Test Monitoring Center
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ASTM D02.B6 Semi-Annual Report Two-Stroke-Cycle Reference Oil Testing

April 2012

Two-Stroke-Cycle Oil Testing Executive Summary

- TC1
  - Hardware shortage
    - Increased Calibration periods from 6 months to one year

Calibrated Labs and Stands*

Test	Labs	Stands
TC1	1	1
TC2	1	1
TC3	0	0

*As of 3/31/2012

Test Activity Levels

- October 1, 2011 – March 31, 2012

TC Tests

Test Status	Validity Code	TC1	TC2	TC3
Acceptable Calibration Test	AC	1	2	0
Operationally Invalid	LC	0	1	0
Run for Candidate Evaluation	AG	6	3	N/A
Total		**7**	**6**	**0**

Lost Tests*

*Invalid and aborted tests

Test Status	Cause	TC1	TC2	TC3
Invalid	Length of shutdown > 1 hour	0	1	0
Total		**0**	**1**	**0**

Test Severity

- October 1, 2011 – March 31, 2012

Test Severity

- TC Sequence 1
  - APV Mild.
  - SRS Severe.

- Charts shown in Appendix 1.a.

- TC Sequence 2
  - Failing oil (604) on or near target.
  - Passing oil (602) slightly severe

- Charts shown in Appendix 1.b.

Test Severity

- TC Sequence 3
  - No results reported, plots from 2007.
    - Charts shown in Appendix 1.c.

Information Letters

- October 1, 2011 – March 31, 2012

Information Letters*

Test	Date	IL	Topic
			No information letters issued this period

*Available from TMC Website

Reference Oil Inventory

- Actions, Re-blends, Inventories and Estimated Life

Reference Oil Re-blends

- No oils with less than 2 year supply
  - 606-1 and 605-1 estimated life 2 – 3 years.
    - Continue to monitor usage.
    - Pursue potential re-blend in 6 months.

Reference Oil Inventory Estimated Life

Oil	Tests	Original Blend Amount	Quantity Shipped in last 6 months	TMC Inventory	Lab Inventory	Estimated Life
600-1	TC2R, TC2C	55	0	46	1.25	5+years
601-1	TC3	110	0.5	45	0.5	5+ years
602-1	TC2R	7	0.5	3.222	0.5	3+ years
604-1	TC2R	55	0.5	39.5	0.5	5+ years
605-1	TC3R	51	0	37	8	2.5 years
606-1	TC1C, TC1R	60	0	39	3	2.5 years

Additonal Information

- October 1, 2011 – March 31, 2012

Additional Information

- Available on TMC Website:
  - Reference Test Data Bases
  - Surveillance Panel Meeting Minutes

