



MEMORANDUM: 20-016
DATE: April 14, 2020
TO: Matthew Sangpeal, Chairman, L-42 Surveillance Panel
FROM: Dylan Beck *DJB Becho*
SUBJECT: L-42 Reference Oil Testing from October 1, 2019 through March 31, 2020

Attached is a summary of reference oil testing activity this period.

DJB/djb/mem20-016.djb.doc

cc: Frank Farber

Jeff Clark

L-42 Surveillance Panel

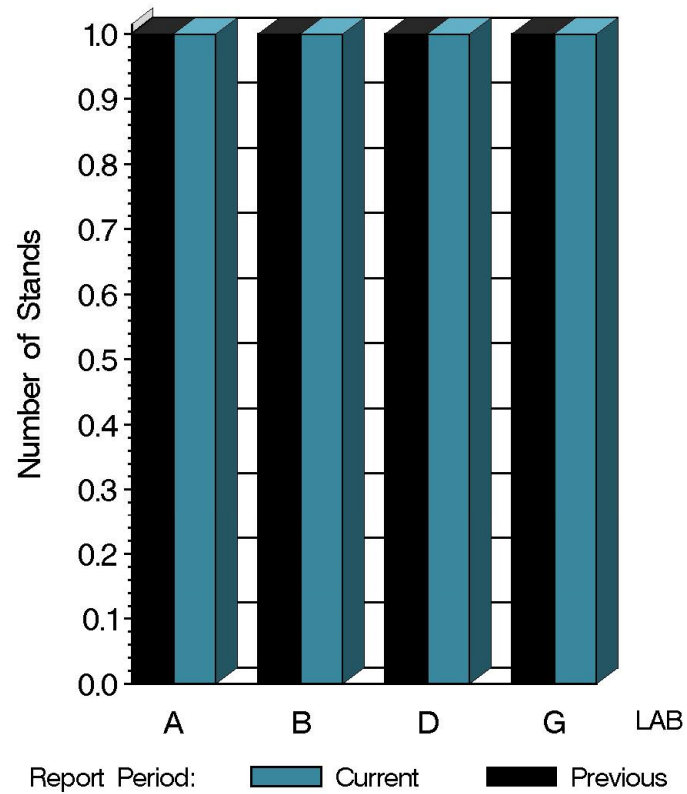
<http://www.astmtmc.cmu.edu/ftp/docs/gear/142/semiannualreports/142-04-2020.pdf>

Distribution: email

L-42 (D7452)

