

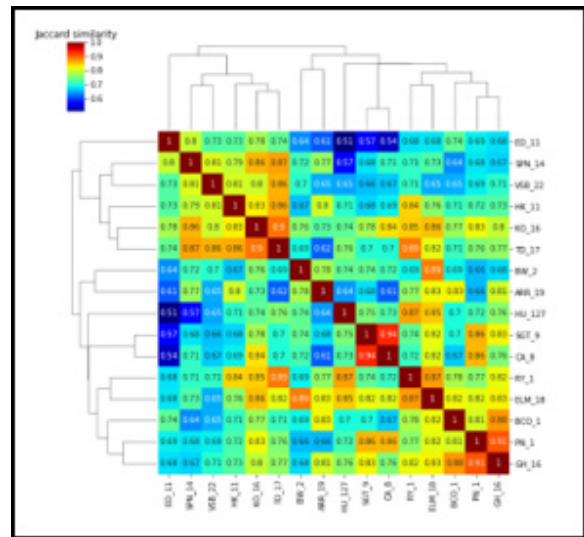


Interpretation-ready data with Automated Log Editing

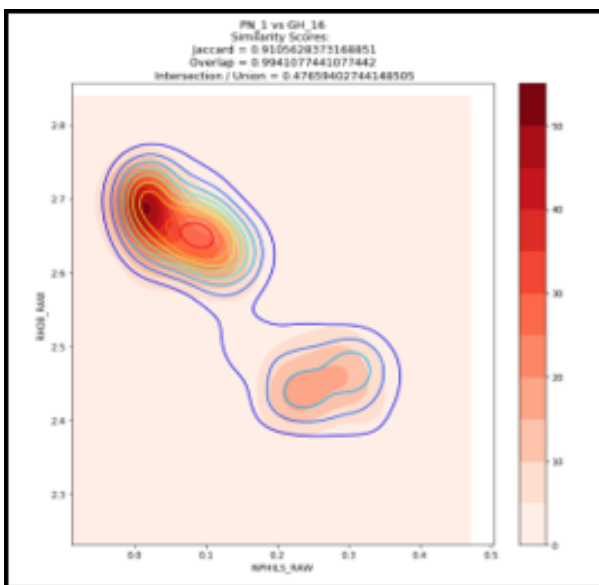
Automated Log Editing is an add-on software module for **PowerLog®**. It enables the users to fully automate their log editing requirements of similarity analysis, depth shifting, outlier detection, and log patching. It's built with AI and machine learning for reliable and repeated processing.

Similarity Analysis

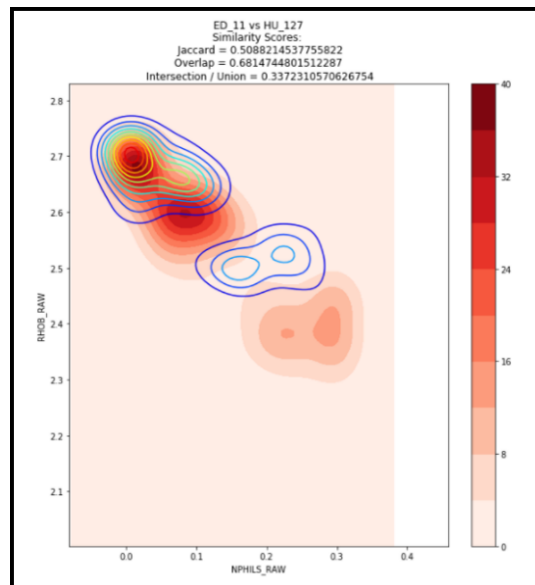
- Analytical approach comparing similarity or dissimilarity among the wells
- Generates metrics based on several methods
 - Jaccard Similarity
 - Overlap Similarity
 - Intersect/Union
- Extremely useful when selecting group of reference wells for log conditioning and interpretation workflows