- www.astmtmc.cmu.edu

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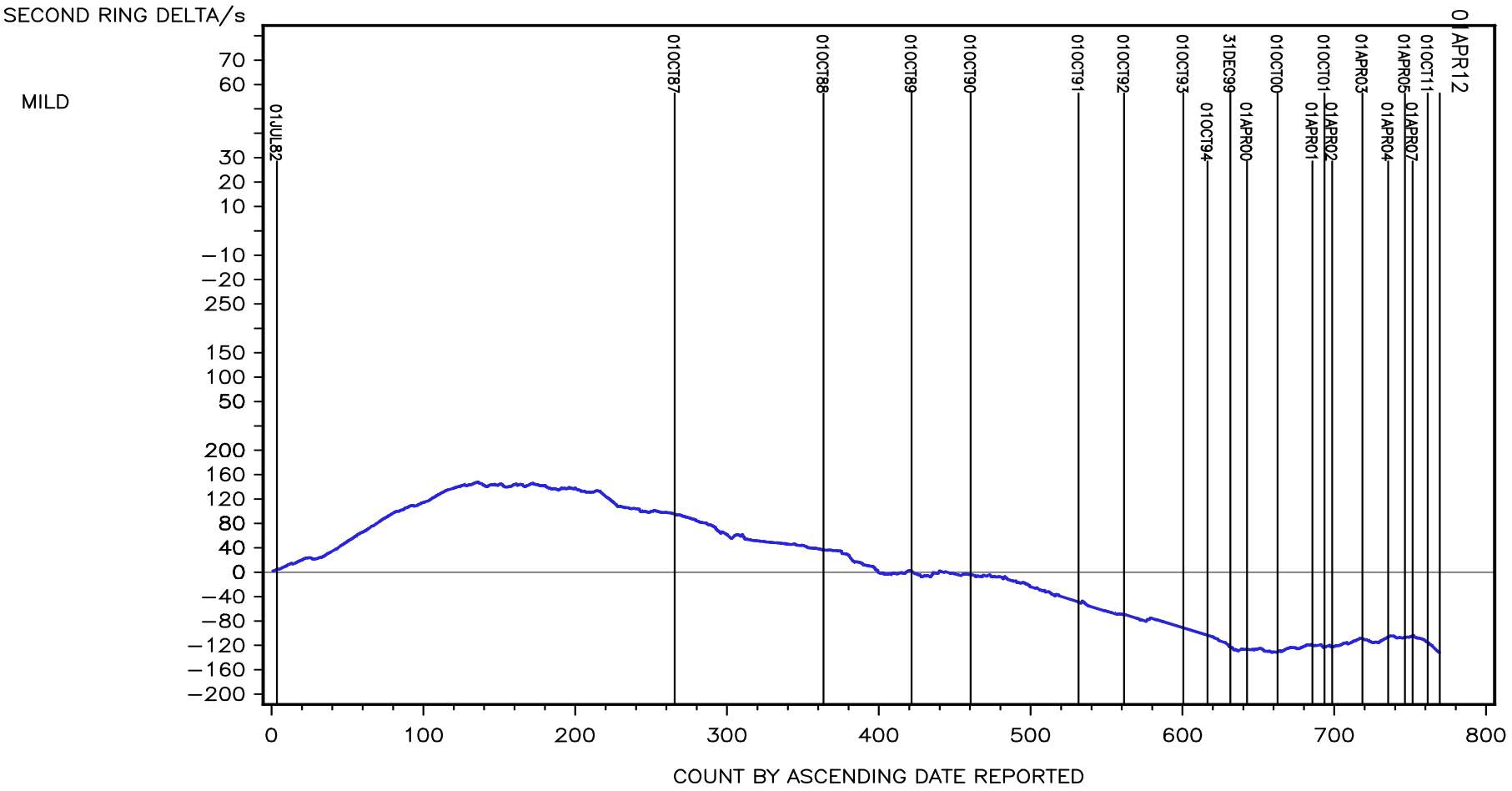
Appendix 1
Two-Stroke-Cycle Reference Oil Testing Control Charts

