

Introduction on how to explore uploaded data on the ATTO data portal

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1 Search User Interface

After logging into the ATTO data portal, you will be automatically directed to the Search User Interface (UI, Figure 1). You can navigate back to the search function from any other subpage by clicking "Search" in the menu bar at the top of the site. By default, the search shows all available datasets. By activating the check mark "public only", only publically available datasets are displayed (Figure 2).

The main nodes of the Search UI are based on metadata entered. Thus, completely filled metadata are essential for finding datasets within the ATTO data portal.

The screenshot shows the ATTO Search User Interface. At the top, there is a navigation bar with links: Dashboard, Collect, Search, Plan, and Information. The user 'mguderle' is logged in, and there is a Help link. Below the navigation bar, the page title is 'ATTO - Search in Public Datasets'. On the left, there is a 'FACETS' sidebar with categories: Person (0), Location (0), Project (0), Dataset title (0), and Institute (0). Below these, there are dropdown menus for 'LOCATION' (set to 'All') and 'LAYER' (set to 'All'). The main search area has a dropdown menu set to 'All', a search input field, and a 'Search' button. Below the search bar, there is a checkbox for 'public only' which is checked. The search results are displayed in a table with columns: ID, Title, Owner, Dataset, Layer, Location, Start date, End date, and Institute. The table shows 'No records to display.' and 'Displaying items 0 - 0 of 0'. At the bottom, there is a footer with the text 'Powered by BEXIS' and a row of logos for various institutions: Max Planck Institute for Biogeochemistry, Max Planck Institute for Chemistry, INPA, UEA, Federal Ministry of Education and Research, Finep, FAPEAM, and Fundação Elzeu Alves.

Figure 1: Search User Interface showing only data which are public

The Search UI contains of the following features, which help to filter uploaded data according to owners, location, keywords, etc.:

- **Categories/Facets:** The main categories like "Person", "Location", etc. are based on main metadata entries. The numbers next to the categories indicate the number of existing datasets in the ATTO data portal with the respective entries.
- **Properties:** This function allows to use predefined dropdown components to filter datasets according to properties. There is only one possible choice for every component. Results and facets are updated accordingly.
- **Free text search:** In the free text search, you can either search for keywords in all predefined categories or you can choose a specific category from the dropdown menu on the left. It uses autocomplete for predicting words and phrases once three letters are entered.
- **Filter:** Filter datasets in order to display records, which match certain criteria. The filter can be activated/deactivated by clicking on the filter-symbol next to the respective category. You can filter data for self-defined values and choose different queries like "Is equal to", "Is not equal to", "Starts with", "Contains", etc.
- **Results:** The matching results are displayed in a table view, where basic functions like filtering, sorting, paging are available in the header of the table. By clicking right on the header, you can choose the visibility of the individual columns. By clicking on the respective header caption, the sorting function is activated. You also can define the number of displayed datasets per page via the grey box at the top and the bottom of the table.

