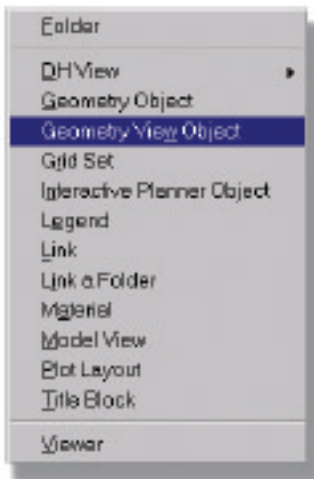




# Creating Geometry View Objects

In MineSight® 3-D there is a new data type, called “Geometry View Object” (Geom View) (Figure 1). Geometry View Objects are used for viewing attributed geometry data that has been stored in an ODBC compliant, attributed geometry database.



The advantages of storing the information in an attributed database include: flexibility in assigning any user defined attributes to the data; an open and exposed data model which allows access for queries, reports, and summaries by third party tools; easy importing and exporting of external data; and, very important, ensured integrity of data.

Figure 1

Once geometry data such as Markers, Polylines, Polygons, Solids, and/or Surfaces have been exported to the database, Geom View Objects can be created for such elements. Geom View Objects are essentially “views” or queries into the database. In MineSight® 3-D, a Geom View Object cannot be created until at least one Geometry Object has been exported to an existing database.

Start by copying the template database provided with MineSight® 3-D, “attrib.mdb” to your local working directory, and give it a suitable name. This ‘mdb’ file contains the data model used in storing attributed geometry in MineSight® 3-D. This is also the same ‘mdb’ file used to store reserves for MineSight® Interactive Planner.

The next step is to connect to this attributed database. There are two ways to connect to an external database in MineSight® 3-D; either use the DataBase selection in the main viewer, or when a new Geom View Object is created and the database connection does not yet exist. Currently Microsoft® Access 2000 is the database being used, but MSDE and SQL Server will be added in the future.

### Step One: Make the DataBase Connection

To connect to the attributed database, select the “Machine Data Source” tab option (as shown in Figure 2) and select the attributed database from the list. For

first-time connections, click the New button and follow the steps to make the connection.

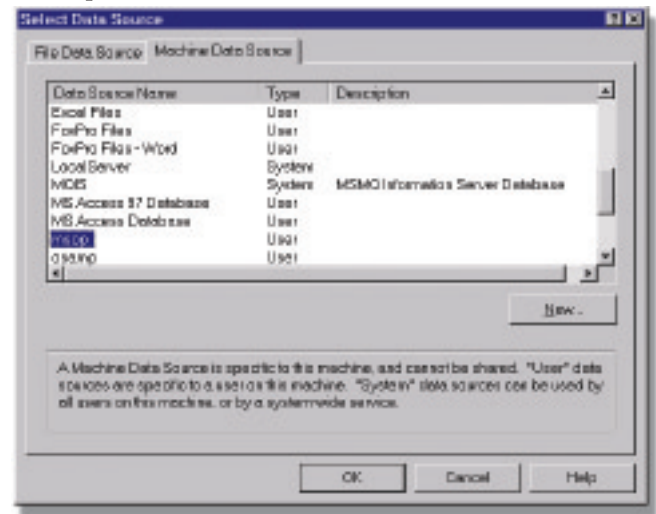


Figure 2

For “new” connections, we recommend choosing the User Data Source, then select the Microsoft® Access Driver (\*.mdb) (Figure 3).

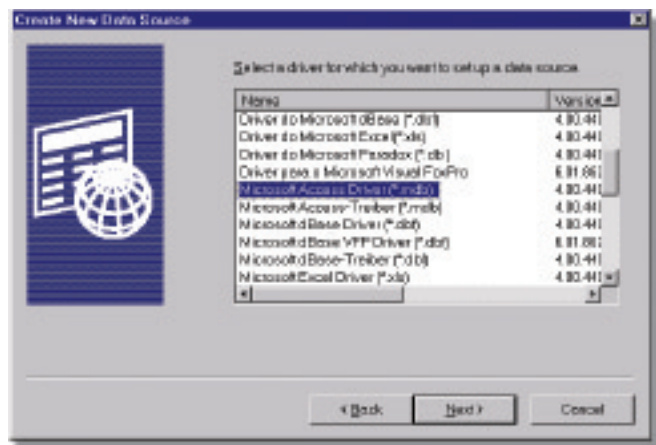


Figure 3

### Step Two: Export Existing Geometry

Once the connection exists between MineSight® 3-D and the attributed database, data needs to be exported to the database. Display the geometry you are going to export in the viewer. This new data type is extremely valuable for storing the attributes for any type of geometry object. This article uses simple shapes as examples to

*(continued on page 4)*

(Creating Geometry View Objects continued from page 3)

explain the concept, and could represent a particular geologic rock type, a stockpile, property boundary, etc.

