A Program of ASTM International

Test Monitoring Center

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http://astmtmc.cmu.edu
412-365-1000

MEMORANDUM: 08-076

DATE: December 5, 2008

TO: Becky Grinfield,
Chairman, Engine Oil Elastomer Compatibility Surveillance Panel

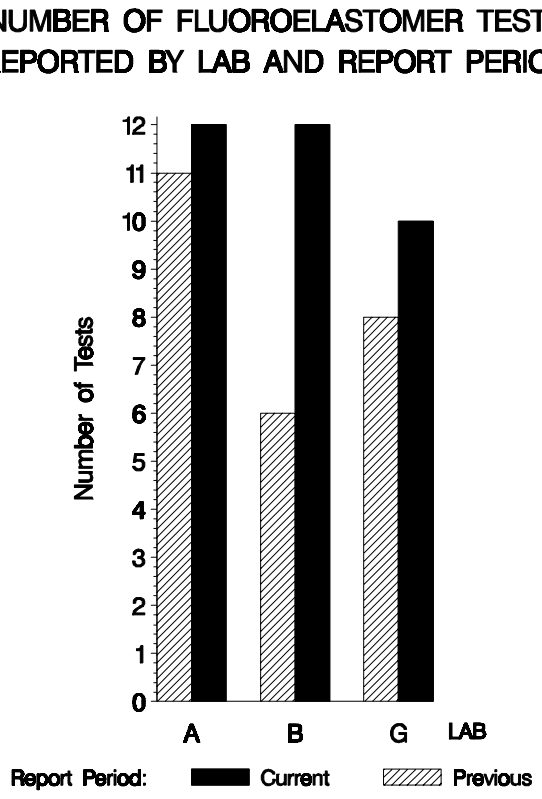
FROM: Michael T. Kasimirsky

SUBJECT: EOEC Testing from April 1, 2008 through September 30, 2008

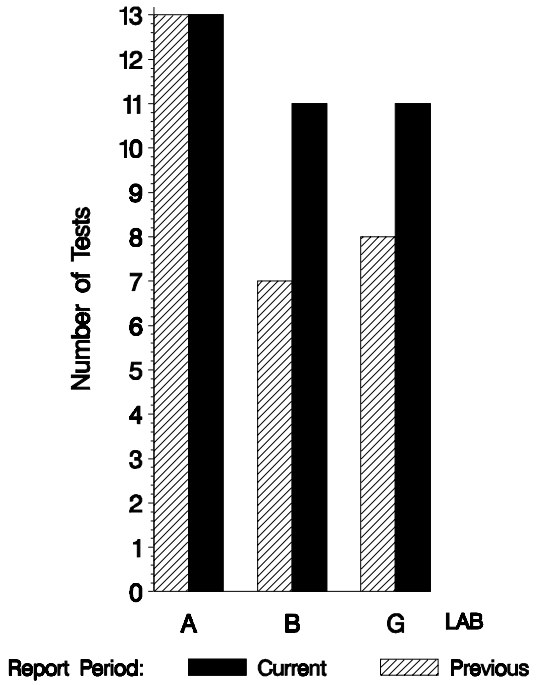
A total of 164 EOEC tests were reported to the Test Monitoring Center during the period from April 1, 2008 through September 30, 2008. The data from these tests is shown beginning on page 8. Following is a summary of testing activity this period.

	Reporting Data
Number of Labs	3

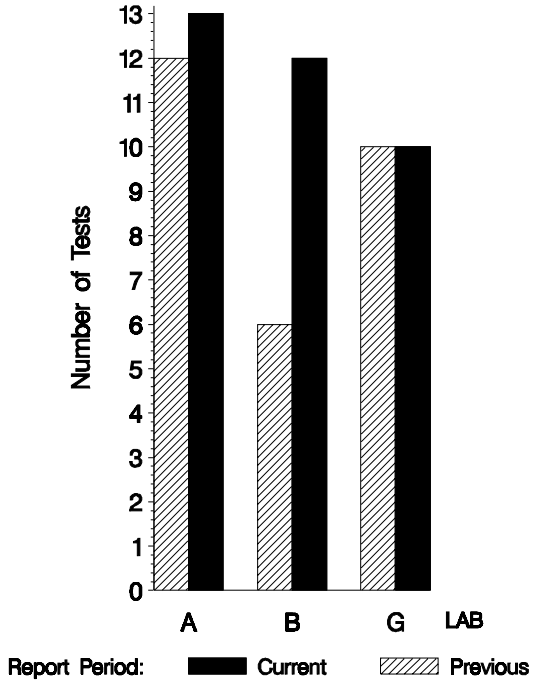
Tests reported this period were distributed as shown below:



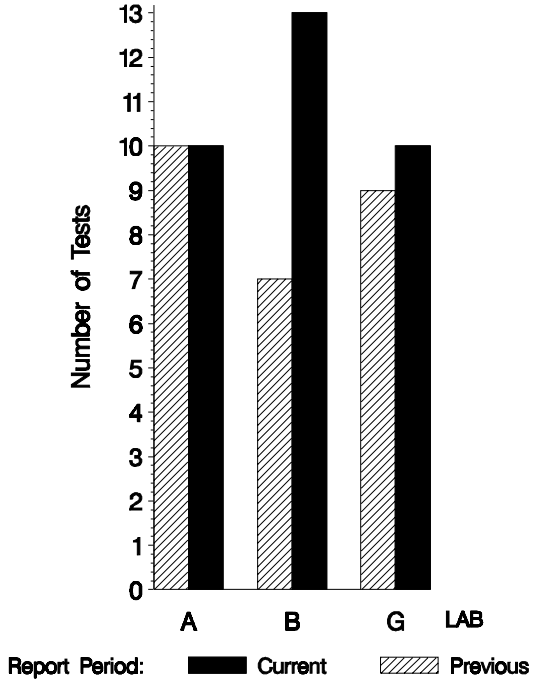
NUMBER OF NITRILE TESTS
REPORTED BY LAB AND REPORT PERIOD



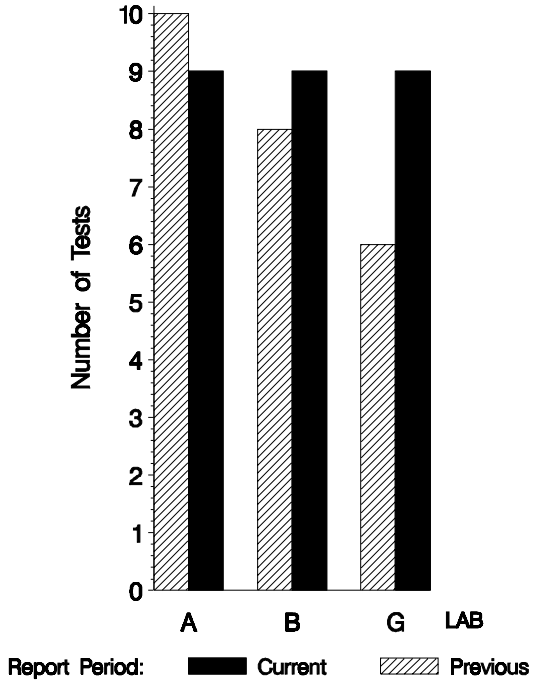
NUMBER OF POLYACRYLATE TESTS
REPORTED BY LAB AND REPORT PERIOD



NUMBER OF SILICONE TESTS
REPORTED BY LAB AND REPORT PERIOD

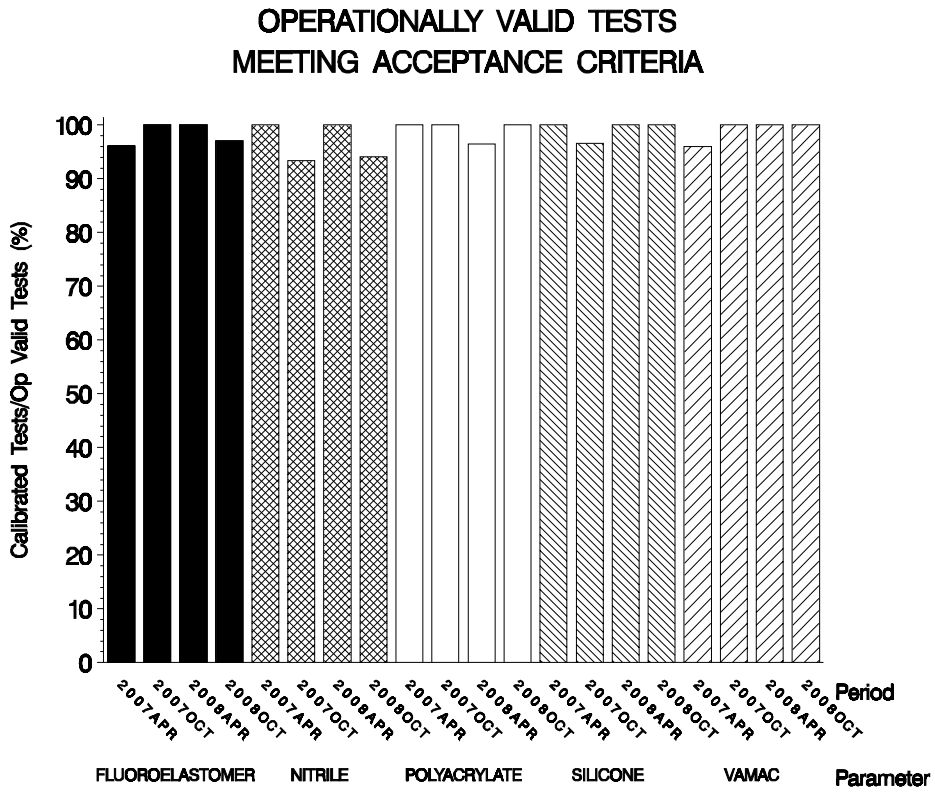


NUMBER OF VAMAC TESTS
REPORTED BY LAB AND REPORT PERIOD



Test Distribution by Oil and Validity

		Fluoroelastomer	Nitrile	Polyacrylate	Silicone	Vamac	Totals Last Period	Totals This Period
Accepted for Calibration	AC	33	32	35	32	26	130	158
Rejected Mild	OC	1	0	0	0	0	0	1
Rejected Severe	OC	0	2	0	0	0	1	2
Information Run (not for calibration)	NI	0	0	0	0	0	0	0
Operationally Invalid (lab)	LC	0	1	0	1	1	0	3
Operationally Invalid (lab/TMC)	RC	0	0	0	0	0	0	0
Aborted Calibration	XC	0	0	0	0	0	0	0
Total		34	35	35	33	27	131	164



The above chart shows the percentage of accepted operationally valid tests. This period one fluoroelastomer test and two nitrile tests failed to meet the acceptance criteria.

Lost Tests per Start by Lab and Elastomer Type

	Fluoroelastomer			**Nitrile**			**Polyacrylate**			**Silicone**			**Vamac**			Total		
Lab	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%
A	0	12	0	0	13	0	0	13	0	0	10	0	0	9	0	0	57	0
B	0	12	0	0	11	0	0	12	0	0	13	0	0	9	0	0	57	0
G	0	10	0	1	11	9%	0	10	0	1	10	9%	1	9	11%	3	40	8%
Total	0	34	0	1	35	3%	0	35	0	1	33	3%	1	27	4%	3	164	2%

Lost tests are those that were aborted, rejected by lab, or operationally invalid.

Causes for Lost Tests

			Elastomer					Validity			Loss Rate		
Lab	Cause		Fluoroelastomer	Nitrile	Polyacrylate	Silicone	VAMAC	LC	RC	XC	Lost	Starts	%
G	Mechanical Failure			●		●	●	●			3	164	2%
		Lost	0	1	0	1	1	3	0	0			
		Starts	34	35	35	33	27	164	164	164			
		%	0%	3%	0%	3%	4%	2%	0%	0%			

Average Δ/s by Lab						
Elastomer	Lab	n	VOLCYI	HARDYI	TENSYI	ELONYI
Fluoroelastomer	A	12	-0.507	0.205	-0.661	-0.738
	B	12	-0.366	0.773	-0.144	-0.613
	G	10	1.230	-0.864	0.299	-0.268
	Industry	34	0.054	0.091	-0.196	-0.556
Nitrile	A	13	1.354	0.491	-1.212	-0.044
	B	11	2.278	0.957	-0.614	-0.328
	G	10	1.904	0.186	1.263	-0.100
	Industry	34	1.815	0.552	-0.291	-0.152
Polyacrylate	A	13	1.246	-0.187	-0.276	0.408
	B	12	1.735	0.006	0.392	0.407
	G	10	1.704	0.506	-0.490	0.622
	Industry	35	1.544	0.077	-0.108	0.469
Silicone	A	10	-0.112	-0.479	-0.597	0.485
	B	13	0.966	-0.412	-0.591	0.920
	G	9	1.101	1.248	0.117	0.036
	Industry	32	0.667	0.034	-0.394	0.536
VAMAC	A	9	1.064	-0.841	1.431	0.536
	B	9	1.312	-1.075	1.621	-0.161
	G	8	1.907	-1.089	1.746	0.492
	Industry	26	1.409	-0.998	1.594	0.281

DATA FROM ALL OPERATIONALLY VALID TESTS REPORTED THIS PERIOD:

FLUOROELASTOMER									
LTMS DATE	LAB	VOLC	HARD	TENS	ELON	VOLCYI	HARDYI	TENSYI	ELONYI
20080408	B	0.57	9	-73	-62.5	-0.27	0.773	-0.695	-0.424
20080423	A	0.47	8	-73.6	-67.2	-0.946	0.318	-0.807	-0.947
20080429	G	0.68	5	-66.8	-58.5	0.473	-1.045	0.464	0.021
20080505	B	0.62	11	-74.3	-68	0.068	1.682	-0.938	-1.036
20080507	A	0.64	6	-70.7	-65	0.203	-0.591	-0.265	-0.702
20080515	G	0.76	5	-66.9	-60.8	1.014	-1.045	0.445	-0.235
20080521	B	0.67	9	-72.7	-70.8	0.405	0.773	-0.639	-1.347
20080521	A	0.53	8	-71.9	-61.5	-0.541	0.318	-0.49	-0.313
20080528	A	0.55	9	-73.1	-65.4	-0.405	0.773	-0.714	-0.746
20080603	B	0.69	7	-70.3	-64.7	0.541	-0.136	-0.191	-0.669
20080605	A	0.56	10	-72.4	-64	-0.338	1.227	-0.583	-0.591
20080620	G	0.64	4	-69	-61.4	0.203	-1.5	0.052	-0.301
20080627	G	0.87	5	-65.5	-58	1.757	-1.045	0.707	0.077
20080630	B	0.65	9	-70.3	-65.3	0.27	0.773	-0.191	-0.735
20080702	A	0.46	7	-72.8	-64.8	-1.014	-0.136	-0.658	-0.68
20080709	G	0.83	6	-72.1	-64.5	1.486	-0.591	-0.527	-0.646
20080723	G	0.84	5	-67.4	-60.6	1.554	-1.045	0.351	-0.212
20080728	B	0.7	9	-68.5	-63.2	0.608	0.773	0.146	-0.502
20080730	G	0.84	5	-67.9	-62.1	1.554	-1.045	0.258	-0.379
20080731	A	0.67	8	-73.7	-68.6	0.405	0.318	-0.826	-1.102
20080731	A	0.57	8	-72.9	-68	-0.27	0.318	-0.677	-1.036
20080806	B	0.51	8	-68.3	-62.2	-0.676	0.318	0.183	-0.39
20080807	A	0.84	8	-73.8	-64	1.554	0.318	-0.845	-0.591
20080818	B	0.32	7	-67.6	-62	-1.959	-0.136	0.314	-0.368
20080822	B	0.38	9	-68.9	-61.1	-1.554	0.773	0.071	-0.268
20080826	G	0.86	6	-65.8	-61.8	1.689	-0.591	0.65	-0.346
20080827	A	0.11	8	-74.8	-65.3	-3.378	0.318	-1.032	-0.735
20080828	B	0.47	12	-67.5	-65.5	-0.946	2.136	0.333	-0.758
20080829	G	0.77	7	-68.3	-62	1.081	-0.136	0.183	-0.368
20080902	B	0.45	9	-69.6	-62.1	-1.081	0.773	-0.06	-0.379
20080910	A	0.66	6	-72.4	-66	0.338	-0.591	-0.583	-0.813
20080919	G	0.83	6	-67.1	-61.3	1.486	-0.591	0.407	-0.29
20080922	B	0.64	9	-69.6	-63	0.203	0.773	-0.06	-0.479
20080925	A	0.36	7	-71.7	-64.1	-1.689	-0.136	-0.452	-0.602

