

## Sequence IVB Surveillance Panel Teleconference Minutes

Friday December 7, 2018

11:00 a.m. EST

### 1.0) **Attendance**

See attachment 1 for a list of attendees.

### 3.0) **Review of Reference Tests With Extended Breakin**

The panel reviewed the results from three tests run on Reference oil 1012 using the extended (50 h cyclic) break in procedure (Attachment 2). After review and discussion the panel agreed to allow two labs to start the reference oil tests (300) for pre BOI-VGRA references using the extended break in procedure.

### 4.0) **Report Forms Update**

The panel discussed changes to the report forms to address parameters which won't be charted and to add provisions for charting and severity adjusting the wear parameter. In order to support the anticipated start of the BOI-VGRA Matrix, the panel agreed to recommend a shortened beta test and to implement usage of the forms two weeks after beta testing is complete.

### 5.0) **Next Meeting**

To be held at the call of the chair, when additional data is available.

### 6.0) **Motions and Action Items**

See attachment 3 for motions and action items taken during this meeting.

### 7.0) **Meeting Adjourned**

The meeting adjourned at 11:50 a.m.

**MEMBERSHIP  
SEQUENCE IV SURVEILLANCE PANEL**

December 7, 2018

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**Oronite**

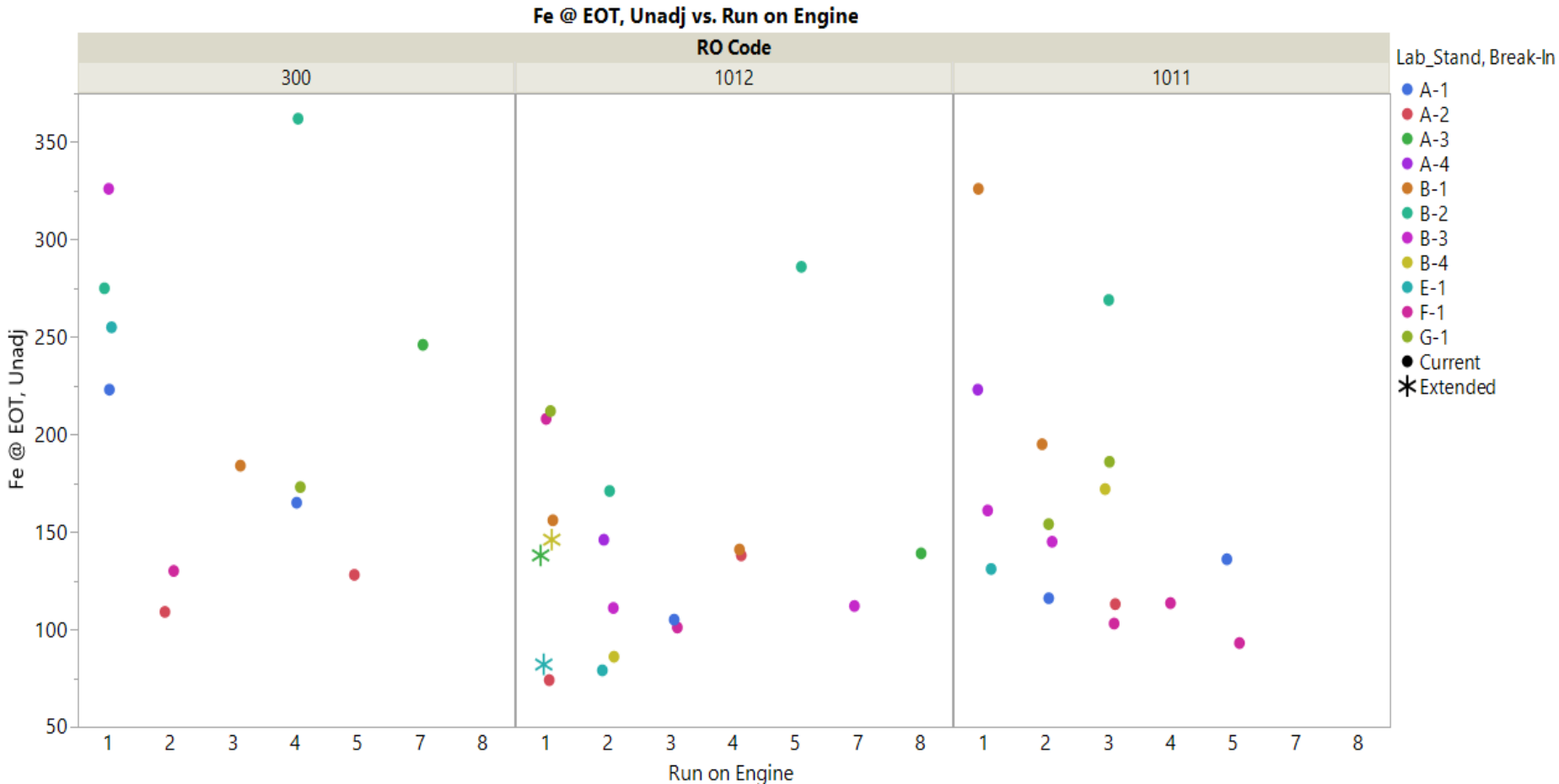
# Sequence IVB Extended Break-In: RO1012

