

Oil Seal Compatibility Test (OSCT) Surveillance Panel Meeting Minutes

February 7, 2024

Don Bell

Participants listed on attachment in Appendix.

An OSCT Surveillance Panel meeting was called to order by D. Bell at 9:22 am on 2/7/2024.

A motion made by D. Bell and 2nd by T. Muransky was unanimously approved with 11 votes to approve the previous OSCT Surveillance Panel minutes from meetings held 11/8/2023.

The OSCT membership voting list was reviewed. The 14 voting members as listed on the attached attendance sheet is a good representation of OEM, oil companies, additive companies, Army, and testing facilities, thus no changes were recommended.

Lab C has 3 baths and Lab G has 1 bath for testing PA, FL and NI with no bath issues.

The recommended shelf life for reference oils is 5 years. The TMC has the following three reference oils for OSCT testing, but all are beyond the shelf life recommendation.

TMC Reference Oil	Date Blended	TMC inventory
169 (PA, FL, NI testing)	6/2010	119 gals.
170 (NI testing)	8/2015	20 gals
171 (PA & FL testing)	3/2017	9 gals

TMC noted that 169 can be reblended. However, it was decided to wait to reblend and test reference oils until a newly formed Task Force establishes the testing requirements and timelines for new or reblended reference oils. It was noted that it could take up to 2 years to approve a new oil.

The inventory of elastomer batches at Test Engineering Institute (TEI) was reviewed as follows:

Polyacrylate (PA):

- PA369 258 unapproved slabs. Both labs submitted qualification data to TMC and the following data was reviewed. The graphs are in the Appendix.

		testkey	lab	lmslab	val	lnd	lmsdate	CHART	PVCA	SAHA	PELA	EBC	PELAYI	SAHAYI	PVCAYI
171	Accompanying Ref	173225-OSCT	EG	G	AC	171	20240129	Y	-0.4	1.4	19.6	PA368	-0.48095	0.633477	-0.28467
	Approval Run	183484-OSCT	EG	G	NI	171	20240129	N	-0.7	2.4	40.8	PA369	1.376259	1.17169	-0.55839
	Approval Run	182383-OSCT	SR	C	NI	171	20231002	N	-0.3	0.5	12.1	PA369	-1.13798	0.149085	-0.19343
	Accompanying Ref	177248-OSCT	SR	C	AC	169	20231002	Y	13.7	-15.5	25.3	PA368	-1.09533	0.176678	0.41958
169	Approval Run	178798-OSCT	EG	G	NI	169	20231117	N	14.9	-14.6	74	PA369	1.136572	0.4947	1.258741
	Accompanying Ref	178799-OSCT	EG	G	AC	169	20231117	Y	11.4	-12.7	44.7	PA368	-0.20623	1.166078	-1.18881
	Accompanying Ref	177248-OSCT	SR	C	AC	169	20231002	Y	13.7	-15.5	25.3	PA368	-1.09533	0.176678	0.41958
	Approval Run	182371-OSCT	SR	C	NI	169	20231002	N	14.6	-18	41.5	PA369	-0.35289	-0.70671	1.048951

Since there were a few data points that did not match well with previous lots of PA, a motion was made by T. Muransky and 2nd by J. Carowick to have the Stats Group review all of the PA369 data set to determine if PA369 data is consistent with previous lots of PA. TMC will initiate this review process with Stats Group. After a decision is made by the Stats Group, D. Bell will call an OSCT Panel meeting to order to review the results again for PA369.

- PA370 300 slabs expected to arrive at TEI shortly
- PA371 TEI ordered 300 slabs

Fluoroelastomer (FL):

- FL417 134 approved slabs
- FL418 200 unapproved slabs, several being sent to both labs for qualification testing

Nitrile (NI):

- NI354 172 approved slabs
- NI355 200 unapproved slabs, several being sent to both labs for qualification testing

Lab C continues to struggle with passig elongation and hardness in only TMC 170. This may be an issue when the need arises to reference a new NI lot. If so, we may consider deleting TMC 170 for referencing for Lab C.

There were some discussions on previous 1000 hour seal results not matching well between both test labs. It was recommended that both lab Representatives discuss possible ASTM D5662 testing discrepancies with each other and correct if needed.

The general ASTM D5662 test procedure, and the proposed increase in test time from 240 hours to 1000 hours, was reviewed with the Panel of some new participants, including the Stats Group.

The Panel further discussed the need to pursue the 1000 hour testing. Some OEMs feel that 240 hours is not sufficient to correlate to field performance, but no one could provide insight to any seal field issues, including the Army. The numerous variables and cost of ~\$5K/oil for 3 seals with data at 240, 500 and 1000 hours was reviewed. After an extensive discussion, a motion was made by D. Bell and 2nd by A. Goyal to stop pursuit of the 1000 hour testing. The OEMs can establish their own seal specifications at any test interval and using seals most appropriate to their applications.

