Magnetic Fields for a 4x6 Prismatic Model

By GORDON E. ANDREASEN and ISIDORE ZIETZ

A collection of 825 contoured magnetic fields for a 4x6 (depth units) prismatic model for various thicknesses, directions of polarization, and inclinations of the earth's field.
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MAGNETIC FIELDS FOR A 4×6 PRISMATIC MODEL

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ABSTRACT

Magnetic fields have been computed for 4×6 (depth units) prismatic models with thicknesses ranging from 0.1 depth unit to infinity. For each model, the azimuth and inclination of polarization have been systematically varied from 0° to 90° and from 0° to 150°, respectively. In addition, the fields were computed for inclinations of the earth's field ranging from 0° to 90°. The computation and contouring of the fields were accomplished by high speed digital computers and automatic data plotters. Both formulation and program listing are included.

The 825 magnetic fields that make up this 4×6 model include the induced case and the remanent magnetization case. This suite of fields is primarily designed to aid the investigator in the geologic interpretation of observed magnetic anomalies.

INTRODUCTION

The usefulness of magnetic models in the geologic interpretation of anomalies resulting from induction in the earth's field has been well established (for example, Vacquier and others, 1951; Zietz and Henderson, 1956). These models often aid the investigator in determining such important parameters as areal extent of the anomaly-producing rock mass, the depth of burial of its upper surface, and the apparent magnetic susceptibility. However, the time-consuming laboratory measurements required for model preparation precluded publishing models in sufficient numbers so as to be of wide use. Also, it is now known that many rock units of large areal extent possess strong components of remanent magnetization that are not codirectional with the earth's field (Green, 1960; Watkins, 1961; Books, 1962; DuBois, 1962, 1963; Zietz, 1961; Zietz and Andreasen, 1967); in such cases Vacquier models (Vacquier and others, 1951) are not applicable.

With the advent of high speed digital computers, magnetic fields for prismatic models can be calculated quickly and effortlessly by an exact mathematical formula and then contoured automatically by mechanical or cathode-ray plotters. The authors have used this approach (Zietz, 1961) to generate an extensive collection of magnetic models that will not only be a sizable addition to the induced case but will also be a systematic study of the remanent fields caused by varying directions of magnetization. A similar approach has been used by Bhattacharyya (1964). He calculated several magnetic fields for prismatic bodies using an arbitrary direction of magnetization; these fields were subsequently hand-contoured. This report includes 825 magnetic fields representing various directions of polarization, earth's field, and model thicknesses for a specific model. Only the total polarization or vector sum is considered, and no differentiation is made between the induced and remanent polarization. If the remanent polarization relative to the induced polarization is small, the formula reduces to the case for induced polarization, and the three-dimensional magnetic fields generated would be similar to the Vacquier models.

ACKNOWLEDGMENTS

The authors are especially grateful to Mr. James Nielon, U.S. Weather Bureau, for modifying the curve follower program for automatic contouring of the magnetic data, and to Dr. Joseph Cain, Goddard Space Flight Center, whose continued interest has made the project possible.

THE MODEL

The magnetic model is a prism assumed to be a rectangular block with an upper surface or a depth unit below the x-y plane of observation (fig. 1). The length, width, and thickness of the prism are expressed in depth units. The prism is further assumed to be made up of elementary dipoles all aligned in the same direction and possessing the same magnetic moment.

The potential \( V \) at any point \( P(x,y,z) \) due to an elemental volume \( dv = dx'dy'dz' \) at a distance \( r \) and a total polarization \( J \), is

\[
\Delta V = \frac{J \cdot r}{r^3} dv.
\]

The potential due to the entire body is

\[
V = \int_V \frac{J \cdot r}{r^3} dv.
\]
MAGNETIC FIELDS FOR A 4X6 PRISMATIC MODEL

The polarization \( \mathbf{J}_t \) is the vector sum of the polarization \( \mathbf{J}_i \) resulting from induction in the earth's field and the remanent polarization \( \mathbf{J}_r \), that is,

\[
\mathbf{J}_t = \mathbf{J}_i + \mathbf{J}_r.
\]

The direction of \( \mathbf{J}_t \) is defined by two angles, \( \phi \) and \( \delta \), as shown in figure 2. The axes of the rectangular coordinate system are chosen so that the \( z \) axis is directed positively downwards and the \( x \) axis is in the direction of magnetic north.

Completing the scalar product in equation 1,

\[
V = \int_V \mathbf{J}_t \cdot \mathbf{r} \cos \theta \, dv,
\]

where \( \theta \) is the angle between \( \mathbf{J}_t \) and \( \mathbf{r} \), and

\[
\cos \theta = \frac{(x-x')}{r} \cos \phi \cos \delta + \frac{(y-y')}{r} \sin \delta \cos \phi + \frac{(z-z')}{r} \sin \phi.
\]

Substituting,

\[
\mathbf{J}_t \cdot \mathbf{r} \cos \theta = \mathbf{J}_i \cos \phi \cos \delta + \mathbf{J}_r \sin \delta \cos \phi + \mathbf{J}_r \sin \phi.
\]

The component of magnetic intensity in the direction of the earth's field, that is, the value measured by a total field magnetometer is

\[
\Delta T = \Delta x \cos \phi + \Delta y \sin \phi,
\]

where

\[
r = \sqrt{(x-x')^2 + (y-y')^2 + (z-z')^2}.
\]

The substitution of equation 4 into equation 7 yields

\[
\frac{\Delta T}{\mathbf{J}_t} = \left[ \int_V [\cos \delta \cos \phi \frac{\partial}{\partial z'} (\frac{x-x'}{r^3}) \right] \sin \phi + \left[ \int_V [\cos \delta \cos \phi \sin \phi \frac{\partial}{\partial z'} (\frac{y-y'}{r^3}) \right] \sin \phi + \left[ \int_V [\cos \delta \cos \phi \frac{\partial}{\partial z'} (\frac{z-z'}{r^3}) \right] \sin \phi.
\]

Upon reducing the volume integral to a surface integral and integrating, the final expression for the normalized field at any point in the \( x-y \) plane becomes.
CONTOURED MAGNETIC FIELDS

\[
\frac{\Delta T(x,y,0)}{J} = \cos \delta \cos \gamma \cos \beta \left\{ \tan^{-1} \left[ \frac{y-b_2}{x-a_1} \right] - \tan^{-1} \left[ \frac{y-a_1}{(x-a_1)^2 + (y-b_1)^2 + \gamma_1^2} \right] \right. \\
+ \tan^{-1} \left[ \frac{y-a_1}{(x-a_1)^2 + (y-b_1)^2 + \gamma_1^2} \right] \\
- \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] + \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] \left. \right\} \\
+ \sin \gamma \cos \beta \left\{ \tan^{-1} \left[ \frac{y-a_1}{(x-a_1)^2 + (y-b_1)^2 + \gamma_1^2} \right] \\
+ \tan^{-1} \left[ \frac{y-a_1}{(x-a_1)^2 + (y-b_1)^2 + \gamma_1^2} \right] \\
- \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] + \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] \right\} \\
+ \sin \gamma \cos \beta \left\{ \tan^{-1} \left[ \frac{y-b_2}{x-a_1} \right] - \tan^{-1} \left[ \frac{y-a_1}{(x-a_1)^2 + (y-b_1)^2 + \gamma_1^2} \right] \right. \\
- \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] + \tan^{-1} \left[ \frac{x-a_2}{(y-b_1)^2 + \gamma_1^2} \right] \left. \right\} \\
- \cos \gamma \cos \beta \sin \gamma \cos \beta \log \left[ \frac{y-b_2 + [(x-a_2)^2 + (y-b_1)^2 + \gamma_1^2]^{1/2}}{y-b_2 + [(x-a_2)^2 + (y-b_1)^2 + \gamma_1^2]^{1/2}} \right] \\
+ \cos \gamma \cos \beta \sin \gamma \cos \beta \log \left[ \frac{x-a_2 + [(y-b_1)^2 + \gamma_1^2]^{1/2}}{x-a_2 + [(y-b_1)^2 + \gamma_1^2]^{1/2}} \right]
\]

Equation 9 is an exact expression for the normalized field due to a rectangular magnetic prism at any point in the x-y plane. If the remanent polarization should be zero, the equation reduces to an expression for a normalized field caused by induction only.