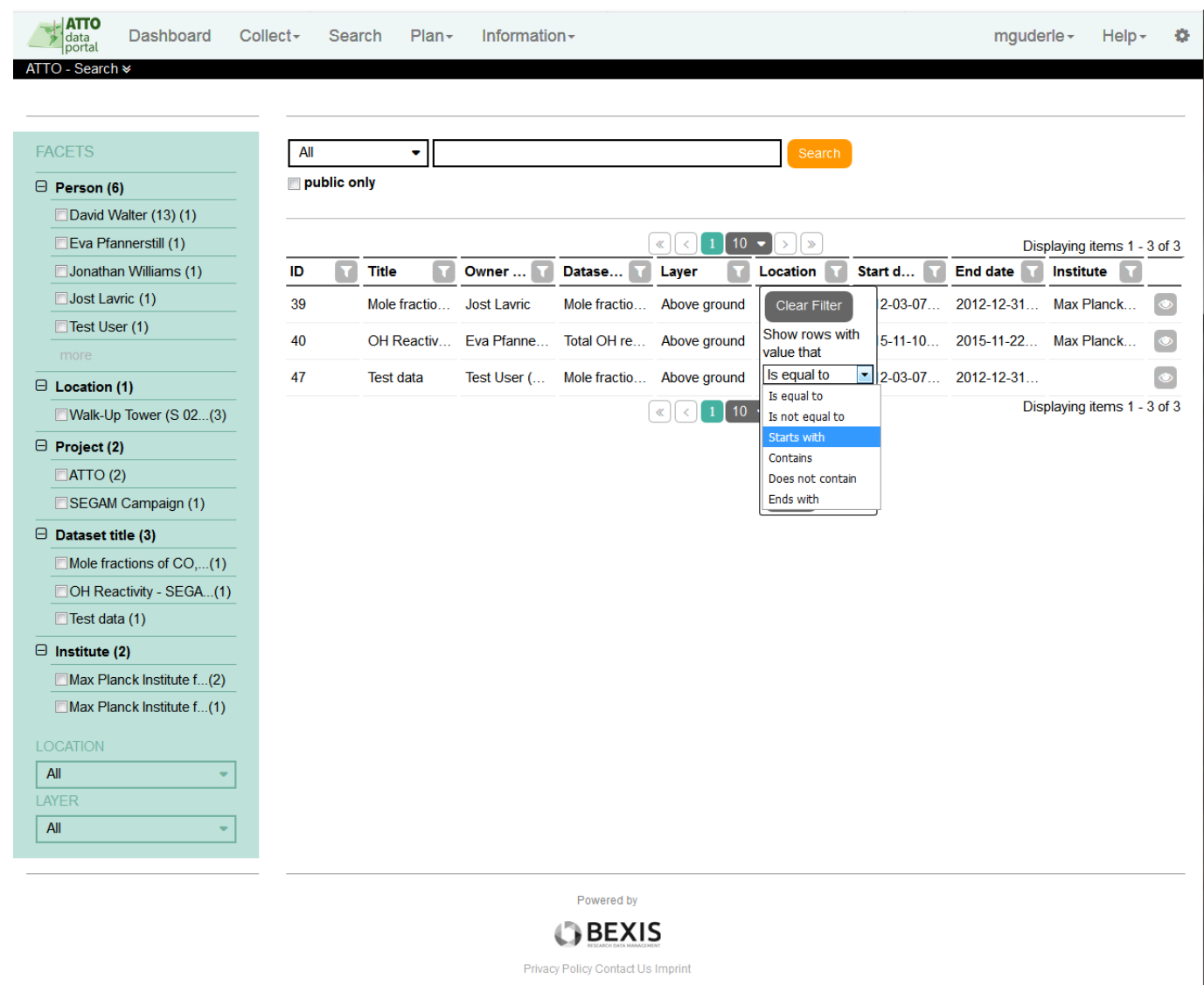


Figure 2: Search User Interface

2. View and explore datasets

Details of each dataset can be found by clicking on the small eye-icon in the very right column of the dataset table view (see Figure 3).

ATTO data portal Dashboard Collect Search Plan Information mguderle Help

ATTO - Search

FACETS

Person (6)

- David Walter (13) (1)
- Eva Pfannerstill (1)
- Jonathan Williams (1)
- Jost Lavric (1)
- Test User (1)
- more

Location (1)

- Walk-Up Tower (S 02...) (3)

Project (2)

- ATTO (2)
- SEGAM Campaign (1)

Dataset title (3)

- Mole fractions of CO₂... (1)
- OH Reactivity - SEGA... (1)
- Test data (1)

Institute (2)

- Max Planck Institute f... (2)
- Max Planck Institute f... (1)

LOCATION

All

LAYER

All

All Search

public only

Displaying items 1 - 3 of 3

ID	Title	Owner ...	Datase...	Layer	Location	Start d...	End date	Institute
39	Mole fractio...	Jost Lavric	Mole fractio...	Above ground	Walk-Up To...	2012-03-07...	2012-12-31...	Max Planck...
40	OH Reactiv...	Eva Pfanne...	Total OH re...	Above ground	Walk-Up To...	2015-11-10...	2015-11-22...	Max Planck...
47	Test data	Test User (...)	Mole fractio...	Above ground	Walk-Up To...	2012-03-07...	2012-12-31...	

