Collaborative Testing Services, Inc.

Rubber Interlaboratory Testing Program

Summary Report #194- 4th Qtr 2017

About the Rubber Program, About CTS

Key for Web Summary Report

Analysis	Analysis Name
605	Tensile Strength: Precured Rubber Samples
606	Ultimate Elongation: Precured Rubber Samples
607	Stress at 300% Elongation: Precured Samples
608	Stress at 100% Elongation: Precured Samples
620	Hardness (Type A): Precured Rubber Samples
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625	Hardness (Shore D/Type D)
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631	Ultimate Elongation: Participant-Cured Samples
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633	Tensile Stress at 100% Elongation: Lab-Cured
660	Mooney Viscosity (4-minute readings)
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685	MDR Vulcanization Charac.: Scorch Time, Ts1
686	MDR Vulcanization Charac.: Cure Time 50%
687	MDR Vulcanization Charac.: Cure Time 90%
688	MDR Vulcanization Charac.: Minimum Torque
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690	RPA Rheological Properties: Part A - G′ at 20Hz
691	RPA Rheological Properties: Part A - G″ at 20Hz
695	RPA Rheological Properties: Part B - G′ at 1.0Hz
696	RPA Rheological Properties: Part B - G″ at 1.0Hz

ABOUT THE PROGRAM

The Collaborative Reference Program for RUBBER, which was initiated in 1969, is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Rubber Division of the American Chemical Society. The program allows laboratories to compare periodically the level and uniformity of their testing with that of other participating laboratories. It also provides a realistic assessment of the state of rubber testing proficiency.

For each test there are summary statistics and a graphical representation of the data. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Please refer to the section KEY TO TABLES AND GRAPHS for an explanation of terms and guidelines to interpreting the results.

ABOUT CTS

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industrial sectors, including rubber, plastics, fasteners and metals, containerboard, paper and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in CTS programs.

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Key for Web Summary Report (Page 1 of 2)

WebCode — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Rubber Report published on the CTS Web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.

Lab Mean — Tensile & Hardness: the average of the median values obtained for each sample. All other tests: the average of the test results obtained by the participant.

Grand Mean — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

Difference from Grand Mean — The difference of the LAB MEAN from the GRAND MEAN.

Between-Lab Standard Deviation — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

Comparative Performance Value — An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

Inst Code — If instruments are tracked in a test, a code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

Data Flag — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

DATA FLAG	STATISTICALLY INCLUDED/EXCLUDED	ACTION REQUIRED
*	INCLUDED	**CAUTION** - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	**STOP** - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	**PROCEED** - lab was unable to report data for at least one sample. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

Graph - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

Common Problems Highlighted in Footnotes

1. ***Extreme data*** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. (The data usually vary by more than three standard deviations from the grand mean.) The participant is advised to immediately review his data and/or testing procedure.

2. ***Systematic bias*** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.

3. ***Inconsistency in testing between samples/sample sets*** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.

4. ***Inconsistency in testing within a sample*** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

5. ***Data appeared to be off by a factor of # and was corrected by CTS*** - In tests that involve computations, the results reported to CTS may be off by a factor. If this factor can easily be determined, CTS may correct the data and flag the participant. Occasionally CTS will correct a laboratory's results even though the data are still high or low when compared to the other participants. This is done so that the laboratory may be alerted to other possible errors in its testing procedure.

6. ***Data for two samples (or two tests) appeared to be switched by the lab, and the error was corrected by CTS.***

Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
23D9F2		3,415.5	211.7	1.53	3,382.0	166.0	1.14
2RUW4N	*	3,370.7	167.0	1.21	3,560.0	343.9	2.37
3A6Z8R		3,465.0	261.2	1.89	3,396.0	180.0	1.24
3JCMD8		3,148.5	-55.3	-0.40	3,189.5	-26.5	-0.18
3NQKJ9		3,141.5	-62.3	-0.45	3,183.5	-32.5	-0.22
3QC6QX		3,286.0	82.2	0.60	3,243.5	27.5	0.19
3RN2XN		2,968.2	-235.5	-1.70	3,008.8	-207.2	-1.42
48Y6WM		3,051.8	-152.0	-1.10	3,069.5	-146.6	-1.01
68FBZK		3,351.1	147.4	1.07	3,424.3	208.2	1.43
6VZQCG		3,305.1	101.4	0.73	3,391.9	175.8	1.21
749K34		3,158.2	-45.6	-0.33	3,205.7	-10.3	-0.07
77YL8R		3,268.5	64.7	0.47	3,319.0	103.0	0.71
78BHEG		3,124.0	-79.8	-0.58	3,068.5	-147.5	-1.01
7VCP46		3,365.8	162.0	1.17	3,300.2	84.2	0.58
7X4LVK		3,371.9	168.1	1.22	3,362.2	146.2	1.01
7YFHZP	X	2,966.0	-237.7	-1.72	3,270.6	54.6	0.38
87E6P4		3,246.5	42.7	0.31	3,433.0	217.0	1.49
8BNE27		3,050.0	-153.8	-1.11	3,010.0	-206.0	-1.42
8MYTZX		3,311.8	108.0	0.78	3,290.7	74.7	0.51
9JUMXX		3,279.5	75.7	0.55	3,245.4	29.4	0.20
A4YKUY		3,468.5	264.7	1.92	3,481.0	265.0	1.82
A69RWR	X	4,523.0	1,319.3	9.55	4,597.0	1,381.0	9.50
ACCVPB		3,345.5	141.7	1.03	3,343.5	127.5	0.88
AD4UY3		3,249.3	45.5	0.33	3,255.6	39.5	0.27
AJUZ36		3,306.6	102.8	0.74	3,353.1	137.1	0.94
ANKEKK		3,375.4	171.7	1.24	3,437.2	221.1	1.52
B4UKBA		3,098.0	-105.8	-0.77	3,012.5	-203.5	-1.40
B6N9RK		3,232.3	28.6	0.21	3,274.5	58.4	0.40
BEU7JU		3,254.5	50.7	0.37	3,304.0	88.0	0.60
BQ7HTH		2,997.5	-206.3	-1.49	3,062.5	-153.5	-1.06
BRFPUP		3,139.4	-64.4	-0.47	3,331.5	115.5	0.79
C4QJLU		3,251.5	47.7	0.35	3,306.0	90.0	0.62
C8C7JN		3,370.3	166.6	1.21	3,307.6	91.5	0.63
CEBJMX		2,960.0	-243.8	-1.76	3,072.0	-144.0	-0.99
CHCRR8		3,363.5	159.7	1.16	3,459.3	243.3	1.67
CJLW3B		3,164.5	-39.3	-0.28	3,133.0	-83.0	-0.57
CPAKZ2		3,115.0	-88.8	-0.64	3,110.0	-106.0	-0.73
CVUMYR		2,994.3	-209.5	-1.52	2,957.9	-258.1	-1.78

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WebCode	Data Flag	Sample Lab Mean	Sample Diff from Grand Mean	Sample CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
DTLRUE	M	No data reported for this sample			2,833.1	-383.0	-2.63
EKQBGU		3,409.5	205.7	1.49	3,368.0	152.0	1.05
F8YW2X		3,100.0	-103.8	-0.75	3,005.0	-211.0	-1.45
FJDWV7		3,352.0	148.2	1.07	3,199.0	-17.0	-0.12
FVNA7F		3,126.8	-77.0	-0.56	3,198.2	-17.9	-0.12
FXR6PH		3,110.5	-93.3	-0.67	3,126.0	-90.0	-0.62
GDFYEE		3,128.0	-75.8	-0.55	3,107.0	-109.0	-0.75
GLX26P		3,156.5	-47.3	-0.34	3,164.5	-51.5	-0.35
GMMELL		3,191.2	-12.6	-0.09	3,219.8	3.8	0.03
GPYAAY		3,380.0	176.2	1.28	3,430.0	214.0	1.47
GWWYQ4		3,011.7	-192.0	-1.39	3,015.4	-200.7	-1.38
H7V2LK		3,335.9	132.1	0.96	3,285.1	69.1	0.48
H8AHPQ		3,137.2	-66.6	-0.48	3,135.7	-80.3	-0.55
HKEL6T		3,417.0	213.2	1.54	3,417.5	201.5	1.39
HTQ3DE	*	3,120.0	-83.8	-0.61	3,320.0	104.0	0.71
HZ8DRE		3,144.4	-59.4	-0.43	3,124.0	-92.0	-0.63
JBNHE6		3,063.5	-140.3	-1.01	3,185.5	-30.5	-0.21
JBQ6X4	*	2,835.0	-368.8	-2.67	2,935.0	-281.0	-1.93
JHMZWM		3,182.9	-20.9	-0.15	3,219.9	3.8	0.03
JW7U68		3,476.6	272.8	1.97	3,442.5	226.5	1.56
KCDBNE		3,221.0	17.2	0.12	3,306.5	90.5	0.62
KEMBRZ		3,247.9	44.1	0.32	3,367.4	151.3	1.04
KGTHAT		3,323.3	119.6	0.87	3,298.8	82.8	0.57
KMUXXE		3,265.0	61.2	0.44	3,365.4	149.4	1.03
KQZDDX		3,063.2	-140.5	-1.02	3,156.8	-59.3	-0.41
L82MNH	*	3,339.5	135.8	0.98	3,509.9	293.9	2.02
L8GWKP		3,229.0	25.2	0.18	3,128.0	-88.0	-0.61
LQCC4Z		3,114.2	-89.6	-0.65	3,004.0	-212.1	-1.46
LRKPK3		3,337.2	133.4	0.97	3,407.9	191.9	1.32
LRMC42		3,264.5	60.7	0.44	3,316.8	100.7	0.69
MBRBLZ		3,128.0	-75.8	-0.55	3,109.5	-106.5	-0.73
MEWWFF		3,115.5	-88.3	-0.64	3,149.5	-66.5	-0.46
MJP7JY		3,166.9	-36.9	-0.27	3,055.0	-161.0	-1.11
MQMTGC		3,047.5	-156.3	-1.13	2,989.0	-227.0	-1.56
MTYDJ9		3,172.0	-31.8	-0.23	3,284.5	68.5	0.47
NPCBWZ		3,082.8	-120.9	-0.88	3,131.4	-84.6	-0.58
NPU34Y	*	3,598.5	394.7	2.86	3,488.5	272.5	1.87

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
NU3MPB		2,888.5	-315.3	-2.28	2,903.5	-312.5	-2.15
NZQBL2	X	2,207.4	-996.4	-7.21	2,054.2	-1,161.8	-7.99
PB9CG2		3,179.0	-24.8	-0.18	3,151.5	-64.5	-0.44
PFYJ2V	X	4,844.3	1,640.6	11.87	4,902.3	1,686.3	11.60
PHNR8Q		3,238.0	34.2	0.25	3,217.0	1.0	0.01
PKAR9R		3,249.5	45.7	0.33	3,251.0	35.0	0.24
PW6NMM		3,015.0	-188.8	-1.37	3,161.5	-54.5	-0.38
PZPT4W		3,051.4	-152.3	-1.10	2,992.2	-223.9	-1.54
Q76X93		3,321.4	117.6	0.85	3,321.4	105.4	0.72
Q8YLPC		3,362.7	159.0	1.15	3,379.4	163.4	1.12
QE4D3G		3,273.5	69.8	0.50	3,228.6	12.5	0.09
QLLNFG		3,227.5	23.7	0.17	3,134.0	-82.0	-0.56
QMDR2C		3,278.0	74.2	0.54	3,330.5	114.5	0.79
QRDTAL		3,279.1	75.3	0.55	3,257.2	41.1	0.28
R4W336		3,312.0	108.2	0.78	3,388.1	172.1	1.18
R99VFN		3,074.8	-128.9	-0.93	3,147.3	-68.7	-0.47
RHFRYL		3,255.1	51.3	0.37	3,239.6	23.5	0.16
RK8NQZ		3,281.0	77.2	0.56	3,203.5	-12.5	-0.09
RQ7BFF		3,148.5	-55.3	-0.40	3,106.3	-109.8	-0.76
RR4JNY		3,093.5	-110.3	-0.80	3,119.2	-96.9	-0.67
T8DMVC		3,169.1	-34.6	-0.25	3,205.4	-10.7	-0.07
TKLCML	*	3,192.7	-11.1	-0.08	2,989.6	-226.4	-1.56
TR6T2G		3,060.3	-143.4	-1.04	3,038.6	-177.5	-1.22
U8CALN		2,940.5	-263.3	-1.90	3,021.0	-195.0	-1.34
V3UDC6	X	3,571.5	367.7	2.66	3,397.0	181.0	1.24
V9WP7F		3,188.0	-15.8	-0.11	3,203.0	-13.0	-0.09
VCHAD6		3,095.9	-107.9	-0.78	3,153.9	-62.2	-0.43
VDQJ73		3,088.5	-115.3	-0.83	3,035.5	-180.5	-1.24
VRA3ZR		3,059.0	-144.8	-1.05	3,081.5	-134.5	-0.93
VU6JJF		3,401.5	197.7	1.43	3,438.0	222.0	1.53
VXZBRD		3,207.0	3.2	0.02	3,172.5	-43.5	-0.30
WZM9HG		3,110.0	-93.8	-0.68	3,095.0	-121.0	-0.83
XE2YUN		3,086.5	-117.3	-0.85	3,202.0	-14.0	-0.10
XPVJR7		3,195.4	-8.4	-0.06	3,255.1	39.1	0.27
XQP89G		3,118.3	-85.4	-0.62	3,082.1	-134.0	-0.92
XUQB3N		3,257.6	53.8	0.39	3,150.2	-65.8	-0.45
XXRAJ9		3,252.5	48.7	0.35	3,242.5	26.5	0.18
Y937T6		3,059.0	-144.8	-1.05	3,057.5	-158.5	-1.09

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
YVZFC7		3,162.1	-41.7	-0.30	3,108.4	-107.6	-0.74
YX4BWU		3,486.7	283.0	2.05	3,430.9	214.9	1.48
ZDF67J		3,154.0	-49.8	-0.36	3,172.0	-44.0	-0.30
ZHA2VA		3,195.0	-8.8	-0.06	3,162.5	-53.5	-0.37
ZYJRRM		3,052.0	-151.8	-1.10	3,116.0	-100.0	-0.69

Summary Statistics

	D71-D72	D73-D74
Grand Means	3,203.75 psi	3,216.04 psi
Stnd Dev Btwn Labs	138.22 psi	145.41 psi

Statistics based on 112 of 118 reporting participants

Summary Statistics in SI Units

	D71-D72	D73-D74
Grand Means	22.089 MPa	22.17 MPa
Stnd Dev Btwn Labs	0.953 MPa	1.00 MPa

Statistics based on 112 of 118 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #605

7YFHZP (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group D73-D74.

A69RWR (X) - Data for all samples are high. Possible Systematic Error.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

NZQBL2 (X) - Data for all samples are low. Possible Systematic Error.

PFYJ2V (X) - Data for all samples are very high.

V3UDC6 (X) - Inconsistent in testing between samples.

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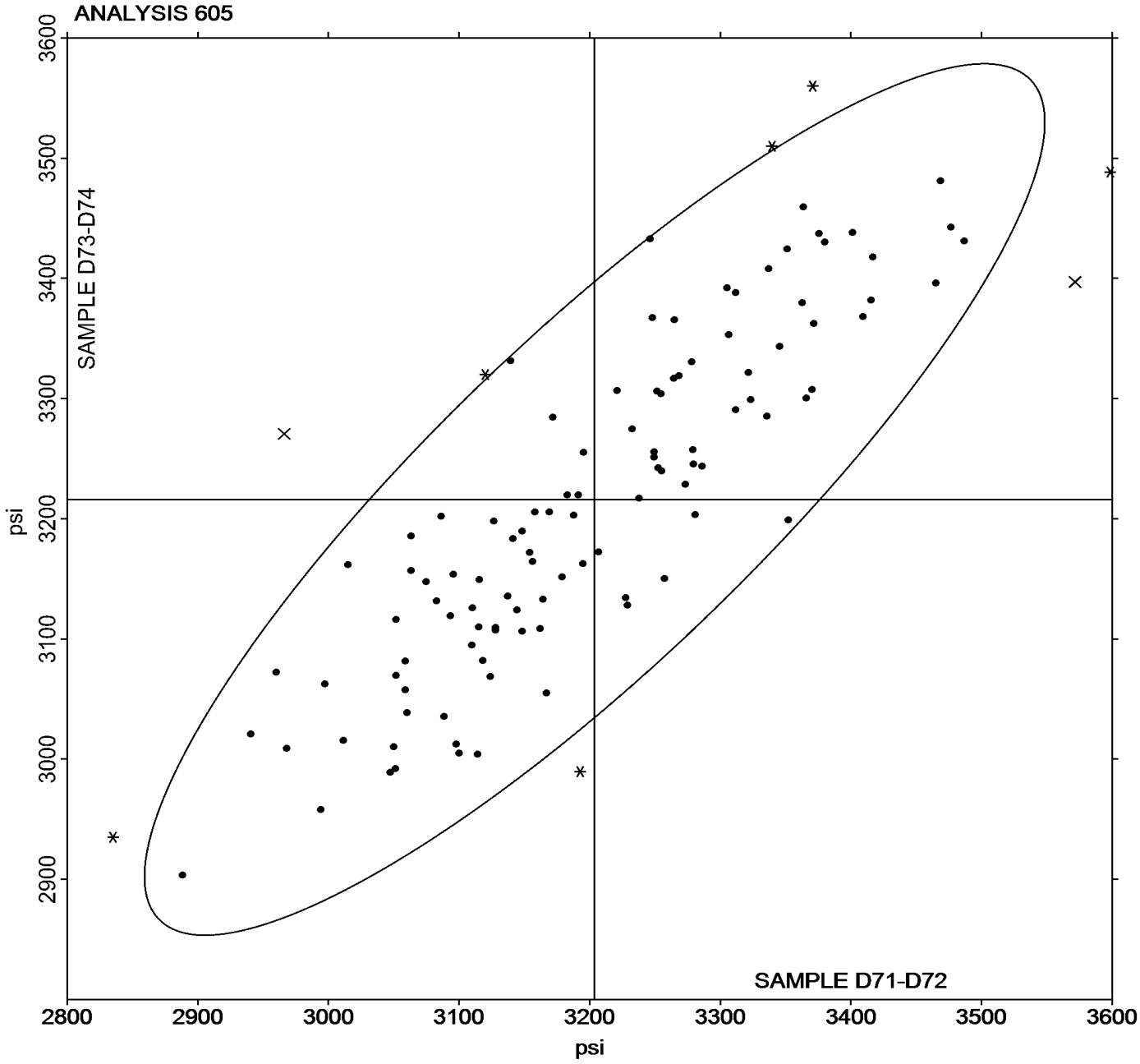
Grand Mean Sample **D71-D72** = 3,203.75 psi