CONTOURED MAGNETIC FIELDS

PROCEDURE

The magnetic field for each prism is based on the evaluation of equation 9 at 1,369 grid points in the plane of observation. The computation time using a direct-coupled IBM 7040–7094 computer is less than 5 seconds. Another computer program which is a modification of the curve-follower program developed by the U.S. Weather Bureau interpolates the data which are automatically contoured on an Electronic Associates Inc. model 3410 Dataplotter. The interpolation process requires about 10 seconds of computer time, and contouring requires approximately 2 minutes.

The original contoured magnetic fields covered an area of 18 by 18 inches and were drawn on semitransparent paper. These were used as overlays on 18-by-18-inch grids on which the model location was delineated by heavy lines. The contours, magnetic highs and lows, the three angles (\(\delta, \gamma, I\)), and thickness were hand labeled.
$IBFTC MODEL DECK

C MAGNETIC MODEL STUDIES IN FORTRAN IV

DIMENSION COEFA(65,65), COEFB(65,65), COEFC(65,65), COEFD(65,65),
1ICCEFE (65,65), AL(2), BE(2), GA(2), GAS(2), ALMX(2), ALMXS(2), BEMY(2),
2BEMYS(2), RHO(2,2), Z(65), IER(9)
EQUIVALENCE (AL(2), RHO), (BE(1), RV), (BE(2), RI)
11 FCRMAT (I4, I1, 5F5.2, 2E8, 2.5F5.2, 16)
REWIND 10

C READ INPUTS

1 READ(5,11) IREF, ID, AL(1), AL(2), BE(1), BE(2), GA(1), GA(2),
1 X1, X2, DXY, Y1, Y2, MAFIC
IF (ID-2) 2, 310, 2
2 DO 3 I=1, 9
3 IER(I)=0
IF (ID-14, 9, 5
4 IER(5)=9
GO TO 30
5 IF (ID-9) 6, 3000, 6
6 IER(I)=9
GO TO 30
C FDIT PARAMETER CARD
9 IF (AL(2)-AL(1)) 13, 13, 14
13 IER(I)=1
14 IF (BE(2)-BE(1)) 15, 15, 16
15 IER(2)=2
16 IF (GA(1)-0.) 17, 17, 18
17 IER(3)=3
18 IF (GA(2)-GA(1)) 19, 19, 20
20 IF (GA(2)-1.0E17) 22, 21, 21
21 IER(5)=5
22 IF (DXY) 23, 23, 24
23 IER(6)=6
24 IXL= ABS (((X2-X1)/DXY) & 1.0
IF (IXL-2) 25, 2600, 2600
2600 IXL-65) 26, 25, 25
25 IER(7)=7
26 IYL = ABS (((Y2-Y1)/DXY) & 1.0
IF (IYL-2) 27, 2800, 2800
2800 IF (IYL-65) 28, 27, 27
27 IER(8)=8
28 CONTINUE
30 DO 31 I=1, 9
31 CONTINUE
31 CONTINUE
WRITE(6,34)
1 IREF,ID, AL(1), AL(2), BE(1), BE(2), GA(1), GA(2), X1, X2, DXY,
1 Y1, Y2
34 FCRMAT (1H1, 215, 5F6.2, 2E10, 2.5F5.2, 14H PARAM CARD OK)
GO TO 50
32 WRITE(6,33)
1 IREF, ID, AL(1), AL(2), BE(1), BE(2), GA(1), GA(2), X1, X2, DXY,
1 Y1, Y2. (IER(I), I=1, 5)
CONTOURED MAGNETIC FIELDS

33 FORMAT (1H1, 2I5, 5F6.2, E10.2, 2I5, 2F6.2, 9I2, 12H PARAM ERROR)
   IREF1 = 0
   GO TO 1
50 GAS(1) = GA(1) * GA(1)
   WRITE(6, 51) IXL, IYL
51 FORMAT (1H0, 4HI XL = , I3, 4X, 4HI YL = , I 3)
   GAS(2) = GA(2) * GA(2)
   HLFFI = 1.5707963
   PI = 3.1415927
   IREF1 = IREF
   Y = Y1 - DXY
   DC 112 IY = 1. I YL
   Y = Y & DXY
   DO 62 I = 1, 2
      EEMY(I) = BE(I) - Y
   62 BEMY(I) = BEMY(I) * BEMY(I)
   X = X1 - DXY
   DC 112 IX = 1, I XL
   X = X & DXY
   DO 61 I = 1, 2
      ALMX(I) = AL(I) - X
   61 ALMXS(I) = ALMX(I) * ALMX(I)
   DO 65 I = 1, 2
      DC 65 J = 1, 2
      DO 65 K = 1, 2
      RHQ(I,J,K) = SQRT(ALMXS(I) & BEMY(J) & GAS(K))
   72 ZZ = 0.
   SLW = 0.
   IF (ALMX(I)) 66, 78, 66
   66 DC 77 J = 1, 2
      DO 77 K = 1, 2
      F = (BEMY(J) * GA(K)) / (ALMX(I) * RHQ(1, J, K))
      IF (MUD(J,K) - 1) 68, 67, 68
   68 F = -F
   69 C1 = ZZ & F
   C2 = 1.0 - ZZ*F
   IF (C2) 73, 69, 73
   69 IF (C1) 70, 71, 71
   70 SUM = SUM - HLFFI
      GO TO 72
   71 SLW = SUM & HLFFI
   72 77 = 0.
      GO TO 77
   73 ZZ = Q1 / Q2
      IF (Q2) 74, 77, 77
   74 IF (Q1) 75, 76, 75
   75 SUM = SUM - PI
      GC TO 77
   76 SUM = SUM & PI
   77 CONTINUE
78 IF (ALMX(2)) 40, 90, 40
40 DC 89 J = 1, 2
   DO 89 K = 1, 2
      F = (BEMY(J) * GA(K)) / (ALMX(2) * RHQ(2, J, K))
IF (MOD(J&K,2)) -F
G1 = ZZ*F
Q2 = 1.0
SUM = SUM - HLFPI
GO TO 84
SUM = SUM & HLFPI
ZZ = 0.
GO TO 89
ZZ = Q1/Q2
IF (Q2) 86,89,89
IF (Q1) 87,88,89
SUM = SUM - PI
GO TO 89
SUM = SUM & PI
CONTINUE
CCF(A(IX,IX) = ATAN(ZZ)*SUM
U = 1.0
DO 93 I = 1,2
DO 93 J = 1,2
DO 93 K = 1,2
FAC = RHO(I,J,K) & EEMY(J)
IF (MOD(I&J&K,2)) -92,91,92
U = U * FAC
GO TO 93
U = U / FAC
CONTINUE
CCF(FIX,IX) = ALOG(U)
U = 1.0
DO 96 I = 1,2
DO 96 J = 1,2
DO 96 K = 1,2
FAC = RHO(I,J,K) & GA(K)
IF (MOD(I&J&K,2)) -95,94,95
U = U * FAC
GO TO 96
U = U / FAC
CONTINUE
CCF(CIX,IX) = ALOG(U)
U = 1.0
DO 100 I = 1,2
DO 100 J = 1,2
DO 100 K = 1,2
FAC = RHO(I,J,K) & ALMX(I)
IF (MOD(I&J&K,2)) -99,98,99
U = U * FAC
GO TO 100
U = U / FAC
CONTINUE
CCF(DIX,IX) = ALOG(U)
ZZ = 0.
SUM = 0.
CONTOURED MAGNETIC FIELDS

