

## DIVER Explorer Guided Queries

This document provides an introduction to running Guided Queries in DIVER Explorer. Guided Queries are partially built queries that allow quick access to various types of data. Currently, GLRI DIVER integrates contaminant data from site specific studies and broader regional investigations.

This document walks through the steps of building a Guided Query, refining it further, and interacting with results. Note that all steps beyond the Guided Queries menu are also applicable to Custom Queries.

### Scenario

Accessing Anthracene results (i.e., a single contaminant) from sediment samples collected between 2010 and 2013. Anthracene is one of the compounds that make up the polycyclic aromatic hydrocarbons (PAHs).

### Procedure

1. Click **Guided Queries** on the DIVER Explorer start screen.

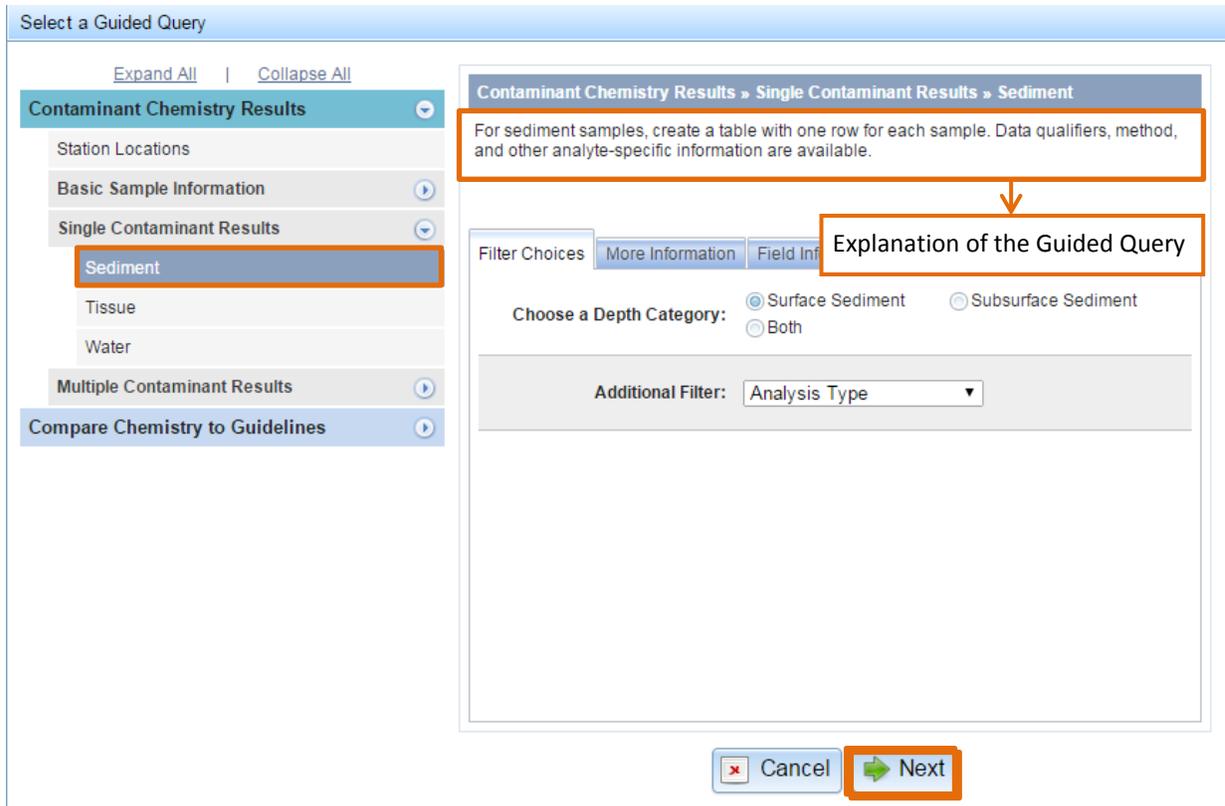
The screenshot shows the DIVER Explorer start screen. At the top, there are three main action buttons: 'Guided Queries' (highlighted with an orange border), 'Build a Custom Query', and 'Download Data'. Below these buttons is a map of the Great Lakes region, showing states like Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania, New York, and New Jersey, along with major cities and lakes. To the right of the map is a text box with the DIVER logo and the following text: 'Click one of the buttons above to start exploring DIVER. Spatial elements will be plotted on the map to the left. Data Summary, Table and Charts will appear in the area below.'

