

A maximum of 5 test cycles are printed on this page. If there are fewer than 5 sets of bar graphs on the chart and the laboratory was enrolled for all cycles, then one of the following situations occurred: lab did not submit data for a particular test/testing cycle or the data sheets were received late.

WebCode	Test Cycle	Sample Code	Lab Mean	Grand Mean	Between Lab Std Dev	CPV	Data Flag (if assigned)	
Not used	131	A21-A22	2,719.5	2,940.01	154.53	-1.43	126 of 126 labs included	
		A23-A24	2,737.6	2,893.36	144.16	-1.08		
Not used	132	B21-B22	2,871.8	3,114.28	150.10	-1.62	M 130 of 137 labs included	
		B23-B24	2,850.0	3,097.71	144.89	-1.71		
Not used	133	No data reported for this sample set.						
Not used	134	D21-D22	1,298.1	3,159.65	167.13	-11.14	X 128 of 137 labs included	
		D23-D24	1,247.3	3,180.17	156.34	-12.36		
LBWU8S	135	No data reported for this sample set.						

Data not reported for sample B21; lab indicated that specimens slipped in grips.

Action Item ! Your performance for this cycle was assigned an X Data Flag. Analyst Comment: Extremely low data for all samples.

Your individual report is called the Performance Analysis Report, which has been designed to serve as the primary tool for evaluating your results for each test/property. The Performance Analysis Report is a two-sided document. The front of the Report, shown on the right, is a trend chart that includes data for up to 5 cycles.

Each test is conducted using two sample sets. The chart shows the CPVs of your lab means for each sample set. The CPV is a ratio indicating the number of standard deviations from the grand mean. The formula for calculating a CPV is found in the header of the data table below the bar graph portion of the trend chart. If your laboratory did not report data for one sample or a sample set, or if your laboratory did not report any data at all for a cycle, an appropriate note will appear in the data table.

The data table below the bar graphs repeats the CPVs shown in the bar graphs and also provides supporting information. If your results have been flagged in the two-sample analysis and excluded from the statistics, an Action Item will be posted below the data, and analyst comments on the flag will appear. The Action Item should serve as notice of a problem that requires immediate attention. Other types of data flags are discussed in the Key to Individual Reports.

When comparing data among test cycles, remember that such comparisons may be limited if there have been changes to equipment, test procedures, or technicians. Despite the limitations, some labs view the trend charts as more than just historical data; these labs find the data to have predictive and/or diagnostic value. For those labs, the following examples illustrate how the information presented in the trend chart portion of the Performance Analysis Report could be interpreted.

Consistency

The hardness results for the first lab [Figure 1a] are consistent from round to round and should give the lab greater confidence in its hardness measurements, particularly in this range.

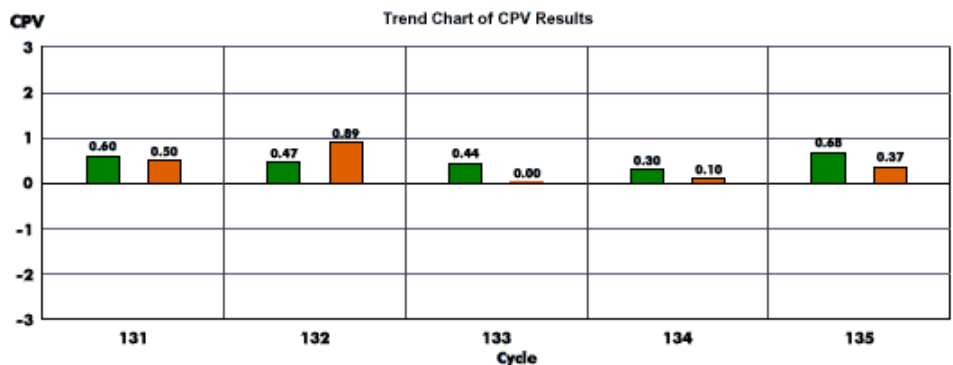


Figure 1a



Performance Analysis Report - Trend Chart
Analysis #660: Mooney Viscosity (4-minute readings) - ML
 using ASTM Method D1646

Lab Code: U####Z

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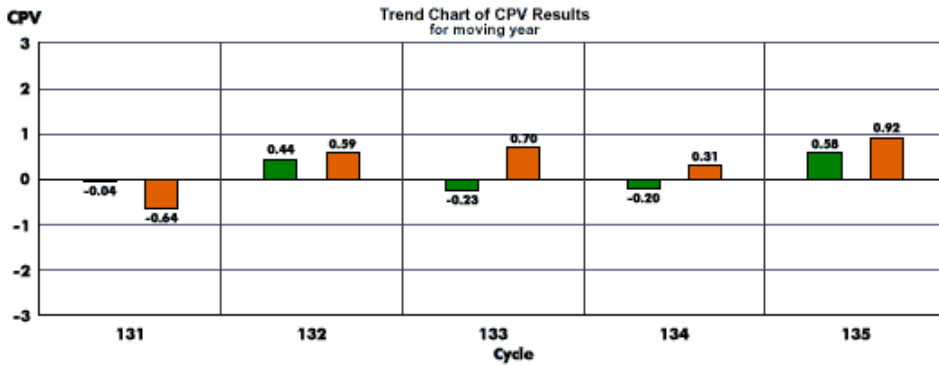


Figure 1b

Consistency

The Mooney Viscosity results for the second lab [Figure 1b] show normal (and acceptable) "flutter" around the grand means.