Grand Mean Sample **D73-D74** = 3,216.04 psi



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
23D9F2		583.5	5.8	0.24	579.5	1.5	0.06
2RUW4N	X	943.5	365.8	15.07	951.5	373.5	15.01
3A6Z8R	*	625.5	47.8	1.97	608.5	30.5	1.22
3JCMD8		574.0	-3.7	-0.15	576.5	-1.5	-0.06
3NQKJ9		613.0	35.3	1.45	614.5	36.5	1.47
3QC6QX	X	539.5	-38.2	-1.57	586.5	8.5	0.34
3RN2XN		564.5	-13.2	-0.54	565.0	-13.0	-0.52
48Y6WM		567.9	-9.8	-0.40	587.8	9.7	0.39
68FBZK		599.1	21.4	0.88	592.8	14.8	0.59
6VZQCG	X	1,743.8	1,166.1	48.03	1,776.2	1,198.2	48.16
749K34		564.5	-13.2	-0.54	573.6	-4.5	-0.18
77YL8R		623.5	45.8	1.89	615.0	37.0	1.49
78BHEG		576.5	-1.2	-0.05	574.5	-3.5	-0.14
7VCP46		592.0	14.3	0.59	586.2	8.2	0.33
7X4LVK		591.7	14.0	0.58	596.9	18.8	0.76
7YFHZP	X	770.0	192.3	7.92	762.5	184.5	7.41
87E6P4		573.5	-4.2	-0.17	583.0	5.0	0.20
8BNE27	*	514.5	-63.2	-2.60	514.0	-64.0	-2.57
8MYTZX		605.4	27.7	1.14	600.8	22.7	0.91
9JUMXX		609.4	31.7	1.30	600.2	22.1	0.89
A4YKUY		597.0	19.3	0.80	597.5	19.5	0.78
A69RWR	*	543.5	-34.2	-1.41	563.6	-14.5	-0.58
ACCVPB	X	502.5	-75.2	-3.10	524.0	-54.0	-2.17
AD4UY3		581.2	3.5	0.15	585.5	7.4	0.30
AJUZ36		599.8	22.1	0.91	607.2	29.1	1.17
ANKEKK		572.0	-5.7	-0.23	576.4	-1.6	-0.07
B4UKBA		588.5	10.8	0.45	583.5	5.5	0.22
B6N9RK		537.0	-40.7	-1.68	538.0	-40.1	-1.61
BEU7JU		596.0	18.3	0.75	590.0	12.0	0.48
BQ7HTH		585.0	7.3	0.30	600.0	22.0	0.88
BRFPUP	X	587.8	10.1	0.41	621.5	43.5	1.75
C4QJLU		590.0	12.3	0.51	597.0	19.0	0.76
C8C7JN		583.0	5.3	0.22	581.5	3.5	0.14
CEBJMX		572.5	-5.2	-0.21	564.0	-14.0	-0.56
CHCRR8		596.7	19.0	0.78	606.1	28.1	1.13
CJLW3B		568.6	-9.1	-0.37	564.7	-13.3	-0.54
CPAKZ2		551.0	-26.7	-1.10	542.0	-36.0	-1.45

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
CVUMYR		594.7	17.0	0.70	594.0	16.0	0.64
DTLRUE	M	No data reported for this sample			557.8	-20.2	-0.81
EKQBGU		530.5	-47.2	-1.94	519.5	-58.5	-2.35
F8YW2X		565.0	-12.7	-0.52	556.0	-22.0	-0.89
FJDWV7		593.5	15.8	0.65	578.5	0.5	0.02
FVNA7F		571.0	-6.7	-0.28	578.5	0.5	0.02
FXR6PH		574.0	-3.7	-0.15	569.5	-8.5	-0.34
GDFYEE		588.5	10.8	0.45	602.5	24.5	0.98
GLX26P		573.8	-3.9	-0.16	563.8	-14.2	-0.57
GMMELL		552.0	-25.7	-1.06	554.8	-23.3	-0.94
GPYAAY		625.0	47.3	1.95	621.5	43.5	1.75
GWWYQ4		523.0	-54.7	-2.25	525.5	-52.5	-2.11
H7V2LK		604.5	26.8	1.10	612.0	34.0	1.36
H8AHPQ		595.5	17.8	0.73	596.0	18.0	0.72
HKEL6T		602.5	24.8	1.02	597.5	19.5	0.78
HTQ3DE		603.0	25.3	1.04	611.5	33.5	1.34
HZ8DRE		564.9	-12.8	-0.53	563.8	-14.3	-0.57
JBNHE6		605.5	27.8	1.15	612.5	34.5	1.38
JBQ6X4		525.0	-52.7	-2.17	533.5	-44.5	-1.79
JHMZWM		599.5	21.8	0.90	601.5	23.5	0.94
JW7U68	X	595.5	17.8	0.73	623.2	45.1	1.81
KCDBNE		574.5	-3.2	-0.13	572.0	-6.0	-0.24
KEMBRZ		602.5	24.8	1.02	608.5	30.5	1.22
KGTHAT		597.2	19.5	0.80	594.8	16.8	0.67
KMUXXE		581.0	3.3	0.14	593.2	15.2	0.61
KQZDDX	X	580.0	2.3	0.10	550.5	-27.5	-1.11
L82MNH		585.0	7.3	0.30	587.5	9.5	0.38
L8GWKP	X	528.5	-49.2	-2.03	491.0	-87.0	-3.50
LQCC4Z		584.5	6.8	0.28	577.0	-1.0	-0.04
LRKPK3		624.5	46.8	1.93	627.1	49.0	1.97
LRMC42		597.4	19.7	0.81	605.5	27.4	1.10
MBRBLZ		570.0	-7.7	-0.32	583.0	5.0	0.20
MEWWFF		573.0	-4.7	-0.19	580.5	2.5	0.10
MJP7JY		601.2	23.5	0.97	592.8	14.8	0.59
MQMTGC		535.0	-42.7	-1.76	540.0	-38.0	-1.53
MTYDJ9		550.5	-27.2	-1.12	565.0	-13.0	-0.52
NPCBWZ		617.0	39.3	1.62	618.0	40.0	1.61
NPU34Y		590.0	12.3	0.51	595.5	17.5	0.70

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
NZQBL2	X	354.3	-223.4	-9.20	345.4	-232.6	-9.35
PB9CG2		542.5	-35.2	-1.45	533.5	-44.5	-1.79
PFYJ2V		540.5	-37.2	-1.53	551.5	-26.5	-1.07
PHNR8Q		573.5	-4.2	-0.17	571.5	-6.5	-0.26
PKAR9R		576.0	-1.7	-0.07	575.5	-2.5	-0.10
PW6NMM		598.5	20.8	0.86	594.5	16.5	0.66
PZPT4W		570.0	-7.7	-0.32	565.0	-13.0	-0.52
Q76X93		586.0	8.3	0.34	582.0	4.0	0.16
Q8YLPC	*	617.0	39.3	1.62	595.5	17.5	0.70
QE4D3G		572.0	-5.7	-0.23	576.0	-2.0	-0.08
QLLNFG		561.5	-16.2	-0.67	544.0	-34.0	-1.37
QMDR2C		561.5	-16.2	-0.67	573.5	-4.5	-0.18
QRDTAL	X	659.8	82.1	3.38	646.7	68.7	2.76
R4W336		613.0	35.3	1.45	620.0	42.0	1.69
R99VFN		581.8	4.1	0.17	583.0	5.0	0.20
RHFRYL		575.0	-2.7	-0.11	574.0	-4.0	-0.16
RK8NQZ		605.5	27.8	1.15	616.5	38.5	1.55
RQ7BFF		565.5	-12.2	-0.50	548.3	-29.8	-1.20
RR4JNY		567.5	-10.2	-0.42	567.0	-11.0	-0.44
T8DMVC		574.0	-3.7	-0.15	559.9	-18.2	-0.73
TKLCML		558.0	-19.7	-0.81	550.0	-28.0	-1.13
TR6T2G	X	691.0	113.3	4.67	697.0	119.0	4.78
U8CALN		528.0	-49.7	-2.05	531.5	-46.5	-1.87
V3UDC6		581.5	3.8	0.16	579.0	1.0	0.04
V9WP7F		552.9	-24.8	-1.02	550.4	-27.7	-1.11
VCHAD6		591.5	13.8	0.57	588.5	10.5	0.42
VDQJ73		573.0	-4.7	-0.19	570.0	-8.0	-0.32
VRA3ZR		580.5	2.8	0.12	587.0	9.0	0.36
VU6JJF		563.5	-14.2	-0.58	563.0	-15.0	-0.60
VXZBRD		556.5	-21.2	-0.87	554.5	-23.5	-0.95
WZM9HG	*	545.0	-32.7	-1.35	528.5	-49.5	-1.99
XE2YUN		571.5	-6.2	-0.26	581.0	3.0	0.12
XPVJR7		591.8	14.1	0.58	606.9	28.9	1.16
XQP89G		537.0	-40.7	-1.68	537.5	-40.5	-1.63
XUQB3N		588.2	10.5	0.43	575.8	-2.3	-0.09
XXRAJ9		587.0	9.3	0.38	589.0	11.0	0.44
Y937T6		533.0	-44.7	-1.84	540.0	-38.0	-1.53

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
YVZFC7		548.0	-29.7	-1.22	550.0	-28.1	-1.13
YX4BWU		566.5	-11.2	-0.46	569.0	-9.0	-0.36
ZDF67J		583.0	5.3	0.22	584.5	6.5	0.26
ZHA2VA		580.0	2.3	0.10	589.0	11.0	0.44
ZYJRRM		567.5	-10.2	-0.42	562.5	-15.5	-0.62

Summary Statistics

	Sample D71-D72	Sample D73-D74
Grand Means	577.69 percent	578.05 percent
Stnd Dev Btwn Labs	24.28 percent	24.88 percent

Statistics based on 104 of 117 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #606

2RUW4N (X) - Extreme Data.

3QC6QX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both sample groups.

6VZQCG (X) - Extreme Data.

7YFHZP (X) - Data for all samples are high. Possible Systematic Error.

ACCVPB (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are low. Inconsistent within the determinations of sample group D71-D72.

BRFPUP (X) - Inconsistent in testing between samples.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

JW7U68 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group D71-D72.

KQZDDX (X) - Inconsistent in testing between samples.

L8GWKP (X) - Inconsistent in testing between samples. Data for sample group D73-D74 are low.

NZQBL2 (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group D73-D74.

QRDTAL (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are high.

TR6T2G (X) - Data for all samples are high. Possible Systematic Error.

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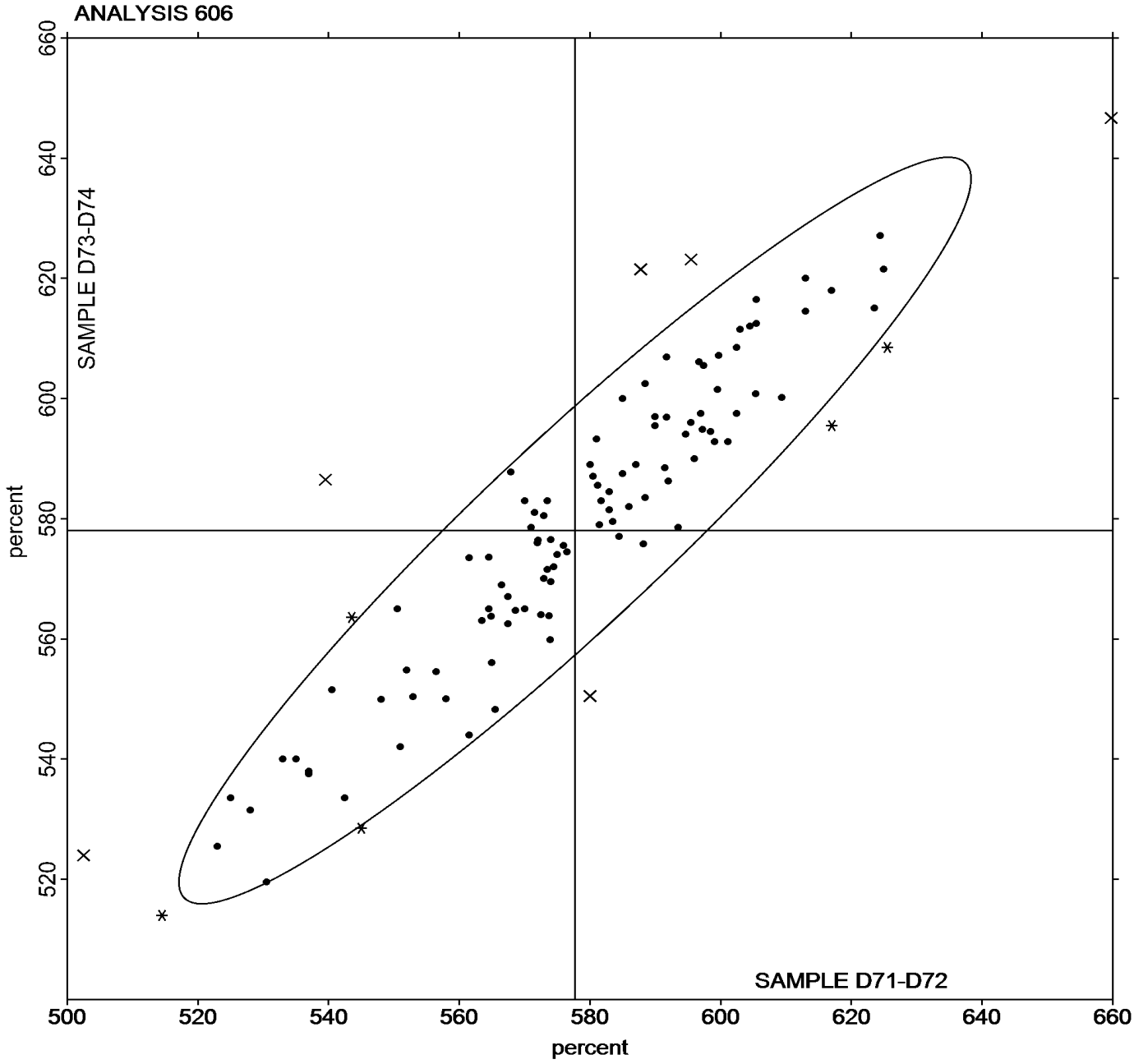
Grand Mean Sample **D71-D72** = 577.69 percent

Grand Mean Sample **D73-D74** = 578.05 percent



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
23D9F2		1,172.5	29.6	0.44	1,228.0	79.3	1.09
2RUW4N	*	1,194.4	51.5	0.76	1,304.6	155.9	2.14
3A6Z8R		1,197.0	54.1	0.80	1,189.0	40.3	0.55
3JCMD8		1,178.0	35.1	0.52	1,164.5	15.8	0.22
3NQKJ9		1,057.5	-85.4	-1.26	1,059.0	-89.7	-1.23
3QC6QX	X	1,421.0	278.1	4.10	1,244.0	95.3	1.31
3RN2XN		1,101.6	-41.3	-0.61	1,149.4	0.7	0.01
48Y6WM		1,114.0	-28.9	-0.43	1,061.2	-87.5	-1.20
68FBZK		1,137.0	-5.9	-0.09	1,168.9	20.2	0.28
6VZQCG	X	325.0	-817.9	-12.07	324.0	-824.7	-11.34
749K34		1,184.7	41.8	0.62	1,157.3	8.6	0.12
77YL8R		1,063.5	-79.4	-1.17	1,115.0	-33.7	-0.46
78BHEG		1,128.0	-14.9	-0.22	1,099.5	-49.2	-0.68
7VCP46		1,145.8	2.9	0.04	1,166.2	17.4	0.24
7X4LVK		1,138.8	-4.0	-0.06	1,147.8	-0.9	-0.01
7YFHZP	X	759.3	-383.6	-5.66	836.9	-311.9	-4.29
87E6P4		1,196.0	53.1	0.78	1,229.0	80.3	1.10
8BNE27	*	1,335.0	192.1	2.84	1,320.0	171.3	2.36
8MYTZX		1,103.9	-39.0	-0.58	1,111.0	-37.7	-0.52
9JUMXX		1,094.3	-48.6	-0.72	1,073.7	-75.0	-1.03
A4YKUY		1,153.0	10.1	0.15	1,164.5	15.8	0.22
A69RWR	X	1,758.6	615.7	9.09	1,644.7	496.0	6.82
ACCVPB	X	1,501.0	358.1	5.28	1,302.0	153.3	2.11
AD4UY3		1,159.7	16.8	0.25	1,133.3	-15.4	-0.21
AJUZ36		1,129.9	-13.0	-0.19	1,118.4	-30.3	-0.42
ANKEKK		1,253.7	110.9	1.64	1,274.6	125.8	1.73
B4UKBA		1,087.0	-55.9	-0.82	1,072.0	-76.7	-1.06
B6N9RK	*	1,347.6	204.7	3.02	1,349.2	200.5	2.76
BEU7JU		1,108.5	-34.4	-0.51	1,103.5	-45.2	-0.62
BRFPUP		1,083.8	-59.1	-0.87	1,040.7	-108.1	-1.49
C4QJLU		1,101.5	-41.4	-0.61	1,110.0	-38.7	-0.53
C8C7JN		1,186.5	43.6	0.64	1,168.5	19.8	0.27
CEBJMX		1,077.0	-65.9	-0.97	1,132.0	-16.7	-0.23
CHCRR8		1,170.6	27.7	0.41	1,170.5	21.8	0.30
CJLW3B		1,148.4	5.5	0.08	1,114.6	-34.2	-0.47
CPAKZ2		1,160.0	17.1	0.25	1,174.0	25.3	0.35
CVUMYR		1,110.6	-32.3	-0.48	1,103.9	-44.8	-0.62
DTLRUE	M	No data reported for this sample			1,073.7	-75.0	-1.03

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
F8YW2X		1,145.0	2.1	0.03	1,130.0	-18.7	-0.26
FJDWV7		1,114.0	-28.9	-0.43	1,098.0	-50.7	-0.70
FVNA7F		1,113.4	-29.5	-0.44	1,105.3	-43.4	-0.60
FXR6PH		1,107.5	-35.4	-0.52	1,145.5	-3.2	-0.04
GDFYEE		1,059.0	-83.9	-1.24	1,037.5	-111.2	-1.53
GLX26P		1,141.0	-1.9	-0.03	1,166.0	17.3	0.24
GMMELL		1,120.3	-22.6	-0.33	1,132.7	-16.0	-0.22
GPYAAY		1,079.0	-63.9	-0.94	1,111.0	-37.7	-0.52
GWWYQ4		1,248.1	105.2	1.55	1,205.3	56.5	0.78
H7V2LK		1,124.8	-18.1	-0.27	1,060.2	-88.5	-1.22
H8AHPQ		1,037.8	-105.1	-1.55	1,053.0	-95.7	-1.32
HKEL6T		1,108.0	-34.9	-0.51	1,131.5	-17.2	-0.24
HTQ3DE		1,057.0	-85.9	-1.27	1,078.5	-70.2	-0.97
HZ8DRE		1,101.6	-41.3	-0.61	1,193.4	44.7	0.61
JBNHE6		1,020.5	-122.4	-1.81	995.0	-153.7	-2.11
JBQ6X4		1,145.0	2.1	0.03	1,175.0	26.3	0.36
JHMZWM		1,062.4	-80.5	-1.19	1,036.3	-112.4	-1.55
JW7U68		1,113.2	-29.7	-0.44	1,119.0	-29.8	-0.41
KCDBNE	*	1,142.5	-0.4	-0.01	1,251.0	102.3	1.41
KEMBRZ		1,104.2	-38.7	-0.57	1,125.7	-23.0	-0.32
KGTHAT		1,143.8	0.9	0.01	1,137.6	-11.1	-0.15
KMUXXE		1,210.2	67.3	0.99	1,175.7	27.0	0.37
KQZDDX	X	1,026.9	-116.0	-1.71	1,182.8	34.1	0.47
L82MNH		1,147.3	4.4	0.06	1,219.1	70.3	0.97
L8GWKP		1,272.0	129.1	1.91	1,307.0	158.3	2.18
LQCC4Z		1,086.7	-56.2	-0.83	1,081.5	-67.2	-0.92
LRKPK3		1,038.3	-104.6	-1.54	1,061.1	-87.6	-1.21
LRMC42		1,077.2	-65.7	-0.97	1,089.7	-59.1	-0.81
MBRBLZ		1,131.0	-11.9	-0.18	1,101.0	-47.7	-0.66
MEWWFF		1,116.5	-26.4	-0.39	1,078.5	-70.2	-0.97
MJP7JY		1,087.6	-55.3	-0.82	1,095.1	-53.6	-0.74
MQMTGC		1,162.0	19.1	0.28	1,107.0	-41.7	-0.57
MTYDJ9		1,165.0	22.1	0.33	1,236.5	87.8	1.21
NPCBWZ		994.2	-148.7	-2.19	1,016.0	-132.7	-1.83
NPU34Y		1,165.0	22.1	0.33	1,166.0	17.3	0.24
NZQBL2	X	1,717.0	574.1	8.47	1,689.4	540.6	7.44
PB9CG2		1,263.5	120.6	1.78	1,263.0	114.3	1.57

