WELL TEST INTERFERENCE ANALYSIS

User Guide

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PROGRAM REQUIREMENTS

Before installing the application, ensure your system meets the following requirements:

SYSTEM REQUIREMENTS

- Operating System: Windows 10 or later.
- Processor: 1 gigahertz (GHz) or faster processor or System on a Chip (SoC)
- RAM: 1 gigabyte (GB) for 32-bit or 2 GB for 64-bit
- Hard Disk Space: Minimum 50 MB of available hard disk space

SYSTEM REQUIREMENTS

- .NET Runtime: .NET 8 runtime or later. If not already installed, it can be downloaded from the official .NET website.
- Microsoft Visual C++ Redistributable: Required for some dependencies. It can be downloaded from the official Microsoft website.

SUPPORTED PLATFORMS

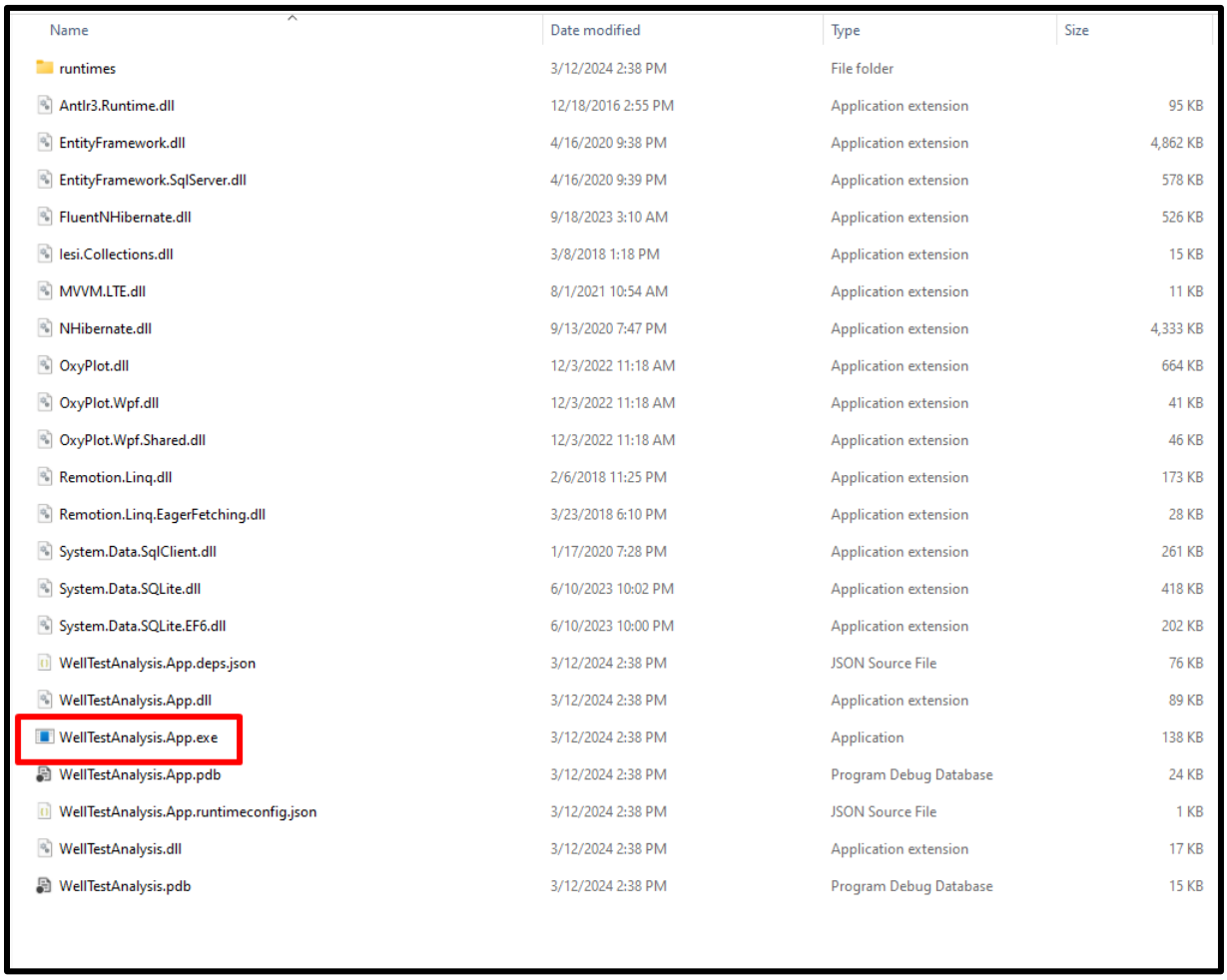
- The application is designed to run on Windows-based systems only.
- Compatibility with other operating systems or platforms is not guaranteed.

