	75	65	75	90	45	63	(24)	
27	50	45	65	65	30	35	40	60	65	60	65	65	75	65	65	70	65	60	35	35	25	25	25	25	51	(24)	
28	15	15	15	20	20	25	60	75	90	100	125	135	115	100	Z+	Z+	Z-*	Z+	25	30	0*	-225*	-435*	-305*	60	(16)	
29	Z-*	Z-*	-385*	25*	-15*	15	15	-5	20	5	25	20	30	15	30	30	35	30	15	15	15	10	20	50	21	(19)	
30	25	25	25	25	35	35	50	70	85	90	85	85	70	80	65	70	145	120	60	65	50	65	60	45	64	(24)	
Mean	53	55	59	58	55	52	67	82	92	89	94	88	90	90	90	89	92	83	72	61	62	56	53	43	72	(581)	
No. of days used	(25)	(24)	(24)	(24)	(24)	(22)	(24)	(24)	(24)	(24)	(26)	(26)	(25)	(24)	(24)	(23)	(23)	(23)	(25)	(26)	(24)	(25)	(25)	(23)			
Mean for 0a days																											
[61 (5)]																											

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

43 ESKDALEUIR		Factor 10.01 (metre ⁻¹)																							MAY 1957	
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	volts per metre												Mean	
	0-1	1-2											12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
1	40	35	30	45	35	35	25	35	40	35	25	25	40	75	120	90	55	100	80	100	70	50	60	50	54	(24)
2	40	40	40	35	30	25	50	65	65	60	55	50	55	50	60	25	20	25	40	50	35	50	55	50	45	(24)
3	40	50	70	135	95	90	100	60	40	35	40	75	60	45	50	50	25	15	25	40	35	-25	25	-35	47	(24)
4	25	35	35	25	25	75	90	95	110	75	65	65	50	50	50	50	15	35*	-110*	25*	-50*	-15	15	15	47	(20)
5	15	20	15	15	15	35	35	60	65	75	100	65	75	85	85	85	75	70	80	65	45	40	40	40	54	(24)
6	60	60	35	20	30	45	70	110	110	100	90	60	60	60	55	50	50	50	35	25	30	25	25	20	53	(24)
7	30	15	20	15	10	15	25	35	45	40	40	25	30	20	-15	40	25	-65*	-410*	-25	-145*	-175*	65	-5*	17	(19)
8	15*	20	15	0	15	60*	80*	40*	35*	-15*	-55*	-5*	-15*	-5*	-75*	-310*	-90*	15	-25*	-15*	-90	-75	-135*	35	-8	(8)
9	30	0*	40	30	40	25	-5	30	60	50	40	35	50	25	35	5	30	15	25	55	45	10	0	-5	29	(23)
10	0	-5	5	5	15	25	25	25	25	50	60	65	30	50	65	50	25	25	10	5	0	15	20	25	25	(24)
11	35	30	20	0	30	100	55	130	125	50*	Z-*	50	35	20	55	35	Z±*	Z±*	Z±*	Z±*	20	40	15	25	46	(18)
12	20	25	25	20	30*	50*	55	65	25	45	60	45	50	40	Z-*	Z±*	50	50	50	65	25	40	40	30	41	(20)
13	15	20	20	20	30	45	65	70	65	125	Z±*	Z-	Z±*	Z-*	50	110	100	120	110	100	55	40	45	30	62	(20)
14	35	35	30	35	25	30	15	-15*	80*	65*	65*	125*	130	40*	65*	60*	60	60	50	60	50	20*	-40*	65*	47	(13)
15	60	80	90	75	95*	55*	65	70*	80	110	100*	140	80*	Z±*	Z±*	Z±*	100	120	Z±	Z±	Z±*	75	Z-	Z±*	90	(11)
16	30*	Z±*	Z-*	105	10	90	105	45	110	55	Z±	Z-	Z±*	Z-*	35	Z-	Z-*	90	95	105	80	110	90	85	79	(15)
17	70	105	55	Z-*	Z-*	Z-*	115	105	95	105	130	115	Z±	Z±*	80	105	110	110	115	Z-*	Z-	85*	90	100	100	(16)
18	25	65	50	25*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	Z-*	Z±*	Z±*	Z-*	Z-*	Z-*	Z-*	Z-*	15*	95	100	105	95	76	(7)
19	70	75	80	95	95	90	85	80	90	80	80	75	65	80	100	100	70	90	105	120	65	100	55	60	84	(24)
20	50	40	25	25	25	Z-*	Z-*	Z-*	-175*	-225*	25*	-40*	105*	145	115	110	100	95	100	120	105	95	45*	70	81	(15)
21	75	80	75	70	70	25	40	55	60	70	65	75	75	85	75	65	85	90	75	85	70	75	75	70	70	(24)
22	85	95	70	75	80	105	165	205	195	190	180	190	185	175	200	165	140	150	175	140	115	85	105	100	140	(24)
23	60	50	65	65	80	105	120	105	85	75	70	75	50	65	70	75	75	85	100	75	35	60	65	50	73	(24)
24	65	60	75	60	45	65	90	90	90	115	125	105	125	135	120	105	120	105	125	110	100	100	105	160	100	(24)
25	115	180	140	150	110	80	100	110	105	105	110	75	90	105	115	115	120	120	100	75	50	65	50	45	101	(24)
26	50	45	35	30	40	75	85	95	110	85	85	80	80	90	95	95	95	85	90	50	60	50	40	73	(24)	
27	25	20	20	30	20	60	80	105	130	125	110	95	90	95	100	115	105	110	105	65	80	75	90	75	80	(24)
28	70	65	70	65	50	55	95	120	120	110	100	90	90	95	95	95	100	110	140	100	50	35	45	60	84	(24)
29	40	45	35	35	45	35	50	60	55	-	-	-	-	-	(75)	-	-	-	-	-	(50)	-	-	-	48	(11)
30	-	-	(15)	-	-	-	-	-	(60)	-	-	-	-	-	(80)	-	-	-	-	-	(30)	-	-	-	46	(4)
31	-	-	(45)	-	-	-	-	-	95	75	85	85	105	95	110	115	100	115	120	135	80	55	85	85	93	(17)
Mean	46	51	45	47	42	58	69	81	84	83	82	77	74	77	80	80	74	81	85	77	51	49	51	53	66	(597)
No. of days used	(27)	(27)	(30)	(27)	(25)	(23)	(26)	(24)	(27)	(24)	(21)	(23)	(22)	(22)	(26)	(23)	(25)	(25)	(23)	(23)	(27)	(26)	(25)	(26)		
Mean of 0a days																									[80	(11)]

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

43 ESKDALEUIR		Factor 10.06 (metre ⁻¹)																							JUNE 1957	
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
	0-1	1-2											volts per metre													
1	40	55	50	25	60	145	110	120	145	150	95	85	65	90	60	75	80	50	95	115	175	95	105	135	93 (24)	
2	70	70	45	0	5	-45	95	220	75	90	245	130	80*	100	60	95	105	90	135	115*	120	390	330	220	120 (22)	
3	245	75	205*	245	150	95	110	105	95	90	95	75	85	80	75	100	100	85	70	55*	70*	75	125	80*	109 (20)	
4	50	20*	25*	Z-	Z-*	45	20*	65	105	105	-	-	-	-*	-	-	-*	-*	20*	-100*	Z-*	-*	15*	285	14 (6)	
5	50	35	25	-55	50	95	80	50	(30)	-35	-15	-	55	45	60	65	-30*	20*	45*	60	80	80	65	75	45 (20)	
6	60	50	10	75	75	75	80	75	95	85	-	90	60	55	-135	130	50	Z+*	Z±	Z-	15*	35*	35	45	42 (18)	
7	35	45	50	40	40	70	80	95	105	80	75	75	70	55	30*	65	75	75	20	15*	-10*	50	40	60	62 (21)	
8	40	40	40	40	60	70	90	90	110	75	60	70	70	70	45	5	20	40	40	40	20	25	25	30	51 (24)	
9	25	35	25	20	25	85	95	90	70	60	70	60	75	75	85	50	40	50	40	30	35	25	30	25	51 (24)	
10	45	85	70	50	55	75	95	80	70	80	75	60	55	75	Z	70	95	100	110	115	120	130	95	75	82 (23)	
11	60	65	75	70	80	75	65	65	65	65	60	55	45	45	50	40	40	45	45	55	65	45	45	40	57 (24)	
12	40	35	30	25	25	40	40	60	95	105	75	90	70	95	100	105	110	90	80	65	45	55	45	50	65 (24)	
13	20	15	5	20	80	70	-15	25	105	90	70	80	90	95	110	110	90	80	75	35	30	25	25	25	60 (24)	
14	20	25	25	40	70	110	105	125	(85)	95	100	105	100	100	105	75	55	25	35	45	60	35	70	60	70 (24)	
15	115	140	125	115	95	100	105	150	165	175	150	110	100	110	110	140	145	95	85	90	75	90	90	90	115 (24)	
16	95	85	105	90	90	90	105	125	110	85	70	70	70	70	85	80	65	60	75	40	55	75	60	40	79 (24)	
17	40	45	80	85	115	120	95	100	115	130	110	90	80	100	100	100	85	95	80	100	115	125	150	160	101 (24)	
18	155	140	85	65	60	40	40	35	35	60	55	95	85	105	115	135	140	120	120	105	95	85	125	75	90 (24)	
19	60	60	60	70	75	75	120	120	135	180	180	170	160	160	160	165	160	145	115	95	85	80	70	80	116 (24)	
20	45	40	50	60	70	85	75	75	95	115	130	195	195	145	135	115	120	125	160	135	95	75	95	75	104 (24)	
21	45	45	30	35	20	30	40	55	95	90	1	110	85	95	85	60	65	15	15	-125	20	-25	15	35	43 (24)	
22	-15	25	20	35	20	50	70	75	95	100	Z+	90	Z-	Z-	Z-	70	65	75	50	80	25	40	45	55	53 (20)	
23	40	40	40	40	45	60	70	80	85	85	75	80	75	75	75	60	45	45	55	40	35	25	40	35	56 (24)	
24	15	15	15	30	40	40	40	50	60	75	75	65	65	60	75	85	85	85	75	70	40	35	35	30	53 (24)	
25	40	40	20	25	20	35	55	90	95	80	70	85	100	105	100	80	75	75	50	50	40	30	30	40	60 (24)	
26	10	15	20	30	60	90	100	100	135	135	125	115	105	90	85	100	100	110	100	110	80*	60*	75*	80*	87 (20)	
27	100*	55*	70	85*	55*	-110*	Z±	Z±	435*	760*	730*	680*	475	350	490	485	460	330	320	160*	-15*	145*	155*	55*	416 (7)	
28	170*	125*	145*	140*	120*	75*	120*	180	300	310	315	325	290	235*	95*	110	85	120	135*	170*	270*	240*	140*	170*	226 (9)	
29	230*	150*	105	185	190	250	125	120	105	125	95	120	105	115	100	120	120	105	-	-	-	-	-	-	130 (16)	
30	-	-	-	-	-	-	-	-	70	85	85	85	85	100	95	95	75	80	60	45	45	35	30	45	70 (16)	
Mean	56	53	48	56	64	77	80	94	102	102	102	103	108	99	97	94	99	90	84	65	67	71	73	53	81 (626)	
No. of days used	(26)	(25)	(25)	(26)	(26)	(27)	(26)	(28)	(29)	(29)	(26)	(27)	(27)	(27)	(25)	(29)	(28)	(27)	(25)	(22)	(24)	(25)	(25)	(25)	Mean of 0a days	[81 (14)]

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

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43 ESKDALEMUIR			Factor 10.06 (metre ⁻¹)																							JULY 1957	
	Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean		
	0-1	1-2																									
Volts per metre																											
1	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93 (2)	
2	-	-	-	-	-	-	-	-	(90)	115	110	105	105	100	90	80	55	95	80	65	30	40	40	45	45	78 (16)	
3	20	35	30	40	45	45	70	60	60	25	30	65*	-60	125	80	40	75	-10	25	10*	5	-5	-55	-115	26 (22)		
4	-35	-20*	60	85	95	160	150	95	140	105	70	25	25	40	80	55	60	45	60	65	50	45	35	40	67 (23)		
5	40	50	70	140	90	55	35	45	45	60	50	50	65	55	75	85	70	70	55	25	25	35	25	30	56 (24)		
6	35	40	40	50	40	65	70	75	70	95	115	80	55	50	25	45	80	Z±	Z±	120	85	100*	Z±*	Z±*	65 (19)		
7	50	60*	Z-	45*	Z±*	Z±	Z±	160*	175*	140	155	125	115	105	130	55*	80*	80*	80	50*	240*	245	150	115	128 (11)		
8	65	125	75	80	10	5	20	25	25	70	110	50	75	60	115*	115	145	150	135	105	75	100	65	85	77 (23)		
9	40	60	70	35	105	50*	90	105	105	120	140	125	105	85	115	60	30	155	85	20	55	50	50	40	80 (23)		
10	55	55	30	25	35	40	35	60	80	60	45	30	65	115	(-60*)	Z±	Z-	70	20	40*	-310*	-285*	40*	80	53 (17)		
11	150	100	60	65	110	235	130	150	120	165	85	95	90	80	50	60*	75*	70*	170	Z-	Z±*	Z±*	225*	105	115 (17)		
12	145	140	95	150	230*	55*	-240*	Z-	70*	210*	185	-10*	Z±	Z±	Z±	Z±*	Z±	145	335	90	75	105	65	95	135 (12)		
13	75	55	80	190*	65*	Z-	Z-	175*	Z-	Z-	10*	265	260	145	125*	75	35*	85	75	-125*	Z-	115*	135	140	126 (11)		
14	195	170	60*	-170*	40*	110	285	175	-	-	-	-	-	-*	-	-	-	-	-	-*	-*	-*	-*	-	187 (5)		
15	-	-	-	-	-	-	-	-	(135)	95	85	120	120	135	140	85	70	60	65	70	50	35	25*	-440*	90 (14)		
16	65	95	60	60	80	100	160	150	195	185	240	40*	150*	Z±*	Z-	45	115	Z±	Z±*	35	120	70	65	60	106 (18)		
17	75	105	45	20	50	135	130	140	140	145	125	110	120	135	120	90*	100	100*	105	80	95	165	155	60*	109 (21)		
18	0*	55	105	110	70*	50	90	100	90	90	75	75	90	60	85	50	50	80*	95	120*	70*	125	145	105	87 (19)		
19	55	105	110	-115*	55	115	80	55	100	45	45	65	80	-	-	-	-	-	65	65	40	55	30	Z-	69 (17)		
20	Z-	45	90	15	15	155	160	120	135	25*	165	75	60	50	-10*	-	85	70	55	50	40	25	35	0	72 (20)		
21	20	30	15	20	25	25	40	50	60	50	65	60	40	35	60	70	60	65	60	50	45	30	30	25	43 (24)		
22	20	10	10	20	30	20	20	35	50	60	60	80	105	95	90	105	80	95*	80*	60*	110	145	90	70	62 (21)		
23	65	60	50	70	45	110	70	90	130	60	50	35	60	20	40	20	35	100	115	110	155	130	80	110	75 (24)		
24	90	65	60	40	50	65	65	55	70	70	60	0*	70*	220	155*	150	95	105	95	35*	80*	120*	60*	-15*	85 (16)		
25	225	210	75	45	35	90	10	80	80*	55*	245*	145	160	135	85*	-195*	-100*	70*	95*	45*	-175*	-105*	-185*	-250*	110 (11)		
26	20*	45*	175*	255	165	125	85	60	50*	80	90	80	65	35*	90	60	80	80	45	0*	45	-10*	20*	15*	94 (15)		
27	15*	25*	20	-190*	-430*	-435*	-210*	70*	225*	145	60	40	25	10*	30	80	80	20*	-5*	80	95	95	50	60	66 (13)		
28	80	95	80	30	45	85	120	165	160	140	130	145	155	90	75	60	105	110	145	175	135	155	185	155	117 (24)		
29	140	125	110	120	145	140	215	175	135	105	30	60	100	90	115	110	90	110	95	120	125	145	125	125	119 (24)		
30	125	65	60	60	50	60	80	90	95	100	85	95	95	100	105	95	95	115	110	95	80	50	50	50	84 (24)		
31	45	40	45	45	35	50	60	95	80	60	100	115	40	145	90	10	0	-80*	65*	155*	140	110	110	85	71 (21)		
Mean	77	81	62	69	62	89	95	94	100	95	95	90	85	95	84	71	75	90	94	79	76	89	75	68	83 (551)		
No. of days	(24)	(24)	(25)	(23)	(22)	(23)	(24)	(25)	(24)	(25)	(27)	(25)	(26)	(24)	(20)	(21)	(22)	(18)	(23)	(18)	(22)	(22)	(22)	(22)			
Mean for 0a days [85 (5)]																											

