BowTie Pro

The modern, fast and easy to use risk analysis tool

# Advanced Features

Using the Custom Reporter
In BowTie Pro™

Introduction

The BowTie Pro™ Custom Reporter is a module that enables a BowTie Pro™ user to compile their own reports, tailored to their own specifications. In addition the finished reports can include company logos and bitmaps, making the reports unique to a company.

BowTie Pro™ Custom Reporter makes the reporting process even easier by incorporating user friendly Reporting Wizards.
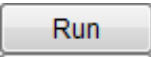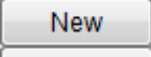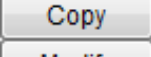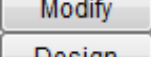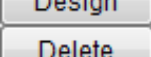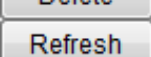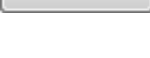
Launching Custom Reporter

Custom Reporter is launched from the Outputs menu of BowTie Pro™.
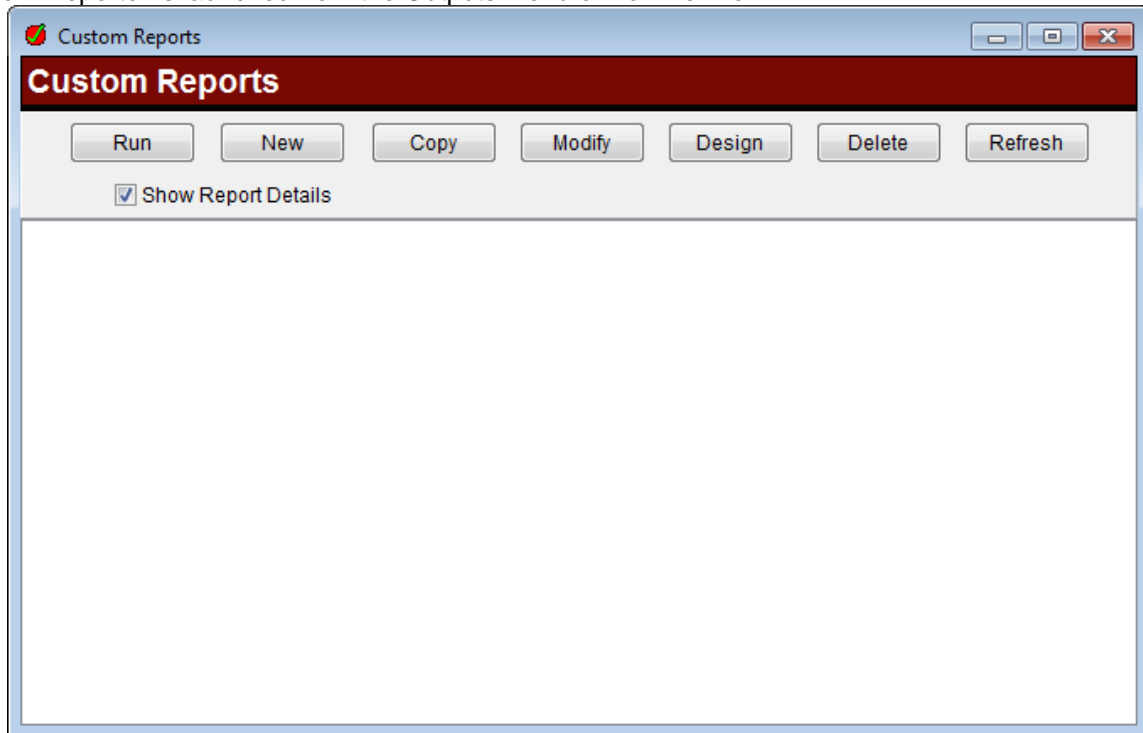
The screen provides a list of available custom reports. Each time the user creates a new Report it will become available from this list.

At the top of this screen there are seven buttons to choose from.

|	
Run	Run a chosen report from available reports.
New	New report and choose Wizards.
Copy	Makes a copy of the selected Report.
Modify	Modify existing report using the Wizard.
Design	Modify existing report using the designer.
Delete	Delete a chosen report.
Refresh	Updates the list of created reports.

Creating a New Report Using Wizard

BowTie Pro™ Custom Reporter Reporting Wizard enables the user to create reports using the modules and fields of data stored within BowTie Pro™. To create a report, follow the five steps outlined below.

Step 1 - Choose Reportable Fields

1. Select a module that the report will be based around
2. From the Available Fields select the fields for the report
3. Repeat 1 - 2 for each module for which a report is required.

For the purpose of this example we have chosen to report on Location Name and Hazard and Event details.
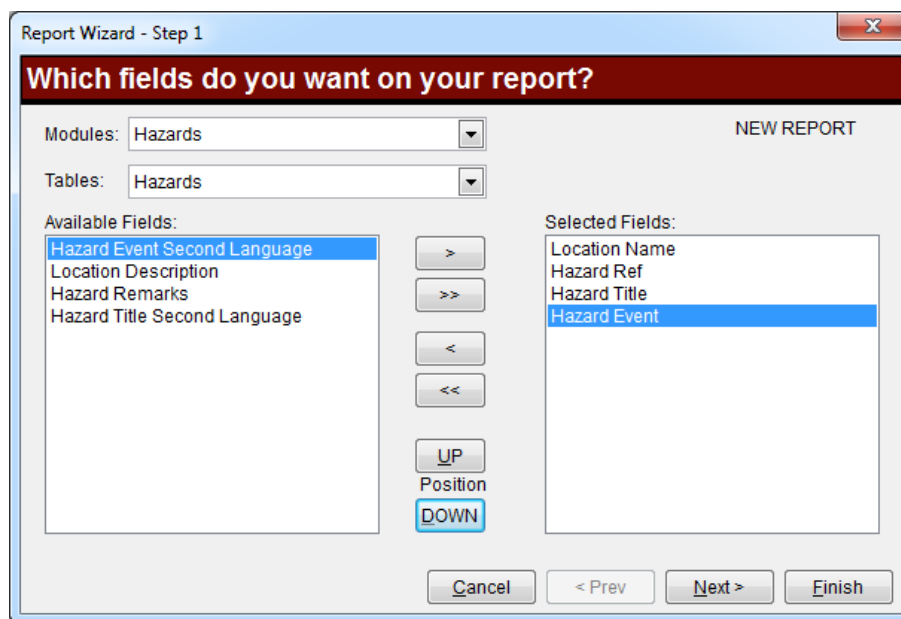
The Available fields are listed on the left hand side, the already Selected fields are on the right.