Displaying items 1 - 3 of 3

Figure 3: Directing to detailed information of specific datasets

You will be directed to the main page of the chosen dataset, where details on Metadata, Primary Data, Data Structure, Dataset Permissions, publication and attachments to the respective dataset are given in different tabs (see Figure 4). Each user is allowed to see the metadata of each dataset independent of the respective rights as well as download the metadata as html- or XML-format via the "Download Metadata"-button. If users have rights on the dataset, they are allowed to edit and copy the metadata, to check and download primary data, to see the data structure and dataset permission, and to click on the "Publish"-tab. However, in case users do not have rights on the respective dataset, only metadata and the data structure can be seen, all other tabs are greyed out (Figure 4).

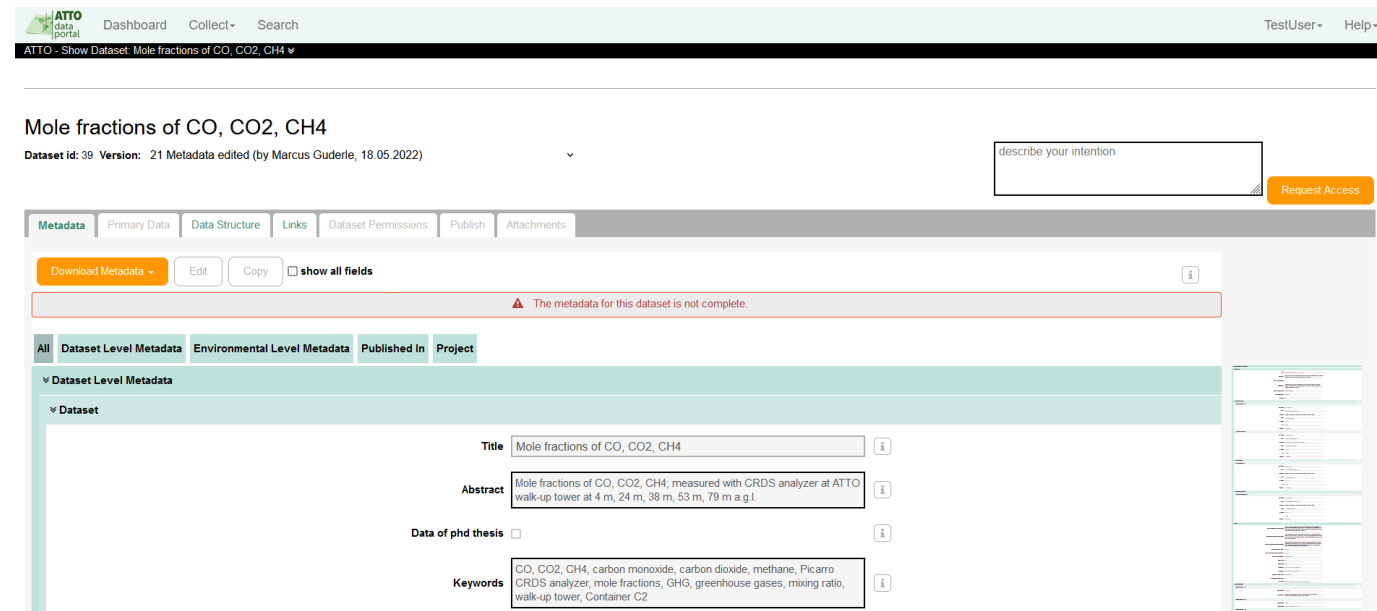


Figure 4: Overview of dataset details and metadata information

Figure 5 shows the “Data Structure” tab, which gives an overview of the variables of the selected dataset. Information like variable name, ID, a short name, a description of the respective variable, unit and data type are given. The data structure has to be defined by the data manager before uploading data. A detailed description on this workflow will be given in the document “03_Introduction how to create dataset and upload data”.