ADDITIONAL NOTES

- **Permissions:** Administrator privileges might be required to install the application successfully.
- **Firewall/Antivirus:** Ensure that your firewall or antivirus software does not block the installation process.

RUNNING THE PROGRAM

- Unzip the archive
- Open the app folder
- Double-click on the executable file.



Name	Date modified	Type	Size
runtimes	3/12/2024 2:38 PM	File folder	
Antlr3.Runtime.dll	12/18/2016 2:55 PM	Application extension	95 KB
EntityFramework.dll	4/16/2020 9:38 PM	Application extension	4,862 KB
EntityFramework.SqlServer.dll	4/16/2020 9:39 PM	Application extension	578 KB
FluentNHibernate.dll	9/18/2023 3:10 AM	Application extension	526 KB
Iesi.Collections.dll	3/8/2018 1:18 PM	Application extension	15 KB
MVVM.LTE.dll	8/1/2021 10:54 AM	Application extension	11 KB
NHibernate.dll	9/13/2020 7:47 PM	Application extension	4,333 KB
OxyPlot.dll	12/3/2022 11:18 AM	Application extension	664 KB
OxyPlot.Wpf.dll	12/3/2022 11:18 AM	Application extension	41 KB
OxyPlot.Wpf.Shared.dll	12/3/2022 11:18 AM	Application extension	46 KB
Remotion.Linq.dll	2/6/2018 11:25 PM	Application extension	173 KB
Remotion.Linq.EagerFetching.dll	3/23/2018 6:10 PM	Application extension	28 KB
System.Data.SqlClient.dll	1/17/2020 7:28 PM	Application extension	261 KB
System.Data.SQLite.dll	6/10/2023 10:02 PM	Application extension	418 KB
System.Data.SQLite.EF6.dll	6/10/2023 10:00 PM	Application extension	202 KB
WellTestAnalysis.App.deps.json	3/12/2024 2:38 PM	JSON Source File	76 KB
WellTestAnalysis.App.dll	3/12/2024 2:38 PM	Application extension	89 KB
WellTestAnalysis.App.exe	3/12/2024 2:38 PM	Application	138 KB
WellTestAnalysis.App.pdb	3/12/2024 2:38 PM	Program Debug Database	24 KB
WellTestAnalysis.App.runtimeconfig.json	3/12/2024 2:38 PM	JSON Source File	1 KB
WellTestAnalysis.dll	3/12/2024 2:38 PM	Application extension	17 KB
WellTestAnalysis.pdb	3/12/2024 2:38 PM	Program Debug Database	15 KB

Fig. 1. App executable file.

