

MINE SIGHT®

in the Foreground

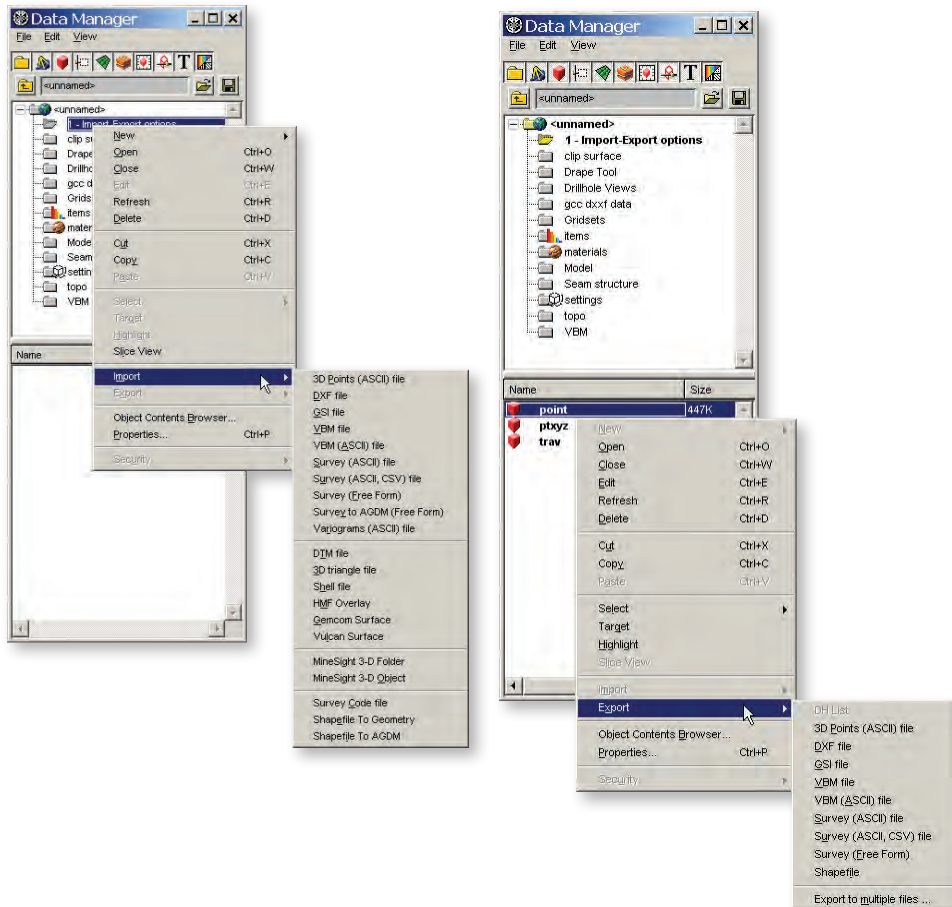
Volume 24, Number 1, January 2008

Import Formats and Their Use in MineSight® 3-D

A number of **Import** formats have been added to and/or updated in MineSight® 3-D (MS3D) over the past few releases. This article is intended to describe the functionality of these updates and additions, as well as provide practical examples of their use. This is part one of a two-part series.

MineSight® 3-D Import Formats

Import and export of MineSight® Objects (*.msr files) is available through the **Data Manager** right-click menu and through some auxiliary menus (**Selection**, **Surface**, etc.). In general, no matter what avenue is used to select the **Import** or **Export** format, the techniques described here will be universally applicable. This article will assume that the **Import** or **Export** format has been called through the **Data Manager** right-click menu. Note that the **Import** function is performed at the Folder level in the **Data Manager**, while the **Export** function is performed at the Object level in the **Data Manager**.



The importation of different types of data requires different options be made available; for example, when importing DXF files, the layers to be imported can be specified, and a geographic shift or coordinate conversion can also be applied. When importing data from the proprietary MineSight® VBM format, you can selectively include or exclude specific planes or features. Other **Import** formats provide other options.

(continued on page 2)

Inside This Issue:

[2007 Training Schedule... page 11](#)

[Import Formats and Their Use in MineSight® 3-D... page 1](#)

[Mintec Directory... page 11](#)

[Tips from Tech Support: DumpCutsForArchive.pyc in MineSight®... page 8](#)

[Trade Shows and Seminars... page 12](#)

[Web-based Training... page 12](#)

[Welcome New Clients... page 10](#)

(Import Formats and Their Use in MineSight® 3-D continued from front page)

So, when importing different types of files, different interface options are presented.

Import 3-D Points (ASCII) File

The format of the 3-D Points (ASCII) file is expected to be a space-delimited text file, with three columns: X coordinate, Y Coordinate, and Z coordinate.

