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

October 2012

Two-Stroke-Cycle Oil Testing Executive Summary

- ▶ TC3
 - No activity

Calibrated Labs and Stands*

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

*As of 9/30/2012

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Test Activity Levels

»» April 1, 2012 –

September 30, 2012

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Sequence Tests

Test Status	Validity Code	TC1	TC2	TC3
Acceptable for Calibration	AC	0	0	0
Run for Candidate Evaluation	AG	1	2	N/A
Total		1	2	0

Lost Tests*

Test Status	Cause	TC1	TC2	TC3
No lost tests this period				

*Invalid and aborted tests

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Test Severity

»» April 1, 2012 –
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Test Severity

▶ TC Sequence 1

- APV Mild.
- SRS Severe.

- Charts shown in [Appendix 1.a.](#)

▶ TC Sequence 2

- No results this period.
- Plots from previous period.

- Charts shown in [Appendix 1.b.](#)

Test Severity

- ▶ TC Sequence 3

- No results reported, plots are from 2007.

- Charts shown in [Appendix 1.c.](#)

Information Letters

»» April 1, 2012 –
September 30, 2012

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Information Letters*

Test	Date	IL	Topic
			No information letters issued this period

*Available from TMC Website

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Reference Oil Inventory

»» Actions, Re-blends, Inventories
and Estimated Life

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Reference Oil Re-blends

- Oils with ~ 2 years or less supply
 - No oils with less than 2 year supply
 - 606-1 and 605-1 estimated life 2 - 3 years.
 - Continue to monitor usage.
 - No TC3 Tests in past 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

Additional Information

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Additional Information

- ▶ Available on TMC Website:
 - Live Reference Test Data Bases
 - Surveillance Panel Meeting Minutes
 - Test Area Alarm Logs
 - Complete Test Area Timelines
 - LTMS Manual

