



Test Monitoring Center

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

MEMORANDUM: 18-005
DATE: April 24, 2018
TO: Eric Donovan, Chairman, L-42 Surveillance Panel
FROM: Dylan Beck *Dylan Beck*
SUBJECT: L-42 Reference Oil Testing from October 1, 2017 through March 31, 2018

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

DJB/djb/mem18-005.djb.doc

cc: Frank Farber

Jeff Clark

Scott Parke

L-42 Surveillance Panel

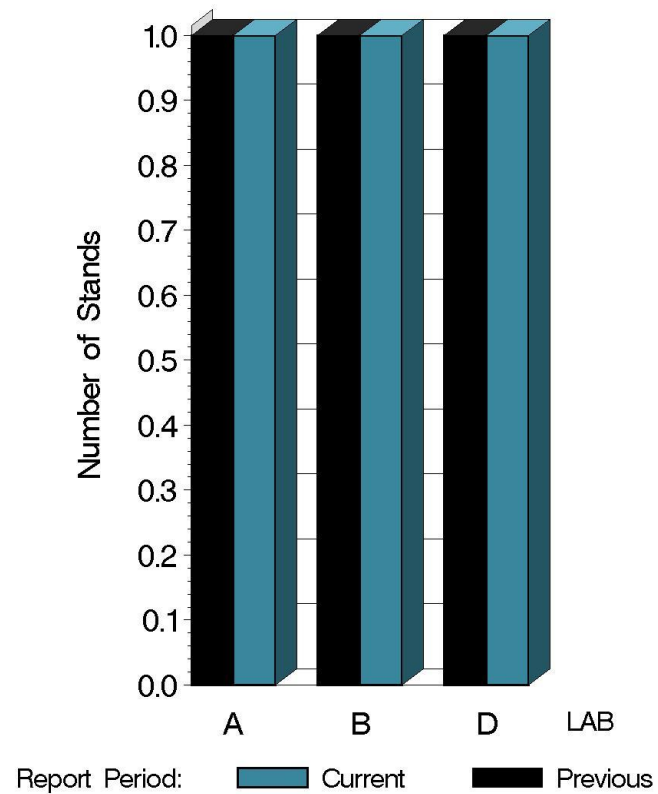
<http://www.astmtmc.cmu.edu/ftp/docs/gear/142/semiannualreports/142-04-2018.pdf>

Distribution: email

L-42 (D7452)