A motion made by D. Bell and 2nd by R. Warden to adjourn the OSCT Panel at 11:53 am was unanimously approved with 11 votes.

Respectfully submitted,

A handwritten signature in cursive script that reads "Donald R. Bell". The signature is written in black ink and is positioned above the printed name.

Donald R. Bell/Chairman

Appendix



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Test Monitoring Center

~~<http://astmtmc.emu.edu>~~

<http://astmtmc.org>

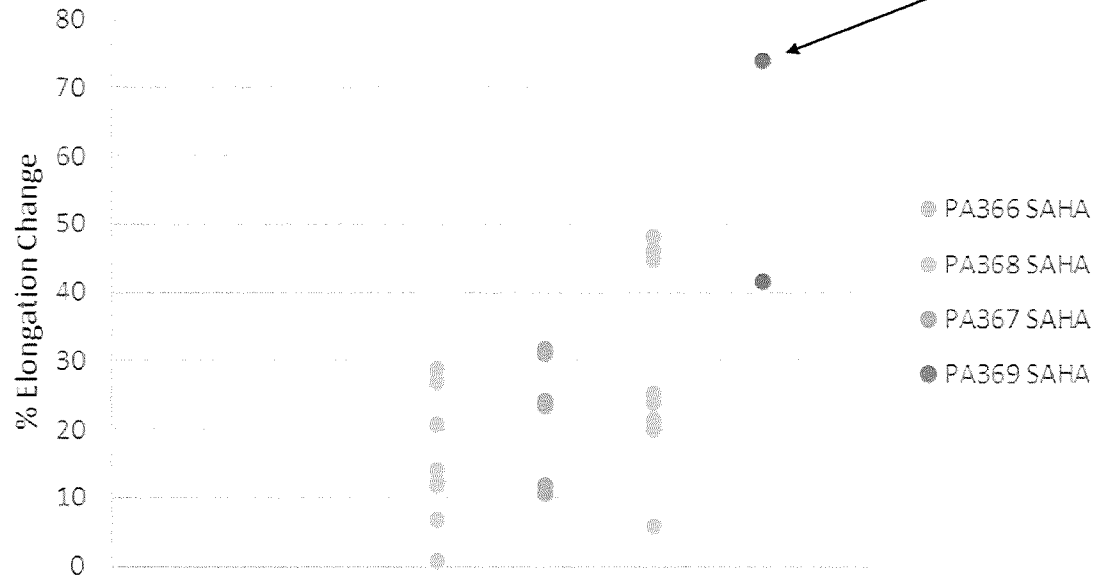
Surveillance Panel Meetings OSCT PA369 Approval Testing

February, 2024

PA369 Approval Runs

Reference Oil 169 - PELA

Ref Oil 169 - PELA



Results from lab G that is still within target. $Y(I) = 1.259$.

