

# Australian Hydrological Geospatial Fabric (Geofabric) Tutorial

Use the BetaSurfaceNetworkMonitoringPoint  
table to extend node attribution

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**Australian Government**  
**Bureau of Meteorology**



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## Australian Hydrological Geospatial Fabric (Geofabric) Tutorial – Use the Beta Monitoring Point table to extend node attribution

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## 1 Introduction

A selected set of 479 Beta hydrological monitoring points have been included in the Geofabric V2.1. These points have been defined by the Bureau of Meteorology as important reference stations for hydrological prediction and Australian Water Resources Assessment modelling purposes.

<http://www.bom.gov.au/water/hrs/about.shtml>

A separate table called BetaSurfaceNetworkMonitoringPoint contains detailed attribution of these monitoring points.

This tutorial describes how the table can be joined to the Surface Network product using the HydroID.

Further information about the Monitoring Points can be found in the Geofabric V2.1 Product Guide at:

<http://www.bom.gov.au/water/geofabric/documentation.shtml>

### 1.1 File formats

The BetaSurfaceNetworkMonitoringPoint table is supplied in two formats:

- dBase (.dbf)
- Microsoft Excel 2003 (.xls)

Both files are compatible with ArcGIS 10 and the XLS file has been provided for users without ESRI ArcGIS.

The DBF file has more functionality in ArcGIS as it can be used to both relate and join the table to the Geofabric Surface Network.

### 1.2 ArcGIS version

The steps outlined in this tutorial use ArcGIS 10 (SP 3).

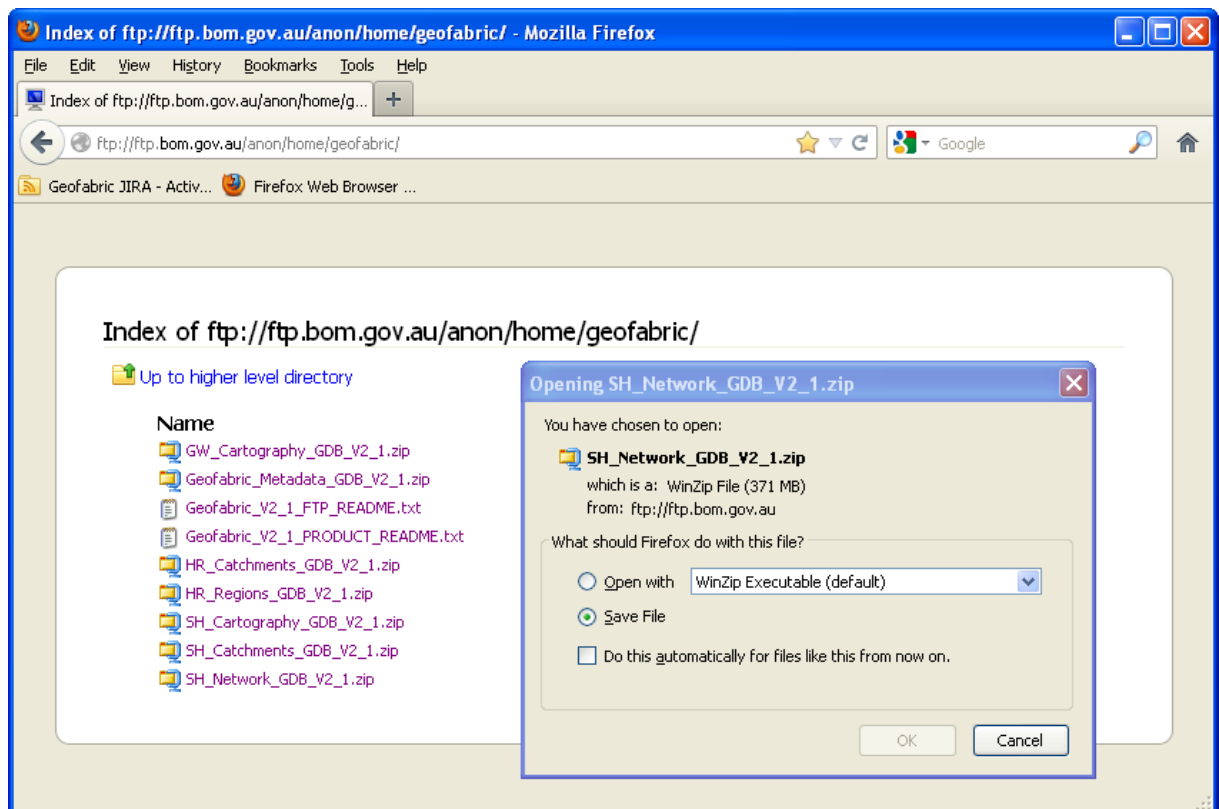
### 1.3 Symbology

The symbology used in this tutorial is based on the Geofabric Surface Network LYR file.

## 2 Tutorial

### 2.1 Download the Geofabric Surface Network File Geodatabase

1. From the [Bureau of Meteorology Geofabric](#) website, browse to Downloads and select [Download the Geofabric data from the Geofabric FTP site](#). Select Geofabric Surface Network's SH\_Network ZIP file and Save File.



2. Unzip the downloaded file, making sure that the resulting folder ends with gdb (e.g. the contents of the SH\_Network ZIP file should be unzipped to a folder called SH\_Network\_GDB).

### 2.2 Add Surface Network data to ArcMap

In this section, Surface Network feature classes will be added to ArcMap to illustrate the relationship between the AHGFNetworkNode, AHGFNetworkStream feature classes and the BetaSurfaceNetworkMonitoringPoint table.

Geofabric Surface Network data can be added to ArcMap using two different methods:

1. A LYR file which is included in the file downloaded in step 2.1 and contains symbology for Geofabric Surface Network. Adding this LYR file to ArcMap will add the whole Geofabric Surface Network product, including the Geometric Network.

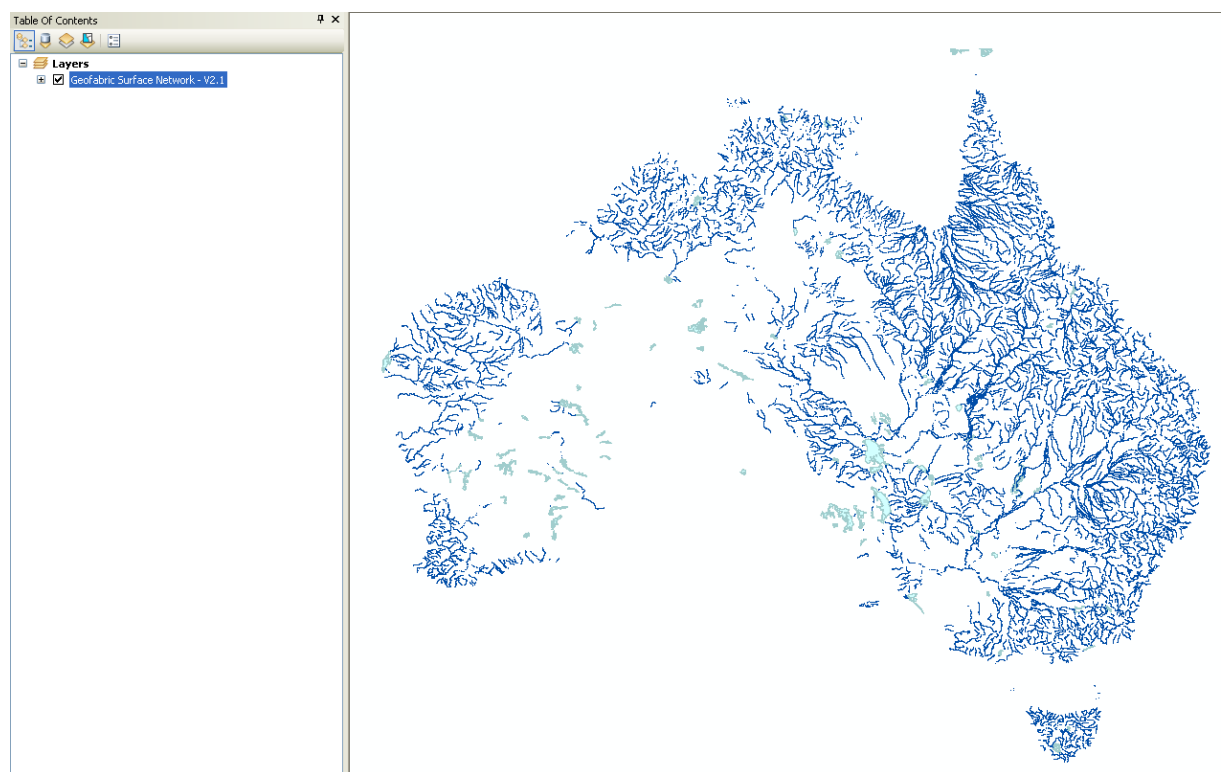
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2. Add the Geofabric Surface Network's feature classes individually from the file downloaded in step 2.1.