DO 111 I = 1, 2
DO 111 J = 1, 2
DO 111 K = 1, 2
F = (ALMX(I) * BFMY(J)) / (GA(K) * RHO(I, J, K))
IF( MOD(I, J, K, 2)) 102, 1C1, 1C2
101 F = -F
102 Q1 = ZZ & F
Q2 = 1.0 -ZZ*F
IF (Q2) 107, 103, 107
103 IF (Q1) 104, 105, 105
104 SUM = SUM - HLFPI
GO TO 106
105 SUM = SUM & HLFPI
106 ZZ = 0.
GO TO 111
107 ZZ = Q1 / Q2
IF (Q2) 108, 111, 111
108 IF (Q1) 109, 110, 111
109 SUM = SUM - PI
GO TO 111
110 SUM = SUM & PI
111 CONTINUE
112 COEFE(I X, I Y) = ATAN(ZZ & SUM
GO TO 1
C PROCESS ANGLE CARD
310 MP = (AL(1) & SIGN(0.005, AL(1)))*100.0
IF (IREF1 - IREF) 400, 311, 400
311 WRITE(6, 329)
1 IREF, ID, MF, RH, RV, RI, MAPID
329 FORMAT(1HO, 315, IF5.2, 2X, 16)
360 RH RAD = 0.017453293 * RH * 10.0
-48 7 4 -87 33
COSRH = COS (RH RAD)
RVRAD = 0.017453293 * RV * 10.0
SINRV = SIN (RVRAD)
COSRV = COS (RVRAD)
RIRAD = 0.017453293 * RI * 10.0
SINRI = SIN (RIRAD)
COSRI = COS (RIRAD)
TRGA = COSRH * COSRV * COSRI
TRGE = SINRV * COSRI & CCSRH * COSRV * SINRI
TRGC = SINRH * COSRV * CCSRI
TRGC = SINRH * COSRV * SINRI
TRGE = SINRV * SIANI
WRITE(6, 331) TRGA, TRGB, TRGC, TRGZ, TRGE
331 FCRWAT (1H0, 5E15, 8, 12H TRG FACTORS)
ZMAX = -0.9E-36
ZMIN = 0.9E-36
IX = IXL
WRITE(10) MAPID, IXL, IYL
320 DC 341 IY=1, IYL
Z(IY) = TRGA * COEFA(I X, IY) & TRGB * COEFB(I X, IY) & TRGC * COEF C(IX, IY)
1 & TRGD * COEFD(I X, IY) & TRGF * COEFE(I X, IY)
IF (Z(IY) LT ZMIN) ZMIN = Z(IY)
MODEL DESCRIPTION

The present magnetic model is a prism measuring 4 depth units in the magnetic north direction and 6 depth units in the magnetic east direction. The thicknesses (t) in depth units are 0.1, 0.25, 0.5, 1.0, and infinity. The inclination of the earth's magnetic field (\( \theta \)) is assumed to be 0°, 30°, 60°, 75°, and 90°. For each prism thickness (t) and each earth's field (\( \theta \)), the declination or azimuth (\( \delta \)) of the polarization vector takes on the values 0°, 30°, 60°, and 90°. And for each declination there are associated nine inclinations (i) of the polarization vector. These are: 0°, 20°, 30°, 45°, 60°, 75°, 90°, 120°, and 150°. The magnetic fields for the 4X6 model are grouped according to the thickness (t) of the prism, the thinnest (0.1) appearing first. Within each thickness group, the fields are arranged according to the earth's field (\( \theta \)), the inclination of earth's field (\( \theta \)) assumed to be 0°, 30°, 60°, 75°, and 90°. And for each earth's field in a particular thickness group, the declination (\( \delta \)) of the polarization vector varies from 0° to 90° (in 30° steps). Finally, for each polarization declination the polarization inclinations (i) vary from 0° to 150° in the nine increments specified above.

There is one exception to the above order of fields. For a particular \( t \) and \( \theta \), the fields resulting from setting \( \iota=90° \) are obviously independent of \( \delta \). Because four different values of \( \iota \) are used, four identical fields would result. Only one of these fields, corresponding to \( \iota=0° \), is shown.

The user may turn readily to a desired field by first selecting appropriate thickness shown in the lower left hand corner of each plate. Under each contoured field three angles are shown \( \delta \), \( \iota \), and \( \theta \). The user would choose the value of \( \iota \) (inclination of earth's field) that most nearly coincided with the value of \( \iota \) for his area. He is then ready to select the contoured field corresponding to one or more directions of polarization as may suit his purposes.

The use of the 4X6 models in the interpretation of observed magnetic anomalies is beyond the scope of the present publication. However, the reader is referred to a recent paper by Zietz and Andreasen (1967) describing a method of determining remanent directions from operations on the observed field only. This method is based upon empirical relationships between the physical prism and the computed field.

Although the production of the magnetic fields shown in this publication was made feasible by the use of a high speed computer and mechanical contouring device, the relative time-consuming task of hand labeling and the two-step photographic reduction process stimulated a quest for a system that would eliminate entirely all hand processing of the data, except the initial input describing the desired field.

Such a system was found in a contour program obtained from Dr. Joseph Cain of the Goddard Space Flight Center. The output from the contour program was modified for the SC-4020 (Stromberg-Carlson) cathode-ray plotter. The program generates the contours, grid, model outline, and all labeling. The resulting complete field is displayed in a matter of seconds on
the cathode-ray tube from which a 35-millimeter film positive is obtained. Subsequent models are now in preparation utilizing the cathode-ray system.

REFERENCES CITED

Bhattacharyya, B. K., 1964, Magnetic anomalies due to prism-shaped bodies with arbitrary polarization: Geophysics, v. 29, no. 4, p. 517-553.


CONTOURED MAGNETIC FIELDS

Plates 1–210
TOTAL MAGNETIC INTENSITY, $\Delta T / J_0$, (cgs)
MODEL = $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta = 0^\circ$ $\theta = 0^\circ$ $I = 0^\circ$

$\delta = 0^\circ$ $\theta = 20^\circ$ $I = 0^\circ$

$\delta = 0^\circ$ $\theta = 30^\circ$ $I = 0^\circ$

$\delta = 0^\circ$ $\theta = 45^\circ$ $I = 0^\circ$

$\delta =$ Declination of polarization
$\theta =$ Inclination of polarization
$I =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/\lambda_1$ (cgs)

MODEL = 4 x 6 x 1

Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$l$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\epsilon$ = Inclination of polarization
$\beta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_0$ (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$, (cgs)
MODEL = 4X6XJ
Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gcm)
MODEL = 4x6x.1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$J$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/J_r \) (egs)
MODEL: 4x6x1
Grid interval = Depth of burial

\( \delta = 0^\circ \) = 45°  \( I = 30^\circ \)

\( \delta = 0^\circ \) = 60°  \( I = 30^\circ \)

\( \delta = 0^\circ \) = 75°  \( I = 30^\circ \)

\( \delta = 0^\circ \) = 90°  \( I = 30^\circ \)

\( \delta \) = Declination of polarization
\( I \) = Inclination of polarization
\( \theta \) = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / I_1$ (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial,
TOTAL MAGNETIC INTENSITY, $\Delta T/J_k$ (cgs)
MODEL = $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta = 60^\circ \pm 30^\circ$, $\iota = 30^\circ$

$\delta = 60^\circ \pm 45^\circ$, $\iota = 30^\circ$

$\delta = 60^\circ \pm 75^\circ$, $\iota = 30^\circ$

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\mathcal{O}T/\mathcal{I}$, (cgs)
MODEL: 4 x 6 x 1
Grid interval = Depth of burial

$\Delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL $= 4 \times 6 \times 1$
Grid interval = Depth of burial.