	Reporting Data	Calibrated on 3-31-20
Number of Labs	4	4
Number of Stands	4	4

BY-LAB STAND DISTRIBUTION



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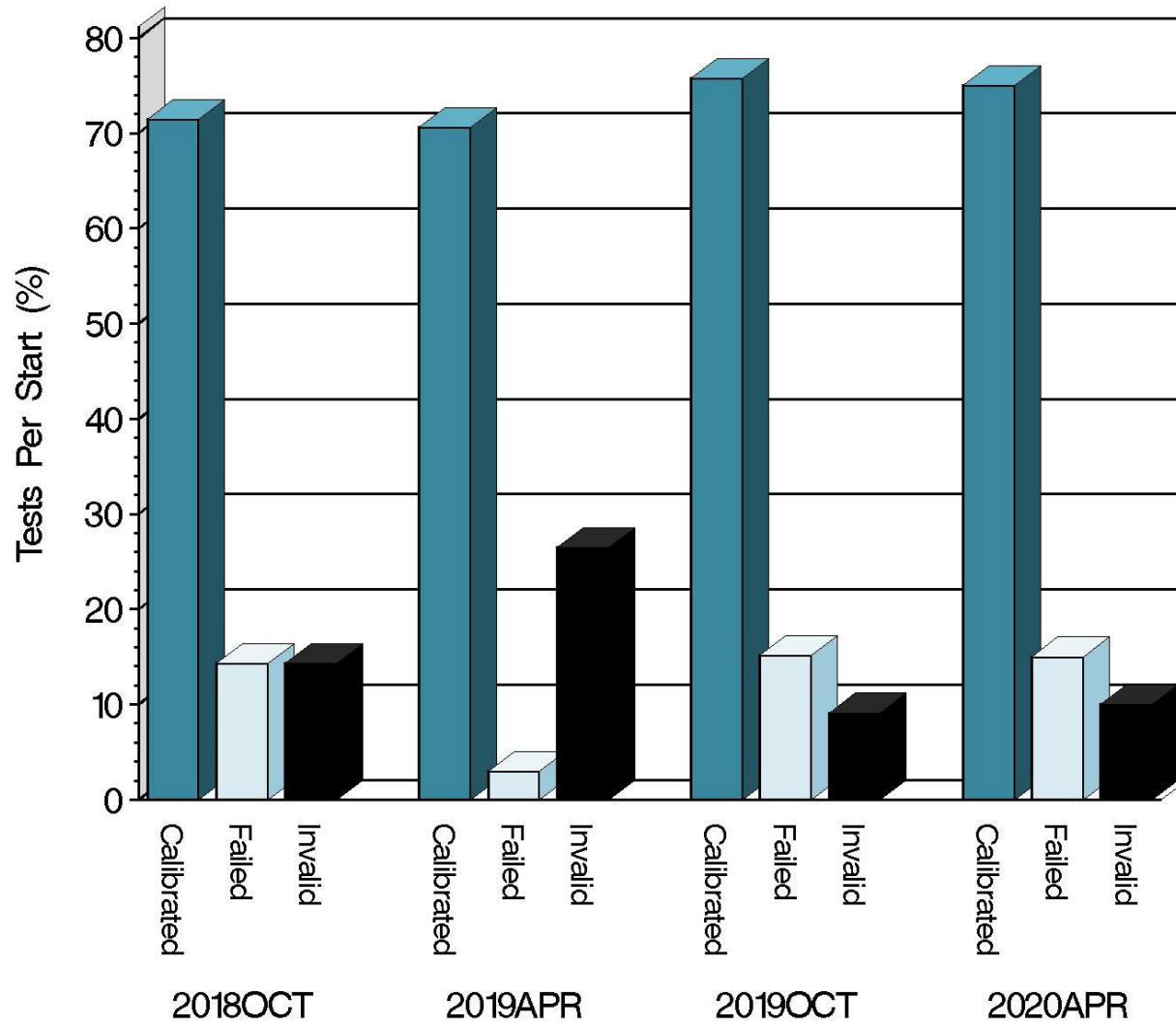
L-42 (D7452)

Test Distribution by Oil and Validity

					Totals	
		113	117	119	Last Period	This Period
Accepted for calibration	AC	0	15	0	25	15
Rejected (Mild)	OC	0	1	0	0	1
Rejected (Severe)	OC	0	2	0	5	2
Rejected (Precision)	OC	0	0	0	0	0
Accepted discrimination	AS	5	0	0	8	5
Unacceptable Information run	MI	0	0	0	1	0
Unacceptable discrimination	MS	2	0	0	2	2
Unacceptable calibration	MC	0	2	0	1	2
Aborted	XC	0	0	0	2	0
Acceptable information run	NI	0	0	4	11	4
Total		7	20	4	55	31

L-42 (D7452)