APP USAGE

Features

The app comprises of 3 features for data entry, analysis and visualization

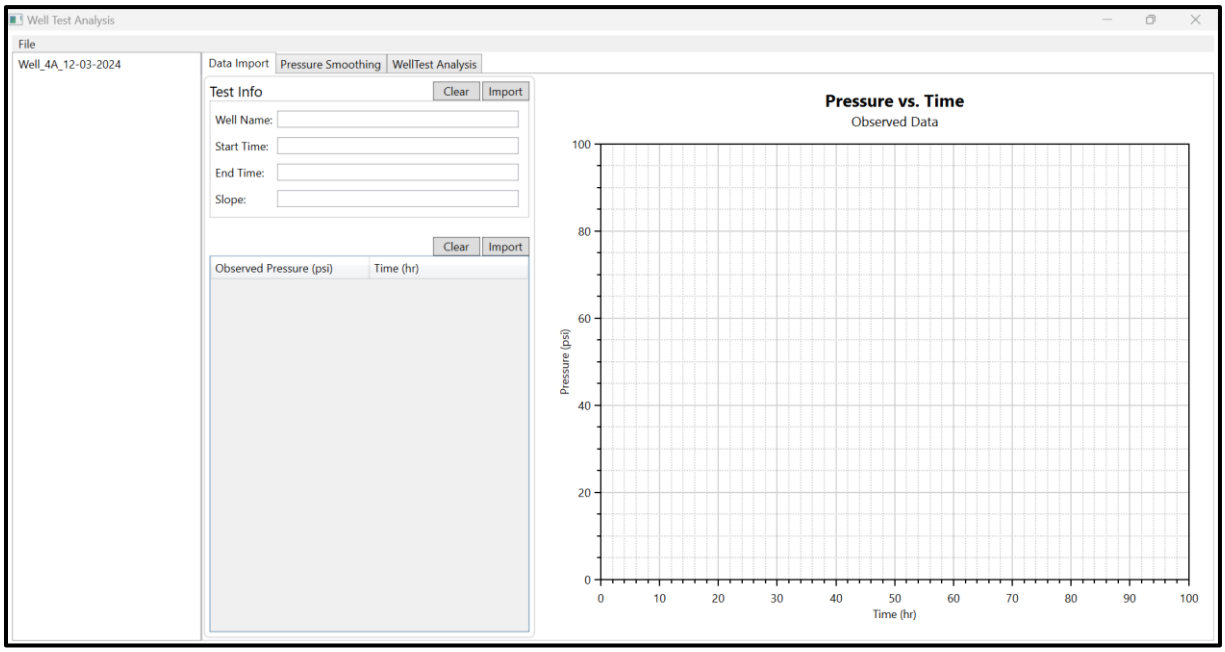


Fig. 2. App features

DATA IMPORT

This feature allows user to import or enter well test information and observed pressure data.

Fig. 3. Test Info

SMOOTH PRESSURE

This feature provide option to smoothen the observed pressure.

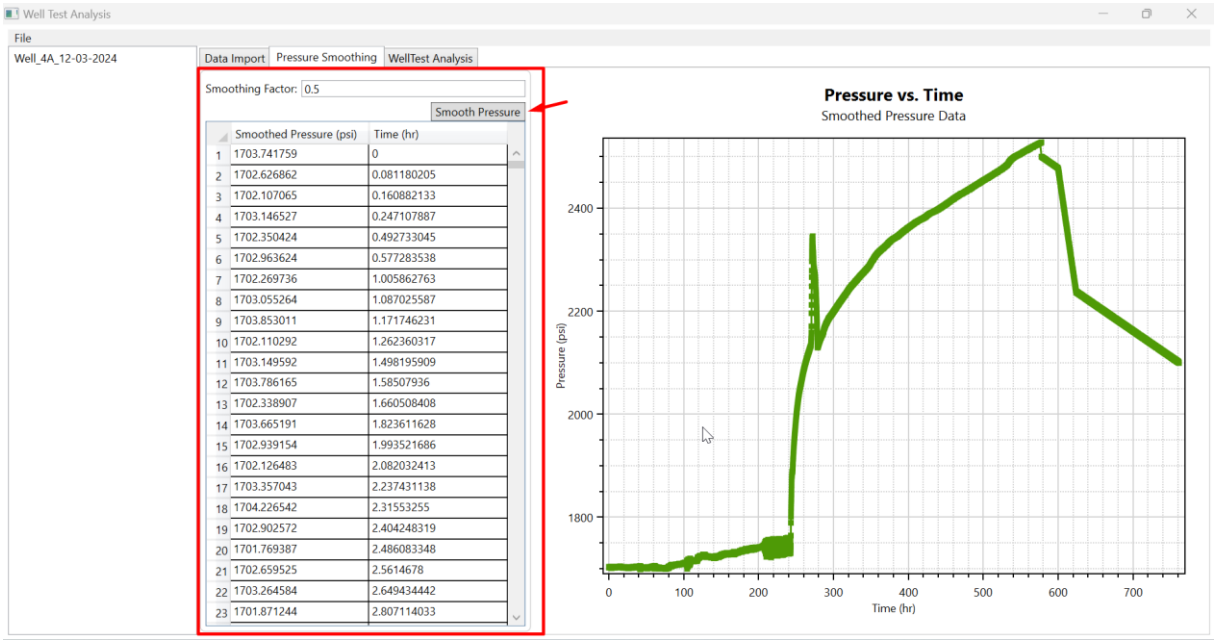


Fig. 4. Smooth Pressure

TREND PRESSURE

This feature provide option to calculate linear trend of the smoothen pressure vs time series between a given time range (Start and End time of test).