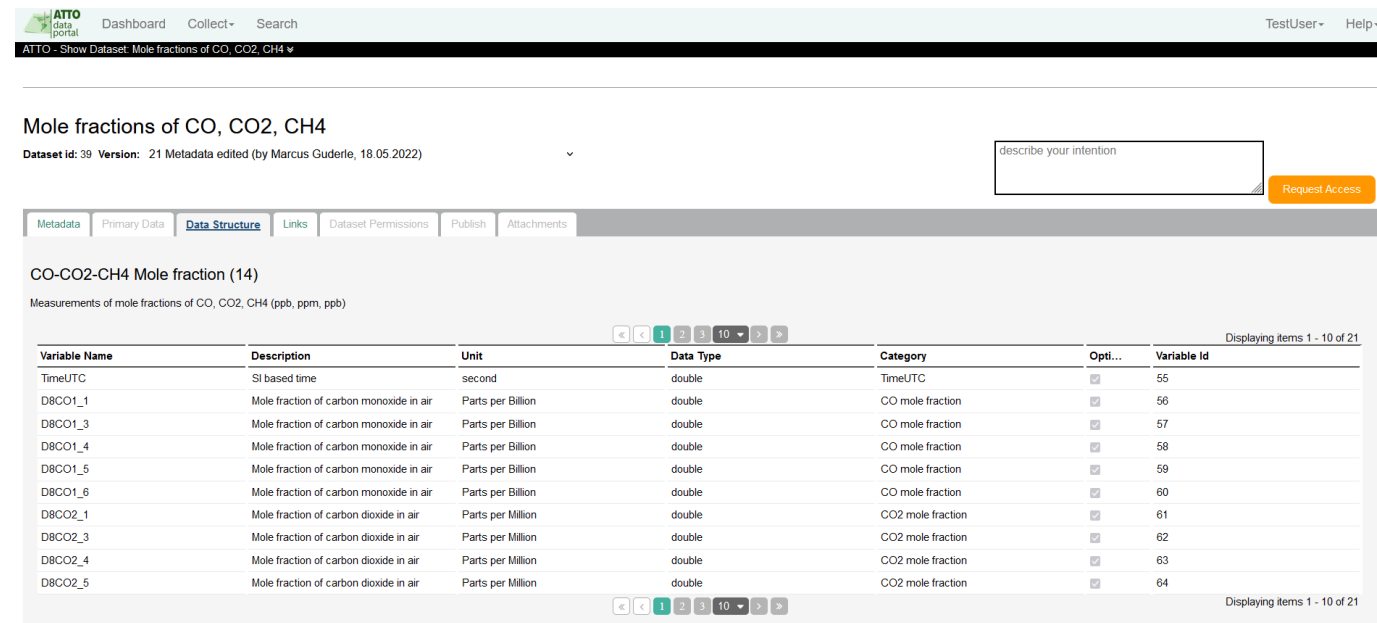


Figure 5: Overview of data structure

3. Request Primary Data

In case you are interested in a specific dataset, which is not publicly available, you can request this specific dataset via the request button (Figure 4 & 5). By filling in the intention of data usage and clicking the request button, a request is made to the data owners, who are informed of the request by e-mail. A list of the open

requests will be displayed in the dashboard of the respective data owner. Once the data owner accepts the request, the user who made the request is automatically granted read and download rights.

4. Download Primary Data

Datasets, which are open for consortium members or which are already published with an assigned DOI, can be freely downloaded without sending a request to the data owners. To do so, click on the "Primary Data" tab where you find the activated "Download" buttons. You can download the data as an Excel file, as comma separated file or as tab separated text file (Figure 6) or as zipped package, which includes the primary data (either as template file, excel file, csv file or as text file), the data structure, the metadata as html file and the respective attachments (Figure 6). To get an overview of all columns of a large dataset you can click on the option "Fit table to screen".

