Appendix A. The Normal Geomagnetic Field in Hutchinson, Kansas

(http://www.ngdc.noaa.gov/cgi-bin/seg/gmag/fldsnth1.pl)

Model: IGRF2000
Latitude: 38 deg, 3 min, 54 sec
Longitude: -97 deg, 54 min, 50 sec
Elevation: 0.50 km
Date of Interest: 11/12/2003

D (deg)	I (deg)	H (nt)	X (nt)	Y (nt)	Z (nt)	F (nt)
5d 41m	66d 33m	21284	21179	2108	49067	53484

dD (min/yr)	dI (min/yr)	dH (nT/yr)	dX (nT/yr)	dY (nT/yr)	dZ (nT/yr)	dF (nT/yr)
-6	-1	-16	-12	-39	-92	-91

Definitions

D: Magnetic Declination

Magnetic declination is sometimes referred to as the magnetic variation or the magnetic compass correction. It is the angle formed between true north and the projection of the magnetic field vector on the horizontal plane. By convention, declination is measured positive east and negative west (i.e. D -6 means 6 degrees west of north). For surveying practices, magnetic declination is the angle through which a magnetic compass bearing must be rotated in order to point to the true bearing as opposed to the magnetic bearing. Here the true bearing is taken as the angle measured from true North.

Declination is reported in units of degrees. One degree is made up of 60 minutes. To convert from decimal degrees to degrees and minutes, multiply the decimal part by 60. For example, 6.5 degrees is equal to 6 degrees and 30 minutes (0.5 x 60 = 30).

If west declinations are assumed to be negative while east declination are considered positive then

$$\textit{True bearing} = \textit{Magnetic bearing} + \textit{Magnetic declination}$$

An example: The magnetic bearing of a property line has an azimuth of 72 degrees East. What is the true bearing of the property line if the magnetic declination at the place in question is 12 degrees West?

A magnetic declination of 12 degrees West means that magnetic North lies 12 degrees West of true north.

$$\textit{True bearing} = 72 \textit{ degrees} + (-12 \textit{ degrees declination})$$
$$= 72 \textit{ degrees} - 12 \textit{ degrees declination} = 60 \textit{ degrees East}$$

It should be noted that the magnetic declination becomes undefined at the North and South magnetic poles. These poles are by definition the two places where the magnetic field is vertical. Magnetic compasses become quite unreliable when the magnetic field vector becomes steeply inclined.

D is defined as $D = \textit{arc tangent}(Y / X)$.

dD: The change in declination with respect to time.

I: Magnetic Inclination

Also called magnetic dip, this is the angle measured from the horizontal plane, positively down to the magnetic field vector. If the vector components of F are X, Y, and Z then

$$I = \textit{arc tangent}(Z/\textit{square root}(X*X + Y*Y))$$

or

$$I = \textit{arc tangent}(Z/H)$$

The north magnetic pole is defined as that position where I=90 degrees i.e. straight down. Similarly, the south magnetic pole is defined as that position where I= -90 degrees i.e. straight up.

dI: The change in inclination with respect to time.

H: Horizontal Component of the Magnetic Field

This is the magnitude of vector constructed by projecting the total field vector onto the local horizontal plane. In terms of the vector components of the field

$$H = \textit{square root}(X*X + Y*Y)$$

dH: The change in the horizontal component with respect to time

X: North Component of the Magnetic Field

This is the magnitude of vector constructed by projecting the total field vector onto an axis lying in the direction of the Earth's rotational pole or true North.

dX: The change in X with respect to time.

Y: East Component of the Magnetic Field

This is the magnitude of vector constructed by projecting the total field vector onto an axis in the Eastward direction i.e. perpendicular to the X-axis.

dY: The change in Y with respect to time.

Z: Vertical Component of the Magnetic Field

This is the magnitude of vector constructed by projecting the total field vector onto an axis in the local vertical direction i.e. perpendicular to the horizontal plane.

dZ: The change in Z with respect to time.

F: Magnetic Field Vector

The Earths magnetic field, referred to as the geomagnetic field is a vector field i.e., at each point in space this field has a strength and a direction. This vector, F is referenced to a local coordinate system as follows: the vector is decomposed into three mutually perpendicular (orthogonal) vector components, which are referred as the X, Y, and Z components of the field, where the X and the Y components lie in the horizontal plane with X lying in the northward direction, Y lying in the eastward direction, while the Z component is taken in the local vertical direction. The strength of the magnetic field is usually given in units of nanoteslas (nT) and is taken in the usual mathematical fashion i.e.

$$\textit{magnitude}\ (F) = \textit{square root}(X*X + Y*Y + Z*Z)$$

The X, Y, and Z components completely describe the magnetic field vector, F however in the study of the Earth's magnetic field it is often convenient to describe this vector's direction through the use of two so-called "angular components" called the declination and the inclination. In addition the strength of the projection of the vector F onto the horizontal plane or the H component is often studied.

dF: The change in F with respect to time.

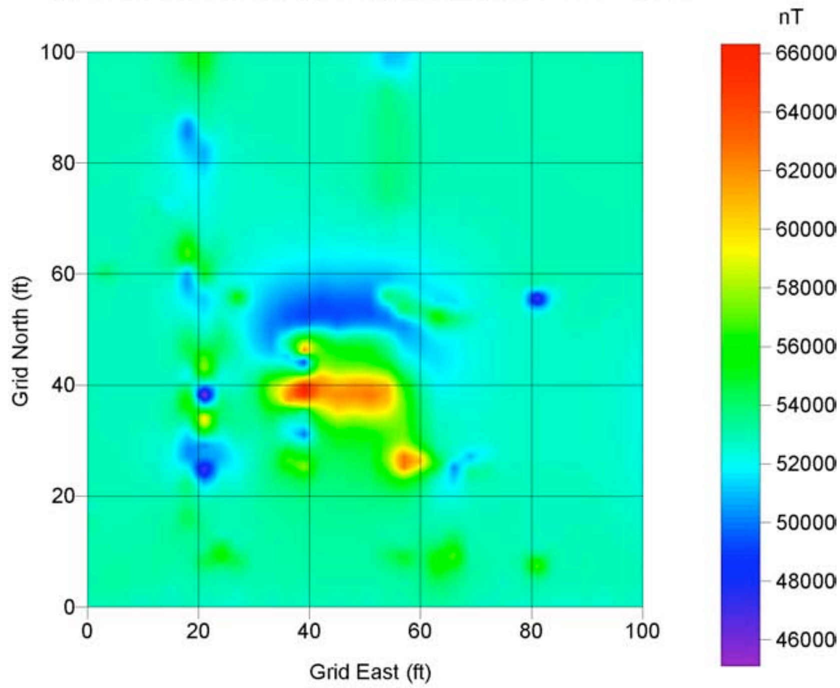
Magnetic Field Components

There are seven magnetic field elements: the total field vector (F), the X component or northward component, the Y component or eastward component, the Z component or vertical component, and the H or horizontal component. These five elements are often referred to as the force elements while the last two components, the declination and the inclination are referred to as the angular elements.

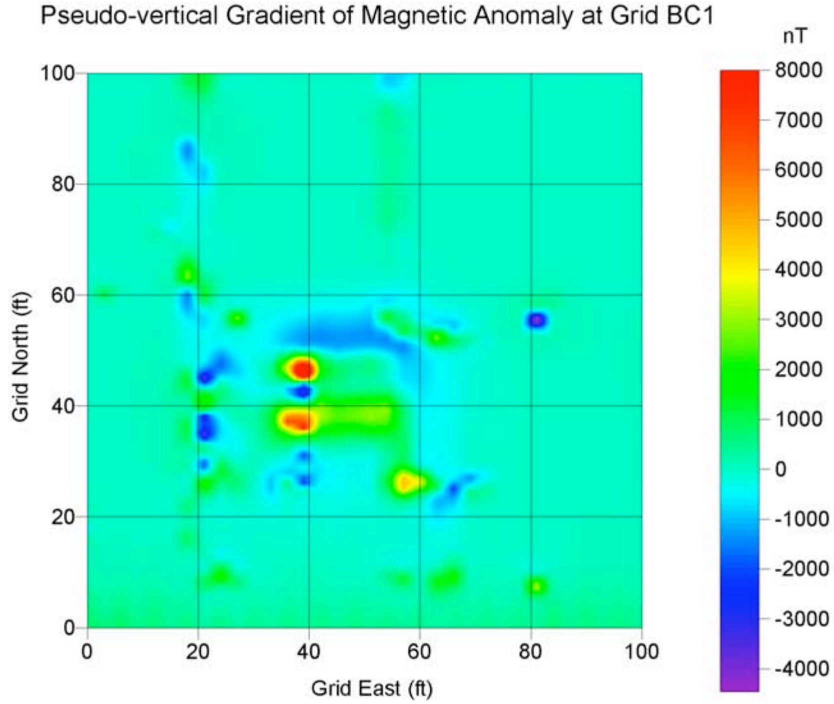
Appendix B. Total Field Component of Magnetic Anomalies and Vertical Gradient Anomalies at the Big Chief Mobile Home Park, Hutchinson, Kansas

Grid BC1 to Grid BC66

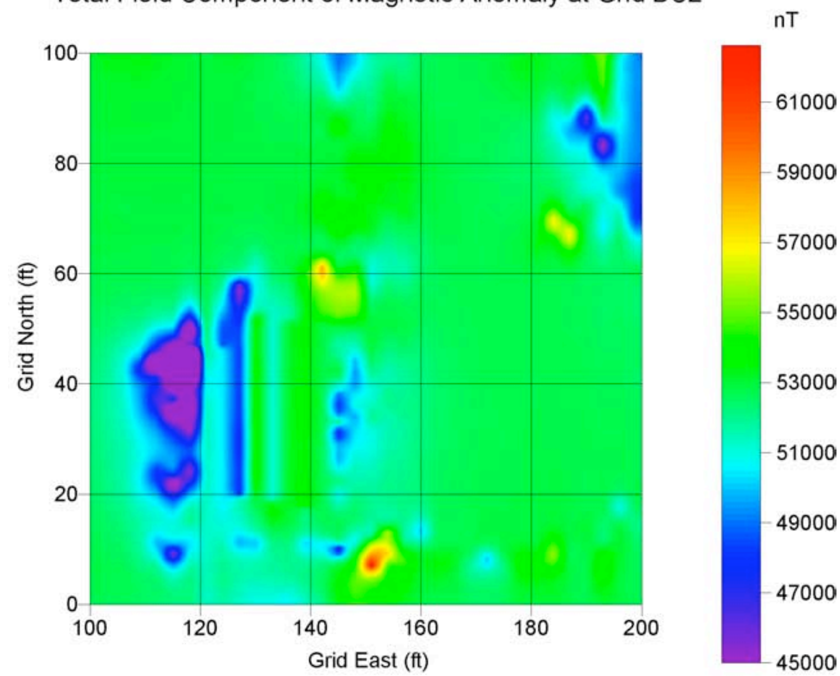
Total Field Component of Magnetic Anomaly at Grid BC1



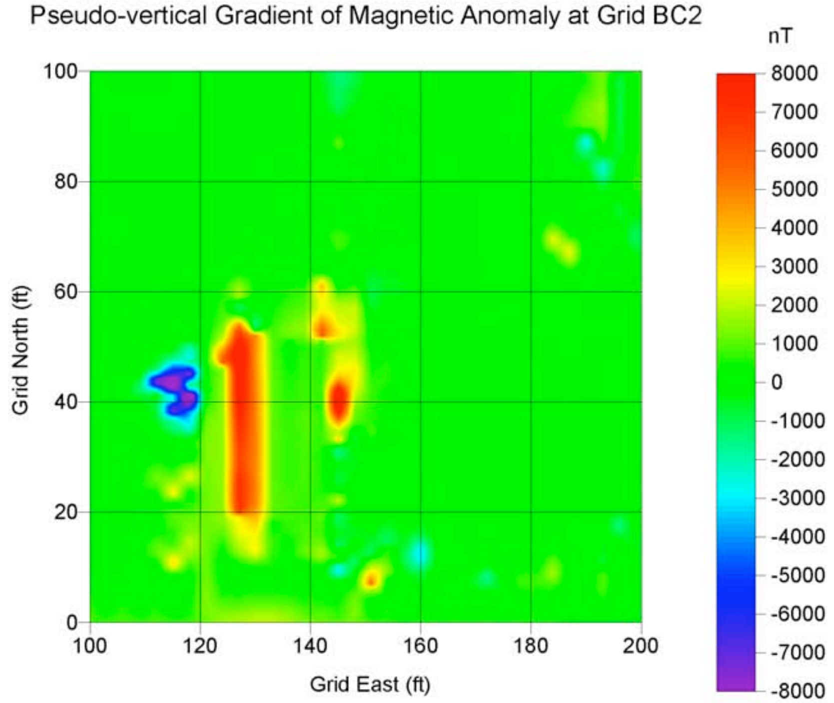
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC1

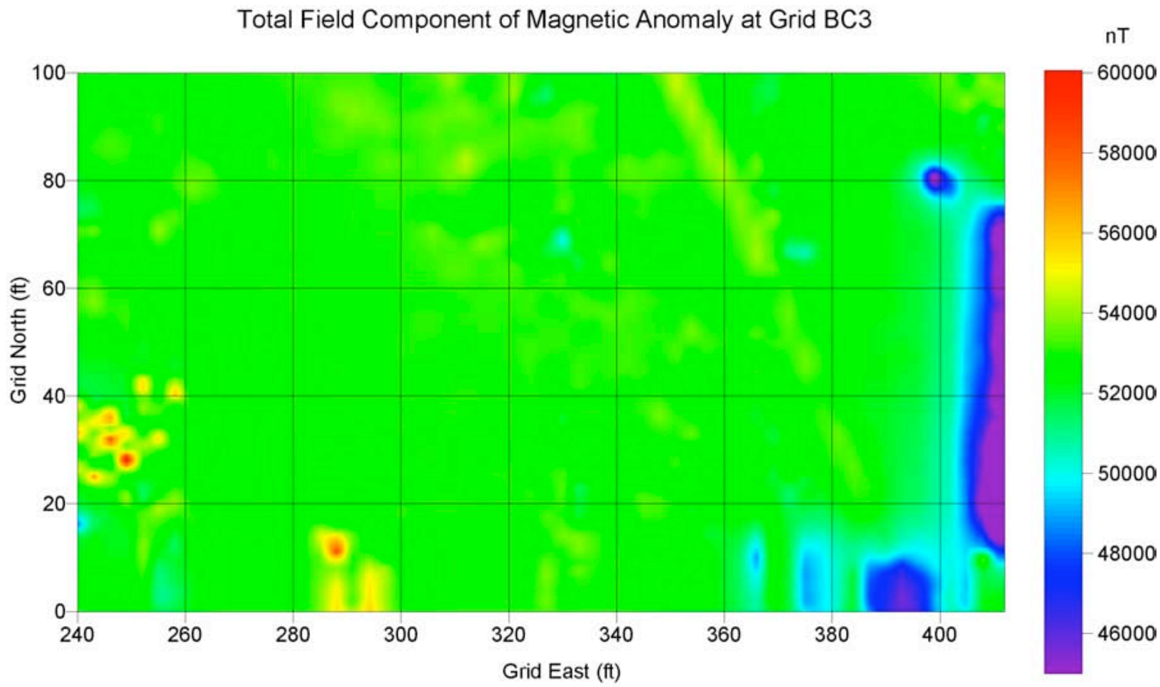


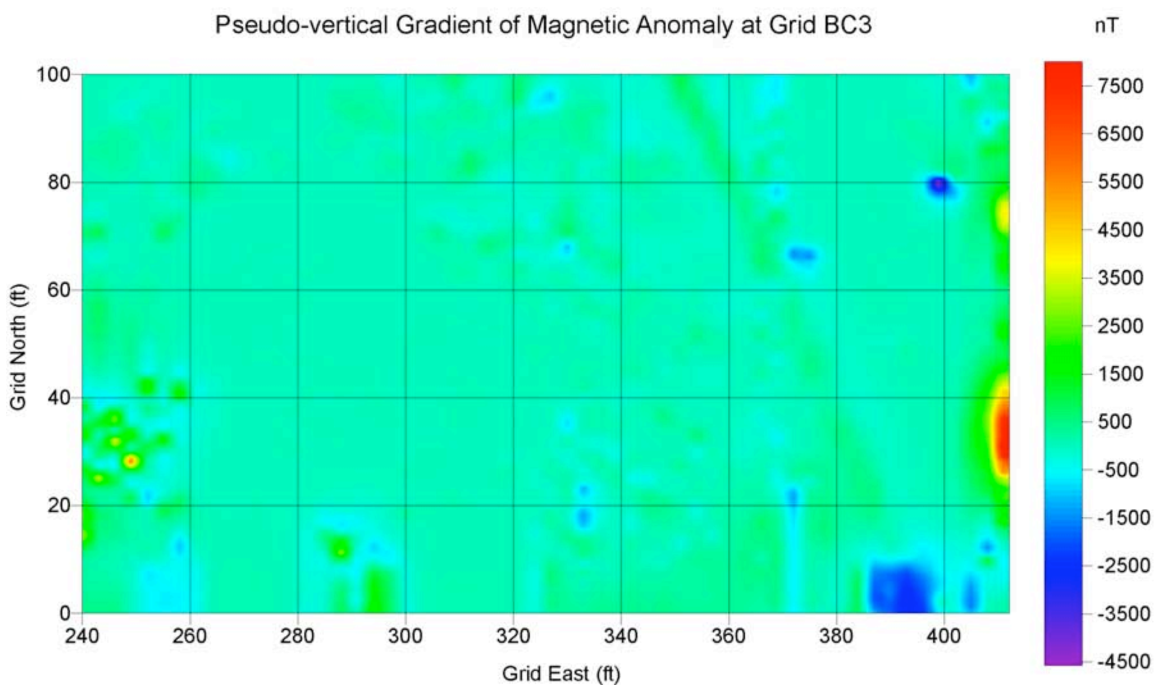
Total Field Component of Magnetic Anomaly at Grid BC2



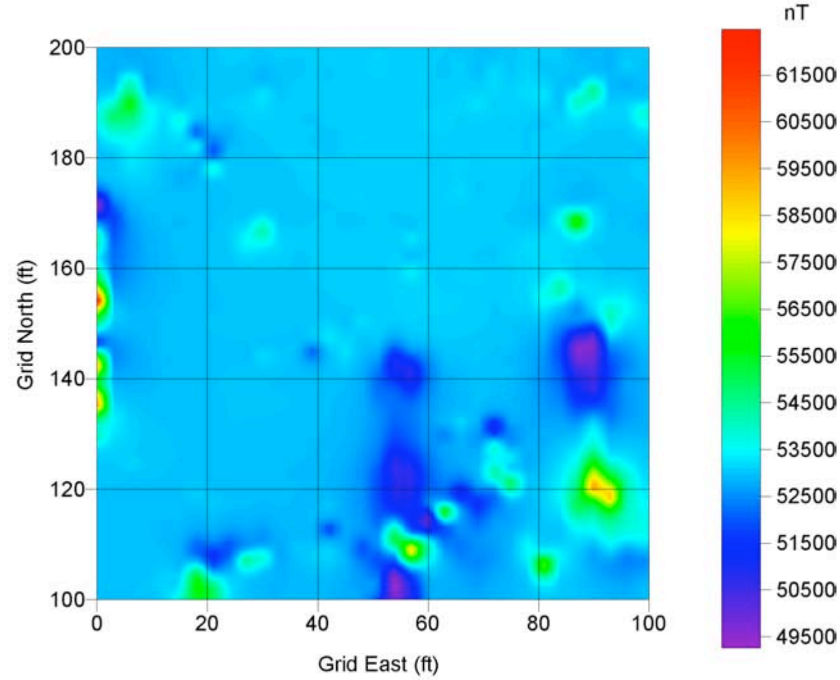
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC2



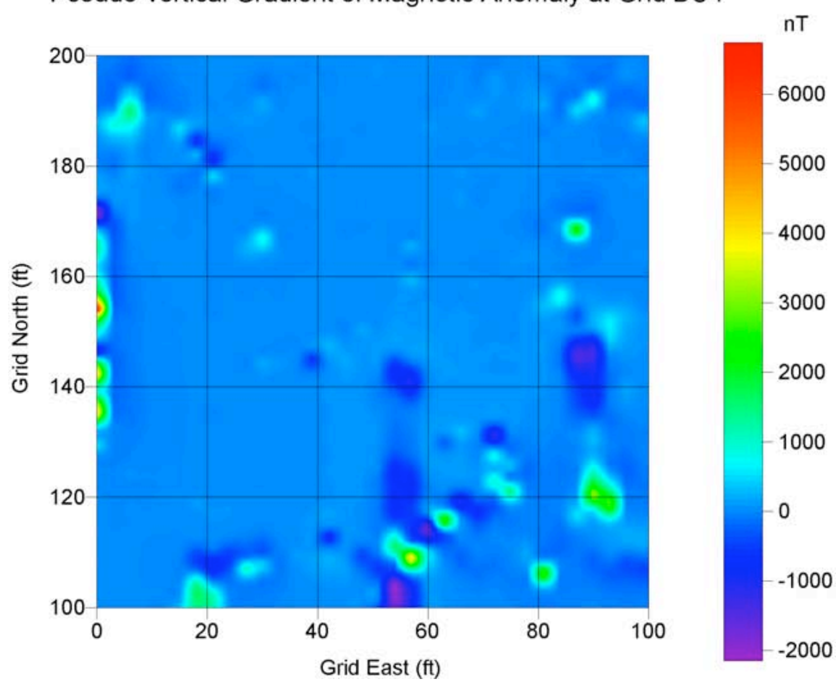

Total Field Component of Magnetic Anomaly at Grid BC3
nT
60000
58000
56000
54000
52000
50000
48000
46000
Grid North (ft)
100
80
60
40
20
0
240
260
280
300
320
340
360
380
400
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC3
nT
7500
6500
5500
4500
3500
2500
1500
500
-500
-1500
-2500
-3500
-4500
Grid North (ft)
100
80
60
40
20
0
240
260
280
300
320
340
360
380
400
Grid East (ft)

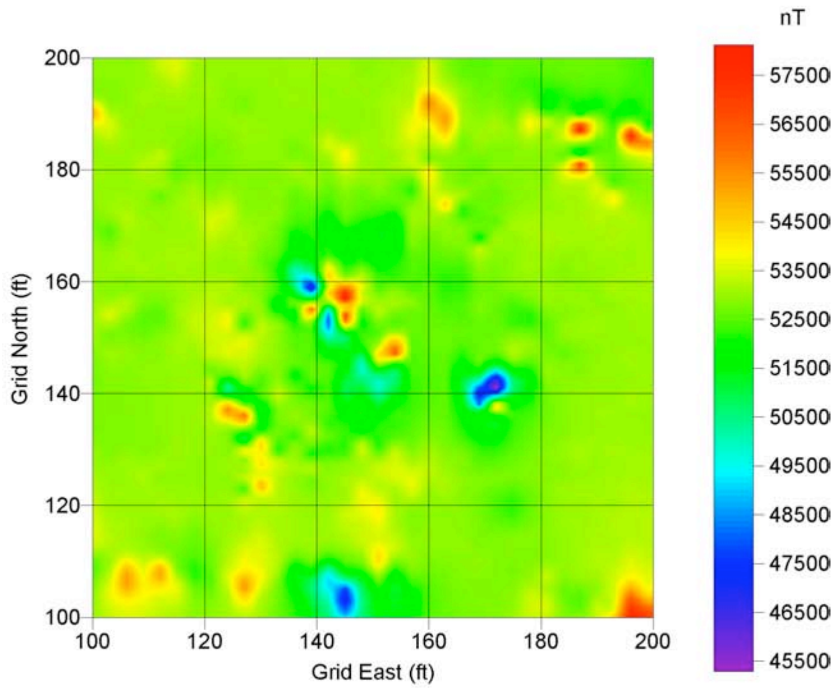
Total Field Component of Magnetic Anomaly at Grid BC4



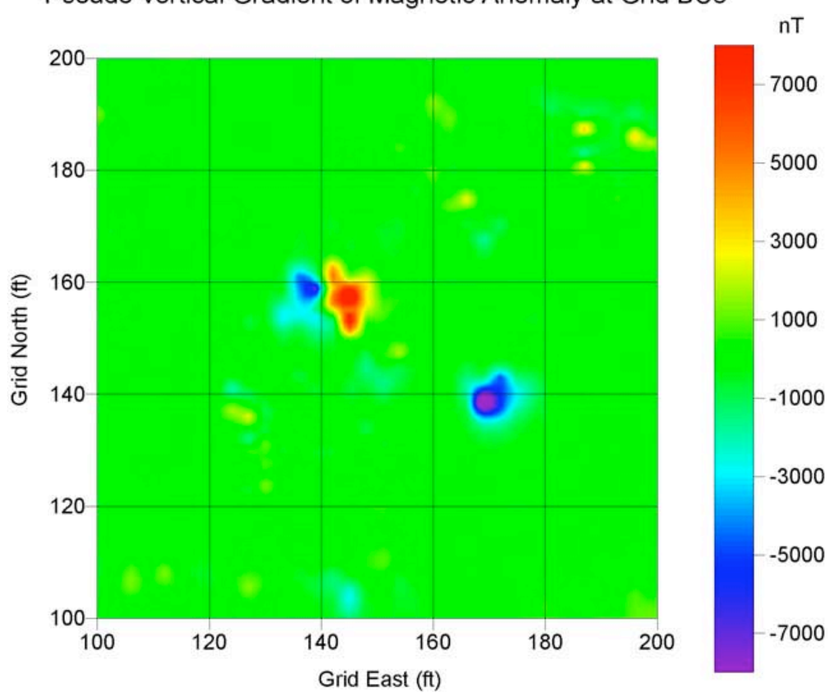
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC4



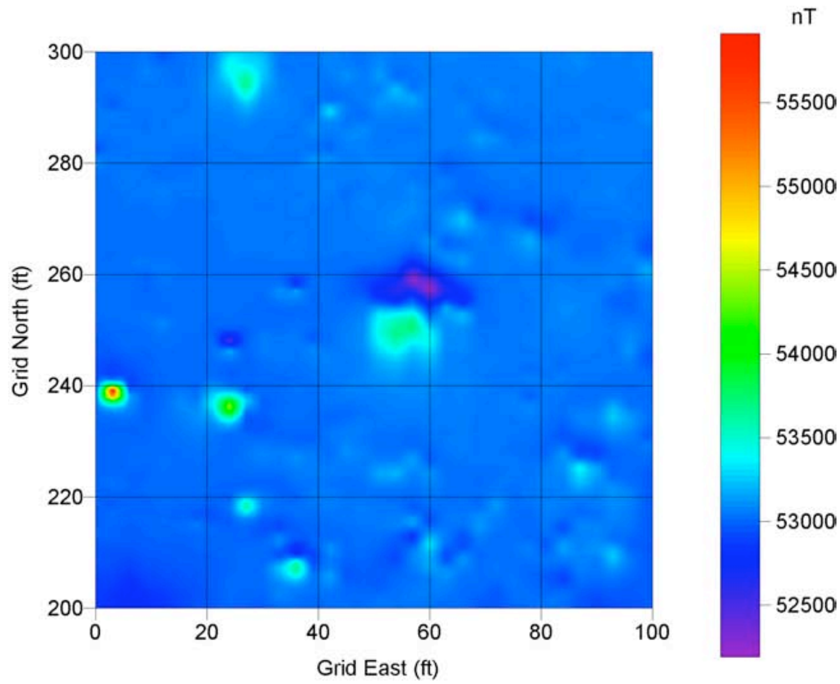
Total Field Component of Magnetic Anomaly at Grid BC5



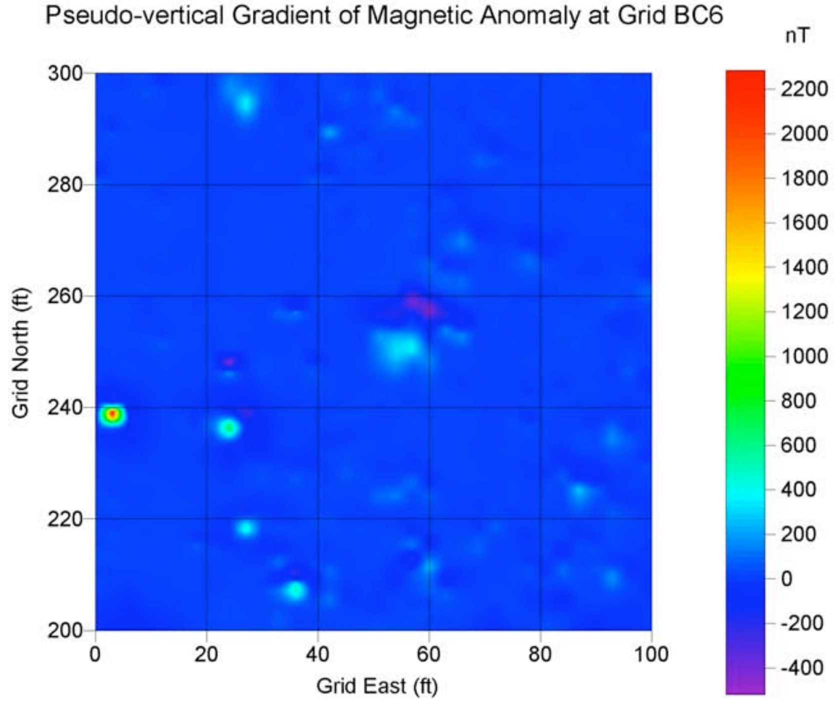
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC5



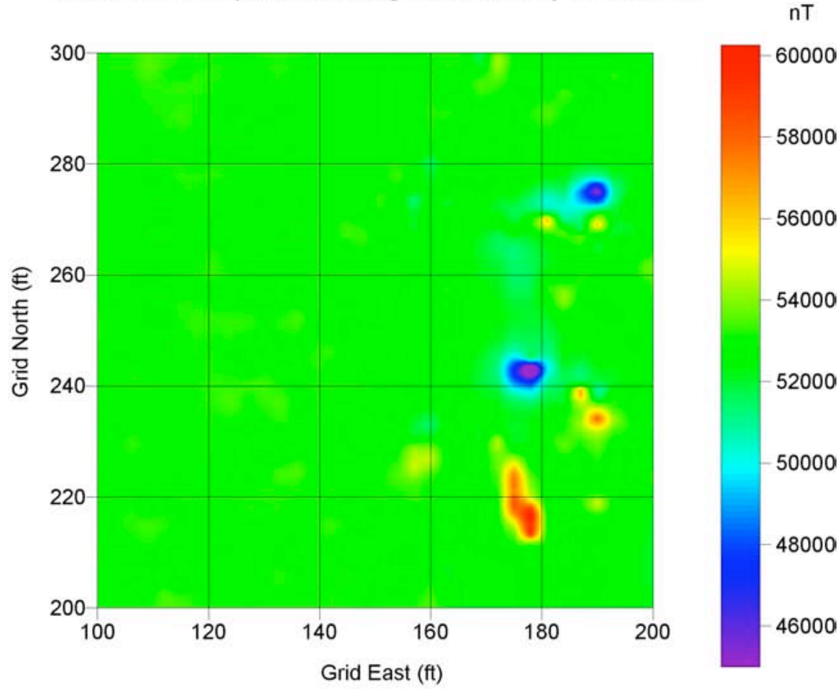
Total Field Component of Magnetic Anomaly at Grid BC6



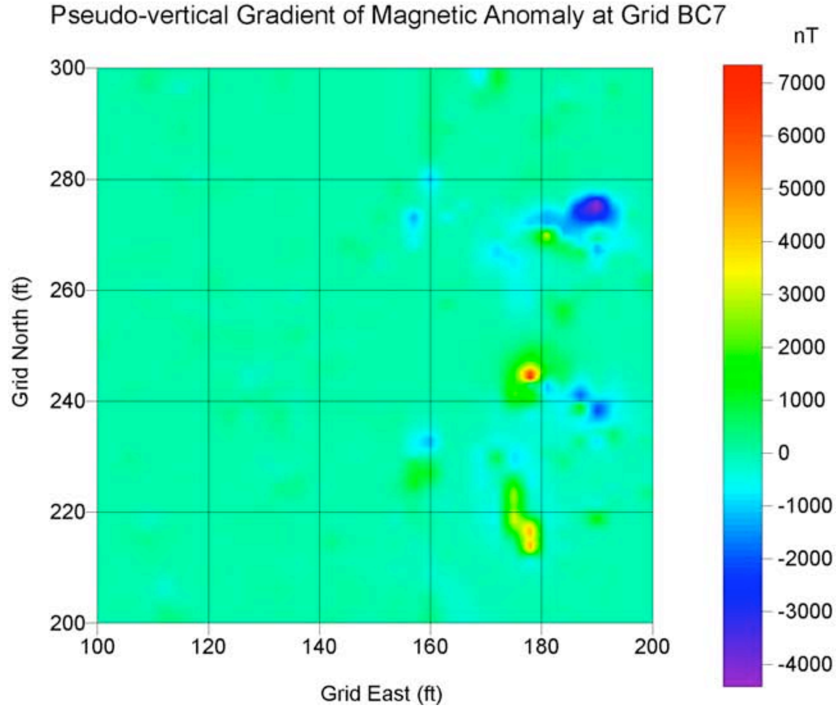
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC6