As a field is moved over to the right hand side is will be removed from the left hand side. This is performed by the buttons in the middle of the screen.

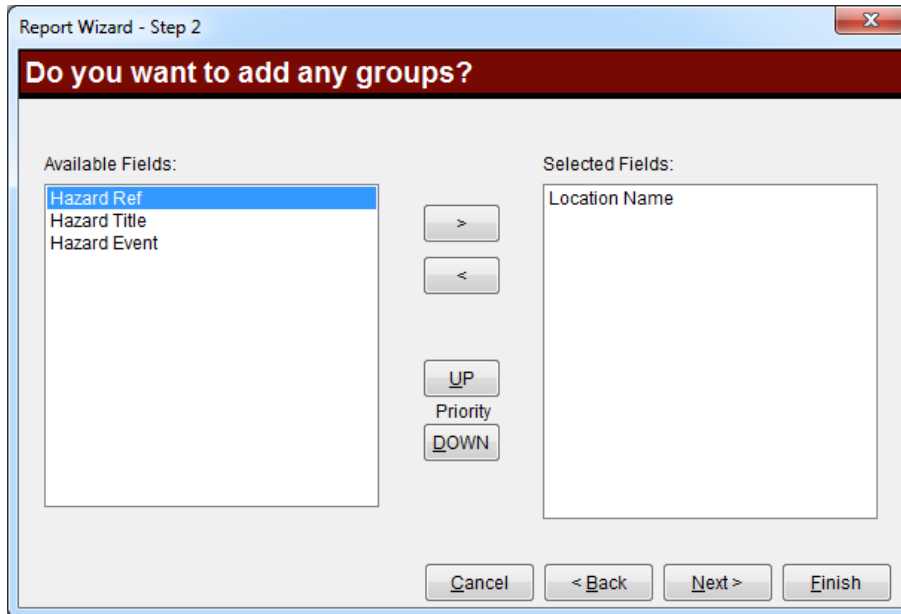| Button	Description
>	Move the selected (highlighted in blue) field on the left to the right hand side
>>	Move all fields on the left to the right, if they are highlighted or not
<	Move the highlighted field on the right to the left hand side
<<	Remove all field from the report

The order of the fields on the right hand side is how they will appear on the report.   As a result the position on the right hand side can be moved by the "**UP**" and "**DOWN**" buttons.

Until fields are selected the "Next >" button will not become available.

Step 2 - Grouping

The Grouping screen only shows the fields that were selected in the first field.

From the Available Fields window select the fields that the report will be grouped by. From the Selected Fields window prioritise the fields using the "**UP"** and **"DOWN"** buttons.
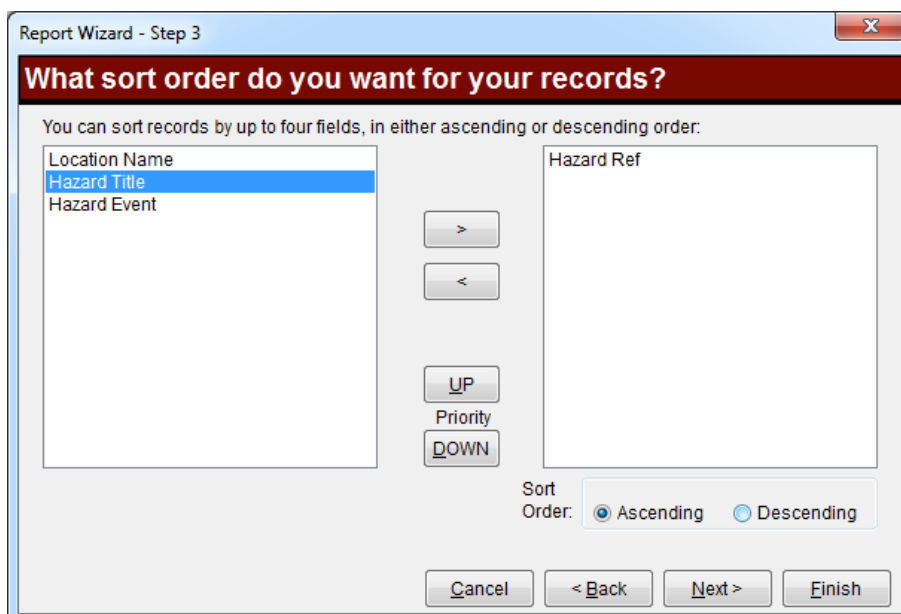

In the selected fields window example above we have chosen to group by Location Name

Step 3 - Set Sort Order

For each field (up to four) that has not been grouped, Report Wizard allows the user to set a sort order. Using this screen it is possible to be able to choose to either sort by ascending or descending order.
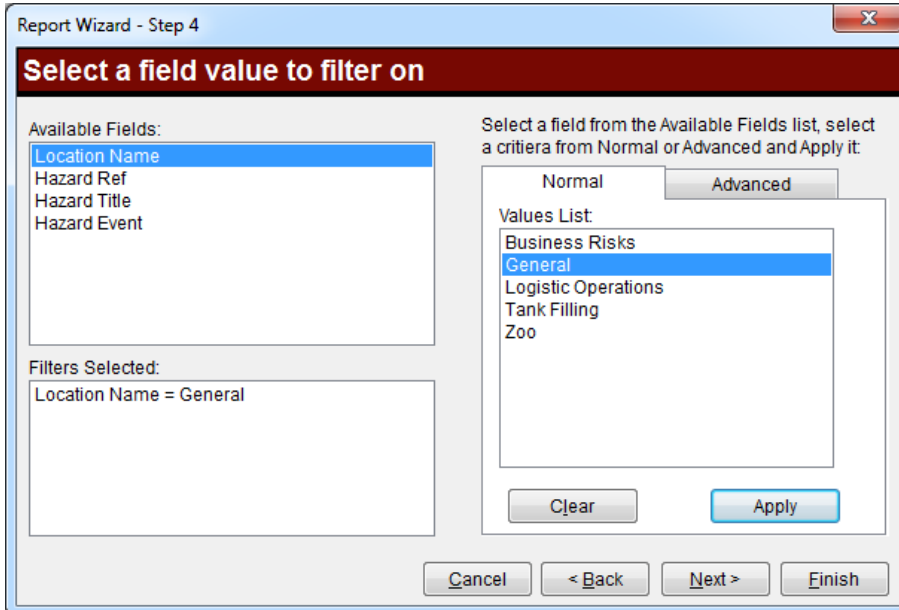

In this example the Hazard Ref is added to the Sort.