April 2012

Appendix 1.a
TC Sequence 1 Charts

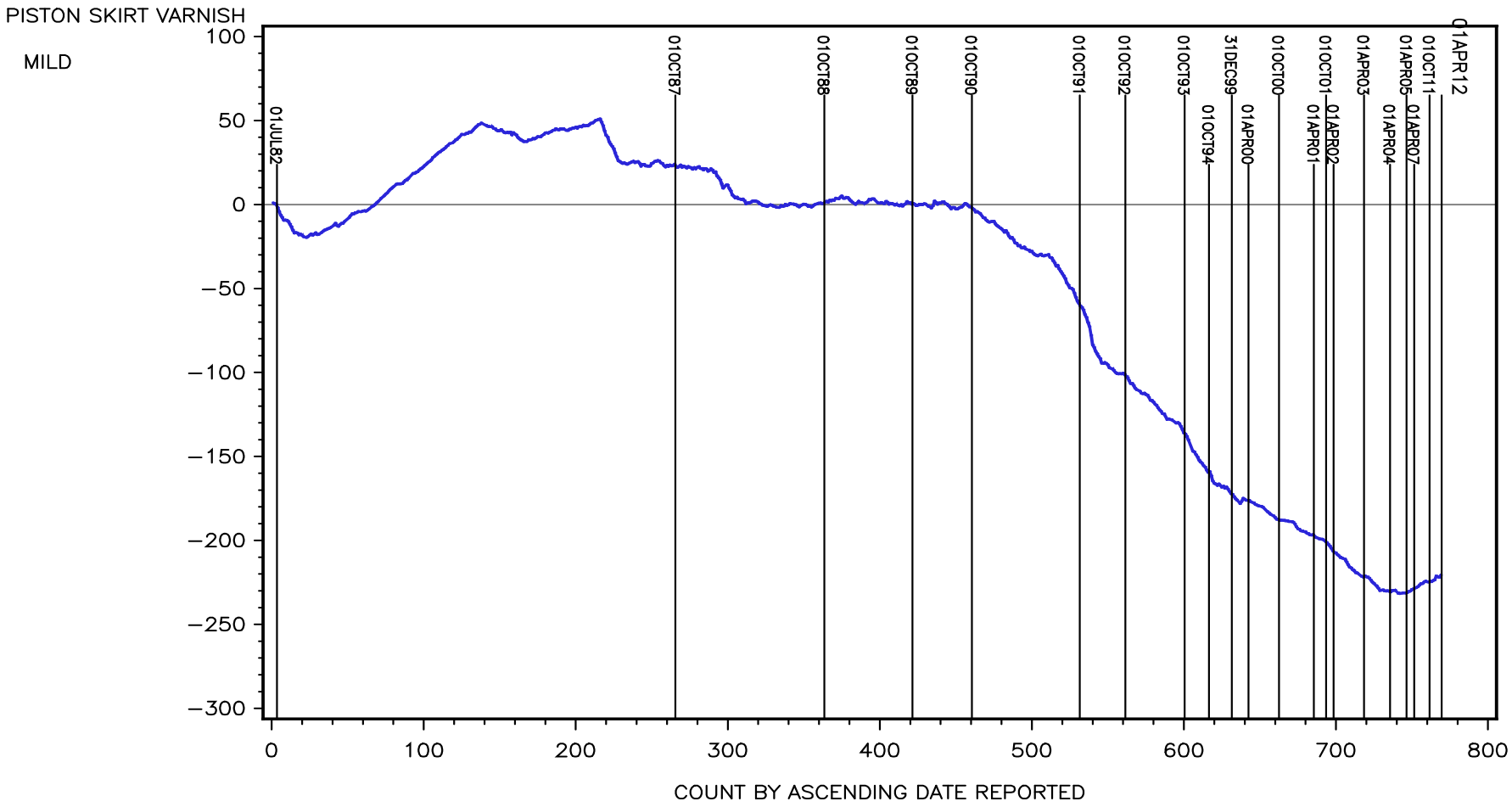
- CuSum

TWO–STROKE–CYCLE
RING STICKING TEST (D 4857)
CUSUM PLOT OF SECOND RING STICKING
Using Updated Targets after 4/1/00



Test Targets Based on Data Reported Prior to 10/16/90 for Refence Oil 600
Tests Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

TWO–STROKE–CYCLE
RING STICKING TEST (D 4857)
CUSUM PLOT OF PISTON SKIRT VARNISH
Using Updated Targets After 4/1/00



TEST TARGETS BASED ON DATA REPORTED PRIOR TO 10/16/90 for Reference Oil 600
Tests Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