NITRILE									
LTMS DATE	LAB	VOLC	HARD	TENS	ELON	VOLCYI	HARDYI	TENSYI	ELONYI
20080409	B	2.12	3	-33.5	-55.0	1.667	0.751	-0.823	-0.616
20080421	A	1.88	3	-27.3	-46.4	1.381	0.751	0.023	0.664
20080429	G	2.11	1	-14.9	-44.7	1.655	-0.379	1.715	0.917
20080505	A	1.94	3	-37.6	-52.9	1.452	0.751	-1.382	-0.304
20080506	B	2.35	4	-33.2	-55.5	1.940	1.316	-0.782	-0.690
20080515	G	2.26	2	-12.4	-43.6	1.833	0.186	2.056	1.080
20080519	A	1.82	2	-36.8	-51.8	1.310	0.186	-1.273	-0.140
20080522	B	2.05	3	-38.2	-51.3	1.583	0.751	-1.464	-0.065
20080526	A	2.01	2	-35.9	-53.3	1.536	0.186	-1.150	-0.363
20080603	A	1.51	3	-36.3	-52.7	0.940	0.751	-1.205	-0.274
20080630	G	2.11	2	-17.9	-62.0	1.655	0.186	1.306	-1.658
20080630	A	1.79	2	-36.1	-52.3	1.274	0.186	-1.177	-0.214
20080703	B	1.43	4	-33.6	-49.2	0.845	1.316	-0.836	0.247
20080709	G	2.09	1	-14.0	-62.3	1.631	-0.379	1.838	-1.702
20080711	G	2.28	2	-27.4	-48.7	1.857	0.186	0.010	0.321
20080716	G	2.34	4	-19.6	-47.0	1.929	1.316	1.074	0.574
20080729	B	1.96	2	-36.4	-52.0	1.476	0.186	-1.218	-0.170
20080729	A	1.79	3	-38.2	-54.2	1.274	0.751	-1.464	-0.497
20080729	A	1.79	2	-37.6	-50.9	1.274	0.186	-1.382	-0.006
20080805	A	2.00	2	-43.2	-55.6	1.524	0.186	-2.146	-0.705
20080806	B	3.83	4	-23.0	-66.0	3.702	1.316	0.610	-2.253
20080806	G	2.38	1	-16.8	-49.5	1.976	-0.379	1.456	0.202
20080818	B	3.04	2	-31.2	-42.4	2.762	0.186	-0.509	1.259
20080821	B	2.76	3	-31.0	-52.3	2.429	0.751	-0.482	-0.214
20080825	A	1.65	2	-42.2	-55.0	1.107	0.186	-2.010	-0.616
20080829	G	2.44	3	-21.0	-51.7	2.048	0.751	0.883	-0.125
20080829	B	3.04	4	-28.3	-58.0	2.762	1.316	-0.113	-1.063
20080902	G	2.80	2	-14.9	-54.4	2.476	0.186	1.715	-0.527
20080903	B	3.25	5	-31.3	-53.8	3.012	1.881	-0.523	-0.437
20080908	A	1.91	1	-36.6	-51.6	1.417	-0.379	-1.246	-0.11
20080920	G	2.38	2	-23.2	-51.4	1.976	0.186	0.583	-0.08
20080923	B	3.14	3	-32	-48.2	2.881	0.751	-0.618	0.396
20080923	A	1.99	3	-19.2	-44.6	1.512	0.751	1.128	0.932
20080929	A	2.07	5	-45.6	-43.7	1.607	1.881	-2.473	1.065

POLYACRYLATE									
LTMS DATE	LAB	VOLC	HARD	TENS	ELON	VOLCYI	HARDYI	TENSYI	ELONYI
20080409	B	2.15	-2	3.5	-26.8	1.724	-0.272	0.336	-0.972
20080422	A	1.68	-2	2.8	-21.0	1.105	-0.272	0.244	-0.328
20080429	G	2.18	-3	0.5	-12.0	1.763	-0.828	-0.042	0.679
20080505	B	3.07	1	-8.8	-11.9	2.934	1.394	-1.204	0.695
20080506	A	1.88	-2	-6.8	-0.2	1.368	-0.272	-0.950	1.999
20080515	G	2.28	-2	2.7	-14.4	1.895	-0.272	0.231	0.411
20080520	A	1.52	0	-3.7	-5.2	0.895	0.839	-0.565	1.440
20080520	B	2.11	-1	4.4	-10.4	1.671	0.283	0.444	0.857
20080520	A	1.55	-1	1.8	-18.5	0.934	0.283	0.119	-0.048
20080604	A	1.94	-1	-3.0	-13.8	1.447	0.283	-0.478	0.478
20080616	B	2.99	-3	9.4	-22.4	2.829	-0.828	1.058	-0.481
20080620	G	2.15	-1	-7.9	-29.6	1.724	0.283	-1.087	-1.290
20080627	G	1.78	-1	-0.2	-8.6	1.237	0.283	-0.129	1.059
20080701	B	2.25	-1	4.0	-20.2	1.855	0.283	0.389	-0.242
20080701	A	1.67	-2	-1.5	-9.5	1.092	-0.272	-0.291	0.959
20080709	G	2.13	0	-0.3	-14.8	1.697	0.839	-0.142	0.366
20080723	G	1.49	0	3.0	-12.4	0.855	0.839	0.269	0.634
20080729	B	1.69	-2	5.9	-10.8	1.118	-0.272	0.633	0.817
20080730	G	2.33	0	-6.9	-11.0	1.961	0.839	-0.963	0.791
20080730	A	1.69	-2	5.5	-23.3	1.118	-0.272	0.580	-0.585
20080730	A	1.87	-3	4.7	-21.9	1.355	-0.828	0.480	-0.428
20080806	B	2.39	-2	1.7	-8.0	2.039	-0.272	0.108	1.123
20080806	A	1.97	-2	-7.8	-10.0	1.487	-0.272	-1.075	0.903
20080818	B	1.53	-3	8.2	-17.0	0.908	-0.828	0.918	0.121
20080822	B	1.88	-1	3.1	-6.8	1.368	0.283	0.284	1.258
20080826	G	2.35	0	-8.7	-6.1	1.987	0.839	-1.187	1.339
20080826	A	1.70	-2	-4.2	-14.4	1.132	-0.272	-0.627	0.411
20080827	G	2.31	0	-6.1	-8.2	1.934	0.839	-0.863	1.104
20080829	B	1.59	0	3.55	-13.02	0.987	0.839	0.337	0.565
20080904	B	2.01	-2	5.15	-15.82	1.539	-0.272	0.536	0.252
20080909	A	2.07	-2	-5	-10.5	1.618	-0.272	-0.726	0.847
20080919	G	2.35	1	-7.1	-8	1.987	1.394	-0.988	1.126
20080919	B	2.24	-2	7.83	-10.13	1.842	-0.272	0.869	0.888
20080924	A	1.65	-3	-0.3	-26.6	1.066	-0.828	-0.142	-0.954
20080930	A	2.04	-2	-0.4	-12.6	1.579	-0.272	-0.154	0.612