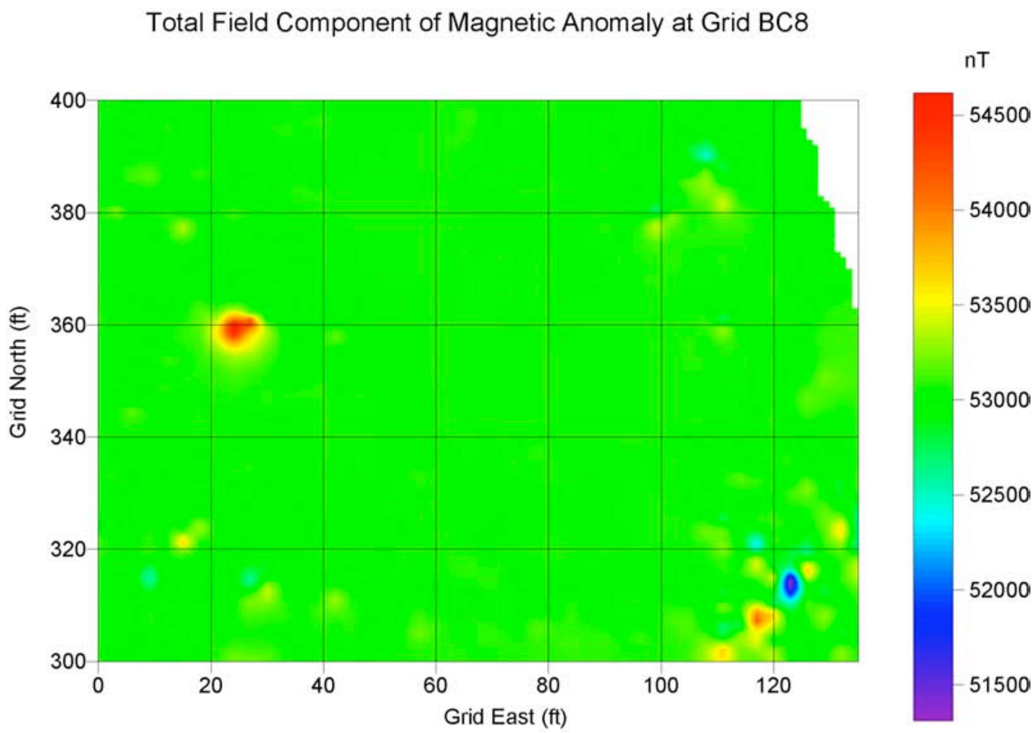


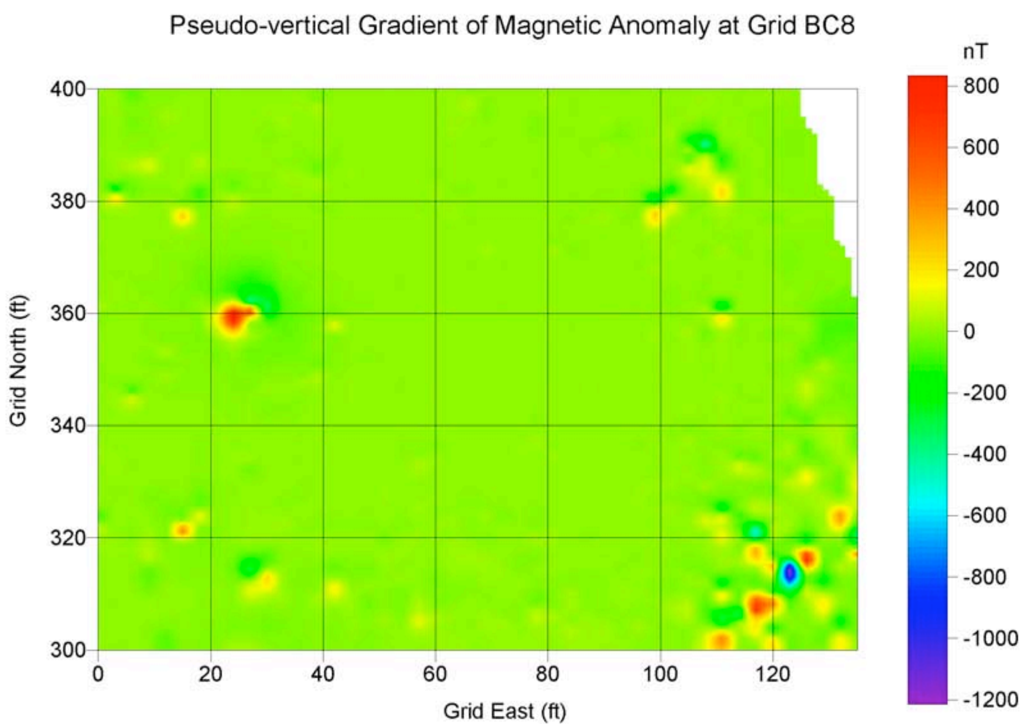
Total Field Component of Magnetic Anomaly at Grid BC7

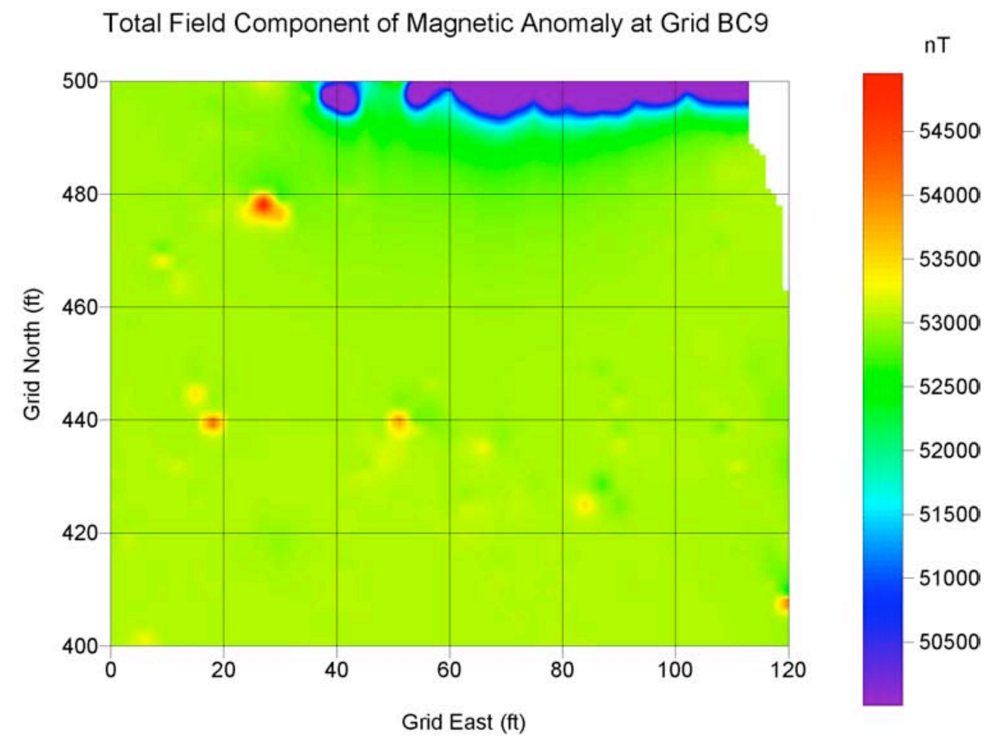


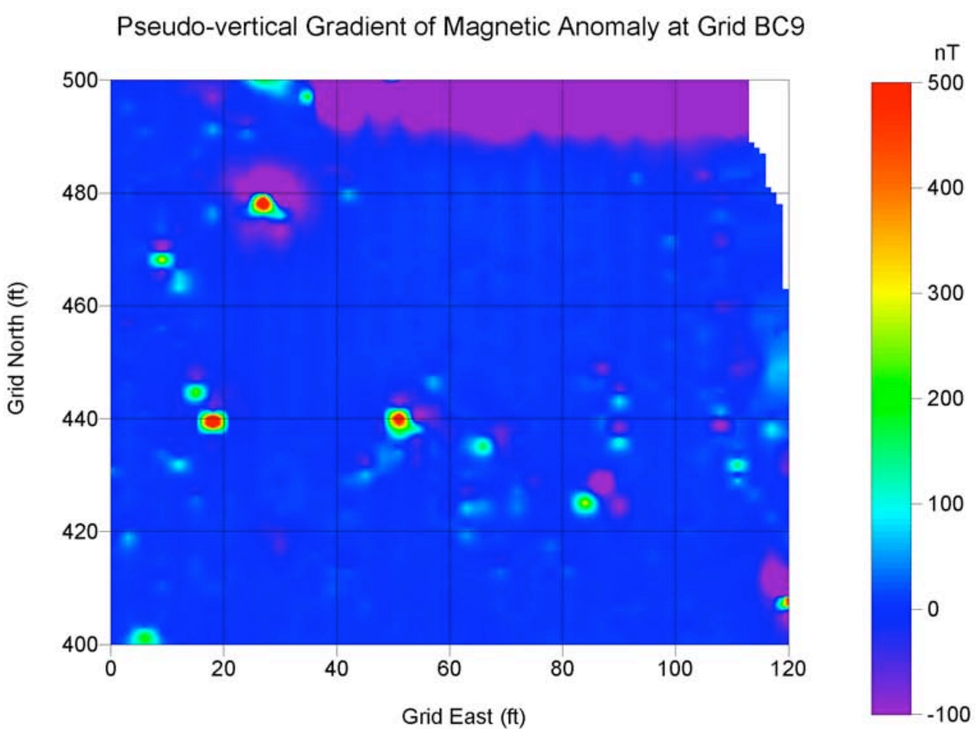
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC7



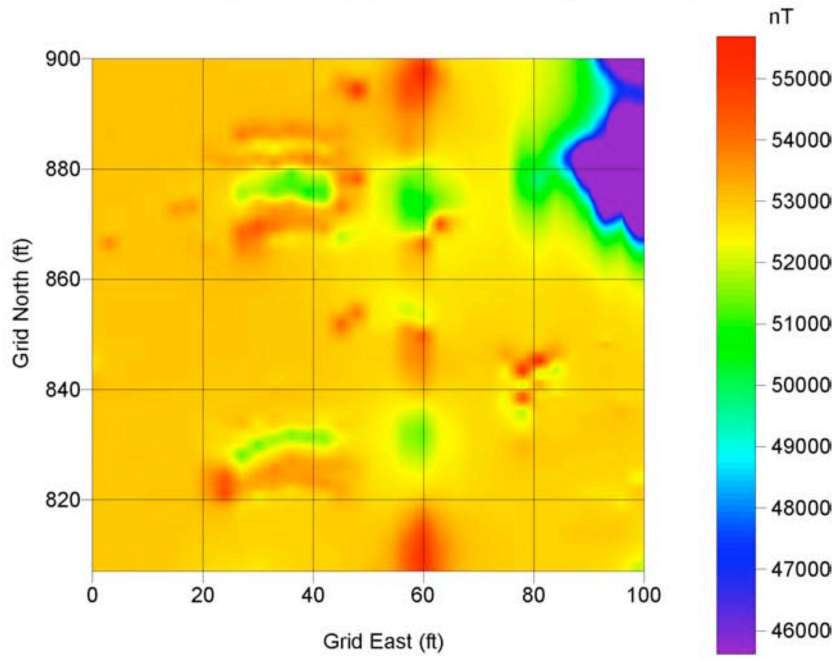

Total Field Component of Magnetic Anomaly at Grid BC8
nT
54500
54000
53500
53000
52500
52000
51500
Grid North (ft)
400
380
360
340
320
300
Grid East (ft)
0
20
40
60
80
100
120


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC8
nT
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
Grid North (ft)
400
380
360
340
320
300
Grid East (ft)
0
20
40
60
80
100
120

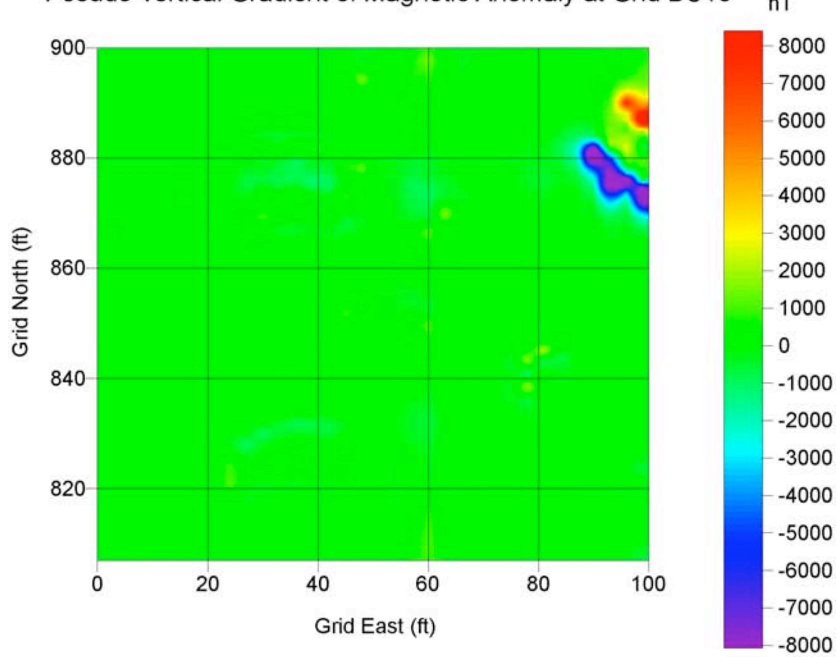

Total Field Component of Magnetic Anomaly at Grid BC9
nT
54500
54000
53500
53000
52500
52000
51500
51000
50500
500
480
460
440
420
400
Grid North (ft)
0
20
40
60
80
100
120
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC9
nT
500
400
300
200
100
0
-100
500
480
460
440
420
400
Grid North (ft)
0
20
40
60
80
100
120
Grid East (ft)

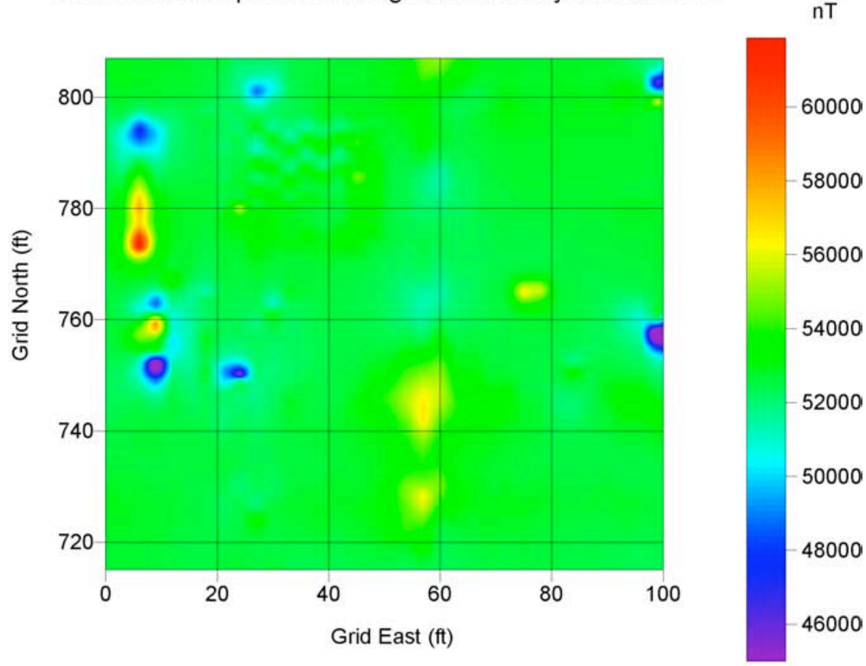
Total Field Component of Magnetic Anomaly at Grid BC10



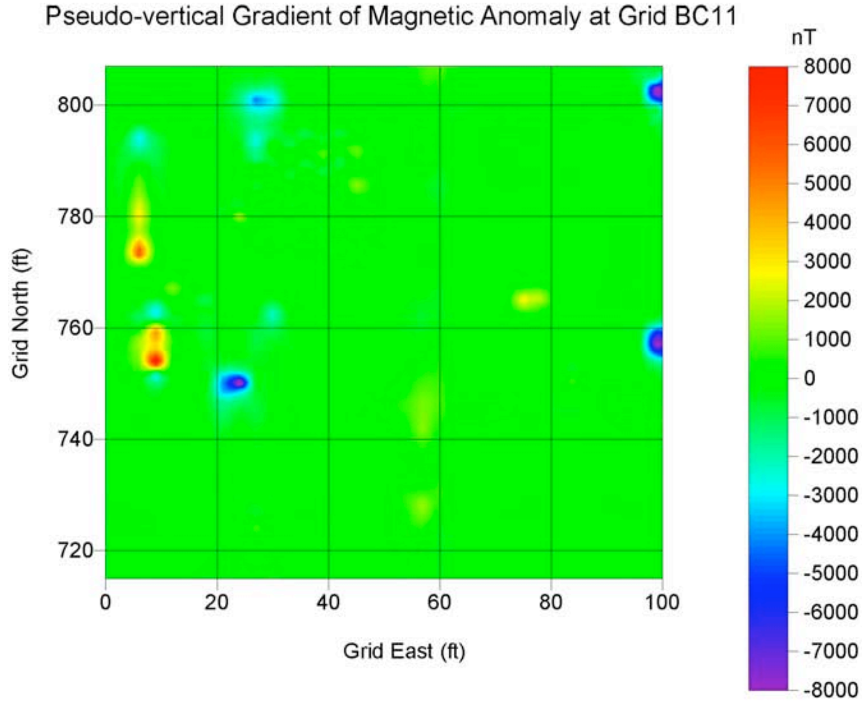
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC10

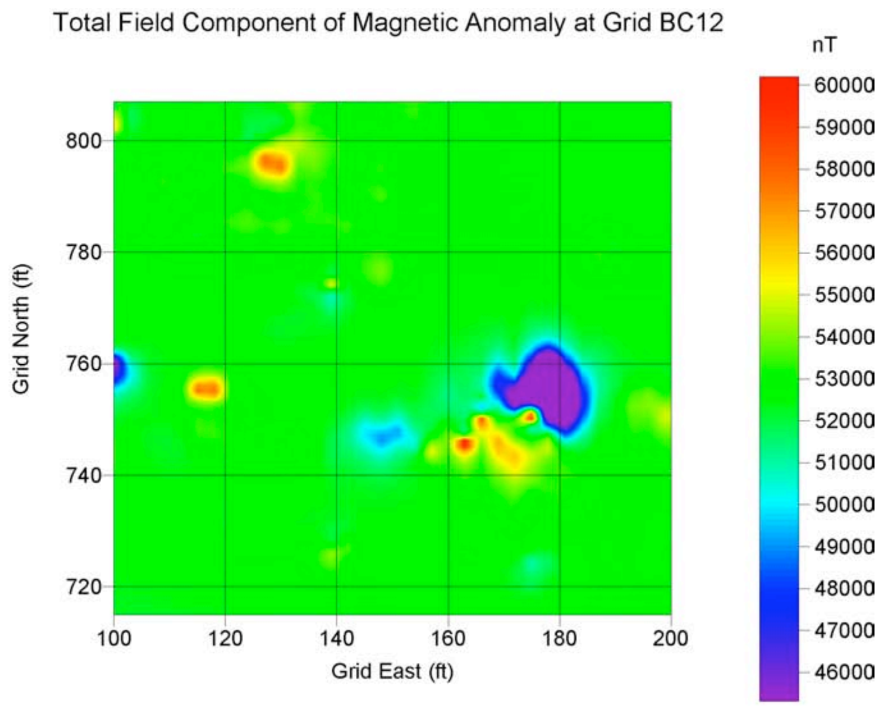


Total Field Component of Magnetic Anomaly at Grid BC11

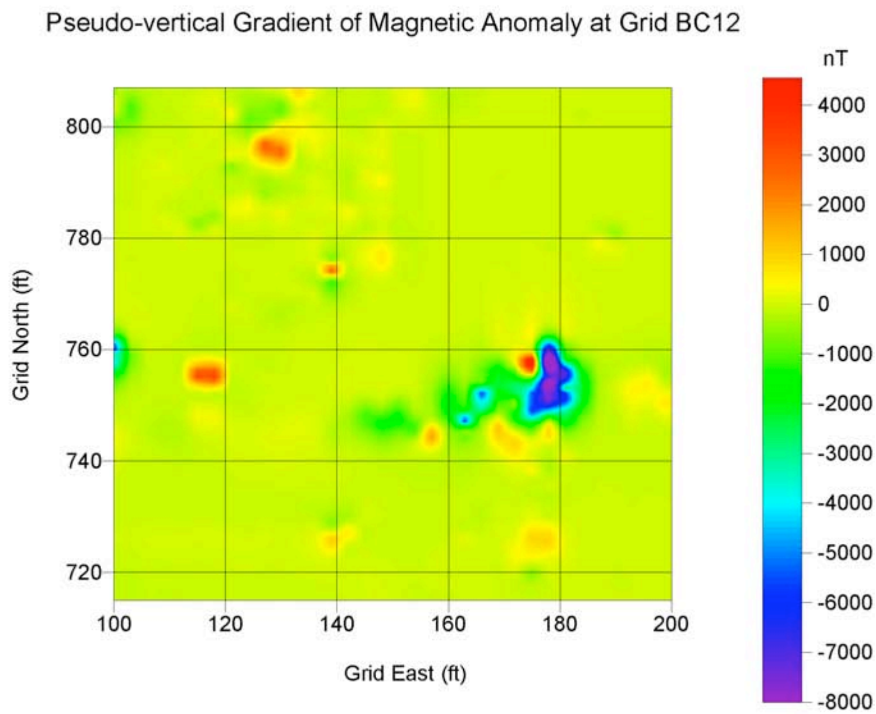


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC11



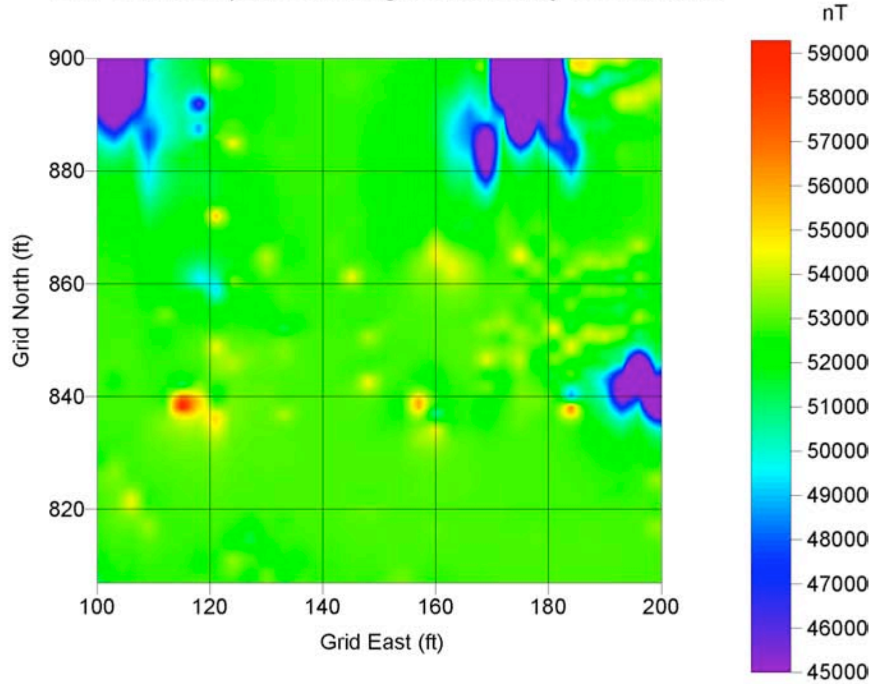


Total Field Component of Magnetic Anomaly at Grid BC12
nT
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
800
780
760
740
720
Grid North (ft)
100
120
140
160
180
200
Grid East (ft)

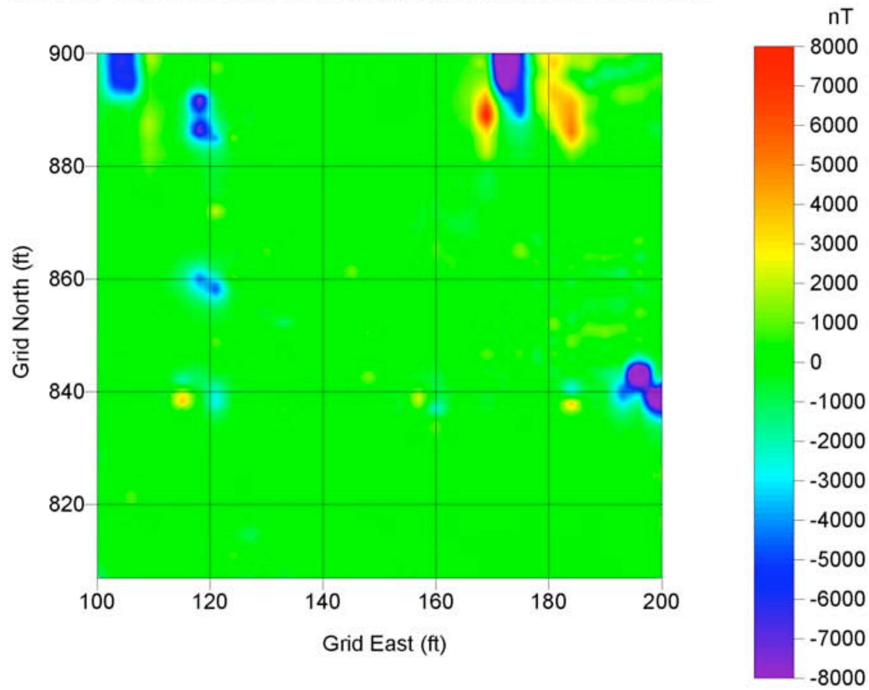


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC12
nT
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
800
780
760
740
720
Grid North (ft)
100
120
140
160
180
200
Grid East (ft)

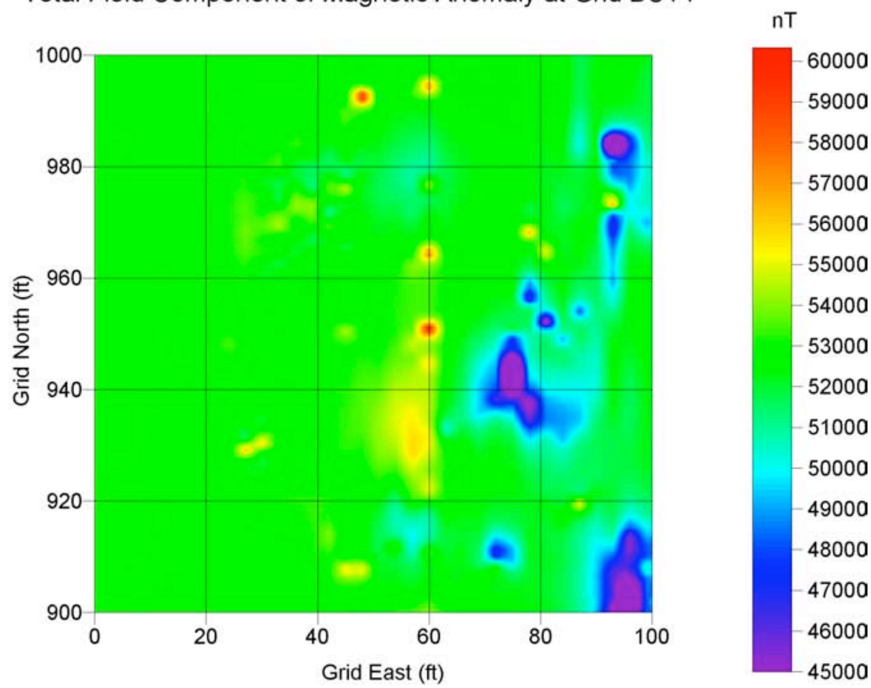
Total Field Component of Magnetic Anomaly at Grid BC13



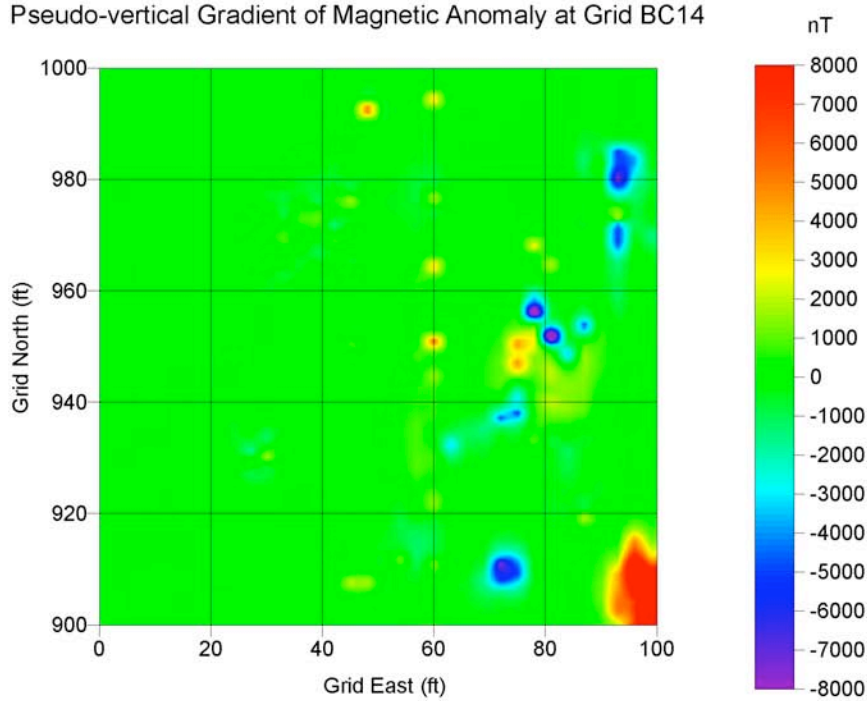
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC13

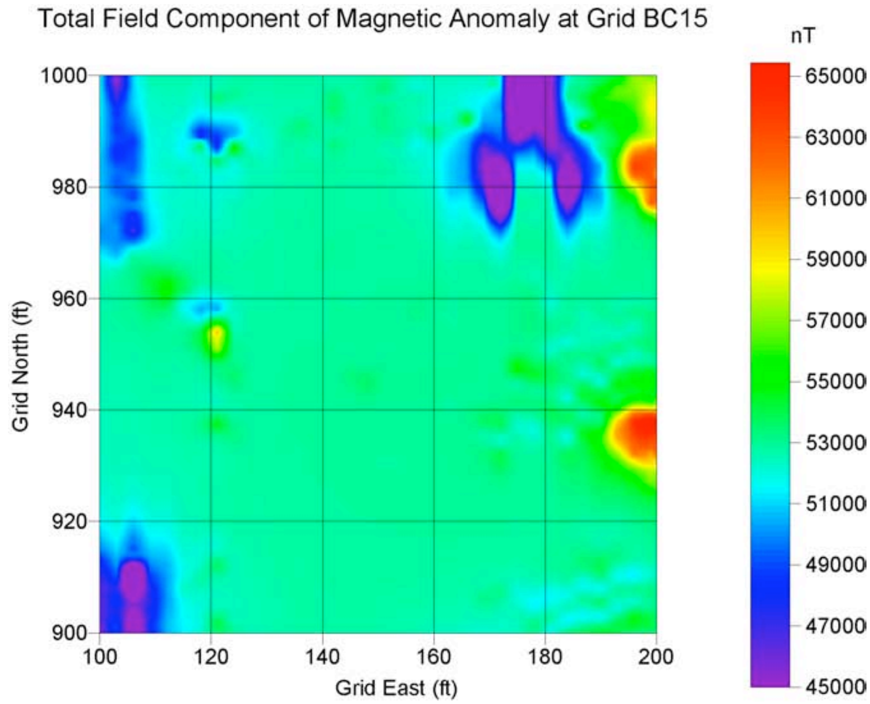


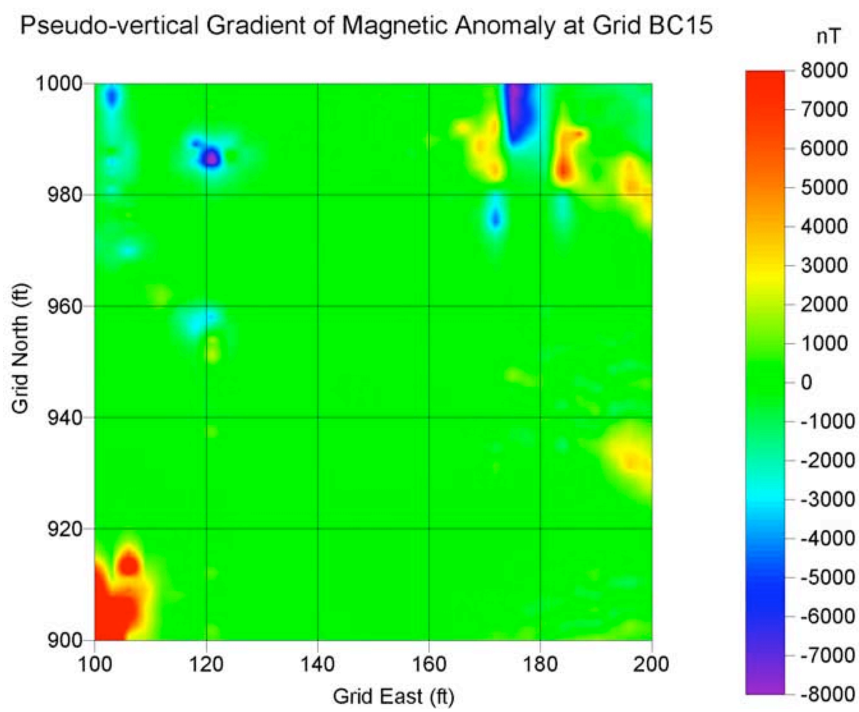
Total Field Component of Magnetic Anomaly at Grid BC14