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
PFYJ2V	X	1,929.0	786.1	11.60	1,907.3	758.5	10.43
PKAR9R		1,182.0	39.1	0.58	1,179.5	30.8	0.42
PW6NMM		1,100.5	-42.4	-0.63	1,092.5	-56.2	-0.77
PZPT4W		1,072.5	-70.4	-1.04	1,054.0	-94.7	-1.30
Q8YLPC		1,095.0	-47.8	-0.71	1,152.3	3.6	0.05
QE4D3G		1,213.3	70.4	1.04	1,197.3	48.6	0.67
QLLNFG		1,226.0	83.1	1.23	1,235.5	86.8	1.19
QMDR2C		1,189.5	46.6	0.69	1,209.0	60.3	0.83
QRDTAL	X	915.8	-227.1	-3.35	966.1	-182.6	-2.51
R4W336		1,092.9	-50.0	-0.74	1,142.2	-6.5	-0.09
R99VFN		1,079.8	-63.1	-0.93	1,117.5	-31.2	-0.43
RHFRYL		1,178.9	36.0	0.53	1,162.8	14.1	0.19
RK8NQZ		1,135.0	-7.9	-0.12	1,072.0	-76.7	-1.06
RQ7BFF		1,089.5	-53.4	-0.79	1,155.8	7.0	0.10
RR4JNY		1,181.5	38.6	0.57	1,219.3	70.6	0.97
T8DMVC		1,123.3	-19.6	-0.29	1,184.2	35.5	0.49
TKLCML		1,171.8	28.9	0.43	1,162.0	13.3	0.18
U8CALN		1,241.5	98.6	1.46	1,267.5	118.8	1.63
V3UDC6	*	1,312.5	169.6	2.50	1,249.0	100.3	1.38
V9WP7F		1,198.2	55.3	0.82	1,235.5	86.7	1.19
VCHAD6		1,055.2	-87.7	-1.29	1,050.8	-97.9	-1.35
VDQJ73		1,084.5	-58.4	-0.86	1,112.0	-36.7	-0.51
VRA3ZR		1,084.0	-58.9	-0.87	1,053.0	-95.7	-1.32
VU6JJF		1,240.5	97.6	1.44	1,268.0	119.3	1.64
VXZBRD		1,198.0	55.1	0.81	1,154.0	5.3	0.07
WZM9HG	X	1,245.0	102.1	1.51	1,355.0	206.3	2.84
XE2YUN		1,094.0	-48.9	-0.72	1,123.0	-25.7	-0.35
XPVJR7		1,089.2	-53.6	-0.79	1,058.1	-90.7	-1.25
XQP89G		1,238.2	95.3	1.41	1,281.2	132.5	1.82
XUQB3N		1,169.0	26.1	0.39	1,132.8	-16.0	-0.22
XWJXZL		1,118.7	-24.2	-0.36	1,161.8	13.1	0.18
XXRAJ9		1,178.5	35.6	0.53	1,123.0	-25.7	-0.35
Y937T6		1,278.5	135.6	2.00	1,230.5	81.8	1.12
YVZFC7		1,210.8	67.9	1.00	1,230.6	81.9	1.13
YX4BWU		1,277.8	134.9	1.99	1,258.2	109.5	1.51
ZDF67J		1,101.5	-41.4	-0.61	1,119.5	-29.2	-0.40
ZHA2VA		1,154.5	11.6	0.17	1,100.0	-48.7	-0.67
ZYJRRM		1,094.5	-48.4	-0.71	1,167.5	18.8	0.26

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Summary Statistics		
Grand Means	1,142.89 psi	1,148.73 psi
Stnd Dev Btwn Labs	67.76 psi	72.71 psi
		Statistics based on 102 of 113 reporting participants

Summary Statistics in SI Units		
Grand Means	7.8799 MPa	7.92 MPa
Stnd Dev Btwn Labs	0.4672 MPa	0.50 MPa
		Statistics based on 102 of 113 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #607

3QC6QX (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are high. Inconsistent within the determinations of sample group D71-D72.

6VZQCG (X) - Data for all samples are very low.

7YFHZP (X) - Data for all samples are low. Possible Systematic Error.

A69RWR (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group D73-D74.

ACCVPB (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are high. Inconsistent within the determinations of sample group D71-D72.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

KQZDDX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group D71-D72.

NZQBL2 (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group D71-D72.

PFYJ2V (X) - Data for all samples are very high. Inconsistent within the determinations of sample group D71-D72.

QRDTAL (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are low.

WZM9HG (X) - Inconsistent in testing between samples. Data for sample group D73-D74 are high.

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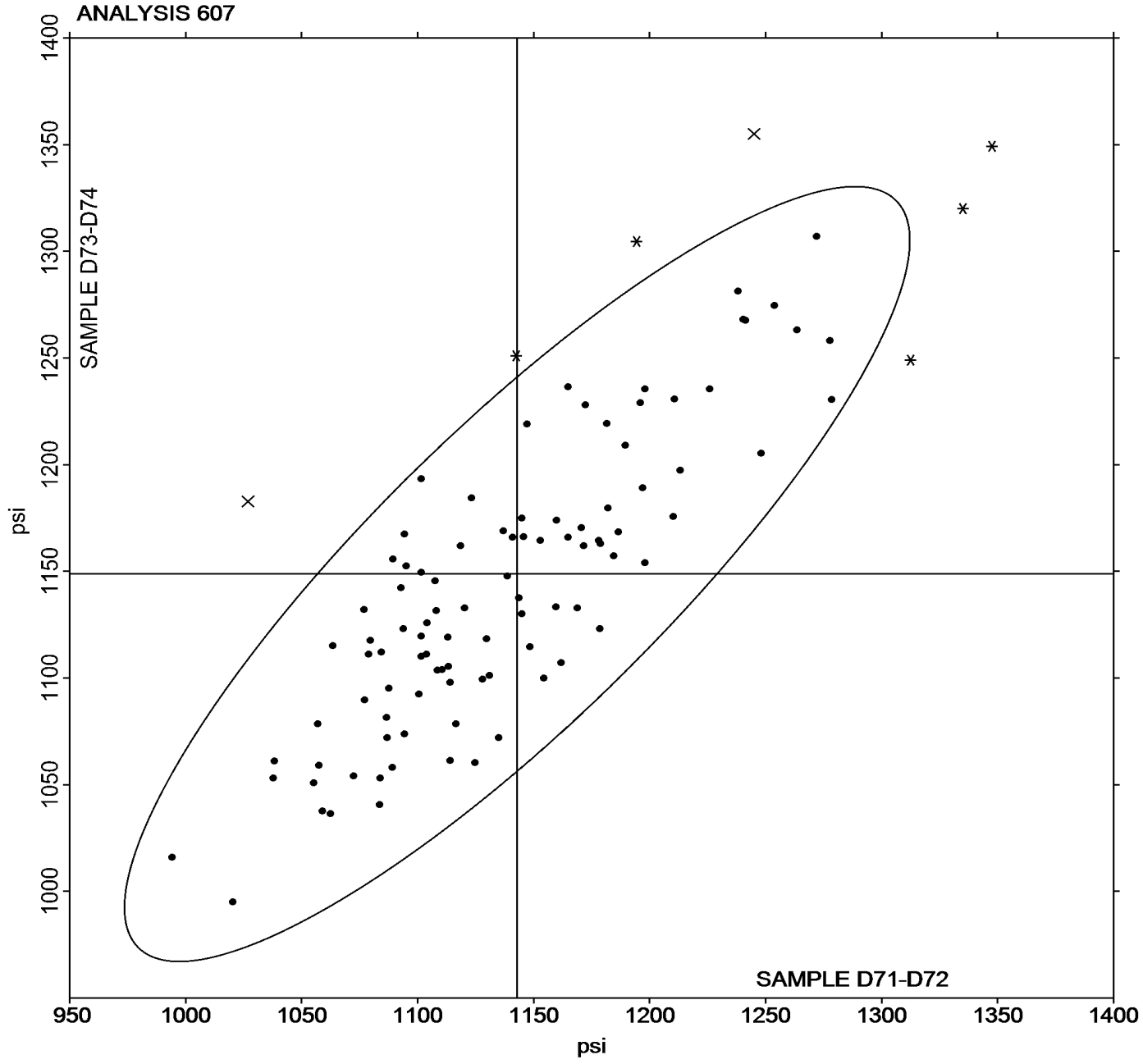
Grand Mean Sample **D71-D72** = 1,142.89 psi

Grand Mean Sample **D73-D74** = 1,148.73 psi



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
23D9F2		252.0	5.0	0.35	263.0	14.0	0.97
2RUW4N		248.7	1.7	0.12	258.9	9.9	0.68
3A6Z8R		244.0	-3.0	-0.21	239.5	-9.5	-0.66
3JCMD8		276.5	29.5	2.07	278.5	29.5	2.04
3NQKJ9		230.5	-16.5	-1.16	231.5	-17.5	-1.21
3QC6QX	X	325.0	78.0	5.47	285.0	36.0	2.49
3RN2XN		252.4	5.4	0.38	268.3	19.3	1.34
48Y6WM		245.5	-1.6	-0.11	231.8	-17.2	-1.19
68FBZK		239.3	-7.7	-0.54	248.7	-0.3	-0.02
6VZQCG	X	137.0	-110.0	-7.71	138.0	-111.0	-7.67
749K34		249.8	2.8	0.20	250.4	1.4	0.10
77YL8R		253.5	6.5	0.45	270.0	21.0	1.45
78BHEG		249.5	2.5	0.17	241.5	-7.5	-0.52
7VCP46		250.5	3.4	0.24	255.8	6.8	0.47
7X4LVK		250.2	3.2	0.22	253.2	4.3	0.29
7YFHZP		215.4	-31.6	-2.22	233.5	-15.5	-1.07
87E6P4		252.5	5.5	0.38	262.0	13.0	0.90
8BNE27	X	323.0	76.0	5.33	321.0	72.0	4.98
8MYTZX		241.9	-5.1	-0.36	247.7	-1.3	-0.09
9JUMXX		243.6	-3.4	-0.24	244.2	-4.8	-0.33
A4YKUY		256.0	9.0	0.63	261.5	12.5	0.86
A69RWR	X	364.8	117.8	8.25	351.7	102.7	7.10
ACCVPB	*	274.0	27.0	1.89	249.5	0.5	0.04
AD4UY3		257.7	10.6	0.75	255.6	6.6	0.46
AJUZ36		240.8	-6.2	-0.44	237.5	-11.5	-0.79
ANKEKK		271.9	24.9	1.75	279.2	30.2	2.09
B4UKBA		215.0	-32.0	-2.24	221.5	-27.5	-1.90
B6N9RK		275.1	28.1	1.97	277.0	28.0	1.93
BEU7JU		235.5	-11.5	-0.81	234.0	-15.0	-1.04
BRFPUP		232.4	-14.6	-1.02	232.8	-16.2	-1.12
C4QJLU		234.0	-13.0	-0.91	236.0	-13.0	-0.90
C8C7JN		255.0	8.0	0.56	246.5	-2.5	-0.17
CEBJMX		238.0	-9.0	-0.63	246.0	-3.0	-0.21
CHCRR8		243.0	-4.1	-0.29	244.1	-4.9	-0.34
CJLW3B		247.6	0.6	0.04	238.4	-10.6	-0.73
CPAKZ2		249.0	2.0	0.14	251.0	2.0	0.14
CVUMYR	X	294.3	47.3	3.32	302.4	53.4	3.69

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WebCode	Data Flag	Sample Lab Mean	Sample Diff from Grand Mean	Sample CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
DTLRUE	M	No data reported for this sample			235.7	-13.3	-0.92
F8YW2X		248.5	1.5	0.10	251.0	2.0	0.14
FJDWV7		240.0	-7.0	-0.49	238.0	-11.0	-0.76
FVNA7F		233.4	-13.7	-0.96	228.8	-20.2	-1.39
FXR6PH		261.5	14.5	1.02	272.0	23.0	1.59
GDFYEE		234.0	-13.0	-0.91	228.5	-20.5	-1.42
GLX26P		255.5	8.5	0.59	266.5	17.5	1.21
GMMELL		232.5	-14.5	-1.02	234.0	-15.0	-1.04
GPYAAY		248.5	1.5	0.10	255.5	6.5	0.45
GWWYQ4		271.2	24.2	1.70	265.4	16.4	1.14
H7V2LK		246.6	-0.4	-0.03	229.9	-19.1	-1.32
H8AHPQ		229.9	-17.1	-1.20	234.2	-14.7	-1.02
HKEL6T		238.0	-9.0	-0.63	242.5	-6.5	-0.45
HTQ3DE		233.5	-13.5	-0.95	236.0	-13.0	-0.90
HZ8DRE		239.2	-7.8	-0.55	258.9	9.9	0.69
JBNHE6		236.0	-11.0	-0.77	236.5	-12.5	-0.86
JBQ6X4		249.0	2.0	0.14	258.0	9.0	0.62
JHMZWM		239.3	-7.7	-0.54	221.2	-27.8	-1.92
JW7U68		242.9	-4.1	-0.29	240.0	-8.9	-0.62
KCDBNE		238.5	-8.5	-0.60	255.5	6.5	0.45
KEMBRZ		241.9	-5.2	-0.36	254.0	5.0	0.34
KGTHAT		250.7	3.7	0.26	251.2	2.2	0.15
KMUXXE		268.0	20.9	1.47	258.9	9.9	0.68
KQZDDX	*	227.7	-19.3	-1.35	257.4	8.5	0.58
L82MNH		237.1	-9.9	-0.69	255.3	6.3	0.43
L8GWKP		260.0	13.0	0.91	257.5	8.5	0.59
LQCC4Z		239.3	-7.8	-0.54	236.4	-12.6	-0.87
LRKPK3		238.8	-8.2	-0.58	239.6	-9.4	-0.65
LRMC42		239.4	-7.7	-0.54	247.2	-1.8	-0.12
MBRBLZ		244.0	-3.0	-0.21	236.5	-12.5	-0.86
MEWWFF		244.0	-3.0	-0.21	227.0	-22.0	-1.52
MJP7JY		236.4	-10.6	-0.74	239.1	-9.9	-0.68
MQMTGC		243.0	-4.0	-0.28	231.0	-18.0	-1.24
MTYDJ9		247.0	0.0	0.00	263.5	14.5	1.00
NPCBWZ		216.8	-30.2	-2.12	221.9	-27.1	-1.87
NPU34Y		257.5	10.5	0.73	259.0	10.0	0.69
NZQBL2	X	493.1	246.1	17.25	483.5	234.5	16.21
PB9CG2		274.0	27.0	1.89	278.0	29.0	2.00

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
PFYJ2V	X	380.7	133.7	9.37	399.6	150.6	10.41
PHNR8Q		241.0	-6.0	-0.42	245.0	-4.0	-0.28
PKAR9R		256.0	9.0	0.63	254.5	5.5	0.38
PW6NMM		242.0	-5.0	-0.35	239.0	-10.0	-0.69
PZPT4W		239.5	-7.5	-0.53	238.5	-10.5	-0.72
Q8YLPC		251.6	4.6	0.32	253.1	4.1	0.28
QE4D3G		262.5	15.5	1.09	261.1	12.1	0.84
QLLNFG		259.5	12.5	0.88	262.5	13.5	0.93
QMDR2C		260.0	13.0	0.91	261.0	12.0	0.83
QRDTAL	*	207.7	-39.4	-2.76	219.9	-29.1	-2.01
R4W336		253.8	6.8	0.48	254.5	5.6	0.38
R99VFN		227.7	-19.3	-1.35	241.5	-7.5	-0.52
RHFRYL		262.1	15.1	1.06	256.6	7.6	0.52
RK8NQZ		259.5	12.5	0.88	242.5	-6.5	-0.45
RQ7BFF		239.5	-7.5	-0.53	250.3	1.3	0.09
RR4JNY	*	274.1	27.1	1.90	285.7	36.8	2.54
T8DMVC		243.7	-3.4	-0.23	261.1	12.1	0.84
TKLCML		250.4	3.3	0.23	249.4	0.4	0.03
U8CALN		260.0	13.0	0.91	267.0	18.0	1.24
V3UDC6	X	368.0	121.0	8.48	354.0	105.0	7.26
V9WP7F		254.4	7.4	0.52	262.5	13.5	0.93
VCHAD6		227.7	-19.3	-1.35	236.4	-12.6	-0.87
VDQJ73		243.0	-4.0	-0.28	247.0	-2.0	-0.14
VRA3ZR		225.0	-22.0	-1.54	224.0	-25.0	-1.73
VU6JJF		268.0	21.0	1.47	272.0	23.0	1.59
VXZBRD		258.5	11.5	0.80	246.5	-2.5	-0.17
WZM9HG	X	317.0	70.0	4.91	347.5	98.5	6.81
XE2YUN		224.0	-23.0	-1.61	233.5	-15.5	-1.07
XPVJR7		237.9	-9.2	-0.64	232.1	-16.9	-1.17
XQP89G		255.3	8.3	0.58	252.4	3.4	0.23
XUQB3N		257.4	10.4	0.73	244.4	-4.6	-0.32
XWJXZL		245.3	-1.8	-0.12	255.3	6.3	0.43
XXRAJ9		267.0	20.0	1.40	252.0	3.0	0.21
Y937T6		276.0	29.0	2.03	267.0	18.0	1.24
YVZFC7		251.7	4.6	0.33	260.6	11.6	0.80
YX4BWU		277.7	30.7	2.15	273.4	24.4	1.69
ZDF67J		241.0	-6.0	-0.42	245.0	-4.0	-0.28

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
ZHA2VA		252.5	5.5	0.38	239.5	-9.5	-0.66
ZYJRRM		232.5	-14.5	-1.02	253.0	4.0	0.28

Summary Statistics

	Sample D71-D72	Sample D73-D74
Grand Means	247.02 psi	248.98 psi
Stnd Dev Btwn Labs	14.27 psi	14.47 psi

Statistics based on 104 of 114 reporting participants

Summary Statistics in SI Units

	Sample D71-D72	Sample D73-D74
Grand Means	1.7031 MPa	1.72 MPa
Stnd Dev Btwn Labs	0.0984 MPa	0.10 MPa

Statistics based on 104 of 114 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #608

3QC6QX (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are high.

6VZQCG (X) - Data for all samples are low. Possible Systematic Error.

8BNE27 (X) - Data for all samples are high. Possible Systematic Error.

A69RWR (X) - Data for all samples are high. Possible Systematic Error.

CVUMYR (X) - Data for all samples are high. Possible Systematic Error.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

NZQBL2 (X) - Extreme Data.

PFYJ2V (X) - Data for all samples are very high.

V3UDC6 (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group D73-D74.

WZM9HG (X) - Data for all samples are high. Possible Systematic Error.