	Reporting Data	Calibrated on 3-31-18
Number of Labs	3	3
Number of Stands	3	3

BY-LAB STAND
DISTRIBUTION



10:49:04 10APR2018

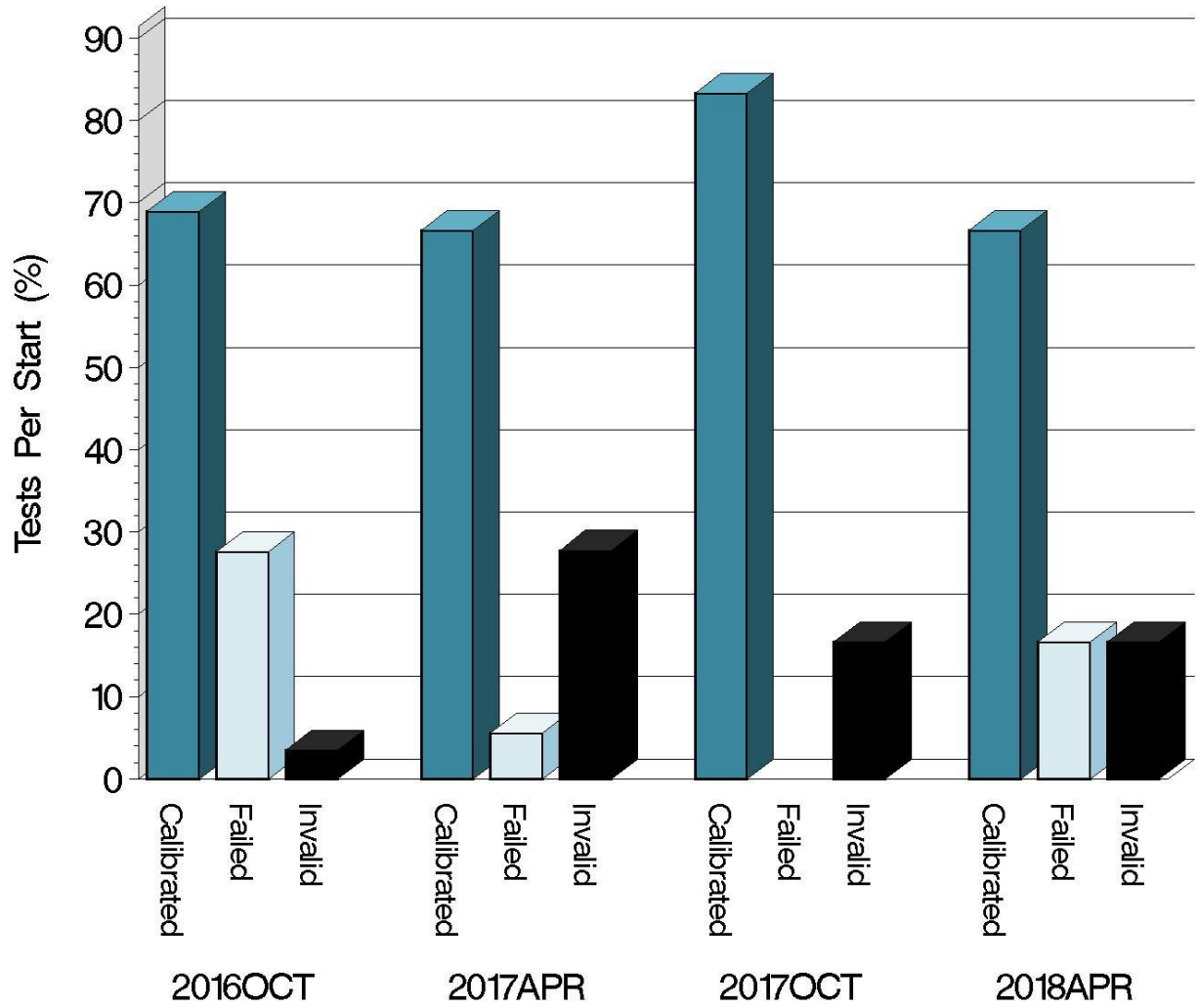
L-42 (D7452)

Test Distribution by Oil and Validity

					Totals	
		113	116-1	117	Last Period	This Period
Accepted for calibration	AC	0	0	8	10	8
Rejected (Mild)	OC	0	0	2	0	2
Rejected (Severe)	OC	0	0	0	0	0
Rejected (Precision)	OC	0	0	0	0	0
Accepted discrimination	AS	3	0	0	2	3
Unacceptable discrimination	MS	0	0	0	2	0
Invalidated discrimination	LS	0	0	0	0	0
Invalidated calibration	LC	0	0	2	1	2
Unacceptable calibration	MC	0	0	0	0	0
Aborted	XC	0	0	0	1	0
Acceptable information run	NI	3	0	5	1	8
Aborted information run	XI	0	0	0	1	0
Total		6	0	17	18	23

L-42 (D7452)