**2. Browse the available Guided Query types, and select the one that is most applicable.**

A variety of Guided Query types are available, ranging from queries that return information on sites and stations where samples were collected to queries that return contaminant chemistry results for one or multiple contaminants.

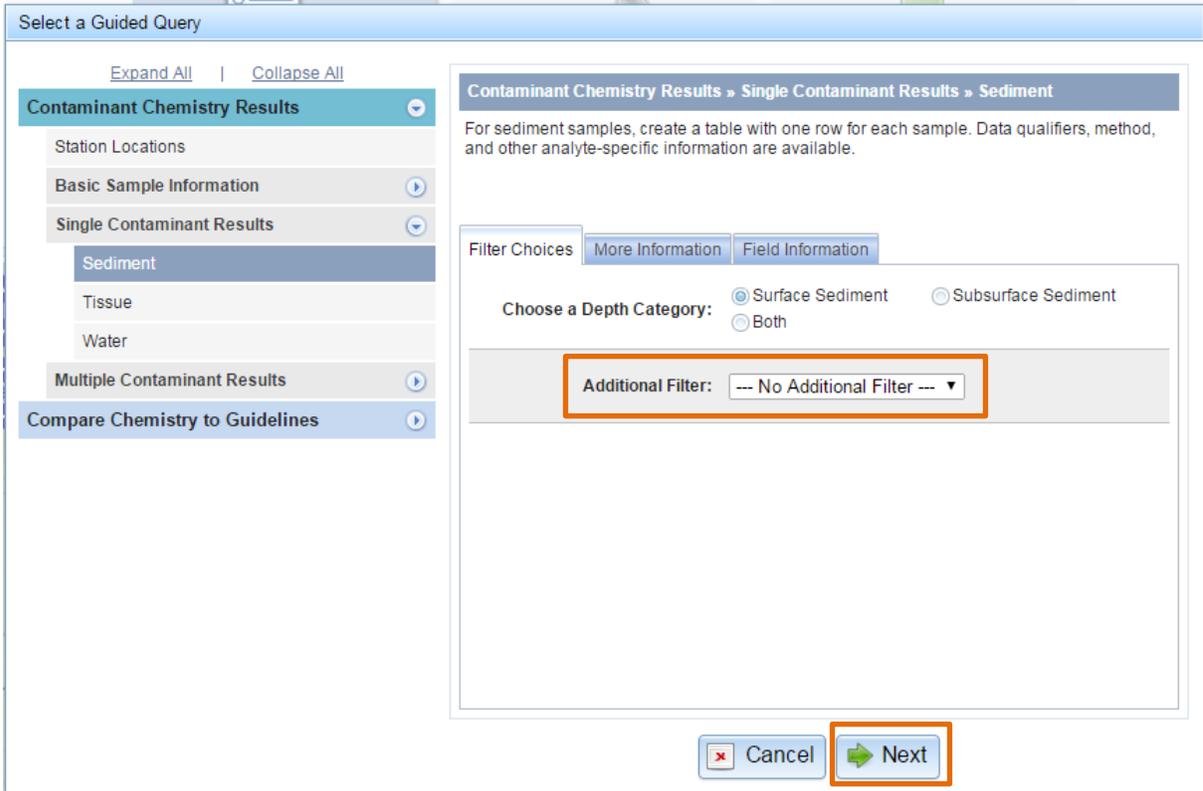
This example involves a single contaminant in sediment - Anthracene - so select Single Contaminant Results – Sediment from the drop down menu, and then click **Next** to proceed.