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\theta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, AT/1 (cgs)
MODEL = 4X6X1
Grid interval = Depth of burial

\[ \delta = 90^\circ \; \theta = 120^\circ \; \phi = 30^\circ \]

\[ \delta = 0^\circ \; \theta = 0^\circ \; \phi = 60^\circ \]

MAGNETIC NORTH

\[ \delta = \text{Declination of polarization} \]
\[ \theta = \text{Inclination of polarization} \]
\[ \phi = \text{Inclination of earth's field} \]
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL = 4X6X1
Grid interval = Depth of burial

$\delta = 0^\circ \pm 30^\circ \parallel 60^\circ$

$\delta = 0^\circ \pm 45^\circ \parallel 60^\circ$

$\delta = 0^\circ \pm 60^\circ \parallel 60^\circ$

$\delta = 0^\circ \pm 75^\circ \parallel 60^\circ$

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I_e$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I$, (cgs)  
MODEL = 4 X 6 X 4  
Grid interval = Depth of burial  

$\delta$ = Declination of polarization  
$\iota$ = Inclination of polarization  
$I$ = Inclination of the field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL = 4 x 5 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I_e$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cps)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

\(\delta=30^\circ\) or \(75^\circ\) or \(150^\circ\)

\(\delta=30^\circ\) or \(120^\circ\) or \(60^\circ\)

\(\delta=60^\circ\) or \(0^\circ\) or \(60^\circ\)

\(\delta= Declination of polarization\)
\(\phi= Inclination of polarization\)
\(I= Inclination of earth's field\)
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$ (e.g.s)
MODEL: $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4x6x1
Grid interval = Depth of burial.

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$, (cgs)
MODEL = 4 $\times$ 6 $\times$ 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\Theta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)
MODEL = $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta = 90^\circ$ to $120^\circ$
$\psi = 75^\circ$
$\iota = 60^\circ$

$\delta =$ Declination of polarization
$\iota =$ Inclination of polarization
$\iota =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/\lambda$, (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

$\delta = 0^\circ \pm 75^\circ \pm 75^\circ$

$\beta = 0^\circ \pm 90^\circ \pm 75^\circ$

$\gamma = 0^\circ \pm 120^\circ \pm 75^\circ$

$\delta = 0^\circ \pm 150^\circ \pm 75^\circ$

$\delta = \text{Declination of polarization}$
$\iota = \text{Inclination of polarization}$
$\lambda = \text{Inclination of earth's field}$
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (nG)
MODEL: $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\lambda$ = Inclination of earths field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$ (cgs)
MODEL = 4 X 6 X 1
Grid interval = Depth of burial

A  $\delta = 60^\circ$, $\gamma = 75^\circ$
B  $\delta = 60^\circ$, $\gamma = 75^\circ$
C  $\delta = 60^\circ$, $\gamma = 120^\circ$, $\gamma = 75^\circ$
D  $\delta = 60^\circ$, $\gamma = 150^\circ$, $\gamma = 75^\circ$

$\delta$ = Declination of polarization
$\gamma$ = Inclination of polarization
$\lambda$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / n$ (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_1$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta = 90^\circ$, $\iota = 60^\circ$, $\lambda = 75^\circ$

$\delta = 90^\circ$, $\iota = 120^\circ$, $\lambda = 75^\circ$

$\delta = 90^\circ$, $\iota = 150^\circ$, $\lambda = 75^\circ$

$\delta = 90^\circ$, $\iota = 150^\circ$, $\lambda = 75^\circ$

Declination of polarization
Inclination of polarization
Inclination of earths field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 X 6 X 3
Grid interval = Depth of burial

MAGNETIC NORTH

$\Delta = \text{Declination of polarization}$
$i = \text{Inclination of polarization}$
$1 = \text{Inclination of earth's field}$
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \) (Gauss)
MODEL = 4 x 6 x 1
Grid interval = Depth of burial

\( \delta = 0^\circ \) = 60° E 90°

\( \delta = 0^\circ \) = 75° E 90°

\( \delta = 0^\circ \) = 90° E 90°

\( \delta = 0^\circ \) = 120° E 90°

\( \delta = \) Declination of polarization
\( \iota = \) Inclination of polarization
\( \iota_0 = \) Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (gpa)
MODEL = 4x6x1
Grid interval = Depth of burial

$\phi$ = Declination of polarization
$I$ = Inclination of polarization
$\beta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$, (cgs)  
MODEL: $4 \times 8 \times 1$  
Grid interval: Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (gpm)
MODEL = $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I_e$ = Inclination of earth's field

MAGNETIC NORTH

A $\delta = 30^\circ = 150^\circ$ $I = 90^\circ$
B $\delta = 60^\circ = 0^\circ$ $I = 90^\circ$
C $\delta = 60^\circ = 20^\circ$ $I = 90^\circ$
D $\delta = 60^\circ = 30^\circ$ $I = 90^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: 4 x 6 x 1
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\triangle T/J$, $(\text{gamma})$
MODEL $= 4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta = 60^\circ \pm 150^\circ \parallel 90^\circ$

$\theta = 90^\circ \parallel 0^\circ \parallel 90^\circ$

$\beta = 90^\circ \pm 20^\circ \parallel 90^\circ$

$\beta = 90^\circ \pm 30^\circ \parallel 90^\circ$

\[ \text{MAGNETIC NORTH} \]

Legend:
- $\delta$ = Declination of polarization
- $\theta$ = Inclination of polarization
- $\beta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/T$, (cgs)
MODEL: $4 \times 6 \times 1$
Grid interval = Depth of burial

$\delta =$ Declination of polarization
$i =$ Inclination of polarization
$I =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gcs)

MODEL: 4 x 6 x 1

Grid interval = Depth of burial.

$\delta$ = Declination of polarization

$\iota$ = Inclination of polarization

$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL = 4 x 6 x 0.25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_e$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (sgs)
MODEL = 4 X 6 x 2.5
Grid interval = Depth of burial

$\delta = 0^\circ \ l = 60^\circ \ I = 0^\circ$

$\delta = 0^\circ \ l = 75^\circ \ I = 0^\circ$

$\delta = 0^\circ \ l = 90^\circ \ I = 0^\circ$

$\delta = 0^\circ \ l = 120^\circ \ I = 0^\circ$

$\delta = $ Declination of polarization
$I = $ Inclination of polarization
$L = $ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T$, (nT)
MODEL: $4 \times 6 \times 0.25$
Grid interval = Depth of burial

- Declination of polarization
- Inclination of polarization
- Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$ (cgs)
MODEL = 4x5x25
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$i$ = Inclination of $\delta$
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, ΔT/I₁ (cgs)
MODEL = 4 × 6 × 0.25
Grid interval = Depth of burial

$\theta$ = Declination of polarization
$\phi$ = Inclination of polarization
$\alpha$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, \( \Delta T/J \), (cgs)
MODEL = 4 \times 6 \times 0.25
Grid interval = Depth of burial

\( \alpha = \) Declination of polarization
\( i = \) Inclination of polarization
\( 1 = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gpy)
MODEL = $4 \times 6 \times 25$
Grid interval = Depth of burial.
$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)  
MODEL = 4x6x25  
Grid interval = Depth of burial.

