



Test Monitoring Center

203 Armstrong Drive, Freeport, PA 16229, USA

www.astmtmc.org
412-365-1000

MEMORANDUM: 23-011

DATE: April 25, 2023

TO: Matthew Sangpeal, Chairman, L-42 Surveillance Panel

FROM: Dylan Beck *Dylan Beck*

SUBJECT: L-42 Reference Oil Testing from October 1, 2022 through March 31, 2023

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

DJB/djb/mem23-011.djb.doc

cc: Jeff Clark

Sean Moyer

L-42 Surveillance Panel

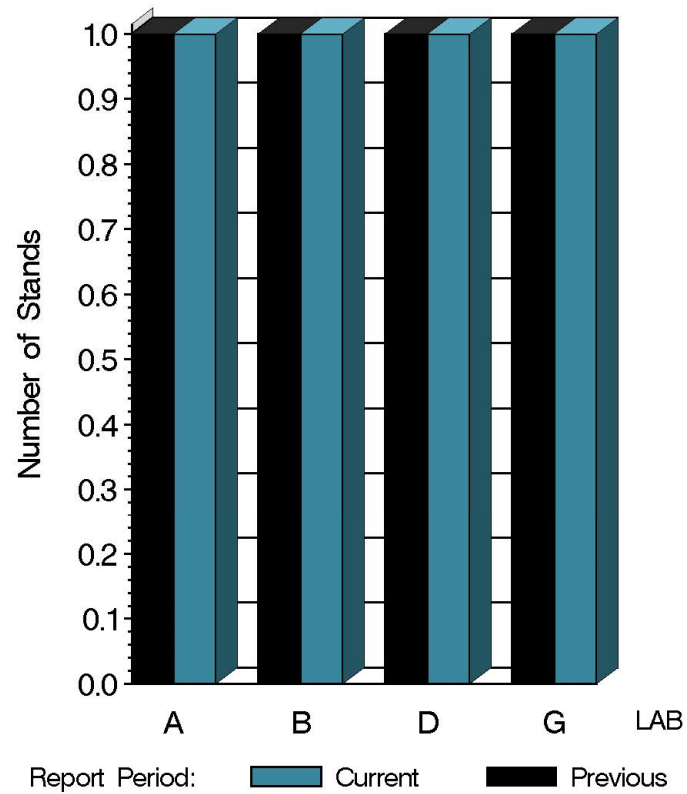
<https://www.astmtmc.org/ftp/docs/gear/l42/semiannualreports/l42-04-2023.pdf>

Distribution: email

L-42 (D7452)

