



MEMORANDUM: 20-038
DATE: October 5, 2020
TO: Matthew Sangpeal, Chairman, L-42 Surveillance Panel
FROM: Dylan Beck *DJB Becho*
SUBJECT: L-42 Reference Oil Testing from April 1, 2020 through September 30, 2020

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

DJB/djb/mem20-038.djb.doc

cc: Frank Farber

Jeff Clark

L-42 Surveillance Panel

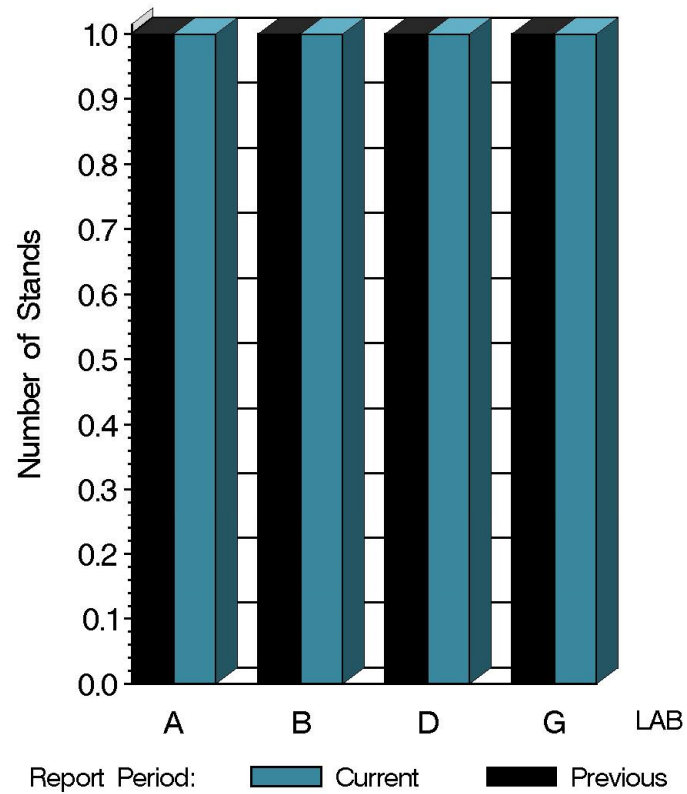
<http://www.astmtmc.cmu.edu/ftp/docs/gear/142/semiannualreports/142-10-2020.pdf>

Distribution: email

L-42 (D7452)