Note: Sorting occurs after grouping

Step 4 - Filtering

Choose relevant Fields to filter on.
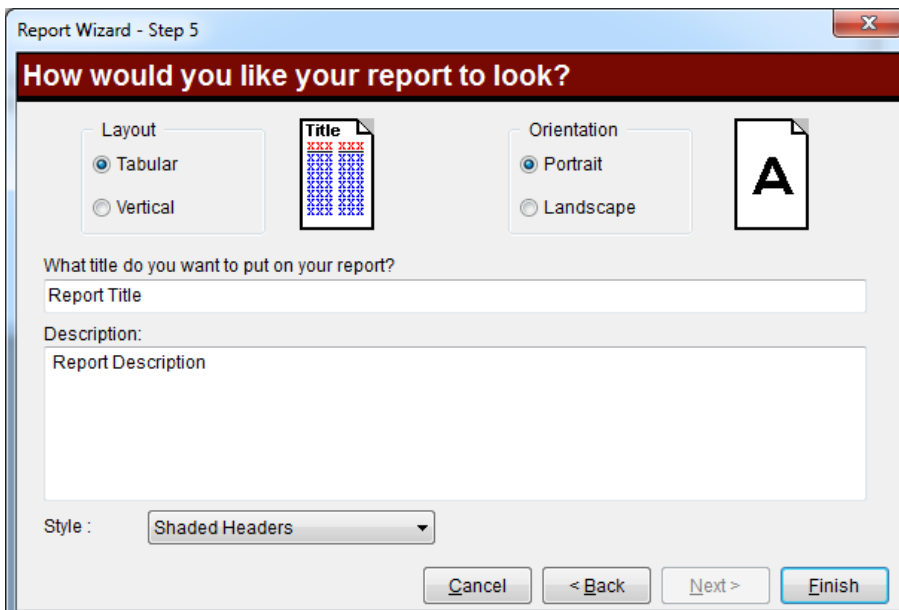

In this case we have chosen to select data for the Location Name is General.

Step 5 - Layout of Report

The report layout can either be tabular or vertical and orientated portrait or landscape. A description can also be entered into the free text field called **Description**.

The format style can be selected from the dropdown list

The title for the report is mandatory.

Examples

Below are sections of a report created when the previous six steps have been followed.

The first view shows what the report would look like printed out without any changes or customisation.

The second view of the report is shown in design mode, showing the positions of each field and heading.

This third view shows what the report could look like after customisation. See "Altering Custom Reports" later in this document.

Printing & Changing the Filter on an Existing Report

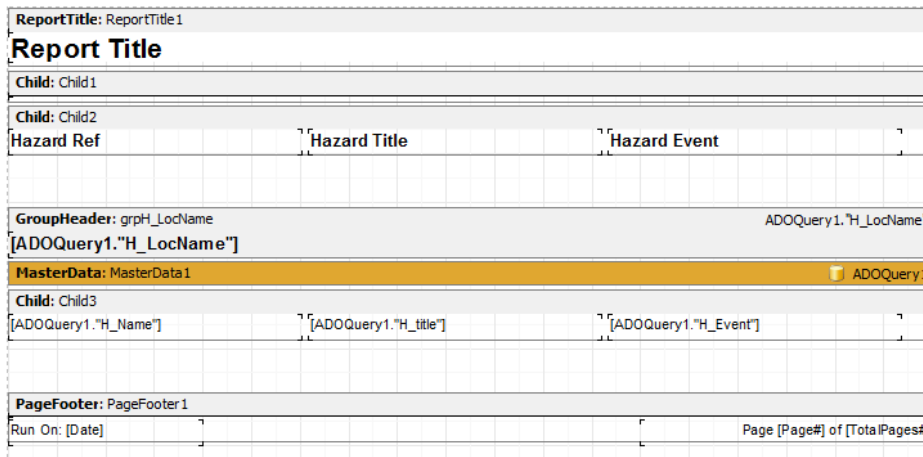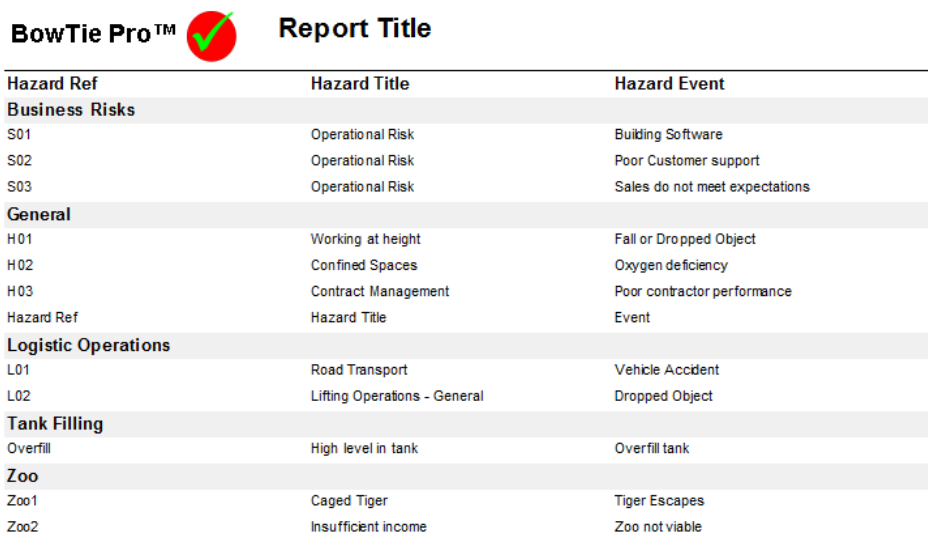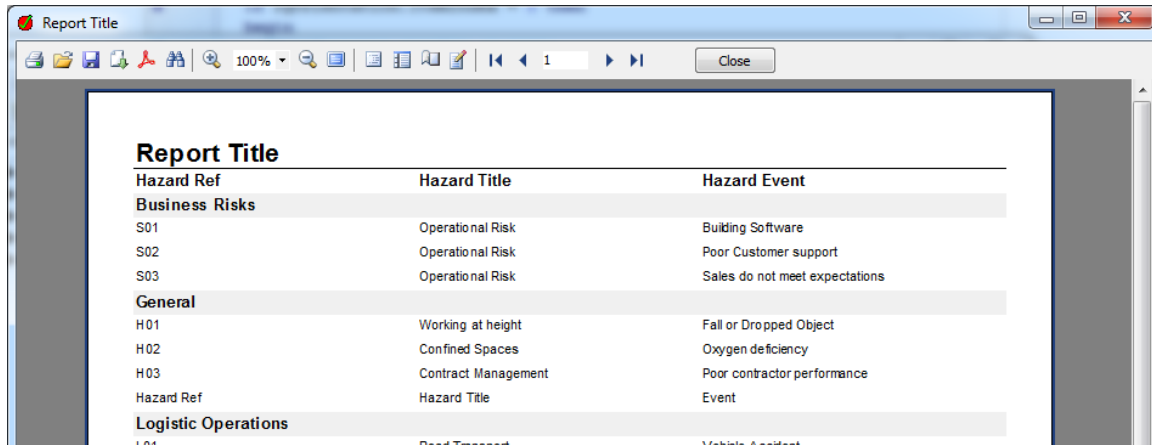Once a report has been created or run a report it will be displayed in the Print Preview mode of Custom Reports.