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

AUGUST 1957

43		ESKDALEMUIR											Factor 9.89 (metre ⁻¹)																AUGUST 1957	
		Hour G.M.T.		2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean				
		0-1	1-2																											
Volts per metre																														
1		85	80	95	100	90	100	210	245	120	125	125	110	115	130	140	125	130	115	110	75	75	60	60	60	112 (24)				
2		65	50	75	90	90	120	195	200	230	170	185	210	-	-	-	-	-	-	-	-	-	-	-	-	140 (12)				
3		-	-	-	-	-	-	-	-	105	125	160	170	160	110	105	60	75	75	30	75	20	60	40	55	89 (16)				
4		45	75	70	70	105	105	185	125	(125)	(125)	(125)	135	120	135	125	145	130	115	95	65	35	45	35	40	99 (24)				
5		30	30	25	20	30	30	55	40	50	75	70	75	90	75	40	115	105	115	105	105	65	40	35	30	60 (24)				
6		20	50	105	40	50	40	30	45	155	95	105	100	100	95	75	85	70	85	75	90	75	50	25	25	71 (23)				
7		20	25	30	40	70	120	110	50	75	85	110	95	120	90	90	85	95	85	60	45	40	30	40	115	72 (24)				
8		75	80	55	25	20	35	25	-20	-25*	Z±*	135*	Z-*	Z-	270	125*	90	125*	25*	100*	185*	30*	55*	65	55	65 (12)				
9		55	205	215	285	135	220	Z-*	Z-*	Z-*	30*	135*	135*	Z-*	25*	80	Z-	135	100	80	150	230	245	170	155	164 (15)				
10		175	145	125	90	55	35	25*	160	210	120	Z±*	Z±*	Z-*	Z-*	Z-*	135*	140	135	150	110	90	110	75	185	124 (17)				
11		255	305	215	190	170*	85*	Z±*	Z-*	170*	150	40	75	85	95	115	70	90	100	80	75	95	10	15*	75	118 (18)				
12		75*	25*	40*	55	95	70*	60*	25*	105	135	85	95	75	55	40	95	100	95	70	70	65	75	95	85	83 (18)				
13		50	145	20	20	55	60	50	65	30	20	5	25	100*	285*	Z±*	120*	115*	Z-*	160*	40*	85*	185	150	140	68 (15)				
14		145	115	75*	80*	-50*	20*	60*	120*	160*	160*	90*	150*	160	120*	135*	80*	5*	-370*	-95*	-50*	25*	10*	15	Z+	109 (4)				
15		60	5	Z±*	70*	-*	-*	-*	-*	55	30	75	-50	Z-*	-390*	(-60*)	-*	-	-10	100	95	20	35	40	90	42 (13)				
16		75	80	55	80	135	95	85	75	95	80	30	70	85	35	80	110	100	115	125	135	170	175	195	305	108 (24)				
17		235	100	145	105*	75	125	155	135	145	145	115	115	125	120	120	155	100	100*	10	5*	125	145	210	250	136 (21)				
18		190*	125	110	110	180	155	125	130	145	-	-	-	-	-	-	-	-	-	-	-	135	60	45	35*	120 (11)				
19		90*	160	195	190	25*	-100*	40*	Z-*	-10*	85*	155*	90*	170*	150*	95*	85*	160*	75	80	60	55	80	70*	55*	112 (8)				
20		70	115	120	55	40	35	75	125*	120	115	105	90	95	120	135	120	110	90	100	65	60	65	55	40	87 (23)				
21		25	15	20	30	20	25	15*	40*	40*	50*	100	160	Z+	245	155	145	35	100	140	100	55	-	-	-	86 (16)				
22		-	-	-	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(-)				
23		-	-	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	25*	85	90*	95*	Z±*	Z-	80*	110	97 (2)					
24		75*	Z-*	40*	70*	80	75	Z±*	80*	80	Z-*	Z±*	Z±*	Z±*	Z-*	Z-*	Z-*	Z-*	90*	110	135	70	75*	-110*	92 (6)					
25		Z±*	-40*	Z±*	-25*	-145*	Z±*	Z±*	Z+	-25*	-5*	75	Z-*	Z-*	-55*	30*	175	Z±	-195	95	90	115	95	60	85	66 (9)				
26		115	80	80	90	80	70	85	120	125	135	145	100	125	120	120	120*	120	90*	95*	65	95*	40*	75*	135*	104 (17)				
27		235	225	140*	55*	25*	100*	55*	90	145*	120	140	-170*	Z±*	25	90	-	85	85	75	185	160	110	60	125	121 (15)				
28		155	120	175	130	120	135	135	160	115	95	85	105	85	75	-225*	65	65	95	130	160	145	145	125	120	119 (23)				
29		105	100	95	100	80	100	135	150	120	115	120	95	85	85	75	85	115	135	145	125	105	120	120	120	110 (24)				
30		75	40	45	60	95	100	55	25	35	40	70	85	100	120	120	125	160	125	180	220	190	135	60	70	97 (24)				
31		80	50*	30	Z±*	Z±*	25*	45*	150	175	230	175	-*	75	120*	105*	180	150	35*	155*	80	135	120	85	75	124 (14)				
Mean		98	105	95	89	81	89	107	108	115	111	102	98	106	111	100	113	105	82	97	102	100	94	81	105	99 (496)				
No. of days		(23)	(23)	(22)	(21)	(21)	(20)	(16)	(18)	(21)	(21)	(22)	(19)	(17)	(18)	(17)	(18)	(20)	(21)	(21)	(23)	(24)	(24)	(23)	(23)	107 (7)				
Mean for 30 days																														

POTENTIAL GRADIENT (reduced to open level surface)
Mean values, for periods of sixty minutes between exact hours

43 ESKDALEUIR		Factor 9.72 (metre ⁻¹)																				SEPTEMBER 1957					
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
		Volts per metre																									
1	70*	60*	65	90	95	95	105	105	120	130	115	115	130	Z--	115	100	100	115	115	135	110	100	120	90	108	(21)	
2	90	95	75	75	80	120	115	75	90	85	90	95	65	30	85	115	80	100	65	55	50	45	50	40	78	(24)	
3	30	30	30	30	25	50	45	70	75	75	75	75	75	75	80	75	80	55	55	20	50	40	30	20	53	(24)	
4	15	10	20	-5	-20	-10*	5*	Z±*	40*	130*	-35*	135	135	70	60	80	80	75	80	100	130	140	120	115	74	(18)	
5	110	95	60	55	120	200	175	130	120	Z+	Z+	Z±*	Z--	135	10*	75*	120	95	145	165	175	130	135	100	126	(18)	
6	110	115	120	135	90	70	55	160	170	155	155	100	55	115*	100*	75*	85*	75*	Z--	Z--	-335*	Z--	-50*	120	115	(14)	
7	135	120	105	90	95	95	95	100	100	65*	65	35*	50*	35*	Z--	Z--	Z±*	Z--	125	100	90*	85	55*	60	98	(14)	
8	105	105	100	95	140	90*	105	125	110	95	90	95	90*	80	110	95	85	130	110	115	90	75	75	55	99	(22)	
9	70	55	65	70	65	55*	45*	-10*	-5*	Z--	-25*	Z--	190*	195*	155	105*	120	120	130	100*	155*	140	105	110	100	(12)	
10	105	10*	75*	110	-10*	-15	90*	-85*	0*	50	35*	115	120	120	95	120	75	65	5*	90	95	85	90	45	85	(16)	
11	25	20	40	80	120	145	110	175	80	35	5	Z--	100	80*	55*	Z-	65	Z--	-40*	110	-80	75*	130*	140	73	(16)	
12	140	110	90	80	80	60	95	100	135	80	Z--	Z±*	Z±	Z--	30*	130	Z--	Z±*	135	175	140	100	115	10*	110	(16)	
13	Z--	140	95	95	80	105	75	95	100	115	100	120	125	105	95	95	75	115	115	150	130	80	60	70	102	(23)	
14	55	50	40	75	75	80	80	85	115	160	140	100	130	120	95	120	140	115	115	105	105	85	95	90	99	(24)	
15	90	75	80	60	60	55	70	80	75	65	90	100	100	50	70	Z-	Z±*	Z--	Z-	105	105	95	95	80	80	(20)	
16	65	55	50	50	50	50	60	60	60	80	85	75	80	80	55*	10*	-20*	-20*	70*	25*	25	60	110	80	65	(18)	
17	45	45	55	15	25	15	20	90*	185*	140*	100*	Z--	205*	230	75*	170*	155	170*	155*	185*	200	185	150	60*	95	(12)	
18	40*	55*	110*	95	115*	115*	175	145*	110*	0*	-150*	30*	55*	-105*	-145*	-350*	-475*	-55*	115	135	185	145	155	85	136	(8)	
19	60	85	60	60	60	55	75	125	135	95	65	70	85	75	55	50	55	30	30	55	75	50	55	30	66	(24)	
20	0	15	25	-15	40	35	35	30	45	25	10	-10	10	10	40	10	-20	-5	-35	-55	-30	10	-5	-210*	7	(23)	
21	-290*	250*	-285*	95*	-20*	-25*	235*	155*	95*	160	20*	140*	130	65*	40	130	155	75*	60*	80*	5*	55*	185*	-200*	123	(5)	
22	-190*	20*	0	40*	170	150	145	95*	0*	25	130	90	5*	-25*	10*	40*	-125*	0	60	55	15	75	130	90	81	(14)	
23	65	115	115	35*	10*	-85*	20*	20*	-80*	0*	20*	30	50	80	75	70	65	35	70	65	75	65	45	55	67	(16)	
24	55	55	55	60	65	55	50	65	125	140	110	95	85	105	95	95	85	80	45	60	50	90	75	105	79	(24)	
25	125	95	55	45	45	60	75	105	120	105	120	100	95	105	125	115	120	110	100	125	155	120	95	70	99	(24)	
26	45	35	40	40	40	45	60	100	100	70	135	130	150	130	115	150	155	130	135	90	70	40	35	50	87	(24)	
27	60	60	60	70	75	75	(55)	(40)	30	45	25	35	65*	55	80*	65	90	140	115	170	165	150	145	125	84	(22)	
28	115	100	90	70	95	115*	135	140	85	95	145	120	135	135	140	140	135	195	250	210	145	205	195	145	140	(23)	
29	150	150	155	125	105	130	120	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	134	(8)	
30	-	-	-	-	-	-	-	-	(160)	160	175	180	160	150	145	115	150	155	75	70	65	90	65	70	124	(16)	
Mean	78	76	67	67	75	79	89	100	102	93	96	94	101	97	94	98	98	93	98	100	92	96	94	82	89	(543)	
No. of days	(24)	(24)	(26)	(26)	(25)	(22)	(24)	(21)	(21)	(22)	(20)	(21)	(20)	(20)	(19)	(19)	(22)	(20)	(22)	(24)	(25)	(26)	(25)	(25)			
		Mean for 0a days																								[103 (9)]	

POTENTIAL GRADIENT (reduced to open level surface)
Mean values, for periods of sixty minutes between exact hours