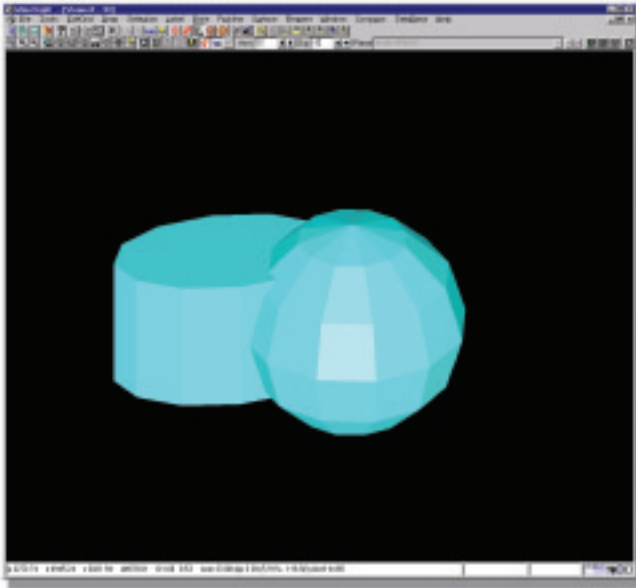


Figure 4. Shows multiple elements in one geometry object (a sphere and a cylinder). **Caveat: Do not try to export huge geometry surfaces or solids as the attributed geometry database is designed efficiently for storing points, polylines, and small shells.**

For the example shown in Figure 4, just one of the elements (the sphere) will be exported from this geometry object to the database. The geometry object does not necessarily need to be attributed in MineSight® 3-D.

From the Viewer Menu located at the top of the main MineSight® 3-D window, select DataBase | Export to Attributed DB. Use the mouse to select the various geometry elements you want to export (Figure 5). Note, if the connection has not already been made, the connection dialogs will be displayed.

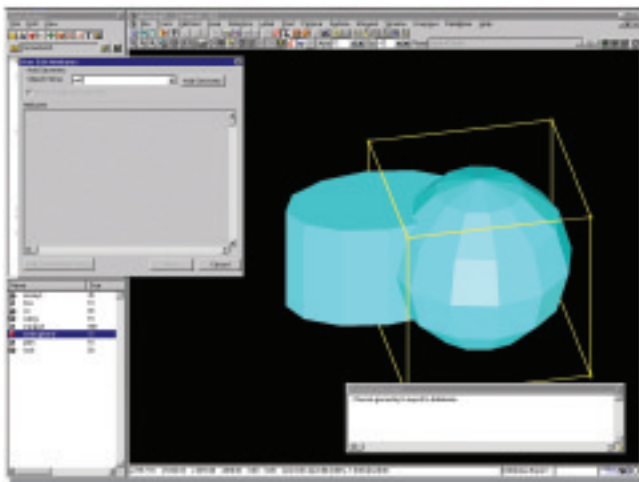


Figure 5

A message prompts you to select the particular geometry element to export. Once that element (or elements) has been selected, click right to end the selection process. A yellow box is placed around the selected element and the “User Edit Attributes” dialog is displayed. Type an ‘Object Name’ in the input field (e.g., “set2”), or select an existing name from the pulldown list. Then click on the “Add Geometry” button to export this geometry to the database.

Once the geometry has been exported to the database, you can click in the “Attr Name” input field and choose existing attribute types, click on Add/Edit Attribute Type to add a new attribute type or edit an existing type (as shown in Figure 6), or click on Done and add attributes later.