CALIBRATION ATTEMPT SUMMARY



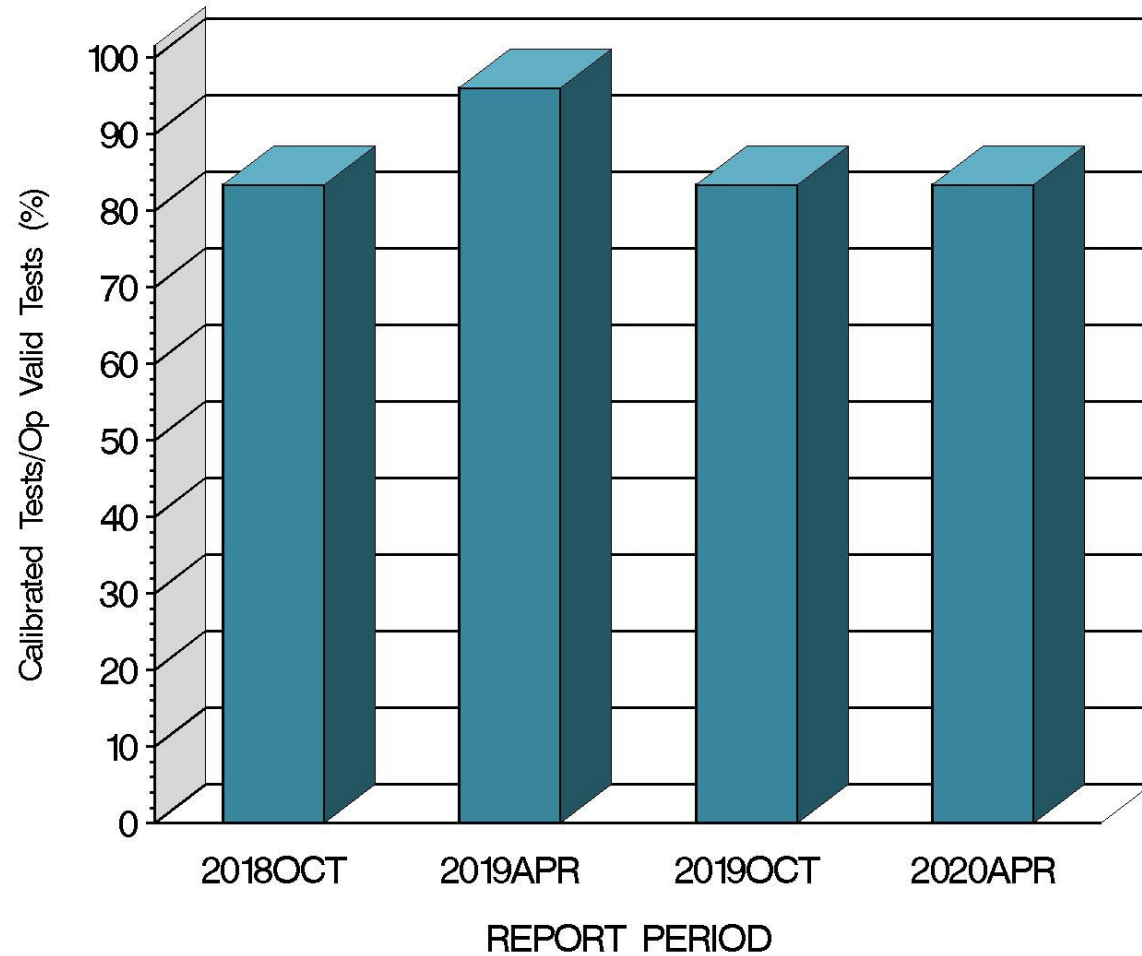
Resolution

Report Period

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OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



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CAUSES FOR LOST TESTS

Lab	Cause	Oil		Validity				Loss Rate		
		113	117	MS	MC	XC	XI	Lost	Starts	%
A	Ring scoring greater than pinion scoring	●		●				2	15	13%
			●		●			2	15	13%
	Lost	2	2	2	2	0	0			
	Starts	7	16	31	31	31	31			
	%	29%	12%	6.4%	6.4%	0%	0%			

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			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
117	C1L446/P8AD132	14	24.0	7.87	0.18
117	C1L925/P8AD078X	4	21.0	2.94	-0.36

		Pooled Standard Deviation			
Lab	Coast Side Pinion Scoring Δ/s	df	Coast Side Pinion Scoring	Coast Side Ring Scoring	Shock Series I Coast Side Ring Scoring
A	068	7	9.59	11.50	16.42
B	-0.46	1	4.95	1.41	0.00
D	-0.49	5	2.07	0.89	0.00
G	-0.27	1	0.70	0.71	0.00

L-42 (D7452)

