



Test Monitoring Center

203 Armstrong Drive, Freeport, PA 16229, USA

www.astmtmc.org
412-365-1000

MEMORANDUM: 23-047

DATE: November 28, 2023

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

FROM: Dylan Beck *Dylan Beck*

SUBJECT: L-42 Reference Oil Testing from April 1, 2023 through September 30, 2023

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

DJB/djb/mem23-047.djb.doc

cc: Jeff Clark

Sean Moyer

L-42 Surveillance Panel

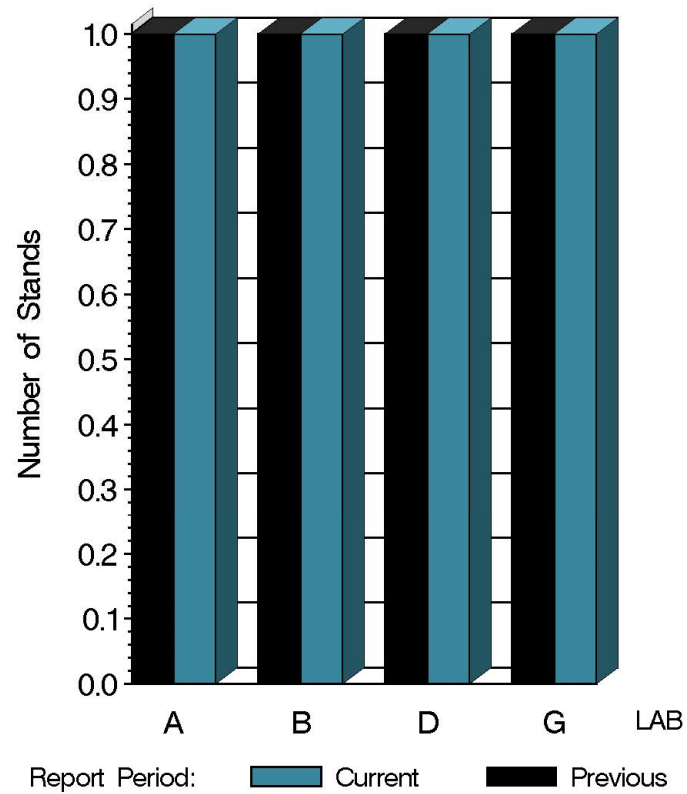
<https://www.astmtmc.org/ftp/docs/gear/l42/semiannualreports/l42-10-2023.pdf>

Distribution: email

L-42 (D7452)

	Reporting Data	Calibrated on 9-30-23
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	
				Last Period	This Period
				117	119
Accepted for calibration	AC	14	1	7	15
Rejected (Mild)	OC	1	0	0	1
Rejected (Severe)	OC	0	0	1	0
Rejected (Precision)	OC	0	0	0	0
Operationally Invalid (determined by lab)	LC	1	0	2	1
Accepted discrimination	AS	0	11	2	11
Unacceptable discrimination run	MS	0	1	0	1
Acceptable Information run	NI	6	4	0	10
Acceptable discrimination run	NS	0	2	0	2
Operationally invalid discrimination run	LS	0	2	1	2
Total		22	21	13	43