	Reporting Data	Calibrated on 9-30-20
Number of Labs	4	4
Number of Stands	4	4

BY-LAB STAND DISTRIBUTION



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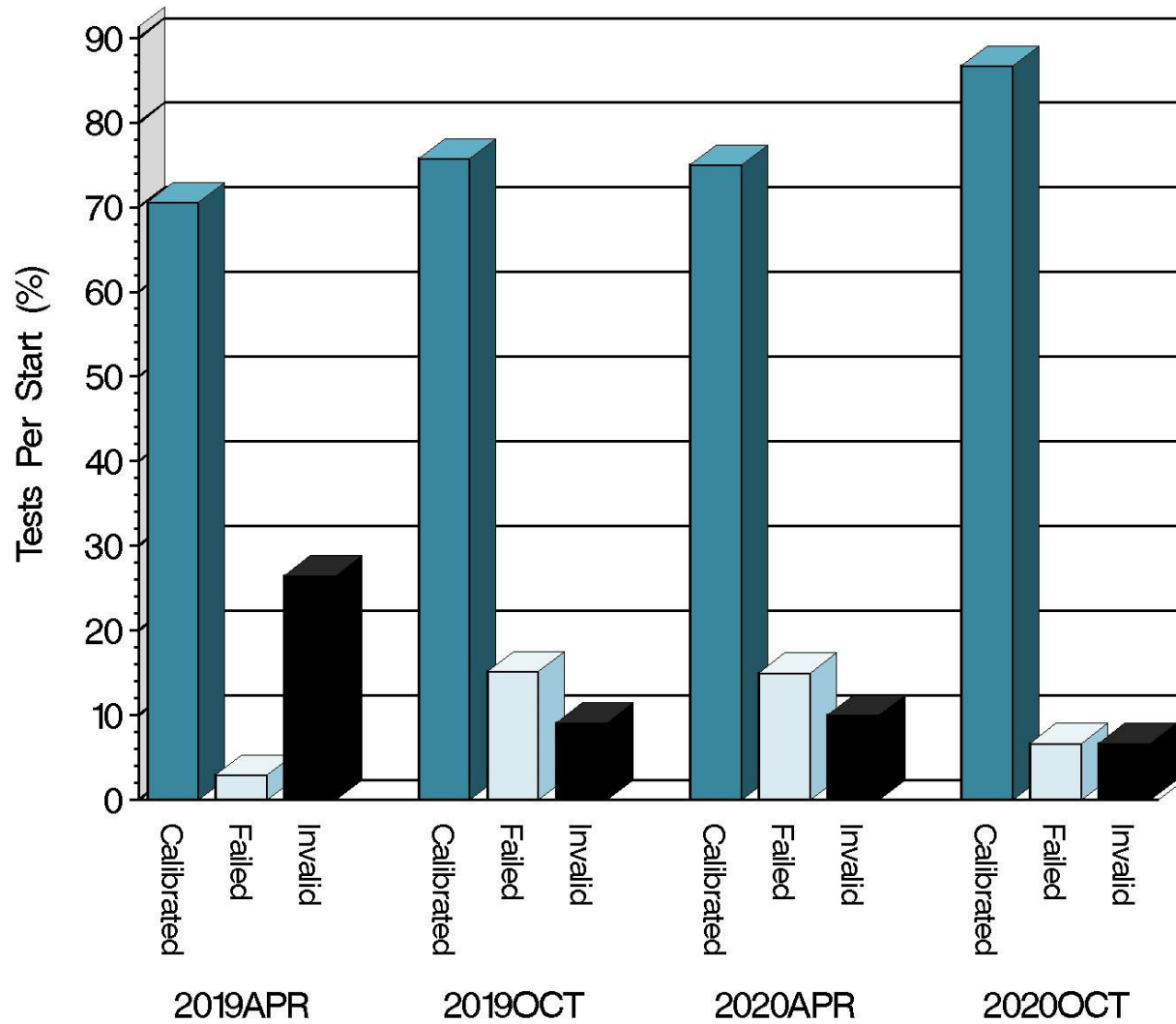
L-42 (D7452)

Test Distribution by Oil and Validity

					Totals				
					Last Period	This Period			
					113	117	119		
Accepted for calibration	AC	0	13	0	15	13			
Rejected (Mild)	OC	0	1	0	1	1			
Rejected (Severe)	OC	0	0	0	2	0			
Rejected (Precision)	OC	0	0	0	0	0			
Operationally Invalid (determined by lab)	LC	0	1	0	0	1			
Accepted discrimination	AS	6	0	1	5	7			
Unacceptable Information run	MI	0	0	0	0	0			
Unacceptable calibration	MC	0	0	0	2	0			
Aborted	XC	0	0	0	0	0			
Acceptable information run	NI	0	0	1	4	1			
Total		6	15	2	31	23			

L-42 (D7452)

