



Test Monitoring Center

@ Carnegie Mellon University
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<http://astmtmc.cmu.edu>
412-365-1000

MEMORANDUM: 15-018

DATE: May 20, 2015

TO: Mike Birke,
Chairman, Engine Oil Elastomer Compatibility Surveillance Panel

FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*

SUBJECT: EOEC Testing from October 1, 2014 through March 31, 2015

A total of 236 EOEC tests were reported from 4 labs to the Test Monitoring Center during the period from October 1, 2014 through March 31, 2015.

Please find attached a summary of testing activity this period.

MTK/mtk/mem15-018.mtk.doc

cc: Frank Farber

Jeff Clark

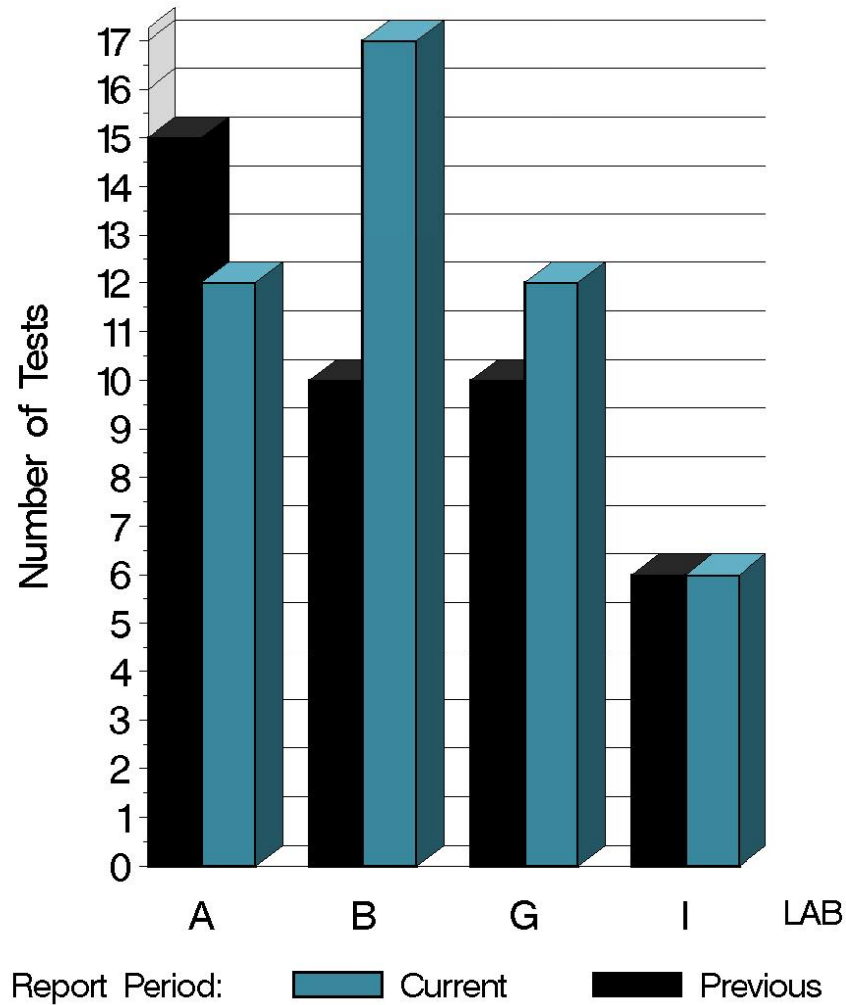
EOEC Surveillance Panel

<ftp://ftp.astmtmc.cmu.edu/docs/bench/eoec/semiannualreports/eoec-04-2015.pdf>

Distribution: email

EOEC (D 7216)

