



Condition Monitoring International, LLC
6619 S. Dixie Hwy, Unit 303, Miami FL 33143-7919
(305) 669.5181 www.conditionmonitoringintl.com

Prescient™ Oil Analysis Program Manager

Modern in-service Oil Analysis (OA) has been around for well over 50 years and is a remarkable tool for maximizing production, maintenance effort and lubricant conservation. Yet, despite the overwhelming consensus that OA pays for itself by many multiples of its cost, and is generally considered the cornerstone of 21st Century Condition Monitoring, there has been little technological progress toward improving Data Assessment and Evaluation, that is, The Report, as pertains to Maintenance Advisories.

The sole purpose of OA is to assess component and lubricant condition. Testing is fundamental, one must have data with which to work, but if the results are not properly scrutinized little or no value is derived. In particular the Evaluation typically rendered is rambling and generalized at best, while often being unclear or even off the mark. Result: A lot of money's left on the table because many of the subtle data patterns never come to light and are simply missed by a well-meaning human. The low hanging fruit by itself, easy for modestly capable evaluators to spot, justifies a program, and so this disparity, perhaps 50% of total savings possible, has been tolerated, and without much in the way of options, until now.

Prescient is an automated Intelligent Agent designed for Condition Monitoring, with particular focus on OA. It is changing the reporting paradigm in the industry.

The OA model was broken from the start because it focused solely on the testing method and a 'correct result' and not the interpretive aspect, the *evaluation*, together with recommended action. Consider the notion of visiting your physician and having blood drawn to generate data for discussion except, instead of the physician receiving the test data and evaluating it in your presence, the report is sent directly to you. What do you do with all those numbers, some of which are marked "HI" or "LO".

Most reports are accompanied by commentary, but as noted the commentary is of mixed content and quality. Sometimes the comments are appropriate, sometimes they're not, sometimes they ramble on in unconnected fashion, sometimes they're cryptic or overly terse, sometimes they're non-existent. Even in the best situations humans make mistakes. ***Prescient*** obviates the entire human evaluation process and puts humans, if they are Domain Experts, in the correct position: reviewing the Critical comments and adding to the knowledge base as instances arise. This ensures the quality of commentary only goes upward over time because domain knowledge is properly expressed, applied and preserved.

Prescient positions itself directly after testing has been performed

- Providing Data Rating of all test results, assigning Severity Ratings to each datum, along with a color code for quick visual recognition on the report copy
- Rendering comments and maintenance advisories for Action or Work Orders. This is the crux of Evaluation and no other application can match **Prescient** in this regard

There is no practical limit in terms of nuancing or exception commentary because there are so many ways to constrain the component and its lubricant. Pinpoint statements for specific situations can be rendered while more routine statements are preserved where more appropriate.

The delivery system is CMI's website which can be subordinated to a User Master account if preferred

Prescient is the new Evaluation Team!

A partial list of the controls available in **Prescient**

Account Servicing

- Up to 6 hierarchical levels of a Customer organization
- Email notifications of reports ready for viewing at selectable severity

Limits Setting for Data (Table of Boundaries – TOB)

- TOB generator with control of samples selected for TOB rendering
- Bandwidth, outliers and sigma controls at 4 flagging levels
- Cloning to quickly set up another TOB
- A complete hierarchical functionality, allowing differentiation by
 - Specific Account at any of 6 levels
 - Component Type
 - MFR/Model
 - Application
 - Wild Card (2)
 - Lubricant MFR/Brand/Grade

Rules/Domain Expertise

- As per Limits Setting hierarchical constraints in TOB above
- Multiple results connected in one Rule (up to 4), hierarchically fired
- New (Fresh) lube referencing tables
- Cloning to quickly set up another Rule

Comments

- Can be assigned any severity desired by the Customer (comments, not data, determine the severity color of a *report*)
- Can be classified as to type, then sequenced in a preferred order
- Can be trumped when similar comments are proposed, allowing flex when applying rules so that precisely the right nuance is provided