CALIBRATION ATTEMPT SUMMARY



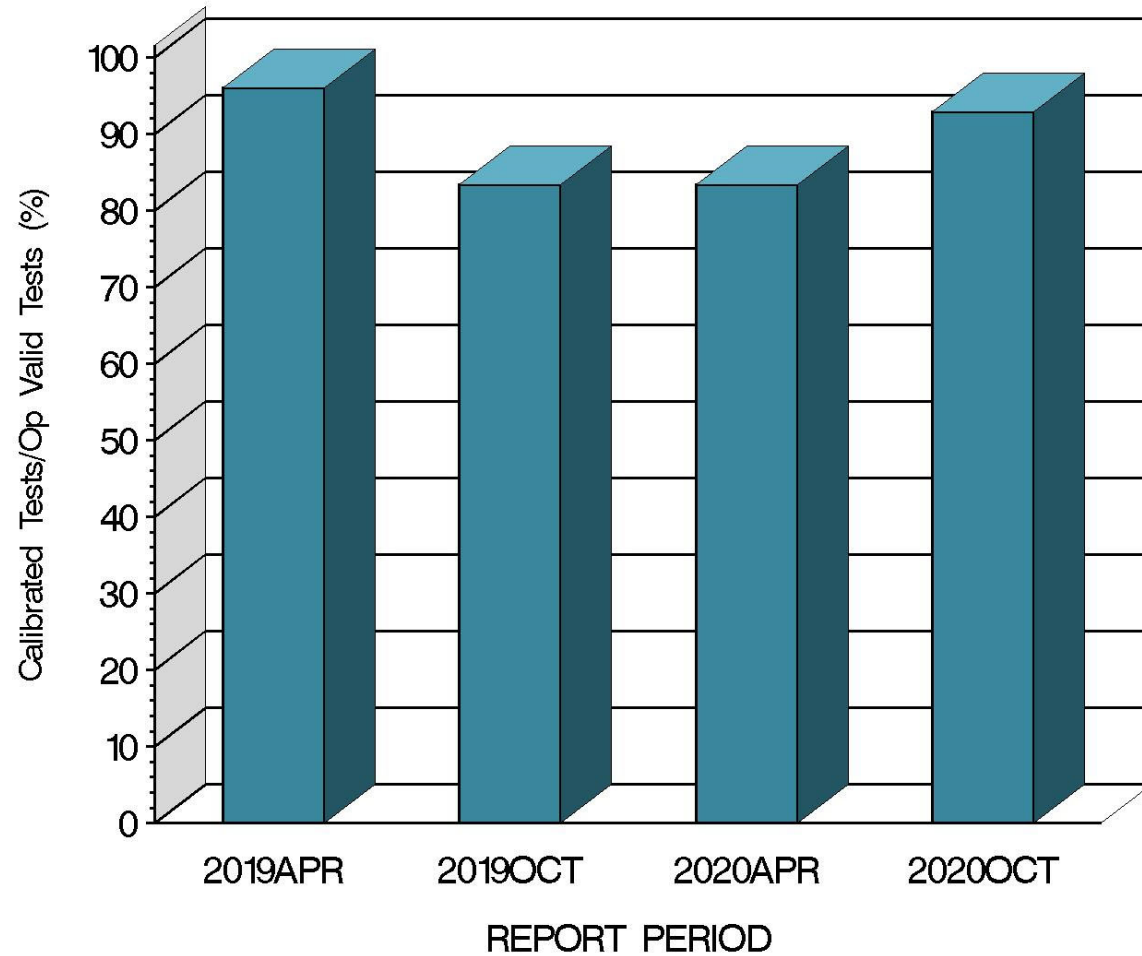
Resolution

Report Period

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OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA



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L-42 (D7452)

CAUSES FOR LOST TESTS

Lab	Cause	Oil		Validity				Loss Rate		
		113	117	MS	MC	XC	LC	Lost	Starts	%
G	Shock series 2 wheel speed out of spec		●				●	1	2	50%
	Lost	0	1	0	0	0	1			
	Starts	6	17	31	31	31	31			
	%	0%	6%	0%	0%	0%	3%			

L-42 (D7452)

			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
117	C1L446/P8AD132	7	23.9	3.58	0.16
117	C1L925/P8AD078X	7	17.9	4.45	-0.94

		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	1	4.24	2.83	0.00
B	-0.91	5	4.86	3.25	0.00
D	-0.36	4	3.00	1.52	0.00
G	-1.09	0	0.00	0.00	0.00

L-42 (D7452)

SUMMARY OF SEVERITY & PRECISION

Severity

All parameters have remained within limits this period.

Precision

All parameters have remained within limits this period.