	Reporting Data	Calibrated on 3-31-23
Number of Labs	4	4
Number of Stands	4	4

BY-LAB STAND DISTRIBUTION



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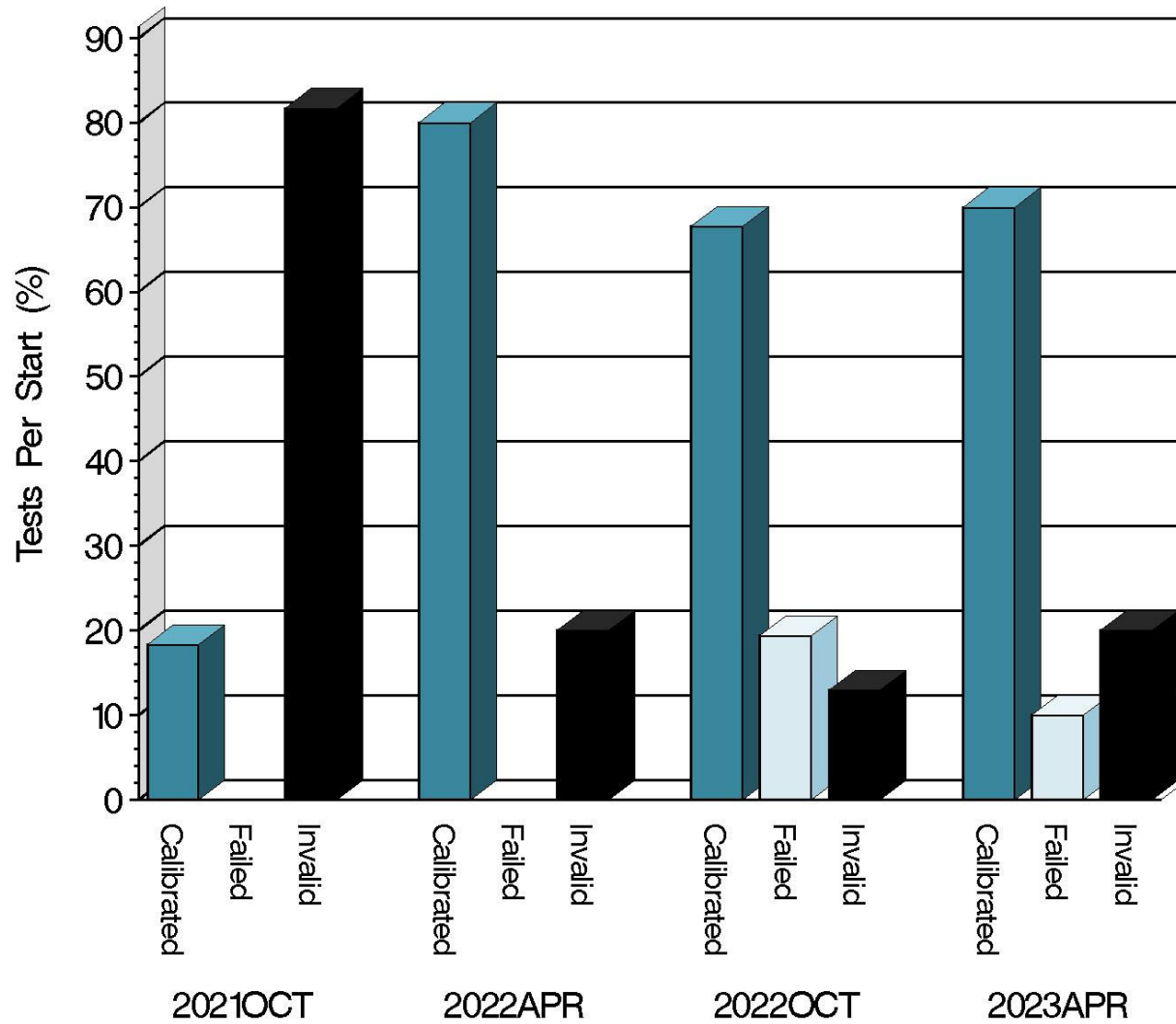
L-42 (D7452)

Test Distribution by Oil and Validity

					Totals	
		113	117	119	Last Period	This Period
Accepted for calibration	AC	0	7	0	21	7
Rejected (Mild)	OC	0	0	0	3	0
Rejected (Severe)	OC	0	1	0	3	1
Rejected (Precision)	OC	0	0	0	0	0
Operationally Invalid (determined by lab)	LC	0	2	0	3	2
Accepted discrimination	AS	0	0	2	9	2
Unacceptable calibration	MC	0	0	0	1	0
Aborted	XC	0	0	0	0	0
Invalid discrimination run	LS	0	0	1	0	1
Total		0	10	3	40	13

L-42 (D7452)