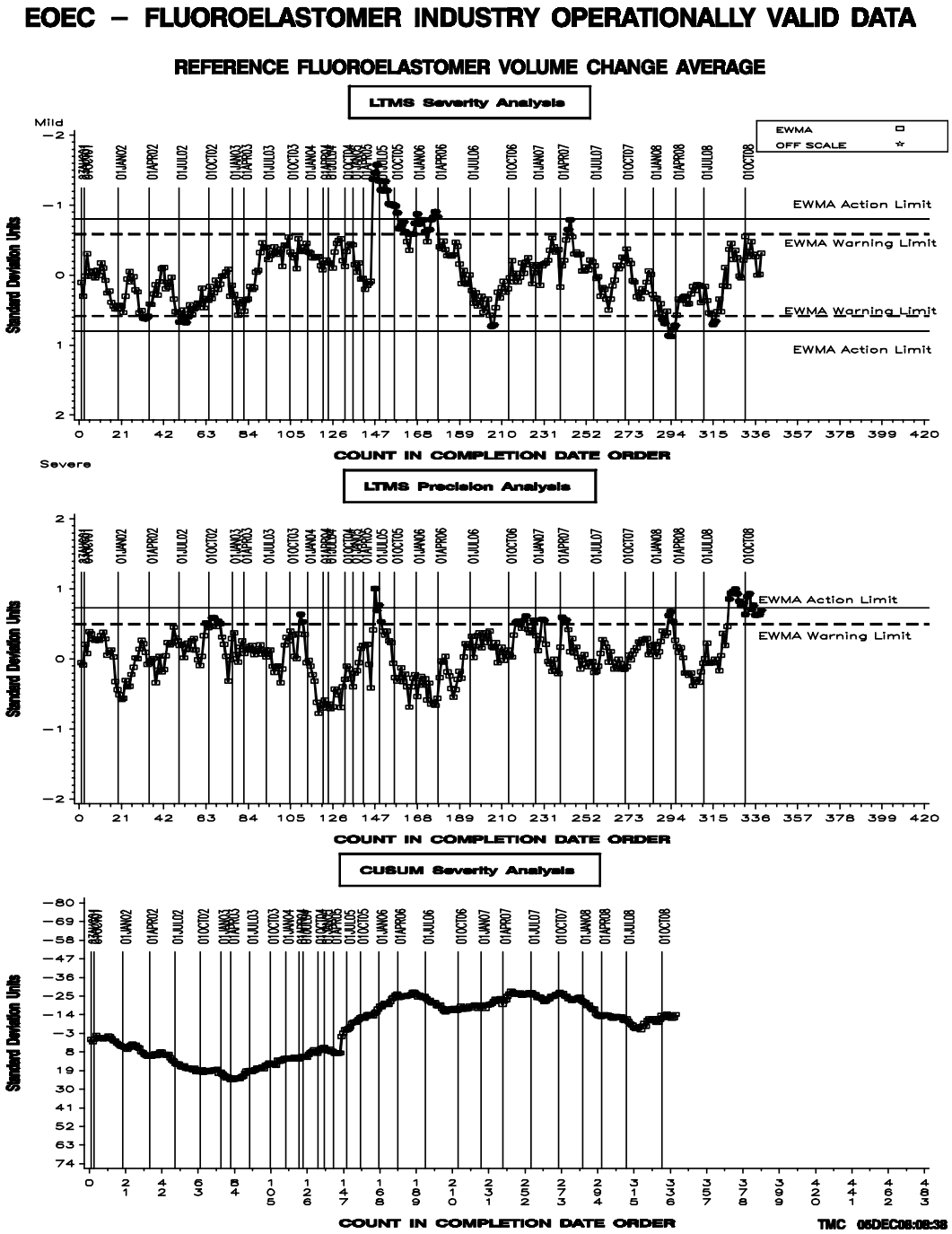
SILICONE

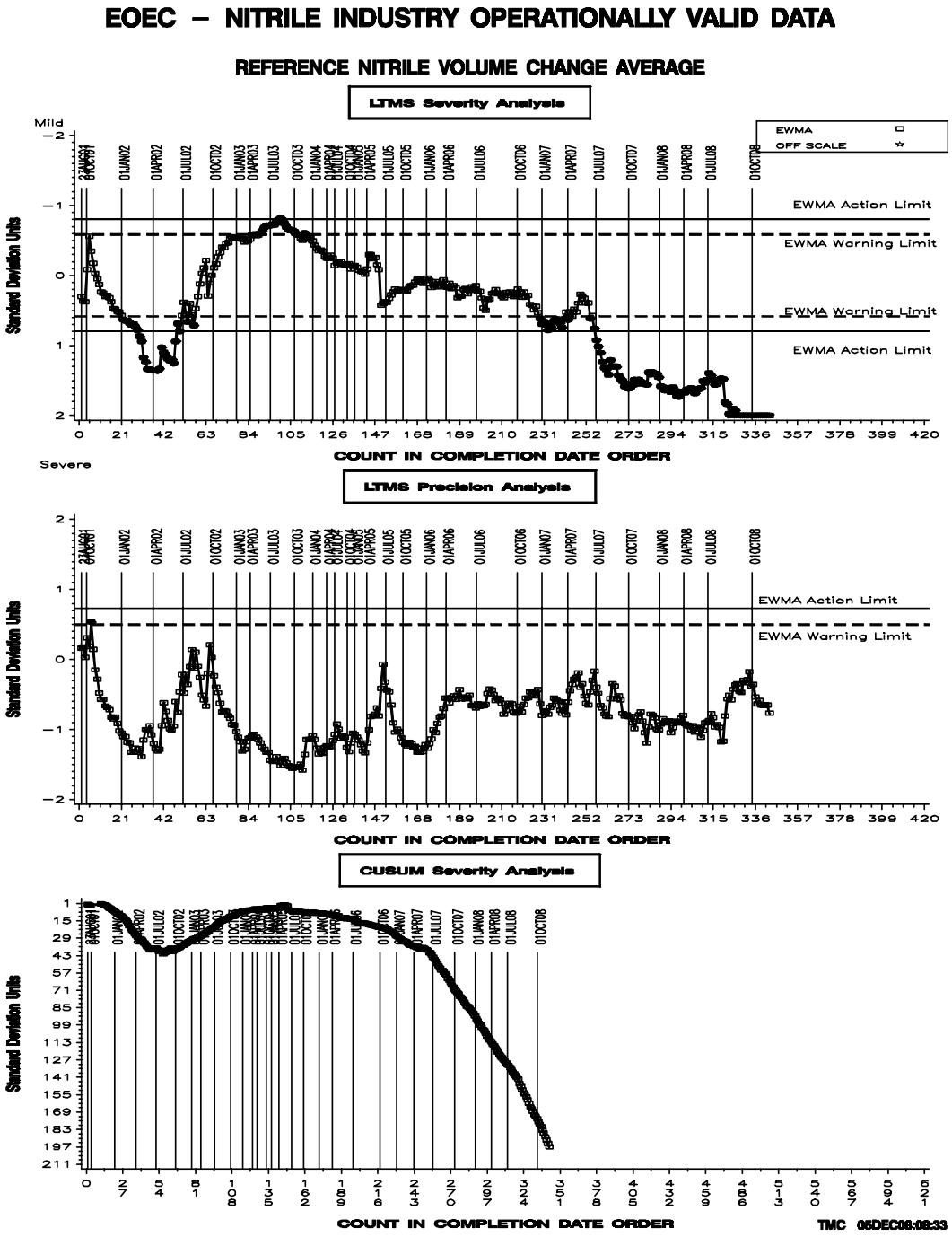
LTMS DATE	LAB	VOLC	HARD	TENS	ELON	VOLCYI	HARDYI	TENSYI	ELONYI
20080408	B	28.68	-20	-19.2	-13.4	1.013	-0.604	-1.311	1.417
20080424	A	24.62	-20	-12.3	-21.1	-0.775	-0.604	0.304	0.309
20080429	G	29.06	-17	-8.8	-17.5	1.181	0.646	1.124	0.827
20080430	B	28.95	-18	-16.5	-11.7	1.132	0.229	-0.679	1.662
20080507	B	29.65	-19	-13.6	-13.9	1.441	-0.187	0.000	1.345
20080508	A	25.26	-20	-15.2	-19.6	-0.493	-0.604	-0.375	0.525
20080515	G	28.76	-16	-12.3	-26.1	1.048	1.063	0.304	-0.410
20080522	A	25.76	-20	-20.1	-28.3	-0.273	-0.604	-1.522	-0.727
20080523	B	28.66	-19	-17.9	-18.7	1.004	-0.187	-1.007	0.655
20080529	A	25.54	-20	-16.1	-17.7	-0.370	-0.604	-0.585	0.799
20080617	B	28.60	-20	-14.3	-21.0	0.978	-0.604	-0.164	0.324
20080619	A	27.66	-19	-17.6	-19.4	0.564	-0.187	-0.937	0.554
20080627	G	29.11	-15	-11.4	-21.8	1.203	1.479	0.515	0.209
20080630	G	29.42	-14	-14.0	-17.0	1.339	1.896	-0.094	0.899
20080702	B	25.38	-20	-15.7	-19.0	-0.441	-0.604	-0.492	0.612
20080703	A	28.81	-20	-10.4	-9.0	1.070	-0.604	0.749	2.050
20080724	B	27.40	-20	-21.5	-21.8	0.449	-0.604	-1.850	0.209
20080727	G	28.61	-16	-11.5	-20.1	0.982	1.063	0.492	0.453
20080730	G	28.48	-16	-16.4	-31.1	0.925	1.063	-0.656	-1.129
20080806	B	29.36	-21	-16.4	-17.0	1.313	-1.021	-0.656	0.899
20080808	A	24.80	-20	-16.9	-17.6	-0.696	-0.604	-0.773	0.813
20080818	B	28.92	-21	-12.9	-14.9	1.119	-1.021	0.164	1.201
20080822	B	29.44	-21	-20.7	-25.9	1.348	-1.021	-1.663	-0.381
20080827	G	29.60	-16	-14.1	-23.1	1.419	1.063	-0.117	0.022
20080828	A	26.00	-19	-17.5	-24.6	-0.167	-0.187	-0.913	-0.194
20080829	B	28.95	-17	-15.7	-17.0	1.132	0.646	-0.492	0.899
20080902	G	28.64	-16	-15.2	-25.4	0.996	1.063	-0.375	-0.309
20080905	B	29.02	-19	-12.7	-14.5	1.163	-0.187	0.211	1.259
20080911	A	25.45	-20	-17.8	-30.4	-0.41	-0.604	-0.984	-1.029
20080918	B	28.44	-19	-12.5	-10.3	0.907	-0.187	0.258	1.863
20080919	G	28.24	-14	-14.2	-24.9	0.819	1.896	-0.141	-0.237
20080926	A	27.36	-19	-17.6	-11.1	0.432	-0.187	-0.937	1.748

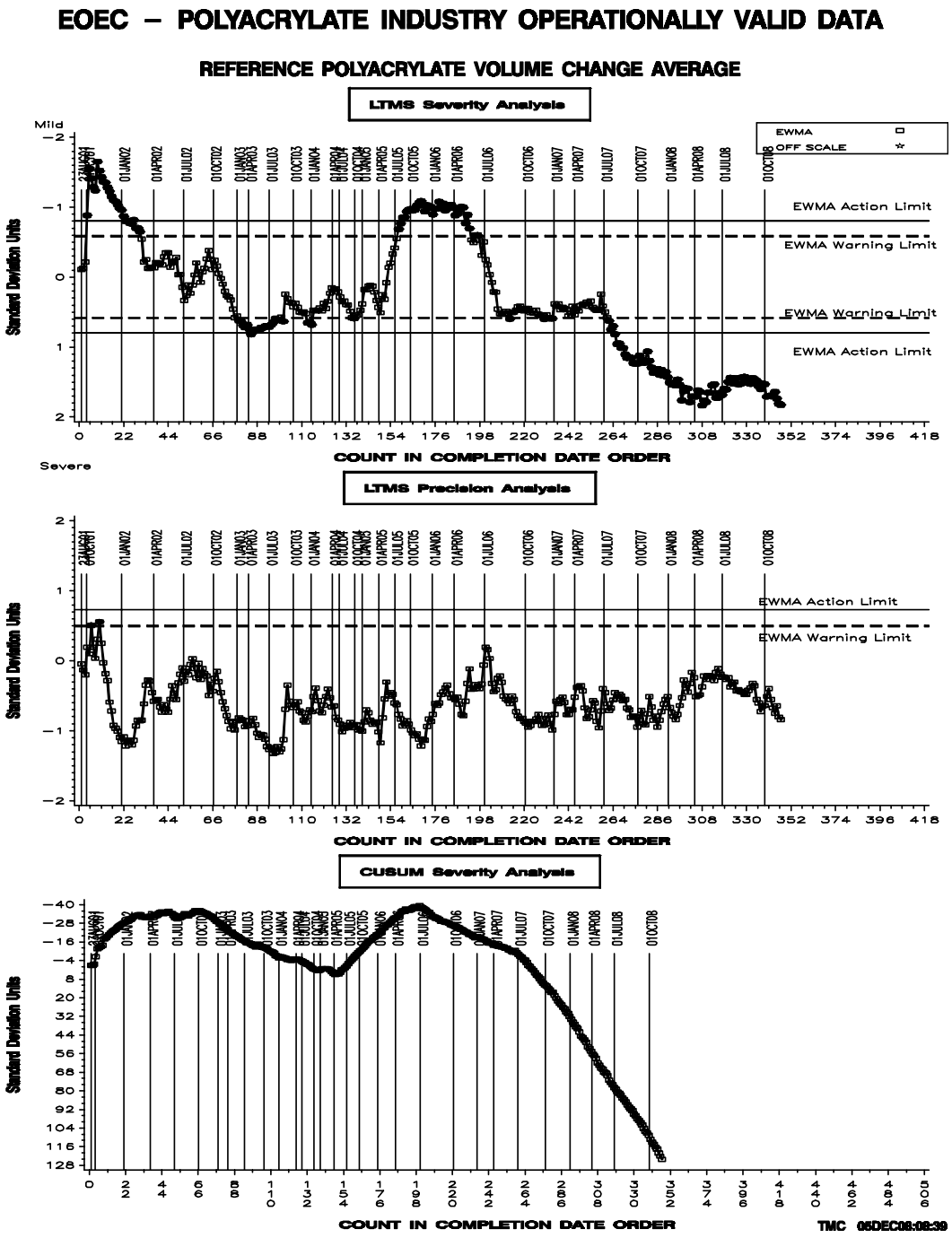
VAMAC

LTMS DATE	LAB	VOLC	HARD	TENS	ELON	VOLCYI	HARDYI	TENSYI	ELONYI
20080409	B	20.42	-10	-11.9	-30.5	1.111	-2.011	1.723	-0.275
20080425	A	19.81	-8	-12.8	-18.8	0.850	0.095	1.590	0.678
20080429	G	21.90	-9	-11.1	-19.6	1.744	-0.958	1.842	0.612
20080507	B	21.45	-8	-14.5	-25.1	1.551	0.095	1.339	0.164
20080509	A	20.23	-8	-14.4	-21.1	1.030	0.095	1.354	0.490
20080521	B	21.40	-9	-14.2	-33.5	1.530	-0.958	1.383	-0.520
20080523	A	20.51	-9	-14.9	-24.1	1.150	-0.958	1.280	0.246
20080530	A	21.27	-10	-10.2	-18.6	1.474	-2.011	1.975	0.694
20080607	G	22.38	-9	-11.8	-20.2	1.949	-0.958	1.738	0.564
20080616	B	21.59	-10	-13.1	-28.3	1.611	-2.011	1.546	-0.096
20080630	G	22.46	-9	-11.5	-16.9	1.983	-0.958	1.783	0.832
20080701	B	21.15	-10	-11.4	-26.3	1.423	-2.011	1.797	0.067
20080707	A	20.26	-9	-11.0	-19.4	1.043	-0.958	1.857	0.629
20080709	G	22.41	-9	-11.9	-15.6	1.962	-0.958	1.723	0.938
20080724	B	21.19	-9	-11.5	-28.3	1.440	-0.958	1.783	-0.096
20080728	G	22.48	-9	-10.8	-26.1	1.991	-0.958	1.886	0.083
20080730	G	22.48	-10	-12.0	-24.7	1.991	-2.011	1.709	0.197
20080810	A	20.07	-10	-7.7	-18.5	0.962	-2.011	2.345	0.702
20080828	G	21.98	-9	-14.8	-23.7	1.778	-0.958	1.294	0.279
20080829	B	19.85	-8	-12.9	-29.7	0.868	0.095	1.575	-0.210
20080829	A	20.52	-10	-16.2	-19.0	1.154	-2.011	1.087	0.661
20080902	B	20.94	-9	-15.4	-30.3	1.333	-0.958	1.206	-0.259
20080912	A	20.20	-8	-18.7	-27.4	1.017	0.095	0.717	-0.023
20080920	G	22.17	-9	-10.1	-21.8	1.859	-0.958	1.990	0.433
20080924	B	20.02	-9	-8.4	-29.9	0.94	-0.958	2.241	-0.226
20080928	A	19.91	-8	-19	-17.9	0.893	0.095	0.673	0.751

LTMS CONTROL CHARTS




EOEC – NITRILE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE NITRILE VOLUME CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
EWMA Warning Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
TMC 05DEC08:09:33