$\delta = 90^\circ$  $\phi = \theta = 0^\circ$  

$\delta = 90^\circ$  $\phi = 60^\circ$  

$\delta = 90^\circ$  $\phi = 75^\circ$  

$\delta = 90^\circ$  $\phi = 120^\circ$

$\delta$: Declination of polarization  
$\phi$: Inclination of polarization  
$\theta$: Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/J_z \) (cgs)
MODEL=4X6X.25
Grid interval = Depth of burial

\( \theta = 0^\circ + 20^\circ \) \( \beta = 0^\circ + 30^\circ \)

MAGNETIC NORTH

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\( \theta = \) Declination of polarization
\( \beta = \) Inclination of polarization
\( \lambda = \) Inclination of earth's field
TOTAL MAGNETIC INTENSITY, μT/m (cgs)
MODEL: 4 × 6 × .25
Grid interval = Depth of burial

A  δ=0° i=45° I=30°
B  δ=0° i=60° I=30°
C  δ=0° i=75° I=30°
D  δ=0° i=90° I=30°

δ = Declination of polarization
i = Inclination of polarization
I = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / g$, (cgs)
MODEL = $4 \times 5 \times 2$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / I$, (cps)
MODEL = 4x6x25
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (pgs)
MODEL $= 4 \times 6 \times 2$ 
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\lambda$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / I_1$ (cgs)
MODEL = 4 x 6 x .25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I_1$ = Inclination of polarization
$I_0$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (gS)
MODEL = $4 \times 6 \times .25$
Grid interval = Depth of burial

$\Delta$ = Declination of polarization
$\gamma$ = Inclination of polarization
I = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / \lambda$, (cgs)
MODEL = $4 \times 6 \times 25$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL: 4x6x.25
Grid interval = Depth of burial

$\theta$ = Declination of polarization
$\epsilon$ = Inclination of polarization
$\lambda$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_i$ (cgs)
MODEL = $4 \times 6 \times .25$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\beta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (kgs)  
MODEL $= 4 \times 0.25$  
Grid interval = Depth of burial  

A  $\delta = 60^\circ$, $t = 20^\circ$, $\iota = 60^\circ$  

B  $\delta = 60^\circ$, $t = 30^\circ$, $\iota = 60^\circ$  

C  $\delta = 60^\circ$, $t = 45^\circ$, $\iota = 60^\circ$  

D  $\delta = 60^\circ$, $t = 60^\circ$, $\iota = 60^\circ$  

$\delta$ = Declination of polarization  
$t$ = Inclination of polarization  
$\iota$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, AT/J, (cgs)
MODEL = 4 X 6 X 0.25
Grid interval = Depth of burial

MAGNETIC NORTH

\[ \delta = 60^\circ \leftrightarrow 75^\circ \ 1 = 60^\circ \]

\[ \delta = 60^\circ \leftrightarrow 120^\circ \ 1 = 60^\circ \]

\[ \delta = 60^\circ \leftrightarrow 0^\circ \ 1 = 60^\circ \]

\[ \delta = 90^\circ \leftrightarrow 60^\circ \]

- \( \delta \): Declination of polarization
- 1: Inclination of polarization
- =: Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/1_1$, (cgs)
MODEL = $4 \times 6 \times .25$
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I_e$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)

MODEL = 4 x 6 x .25

Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$L$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J_0$ (gns)
MODEL: $4 \times 6 \times .25$
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization,
$I$ = Inclination of polarization,
$I$ = Inclination of earth's field.
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: 4 X 6 X 25
Grid interval: Depth of burial

MAGNETIC NORTH

$x$: Declination of polarization
$\theta$: Inclination of polarization
$\phi$: Inclination of earth's field
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TOTAL MAGNETIC INTENSITY, ∆T/1, (cgs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

MAGNETIC NORTH

8 = Declination of polarization
i = Inclination of polarization
1 = Inclination of earth's field

A 8=60° i=10° I=75°
B 8=60° i=20° I=75°
C 8=60° i=30° I=75°
D 8=60° i=45° I=75°
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$I$ = Inclination of earth's field
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TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL $= 4 \times 6 \times 25$
Grid Interval $= $ Depth of burial

$\delta$ = Declination of polarization
$\beta$ = Inclination of polarization
$\beta'$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I$, (cgs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/I_0$, (cgs)

MODEL $= 4 \times 6 \times 25$

Grid interval = Depth of burial

$\delta$ = Declination of polarization

$i$ = Inclination of polarization

$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x .25
Grid interval = Depth of burial

\( \delta = 0^\circ \ i = 150^\circ \ l = 90^\circ \)

\( \delta = 30^\circ \ i = 0^\circ \ l = 90^\circ \)

\( \delta = 30^\circ \ i = 30^\circ \ l = 90^\circ \)

\( \delta = 30^\circ \ i = 0^\circ \ l = 90^\circ \)

\( \delta \) = Declination of polarization
\( i \) = Inclination of polarization
\( l \) = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_1$ (cgs)
MODEL: 4x6x.25
Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (ergs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

$\delta =$ Declination of polarization
$\iota =$ Inclination of polarization
$I =$ Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/\mu$, (cgs)
MODEL = 4 x 6 x 25
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\lambda$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/I_I$, (cgs)
MODEL = $4 \times 6 \times 0.25$
Grid interval = Depth of burial,

8 = Declination of polarization
\( t \) = Inclination of polarization
\( I \) = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/I \), (cgs)
MODEL = 4 x 6 x 0.25
Grid interval = Depth of burial

\( \delta = \) Declination of polarization
\( i = \) Inclination of polarization
\( 1 = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)
MODEL = $4 \times 6 \times 25$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T$, (cgs)
MODEL = 4x4x5
Grid interval = Depth of burial

$\phi =$ Declination of polarization
$\theta =$ Inclination of polarization
$\gamma =$ Inclination of earth's field

MAGNETIC NORTH

A: $\delta = 0^\circ$, $\theta = 0^\circ$, $\gamma = 0^\circ$
B: $\delta = 0^\circ$, $\theta = 20^\circ$, $\gamma = 0^\circ$
C: $\delta = 0^\circ$, $\theta = 0^\circ$, $\gamma = 20^\circ$
D: $\delta = 0^\circ$, $\theta = 0^\circ$, $\gamma = 45^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, δT J, (gms)
MODEL: 4x6x5
Grid interval = Depth of burial

- δ = Declination of polarization
- i = Inclination of polarization
- θ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)
MODEL: $4 \times 6 \times 5$
Grid interval = Depth of burial

\[ \theta = 30^\circ, \phi = 45^\circ, I = 0^\circ \]
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (sgs)
MODEL: $4 \times 6 \times 3$
Grid interval = Depth of burial

$\delta$: Declination of polarization
$\psi$: Inclination of polarization
$\lambda$: Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_1$ (cgs)
MODEL = 4 x 1 x 3
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_0$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gsp)
MODEL = $4 \times 6 \times 5$
Grid interval = Depth of burial

$\Delta$ = Declination of polarization
$I$ = Inclination of polarization
$J$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial.

$\delta =$ Declination of polarization
$\iota =$ Inclination of polarization
$\theta =$ Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/J \), (cgs)
MODEL = 4 x 6 x 0.3
Grid interval = Depth of burial

\( \delta = \text{Declination of polarization} \)
\( \iota = \text{Inclination of polarization} \)
\( I = \text{Inclination of earth's field} \)

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/\lambda$, (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\gamma$ = Inclination of polarization
$\lambda$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL = $4 \times 6 \times 0.5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL = $4 \times 6 \times 5$
Grid interval = Depth of burial

\[ \delta = 30^\circ, \alpha = 30^\circ, I = 30^\circ \]

\[ \delta = 30^\circ, \alpha = 45^\circ, I = 30^\circ \]

\[ \delta = 30^\circ, \alpha = 75^\circ, I = 30^\circ \]

\[ \delta = \text{Declination of polarization} \]
\[ \alpha = \text{Inclination of polarization} \]
\[ I = \text{Inclination of earth's field} \]
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \), (cgs)
MODEL = 4 X 6 X 5
Grid interval = Depth of burial

\[ \delta = \text{Declination of polarization} \]
\[ \iota = \text{Inclination of polarization} \]
\[ \lambda = \text{Inclination of earth's field} \]
TOTAL MAGNETIC INTENSITY, $\Delta T / T_1$ (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\Delta = \text{Declination of polarization}$
$I = \text{Inclination of polarization}$
$L = \text{Inclination of earth's field}$

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\delta = 90^\circ$, $\gamma = 0^\circ$, $\iota = 30^\circ$

A: $\delta = 90^\circ$, $\gamma = 120^\circ$, $\iota = 30^\circ$
B: $\delta = 60^\circ$, $\gamma = 150^\circ$, $\iota = 30^\circ$
C: $\delta = 90^\circ$, $\gamma = 0^\circ$, $\iota = 30^\circ$
D: $\delta = 90^\circ$, $\gamma = 220^\circ$, $\iota = 30^\circ$