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a File Selector with a default file extension filter of ***.xyz**. If a different file extension was used for the data to be imported, use the **All Files** selection in the file filter field at the bottom of the **File Selector** interface.

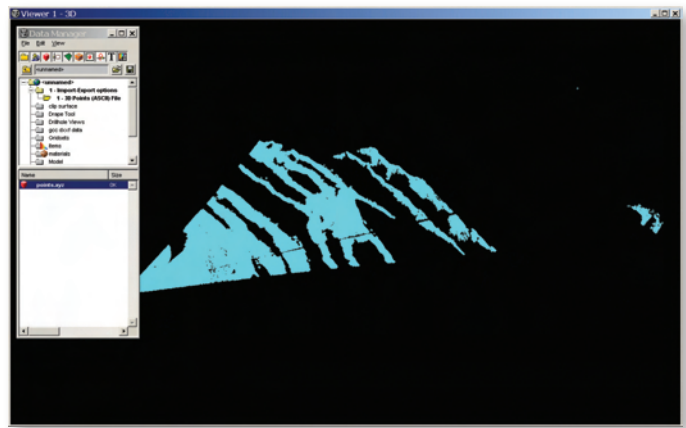
Once the file is selected, click **Open** and the **Survey Import/Export** dialog appears. This dialog provides the opportunity to modify the data as it is imported. Options are available to shift the data, interchange the coordinates, as well as other options.

Polyline Splitting allows you to split the imported data at a specified number of points (the illustration at the top of the next column demonstrates importing a string as individual points), at a change in direction or at a user-specified distance between points.

If you have a large point data set and import it as single points, you will get significant overhead added because each point is an element. If the data is imported as polylines and split every 1,000 points (or change in Easting or Northing for gridded data), the number of elements and thus the overhead is reduced. You can then use the new **Point Material** to display these data. The **Point Material** displays polyline nodes but not lines and has a survey type of 'point'.

If you are only displaying point information, then rendering is faster if all point data belongs to one polyline. In the **Object Properties**, turn off lines and turn on points. This will render faster than rendering the data as individual point elements. However, it should be kept in mind that the point data is part of a polyline and you will need to use **Point Move** only instead of **Element Move** when editing these points. For other situations (such as crest and toe data), it will be necessary to adjust the splitting parameters appropriately for the data.

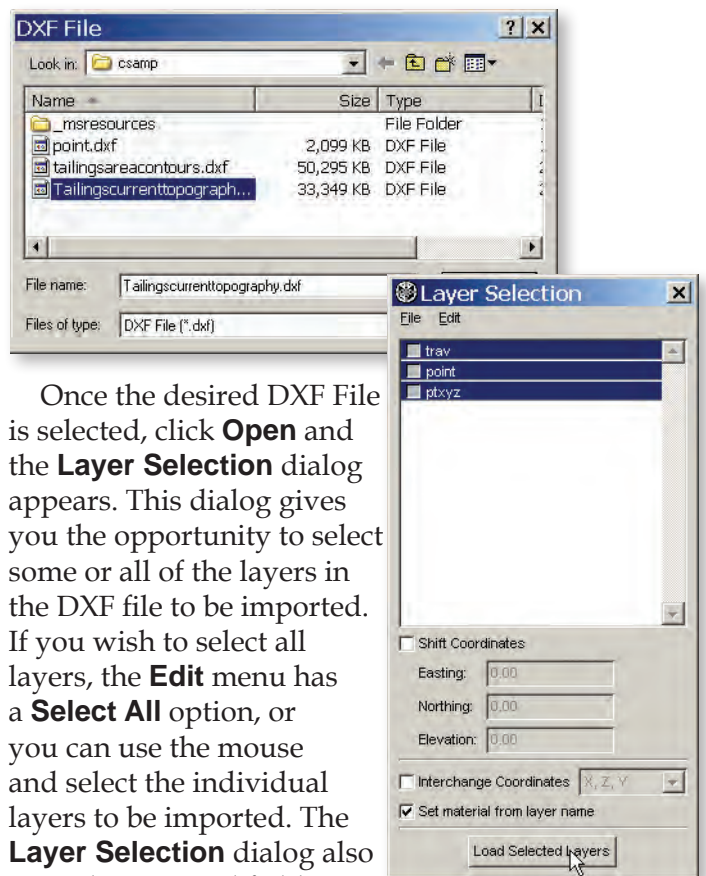
Clicking **OK** in this dialog completes the import operation. The data is imported into a **MineSight Resource (*.msr)** file using the file name as the default object name (e.g., **points.xyz** in this example).