- ▶ www.astmtmc.cmu.edu



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

October 2012

Appendix 1.a

TC Sequence 1 Charts

» CuSum

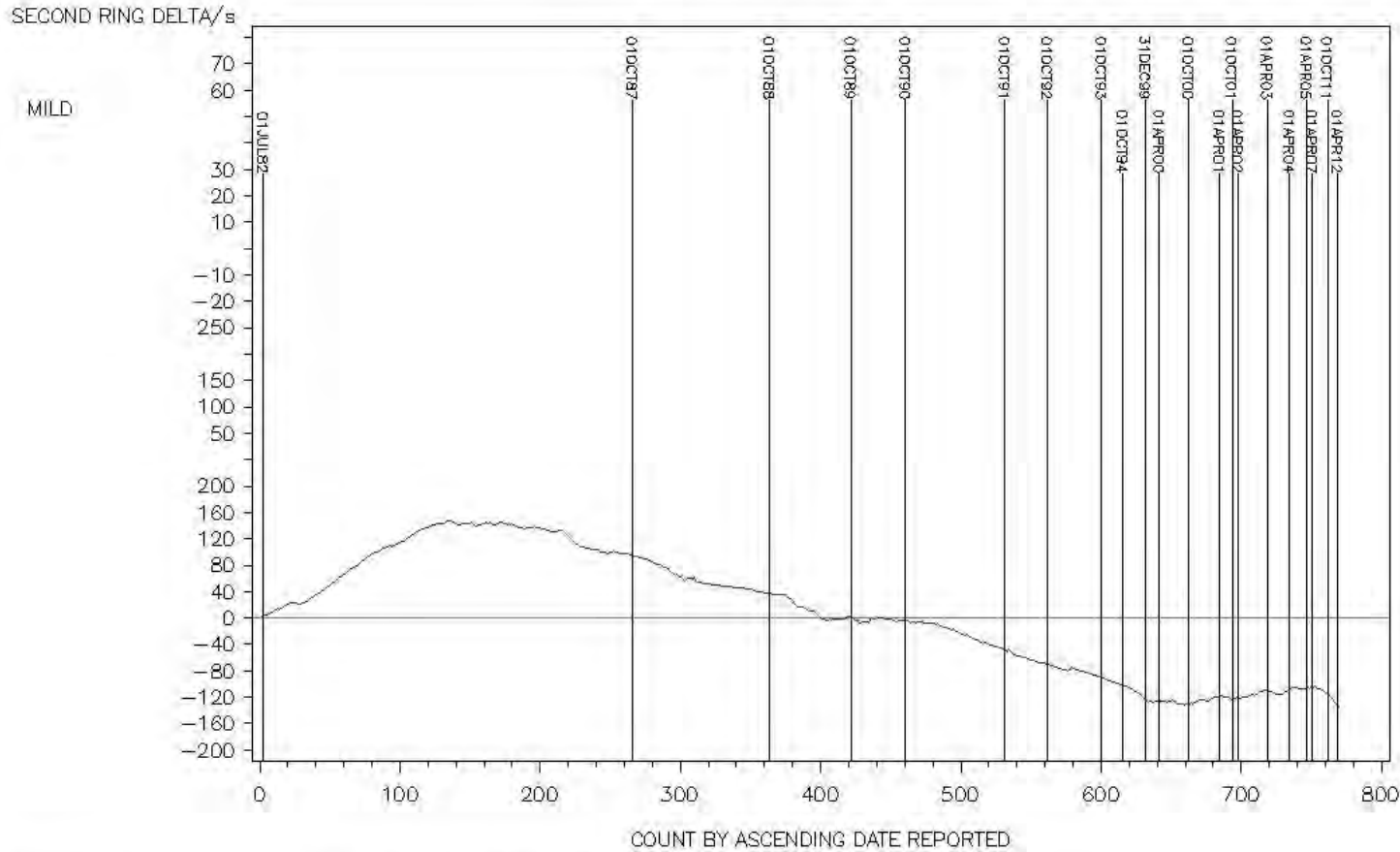
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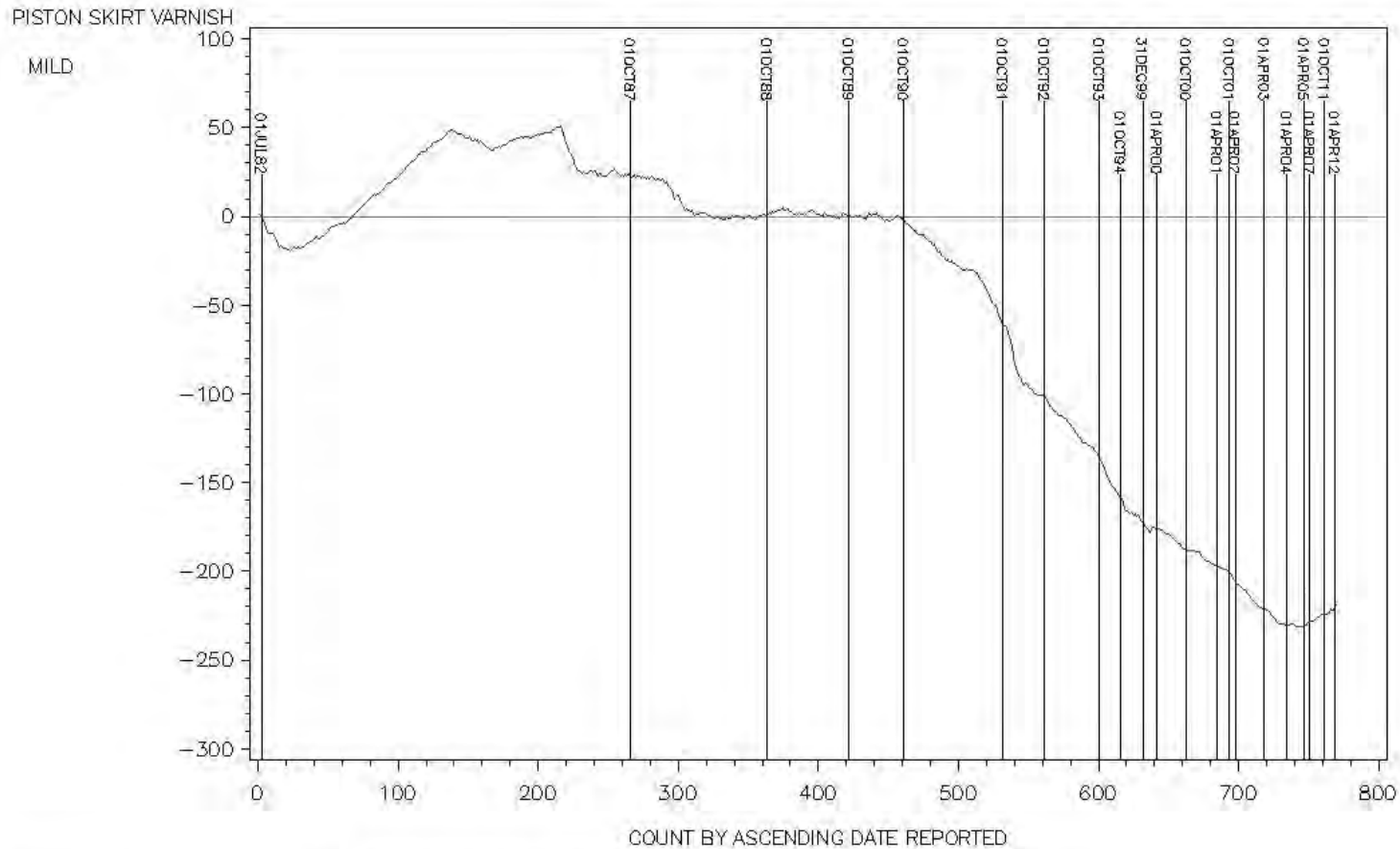
TWO-STROKE-CYCLE
RING STICKING TEST (D 4857)
CUSUM PLOT OF SECOND RING STICKING
Using Updated Targets after 4/1/00