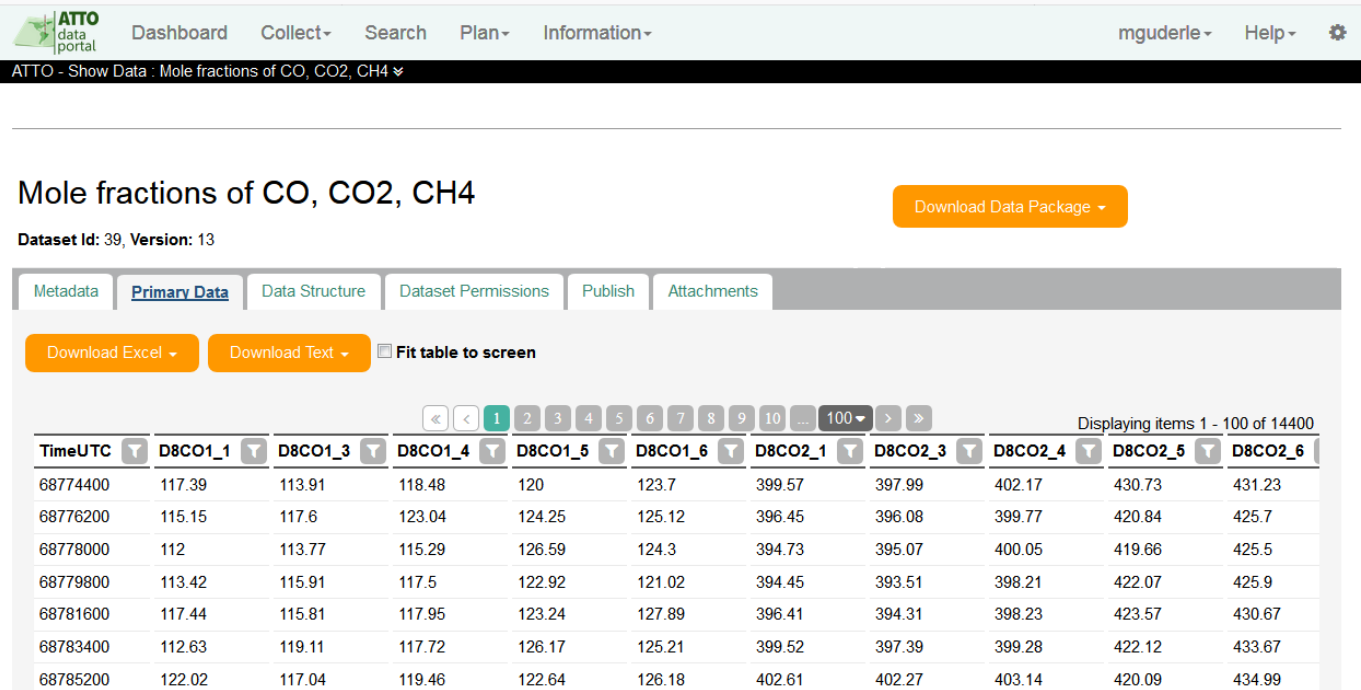


Figure 6: Overview of primary data with activated download buttons

5. Attachments

The attachment-tab (Figure 7) allows users, who have upload rights to dataset to attach files such as descriptions, images, etc. to the respective dataset. Other users can only see or download these attachments.

The screenshot shows the ATTO data portal interface. At the top, there is a navigation bar with links: Dashboard, Collect, Search, Plan, and Information. The user 'mguderle' is logged in, and there is a 'Help' link. Below the navigation bar, a breadcrumb trail reads 'ATTO - Show Data : Mole fractions of CO, CO2, CH4'. The main content area is titled 'Mole fractions of CO, CO2, CH4' and includes a 'Download Data Package' button. Below the title, it says 'Dataset Id: 39, Version: 13'. A tabbed interface shows 'Attachments' as the active tab. On the left, under 'Attach files to this dataset', there is a text area for a description, a 'Files:' section with a 'Select...' button, and a 'Push' button. On the right, a table lists the attached files.