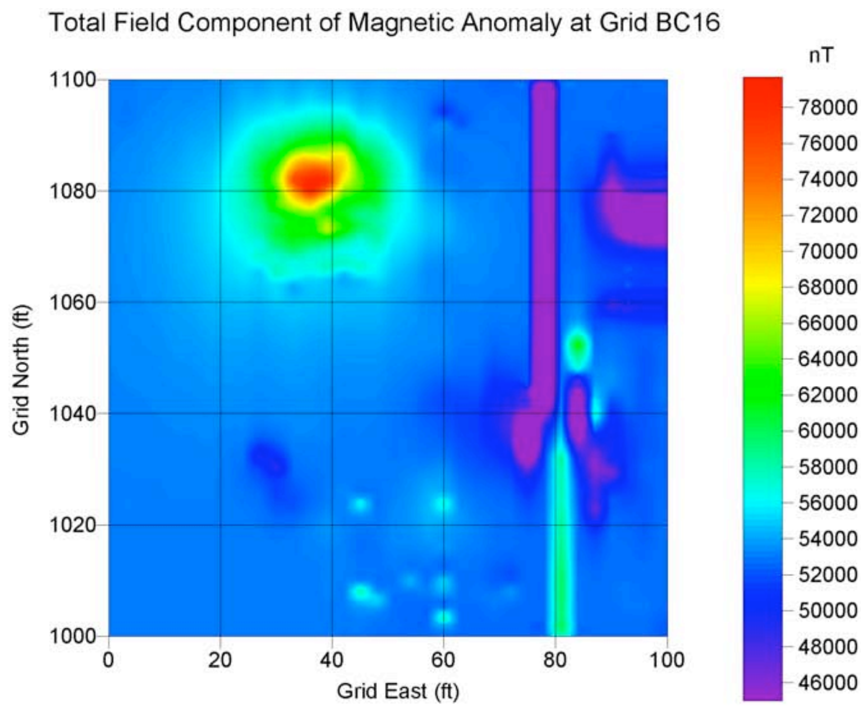


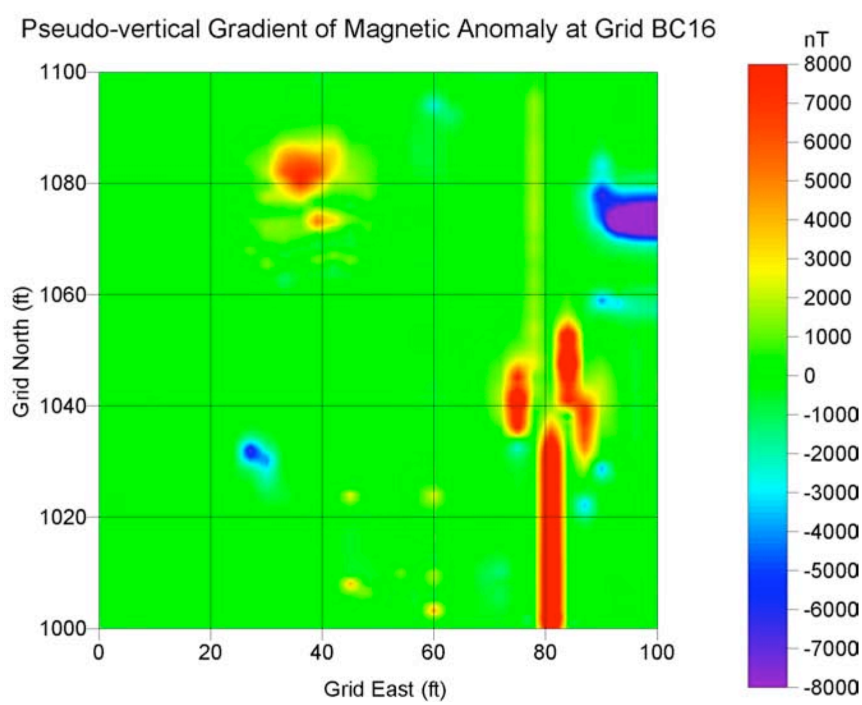
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC14

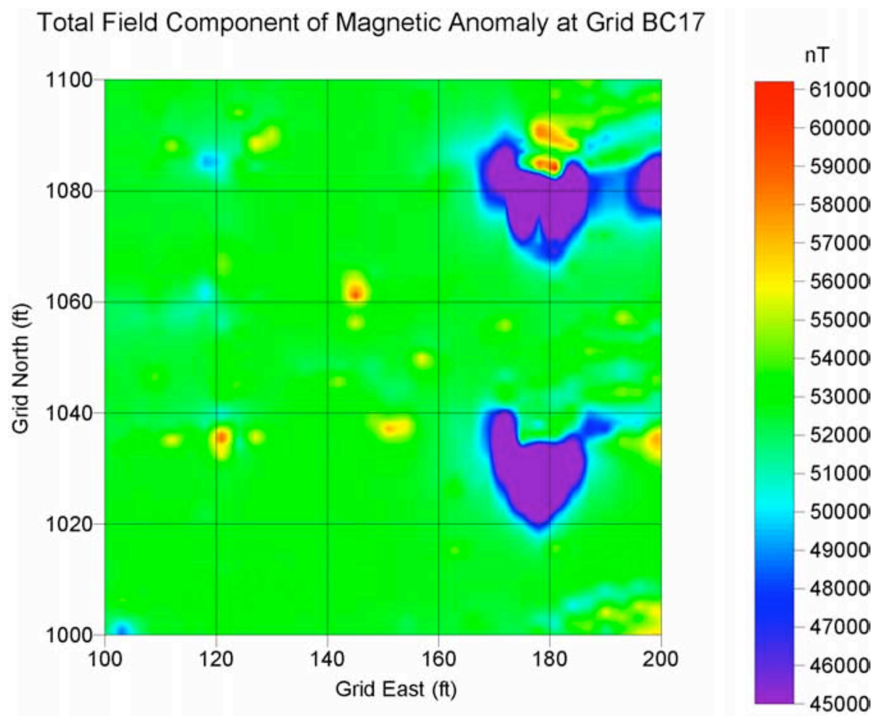


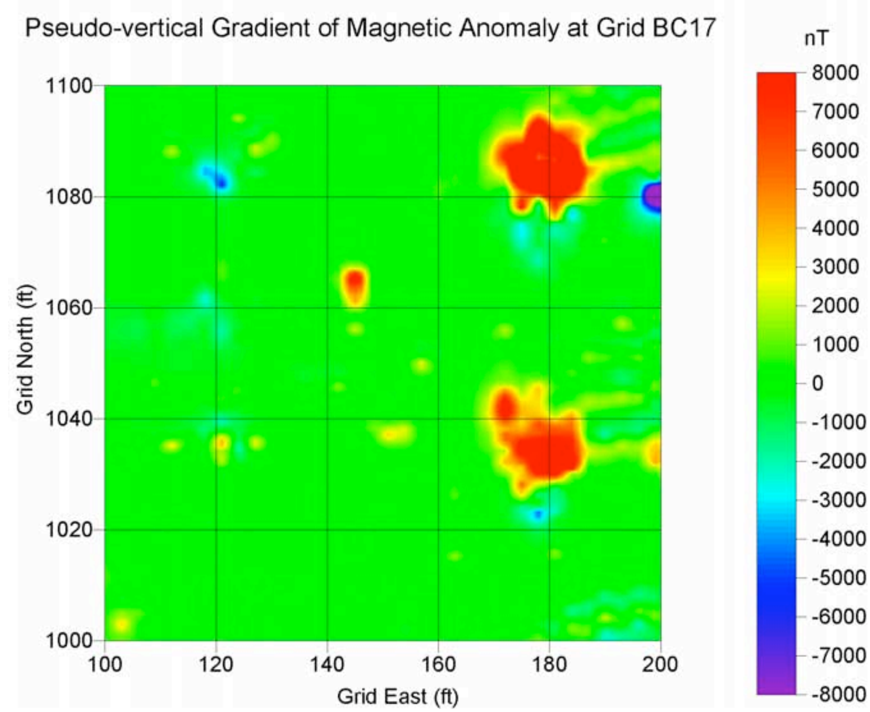

Total Field Component of Magnetic Anomaly at Grid BC15
nT
Grid North (ft)
Grid East (ft)
1000
980
960
940
920
900
100
120
140
160
180
200
65000
63000
61000
59000
57000
55000
53000
51000
49000
47000
45000

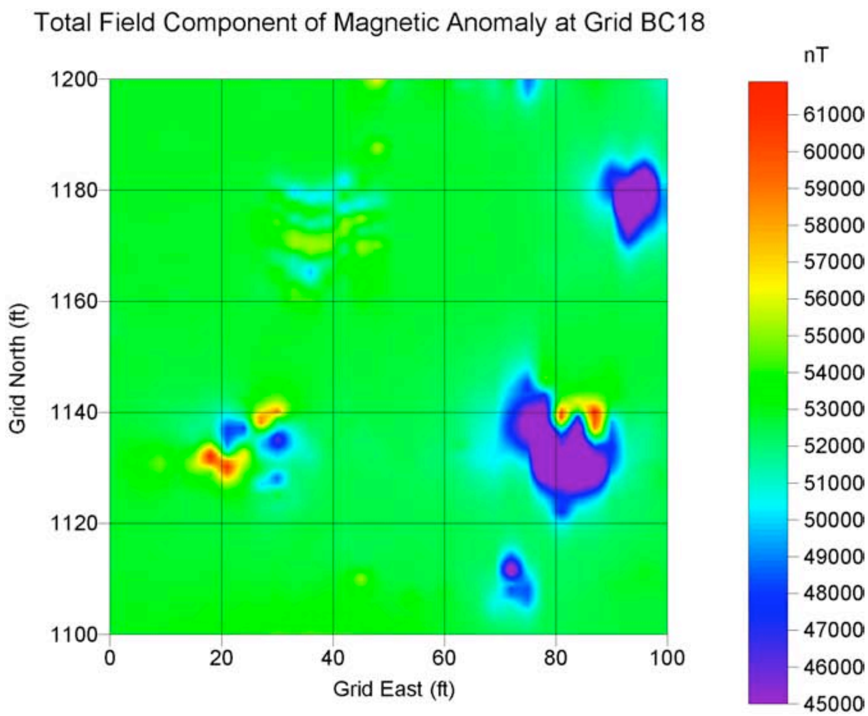

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC15
nT
Grid North (ft)
Grid East (ft)
1000
980
960
940
920
900
100
120
140
160
180
200
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

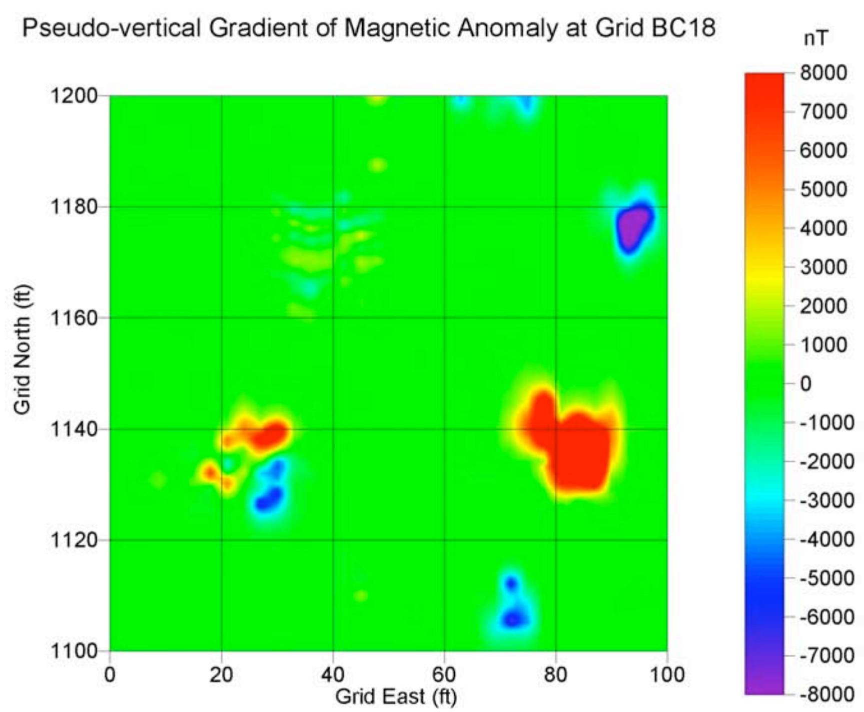

Total Field Component of Magnetic Anomaly at Grid BC16
nT
78000
76000
74000
72000
70000
68000
66000
64000
62000
60000
58000
56000
54000
52000
50000
48000
46000
1100
1080
1060
1040
1020
1000
Grid North (ft)
0
20
40
60
80
100
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC16
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
1100
1080
1060
1040
1020
1000
Grid North (ft)
0
20
40
60
80
100
Grid East (ft)

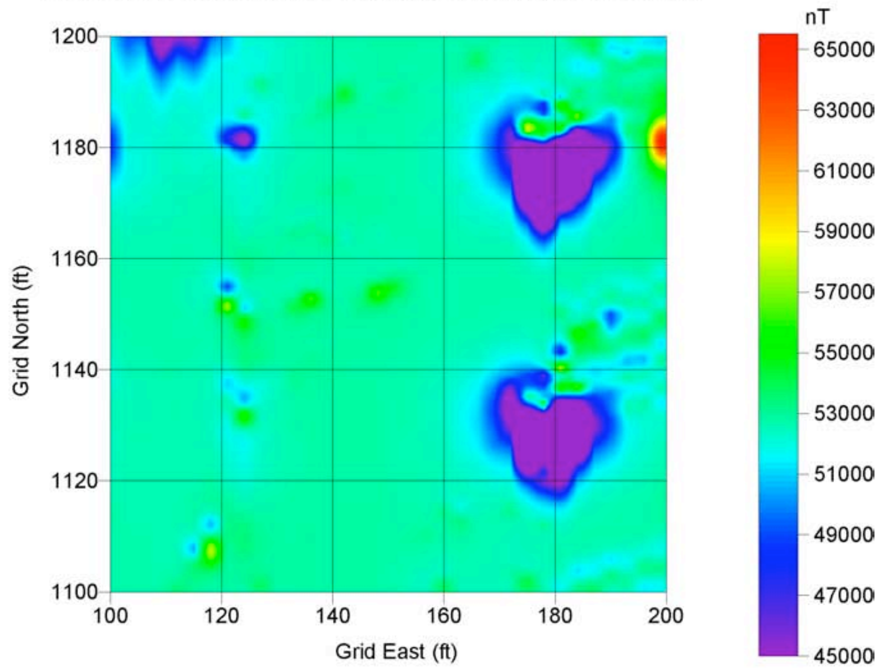

Total Field Component of Magnetic Anomaly at Grid BC17
nT
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
1100
1080
1060
1040
1020
1000
Grid North (ft)
100
120
140
160
180
200
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC17
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
1100
1080
1060
1040
1020
1000
Grid North (ft)
100
120
140
160
180
200
Grid East (ft)

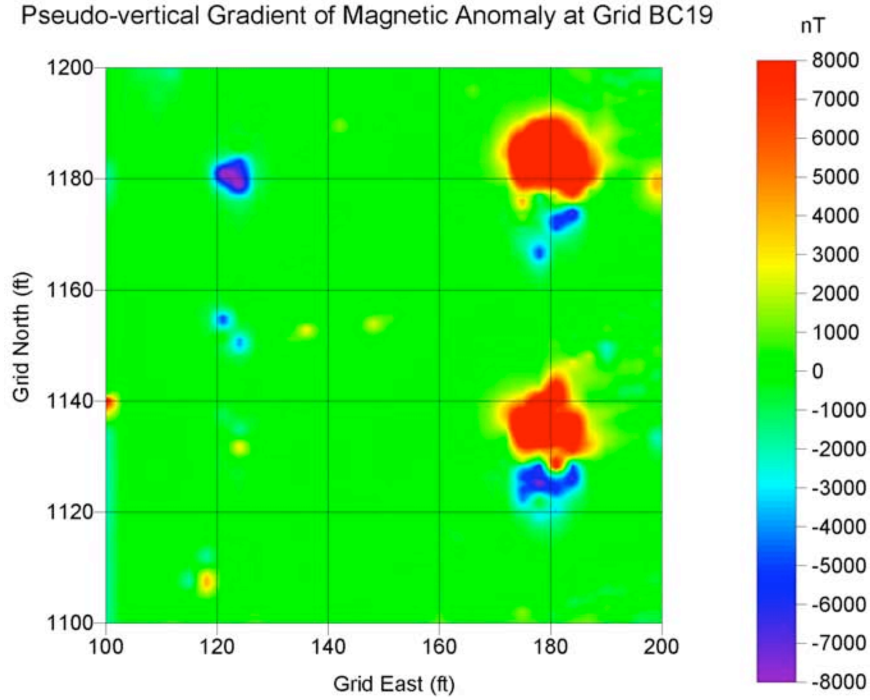

Total Field Component of Magnetic Anomaly at Grid BC18
nT
Grid North (ft)
Grid East (ft)
1200
1180
1160
1140
1120
1100
0
20
40
60
80
100
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC18
nT
Grid North (ft)
Grid East (ft)
1200
1180
1160
1140
1120
1100
0
20
40
60
80
100
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

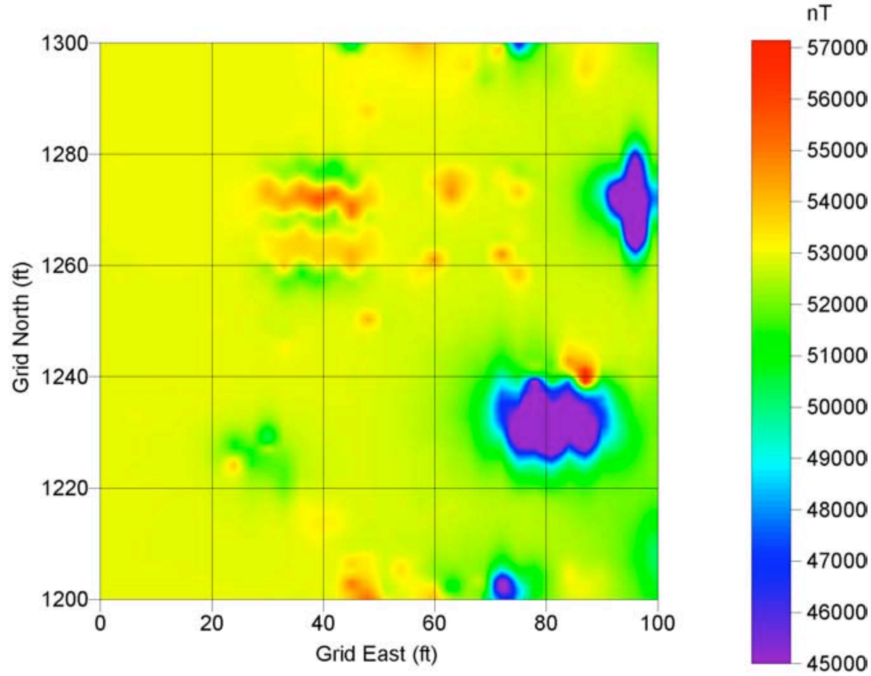
Total Field Component of Magnetic Anomaly at Grid BC19



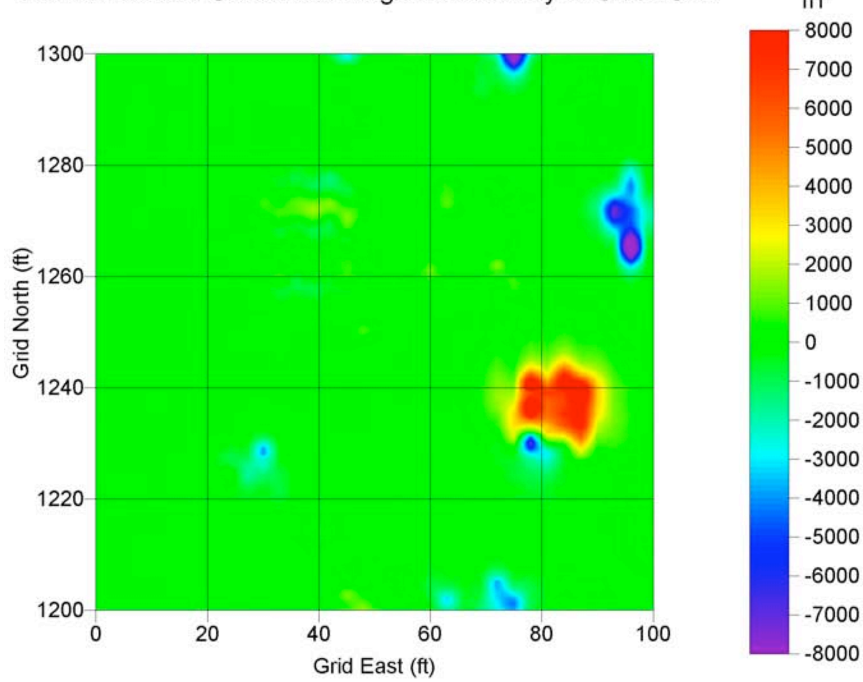
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC19

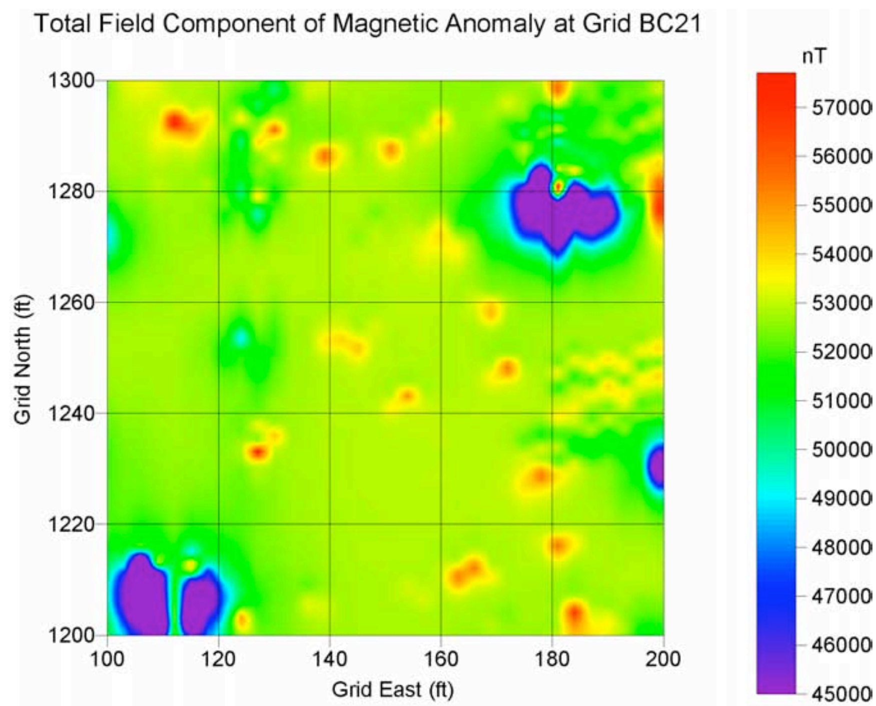


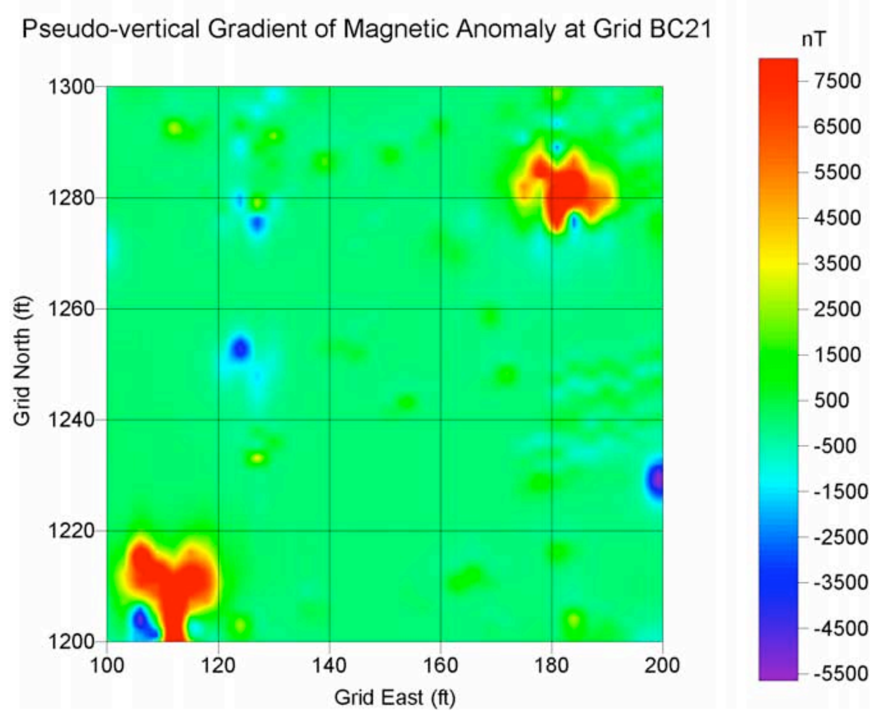
Total Field Component of Magnetic Anomaly at Grid BC20



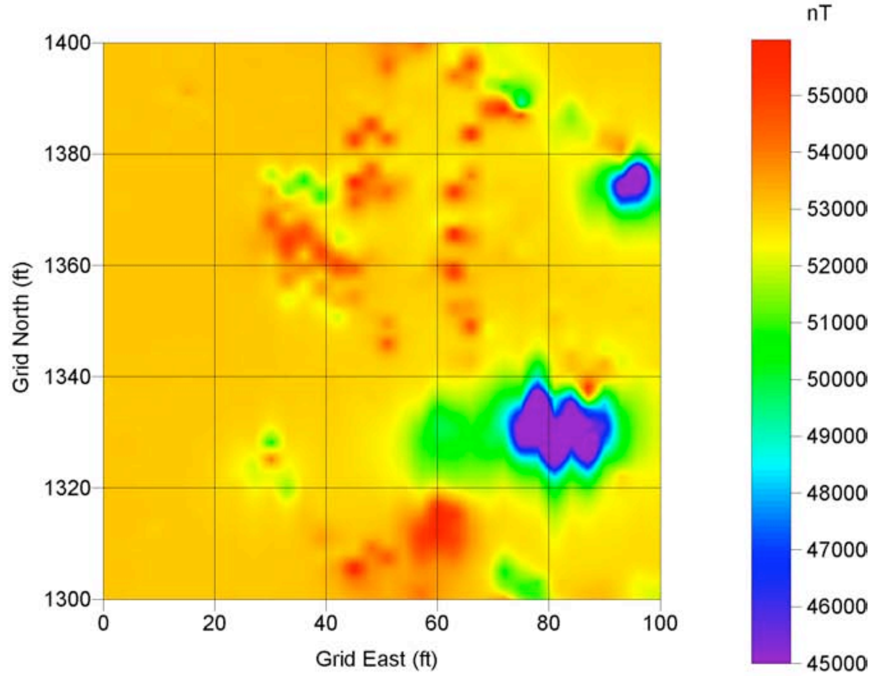
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC20



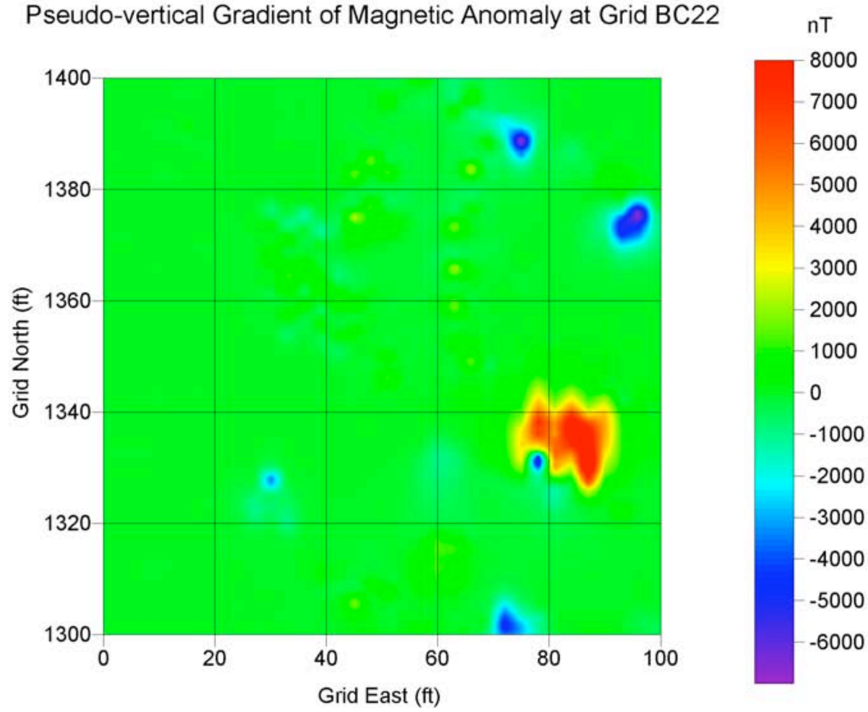

Total Field Component of Magnetic Anomaly at Grid BC21
nT
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
Grid North (ft)
1300
1280
1260
1240
1220
1200
100
120
140
160
180
200
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC21
nT
7500
6500
5500
4500
3500
2500
1500
500
-500
-1500
-2500
-3500
-4500
-5500
Grid North (ft)
1300
1280
1260
1240
1220
1200
100
120
140
160
180
200
Grid East (ft)

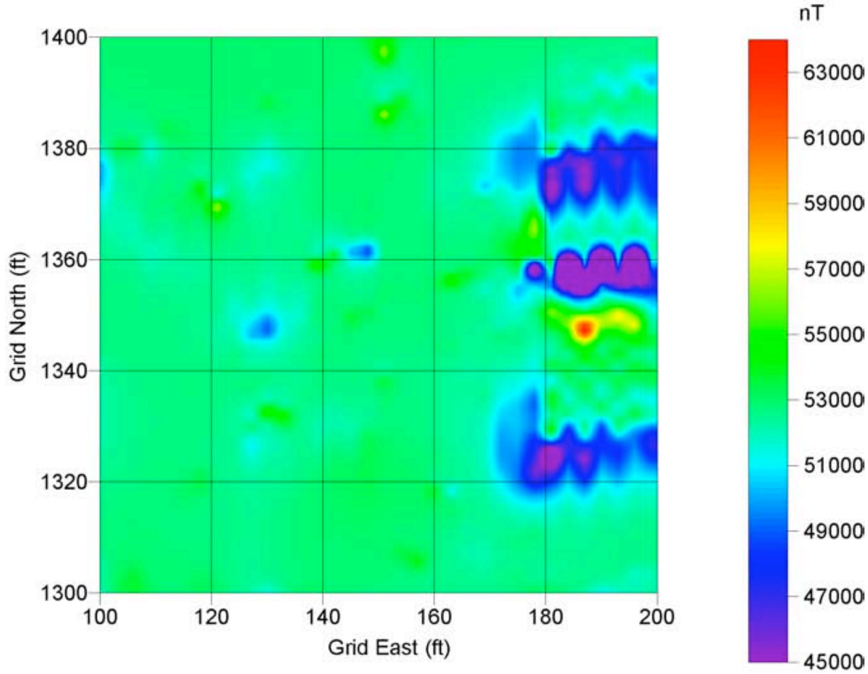
Total Field Component of Magnetic Anomaly at Grid BC22



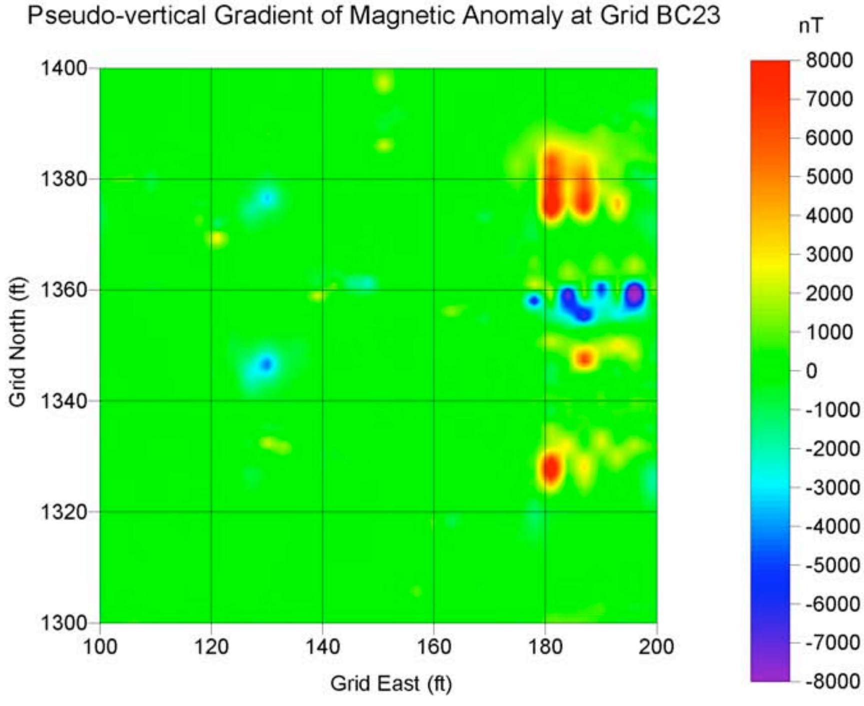
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC22



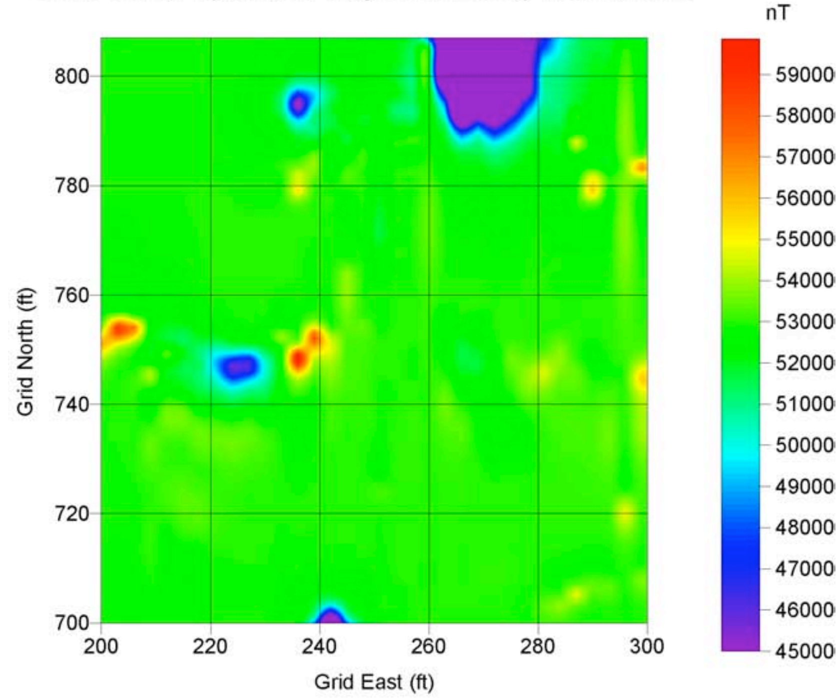
Total Field Component of Magnetic Anomaly at Grid BC23