A report can be Print Previewed again from the main Custom Reports screen by pressing the "Run" button but also the ability to change the filter that is applied to the report by pressing "Modify" or altered using the "Design" button

Print Preview

The Custom Report's Print Preview mode has the following functional options:

	Print	Print the report as displayed on screen.
	Open	Open an existing report
	Save	Save an existing report
	Export	Allow export of data to a range of formats such as CSV, XML, Text and PDF
	PDF	Export the data to PDF
	Find	Find text on the screen
	Zoom In	Controls how large the report appears on the screen.
	Zoom Out	Controls how small the report appears on the screen.
	Full Screen	Shows the Report in the full screen, to close this double click on the report
	Report Outline	Shows an outline of complex reports on the left hand side
	Thumbnails	Shows a thumbnail of each page on the left hand side
	Page Settings	Can change the paper size that the data will be displayed on
	Edit	Goes to design mode
	First Page	Moves to the first page of the report.
	Prev Page	Moves to the previous page.
	Next Page	Moves to the next page of the report.
	Last Page	Moves to the last page of the report.
	Close	Closes the print preview mode and switches to Custom Reports main list screen.

Changing the Report Filter

Changing the reports can be done by pressing the modify button on the main custom reports screen.
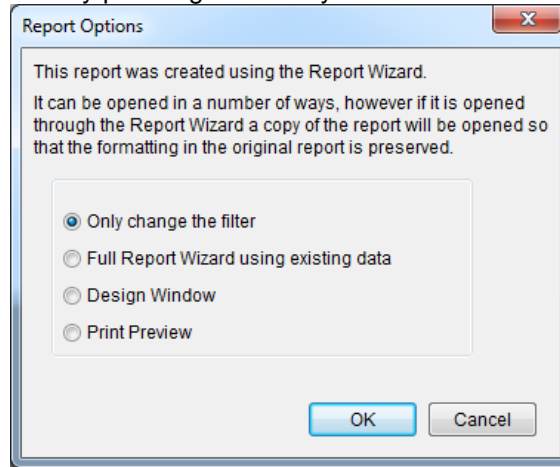
The options that are presented are:
- Only change the Filter
- Full Report Wizard
- Design Wizard
- Print Preview

"Only Change the Filter" will bring up the "Filtering" screen on the Wizard to change the data.

The "Full Wizard" option will go through the full wizard and will then ask the data to be saved to a new report. *N.B. Any design changes that have been made will be lost*

The Design option will open the full design window described in the Altering Custom Reports section

The Print Preview option does not makes any changes to the format instead it presents that currently selected data.

Altering Custom Reports

Changes can be made to an existing report using Custom Report Editor. Most reports are created using the wizard, but additional customisation such as the inclusion of company logos make the reports unique to the company which is done through the Report Designer.

Start the designer by pressing the "design" button on the main reports screen which will display the following screen
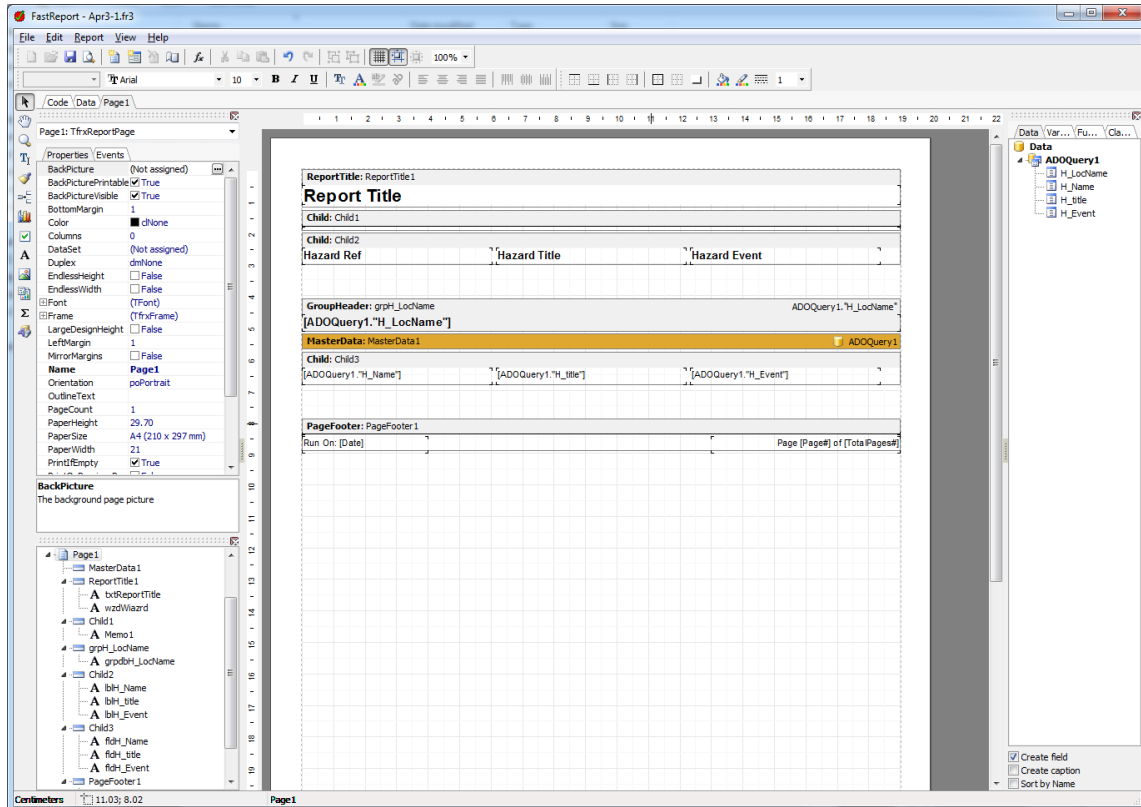
There can be many "pages" on the report. When using a custom report created by the wizard there will be two pages "Data" and "Page1".