CALIBRATION ATTEMPT SUMMARY



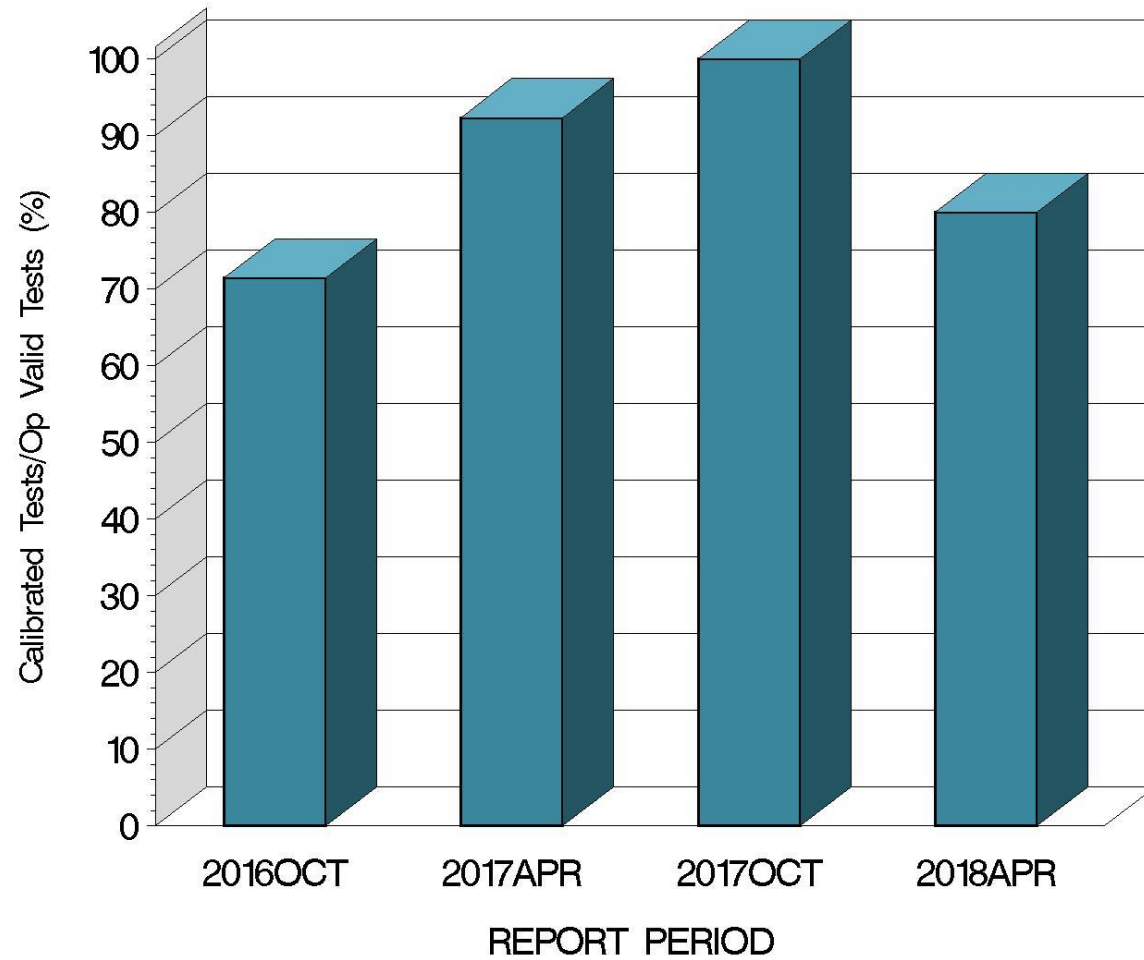
Resolution

Report Period

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OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



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CAUSES FOR LOST TESTS

		Oil			Validity				Loss Rate		
Lab	Cause	113	116-1	117	MS	LC	XC	XI	Lost	Starts	%
D	DAQ System Failure			●		●			2	9	22%
	DAQ System Failure			●		●					
	Lost	0	0	2	0	2	0	0			
	Starts	6	0	17	23	23	23	23			
	%	0%	0%	11.8%	0%	8.7%	0%	0%			

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			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
117	C1L925/P8AD078X	7	20.3	6.73	-0.49
117	V1L637/P8L604	3	15.0	2.00	-1.46

		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	-1.28	2	6.08	5.13	0
B	-1.46	2	2.00	0.58	0
D	0.09	3	5.80	3.11	0

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SUMMARY OF SEVERITY & PRECISION

Severity
ECSP severity exceeded the warning limit in the mild direction but remained within the action limit throughout the period.
Precision
Precision also remained within limits throughout the period.