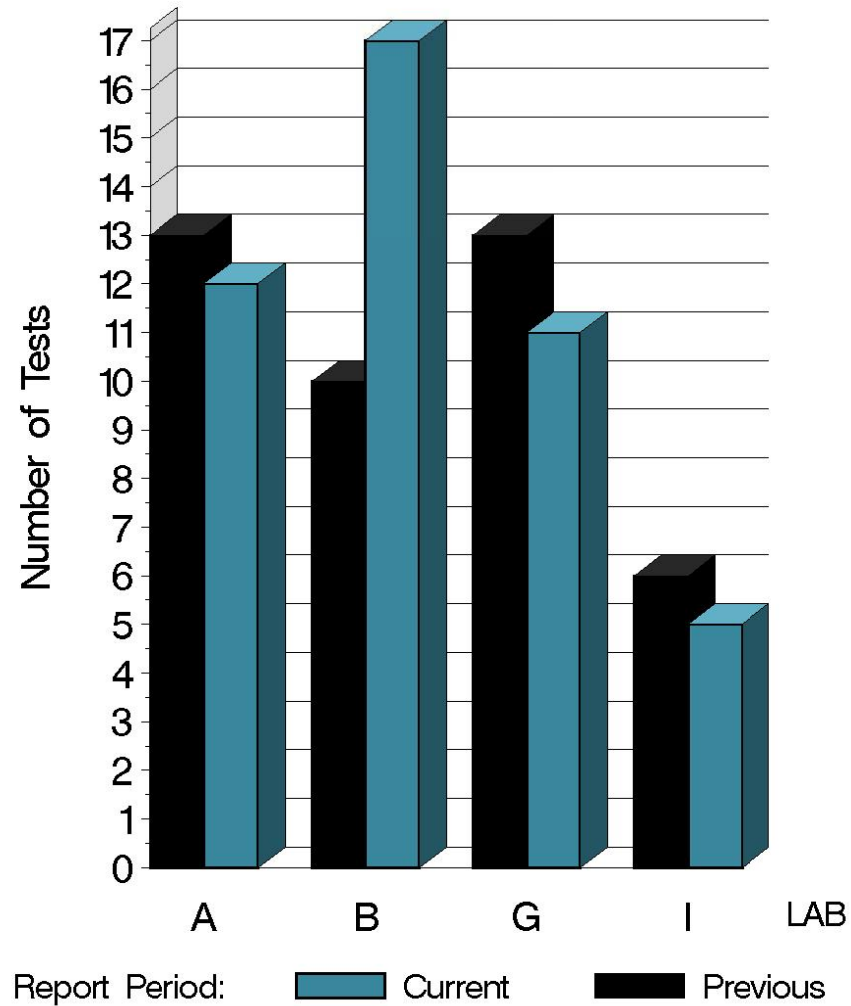
NUMBER OF FLUOROELASTOMER TESTS
REPORTED BY LAB AND REPORT PERIOD



12:34:10 19MAY2015

EOEC (D 7216)