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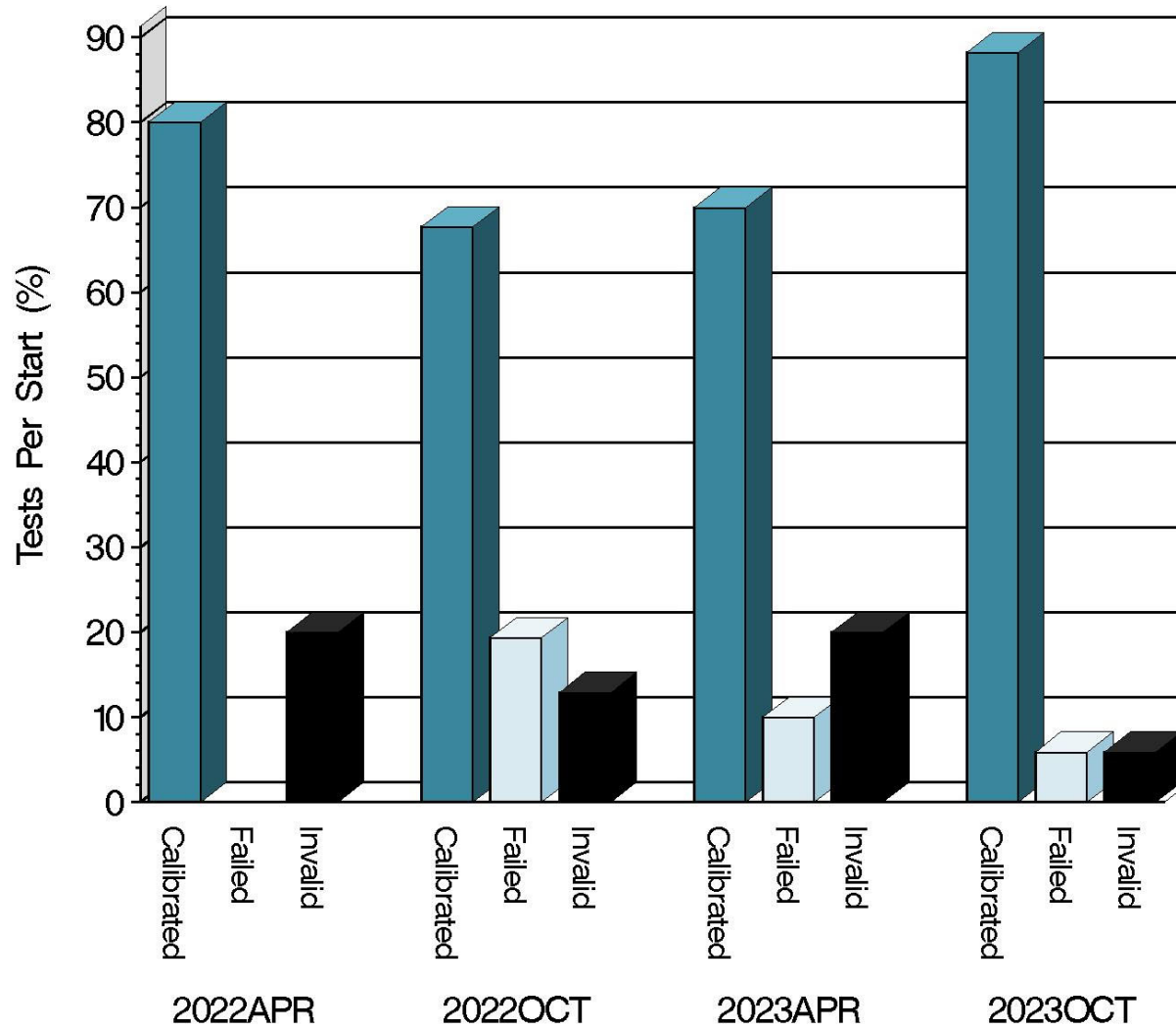
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L-42 (D7452)