43 ESKDALEUIR		Factor 9.65 (metre ⁻¹)																				OCTOBER 1957				
Hour G.M.T.		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
		Volts per metre																								
1	55	75	70	40	40	40	45	50	55	65	70	55	50	40	80	65	55	75	40	40	20	45	20	40	51 (24)	
2	55	45	20	-10	50	40	65	75	75	65	40	45	75	70	55	75	90	100	75	75	55	-5*	-5*	40	58 (22)	
3	85	75	85	65	45	30	30	70	135	145	130	160	210	220	130	110	85	45	95	165	85	25	30	35	95 (24)	
4	35	40	45	30	25	20	40	80	60	30	75	90	170	120	50	40*	45	70	60	50	20*	25	35	25	55 (22)	
5	-80*	-95*	5*	10*	5*	-*	-*	-*	-*	-	40	75	60	55	65	55	70	75	45	50	55	25	45*	15	53 (13)	
6	15	40*	25	35	45	65	95	85	60	45	20	25	25	65	85	55	70	105	140	115	165	180	145	120	78 (23)	
7	125	105	85	90	90	75	70	85	75	75*	145*	95	80	90	115	130	155	190	165	135	140	145	130	105	113 (22)	
8	55	55	60	55	50	60	40	40	60	60	75	70	85	100	70	100	65	100	55	95	40	65	75	65	66 (24)	
9	195	200	190	325	225	180	155*	215	130	115	75	75	75	70	120	75	115	75	45	45	75	50	45	50	120 (23)	
10	35	20	30	55	45	35	40	55	65	45	15	5	20	40	15	20	10	30	40*	5	-30*	Z--	15*	30	31 (20)	
11	30	65	20	25	30	55	55	(55)	55	60	65	95	100	85	90	80	75	75	55	65	70	65	75	65	63 (24)	
12	70	55	60	55	60	55	65	95	160	210	170	150	125	125	130	130	120	130	170	180	245	205	130	90	124 (24)	
13	90	60	40	45	25	10	25	45	90	75	80	115	135	130	125	70	85	40	90	135*	145*	110*	140*	120*	72 (19)	
14	200*	150*	100*	120*	30*	65*	75*	75*	130*	175	150	70	90	150	125	125	100	105	100	120	120	180	165	170	130 (15)	
15	135	100	115	95	75	235*	95*	120	85*	135	125	115	110	80	75	95	85	115	130*	135*	75*	135*	75*	-140*	105 (15)	
16	-480*	-660*	-195*	-95*	-5*	95*	115*	195*	165*	10*	115	145	145	150	160	130	150	110	125	120	120*	105	70	95	125 (13)	
17	75	60	60	85	115	175	150	110	120*	100	105	Z±*	Z--	Z--	-205*	Z--	Z--	-135*	-85*	135*	125	205	150	205	123 (14)	
18	230	350	205	255	235	205	190	175	180	145	115	100	Z--	Z--	Z--	Z--	-485*	110*	Z±	Z±*	Z±*	Z--	-10*	199 (12)		
19	185	225	190	150	105	120	115	120	120	100	145	145	90	135	85*	100	115	160	140	115	120	140	125	110	133 (23)	
20	125	125	95	90	70	85	130	145	20*	-260*	-390*	-505*	-180*	70*	140	145	150	150	155	160	225	Z--	150	115	133 (17)	
21	80*	100	-140*	Z--	-70*	10*	-370*	-570*	15*	Z±*	Z--	40*	Z--	Z--	Z±*	Z±*	145	Z±*	175*	-120*	50*	225*	250	300	199 (4)	
22	190	90	85	85	80	75	85	105	115	110	130	135	160	130	95	115	135	110	120	85	85	70	60*	45	106 (23)	
23	20*	35*	70*	40*	80*	-*	-*	-*	-*	-*	-*	-*	-*	120*	80	70*	80*	100*	125	130	105	140	175	110	124 (7)	
24	75	85	95	75	70	75	70	70	55	125	100	90	100	115	130	90	65	55*	55*	0*	35*	30*	15*	0*	87 (17)	
25	-35*	115*	180	120*	155*	135*	90*	190*	130*	170	160*	265	200	15*	-55*	-45*	Z--	-70*	-70*	180*	-175*	-145*	Z--	Z--	204 (4)	
26	-330*	55*	-70*	Z--	Z--	Z--	Z--	130*	125	100	115	125	130	150	170	55	100	120	110	95	95	110	80	55	108 (16)	
27	75	65	80	70	55	15	-15	40	20	20	40	35	60*	75*	85	-55*	55*	75*	75*	40*	60*	75*	-100*	10*	45 (13)	
28	-30*	60*	115*	100	80	50	45	35	75	95	125	145	170	60	90*	175	165	175	230	275	155	130	175	220	134 (20)	
29	225	230	125	90	145	115	150	165	150	145	170	120	160	170	160	140	150	145	90*	60*	40	85	95	115	140 (22)	
30	55*	55	145	225	205	260	190	135	100	100	75	65	85	75	80	70	80	115	215	145	70	130*	90*	-305*	129 (20)	
31	Z--	40*	150*	160*	225*	240*	230	320	185	140	-135*	135	135	105	Z±	75	110	130	150	150	150	130	115	-25*	151 (15)	
Mean	103	104	92	93	90	84	87	104	97	103	95	102	111	105	101	95	100	106	114	110	107	106	112	97	101 (554)	
No. of days	(21)	(22)	(23)	(23)	(23)	(22)	(22)	(24)	(22)	(25)	(25)	(27)	(25)	(24)	(24)	(24)	(24)	(26)	(24)	(22)	(22)	(21)	(20)	(20)	(23)	Mean for 0a days [105 (7)]

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

109

43	ESKDALEUIR												Factor 9.58 (metre ⁻¹)												NOVEMBER 1957											
	Hour G.M.T.												Volts per metre																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean											
1	Z-*	Z+*	70	60	100	95	Z-*	Z-*	45	Z+*	Z-*	25	Z+*	135	100	130	Z-*	Z-*	-20*	Z-*	-45*	Z-*	255*	75	90 (9)											
2	75	95	110	80	85	80	75	75	115	145	50	100	Z-*	70	Z-*	80	150	190*	170	145*	Z-*	Z-*	-95*	180*	97 (16)											
3	Z+*	Z+*	-70*	190	Z+*	Z+*	-40*	Z+*	0*	35*	Z-*	Z-*	Z+*	Z-*	65*	105	50	-55*	-40*	Z-*	Z-*	125	95	145	118 (6)											
4	135	140	135	150	200	220	140	Z+*	Z-*	140*	Z-	150*	150	155	145	155	115	105	130	100	80	135	280	255	154 (19)											
5	80	Z-*	Z+*	Z-*	Z+*	Z-*	Z-*	80	40	55*	65*	55	-35	55	55	135	255	220	105	120	250	250	255	130	128 (16)											
6	75	-165	35	50	45	55	55	70	90	110	110	125	135	150	140	150	95	85	120	100	95	85	75	75	82 (24)											
7	55	50	65	45	55	55	70	65	95	150	155	135	115	150	110	140	120	110	110	155	130	130	100	100	103 (24)											
8	95	130	120	130	155	100	130	150	145	40	-	-	-	115	95	100	120	100	90	105	-190	80	85	85	94 (21)											
9	70	80	95	100	95	90	85	100	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89 (8)											
10	-	-*	-*	-	-	-	-	-*	-	-	70	75*	120	85	125	100	75	70*	75	125	130	105	85	70	97 (12)											
11	55	50	55	50	50	55	50	35	45	95	75	-45*	95*	95*	85*	100*	100*	85*	70*	85	55	75	55	65	59 (16)											
12	45	30	25	30	30	25	20	35*	35	45	75	70	75	95	65	70	65	55	75	65*	30*	60*	70*	55	52 (19)											
13	75	65	75	55	45	95	75	35	55	90	75	75	90	100	100	95	120	135	100	105	85	75	75	65	82 (24)											
14	75	65	65	60	45	65	50	60	70	75	75	90	40	85	85	-320*	90	-130*	-125*	75	95	100	95	80	73 (21)											
15	80	70	65	60	55	55	55	55	70	70	75	85	85	95	95	90	140	185	130	-35*	-95*	50*	75	75	84 (21)											
16	65	60	40	50	60	55	40	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53 (8)											
17	-	-	-	-	-	-	-	-	55	55	65	80	80	65	70	50	65	40	70	45	5	15	-10	20	48 (16)											
18	60	50	35	35	35	20	40	45	40*	70*	75*	100	85	80	110	75	55	75	95	115	115	95	55	55	68 (21)											
19	70	60	50	50	90	55	55	40	30	20	95	-	-	-	-	-	-	-	-	35	-30	-55*	50*	20*	48 (13)											
20	50*	125*	155*	255*	240	320	370	260	365	335	320	320	355	355	295	275	200	190	325	240*	245	275	205*	185*	297 (17)											
21	185*	205*	230	340	295	340	180	115	35	20*	70*	150*	55*	20*	120*	40*	55*	135*	95	150	-55*	70*	135	145	187 (11)											
22	130	120	100	100	100	100	100	105	100	115	155	230	205	170	135	150	110	120	150	110	90	100	100	80	124 (24)											
23	95	140	95	75	90	95	90	85	130	110	135	130	115	115	115	130	160	135	170	195	180	130	95	70	120 (24)											
24	75	70	70	95	75	70	60	20	55	50	40	45	60	70	55	75	80	95	95	115	100	90	55	75	70 (24)											
25	75	85	60	40	35	30	70	105	90	80	90	95	95	85	95	115	150	215	255	190	195	155	130	130	111 (24)											
26	100	75	45	20	45	45	30	0	-10	-30	-35	0*	10	65	30	35	35*	85	85	95	0*	-20	45	45	34 (21)											
27	30	30	30	45	25	55	95	150	130	130	90	100	100	55	35	80*	10*	75*	0*	45	120	45	40	45*	71 (19)											
28	55*	110*	130	165	80*	55	55	35*	95*	75	95	95	75	130	170	130	75	115	130	100	75	25	85	-45*	99 (18)											
29	(-150*)	Z-*	70*	60	55	55	55	45*	100	100	125	105	110	80	110	105	160	165	165	70	110	80	75	70	98 (20)											
30	75	95	65	70	100	95	90	85	45	35	60	65*	55*	55	20	55	95	100	35	-	-	45	75	85	69 (20)											
Mean	77	66	78	85	88	92	85	81	84	90	95	111	103	111	102	111	112	125	126	106	97	100	94	89	96 (536)											
No. of days	(22)	(21)	(24)	(26)	(25)	(26)	(25)	(22)	(23)	(21)	(21)	(19)	(20)	(23)	(23)	(23)	(23)	(18)	(22)	(21)	(20)	(22)	(23)	(23)												
	Mean for 0a days																								[130 (6)]											

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

43 ESKDALEUIR		Factor 9.62 (metre ⁻¹)													DECEMBER 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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ELECTRICAL CHARACTER OF EACH DAY AND APPROXIMATE DURATION OF NEGATIVE POTENTIAL GRADIENT

44 ESKDALEMUIR

1957

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	1b	hr.	1b	hr.	1a	hr.	0a	hr.	1a	hr.	1a	hr.
2	(2b)	1.5	1a	3.0	1a	0.1	1a	...	1a	0.1	1a	0.2
3	2c	3.1	2c	0.1	1a	1.8	1a	1.6	1a	0.1	1a	1.9
4	2b	4.6	2c	4.9	1a	1.2	2b	4.8	1a	2.7	1a	0.3
5	(1a)	10.2	2c	8.5	2a	15.1	1a	0.3	1a	2.5	1b	2.8
6		1.7	1b	1.8	1a	0.5	1a	0.6	0a	...	1b	1.8
7	(1a)	0.4	2b	3.5	2a	7.0	1b	0.7	1a	0.1	2b	3.4
8	(0a)	...	2c	11.7	1b	2.1	0a	...	2a	6.3	1a	0.8
9	(2b)	-	1b	1.9	2c	7.4	1a	1.2	2a	11.4	0a	...
10	(1b)	2.4	0a	...	1a	1.5	1a	0.1	1a	3.0	1a	0.3
11	(0a)	...	1a	0.1	1a	1.7	1a	0.7	1a	2.1	1b	0.2
12	2b	3.2	2b	7.4	1a	0.9	1b	0.7	2c	3.4	0a	...
13	1b	0.5	1a	0.5	1a	0.4	1b	2.1	1b	0.9	0a	...
14	(0a)	...	2b	16.6	1b	1.9	1b	0.7	1b	1.4	1a	1.4
15	(0a)	...	1a	1.5	1a	2.4	(0a)	...	1a	2.9	0a	...
16	1b	0.8	0a	...	2b	8.9	(1b)	2.9	1c	2.4	0a	...
17	0a	...	1a	0.2	1b	2.1	1a	0.4	2c	5.4	0a	...
18	2c	6.7	1a	0.7	2b	3.9	2b	4.5	1c	2.7	0a	...
19	0a	...	0a	...	1a	0.9	2b	3.7	2c	10.9	1a	0.3
20	1a	0.2	1a	0.2	2b	5.0	1b	0.4	0a	...	0a	...
21	2c	11.4	1a	0.1	2c	5.5	1b	1.3	2b	5.1	0a	...
22	2b	4.9	1a	0.3	1b	1.4	2c	17.2	1a	0.1	1b	2.9
23	2c	15.9	0a	...	0a	...	1a	0.5	0a	...	2b	3.1
24	2b	3.1	2c	3.9	1a	0.9	1b	1.1	0a	...	0a	...
25	1b	2.7	2c	8.6	1b	2.6	1a	0.2	0a	...	0a	...
26	2b	5.3	2b	3.1	1a	2.0	1a	0.1	0a	...	0a	...
27	2b	6.2	1a	0.3	2b	5.6	0a	...	0a	...	1a	0.1
28	1c	1.6	1a	0.5	1b	1.1	1a	0.1	0a	...	1b	2.5
29	2b	6.6	1a	0.7	1a	0.5	2b	5.4	0a	...	1a	0.2
30	1b	2.2			2a	8.3	2b	5.0	(0a)	...	(0a)	...
31	1b	2.8			1a	2.7	0a	...	(0a)	...	(0a)	...
31	2b	5.6			1a	0.1			(1a)	0.3		
Total	-	103.6	-	80.1	-	95.5	-	56.3	-	63.8	-	22.2
No. of days used	-	30	-	28	-	31	-	30	-	31	-	30
Mean	-	3.5	-	2.9	-	3.1	-	1.9	-	2.1	-	0.7