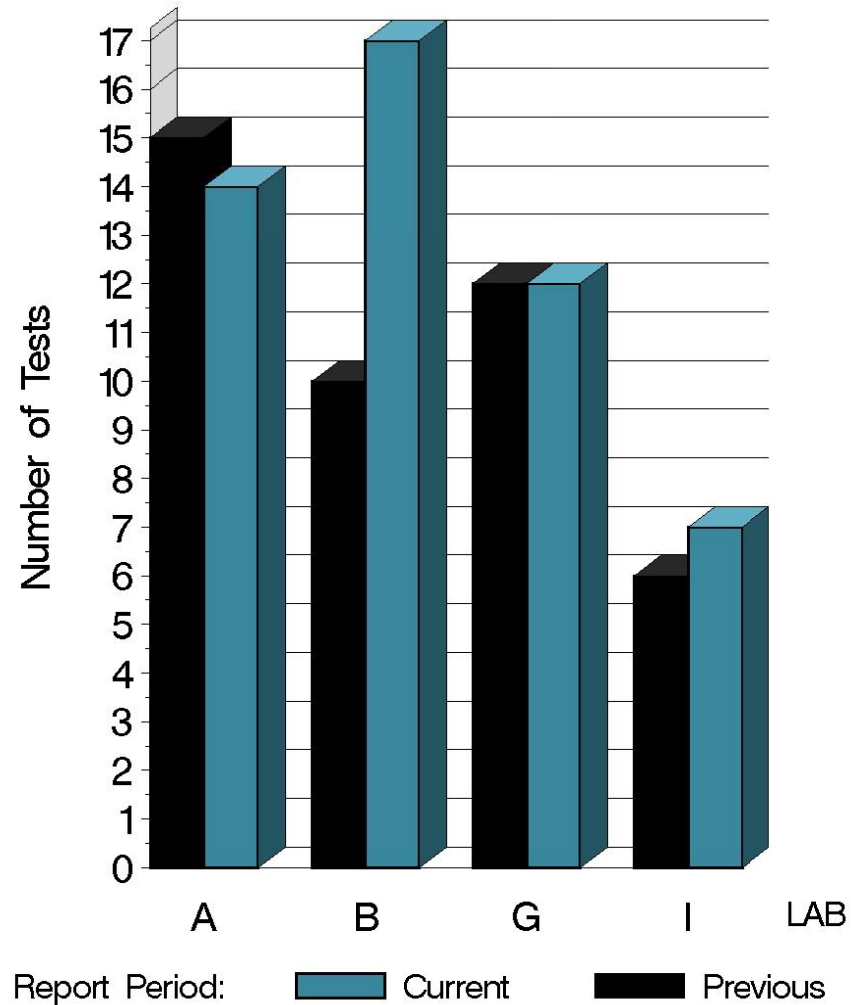
NUMBER OF NITRILE TESTS REPORTED BY LAB AND REPORT PERIOD



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EOEC (D 7216)

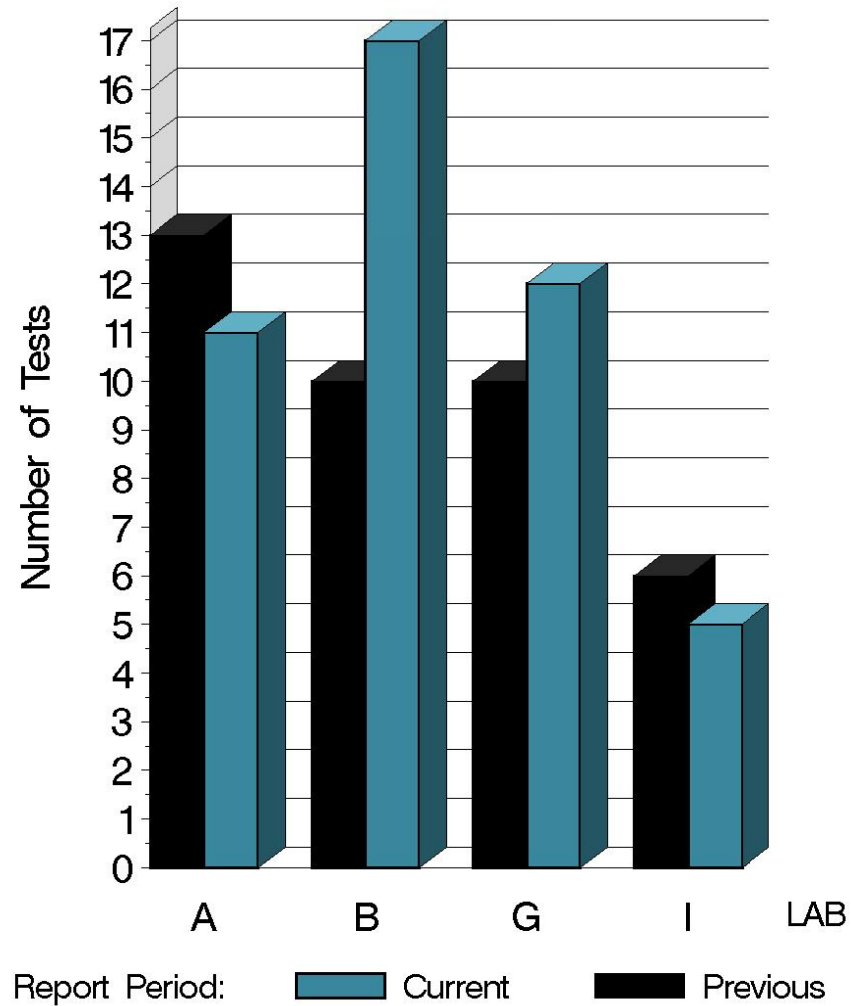
NUMBER OF POLYACRYLATE TESTS REPORTED BY LAB AND REPORT PERIOD



12:34:10 19MAY2015

EOEC (D 7216)