EOEC – POLYACRYLATE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE POLYACRYLATE VOLUME CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
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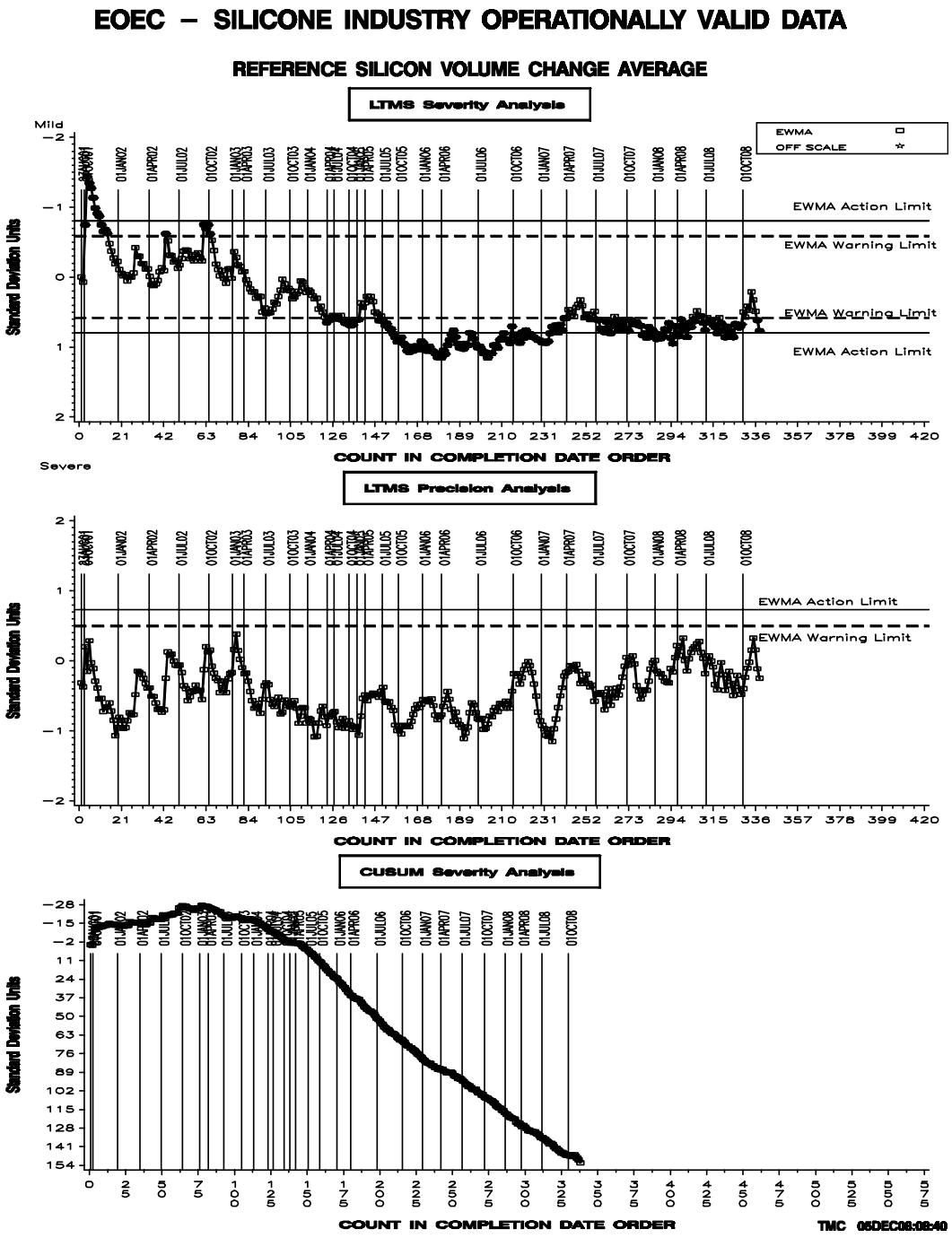
EOEC – SILICONE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE SILICON VOLUME CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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EWMA Warning Limit
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COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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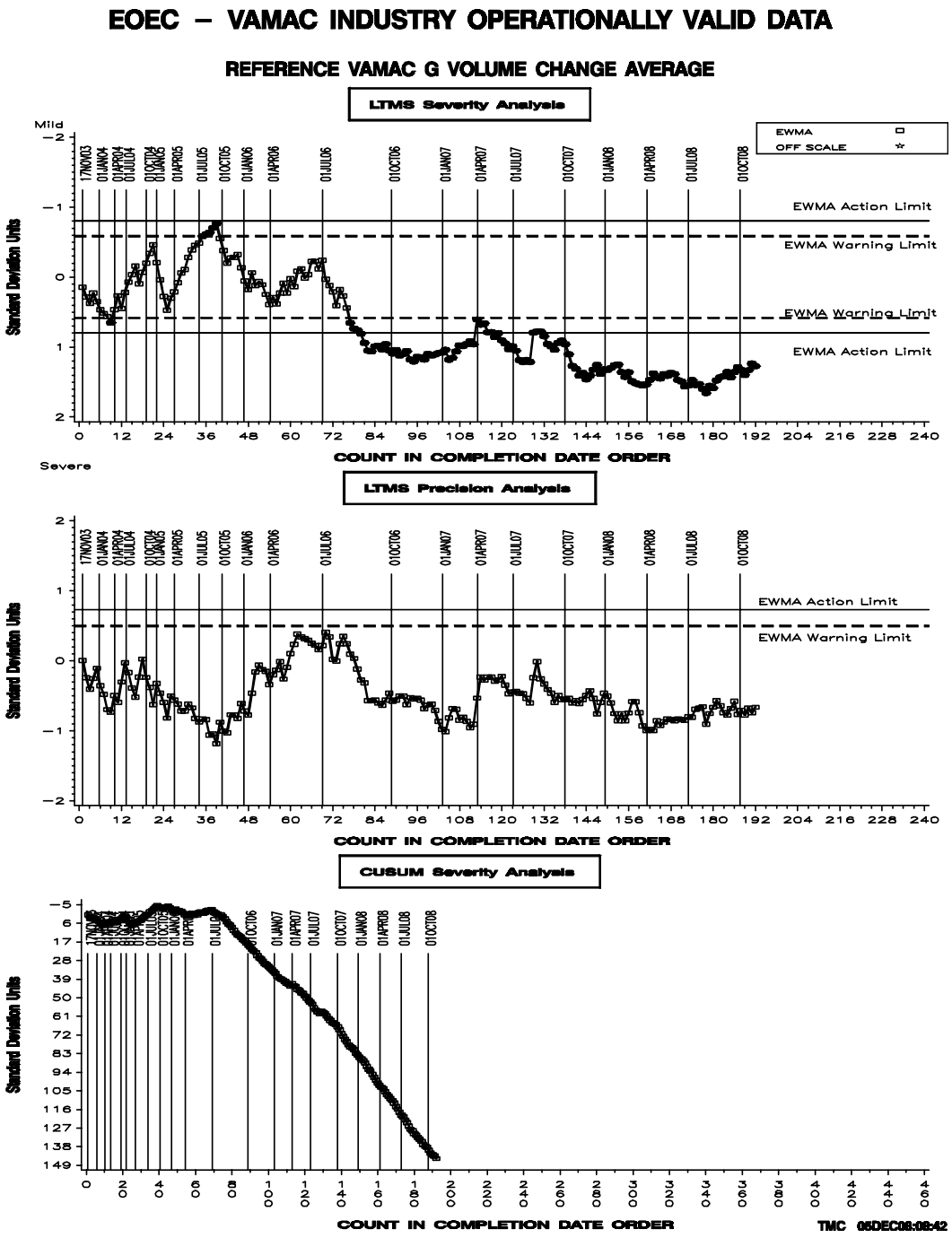
EOEC – VAMAC INDUSTRY OPERATIONALLY VALID DATA
REFERENCE VAMAC G VOLUME CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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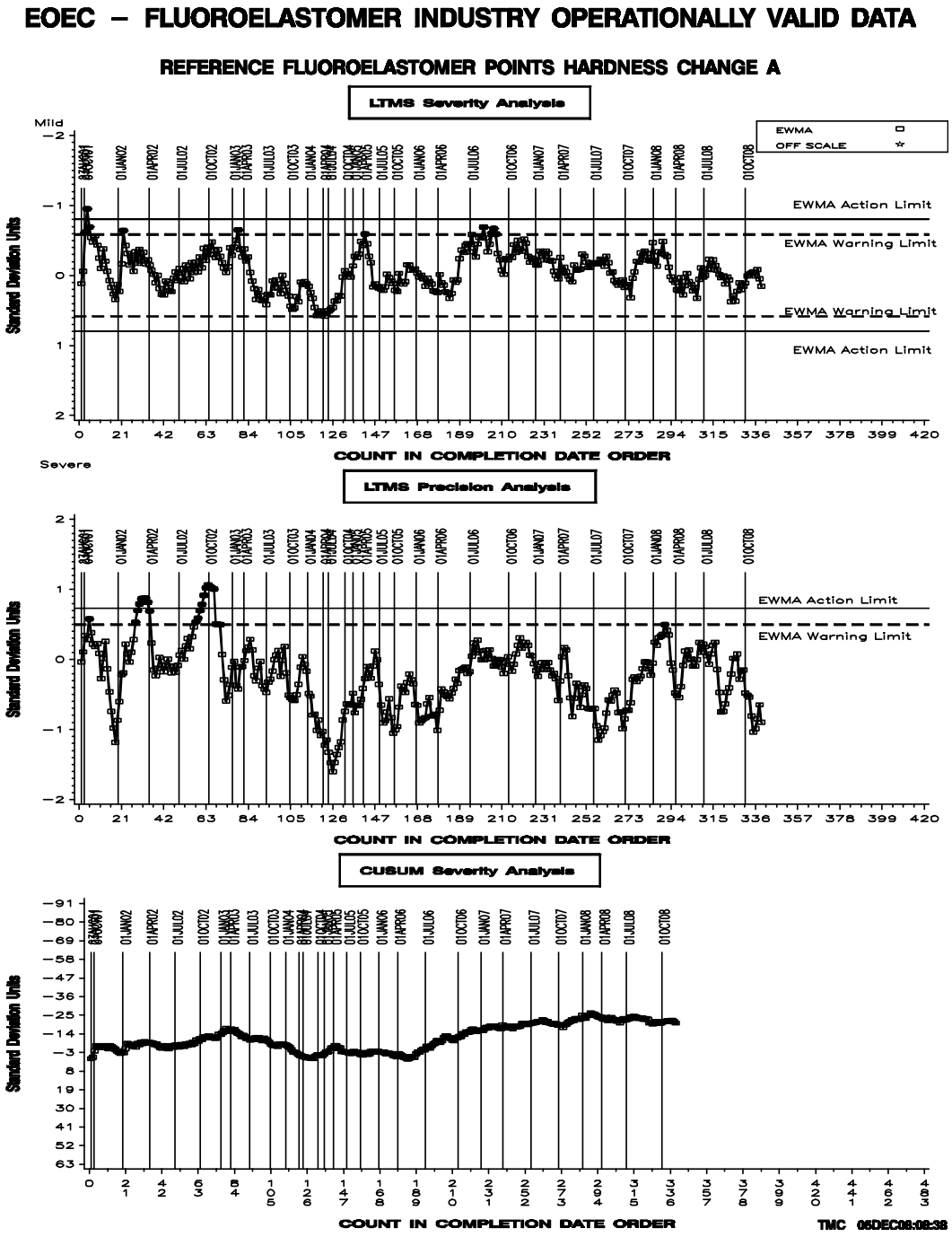
EOEC – FLUOROELASTOMER INDUSTRY OPERATIONALLY VALID DATA
REFERENCE FLUOROELASTOMER POINTS HARDNESS CHANGE A
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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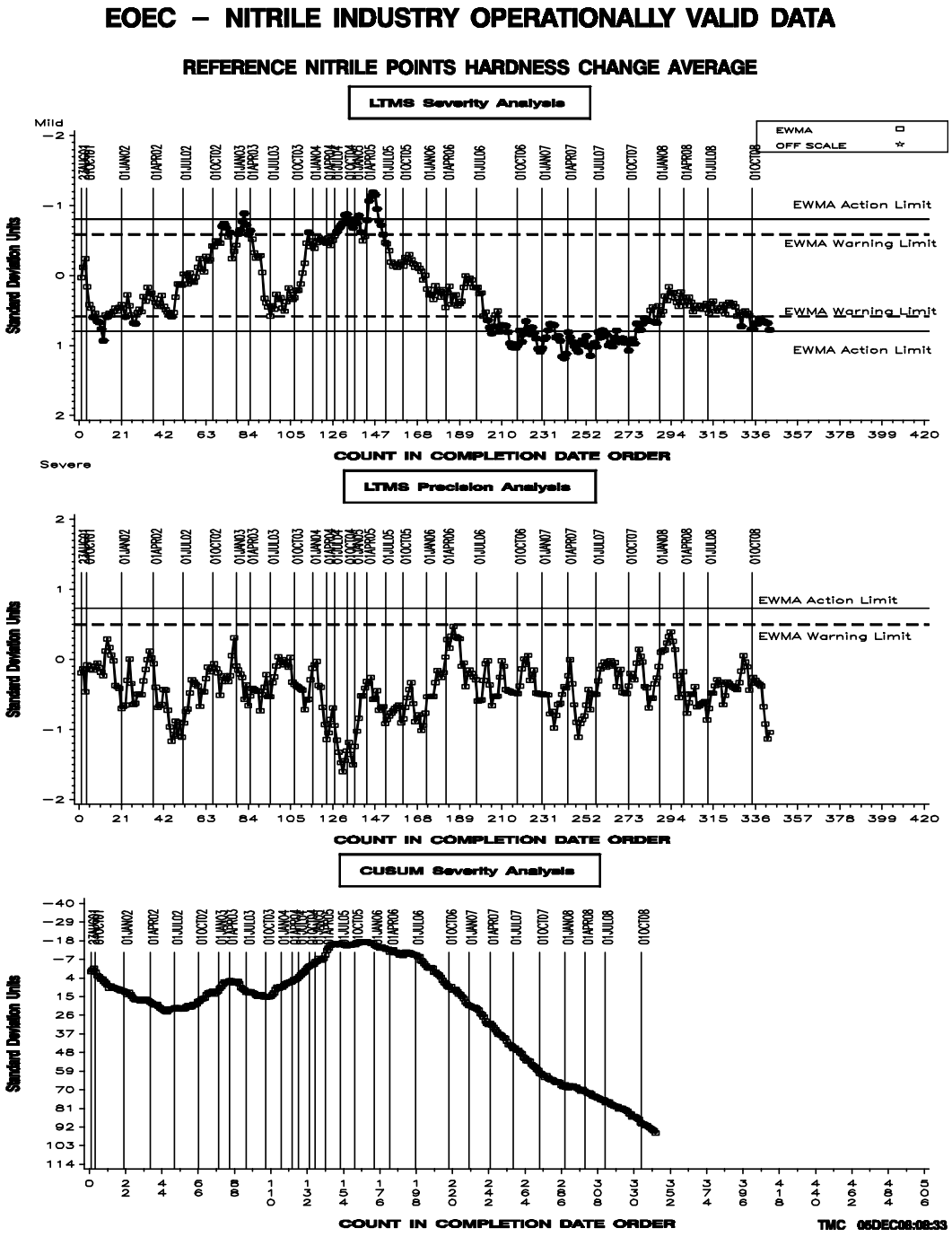
EOEC – NITRILE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE NITRILE POINTS HARDNESS CHANGE AVERAGE
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
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COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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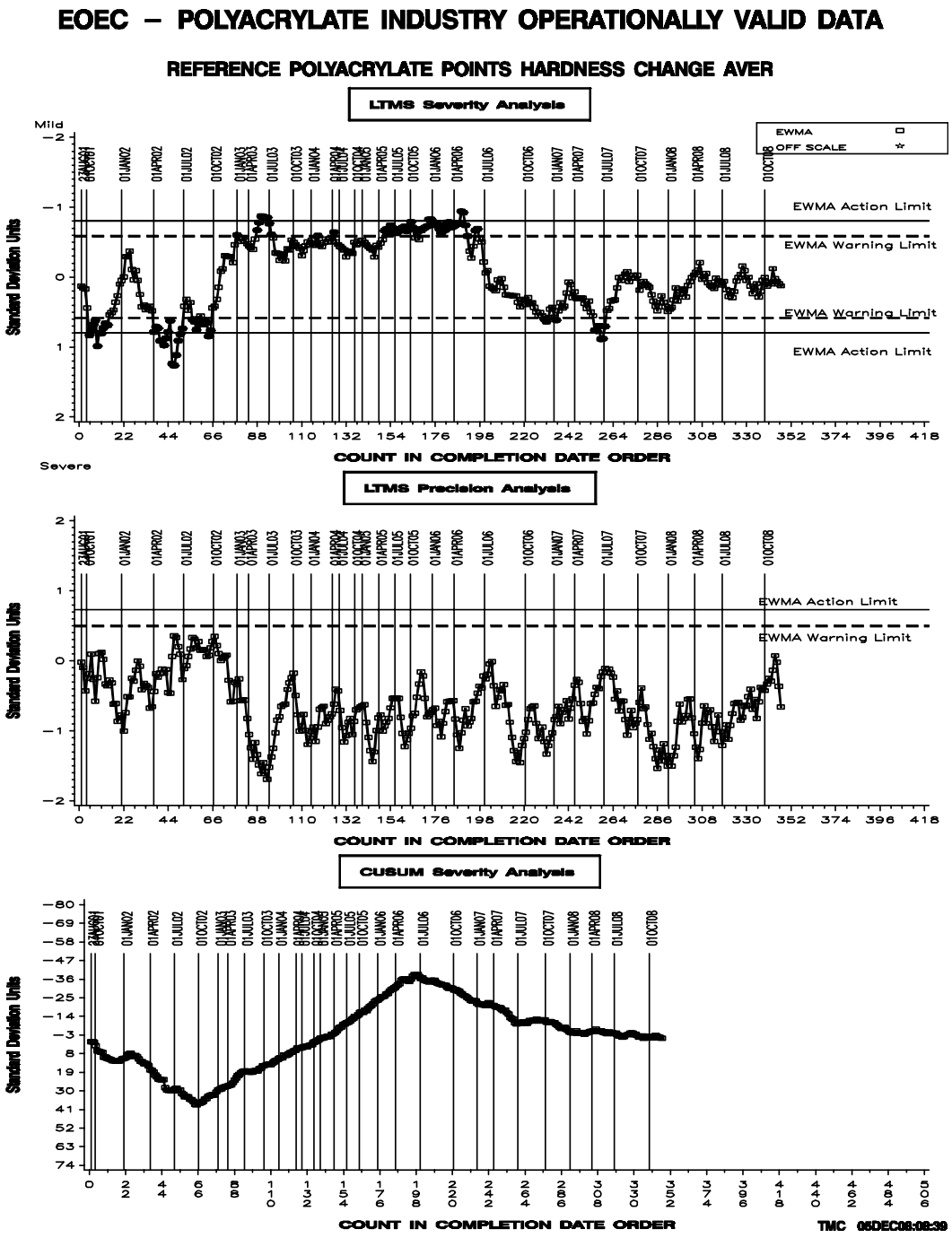