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	(0a)	hr.	0a	hr.	1b	hr.	1a	hr.	2c	hr.	1a	hr.
2	(0a)	...	(0a)	...	1a	0.8	(1a)	(2.1)	2b	6.8	1a	0.1
3	2b	5.2	(1a)	0.3	1a	0.3	0a	...	2c	3.6	1a	0.2
4	1a	2.0	0a	...	1b	2.3	1a	0.3	1b	18.3	0a	...
5	0a	...	1a	0.2	1b	1.5	(2a)	-	2b	1.0	1a	0.1
6	1b	1.3	1a	0.7	2b	3.5	0a	...	1a	4.7	1a	0.5
7	1b	2.9	1a	0.1	1b	2.1	0a	...	1a	1.2	2c	5.9
8	1a	0.9	2b	4.0	0a	...	1a	0.5	0a	...	2b	8.7
9	1a	0.2	2b	4.1	1b	2.6	0a	...	(1a)	1.5	2c	7.9
10	2b	4.4	2b	3.4	2b	3.3	1b	2.5	(1a)	(0.1)	1a	0.4
11	1b	1.9	1b	2.4	1b	2.1	0a	...	(1a)	(0.7)	2c	5.5
12	2c	4.0	1a	0.7	1c	2.0	0a	...	1a	0.3	2c	9.8
13	2b	4.3	1b	2.1	1b	0.6	1a	0.1	1a	0.5	1a	1.9
14	(1b)	1.4	2b	5.1	0a	...	1a	0.3	0a	...	0a	...
15	(1b)	1.5	2b	8.7	1b	1.5	1a	1.5	1a	2.1	0a	...
16	1b	2.9	1a	0.1	1a	2.4	2b	5.1	1a	1.0	0a	...
17	1a	0.3	1a	0.3	1b	1.3	2c	6.8	(0a)	...	1a	1.2
18	1a	0.6	(1a)	0.1	2a	7.1	2c	6.9	(1a)	(0.6)	1a	1.2
19	(1a)	1.5	1b	1.9	0a	...	1a	0.2	1a	0.1	2c	4.9
20	1b	2.1	0a	...	2b	6.8	2b	4.5	(1a)	(2.3)	(1a)	-
21	1a	0.4	1b	0.9	2b	5.1	2c	8.3	0a	...	(2b)	-
22	1a	0.1	(0a)	-	2a	4.3	1a	0.1	1a	2.6	(1a)	(1.9)
23	1a	0.4	(1b)	1.7	2a	4.1	(2b)	-	0a	...	(2b)	-
24	1a	1.3	2c	9.1	0a	...	1a	2.1	0a	...	(1a)	(0.3)
25	2a	6.1	2c	7.7	0a	...	2b	7.3	1a	0.1	(0a)	(...)
26	1a	1.9	1b	0.2	0a	...	2c	5.5	1a	0.1	(1a)	(0.3)
27	2a	5.0	2b	3.1	1a	0.2	1b	2.3	2a	5.8	(1a)	(2.0)
28	0a	...	1b	0.7	0a	...	1b	1.4	1a	1.1	1a	1.4
29	1a	0.3	0a	...	(0a)	...	0a	...	1a	1.0	(1b)	-
30	0a	...	0a	...	(0a)	...	1b	1.0	1b	1.8	(1a)	(1.0)
31	1a	1.1	1b	2.2					(1a)	(0.1)	1b	0.5
31							1b	2.4			1a	0.6
Total	-	54.0	-	59.8	-	54.1	-	61.5	-	57.4	-	56.3
No. of days used	-	31	-	31	-	30	-	29	-	30	-	27
Mean	-	1.7	-	1.9	-	1.8	-	2.1	-	1.9	-	2.1

Annual values: Character 0 1 2
No. of days used 80 196 89

Duration: Total 764.6
No. of days 358
Mean 2.14 hr.

KEW

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45	KEW													Factor 4.36 (metre ⁻¹)													JANUARY 1957									
	Hour G.M.T.		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean									
	Volts per metre																																			
1	75*	95*	170*	395	515	550	500	505	540	690	775	630	550	595	660	655	690	815	705	815	785	755	595	-80	602	(21)										
2	540*	680*	835*	970*	1085*	1125*	800*	405*	490	385	430	310	380*	380	535*	455	360*	325*	260*	155	110*	550	705	775	463	(10)										
3	660	515	345	215*	50*	155*	240	380	550	660	655	595	490	420	415	445	655	690	690	750*	630*	595*	420*	310*	525	(16)										
4	205*	130*	110	110	130	145	145	155	215	170	180	180	205	170	170	155	155	225	190	155	110	95	105	120	154	(22)										
5	120	120	155	140	110	105	120	105	130	140	-	-*	-*	-	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	-*	125	(10)									
6	-*	-*	-	-	-	-	-	-	-*	-	-	-	-	-	-	-	-	-	570	620	670	620	550	515	445	570	(7)									
7	480	560	550	655	570*	635*	705*	690*	620*	715	815	660	515	500	445	415	370*	480*	480	415*	265*	310*	335*	360	550	(13)										
8	145	140	170	225	200	145*	170*	250*	380	370	310	250	275	265*	335*	345*	395*	440	465	440	395*	335	275	265	293	(16)										
9	205	205	205	215	165	170	205	260	345	415	355	370	345	205*	335	465	500	-290	570	645	635	490	430	475	335	(23)										
10	430	395	325	310	275	260	325	600	635	635	550	600	570	620	480	540	630	690	705	730	705	705	680	655	544	(24)										
11	550	670	585	475	405	360	415	535	630	715	705	680	715	595	480	480	600	570	550	415	415	440	415	380	533	(24)										
12	370	290	265	190	00*	35*	145*	260	415*	Z±*	385	325	285	240	285	275	275	360	395	415	360	310	285	290	308	(19)										
13	260	265	180	165	170	180	240	-20*	-10*	25*	15*	190	265	260	275*	-20*	155	205	275	275	345*	-90	75	120	188	(17)										
14	140	85	50	85	110	95	120	165	300	310*	345*	490*	480	445	535	500	465	475	515	345*	395*	355*	355*	215*	285	(16)										
15	205*	250	260	225	215	190	285*	260*	165*	385*	695*	630*	515*	550	595*	500	600	620	560	405*	275*	215*	130	-145	330	(12)										
16	-10	75	145	145	230	265	345	345	670	730	810	690*	-70*	-110	180	345	70	310	105	250	455*	45*	Z±*	60	261	(19)										
17	60	00*	Z-	260	240*	440	475	560*	765	815	660	635	585	570	560	765	930	1015	1015	905	910	875	945	1030	711	(20)										
18	810	800	715	570	670	585	535	655	825	895	875	870	730	755	775	1000	870	815	910	825	860	860	750	790	781	(24)										
19	660	550	480	385	440	585	690	730	540	800	755	850*	895*	875	600	525	560	550	385	335	265	60	465	440	531	(22)										
20	355	370	310	265	290	275	265	275	300	355	395	380	385	380	415	430	445	440	505	525	540	525	500	475	392	(24)										
21	445	385	325	250	265	240	240	290	360	360	345	290	200	225	265	200*	145*	140*	275*	250	310	285	240	225	290	(20)										
22	190	180	145	165	165	155	165	190	285	265	275	310	355	345	335	345	395	455	420	395	345	200	190	215	270	(24)										
23	215	130	180	180	145	165	190	190	250	200	180	170	165	45*	-125*	-10*	275	345*	Z±*	Z-	225	240	240	265	200	(18)										
24	205	Z-	-165*	Z-	155*	285	430	740	945	1090	895	720	505	Z±*	335*	345	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	70*	380	595	(11)										
25	535	445	475	550	620	690	775	1000	1135*	1325	1305	1150	1000*	560*	170*	145*	70*	190*	145*	155*	155*	240*	395*	440	776	(12)										
26	475	285	250	335	310	335	355	405	345	300*	240*	380	445	525	490*	Z±*	345*	Z±*	455*	575	600	525	465	405	413	(17)										
27	345	320	310	275	310	310	310	405	490	535	500	465	Z-	Z-	310	Z±*	Z±*	360	610	690	695	705	720	790	473	(20)										
28	655	525	430	445	430	310	320	380	515	415	290	265*	275	170*	205*	180	200*	275*	165*	180*	260	285	120	105	349	(17)										
29	110	140	190	190	170	130	215	215	275	405	335	440	355	275	-20*	-70*	-170*	-580*	-180*	465*	645	535	635	445	317	(18)										
30	370	360	355	310	250	385*	370	585	655	480*	275*	240	335	325*	360	380*	300*	50*	-90*	105*	70*	120*	50*	45	353	(12)										
31	35	105	140	95	130*	155	145*	180*	260*	240	230	205*	85*	60*	-90*	10*	140*	200*	190*	120*	60*	110*	145*	180*	143	(7)										
Mean	339	327	294	282	287	291	333	407	476	555	542	471	410	431	423	464	486	490	533	498	516	440	431	362	414	(535)										
No. of days	(26)	(25)	(26)	(27)	(23)	(24)	(24)	(23)	(24)	(24)	(24)	(23)	(22)	(20)	(18)	(19)	(17)	(19)	(20)	(19)	(18)	(21)	(22)	(27)												
Mean for selected quiet days																												377	(10)							

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45	KEW													Factor 4.42 (metre ⁻¹)													FEBRUARY 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

113

45	KEW													Factor 4.66 (metre ⁻¹)													MARCH		1957
	Hour G.M.T.																												
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean				
	Volts per metre																												
1	475	390	365	410	410	410	465	605	735*	670	585	500	500	540	650	640	595	595	670	690	690	615	465	430	538 (23)				
2	355	345	305	260	280	325	400	540	615	605	680	715	725	625	530	615	690	790	900	885	900	780	690	605	590 (24)				
3	660	630	550	400	605	335	550	455	520*	410	485	420	445	370	465	370	380	595	630	575	485	345	300	400	472 (23)				
4	335	175	260	300	325	130*	520	705	1155*	705*	485	670	670	660	315	465	485	520	565	500	325	10	230	335	422 (21)				
5	165	150	185	225	195	185	280	315	345	355	260	335	420	430	400	400	410	365	185	305	430	520	400	280	314 (24)				
6	165	240	300	400*	270*	215*	85*	45*	55*	-30*	10*	-85*	-220*	35*	205*	280*	315	370	530	520	490	430	260	225	350 (11)				
7	205	270	225	215	165	205	20*	260*	300*	85*	230*	345*	430*	390	400*	290	370	410	430	560	770	820	715	595	415 (16)				
8	510	475	260*	195*	240*	215*	280*	355*	365	370*	270*	325*	355*	335*	250*	260*	225*	305	380	420	455*	380*	300*	280*	409 (6)				
9	305*	370*	280*	270*	290*	290*	300*	305	325	335	260	205*	195	230	205*	260	365*	315*	365	175*	205*	305	335*	315*	287 (9)				
10	300*	205*	290*	260*	260*	260*	250*	260	280	365	390*	335	355	400	390	420	410	390	420	345	290	280	370	370	355 (16)				
11	410	430	370	475	445	430*	400	390	430*	445	370	325	300	345	-	300	325	365	445	380	335	315	305	325	371 (21)				
12	315	325	345	355	355	345	370	370	465*	465	345	390	365	290	300	280	260	280	430	455	420	430	430	400	362 (23)				
13	420	445	420	430	410	355*	315	345	500	625	485	335	300	280	260	300	280	325	325	345	325	335	445	380	375 (23)				
14	390	335	305	305	300	315	365	445	430	380	355	315	300	300	290	280	355	345	400	420	300	305	335	355	343 (24)				
15	305	205	185	165	185	205	215	300	390	335	290	280	300	195	325	280	290	315	250	185	215	270	225	205	255 (24)				
16	175	195	165	165	195	160	130*	290	335	345	335	315	355	335	270	260	230	230	150	165	225	195	185*	140*	242 (21)				
17	160	185	175	160	120	110	95*	130*	85*	-85*	20*	95*	185	175	160	165*	175	165*	195*	270	270	205	185	150	179 (15)				
18	120*	120*	160	160	185	240	300	410	435	355	280	280	270	270	260	290	335	355*	365*	370*	335*	475*	280*	185	276 (16)				
19	175	150	175	175	140	185	140	130	175*	225	175	175*	205*	205*	240*	290*	225*	225*	225*	250	165*	185	240	150	178 (14)				
20	110	110	95*	95	110*	120	100*	Z±	Z±	85*	290	315	Z±	Z±	Z±	380	Z±	225*	520	445	485	430	370	355	310 (13)				
21	290	225	205	205	230	230	260	355	370	335	260	270	280	260	280	290	225	315*	500	530	560	650	690	650	354 (23)				
22	485	465	475	225	290	230	315	540	520	370	365	240	240	205	215	215	225	260	380	435	465	95	-60	-50	302 (24)				
23	-145	-155	-20	100	205	165	175	300	370	280	490	400	325	270	260	225	280	215	10	205	280	290	370	230	214 (24)				
24	185	250	205	195	160	160	130	95*	160*	195	225	195	175	215	185	225	240	280	325	380	435	315	300	280	239 (22)				
25	230	230	290	390	485	260	365	490	430	370	225	240	215*	225	270*	280*	290*	240*	205*	185*	120*	100*	185	150	310 (14)				
26	230	160	150	85	95*	30*	-210*	85*	345	390*	290	300	Z±	Z±	45*	300*	420*	Z±	45	605	435*	Z±	185*	420	263 (10)				
27	345	305	260*	205*	185*	130*	165*	230*	435*	465*	305*	280*	-60*	75*	140	390	410	500	520	540	690	735	660	575	484 (12)				
28	520	530	475	390	185	175*	225	370	565	585	490	465	445	390	365	280	305	365	430	490	510	410	300	185	403 (23)				
29	315	300	260	260	325	300*	205	110	230	380*	240*	215	390	500	530	410	510	560	335	380	355	325	165	225	329 (21)				
30	390	410	345	165	300	520	595	575	510	420	355	370	370	345	315	365	400	290	35	225	420	485	520	380	379 (24)				
31	335	185	240	225	230	280	225	280	300	365	335	280	280	185	110	230	305	225	185	45	55	120	100	185	221 (24)				
Mean	304	284	274	251	280	249	325	386	403	402	363	354	356	342	319	338	352	387	384	413	429	378	354	321	343 (588)				
No. of days	(28)	(28)	(26)	(26)	(24)	(20)	(21)	(23)	(19)	(22)	(24)	(24)	(23)	(24)	(22)	(25)	(25)	(23)	(27)	(28)	(25)	(27)	(26)	(28)					
	Mean for selected quiet days																								310 (10)				