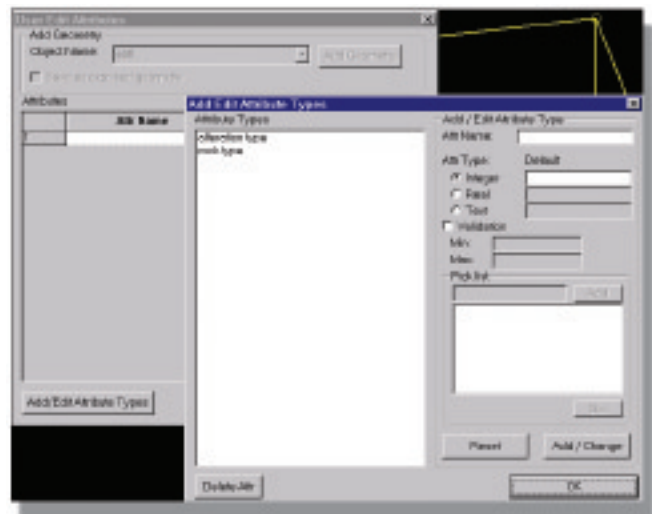


Figure 6

### Step Three: Create a New Geom View Object

Now that data has been exported (or added) to the database, close the Geometry Object you exported. A new Geom View Object via the Data Manager right-click menu can now be created (as shown in Figure 1, page 3). Once this new Geom View object has been given a name, a “Create View” dialog will be displayed (Figure 7, page 5). Select the object to create the Geom View object from the list of available objects (in this example, “set2” is selected from the list). Notice that there are no constraints imposed for this object to a particular geometry type or location. Also, notice that there are no assigned attributes.

(continued on page 5)

(Creating Geometry View Objects continued from page 4)

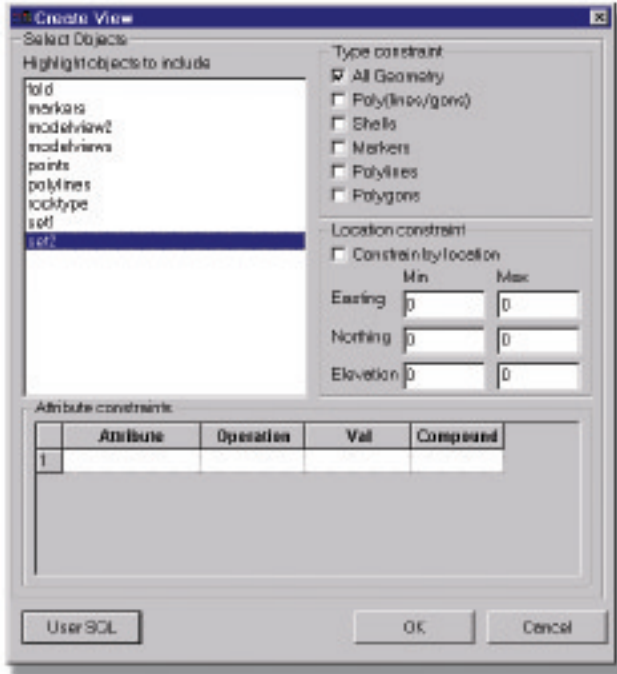


Figure 7

Click on the OK button and the geometry exported will be displayed, by default, in wire frame (Figure 8). The display can be changed under the Geom View Object's properties.

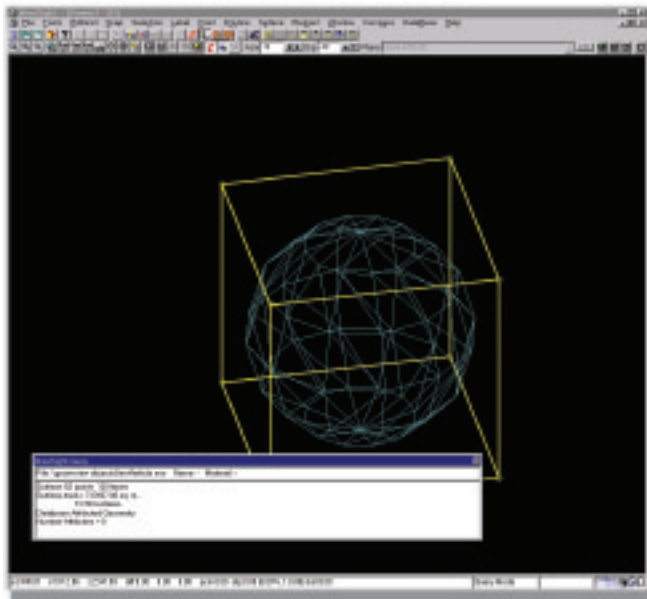


Figure 8

**Assign Attributes**

If you did not assign attributes to this object previously, attributes can be assigned via the viewer menu, DataBase | Query/Edit Attributed Geometry option. The "User Edit Attributes" dialog will be displayed, where you can pick existing attribute types from the pulldown

Pick list (Figure 9) or create a new attribute type. In this example, we have selected an existing attribute type called "rock type".