EOEC – POLYACRYLATE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE POLYACRYLATE POINTS HARDNESS CHANGE AVER
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
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COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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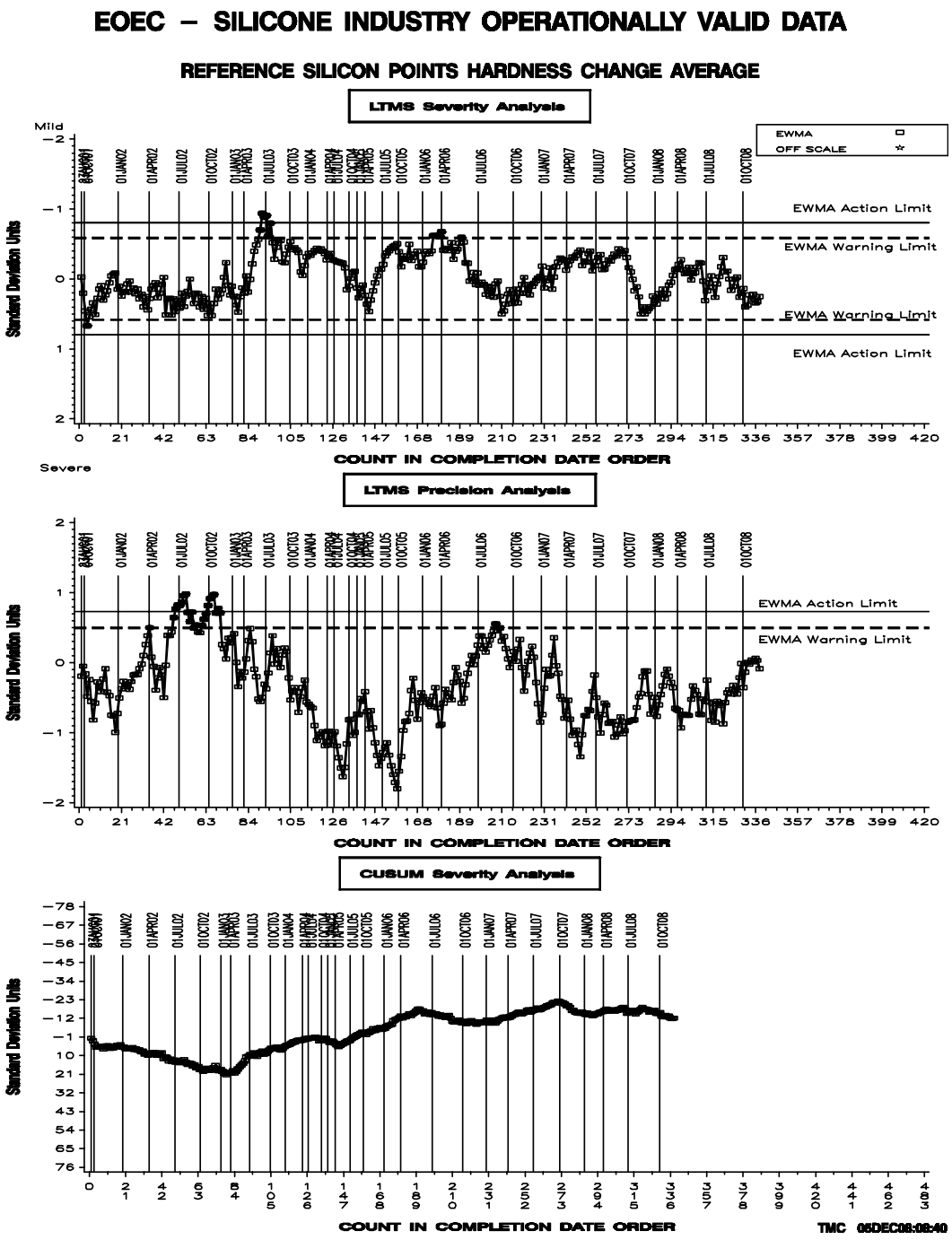
EOEC – SILICONE INDUSTRY OPERATIONALLY VALID DATA
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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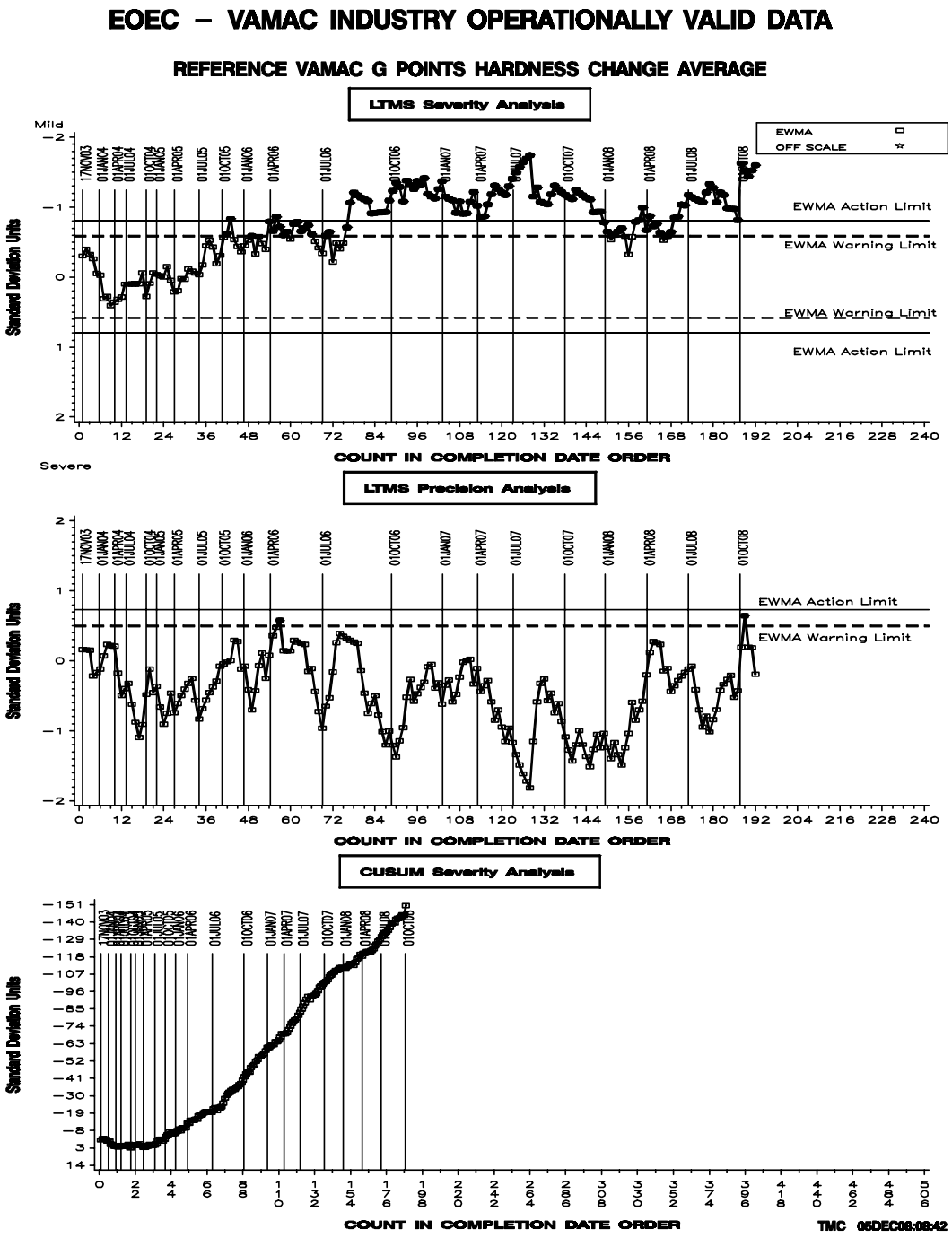
EOEC – VAMAC INDUSTRY OPERATIONALLY VALID DATA
REFERENCE VAMAC G POINTS HARDNESS CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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Standard Deviation Units
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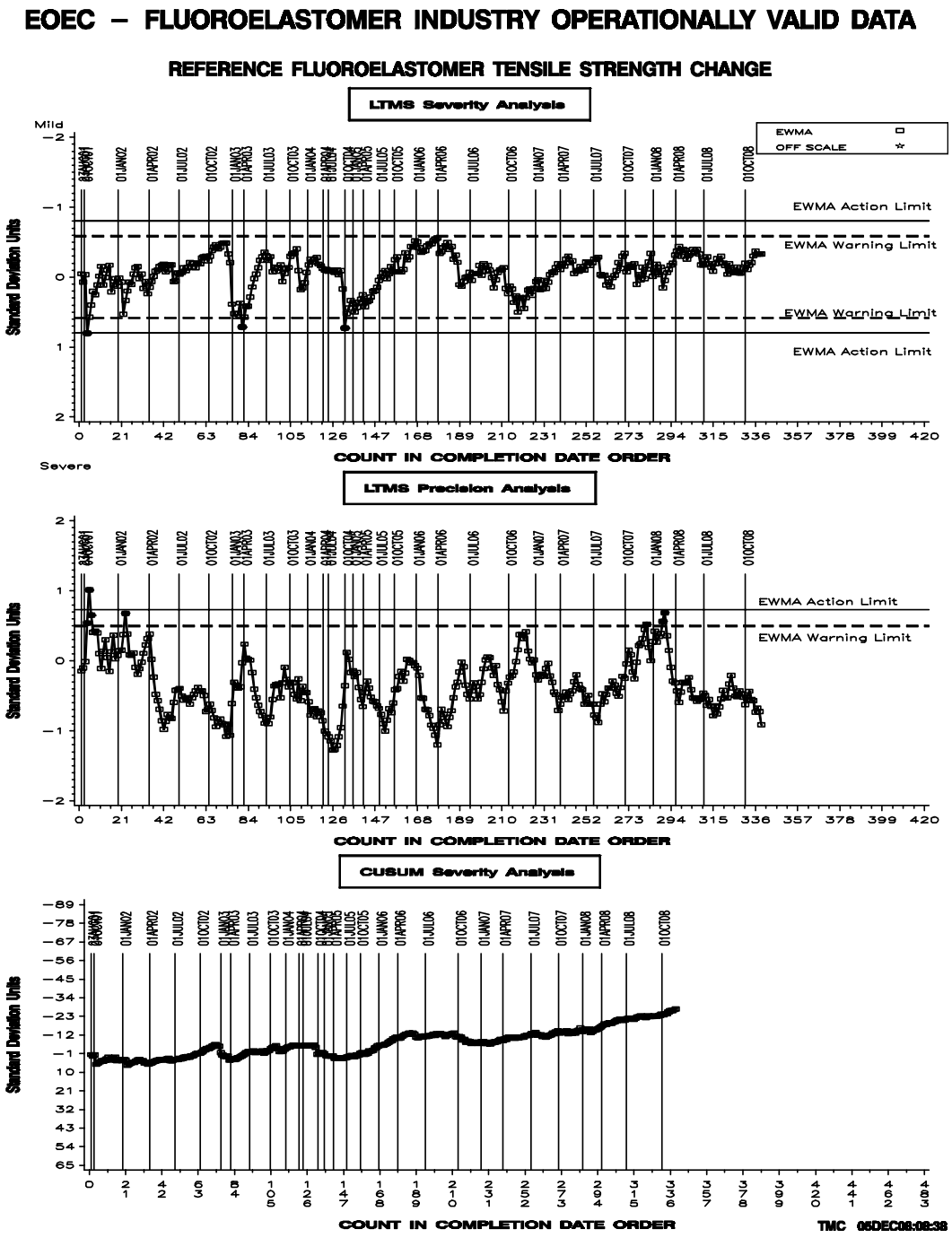
EOEC – FLUOROELASTOMER INDUSTRY OPERATIONALLY VALID DATA
REFERENCE FLUOROELASTOMER TENSILE STRENGTH CHANGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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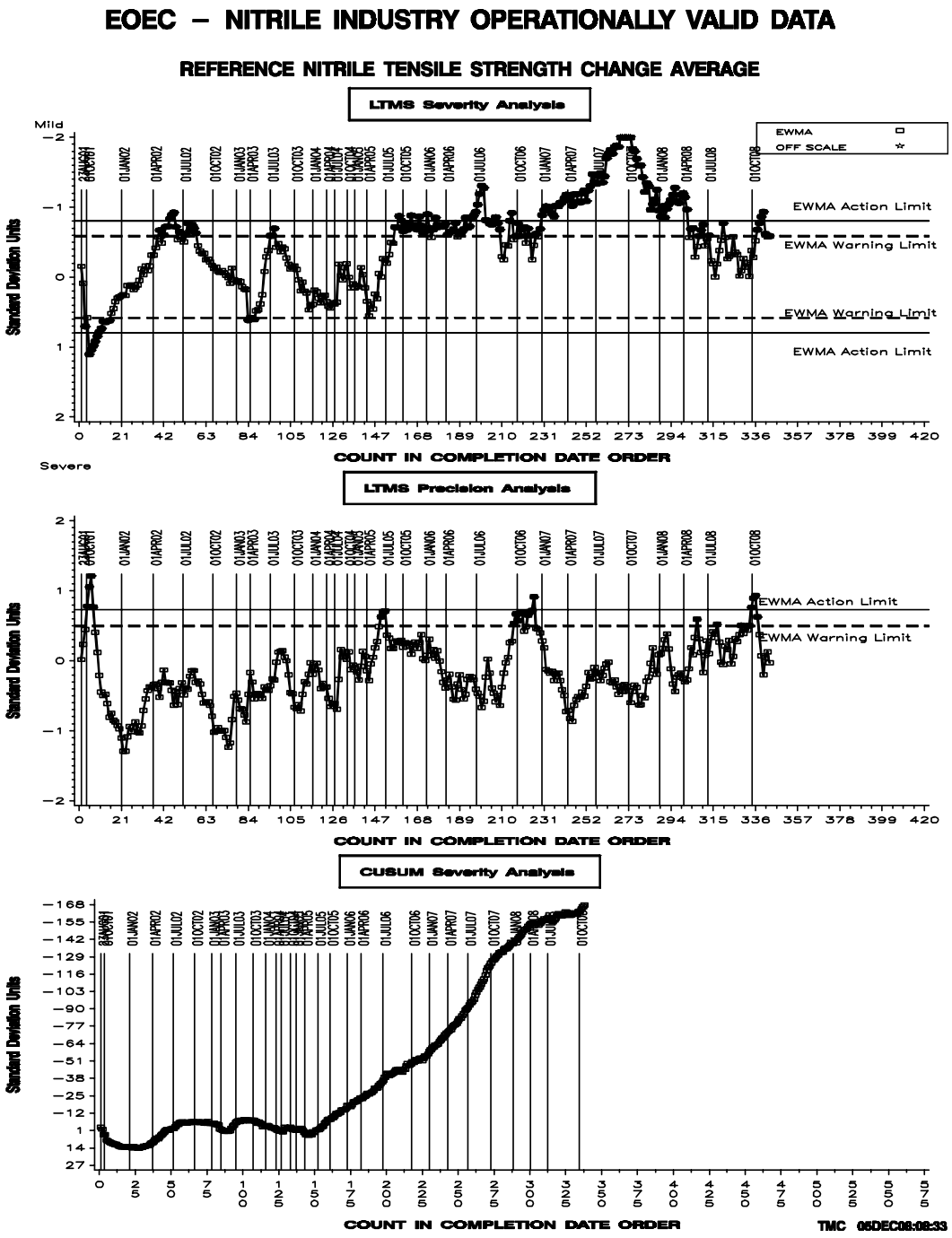
EOEC – NITRILE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE NITRILE TENSILE STRENGTH CHANGE AVERAGE
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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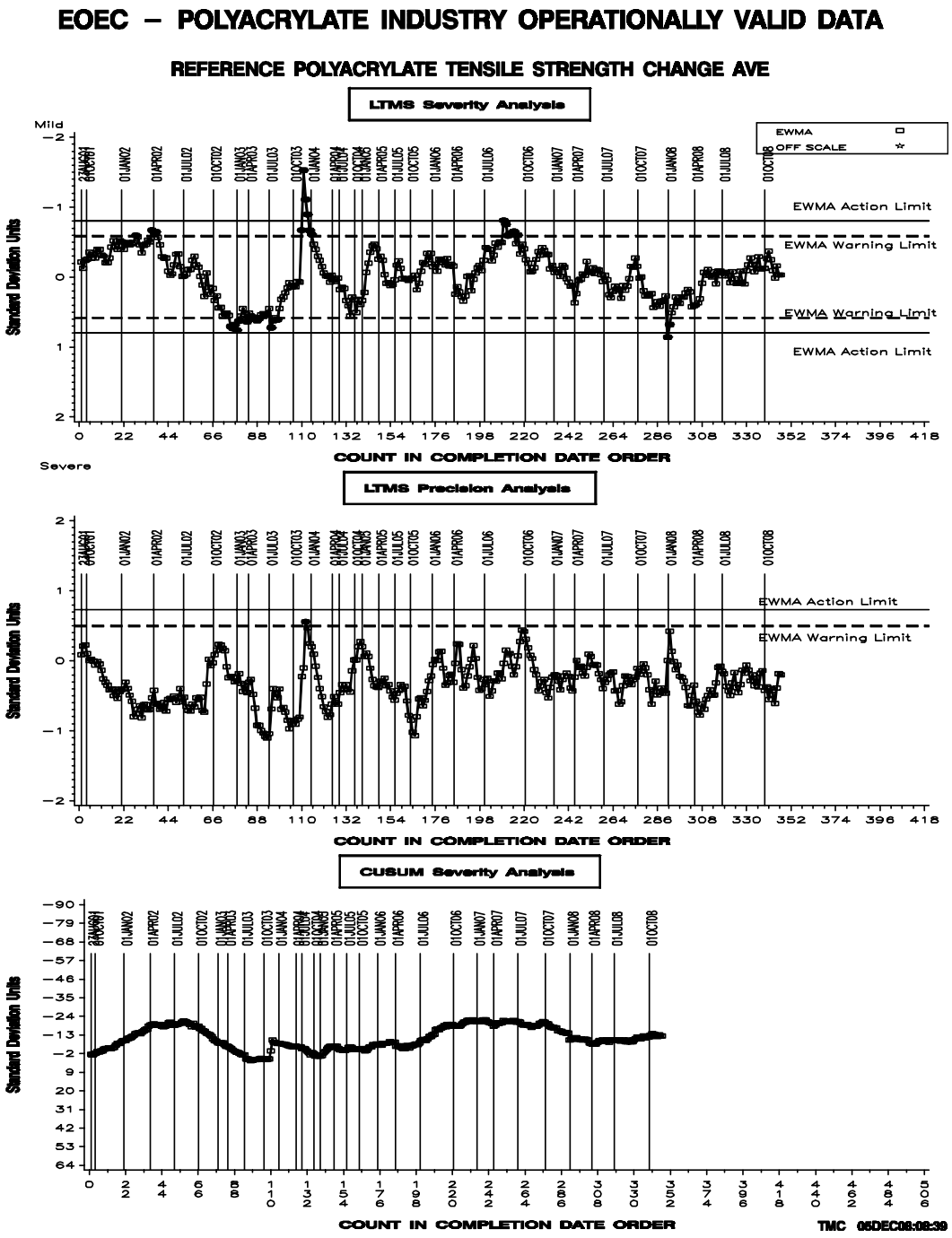