This tutorial will use the LYR file.

### 2.2.1 Add LYR file

1. Open a new ArcMAP document.
2. In ArcCatalog, go to the unzipped SH\_Network folder which was downloaded in step 2.1.
3. Click on the Geofabric Surface Network LYR file and drag it in to the new, empty ArcMap document's Table of Contents window. The LYR file will display the major network streams and waterbodies.



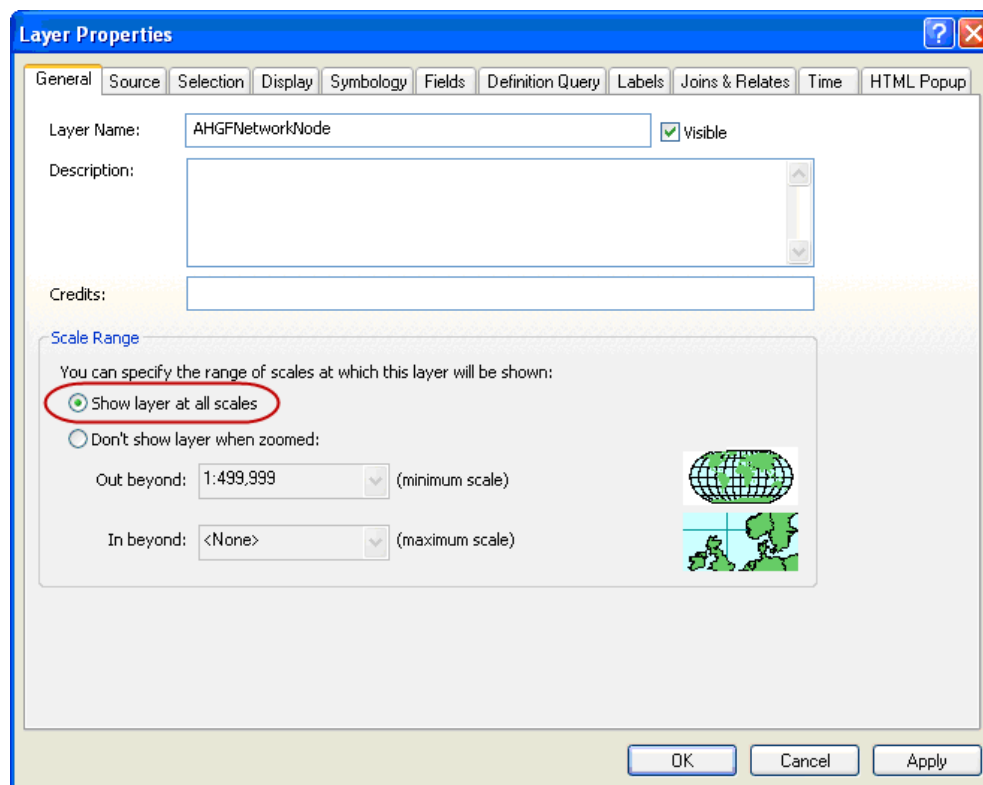
4. In the Table of Contents, expand the LYR file to display all four feature classes:
  - AHGFCatchment
  - AHGFNetworkNode
  - AHGFNetworkStream
  - AHGFWaterbody.
5. AHGFCatchment and AHGFNetworkNode layers do not display at this national level as this detail is generally not necessary at this scale. They have both had their Scale Range set to not display at small scales.

### 2.2.2 Display only NetworkGhostNode features

A semi-automated process has been used to associate the location of the monitoring points to the AHGFNetworkStream feature that is being measured. This process results in the creation of an AHGFNetworkNode feature with a subtype classification of NetworkGhostNode.

The AHGFNetworkNode Scale Range has been set to not display when zoomed out beyond 1:499,999. In this step, the Scale Range will be changed to show the AHGFNetworkNode at all scales so that the geographic locations and distribution of the network ghost nodes will be visible.

1. Right click on AHGFNetworkNode, select Properties...
2. Click on the General tab in the Layer Properties window
3. Select Show layer at all scales in Scale Range,

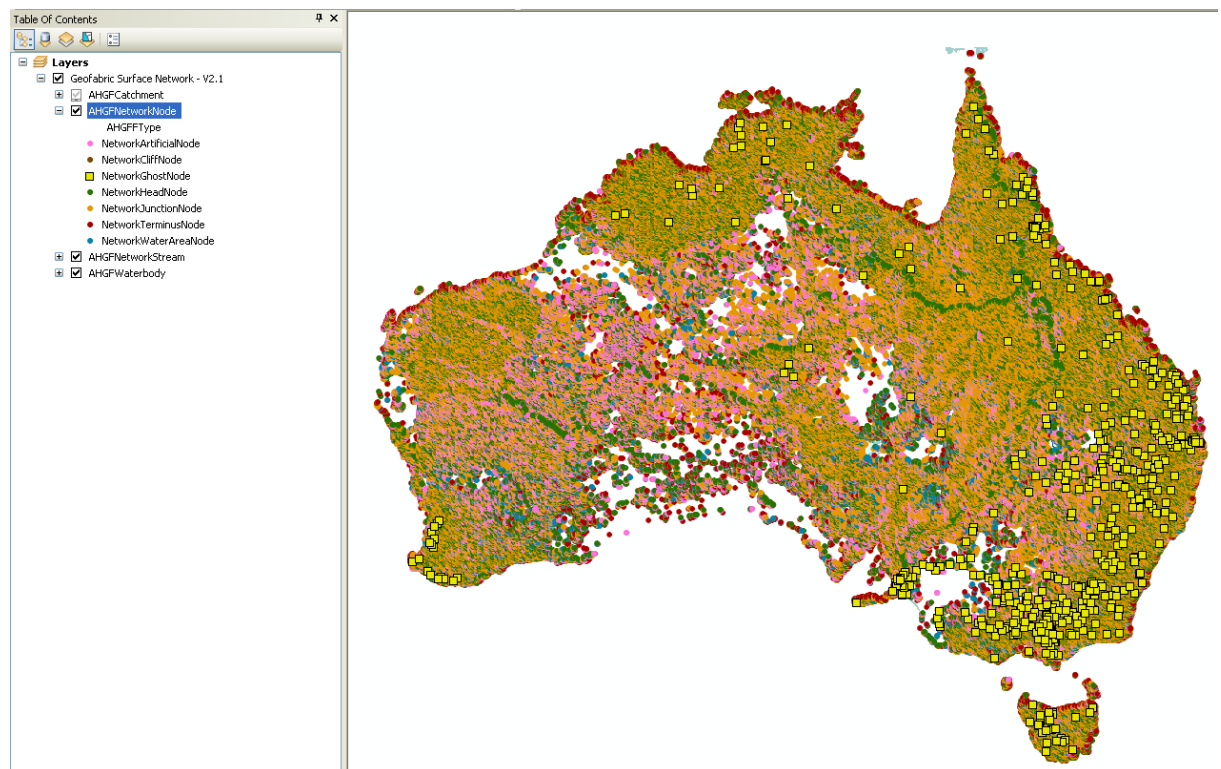


- Click [OK] and the NetworkNodes will display for the whole country.



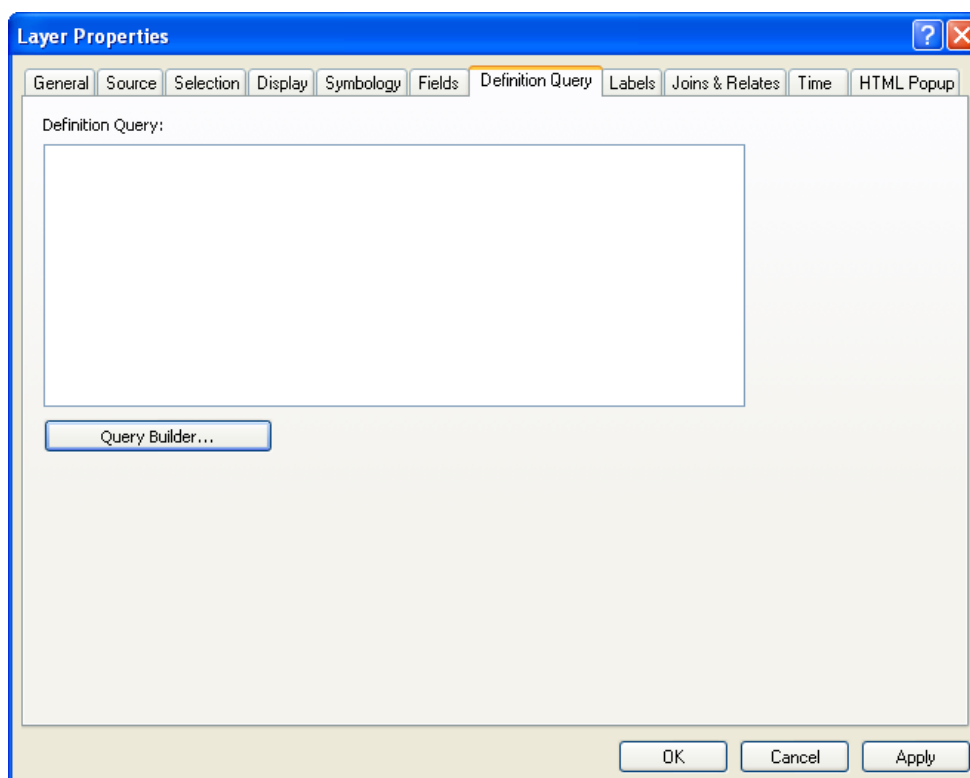
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- The NetworkGhostNodes are symbolised as yellow squares with black outlines.