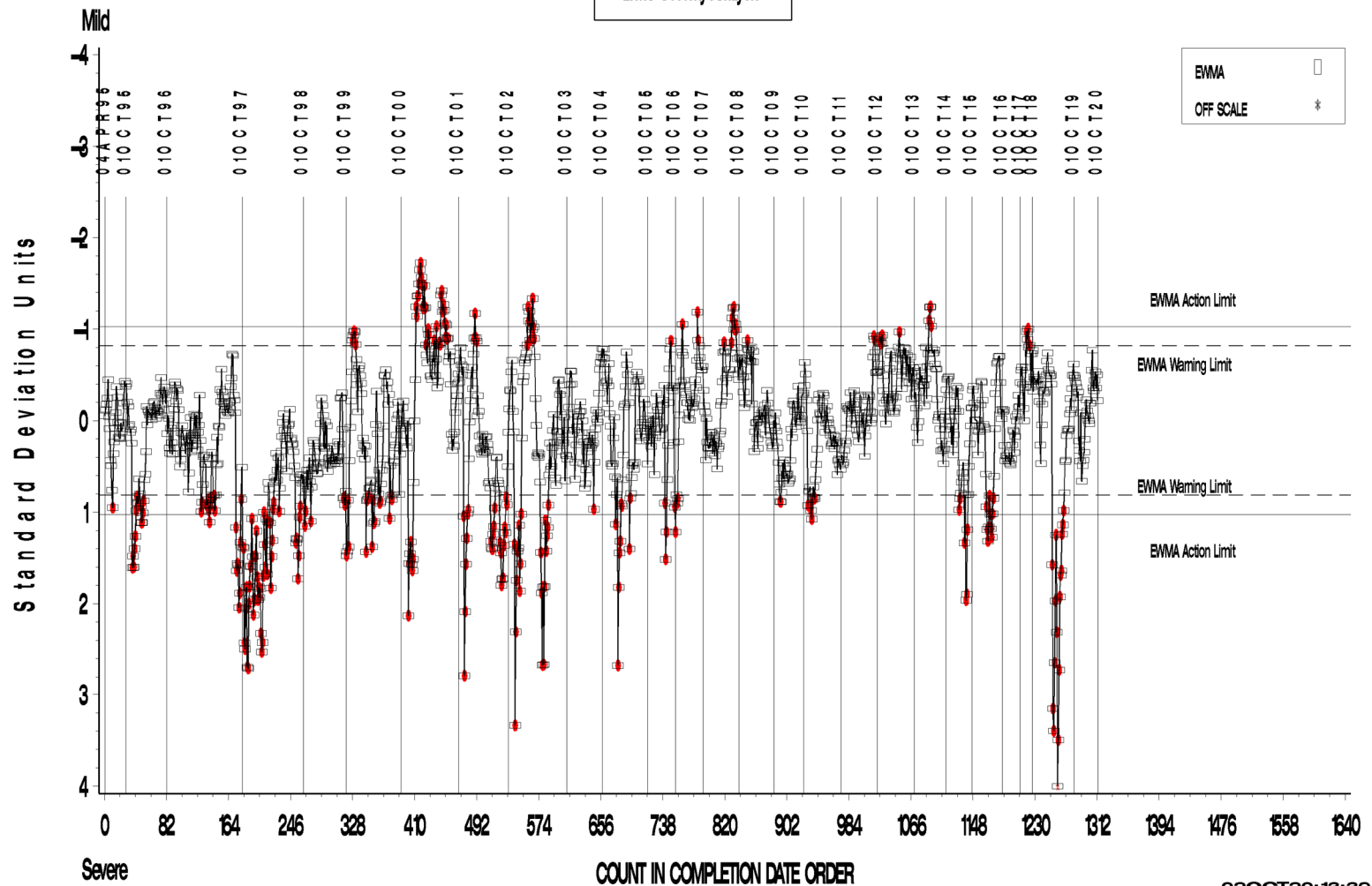
Industry control charts follow.