Import DXF File

MineSight® can support some of the features in ACAD 200x versions DXF file formats. However, to ensure proper importing into MS3D, we recommend that DXF files should be exported from ACAD using the R14 format.

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a File Selector with a default file extension filter of ***.dxf**. Typically, no other extension is used for DXF Files, so it should be rarely, if ever, necessary to change the file filter field.



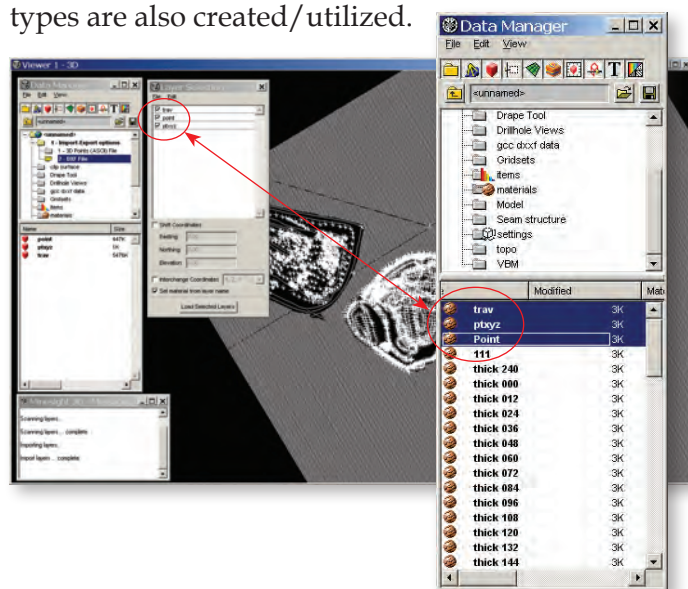
Once the desired DXF File is selected, click **Open** and the **Layer Selection** dialog appears. This dialog gives you the opportunity to select some or all of the layers in the DXF file to be imported. If you wish to select all layers, the **Edit** menu has a **Select All** option, or you can use the mouse and select the individual layers to be imported. The **Layer Selection** dialog also provides optional fields to

(continued on page 3)

(Import Formats and Their Use in MineSight® 3-D continued from page 2)

Shift Coordinates, Interchange Coordinates, or Set material from layer name. If this latter new option is checked, the layers will take on the properties of pre-existing material types that have the same name as the layer, or create corresponding material types if they do not currently exist. Once the desired layers have been selected, and the desired options chosen, click the **Load Selected Layers** button to import the data.

The data is imported into multiple **MineSight Resource (*.msr)** files, one for each layer in the imported DXF file. If the **Set material from layer name** option is checked, corresponding material types are also created/ utilized.

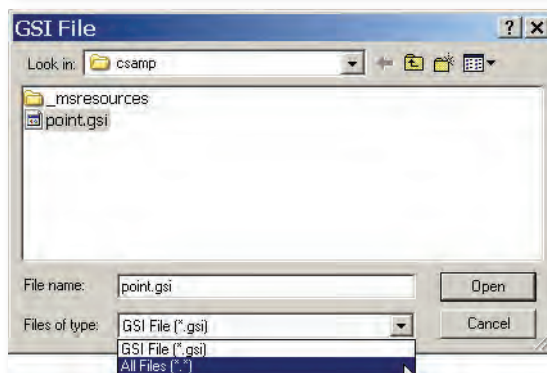
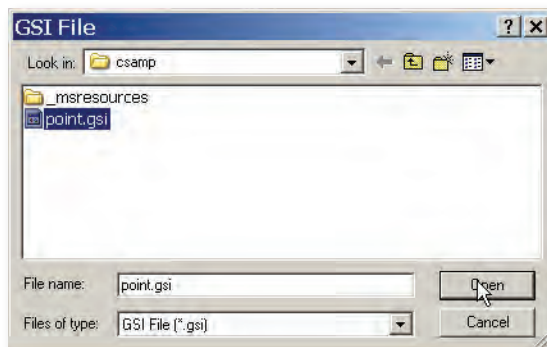


Import GSI File

A GSI file (GSI is a Leica defined format which stands for Geo Serial Interface) is created and/or read by certain types of data recorders. The GSI file format consists of sets of points, each on a separate line, with flags denoting the type of data being stored. In MineSight®, this import is only available for point and string (polyline) data. MineSight® supports both “GSI-8” and “GSI-16” formats on import. Data flags used in MineSight® are 11 for point number, 81 for Easting, 82 for Northing, and 83 for Elevation. The default extension for GSI files is *.gsi, and a sample of GSI output is shown below:

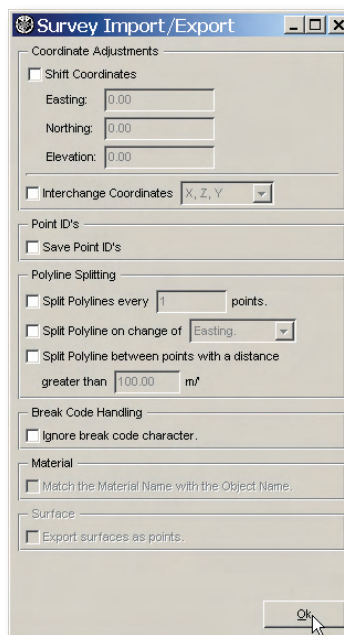
```
11....+00000001 81...0+10381000 82...0+10838200 83...0+04082540
11....+00000002 81...0+10533400 82...0+10838200 83...0+04087629
11....+00000003 81...0+10685799 82...0+10838200 83...0+04097660
11....+00000004 81...0+10838200 82...0+10838200 83...0+04107049
11....+00000005 81...0+10990599 82...0+10838200 83...0+04113200
11....+00000006 81...0+11143000 82...0+10838200 83...0+04115580
11....+00000007 81...0+10381000 82...0+10685799 83...0+04066989
```

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a **File Selector** with a default file extension filter of *.xyz. If a different file extension was used for the data to be imported, use the **All Files** selection in the file filter field at the bottom of the **File Selector** interface.



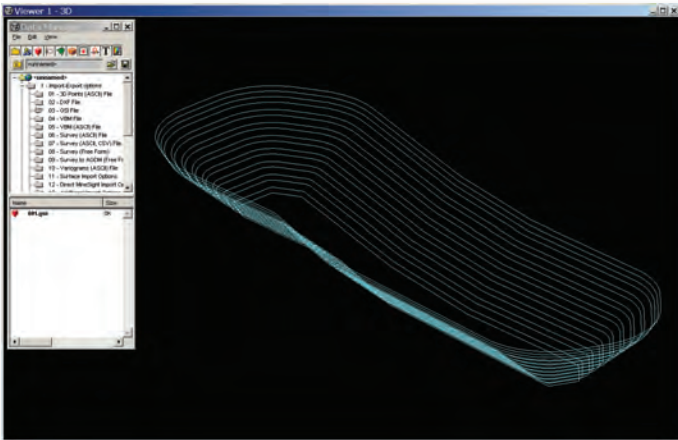
Once the desired file is selected, Open the file and the **Survey Import/Export** dialog will appear. Choose any of the desired options in this dialog and click **OK** to import the data. The data is imported in as a single Geometry Object with the same name as the imported file, unless the file was previously

imported, in which case the file will be appended or overwritten.



(continued on page 4)

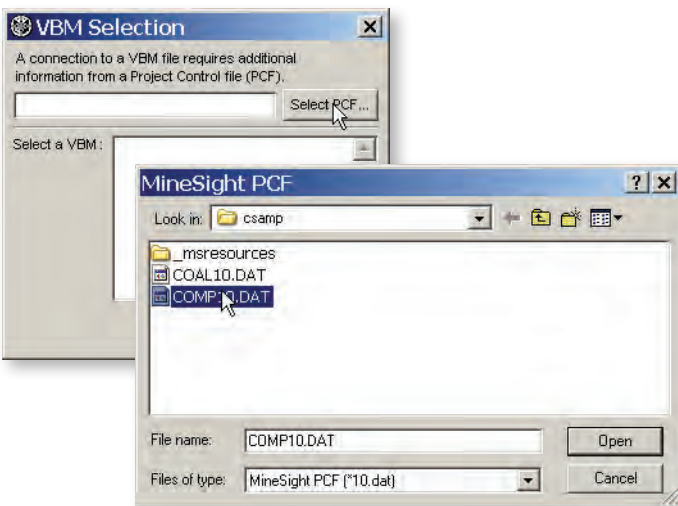
(Import Formats and Their Use in MineSight® 3-D continued from page 3)



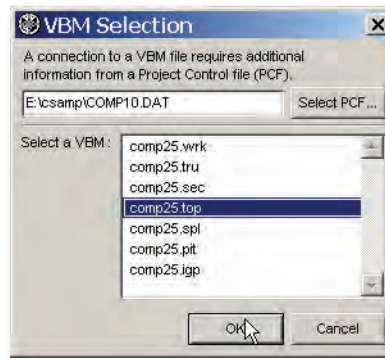
Import VBM File

The VBM File format is a proprietary MineSight® binary file format used with the near-obsolete VBM Graphics programs. In some cases, archived data will be imported using this format, and some MineSight® functions can still be efficiently accomplished using the VBM system.