CALIBRATION ATTEMPT SUMMARY



Resolution

Report Period

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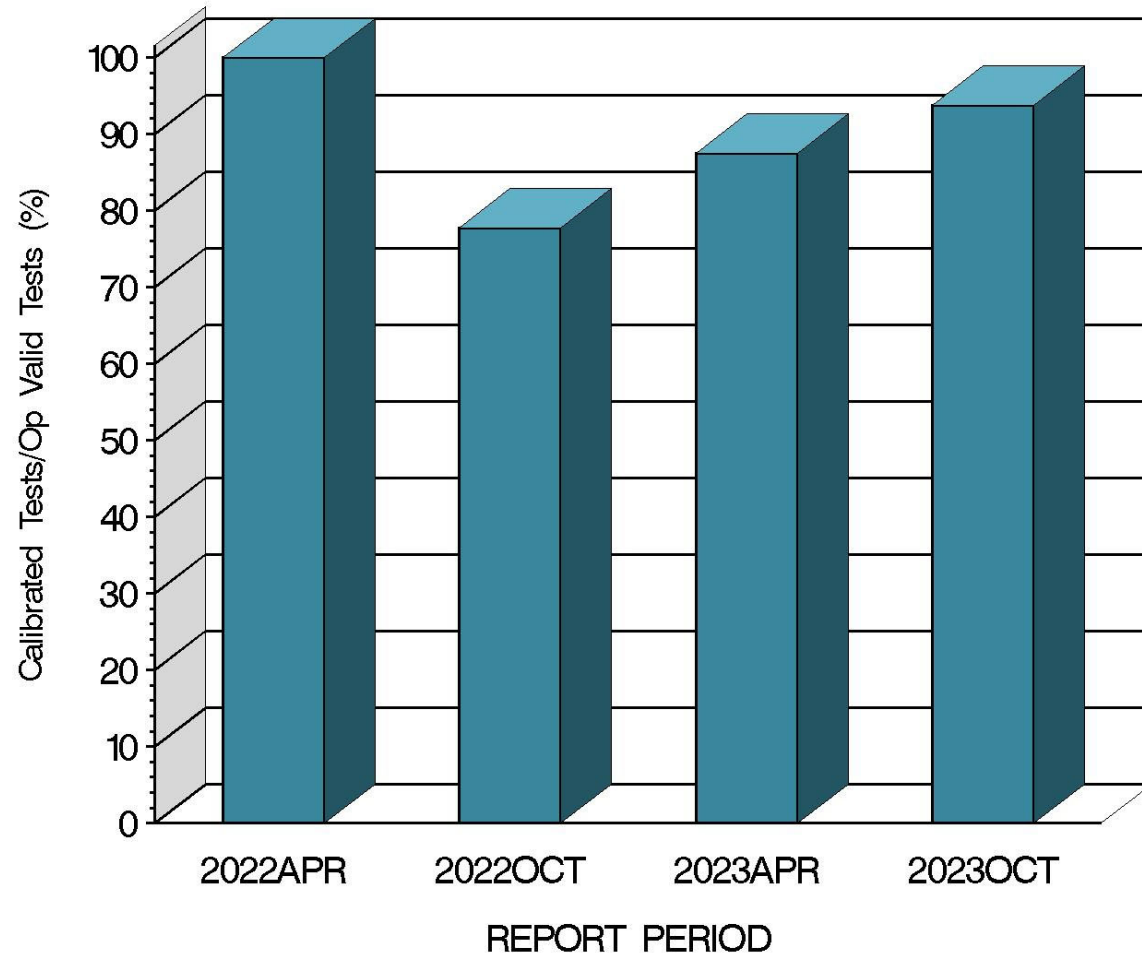
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L-42 (D7452)

OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



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L-42 (D7452)

CAUSES FOR LOST TESTS

		Loss Rate							
Lab	Cause	117	119	LC	LS	MS	Lost	Starts	%
G	Wheel speed out of limits		•		•		3	21	14%
	Wheel speed out of limits		•			•			
	Cooled after shock 1		•		•				
B	Low pass filter frequency out of spec	•		•			1	6	17%
Lost		1	3	2	1	1			
Starts		22	21	43	43	43			
%		4.5%	14%	4.6%	2.3%	2.3%			

L-42 (D7452)

			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
117	C1L446/P8AD132	6	19.2	4.36	-0.70
117	C1L637/P8AD132	2	26.0	2.83	0.55
117	C1L691/P8T025A	1	28.0	.	0.91
117	C1L925/P8AD078X	4	23.8	5.12	0.14
117	C1L925/P8T025A	1	26.0	.	0.55

		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	-1.14	3	2.87	1.73	0.00
B	-1.12	2	2.89	2.89	0.00
D	0.55	1	2.83	2.83	0.00
G	0.55	4	3.67	0.89	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.