CALIBRATION ATTEMPT SUMMARY



Resolution

Report Period

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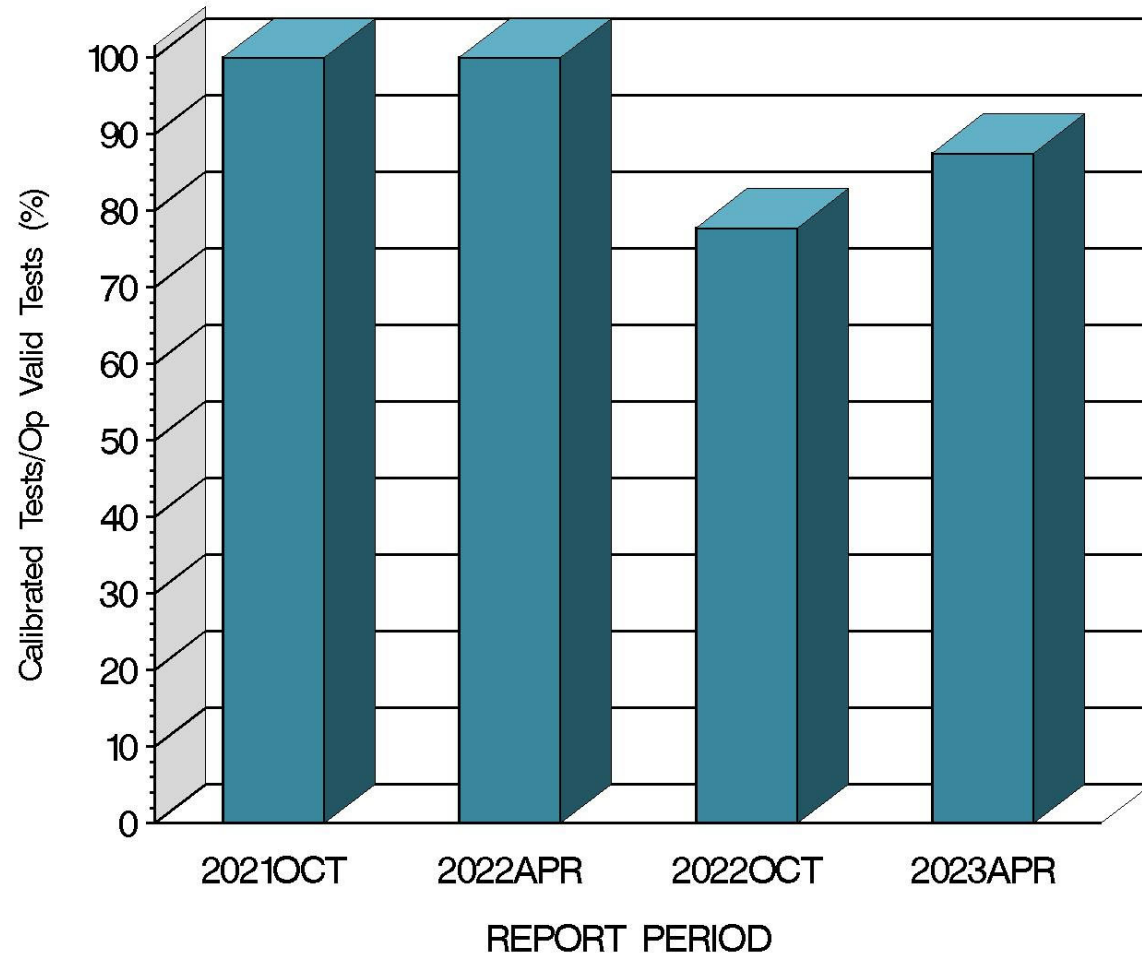
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OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



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CAUSES FOR LOST TESTS

		Loss Rate							
Lab	Cause	113	117	LS	XC	LC	Lost	Starts	%
G	Spray nozzle failure		•			•	3	4	75%
	Wheel speed out of spec		•			•			
	Spray nozzle failure	•		•					
	Lost	1	2	1	0	2			
	Starts	0	10	13	13	13			
	%	0%	20%	7.6%	0%	15%			



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			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
117	C1L446/P8AD132	1	21.0	.	-0.36
117	C1L637/P8AD132	4	23.8	4.92	0.14
117	C1L925/P8AD078X	3	25.7	7.02	0.49

		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	-0.36	0	0.00	0.00	0.00
B	0.55	1	9.90	7.07	0.00
D	0.14	3	4.92	1.91	0.00
G	0.36	0	0.00	0.00	0.00

L-42 (D7452)

SUMMARY OF SEVERITY & PRECISION

Severity

Pinion scoring remained within the limits this period.