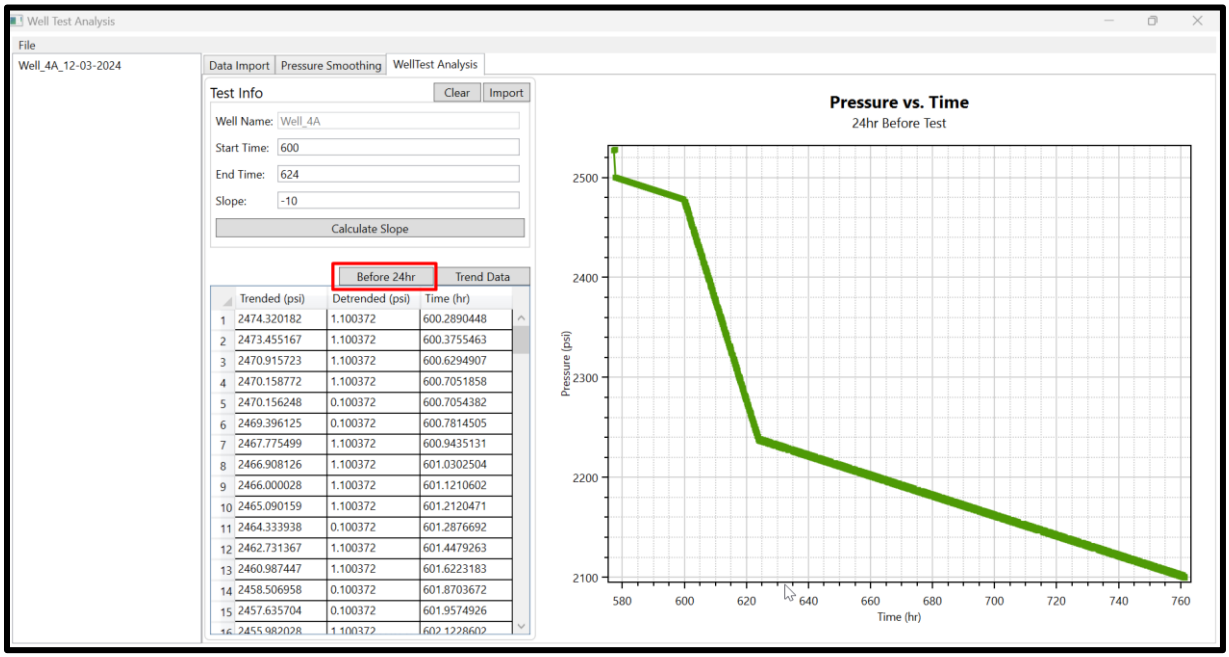


Fig. 5. Pressure vs Time 24 hours before test

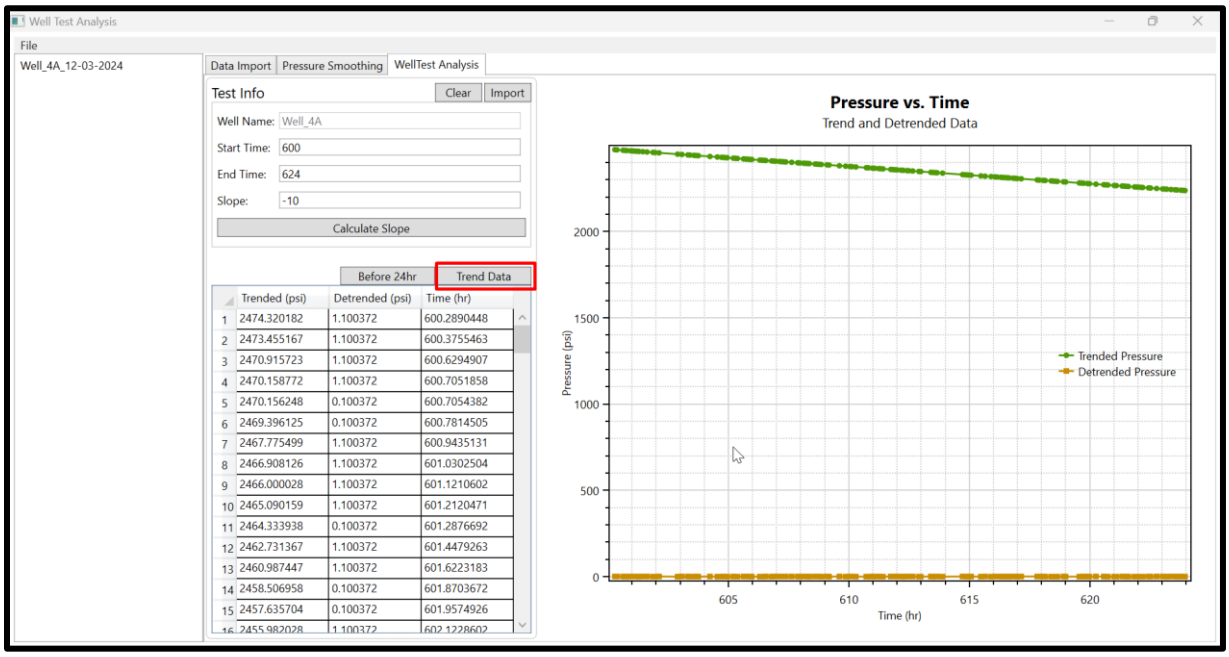


Fig. 6. Linear Trend and Detrended Data

APP OPTIONS

This comprises of features that allow the