Jaccard Similarity scores



Similar Wells

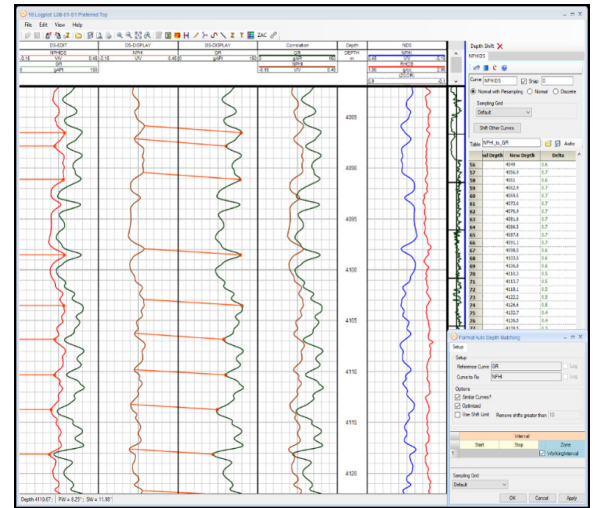


Dissimilar Wells

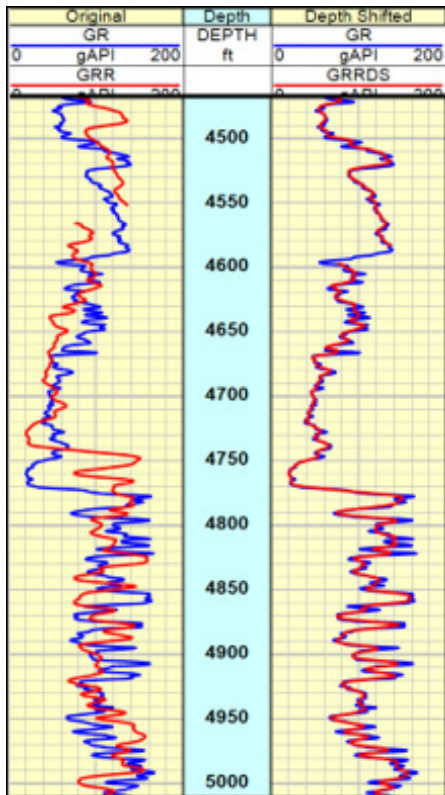


Automated Depth Matching

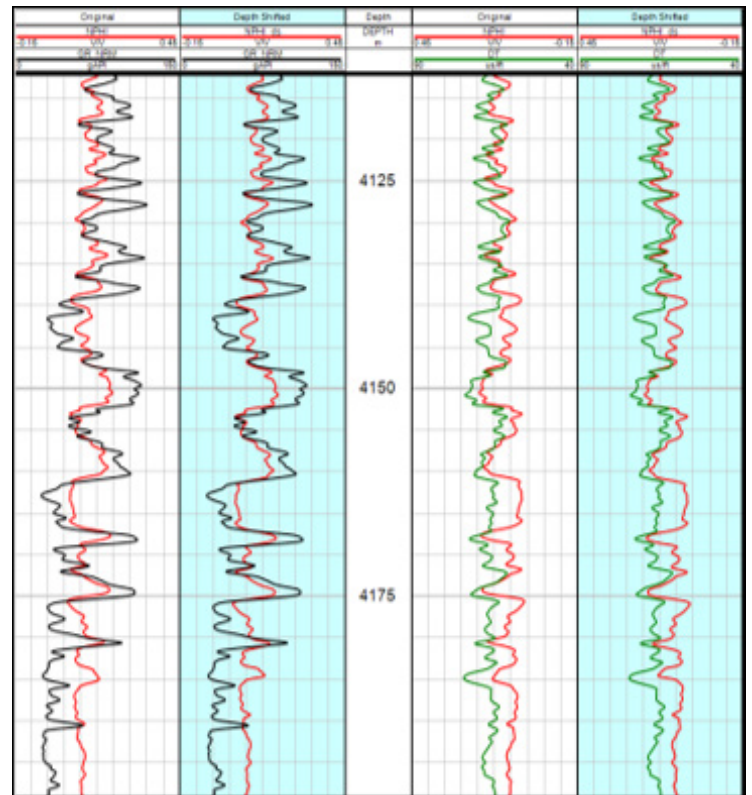
- Match wireline, LWD, MWD or cased hole logs with any of the reference curves
- Match curves from different descents or correct for depth discrepancy caused by tool pulls
- Takes care of both small and big depth shifts
- User control to limit the amount of shifts
- Apply depth shifts on multi-wells or even same depth shift on different curves from the same well
- Full interactive and integrated with PowerLog



