Agilent Seahorse Analytics

Highlights of key new features, improvements, and fixes in the latest update.

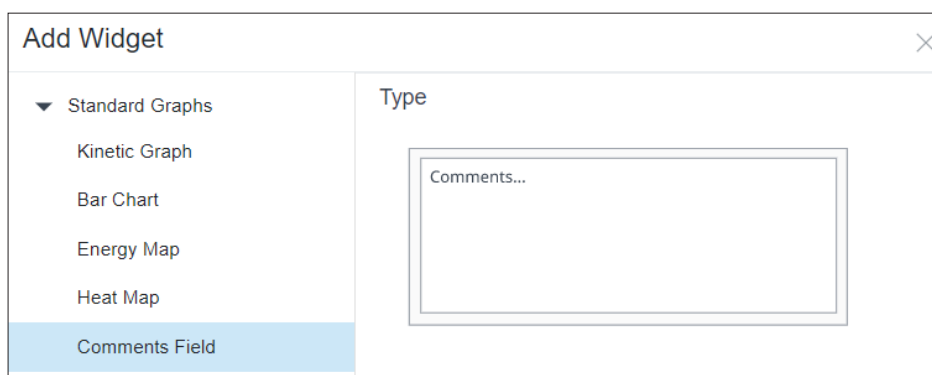**Release date:** December 12, 2022

Version: 1.0.0-520

Overview

This update introduces XF ATP Rate Analysis Views and Widgets designed for compound screening and dose response experiments in early drug discovery. This release also adds a Well Image widget for adding an image of an individual well to a new or existing Analysis View, and a Comments Field that provides a simple text field widget for entering comments. The update also includes enhancements to Widget Editor, Help, and other improvements and fixes.

New features

Comments Field

Provides a simple text field widget for entering comments that can be added to Analysis Views.

Figure 1. Comments Field in the Add Widget list.

XF ATP Rate Analysis

Views and Widgets designed for compound screening and dose response experiments in early drug discovery.

XF ATP Rate Screening: Add View

The ATP Rate Screening Widgets provide plate views of test compounds showing the type and magnitude of ATP production (Figure 2).

Note: Assay result files must also be XF Discovery licensed or have a valid XF assay kit code applied.

XF ATP Rate Screening: Assay View (Figure 3)

– The Vehicle group is represented by a yellow line in bar charts and a blue dotted line in the Rate Index chart.

– Sort (ascending or descending) bar charts by ATP Production Rate, Groups, or Template Groups.
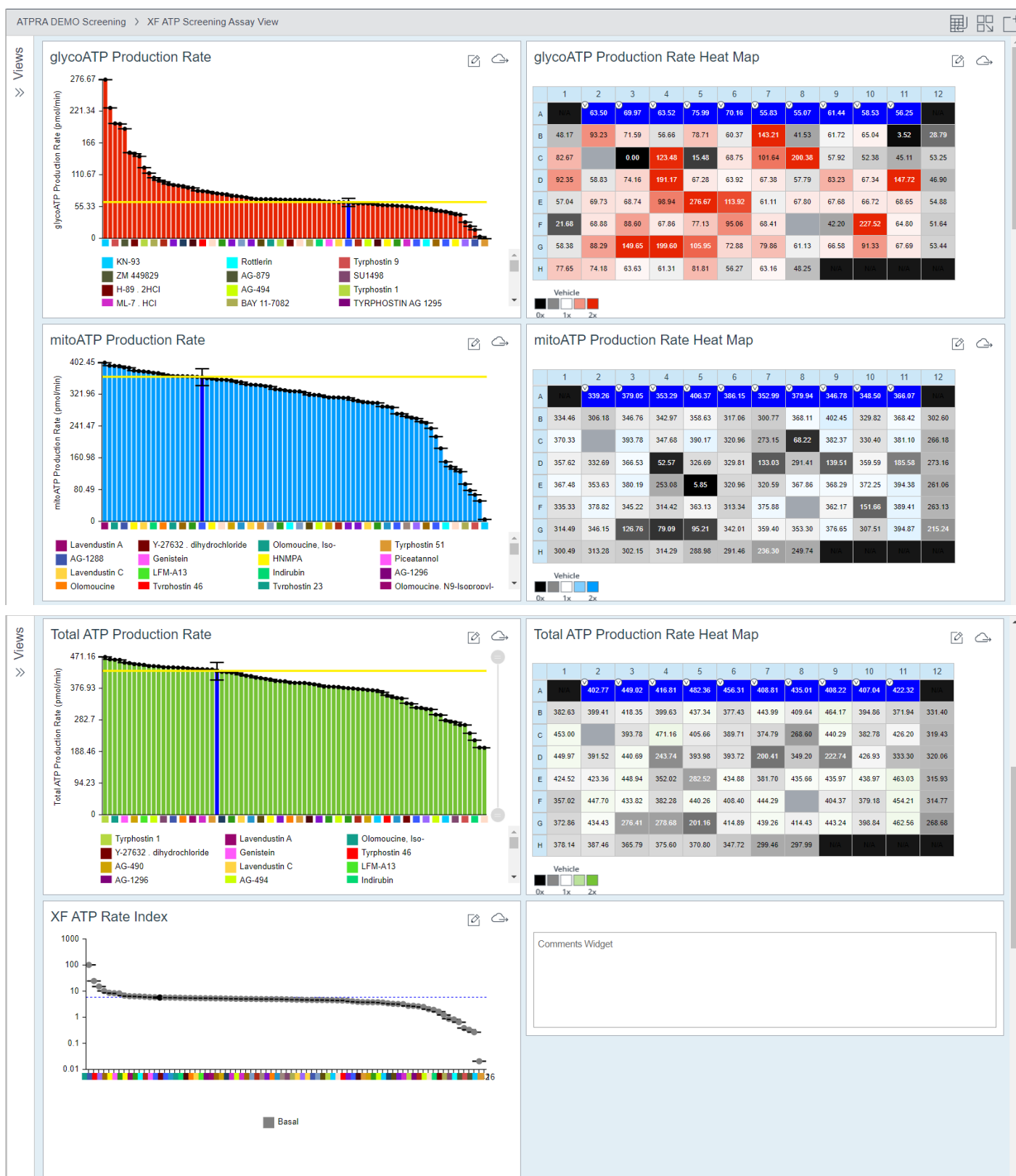

Figure 2. XF ATP Rate Screening widgets.

Figure 3. XF ATP Screening Assay View.

Average Assay Parameter Calculations

Groups	mitoATP Production Rate (pmol/min/1000 Cells)		glycoATP Production Rate (pmol/min/1000 Cells)		Total ATP Production Rate (pmol/min/1000 Cells)		XF ATP Rate Index	
	Value	Std Dev	Value	Std Dev	Value	Std Dev	Value	Std Dev
Vehicle	31.89	0.86	16.50	1.11	48.40	1.82	1.94	0.10
Rot/AA	1.02	0.16	23.47	0.82	24.49	0.90	0.04	6.54e-3
Compound 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compound 2	17.74	1.10	17.59	1.03	35.33	1.85	1.01	0.06
Compound 3	25.07	1.11	19.87	0.82	44.94	1.40	1.26	0.08
Compound 4	31.34	1.67	9.60	0.65	40.94	2.09	3.27	0.19
Compound 5	18.61	1.35	15.46	1.10	34.07	2.15	1.21	0.08

Figure 4. Average Assay Parameter Calculations table.

XF ATP Rate Dose: Add View

The ATP Rate Dose Response Widgets are used to create dose response curves and calculate EC_{50} and IC_{50} values for test compounds.

Note: Assays must be designed with Titration Setup to access widgets in this View. Assay result files must also be XF Discovery licensed or have a valid XF assay kit code applied.

The size of the Add View dialog (Figure 5) has been increased to accommodate more information, improve readability, and has a drop-down selector to define the Oligo Injection position.

Figure 5. The Add View window.
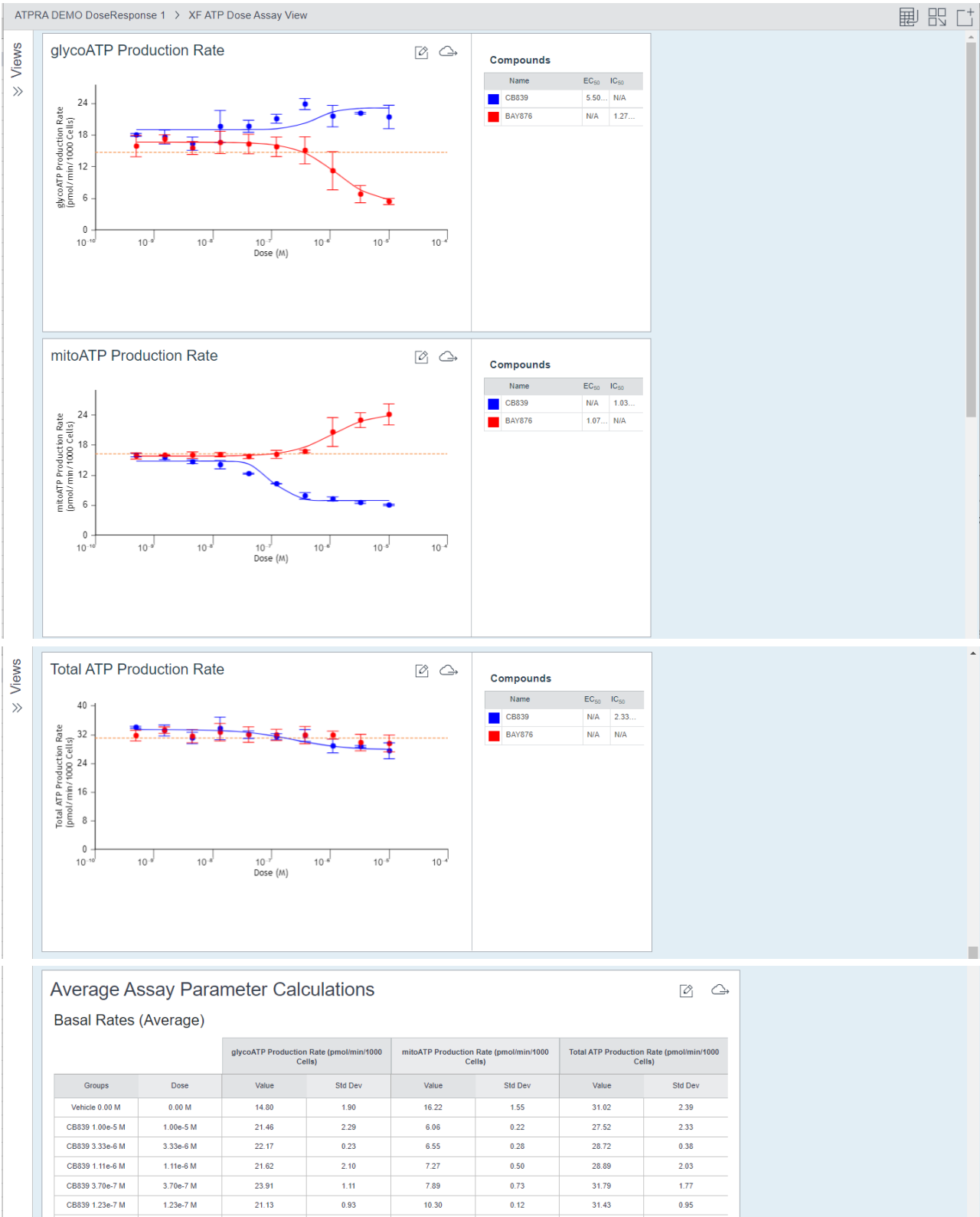
XF ATP Rate Dose: Assay View

Figure 6. XF ATP Dose Assay view.

Well Image Viewer

Integrate imaging and normalization data by adding images and cell count data for individual wells to a new or existing Analysis View (Figure 7).

Note: Assay result files must include images acquired with the XF Imaging and Normalization System to access this widget.

– Click the camera icon (Figure 8) to open the Images dialog box.

– Click a well that contains a camera icon to add an image.

– The Well Image displays the position and the cell count of the associated well.

– The View drop-down menu provides options for viewing Images, Plate Heatmap, or Group Heatmap.

– **Remove Image** deletes the selected image from the assay result file and removes the camera icon from the Plate Map and View drop-down menu.

– **Download Image** downloads the image as a png file to the browser download folder. The image file name contains the assay file name and the well location on the Plate Map.
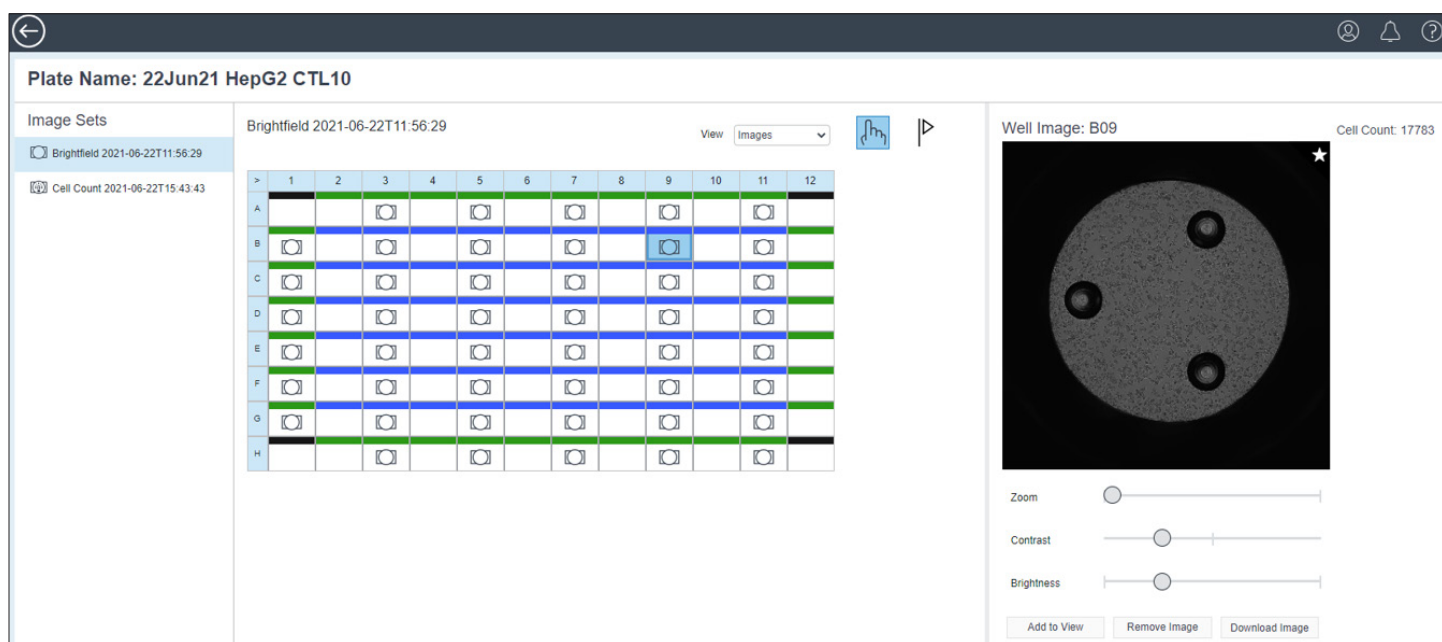

Figure 7. Well Image Viewer.

Figure 8. A camera icon is displayed in the top ribbon after assay result files are opened.

Improvements

– The User Information icon on the Home and Files page has been redesigned with a drop-down menu listing **Settings & User Data**, **About Us**, and **Log Out** options (Figure 9A).

– The Files page now displays the size of a file and an image icon if the file contains images (Figure 9B).

– Hide or show flagged wells in the Widget Editor.

– The Add Widget/Add View dialog boxes have been increased in size for improved readability.

– Updates and additions to Help and Tool Tips. Example: the help content for Data Quality Test Results is now more descriptive and includes an in-app link to the Quick Reference Guide.

– When creating an assay template, rows and columns can now be selected when assigning groups.

– The response time to open a graph when displaying all wells of a group has been improved from 120 seconds to 6 seconds.

– A path on the Projects page has been added to indicate in which folder a given project resides.

– Normalization is automatically turned on in a widget when populating a Custom View if normalization is present.

– Performance (speed) has been improved when loading widgets in Analysis and Project pages.

– The Oligo Injection drop-down menu in Add View/Add Widget has been updated to use letters (1st, 2nd, 3rd, 4th) instead of numbers (1, 2, 3, 4).

Fixes

– Mousing over a Mito Tox Chart now correctly highlights the corresponding wells in the Plate Map.

– The well tool tip for Multi File dose response experiments now indicates the well concentration.

– Fixed an issue in Dose Response Graph Settings that caused Auto Scale to not scale correctly.

– Fixed an issue that resulted in the number of files being displayed in the Upload Files dialog box before the file upload had occurred.

– Non-background wells without normalization now display "N/A" if normalization is turned on.

– Fixed an issue that resulted in the Categories dialog box not being visible when uploading a file.

– Error bars in Dose Response graphs are no longer missing horizontal bars.

– Fixed an issue that resulted in Auto Scale not matching the Chart Settings.

– Data Quality icon is no longer missing when loading an .asyr file.

– Multi File Buffer Factor error messages now includes the file name.

– Fixed an issue that could cause summary data to be lost when creating a template.

– Fixed an issue that resulted in no graph being displayed after unassigning a well.
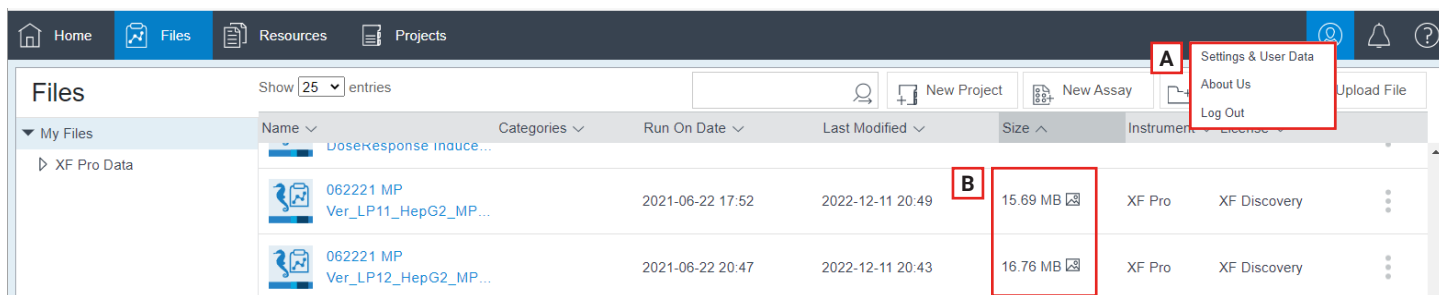

Figure 9. Files tab.

Known issues

Microsoft Edge Browser can display the following error message (Figure 10) on the Assay View screen after opening a data file.
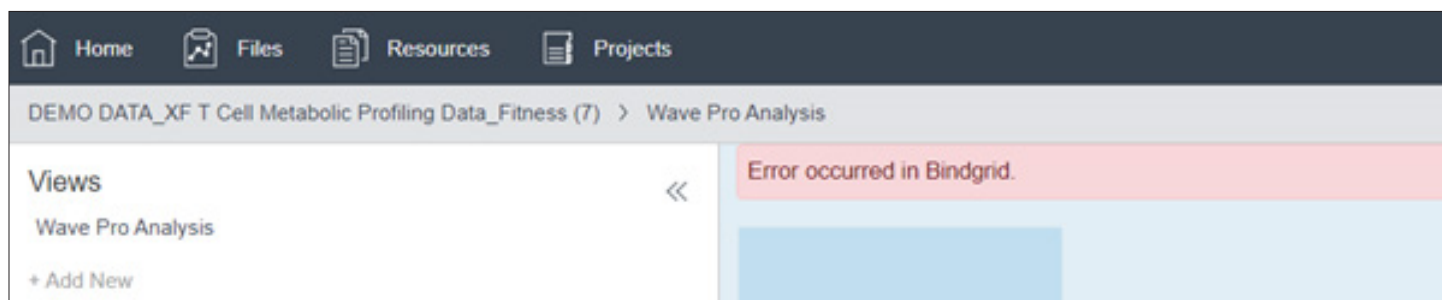

Figure 10. Microsoft Edge error message.

Steps to resolve this issue:

1. Log out of Seahorse Analytics.
2. Clear Microsoft Edge browsing data: Check all the items in the dialog box and select "All time" for the time range (Figure 11).
3. Exit and then re-open the Edge browser application.
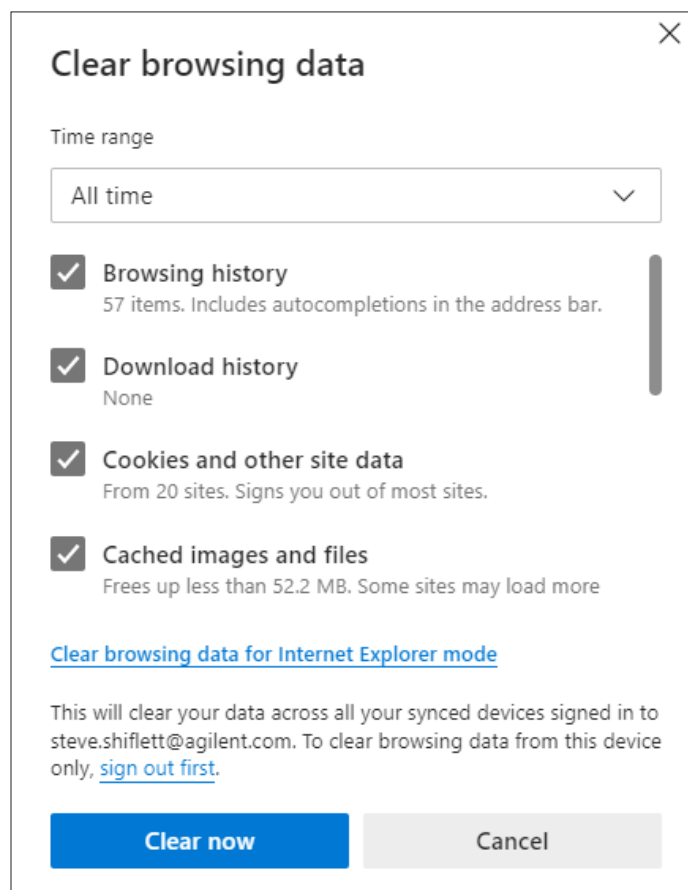4. Sign in to your Seahorse Analytics account.

Figure 11. Microsoft Edge browsing data.

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