Return

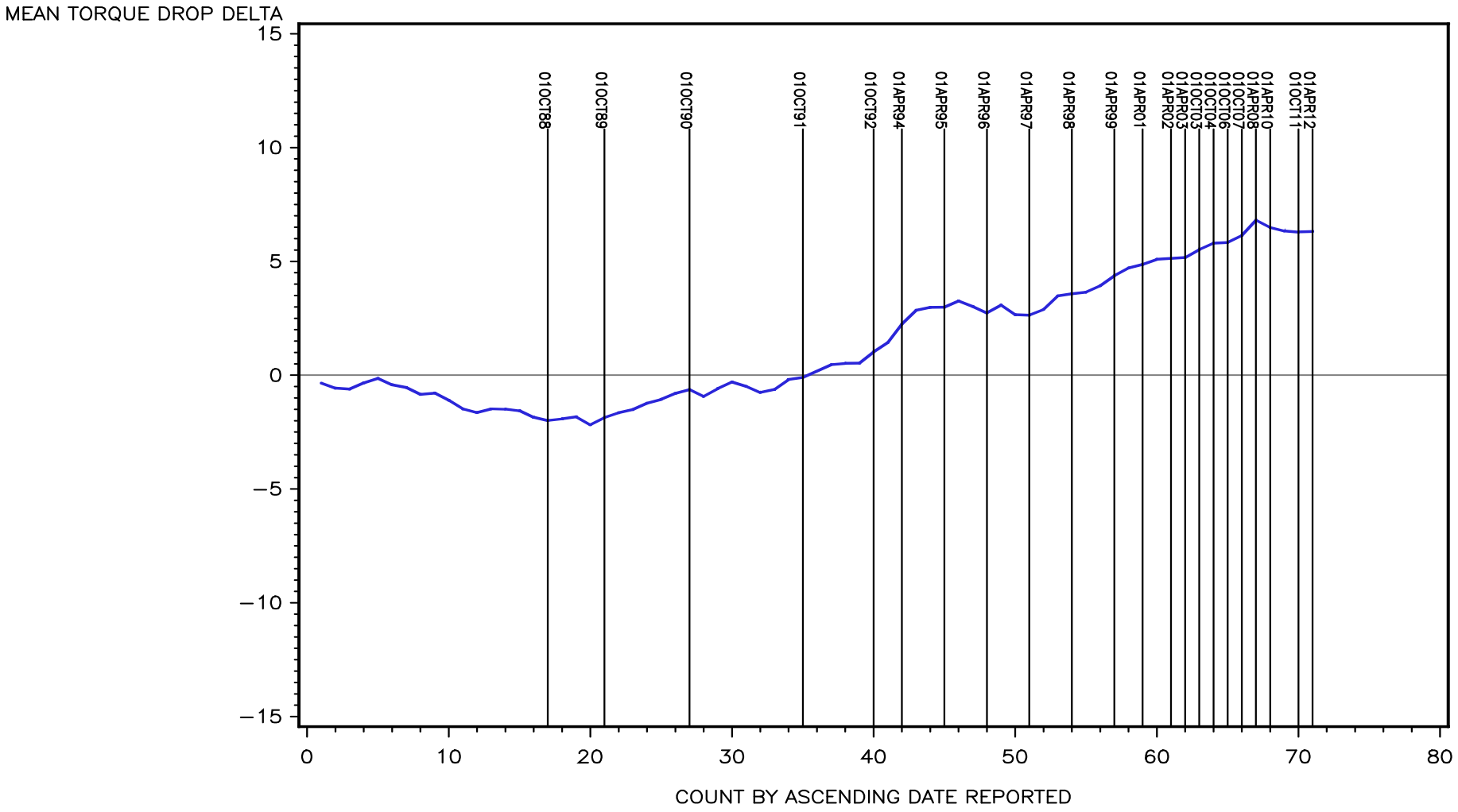
Appendix 1.b
TC Sequence 2 Charts

- CuSum

TWO–STROKE–CYCLE

STANDARD TEST METHOD FOR DETERMINATION OF LUBRICITY OF TWO STROKE CYCLE GASOLINE ENGINE LUBRICANTS (D 4863)

MEAN TORQUE DROP OF OIL VI–EE, (TMC 604) RELATIVE TO VID (TMC 600)