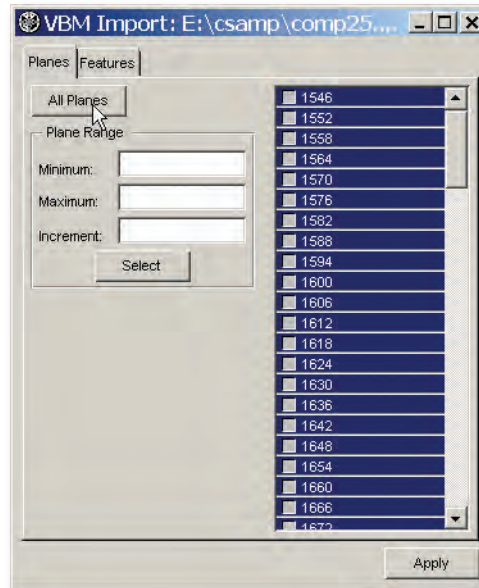
When this import option is chosen from the **Data Manager** right-click menu, the first interface is the **VBM Selection** dialog. First, click the **Select PCF** button to bring up a **File Selector** dialog in which to choose the desired **MineSight Project Control File (PCF)**.



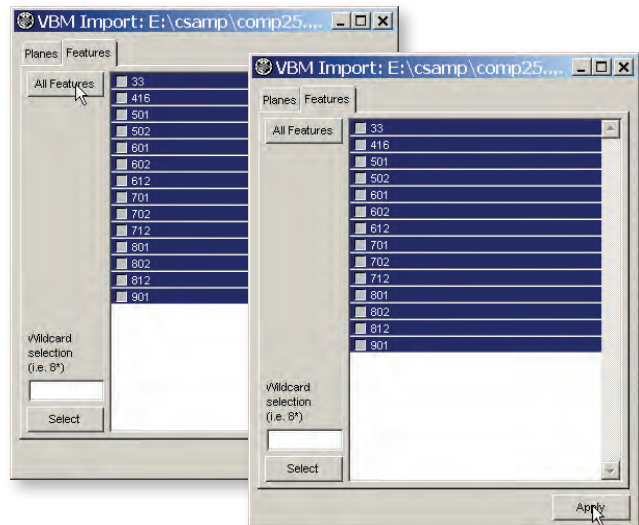
Once the desired PCF has been selected and opened, the **VBM Selection** dialog is populated with a list of the VBM files available from which to import data. Select the desired file and then click the **OK** button. The **VBM Import** dialog appears. If the desired VBM file is not available on the project directory, the **OK** button will not activate.



On the **Planes** tab, select the desired planes from which to import data either with the **All Planes** button or with mouse selection in the planes list.



On the **Features** tab, select the desired features to import either by clicking the **All Features** button or with mouse selection in the features list.



(continued on page 5)

(Import Formats and Their Use in MineSight® 3-D continued from page 4)

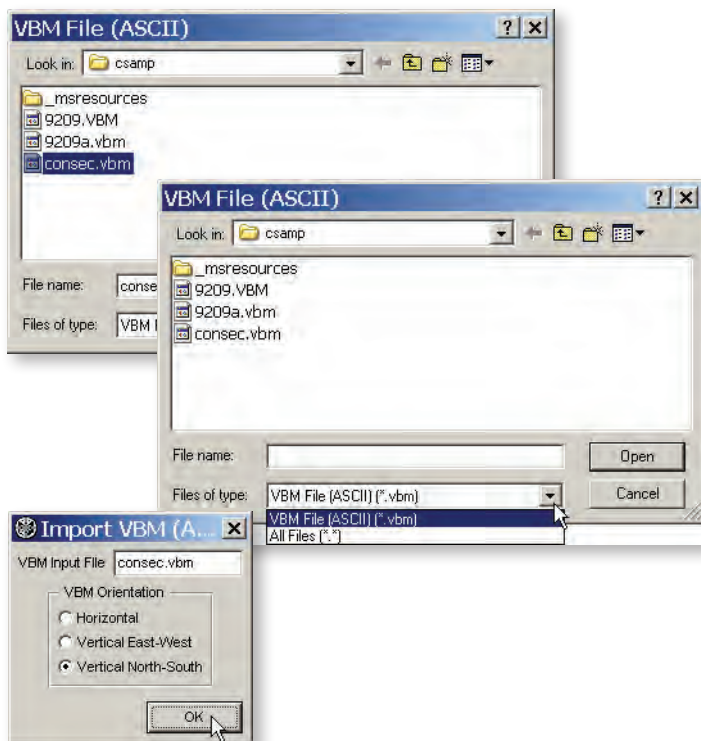
Once the desired planes and features have been selected, import the chosen data by clicking the **Apply** button, then close the **VBM Import** dialog with the **X** in the upper right corner.