The SQL is contained on the "Data" page. It is advised that you do not attempt to build a report from scratch unless you have been trained by BowTie Pro™ on Custom Reports or you have knowledge of SQL. This will not be discussed in this document.

You do **not** need to have an in-depth knowledge of SQL or Detail Sections to be able to change the look and layout of a report, as the Wizards insert and configure a Detail Section on your behalf. It is, however, necessary that you are aware of its properties. Awareness will greatly enhance your ability to use Custom Reports Editor.

The reports in the Custom Reports that are created in BowTie Pro™ are "band based". This means that all the information is in parallel groups.

Each of the objects get placed on the bands. These objects include labels with static text, Text boxes with information retrieved from the database and images.

The use of these options usually requires some practice to become proficient with this module.

Insert and Edit Menu

Custom Reports Insert and Edit menu gives the following options

	Select Tool	Allows the objects to be selected
	Hand Tool	Pan within the document
	Zoom tool	Controls how large or small the report appears on the screen.
	Edit Text box	Add a new text box
	Copy format	Copy the format on one box to annother
	Insert Band	Add a new level to the report
	Chart	Inserts a new graph
	Insert Checkbox	Add a checkbox for Boolean data
	Insert Text	Inserts a new Textbox
	Insert Picture	Inserts a new picture
	Add SubReport	Add a sub data item (not covered in this document)
	System Text	Add system objects such as page number, date etc
	Draw	Add lines, boxes and other shapes

The three types of objects we will examine in more detail are:
- Bands
- Text boxes
- Images

Moving and Placing Objects

To insert an object go to the **Insert Menubar** and choose the type of object that is required to be added then select an area on the band the object should be placed on.

To change the properties of an object see the following pages.

Both existing and new objects can be selected by selecting the ⬆ pointer icon clicking the mouse pointer on them. Grab handles will appear on each corner and side of the object, see below.
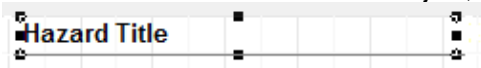
Clicking, and holding down the left mouse button, while the pointer is on the centre of the object, allows it to be moved. Clicking and holding down the left mouse button, while the pointer is one of the object's handles, allows the user to drag the handle and increase/decrease the object's size.

A status bar at the bottom of the page shows the type and dimensions of the object.
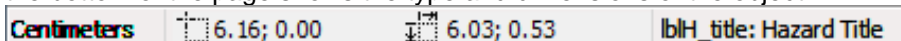
If a static text box is selected, double clicking on the object will bring up an edit text box
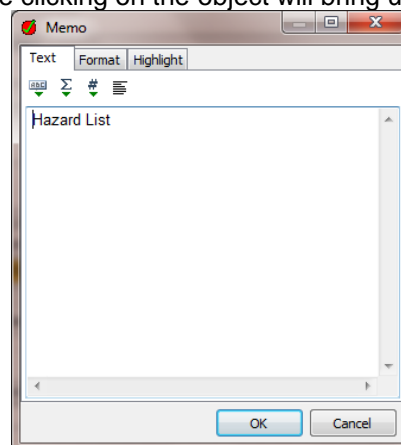
Right clicking on the object will bring up a popup menu. This is usually the most useful way to edit an object as it shows the frequently used items

Properties of Objects

The properties of an object can be viewed by selecting the object with the left mouse button in a list form. This can be moved around the screen but lists all the properties for the selected object.

Bands

Below is a band with three text boxes.

Child: Child3		
[ADOQuery1."H_Name"]	[ADOQuery1."H_title"]	[ADOQuery1."H_Event"]
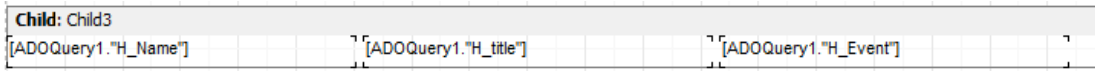
Each Page must have one "Master Data Band" that connects to a data table. There may also be the following bands:

- Page Header (only one)
- Page Footer (only one)
- Group Headers
- Group Footers

There are also Child Bands. Child Bands are always connected to one of the bands listed above.

Bands can expand to the height of the maximum text. This advisable otherwise the data will cascade over the data into the bands below.

The easiest way to achieve this is to right click on the band then to select the "Stretch" option so that it is ticked as shown.

The "Allow Split" option will mean that the band can go over more than one page.

Edit...	
Add child band	
✓ Stretch	
✓ Allow Split	
Keep Child Together	
Print Child If Invisible	
Start New Page	
Print If Detail Empty	
Footer After Each Row	
Keep Detail Together	
Keep Footer Together	
Keep Header Together	
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	
Select All	Ctrl+A
Bring to Front	
Send to Back	
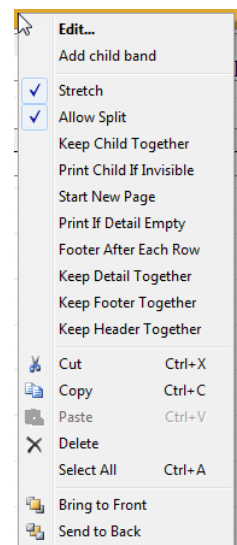
Properties of Pictures

It may be required to customise the reports by inserting an image into the format, Custom Reports supports a wide variety of formats.
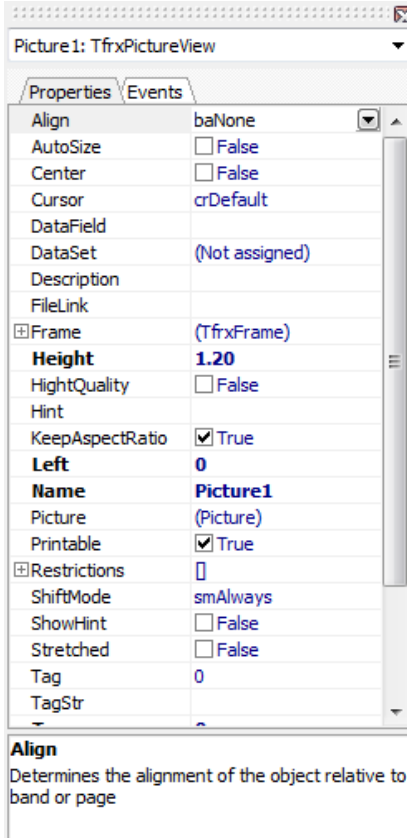
To add an image :