EOEC – POLYACRYLATE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE POLYACRYLATE TENSILE STRENGTH CHANGE AVE
LTMS Severity Analysis
Mild
Severe
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OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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COUNT IN COMPLETION DATE ORDER
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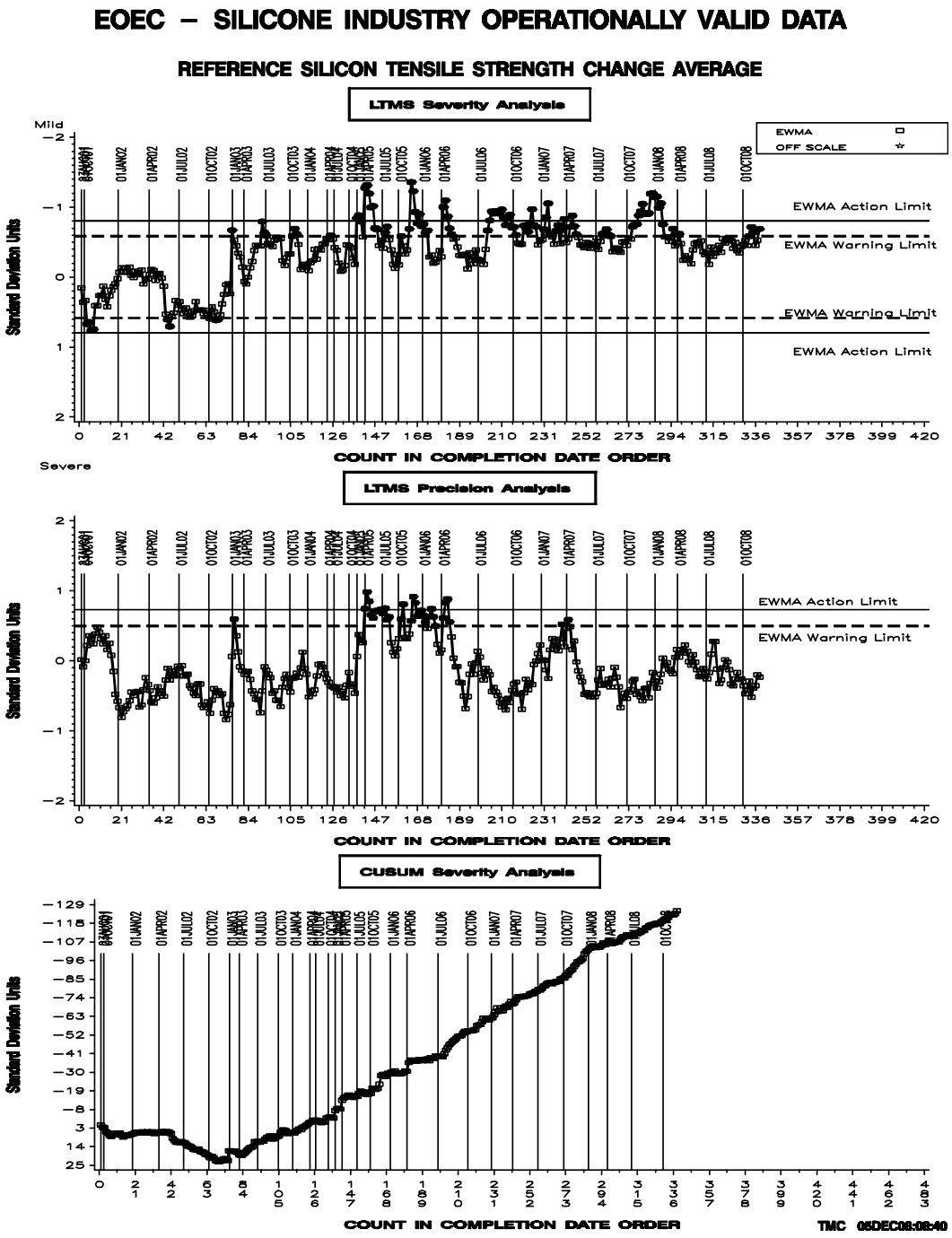
EOEC – SILICONE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE SILICON TENSILE STRENGTH CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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COUNT IN COMPLETION DATE ORDER
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Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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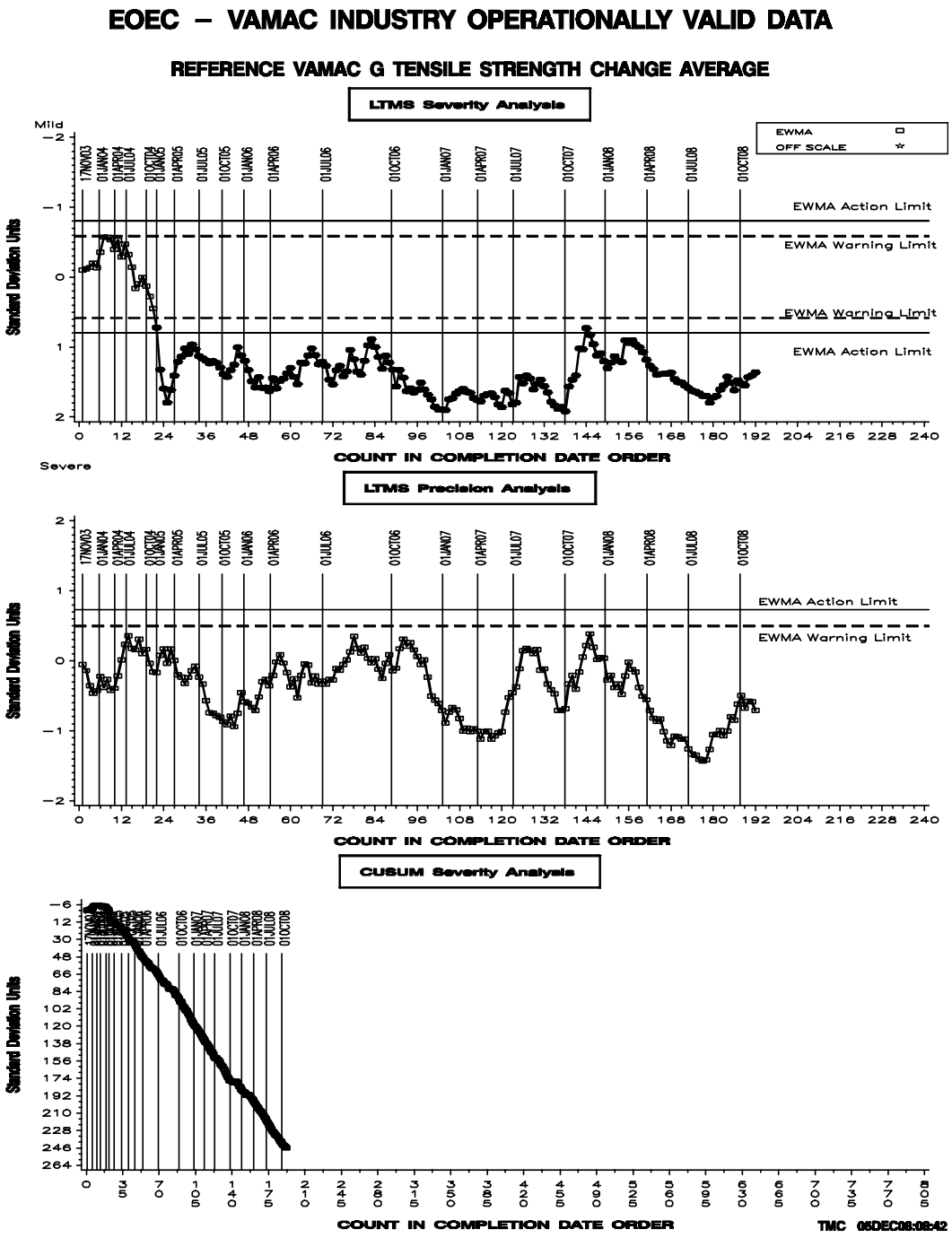
EOEC – VAMAC INDUSTRY OPERATIONALLY VALID DATA
REFERENCE VAMAC G TENSILE STRENGTH CHANGE AVERAGE
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
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EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
EWMA Warning Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
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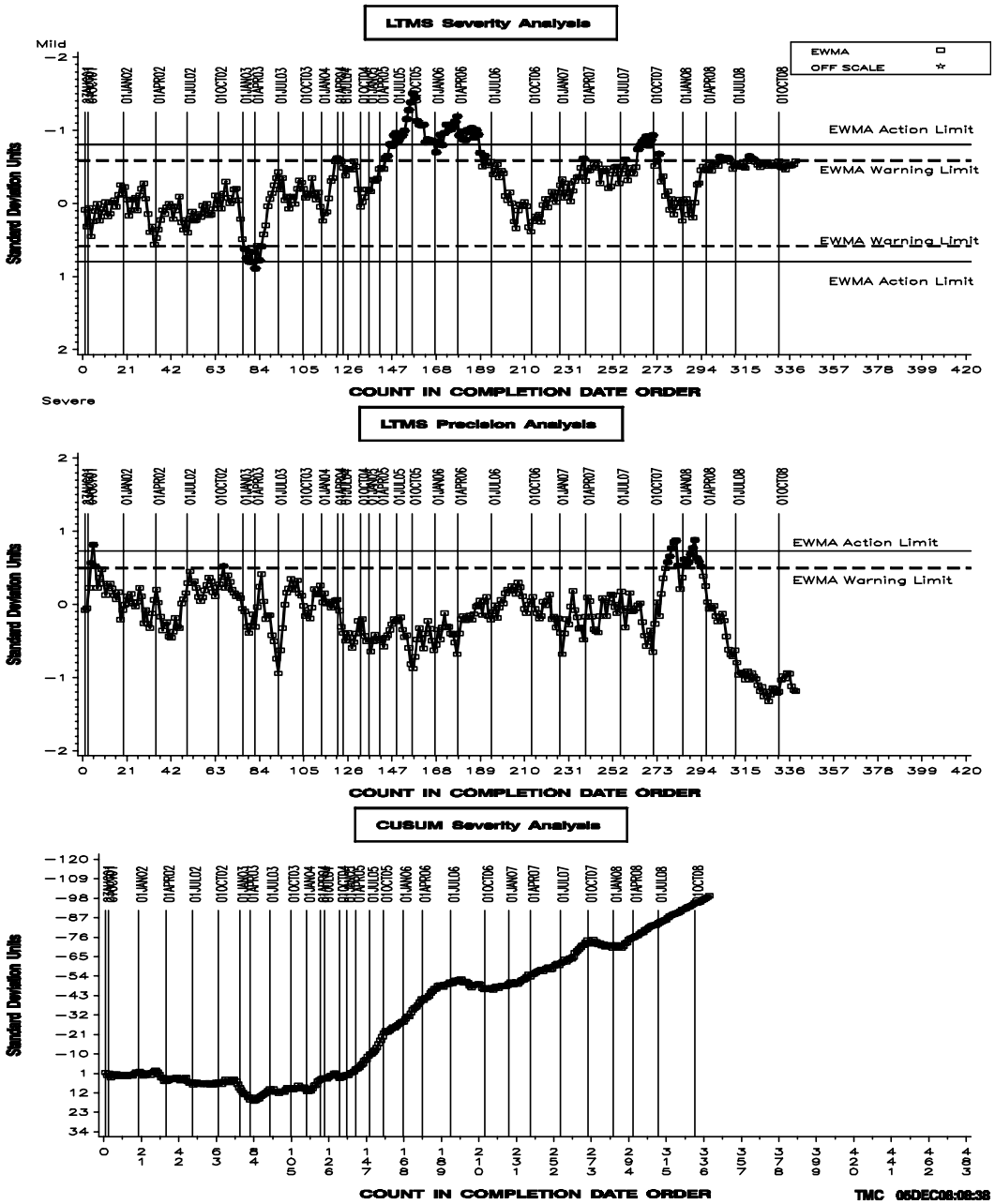
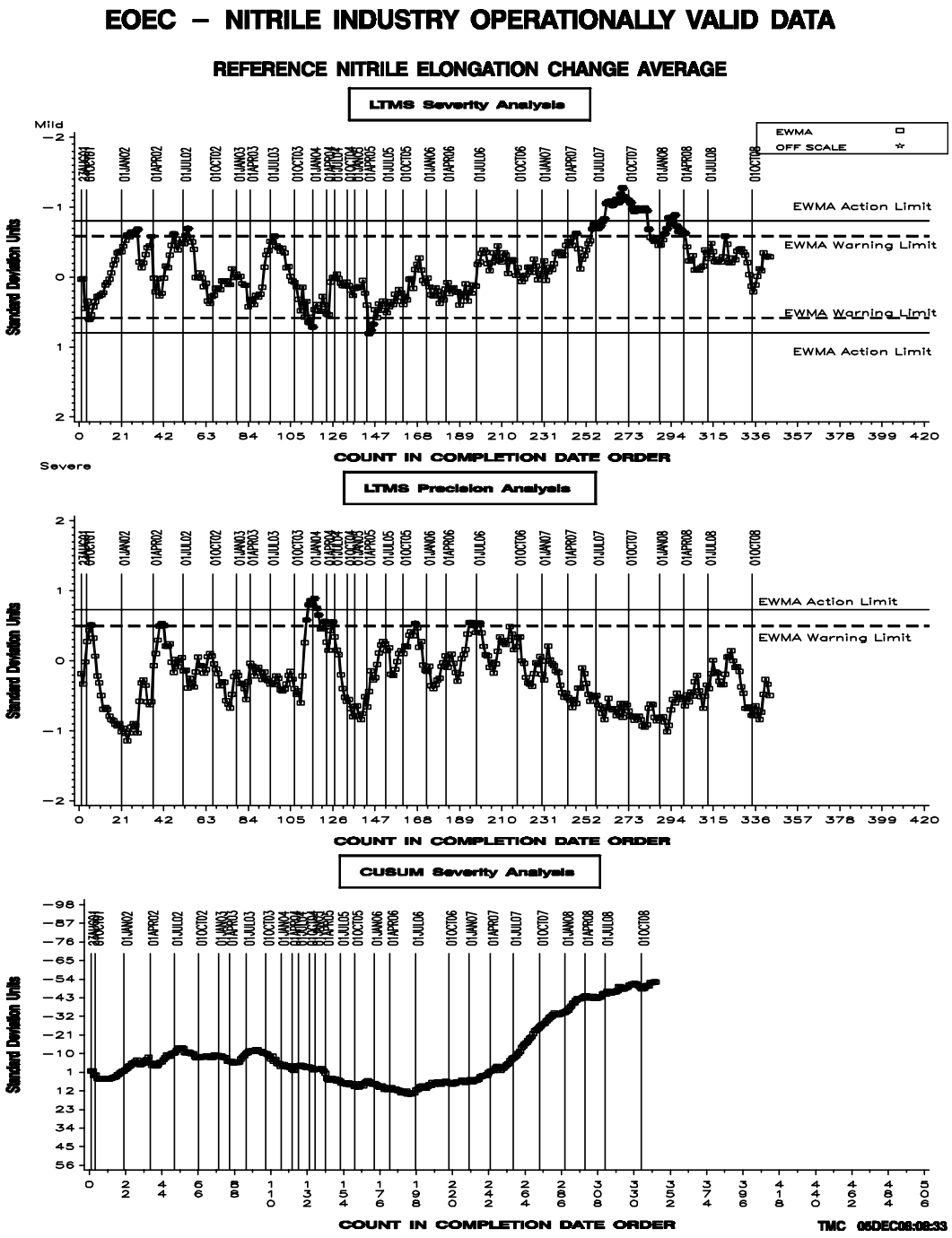
EOEC – FLUOROELASTOMER INDUSTRY OPERATIONALLY VALID DATA