Sudden blip

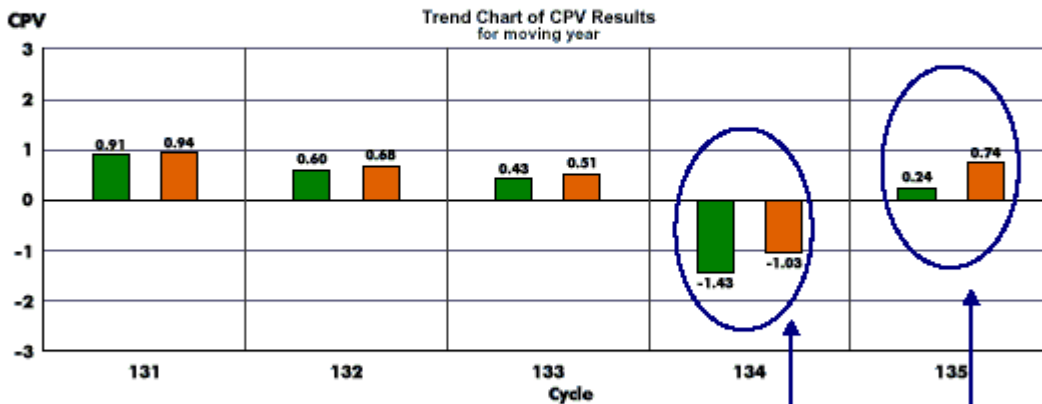
The trend chart can reveal a one-time deviation from usual performance. These deviations happen, even to the best of labs, and cannot be predicted; they may or may not result in exclusion from group statistics. This blip on the radar serves as a wake-up call. Was there a change in instruments? improper calibration? a departure from expected procedures? a new technician?



Performance Analysis Report - Trend Chart
Analysis #660: Mooney Viscosity (4-minute readings) - ML
 using ASTM Method D1646

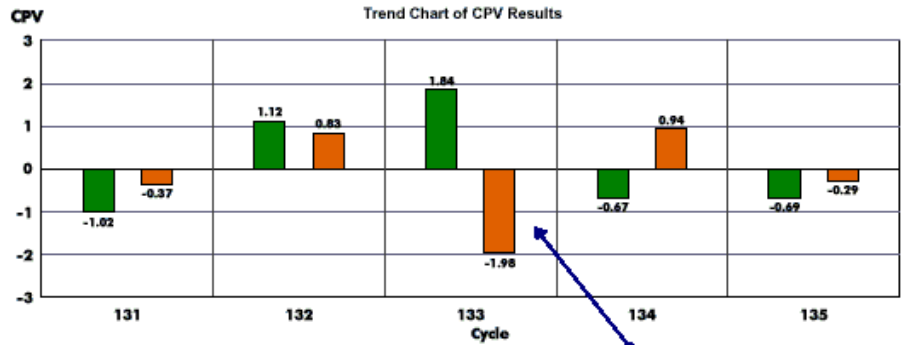
Lab Code: U####Z

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If there was a problem...

It has been corrected and the lab is back on track.