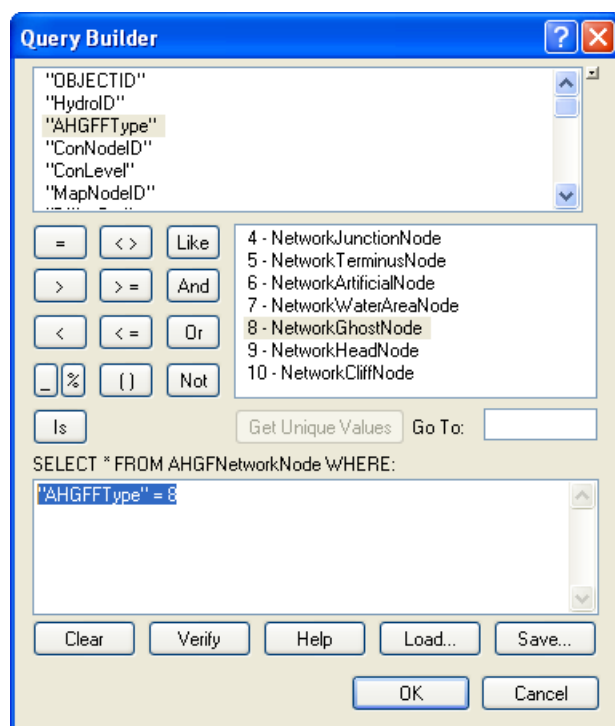
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4. Displaying all the nodes takes time to display. Create a definition query to display only the NetworkGhostNodes for the next step which will speed up the display as well as show the location of the ghost nodes more clearly in relation to the network streams.
- Right click on AHGFNetworkNode, select Properties... and click on the Definition Query tab



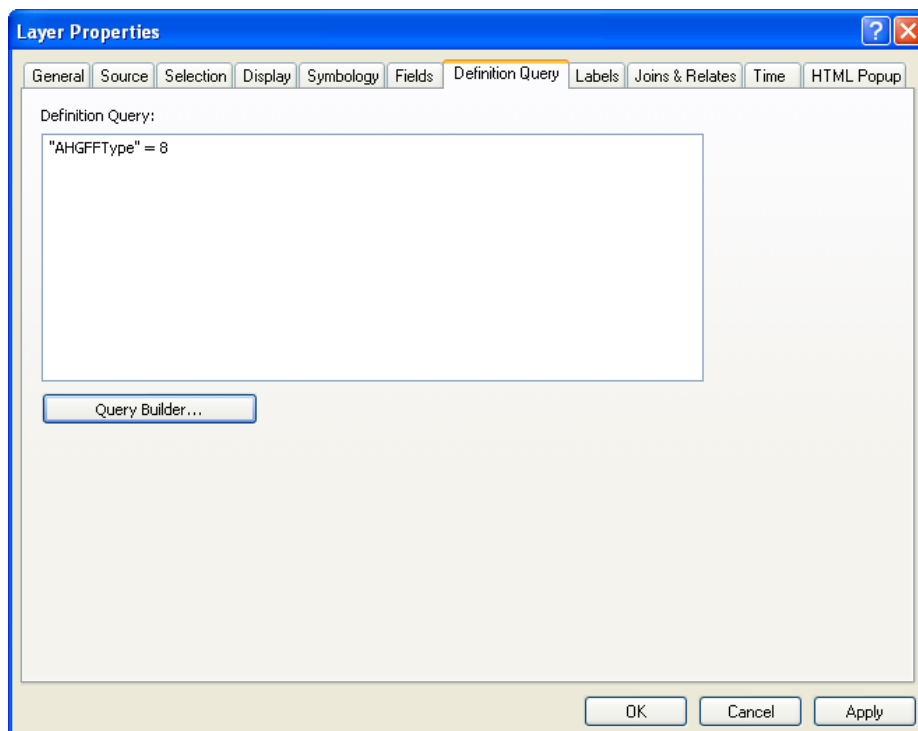
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- Click on the [Query Builder...] button and create the following query:  
"AHGFFType" = 8.
- Click [OK]

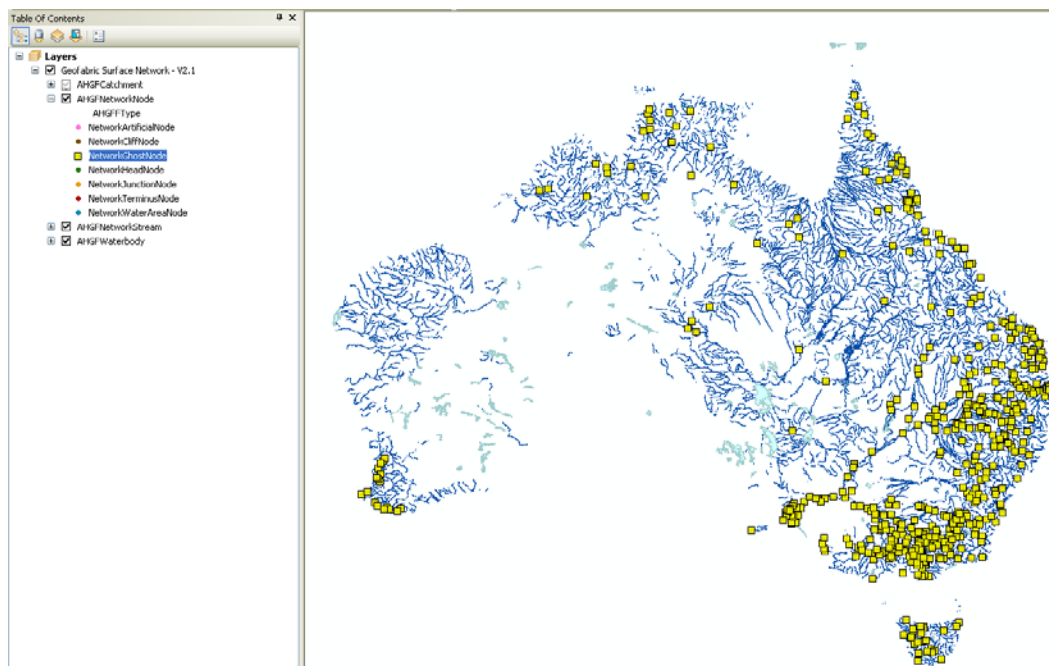


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- The Definition Query displays in the Definition Query tab. Click [OK].



- The display will refresh with only the NetworkGhostNodes placed on top of the major network streams and waterbodies.



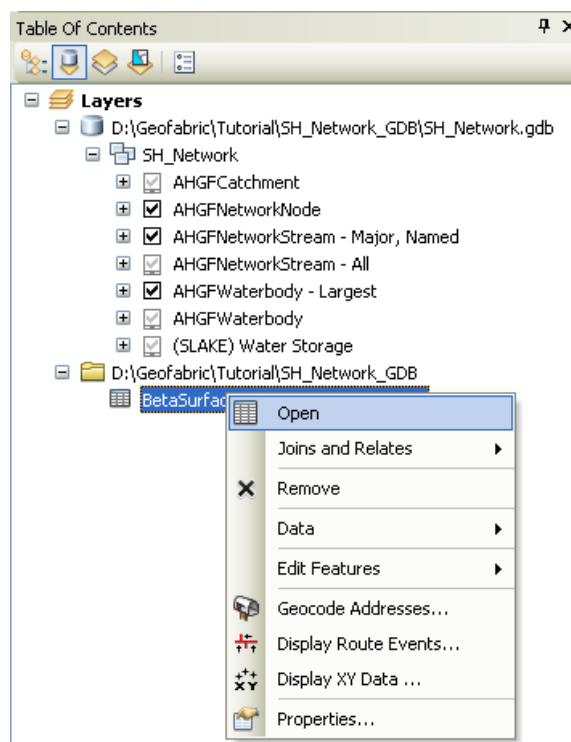
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### 2.3 Add BetaSurfaceNetworkMonitoringPoint table

In this step, the BetaSurfaceNetworkMonitoringPoint will be added and then related/joined to AHGFNetworkNode's Ghost Node subtype.

The DBF file will be added to ArcMap, as this file format allows you to either relate or join the table to AHGFNetworkNode, whereas the supplied XLS file can only be joined to AHGFNetworkNode in ArcMap.