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45 KEW		Factor 4.59 (metre ⁻¹)													APRIL 1957													
	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean		
		Volts per metre																										
1	10	65	75	35	35	-85	-40	100	130	285	375	495	535	560	550	605	605	625	645	645	615	515	430	90	329	(24)		
2	-360	-265	-230	240	425	275	285	200	405	580	615	480	470	550	545	545	480	395	305	285	140	195	175	200	289	(24)		
3	220	285	375	75	210	285	265	315	330	295	265*	250*	305	240	360	330	405	350	370	370	480	460	330	265	315	(22)		
4	240	185	240	200	200	250*	295*	265	320	305	285	260	240	250	260	260	230	220	360	320	450	315	250	140	263	(22)		
5	295	370	320	330	330	295	330	425	615	605	560	560	570	415	385	370	440	535	645	570	735	305	295	295	441	(24)		
6	00	-10	10	200	265	250	275	440	495	425	385	370	460	430	340	350	360	460	425	440	375	260*	145	145	306	(23)		
7	145	140	130	100	100	110	110	155*	130*	260*	265	275	315	285	315	315	360	350	330	295	265	185	295	295	237	(21)		
8	320	185	220	315	285	110	375	560	655	625	515	490	440	415	525	515	525	600	405	220	385*	385*	175	-20*	404	(21)		
9	30*	45*	-30*	90*	90*	-20*	30*	230*	415*	405	405	370	315	395	155	175	305	295	405	370	265	320	370	425	332	(15)		
10	450	370	350	340	305	320	370	405*	375*	615	550	600	450	375	405	360	425	395	430	440	315	130	00	-135	357	(22)		
11	-105	-45	110	260	250	265	370	415	430	430	385	385	350	315*	Z±	Z±*	Z±*	Z±*	Z±*	305	495	550	700	550	339	(18)		
12	480	265	265	315	320	470	440	560	735	480	395	315	305	240	195	240	Z±*	Z±*	Z±*	Z±	350	385	330	240	366	(20)		
13	185	200	145	75	10	85	275	425	450	430	360	360	340	275	230	220	240	220	250	370	395	200	55	140	247	(24)		
14	130	195	130	120	45	145	110	375	250	285	200	210	220	240	185	195	130	165	165	165	250	175	185	185	186	(24)		
15	145	120	110	110	140	145	305	460	470	385	320	260	200	200	195	210	210	260	330	350	360	350	330	340	263	(24)		
16	265	260	200	200	185	165	340	385	275	240	240	220	195	195	155	195	185	185	260	320	375	285	285	265	245	(24)		
17	195	145	145	165	220	265	450	460	430	305	260	230	220	220	220	200	200*	165*	405*	295*	85*	65*	140*	130*	258	(16)		
18	140*	145	175	260	275	260	275	265	370	330	250	240	260	265	295	265	265	285	285	285	200	175	210*	145*	258	(21)		
19	-10*	185*	195	240	240	360	320	295	285	260	220	185	185	155	145	120	100	85	85	100	140	130	240	145	192	(22)		
20	120	120	110	140	100	75	90	110	140	155	110	85	90	110	100	90	120	120	145	210	315	175	230	185	135	(24)		
21	145	100	100	65	65	120	165	195	265	265	220	175	130	140	145	145	130	165	200	175	490	535	470	320	205	(24)		
22	200	145	110	145	165	145	140	210	Z±*	Z±*	Z±*	35*	30*	85*	200	425	405	350	460	315	-10	00	65	65	196	(18)		
23	35	10	55	65	120	130	230	440	625	590	560	450	395	295	230	260	320	375	370	315	265	240	315	250	289	(24)		
24	220	165	120	140	65	-55	30	165	330	385	350	350	320	315	295	340	340	360	360.	375	370	330	260	210	256	(24)		
25	185	195	195	200	130	90	195	220	260	220	110*	Z±*	-145*	-55*	Z±*	Z±*	75*	75*	35*	20	75	85	10	-10	138	(15)		
26	10	10	85	145	165	250	330	295	330	405	440	440	385	350	360*	450*	415*	480*	285*	305	195	175	230	120	240	(19)		
27	120	145	185	110	155	230	360	370	340	320	200	265	220	315	200	260	240	285	330	265	155	55	00	-20	213	(24)		
28	00	10	-20	-30	-40	-20	00	-40	-75	-40	30	30	110	130	110	165	185	240	260	275	320	405	545	405	123	(24)		
29	195	195	120	230	195	275	460	580	635	535	385	360	295	265	295	320	350	405	370	360	490	430	450	385	358	(24)		
30	295	200	175	210	175	250	350	405	405	425	350	360	275	285	350	350	375	415	370	405	515	505	505	340	345	(24)		
Mean	153	139	145	172	177	186	257	331	379	374	341	327	307	293	274	290	309	326	342	317	335	282	274	216	271	(655)		
No. of days	(27)	(28)	(29)	(29)	(29)	(28)	(28)	(27)	(26)	(28)	(27)	(27)	(28)	(27)	(27)	(27)	(25)	(25)	(25)	(28)	(28)	(27)	(28)	(27)				
														Mean for selected quiet days										[261 (10)]				

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45	KEW													Factor 4.21 (metre ⁻¹)																	MAY 1957	
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean					
			volts per metre																													
1	240	205	275	310	275	225	325	385	300	205	190	190	140	170	190	170	145	140	105	215	275	240	250	25	216	(24)						
2	60	70	105	45	70	190	310	355	290	225	250	225*	200	120*	130	140	140	170	140	155	190	290	325	310	189	(22)						
3	240	170	120	260	110	105	140	205	260	225	250	225	215	225	250	225	180	170	95	70	70	50	35	15	163	(24)						
4	45	45	10	165	190	165	260	300	300	320	310	310	260	250	230	205	205	190	50	35	120	60	15	-20	167	(24)						
5	85*	85*	70	95	140	-25*	75	180	215	205	190	165	155	155	120	85	85	105	130	155	165	140	250	300	151	(21)						
6	230	215	180	130	225	300	445	415	355	300	250	225	205	215	275	260*	Z±	310	230	215	275	240	240	225	259	(22)						
7	170	170	95	105	60	170	170	190	165	155	85	35*	00*	85	85*	-55	15	-20	Z-	Z-	-45	10	50	-320*	87	(18)						
8	-240	190	170	170	225	75	225	310	335	225	335	290	345	320	225	145	170	205	205	310	240*	00*	35*	Z-*	212	(20)						
9	Z-*	-360*	105*	190*	180*	Z-*	Z±*	Z-*	Z±*	Z±*	120*	75	105	110	130	120	145	120*	-10	25*	95	165	180	130	113	(11)						
10	155	250	300	300	265	250	165	320	230	260	290	250	170	130	155	190	165	170	155	265	285	250	215	190	224	(24)						
11	155	120	-80*	75	105	105	120	145	105	70	50*	35*	85*	120*	165	170	165	200	205	200	225	190	180	155	150	(19)						
12	75	85	70	85	10*	Z-*	60*	190	170	15*	15	130	155	Z±*	Z±*	Z±*	Z±*	170	190	190*	240	260	250	240	155	(15)						
13	250	250	240	225	205	250	275	260*	240*	215*	200*	205*	Z-*	190	155	145	170	190	240	290	395	535	385	310	261	(18)						
14	240	275	215	145	120	105*	110	180	200*	155	155	50	85	140	155	170	170	170	120	105	120*	155	130	110	150	(21)						
15	85	110	110	-125*	50*	145	225	240	250	230	180	170	180	205	165	155	170	205	230	260	265	260	225	225	195	(22)						
16	205	180	155	170	170	200	240	275	250*	Z±*	215*	240	Z±*	570	345	Z±*	Z±*	Z±*	Z±*	260	265	300	360	300	265	(16)						
17	260	265	240	260	250	240	260	290	250	240	190	130*	165*	170*	145*	200*	215*	205	250	155	170	165	180	170	224	(18)						
18	190	145	140	140	70*	-105*	-375*	-340*	155*	225	200	Z±*	Z±*	Z±*	260	60*	170	Z±*	Z±*	Z-	240	645	480	445	273	(12)						
19	455	320	230	225	225	205	205	205	165	Z-*	165	170	165	170	170	155	155	165	225	275	265	300	190	170	216	(23)						
20	250	170	140	215	225	240	230	310	300	190	155	155	145*	130	170	250	230	105*	145*	70	145	170	180	165	195	(21)						
21	190	205	205	265	240	290	310	415	345	275	225	230	240	190	200	200	230	300	360	370	360	380	620	570	301	(24)						
22	445	345	200	275	290	230	260	325	380	445	385	440	415	415	355	325	290	250	130	105	140	120	355	345	303	(24)						
23	415	250	225	200	205	240	380	505	420	380	320	310	290	290	265	250	225	200	190	170	260	250	170	165	274	(24)						
24	290	180	-215*	-320*	-190*	45	75	145	170	25*	-285*	-250*	35*	35	-445*	-305*	-225	-270*	-440*	-115*	10	205	250	265	152	(11)						
25	155	120	170	250	225	260	260	355	360	345	325	260	285	290	325	300	290	405	360	370	290	285	225	215	280	(24)						
26	170	155	140	145	180	215	225	250	290	300	275	205	200	205	240	240	240	260	310	360	325	265	265	240	238	(24)						
27	190	205	225	225	275	430	480	500	455	455	370	355	325	345	380	325	345	355	290	380	455	380	430	380	356	(24)						
28	445	465	360	440	345	455	420	620	610	515	380	275	265	240	260	345	260	260	170	240	380	465	345	275	368	(24)						
29	215	165	155	180	225	275	455	500	440	395	385	385	310	320	325	355	370	420	385	335	380	345	345	325	333	(24)						
30	250	200	215	310	370	395	385	500	430	380	355	440	290	265	260	260	240	285	250	290	110	95	130	200	288	(24)						
31	95	25	70	105	140	85	200	225	225	250	225	190	200	215	170	190	165	145	95	95	145	140	85	105	149	(24)						
Mean	204	191	173	197	206	222	258	316	301	279	248	239	226	226	225	202	197	216	196	221	224	245	245	226	228	(646)						
No. of days used	(29)	(29)	(28)	(28)	(26)	(26)	(28)	(28)	(26)	(25)	(26)	(24)	(23)	(26)	(27)	(25)	(26)	(26)	(26)	(26)	(26)	(29)	(30)	(30)	(29)							
	Mean for selected quiet days																											[268 (10)]				

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45 KEW		Factor 4.54 (metre ⁻¹)																							JUNE 1957			
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
			volts per metre																									
1			130	120	120	145	120	185	220	245	220	200	165	145	120	100	100	90	90	90	100	110	135	130	110	110	137	(24)
2			135	120	145	145	175	175	130	165	145	145	135	130	100	90	100	55	65	75	75	90	110	120	145	135	121	(24)
3			135	185	175	200	165	165	220	230	230	210	185	145	145	Z±	Z±*	-20	00	80	55	90	130	120	130	110	140	(22)
4			90	110	110	110	120	110*	185*	220*	200*	155*	75*	55*	185	220	185	130	120	110	110	165	130	145	165	145	138	(17)
5			130	135	130	145	175	185	200	220	200	220	155	145	175	165	145	120	120	130	145	175	190	265	285	220	174	(24)
6			165	145	130	145	175	185	240	255	220	190	155	145	135	130	110	110	110	110	135	155	175	385	295	275	178	(24)
7			130	130	130	75	75	45	175	220	-245*	155*	155*	130*	145	155	185	155	135	145	145	165	175	200	220	185	149	(20)
8			135	65*	80*	165*	100*	75	120	155	145	135	145	100	130	35	90	110	120	110	110	145	165	210	200	175	131	(20)
9			145	120	100	110	110	130	145	90	55*	-55*	Z-	65*	75*	110*	130	110	100*	Z±*	Z-	55*	165	255	185	145	139	(14)
10			130*	-160*	-105*	-75*	55*	75	110	25	80	120	130	110*	-105*	-190*	20*	100*	90	120	100	110	145	130	110	90	103	(14)
11			55	75	100	145	190	210	295	320	275	230	175	190	145	130	25*	145*	Z±*	185	220	230	255	200	110	75	181	(21)
12			90	90	110	190	175	200	295	340	285	220	130	145	100	110	90	110	165	120	65	80	110	110	90	90	146	(24)
13			65	75	110	165	200	190	285	605	575	405	330	375	350	355	375	365	405	395	355	385	440	495	510	355	340	(24)
14			350	275	275	295	275	340	410	450	410	420	450	455	420	385	395	405	355	405	375	340	295	340	330	285	364	(24)
15			255	255	210	295	310	255	310	375	465	430	365	365	295	190	175	200	240	300	275	230	210	220	230	240	279	(24)
16			190	165	175	155	165	210	220	200	240	275	265	210	190	130	185	190	200	200	210	220	210	240	295	230	207	(24)
17			175	175	175	175	185	285	295	330	550	510	440	440	310	240	265	240	230	375	385	275	130	130	285	255	286	(24)
18			220	165	130	145	130	145	285	255	310	405	405	430	320	310	330	350	300	200	145*	130	185	Z±*	Z±*	130	251	(21)
19			145	145	110	185	265	330	365	365	475*	Z±*	475	420*	210*	300*	-115*	330*	Z±*	Z±*	Z±*	245	355	355	310	355	286	(14)
20			350	330	265	275	210	310	365	420	505	475	440	455	405	355	330	350	240	245	275	350	320	355	410	405	352	(24)
21			240	185	245	320	330	285	275	340	410	430	410	355	320	320	340	330	285	275	175	220	185	110	100	135	276	(24)
22			55	75	65	35	75	55	100	135	185	220	145	130	75	80	55	55	75	145*	240*	230*	185*	230	210	285	117	(20)
23			240	165	175	175	240	220	255	245	255	220	175	155	145	145	110	100	90	110	155	155	110	100	100	80	163	(24)
24			75	35	35	55	55	55	240	230	230	375	455	365*	410*	Z±*	Z±*	Z±*	45*	-190	-95	45*	130*	75*	100	90	116	(15)
25			110	110	120	100	110	145	210	190	190	190*	185*	200	175	Z±*	185	135	130	65*	90*	145	145	110	120	100	144	(19)
26			75	75	55	65	110	230	285	245	405	220	185	145	120	120	110	110	100	100	130	165	255	255	255	185	167	(24)
27			165	130	120	120	110	130	175	230	275	230	210	175	175	165	145	155	185	220	190	220	295	365	350	255	199	(24)
28			175	185	130	110	110	130	185	255	220	220	175	145	145	155	145	145	135	120	135	145	185	210	185	130	161	(24)
29			120	135	130	110	145	155	200	255	275	245	210	185	145	120	120	130	100*	20*	155	145	185	165	130	145	164	(22)
30			155	175	80	-10	255	175	155	200	210	200	185	165	220	145	135	75	75	110	80	-10	Z±*	Z±*	Z±	100	137	(21)
Mean			155	146	138	149	170	182	233	262	289	278	257	230	200	181	181	165	162	166	162	181	200	220	213	184	196	(644)
No. of days used			(29)	(28)	(28)	(28)	(29)	(29)	(29)	(26)	(25)	(26)	(24)		(26)	(24)	(25)	(26)	(25)	(25)	(25)	(27)	(27)	(27)	(28)	(30)		
			Mean for selected quiet days																							[193	(10)]	