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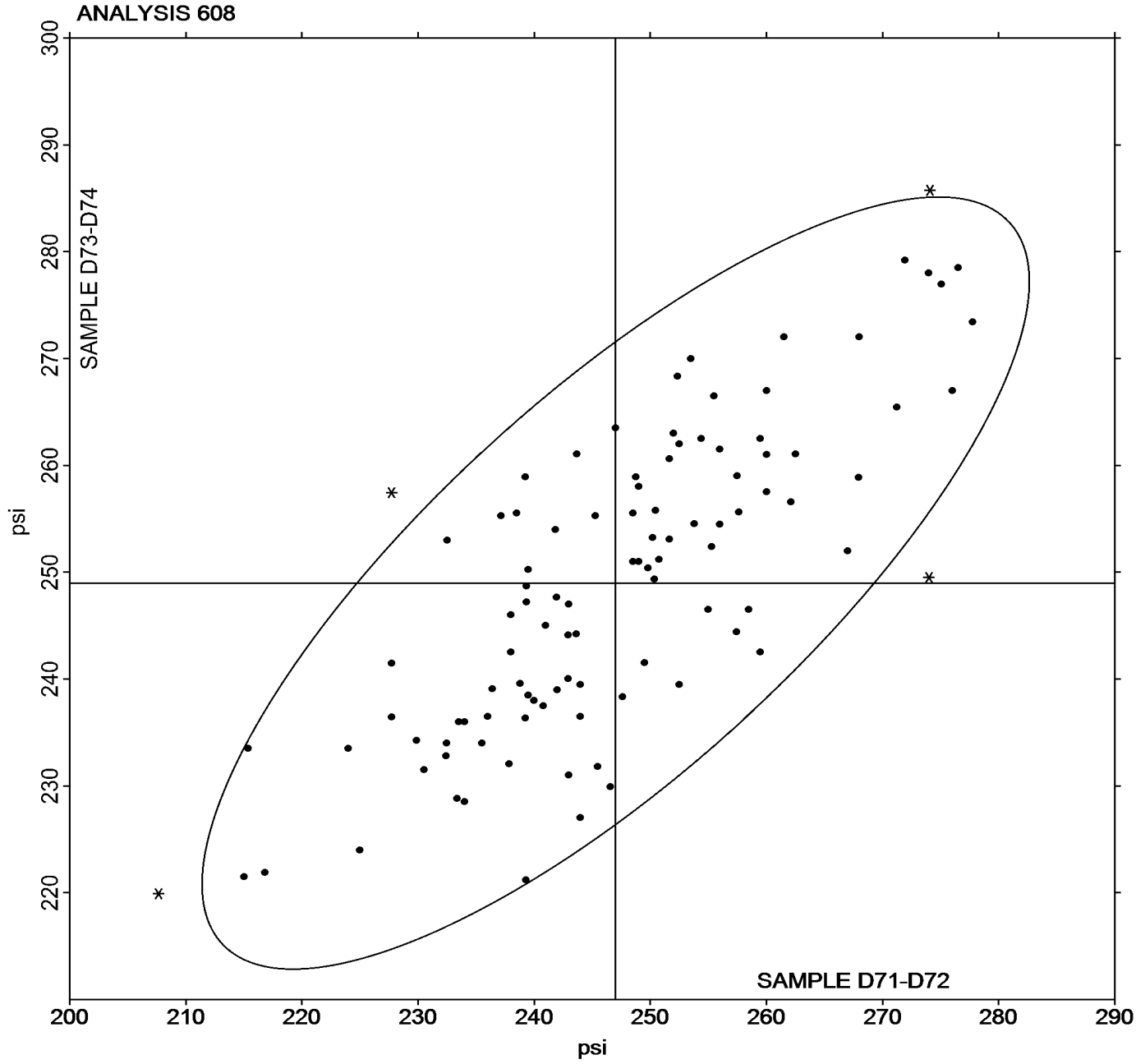
Grand Mean Sample **D71-D72** = 247.02 psi

Grand Mean Sample **D73-D74** = 248.98 psi



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		51.50	0.37	0.26	51.05	-0.01	-0.01	BT
2RUW4N		51.30	0.17	0.12	50.65	-0.41	-0.27	BT
3A6Z8R		54.25	3.12	2.21	53.75	2.69	1.75	HH
3JCMD8		53.50	2.37	1.68	54.50	3.44	2.23	BT
3NQKJ9		50.20	-0.93	-0.65	50.40	-0.66	-0.43	BT
3QC6QX		52.90	1.77	1.25	53.85	2.79	1.81	XX
3RN2XN		50.50	-0.63	-0.44	51.00	-0.06	-0.04	HH
48Y6WM		50.50	-0.63	-0.44	50.50	-0.56	-0.37	HH
68FBZK		51.80	0.67	0.48	52.15	1.09	0.71	BT
6VZQCG	X	39.00	-12.13	-8.57	42.00	-9.06	-5.89	BT
749K34		50.00	-1.13	-0.80	50.00	-1.06	-0.69	HH
77YL8R		52.75	1.62	1.15	53.00	1.94	1.26	HH
78BHEG		50.00	-1.13	-0.80	50.50	-0.56	-0.37	BT
7DVG6P		48.00	-3.13	-2.21	47.50	-3.56	-2.32	BT
7J2CPP		50.00	-1.13	-0.80	49.00	-2.06	-1.34	BT
7VCP46		53.65	2.52	1.78	53.80	2.74	1.78	BT
7X4LVK		50.00	-1.13	-0.80	50.00	-1.06	-0.69	HH
7YFHZP	X	57.35	6.22	4.40	55.10	4.04	2.62	BT
87E6P4		50.05	-1.08	-0.76	50.30	-0.76	-0.50	BT
8MYTZX		50.00	-1.13	-0.80	51.00	-0.06	-0.04	BT
9JUMXX		50.50	-0.63	-0.44	49.50	-1.56	-1.02	BT
A4YKUY		51.80	0.67	0.48	51.75	0.69	0.45	BT
A69RWR		54.00	2.87	2.03	54.00	2.94	1.91	HH
ACCVPB		51.50	0.37	0.26	52.00	0.94	0.61	BT
AD4UY3		53.50	2.37	1.68	52.50	1.44	0.93	HH
AJUZ36		50.95	-0.18	-0.12	51.40	0.34	0.22	BT
ANKEKK		51.35	0.22	0.16	51.65	0.59	0.38	BT
B4UKBA		51.50	0.37	0.26	51.50	0.44	0.28	HH
B6N9RK	*	52.00	0.87	0.62	50.25	-0.81	-0.53	BT
BEU7JU		49.50	-1.63	-1.15	50.00	-1.06	-0.69	BT
BJPA3Z		51.60	0.47	0.33	50.80	-0.26	-0.17	BT
BRFPUP		50.80	-0.33	-0.23	50.50	-0.56	-0.37	BT
C4QJLU		50.10	-1.03	-0.73	50.90	-0.16	-0.11	BT
C8C7JN		51.50	0.37	0.26	51.50	0.44	0.28	HH
CEBJMX		49.00	-2.13	-1.50	48.50	-2.56	-1.67	BT
CHCRR8		52.00	0.87	0.62	52.50	1.44	0.93	HH
CJLW3B		53.00	1.87	1.32	53.50	2.44	1.58	BT
CVUMYR		50.50	-0.63	-0.44	50.75	-0.31	-0.20	HH

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
DTLRUE	M	No data reported for this sample			51.50	0.44	0.28	HH
EKQBGU		50.00	-1.13	-0.80	50.50	-0.56	-0.37	BT
F8YW2X		51.50	0.37	0.26	50.75	-0.31	-0.20	HH
FJDWV7		50.00	-1.13	-0.80	50.00	-1.06	-0.69	BT
FVNA7F		50.20	-0.93	-0.65	49.55	-1.51	-0.98	BT
FXR6PH		50.00	-1.13	-0.80	50.00	-1.06	-0.69	HH
GDFYEE		50.00	-1.13	-0.80	49.00	-2.06	-1.34	BT
GLX26P		50.25	-0.88	-0.62	50.00	-1.06	-0.69	BT
GMMELL		52.00	0.87	0.62	52.25	1.19	0.77	BT
GPYAAY		50.85	-0.28	-0.20	50.90	-0.16	-0.11	BT
GWWYQ4		50.50	-0.63	-0.44	50.15	-0.91	-0.59	BT
H7V2LK		50.25	-0.88	-0.62	49.55	-1.51	-0.98	BT
H8AHPQ		51.00	-0.13	-0.09	51.00	-0.06	-0.04	BT
HKEL6T	X	46.25	-4.88	-3.45	45.50	-5.56	-3.62	BT
HTQ3DE		50.50	-0.63	-0.44	51.25	0.19	0.12	BT
HZ8DRE		49.70	-1.43	-1.01	50.80	-0.26	-0.17	BT
JBNHE6		52.00	0.87	0.62	51.50	0.44	0.28	BT
JBQ6X4		52.00	0.87	0.62	51.00	-0.06	-0.04	BT
JHMZWM	X	54.50	3.37	2.38	60.00	8.94	5.81	BT
JW7U68		50.35	-0.78	-0.55	50.60	-0.46	-0.30	BT
KCDBNE		50.50	-0.63	-0.44	51.00	-0.06	-0.04	HH
KEMBRZ		54.00	2.87	2.03	54.50	3.44	2.23	HH
KGTHAT		50.30	-0.83	-0.58	50.20	-0.86	-0.56	BT
KMUXXE		52.00	0.87	0.62	52.00	0.94	0.61	HH
L82MNH		49.50	-1.63	-1.15	49.00	-2.06	-1.34	BT
L8GWKP	X	45.50	-5.63	-3.98	48.50	-2.56	-1.67	BT
LQCC4Z		50.00	-1.13	-0.80	50.00	-1.06	-0.69	BT
LRKPK3	*	55.00	3.87	2.74	55.00	3.94	2.56	HH
LRMC42		51.00	-0.13	-0.09	50.50	-0.56	-0.37	BT
MBRBLZ		50.50	-0.63	-0.44	50.00	-1.06	-0.69	BT
MEWWFF		50.00	-1.13	-0.80	50.00	-1.06	-0.69	HH
MJP7JY		49.40	-1.73	-1.22	49.75	-1.31	-0.85	BT
MTYDJ9	X	45.50	-5.63	-3.98	46.00	-5.06	-3.29	BT
N9M8A4		52.00	0.87	0.62	52.50	1.44	0.93	HH
NPCBWZ		50.20	-0.93	-0.65	49.45	-1.61	-1.05	BT
NPU34Y		49.00	-2.13	-1.50	48.50	-2.56	-1.67	BT
NU3MPB	*	48.50	-2.63	-1.86	49.50	-1.56	-1.02	BT

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
NZQBL2		52.75	1.62	1.15	51.90	0.84	0.54	XX
PB9CG2		53.85	2.72	1.93	54.30	3.24	2.10	HH
PFYJ2V		51.50	0.37	0.26	52.00	0.94	0.61	BT
PHNR8Q		51.50	0.37	0.26	51.00	-0.06	-0.04	BT
PKAR9R		50.50	-0.63	-0.44	50.50	-0.56	-0.37	BT
PW6NMM		50.05	-1.08	-0.76	49.45	-1.61	-1.05	BT
PZPT4W		51.65	0.52	0.37	51.30	0.24	0.15	BT
Q76X93		49.00	-2.13	-1.50	49.00	-2.06	-1.34	BT
Q8YLPC		50.00	-1.13	-0.80	50.00	-1.06	-0.69	BT
QE4D3G		53.00	1.87	1.32	52.50	1.44	0.93	BT
QLLNFG		50.80	-0.33	-0.23	49.65	-1.41	-0.92	BT
QMDR2C		51.00	-0.13	-0.09	51.50	0.44	0.28	BT
QRDTAL		50.65	-0.48	-0.34	51.65	0.59	0.38	BT
R4W336		51.00	-0.13	-0.09	51.45	0.39	0.25	BT
R99VFN		50.85	-0.28	-0.20	51.00	-0.06	-0.04	BT
RK8NQZ		51.30	0.17	0.12	51.90	0.84	0.54	HH
RQ7BFF		52.00	0.87	0.62	52.00	0.94	0.61	HH
RR4JNY		50.25	-0.88	-0.62	51.00	-0.06	-0.04	BT
RXA88R		53.50	2.37	1.68	54.00	2.94	1.91	HH
T8DMVC	X	52.00	0.87	0.62	50.00	-1.06	-0.69	HH
TKLCML		51.55	0.42	0.30	51.85	0.79	0.51	BT
TN26DE		54.00	2.87	2.03	54.50	3.44	2.23	BT
TR6T2G	X	56.00	4.87	3.44	56.00	4.94	3.21	HH
U8CALN		53.80	2.67	1.89	52.95	1.89	1.23	BT
UHTXD2		51.50	0.37	0.26	51.50	0.44	0.28	XX
V3UDC6		51.00	-0.13	-0.09	51.50	0.44	0.28	BT
V9WP7F		48.00	-3.13	-2.21	47.50	-3.56	-2.32	BT
VCHAD6		50.75	-0.38	-0.27	50.50	-0.56	-0.37	BT
VDQJ73		52.00	0.87	0.62	52.00	0.94	0.61	HH
VRA3ZR		49.85	-1.28	-0.90	49.85	-1.21	-0.79	BT
VU6JJF		52.00	0.87	0.62	52.00	0.94	0.61	HH
VWNKH9		52.00	0.87	0.62	51.65	0.59	0.38	HH
VXZBRD		52.50	1.37	0.97	52.50	1.44	0.93	HH
XE2YUN		50.00	-1.13	-0.80	50.00	-1.06	-0.69	BT
XPVJR7		51.40	0.27	0.19	50.90	-0.16	-0.11	BT
XQP89G		49.35	-1.78	-1.26	48.85	-2.21	-1.44	BT
XUQB3N		50.00	-1.13	-0.80	49.75	-1.31	-0.85	BT
XWJXZL		48.50	-2.63	-1.86	48.00	-3.06	-1.99	BT

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV	Instr Code
XXRAJ9		51.25	0.12	0.09	51.00	-0.06	-0.04	HH
Y3LBCA		52.50	1.37	0.97	53.50	2.44	1.58	BT
Y937T6		52.75	1.62	1.15	52.00	0.94	0.61	HH
YVZFC7		48.90	-2.23	-1.57	47.90	-3.16	-2.06	BT
YX4BWU		52.00	0.87	0.62	51.50	0.44	0.28	HH
ZC742C		51.80	0.67	0.48	51.60	0.54	0.35	BT
ZDF67J	*	53.00	1.87	1.32	51.50	0.44	0.28	BT
ZHA2VA		51.70	0.57	0.41	51.20	0.14	0.09	BT
ZYJRRM		51.00	-0.13	-0.09	51.00	-0.06	-0.04	BT

Summary Statistics

	Sample D71-D72	Sample D73-D74
Grand Means	51.126 Type A	51.064 Type A
Stnd Dev Btwn Labs	1.415 Type A	1.539 Type A

Statistics based on 113 of 122 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #620

6VZQCG (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group D73-D74.

7YFHZP (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are high.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

HKEL6T (X) - Data for all samples are low. Possible Systematic Error.

JHMZWM (X) - Inconsistent in testing between samples. Data for sample group D73-D74 are high. Inconsistent within the determinations of both sample groups.

L8GWKP (X) - Inconsistent in testing between samples. Data for sample group D71-D72 are low.

MTYDJ9 (X) - Data for all samples are low. Possible Systematic Error.

T8DMVC (X) - Inconsistent in testing between samples.

TR6T2G (X) - Data for all samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

BT Benchtop
HH Handheld
XX Specify Benchtop or Handheld Instrument

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Results by Reading Time (as reported by laboratory)

Reading Time	Sample D71-D72 *Polyisoprene compound, batch #1* Group Mean	Btwn Lab STD	Diff from GM	Sample D73-D74 *Polyisoprene compound, batch #2* Group Mean	Btwn Lab STD	Diff from GM	Labs Incl	Labs Rpt
Readings taken within 0 - 5 seconds	51.16	1.28	0.03	51.15	1.37	0.08	82	90
Readings taken at 5 seconds	50.32	1.94	-0.81	50.17	2.38	-0.90	8	10
Readings taken after 5+ seconds	50.08	1.21	-1.05	49.95	1.63	-1.11	6	8
Maximum hardness indicator used	51.58	1.19	0.46	51.45	1.43	0.39	13	14

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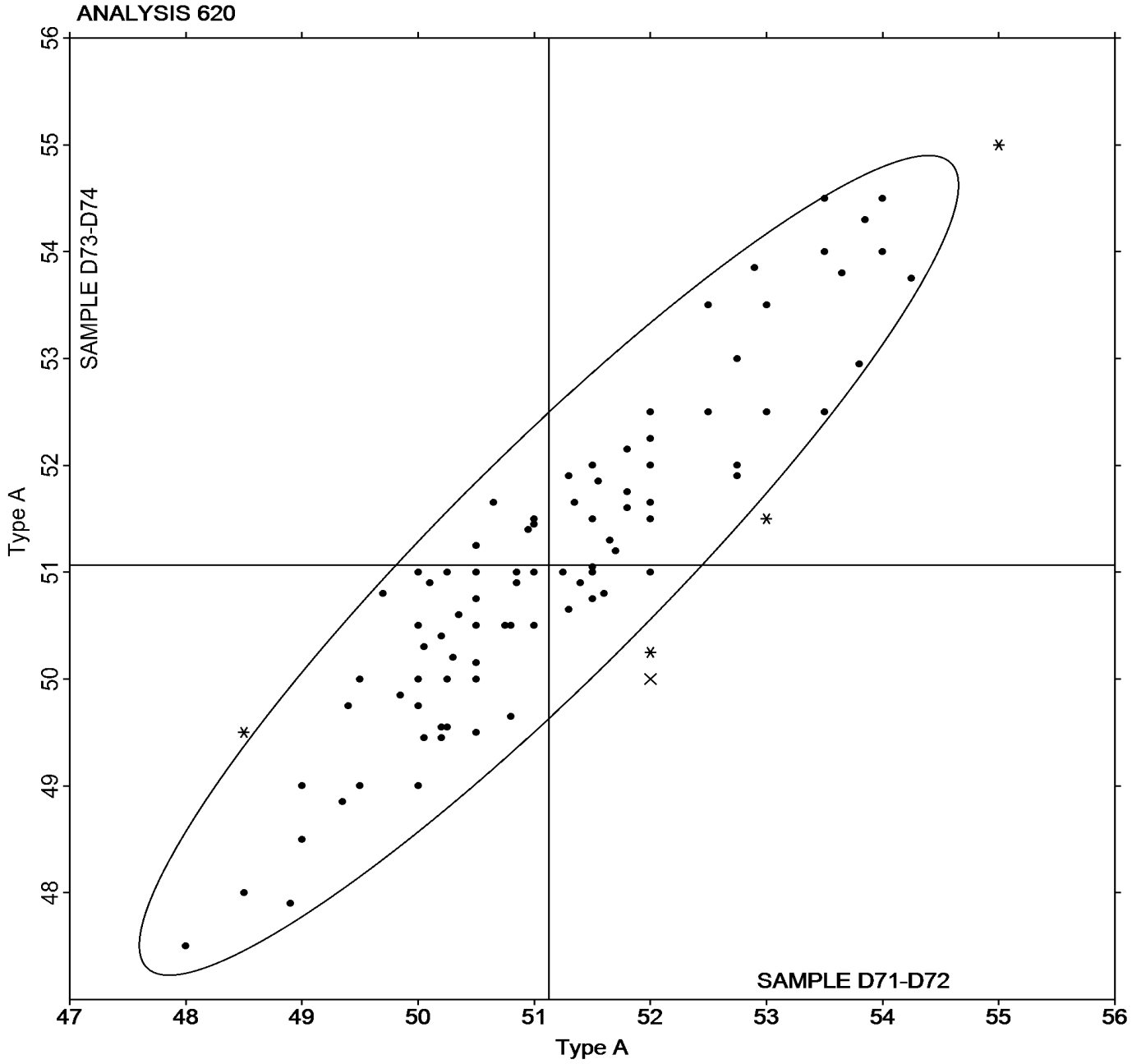
Grand Mean Sample **D71-D72** = 51.126 Type A