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota$ = Inclination of earth's field
MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL $= 4 \times 10^{-5}$
Grid interval = Depth of burial

$=\text{Declination of polarization}$
$\text{i}=\text{Inclination of polarization}$
$1=\text{Inclination of earth's field}$

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$, (g2s)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
i = Inclination of polarization
I = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_0$ (cgs)
MODEL = 4 X 6 X 0.5
Grid interval = Depth of burial

$\beta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_0$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$, (cgs)
MODEL = $4 \times 6 \times 3$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\gamma$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (gals)

MODEL = $4 \times 6 \times 5$

Grid interval = Depth of burial

$=\text{Declination of polarization}$

$=\text{Inclination of earth's field}$

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$, (cgs)

MODEL = 4 x 6 x 5

Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/A$, (cgs)
MODEL = 4 X 6 X 3
Grid interval = Depth of burial

$\delta = 60^\circ$ = Declination of polarization
$\iota = 60^\circ$ = Inclination of polarization
$\theta = 60^\circ$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, \( \Delta T / I_1 \), (pgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

\( \delta = \) Declination of polarization
\( \iota = \) Inclination of polarization
\( \i = \) Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cps)
MODEL = $4 \times 6 \times .5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$L$ = Inclination of earth's field
MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/J \) (cgs)
MODEL: 4 x 6 x 5
Grid interval = Depth of burial

\( i = 90° \), \( \beta = 75° \), \( \theta = 60° \)

\( \beta = 90° \), \( i = 120° \), \( \theta = 60° \)

\( \beta = 90° \), \( i = 150° \), \( \theta = 60° \)

\( \beta = 0° \), \( i = 0° \), \( \theta = 75° \)

\( \beta = \) Declination of polarization
\( i = \) Inclination of polarization
\( \theta = \) Inclination of earth's field

Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)
MODEL = 4 x 6 x 0.5
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_i$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\theta$= Declination of polarization
$\iota$= Inclination of polarization
$\Im$= Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / T$ (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\delta = \text{Declination of polarization}$
$\iota = \text{Inclination of orientation}$
$I = \text{Inclination of earth's field}$

$8 = 30°$ $\iota = 0°$ $I = 75°$

$8 = 30°$ $\iota = 30°$ $I = 75°$

$8 = 30°$ $\iota = 20°$ $I = 75°$

$8 = 30°$ $\iota = 45°$ $I = 75°$
TOTAL MAGNETIC INTENSITY, $\Delta T / j_1$, (kgs)
MODEL = 4 x 6 x $g$
Grid interval = Depth of burial

$\theta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\lambda$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL = $4 \times 6 \times 8$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\varphi$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/N (\text{cps})$
MODEL = 4 x 6 x .5
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (gpa)
MODEL = 4 x 6 x 0.5
Grid interval = Depth of burial

MAGNETIC NORTH

8 = Declination of polarization
$t$ = Inclination of polarization
1 = Inclination of earth's field

Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)  
MODEL: $4 \times 0 \times 0.5$  
Grid interval = Depth of burial

$\phi =$ Declination of polarization  
$i =$ Inclination of polarization  
$l =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / T_1$, (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

MAGNETIC NORTH

1 = Declination of polarization
2 = Inclination of polarization
3 = Inclination of earths field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: $4 \times 6 \times 5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\lambda$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$ (cgs)
MODEL = 4 x 6 x 5
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$ (cgs)
MODEL = $4 \times 6 \times .5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\theta$ = Inclination of polarization
$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)  
MODEL = $4 \times 6 \times \delta$  
Grid interval = Depth of burial  

$S = 30^\circ = 150^\circ$  
$ = 90^\circ$  
$8 = 60^\circ = 0^\circ$  
$1 = 90^\circ$

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T/T_s \) (cgs)
MODEL: \( 4 \times 6 \times s \)
Grid interval = Depth of burial

\( \delta = \text{Declination of polarization} \)
\( \iota = \text{Inclination of polarization} \)
\( \iota = \text{Inclination of earth's field} \)
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: $4 \times 6 \times 5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL: $4 \times 6 \times .5$
Grid interval = Depth of burial

$\delta = 90^\circ = 45^\circ$ $I = 90^\circ$

$\delta = 90^\circ = 60^\circ$ $I = 90^\circ$

$\delta = 90^\circ = 75^\circ$ $I = 90^\circ$

$\delta = 90^\circ = 120^\circ$ $I = 90^\circ$

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\delta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL $= 4 \times 6 \times 5$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gcs)
MODEL = $4 \times 6 \times 10$
Grid interval = Depth of burial

$\delta$ = Declination
$\psi$ = Inclination of polarization
$\theta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/I$, (cgs)
MODEL = $4 \times 6 \times 10$
Grid interval = Depth of burial

A  $\delta = 0^\circ \quad \phi = 60^\circ \quad \eta = 0^\circ$

B  $\delta = 0^\circ \quad \phi = 75^\circ \quad \eta = 0^\circ$

C  $\delta = 0^\circ \quad \phi = 90^\circ \quad \eta = 0^\circ$

D  $\delta = 0^\circ \quad \phi = 120^\circ \quad \eta = 0^\circ$

$\delta$ = Declination of polarization
$\phi$ = Inclination of polarization
$\eta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / T_0$ (cgs)
MODEL = 4x6x10
GRID INTERVAL = DEPTH OF BURIAL

$\delta$ = Declination of polarization
$\phi$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/1$ (cgs)
MODEL = $4 \times 6 \times$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/I_1$ (cgs)
MODEL $= 4 \times 6 \times 10$
Grid interval = Depth of burial

$\delta = 30^\circ$, $\alpha = 150^\circ$, $I = 0^\circ$

$\delta = 60^\circ$, $\alpha = 20^\circ$, $I = 0^\circ$

$\delta = 60^\circ$, $\alpha = 30^\circ$, $I = 0^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T/T$ (cgs)
MODEL = $4 \times 5 \times 10$
Grid interval = Depth of burial

$\delta = 60^\circ, i = 45^\circ, l = 0^\circ$

$\delta = 60^\circ, i = 60^\circ, l = 0^\circ$

$\delta = 60^\circ, i = 75^\circ, l = 0^\circ$

$\delta = 60^\circ, i = 120^\circ, l = 0^\circ$

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$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$l$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / T$, (cgs)
MODEL: $4 \times 6 \times 1.0$
Grid interval: Depth of burial

$\delta$: Declination of polarization
$i$: Inclination of polarization
$I$: Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/\lambda$, (cgs)
MODEL = 4x6x1.0
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\omega$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $A\Delta T/J$, (cgs)
MODEL = 4X6X 10
Grid interval = Depth of burial

Magnetic北
$J$ = Declination of polarization
$\iota$ = Inclination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/A_1$, (cgs)
MODEL = $4 \times 6 \times 10$
Grid interval = Depth of burial

$\beta$ = Declination of polarization
$I$ = Inclination of polarization
$L$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x 10
Grid interval = Depth of burial

$\delta = 0^\circ$ $\theta = 120^\circ$ $I = 30^\circ$

$\delta = 0^\circ$ $\theta = 150^\circ$ $I = 30^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)

MODEL: 4 x 6 x 10

Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \), (cgs)

MODEL: \( 4 \times 6 \times 10 \)

Grid interval: Depth of burial

\( \delta = 60^\circ \pm 30^\circ \)

\( \theta = 60^\circ \pm 45^\circ \)

\( \iota = 60^\circ \pm 90^\circ \)

\( \phi = \) Declination of polarization

\( \iota = \) Inclination of polarization

\( \lambda = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: 4 x 6 x 1.0
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\lambda$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \), (cgs)
MODEL = 4 x 6 x 1.0
Grid interval = Depth of burial

\( \delta = 90^\circ + 30^\circ \), \( \iota = 30^\circ \)
\( \iota = 30^\circ \), \( \delta = 90^\circ - 45^\circ \), \( \iota = 30^\circ \)