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

115

45	KEW												Factor 4.25 (metre ⁻¹)												JULY 1957		
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
			volts per metre																								
1	170	160	135*	Z±*	160	160*	195*	285	265	250	215	185	180	150	140	140	105	105	115	125	140	180	135	100	165	(20)	
2	100	70	80	70	105	230	320	375	215	400	355	265	265	215	195	195	185	225	310	215	Z±*	Z±*	Z±*	Z±*	219	(20)	
3	Z±*	-180*	10*	100*	Z±*	Z±*	Z±*	100	115	160	185	215	215	180	195	195	205	215	215	215	215	215	125	160	182	(16)	
4	150	180	195	215	195	215	260*	Z±*	Z±*	285*	Z±*	Z±*	170	215	225	225	195	215	215	215	225	230	260	215	209	(18)	
5	195	205	205	225	230	215	285	345	385	345	330	375	340	310	305	355	295	265	250	285	265	250	195	150	275	(24)	
6	Z±	Z±*	Z±*	Z±	Z±	215	135	170	185	170	195	170	195	195	215	215	195	195	Z±*	Z±*	140	180	195	180	185	(17)	
7	160	140	135	100	125	135	140	135	115	135	90	125	105	125	115	105	135	140	160	160	160	180	195	195	180	139	(24)
8	170	170	160	160	160	180	195	225	195	160	195	185	115	180	135	140	160	115	90	105	115	125	150	160	156	(24)	
9	135	140	105	105	105	160	180	205	225	215	160	140	105*	180*	90*	205	205	170	125	170	180	180	125	140	161	(21)	
10	105	125	115	115	105	140	180	185	180	150	125*	Z±*	Z±*	180	Z±*	Z±*	Z±*	Z±*	Z±*	160*	135	180	160	180	170	150	(16)
11	160	160	180	170	150	170	230	260	215	195	180	180	160	140	125*	125*	100*	Z±*	-110*	-125*	Z±*	150	160	180	179	(17)	
12	170	140	140	125	115	115*	140*	150*	150*	160	170	215	250*	180*	Z±*	90	25*	115*	160	180	185	215	195	205	164	(15)	
13	195	180	170	180	180	185	195	180	160	160	140	125	135	125	160	Z±*	Z±*	Z±*	250	225	275	240	250	230	188	(21)	
14	250	225	205	195	195	205	150	160	170	185*	180	125*	180*	170*	Z±*	Z±*	Z±*	Z±*	Z±*	Z±*	185	Z±*	70*	115*	115	186	(12)
15	125	115	125	90*	125	150	230	230	170	170	180	160	180	215	205	185	230	260	250	265	305	375	355	230	210	(23)	
16	195	185	225	230	230	265	295	275	285	225	195	160	150*	180	230*	-10*	55*	45*	Z±*	180	225	225	195	180	219	(18)	
17	160	150	140	140	125	135*	180*	170	160	150	115	125	105*	115*	140*	195*	215*	225*	140*	10*	70*	80*	90*	70	137	(11)	
18	70	80	70	55*	20*	20*	25	45	80	80	80	80	70	100	100*	115	125	105	100	80*	70	60*	55*	20*	81	(16)	
19	-*	-*	-	-	-*	-	-	-	-	-*	-	-*	-	-	-*	-	-	-*	305	305	275	215	205	250	259	(6)	
20	185	170	160	140	140	140	150	160*	140*	180*	225*	Z±*	Z±*	225	195	185	-	-	180	215*	250*	265*	285*	305	181	(12)	
21	230	195	170	150	140	140	105	115	135	150	160	125	180	Z±*	Z±*	-*	-	-*	-*	-*	-	-	-	-	153	(13)	
22	-	-	-	-	-	-	215	215	215	105	100	105	125	115	180	135	170	180	205	195	265	195	180	250	175	(18)	
23	205	205	205	205	215	215	-	-	-	-	180	180	180	160	160	180*	160	135*	105	105	105	115	125	125	164	(18)	
24	115	115*	115	105	105*	105	115	115	100	100	100*	105*	125*	115	125	135	170	180	205	195	180	195	180	180	144	(19)	
25	150	125	140	140	140	160	180	195	195	205	215	240	195	225	195	180	230	230	240	250	230*	250*	180	125*	191	(21)	
26	115*	80*	Z±*	105*	105	115*	115*	140	125	140	185	195	170	170	160	180	150	180	180	230	240	230	185	180	175	(18)	
27	150	150	160	180	205	195	240	275	265	185	140	Z±*	Z±*	125	-55*	150*	160*	180*	25*	-45*	135	100	115	105	170	(16)	
28	115	115	125	105	100*	105*	135	180	180	195	215	185	150	140	140	125	135	140	185	230	240	240	250	215	170	(22)	
29	160	140	135	135	135	180	215	230	230	260	225	225	170	185	205	180	170	215	205	215	240	230	205	205	196	(24)	
30	195	150	185	195	180	215	265	275	310	260	225	185	180	180	180	195	160	140	140	135	105	140	140	140	186	(24)	
31	105	135	135	160	170	140	150	170	185	195	205	195	205	185	160	140	140	115	105	90	115	160	160	160	153	(24)	
Mean	158	152	151	154	156	180	188	206	194	187	184	179	175	175	179	172	175	178	187	192	192	197	186	177	178	(568)	
No. of days used	(26)	(25)	(25)	(23)	(24)	(22)	(23)	(25)	(26)	(26)	(26)	(24)	(21)	(25)	(20)	(21)	(20)	(19)	(23)	(24)	(24)	(24)	(25)	(27)			
	Mean for selected quiet days																									[160 (10)]	

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45	KEW												Factor 4.63 (metre ⁻¹)																AUGUST 1957																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Hour	G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45	KEW												Factor 4.90 (metre ⁻¹)												SEPTEMBER 1957											
	Hour G.M.T.																																			
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean											
	volts per metre																																			
1	225	195	175	145	110*	90*	110*	100*	80*	100*	90	145	175	185	215	165	145	165	165	185	185	165	175	165	170	(18)										
2	205	185	155	145	165	205	355	400	355	365	345	275	245	225	275	265	265	215	225	245	265	255	165	205	250	(24)										
3	145	90	110*	205*	165*	195*	155*	165*	265*	155*	120	175	165	145	460	390	325	295	225	185	185	305	255	228	(16)											
4	215	225	225	225	265	285	235*	225	145*	30*	60*	80*	110*	135*	145*	110*	80*	70*	90*	90*	100	80*	80*	60	203	(9)										
5	60*	60*	60	60	80	90	110	120	100	135	195	245	215	225	195	205	185	175	185	265	255	265	215	205	172	(22)										
6	185	165	165	185	225	245	325	345	155	225	215	195	155	145	100	100*	100*	135*	60*	60*	80*	80	80	80	182	(18)										
7	80	80	80	80	80	80	80*	80*	80*	70*	80	100	185	285	255	245	225	245	265	305	390	365	375	315	206	(20)										
8	265	225	195	195	175	195	235	305	265	265	255	235	225	245	245	175	155	120*	185	205	165	195	265	225	222	(23)										
9	205	205	225	245	225	205	265	365	275	245	185*	185	195	205	205	165*	195*	145*	155*	120*	165*	Z*	120	90	216	(16)										
10	80	80*	70*	100	90*	90	80*	120	100	90	135	175	195	205	215	205	245	295*	110*	165*	120*	145*	135*	120*	146	(14)										
11	80*	60*	30*	60*	60*	60*	60*	60*	90*	165	165	185	225	215	215	285	Z-*	Z-*	Z-*	Z*	275*	265	*305	265	229	(10)										
12	245	225	225	215	225	245	315	365	345	285	275	245	225	Z*	Z*	Z*	Z*	Z*	450	450	365	305	185	205	284	(19)										
13	185	145*	145	Z*	155	235	365	400	285	265	255*	225	185	155*	145	205*	245	275	345	450	470	430	365	315	294	(18)										
14	275	235	185	145	120	60*	145*	205*	120*	215	205	195	195	175	205	155*	235	265	305	315	365	315	295	235	236	(19)										
15	205	165	165	145	135	145	175	205	185	205	195	185	145	195	175	175	185	175	245	275	275	285	295	245	199	(24)										
16	205	145	100*	145	155	165	225	245	245*	120*	120*	120*	165*	155*	120*	90*	80*	80	90	120	145	155	135	100	151	(14)										
17	80	70	80	80	80	90	100	120	90	80	70	90	100	110	120	110	165	185	195	175	185	195	175	155	121	(24)										
18	120	145	120	135	135	135	165	195	185	195	(225)	205	195	185	175	175	205	235	285	285	285	215	215	235	194	(24)										
19	205	185	185	215	175	195	245	235	235	225	205	185	185	165	175	185	185	255	255	175	175	145	145	135	195	(24)										
20	110	120	120	145	145	135	145	165	185	155	135	165	175	205	205	185	90	155	120	165	135	255	205	225	160	(24)										
21	225	175	120	110	110	110*	110*	120*	120*	100	110	90	100	120	120	110	120	120	100*	100*	100	110	120	110*	121	(17)										
22	100	100	100	100	90	90	90*	90*	70*	90*	100	145	175	205	195	235	265	255	245	185*	120*	30*	110*	135*	160	(15)										
23	110	100	90*	90*	135*	175	185	205	175	165	-	185	195*	165*	175	135*	165	215	195*	145	155*	80*	120*	Z*	167	(12)										
24	Z*	120*	120*	110*	135*	135*	185*	205*	255*	305*	285*	205*	440*	345*	195*	325*	410*	450*	205*	-95*	-65*	10*	90*	245	245	(1)										
25	155	195*	Z*	155*	110	145*	175*	185	185	135	120	145*	185*	135*	120	155	175	175	165	155	145*	145*	135*	175*	153	(12)										
26	145*	100*	165	205	245	235	390	510	570	590	470	450	500	430	430	430	420	460	490	550	430	440	275	165	402	(22)										
27	-	-	-	-	-	-	-	-	-	-	265	245	215	225	215	235	255	305	365	480	470	480	400	305	319	(14)										
28	285	275	225	235	215	275	235	305	390	335	345	305	205	205	185	235	295	285	410	345	345	325	265	195	280	(24)										
29	155	140*	135	135*	120*	135*	120*	135*	100*	120*	-	-10	225	195	205	195	265	245	245	305	335	470	410	255	242	(15)										
30	265	265	275	255	335	315	410	630	655	510	315	305	225	245	365*	195*	460	Z*	265	100	430	400	305	295	346	(21)										
Mean	181	170	160	160	162	182	250	282	263	236	202	197	202	206	209	218	229	228	260	267	275	274	241	207	218	(533)										
No. of days used	(25)	(21)	(22)	(22)	(23)	(21)	(17)	(20)	(18)	(21)	(23)	(26)	(24)	(23)	(25)	(20)	(23)	(21)	(22)	(22)	(22)	(23)	(24)	(25)												
	Mean for selected quiet days																											[188 (10)]								