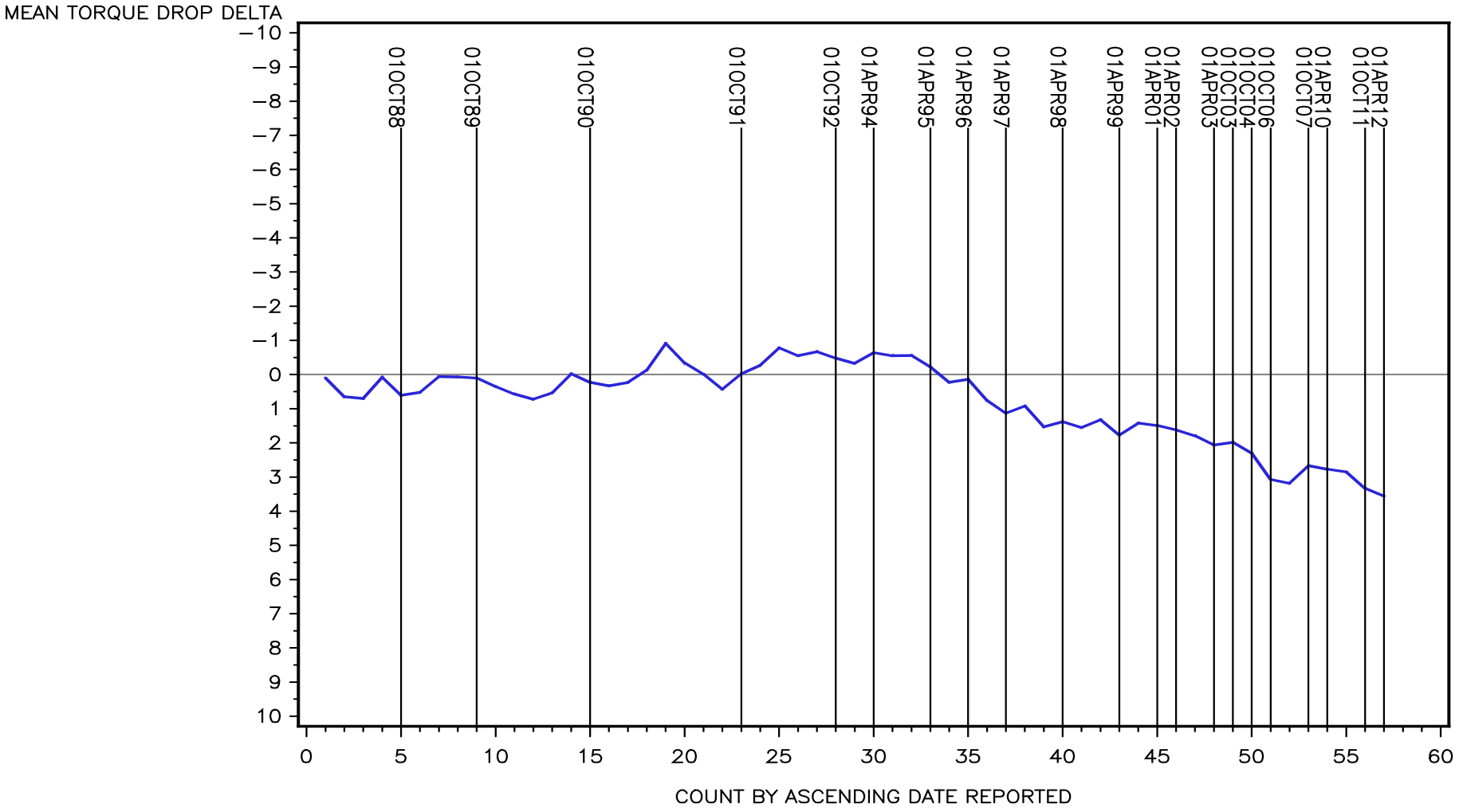


TEST TARGETS BASED ON ALL TESTS REPORTED PRIOR TO 10/31/91

TWO–STROKE–CYCLE

STANDARD TEST METHOD FOR DETERMINATION OF LUBRICITY OF TWO STROKE CYCLE GASOLINE ENGINE LUBRICANTS (D 4863)

MEAN TORQUE DROP OF OIL VI–G, (TMC 602) RELATIVE TO VI–D (TMC 600)