\( \delta = 90^\circ + 65^\circ \), \( \iota = 30^\circ \)
\( \delta = 90^\circ + 75^\circ \), \( \iota = 30^\circ \)

\( \delta = \) Declination of polarization
\( \iota = \) Inclination of polarization
\( \i = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL = 4 x 4 x 1.0
Grid interval = Depth of burial

\(\delta = 0^\circ, \iota = 0^\circ, \lambda = 60^\circ\)

\(\delta = 0^\circ, \iota = 20^\circ, \lambda = 60^\circ\)

\(\delta = 0^\circ, \iota = 20^\circ, \lambda = 60^\circ\)

\(\delta = 0^\circ, \iota = 20^\circ, \lambda = 60^\circ\)

$\delta =$ Declination of polarization
$\iota =$ Inclination of polarization
$\lambda =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cps)
MODEL: $4 \times 6 \times 10$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / T_1$, (cgs)
MODEL = $4 \times 6 \times 10$
Grid interval = Depth of burial

$\theta$ = Declination of polarization
$I_0$ = Inclination of polarization
$I_1$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T$ (nG)  
MODEL=4x6x 10  
Grid interval = Depth of burial  

$\delta$ = Declination of polarization  
$\iota$ = Inclination of polarization  
$I$ = Inclination of earth's field  

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL = 4X6X 1P
Grid interval = Depth of burial

A $\delta = 60^\circ$ $\phi = 20^\circ$ $I = 60^\circ$

B $\delta = 60^\circ$ $\phi = 30^\circ$ $I = 60^\circ$

C $\delta = 60^\circ$ $\phi = 45^\circ$ $I = 60^\circ$

D $\delta = 60^\circ$ $\phi = 60^\circ$ $I = 60^\circ$

Declination of polarization
Inclination of polarization
Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, ΔT/L (cgs)
MODEL = 4 X 6 X 10
Grid interval = Depth of burial

MAGNETIC NORTH

θ = Declination of polarization
λ = Inclination of polarization
I = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$ (rpg)
MODEL = 8 X 6 X 10
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
E = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL = 4 X 6 X 1.0
Grid Interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, A/T (ggs)
MODEL=4x6x10
Grid interval=Depth of burial

A 
$\delta=0^\circ$ $\iota=75^\circ$ $\psi=75^\circ$

B 
$\delta=0^\circ$ $\iota=90^\circ$ $\psi=75^\circ$

C 
$\delta=0^\circ$ $\iota=120^\circ$ $\psi=75^\circ$

D 
$\delta=0^\circ$ $\iota=150^\circ$ $\psi=75^\circ$

MAGNETIC NORTH

$\delta$=Declination of polarization
$\iota$=Inclination of polarization
$\psi$=Inclination of earths field
TOTAL MAGNETIC INTENSITY, \( \Delta T/J \) (eGs)
MODEL = 4 \times 6 \times 10
Grid interval = Depth of burial

\( \delta = \) Declinator of polarization
\( \iota = \) Inclination of polarization
\( \lambda = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T$, (cgs)
MODEL = $4 \times 6 \times 1.0$
Grid interval = Depth of burial

$\delta = 30^\circ$ $\beta = 50^\circ$ $I = 75^\circ$

MAGNETIC NORTH

$\delta =$ Declaration of polarization
$\beta =$ Inclination of polarization
$I =$ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x 1 D
Grid interval = Depth of burial

A $\delta = 60^\circ, \psi = 0^\circ, I = 75^\circ$
B $\delta = 60^\circ, \psi = 20^\circ, I = 75^\circ$
C $\delta = 60^\circ, \psi = 30^\circ, I = 75^\circ$
D $\delta = 60^\circ, \psi = 45^\circ, I = 75^\circ$

$\delta$ = Declination of polarization
$\psi$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_i$ (cgs)
MODEL = 4 x $6 \times 10^3$
Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, mGal
MODEL: $4 \times 6 \times 10$
Grid interval = Depth of burial

$\delta$: Declination of polarization
$\iota$: Inclination of polarization
$\iota$: Inclination of earth's field

MAGNETIC NORTH

Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, mT/1, (cgs)
MODEL = 4 x 6 x 10
Grid interval = Depth of burial

MAGNETIC NORTH

A: δ = 90°, ε = 60°, θ = 75°
B: δ = 90°, ε = 75°, θ = 75°
C: δ = 90°, ε = 120°, θ = 75°
D: δ = 90°, ε = 150°, θ = 75°

δ = Declination of polarization
ε = Inclination of polarization
θ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)
MODEL = 4X6X 10
Grid interval = Depth of burial

$S$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \), (cgs)

MODEL = 4 x 6 x 10

Grid interval = Depth of burial

\( \beta = \) Declination of polarization
\( i = \) Inclination of polarization
\( I = \) Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T$ (mgy)
MODEL = $4 \times 6 \times 10$
Grid interval: Depth of burial

$\delta = 0^\circ$, $I = 90^\circ$
$\delta = 30^\circ$, $I = 90^\circ$

$\delta = 30^\circ$, $I = 90^\circ$
$\delta = 30^\circ$, $I = 90^\circ$

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL = 4 x 6 x 10
Grid interval = Depth of burial

$\delta = 30^\circ$ for plots A, B, C, D
$\theta = 45^\circ$ for plots A, B
$\lambda = 90^\circ$

MAGNETIC NORTH

$\delta$ = Declination of polarization
$\theta$ = Inclination of polarization
$\lambda$ = Inclination of earth's field

Grid interval = Depth of burial
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (gpm)
MODEL: 4 X 6 X 4
Grid interval: Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$\iota$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$ (cgs)
MODEL = $4 \times 6 \times 10$
Grid interval = Depth of burial

$\delta =$ Declination of polarization
$i =$ Inclination of polarization
$I =$ Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)
MODEL: $4 \times 6 \times 10$
Grid interval: Depth of burial

$\delta$: Declination of polarization
$i$: Inclination of polarization
$I$: Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/4$, (cgs)

MODEL = 4 x 6 x 1.0

Grid interval = Depth of burial

$\delta$ = Declination of polarization

$\epsilon$ = Inclination of polarization

$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x 10
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$l$ = Inclination of earth's field

A: $\delta=0^\circ$, $i=0^\circ$, $l=0^\circ$

B: $\delta=0^\circ$, $i=20^\circ$, $l=0^\circ$

C: $\delta=0^\circ$, $i=30^\circ$, $l=0^\circ$

D: $\delta=0^\circ$, $i=45^\circ$, $l=0^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$ (cgs)

MODEL $= 4 \times 6 \times 10$

Grid interval $=$ Depth of burial

$\phi =$ Declination of polarization
$i =$ Inclination of polarization
$I =$ Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_1$, (cgs)
MODEL = 4 $\times$ 6 $\times$ 4
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\psi$ = Inclination of polarization
$\iota$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$ (cgs)
MODEL = 4 x 6 x infinity
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\beta$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T / J \), (cgs)
MODEL = 4 \times 6 \times oo
Grid interval = Depth of burial

\( \delta = \) Declination of polarization
\( \theta = \) Inclination of polarization
\( \lambda = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( \Delta T / J_1 \), (cgs)
MODEL: 4 x 6 x \( w \)
Grid interval = Depth of burial

\( \delta = \) Declination of polarization
\( \psi = \) Inclination of polarization
\( \iota = \) Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T$, (cgs)
MODEL: $4 \times 6 \times \infty$
Grid interval = Depth of burial

$\delta = 60^\circ$ and $150^\circ$, $l = 0^\circ$

$\delta = 90^\circ$ and $150^\circ$, $l = 0^\circ$

$\delta = 90^\circ$ and $25^\circ$, $l = 0^\circ$

$\delta = 90^\circ$ and $30^\circ$, $l = 0^\circ$

$\delta$ = Declination of polarization
I = Inclination of polarization
J = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I$, (cgs)
MODEL = $4 \times 6 \times 8$
Grid interval = Depth of burial