SUMMARY OF SEVERITY & PRECISION

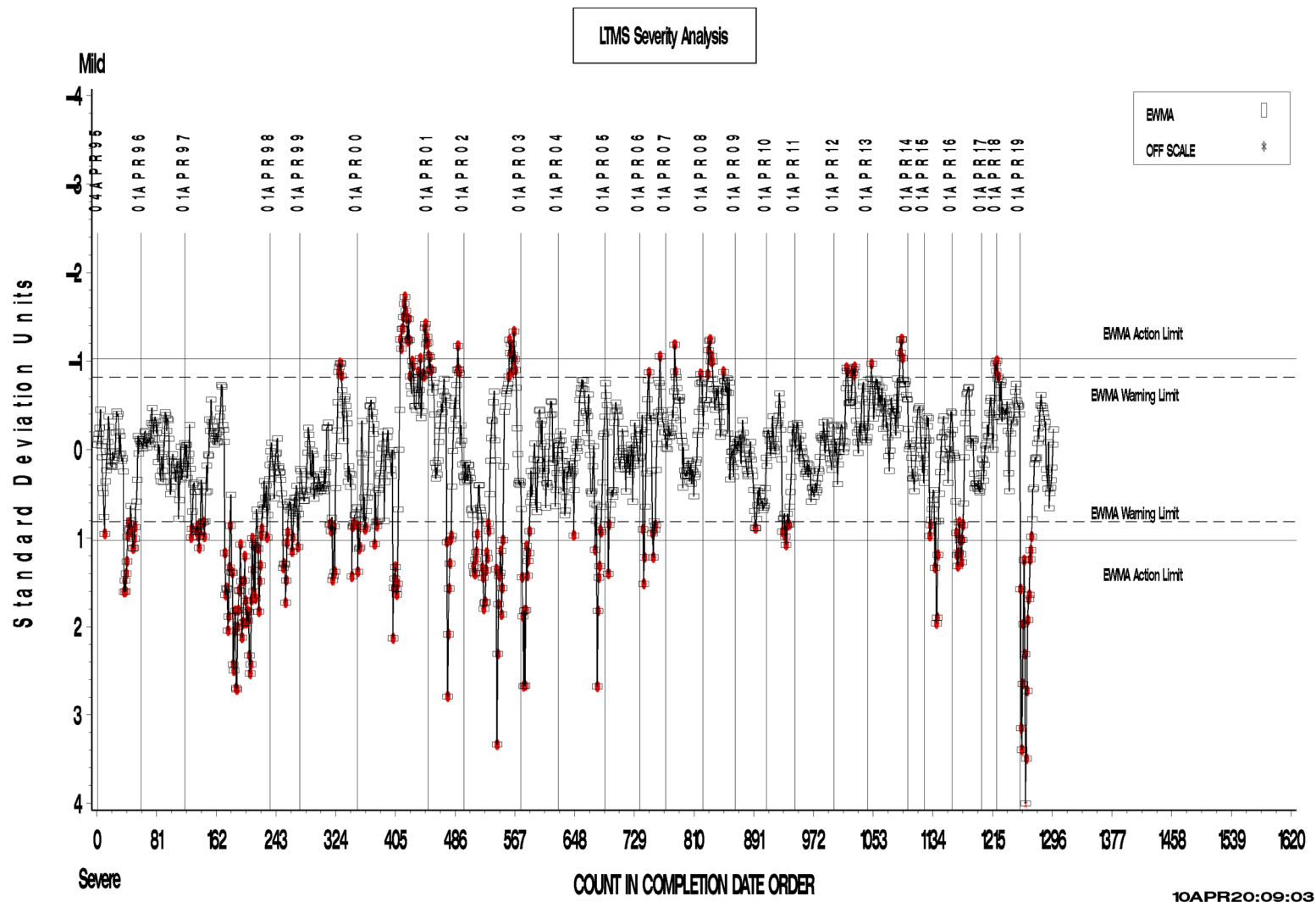
Severity
Severity exceeded the action limit in the severe direction during this period but has since returned within limits.
Precision
Precision exceeded the action limit this period but has since returned within limits.

Industry control charts follow.