SEVERE

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

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

SEVERE

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Appendix 1.b

TC Sequence 2 Charts

»» CuSum

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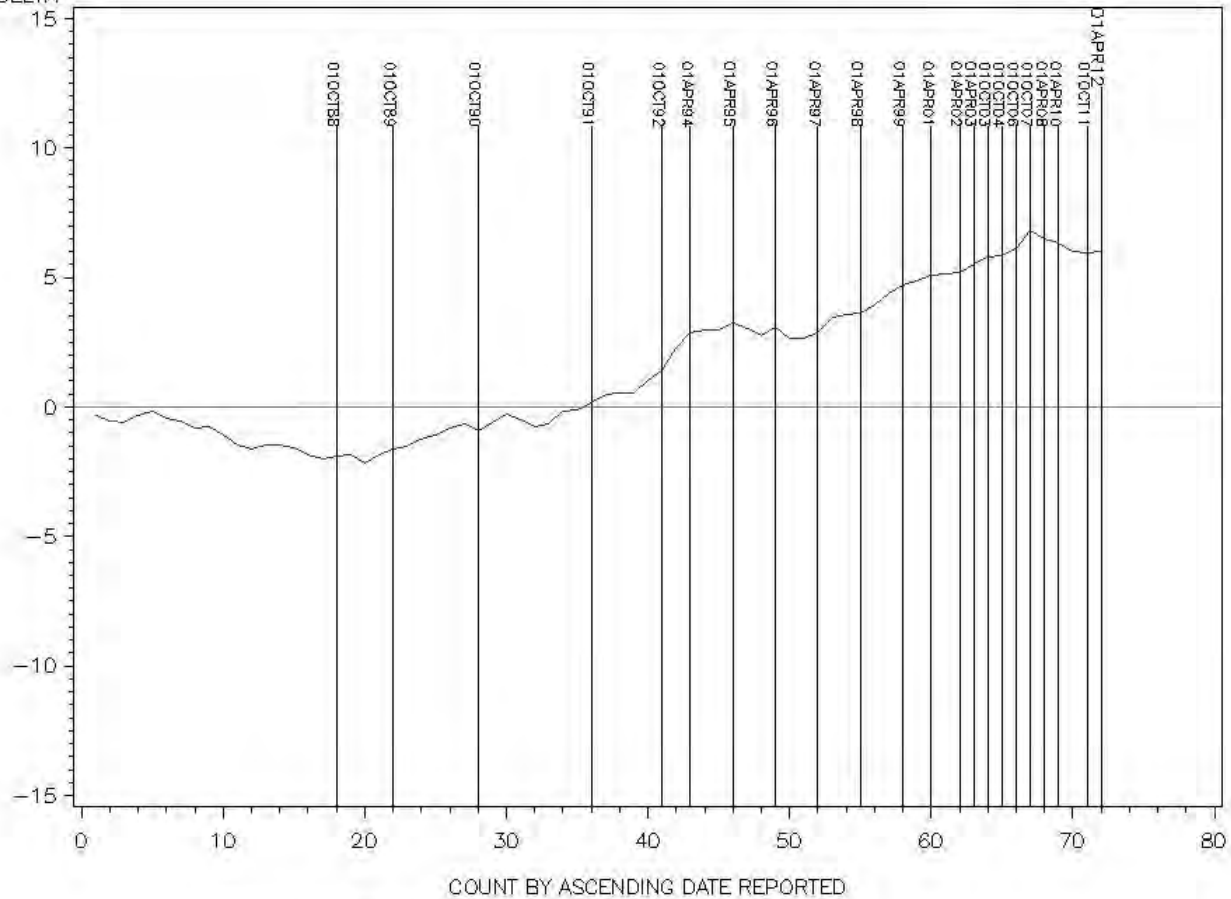
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TWO-STROKE-CYCLE
 STANDARD TEST METHOD FOR DETERMINATION OF LUBRICITY
 OF TWO STROKE CYCLE GASOLINE ENGINE LUBRICANTS (D 4863)
 MEAN TORQUE DROP OF OIL VI-EE, (TMC 604) RELATIVE TO VID (TMC 600)