*Note: Contextual help explaining what each Guided Query is focused on is available on the right side of the screen below the breadcrumb that details which Guided Query was selected.*



### 3. Make choices about the data of interest

Following the selection of a Guided Query, a prompt appears with additional query selection options that complete the query pre-building process. This example uses the default values, with the exception of the **Additional Filter** option, which allows users to focus the query by an Analysis Type. For this example, select “No Additional Filter,” and then click **Next** to move to the Edit Query Filters window.



#### 4. Use the Edit Query Filters window to build the remainder of the query.

The Edit Query Filters window allows users to apply additional filters to further refine and finish the query. Each tab at the top of the screen represents a filter, and the filters with lock signs were generated from the selections in the Guided Queries menu. The following steps apply filters to narrow the query to a specific contaminant (Anthracene) and year range (2010, 2011, 2012, 2013).

##### Specify an Analysis

Select **Anthracene** from the **Values List**, either by typing *anthra* in the **Values List** to bring it near the top of the list, or by scrolling down the list and clicking it directly.

Next, click the **New Filter** tab in the top right corner.

The screenshot shows the 'Edit Query Filters' window with the following components:

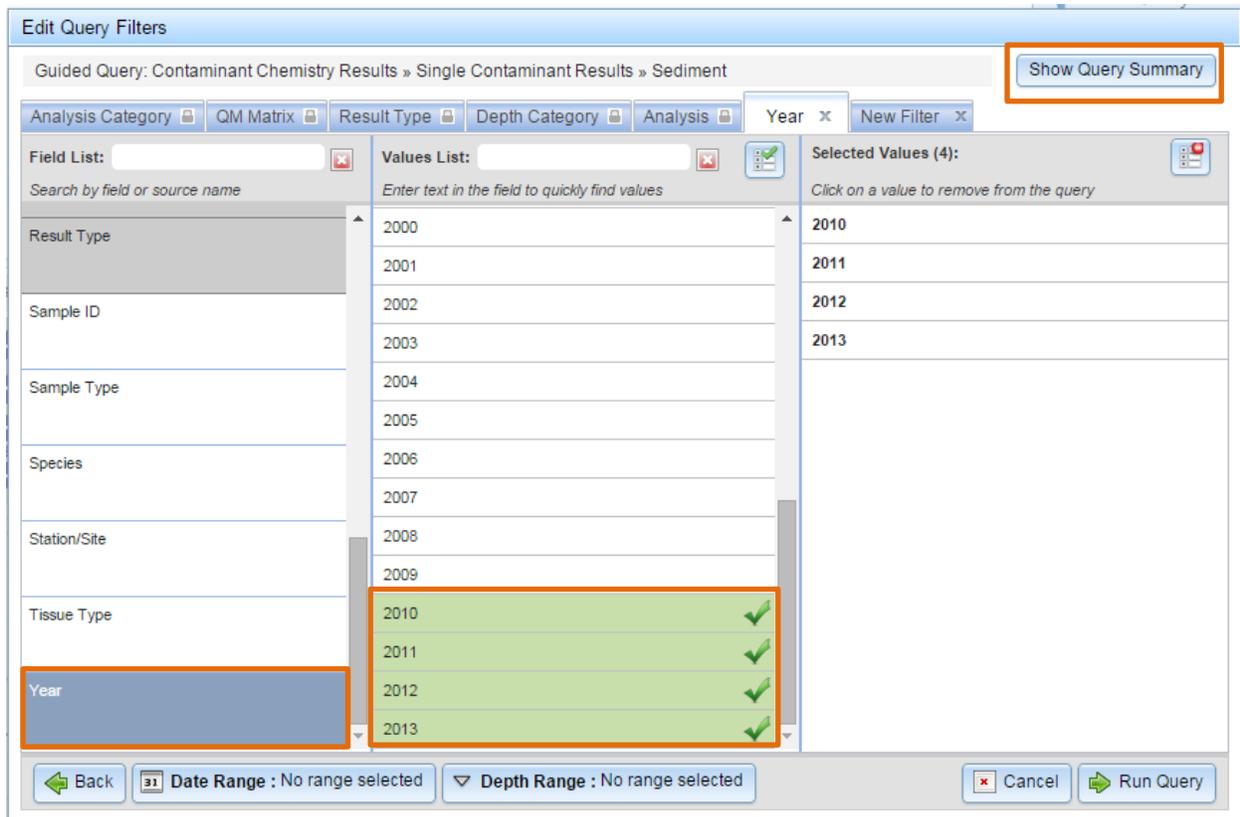
- Header:** Guided Query: Contaminant Chemistry Results » Single Contaminant Results » Sediment. A 'Show Query Summary' button is on the right.
- Navigation Tabs:** Analysis Category, QM Matrix, Result Type, Depth Category, Analysis, and New Filter (highlighted with an orange box).
- Field List:** A search field with the placeholder 'Search by field or source name'.
- Values List:** A search field containing 'anthra' (highlighted with an orange box). Below it is a list of contaminants. 'Anthracene' is highlighted in green with a checkmark (highlighted with an orange box).
- Selected Values (1):** A list containing 'Anthracene'.
- Footer:** Buttons for 'Back', 'Date Range : No range selected', 'Depth Range : No range selected', 'Cancel', and 'Run Query'.