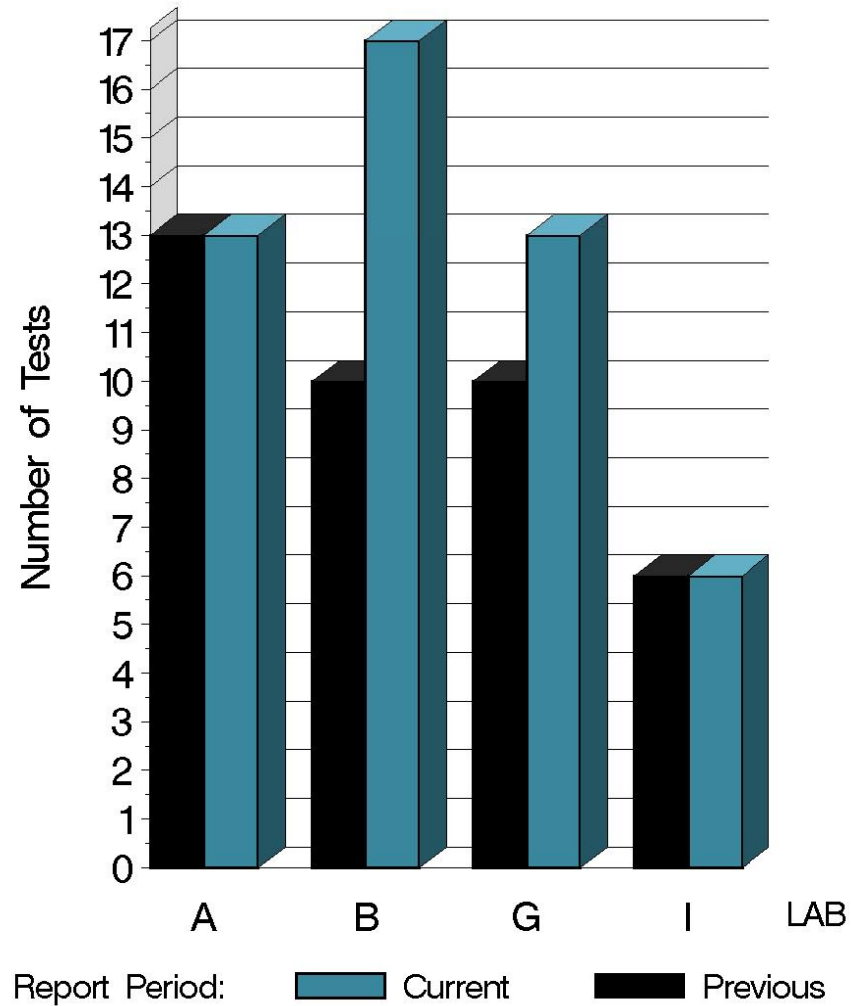
NUMBER OF SILICONE TESTS REPORTED BY LAB AND REPORT PERIOD



12:34:10 19MAY2015

EOEC (D 7216)