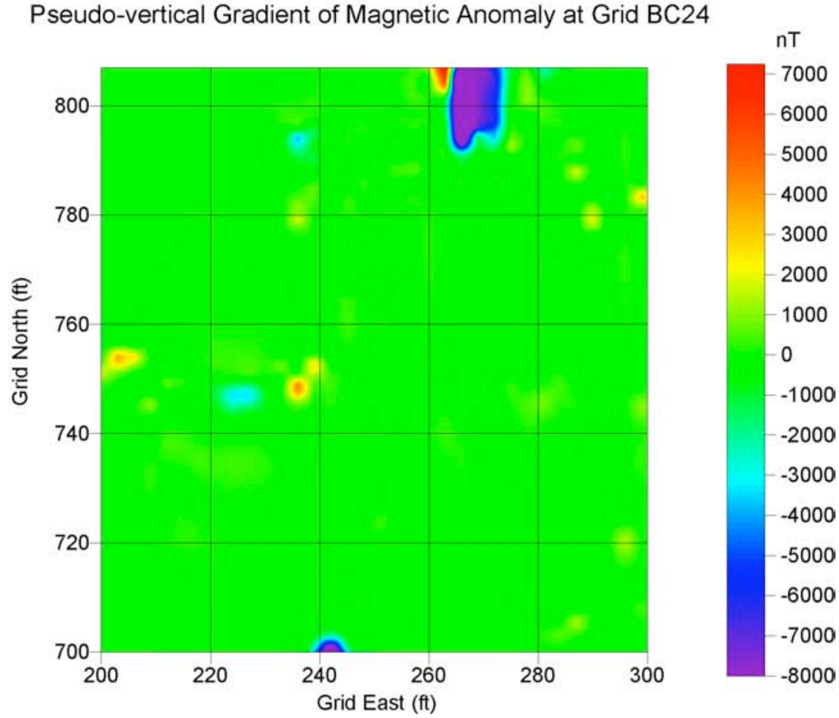
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC23

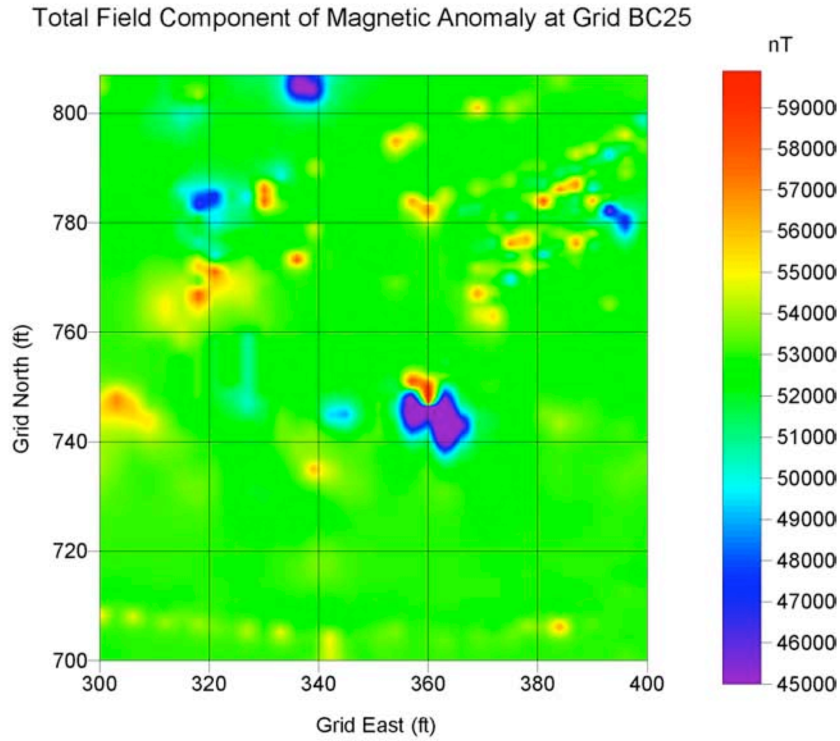


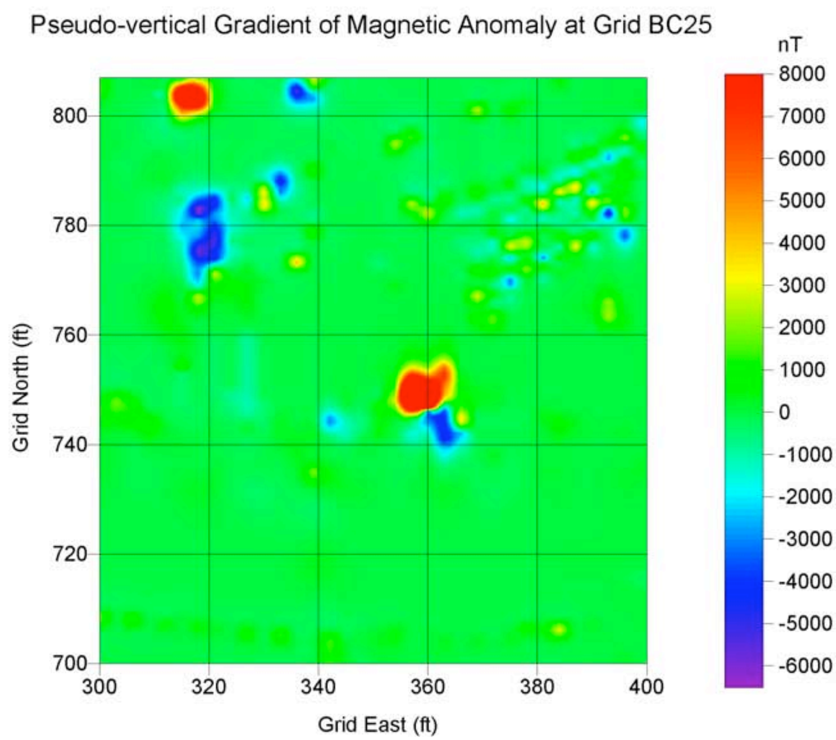
Total Field Component of Magnetic Anomaly at Grid BC24



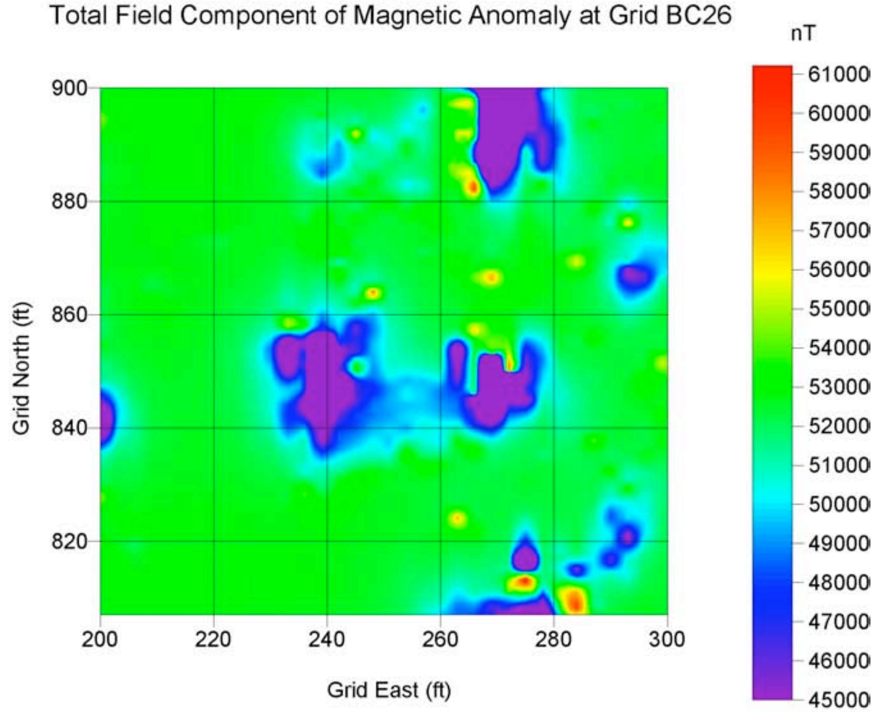
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC24



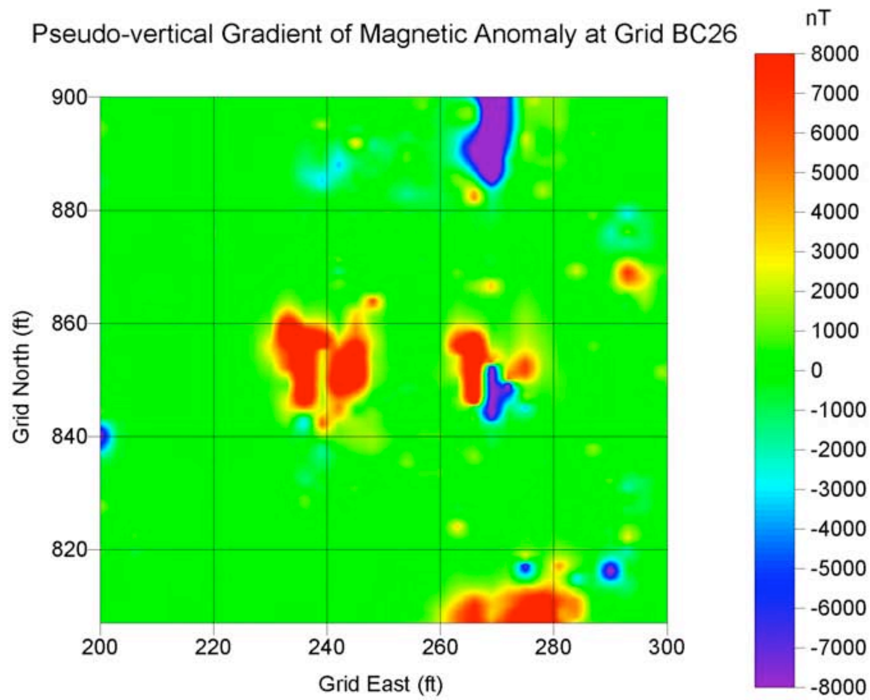

Total Field Component of Magnetic Anomaly at Grid BC25
nT
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
800
780
760
740
720
700
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

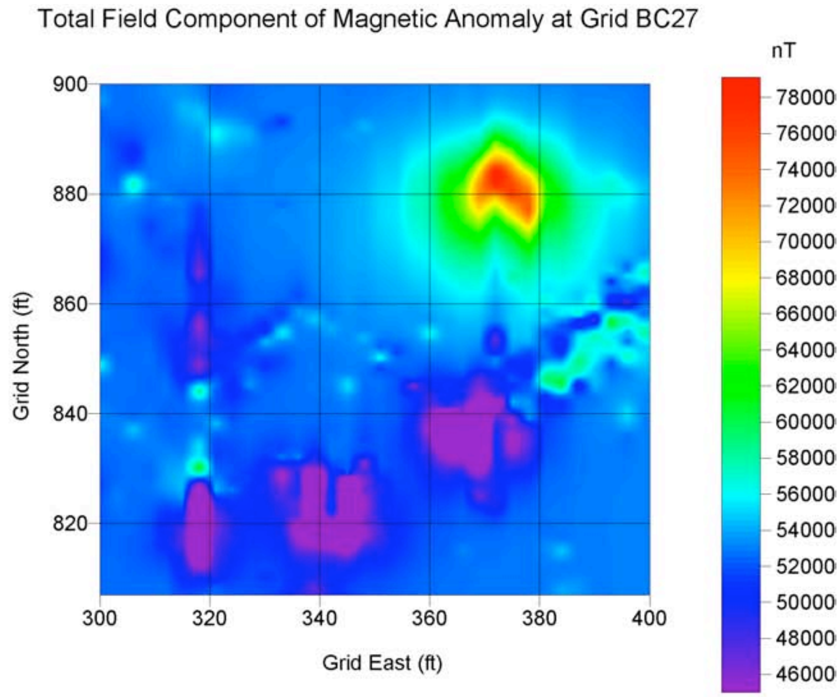

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC25
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
800
780
760
740
720
700
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

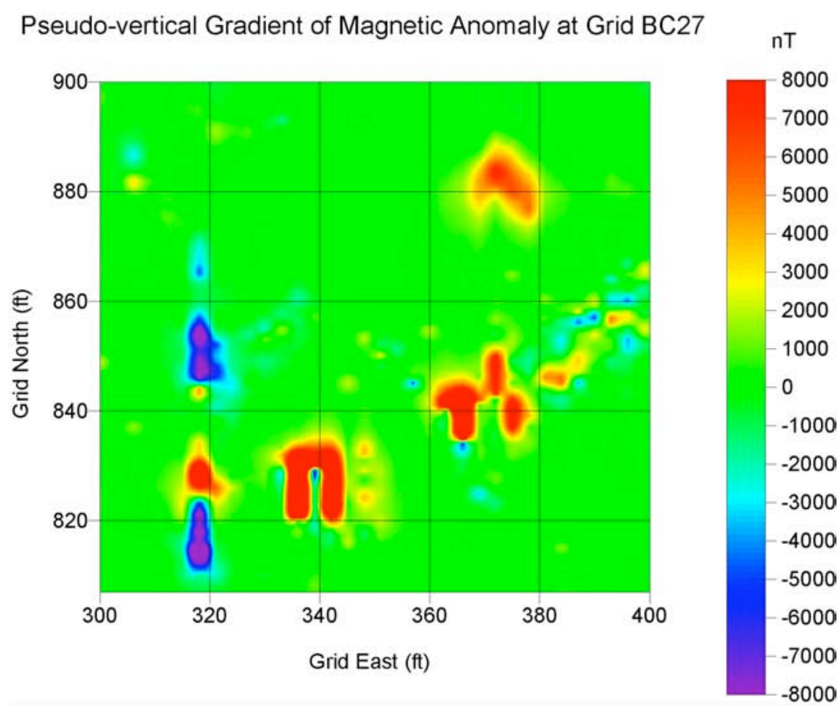
Total Field Component of Magnetic Anomaly at Grid BC26



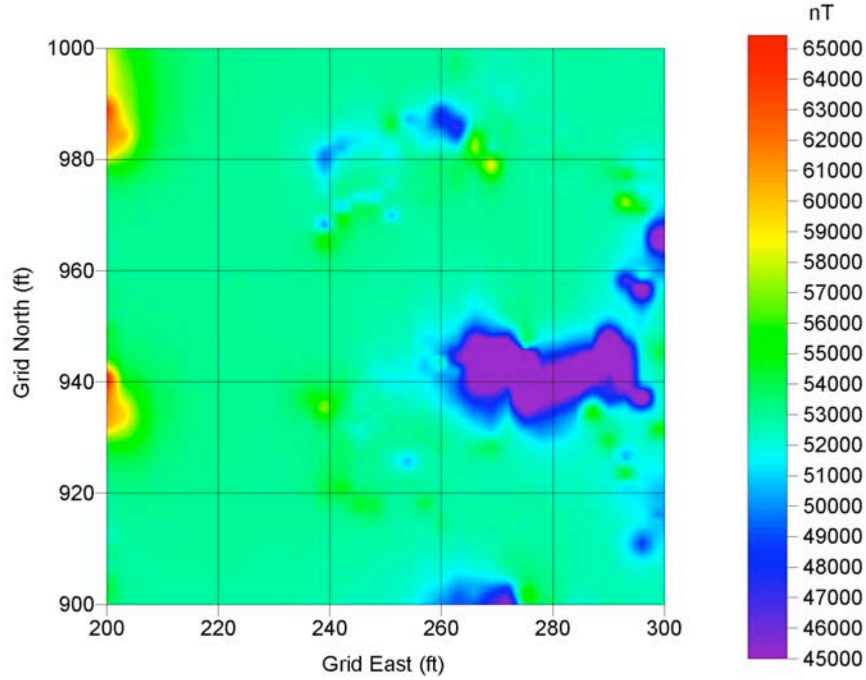
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC26



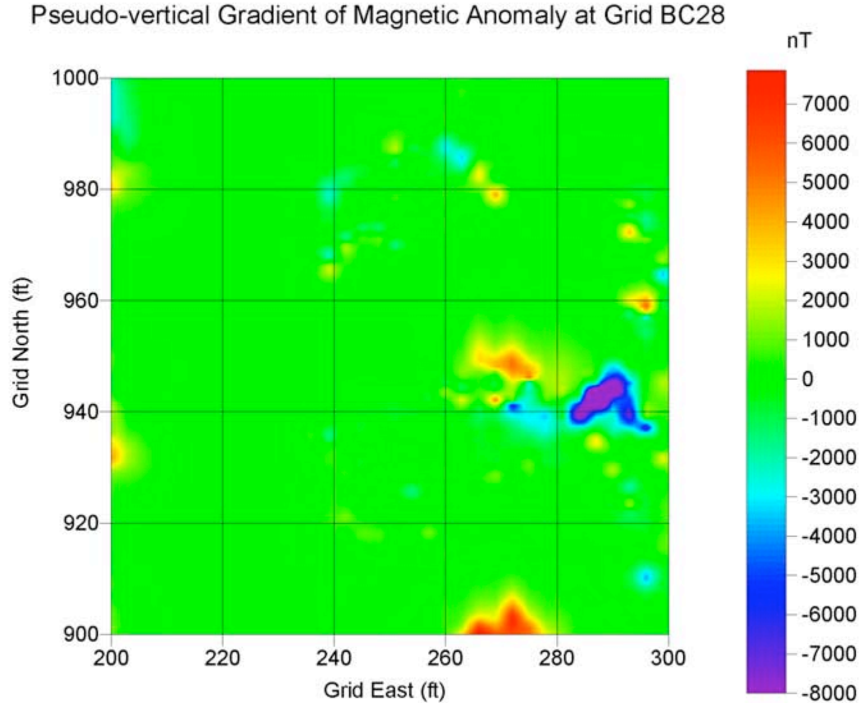

Total Field Component of Magnetic Anomaly at Grid BC27
nT
900
880
860
840
820
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)
78000
76000
74000
72000
70000
68000
66000
64000
62000
60000
58000
56000
54000
52000
50000
48000
46000

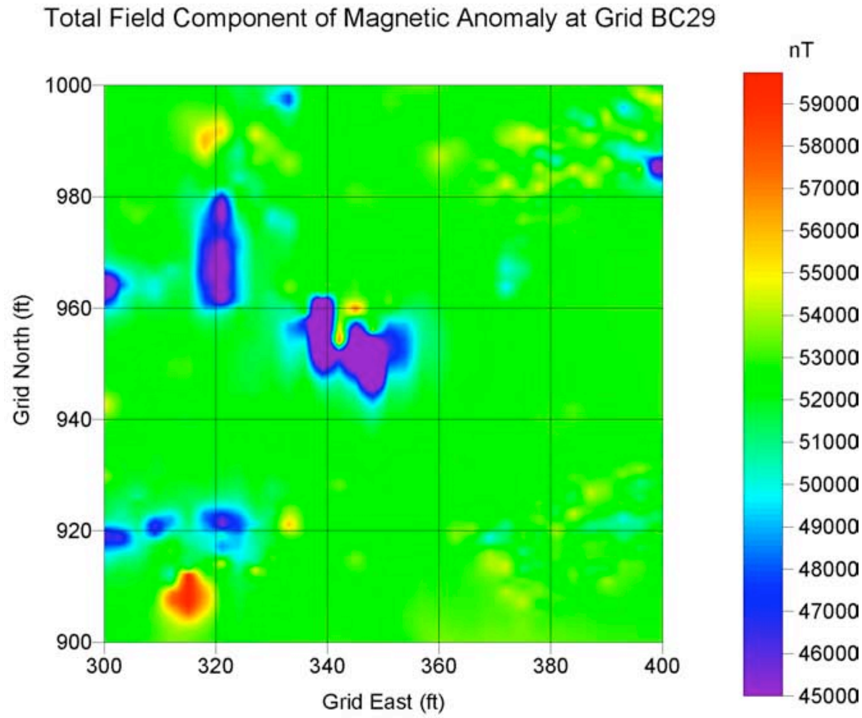

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC27
nT
900
880
860
840
820
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

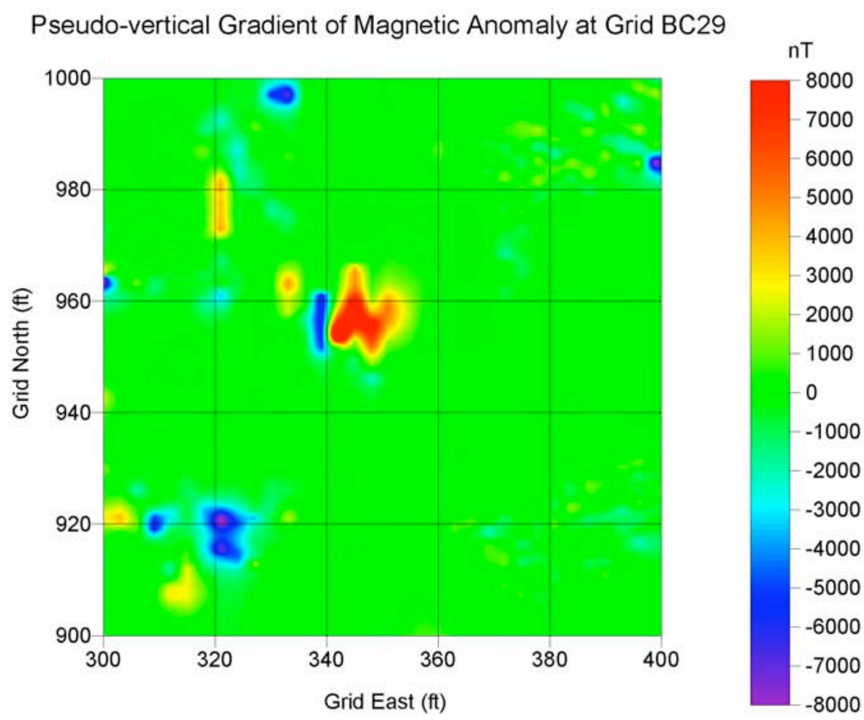
Total Field Component of Magnetic Anomaly at Grid BC28

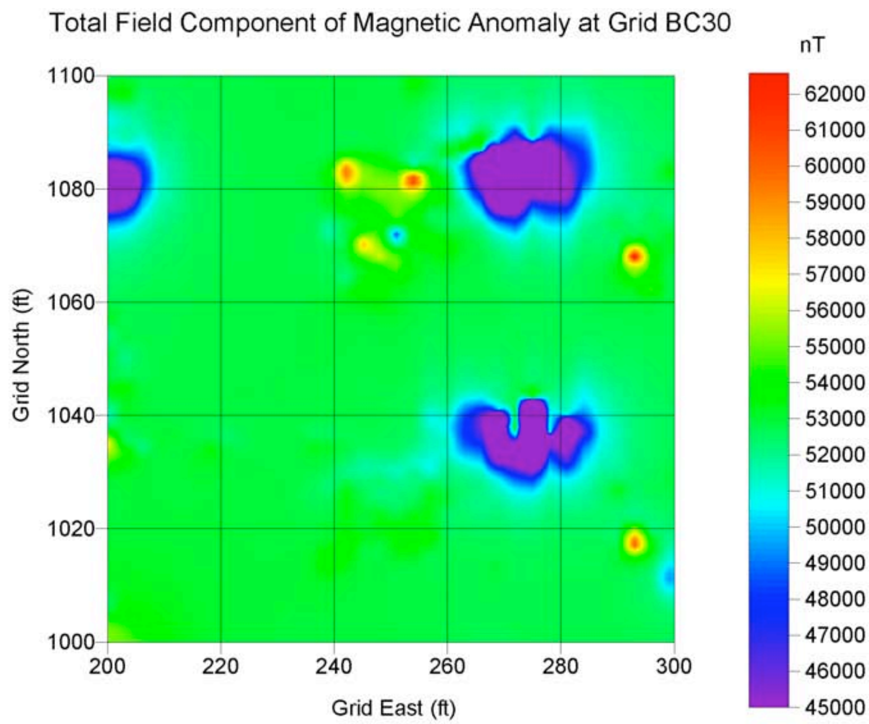


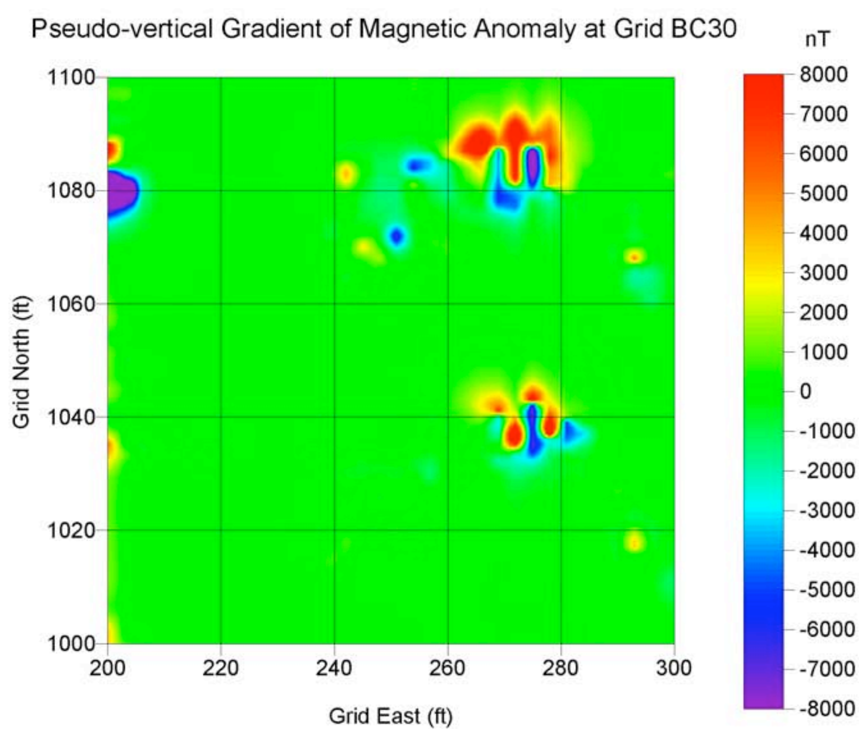
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC28

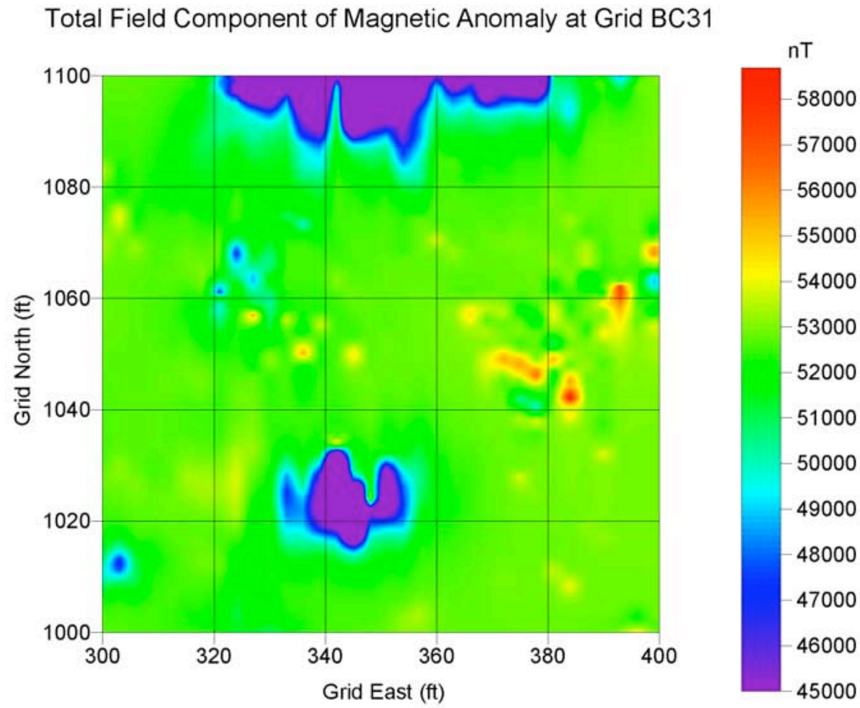



Total Field Component of Magnetic Anomaly at Grid BC29
nT
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
1000
980
960
940
920
900
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

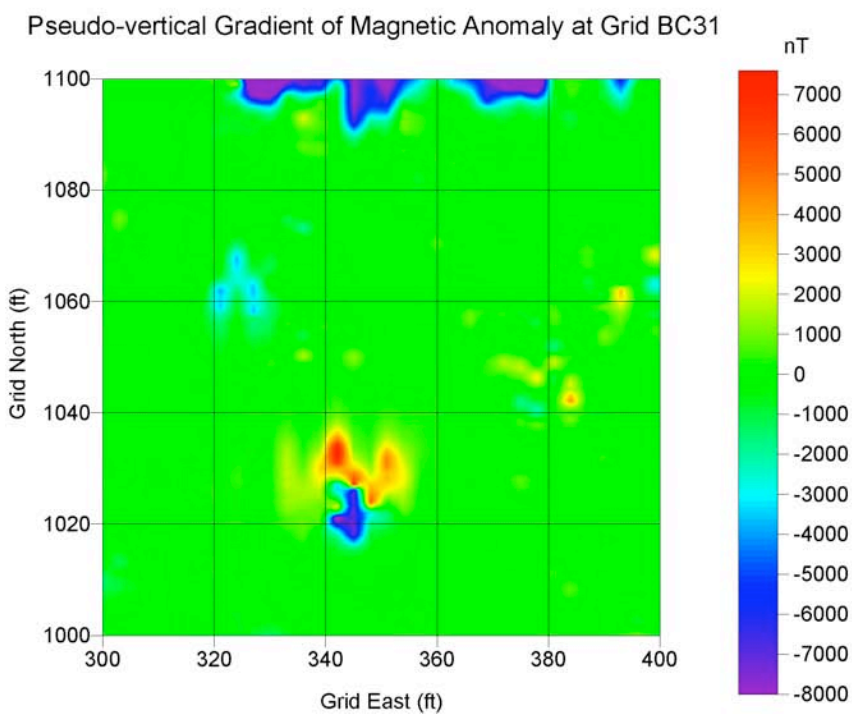

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC29
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
1000
980
960
940
920
900
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)


Total Field Component of Magnetic Anomaly at Grid BC30
nT
Grid North (ft)
Grid East (ft)
1100
1080
1060
1040
1020
1000
200
220
240
260
280
300
62000
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC30
nT
Grid North (ft)
Grid East (ft)
1100
1080
1060
1040
1020
1000
200
220
240
260
280
300
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

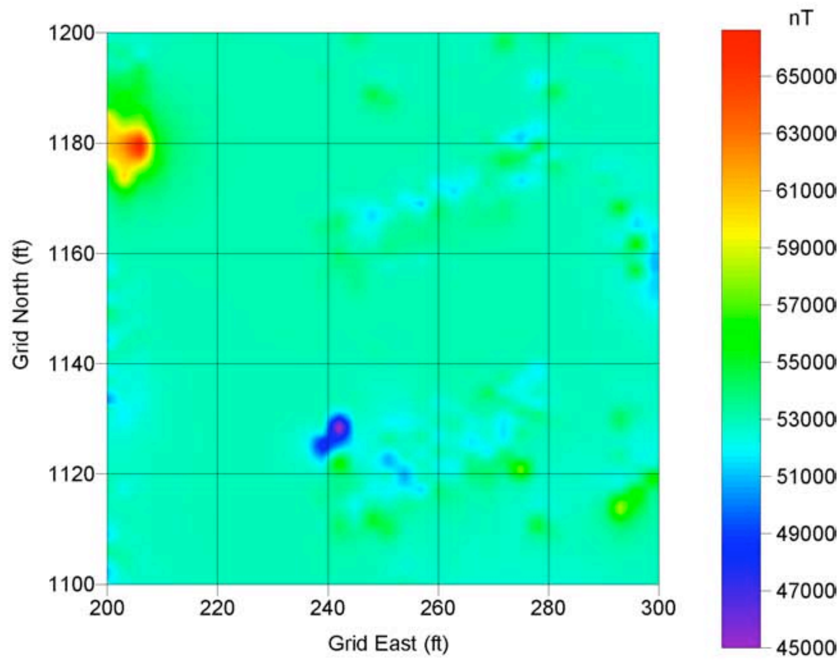


Total Field Component of Magnetic Anomaly at Grid BC31
nT
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
Grid North (ft)
1100
1080
1060
1040
1020
1000
300
320
340
360
380
400
Grid East (ft)

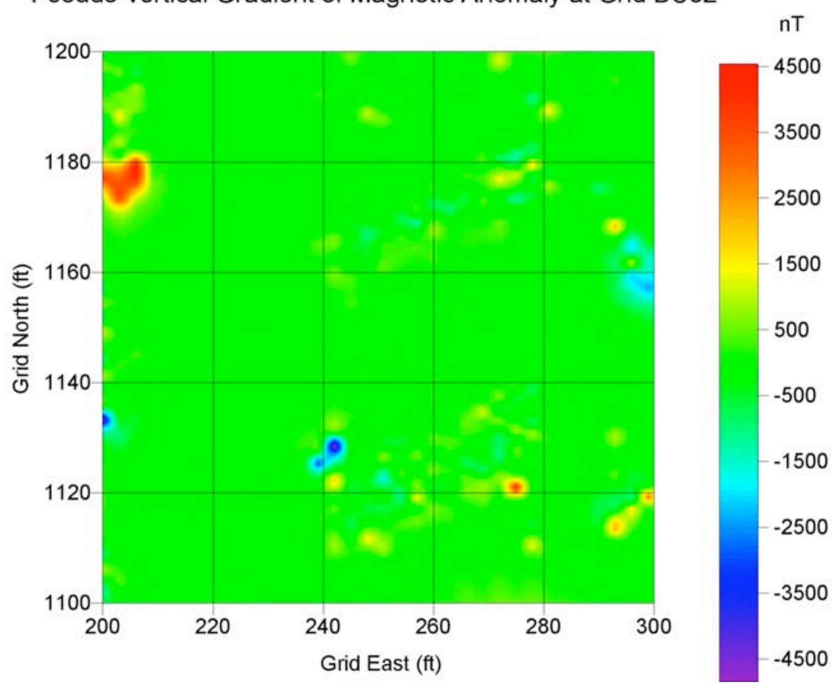


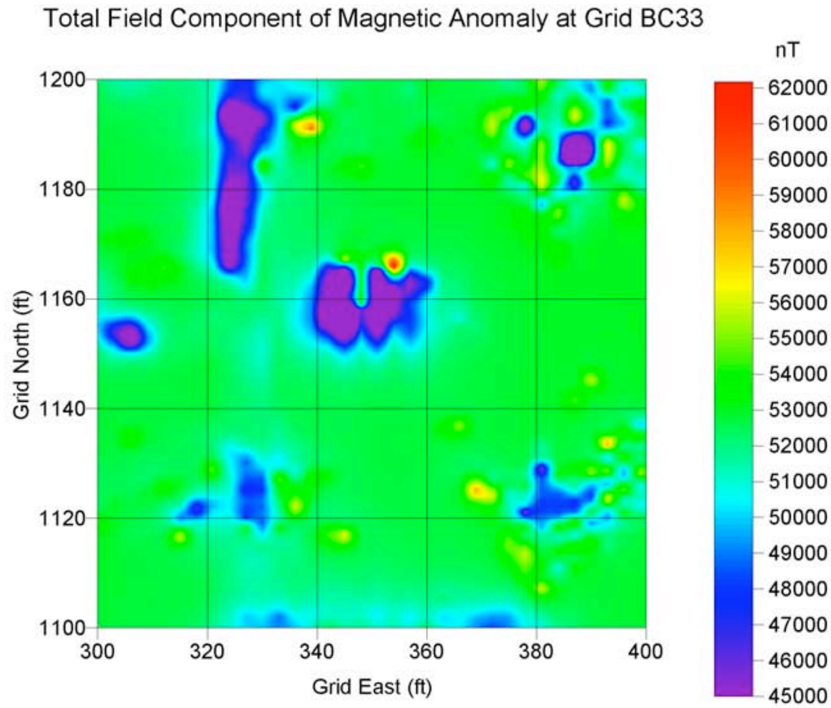
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC31
nT
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
1100
1080
1060
1040
1020
1000
300
320
340
360
380
400
Grid East (ft)