L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Severity Analysis



Test Monitoring Center

<http://astmtmc.cmu.edu>



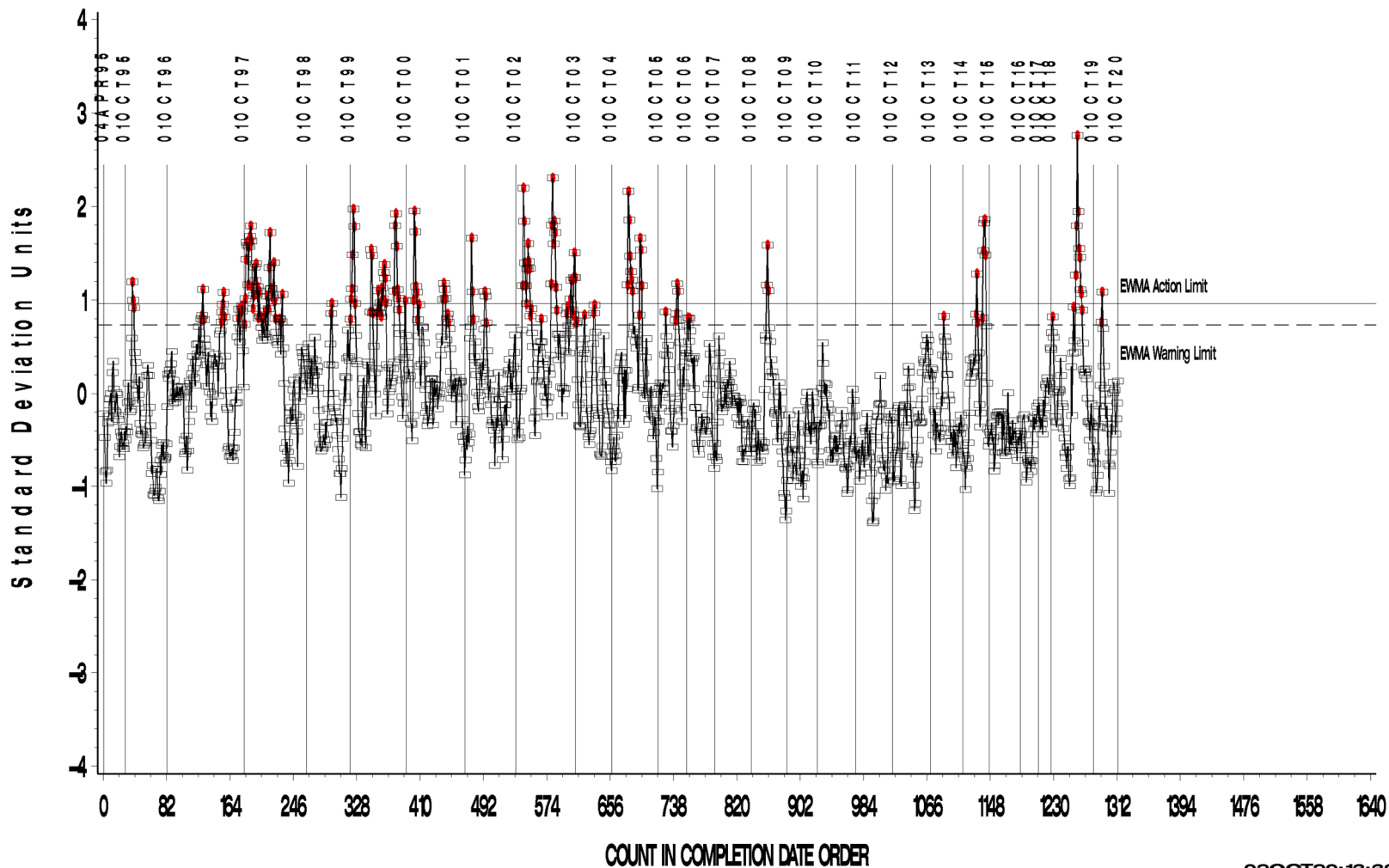
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L-42 (D7452)