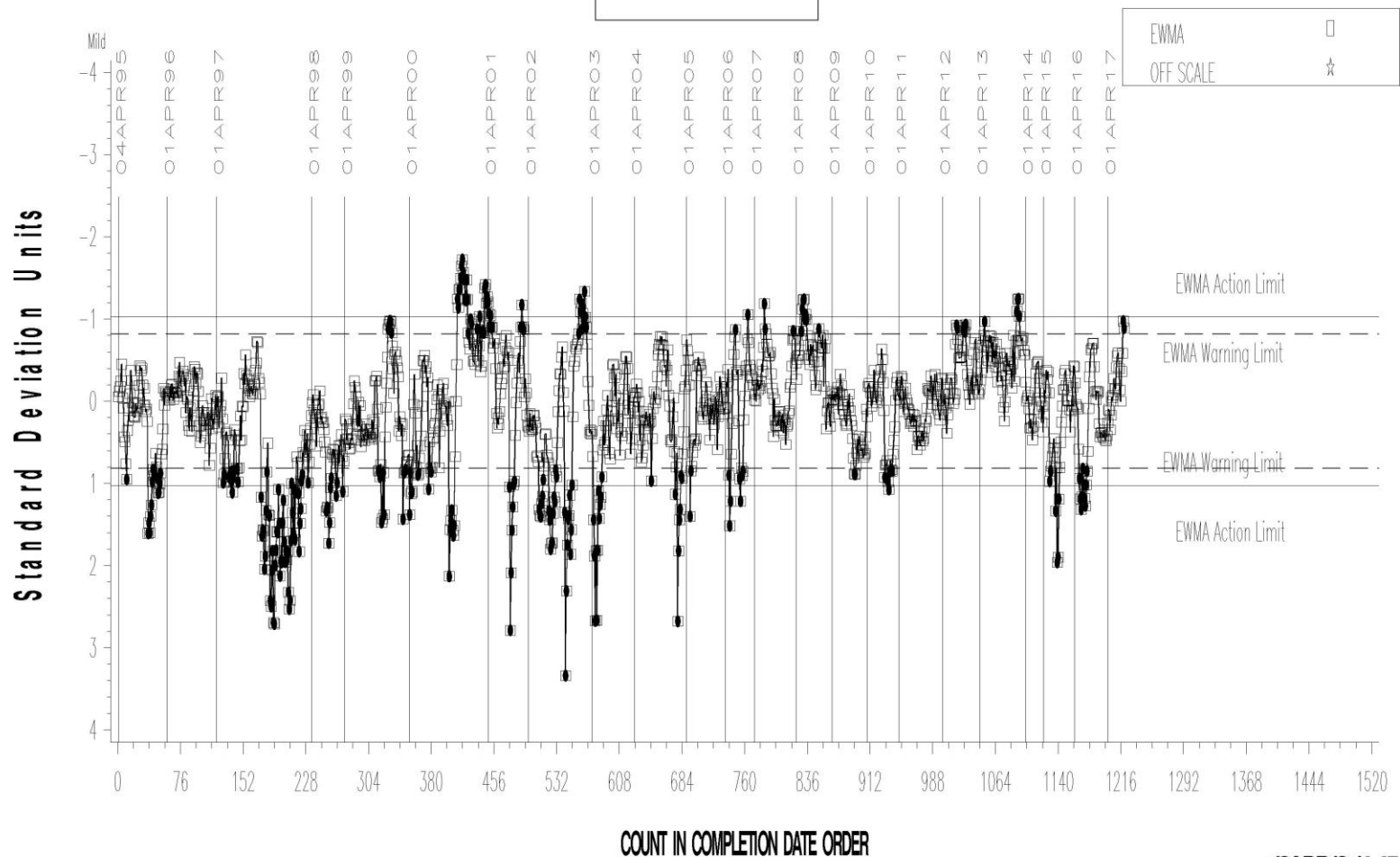
Industry control charts follow.