TEST TARGETS CALCULATED USING ALL DATA PRIOR TO 10/31/91

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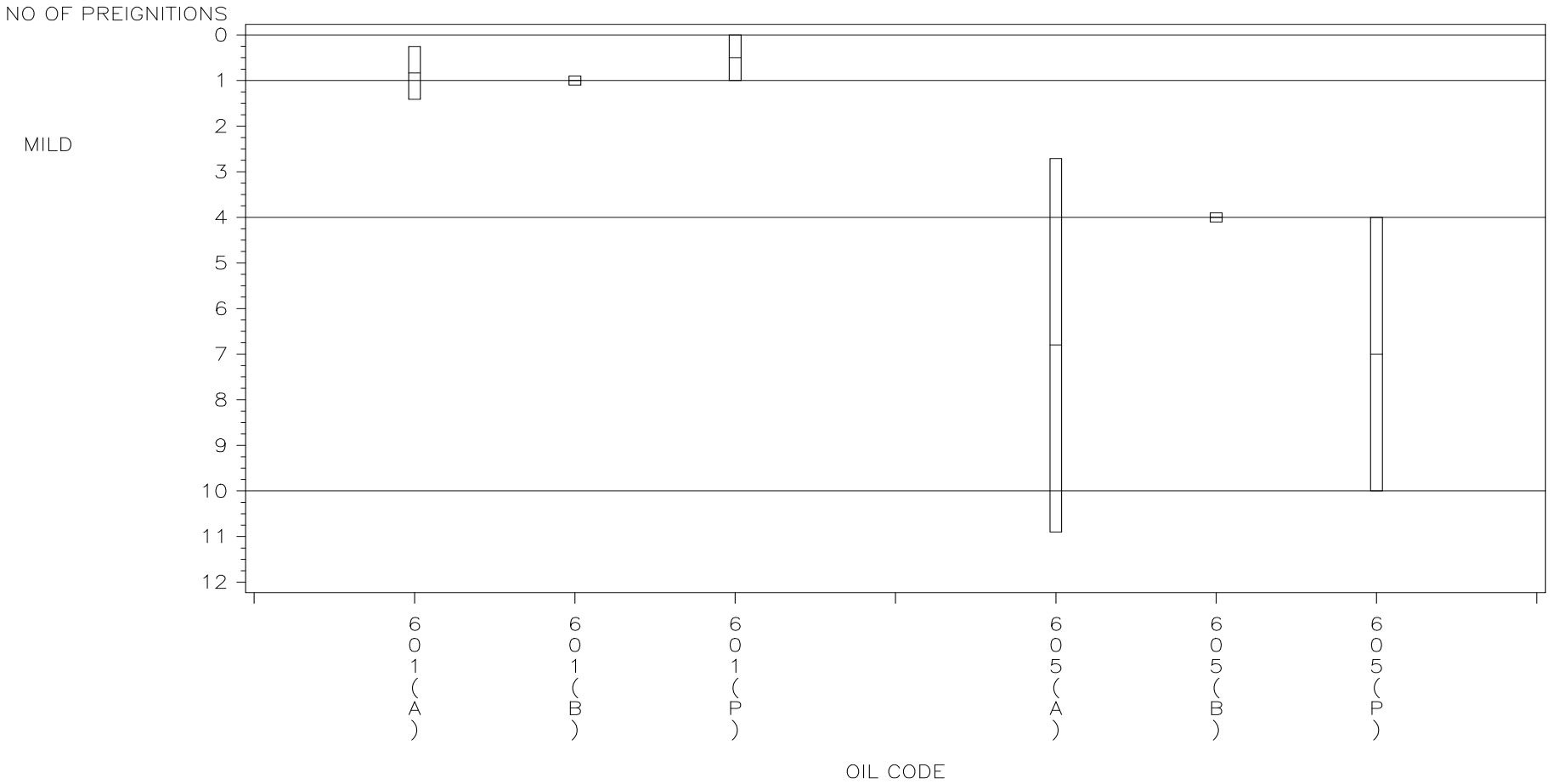
Appendix 1.c
TC Sequence 3 Charts

- Severity*

* Plots based on most recent date, reported in 2007

TWO STROKE CYCLE PREIGNITION TEST
MEAN AND +/− 1 STANDARD DEVIATION BAND PLOT OF ACTUAL PREIGNITIONS
FOR ALL HISTORICAL DATA AND ASTM PERIOD ENDING 9/30/07



(A) AFTER OIL CODE REPRESENTS ALL HISTORICAL DATA
(B) AFTER OIL CODE REPRESENTS CURRENT ASTM REFERENCE PERIOD
(P) AFTER OIL CODE REPRESENTS LIMITS FOR STAND CALIBRATION GIVEN
IN STANDARD TEST PROCEDURE D−4858
TMC OIL CODE 605 = VI−NA, TMC OIL CODE 601 = VI−E

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