Total Field Component of Magnetic Anomaly at Grid BC32

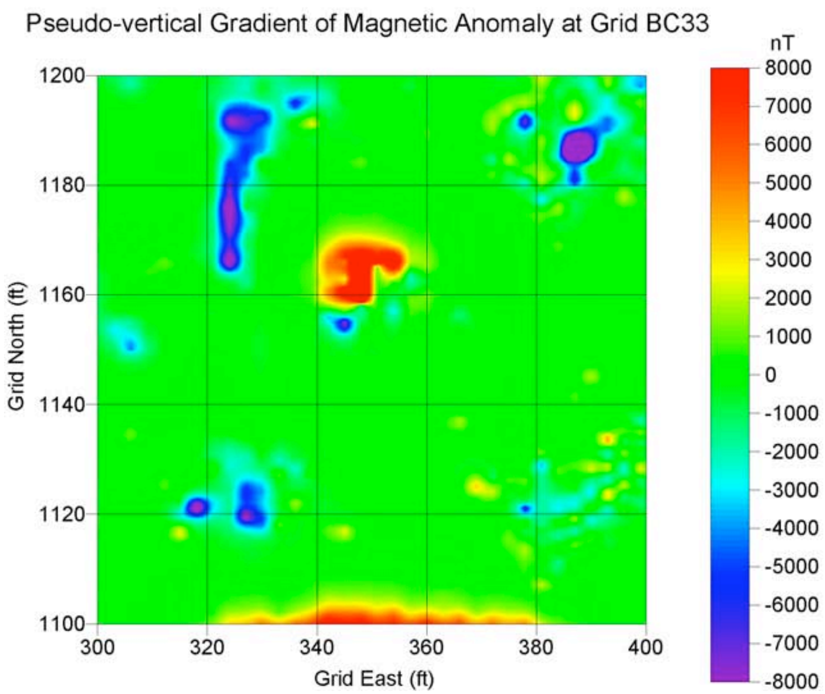


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC32

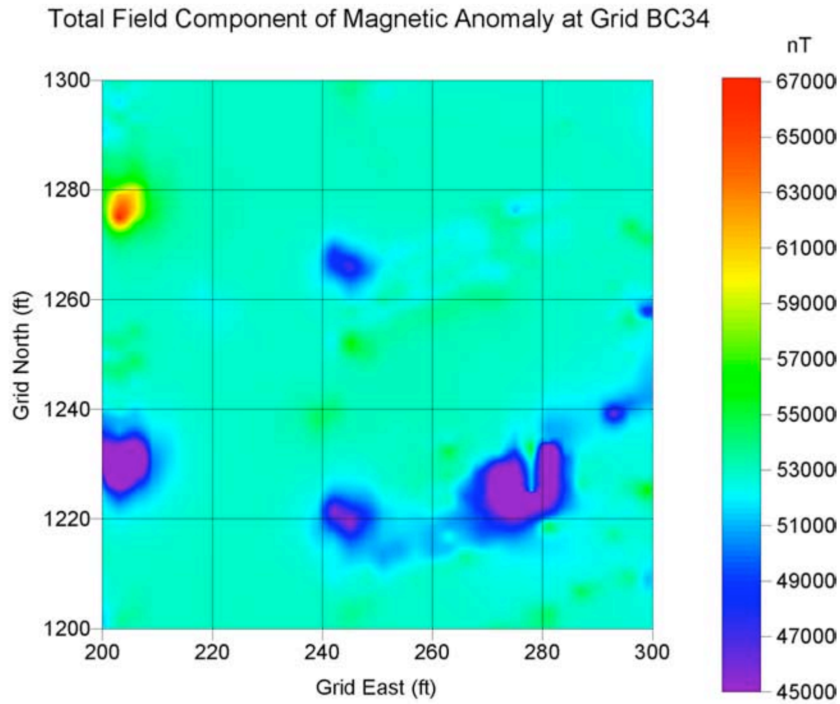


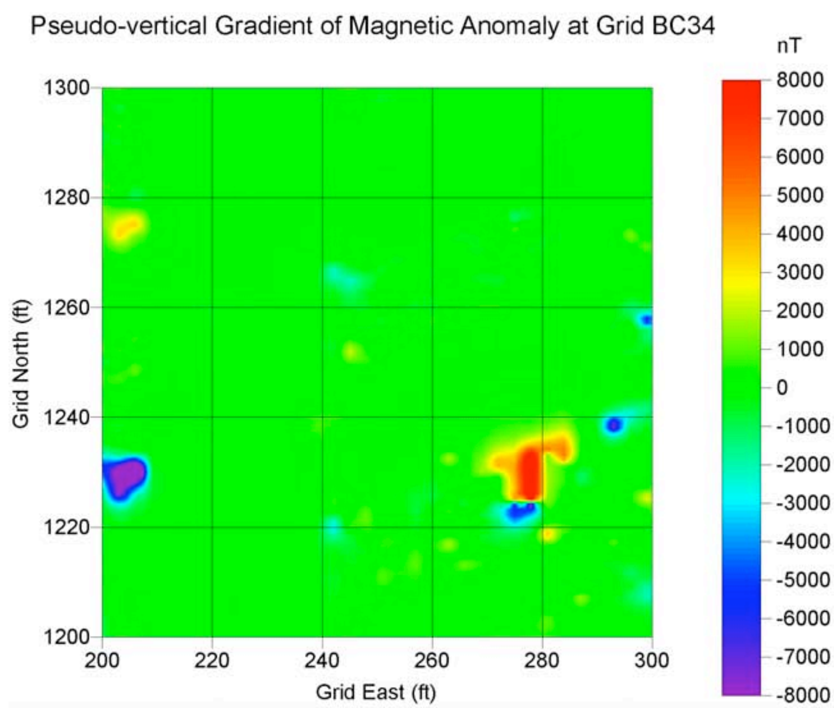


Total Field Component of Magnetic Anomaly at Grid BC33
nT
62000
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
1200
1180
1160
1140
1120
1100
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

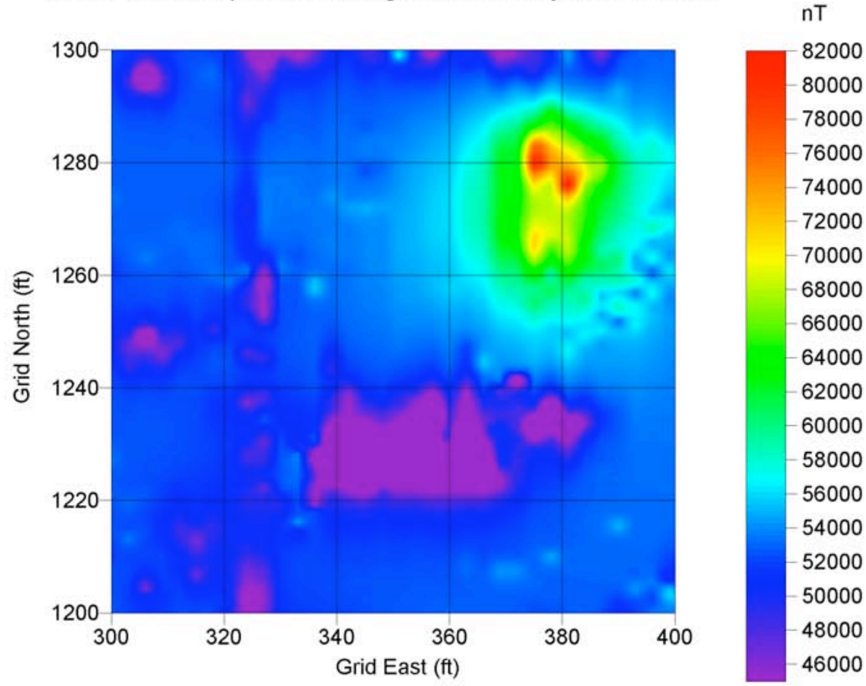


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC33
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
1200
1180
1160
1140
1120
1100
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

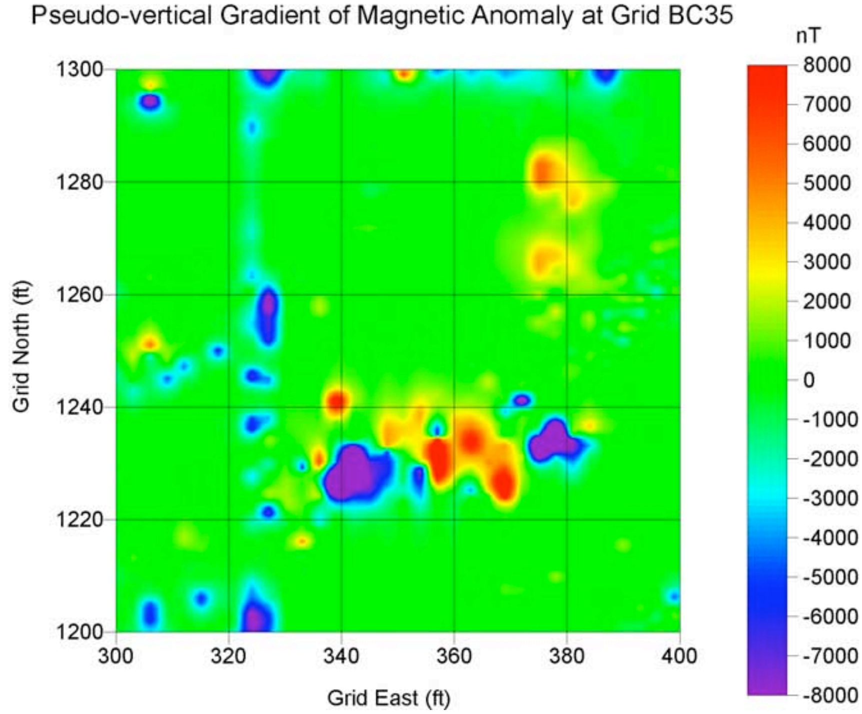

Total Field Component of Magnetic Anomaly at Grid BC34
nT
67000
65000
63000
61000
59000
57000
55000
53000
51000
49000
47000
45000
Grid North (ft)
1300
1280
1260
1240
1220
1200
200
220
240
260
280
300
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC34
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
1300
1280
1260
1240
1220
1200
200
220
240
260
280
300
Grid East (ft)

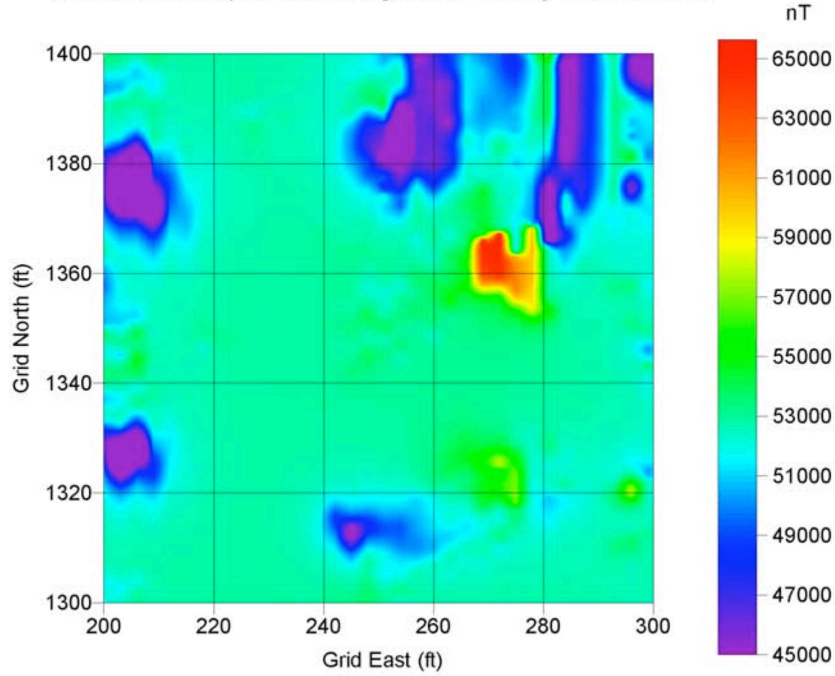
Total Field Component of Magnetic Anomaly at Grid BC35



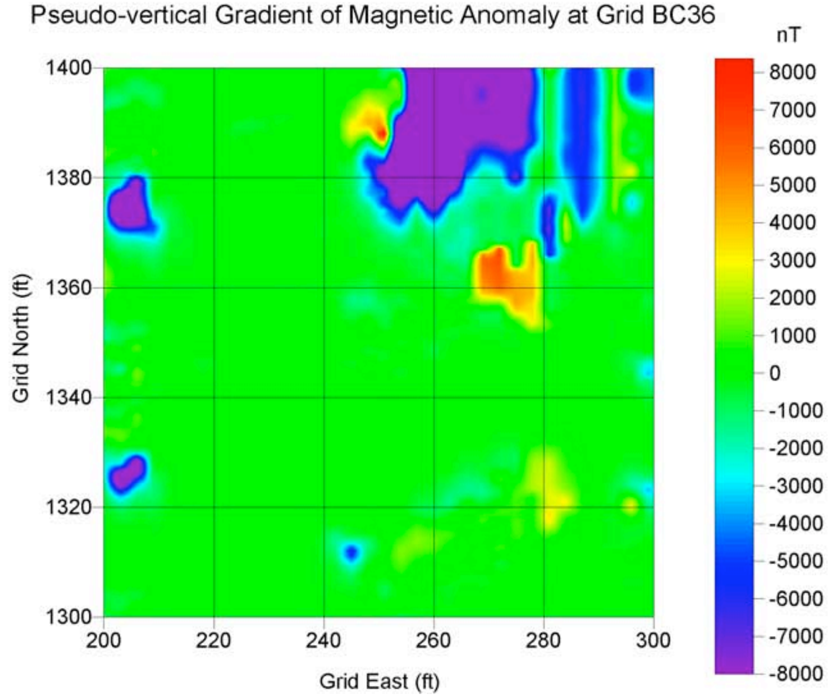
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC35



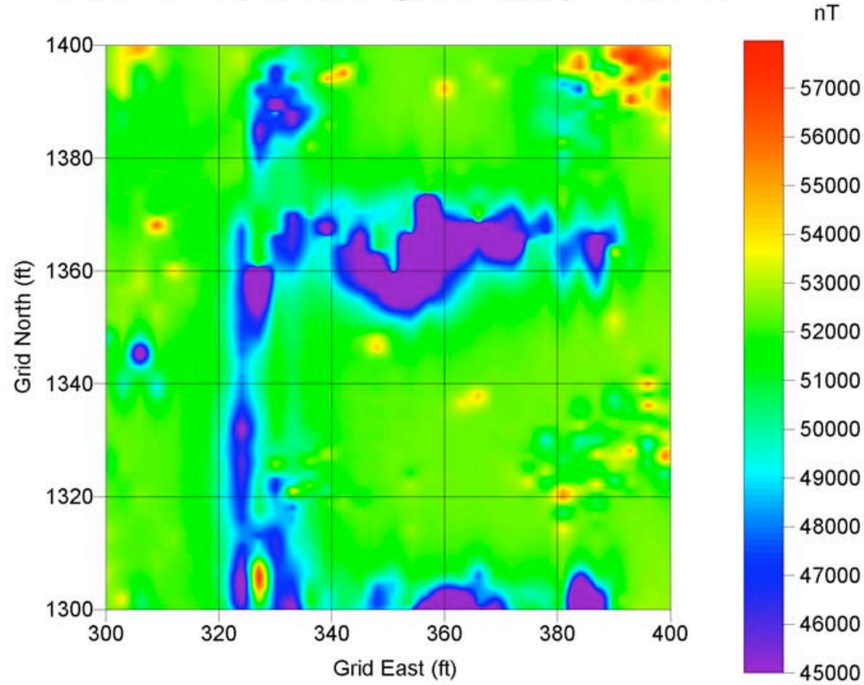
Total Field Component of Magnetic Anomaly at Grid BC36



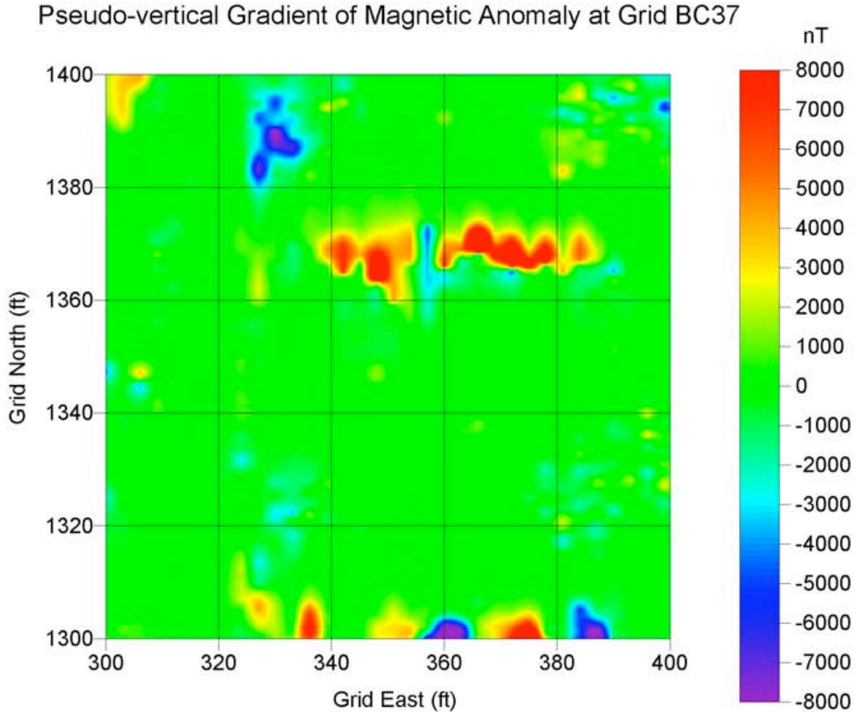
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC36



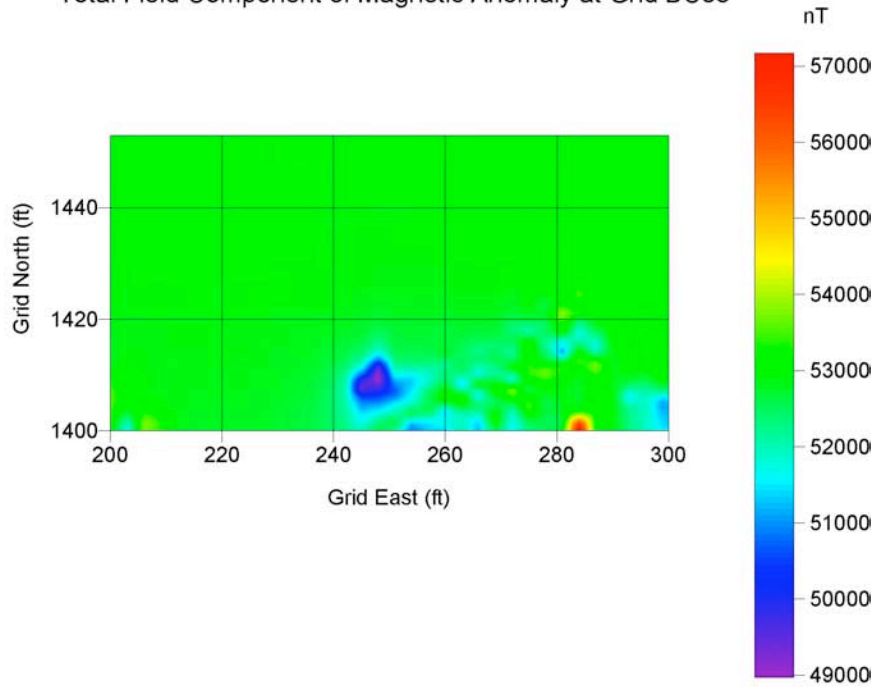
Total Field Component of Magnetic Anomaly at Grid BC37



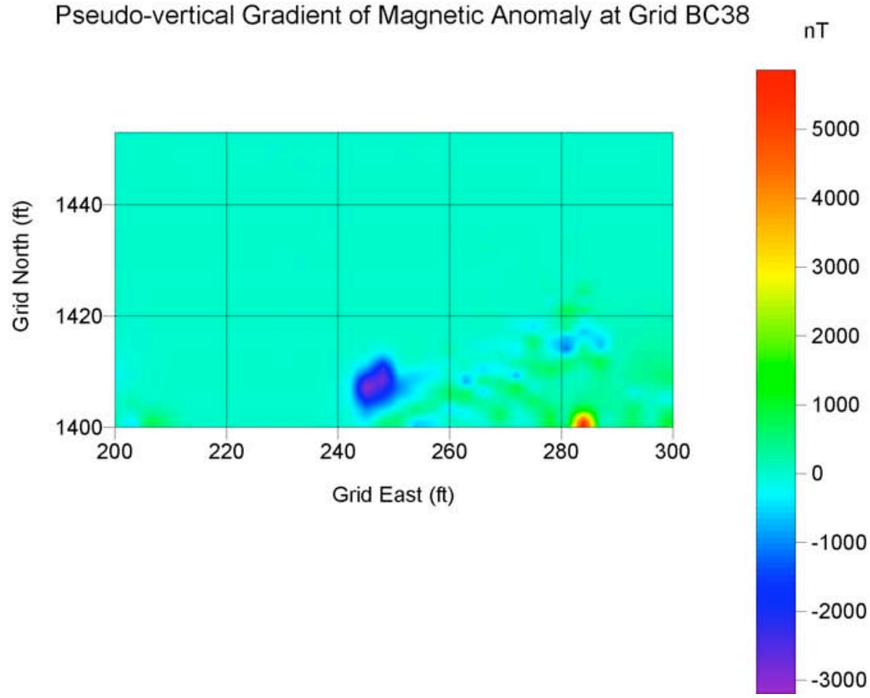
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC37

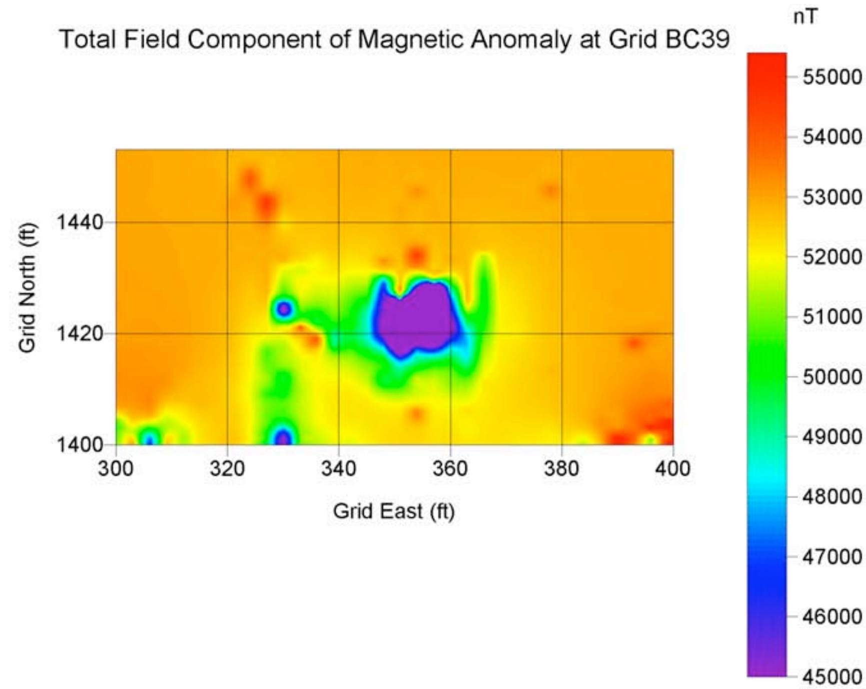


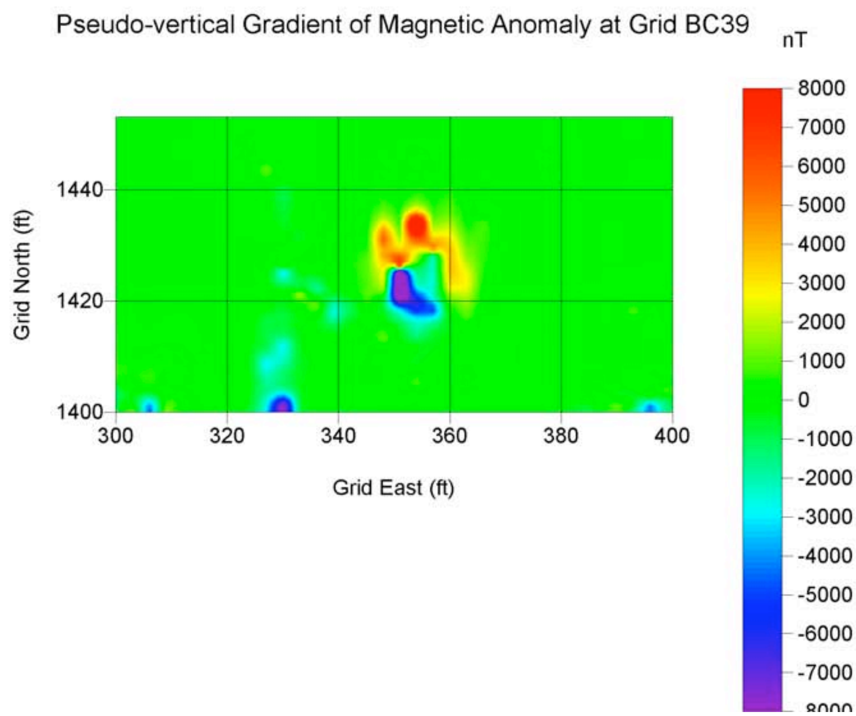
Total Field Component of Magnetic Anomaly at Grid BC38

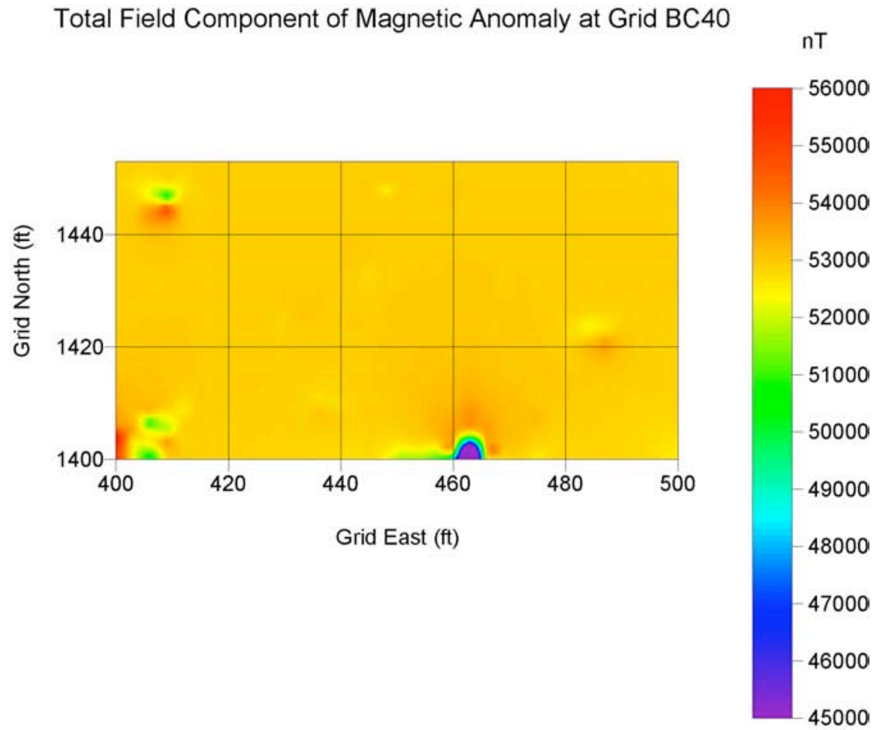


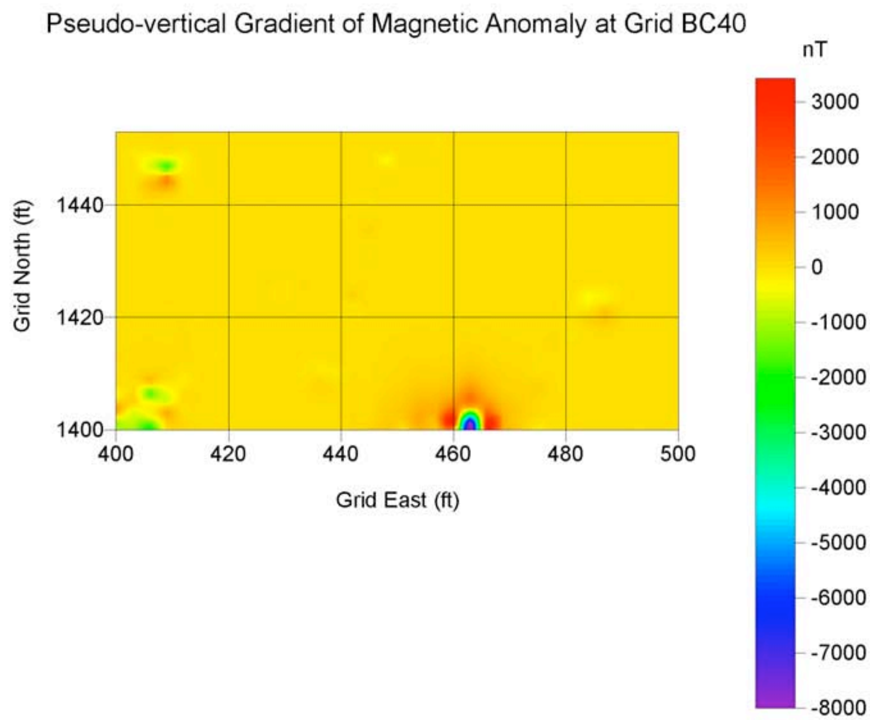
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC38

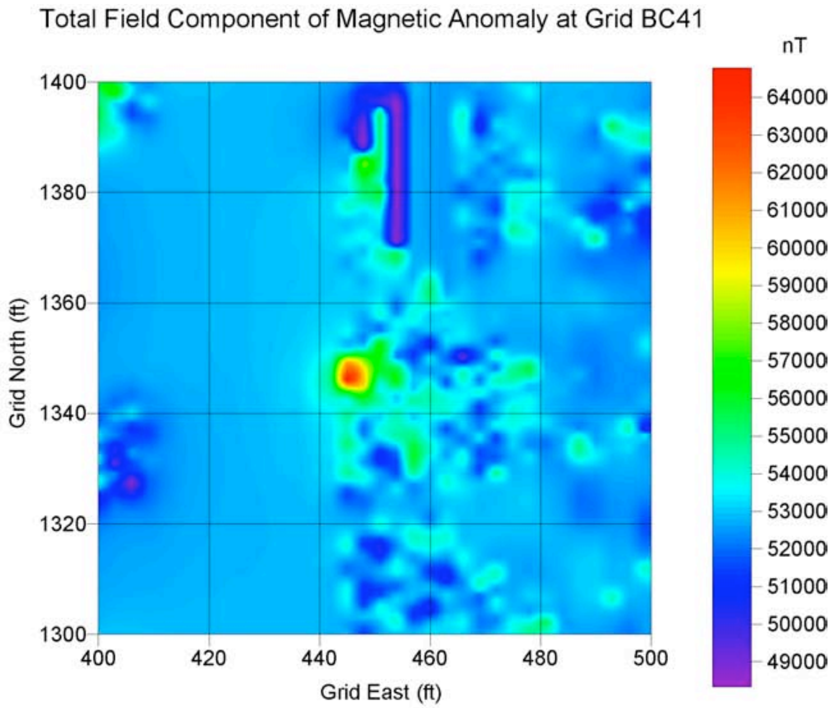


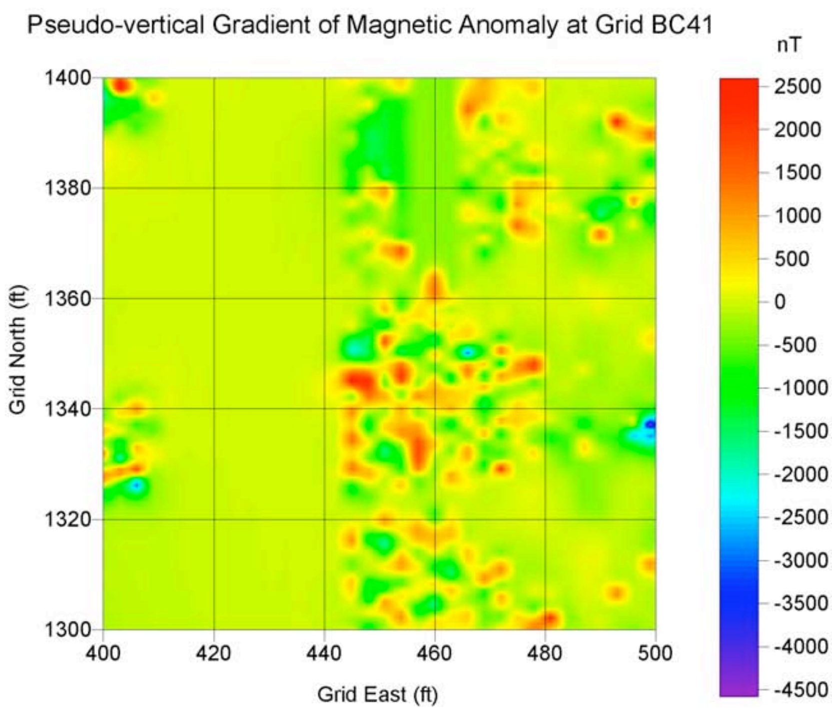

Total Field Component of Magnetic Anomaly at Grid BC39
nT
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
Grid North (ft)
1440
1420
1400
300
320
340
360
380
400
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC39
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
1440
1420
1400
300
320
340
360
380
400
Grid East (ft)