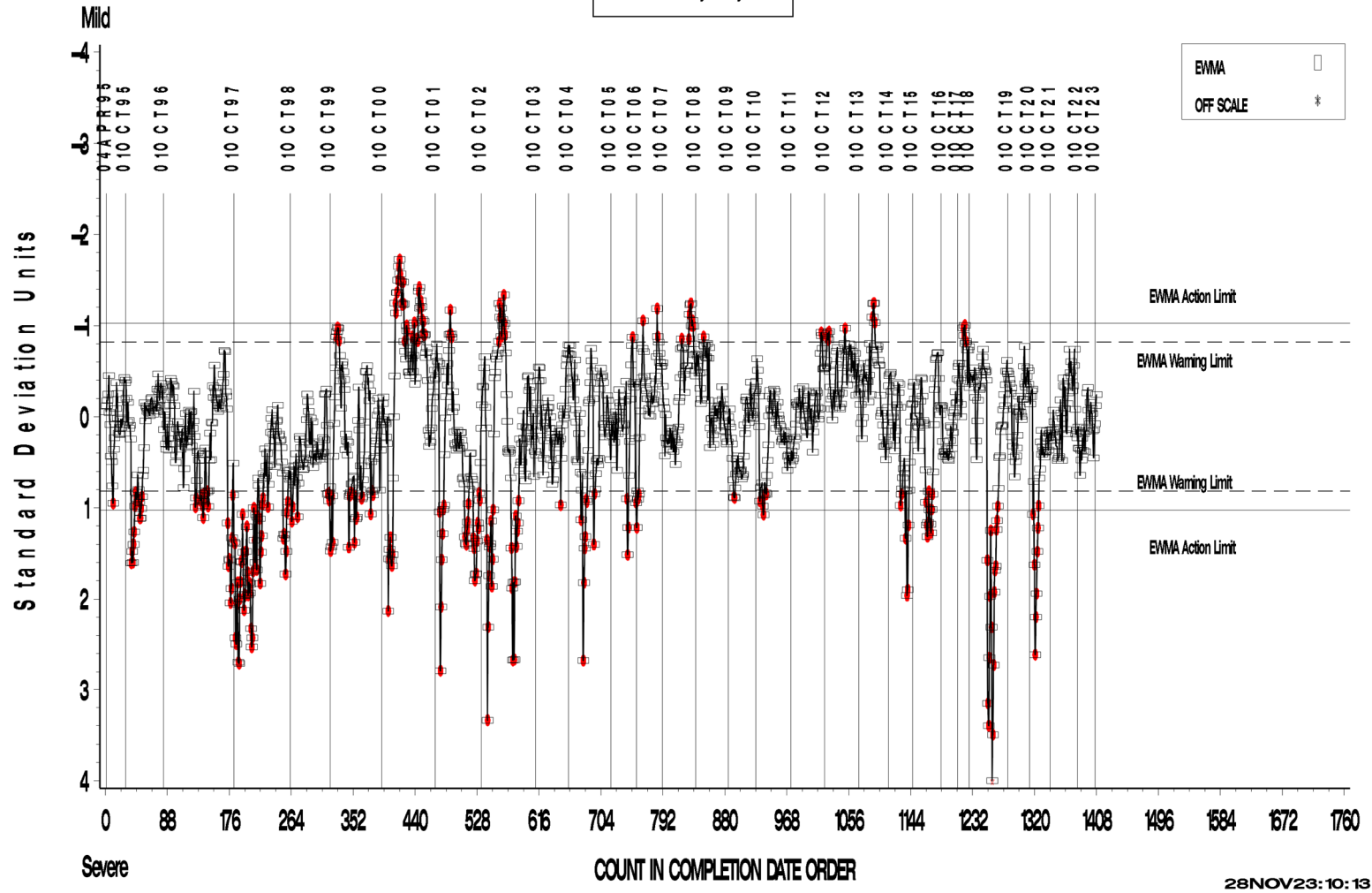
Industry control charts follow.