REFERENCE FLUOROELASTOMER ELONGATION CHANGE AVERAG




EOEC – NITRILE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE NITRILE ELONGATION CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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CUSUM Severity Analysis
Standard Deviation Units
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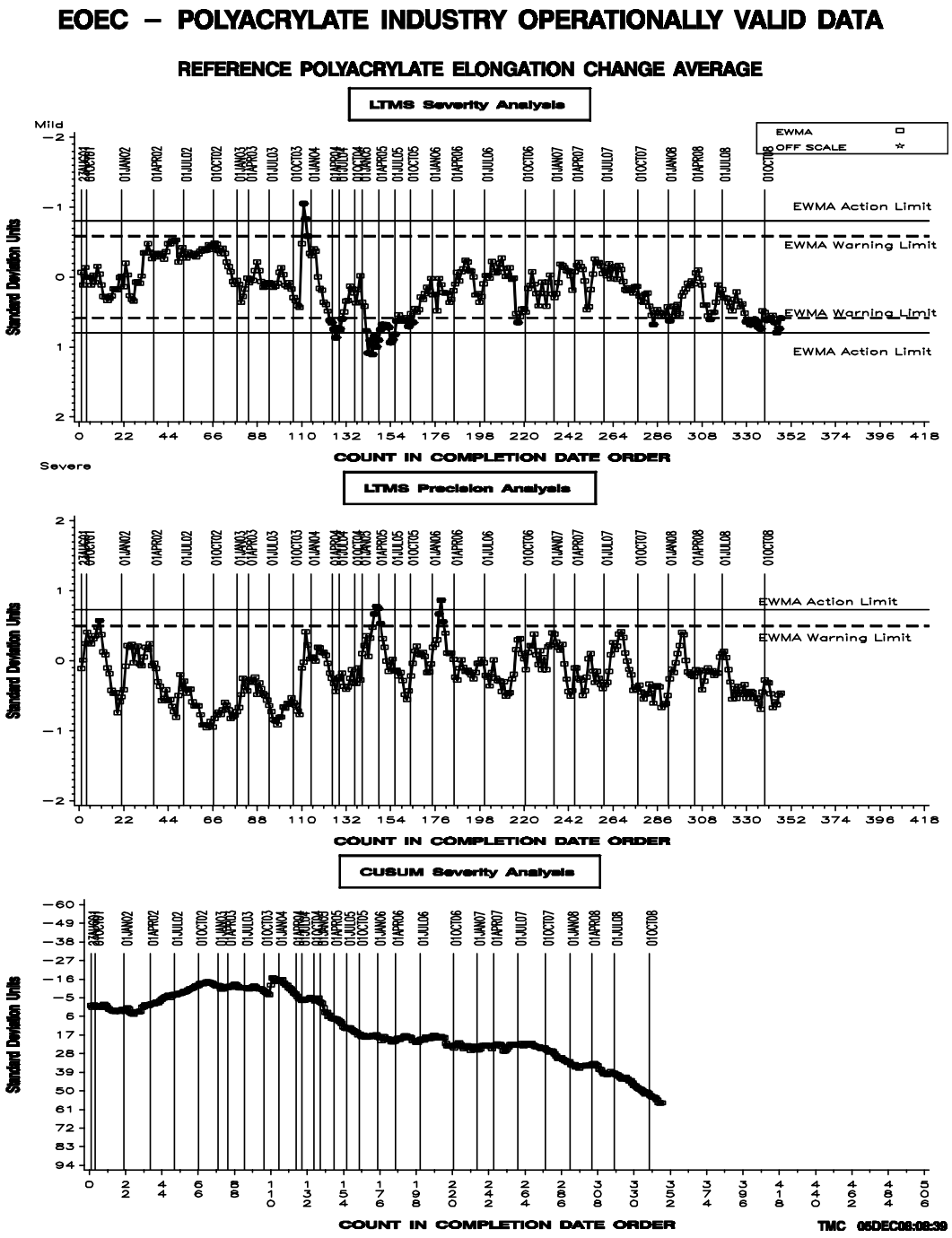
EOEC – POLYACRYLATE INDUSTRY OPERATIONALLY VALID DATA
REFERENCE POLYACRYLATE ELONGATION CHANGE AVERAGE
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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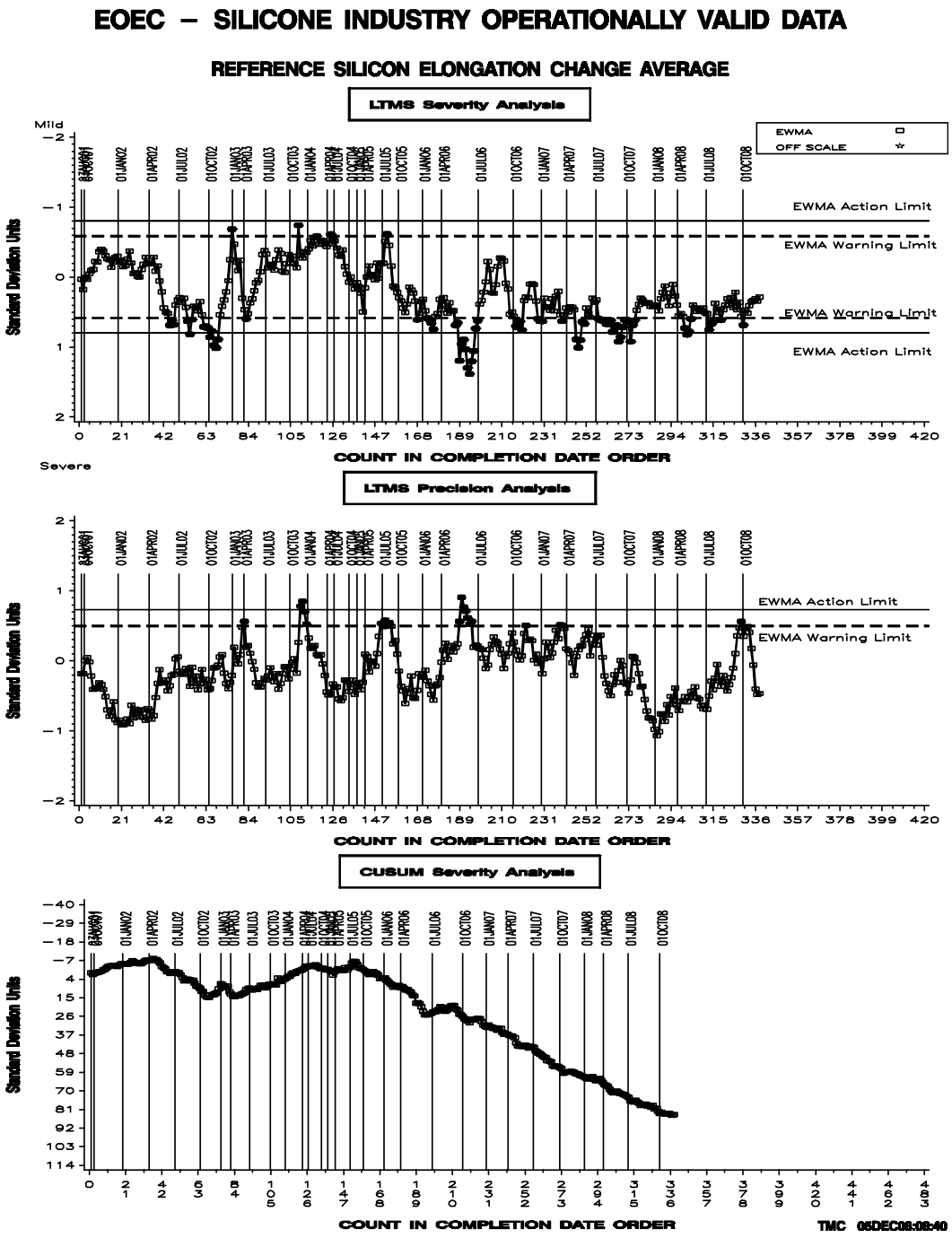
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REFERENCE SILICON ELONGATION CHANGE AVERAGE
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Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
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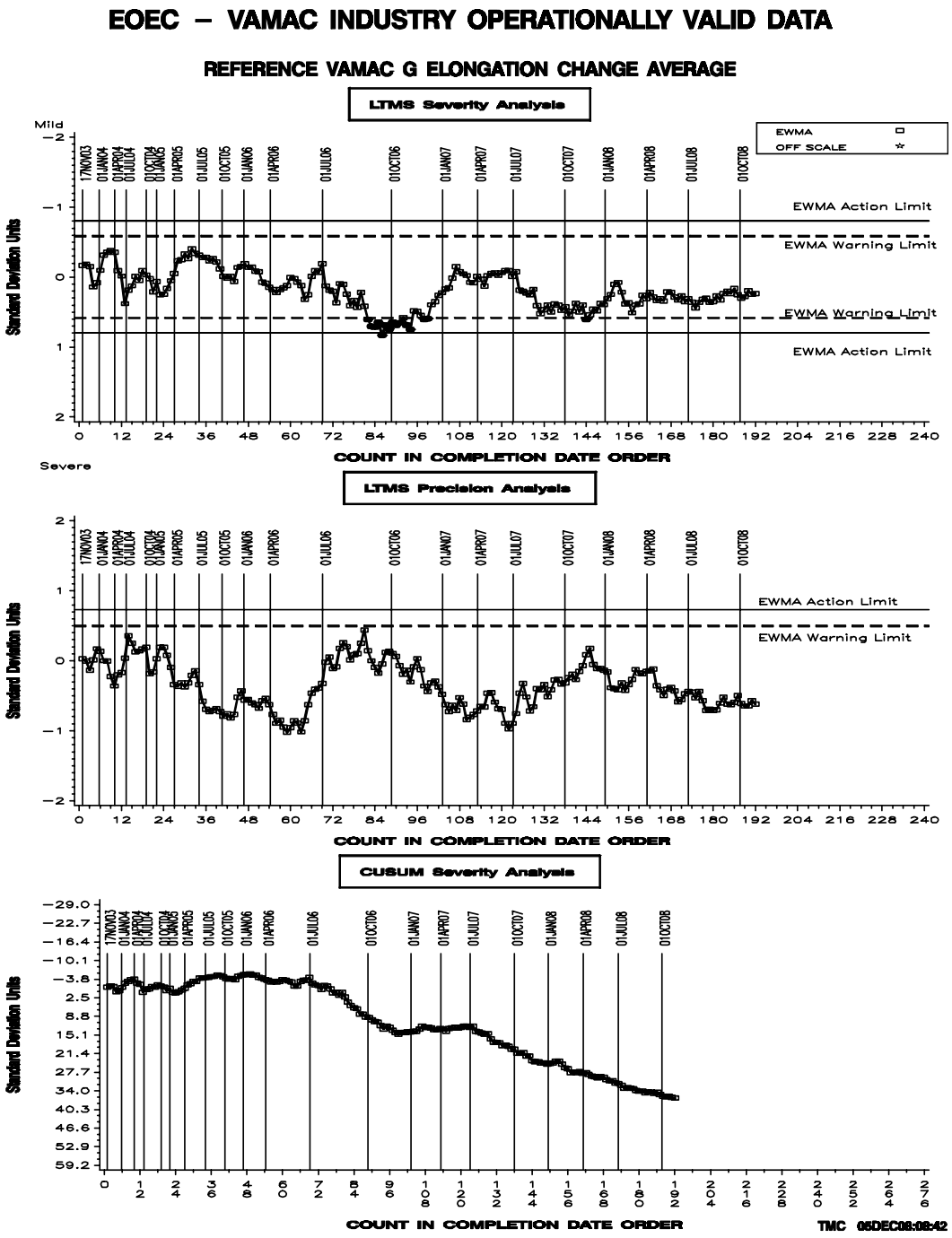
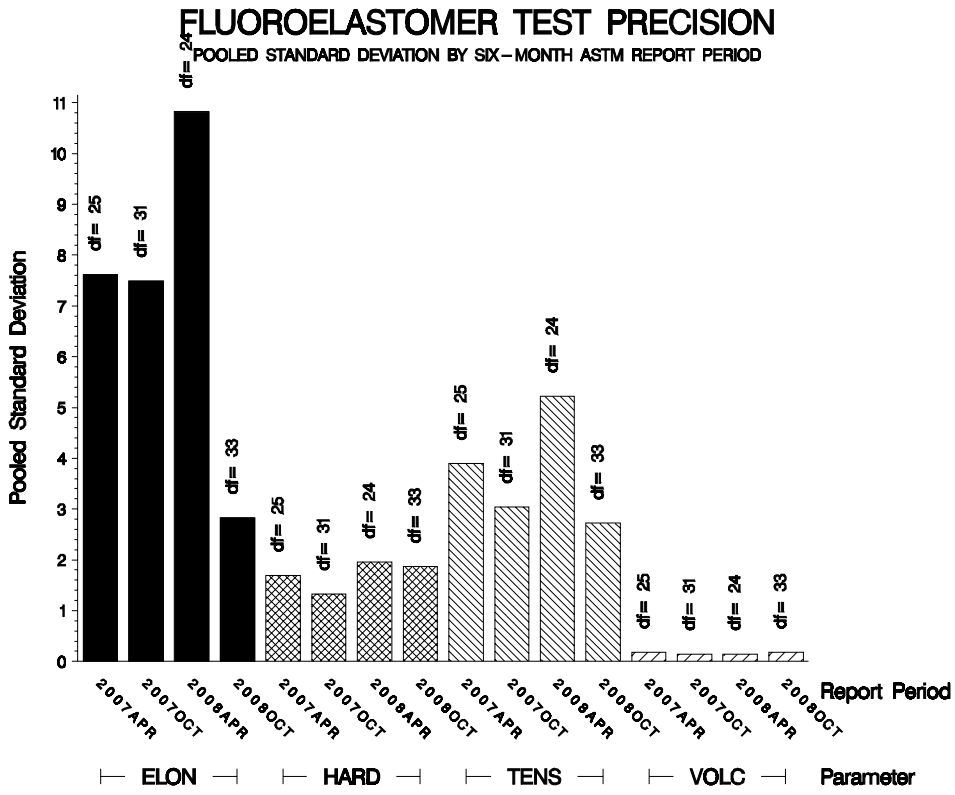
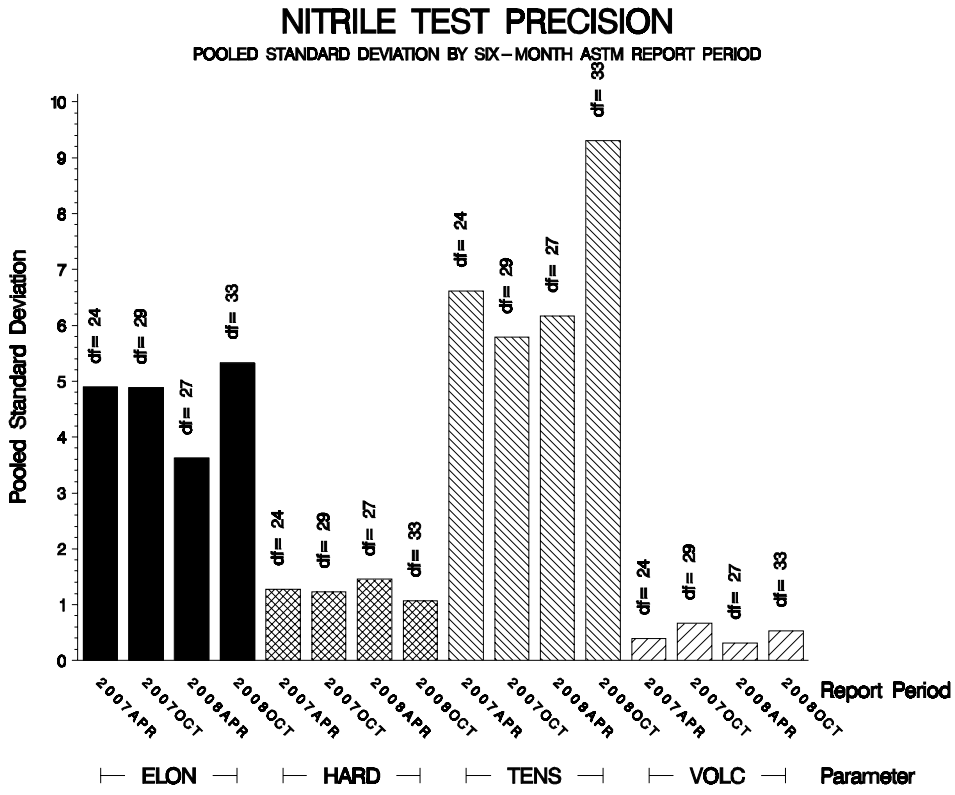