A  $\delta = 90^\circ \pm 45^\circ$  $I = 0^\circ$

B  $\delta = 90^\circ \pm 60^\circ$  $I = 0^\circ$

C  $\delta = 90^\circ \pm 75^\circ$  $I = 0^\circ$

D  $\delta = 90^\circ \pm 120^\circ$  $I = 0^\circ$

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\beta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_0$ (cgs)
MODEL $= 4 \times 6 \times 0.0$
Grid interval = Depth of burial

$\delta = 90^\circ$, $\iota = 150^\circ$, $\lambda = 0^\circ$

$\delta = 0^\circ$, $\iota = 0^\circ$, $\lambda = 30^\circ$

$\delta = 0^\circ$, $\iota = 20^\circ$, $\lambda = 30^\circ$

$\delta = 0^\circ$, $\iota = 30^\circ$, $\lambda = 30^\circ$

Declination of polarization
Inclination of polarization
Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J_1$ (cgs)

MODEL: $4 \times 6 \times \text{m}$

Grid interval: Depth of burial

$\delta = 0^\circ$ for A, B, C, D

$\delta = 0^\circ$ for A, B, C, D

$\delta = 45^\circ$ for A, B, C, D

$\delta = 60^\circ$ for A, B, C, D

$\delta = 75^\circ$ for A, B, C, D

$\delta = 90^\circ$ for A, B, C, D

$\delta$ = Declination of polarization

$\iota$ = Inclination of polarization

$\iota$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_0$ (cgs)
MODEL: $4 \times 6 \times \infty$
Grid interval: Depth of burial

$\delta = 0^\circ, \iota = -150^\circ, \lambda = 30^\circ$

$\delta = 0^\circ, \iota = 150^\circ, \lambda = 30^\circ$

$\delta = 30^\circ, \iota = 0^\circ, \lambda = 30^\circ$

$\delta = 30^\circ, \iota = 20^\circ, \lambda = 30^\circ$

$\delta = -27$, $\iota = +282$

Declination of polarization
Inclination of polarization
Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 x 6 x $\infty$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\theta$ = Inclination of earth's field

MAGNETIC NORTH

A $\delta = 30^\circ$, $\theta = 30^\circ$
B $\delta = 30^\circ$, $\theta = 45^\circ$
C $\delta = 30^\circ$, $\theta = 60^\circ$
D $\delta = 30^\circ$, $\theta = 75^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T/T_1$, (cgs)
MODEL: $4 \times 6 X_{max}$
Grid interval = Depth of burial

MAGNETIC NORTH

$\Delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL $= 4 \times 6 \times 0$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\iota_e$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = $4 \times 6 \times 10^3$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$, (cgs)
MODEL: $4 \times 6$ x $x$
Grid interval - Depth of burial

$\theta$ = Declination of polarization
$\phi$ = Inclination of polarization
$I$ = Inclination of earth's field
Total Magnetic Intensity, AT/AT (cgs)

Model = 4 x 6 x 3m

Grid interval = Depth of burial

δ = Declination of polarization
i = Inclination of polarization
I = Inclination of earth's field

Magnetic North
TOTAL MAGNETIC INTENSITY, $\Delta T / J$, (cgs)
MODEL = 4 x 6 x ...
Grid interval = Depth of burial
MAGNETIC NORTH
$\delta$ = Declination of polarization
$I$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, ΔT/Δx (cgs)
MODEL = 46 × 6 × 8
Grid interval = Depth of burial

A  δ = 30°  θ = 75°  Φ = 60°

B  δ = 30°  θ = 120°  Φ = 60°

C  δ = 30°  θ = 150°  Φ = 60°

D  δ = 60°  θ = 0°  Φ = 60°

MAGNETIC NORTH

Δ = Declination of polarization
θ = Inclination of polarization
Φ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_i$ (cgs)
MODEL = 4 X 6 x m
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$n$ = Inclination of polarization
$i$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, \( \Delta T/J \), (cgs)
MODEL = 4 x 4 x 4
Grid interval = Depth of burial

\( \alpha \) = Declination of polarization
\( \iota \) = Inclination of polarization
\( I \) = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL: $4 \times 6 \times 4$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\phi$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, ΔT/Δz (fgams)
MODEL = 4 x 6 x 4 m
Grid interval = Depth of burial

 δ = Declination of polarization
 θ = Inclination of polarization
 I = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)
MODEL: $4 \times 6 \times 8$
Grid interval = Depth of burial

$\delta = 30^\circ$, $\iota = 0^\circ$, $\lambda = 75^\circ$

$\delta = 30^\circ$, $\iota = 20^\circ$, $\lambda = 75^\circ$

$\delta = 30^\circ$, $\iota = 45^\circ$, $\lambda = 75^\circ$

$\delta = $ Declination of polarization
$\iota = $ Inclination of polarization
$\lambda = $ Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: $4 \times 6 \times 0$
Grid interval: Depth of burial

$\delta$: Declination of polarization
$i$: Inclination of polarization
$L$: Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$, (cgs)
MODEL = A X 6X
Grid interval = Depth of burial

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 75^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 80^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 90^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 100^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 105^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 90^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 150^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 210^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 270^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 330^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 60^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 0^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 360^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 300^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 240^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 180^\circ$ $I = 75^\circ$

$\delta = 60^\circ$ $\phi = 120^\circ$ $I = 75^\circ$
TOTAL MAGNETIC INTENSITY, $\Delta T / I$, (gauss)
MODEL = 4x6 x 10m
Grid interval = Depth of burial

MAGNETIC NORTH

$\delta$ = Declination of polarization
$\phi$ = Inclination of polarization
$\phi$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T / J_1$ (cgs)
MODEL $= 4 \times 10^6$ km
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/T_0$ (nT)
MODEL: $4 \times 6 \times 6$
Grid interval = Depth of burial

- $\delta$ = Declination of polarization
- $\iota$ = Inclination of polarization
- $I$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T/1$, (cgs)
MODEL = 4 x 6 x n
Grid interval = Depth of burial

\( \delta \) = Declination of polarization
\( \iota \) = Inclination of polarization
\( I \) = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL = 4 X 9 X 40
Grid interval = Depth of burial

A $\delta = 0'$ $I = 150'$ $I = 90'$

B $\delta = 30'$ $I = 0'$ $I = 90$

C $\delta = 30'$ $I = 20'$ $I = 90$

D $\delta = 30'$ $I = 30'$ $I = 90$

$\delta$ = Declination of polarization
$I$ = Inclination of polarization
$\varphi$ = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, $\Delta T / I_0$ (cgs)
MODEL = 4 x $5 \times 10^{-6}$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$\iota$ = Inclination of polarization
$\theta$ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T/J$, (cgs)
MODEL: $4 \times 6 \times \text{m}$
Grid interval: Depth of burial

$\delta$: Declination of polarization
$I$: Inclination of polarization
$\iota$: Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, ΔT/J (cgs)
MODEL = 4 x 6, mm
Grid interval = Depth of basin

Δ = Declination of polarization
I = Inclination of polarization
θ = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, \( \Delta T / J_1 \) (gpm)
MODEL: 4 X 6 x∞
Grid interval = Depth of burial

\( \delta \) = Declination of polarization
\( \iota \) = Inclination of polarization
\( \iota_e \) = Inclination of earth's field

MAGNETIC NORTH
TOTAL MAGNETIC INTENSITY, \( |T|/I_1 \) (gga)
MODEL = 4 x 6 x 6
Grid interval = Depth of burial

\( \delta \) = Declination of polarization
\( I \) = Inclination of polarization
\( I_e \) = Inclination of earth's field
TOTAL MAGNETIC INTENSITY, $\Delta T_{J_1}$ (cgs)
MODEL = $A \times B \times C$
Grid interval = Depth of burial

$\delta$ = Declination of polarization
$i$ = Inclination of polarization
$I$ = Inclination of earth's field

MAGNETIC NORTH