L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE



Test Monitoring Center

<http://astmtmc.cmu.edu>



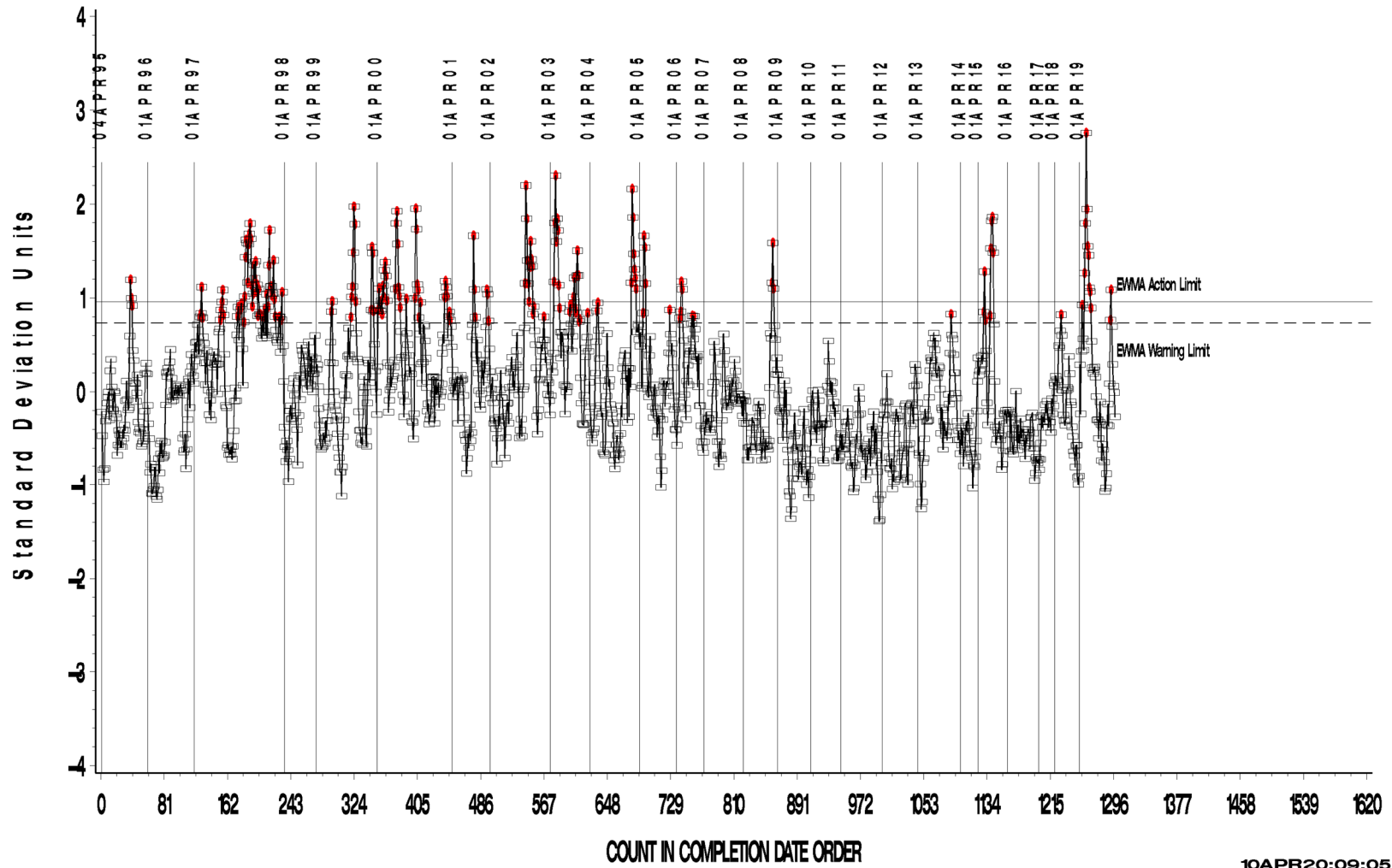
A Program of ASTM International

L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Precision Analysis



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Test Monitoring Center

<http://astmtmc.cmu.edu>



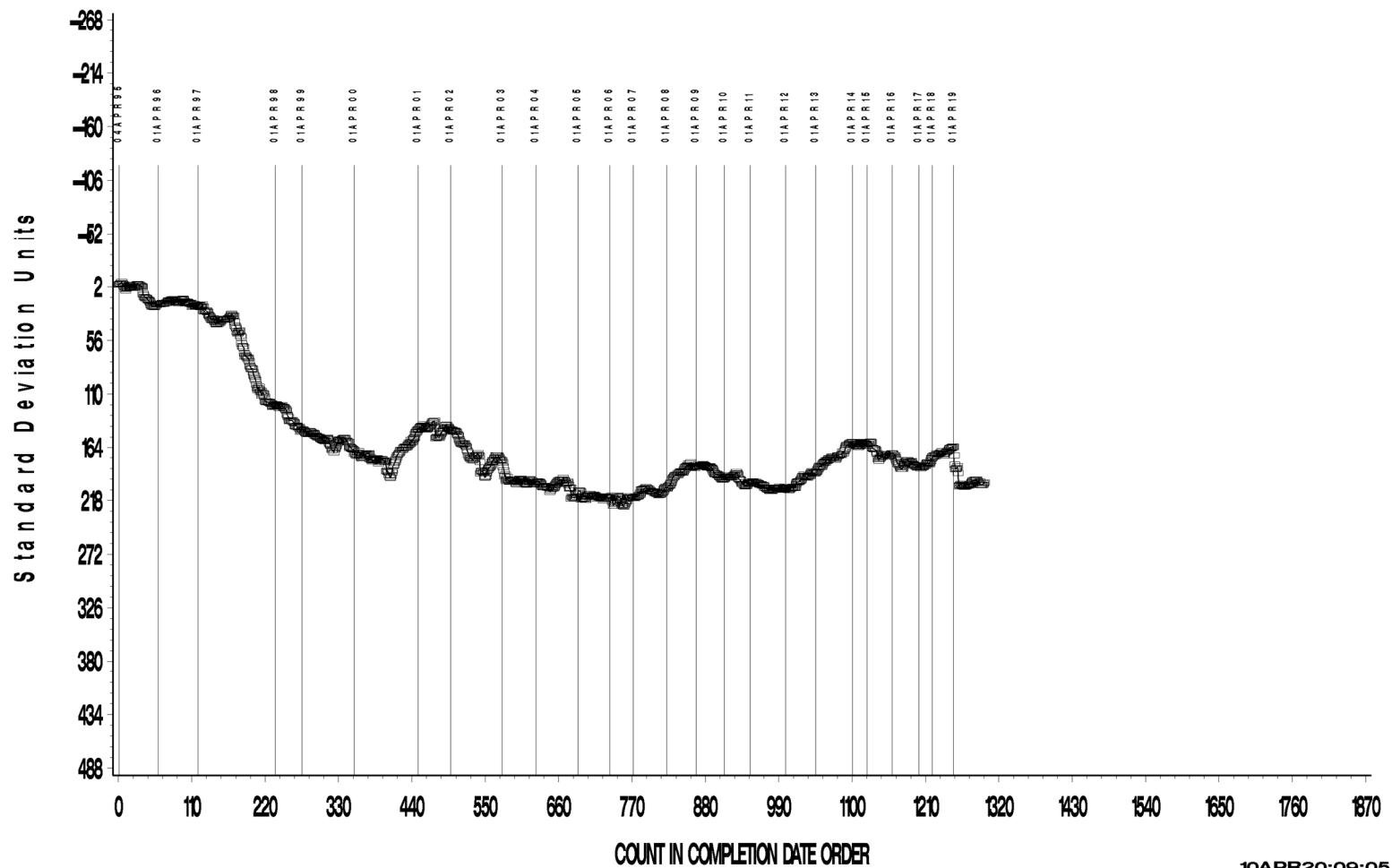
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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

CUSUM Severity Analysis



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TIMELINE ADDITIONS

Effective Date	Information Letter	Event
No information letters issued during this period.		

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LAB VISITS

Two L-42 lab visits were conducted during this period. All reviewed elements were found to be in compliance with the test procedure.

INFORMATION LETTERS

No information letters issued during this period.

L-42 (D7452)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
113	16	57	28.7
117	34	657	328.5
119	8	89	44.5
Total	58	803	401.7

Oil 117 meets J2360 specifications, and produces somewhat milder scoring than its predecessor 116-1. Oil 117 has been implemented for use as the new “pass” oil with a correction factor +6% for the pinion scoring result and +4% for the ring scoring result.

119 oil is currently being evaluated as a replacement oil to 113 discrimination oil. 119 has not yet been approved by the surveillance panel.