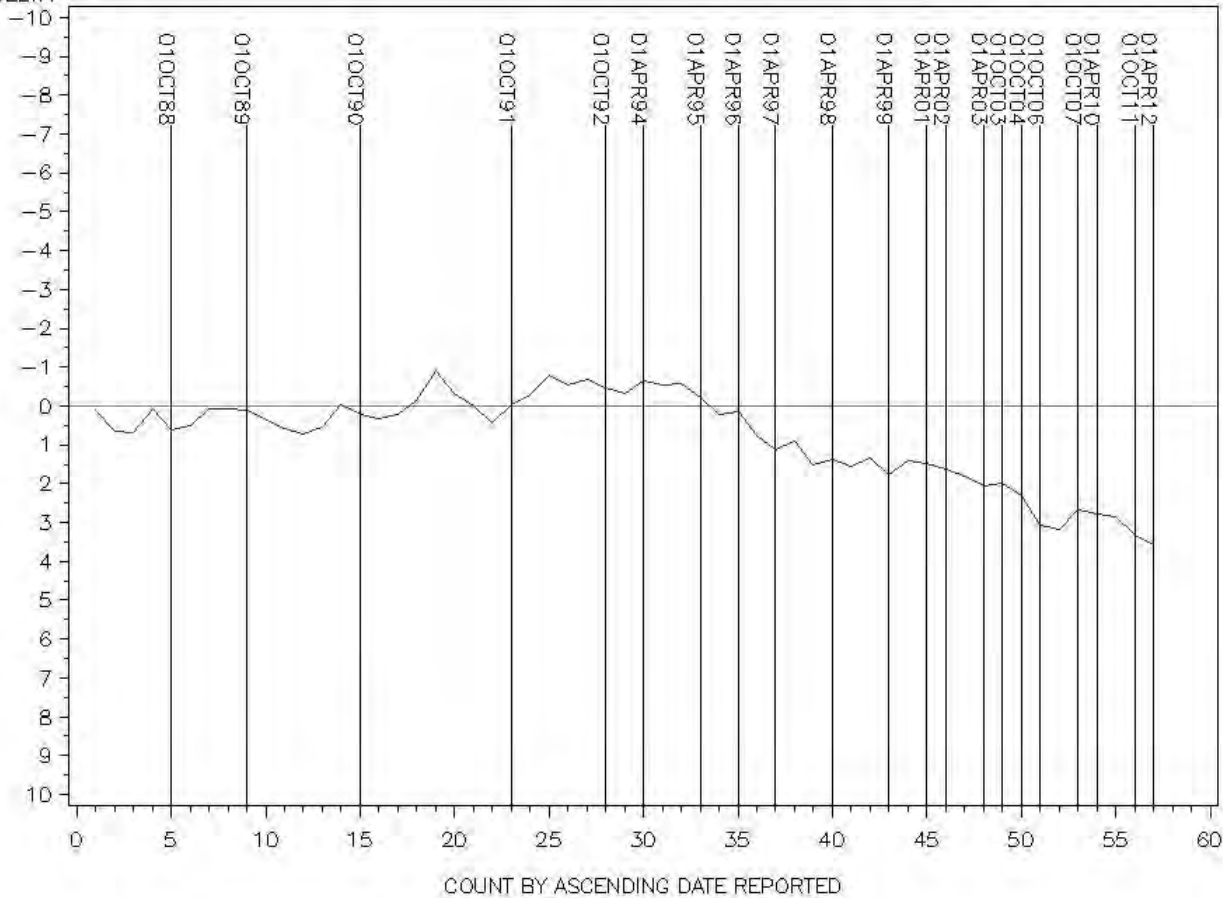
MEAN TORQUE DROP DELTA



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 802) RELATIVE TO VI-D (TMC 800)