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45 KEW		Factor 4.57 (metre ⁻¹)																				OCTOBER 1957					
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
volts per metre																											
1	205	215	175	195	245	320	390	505	525	475	-	-	370	330	370	405	360	435	485	405	485	425	340	290	361	(22)	
2	330	340	360	350	330	310	445	495	545	330	215	235	215	235	245	225	235	320	320	330	370	290	320	250	318	(24)	
3	235	250	235	235	215	185	245	400	310	280	235	300	260	280	270	300	250	260	270	225	115	95	-	-	248	(22)	
4	-	-	-	-	-	-	-	-	-	-	125	225	300	-	-	-	155	195	175	290	105	215	185	95	188	(11)	
5	235	195	290	235	195	175	205	225	290	290	225	205	195	175	195	195	245	290	405	405	290	290	225	175	244	(24)	
6	195	145	195	260	175	155	250	250	260	260	270	215	260	270	270	260	205	245	155	235	135	175	155	195	216	(24)	
7	195	215	215	290	330	270	390	350	250*	270	320	280	310	350	280	270	290	245	195	185	235	260	245	245	271	(23)	
8	215	215	185	205	225	235	215	280	310	290	280	250	250	270	250	280	390	Z±	165	135	250	165	260	225	241	(23)	
9	155	145	155	195	195	205	250	260	360	310	270	235	245	260	300	280	235	280	215	245	260	245	185	155	235	(24)	
10	145	185	215	235	215	145	215	175	245	270*	330	290	195	175*	205*	175*	145*	105*	80*	155	155	225	175	95	261	(17)	
11	95	145	135*	115	135	95	95	80	95	115	145	175	195	215	215	235	330	310	225	175	185	115	105	115	161	(23)	
12	115	95	135	115	155	115	70	70	60	135	235	205	195	215	175	185	195	215	175	155	115	145	125	85	145	(24)	
13	60	70	80	85	70	80	80	80	135	85	135	155	185	245	245	205	250	165	105	85	50	60	115	105	122	(24)	
14	70	60	235	235	435	515	390	445	405*	300	390	390	350	290	250	245	340	310	245	175	245	245	250	290	290	(23)	
15	215	215	215	205	155	195*	225	195	225*	310	290	350	310	280	215	235	250	195	185	105	155	165	195	175	220	(22)	
16	175	165	145	115	80	95	155	175	215	235*	Z±*	Z±*	Z±*	40*	125*	215	245	280	Z±*	Z±*	235	340	425	380	215	(16)	
17	195	445	445	445	380	425*	455	525	525	680	505	370	370	125*	-140	10	95	215*	125*	175	115	165	155	165	349	(16)	
18	165	175	145	135	50*	85*	125*	185*	115*	155*	-*	-*	-*	-	-	300	390*	300*	495	270	455	425	370	293	(10)		
19	300	280	245	245	270	270	340	465	580	565	620	525	280	235	270	260	370	525	535	405	350	310	485	405	381	(24)	
20	360	405	340	445	425	425*	495	570	640	570	(400)	270	250	270	270	290	290*	175*	270*	195*	185*	125*	195	376	(17)		
21	155	105	95	135	115	105	155*	195*	195*	235	235	270	280	290	270	350	400	415*	415*	485	485	425	370	290	268	(19)	
22	270	Z±*	195	135	145	175	225	405	425	330	310	290	245	195*	235*	250	225	270	300	340	340	360	425	380	288	(21)	
23	360	360	390	320	260	215	250	350	415*	330	-	-	215	175	280	310	340	350	400	475	360	370	300	250	317	(21)	
24	215	215	185	205	225	270	290	370	455	380	250	205	280	320	360	390	400	415	350	320	320	380	370	260	310	(24)	
25	270	280	245	245	215	225	225	280	310	270	195*	235	290	340	310	300*	340	380	425	425	425	340	320	290	304	(22)	
26	245	195	165	175	185	195	185	235	235	225	280	270	250	250	250	270	270	290*	215*	215*	195	185*	115*	155*	226	(18)	
27	30*	20*	-10*	135*	175*	205	260	270	250	310	310	270	270	290	290	360	390	400	290	415	425	400	390	330	322	(19)	
28	250	225	185	125	185	165	195	245	330*	270*	270*	260*	260*	250*	270*	320*	330	370	350	260	185	165	155	155	221	(16)	
29	135	95	80	95	105	115	115*	155	105*	80*	95	95*	105	115	115	105	105	115*	125*	115*	115*	105*	85*	80*	109	(13)	
30	85*	95	95*	95*	115*	105*	105	135*	175*	155*	115*	115*	135*	135	135	175	185	205	215	195	235	215	195	215	177	(13)	
31	215	195	155	195	250	250	290	350	380	290	290	245*	205*	115*	155*	195*	Z±*	-100*	415*	525	445*	340*	310	290	285	(14)	
Mean	206	204	211	213	219	204	257	304	331	318	282	270	257	254	253	262	283	303	281	290	253	261	264	230	257	(613)	
No. of days used	(28)	(28)	(27)	(28)	(27)	(25)	(27)	(27)	(20)	(24)	(24)	(23)	(26)	(23)	(23)	(24)	(27)	(22)	(22)	(27)	(28)	(27)	(28)	(28)		[241	(10)]
Mean for selected quiet days																											

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

117

45 KEW

Factor 4.73 (metre⁻¹)

NOVEMBER 1957

	Hour G.M.T.																								Mean	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
	Volts per metre																									
1	300*	150*	240	220	220	220	260	360	390	360	340	320	320	320	Z±*	330	Z±*	Z±*	440	635	490	545	495	430	365	(19)
2	370	330	330	360	360	400	450	525	735	430	420	380	370	380	380	390	505	545	420	360	310	210	300	Z±*	403	(23)
3	Z±*	190*	Z±*	Z±*	Z±*	130*	160*	Z±*	Z±*	Z±*	380	410	420	Z±*	Z±*	460*	Z±*	625	765	805	745	535	515	Z±*	578	(9)
4	Z±*	Z±*	Z±*	100*	100	120	190	340	430	420	410	Z±*	Z±*	470	Z±*	220*	635	635	Z±*	Z±*	Z±*	-110*	-50*	Z±*	375	(10)
5	Z±*	Z±*	190	Z±*	Z±*	Z±*	Z±*	Z±	Z±*	Z±	Z±*	Z±*	200*	Z±*	Z±*	Z±*	Z±*	Z±*	525*	755	515	260	340	320	397	(6)
6	390	380	360	420	450	480*	535	785	1055	925	555	420	350	400	410	400	430	390	280	140	110	320	280	180	433	(23)
7	190	110	170	230	250	220	270	360	460	575	535	535	585	575	545	400	420	300	360	290	300	350	420	270	363	(24)
8	260	180	160	200	260	300	320	430	495	635	675	745	755	635	635	-	-	-	575	290	350	430	320	190	421	(21)
9	140	160	130	120	150	150	90	100	190	240	260	260	240	80*	210*	230	290	340	340	340	340	300	280	190	222	(22)
10	70	90	100	130	180	140	130	70	20	50	20	-120	-175*	-265	-165*	-295*	-470	-400	-195	-50*	-30	-145	-100	-50	-39	(20)
11	-60*	-90	-40	-40*	-80*	-100*	100*	140	180	100*	110	150*	410	280*	310*	250*	460*	440*	300*	320*	310*	240*	190*	180*	118	(6)
12	90*	160	180	210	260	300	260	290	400	380	370	320*	200*	290	410	380	410	310*	290*	505	460	330	300	220	322	(19)
13	180	230	180	230	220	230	300	505	615*	340	390	410	535	575	460*	515*	525*	635*	545	490	450*	330*	280	300	349	(17)
14	240	220	190	180	200	250	290	440	490	555	605	575	575	555	555	615	565	505	575	635	535	480	460	490	449	(24)
15	390	330	360	300	310	210	180	160*	-10*	400*	675*	420*	340*	340*	505*	310*	635*	210*	280*	300*	695*	460*	380*	320*	297	(7)
16	170*	200*	60*	50	-70	00	80	100	180	290	390	380	420	360	320	200	240	180	60	00	40	-30*	00	80	165	(20)
17	160	150	160	90	60*	80	80*	90	100	160*	260	110	140*	130	100	50	90	390	460	230	270	210	250	180	178	(20)
18	330	270	170	180	180	190	170	360	430	380	350	290	320	310	330	340	340	350	340	260	270	260	270	300	291	(24)
19	170	270	220	190	200	240	170	220	290	240	280	330	280	350	330	370	360	340	360	360	350	320	300	290	285	(24)
20	260	220	130	170	170	160	130	160	240	400	555	605	515	575	575	565	585	585	545	535	515	480	430	400	396	(24)
21	410	330	220	190	200	220	270	360	370	390	430	410	320	280	370	350	400	470	250	220	280*	90*	100*	20*	323	(20)
22	50*	-20*	150*	-20*	-225*	170	210	330	420	450	460	470	480	460	490	585	495	430	555	495	480	495	480	430	441	(19)
23	450	320	360	260	310	330	370	370	430	515	655	665	645	645	635	535	460	440	450	535	505	420	400	515	468	(24)
24	310	320	260	220	180	160	160	220	490	440	565	615	765	715	525	470	555	605	695	615	490	505	440	505	451	(24)
25	330	320	320	280	280	300	360	460	535	535	575	645	515	470	535	515	525	515	515	460	440	470	505	400	450	(24)
26	310	340	430	400	310	230	370	470	450	495	460	440	420	460	505	505	535	545	515	525	515	525	420	380	440	(24)
27	320	280	240	280	230	180	250	320	410	420	460	380	360	450	420	460	420	380	340	340	310	320	250	270	337	(24)
28	360	360	340	310	310	280	330	460	480	460	515	505	505	495	535	450	430*	390	410	410	330	390	300	330	402	(23)
29	390	280	320	320	300	400	440	460	370	360	460	505	460	430	515	605	495	615	555	420	515	450	330	440	435	(24)
30	320	290	180	200	150	190	240	300*	270	300	310	340	440	420	390	505	310	300	230	250	170	440	545	480	316	(23)
Mean	289	244	227	230	228	218	262	335	396	423	421	425	459	419	453	420	391	412	415	419	373	371	339	314	352	(591)
No. of days	(22)	(24)	(26)	(25)	(25)	(26)	(26)	(26)	(26)	(25)	(28)	(25)	(24)	(25)	(21)	(22)	(22)	(23)	(25)	(26)	(25)	(24)	(26)	(24)		
	Mean for selected quiet days																								[380 (10)]	

POTENTIAL GRADIENT (reduced to open level surface)
Mean values for periods of sixty minutes between exact hours

45 KEW

Factor 4.88 (metre⁻¹)

DECEMBER 1957

	Hour G. M. T.																								Mean	
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24		
	Volts per metre																									
1	465	525	395	415	425	395	435	515	635	770	715	715	725	830	675	525	285	230	1030	980	970	880	910	870	638	(24)
2	860	725	465	365	325	425	445	485	425	645	1050	1060	1150	1010	910	1050	1295	1210	1180	1230	1305	1170	1030	555	849	(24)
3	465	285	220	265	190	315	295	385	345	385	535	725	735	625	745	645	455	635	615	495	625	800	365	810	498	(24)
4	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	Z±	-	-
5	Z±	Z±	Z±	1050	900	770*	850*	920*	860*	465*	200*	645*	770*	555*	625*	525*	525*	705	745	715	475	315	325	315	616	(9)
6	375	275	435	495	415	585	485	325	395	605	615	665	595	585	665	745	830	810	565	605	605	475	325	365	535	(24)
7	345	325	210	265	345	375	210*	-20*	-385*	30*	110*	-10*	90*	90*	70*	110	100	70*	30*	120	110	100	130	120*	211	(12)
8	120	90*	80*	90	80	90*	80*	130*	200	285	325	160*	Z±	210	210*	170*	130*	80*	40*	Z±	150	Z±	240*	90*	183	(8)
9	170	10*	60*	-75*	10	120	180	130	190*	415	415	555	515	515	575	505	505	465	415	425	325	180	325	405	357	(20)
10	505	485	495	545	455	515	445	405	365	335	415	535	425	-150*	-290*	-75*	-310*	-170*	-170*	-120*	-695*	-590*	-385*	Z±	456	(13)
11	Z±	Z±	-10*	40	90	120	160	240	220	265	Z±	Z±	Z±	90*	180	315	455	385	645	505	180*	190*	Z±	100	266	(14)
12	140	325	305	405	465	475	545	665	685	695	605	695	695	645	645	665	575	465	325	Z±	Z±	Z±	Z±	Z±	527	(19)
13	Z±	Z±	Z±	Z±	Z±	Z±	Z±	255*	10*	Z±	210*	305*	100*	180*	-130*	-180*	00*	Z±	Z±	220*	170	275	285	385	279	(4)
14	305	295	90*	140*	230*	180	275	395	535	505	475	575	535	535	545	625	810	830	830	770	770	625	445	315	532	(21)
15	305	325	355	335	345	375	385	425	595	625	695	465	575	545	615	695	595	465	535	455	485	505	535	675	496	(24)
16	455	355	545	375	425	445	625	735	860	950	920	870	910	625	645	685	910	950	820	810	645	475	230	405	653	(24)
17	375	505	545	585	405	770	715	715	1100	970	1190	1230	1275	1265	890	870	790	745	790	920	910	505	395	335	783	(24)
18	265	100	10	10	-130	-75	-30	40*	-55*	50*	-20*	-65*	Z±	255	240	465	645	615	770	315	285	525	545	495	295	(18)
19	365	365	475	385	345	365	465	665	745	1090	675	930	870	685	625*	595*	715*	685*	585*	475*	435	355	240	275	541	(18)
20	180	170	180*	60*	120	90	120	150*	305*	315	220	240*	150*	190	265*	285*	305*	285*	240*	230*	170*	30*	160*	140*	176	(8)
21	80*	50	30*	170*	160*	315	445	605	870	840	1110	950	810	585	485*	505*	385*	385*	180*	210*	355	345	325	385	571	(14)
22	265	220*	200	190	210	255	220	220	255	265	285	255	315	325	325	385	405	265	325	220	50	00	120*	-10*	249	(21)
23	100	80	Z±	Z±	Z±	160*	140*	160	335	Z±	20*	Z±	285*	355*	365*	365	485	160*	465*	455*	385	230	10*	-320*	267	(8)
24	-430	10	-30	60	220	285	425	565*	575*	555	635	695	-45	20*	10	00	150	150	100	80	60	365	305	275	185	(21)
25	210	220	180	240	240	305	255	255	295	545	575	475	385	425	385	335	375	285	395	395	365	395	345	405	345	(24)
26	375	345	220	220	180	190	230	305	355*	425	465	485	365	365	425	385	445	465	475	495	425	365	295	265	357	(23)
27	230	200	240	160	160	190	265	190	395	405	445	385	305	535	455	405	445	465	385	335	295*	230*	200*	180*	330	(20)
28	30*	130	180	210	190	160	180*	170	210*	295	325	375*	110*	265	425	415	415	445	305	455	565	525	435	385	331	(19)
29	405	365	265	200	220	265	265	285	305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286	(9)
30	-	-	-	-	-	-	-	-	-	-	455	405	385	375	365	405	445	405*	475	445	505	455	365	230	408	(13)
31	230	240	255	220	180	210	230	315	475	415	515	475	445	375	465	455	455	485	405	405	425	385	415	375	369	(24)
Mean	295	291	298	310	272	306	343	390	502	548	594	657	599	535	509	502	540	553	578	532	475	446	408	411	449	(528)
No. of days	(24)	(23)	(20)	(23)	(25)	(25)	(23)	(22)	(20)	(23)	(23)	(20)	(20)	(22)	(20)	(22)	(22)	(20)	(21)	(21)	(24)	(23)	(21)	(21)		
	Mean for selected quiet days																								[368 (9)]	
Annual Mean	237 (306)	222 (303)	212 (304)	214 (306)	215 (299)	224 (289)	269 (292)	317 (296)	343 (270)	356 (287)	335 (297)	323 (281)	311 (278)	297 (283)	293 (270)	296 (275)	303 (274)	320 (265)	330 (283)	324 (294)	323 (293)	313 (297)	297 (306)	266 (313)	288 (6961)	
	Annual Mean for selected quiet days																								[279]	