Precision

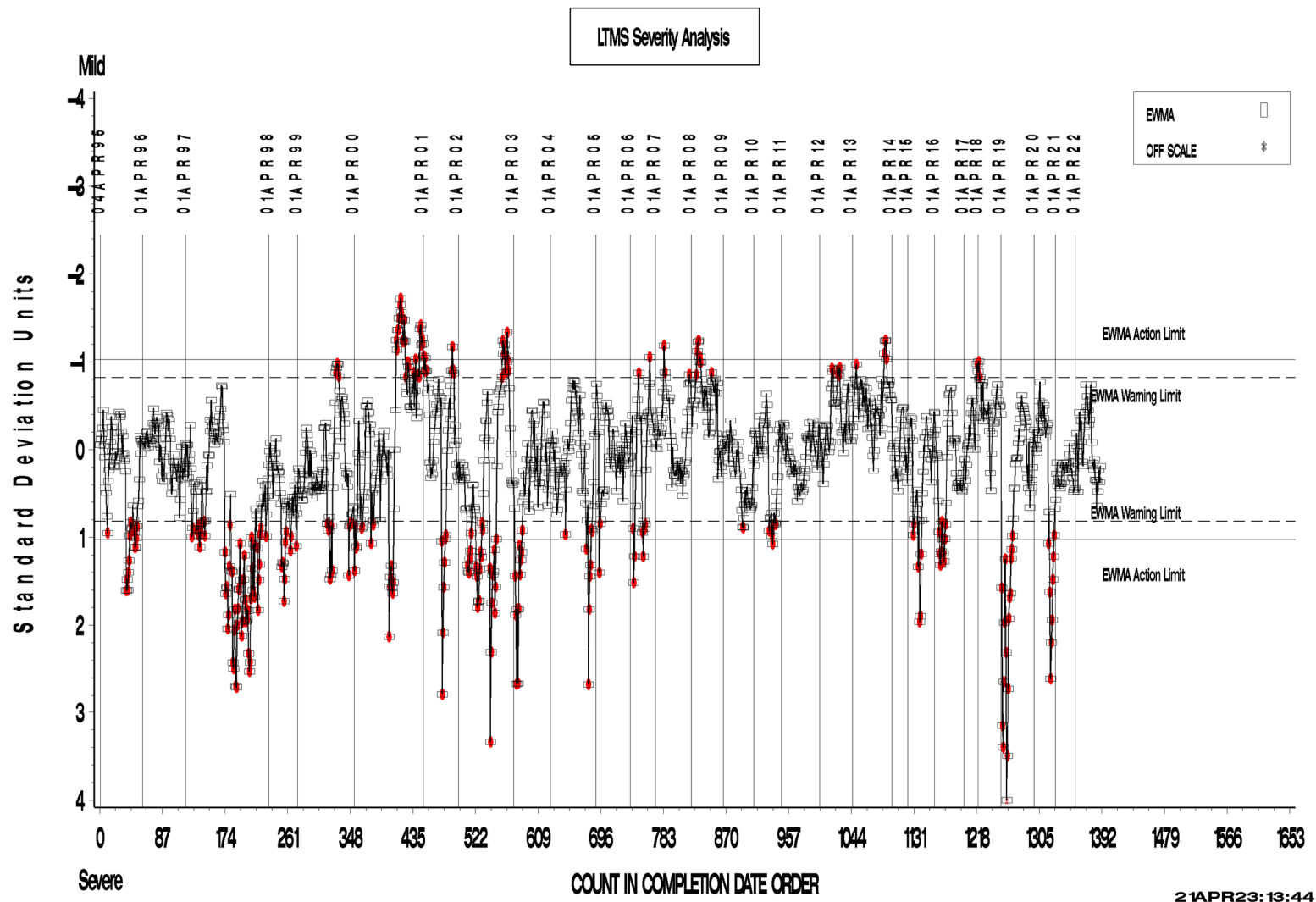
Pinion scoring remained within the limits this period.

Industry control charts follow.