1. In ArcMap, add the BetaSurfaceNetworkMonitoringPoint.dbf file.
2. To open and view the table, select the table in the Table of Contents, right click and click on Open.



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### 2.3.1 BetaSurfaceNetworkMonitoringPoint field names

The .dbf file's field names are restricted to 10 characters in length. Their descriptions are as follows:

Field name	Description
HYDROID	Specific and unique ID across the Geofabric products. Used to join/relate this table to AHGFNetworkNode
MP_AWRISID	Monitoring Point ID in the Australian Water Resources Information System (AWRIS) table
DATAOWNRID	The Bureau organisation ID assigned to the organisation listed in the Water Regulations who has been identified in the Water Data Transfer Format (data supply as the data owner.
MONPT_ID	Monitoring Point ID as provided for this beta table
MONPT_NAME	Monitoring Point name
DISTANCE_M	Distance, in metres, from the Monitoring Point to the Ghost Node
FLAGDISSUE	Flagged issues, identified during the Ghost Node creation and quality assurance review process
CONFIDENCE	Confidence rating for use
GN_QA_CODE	Ghost Node's Quality Assurance confidence code
NOTES	Additional information of the Monitoring Point's location and Quality Assurance review details
FEATREL	Reliability date of the Ghost Node's spatial object
ATTRREL	Reliability date of the Ghost Node's attributes
GEOFABRIC	Geofabric Version for which the Ghost Node was created

### 2.3.2 Number of monitoring points vs number of ghost nodes

There are 561 AHGFNetworkNode's Ghost Node features compared to 479 monitoring point features in the BetaSurfaceNetworkMonitoringPoint table. The remaining 82 AHGFNetworkNode's Ghost Node features are related to an AHGFWaterbody's (SLAKE) Water Storage feature and not a monitoring point feature.

The 82 (SLAKE) Water Storage NetworkGhostNodes are populated in the AHGFNetworkNode's table with 'Bureau of Meteorology' in both the FeatureSource and AttributeSource fields.

## 2.4 Link BetaSurfaceNetworkMonitoringPoint to AHGFNetworkNode

The BetaSurfaceNetworkMonitoringPoint table's HYDROID field is used to join or relate the table to the AHGFNetworkNode feature class.

Joining the table to AHGFNetworkNode will append the table's attributes to the AHGFNetworkNode's attribute table.

Relating the table to AHGFNetworkNode defines a relationship between the table and the AHGFNetworkNode's attribute table; it does not append attributes to any table.

The steps to relate the BetaSurfaceNetworkMonitoringPoint to AHGFNetworkNode's Ghost Nodes is similar to the steps to join the BetaSurfaceNetworkMonitoringPoint table to the AHGFNetworkNode feature class.

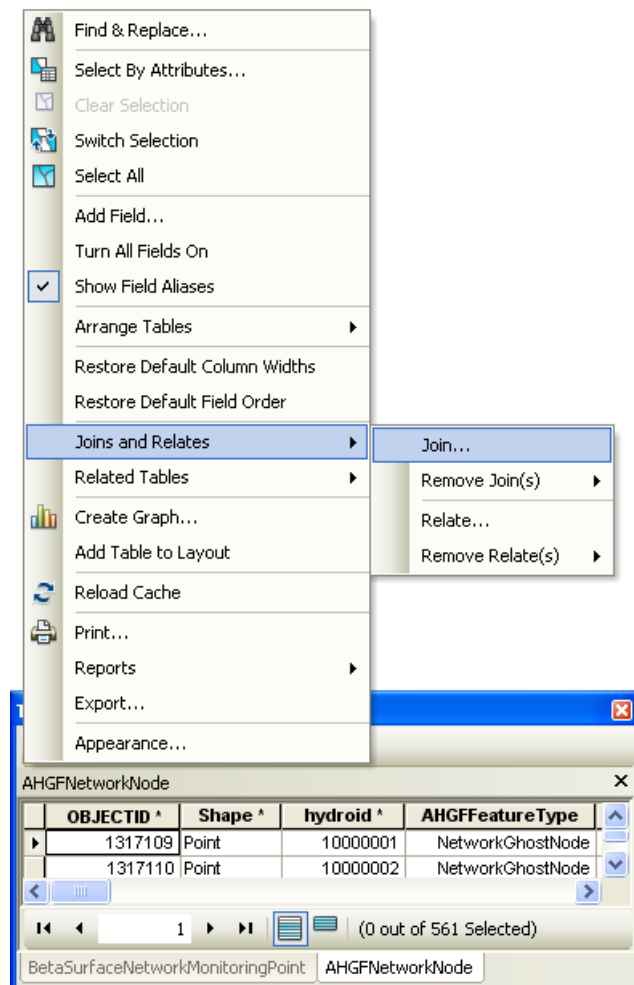
Steps for both joining and relating the BetaSurfaceNetworkMonitoringPoint table are described below.

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### 2.5 Join BetaSurfaceNetworkMonitoringPoint to AHGFNetworkNode

In this step, the BetaSurfaceNetworkMonitoringPoint will be joined to the AHGFNetworkNode feature class.

1. Open the AHGFNetworkNode table. Go to Table Options and select Joins and Relates > Join. Note that Show Field Aliases has been checked which will affect how the table's field names will display.





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2. In the Join Data window,
  - Select Join attributes from a table in What do you want to join to this layer?
  - Select hydroid for 1. Choose the field in this layer that the join will be based on:
  - Select BetaSurfaceNetworkMonitoringPoint for 2. Choose the table to join to this layer, or load from disk:
  - Select HYDROID for 3. Choose the field in the table to base the join on:
  - Select Keep only matching records in the Join Options, thereby removing network ghost nodes that have no relationship with BetaSurfaceNetworkMonitoringPoints
  - Click [OK].

**Join Data**

Join lets you append additional data to this layer's attribute table so you can, for example, symbolize the layer's features using this data.

What do you want to join to this layer?

Join attributes from a table

1. Choose the field in this layer that the join will be based on:

hydroid

2. Choose the table to join to this layer, or load the table from disk:

BetaSurfaceNetworkMonitoringPoint

☒ Show the attribute tables of layers in this list

3. Choose the field in the table to base the join on:

HYDROID

**Join Options**

☐ Keep all records  
All records in the target table are shown in the resulting table. Unmatched records will contain null values for all fields being appended into the target table from the join table.

☒ Keep only matching records  
If a record in the target table doesn't have a match in the join table, that record is removed from the resulting target table.

Validate Join

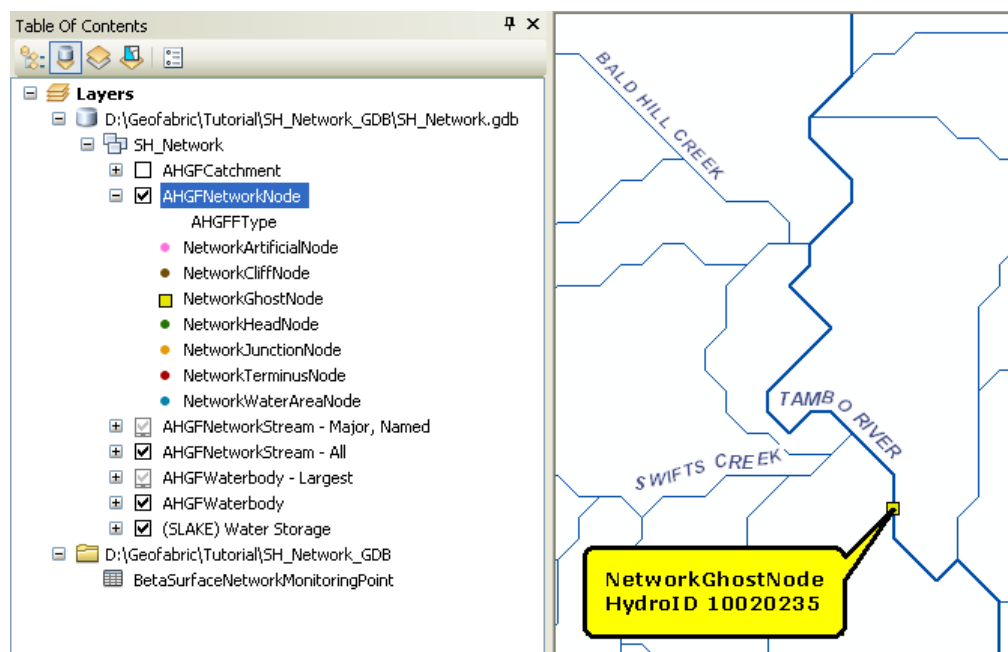
About Joining Data OK Cancel

3. In ArcGIS10, click Yes if a window appears asking you whether you want to apply an index.
4. In ArcGIS 9.3, click Yes if a window appears asking you whether you want to confirm the definition query created earlier in this tutorial.

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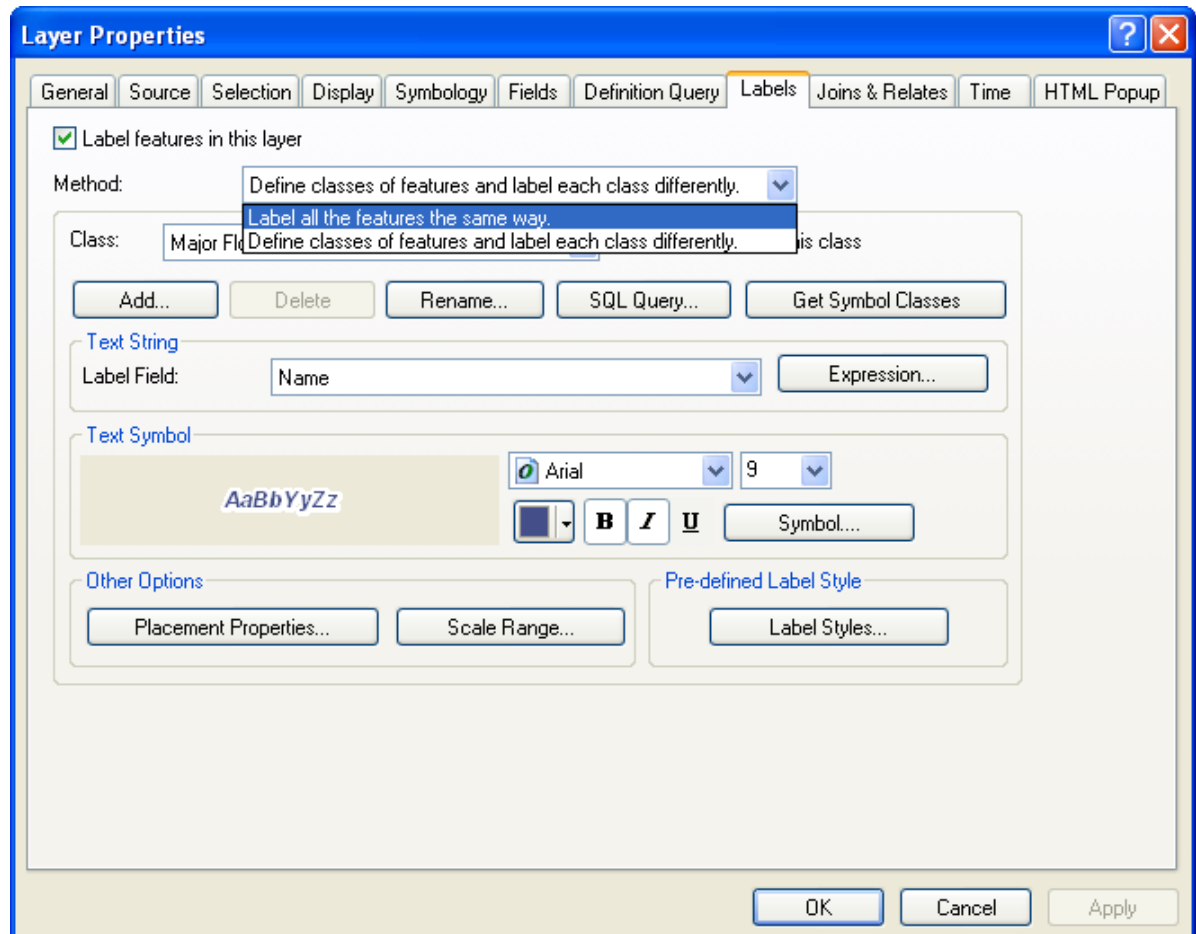
### 2.5.1 Identify and view NetworkGhostNode and its BetaSurfaceNetworkMonitoringPoint attributes

1. Zoom in to a NetworkGhostNode; the example below is in Victoria. The label has been added for illustrative purposes only to indicate which NetworkGhostNode it is.



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2. If the minor river names do not appear in the LYR file, right click on AHGFNetworkStream – All and select Properties. In the Labels tab, select Label all the features the same way from the Method: drop down list. Only the major rivers have been labelled as a default to speed up the display.



3. As the tables are joined, the Identify tool can be used to interrogate the attributes for both the tables.

Click on the Identify icon in the Tools toolbar.



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- Clicking on the NetworkGhostNode in the example above in the previous Step 1 displays the following information.

Identify

Identify from: <Top-most layer>

AHGFNetworkNode

Location: 147.728802 -37.267885 Decimal Degrees

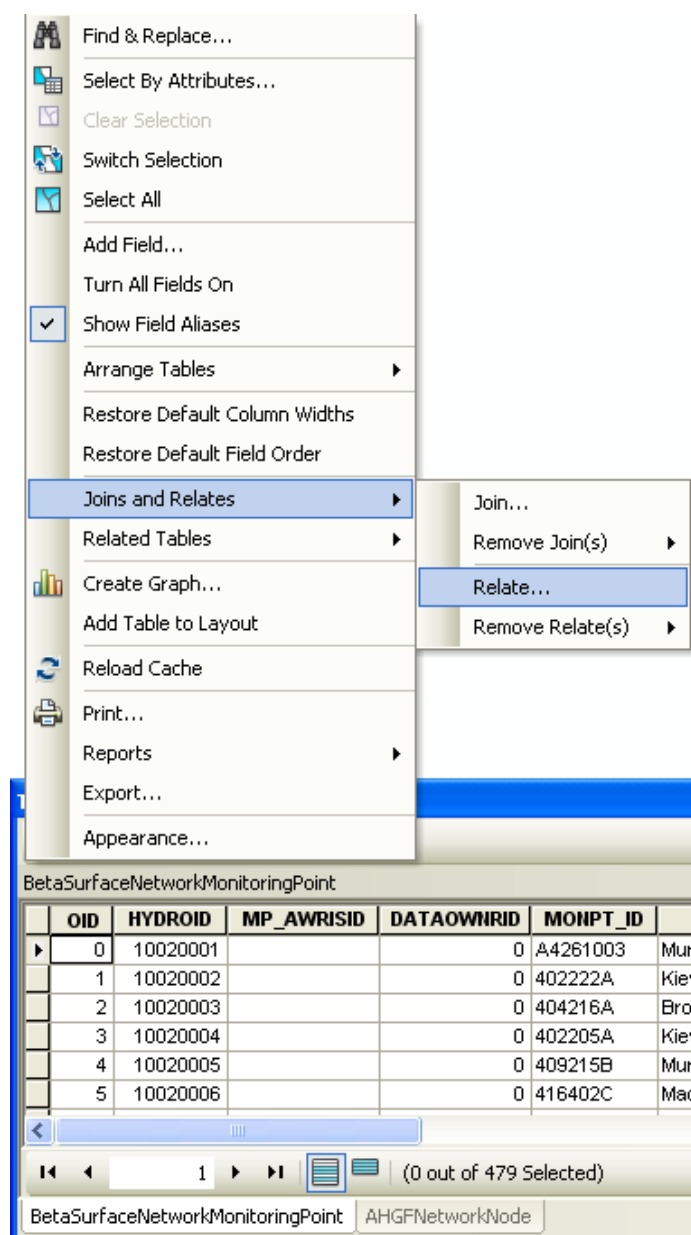
Field	Value
OBJECTID	1317425
Shape	Point
hydroid	10020235
AHGFFeatureType	NetworkGhostNode
ContractedNodeID	<null>
ContractLevel	<null>
MappedNodeID	<null>
DiffusedGroup	<null>
DiffusedType	<null>
DiffusedKey	<null>
MergedSink	<null>
nextdownid	<null>
Enabled	True
UpstreamGeodesicLength	<null>
UpstreamDrainageArea	<null>
SourceFeatureClassName	
SourceFeatureType	
SourceType	<null>
sourceid	<null>
FeatureReliability	13-January-2012
FeatureSource	
AttributeReliability	01-November-2012
AttributeSource	
PlanimetricAccuracy	<null>
symbol	<null>
textnote	<null>
OID	234
HYDROID	10020235
MP_AWRISID	
DATAOWNRID	0
MONPT_ID	223202
MONPT_NAME	Tambo River @ Swifts Creek
DISTANCE_M	13
FLAGDISUE	In vicinity of a network junction, check whether U/S or D/S of confluence or Divergence
CONFIDENCE	Very Good
GN_QA_CODE	2 GN location and associated observed feature validated by BoM
NOTES	U/S from significant confluence with Swift Creek, supported by Victorian Water Resources webmap
FEATREL	13-January-2012
ATTRREL	01-November-2012
GEOFABRIC	V2.1

Identified 1 feature

## 2.6 Relate BetaSurfaceNetworkMonitoringPoint table to AHGFNetworkNode

1. Open the BetaSurfaceNetworkMonitoringPoint table. Right click on the layer in the table of contents and select Open Table
2. In the BetaSurfaceNetworkMonitoringPoint table, go to Table Options and select Joins and Relates > Relate.

Note that Show Field Aliases has been checked which will affect how AHGFNetworkNode table field names will display.



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3. In the Relate window,
  - Select HYDROID for 1. Choose the field in this layer that the relate will be based on:
  - Select AHGFNetworkNode for 2. Choose the table or layer to relate to this layer, or load from disk:
  - Select HYDROID for 3. Choose the field in the related table or layer to base the relate on:
  - Accept the default name 'Relate1', for 4. Choose a name for the relate:, or type in your preferred name
  - Click OK.

**Relate**

Relate lets you associate data with this layer. The associated data isn't appended into this layer's attribute table like it is in a Join. Instead you can access the related data when you work with this layer's attributes or vice-versa.

Establishing a relate is particularly useful if there is a 1-to-many or many-to-many association between the layer and the related data.

1. Choose the field in this layer that the relate will be based on:  
HYDROID

2. Choose the table or layer to relate to this layer, or load from disk:  
AHGFNetworkNode

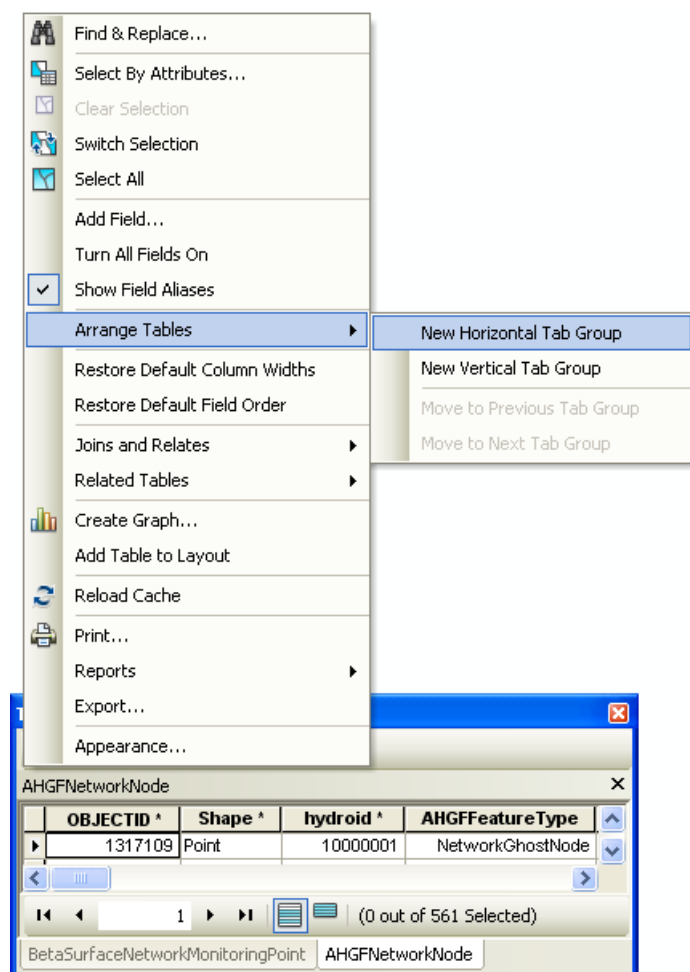
3. Choose the field in the related table or layer to base the relate on:  
hydroid

4. Choose a name for the relate:  
Relate1

About Relating Data OK Cancel

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4. Arrange the two tables as separate horizontal tabs as this will make it easier to view attributes for both related tables.
  - Click on Table Options in the Table window
  - Select Arrange Tables > New Horizontal Tab Group



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- The windows will display horizontally on top of each other. If necessary adjust the size of the tables to display the attributes.

**Table - BetaSurfaceNetworkMonitoringPoint**

OID	HYDROID	MP_AWRISID	DATAOWNRID	MONPT_ID	MONPT_NAME
0	10020001		0	A4261003	Murray - Murray Bridge No. 1 Ps
1	10020002		0	A02222A	Kiewa River - Main Stream

(0 out of 479 Selected)

**AHGFNetworkNode**

OBJECTID *	Shape *	hydroid *	AHGFFeatureType	ContractedNodeID
1317109	Point	10000001	NetworkGhostNode	17997
1317110	Point	10000002	NetworkGhostNode	17998

(0 out of 561 Selected)



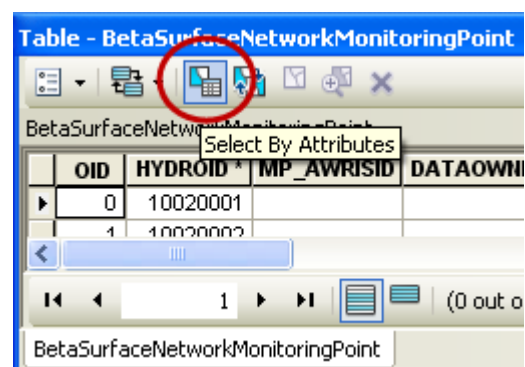
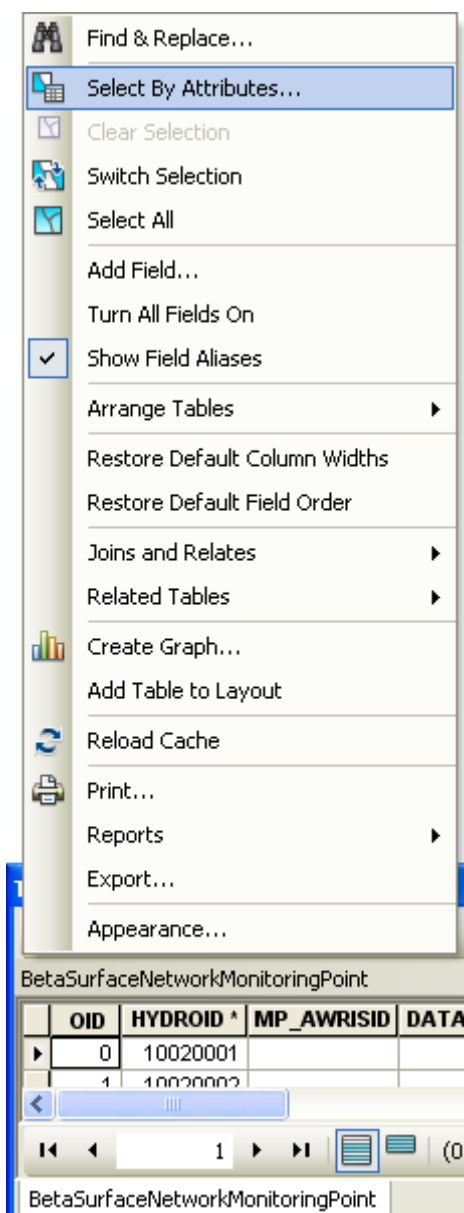
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### 2.6.1 Select monitoring points

This section will explain how to search for monitoring points along a named river and relate them to their AHGFNetworkNode NetworkGhostNode features.

The example used will be searching for monitoring points along the Murray River.

1. Open the BetaSurfaceNetworkMonitoringPoint's attribute table. Go to Table Options > Select By Attributes... or click on the Select By Attributes icon in the table.



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2. Select monitoring points with the name 'Murray' in it. In the SELECT \* FROM BetaSurfaceNetworkMonitoringPoint WHERE window, enter "MONPT\_NAME" LIKE '%Murray%'

**Select by Attributes**

Enter a WHERE clause to select records in the table window.

Method : Create a new selection

"OID"  
"HYDROID"  
"MP\_AWRISID"  
"DATAOWNRID"  
"MONPT\_ID"  
"MONPT\_NAME"

= < > Like  
> > = And  
< < = Or  
\_ % ( ) Not

Is Get Unique Values Go To:

SELECT \* FROM BetaSurfaceNetworkMonitoringPoint WHERE:  
"MONPT\_NAME" LIKE '%Murray%'

Clear Verify Help Load... Save...  
Apply Close

3. Click Apply.

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4. In this example, 20 records will be selected. In the BetaSurfaceNetworkMonitoringPoint table, click on the Show selected records to view the records.

**Table - BetaSurfaceNetworkMonitoringPoint**

BetaSurfaceNetworkMonitoringPoint

	MONPT_NAME
<input type="checkbox"/>	Murray - Murray Bridge No. 1 Ps
<input type="checkbox"/>	Murray River at Barmah
<input type="checkbox"/>	Murray River at Jinjelic
<input type="checkbox"/>	Murray - Swan Hill
<input type="checkbox"/>	Murray River - D/S Hume Dam (Heywoods)
<input type="checkbox"/>	Murray River at Colignan
<input type="checkbox"/>	Murray - Torrumbarry
<input type="checkbox"/>	Murray - Boundary Bend
<input type="checkbox"/>	Murray River at Biggara
<input type="checkbox"/>	Murray - Overland Corner (417.5KM)
<input type="checkbox"/>	Murray River - Corowa
<input type="checkbox"/>	Murray River D/S Rufus River
<input type="checkbox"/>	Murray River at Tocumwal
<input type="checkbox"/>	Murray River - Wentworth Weir
<input type="checkbox"/>	Murray - Gulpa
<input type="checkbox"/>	Murray River D/S Wakool Junction
<input type="checkbox"/>	Murray - Euston
<input type="checkbox"/>	Murray River - Doctors Point
<input type="checkbox"/>	Murray River - Barham
<input type="checkbox"/>	Murray River - ds Yarrawonga Weir

0 (20 out of 479 Selected)

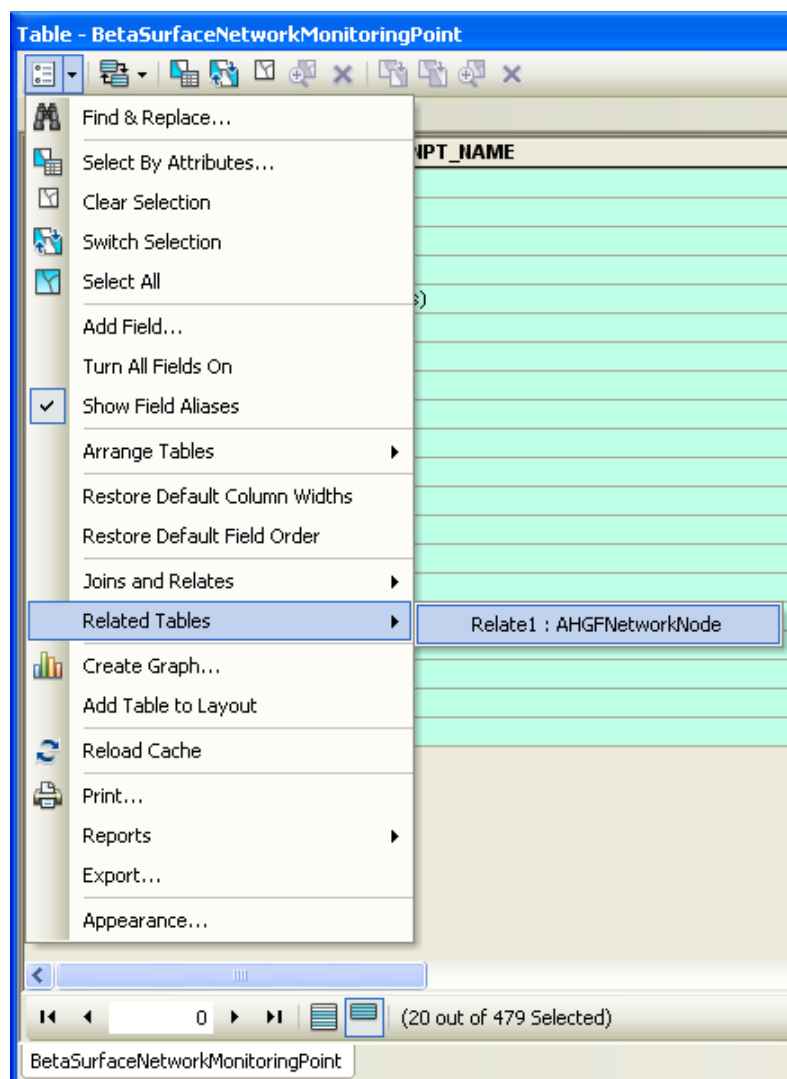
BetaSurfaceNetworkMonitoringPoint

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### 2.6.2 Select related AHGFNetworkNode node features

Relate the selected BetaSurfaceNetworkMonitoringPoint records to AHGFNetworkNode NetworkGhostNode features.

1. On the BetaSurfaceNetworkMonitoringPoint table, go top Table Options > Related Tables > Relate1 : AHGFNetworkNode



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2. The related NetworkGhostNode features will be selected in the AHGFNetworkNode table. Click on the Show selected records icon to display only the selected, related records.

The locations of the selected NetworkGhostNode features will be checked in ArcMap in the following section.

AHGFNetworkNode				
	OBJECTID ^	Shape ^	hydroid ^	AHGFFeatureType
	1317191	Point	10020001	NetworkGhostNode
	1317195	Point	10020005	NetworkGhostNode
	1317221	Point	10020031	NetworkGhostNode
	1317223	Point	10020033	NetworkGhostNode
	1317226	Point	10020036	NetworkGhostNode
	1317240	Point	10020050	NetworkGhostNode
	1317241	Point	10020051	NetworkGhostNode
	1317242	Point	10020052	NetworkGhostNode
	1317247	Point	10020057	NetworkGhostNode
	1317256	Point	10020066	NetworkGhostNode
	1317284	Point	10020094	NetworkGhostNode
	1317295	Point	10020105	NetworkGhostNode
	1317296	Point	10020106	NetworkGhostNode
	1317299	Point	10020109	NetworkGhostNode
	1317300	Point	10020110	NetworkGhostNode
	1317308	Point	10020118	NetworkGhostNode
	1317312	Point	10020122	NetworkGhostNode
	1317347	Point	10020157	NetworkGhostNode
	1317373	Point	10020183	NetworkGhostNode
	1317374	Point	10020184	NetworkGhostNode

< 0 > (20 out of 561 Selected)

AHGFNetworkNode

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- Viewing the selected records in the two tables as horizontal tabs.

Table - AHGFNetworkNode

BetaSurfaceNetworkMonitoringPoint

	HYDROID	MP_AWRISID	DATAOWIRID	MONPT_ID	MONPT_NAME
▶	10020001		0	A4261003	Murray - Murray Bridge No. 1 Ps
	10020005		0	409215B	Murray River at Barmah
	10020031		0	401201A	Murray River at Jinjelic
	10020033		0	409204C	Murray - Swan Hill
	10020036		0	409016	Murray River - D/S Hume Dam (Heywoods)
	10020050		0	414207A	Murray River at Colignan
	10020051		0	409207B	Murray - Torrumbarry
	10020052		0	414201B	Murray - Boundary Bend
	10020057		0	401012	Murray River at Biggara
	10020066		0	AW426528	Murray - Overland Corner (417.5KM)
	10020094		0	409002	Murray River - Corowa
	10020105		0	426200A	Murray River D/S Rufus River
	10020106		0	409202A	Murray River at Tocumwal
	10020109		0	425010	Murray River - Wentworth Weir
	10020110		0	409006	Murray - Gulpa
	10020118		0	414200A	Murray River D/S Wakool Junction
	10020122		0	414203C	Murray - Euston
	10020157		0	409017	Murray River - Doctors Point
	10020183		0	409005	Murray River - Barham
	10020184		0	409025	Murray River - ds Yarrawonga Weir

(20 out of 479 Selected)

BetaSurfaceNetworkMonitoringPoint

AHGFNetworkNode

	OBJECTID *	Shape *	hydroid *	AHGFFeatureType	ContractedNodeID	Contr
	1317191	Point	10020001	NetworkGhostNode	<Null>	<Null>
	1317195	Point	10020005	NetworkGhostNode	<Null>	<Null>
	1317221	Point	10020031	NetworkGhostNode	<Null>	<Null>
	1317223	Point	10020033	NetworkGhostNode	<Null>	<Null>
	1317226	Point	10020036	NetworkGhostNode	<Null>	<Null>
	1317240	Point	10020050	NetworkGhostNode	<Null>	<Null>
	1317241	Point	10020051	NetworkGhostNode	<Null>	<Null>
	1317242	Point	10020052	NetworkGhostNode	<Null>	<Null>
	1317247	Point	10020057	NetworkGhostNode	<Null>	<Null>
	1317256	Point	10020066	NetworkGhostNode	<Null>	<Null>
	1317284	Point	10020094	NetworkGhostNode	<Null>	<Null>
	1317295	Point	10020105	NetworkGhostNode	<Null>	<Null>
	1317296	Point	10020106	NetworkGhostNode	<Null>	<Null>
	1317299	Point	10020109	NetworkGhostNode	<Null>	<Null>
	1317300	Point	10020110	NetworkGhostNode	<Null>	<Null>
	1317308	Point	10020118	NetworkGhostNode	<Null>	<Null>
	1317312	Point	10020122	NetworkGhostNode	<Null>	<Null>
	1317347	Point	10020157	NetworkGhostNode	<Null>	<Null>
	1317373	Point	10020183	NetworkGhostNode	<Null>	<Null>
	1317374	Point	10020184	NetworkGhostNode	<Null>	<Null>

(20 out of 561 Selected)

AHGFNetworkNode

## Australian Hydrological Geospatial Fabric (Geofabric) Tutorial – Use the Beta Monitoring Point table to extend node attribution

- Viewing the selected records in the two tables as vertical tabs.