46 KEW

1957

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	0.8	1	1.0	0	0.0	2	4.1	1	0.2	0	0.0
2	1	0.9	1	1.3	0	0.0	2	3.4	0	0.0	0	0.0
3	1	0.3	1	1.5	0	0.0	1	0.3	1	0.3	1	2.3
4	0	0.0	1	1.8	1	1.1	0	0.0	1	1.3	0	0.0
5		-	2	8.4	0	0.0	1	0.1	1	1.0	0	0.0
6		-	0	0.0	2	3.2	1	1.6	1	0.1	0	0.0
7	0	0.0	2	8.5	1	0.6	0	0.0	2	7.1	1	0.8
8	0	0.0	1	2.9	0	0.0	1	0.7	1	2.5	1	0.5
9	1	0.7	2	3.6	0	0.0	1	2.4	2	6.9	2	3.5
10	0	0.0	1	0.1	0	0.0	1	1.1	0	0.0	2	5.0
11	0	0.0	2	4.3	0	0.0		-	1	1.2	1	0.1
12	1	0.9	2	5.6	0	0.0	1	1.0		-	0	0.0
13	1	2.7	1	2.2	0	0.0	1	1.1	1	0.3	0	0.0
14	0	0.0	1	2.8	0	0.0	1	0.3	1	0.2	0	0.0
15	1	0.9	2	3.1	0	0.0	0	0.0	1	0.7	0	0.0
16	2	3.6	0	0.0	0	0.0	0	0.0	1	2.0	0	0.0
17	1	1.3	0	0.0	1	1.0	1	0.3	0	0.0	0	0.0
18	0	0.0	1	0.7	0	0.0	1	0.1	2	5.5	1	0.6
19	1	0.2	1	0.2	0	0.0	1	0.4	1	0.5	1	2.4
20	0	0.0	2	3.2	1	2.6	0	0.0	1	0.1	0	0.0
21	1	0.1	1	2.4	1	0.4	0	0.0	0	0.0	0	0.0
22	0	0.0	1	0.4	1	1.6	2	3.0	0	0.0	1	0.4
23	1	2.5	2	6.1	2	3.3	1	0.2	0	0.0	0	0.0
24	2	5.2	1	1.5	0	0.0	1	1.7	2	10.8	2	3.6
25	1	0.4	1	2.5	0	0.0	2	5.9	0	0.0	1	1.2
26	1	1.3	1	0.5	2	4.6	1	0.9	0	0.0	1	0.1
27	1	1.8	1	1.1	1	0.7	1	1.2	0	0.0	0	0.0
28	0	0.0	0	0.0	1	0.1	2	7.1	0	0.0	0	0.0
29	2	3.1			1	0.4	0	0.0	0	0.0	1	0.2
30	1	1.0			1	0.4	0	0.0	0	0.0	2	3.1
31	1	1.3			1	0.3			1	0.1		
Total		29.0		65.7		20.3		36.9		40.8		23.8
No. of days used		29		28		31		29		30		30
Mean		1.0		2.3		0.7		1.3		1.4		0.8

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	0.2	0	0.0	1	0.2	0	0.0	1	0.9	1	0.2
2	1	1.5	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0
3	2	4.0	1	0.2	1	0.2	0	0.0		-	0	0.0
4	1	1.0	1	0.1	1	0.3	1	0.7	2	7.1	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0		-	1	0.1
6	1	2.9	0	0.0	1	0.2	0	0.0	1	0.1	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3
8	0	0.0	1	1.0	0	0.0	1	0.1	0	0.0	1	2.1
9	1	0.2	1	1.1	1	0.6	0	0.0	1	0.2	1	1.3
10	1	2.1	1	0.6	1	0.2	0	0.0	2	14.7	2	10.7
11	1	2.6	1	0.1	1	1.9	0	0.0	2	5.2	2	5.9
12	1	0.9	2	3.0	1	0.4	0	0.0	1	0.1	2	3.8
13	1	2.3	1	1.2	1	0.8	1	0.1	0	0.0	2	9.8
14	1	2.7	0	0.0	1	0.4	0	0.0	0	0.0	1	0.1
15	0	0.0	0	0.0	0	0.0	1	0.1	1	0.7	0	0.0
16	1	1.7	0	0.0	1	0.1	1	2.5	2	4.1	1	0.2
17	1	0.4	0	0.0	0	0.0	1	1.3	1	0.6	0	0.0
18	1	0.1	0	0.0	0	0.0	1	1.4	0	0.0	2	6.1
19		-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	1	0.9	0	0.0	1	0.1	0	0.0	0	0.0	1	0.3
21		-	1	0.4	0	0.0	1	0.1	1	0.4	1	0.2
22		-	0	0.0	1	0.3	1	0.2	1	2.0	1	1.3
23	0	0.0	0	0.0	1	0.5	0	0.0	0	0.0	2	5.1
24	0	0.0	1	0.1	1	2.3	0	0.0	0	0.0	2	4.7
25	0	0.0	1	0.3	1	0.7	0	0.0	0	0.0	0	0.0
26	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
27	1	1.8	1	1.1		-	1	1.2	0	0.0	0	0.0
28	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
29	0	0.0	0	0.0	1	1.1	1	0.2	0	0.0	0	0.0
30	0	0.0	0	0.0	1	1.0	0	0.0	1	0.2	0	0.0
31	0	0.0	0	0.0			1	1.0			0	0.0
Total		25.7		9.2		11.3		8.9		36.6		54.4
No. of days used		28		31		29		31		28		31
Mean		0.9		0.3		0.4		0.3		1.3		1.8

Annual values: Character 0 1 2
 No. of days used 154 161 40

Duration: Total 362.6
 No. of days 355
 Mean 1.02

ELECTRICAL OBSERVATIONS, UNDERGROUND LABORATORY, WILSON METHOD

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Mean values for periods of twenty minutes about 14h. 30m.

F = Potential gradient, unit 1 v./cm.^{-1} $\lambda+$ = Conductivity due to positive ions, unit $10^{-18} \text{ ohm.}^{-1} \text{ cm.}^{-1}$
 i = Air-earth current, unit $10^{-18} \text{ amp. cm.}^{-2}$

47 KEW

1957

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$
1	7.48	137	18	...	...	...	6.51	218	34	...	...	...	1.82	188	103	...	...	...
2	6.16	179	29	...	...	...	...	...	...	5.86	127	22	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	1.98	191	96	...	...	...
4	...	...	...	2.79	153	55	...	...	...	2.27	158	70	...	...	...	1.51	168	111
5	...	...	...	...	...	...	...	...	...	3.68	214	58	...	...	...	1.20	146	122
6	...	...	...	3.53	134	38	...	...	...	...	...	...	3.18	209	66	1.15	110	96
7	4.66	116	25	...	...	...	4.05	130	32	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	2.56	184	72	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	4.92	147	30	...	...	...	...	...	...	3.91	191	49	1.67	211	126	...	...	...
11	5.69	118	21	3.68	147	40	4.33	227	52	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	3.27	237	72	...	...	...	...	...	...	1.02	66	65
13	...	...	...	...	...	...	2.55	202	79	...	...	...	...	...	...	4.21	260	62
14	...	...	...	3.15	127	40	...	...	...	...	...	...	1.37	148	108	4.15	294	71
15	...	...	...	4.70	141	30	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	1.61	116	72	...	...	...	...	...	...
17	5.44	215	40	...	...	...	...	...	...	...	...	...	...	...	...	2.97	204	69
18	7.59	193	25	3.52	191	54	2.45	129	53	...	...	...	...	...	...	3.48	220	63
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	3.98	173	44	...	...	...	...	...	...	1.81	175	97	3.54	271	77
21	3.00	118	39	...	...	...	...	...	...	...	...	...	1.89	200	106	3.33	251	75
22	3.30	63	19	...	...	...	...	...	...	...	...	...	3.39	288	85	...	...	...
23	...	...	...	...	...	...	...	...	...	2.16	281	130	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.88	209	73
26	...	...	...	...	...	...	...	...	...	3.42	225	66	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	3.91	298	76	1.60	130	81
28	...	...	...	...	...	...	3.64	190	52	...	...	...	...	...	...	1.46	161	110
29	...	...	...	...	...	...	5.53	104	19	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	3.32	307	93	2.80	239	85	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mean	5.36	143	27	3.62	152	43	4.04	180	49	3.28	202	70	2.40	212	93	2.50	191	83
No. of days used	9	9	9	7	7	7	8	8	8	8	8	8	11	11	11	13	13	13

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$	F	i	$\lambda+$
1	1.43	153	107	...	...	...	...	...	...	3.35	288	86	...	...	...	...	...	...
2	...	...	...	3.91	249	64	...	...	...	2.52	201	80	...	...	...	...	...	...
3	1.19	126	106	...	...	...	7.36	267	36	2.42	231	95	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	1.67	222	133	4.06	235	58	...	...	...
5	3.13	191	61	...	...	...	1.80	141	78	...	...	...	...	...	...	...	...	...
6	...	...	...	1.59	196	123	...	...	...	...	...	...	4.49	269	60	7.07	212	30
7	...	...	...	...	...	...	...	...	...	3.30	158	48	5.87	204	35	...	...	...
8	1.39	152	109	...	...	...	...	...	...	...	...	...	6.06	204	34	...	...	...
9	...	...	...	...	...	...	...	...	...	3.27	211	65	...	...	...	5.90	184	31
10	...	...	...	...	...	...	2.24	201	90	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	2.18	223	102	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	2.37	189	80	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	2.49	254	102	5.44	219	40	...	...	...
15	2.19	188	86	...	...	...	...	...	...	2.79	276	99	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9.24	133	14
18	0.93	54	58	...	...	...	2.18	172	79	3.47	231	67	3.55	163	46	2.55	43	17
19	...	...	...	1.89	171	90	2.05	205	100	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	1.95	135	69	...	...	...	6.08	194	32	...	...	...
21	...	...	...	2.42	211	87	...	...	...	...	...	...	3.78	157	42	...	...	...
22	1.40	141	101	...	...	...	...	...	...	2.44	126	52	4.63	154	33	...	...	...
23	1.74	162	93	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	3.52	243	69	5.23	172	33	...	...	...
26	1.76	145	82	...	...	...	4.32	331	77	...	...	...	5.70	155	27	...	...	...
27	...	...	...	1.84	146	79	2.05	198	97	...	...	...	...	...	...	...	...	...
28	...	...	...	1.96	193	99	...	...	...	...	...	...	5.43	170	31	...	...	...
29	1.77	187	106	1.74	152	87	...	...	...	...	...	...	4.64	183	39	...	...	...
30	...	...	...	...	...	...	3.35	207	62	...	...	...	...	...	...	3.82	97	25
31	1.29	117	91	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mean	1.66	147	91	2.21	188	89	3.03	206	76	2.79	222	83	5.00	191	39	5.72	134	23
No. of days used	11	11	11	8	8	8	9	9	9	12	12	12	13	13	13	5	5	5

Year: Mean 3.34 184 67
No. of days used 114 114 114

AIR POLLUTION: HOURLY MEANS FOR EACH MONTH

48 KEW

Complete days only

1957

	Hour G.M.T.																								Mean	No. of days used	
	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24			
	milligrams per cubic metre																										
Jan.	0.05	0.04	0.03	0.03	0.03	0.04	0.07	0.09	0.11	0.09	0.08	0.08	0.07	0.08	0.08	0.08	0.12	0.15	0.15	0.16	0.15	0.10	0.09	0.07	0.09	30	
Feb.	0.11	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.11	0.11	0.07	0.07	0.07	0.07	0.08	0.09	0.10	0.17	0.19	0.22	0.25	0.23	0.20	0.15	0.11	27	
Mar.	0.09	0.07	0.07	0.07	0.06	0.07	0.08	0.11	0.11	0.10	0.09	0.08	0.07	0.07	0.08	0.09	0.10	0.13	0.18	0.20	0.19	0.17	0.14	0.12	0.11	31	
Apr.	0.10	0.10	0.09	0.09	0.09	0.09	0.10	0.10	0.09	0.07	0.08	0.08	0.08	0.07	0.07	0.08	0.08	0.10	0.13	0.17	0.16	0.16	0.12	0.11	0.10	30	
May	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.05	0.07	0.07	0.06	0.07	0.07	0.05	31	
June	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.05	0.05	0.06	0.05	0.05	30	
July	0.05	0.05	0.05	0.05	0.05	0.07	0.06	0.07	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.04	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05	0.05	31
Aug.	0.05	0.05	0.05	0.05	0.06	0.07	0.07	0.08	0.07	0.07	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.06	0.06	0.05	0.05	31
Sept.	0.06	0.06	0.06	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.08	0.08	0.08	0.08	0.07	0.06	30	
Oct.	0.16	0.17	0.17	0.15	0.14	0.13	0.13	0.14	0.14	0.12	0.12	0.11	0.08	0.07	0.07	0.07	0.09	0.11	0.14	0.18	0.19	0.19	0.20	0.18	0.13	29	
Nov.	0.15	0.13	0.10	0.09	0.09	0.09	0.09	0.12	0.15	0.15	0.16	0.15	0.14	0.14	0.15	0.18	0.22	0.27	0.29	0.30	0.30	0.27	0.21	0.17	0.17	30	
Dec.	0.17	0.15	0.13	0.14	0.12	0.15	0.12	0.14	0.19	0.29	0.31	0.26	0.23	0.26	0.24	0.25	0.28	0.30	0.32	0.33	0.33	0.35	0.31	0.24	0.23	27	
Year	0.09	0.08	0.07	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.09	0.10	0.12	0.14	0.15	0.16	0.15	0.13	0.11	0.10	357	
Winter	0.12	0.09	0.08	0.08	0.07	0.08	0.09	0.11	0.14	0.16	0.15	0.14	0.13	0.14	0.14	0.15	0.18	0.22	0.24	0.25	0.26	0.24	0.20	0.16	0.15	114	
Spring	0.09	0.09	0.08	0.08	0.07	0.08	0.09	0.11	0.10	0.09	0.09	0.08	0.07	0.07	0.07	0.09	0.09	0.11	0.15	0.19	0.17	0.17	0.13	0.11	0.11	61	
Autumn	0.11	0.11	0.11	0.10	0.10	0.09	0.10	0.11	0.11	0.09	0.09	0.09	0.07	0.06	0.06	0.06	0.07	0.09	0.11	0.13	0.13	0.13	0.14	0.13	0.09	59	
Summer	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.04	0.03	0.04	0.05	0.06	0.06	0.06	0.05	0.05	123	