Automated Depth Matching interactivity with the logplot



Example of big depth shifts

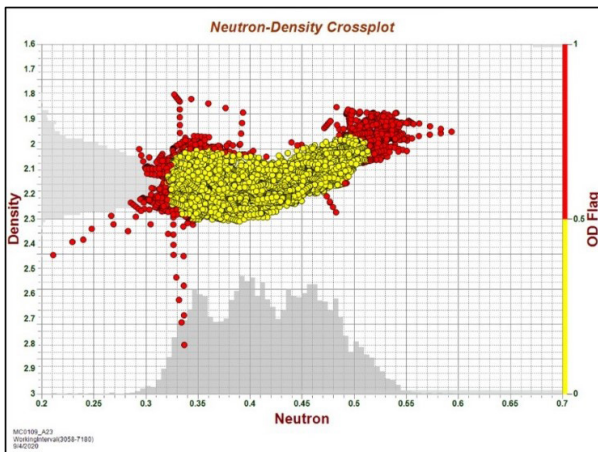


Example of small depth shifts

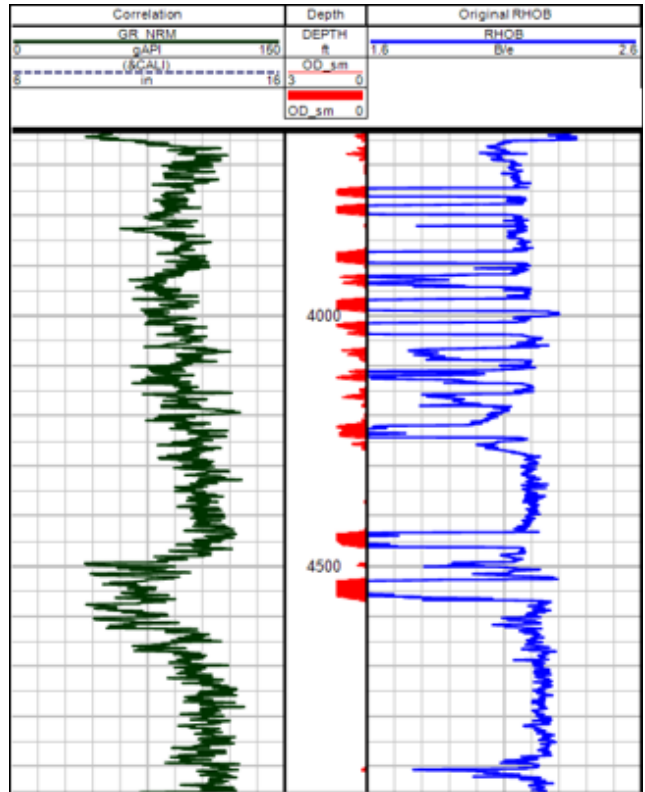


Automated Outlier Detection

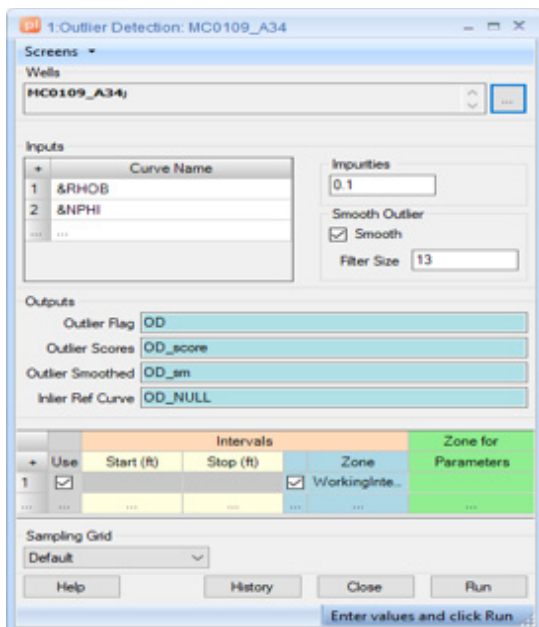
