

40. Using the OLI Tester

Overview

The OLI Tester is an internal program used to compare results from the current version of the tester with previous versions. The results are stored in a database for easy comparisons. The OLI Tester is a separately licensed program and requires a new or updated serial number.

This section covers the installation and use of the OLI Tester in both single point and multiple point (surveys) calculations. The tester does not work with Stream Analyzer mixer calculations nor with ScaleChem objects.

Installation and Activation

The default installation does not include the OLI Tester. To check if OLI Tester is enabled you need to first go to the plug-ins menu.

Activating the Tester

The plug-ins menu is found from **Tools | Options | Category: Plug-ins**

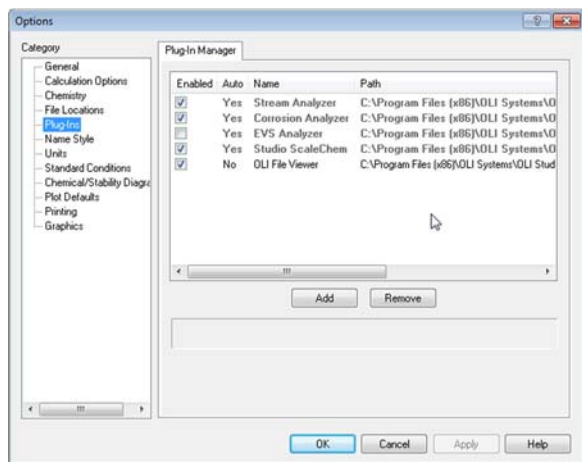


Figure 40-1 Default Plug-Ins menu

There is no mention of the **OLI Tester** in this list so you will need to contact OLI Systems for an updated serial number. A complete re-install of the software is required.

In the next image, OLI has installed the software with an updated serial number that enables the OLI Tester.

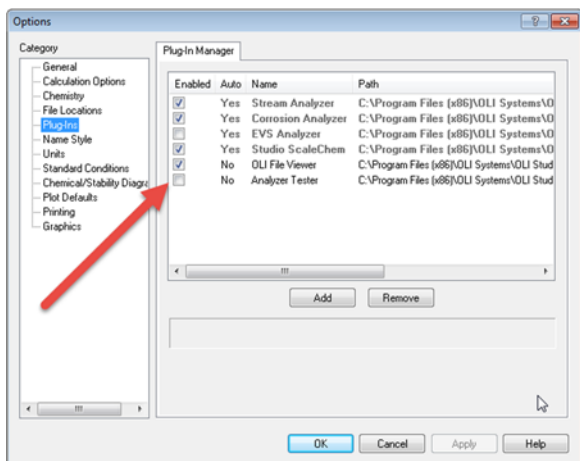


Figure 40-2 OLI Tester has been installed

Check the box to enable the OLI Tester.

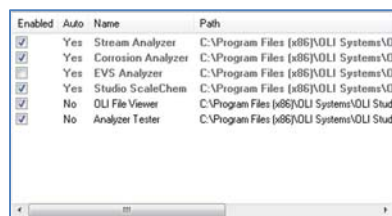


Figure 40-3 OLI Tester enabled

Please close the OLI Studio/Analyzer program.

Activating the Tester for multiple point surveys

The default activation for the OLI Tester does not enable multiple point surveys to be tested. This is an unfortunate condition but it can be remedied with a modification to the computer's registry.

Warning! Modifying your computer's registry settings can cause irreparable harm to your computer, proceed at your own risk.

Use the Windows Run command (Windows key + R) and enter the **Regedit** command.

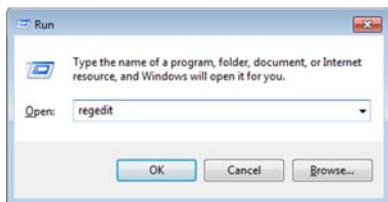


Figure 40-4 entering the registry editor command

This will display the registry editor

Navigate to the key:

HKEY_CURRENT_USER\Software\OLI Systems\OLI Studio 9.5

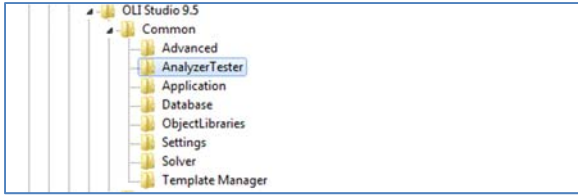


Figure 40-5 Navigating to the OLI Tester key

Click on the **AnalyzerTester** key. In the right-hand window there should be only the default value:

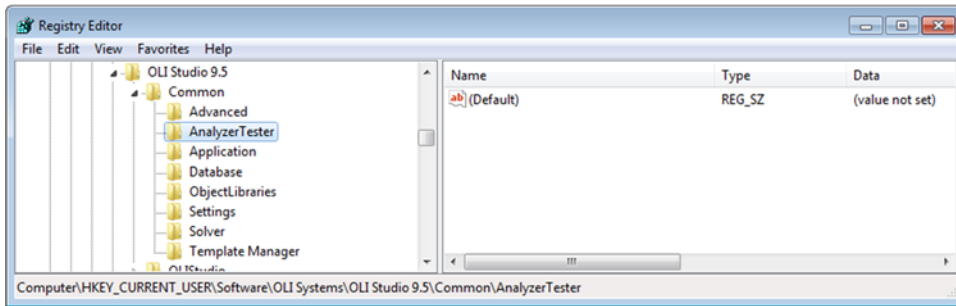


Figure 40-6 Default key value

Right-click in the right-hand windows and select **New | String Value**

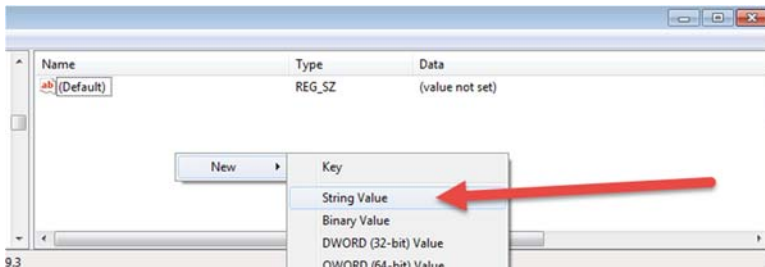


Figure 40-7 Selecting a new string value

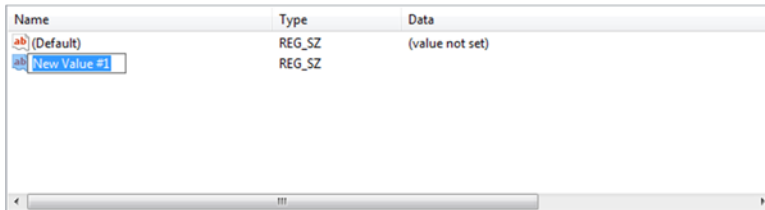


Figure 40-8 Creating a new variable

Rename the **New Value #1** variable to **AllowSurveyTesting**

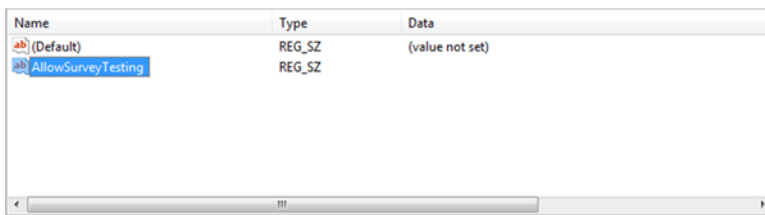


Figure 40-9 Renamed variable, spelling counts!

Double-click the new variable name **AllowSurveyTesting** and this will display a new dialog:

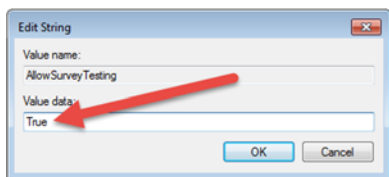


Figure 40-10 Enter "True" in the blank box

Close the Registry Editor

Starting and Setting up the OLI Tester for the First Time

Now that the OLI Tester has been enabled we need to create the first database to store our data. Start the OLI Studio/Analyzer program as you would normally.

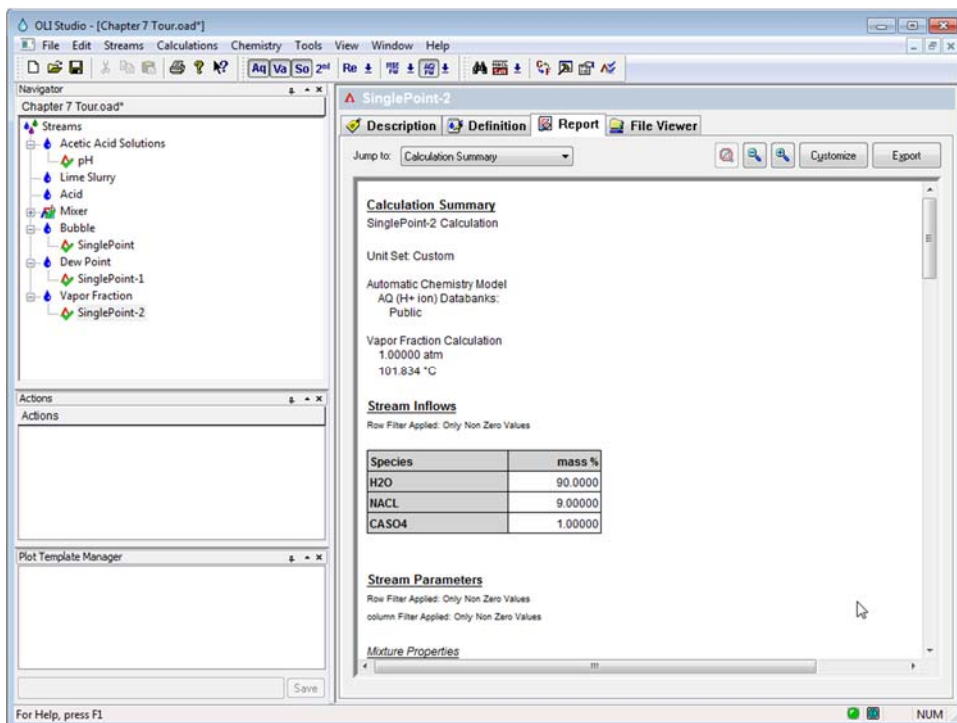


Figure 40-11 Starting a case

For this example, we are using the Chapter 7 files created earlier in this manual. You can download the completed file from this link: http://wiki.olisystems.com/wiki/images/d/dc/Chapter_7_Tour.zip.

We need to create a database. Select **Tools | Analyzer Tester | Select Tester Database**

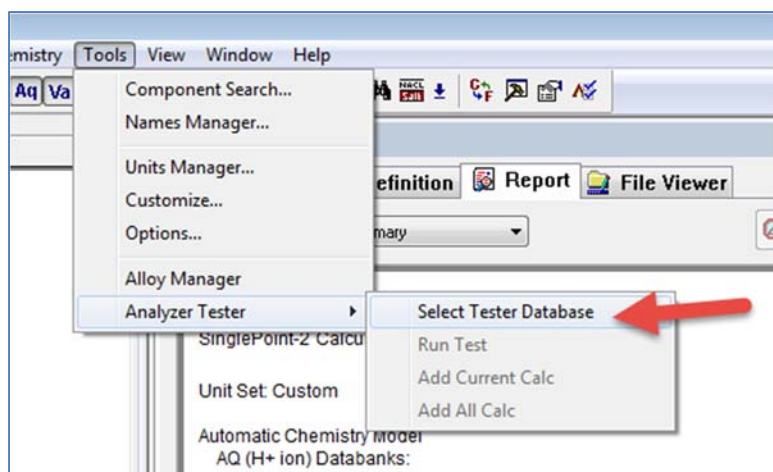


Figure 40-12 selecting the database

This will display a new dialog to either open a database or create a new database.

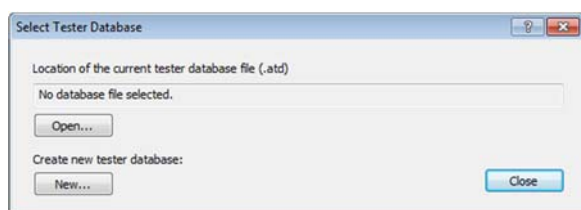


Figure 40-13 Database selection dialog

For this example, click the **New...** button.

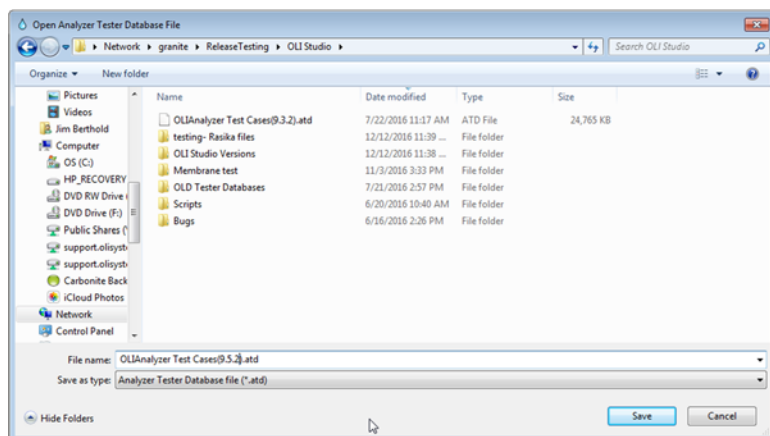


Figure 40-14 Determining a location for your database

You can place your database anywhere you have access and name it anything that makes sense to you. OLI uses many different people to test the software so a centralized location has been chosen. In this case a server location. We also name the database in some manner that indicates the source of the original data, in this case version 9.5.2 of the software. The name is arbitrary and should make sense to you. You may notice that we have a version 9.3.2 database located in this folder. This will be used in a subsequent portion of this chapter.

Click the **Save** button when ready.

Adding Single Point Calculations to the Database

In the example on page 472 you will notice that each object has already been calculated as noted by the green check mark. This means those results are now available to the database (remember mixers do not work in the tester so you cannot add them).

Click the 'pH' calculation

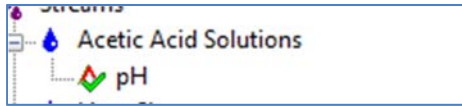


Figure 40-15 Clicking the object

Now select **Tools | Analyzer Tester | Add Current Calc**

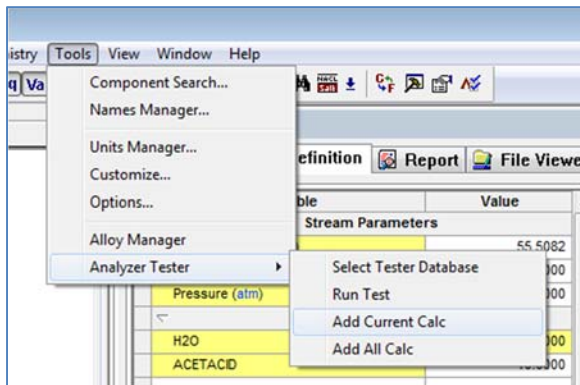


Figure 40-16 Adding the current calculation

This adds the currently selected calculation to the database. You can also add all the calculations to the database now but you may want to be selective in what is added.

For this example, we have added all the calculations to the database. You do not have to save the base file if you do not require it.

Adding Multiple Point Calculations (Surveys) to the Database

Adding surveys to the database is done in much the same way as single point calculations. In this example, we are using the file created from chapter 8 earlier in this guide. You can download the example file from:

http://wiki.olisystems.com/wiki/images/0/0a/Chapter_8_Tour.zip

If you kept the file open from the previous section, then there is no need to reselect the database. Otherwise you will need to open the database you wish to add the cases.

Adding to an existing database

After opening your file, select **Tools | Analyzer Tester | Select Tester Database**. Select **Open...** (refer to Figure 40-12 through Figure 40-14).

Here we are opening the 9.5.2 file we created earlier:

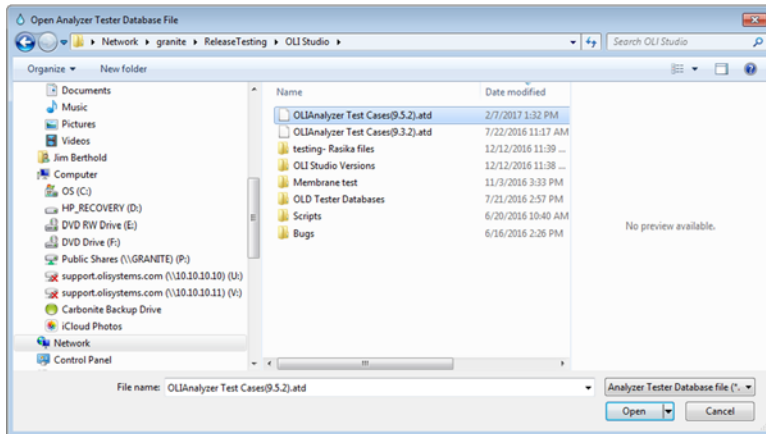


Figure 40-17 Opening an existing database

Remember mixer objects and contour plots cannot be saved to the database. Select a survey and add it to the database. In this example, we are picking the first survey in the file:

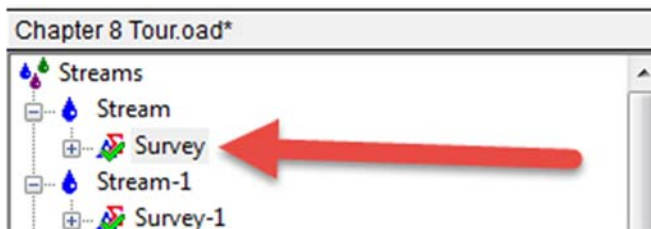


Figure 40-18 Selecting a survey

Now select **Tools | Analyzer Tester | Add Current Calc** (refer to Figure 40-16 on page 474).

The tester automatically updates and saves with the results.

Running the Tester

Running the tester is very straight forward. You first need to start with a blank OLI Studio/Analyzer file. Next you need to select the database to run the tests. Open the database you have been working with previously (see the previous section).

After opening the database, the program will still be in its natural state. Select **Tools | Analyzer Tester | Run Test**

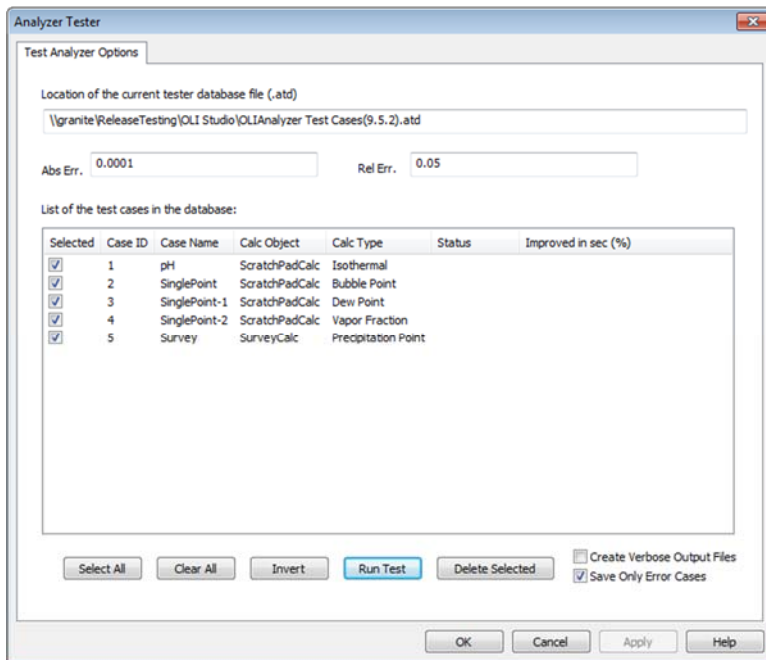


Figure 40-19 The Tester roster of tests

This dialog has many features. At the moment, the test set has not been run so some information is missing.

Feature	Description	
Abs Err	This is the absolute error in the calculation. If exceeded a message is created and a file saved	
Rel Err.	This is the relative error in the calculation. If exceed a message is created and a file saved	
Selected	This file is selected for the desired action (see buttons below)	
Case ID	The case identifier in this database	
Case Name	The name of the case in the original OLI Studio file	
Calc Object	The class of calculation ScratchPadCalc (single point) or SurveyCalc (survey)	
Calculation Type	The type of calculation	
States	Passed, failed, error	
Improved in sec (%)	How much faster is the current calculation than in the older version?	
Buttons		
	Select All	Selects all tests
	Clear all	Deselects all tests
	Invert	Turns off all selected cases and turns on all unselected cases
	Run Test	Runs the calculation
	Delete Selected	Deletes the selected test, there is no restore facility
Create Verbose Output Files	All tests that are calculated will have an output file	
Save only Error Cases	Only save cases that fail or exceed the error limits (see above)	

We will now run this sample test. Since all cases are selected, click the **Run Test** button.

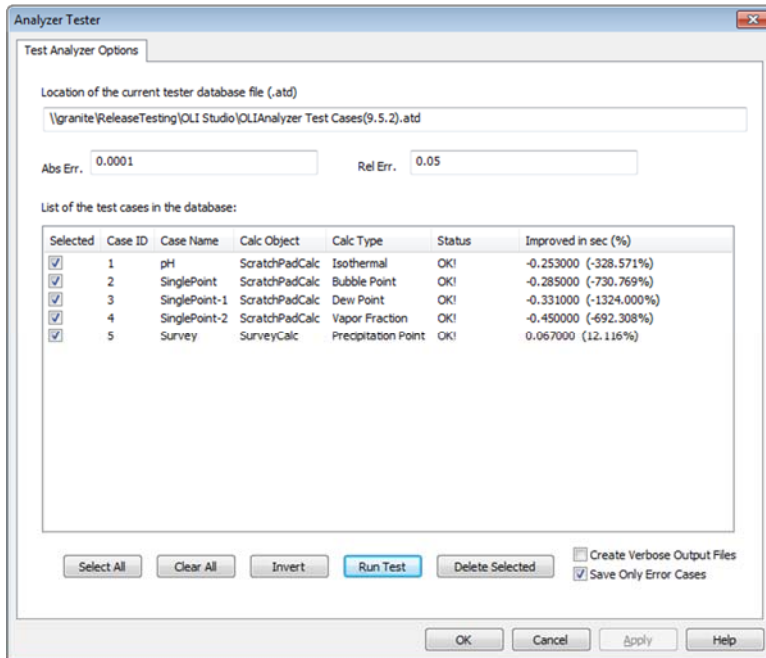


Figure 40-20 The completed test

Of course, this is not a good test. We populated this database with the results from this version. The tests should all pass and have essentially the same results. This is really just a test that our database is connected properly. We now need to review the output files (if any).

By default, the results of the tests are stored in your documents folder under the My OLI Cases folder stored under the OLI Studio 9.5 folder since this is the version used to create the test. Please look for the folder for the version you used for the test.

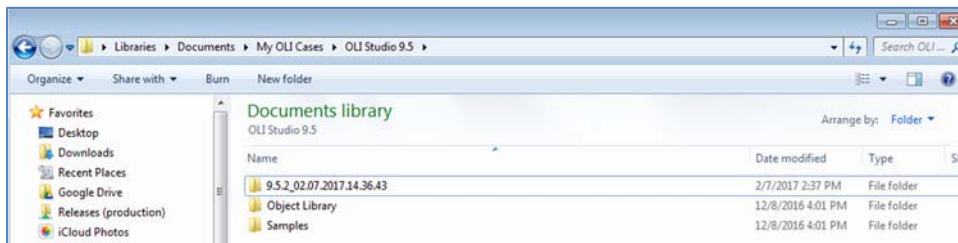


Figure 40-21 The results of the tests

This is a very strange name for the folder. The name includes the version number and the time and date. Expand this folder.

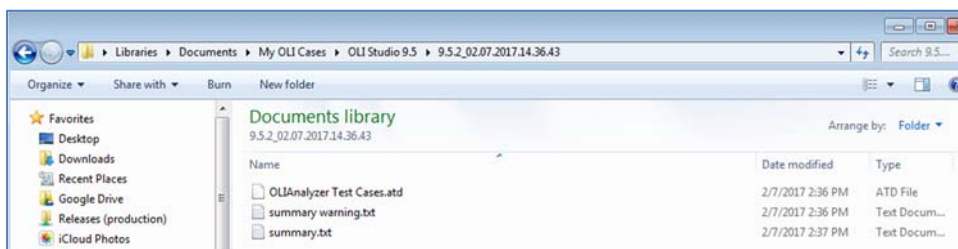


Figure 40-22 the results details

As we said previously, this is not a real test. We have created a new database with the results of the test. This is the file named “OLIANalyzer Test Cases.atd.” Since there are no errors only the summary files are created. Here are the results of the “Summary.txt” file:

```

Analyzer Tester Summary
Test Date Time: 02-07-2017 14:36
Analyzer Version: 9.5.2
Solver version: 9.5.2

Absolute Error: 0.0001
Relative Error: 0.05

Case_ID  Bad_Num  Diff_Num  Add_Line  Drp_Line  Elapsed  CaseName
1         0         76         0          0         0.330000  pH
1         0         76         0          0         0.330000  pH
2         0         81         0          0         0.324000  SinglePoint
2         0         81         0          0         0.324000  SinglePoint
3         0         145        0          0         0.356000  SinglePoint-1
3         0         145        0          0         0.356000  SinglePoint-1
4         0         263        0          0         0.515000  SinglePoint-2
4         0         263        0          0         0.515000  SinglePoint-2
5         0         1263       0          0         0.486000  Survey
5         0         1263       0          0         0.486000  Survey

Note:
Bad_Num- Number differences are beyond both absolute and relative error ranges.
Diff_Num- Number differences are within both absolute and relative error ranges or
          beyond the absolute range but within the relative range.
Add_Line- Tags exist in the current calc results but are missing in the baseline.
Drp_Line- Tags exist in the baseline results but are missing in the current calc.

```

Figure 40-23 A very good test

Opening a database created in a previous version of OLI Studio/Analyzer

We have created the same database in version 9.3.2 of OLI Studio/Analyzer. This database can be found on the OLI Wiki page at: http://wiki.olisystems.com/wiki/images/d/de/OLIANalyzer_Test_Cases%289.3.2%29.zip

Place this example file in a location to which you have access.

We now need to open this file as we have done previously in a later version of the program. You now need to run the test as we showed you in the previous section. For this test set, check the box **Create Verbose Output files**.

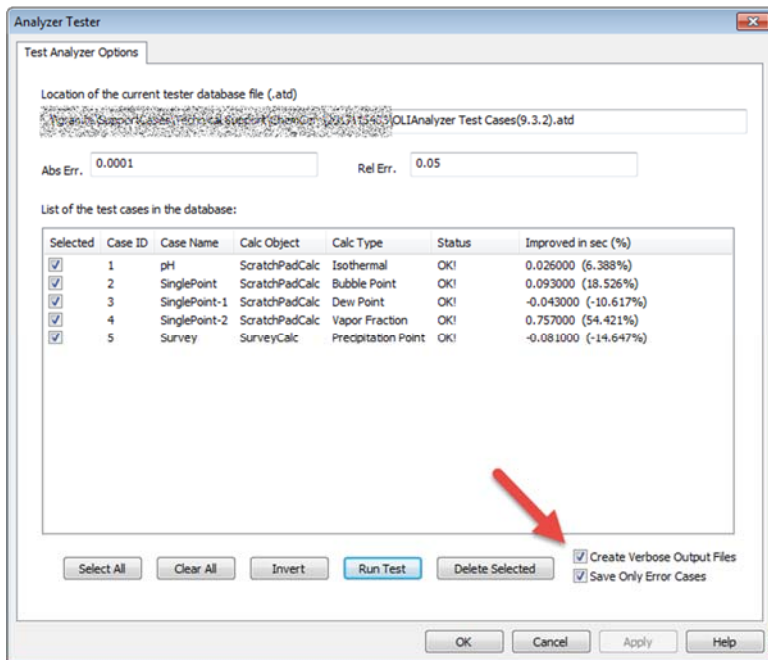


Figure 40-24 Completed test set from an earlier version

There is very little difference between 9.3.2 and 9.5.2 (the versions used for this example). This is true because the AQ thermodynamic framework was used in both cases and the database has not changed between these versions.

Let's look at the results folder – remember that it will have a new file name under the documents folder.

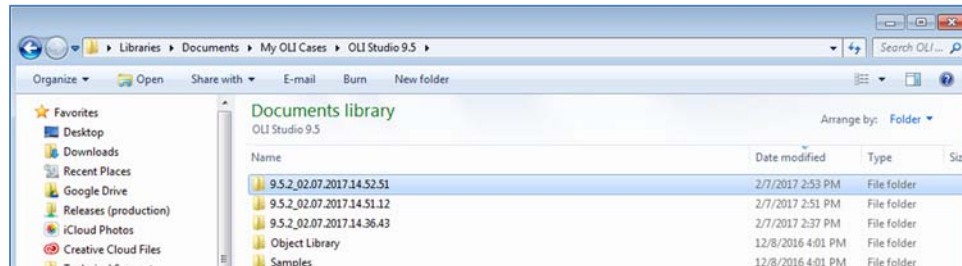


Figure 40-25 We want to look at the most recent set of results.

Name	Date modified	Type	Size
summary.txt	2/7/2017 2:53 PM	Text Docum...	
Survey5(ReOpen).details.txt	2/7/2017 2:53 PM	Text Docum...	
OLIANalyzer Test Cases.atd	2/7/2017 2:53 PM	ATD File	
Survey5.details.txt	2/7/2017 2:53 PM	Text Docum...	
SinglePoint-24(ReOpen).details.txt	2/7/2017 2:53 PM	Text Docum...	
SinglePoint-24.details.txt	2/7/2017 2:53 PM	Text Docum...	
SinglePoint-13(ReOpen).details.txt	2/7/2017 2:53 PM	Text Docum...	
SinglePoint-13.details.txt	2/7/2017 2:53 PM	Text Docum...	
SinglePoint2(ReOpen).details.txt	2/7/2017 2:52 PM	Text Docum...	
pH1(ReOpen).details.txt	2/7/2017 2:52 PM	Text Docum...	
SinglePoint2.details.txt	2/7/2017 2:52 PM	Text Docum...	
pH1.details.txt	2/7/2017 2:52 PM	Text Docum...	
summary warning.txt	2/7/2017 2:52 PM	Text Docum...	

Figure 40-26 The details of the results

Opening any text file will give you details about what has changed in the file. In these tests, very little has changed.

The final option is to save each test as a separate OLI Studio/Analyzer file. Uncheck the “Save Only Error Cases” and run the tests again.

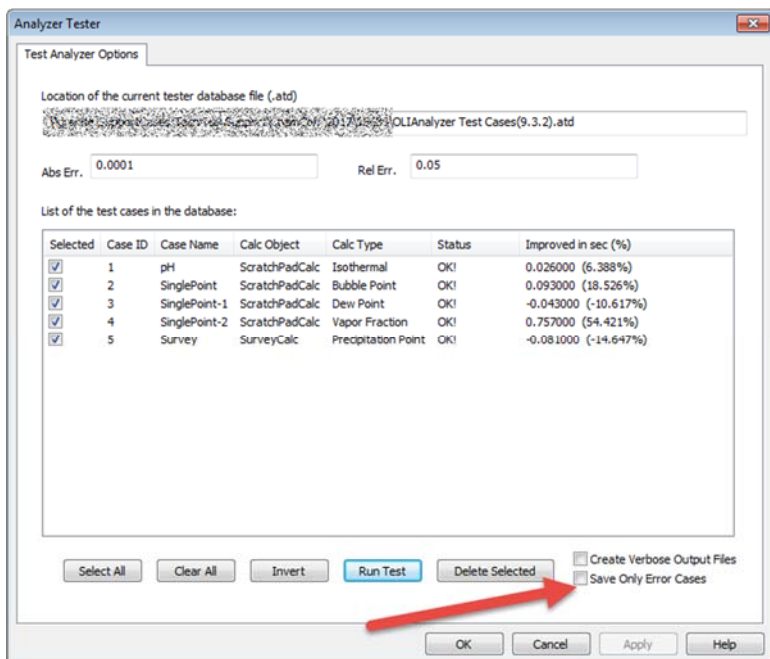


Figure 40-27 Unchecking the save option

Now review the results in yet another new folder (most recent) in the same general location at the other results:

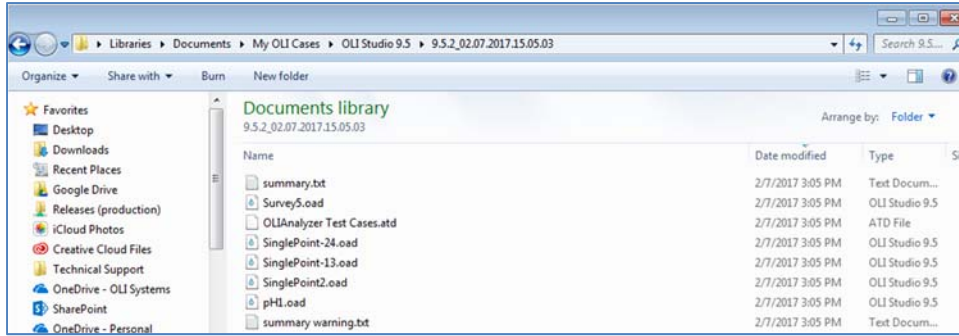


Figure 40-28 Individual tests are saved as files

Each of the test set cases are saved as individual files for further analysis if required.