1. go to Insert and Edit menu and choose the Picture icon 🖼 then click on the band that is required to add the image to. This will add the image holder and should open the box below
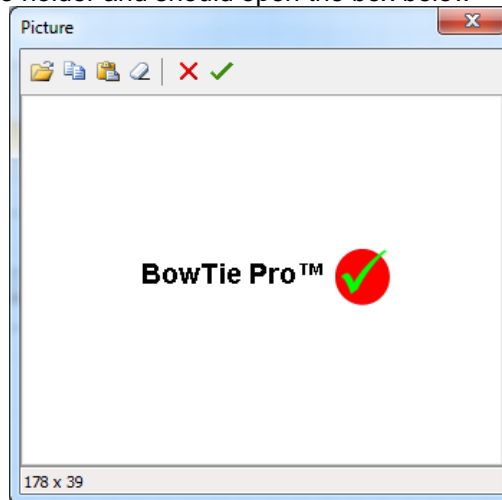
2. If the box is not shown double click on the image holder to open it up.

3. Click on the open button 📂 and select the image file then click the tick icon ✓.

4. To resize the image holder to be the correct size for the report

Right clicking on an image will bring up a popup menu.

Auto Size – This will change the image container to be the size of the image

Stretch – This will stretch the image to be in the size of the container

Center – This will maintain the image in the centre of the container

Keep Aspect Ratio – This will prevent the image from distorting when stretching is enabled.
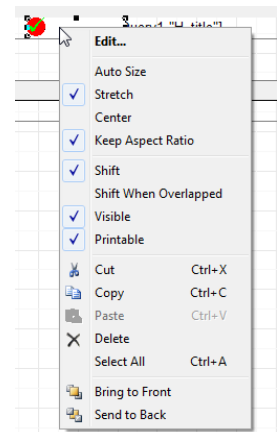
Properties of a Textbox

Report Editor has one type of Textbox that can be used in two different ways. One way is to use it as a straightforward holder of static text that is printed on the report. Headers, Footers, Titles and Column Headings are examples of these. The other way is to use it as a container for SQL data which relate to data fields in BowTie Pro™.

To add a text box :

1.   From the Insert and Edit menu and choose the Textbox icon **A**
2.   Click on the band the text box should be added to
3.   This will open up the text box expecting static text
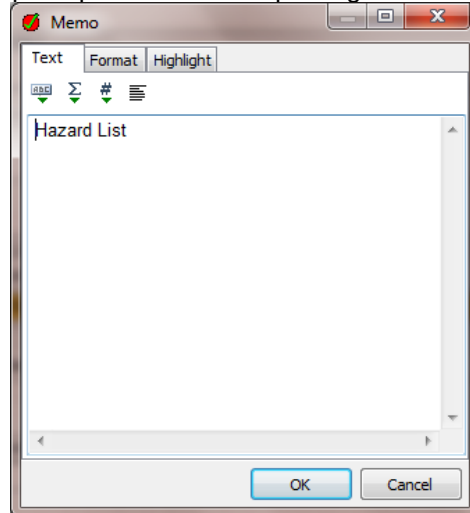
4.   This can be reopened later by double clicking on the item.
5.   If static text is required enter it at this stage if not press close
6.   Click on Properties tab to see contents of Textbox (as shown left).
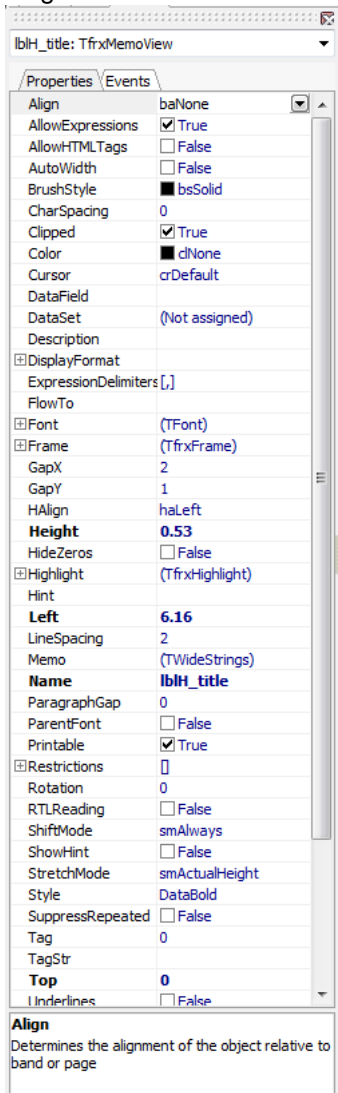7.   If the item is to come from a BowTie Pro™ file then select an item from the **DataSet** property(by default this will be **ADOQuery1**) then select an item from the **DataField** property.

Format the **Formatting text box** menu it is possible to add borders around the box.
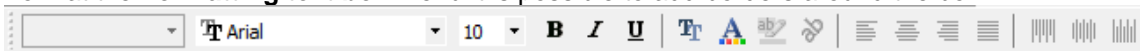
This allows the alignment of the labels of both static text and data. This is very similar to Microsoft Word allowing Font, Bold and left or right alignment to be set on an object.

From the **Text Formatting** menu it is possible to change the font and the alignment of the text within the box.

This allows the borders and the font and background colour on the text boxes to be set.

Right clicking on the text box will bring up a popup menu. Common text box properties can be set from this popup.