NUMBER OF VAMAC TESTS REPORTED BY LAB AND REPORT PERIOD



12:34:10 19MAY2015

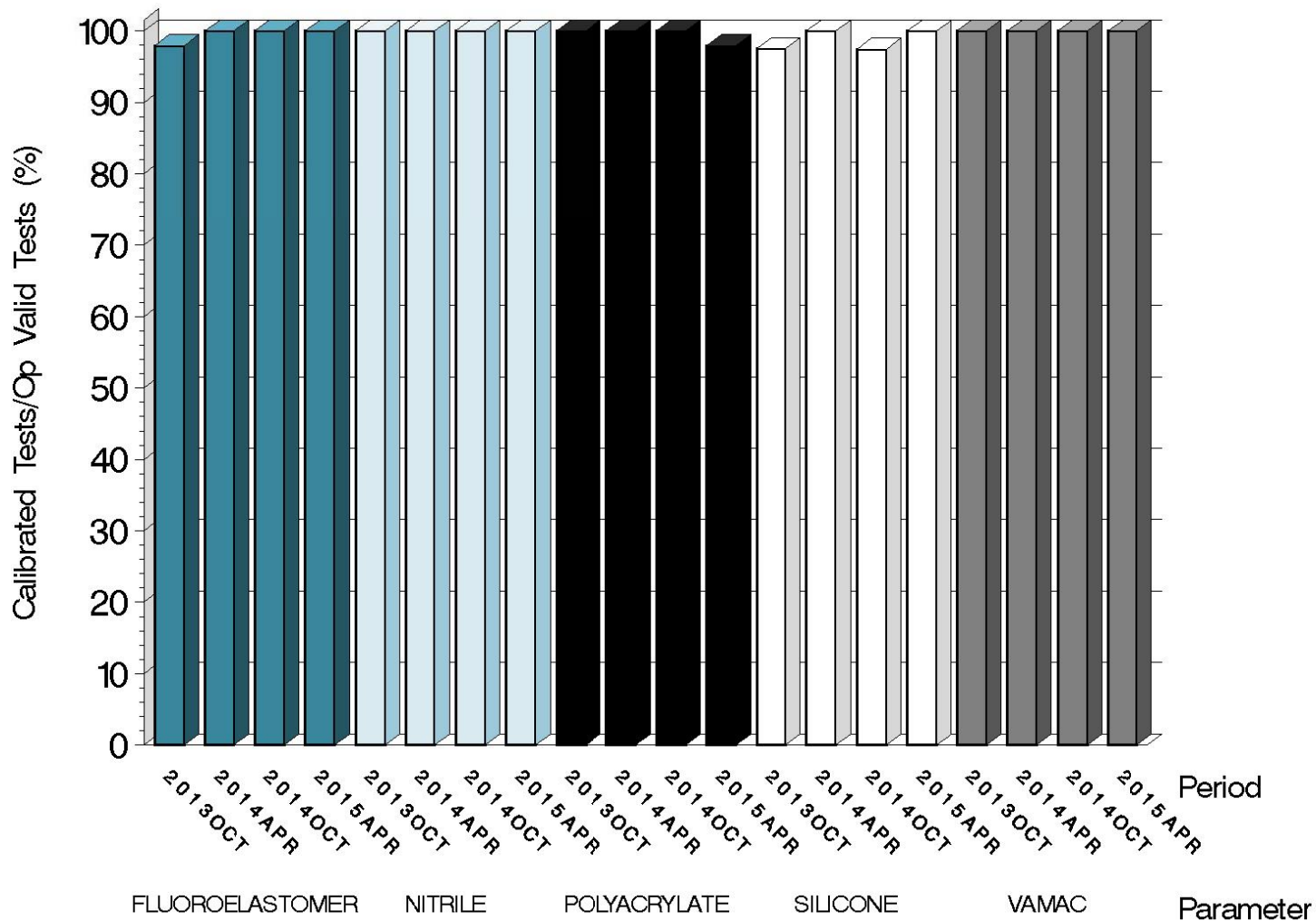
EOEC (D 7216)

Test Distribution by Oil and Validity

		Fluoroelastomer	Nitrile	Polyacrylate	Silicone	Vamac	This Period	Last Period
Accepted for Calibration	AC	46	45	47	45	49	232	202
Rejected	OC	0	0	1	0	0	1	1
Information Run	NI	0	0	0	0	0	0	0
Operationally Invalid (lab)	LC	1	0	1	0	0	2	0
Operationally Invalid (lab/TMC)	RC	0	0	0	0	0	0	0
Aborted Calibration	XC	0	0	1	0	0	1	1
Total		47	45	50	45	49	236	204

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OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