Grand Mean Sample **D73-D74** = 51.064 Type A



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
23D9F2		1.139	0.001	0.23	1.139	0.000	0.07
2RUW4N		1.139	0.001	0.18	1.139	0.001	0.19
3JCMD8		1.140	0.002	0.54	1.140	0.002	0.38
3NQKJ9		1.139	0.001	0.14	1.139	0.001	0.12
48Y6WM		1.133	-0.006	-1.46	1.133	-0.006	-1.38
68FBZK		1.137	-0.001	-0.31	1.137	-0.001	-0.20
6VZQCG		1.139	0.001	0.18	1.138	0.000	-0.07
749K34		1.137	-0.002	-0.40	1.138	0.000	0.02
77YL8R		1.140	0.002	0.44	1.143	0.004	1.06
78BHEG		1.140	0.001	0.37	1.140	0.001	0.33
7VCP46		1.137	-0.001	-0.36	1.138	0.000	-0.08
7X4LVK	X	1.135	-0.003	-0.80	1.127	-0.012	-2.77
7YFHZP	X	1.130	-0.008	-1.98	1.126	-0.013	-3.01
87E6P4		1.134	-0.005	-1.21	1.135	-0.003	-0.79
8MYTZX	X	1.138	0.000	0.02	1.129	-0.010	-2.28
9JUMXX		1.136	-0.002	-0.58	1.137	-0.002	-0.43
A4YKUY		1.143	0.005	1.30	1.144	0.006	1.46
A69RWR		1.142	0.003	0.82	1.141	0.002	0.53
ACCVPB		1.140	0.001	0.31	1.139	0.000	0.05
AD4UY3		1.143	0.004	1.09	1.141	0.003	0.72
AJUZ36		1.143	0.004	1.13	1.142	0.003	0.79
ANKEKK		1.140	0.001	0.31	1.140	0.001	0.29
B4UKBA		1.129	-0.010	-2.47	1.129	-0.010	-2.34
B6N9RK		1.143	0.005	1.20	1.143	0.005	1.16
BJPA3Z		1.138	0.000	-0.07	1.138	0.000	0.02
BRFPUP		1.139	0.001	0.18	1.140	0.002	0.45
C8C7JN	X	1.143	0.005	1.16	1.148	0.010	2.28
CJLW3B		1.140	0.002	0.44	1.140	0.002	0.41
DTLRUE		1.142	0.004	0.94	1.141	0.002	0.53
EKQBGU		1.137	-0.001	-0.32	1.138	0.000	-0.07
FJDWV7		1.135	-0.004	-0.96	1.136	-0.003	-0.67
FVNA7F		1.139	0.001	0.18	1.142	0.003	0.76
GDFYEE		1.138	0.000	-0.01	1.139	0.001	0.24
GMMELL		1.145	0.007	1.70	1.145	0.007	1.60
GWWYQ4	*	1.128	-0.010	-2.54	1.128	-0.010	-2.43
H7V2LK	*	1.135	-0.003	-0.83	1.139	0.000	0.05
HKEL6T		1.137	-0.001	-0.26	1.137	-0.001	-0.30

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample D73-D74 Lab Mean	Diff from Grand Mean	CPV
HZ8DRE	*	1.128	-0.010	-2.60	1.126	-0.012	-2.86
JBNHE6	*	1.137	-0.001	-0.36	1.133	-0.006	-1.32
JBQ6X4		1.141	0.002	0.56	1.140	0.002	0.41
JHMZWM		1.135	-0.003	-0.83	1.136	-0.003	-0.67
JW7U68		1.139	0.001	0.18	1.140	0.001	0.31
KEMBRZ	*	1.140	0.002	0.47	1.137	-0.002	-0.37
KMUXXE	*	1.129	-0.009	-2.35	1.131	-0.008	-1.86
KQZDDX		1.140	0.002	0.44	1.140	0.002	0.41
L82MNH		1.135	-0.003	-0.82	1.135	-0.004	-0.87
L8GWKP	*	1.130	-0.009	-2.20	1.127	-0.011	-2.69
LQCC4Z		1.140	0.002	0.46	1.142	0.003	0.80
LRKPK3		1.136	-0.002	-0.53	1.137	-0.001	-0.31
LRMC42		1.144	0.005	1.32	1.142	0.004	0.88
MBRBLZ		1.139	0.001	0.13	1.139	0.001	0.13
MEWWFF		1.141	0.002	0.56	1.141	0.003	0.65
MJP7JY		1.132	-0.006	-1.50	1.135	-0.003	-0.75
MTYDJ9	X	1.131	-0.008	-1.97	1.135	-0.003	-0.79
N9M8A4		1.134	-0.004	-1.08	1.133	-0.005	-1.26
NPU34Y	*	1.149	0.010	2.59	1.150	0.011	2.67
NZQBL2		1.140	0.001	0.37	1.141	0.003	0.66
PB9CG2		1.140	0.002	0.44	1.140	0.002	0.36
PFYJ2V		1.135	-0.003	-0.83	1.132	-0.006	-1.40
PHNR8Q		1.145	0.006	1.58	1.143	0.005	1.12
PZPT4W		1.139	0.000	0.12	1.141	0.003	0.69
Q76X93		1.142	0.003	0.82	1.141	0.003	0.65
Q8YLPC		1.139	0.001	0.30	1.140	0.002	0.41
QE4D3G		1.134	-0.005	-1.21	1.133	-0.006	-1.38
QRDTAL		1.137	-0.001	-0.23	1.138	-0.001	-0.13
R4W336		1.140	0.001	0.31	1.139	0.001	0.19
RHFRYL		1.138	-0.001	-0.20	1.137	-0.002	-0.43
RK8NQZ		1.142	0.004	0.94	1.140	0.001	0.29
RQ7BFF		1.141	0.002	0.60	1.141	0.002	0.57
RR4JNY		1.141	0.003	0.69	1.141	0.003	0.60
RXA88R		1.140	0.002	0.51	1.140	0.002	0.45
TKLCML		1.138	-0.001	-0.20	1.135	-0.003	-0.79
TN26DE		1.144	0.005	1.39	1.144	0.006	1.43
U8CALN		1.139	0.001	0.18	1.140	0.002	0.41
V3UDC6		1.138	-0.001	-0.20	1.137	-0.002	-0.43

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample D73-D74 Lab Mean	Sample D73-D74 Diff from Grand Mean	Sample D73-D74 CPV
V9WP7F		1.140	0.001	0.31	1.140	0.001	0.29
VCHAD6		1.139	0.000	0.06	1.139	0.000	0.05
VDQJ73		1.142	0.004	0.94	1.141	0.003	0.65
VRA3ZR		1.138	0.000	-0.03	1.138	0.000	-0.09
VU6JJF		1.136	-0.002	-0.58	1.139	0.000	0.05
VXZBRD		1.139	0.001	0.18	1.139	0.001	0.17
XPVJR7		1.141	0.003	0.75	1.142	0.004	0.84
XUQB3N	*	1.131	-0.007	-1.85	1.128	-0.010	-2.36
XWJXZL		1.140	0.002	0.44	1.140	0.001	0.29
Y3LBCA		1.144	0.005	1.39	1.145	0.007	1.64
Y937T6		1.129	-0.009	-2.31	1.129	-0.009	-2.18
YVZFC7		1.138	0.000	-0.03	1.138	-0.001	-0.17
ZC742C		1.140	0.001	0.36	1.140	0.002	0.39
ZDF67J		1.139	0.001	0.18	1.142	0.004	0.88
ZHA2VA		1.140	0.001	0.31	1.140	0.001	0.29
ZYJRRM		1.139	0.001	0.14	1.139	0.001	0.24

Summary Statistics

	Sample D71-D72	Sample D73-D74
Grand Means	1.1383 g/cm^3 (Mg/m^3)	1.1383 g/cm^3 (Mg/m^3)
Stnd Dev Btwn Labs	0.0040 g/cm^3 (Mg/m^3)	0.0042 g/cm^3 (Mg/m^3)

Statistics based on 86 of 91 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & D73-D74: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #621

7X4LVK (X) - Inconsistent in testing between samples. Data for sample group D73-D74 are low.

7YFHZP (X) - Inconsistent in testing between samples. Data for sample group D73-D74 are low.

8MYTZX (X) - Inconsistent in testing between samples.

C8C7JN (X) - Inconsistent in testing between samples.

MTYDJ9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group D71-D72.

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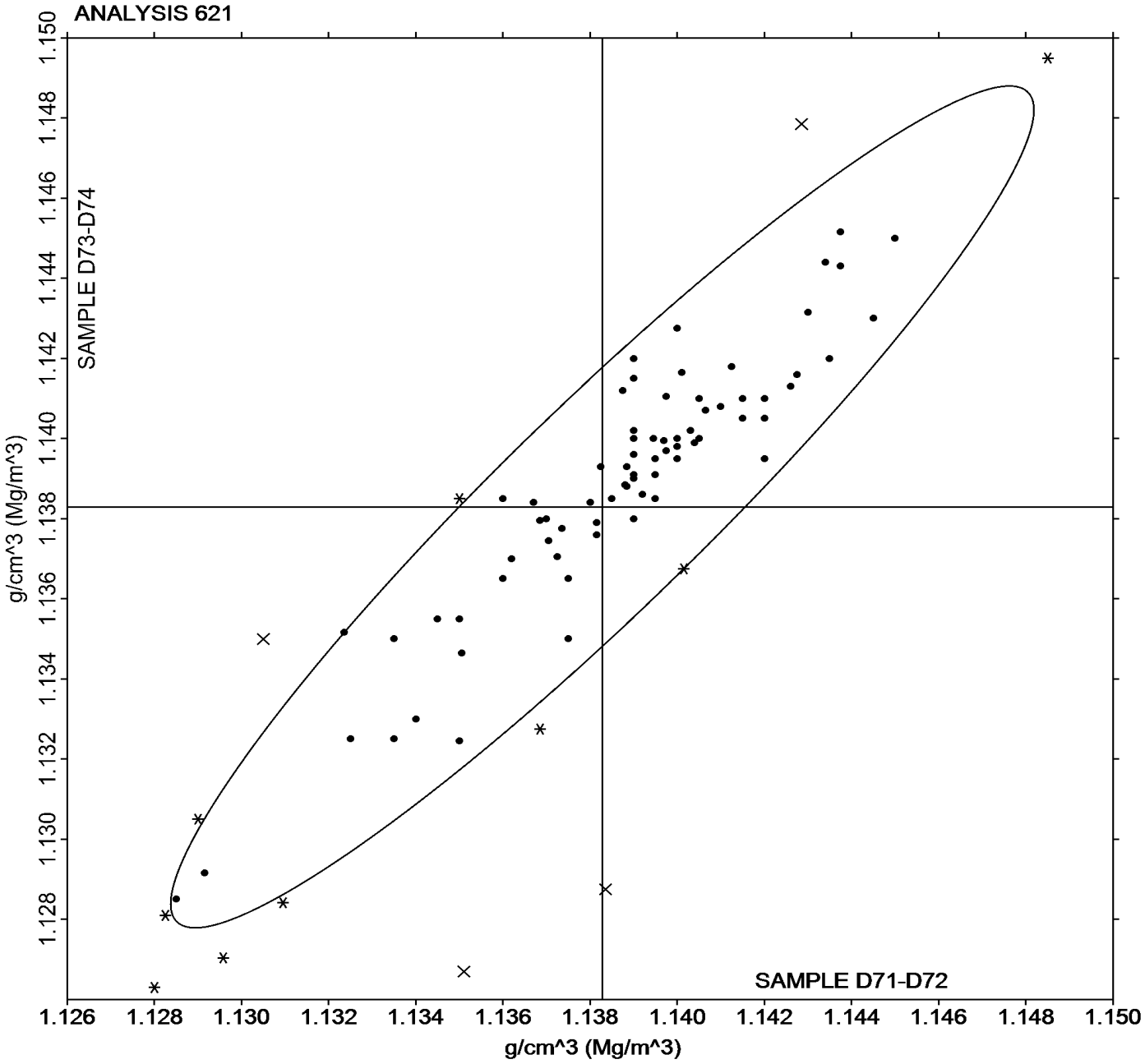
Grand Mean Sample **D71-D72** = 1.1383 g/cm ^ 3 (Mg/m ^ 3)

Grand Mean Sample **D73-D74** = 1.1383 g/cm ^ 3 (Mg/m ^ 3)



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WebCode	Data Flag	Sample HD71-HD72 Lab Mean	Diff from Grand Mean	CPV	Sample HD73-HD74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
286HPY		74.10	-2.44	-0.58	84.10	-1.71	-0.50	BT
2XHAB4		78.50	1.96	0.47	88.00	2.19	0.64	HH
46DXYL		77.00	0.46	0.11	86.00	0.19	0.06	XX
8RCXBY		79.00	2.46	0.59	86.00	0.19	0.06	HH
BRFPUP		74.30	-2.24	-0.53	84.70	-1.11	-0.33	BT
E43UXR		77.00	0.46	0.11	85.50	-0.31	-0.09	HH
ECZJFW		79.00	2.46	0.59	88.50	2.69	0.79	BT
GPABTD		75.50	-1.04	-0.25	84.00	-1.81	-0.53	BT
HF3ZVL		76.50	-0.04	-0.01	85.00	-0.81	-0.24	BT
NXJVBP	*	67.75	-8.79	-2.09	81.50	-4.31	-1.26	BT
Q2Y2P3		76.50	-0.04	-0.01	86.00	0.19	0.06	HH
R99VFN		74.40	-2.14	-0.51	84.60	-1.21	-0.35	BT
UHTXD2	*	87.50	10.96	2.61	96.00	10.19	2.99	XX
XWJXZL		72.75	-3.79	-0.90	81.50	-4.31	-1.26	HH
YERN92		78.25	1.71	0.41	85.75	-0.06	-0.02	HH

Summary Statistics

	Sample HD71-HD72	Sample HD73-HD74
Grand Means	76.537 Type D	85.810 Type D
Stnd Dev Btwn Labs	4.206 Type D	3.410 Type D

Statistics based on 15 of 15 reporting participants

Samples HD71-HD72: Hardness Disc, batch #1 & HD73-HD74: Hardness Disc, batch #2

Key to Instrument Codes Reported by Participants

BT	Benchtop	HH	Handheld
XX	Specify Benchtop or Handheld Instrument		

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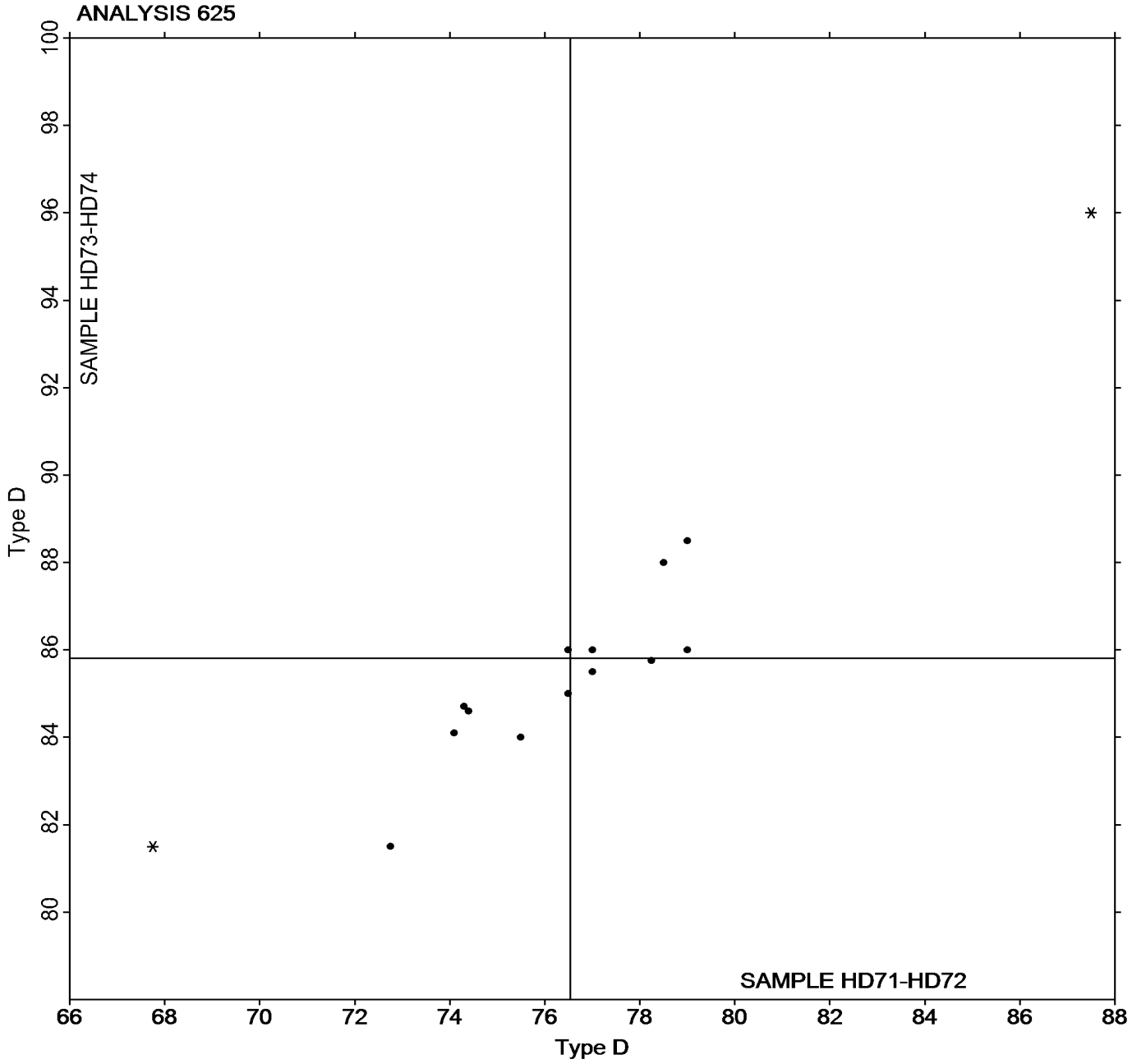
Grand Mean Sample **HD71-HD72** = 76.537 Type D