$Y(i)$ limits for OSCT are ± 2.200

Mean	Std.
49.2	21.82

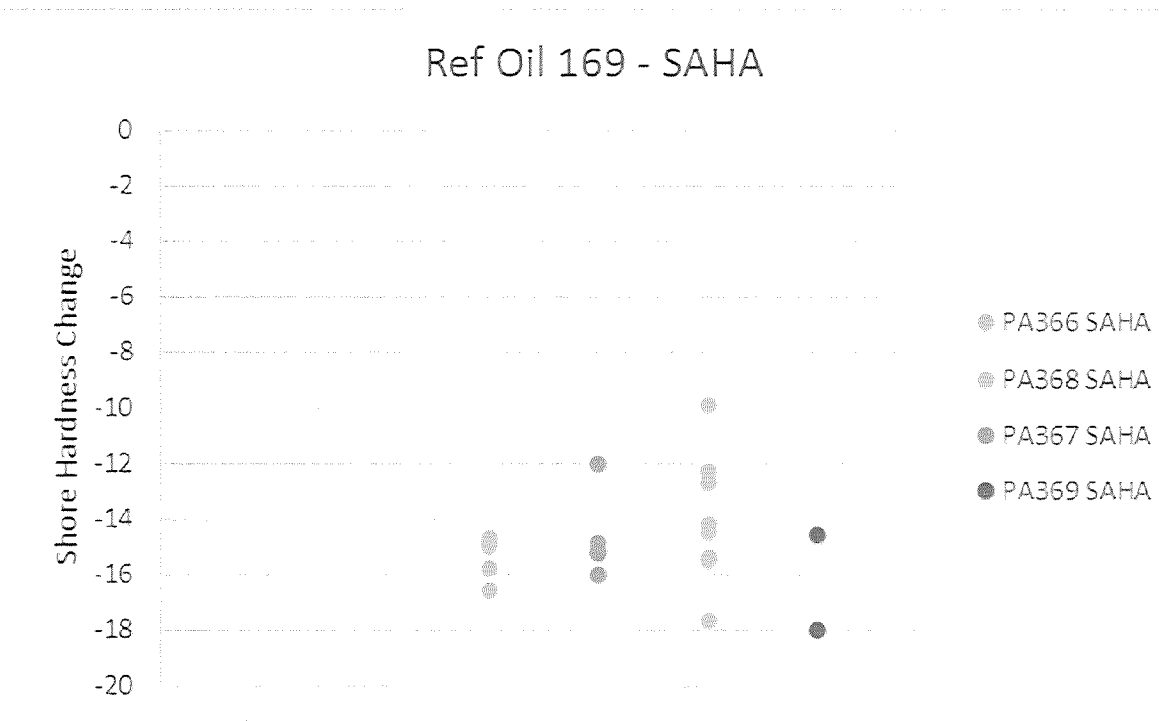
Reference Oil 169 - PVCA

Ref Oil 169 - PVCA



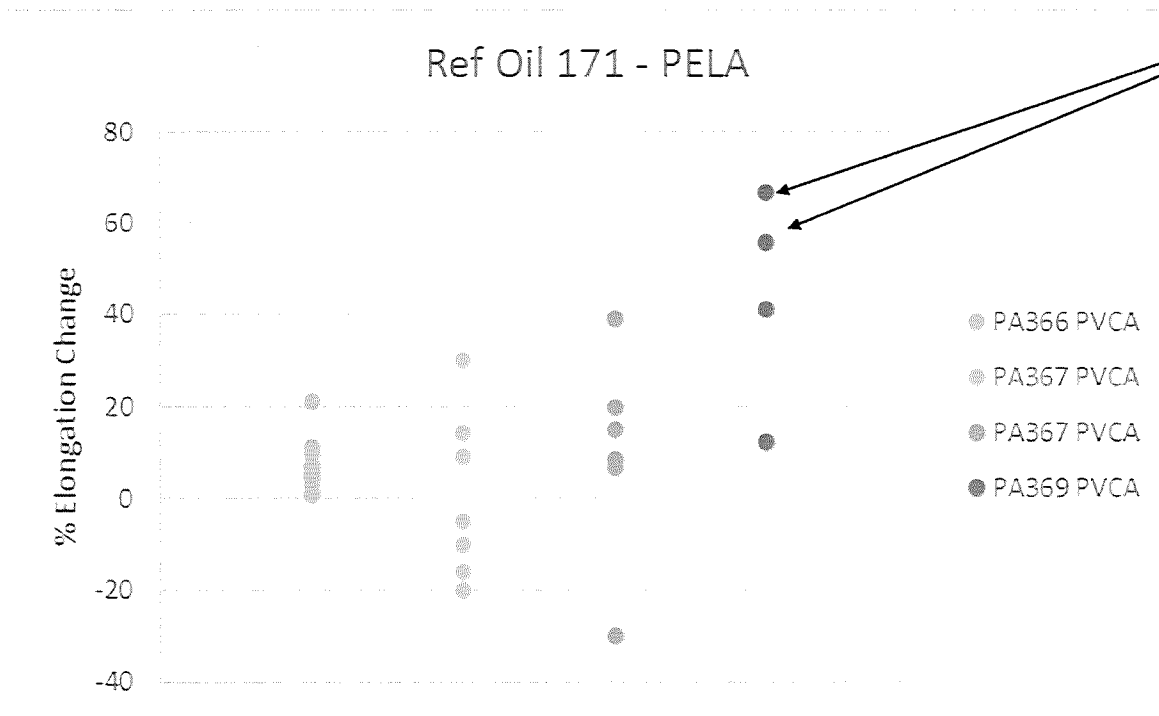
Mean	Std.
13.1	1.43

Reference Oil 169 - SAHA



Mean	Std.
-16	2.83

Reference Oil 171- PELA

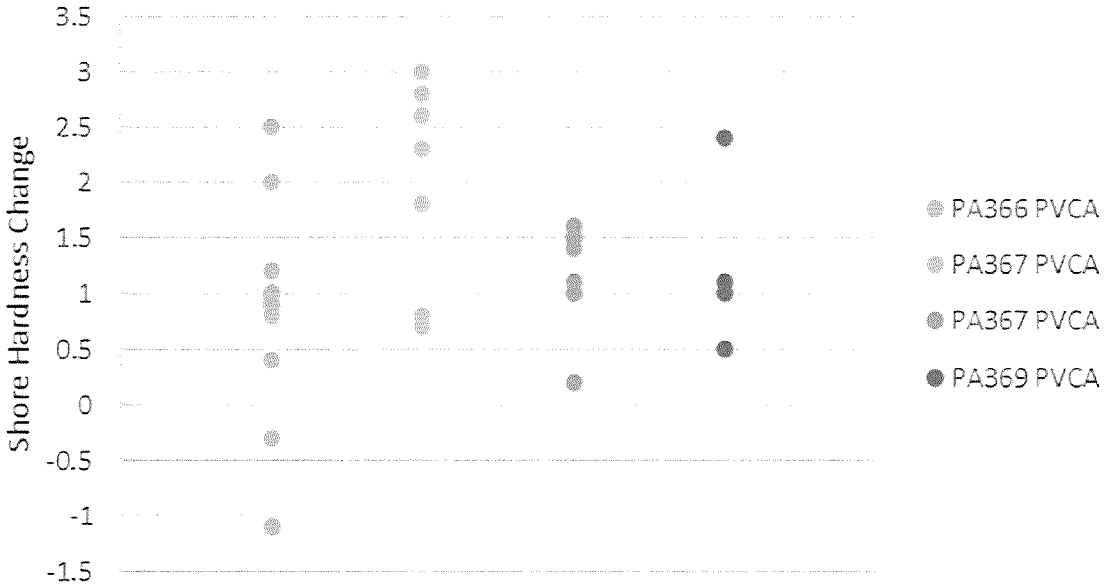


Initial runs by lab G that were high of target.
 Lab G produced a passing run after this.

Mean	Std.
25.09	11.415

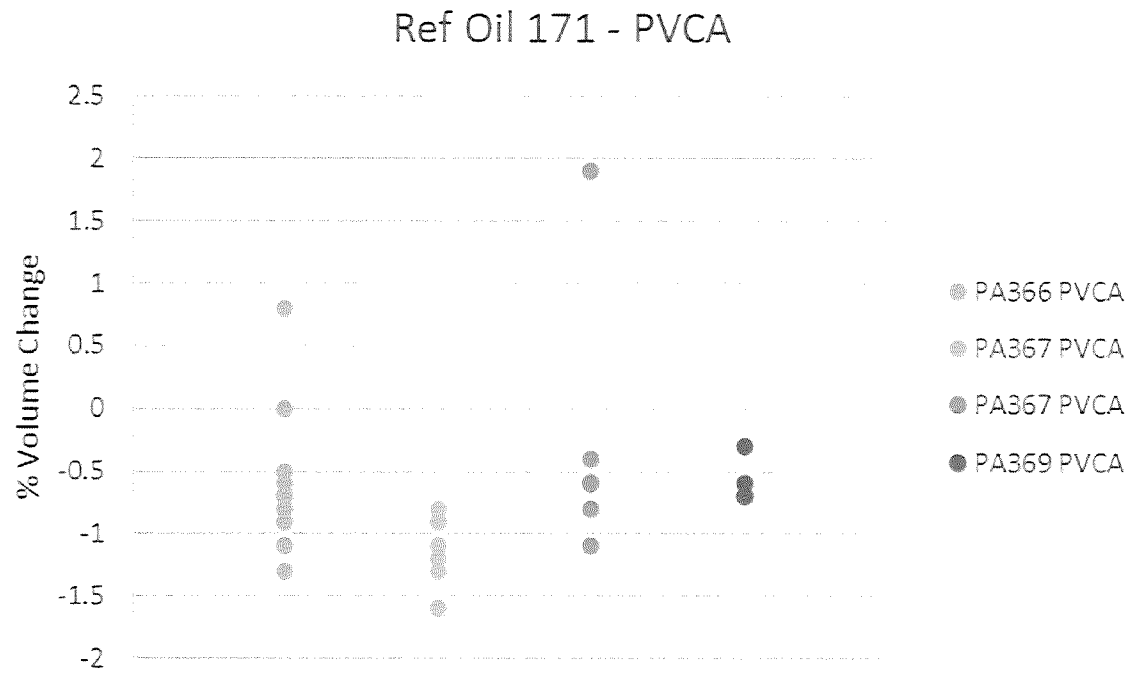
Reference Oil 171 - SAHA

Ref Oil 171 - SAHA



Mean	Std.
0.223	1.858

Reference Oil 171 - PVCA



Mean	Std.
-0.088	1.096

Test Monitoring Center

<http://astmtmc.cmu.edu>



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Oil Seal Compatibility Surveillance Panel

2/7/2024

Initials	V = voting NV = Non-voting	Name	Company & Address	e-Mail	Phone #
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NO LONGER ATTENDING

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