D7528 ROBO Surveillance Panel

July 8, 2015
Teleconference
Alan Flamberg, Chair

Agenda

Wednesday, July 8, 2015 10 AM – 12 Noon EDT

1. Review membership
2. Revision to D7528 (ROBO)

   Edit method to require TMC monitoring and replace specific reference oil names with a reference to the TMC's current documentation – expect to have a draft ready
3. Status of the method's statistics
   a. Precision
   b. Bias
4. Ways to reduce bias
5. 435-2
6. Rules – TMC – new labs, new rigs
7. Next meeting

Panel Members

Ace Glass	Jim Abbott, John Ross
Afton	Shelia Thompson, Bill Lam
ASTM TMC	Tom Schofield
BASF	Mary Dery, Bridgett Rakestraw, Phillipe Rabbat, Derek Wong
BP	Irwin Goldblatt, Betsy Kaplan
Chevron Oronite	Kaustav Sinha
ExxonMobil	Dennis Gaal
Infineum	Andy Richie
Intertek	Joe Franklin, Matt Schlaff
Kuwait Petroleum	Leen Poot
Lubrizol	Grant Hutchinson, Aimee Shinhearl, Rick Hartman
PetroChina	Li Shaohui , Sun Ruihua, Peng Wang, Xiaogang Li, Xu Li
Evonik Oil Additives	Alan Flamberg, Justin Mills, Bruce Zweitzig, Joan Souchik
RT Vanderbilt	Al Filho, Ron Hiza, Simon Tung
SwRI	Becky Grinfield, Joe De La Cruz, Mike Birke, Young-Li McFarland
Valvoline	Amol Savant

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Revision to D7528 (ROBO)

- Incorporate TMC wording
- Make using the TMC required
- Delete Table 1 (guidelines using obsolete oils) and refer to TMC
- Clean up subsequent wording through out document

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TMC Monitoring

Oct 2014– Apr 2015

126 tests from 8 labs (tests up from 95 in previous semester)

60% passed

14% failed

23% other – invalid runs (vacuum system failures, NO_2 flow problems, heater failures, unexplained high volatiles, incorrect vacuum control valve settings, stirrer failure, power failure) and 8 shake down runs

From Tom's TMC Report

Period Precision and Severity Estimates

Natural Log (MRV Viscosity)	n	df	Pooled s	Mean D/s
Current Targets	49	46	0.1945	-----
4/1/11 through 9/30/11	96	92	0.2593	-0.69
10/1/11 through 3/31/12	93	90	0.2068	-0.39
4/1/12 through 9/30/12	86	83	0.2975	-0.29
10/1/12 through 3/31/13	109	106	0.2684	-0.58
4/1/13 through 9/30/13	90	87	0.2368	-0.94
10/1/13 through 3/31/14	85	82	0.2715	-0.43
4/1/14 through 9/30/14	83	80	0.2535	-0.78
10/1/14 through 3/31/15	97	94	0.3069	-0.69

From current data

4/1/15 through 6/4/2015		22	19	0.2815	-0.47

D7528: Oxidation by ROBO

Current Period Severity Estimates by Lab

Natural Log (MRV Viscosity)

	n	Mean Δ/s
Lab A	26	-0.51
Lab AM	12	-0.46
Lab AN	6	-0.41
Lab AQ	5	-1.03
Lab B	19	-0.88
Lab D	3	-0.16
Lab G	26	-0.89

Lab AS reported only shakedown runs this period, no calibrations.

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Ways to reduce bias (and improve precision)

- Improvements in method
  - Cleaning
- Workshop
  - Get users together again and work out good practices and ways of making and maintaining adjustments
- Severity adjustment
  - Add the industry bias to all results
  - Stand-by-stand severity adjustments (like some engine tests)

More ways to reduce bias (and improve precision)

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435-2

Reference Oil Inventory

TEOST, MTEOS & ROBO

Oil	Year Rec'd By TMC	Tests	TMC Inventory, gallons	Gallons Shipped last 12 months
432	1998	MTEOS	11.6	1.4
434	2003	MTEOS	3.9	0.6
75	2010	TEOST	4.8	0.9
435-2*	2010	TEOST	45.5	----
434-1*	2008	ROBO	5.4	----
435-1*	2008	ROBO	27.4	----
438*	2003	ROBO	16.7	----

*Multi-test oil; estimated aliquot reserved for bench testing.

Old 435 test oil

- Some still remains
  - What should we do with it?
    - Run some to see if we are still above 60,000?
      - Volunteer or as certification runs (with rules)?
      - Chain of custody (may not be in all labs)

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Rules

- new labs
- new rigs

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- Date
- Agenda
  - Method revision