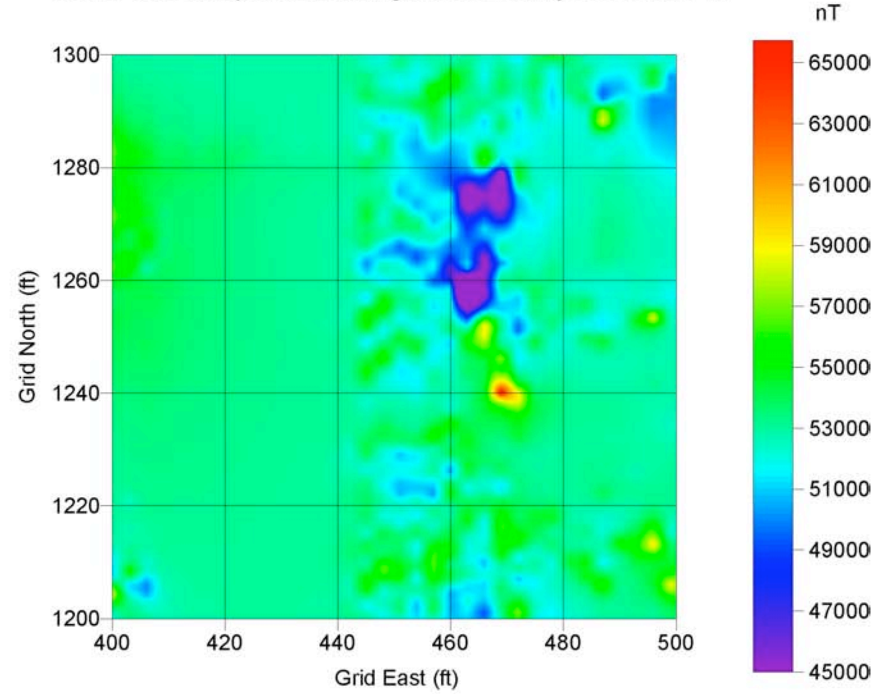

Total Field Component of Magnetic Anomaly at Grid BC40
nT
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
Grid North (ft)
1440
1420
1400
400
420
440
460
480
500
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC40
nT
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
1440
1420
1400
400
420
440
460
480
500
Grid East (ft)

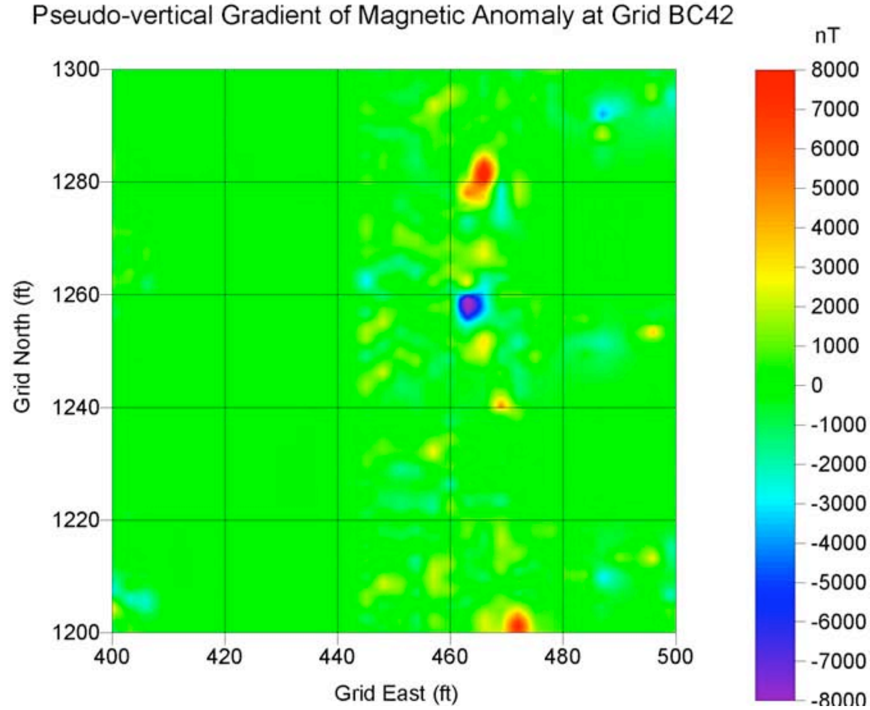

Total Field Component of Magnetic Anomaly at Grid BC41
nT
64000
63000
62000
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
1400
1380
1360
1340
1320
1300
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC41
nT
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
-4500
1400
1380
1360
1340
1320
1300
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)

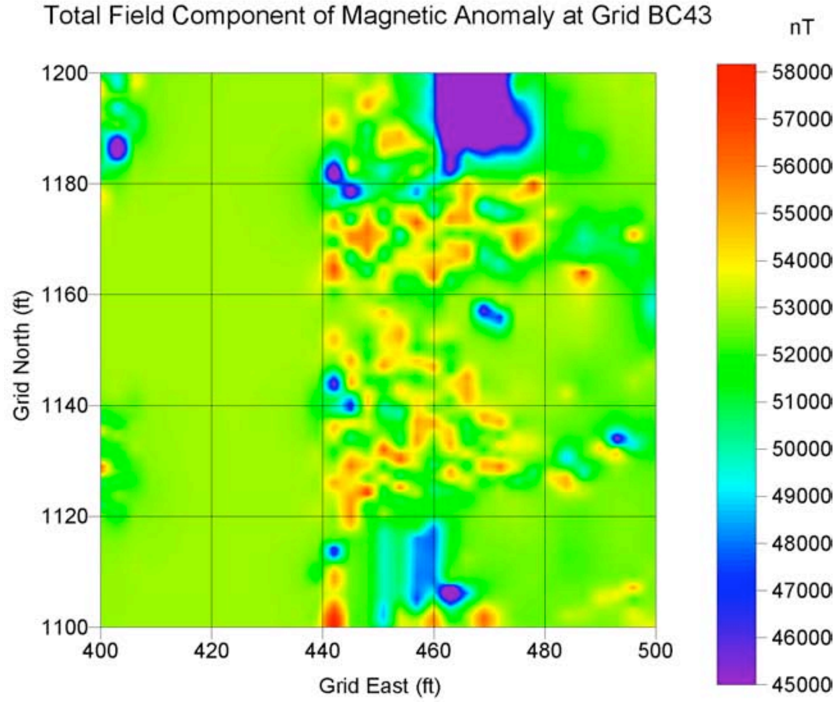
Total Field Component of Magnetic Anomaly at Grid BC42



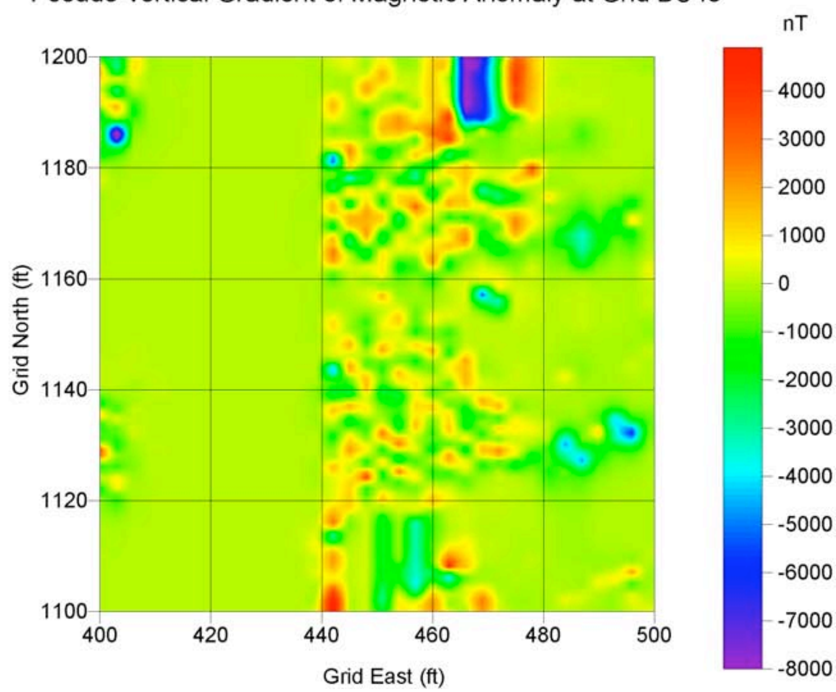
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC42



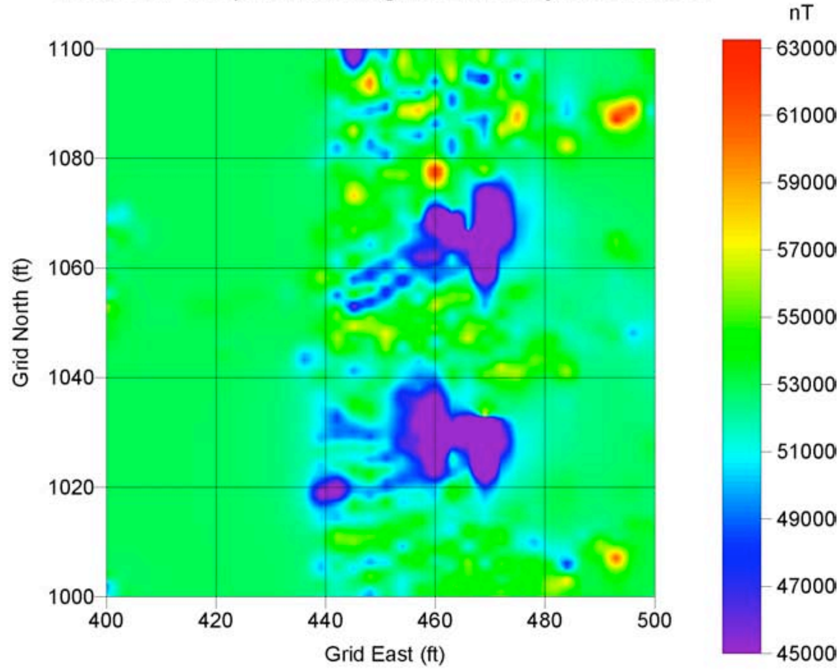
Total Field Component of Magnetic Anomaly at Grid BC43



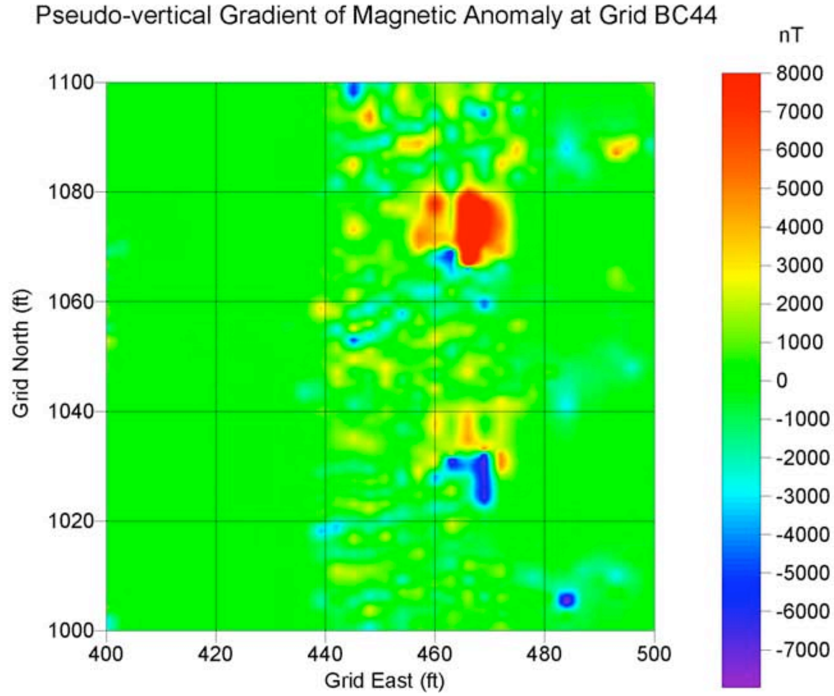
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC43



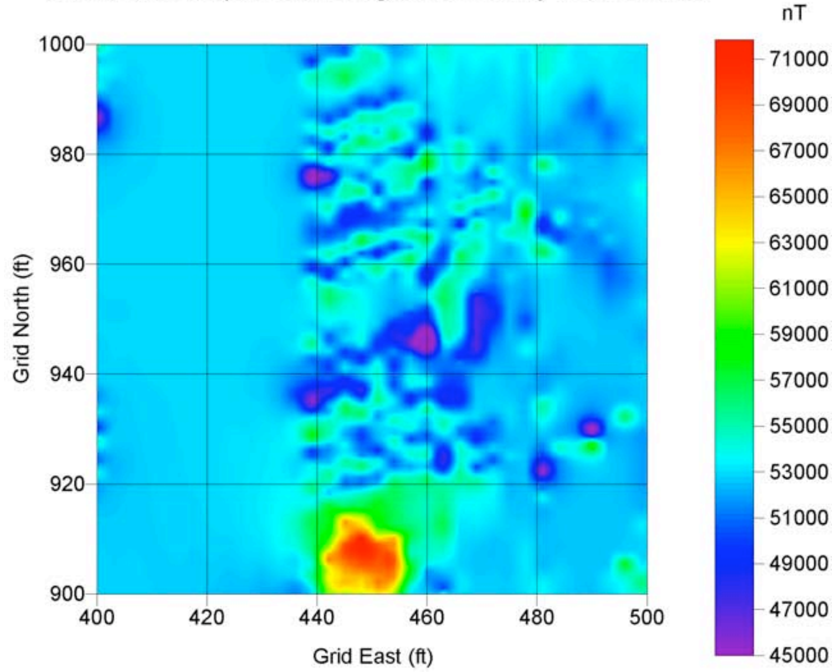
Total Field Component of Magnetic Anomaly at Grid BC44



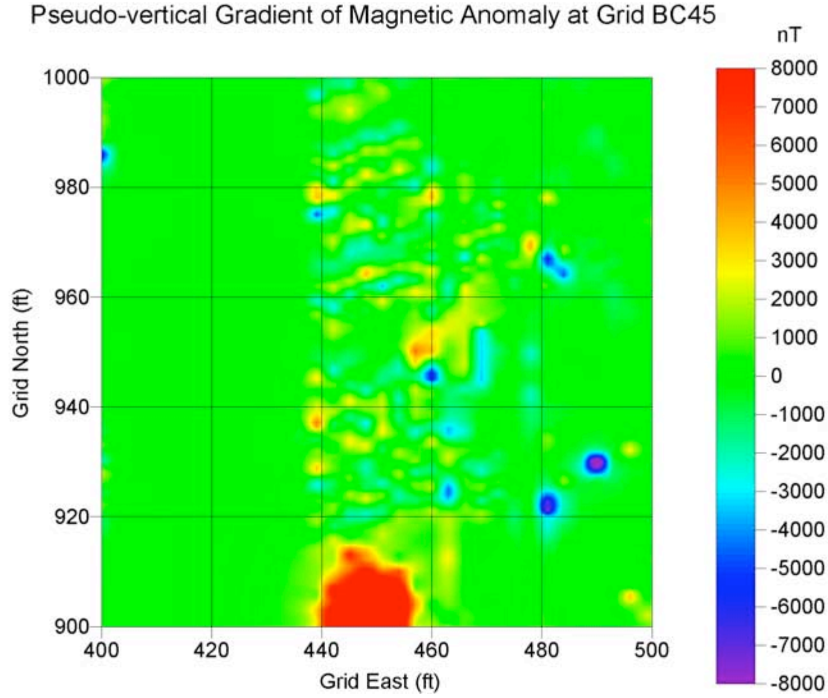
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC44

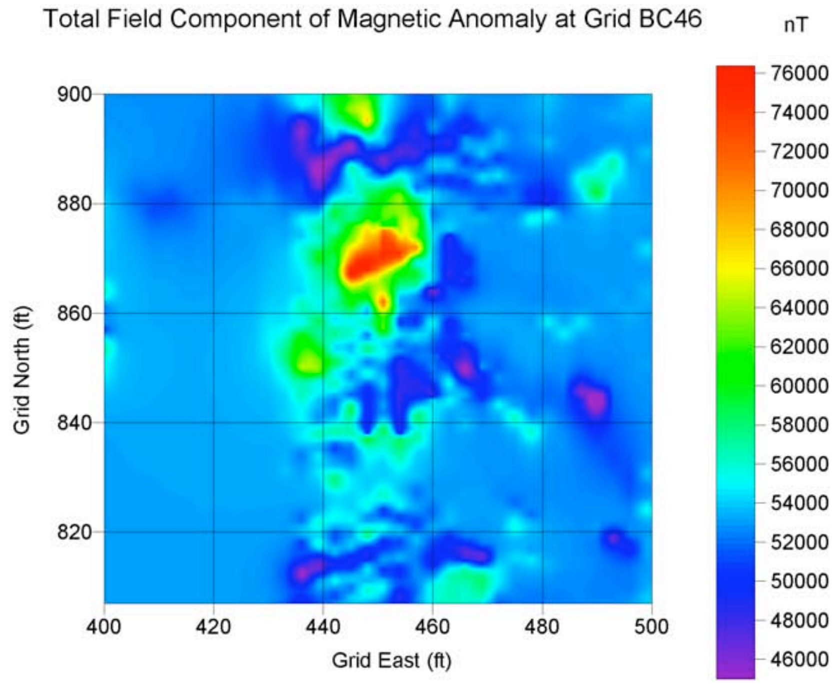


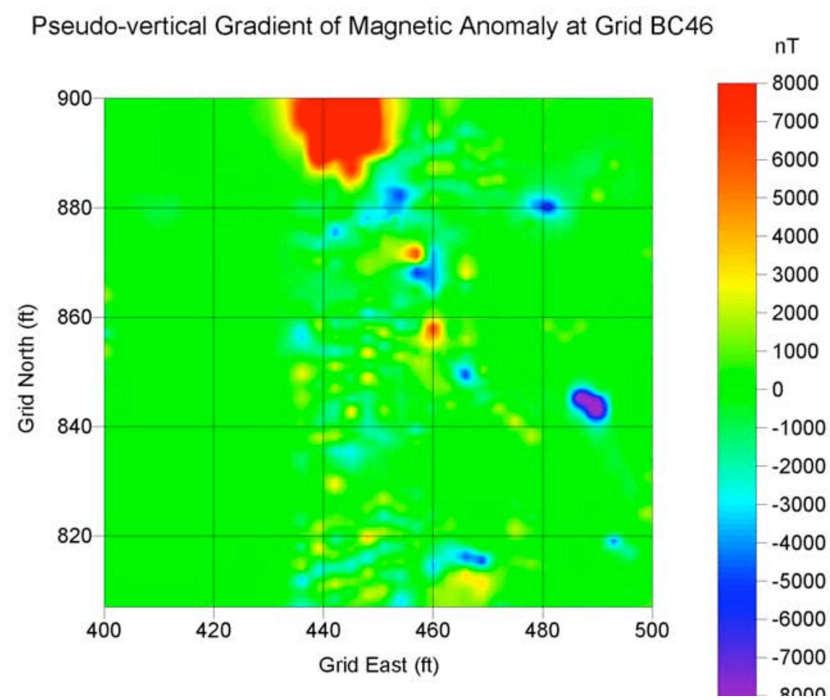
Total Field Component of Magnetic Anomaly at Grid BC45



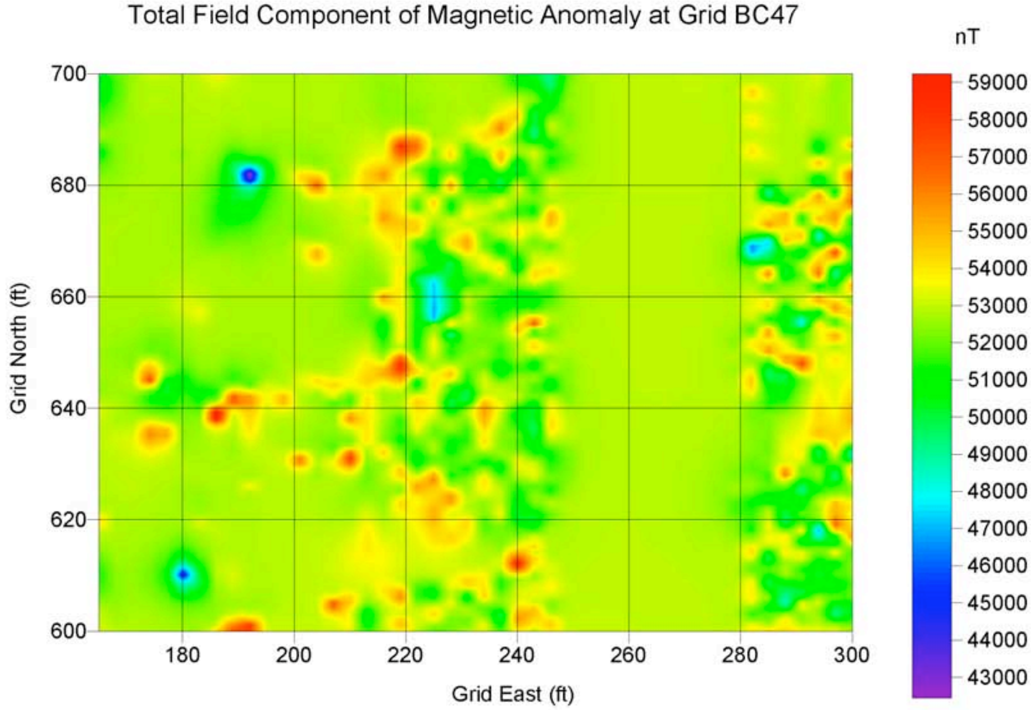
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC45



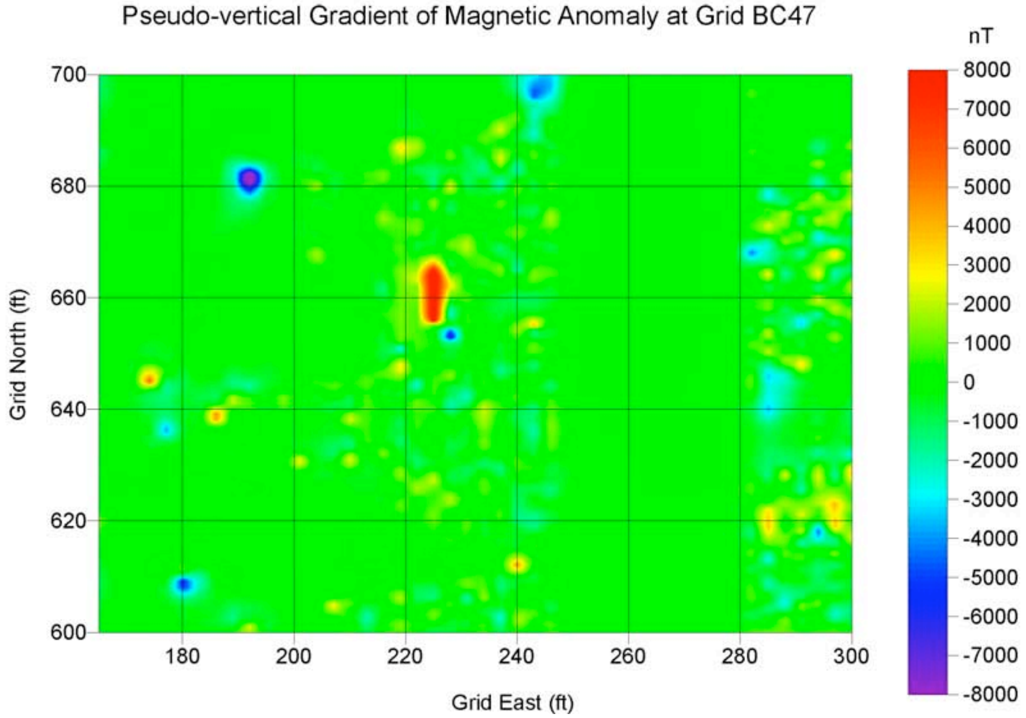

Total Field Component of Magnetic Anomaly at Grid BC46
nT
76000
74000
72000
70000
68000
66000
64000
62000
60000
58000
56000
54000
52000
50000
48000
46000
900
880
860
840
820
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)

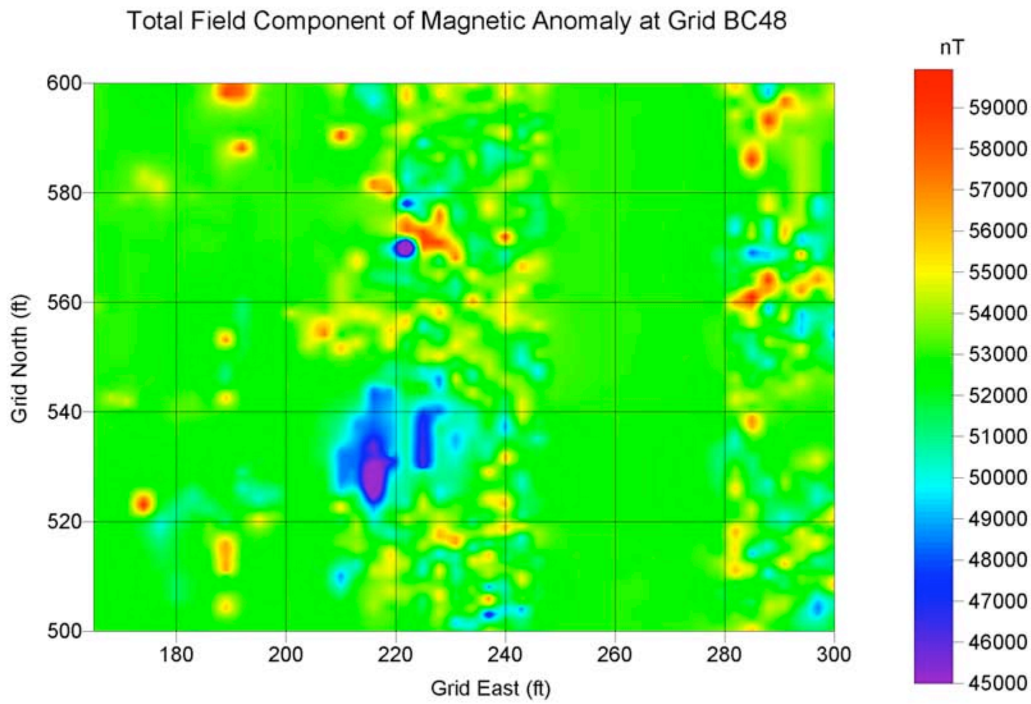

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC46
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
900
880
860
840
820
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)

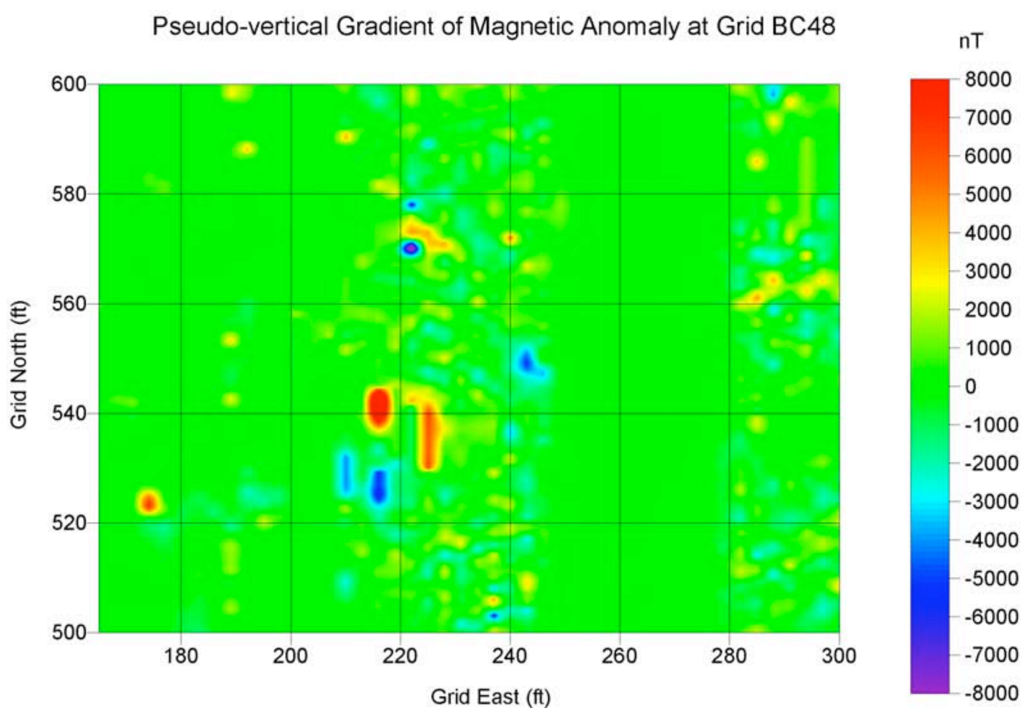
Total Field Component of Magnetic Anomaly at Grid BC47

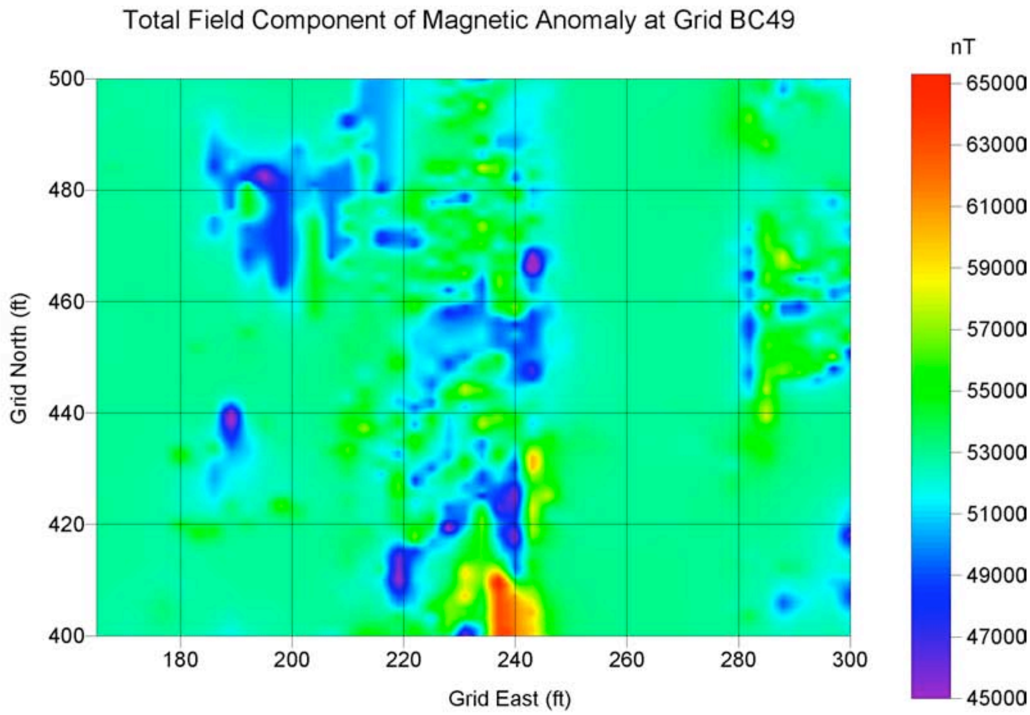


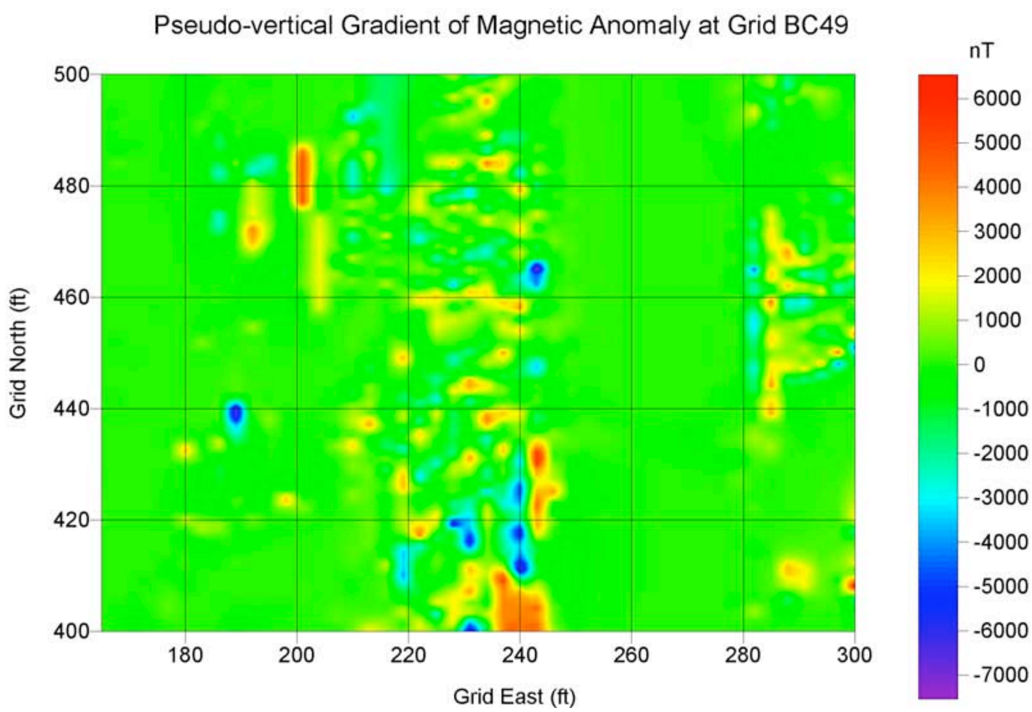
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC47