12:34:10 19MAY2015

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LOST TESTS PER START BY LAB AND ELASTOMER TYPE

Lab	Fluoroelastomer			Nitrile			Polyacrylate			Silicone			Vamac			Total		
	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%
A	0	12	0	0	12	0	0	14	0	0	11	0	0	13	0	0	62	0
B	0	17	0	0	17	0	0	17	0	0	17	0	0	17	0	0	85	0
G	1	12	8	0	11	0	2	12	17	0	12	0	0	13	0	3	60	5
I	0	6	0	0	5	0	0	7	0	0	5	0	0	6	0	0	29	0
Total	1	47	2%	0	45	0	2	50	4%	0	45	0	0	49	0	3	236	1%

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CAUSES FOR LOST TESTS

Lab	Cause	Elastomer					Validity			Loss Rate		
		Fluoroelastomer	Nitrile	Polyacrylate	Silicone	VAMAC	LC	RC	XC	Lost	Starts	%
		G	Bath Failure	1	0	2	0	0	2	0	1	3
	Lost	1	0	2	0	0	2	0	1			
	Starts	47	45	50	45	49	236	236	236			
	%	2%	0	4%	0	0	0.5%	0	0.4%			

Lost tests are calibration attempts that were either aborted or operationally invalid

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Average Δ /s by Lab						
Elastomer	Lab	n	VOLCYI	HARDYI	TENSYI	ELONYI
Fluoroelastomer	A	12	-0.276	1.038	-0.555	-1.369
	B	17	-0.632	-0.190	-0.319	-1.117
	G	11	-0.270	-0.384	0.173	-0.378
	I	6	-0.563	0.242	0.482	-0.557
	Industry	46	-0.444	0.140	-0.159	-0.933
Nitrile	A	12	1.050	0.987	-0.877	-0.724
	B	17	1.531	0.984	-0.754	-0.423
	G	11	1.128	1.522	-0.261	-0.324
	I	5	1.583	0.751	-0.804	-0.384
	Industry	45	1.310	1.090	-0.672	-0.475
Polyacrylate	A	14	1.660	-0.510	-0.883	0.543
	B	17	1.786	-0.762	-0.931	0.316
	G	10	1.614	1.117	-0.479	0.725
	I	7	1.598	-0.113	-0.344	0.735
	Industry	48	1.686	-0.203	-0.737	0.529
Silicone	A	11	-0.363	-0.869	0.252	0.044
	B	17	0.585	-0.418	-0.001	0.163
	G	12	1.204	1.471	-0.522	-0.471
	I	5	0.533	-0.124	-0.960	-0.077
	Industry	45	0.513	0.008	-0.185	-0.062
VAMAC	A	13	-1.425	-1.364	-0.385	-0.253
	B	17	-1.347	-0.902	-0.421	-0.584
	G	13	-0.761	1.389	-0.078	-0.156
	I	6	-0.772	-0.891	-0.636	-0.769
	Industry	49	-1.142	-0.415	-0.347	-0.405

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Individual test results can be viewed at the links shown in the following table:

<i>Links to Individual Test Result Data</i>	
Elastomer Type	Web Link to Data
Fluoroelastomer	ftp://ftp.astmtmc.cmu.edu/refdata/bench/eoecf/data/
Nitrile	ftp://ftp.astmtmc.cmu.edu/refdata/bench/eoecn/data/
Polyacrylate	ftp://ftp.astmtmc.cmu.edu/refdata/bench/eoecp/data/
Silicone	ftp://ftp.astmtmc.cmu.edu/refdata/bench/eoecs/data/
VAMAC	ftp://ftp.astmtmc.cmu.edu/refdata/bench/eoecv/data/

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Severity & Precision Analysis

Due to statistically significant lab differences, a meaningful summary of industry level severity and precision cannot be provided.

A more detailed summary of this situation is available from the following link:

<ftp://ftp.astmtmc.cmu.edu/docs/bench/eoec/memos/EOEC%20Baseline%20Analysis.pdf>

EOEC (D 7216)

INFORMATION LETTERS

- No EOEC Information Letters were issued this period.

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STATUS OF REFERENCE OIL SUPPLY

Oil	Samples @ Labs	@ TMC	
		Samples (750 mL)	Gallons
1006-1	164	2,245	445
Total	164	2,245	445