MEAN TORQUE DROP DELTA



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 data, reported in 2007

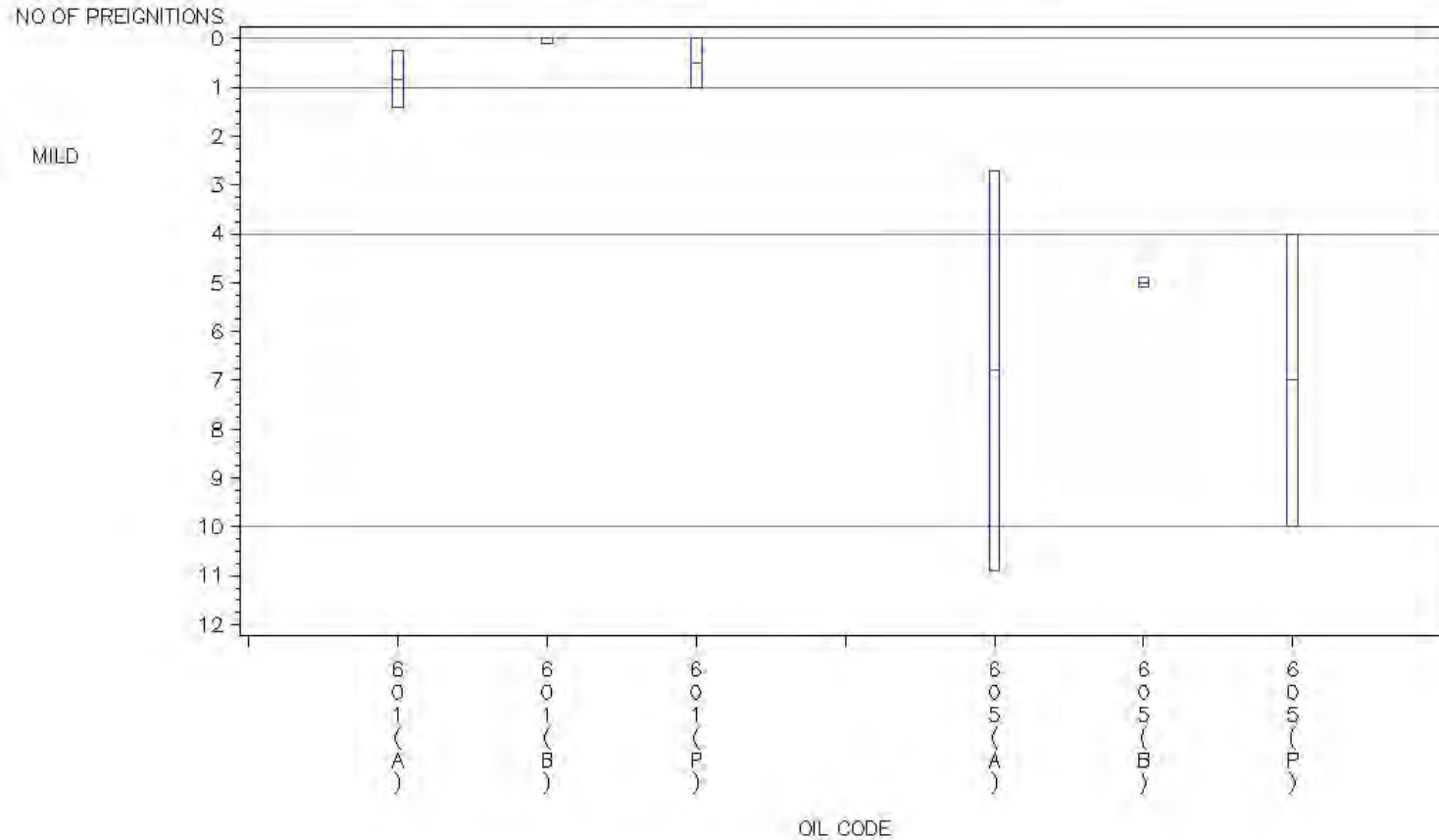
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TWO STROKE CYCLE PREIGNITION TEST
 MEAN AND ± 1 STANDARD DEVIATION BAND PLOT OF ACTUAL PREIGNITIONS
 FOR ALL HISTORICAL DATA AND ASTM PERIOD ENDING 3/31/08



(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

SEVERE

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