user to create a new analysis, import previous analysis, export analysis results, save the results to the database and exit the application.

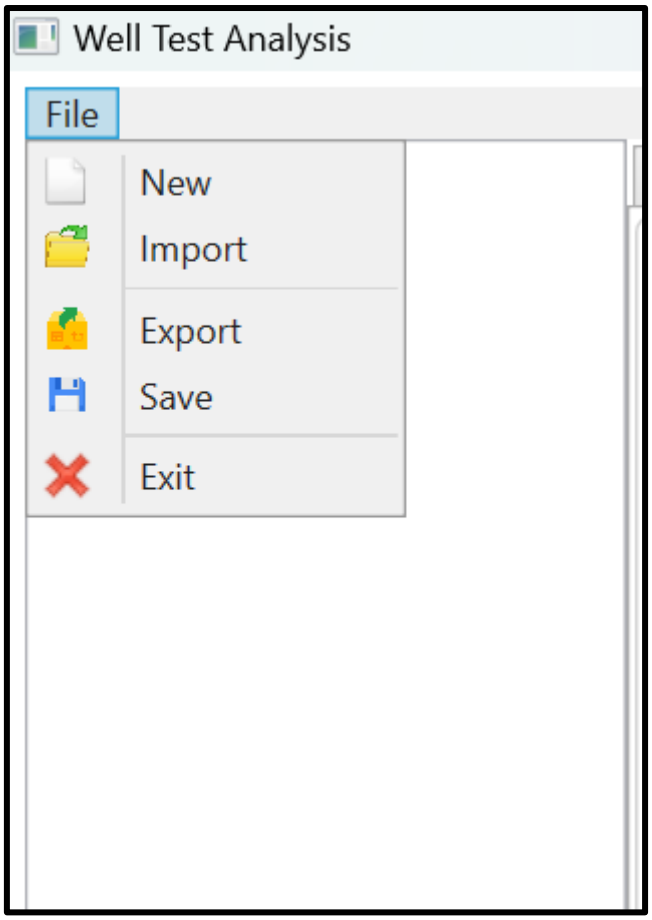
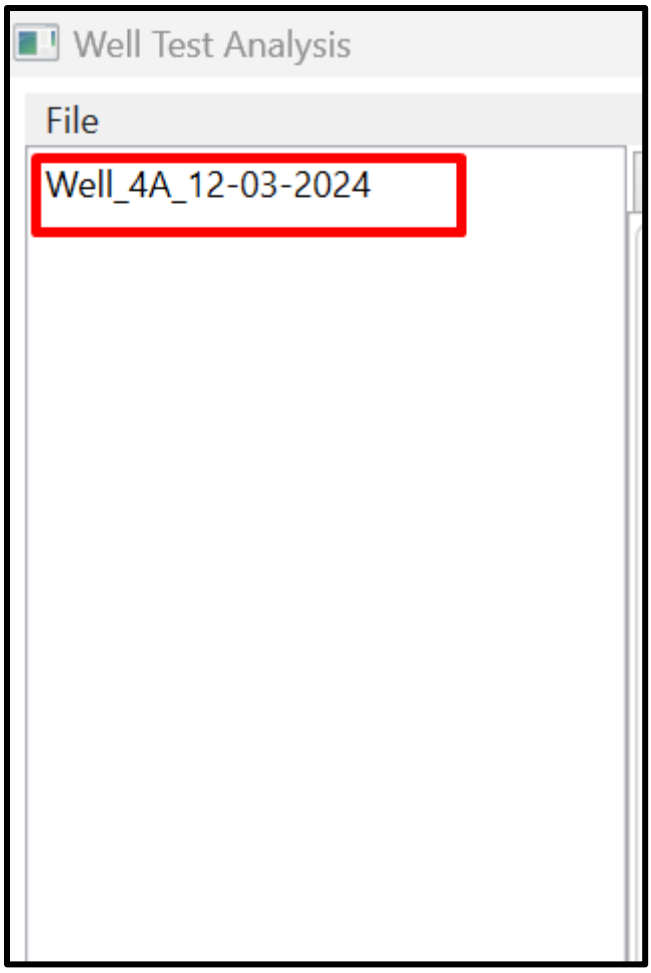