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

LTMS Precision Analysis



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Test Monitoring Center

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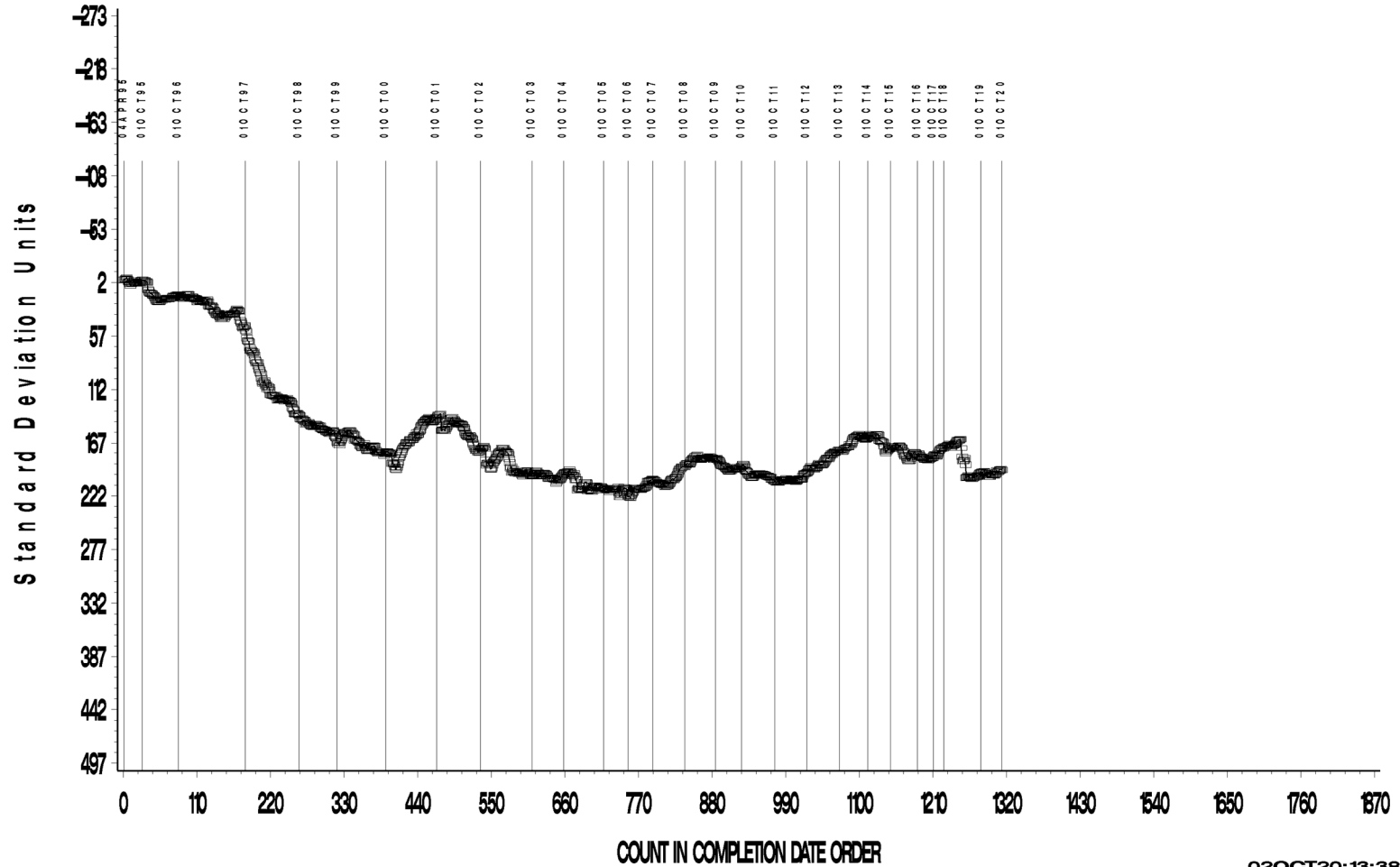
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L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE

CUSUM Severity Analysis



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Test Monitoring Center

<http://astmtmc.cmu.edu>



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L-42 (D7452)

TIMELINE ADDITIONS

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

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LAB VISITS

No lab visits were conducted during this period.

INFORMATION LETTERS

No information letters issued during this period.

L-42 (D7452)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
113	10	57	28.7
117	34	643	321.5
119	14	81	40.5
Total	58	781	390.7

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 has been approved as a replacement for discrimination oil 113. The remaining inventory of 113 at the test labs will be used, and then replaced by shipments of 119 oil.