

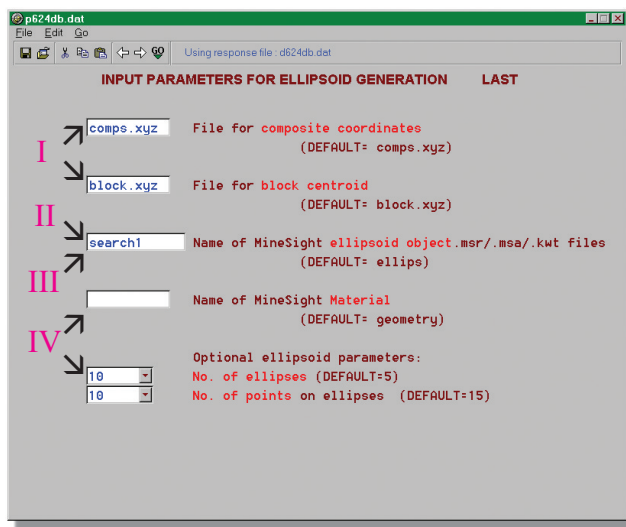
TIPS from Tech Support

Checking Interpolation Search Parameters

Did you ever wonder how the ellipsoidal search is used in the interpolation programs? Do you still doubt whether the angles you are using in kriging are the ones you really wanted to use? Do the assigned grades to some blocks still trouble you? Some grades don't seem right, for example, but you don't know why?

We now have a procedure (p624db.dat) and program (ellipse2ms) that will output an ellipsoid object that can be viewed in MineSight® 2 (one ellipse for each block). You can also obtain the locations of the composites used, the block location, the distances from the composites to the block, the grades of the composites used, as well as the kriging weights.

Use procedure p624db.dat to set up the panels as you would normally do in a regular kriging procedure. In addition, you need to define the block to be interpolated (either as a row, column, bench combination or as actual coordinates) as well as the following output files and options:

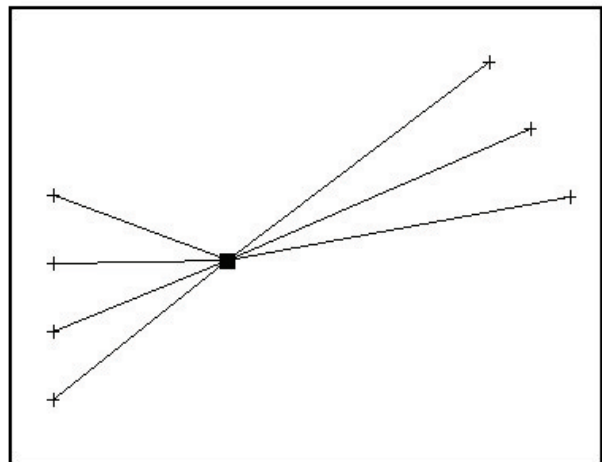


I. Files for composite coordinates and block centroid.

This is an ASCII file that can be imported to MineSight® 2 as 3-D Points (ASCII) file.

The file for block centroid can also be imported to MineSight® 2 as 3-D Points (ASCII) file.

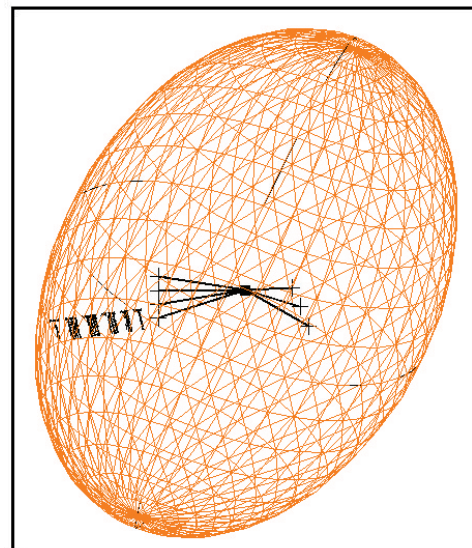
In MineSight® 2 those two files are displayed as:



II. Ellipsoid object (binary MineSight® 2 object file).

This file can be imported to MineSight® 2 as a MineSight® Object.

The ellipse represents the search area used for selecting the composites used to interpolate that block.



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III. Kriging weights file (ASCII file; extension kwt).

This file contains the kriging weights along with composite information.

Point	Grade	Weights	Adj Dist	Ref#	Quad
1	0.010	0.108	69.6	52	3
2	0.080	0.104	71.1	104	2
3	0.030	0.205	71.2	52	3
4	0.030	0.095	71.2	52	3
5	0.070	0.171	71.8	104	2
6	0.070	0.171	74.6	104	2
7	0.010	0.145	75.8	52	3

IV. Other options:

- Material type. This is the material to be associated with the ellipsoid object. If the material assigned is not in the materials folder, the first material object in the folder will be assigned to the object.