L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE



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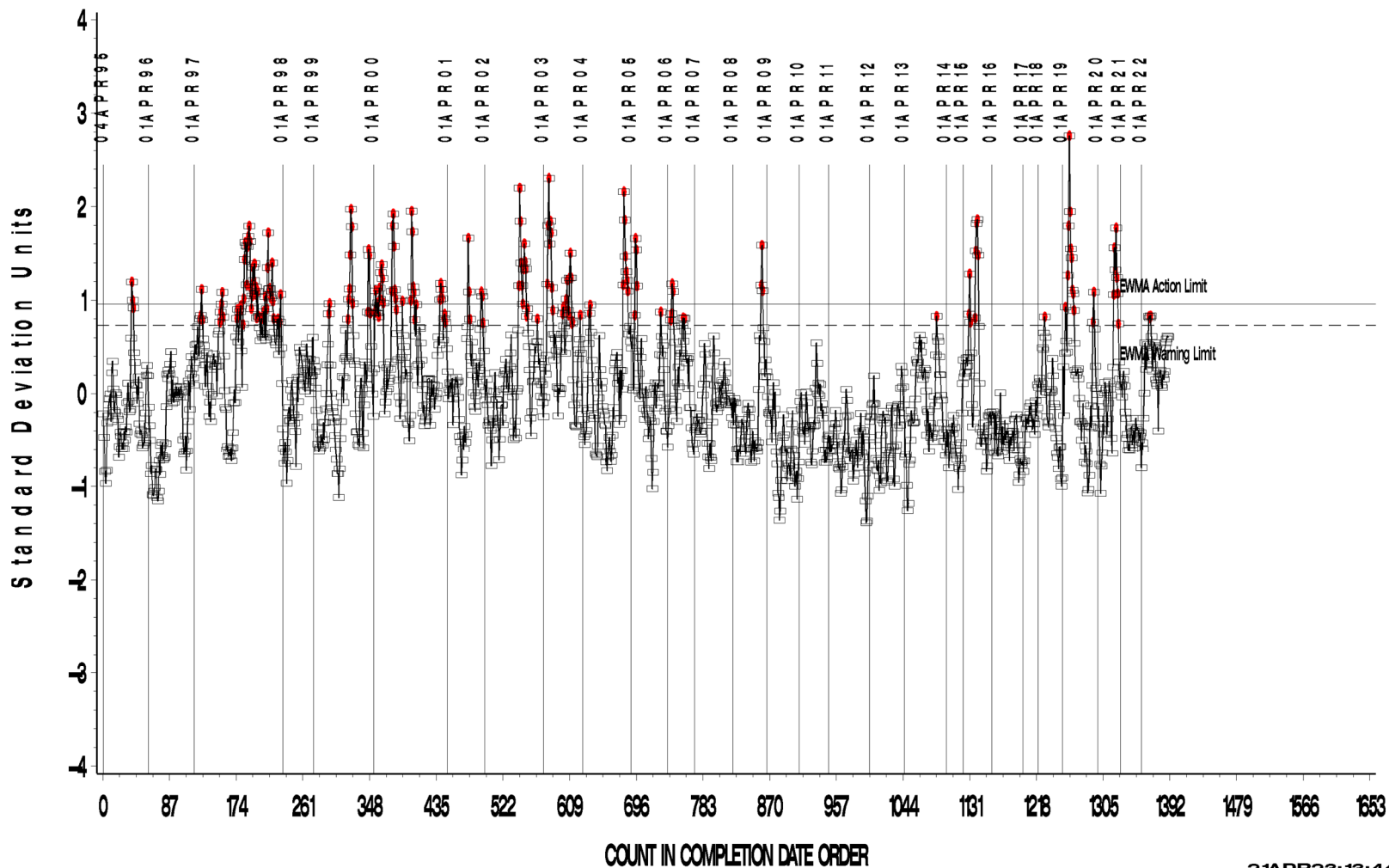
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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Precision Analysis