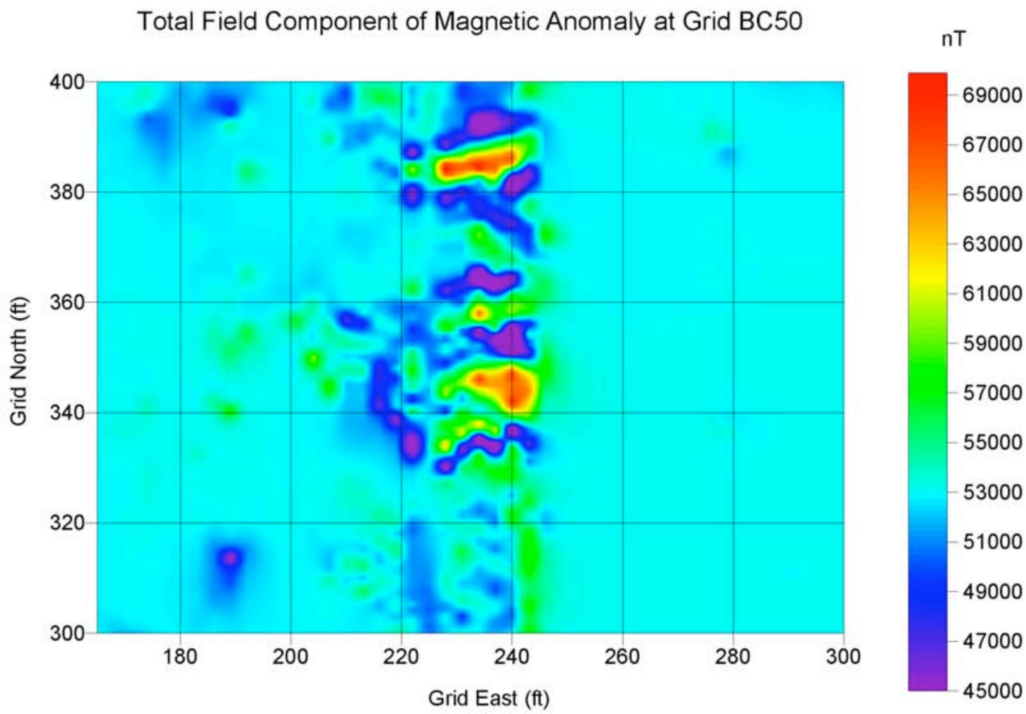


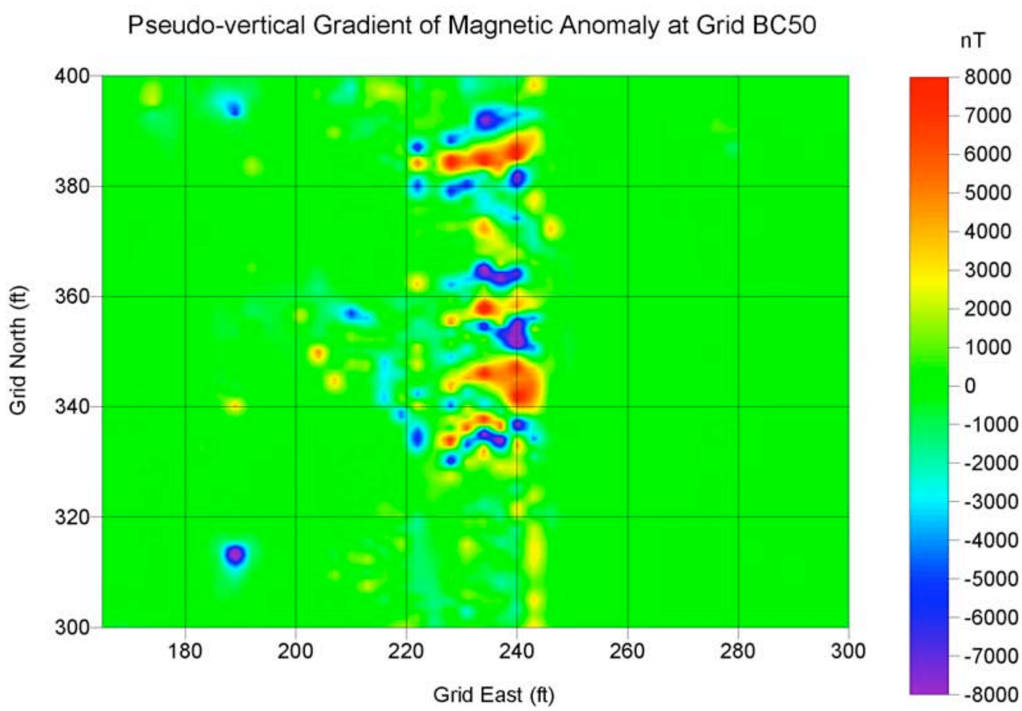

Total Field Component of Magnetic Anomaly at Grid BC48
nT
Grid North (ft)
Grid East (ft)
600
580
560
540
520
500
180
200
220
240
260
280
300
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000

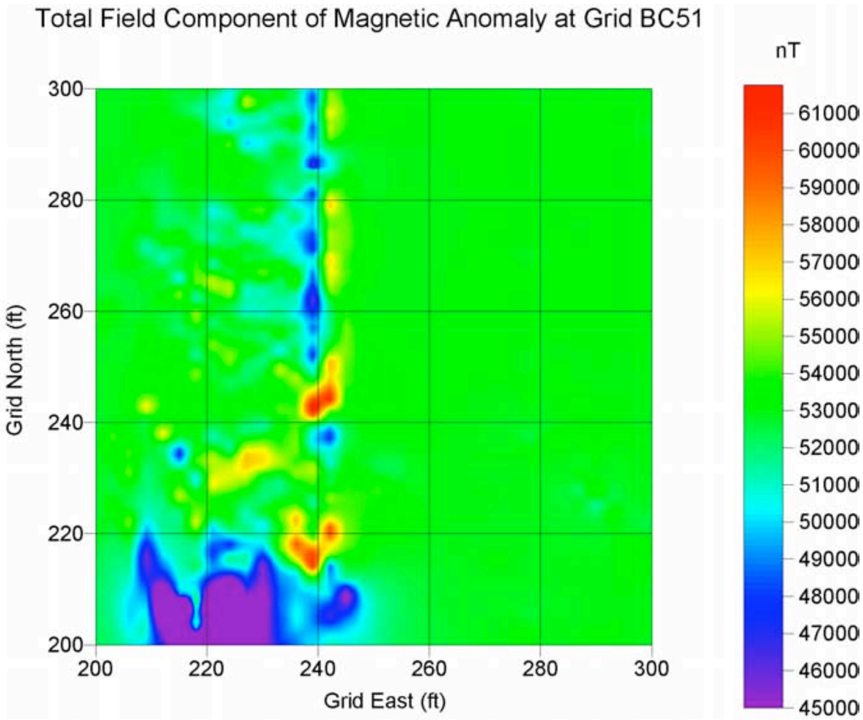

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC48
nT
Grid North (ft)
Grid East (ft)
600
580
560
540
520
500
180
200
220
240
260
280
300
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

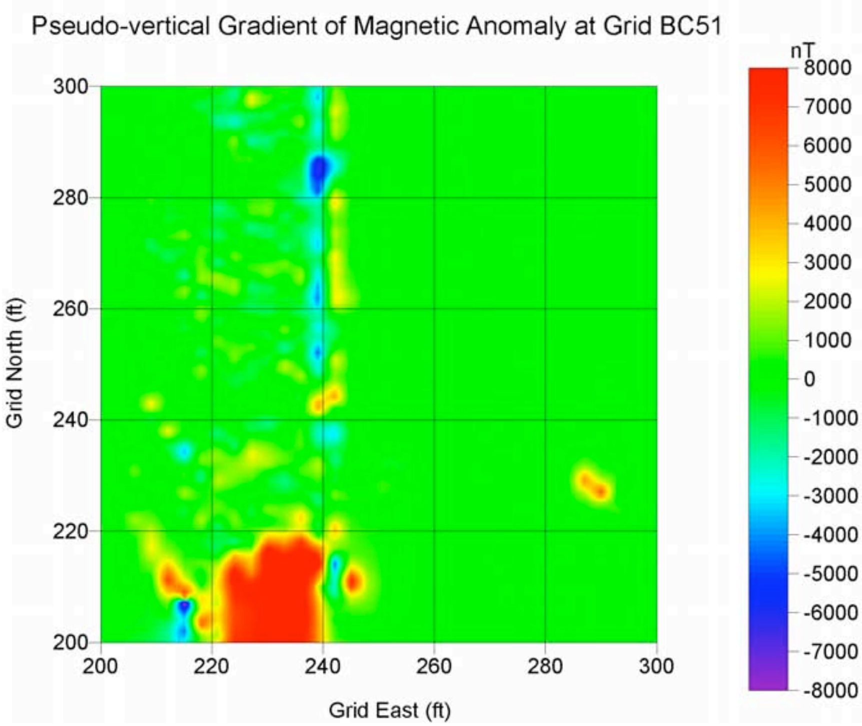

Total Field Component of Magnetic Anomaly at Grid BC49
nT
65000
63000
61000
59000
57000
55000
53000
51000
49000
47000
45000
500
480
460
440
420
400
Grid North (ft)
180
200
220
240
260
280
300
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC49
nT
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
500
480
460
440
420
400
Grid North (ft)
180
200
220
240
260
280
300
Grid East (ft)

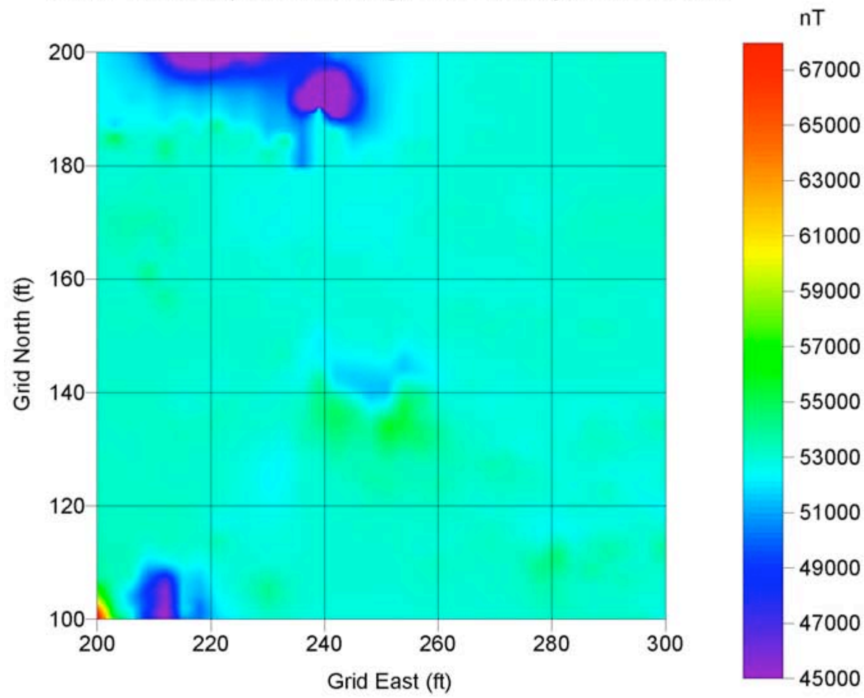

Total Field Component of Magnetic Anomaly at Grid BC50
nT
69000
67000
65000
63000
61000
59000
57000
55000
53000
51000
49000
47000
45000
Grid North (ft)
400
380
360
340
320
300
180
200
220
240
260
280
300
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC50
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
400
380
360
340
320
300
180
200
220
240
260
280
300
Grid East (ft)

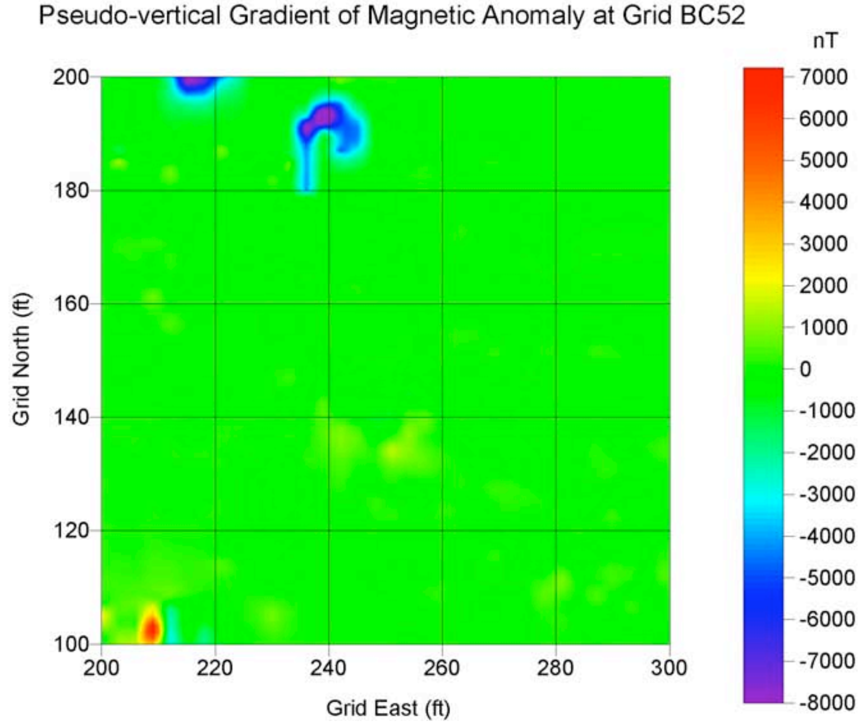

Total Field Component of Magnetic Anomaly at Grid BC51
nT
Grid North (ft)
Grid East (ft)
200
220
240
260
280
300
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000

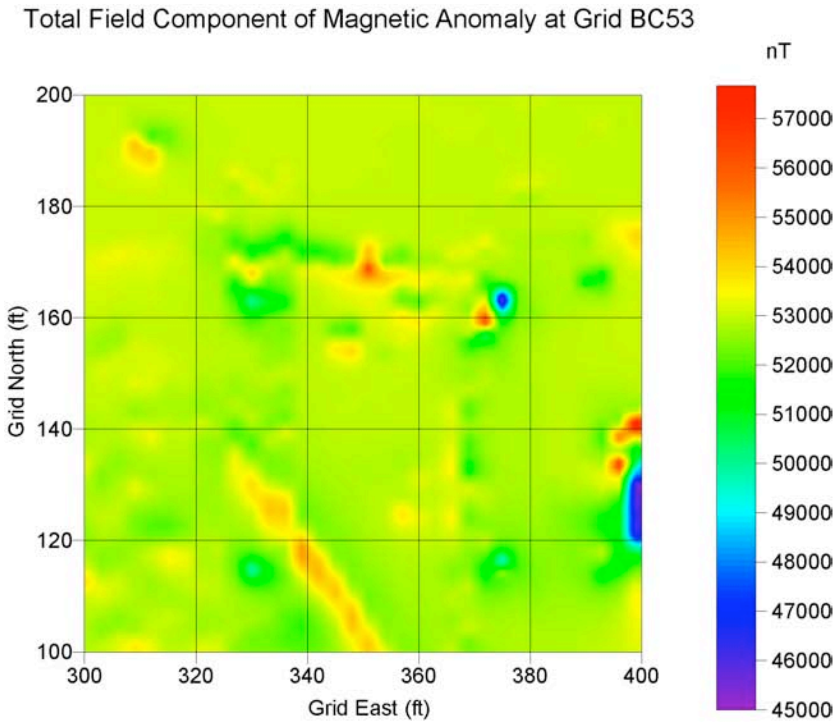

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC51
nT
Grid North (ft)
Grid East (ft)
200
220
240
260
280
300
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

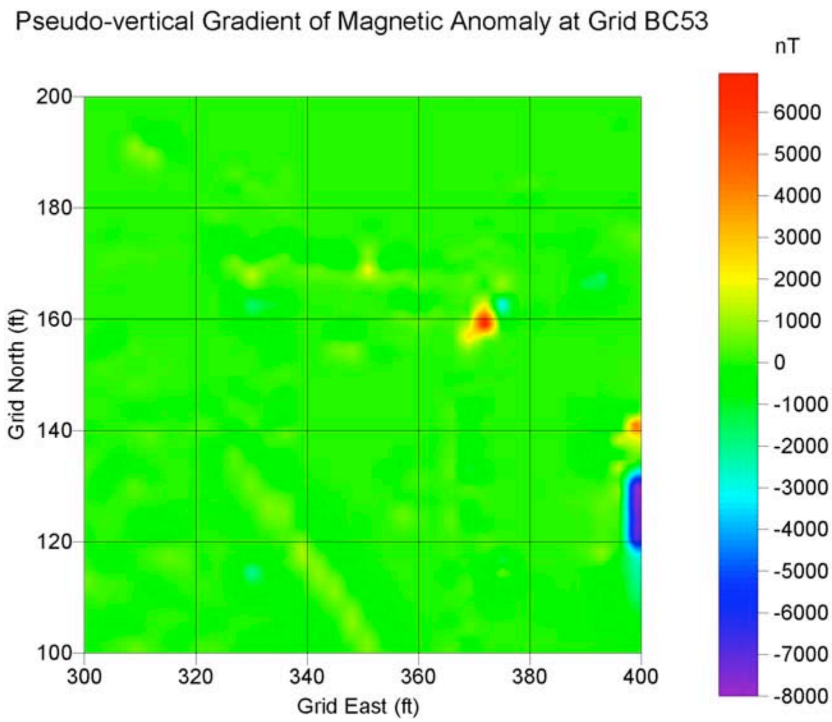
Total Field Component of Magnetic Anomaly at Grid BC52

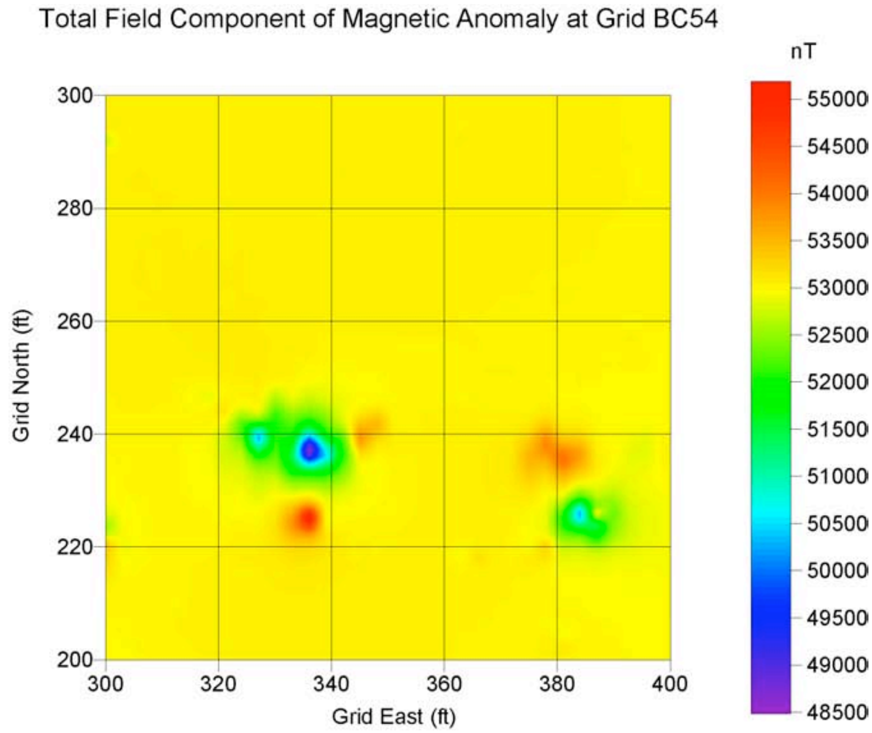


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC52

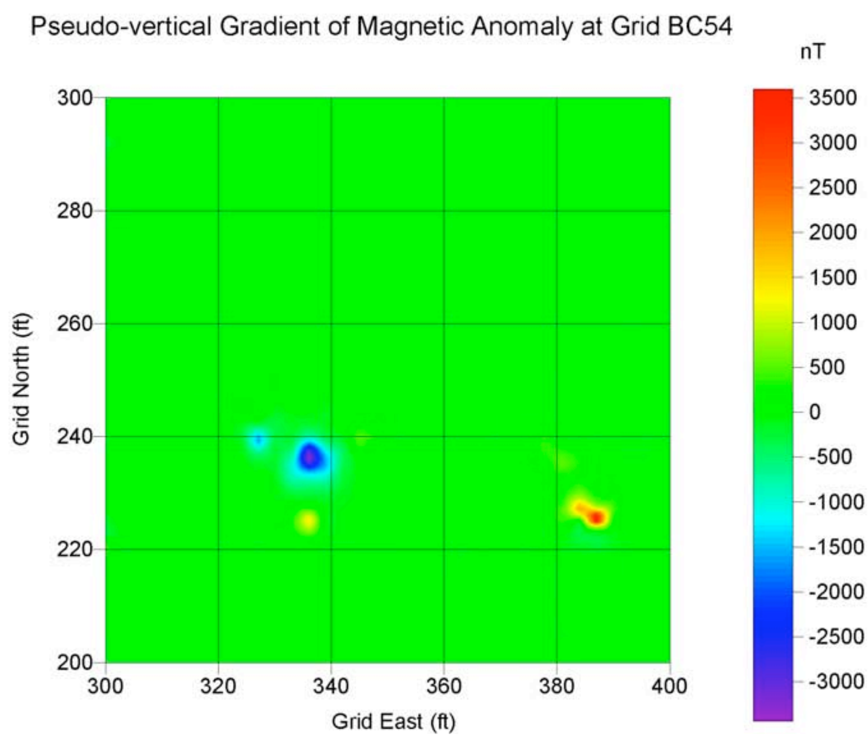



Total Field Component of Magnetic Anomaly at Grid BC53
nT
Grid North (ft)
Grid East (ft)
200
180
160
140
120
100
300
320
340
360
380
400
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000

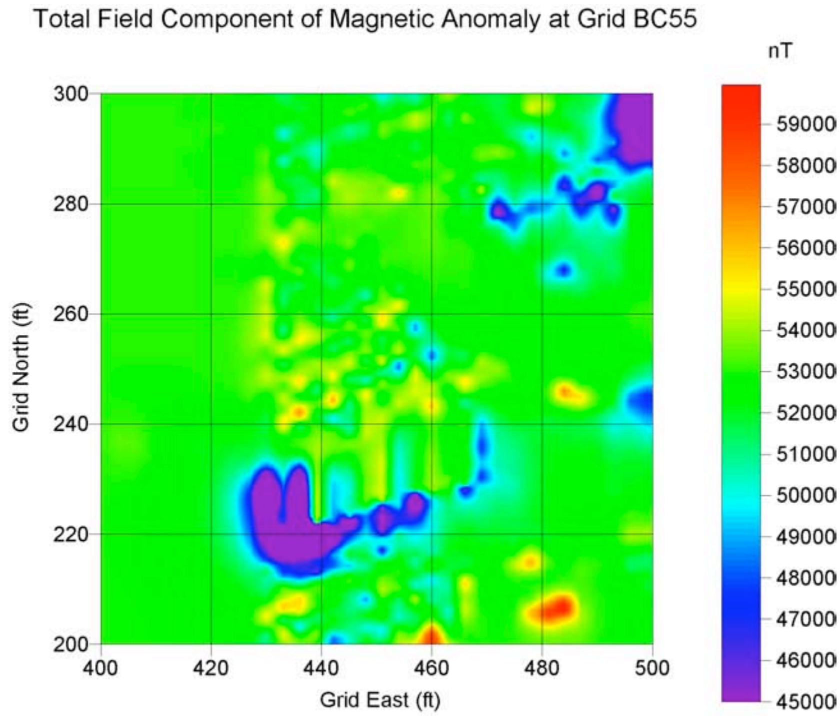

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC53
nT
Grid North (ft)
Grid East (ft)
200
180
160
140
120
100
300
320
340
360
380
400
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

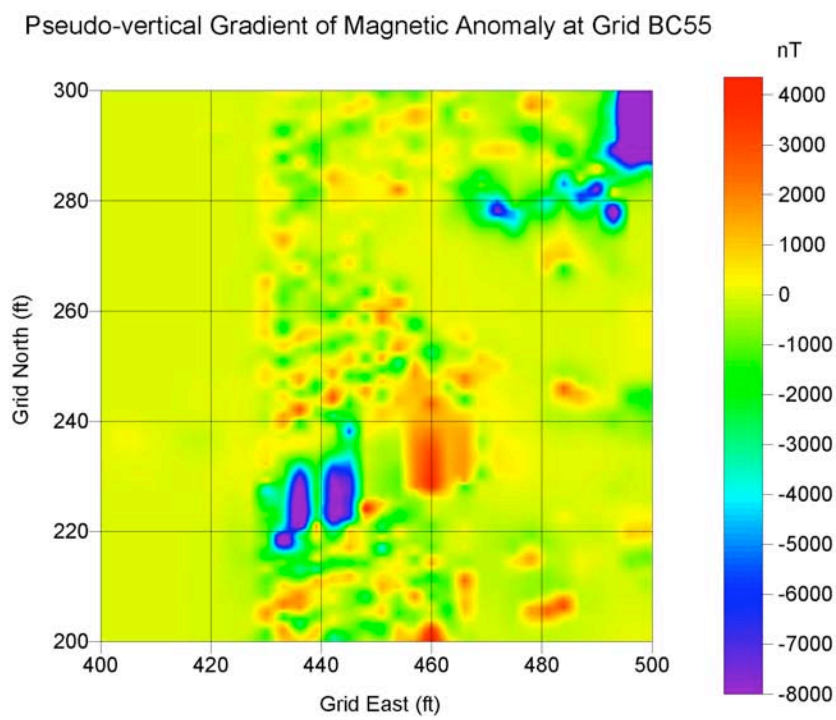


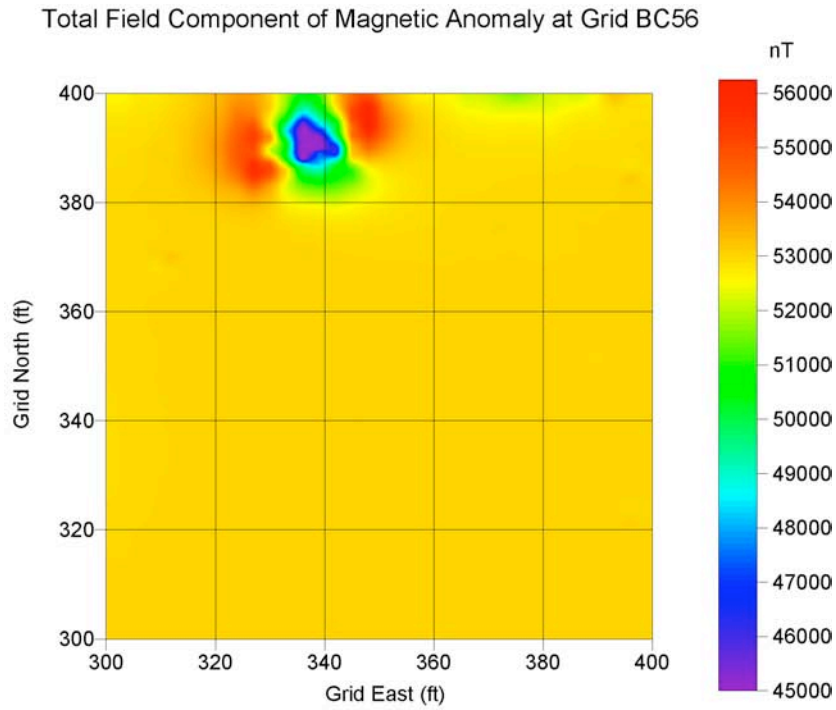
Total Field Component of Magnetic Anomaly at Grid BC54
nT
55000
54500
54000
53500
53000
52500
52000
51500
51000
50500
50000
49500
49000
48500
Grid North (ft)
300
280
260
240
220
200
300
320
340
360
380
400
Grid East (ft)

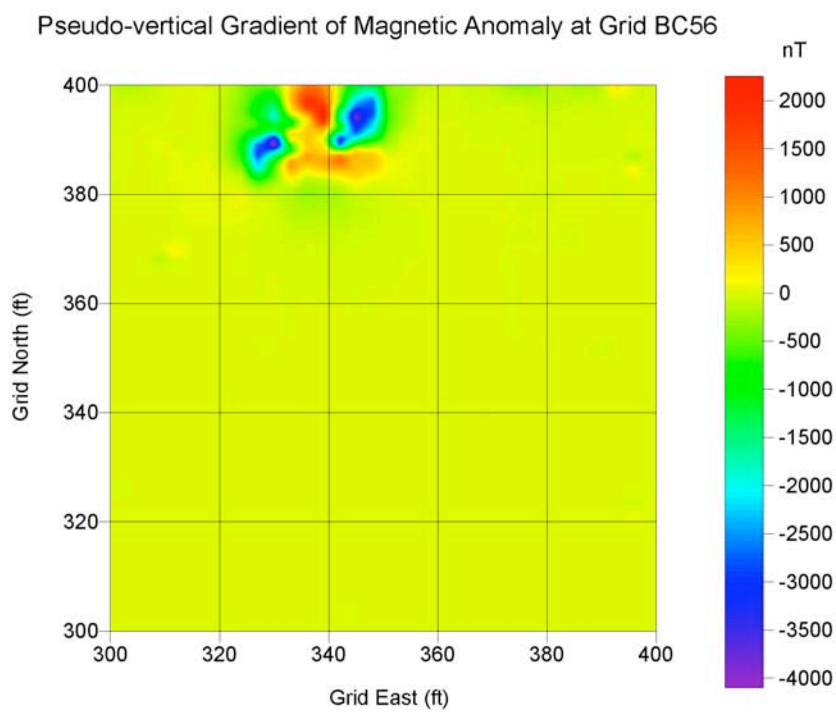


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC54
nT
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
Grid North (ft)
300
280
260
240
220
200
300
320
340
360
380
400
Grid East (ft)

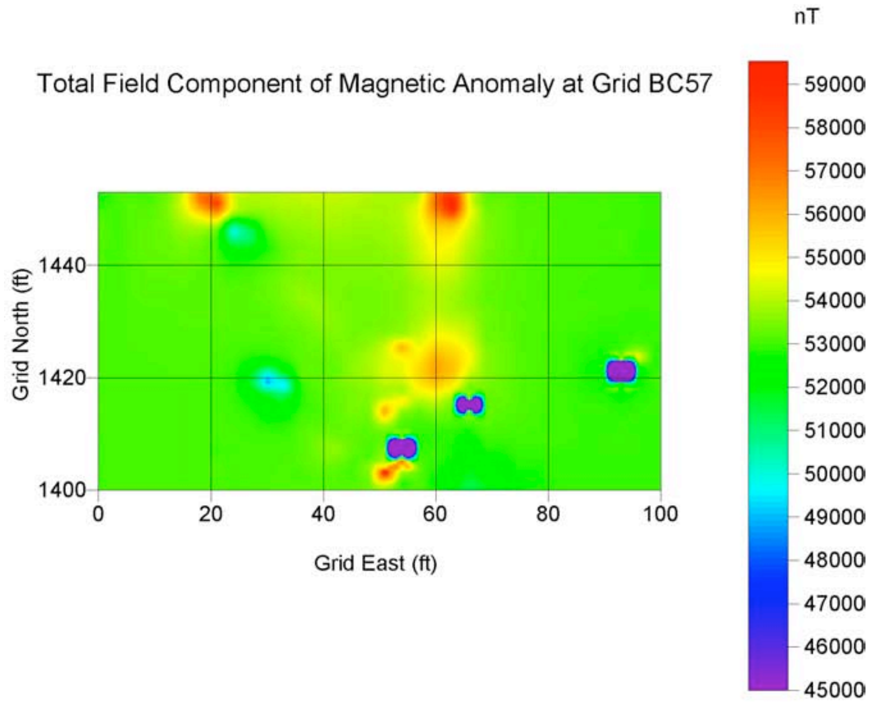

Total Field Component of Magnetic Anomaly at Grid BC55
nT
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
300
280
260
240
220
200
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC55
nT
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
300
280
260
240
220
200
Grid North (ft)
400
420
440
460
480
500
Grid East (ft)

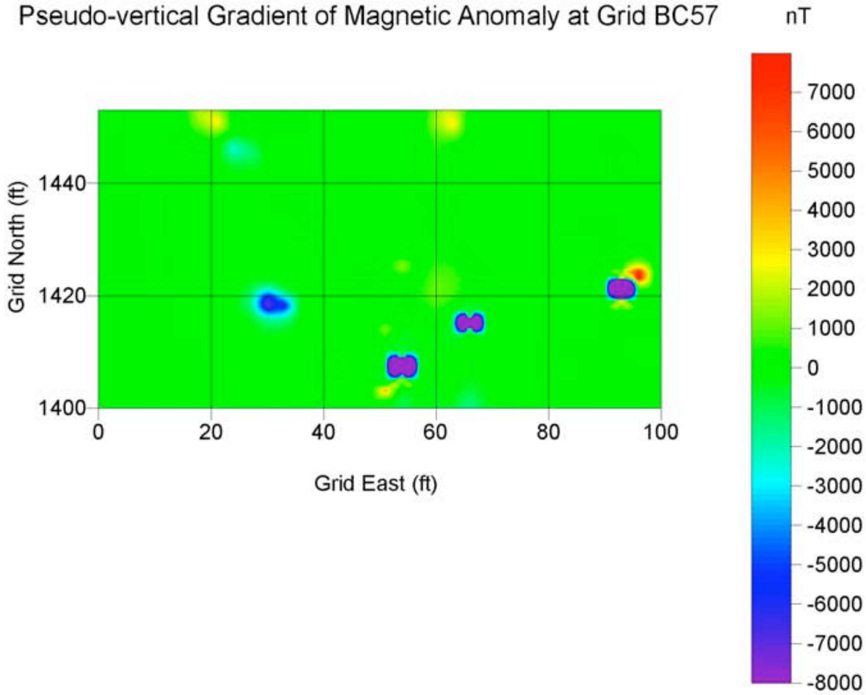

Total Field Component of Magnetic Anomaly at Grid BC56
nT
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
400
380
360
340
320
300
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