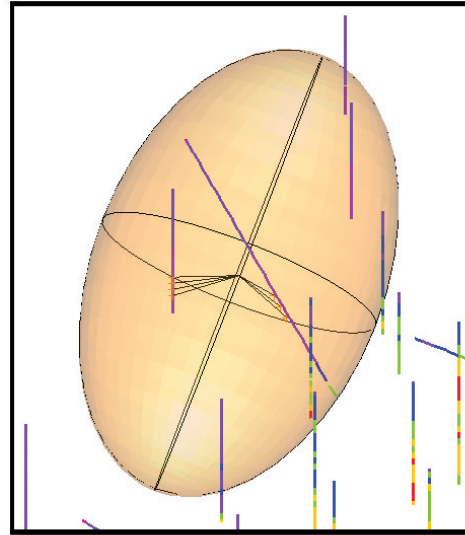
- Number of ellipses. This controls how many ellipses are drawn on the major axis to define the shape of an ellipsoid. The bigger the number, the better defined the ellipsoid (min=2, max=25).

-Number of points. This controls the triangulation points for the surface of the ellipsoid. The bigger the

number, the smoother the ellipsoid surface (min=2, max=100).

Additional information and tips:

-You can adjust the properties of the ellipsoid object once it is imported to MineSight® 2. You can also overlay a drill-hole view for better checking.



- The ellipsoid object file also contains the composite coordinates and the kriging weights.

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Tips...

Copying a MineSight® Project to Another Directory

When you copy a project to another directory, you should remember that the full path of each object is stored in the resource file. That is why, unless you take additional action, MineSight® 2 will access files from the original directory, not from the new one.

As a workaround we suggest you temporarily rename the original directory (so that MineSight® 2 will not be able to find the files in the original location where the resource files point) and start MineSight® 2 in the new directory. On startup, reselect file 10 for all dhviews and modelviews to point to the new directory. After that restore the old name of the original directory.

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- A detailed debug report for the block in question is also created. The debug report (see rpt624 file) contains the kriging matrix, the kriging variance, the Lagrange multiplier, a list of the composites along with distances to the block, coordinates, weights etc.

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** DEBUG FOR ROW= 75  YMID= 5490.0  Max Dist (PAR4)= 240.0

Kriging matrix:
0.0850  0.0112  0.0607  0.0607  0.0118  0.0103  0.0473  1.0000  0.0283
0.0112  0.0850  0.0104  0.0118  0.0585  0.0584  0.0120  1.0000  0.0241
0.0607  0.0104  0.0850  0.0473  0.0105  0.0098  0.0368  1.0000  0.0275
0.0607  0.0118  0.0473  0.0850  0.0128  0.0104  0.0607  1.0000  0.0275
0.0118  0.0585  0.0105  0.0128  0.0850  0.0438  0.0135  1.0000  0.0238
0.0103  0.0584  0.0098  0.0104  0.0438  0.0850  0.0103  1.0000  0.0228
0.0473  0.0120  0.0368  0.0607  0.0135  0.0103  0.0850  1.0000  0.0252
1.0000  1.0000  1.0000  1.0000  1.0000  1.0000  1.0000  0.0000  1.0000

Covariances between samples                                Covariances between block and samples

Kriging Variance = 0.05082  # PTS = 7
Lagrange Multiplier = -0.01091

NO.OF COMPOSITES IN OCTANTS/QUADRANTS= 10 10 6 0

Col INDX (Adj)DIST  EAST  NORTH  ELEV.  VALUE1  DH  KRIG WEIGHT  Oct/Qd
75  49  69.59  2420.50  5486.40  2435.0  0.0100  52  0.10842E+00  3
75  37  71.14  2523.20  5434.70  2465.0  0.0800  104  0.10417E+00  2
75  50  71.19  2420.50  5486.40  2420.0  0.0300  52  0.20469E+00  3
75  48  71.19  2420.50  5486.40  2450.0  0.0300  52  0.95391E-01  3
75  45  71.82  2517.60  5441.30  2480.0  0.0700  104  0.17106E+00  2
75  29  74.61  2528.70  5428.00  2450.0  0.0700  104  0.17085E+00  2
75  47  75.78  2420.50  5486.40  2465.0  0.0100  52  0.14542E+00  3

Block( 75, 75) Calculated = 0.0438  0.0508  69.5932  7.0000  2.0000

Kriging estimate, kriging variance, distance to the closest composite,
# of composites, # of drill-holes.

Local Error (Variance) = 0.000102
Row: 75  5490.0  Comps: 1  64  #Calc 1
End of BENCH 35  2435.0  # Blocks Calculated 1  100.0% Completed
    
```

- Although designed for kriging, procedure p624db.dat can still be used in an IDW (inverse distance weighting) case. You don't need to calculate variogram parameters. Instead, enter some dummy numbers for variogram parameters. Fill the rest of the panels as you would fill the inverse weighting distance interpolation procedure panels. An ellipsoid object will be created representing your search scenario.

This program and its associated procedure came to us from Metech Pty. Ltd., our Australian affiliate. Look for this program and procedure in your \winexe directory after installing the 2001 Update CD.