The VBM data is imported into MineSight® as multiple geometry objects, one corresponding to each unique feature code selected for import. In addition, a gridset object is also created, with one plane at each level from which data was imported.

Import VBM (ASCII) File

The VBM ASCII format is a proprietary MineSight® ASCII format which can be exported from MineSight® Compass™ (MSCompass™) or MS3D. This file format can be used to define certain boundary files for use in MSCompass™ procedures, as well as a number of other functions.

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a **File Selector** with a default file extension filter of ***.vbm**. If a different file extension was used for the data to be imported, use the **All Files** selection in the file filter field at the bottom of the **File Selector** interface. Once the desired file is selected and opened, the **Import VBM (ASCII)** dialog appears allowing you to specify the orientation of the VBM data being imported. Choose either **Horizontal**, **Vertical East-West**, or **Vertical North-South** and click **OK**.



At this point the data is imported into multiple geometry objects, one for each available feature code in the input file. In addition, a gridset object is created containing one plane corresponding to each level containing data in the imported file.

Import Survey (ASCII) File

The Survey (ASCII) File format is a fixed-format text file that has been historically used in the now-obsolete MineSight® Survey system. Details regarding this format can be found in the MS3D **Help** documentation under **Basic Concepts | Data Manager | Import file formats**. A snippet from a MineSight® Survey file is shown below. The first and last columns are survey point or line codes, and the remaining fields contain point number, Easting, Northing and Elevation data.

```
BERM 0      555.382  1629.942  1975.690 BERM
$
BLDG 0      560.890  1633.685  1976.690 BLDG
BLDG 0      566.691  1639.337  1976.840 BLDG
BLDG 0      568.450  1641.788  1977.470 BLDG
$
BND 0      198.668  2486.967  1996.950 BND
BND 0      359.334  2473.718  1996.310 BND
$
BPER 0      14.969   2009.785  2040.060 BPER
BPER 0      12.803   2042.939  2040.240 BPER
```

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a **File Selector** with a default file extension filter of ***.srv**; if a different file extension was used for the data to be imported, use the **All Files** selection in the file filter field at the bottom of the **File Selector** interface.

Once the file is selected and opened, the **Survey Import/Export** dialog appears allowing you to select any of the applicable options for this particular import operation. The data is imported into multiple Geometry Objects, one each for each of the unique survey codes in the imported data file.

Import Survey (ASCII, CSV) File

This file format is a more contemporary version of the previous file format, containing the same data, but in a comma-delimited format. This file format can also be exported and used as boundary files in certain MSCompass™ procedures. A snippet of such a file is displayed on the next page.

(continued on page 6)

(Import Formats and Their Use in MineSight® 3-D continued from page 5)

558.533,1635.562,1976.510,8,BLDG,,BLDG,
198.668,2486.967,1996.950,1,Boundary,,BND,
14.969,2009.785,2040.060,1,BPER,,BPER,
12.803,2042.939,2040.240,2,BPER,,BPER,

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a **File Selector** with a default file extension filter of ***.srg**. If a different file extension was used for the data to be imported, use the **All Files** selection in the file filter field at the bottom of the **File Selector** interface.

Once the file is selected and opened, the **Survey Import/Export** dialog appears allowing you to select any of the applicable options for this particular import operation. The data is imported into multiple Geometry Objects, one each for each of the unique survey codes in the imported data file.

Import Survey (Free Form)

This option is a flexible import tool which allows you to create a custom import format to accommodate nearly any flat format ASCII file. The type of file delimiting and the number and order of data items can be user-specified through a simple, intuitive interface. The import format, once created, can be saved and recalled for use again when the same type of import is required.