- Automate detection of outliers, spurious data or washouts
- Use any combination of curves to identify the outliers
- Use data from single or multi-wells



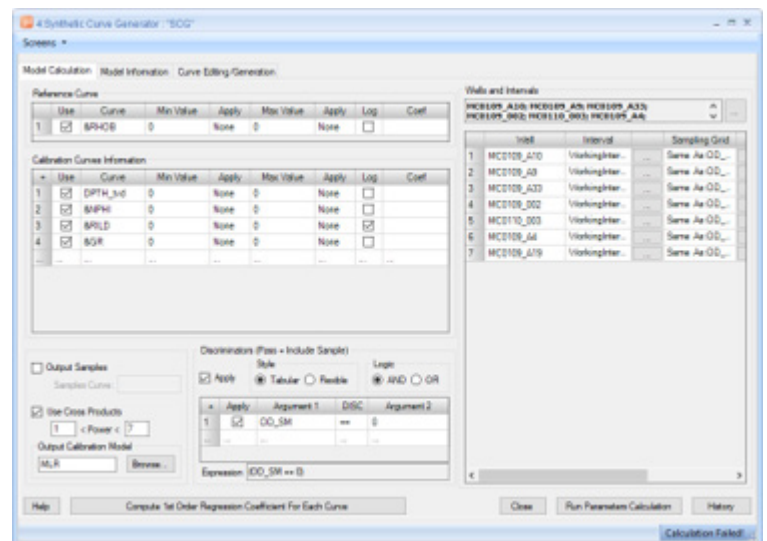
Outlier Detection QC on Neutron-Density crossplot



