**Changes to hma-pwl-test-strip-v2.1.3**

**General**

* Override ctrl-v to paste values.

**Project Info and Instructions**

* Contract unit price is now displayed in accounting formatting instead of currency formatting.

**Split Sample Comparison**

* Air Void table is now shown to 0.1 precision, the precision required by the specification.

**Core Data**

* Format: Center justified QV table to be consistent with QC table.
* Optimized conditional formatting.

**AC % Data**

* Reformatted Asphalt Content % graph to use legend colors and shapes that are consistent with the PWL production worksheet. Solid lines with solid markers are measured/reported values, hollow boxes with hashed fill and dashed lines are calculated values, the acceptance limit is now a solid bar instead of a dashed line.

**Mix Acceptance**

* Optimization: Removed hidden unused data.

**Air Voids Pay Factor**

* Individual Air Void calculations are now rounded to the 0.001 precision (for pay purposes) and shown rounded to the 0.1 precision (for acceptance purposes), to be consistent with the air voids calculations performed in the production worksheet.
* Rename several air voids parameters to the correct abbreviation (AV -> Va).
* Fixed conditional formatting flagging PWLVa as acceptable (green fill) when the cell was empty.
* TargetVa, LSLVa, and USLVa are now shown to 0.1 precision, the precision required by the specification.
* Contract prices and price adjustments are now displayed in accounting formatting instead of currency formatting.

**Density Pay Factor**

* Fixed conditional formatting flagging PWLD as acceptable (green fill) when the cell was empty.
* Optimization: Removed hidden unused calculations.
* Contract prices and price adjustments are now displayed in accounting formatting instead of currency formatting.

**Test Strip Summary**

* Contract unit price and price adjustments are now displayed in accounting formatting instead of currency formatting.
* Gauge spread, gauges comparison average, and gauge offset are now displayed to the 0.1 precision.
* Adjusted formatting to better match the PWL production spreadsheet.

**Gauge-Core Variability**

* Fixed conditional formatting flagging several cells red when they are empty.
* Fixed conditional formatting for flagging gauges in the Original Data Including Removed Cores, which incorrectly referenced the gauge comparison table that excluded removed cores.

**QC-1/QC-2/QV-1/QV-2 Density Worksheets**

* Regardless of the precision of the wet density entered into the worksheet, the wet density will now appear rounded to the 0.1 precision (cell will retain original value for review purposes). All subsequent calculations (described below) will use the wet density rounded to the 0.1 precision.
* Readings 1 and 2 must now be >1.0 pcf apart for reading 3 to be considered in the average determination. Previously, regardless if the third reading was required or not, it was included in the average.
* Overhauled average PCF determination. Added rounding to wet density readings, so regardless of the precision entered into the worksheet, the value used conforms to 815.10.4, “When calculating the pcf value and percent of maximum density (Gmm), round to the nearest tenth place (0.1) for all individual test results and the overall average.”
  + Added an exception for rounding anomalies where a situation could arise such that two wet densities (of the three) are equidistant from the average, and the third value is not equal to the average. In this case, all 3 readings are averaged. This only arises when one of the three readings is +/-0.1pcf from the average of the three readings. Therefore, the situation is similar to where one of the three readings is equal to the average, so, all three values are averaged.
* %Max density is now determined by taking the rounded (0.1 precision) wet density and dividing it by the rounded (0.1 precision) Target Max Density (pcf). This result is rounded to 3 decimal places, and then presented as a percentage to the 0.1 precision (hence why 3 decimals are needed in the previous rounding step since this will multiply the value by 100, the third decimal represents the percentage’s tenths place).
* Added wrap text formatting to M count / D count reading 3.
* Corrected conditional formatting to not flag for reading 3 until both readings are entered and those two readings are more than 1pcf apart.
* Added a note to the instructions that calculations are performed according CMM 815.10.4.

**QC-1/QC-2/QV-1/QV-2 Correlation**

* Nuc density readings, average nuclear pcf, and average nuclear % are now presented to the 0.1 precision, conforming to 815.10.4.
* Corrected average nuclear % calculation to match the calculation performed in the density worksheets. This occasionally produced a value +/-0.1% of the density worksheet due to rounding. The calculation is now: (Average PCF rounded to 0.1)/(Gmm \* 62.24 rounded to 0.1). This previously calculated by: (Average unrounded PCF)/62.24/Gmm.
* Optimization: Removed hidden unused calculations.
* Removed duplicated/unused conditional formatting.
* Adjusted formatting.

**Data Summary**

* Added a single line summary for simplification when importing into analysis databases.
* Adjusted formatting.