

Appendix 3: A step-by-step example of a query setting specific criteria.

Requirements: Provide SASS4 scores, ASPT scores and the Number of taxa for all site visits on all rivers which fall within secondary catchments B1, B2, and B3, where the pH is greater than 4. This query must reveal geo reference information so that the sites can be displayed in GIS. Table A3.1 gives an indication of the data that should be returned in the final query output to satisfy these requirements.

Table A3.1 The desired query output for the specific query outlined in this section.

Site code	Sampling Date	Secondary catchment code	GIS Longitude	GIS Latitude	SASS4 Score	ASPT	Number of Taxa

Once the query centre has been opened, the steps below are followed to extract the data required to meet the specifications outlined above for this example.

- 1 Select the correct data joiner. In this example, the “**site visit-linked data**” is selected because both site specific data (i.e. the site code, secondary catchment code and the longitude and latitude) and site visit specific data (i.e. sampling date, SASS4 score, ASPT and total number of taxa as well as information about the pH) are needed to satisfy the requirements.
- 2 The following components are selected:
 - General Site Information (contains site code, secondary catchment code)
 - General Site Visit Information (contains sampling date)
 - Geo reference (contains GIS Longitude and GIS Latitude)
 - SASS scores (contains SASS4 score, ASPT and Nr of families)
 - Chemistry (to select the specific criteria, in this case, pH>4)

Click “next”

- 3 The specific component with fields to be displayed in the final query output is selected *because only fields from one specific component can be returned in a given query. In this case, select “SASS scores”.*

Click “next”

- 4 The actual fields to be returned in the query are then selected from the components selected in 2 above i.e.:
 - Site code;
 - Secondary catchment code

- GIS Longitude
- GIS Latitude
- SASS4 Score
- ASPT
- Nr of families

Click “Next”

5 The fields do not need to be aggregated or sorted therefore click “next”

6 This example specifies that data for secondary catchments B1, B2 and B3 must be returned and that data for site visits where the pH is greater than 4 must be returned. Therefore we must set criteria on:

- Secondary Catchment Code
- Chemistry code
- Chemistry value

Go to “Secondary Catchment” and click “edit”. This opens the “Field criterion” form, which allows you to select the secondary catchment codes for which data should be returned. In this example we want data from sites in secondary catchments B1, B3 and B4 therefore:

- click on the [Secondary Catchment Code] button;
- Click the “IN” key;
- Click the “refresh” key to show all available fields;
- Using the keys on the right select B1, B3 and B4 so that the text in the criterion box reveals the following:

[Secondary Catchment Code] IN ['B1', 'B3', 'B4']

- Click “OK”

Go to “Chem Code” and click “edit”. This opens the “Field criterion” form, which allows you to select the specific chemistry parameter for specifying criteria. In this case, pH.

- Click on the [Chem code] button;
- Click the “=” key;
- Click the “refresh” key to show all available fields;
- Select “pH” so that the text in the criterion box reveals the following:

[Chem code] = 'pH'

- Click “OK”

Go to “Chem Value” and click “edit”. This opens the “Field criterion” form, which allows you to select the pH range or limitations for which data should be returned in the query output. In this case, data should only be returned for sampling visits where the pH was greater than 4.

- Click on the [Chem Value] button;
- Click the “>” key;

- Type 4 (note: no inverted commas are necessary when setting criteria using *numbers*) so that the text in the criterion box reveals the following:

[Chem Value] > 4

- Click “OK”
- 7 Once all the criteria have been set, click “next”.
 - 8 To view the query results, click “View Results”.

Note: If you are dissatisfied with the query output and would like to make changes then click “back”. Once you select “finish”, it is not possible to back-track through the steps in the query and you will be required to start the query building process from the beginning.

- 9 Finally, click finish to reveal the final query output. The final query output should be similar to the structure indicated in Table A3.1.
- 10 Go to “file” in the main menu bar and select “MS Office Links” then select “Analyse it with MS Office”. MS Office will automatically open with a new file containing the data from the query output where it can be saved as an MS excel file and analysed further.