EOEC – VAMAC INDUSTRY OPERATIONALLY VALID DATA
REFERENCE VAMAC G ELONGATION CHANGE AVERAGE
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
EWMA Warning Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
TMC 05DEC08:09:42

POOLED S:

Shown below are bar charts comparing the pooled s values for the EOEC test parameters over the last four report periods. Where degrees of freedom equal zero, no bars are shown. This will occur where only one test was reported or where multiple tests are reported but all are on different oils. Periods showing no information had no tests reported.




NITRILE TEST PRECISION
POOLED STANDARD DEVIATION BY SIX-MONTH ASTM REPORT PERIOD
Pooled Standard Deviation
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df= 29
df= 27
df= 33
df= 24
df= 29
df= 27
df= 33
df= 24
df= 29
df= 27
df= 33
df= 24
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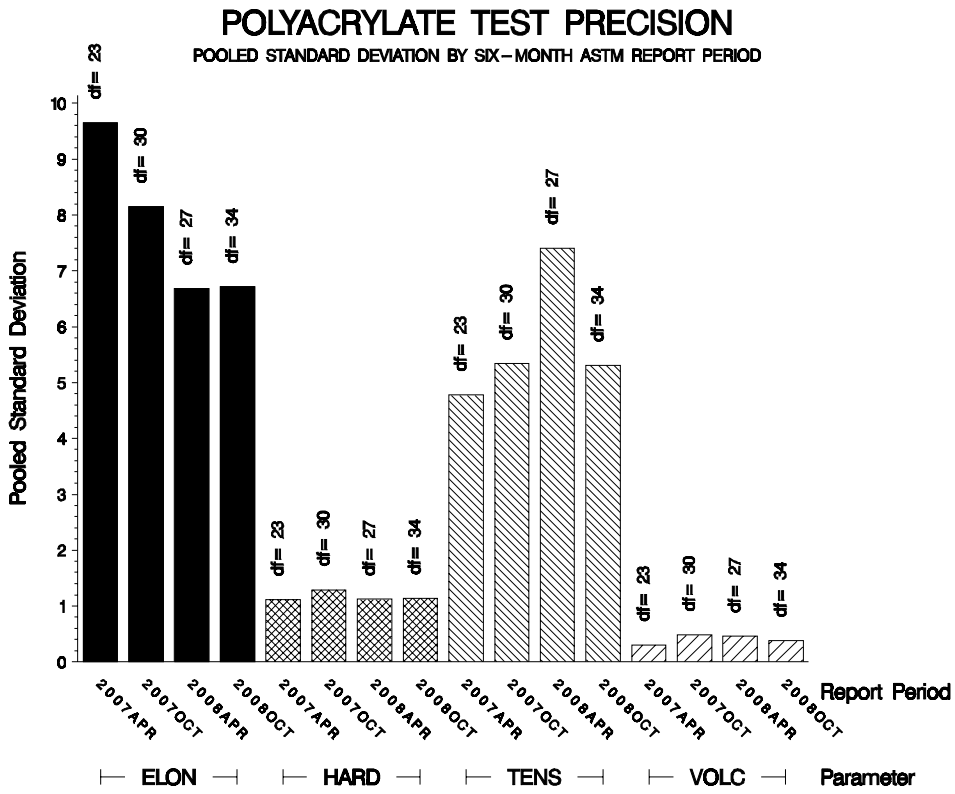
2007APR
2007OCT
2008APR
2008OCT
Report Period
ELON
HARD
TENS
VOLC
Parameter


POLYACRYLATE TEST PRECISION
POOLED STANDARD DEVIATION BY SIX-MONTH ASTM REPORT PERIOD
Pooled Standard Deviation
df= 23
df= 30
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df= 34
df= 23
df= 30
df= 27
df= 34
df= 23
df= 30
df= 27
df= 34
df= 23
df= 30
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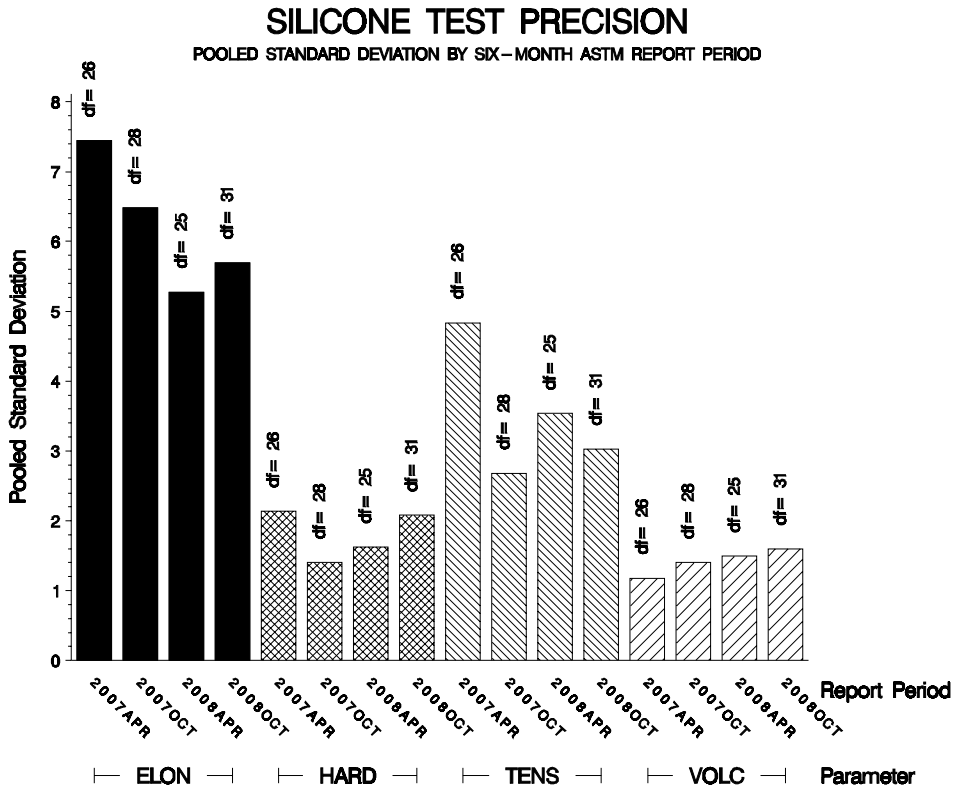
df= 34
2007APR
2007OCT
2008APR
2008OCT
Report Period
ELON
HARD
TENS
VOLC
Parameter


SILICONE TEST PRECISION
POOLED STANDARD DEVIATION BY SIX-MONTH ASTM REPORT PERIOD
Pooled Standard Deviation
0
1
2
3
4
5
6
7
8
df= 26
df= 28
df= 25
df= 31
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df= 28
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df= 31
df= 26
df= 28
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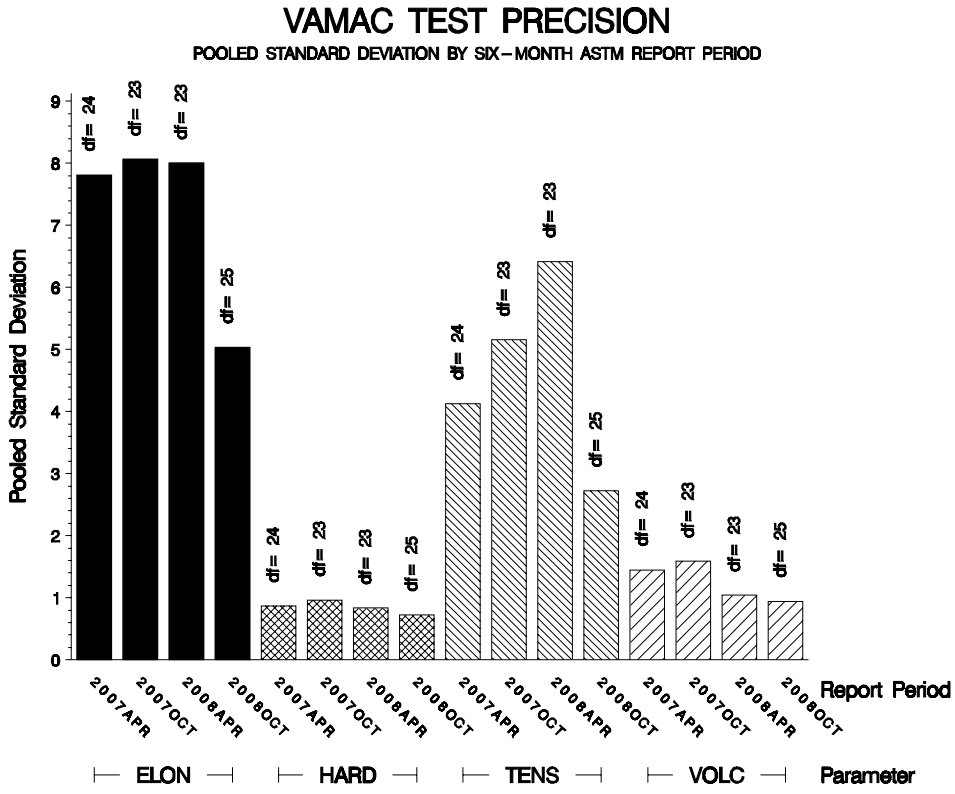
df= 31
2007APR
2007OCT
2008APR
2008OCT
Report Period
ELON
HARD
TENS
VOLC
Parameter


VAMAC TEST PRECISION
POOLED STANDARD DEVIATION BY SIX-MONTH ASTM REPORT PERIOD
Pooled Standard Deviation
0
1
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2008APR
2008OCT
Report Period
ELON
HARD
TENS
VOLC
Parameter

STATUS OF REFERENCE OIL SUPPLY:
At the end of this report period, the testing oil supply stood as outlined in the following table:

		@ TMC	
Oil	Cans @ Labs	Cans	Gallons
1006-1	55	13166	2609
Total	55	13166	2609

* Future reblends of oils marked with an asterisk are not obtainable by TMC.

Be aware that this table presumes that all of each of these oils is dedicated to the EOEC test area. This is not the case, as oil 1006-1 is also used in several other test areas.

INFORMATION LETTERS:
No information letters were issued during this report period.

SUMMARY

Summary of Severity as Measured by LTMS Control Charting

Elastomer	VOLC	HARD	TENS	ELON
Fluoroelastomer	Within limits	Within limits	Within limits	**Mild**
Nitrile	**Severe**	**Severe**	**Mild**	Within limits
Polyacrylate	**Severe**	Within limits	Within limits	**Severe**
Silicone	**Severe**	Within limits	**Mild**	Within limits
VAMAC	**Severe**	**Mild**	**Severe**	Within limits

Summary of Precision as Measured by LTMS Control Charting

Elastomer	VOLC	HARD	TENS	ELON
Fluoroelastomer	**Warning**	Within limits	Within limits	**Warning**
Nitrile	Within limits	Within limits	Within limits	Within limits
Polyacrylate	Within limits	Within limits	Within limits	Within limits
Silicone	Within limits	Within limits	Within limits	Within limits
VAMAC	Within limits	Within limits	Within limits	Within limits

MTK/mtk/astm1008.doc/mem08-076.mtk.doc
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F. M. Farber
M. T. Kasimirsky
EOEC Surveillance Panel
ftp://ftp.astmtmc.cmu.edu/docs/bench/eoec/semiannualreports/eoec-10-2008.pdf

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