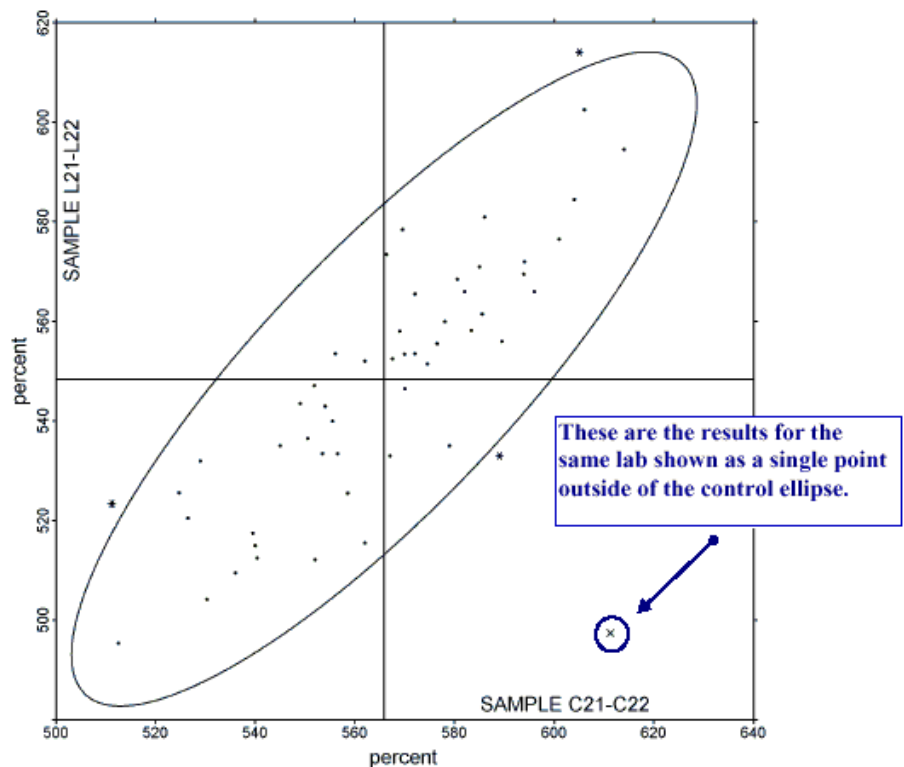
Inconsistency in testing

WebCode	Test Cycle	Sample Code	Lab Mean	Grand Mean	Between Lab Std Dev	CPV	Data Flag (if assigned)
	131	A21-A22 J21-J22	508.4 539.0	533.37 547.74	24.47 23.52	-1.02 -0.37	47 of 51 labs included
	132	B21-B22 K21-K22	579.2 570.4	553.40 551.13	23.03 23.08	1.12 0.83	48 of 52 labs included
	133	C21-C22 L21-L22	611.3 497.4	565.81 548.41	24.63 25.78	1.84 -1.98	52 of 56 labs included

Action Item ! Your performance for this cycle was assigned an X Data Flag. Analyst Comment: Inconsistency in testing between sample sets.

Inconsistency in testing

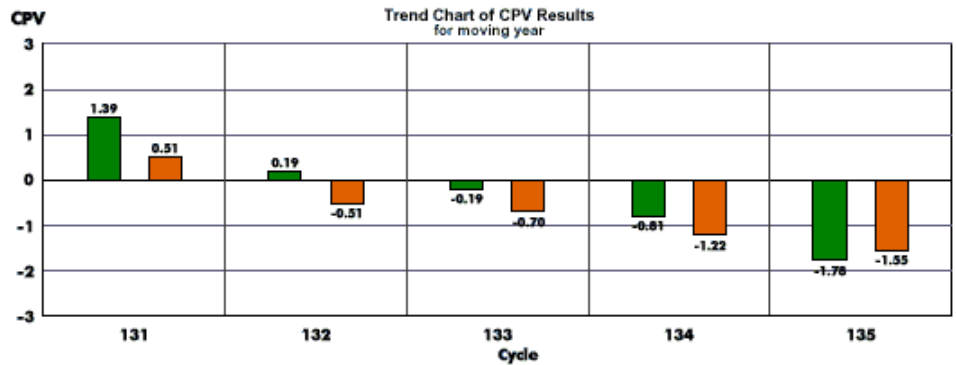
Inconsistencies that do not involve extreme data may be the most difficult error for labs to understand and to identify a cause. A lab's first instinct often is to conclude that 'each lab mean does not exceed a reasonable limit, so there is no problem'. But a limit has been exceeded. The test results for all labs are compared against each other, thereby computing an "acceptable" level of inconsistency and illustrated in part by the width of the control ellipse. A lab flagged for inconsistency in testing has exceeded what the other labs have determined is a reasonable difference between means for the samples.





Trending to extremes

Consistency is good. A bar graph that is growing consistently longer is not. This lab should be on the alert, as the trend chart depicts lab means that are not only slowly moving further and further from the grand means, but also in a direction that is opposite to the previous year's results.



The back of the Performance Analysis Report is the Current Cycle portion of the report that shows your lab's data for that cycle and the consensus data against which you are compared. All of this data is information that was previously supplied in the printed CRP reports and is now published on our Web site as the Summary Report. Use the WebCode printed on the front of the Performance Analysis Report to locate yourself in the Summary Report on the Web site.

The Current Cycle Performance Analysis Report presents the two-sample plot and control ellipse for the test/property. Knowing that lab means for the first sample set form the x-axis and lab means for the second sample set form the y-axis, you can easily find the point on the plot that represents your lab. However, if one or both of your lab means is extremely high or low, you may "fall off the plot". We now indicate your position on the plot by circling the point, provided you did not "fall off the plot".

You will notice a correlation between your bar graphs for the cycle and your position on the plot. For example, if both bars are above or below the zero-line, you will find your lab in the upper right or lower left quadrant, respectively. If your lab falls in the lower right or upper left quadrant of the plot, your bars go in opposite directions.

When considering your lab's position on the plot relative to the control ellipse, remember that, generally speaking, if a lab's plotted point falls on the major axis of the ellipse, the lab is consistent in its measurements between the two samples but exhibits an offset from the grand mean (systematic error). If a plotted point falls to the side of the ellipse, it indicates possible differences in the way that the lab tested the two samples or differences in sample behavior (inconsistency in testing). The two-sample plot enables you to see which sample, if either, is out of control and to ascertain the nature of the out-of-control situation.