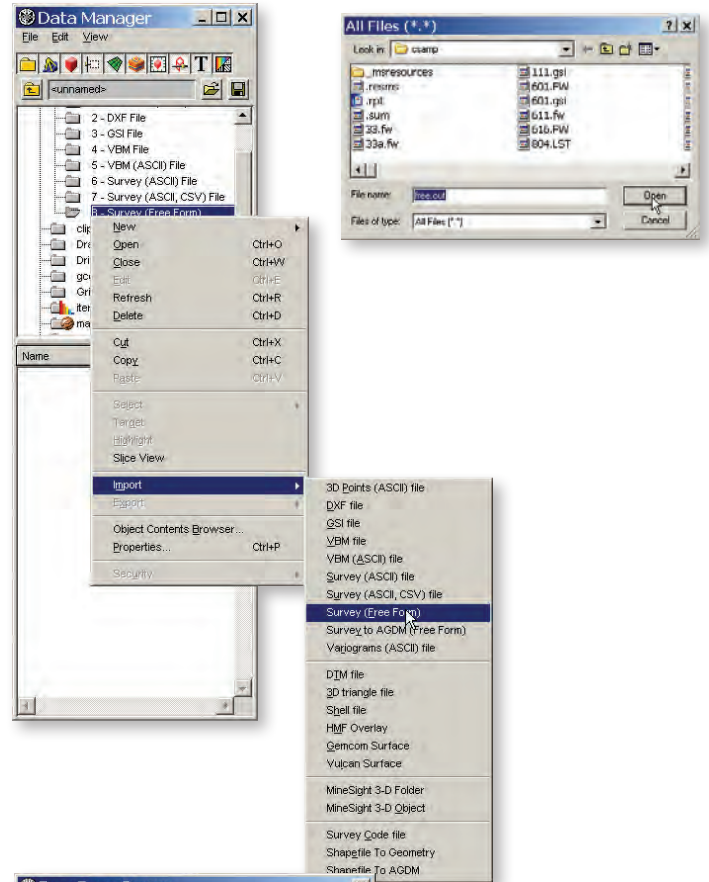
As an example, a comma-delimited file will be imported, containing the following data fields: Object Name, Northing, (Y), Easting (X), Elevation (Z), and Object Material Survey Code. A small snippet of the file is shown below.

BERM,2277.850,607.890,2039.111,BERM
BERM,2287.410,606.690,2039.001,BERM
BERM,2313.160,604.120,2039.691,BERM

BLDG,1633.685,560.890,1976.690,BLDG
BLDG,1639.337,566.691,1976.840,BLDG
BLDG,1641.788,568.450,1977.470,BLDG
BLDG,1647.674,573.973,1977.130,BLDG
BLDG,1649.712,571.048,1977.130,BLDG
BLDG,1643.938,565.459,1976.750,BLDG
BLDG,1641.938,564.113,1977.230,BLDG
BLDG,1635.562,558.533,1976.510,BLDG

BND,2486.967,198.668,1996.950,BND
BND,2473.718,359.334,1996.310,BND
BND,2458.220,420.800,2026.000,BND

When this import option is chosen from the **Data Manager** right-click menu, the first interface is a **File Selector** with no file extension filter. Select the name of the desired file and click **Open**; the **Free Form Survey** dialog will appear.

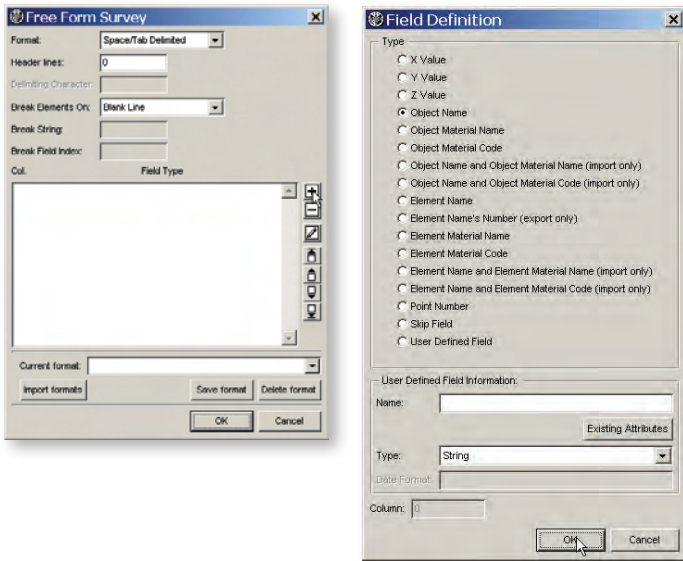


First, select the type of file that you are importing – **Column Delimited, Comma Delimited, Space/Tab Delimited, and Character Delimited** are the available ASCII file types. Next, add the desired fields to the importer by clicking on the **+** button at the right of the dialog. This will bring up the **Field**

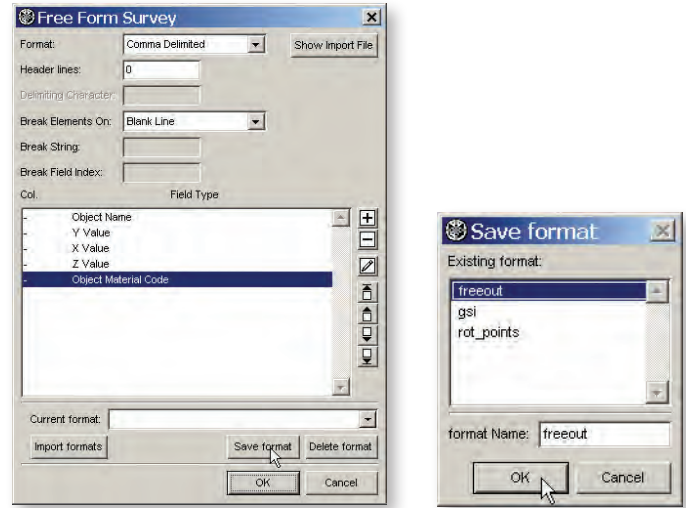
Definition dialog. Select the definition for the data in the first import field (in this case, Object Name), and then click **OK**.