Word wrap – This determines if the text can be over multiple rows

Supress repeated values – This determines if repeated values will be shown

Stretch – Can the text box grow if the text is larger than the

Stretch to Max Height – This will stretch the text box to the largest item in the band.
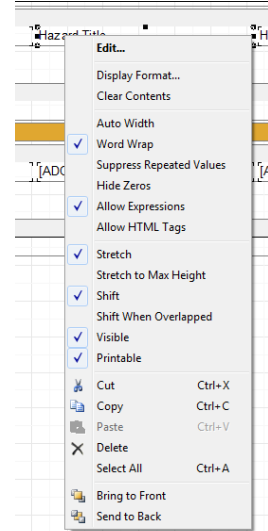
Customising a Report - A tutorial

Now that we are familiar with the three key Custom Reports objects, it would now be beneficial to run through a few simple tutorials.
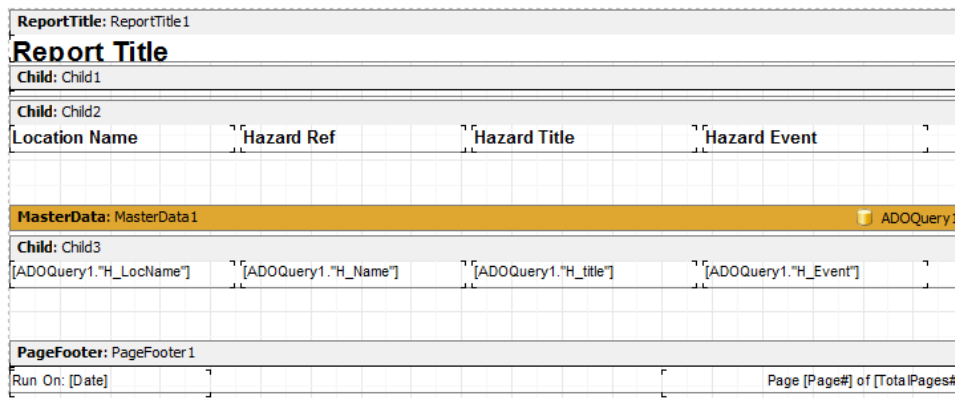
In this worked example we have created a report with the wizard showing the Location name, Hazard Ref, Title and Event but has no groups or other formatting. In design view it appears as above and in preview mode as below.

Adding an image to an Existing Report

Step 1: Choose a container for the picture. In this case the "ReportTitle1" object has been chosen as we want to add a logo at the top right of each page.

Step2: Make room for the picture within the Report Title. In this case we:

• Move the cursor over the bottom and drag the section down to make it bigger, being careful not to drag the label down.

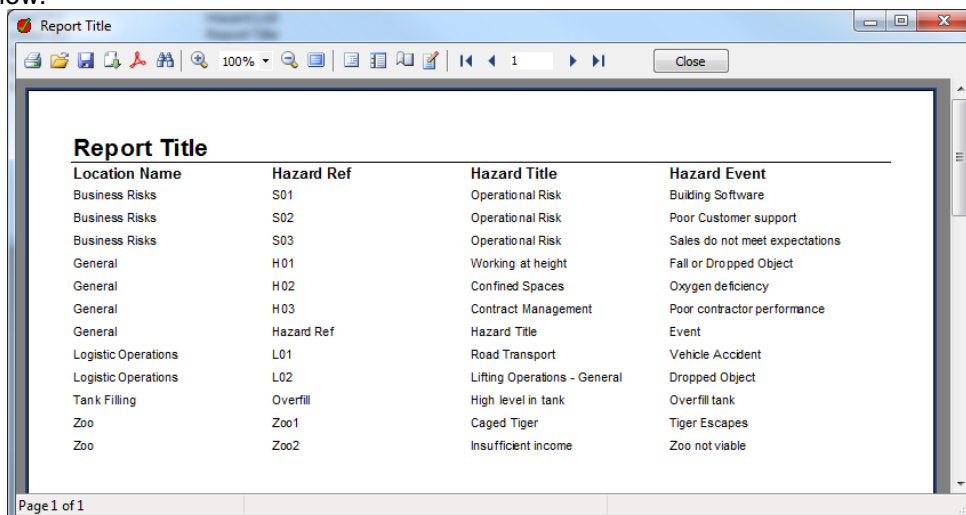• Using the properties we change the label with the "Report Title" box to be Align "**baNone**" from "**baWidth**"

• Reduce the labels width

This will make the ReportTitle1 look as follows:

Step 3: Select the picture icon from the insert and edit menu then click the newly created empty area of the header.

This will bring up the edit picture box.

Click on the open button and select the image file then click the tick icon .

Although the image may appear distorted do not worry this will be resolved once this screen is closed.
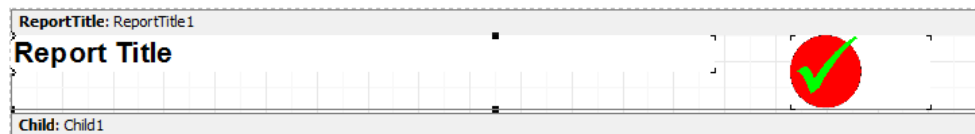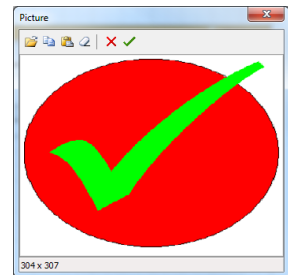
Step 4: Once the image box is closed the image can be moved to the desired location, size the box and set its properties to "**Keep Aspect Ratio**" checked.

Adding a group band to an existing Report

The next improvement we want to make it to group all Hazards by the Location name.   Although this can be done using the wizard group screen this will now be demonstrated how this is done manually.

Step 1: Press the insert band button ⊨⊏ and then select "**Group Header**" band.

Step 2: A box will popup with the data field selected.   Open the drop down list to the right and select the field to be grouped by in this case the field name is "H_LocName"
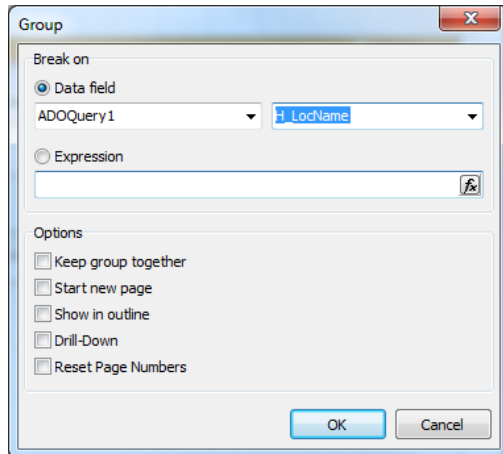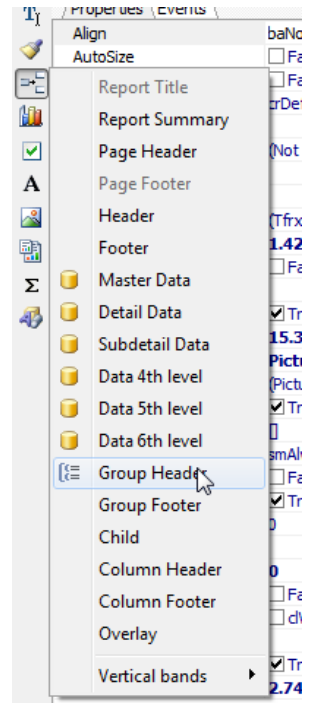
Step 3: Press the OK button and the band will be created but will be located in the wrong place at the bottom of the other bands