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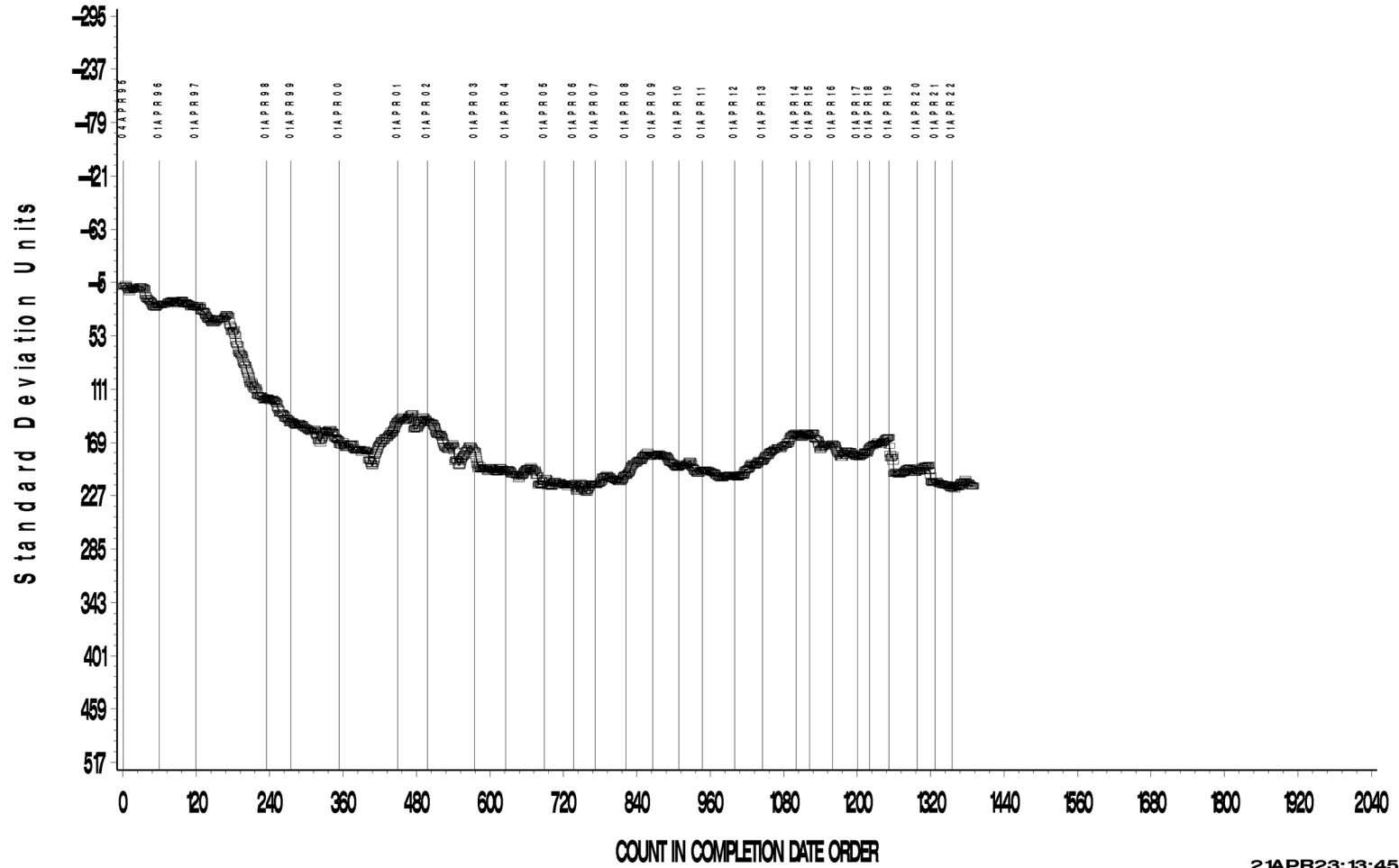
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L-42 INDUSTRY OPERATIONALLY VALID DATA

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

One lab visit was conducted during this reporting period. During the visit the stand configuration was inspected, and all aspects were found to be in accordance with the test procedure.

INFORMATION LETTERS

No information letters were issued during this reporting period.

L-42 (D7452)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
113	0	55	27.9
117	31	531	265.9
119	14	55	27.7
Total	45	642	321.5

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 has been approved as a replacement for discrimination oil 113.