L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Severity Analysis



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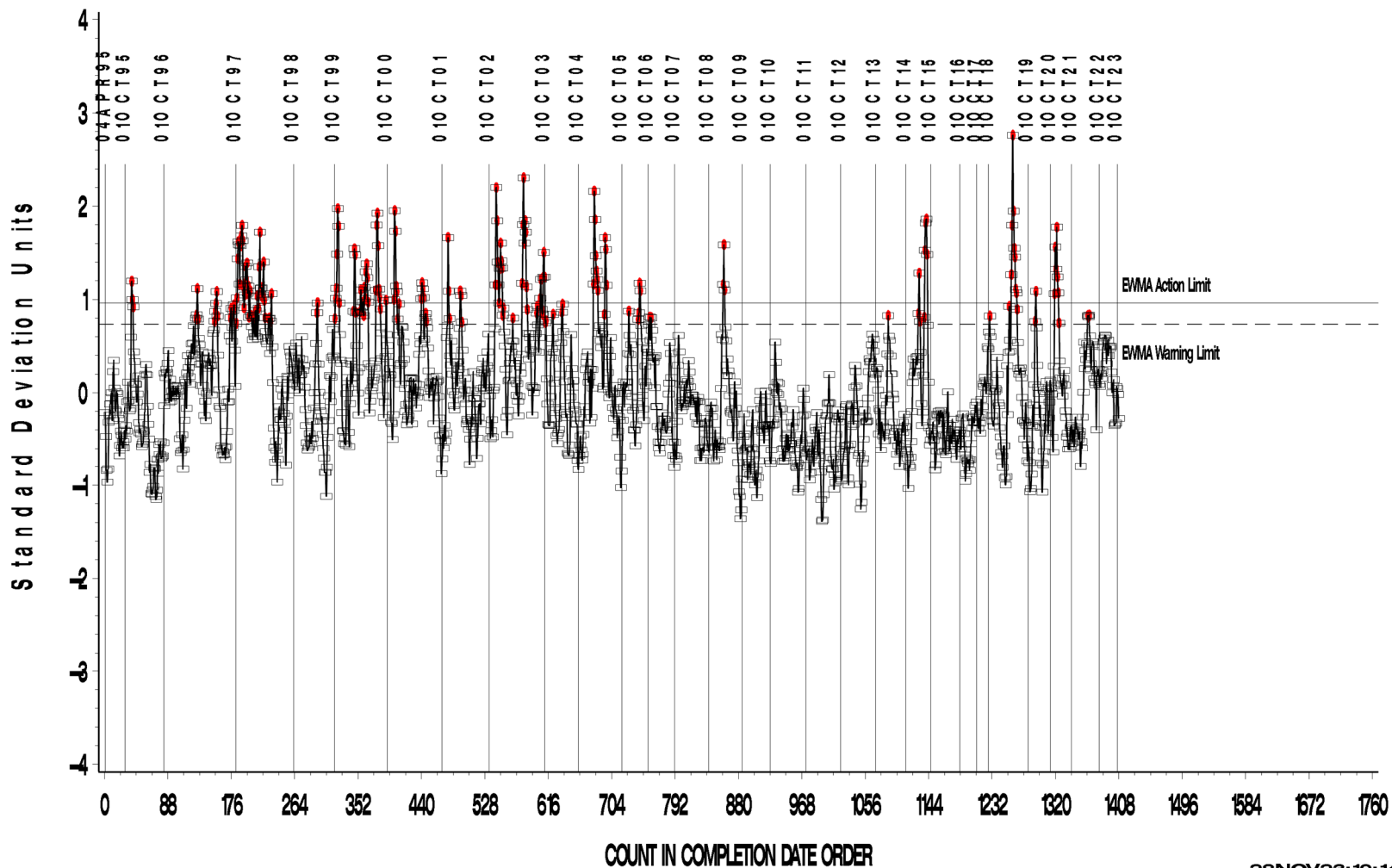
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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Precision Analysis