Step 4: Drag the new band to the correct location required it in the case above the "MasterData" band

Step 5: Drag the field that is to be group by onto this same band in this case the location title of the

Step 6: Select the band and select the "**Stretch**" option so that the band grows as the data expands

Step 5: Save then test the new report. It should look something as follows:

Report Title

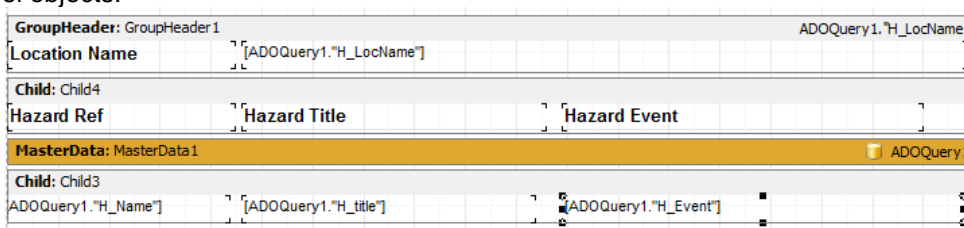|	Hazard Ref	Hazard Title	Hazard Event
Location Name	Business Risks		
	S01	Operational Risk	Building Software
	S02	Operational Risk	Poor Customer support
	S03	Operational Risk	Sales do not meet expectations
Location Name	General		
	H01	Working at height	Fall or Dropped Object
	H02	Confined Spaces	Oxygen deficiency
	H03	Contract Management	Poor contractor performance
	Hazard Ref	Hazard Title	Event
Location Name	Logistic Operations		
	L01	Road Transport	Vehicle Accident
	L02	Lifting Operations - General	Dropped Object
Location Name	Tank Filling		
	Overfill	High level in tank	Overfill tank
Location Name	Zoo		
	Zoo1	Caged Tiger	Tiger Escapes
	Zoo2	Insufficient income	Zoo not viable

Adding a Child band

This is beginning to come together but the header is disconnected so we will now put this under the Group Header. This is done by adding a child band to the new Group header.

Step 1: Right click on the group header and select "**Add child band**" option. This will create a band below the header which we can insert text and images on to.

GroupHeader: GroupHeader1   ADOQuery1."H_LocName"
Location Name   [ADOQuery1."H_LocName"]

Edit…	
Add child band	
✓	Stretch
	Allow Split
	Keep Child Together
	Print Child If Invisible
	Start New Page
	Keep Together
	Reprint On New Page
	Drill Down

MasterData: MasterData1   ADOQuery1
Child: Child3   [ADOQuery1."H_Name"]   [ADOQuery1."H_title"]   ent"]
PageFooter: PageFooter1
Run On: [Date]   e#] of [TotalPages#]

Step2 : Now drag the title labels for the Hazard Ref, Title and Event onto this child object and size and align the label objects.

GroupHeader: GroupHeader1   ADOQuery1."H_LocName"
Location Name   [ADOQuery1."H_LocName"]
Child: Child4
Hazard Ref   Hazard Title   Hazard Event
MasterData: MasterData1   ADOQuery1
Child: Child3
ADOQuery1."H_Name"]   [ADOQuery1."H_title"]   [ADOQuery1."H_Event"]

Adding Styles to the text objects

Styles allow the same look to be applied consistently and can allow the look of reports to be easily changed.   In this alteration the styles will be used to apply the font, colour and background colour to the labels.   Style are contained in separate files with the extension fs3 with can be loaded as appropriate.

Loading a style to a file:
1.   From the tool menu select "Report -> Styles"

2.   Click on the open button 📂 and select the appropriate Style file

3.   To preview the look of the items in the file can be made by selecting the item on the left hand list and this will allow the items to be checked.

4.   Click the tick icon✔ to apply the selected styles to the labels which has styles defined to them
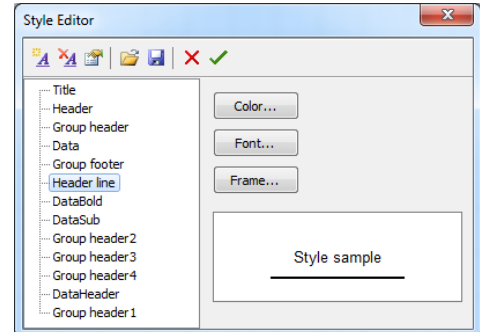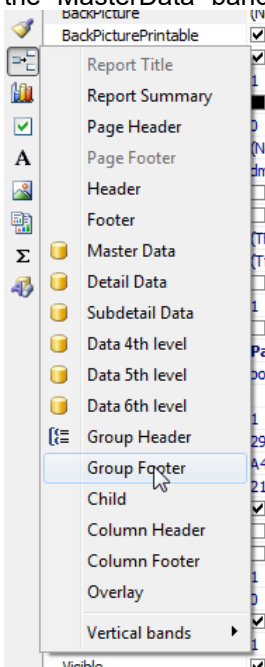
To apply the style new labels
1.   Select the label a style should be added to
2.   Navigate to the "Style" item in the property list
3.   From the drop down list select the syle that is appropriate
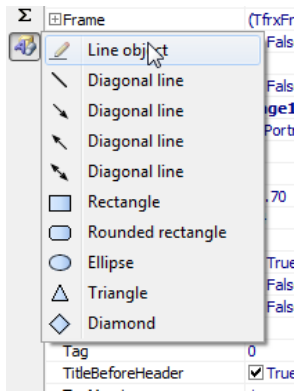
Group Footer

The final improvement will be to add a group footer to the report and put a line between each of the locations.

Step 1: Press the insert band button ⊏ and then select "**Group Footer**" band. This should appear below the "MasterData" bands children which is the desired location in this case

Step 2: Press the insert draw button 🖊 and select "**Line object**".

Step 3: Click on the new Group footer band.   Now draw the line to be over the whole width of the report

Step 4: Save then test the new report.   The resulting report will look as follows: