Pulled all aid remarks from IATONIS using the listed SQL query. Initial data pull includes duplicate entries for all chain segments created before the comment date.

Loaded into pandas dataframe, and sorted based on selected columns. Sorted dataframe is grouped by another selection of columns to ensure only one of each remark (per AID\_UID) is listed, and grabbing only the first occurrence.

Regular expressions are used to find all comments containing chafe or chain measured patterns. These are further drilled down for those that contain measurements and capturing only the fraction listed.

The final column added is checking for patterns indicating if new chain was installed.

The results are added to the sorted/grouped dataframe and the chafe measure and the segment diameter are converted to a decimal.

The result is exported to excel.

In excel, the table has all rows dropped that are not greater than 8/32 or do not indicate the chain was replaced.

The chain segments inserted missing values if an aid did not have a segment associated. It is assumed that if none met the criteria prior to, then the current is likely the same.

Chafe measurements replaced “0” measures with the chain segment diameter assuming that it was replaced and the value was missing.

The table was sorted by remark date and aid name, and a running calculation was applied to find the difference if the next measure was less than the previous, if the dates are greater than 180 days apart, and if the next measure is larger, to assume that the chain was replaced on the previous visit.

The count, average, and percent remaining were calculated based on values greater than 0 and less than 1.25. Percent remaining was based on the assigned interval (using the current interval) and the average of the chain segment measures.

\*\*\*Needs inf/error calcs for avg remaining to be converted to 0\*\*\*