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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Severity Analysis



Spvrp

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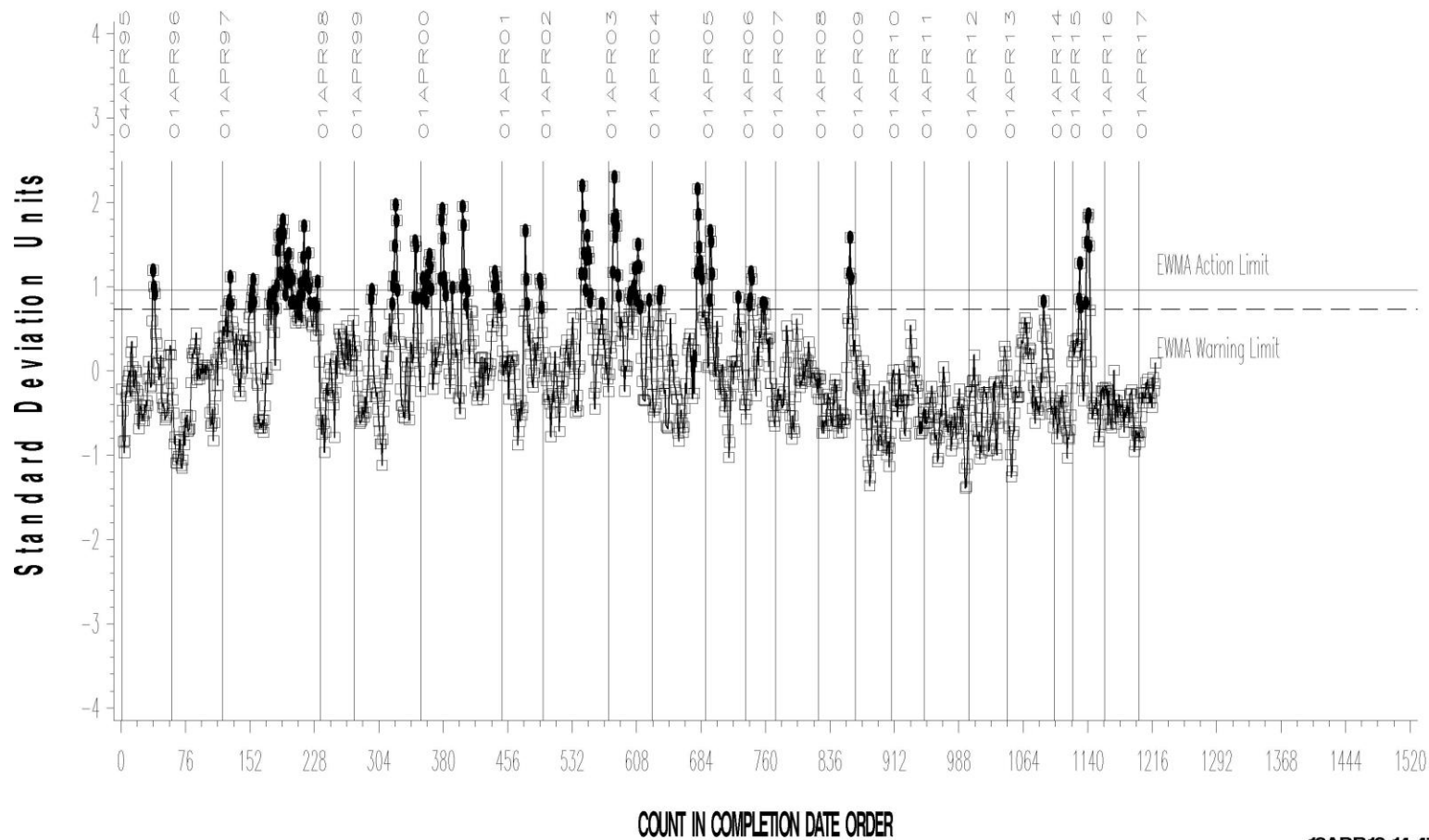
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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Precision Analysis