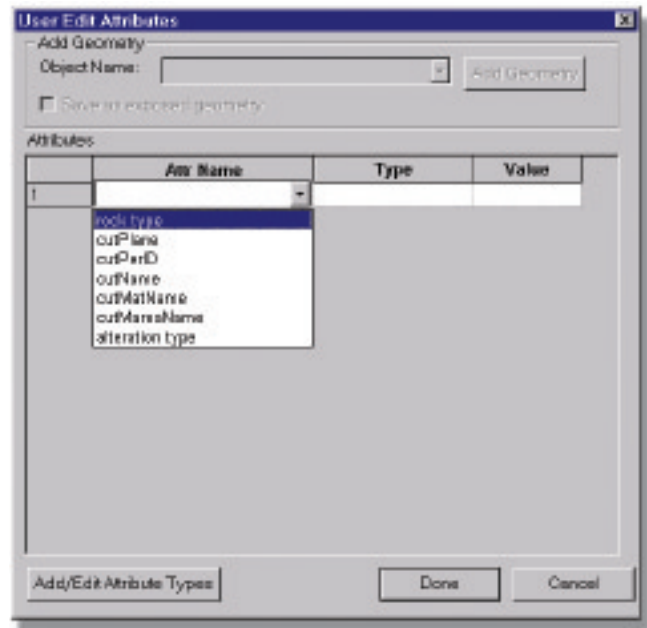


Figure 9

There are currently three possible 'values' (rock types) associated with this particular attribute (Figure 10). To add or edit the available values on the pulldown Pick list, click on Add/Edit Attribute Type.

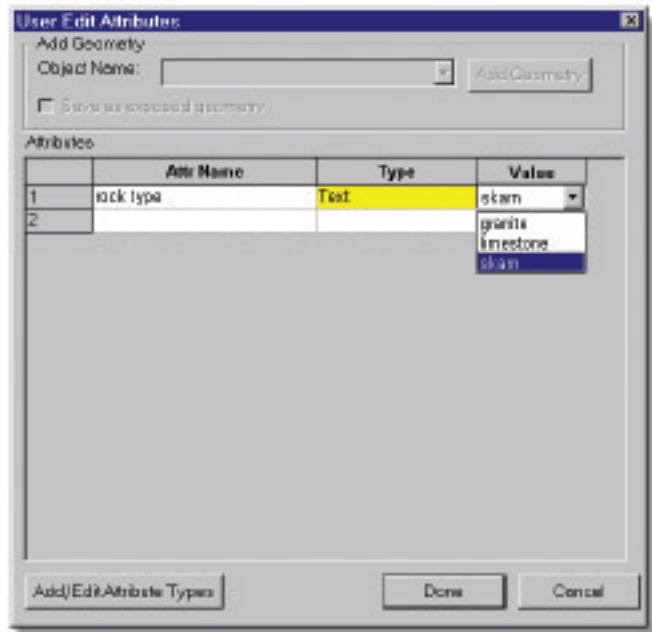


Figure 10

Once the Add/Edit Attribute Type dialog is displayed, *double-click* on the attribute to edit ("rock type" in this example) and the values previously set for this particular attribute will be available for editing

(continued on page 6)

(Creating Geometry View Objects continued from page 5)

(Figure 11). To add a new value to the Pick list, type in a value (e.g., sandstone) and click on Add, followed by Add/Change, and finally OK to exit the window.