### Add a Year Filter

The **New Filter** tab allows selection of a new field from the Field list, and value(s) from the Value list. Notice that some fields on the field list appear in grey -- these are no longer applicable based upon earlier filter choices. Hover over a **Field** in the left-most column to view the description.

Scroll through the Field list and click **Year** to populate the Values List. The tab will change its name to reflect the selection, and will update with the available Year values based on all of the already selected Filters and Values.

From the Values list, click **2010, 2011, 2012, and 2013**. This adds them to the Selected Values List and creates a **New Filter** tab, which appears at the top of the window, just to the right of the **Analysis** tab.



### Review and Run Query

Although DIVER Explorer has opened another **New Filter** tab, no additional filters are used in this example. Reviewing the query is an optional step that allows the user to make sure that it contains the desired filters. To do this, click **Show Query Summary**. Once the optional review is complete, click **Run Query**.

## 5. View query results.

When the query is complete, a notification appears above the map indicating that the query was successful, along with the number of records it returned. Points on the map correspond to the location of one or many records, and in this case the concentration of Anthracene at each location.

If necessary, refine the query using the **Edit Query Filters** button.

### Dashboard Information

At the bottom of the screen high-level information about the query results is presented in a dashboard approach. These tabs are interactive with the map and with each other, allowing users to explore the query results. The dashboard tabs are:

**Summary:** High-level information about the query results.

**Table:** Each row in the table represents a single record, and users can see where that record is located on the map by clicking that row in the table and looking for the red dot on the map.

**Charts:** The interactive charts present results in graphical form.

**Metadata:** Provides background information on the dataset, with information such as a query filters summary, field definitions, and the date as of which the data are current.

**Study Notes:** Provides information on the sample collection effort and lab analysis procedure.

**Export:** Allows users to download query results. For more details see the **Download** help materials.

The screenshot displays the DIVER Explorer interface. At the top, the 'Query Filters' section shows: Analysis Category = 'Contaminant Chemistry', QM Matrix = 'Sediment', Result Type = 'Result', Depth Category = 'Surface Sediment', Analysis = 'Anthracene', and Year = '2010' | '2011' | '2012' | '2013'. Below this is a yellow notification bar stating 'Query successful - 1,817 records returned.' The main map area shows the Great Lakes region with various colored dots representing data points. A legend on the right indicates concentration levels for Anthracene (PPB): Below Detection Limit (DL < 59.0), Below Detection Limit (59.0 ≤ DL < 880.0), Concentration < 59.0, 59.0 ≤ Concentration < 880.0, and Concentration ≥ 880.0. A red box highlights the 'Dashboard tabs' area at the bottom, which includes a 'Summary' tab. The 'Summary' tab shows 'Data Summary for Contaminant Chemistry Results » Single Contaminant Results » Sediment' and provides a high-level overview of the query results, including the number of records returned (1,817) and unique sample IDs (1,724).