Fig. 7. App Options


Well Test Analysis
File
Well_4A_12-03-2024

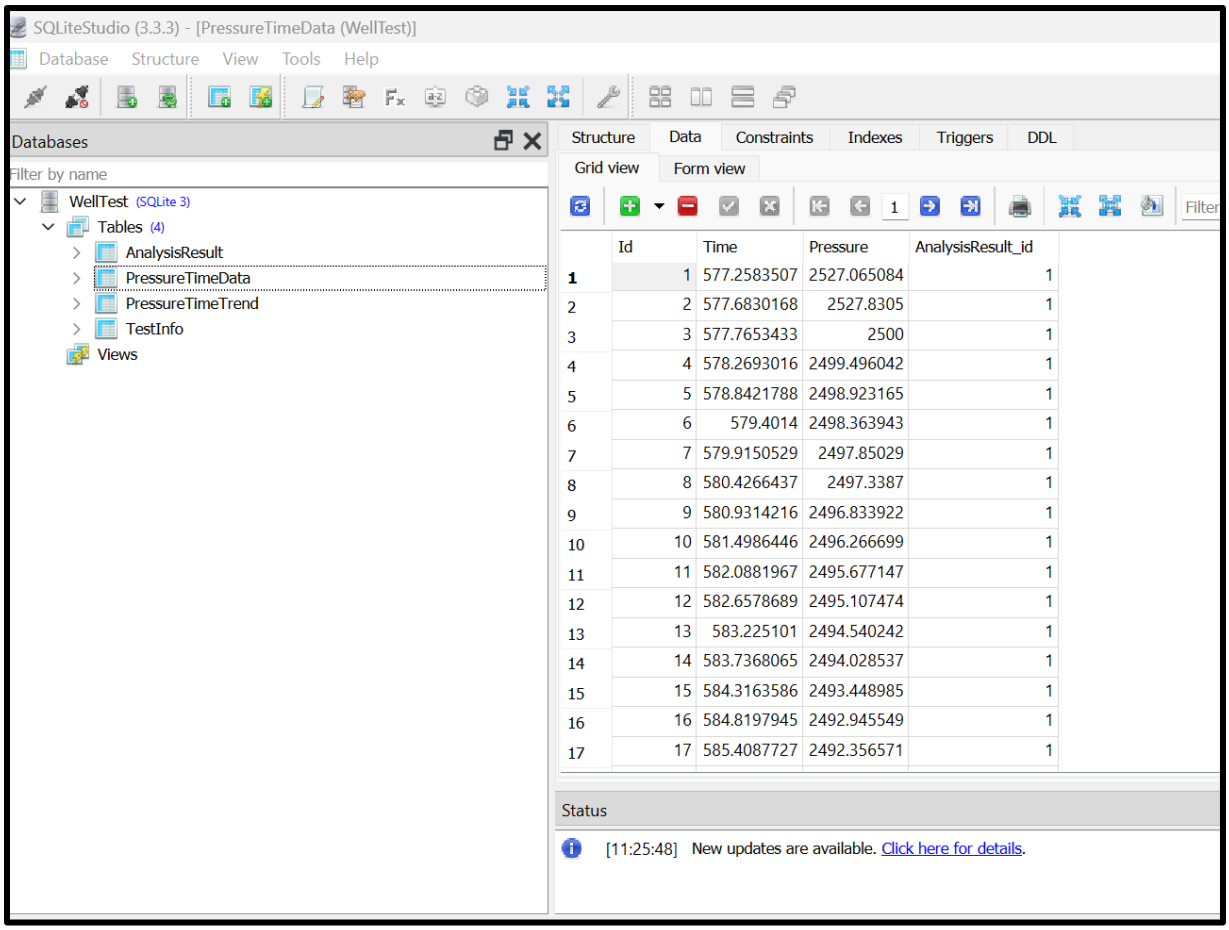


Fig. 8. SQLite Database

CHART VISUALIZATION

This feature allows user to visualize data in a graphical format:

- Observed Data
- Smoothen Data
- Trended Data
- Detrended Data

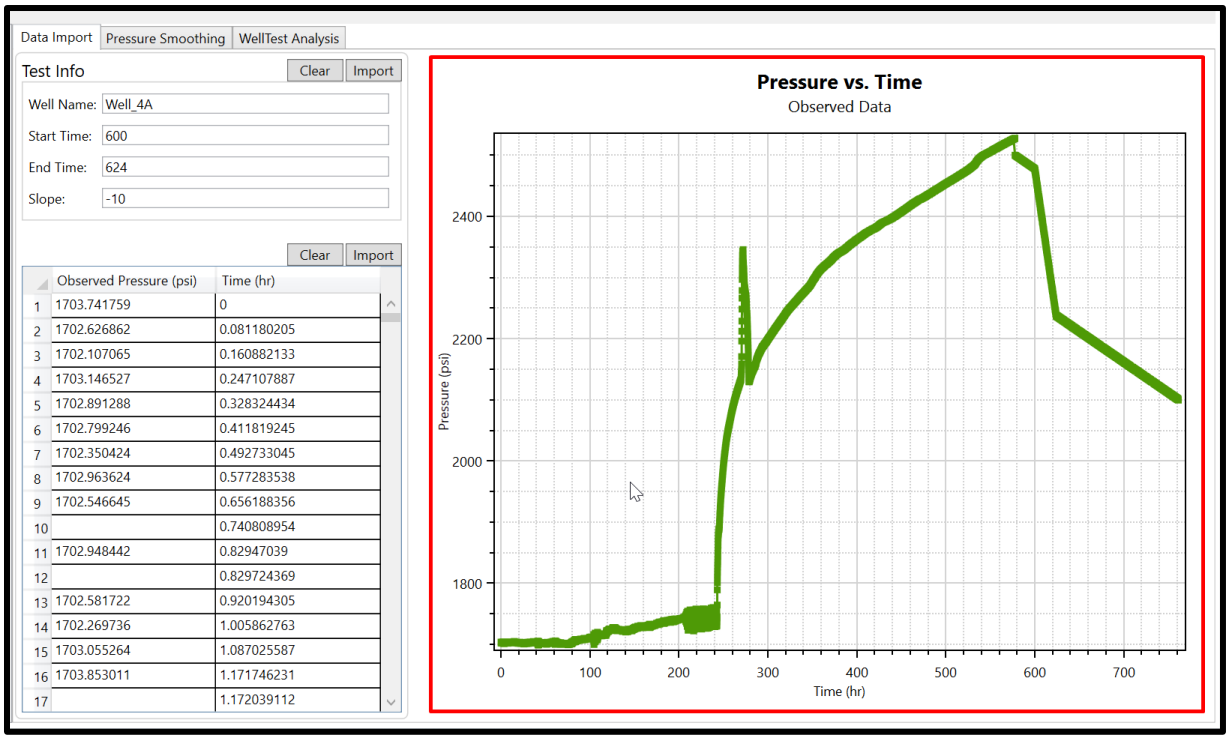


Fig. 9. Observed Pressure Chart