No	File name	Type	Size
1	DatasetReadme.txt		4 KB

Figure 7: View and download attachments to datasets

6. Filter Primary Data

In the Primary data view it is possible to filter the data by column or by row or both. In order to filter specific columns the mouse pointer must be navigated to one of the funnel symbols and a right click opens a drop down menu with all column names. These can now be activated or deactivated with a check mark (Figure 8).

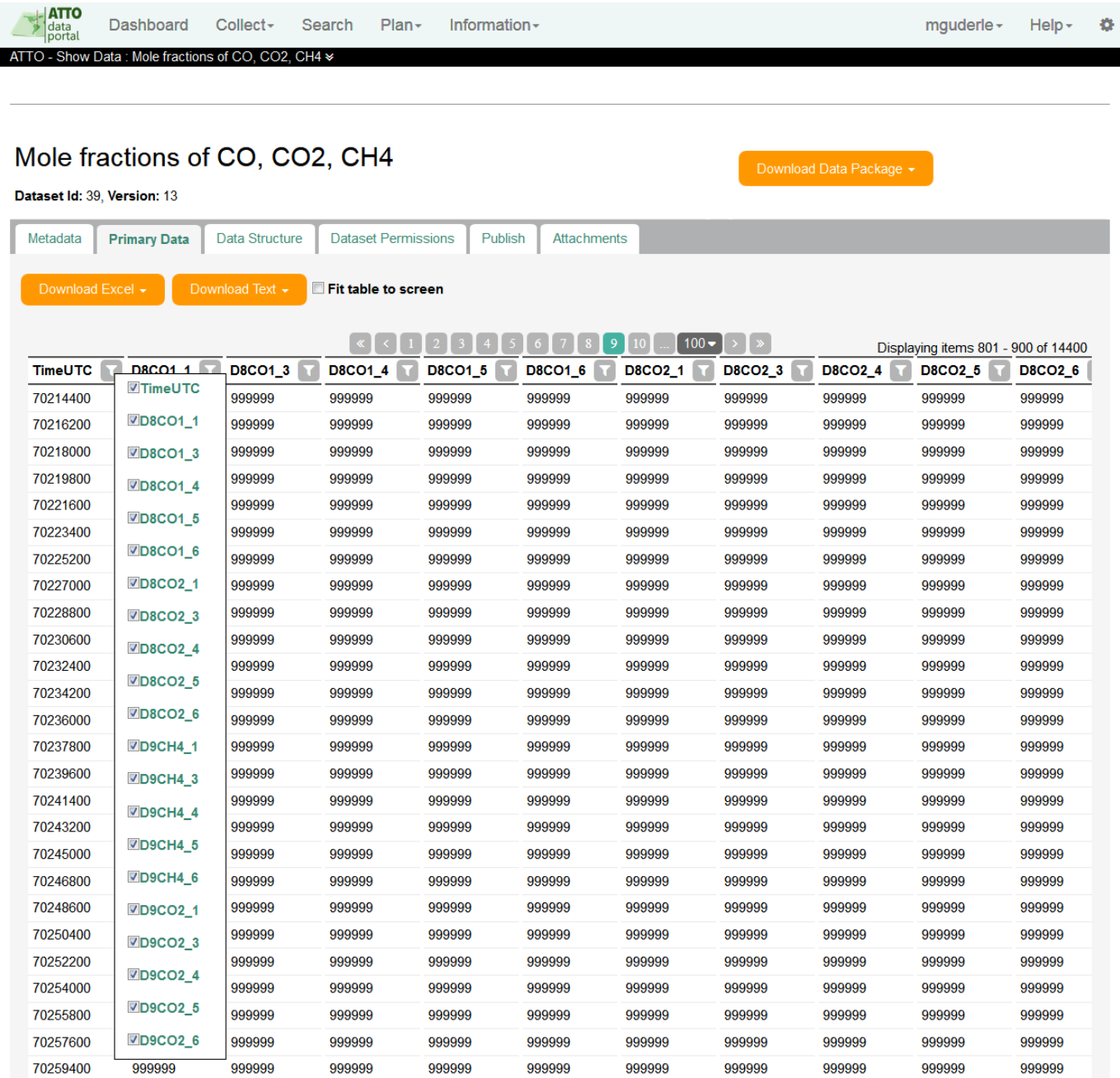


Figure 8: Filter function by columns

A left click on the respective funnel symbol opens another menu for filtering the rows by data. This filter works via different database queries like "Is equal to", "Is greater than or equal to", "Is greater than", "Is less than or equal to" and so on (Figure 9).