Grand Mean Sample **HD73-HD74** = 85.810 Type D



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample M71-M72 Lab Mean	Diff from Grand Mean	CPV
23D9F2		3,415.5	162.2	1.19	2,766.0	-326.0	-1.60
2GCCLD	M	No data reported for this sample			2,846.7	-245.3	-1.20
3QC6QX		3,286.0	32.7	0.24	3,213.0	121.0	0.59
3RN2XN	*	2,968.2	-285.1	-2.10	2,595.5	-496.5	-2.44
48Y6WM		3,051.8	-201.5	-1.48	2,970.8	-121.3	-0.59
68FBZK		3,351.1	97.8	0.72	3,224.5	132.5	0.65
6VZQCG		3,305.1	51.8	0.38	3,258.0	165.9	0.81
749K34		3,158.2	-95.1	-0.70	2,850.0	-242.0	-1.19
77YL8R		3,268.5	15.2	0.11	3,062.5	-29.5	-0.14
7VCP46		3,365.8	112.5	0.83	3,316.6	224.6	1.10
8MYTZX	*	3,311.8	58.5	0.43	2,588.4	-503.6	-2.47
AD4UY3		3,249.3	-4.0	-0.03	3,185.1	93.0	0.46
AJUZ36		3,306.6	53.3	0.39	3,426.9	334.9	1.64
BJPA3Z	M	No data reported for this sample			2,674.0	-418.0	-2.05
BRFPUP		3,139.4	-113.9	-0.84	3,177.8	85.8	0.42
C4QJLU		3,251.5	-1.8	-0.01	3,253.5	161.5	0.79
C8C7JN		3,370.3	117.0	0.86	2,927.6	-164.4	-0.81
CHCRR8		3,363.5	110.2	0.81	3,212.9	120.9	0.59
DTLRUE	M	No data reported for this sample			2,207.9	-884.1	-4.34
GWWYQ4		3,011.7	-241.6	-1.78	2,868.1	-223.9	-1.10
H7V2LK		3,335.9	82.6	0.61	3,205.4	113.3	0.56
JW7U68		3,476.6	223.3	1.64	3,321.4	229.4	1.13
KCDBNE		3,221.0	-32.3	-0.24	3,179.0	87.0	0.43
KEMBRZ		3,247.9	-5.4	-0.04	3,286.1	194.1	0.95
KMUXXE		3,265.0	11.7	0.09	3,140.2	48.2	0.24
LRKPK3		3,337.2	83.9	0.62	3,076.9	-15.2	-0.07
LRMC42		3,264.5	11.2	0.08	3,246.0	153.9	0.76
MEWWFF		3,115.5	-137.8	-1.01	3,160.5	68.5	0.34
MTYDJ9		3,172.0	-81.3	-0.60	3,111.0	19.0	0.09
NPU34Y	*	3,598.5	345.2	2.54	2,919.5	-172.5	-0.85
PB9CG2		3,179.0	-74.3	-0.55	2,842.5	-249.5	-1.22
QE4D3G		3,273.5	20.2	0.15	3,085.0	-7.0	-0.03
QMDR2C		3,278.0	24.7	0.18	3,207.0	115.0	0.56
R99VFN		3,074.8	-178.5	-1.31	3,053.1	-38.9	-0.19
RHFRYL		3,255.1	1.8	0.01	3,209.7	117.7	0.58
RK8NQZ		3,281.0	27.7	0.20	3,045.0	-47.0	-0.23
RR4JNY		3,093.5	-159.8	-1.18	3,206.6	114.6	0.56
TKLCML		3,192.7	-60.6	-0.45	3,096.1	4.0	0.02

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WebCode	Data Flag	Sample D71-D72 Lab Mean	Diff from Grand Mean	CPV	Sample M71-M72 Lab Mean	Diff from Grand Mean	CPV
V3UDC6		3,571.5	318.2	2.34	3,389.5	297.5	1.46
V9WP7F		3,188.0	-65.3	-0.48	3,129.8	37.7	0.19
VDQJ73		3,088.5	-164.8	-1.21	2,675.5	-416.5	-2.04
ZHA2VA		3,195.0	-58.3	-0.43	3,106.0	14.0	0.07

Summary Statistics

	D71-D72	M71-M72
Grand Means	3,253.30 psi	3,092.01 psi
Stnd Dev Btwn Labs	135.84 psi	203.81 psi

Statistics based on 39 of 42 reporting participants

Summary Statistics in SI Units

	D71-D72	M71-M72
Grand Means	22.431 MPa	21.32 MPa
Stnd Dev Btwn Labs	0.937 MPa	1.41 MPa

Statistics based on 39 of 42 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & M71-M72: Polyisoprene compound, batch #1

Comments on Assigned Data Flags for Test #630

2GCCLD (M) - Participant did not submit data for sample group D71-D72.

BJPA3Z (M) - Participant did not submit data for sample group D71-D72.

DTLRUE (M) - Participant did not submit data for sample group D71-D72. Data for sample group M71-M72 are low.

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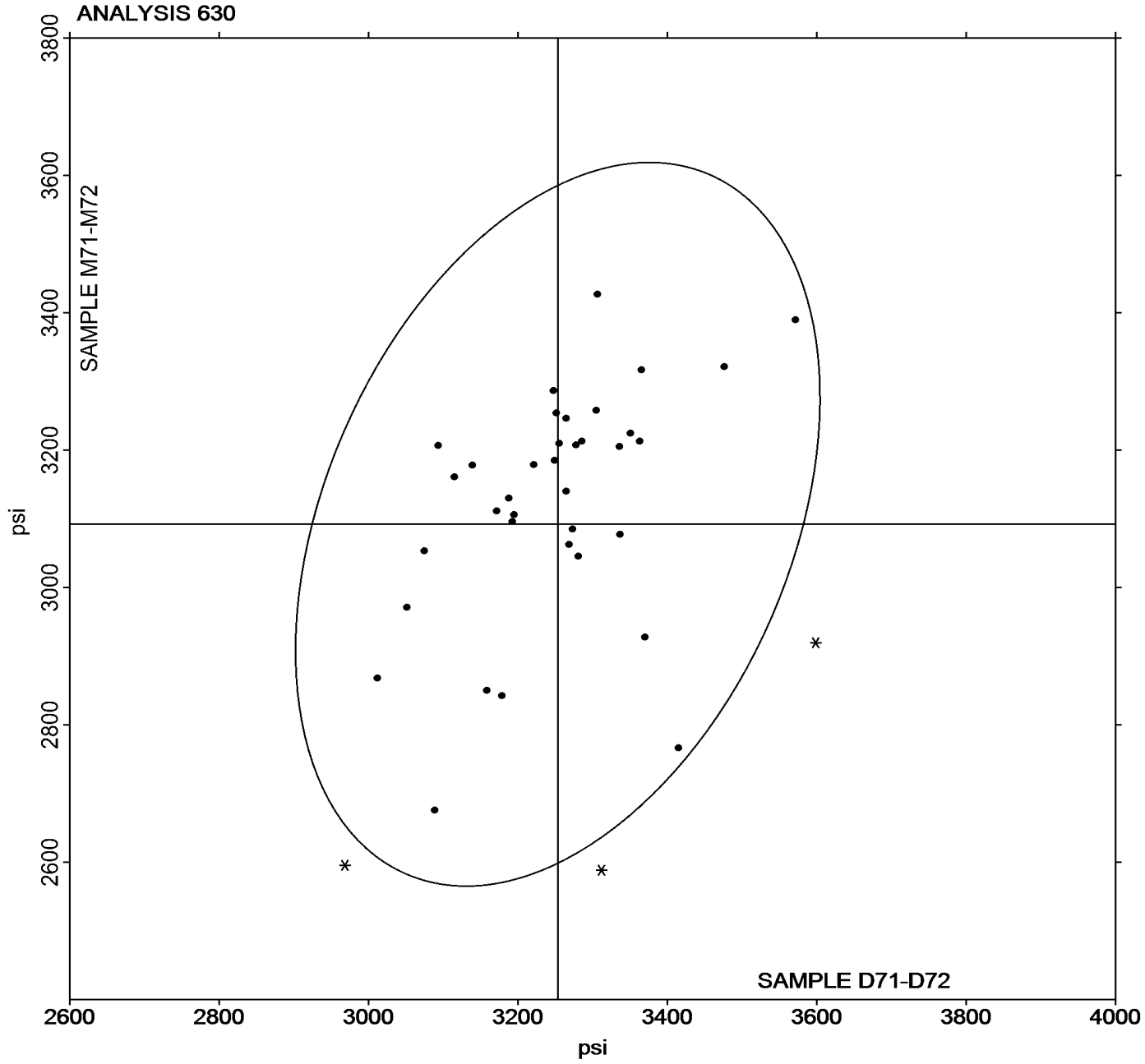
Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **D71-D72** = 3,253.30 psi

Grand Mean Sample **M71-M72** = 3,092.01 psi



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WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
23D9F2		583.5	2.2	0.11	556.5	-27.3	-1.10
2GCCLD	M	No data reported for this sample			725.2	141.4	5.67
3QC6QX	X	539.5	-41.8	-1.96	634.0	50.2	2.02
3RN2XN		564.5	-16.8	-0.79	587.5	3.7	0.15
48Y6WM		567.9	-13.3	-0.63	594.4	10.6	0.43
68FBZK		599.1	17.9	0.84	586.2	2.4	0.09
6VZQCG	X	1,743.8	1,162.5	54.62	1,805.9	1,222.1	49.05
749K34	*	564.5	-16.7	-0.79	614.7	30.9	1.24
77YL8R		623.5	42.2	1.98	605.5	21.7	0.87
7VCP46		592.0	10.7	0.50	580.6	-3.2	-0.13
8MYTZX		605.4	24.2	1.13	586.2	2.4	0.10
AD4UY3		581.2	0.0	0.00	578.1	-5.7	-0.23
AJUZ36		599.8	18.5	0.87	606.9	23.1	0.93
BJPA3Z	M	No data reported for this sample			543.0	-40.8	-1.64
BRFPUP		587.8	6.5	0.31	596.3	12.5	0.50
C4QJLU		590.0	8.7	0.41	599.0	15.2	0.61
C8C7JN		583.0	1.7	0.08	591.0	7.2	0.29
CHCRR8		596.7	15.5	0.73	604.0	20.2	0.81
DTLRUE	M	No data reported for this sample			576.4	-7.4	-0.30
GWWYQ4	*	523.0	-58.3	-2.74	513.0	-70.8	-2.84
H7V2LK		604.5	23.2	1.09	610.5	26.7	1.07
JW7U68		595.5	14.2	0.67	603.7	19.9	0.80
KCDBNE		574.5	-6.8	-0.32	572.0	-11.8	-0.47
KEMBRZ		602.5	21.2	1.00	613.5	29.7	1.19
KMUXXE		581.0	-0.2	-0.01	597.1	13.3	0.54
LRKPK3	*	624.5	43.2	2.03	588.5	4.7	0.19
LRMC42		597.4	16.1	0.76	628.0	44.2	1.77
MEWWFF		573.0	-8.3	-0.39	559.0	-24.8	-1.00
MTYDJ9		550.5	-30.8	-1.44	550.0	-33.8	-1.36
NPU34Y		590.0	8.7	0.41	585.0	1.2	0.05
PB9CG2		542.5	-38.8	-1.82	533.0	-50.8	-2.04
QE4D3G		572.0	-9.3	-0.43	582.0	-1.8	-0.07
QMDR2C		561.5	-19.8	-0.93	589.5	5.7	0.23
R99VFN		581.8	0.5	0.02	569.0	-14.8	-0.59
RHFRYL		575.0	-6.3	-0.29	567.5	-16.3	-0.65
RK8NQZ		605.5	24.2	1.14	615.0	31.2	1.25
RR4JNY		567.5	-13.8	-0.65	589.5	5.7	0.23
TKLCML		558.0	-23.3	-1.09	549.0	-34.8	-1.40

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Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
V3UDC6		581.5	0.2	0.01	563.5	-20.3	-0.81
V9WP7F		552.9	-28.4	-1.33	544.9	-38.9	-1.56
VDQJ73		573.0	-8.3	-0.39	600.5	16.7	0.67
ZHA2VA		580.0	-1.3	-0.06	590.0	6.2	0.25

Summary Statistics

	D71-D72	M71-M72
Grand Means	581.25 percent	583.80 percent
Stnd Dev Btwn Labs	21.28 percent	24.91 percent

Statistics based on 37 of 42 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & M71-M72: Polyisoprene compound, batch #1

Comments on Assigned Data Flags for Test #631

2GCCLD (M) - Participant did not submit data for sample group D71-D72. Data for sample group M71-M72 are high.

3QC6QX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group D71-D72.

6VZQCG (X) - Extreme Data.

BJPA3Z (M) - Participant did not submit data for sample group D71-D72.

DTLRUE (M) - Participant did not submit data for sample group D71-D72.

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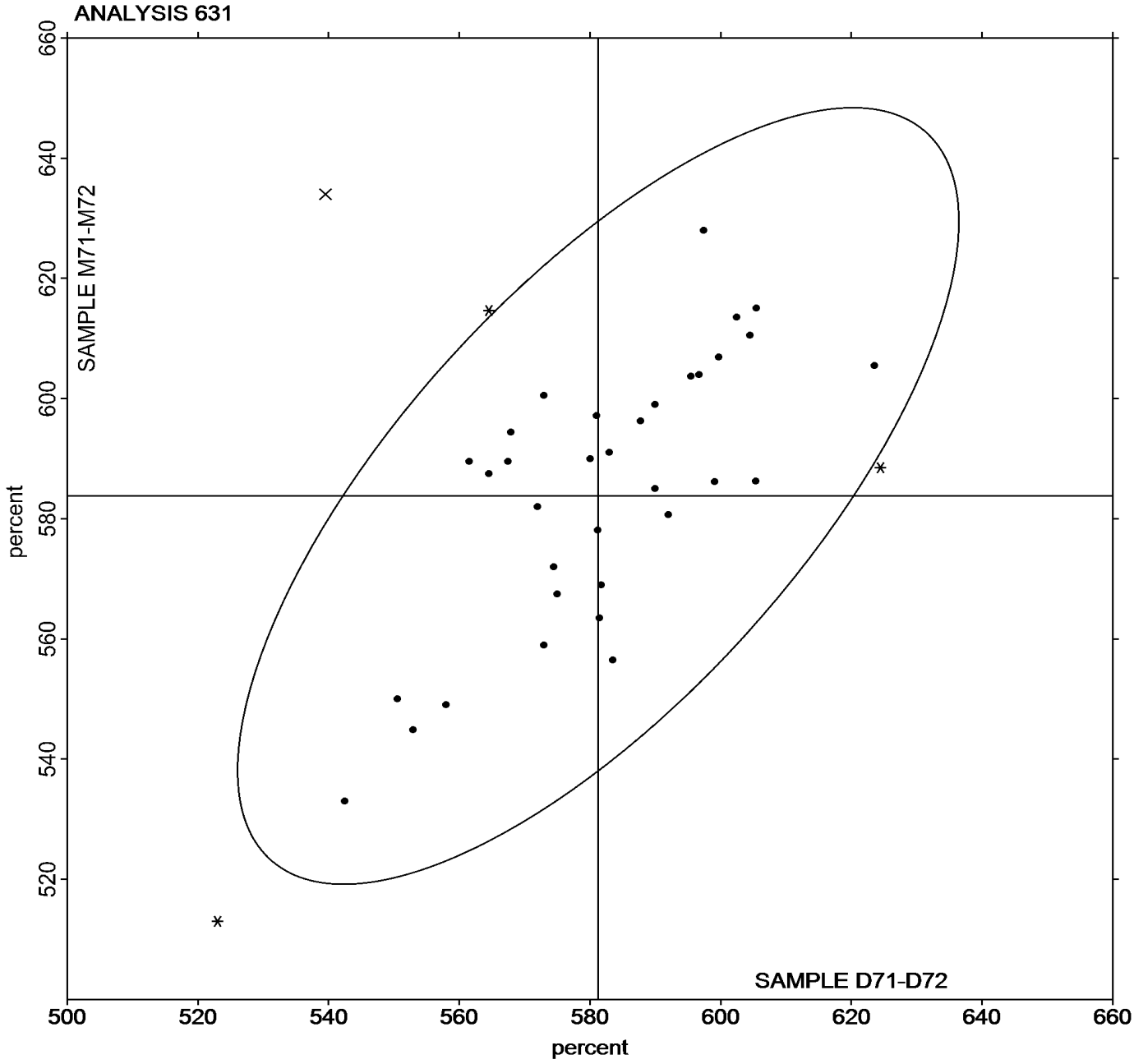
Grand Mean Sample **D71-D72** = 581.25 percent

Grand Mean Sample **M71-M72** = 583.80 percent



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Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
23D9F2		1,172.5	23.2	0.40	926.5	-103.9	-0.96
2GCCLD	M	No data reported for this sample			817.3	-213.1	-1.96
3QC6QX	X	1,421.0	271.7	4.71	962.5	-67.9	-0.62
3RN2XN		1,101.6	-47.7	-0.83	858.6	-171.8	-1.58
48Y6WM		1,114.0	-35.3	-0.61	910.2	-120.2	-1.10
68FBZK		1,137.0	-12.2	-0.21	1,050.8	20.4	0.19
6VZQCG	X	325.0	-824.3	-14.29	300.8	-729.7	-6.71
749K34		1,184.7	35.4	0.61	816.3	-214.2	-1.97
77YL8R		1,063.5	-85.8	-1.49	1,016.5	-13.9	-0.13
7VCP46		1,145.8	-3.4	-0.06	1,116.3	85.8	0.79
8MYTZX		1,103.9	-45.4	-0.79	904.0	-126.5	-1.16
AD4UY3		1,159.7	10.4	0.18	1,070.4	39.9	0.37
AJUZ36		1,129.9	-19.4	-0.34	1,150.5	120.0	1.10
BJPA3Z	M	No data reported for this sample			1,012.5	-17.9	-0.16
BRFPUP		1,083.8	-65.5	-1.13	1,062.8	32.3	0.30
C4QJLU		1,101.5	-47.8	-0.83	1,108.5	78.1	0.72
C8C7JN		1,186.5	37.2	0.65	877.5	-152.9	-1.41
CHCRR8		1,170.6	21.3	0.37	1,072.8	42.4	0.39
DTLRUE	M	No data reported for this sample			690.5	-340.0	-3.12
GWWYQ4		1,248.1	98.8	1.71	1,166.8	136.4	1.25
H7V2LK		1,124.8	-24.5	-0.42	1,039.2	8.8	0.08
JW7U68		1,113.2	-36.1	-0.63	1,055.9	25.4	0.23
KCDBNE		1,142.5	-6.8	-0.12	1,087.5	57.1	0.52
KEMBRZ		1,104.2	-45.1	-0.78	1,019.3	-11.2	-0.10
KMUXXE		1,210.2	60.9	1.06	1,014.8	-15.6	-0.14
LRKPK3		1,038.3	-111.0	-1.92	924.0	-106.4	-0.98
LRMC42		1,077.2	-72.1	-1.25	954.5	-76.0	-0.70
MEWWFF		1,116.5	-32.8	-0.57	1,160.5	130.1	1.20
MTYDJ9		1,165.0	15.7	0.27	1,054.0	23.6	0.22
NPU34Y		1,165.0	15.7	0.27	893.5	-136.9	-1.26
PB9CG2		1,263.5	114.2	1.98	1,095.0	64.6	0.59
QE4D3G		1,213.3	64.0	1.11	1,064.6	34.1	0.31
QMDR2C		1,189.5	40.2	0.70	1,023.5	-6.9	-0.06
R99VFN		1,079.8	-69.4	-1.20	1,117.5	87.1	0.80
RHFRYL		1,178.9	29.6	0.51	1,146.5	116.1	1.07
RK8NQZ		1,135.0	-14.3	-0.25	876.0	-154.4	-1.42
RR4JNY		1,181.5	32.3	0.56	1,053.2	22.8	0.21

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Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
TKLCML		1,171.8	22.5	0.39	1,134.2	103.8	0.95
V3UDC6	*	1,312.5	163.2	2.83	1,228.5	198.1	1.82
V9WP7F		1,198.2	48.9	0.85	1,200.0	169.5	1.56
VDQJ73		1,084.5	-64.8	-1.12	814.5	-215.9	-1.98
ZHA2VA		1,154.5	5.2	0.09	1,061.5	31.1	0.29

Summary Statistics

	Sample D71-D72	Sample M71-M72
Grand Means	1,149.26 psi	1,030.45 psi
Stnd Dev Btwn Labs	57.69 psi	108.83 psi

Statistics based on 37 of 42 reporting participants

Summary Statistics in SI Units

	Sample D71-D72	Sample M71-M72
Grand Means	7.9238 MPa	7.10 MPa
Stnd Dev Btwn Labs	0.3977 MPa	0.75 MPa

Statistics based on 37 of 42 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & M71-M72: Polyisoprene compound, batch #1

Comments on Assigned Data Flags for Test #632

2GCCLD (M) - Participant did not submit data for sample group D71-D72.

3QC6QX (X) - Data for sample group D71-D72 are high. Inconsistent within the determinations of sample group D71-D72.

6VZQCG (X) - Extreme Data.

BJPA3Z (M) - Participant did not submit data for sample group D71-D72.