Outlier Detection QC on logplot



Outlier Detection interface

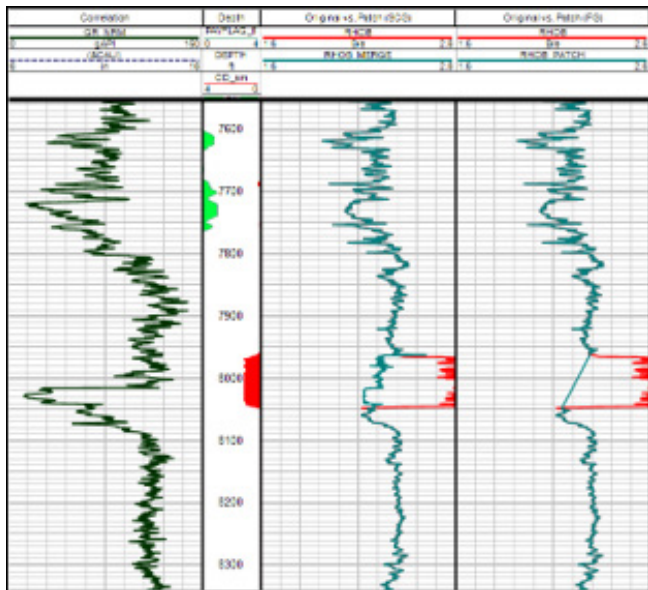


Outlier flag preventing bad data from being used for synthetic curve generation

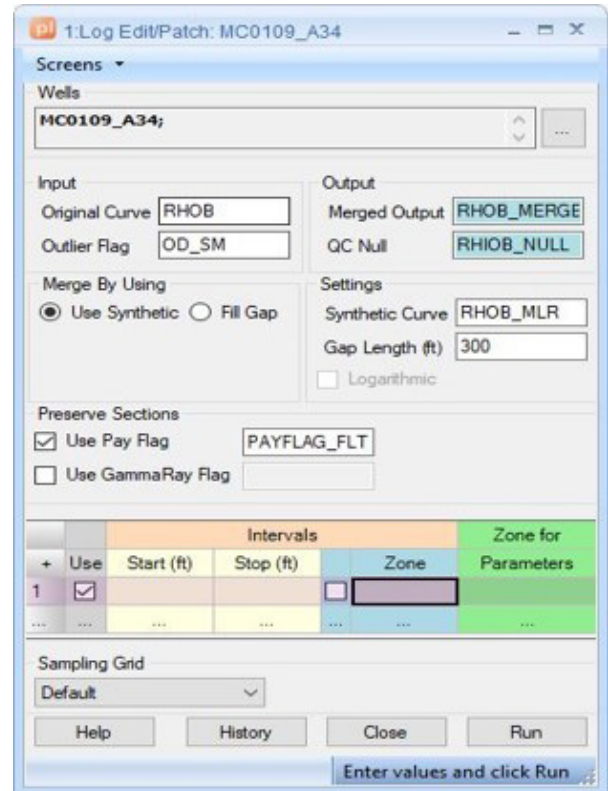


Automated Log Patching

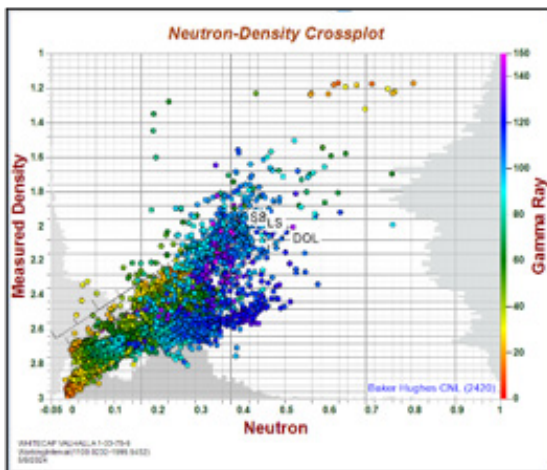
- Replace bad or null intervals with a synthetic curve or using interpolation
- Automated curve patching replaces curve data in regions flagged by outlier detection
- Allows for the preservation of pay zones or uncommon minerals during the process of curve replacement



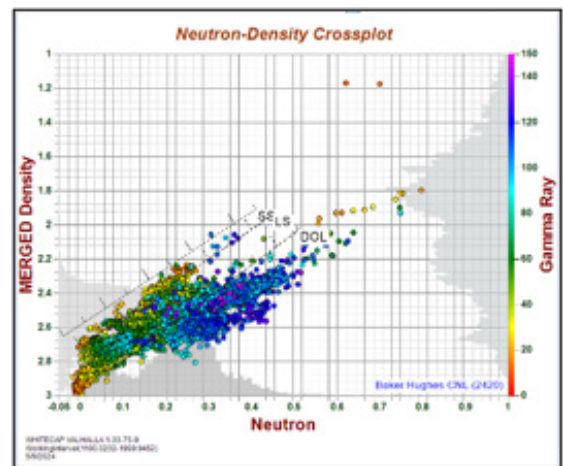
Patch results using Synthetic (SCG) and Fill Gap (FG) with pay preservation



Automated Log Patching interface



Before Automated Log Patching



After Automated Log Patching