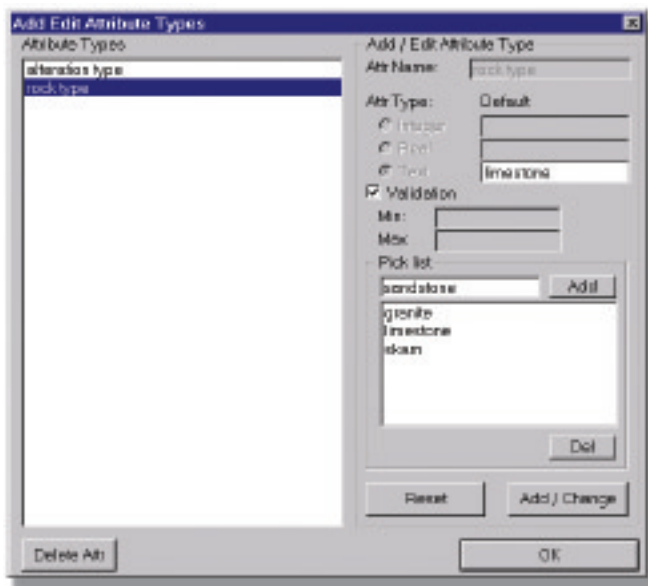


Figure 11

To add a new attribute type, click on Add/Edit Attribute Type in the User Edit Attributes dialog. Then type an Attribute Name in the input field and set the various properties for that attribute such as 'Type' and any 'Validation' rules (Figure 12).

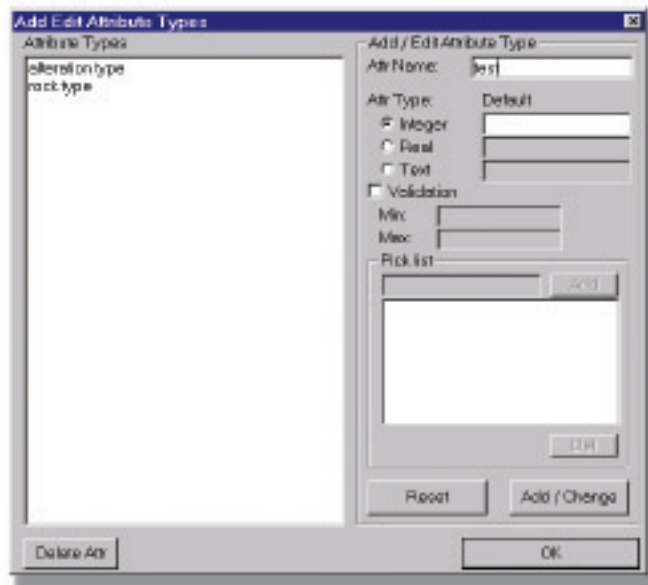


Figure 12

Finally, once a Geometry View has been created, it can be displayed styled either by cutoff or by material type (Figure 13). The display style option selected depends on which would be the most meaningful for your use.

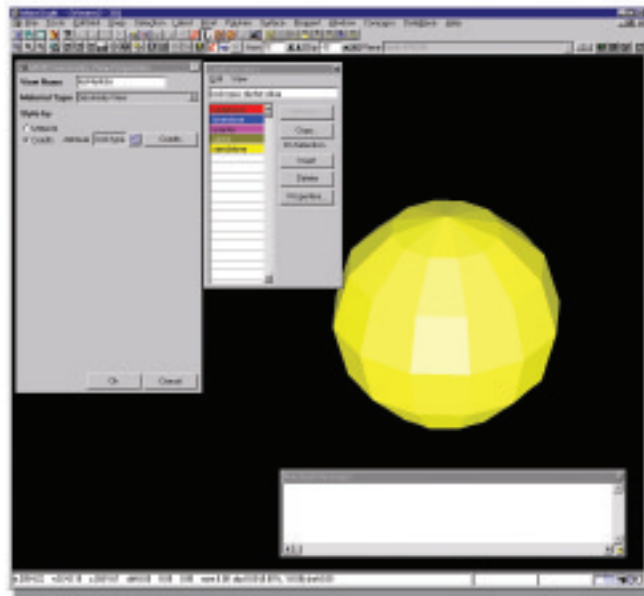


Figure 13 Geom View Object, styled by cutoff.

**Note:** In order for the Geometry View functionality to work correctly, you must be running MineSight® 3-D v3.0-01.

## Windows® XP Support

MineSight® 3-D and MineSight® 2 now support Windows® XP. If you are still running MineSight® 2, make sure you get the latest version (v2.70-07) and matching MineSight® 2 Compass™ (v1.30-07) from our web site. All known Windows® XP problems have been resolved with these versions. Other MineSight® programs which were part of the 2001 update and which are currently on the web-site will run with no known problems under Windows® XP.