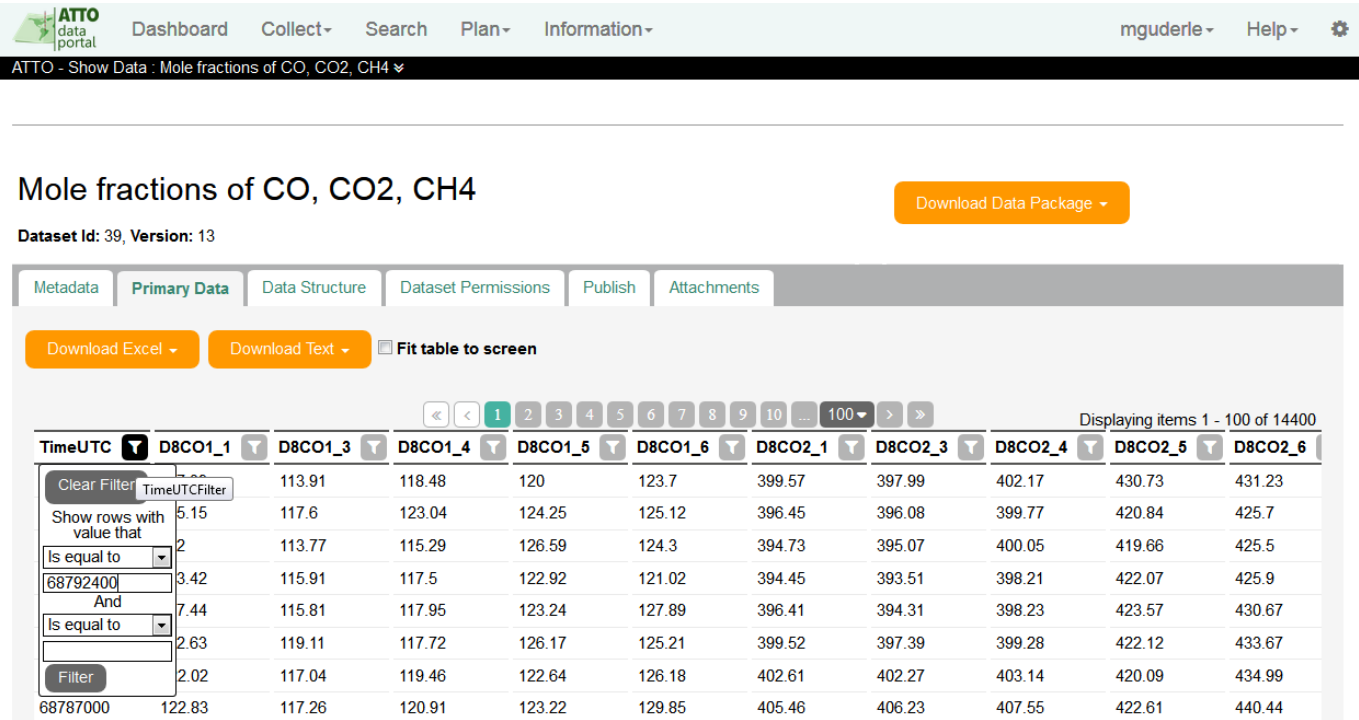


Figure 9: Filter function by rows

The respective filtered data can be downloaded via the Download button either as Excel or as text file (Figure 9). The “Download Dataset” button can be used to download the entire unfiltered dataset.