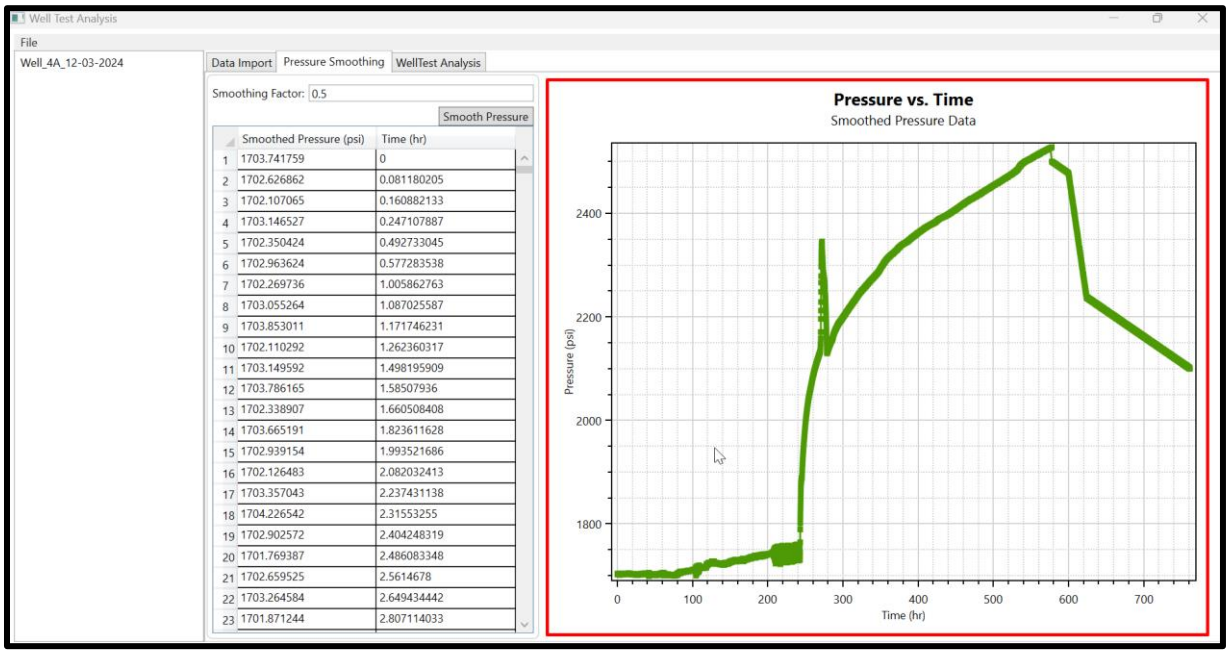


Fig. 10. Smoothen Pressure Data

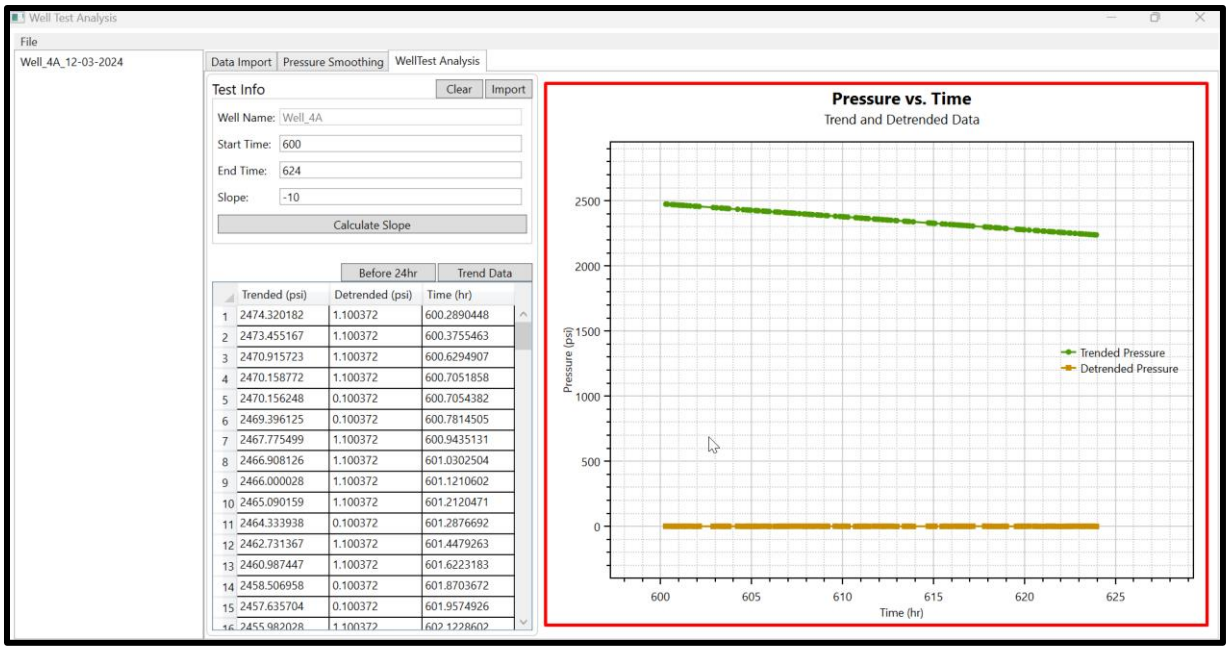


Fig. 11. Trended and Detrended Data