**Jo Martinez**

Dec. 7, 2018



# 3 Runs on RO1012 with Extended Break-in



# Severity by Run on Engine

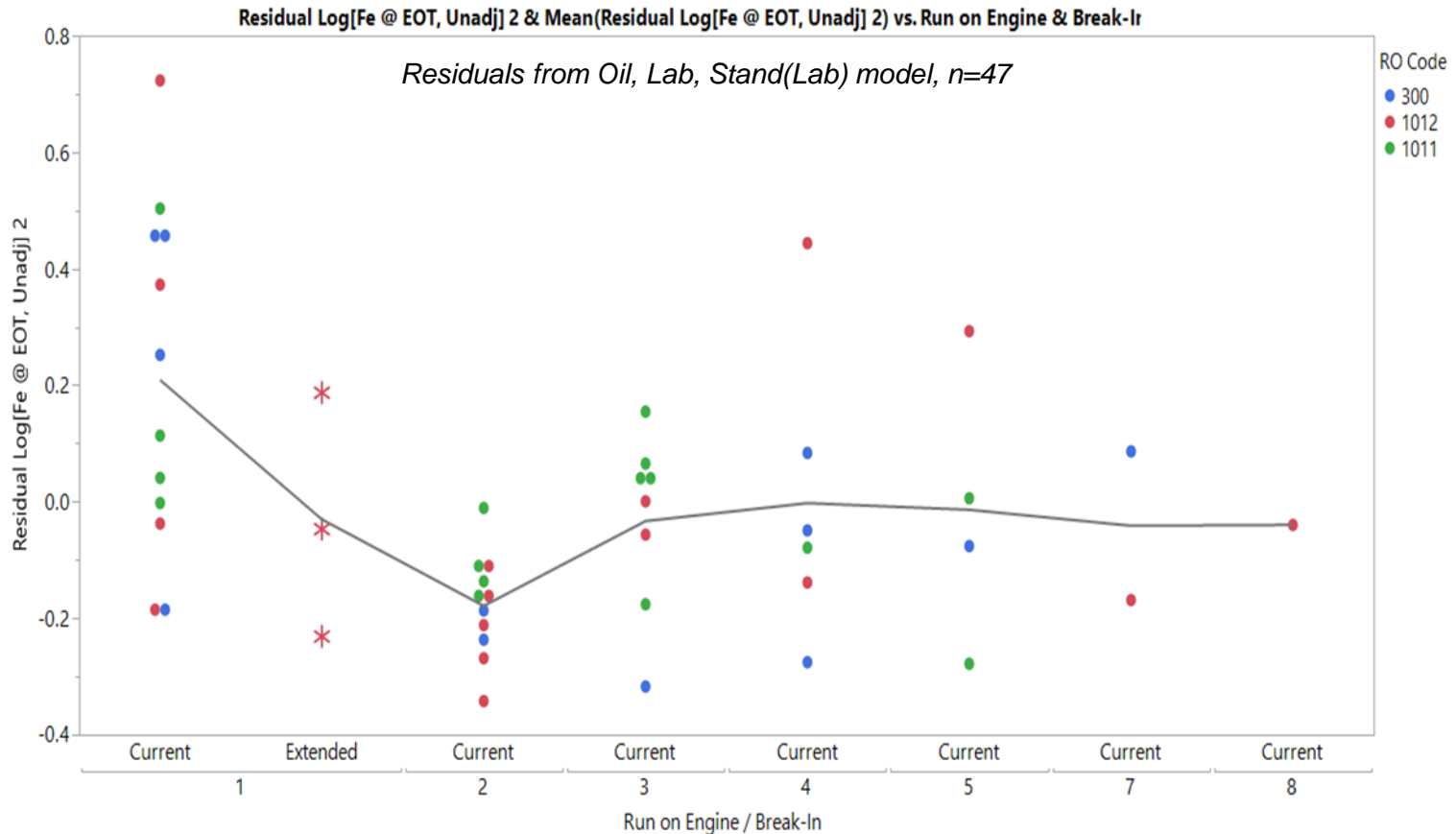


Model with n=44

Run	LnFe LSMean	Fe LSMean	Difference from Run 2
1	5.2615	193	64
2	4.8566	129	
3	5.0060	149	21
4	5.0591	157	29
5	5.0223	152	23
7	4.8120	123	
8	4.5951	99	

With the Current Break-in, Run 1 is more severe than Run 2 by 64ppm

# Residuals by Run on Engine



With Extended Break-in Run 1 severity seems closer to Run 2

# 1012 Severity with Extended Break-in



## LnFe Model

Summary of Fit					
RSquare					0.814594
RSquare Adj					0.526184
Root Mean Square Error					0.272447
Mean of Response					5.038522
Observations (or Sum Wgts)					47

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Ratio	
Model	28	5.8702010	0.209650	2.8244	
Error	18	1.3360916	0.074227		Prob > F
C. Total	46	7.2062926			0.0124*

Effect Tests					
Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
Lab	4	4	0.7482083	2.5200	0.0773
Stand[Lab]	6	6	0.8683996	1.9499	0.1272
Break-In[RO Code,Run on Engine]	1	1	0.0614267	0.8275	0.3750
Run on Engine[RO Code]	15	15	1.1584751	1.0405	0.4625
RO Code	2	2	0.6433095	4.3334	0.0291*

Predicted 1012				
Run	Break-in	LnFe	Fe	Difference from Run 2
1	Current	5.0464	155	57
1	Extended	4.7739	118	20
2	Current	4.5904	99	
3	Current	4.7419	115	16
4	Current	5.0095	150	51
5	Current	5.1814	178	79
7	Current	4.6344	103	4
8	Current	4.7811	119	21

With Extended Break-in, RO1012 Run 1 severity is closer to Run 2 by 37ppm

Sequence IV Surveillance Panel

December 7, 2018

10:00AM – 11:00AM

Conference Call

Motions and Action Items

*As Recorded at the Meeting by Bill Buscher*

1. Motion – Sequence IV surveillance panel agrees, that based off of the three ASTM REO 1012 reference tests conducted on first run engines utilizing the new break-in procedure, that the new break-in procedure is the final break-in procedure, and we can move forward with ASTM REO 300 referencing on two of the four BOI/VGRA matrix stands, one stand at each independent lab.  
Bill Buscher / Khaled Rais / Passed Unanimously 12 – 0 – 0
2. Action Item – Sequence IV surveillance panel chair to inform the ASTM TMC that the surveillance panel finds it acceptable to expedite the revisions and BETA testing of the Sequence IVB data dictionary and test report forms.