(continued on page 7)

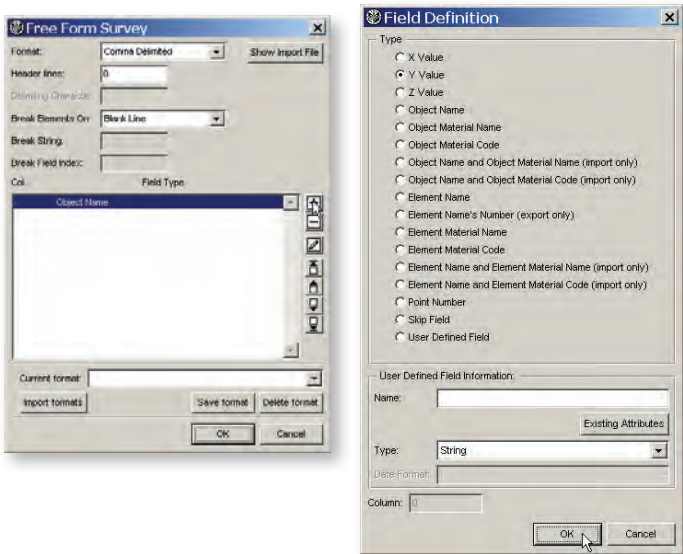
(Import Formats and Their Use in MineSight® 3-D continued from page 6)



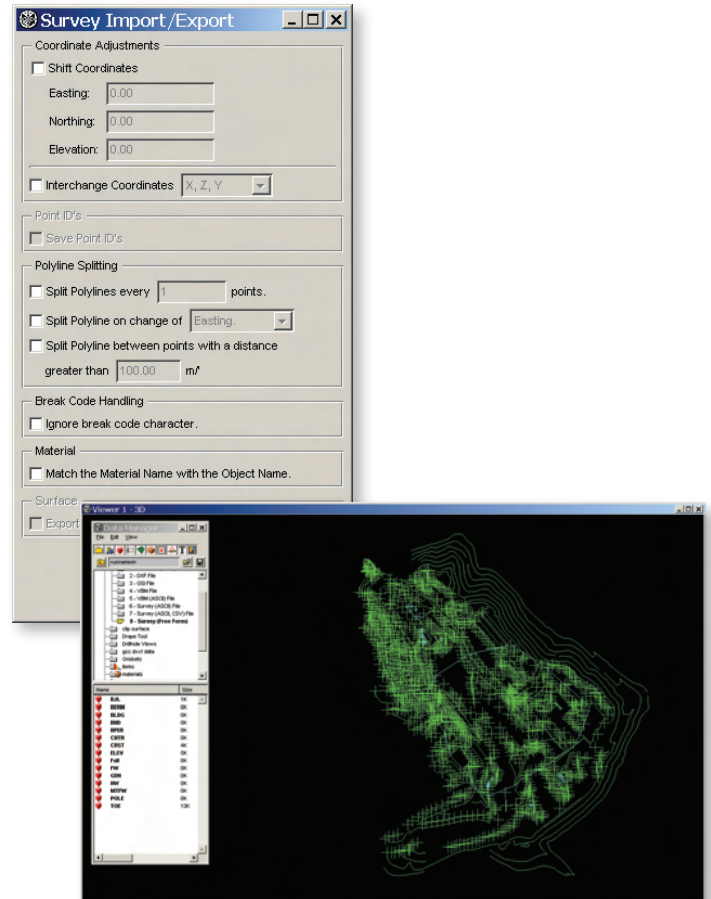
Click the + button again to add the second field; choose the desired **Field Definition** [in this second field, the data is the Northing (Y)].



Once you have saved the **Import** format, click **OK** at the bottom right and the **Survey Import/Export** dialog appears allowing you to apply any of the data modifications available on import. The data is imported into multiple Geometry Objects, based on the Object Name field in the import file (in this case).



Continue as above, adding and defining the required fields for the import definition. Once the import definition is complete, use the **Save format** button at the bottom of the dialog to save the import definition for use when required again in the future.



In the February issue of *MineSight® in the Foreground*, we will continue describing import formats with Import Survey to AGDM.