Table - AHGFNetworkNode

BetaSurfaceNetworkMonitoringPoint

	HYDROID	MP_AWRISID	DATAOWNRID	MONPT_ID	MONPT_NAME
	10020001		0	A4261003	Murray - Murray Bridge No. 1 Ps
	10020005		0	409215B	Murray River at Barmah
	10020031		0	401201A	Murray River at Jinjelic
	10020033		0	409204C	Murray - Swan Hill
	10020036		0	409016	Murray River - D/S Hume Dam (Heywoods)
	10020050		0	414207A	Murray River at Colignan
	10020051		0	409207B	Murray - Torrumbarry
	10020052		0	414201B	Murray - Boundary Bend
	10020057		0	401012	Murray River at Biggara
	10020066		0	AW426528	Murray - Overland Corner (417.5KM)
	10020094		0	409002	Murray River - Corowa
	10020105		0	426200A	Murray River D/S Rufus River
	10020106		0	409202A	Murray River at Tocumwal
	10020109		0	425010	Murray River - Wentworth Weir
	10020110		0	409006	Murray - Gulpa
	10020118		0	414200A	Murray River D/S Wakool Junction
	10020122		0	414203C	Murray - Euston
	10020157		0	409017	Murray River - Doctors Point
	10020183		0	409005	Murray River - Barham
	10020184		0	409025	Murray River - ds Yarrawonga Weir

(20 out of 479 Selected)

BetaSurfaceNetworkMonitoringPoint

AHGFNetworkNode

	hydroid *	AHGFFeatureType
	10020001	NetworkGhostNode
	10020005	NetworkGhostNode
	10020031	NetworkGhostNode
	10020033	NetworkGhostNode
	10020036	NetworkGhostNode
	10020050	NetworkGhostNode
	10020051	NetworkGhostNode
	10020052	NetworkGhostNode
	10020057	NetworkGhostNode
	10020066	NetworkGhostNode
	10020094	NetworkGhostNode
	10020105	NetworkGhostNode
	10020106	NetworkGhostNode
	10020109	NetworkGhostNode
	10020110	NetworkGhostNode
	10020118	NetworkGhostNode
	10020122	NetworkGhostNode
	10020157	NetworkGhostNode
	10020183	NetworkGhostNode
	10020184	NetworkGhostNode

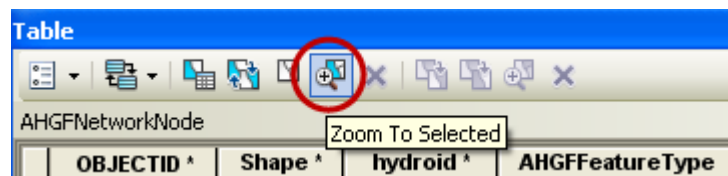
(20 out of 561 Selected)

AHGFNetworkNode

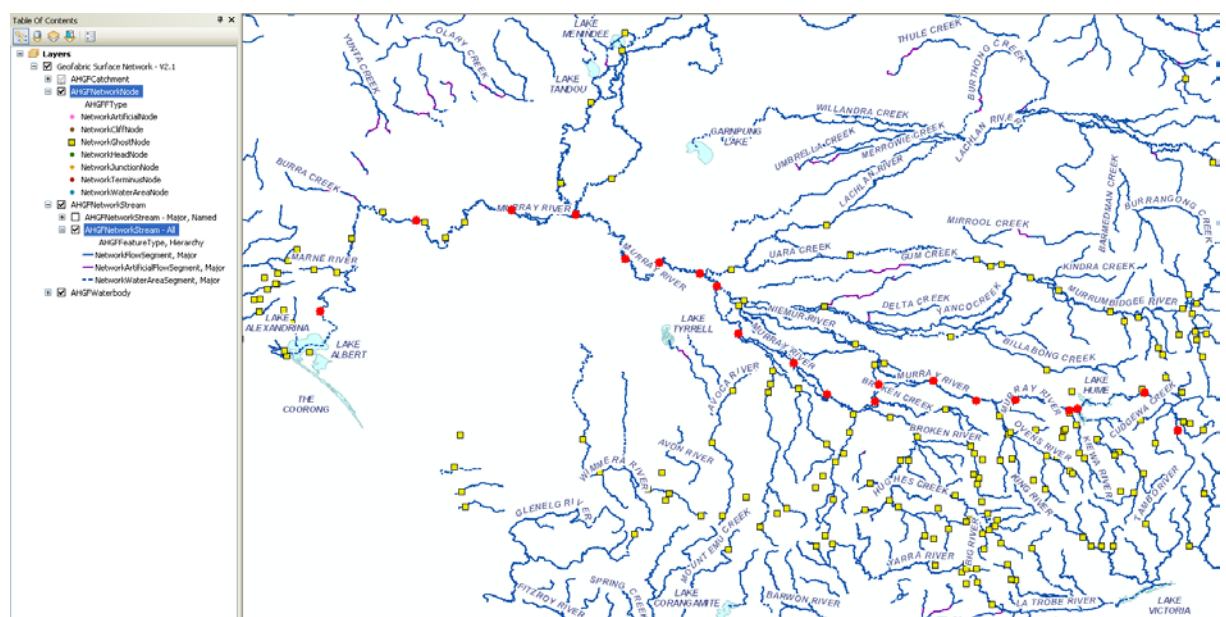
## Australian Hydrological Geospatial Fabric (Geofabric) Tutorial – Use the Beta Monitoring Point table to extend node attribution

### 2.6.3 Display related NetworkGhostNode features

1. Zoom to the selected NetworkGhostNode features. In the AHGFNetworkNode table, click on Zoom to Selected button.



2. In ArcMap, the display will show all the selected NetworkGhostNode features. For illustrative purposes in the screen shot below, the selected NetworkGhostNodes are highlighted in red. Only major AHGFNetworkStream features and the largest AHGFWaterbody features are shown.
3. Check that the selected NetworkGhostNode features are along the Murray River and not another named stream which has 'Murray' in its name.





## Australian Hydrological Geospatial Fabric (Geofabric) Tutorial – Use the Beta Monitoring Point table to extend node attribution

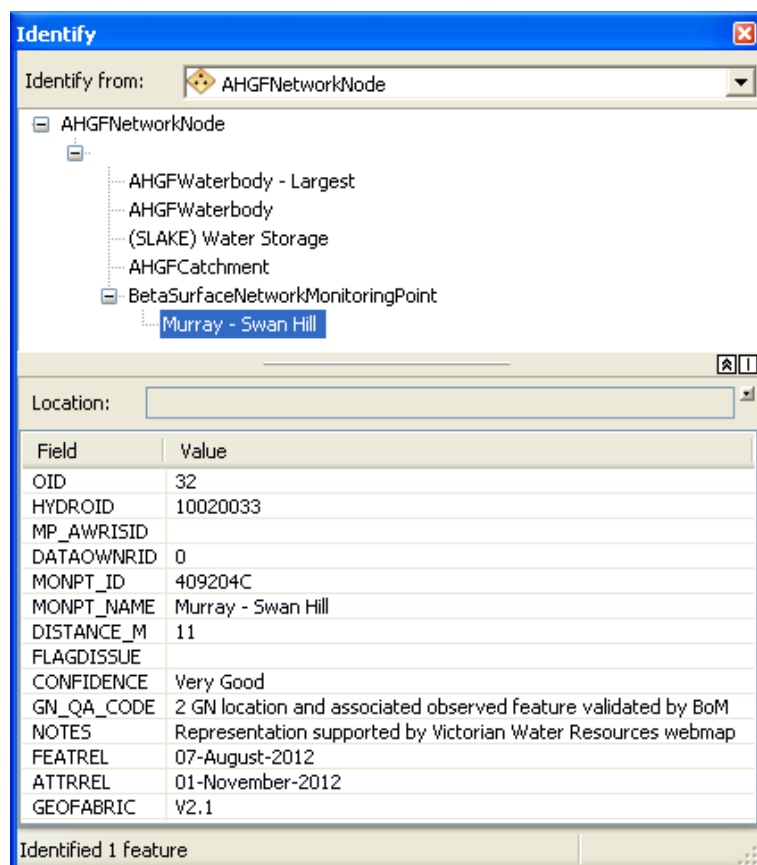
### 2.6.1 Identify and view related NetworkGhostNode and monitoring point attributes

Use the Identify tool to display information about a NetworkGhostNode and its related monitoring point.

1. Click on the Identify icon in the Tools toolbar



2. Click on a selected NetworkGhostNode
3. In the Identify's window Identify from: drop down list, select AHGFNetworkNode.
4. Expand the identified AHGFNetworkNode list and expand the related BetaSurfaceNetworkMonitoringPoint list to display the name of the identified monitoring point and its attributes.





Through the *Water Act 2007*, the Australian Government has given the Bureau of Meteorology responsibility for compiling and delivering comprehensive water information across Australia.

**For more information**

Visit our website at [www.bom.gov.au/water](http://www.bom.gov.au/water)

Send an email request to [waterinfo@bom.gov.au](mailto:waterinfo@bom.gov.au)



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