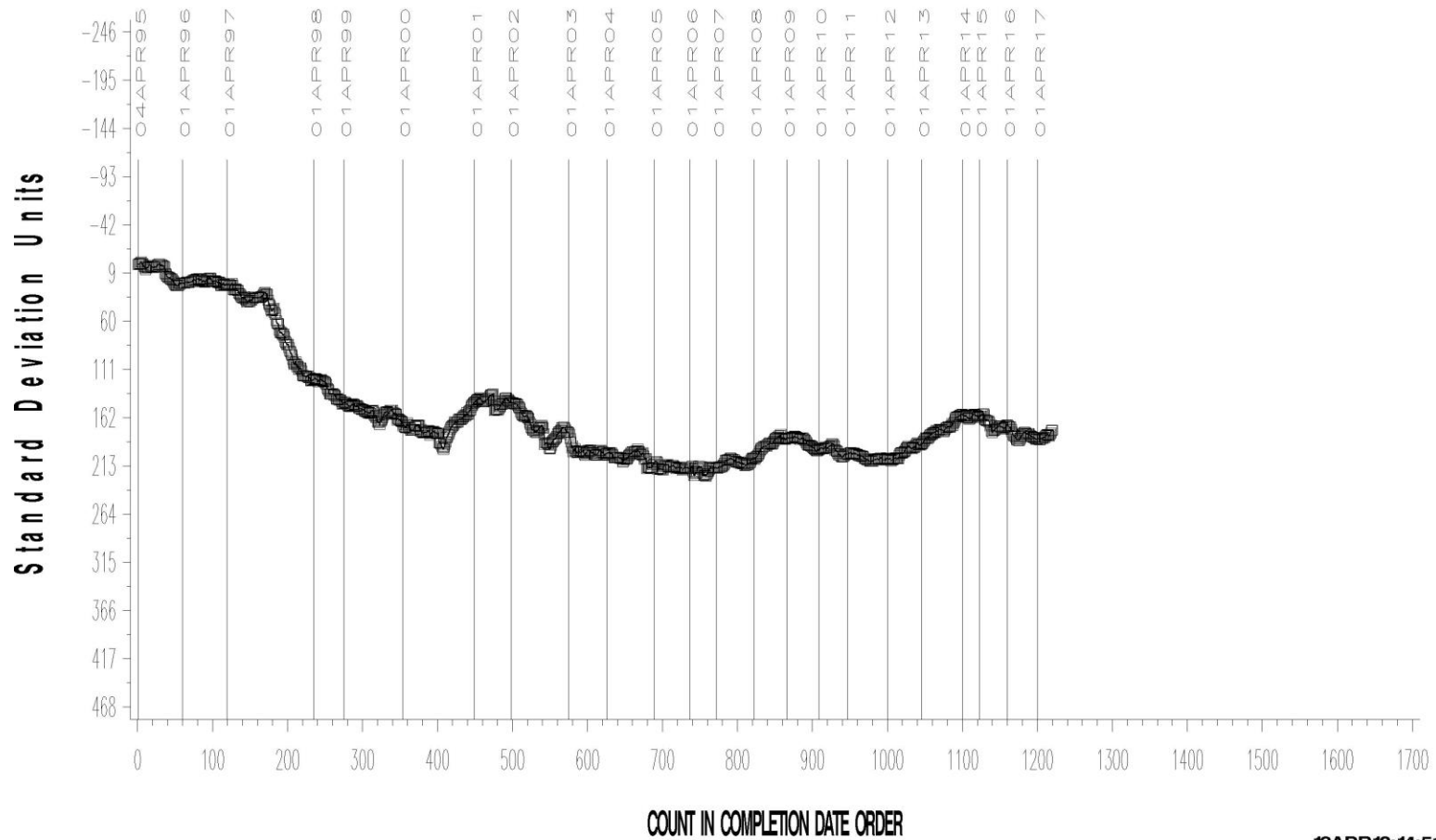
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L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

CUSUM Severity Analysis



12APR18:14:51

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TIMELINE ADDITIONS

Effective Date	Information Letter	Event
		No industry timeline additions were made this period.

L-42 (D7452)

LAB VISITS

One L-42 lab visit was conducted during this period. All aspects of the test examined were found to be in compliance with the documented test procedures.

INFORMATION LETTERS

No information letters were issued this period.

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STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
112-2	0	0	0.0
113	11	95	47.5
116-1	0	0	0.0
117	40	763	381.5
Total	51	858	429.0

At surveillance panel direction, the TMC has procured oil 117 as a replacement oil for 116-1. This is a J2360 oil which produces somewhat milder scoring. The oil 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.