DTLRUE (M) - Participant did not submit data for sample group D71-D72. Data for sample group M71-M72 are low.

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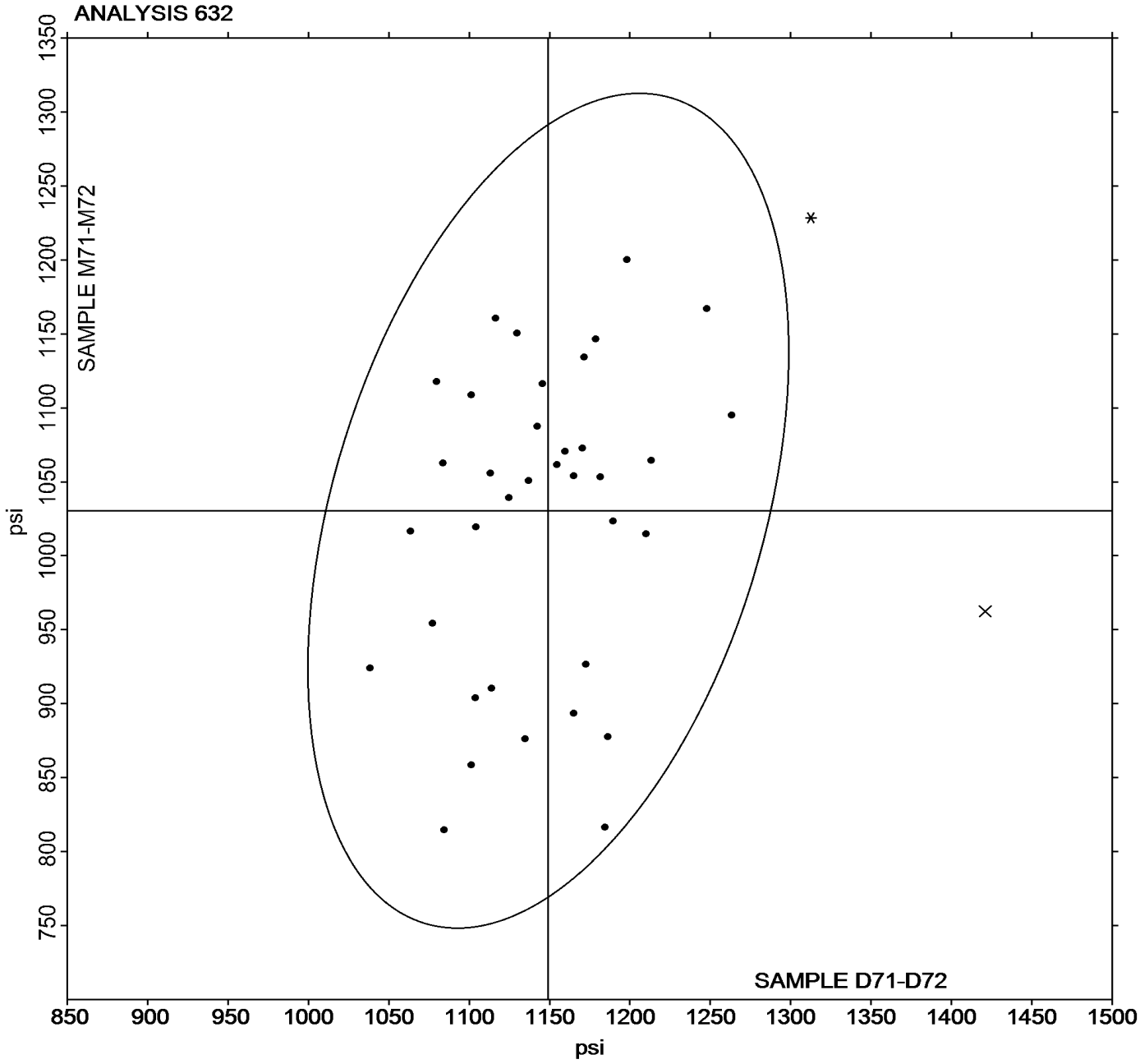
Grand Mean Sample **D71-D72** = 1,149.26 psi

Grand Mean Sample **M71-M72** = 1,030.45 psi



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Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
23D9F2		252.0	1.9	0.17	198.5	-30.4	-1.34
2GCCLD	M	No data reported for this sample			226.7	-2.2	-0.10
3QC6QX	X	325.0	74.9	6.54	247.0	18.1	0.80
3RN2XN		252.4	2.3	0.20	203.8	-25.1	-1.11
48Y6WM		245.5	-4.6	-0.41	190.5	-38.5	-1.70
68FBZK		239.3	-10.8	-0.94	232.0	3.1	0.14
6VZQCG	X	137.0	-113.1	-9.87	129.1	-99.9	-4.41
749K34		249.8	-0.3	-0.02	185.7	-43.2	-1.91
77YL8R		253.5	3.4	0.30	239.0	10.1	0.45
7VCP46		250.5	0.4	0.03	259.8	30.9	1.37
8MYTZX		241.9	-8.2	-0.71	202.7	-26.2	-1.16
AD4UY3		257.7	7.6	0.66	253.5	24.5	1.08
AJUZ36		240.8	-9.3	-0.81	240.9	11.9	0.53
BJPA3Z	M	No data reported for this sample			187.5	-41.4	-1.83
BRFPUP		232.4	-17.7	-1.54	236.4	7.5	0.33
C4QJLU		234.0	-16.1	-1.40	236.5	7.6	0.34
C8C7JN		255.0	4.9	0.43	191.5	-37.4	-1.65
CHCRR8		243.0	-7.1	-0.62	230.7	1.8	0.08
DTLRUE	M	No data reported for this sample			156.9	-72.0	-3.18
GWWYQ4		271.2	21.1	1.84	255.3	26.4	1.16
H7V2LK		246.6	-3.5	-0.31	237.9	9.0	0.40
JW7U68		242.9	-7.2	-0.62	233.5	4.6	0.20
KCDBNE		238.5	-11.6	-1.01	238.0	9.1	0.40
KEMBRZ		241.9	-8.2	-0.72	234.4	5.5	0.24
KMUXXE		268.0	17.9	1.56	230.2	1.3	0.06
LRKPK3		238.8	-11.3	-0.99	212.4	-16.6	-0.73
LRMC42		239.4	-10.7	-0.94	223.4	-5.5	-0.24
MEWWFF		244.0	-6.1	-0.53	256.5	27.6	1.22
MTYDJ9		247.0	-3.1	-0.27	231.5	2.6	0.11
NPU34Y		257.5	7.4	0.65	205.5	-23.4	-1.03
PB9CG2		274.0	23.9	2.09	235.0	6.1	0.27
QE4D3G		262.5	12.4	1.08	244.4	15.5	0.68
QMDR2C		260.0	9.9	0.86	227.5	-1.4	-0.06
R99VFN		227.7	-22.4	-1.95	242.9	14.0	0.62
RHFRYL		262.1	12.0	1.05	257.3	28.4	1.25
RK8NQZ		259.5	9.4	0.82	191.5	-37.4	-1.65
RR4JNY		274.1	24.0	2.09	255.2	26.3	1.16
TKLCML		250.4	0.3	0.02	251.6	22.7	1.00

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Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample D71-D72 Lab Mean	Sample D71-D72 Diff from Grand Mean	Sample D71-D72 CPV	Sample M71-M72 Lab Mean	Sample M71-M72 Diff from Grand Mean	Sample M71-M72 CPV
V3UDC6	X	368.0	117.9	10.29	344.0	115.1	5.08
V9WP7F		254.4	4.3	0.38	249.0	20.1	0.89
VDQJ73		243.0	-7.1	-0.62	184.0	-44.9	-1.98
ZHA2VA		252.5	2.4	0.21	242.5	13.6	0.60

Summary Statistics

	Sample D71-D72	Sample M71-M72
Grand Means	250.10 psi	228.91 psi
Stnd Dev Btwn Labs	11.46 psi	22.64 psi

Statistics based on 36 of 42 reporting participants

Summary Statistics in SI Units

	Sample D71-D72	Sample M71-M72
Grand Means	1.7244 MPa	1.58 MPa
Stnd Dev Btwn Labs	0.0790 MPa	0.16 MPa

Statistics based on 36 of 42 reporting participants

Samples D71-D72: Polyisoprene compound, batch #1 & M71-M72: Polyisoprene compound, batch #1

Comments on Assigned Data Flags for Test #633

2GCCLD (M) - Participant did not submit data for sample group D71-D72.

3QC6QX (X) - Data for sample group D71-D72 are high.

6VZQCG (X) - Data for all samples are low.

BJPA3Z (M) - Participant did not submit data for sample group D71-D72.

DTLRUE (M) - Participant did not submit data for sample group D71-D72. Data for sample group M71-M72 are low.

V3UDC6 (X) - Data for all samples are high.

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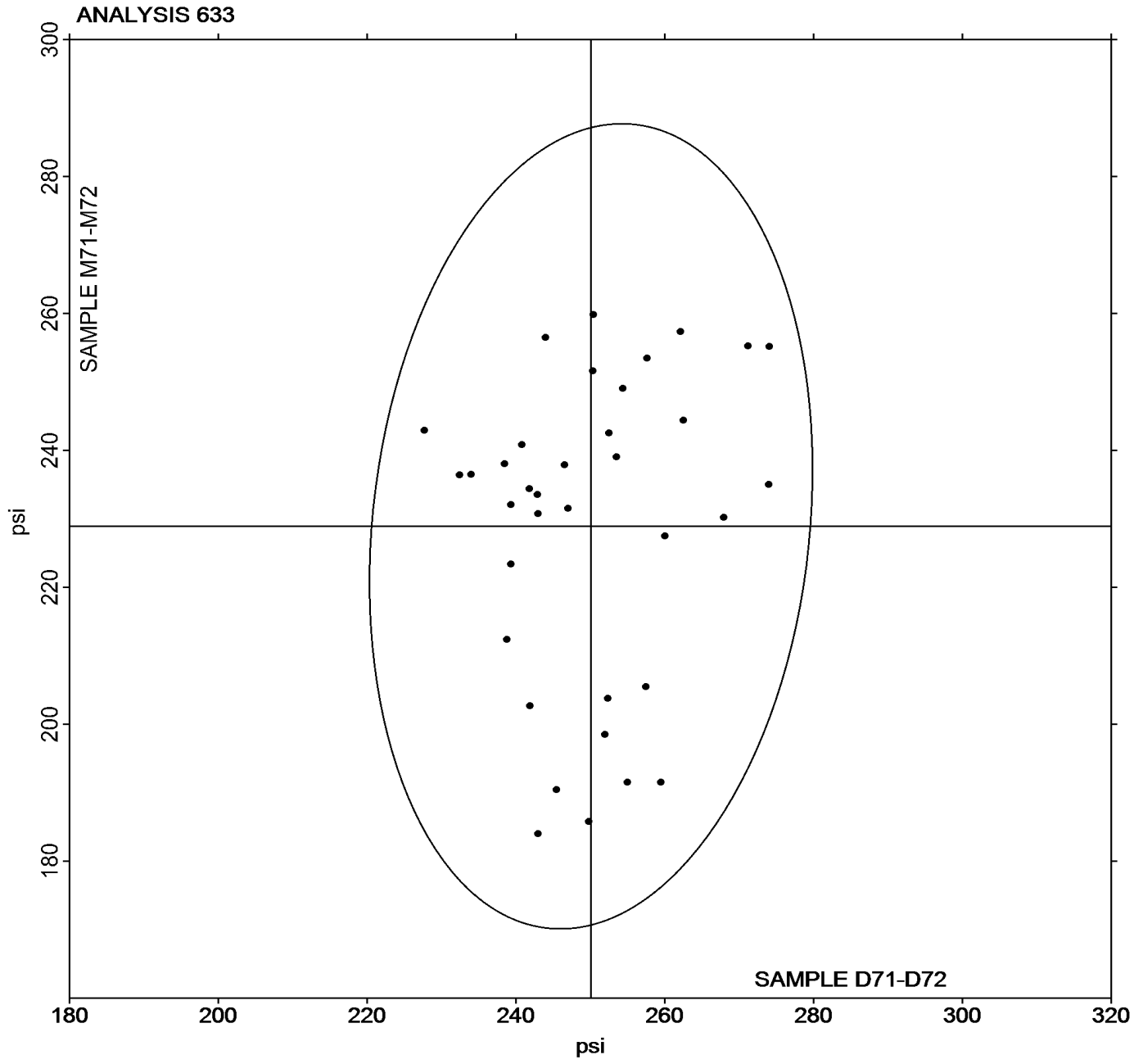
Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **D71-D72** = 250.10 psi

Grand Mean Sample **M71-M72** = 228.91 psi



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WebCode	Data Flag	Sample V71-V72 Lab Mean	Diff from Grand Mean	CPV	Sample V73-V74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		47.65	-0.37	-0.50	55.65	-0.53	-0.51	MR
2RUW4N	M	49.07	1.05	1.40	No data reported for this sample			MR
3RN2XN		47.92	-0.11	-0.14	56.35	0.17	0.16	MV
48Y6WM		48.21	0.18	0.25	56.64	0.46	0.44	MV
68FBZK		47.53	-0.49	-0.66	54.93	-1.25	-1.20	MR
6VZQCG		47.92	-0.10	-0.14	56.30	0.12	0.12	XX
7CN2WX		48.92	0.90	1.20	56.78	0.60	0.58	MR
7VCP46		47.55	-0.47	-0.63	55.98	-0.20	-0.19	MR
8MYTZX	X	51.58	3.55	4.78	60.49	4.31	4.14	TV
9JUMXX		48.46	0.44	0.59	56.63	0.45	0.43	MR
AD4UY3	*	48.42	0.39	0.53	58.53	2.35	2.26	TA
BLF2KX		48.04	0.02	0.02	56.86	0.68	0.66	MP
BRFPUP	*	46.08	-1.94	-2.60	54.10	-2.08	-2.00	MR
BZV9FA		48.97	0.95	1.27	58.23	2.05	1.97	MR
C8C7JN		48.48	0.46	0.62	57.02	0.84	0.80	MR
DTLRUE		48.67	0.65	0.87	55.83	-0.35	-0.33	MZ
F8HPTV		48.03	0.01	0.01	55.52	-0.66	-0.64	MV
F8YW2X		49.00	0.98	1.32	56.57	0.39	0.37	MR
FJDWV7		49.46	1.43	1.93	57.96	1.78	1.71	MR
GPYAAY		47.00	-1.02	-1.37	54.72	-1.46	-1.40	MR
GWWYQ4		46.79	-1.23	-1.65	55.27	-0.91	-0.87	MV
HZ8DRE		46.83	-1.19	-1.60	54.90	-1.28	-1.23	MR
K8GNVQ		47.05	-0.97	-1.31	55.15	-1.03	-0.99	MR
KEMBRZ		48.65	0.63	0.84	56.65	0.47	0.45	MR
L82MNH		48.37	0.35	0.46	57.64	1.46	1.40	TA
LRMC42		48.02	0.00	0.00	56.06	-0.12	-0.12	MR
MEWWFF		48.08	0.06	0.08	55.33	-0.85	-0.81	MR
N9M8A4		48.02	0.00	-0.01	54.55	-1.63	-1.57	MR
NPU34Y	X	44.29	-3.73	-5.02	55.55	-0.63	-0.60	MM
PB9CG2	X	47.87	-0.15	-0.20	60.52	4.34	4.17	MR
QE4D3G		47.72	-0.30	-0.41	56.00	-0.18	-0.17	MR
QMDR2C		48.07	0.05	0.06	55.13	-1.05	-1.01	MR
R99VFN		47.03	-0.99	-1.33	55.13	-1.05	-1.01	MR
RHFRYL		48.30	0.28	0.37	56.83	0.65	0.63	MR
RK8NQZ		47.66	-0.37	-0.49	57.00	0.82	0.78	MV
RR4JNY		49.43	1.41	1.89	57.00	0.82	0.79	MV
V9KNL3		48.76	0.74	0.99	56.23	0.05	0.04	MR

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Rubber Interlaboratory Testing Program

Report #194

Analysis 660

4th Qtr 2017

Mooney Viscosity: 4-minute readings (ML 1 + 4)

WebCode	Data Flag	Sample V71-V72 Lab Mean	Diff from Grand Mean	CPV	Sample V73-V74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
VHPQTL		47.98	-0.04	-0.05	56.25	0.07	0.07	MR
W6WNPJ		47.82	-0.20	-0.27	55.80	-0.38	-0.36	MR
XUQB3N		47.92	-0.10	-0.13	56.94	0.76	0.73	MR
Y3LBCA	X	42.48	-5.54	-7.44	52.93	-3.25	-3.12	MR
ZHA2VA	X	50.10	2.08	2.79	54.98	-1.20	-1.15	MR

Summary Statistics

	Sample V71-V72	Sample V73-V74
Grand Means	48.021 ML 1 + 4	56.180 ML 1 + 4
Stnd Dev Btwn Labs	0.744 ML 1 + 4	1.041 ML 1 + 4

Statistics based on 36 of 42 reporting participants

Samples V71-V72: SBR & V73-V74: Butyl

Comments on Assigned Data Flags for Test #660

2RUW4N (M) - Participant did not submit data for sample group V73-V74.

8MYTZX (X) - Data for all samples are high. Inconsistent within the determinations of sample group V71-V72.

NPU34Y (X) - Data for sample group V71-V72 are low. Inconsistent within the determinations of sample group V71-V72.

PB9CG2 (X) - Data for sample group V73-V74 are high.

Y3LBCA (X) - Data for all samples are low.

ZHA2VA (X) - Data for sample group V71-V72 are high. Inconsistent within the determinations of sample group V71-V72.