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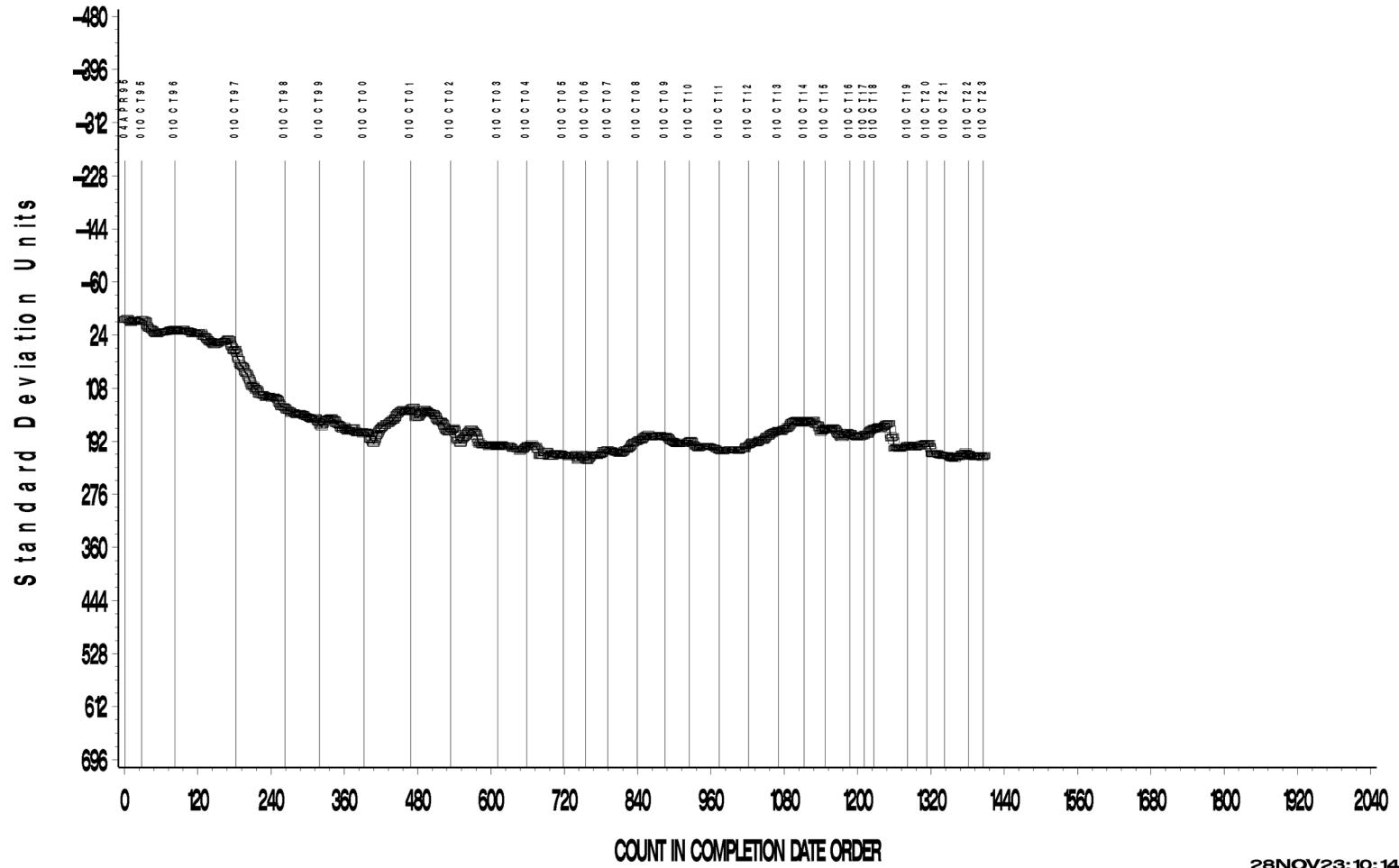
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L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

CUSUM Severity Analysis



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L-42 (D7452)

TIMELINE ADDITIONS

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

L-42 (D7452)

LAB VISITS

No lab visits were conducted during this reporting period.

INFORMATION LETTERS

No information letters 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	32	484	242.2
119	16	17	8.7
Total	48	557	278.8

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 was approved as a discrimination oil in May 2020. With less than 9 gallons remaining it is time to begin the process of looking for a replacement oil.