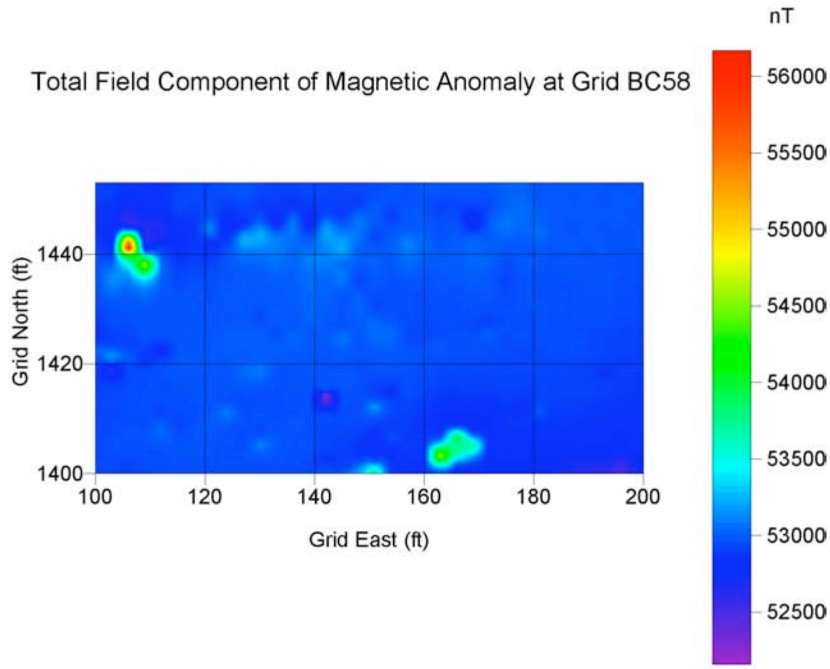

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC56
nT
2000
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
400
380
360
340
320
300
Grid North (ft)
300
320
340
360
380
400
Grid East (ft)

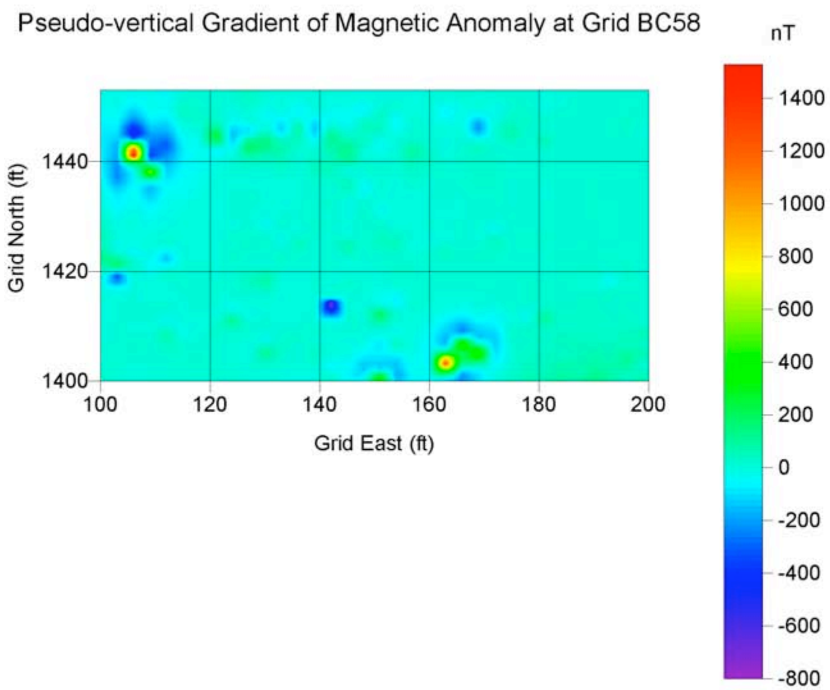
Total Field Component of Magnetic Anomaly at Grid BC57

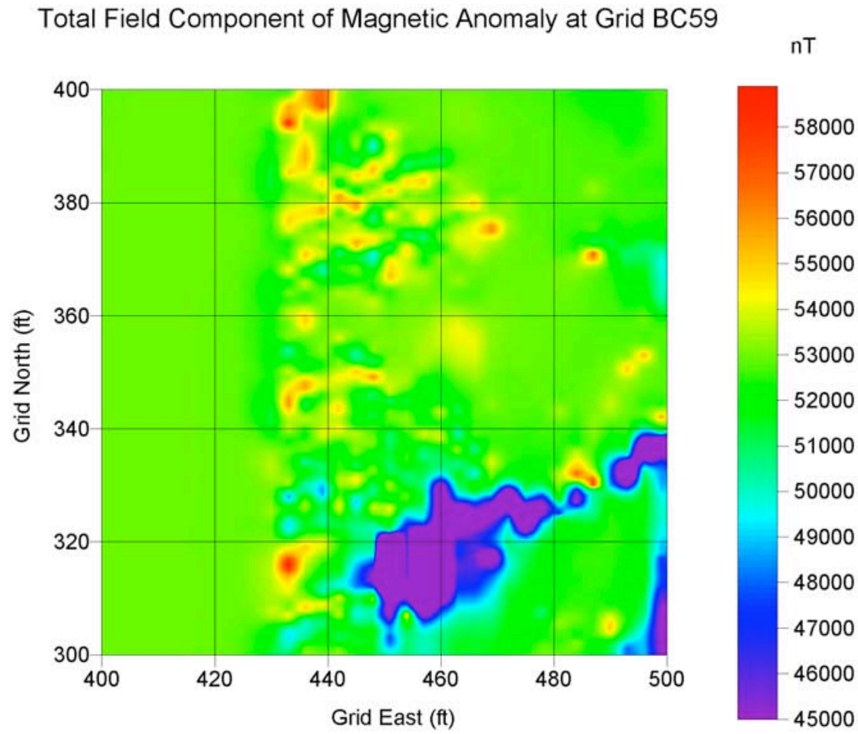


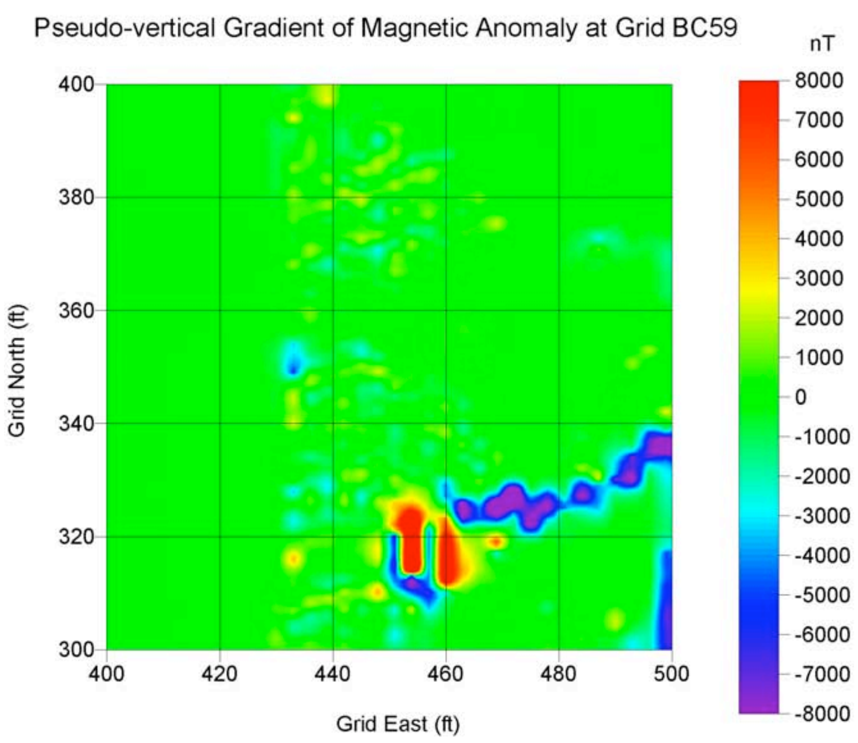
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC57

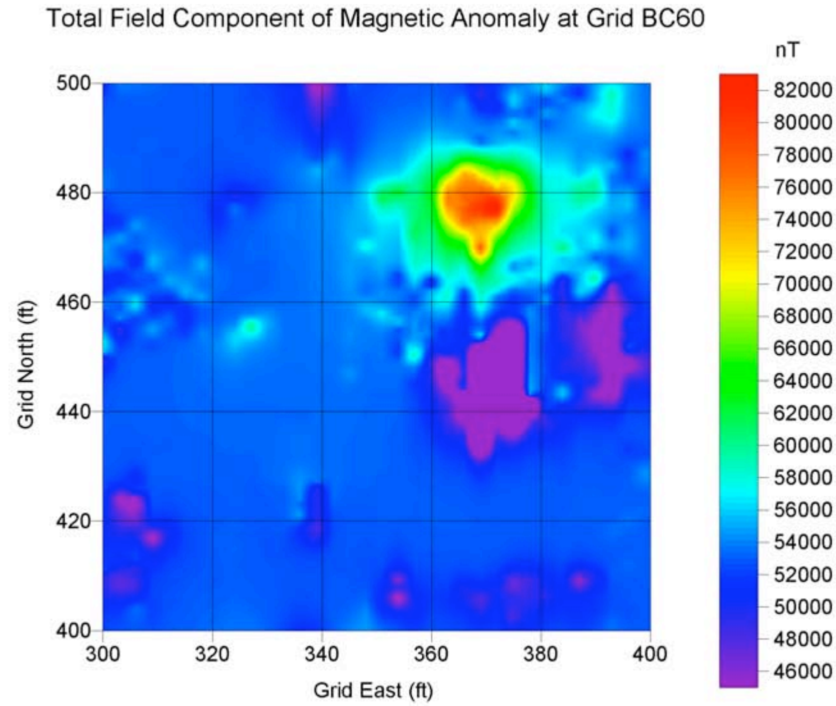


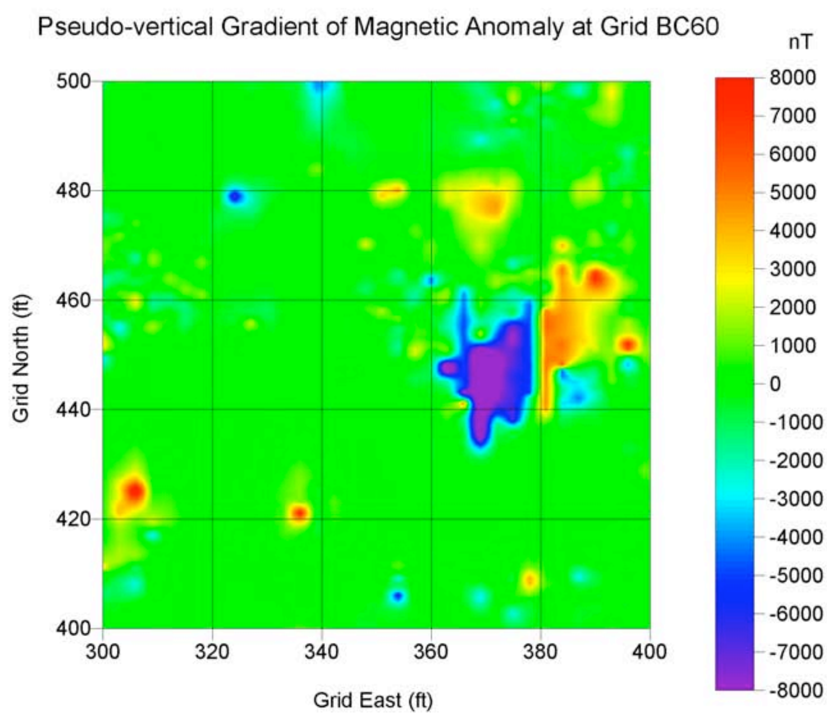

Total Field Component of Magnetic Anomaly at Grid BC58
nT
56000
55500
55000
54500
54000
53500
53000
52500
Grid North (ft)
1440
1420
1400
100
120
140
160
180
200
Grid East (ft)

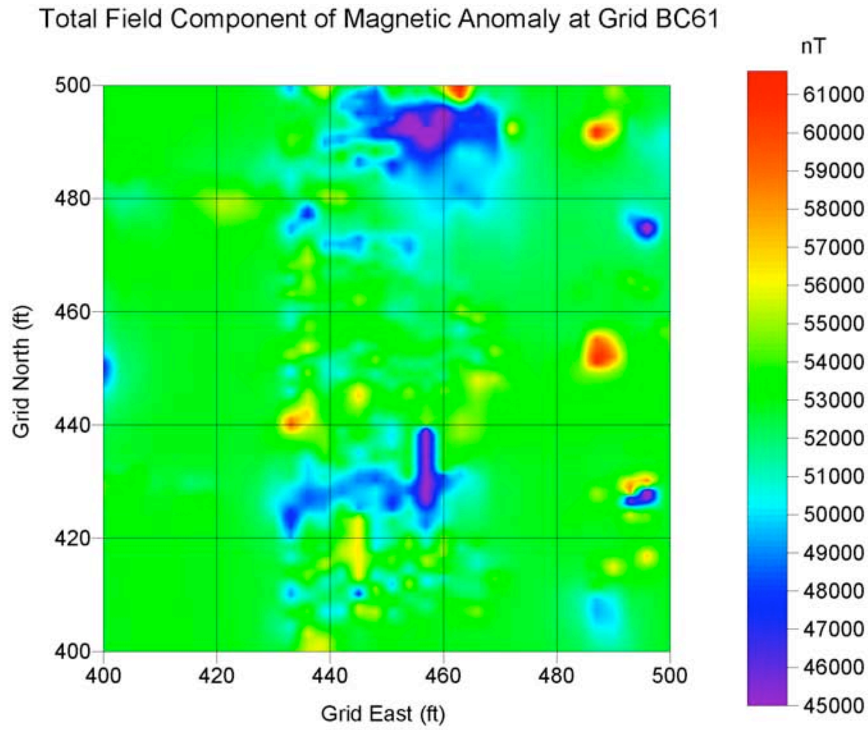

Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC58
nT
1400
1200
1000
800
600
400
200
0
-200
-400
-600
-800
Grid North (ft)
1440
1420
1400
100
120
140
160
180
200
Grid East (ft)

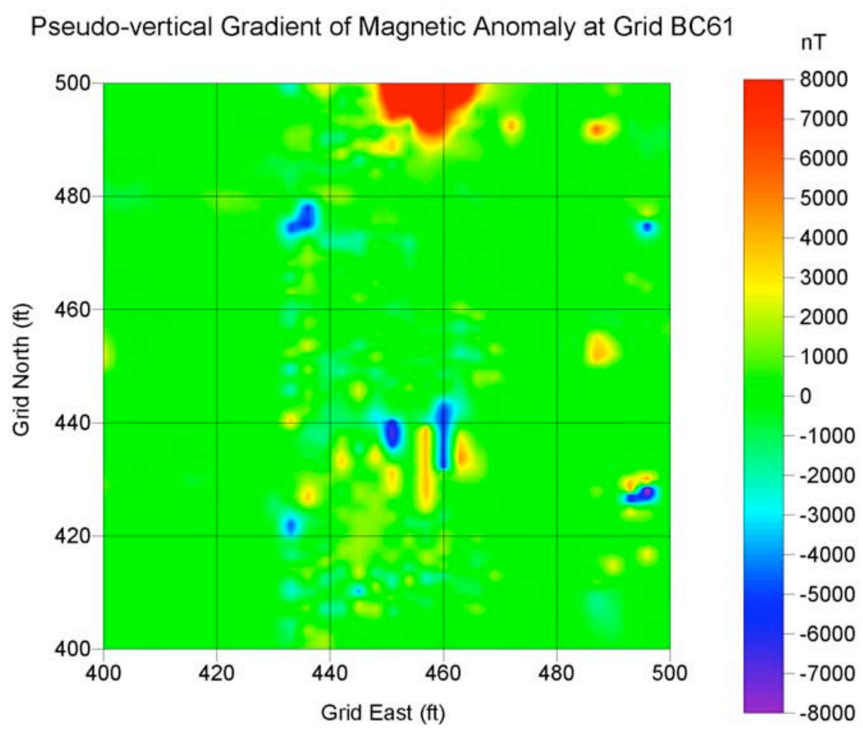

Total Field Component of Magnetic Anomaly at Grid BC59
nT
Grid North (ft)
Grid East (ft)
400
380
360
340
320
300
400
420
440
460
480
500
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC59
nT
Grid North (ft)
Grid East (ft)
400
380
360
340
320
300
400
420
440
460
480
500
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000

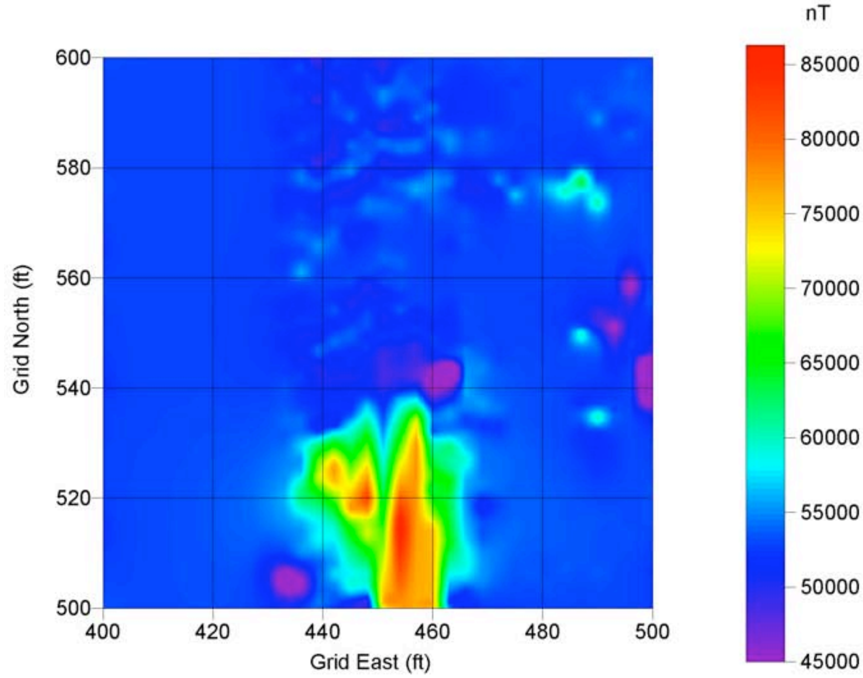

Total Field Component of Magnetic Anomaly at Grid BC60
nT
82000
80000
78000
76000
74000
72000
70000
68000
66000
64000
62000
60000
58000
56000
54000
52000
50000
48000
46000
Grid North (ft)
500
480
460
440
420
400
300
320
340
360
380
400
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC60
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
500
480
460
440
420
400
300
320
340
360
380
400
Grid East (ft)

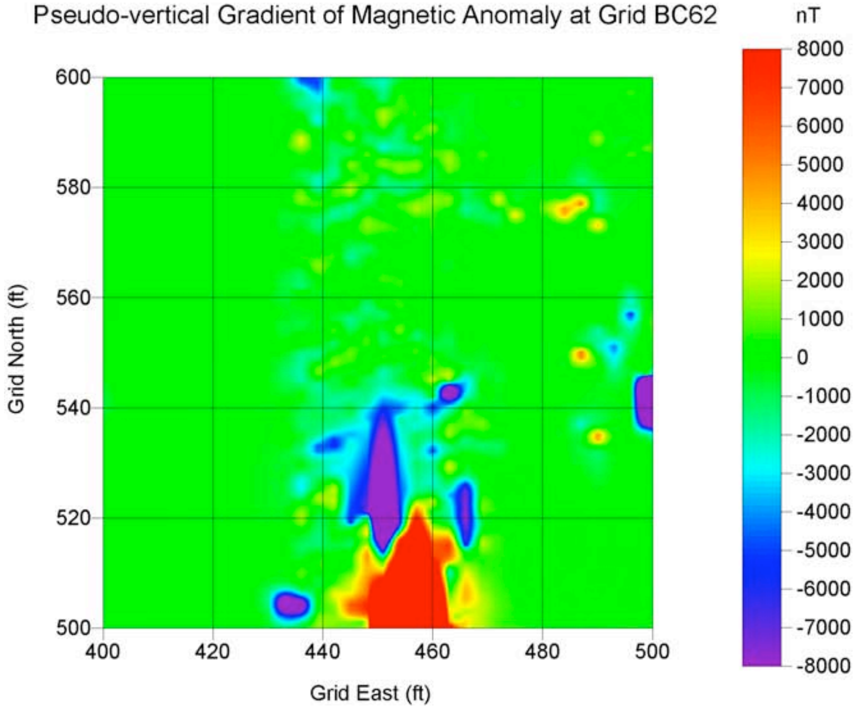

Total Field Component of Magnetic Anomaly at Grid BC61
nT
61000
60000
59000
58000
57000
56000
55000
54000
53000
52000
51000
50000
49000
48000
47000
46000
45000
Grid North (ft)
500
480
460
440
420
400
400
420
440
460
480
500
Grid East (ft)


Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC61
nT
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
Grid North (ft)
500
480
460
440
420
400
400
420
440
460
480
500
Grid East (ft)

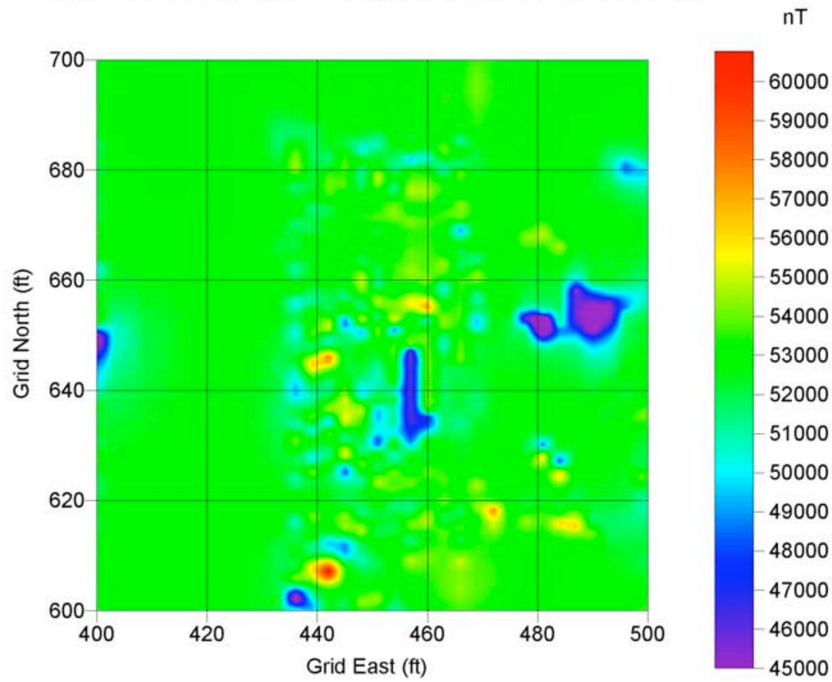
Total Field Component of Magnetic Anomaly at Grid BC62



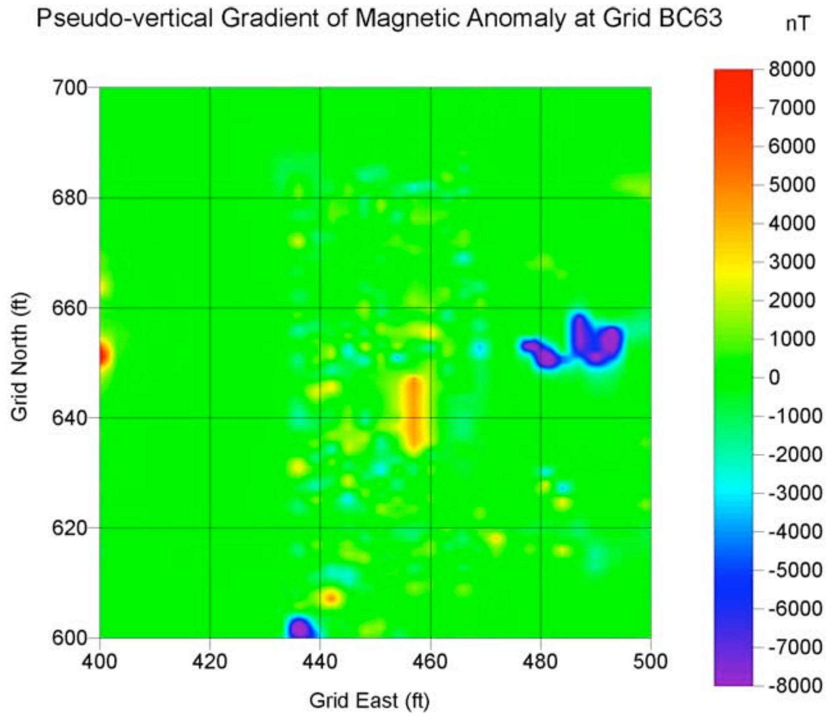
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC62



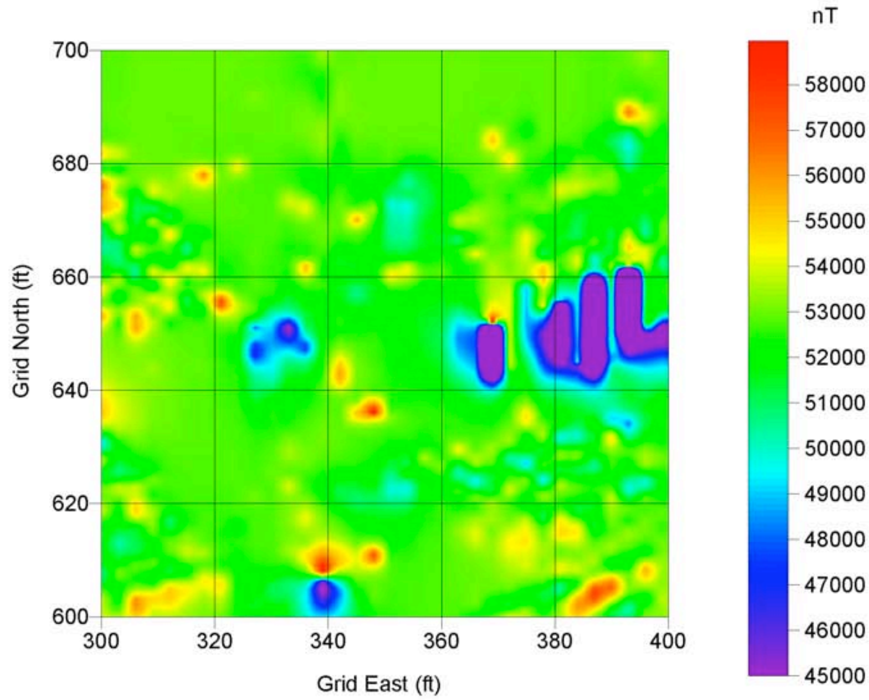
Total Field Component of Magnetic Anomaly at Grid BC63



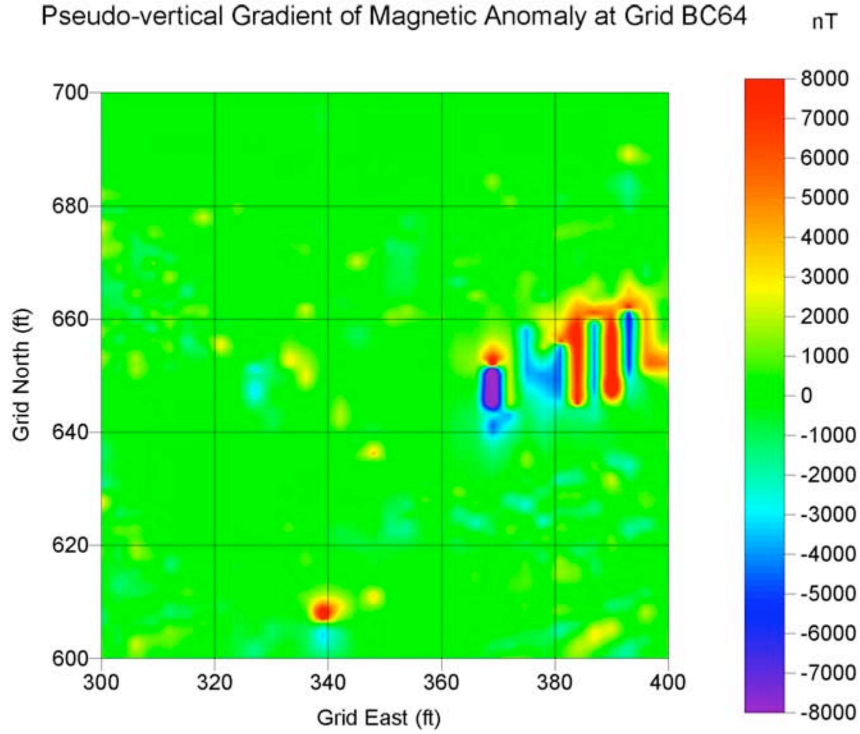
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC63



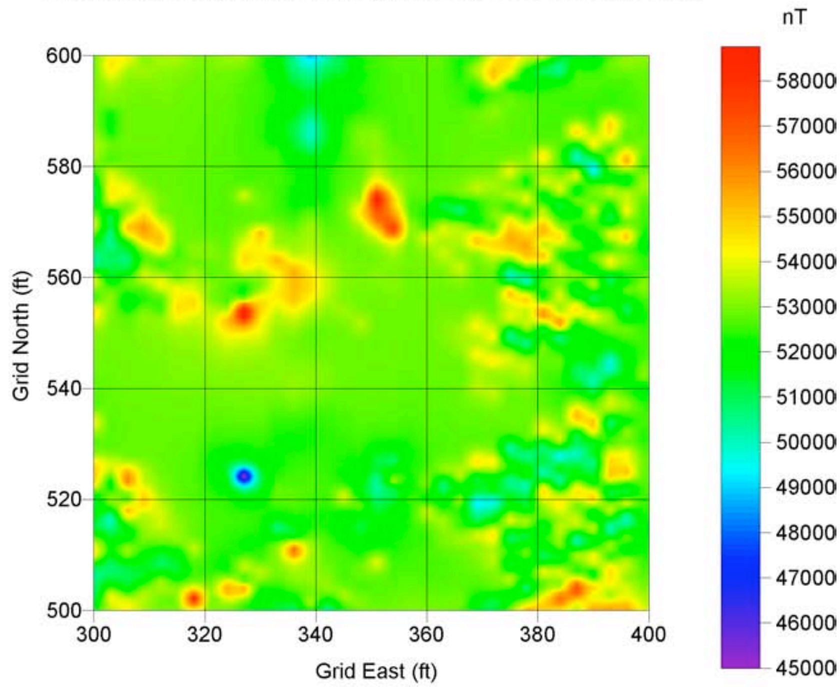
Total Field Component of Magnetic Anomaly at Grid BC64



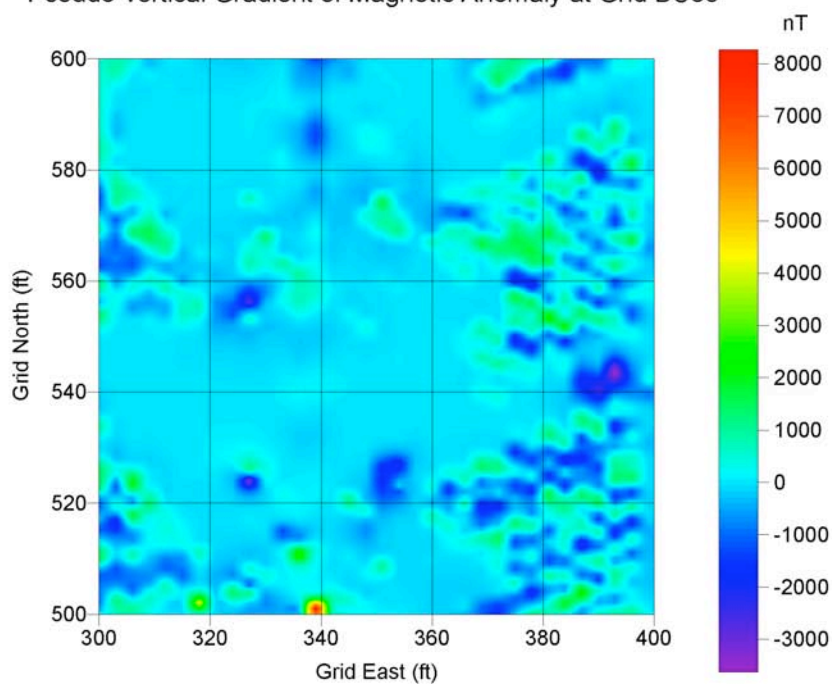
Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC64



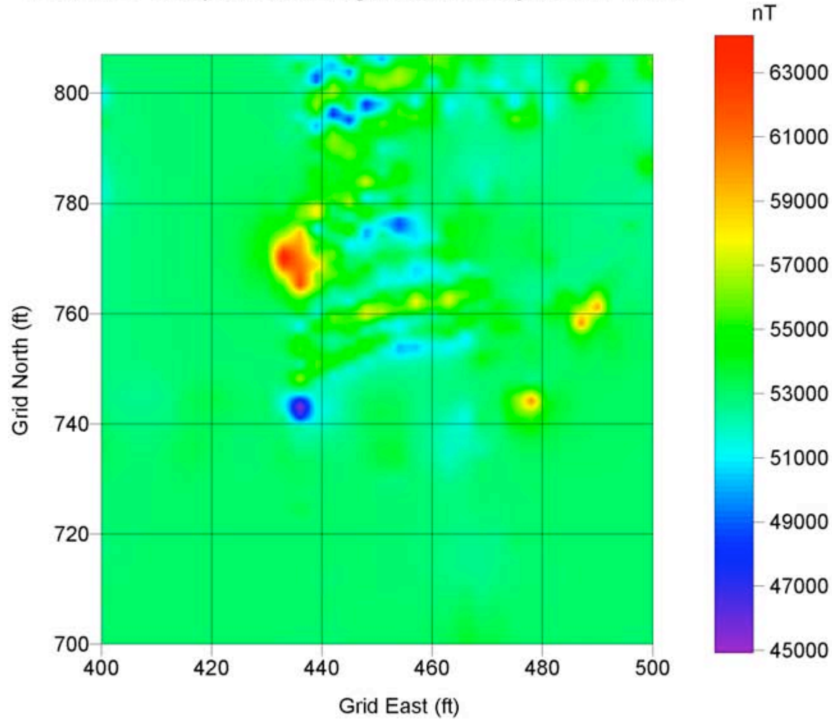
Total Field Component of Magnetic Anomaly at Grid BC65



Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC65



Total Field Component of Magnetic Anomaly at Grid BC66



Pseudo-vertical Gradient of Magnetic Anomaly at Grid BC66