Key to Instrument Codes Reported by Participants

MM	Alpha Technologies Model 1xxx or OSM	MP	Monsanto Compact Mooney Viscometer
MR	Alpha Technologies Model MV2000/MV2000E	MV	MonTech
MZ	Rebuilt Monsanto Mooney Viscometer	TA	TA Instruments (any model)
TV	Tech Pro Visc Tech (any model)	XX	Instrument make/model not specified by lab

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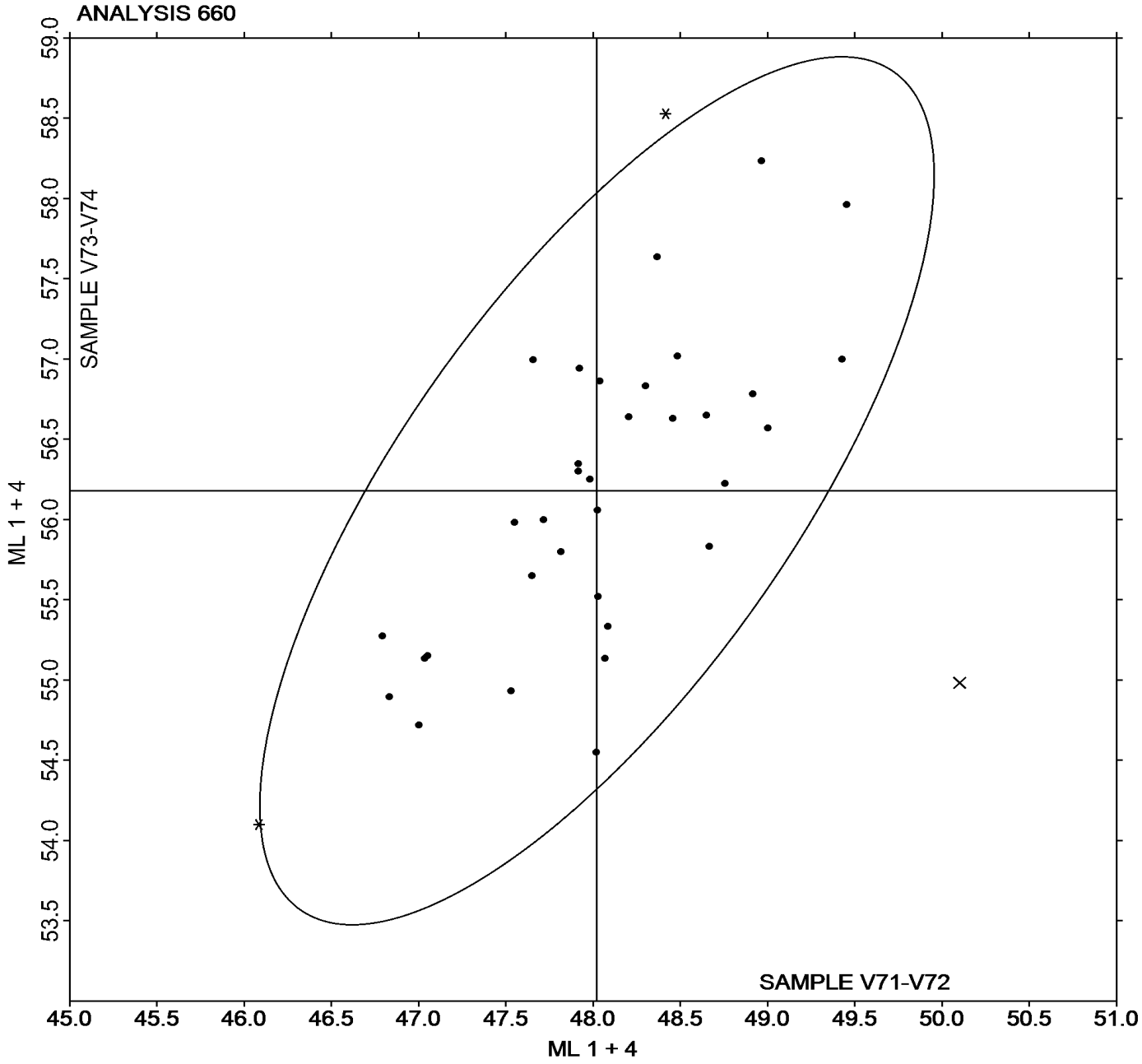
Grand Mean Sample **V71-V72** = 48.021 ML 1 + 4

Grand Mean Sample **V73-V74** = 56.180 ML 1 + 4



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Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

WebCode	Data Flag	Sample V71-V72 Lab Mean	Diff from Grand Mean	CPV	Sample V73-V74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		47.65	-0.34	-0.46	52.85	-0.86	-0.83	MR
2RUW4N		49.07	1.08	1.44	55.20	1.49	1.44	MR
3RN2XN		47.92	-0.08	-0.10	54.12	0.41	0.40	MV
48Y6WM		48.21	0.21	0.29	53.90	0.19	0.18	MV
68FBZK		47.53	-0.46	-0.62	52.55	-1.16	-1.12	MR
6VZQCG		47.92	-0.07	-0.10	54.88	1.17	1.13	XX
7VCP46		47.55	-0.44	-0.59	53.72	0.01	0.01	MR
8MYTZX	X	51.58	3.58	4.80	56.69	2.98	2.88	TV
9JUMXX		48.46	0.47	0.63	54.57	0.86	0.83	MR
AD4UY3		48.42	0.42	0.57	55.51	1.80	1.74	TA
BLF2KX		48.04	0.05	0.06	53.69	-0.03	-0.02	MP
BRFPUP		46.08	-1.91	-2.55	52.05	-1.66	-1.60	MR
BZV9FA		48.97	0.98	1.31	56.02	2.31	2.23	MR
C8C7JN		48.48	0.49	0.66	54.42	0.71	0.68	MR
DTLRUE		48.67	0.68	0.90	53.17	-0.54	-0.52	MZ
F8HPTV		48.03	0.04	0.05	53.86	0.15	0.14	MV
F8YW2X		49.00	1.01	1.35	53.74	0.03	0.03	MR
FJDWV7		49.46	1.46	1.96	55.78	2.07	2.00	MR
GPYAAY		47.00	-0.99	-1.32	52.50	-1.21	-1.17	MR
GWWYQ4		46.79	-1.20	-1.60	52.49	-1.22	-1.18	MV
HZ8DRE		46.83	-1.16	-1.55	52.77	-0.94	-0.91	MR
K8GNVQ		47.05	-0.94	-1.26	52.78	-0.93	-0.90	MR
KEMBRZ		48.65	0.66	0.88	54.18	0.47	0.46	MR
LRMC42		48.02	0.03	0.04	53.71	-0.01	0.00	MR
MEWWFF		48.08	0.09	0.12	52.65	-1.06	-1.02	MP
N9M8A4		48.02	0.03	0.04	52.22	-1.49	-1.44	MR
NPU34Y	X	44.29	-3.70	-4.95	51.91	-1.81	-1.74	MM
PB9CG2		47.87	-0.12	-0.16	54.42	0.71	0.69	MR
QE4D3G		47.72	-0.27	-0.37	53.40	-0.31	-0.30	MR
QMDR2C		48.07	0.08	0.10	52.70	-1.01	-0.98	MR
R99VFN		47.03	-0.96	-1.28	52.78	-0.93	-0.90	MR
RHFRYL		48.30	0.31	0.41	54.53	0.82	0.80	MR
RK8NQZ		47.66	-0.34	-0.45	54.60	0.89	0.86	MV
RR4JNY		49.43	1.44	1.92	54.06	0.35	0.34	MV
VHPQTL		47.98	-0.01	-0.01	53.10	-0.61	-0.59	MR
W6WNPJ		47.82	-0.17	-0.23	52.95	-0.76	-0.73	MR
XUQB3N		47.92	-0.07	-0.09	53.98	0.27	0.26	MR
Y3LBCA	X	42.48	-5.51	-7.37	52.88	-0.83	-0.80	MR

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WebCode	Data Flag	Sample V71-V72 Lab Mean	Sample V71-V72 Diff from Grand Mean	Sample V71-V72 CPV	Sample V73-V74 Lab Mean	Sample V73-V74 Diff from Grand Mean	Sample V73-V74 CPV	Instr Code
ZHA2VA	X	50.10	2.11	2.82	52.88	-0.83	-0.80	MR

Summary Statistics

	Sample V71-V72	Sample V73-V74
Grand Means	47.990 ML 1 + 8	53.710 ML 1 + 8
Stnd Dev Btwn Labs	0.748 ML 1 + 8	1.035 ML 1 + 8

Statistics based on 35 of 39 reporting participants

Samples V71-V72: SBR & V73-V74: Butyl

Comments on Assigned Data Flags for Test #661

8MYTZX (X) - Data for all samples are high. Inconsistent within the determinations of sample group V71-V72.

NPU34Y (X) - Data for sample group V71-V72 are low. Inconsistent within the determinations of sample group V71-V72.

Y3LBCA (X) - Data for sample group V71-V72 are low.

ZHA2VA (X) - Data for sample group V71-V72 are high. Inconsistent within the determinations of sample group V71-V72.

Key to Instrument Codes Reported by Participants

MM	Alpha Technologies Model 1xxx or OSM	MP	Monsanto Compact Mooney Viscometer
MR	Alpha Technologies Model MV2000/MV2000E	MV	Montech
MZ	Rebuilt Monsanto Mooney Viscometer	TA	TA Instruments (any model)
TV	Tech Pro Visc Tech (any model)	XX	Instrument make/model not specified by lab

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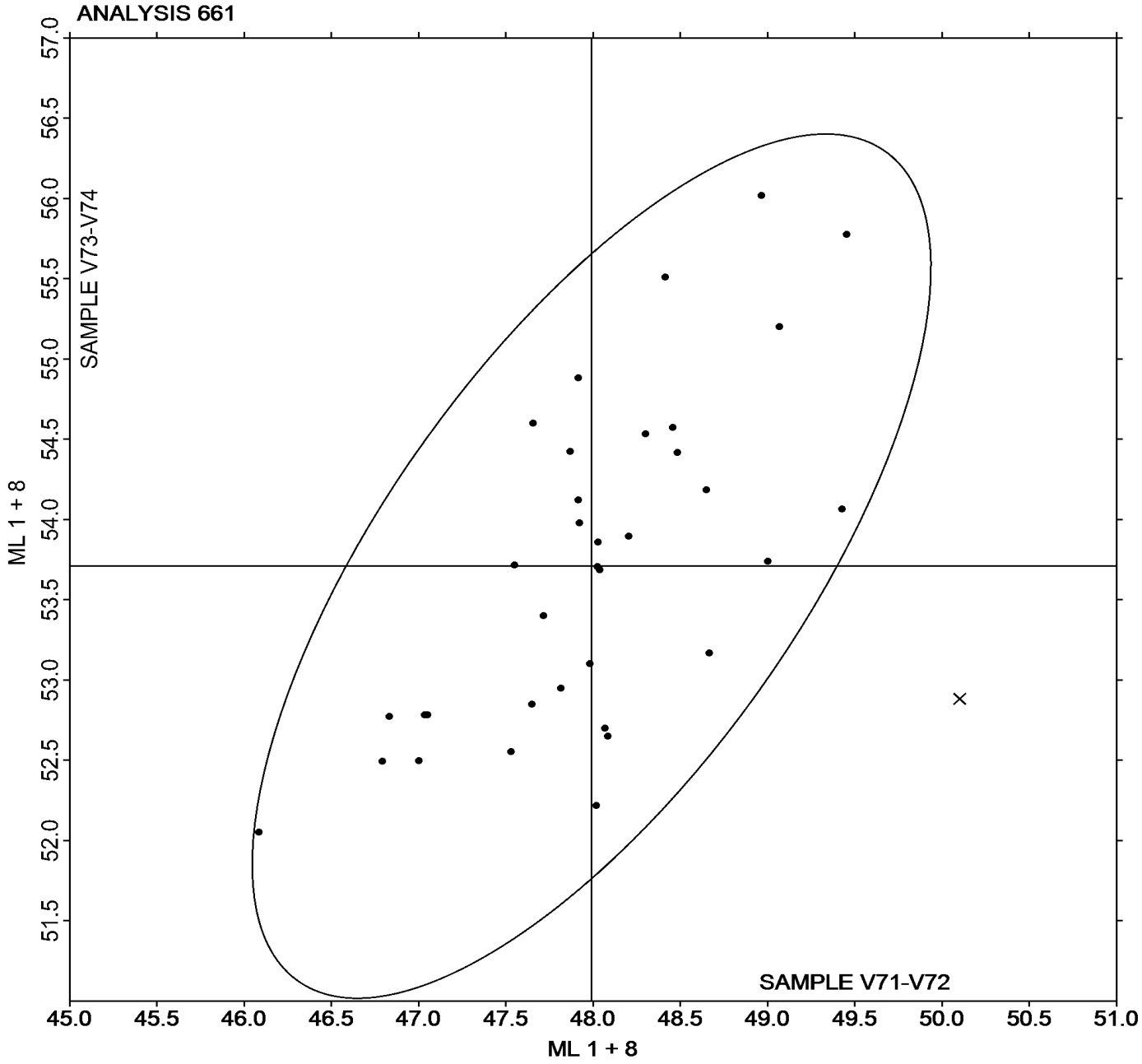
Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample **V71-V72** = 47.990 ML 1 + 8

Grand Mean Sample **V73-V74** = 53.710 ML 1 + 8



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WebCode	Data Flag	Sample V71-V72 Lab Mean	Sample V71-V72 Diff from Grand Mean	Sample V71-V72 CPV	Sample V73-V74 Lab Mean	Sample V73-V74 Diff from Grand Mean	Sample V73-V74 CPV	Instr Code
23D9F2		13.82	1.44	0.37	8.010	-0.483	-0.34	MR
3RN2XN		12.70	0.32	0.08	8.200	-0.293	-0.21	MV
48Y6WM	X	547.73	535.35	135.90	548.300	539.807	383.40	MV
7VCP46		12.41	0.03	0.01	8.360	-0.133	-0.09	MR
8MYTZX		11.14	-1.24	-0.32	11.143	2.650	1.88	TV
AD4UY3		5.18	-7.20	-1.83	5.145	-3.348	-2.38	TA
C8C7JN		21.24	8.86	2.25	10.463	1.970	1.40	MR
DTLRUE		9.11	-3.27	-0.83	9.120	0.627	0.45	MZ
GWWYQ4		5.15	-7.23	-1.84	5.123	-3.370	-2.39	MV
L82MNH		11.23	-1.15	-0.29	9.533	1.040	0.74	TA
LRMC42		5.03	-7.35	-1.87	9.035	0.542	0.39	MR
N9M8A4		14.75	2.37	0.60	8.293	-0.200	-0.14	MR
PB9CG2		14.71	2.33	0.59	8.897	0.404	0.29	MR
QE4D3G		14.25	1.87	0.47	8.253	-0.240	-0.17	MR
QMDR2C		13.16	0.78	0.20	8.130	-0.363	-0.26	MR
R99VFN		14.01	1.63	0.41	8.860	0.367	0.26	MR
RK8NQZ		12.07	-0.31	-0.08	8.300	-0.193	-0.14	MV
RR4JNY		16.83	4.45	1.13	8.833	0.340	0.24	MV
V9KNL3		13.60	1.22	0.31	9.600	1.107	0.79	MR
VHPQTL		13.22	0.84	0.21	8.067	-0.426	-0.30	MR
XUQB3N		13.99	1.61	0.41	8.492	-0.001	0.00	MR

Summary Statistics

	Sample V71-V72	Sample V73-V74
Grand Means	12.380 seconds	8.4929 seconds
Stnd Dev Btwn Labs	3.939 seconds	1.4079 seconds

Statistics based on 20 of 21 reporting participants

Samples V71-V72: SBR & V73-V74: Butyl

Comments on Assigned Data Flags for Test #662

48Y6WM (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

MR	Alpha Technologies Model MV2000/MV2000E	MV	MonTech
MZ	Rebuilt Monsanto Mooney Viscometer	TA	TA Instruments (any model)
TV	Tech Pro Visc Tech (any model)		

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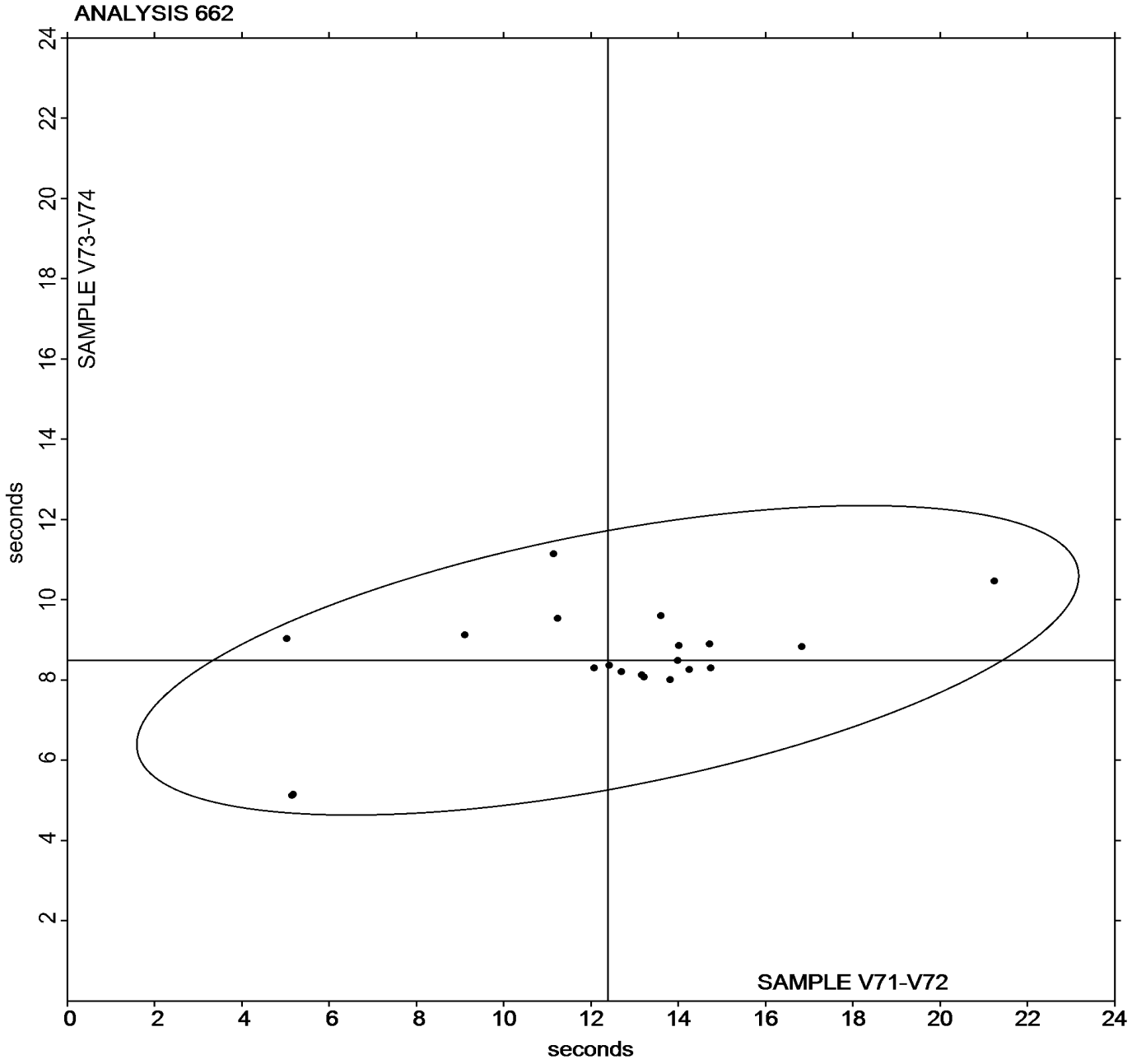
Grand Mean Sample **V71-V72** = 12.380 seconds

Grand Mean Sample **V73-V74** = 8.4929 seconds



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WebCode	Data Flag	Sample V71-V72 Lab Mean	Diff from Grand Mean	CPV	Sample V73-V74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		85.27	-0.88	-0.49	91.53	0.40	0.45	MR
3RN2XN		85.99	-0.16	-0.09	91.39	0.26	0.29	MV
48Y6WM		88.66	2.51	1.41	91.12	-0.01	-0.01	MV
7VCP46		85.95	-0.20	-0.11	91.04	-0.09	-0.10	MR
8MYTZX		87.78	1.64	0.92	90.44	-0.68	-0.76	TV
AD4UY3		87.54	1.40	0.79	92.05	0.93	1.03	TA
C8C7JN	*	82.13	-4.02	-2.25	88.21	-2.92	-3.24	MR
DTLRUE		89.50	3.36	1.88	92.05	0.92	1.03	MZ
GWWYQ4		88.47	2.33	1.30	92.77	1.64	1.82	MV
L82MNH		87.37	1.23	0.69	91.38	0.26	0.29	TA
LRMC42		85.11	-1.03	-0.58	91.46	0.33	0.37	MR
N9M8A4		84.84	-1.30	-0.73	91.26	0.13	0.15	MR
PB9CG2	X	73.44	-12.70	-7.12	85.67	-5.45	-6.05	MR
QE4D3G		86.58	0.43	0.24	90.89	-0.24	-0.27	MR
QMDR2C		85.54	-0.60	-0.34	91.06	-0.06	-0.07	MR
R99VFN		85.33	-0.81	-0.46	90.91	-0.21	-0.24	MR
RK8NQZ		86.16	0.02	0.01	91.06	-0.07	-0.07	MV
RR4JNY		83.73	-2.42	-1.35	90.34	-0.79	-0.87	MV
VHPQTL		85.62	-0.53	-0.29	91.38	0.26	0.29	MR
XUQB3N		85.15	-0.99	-0.56	91.04	-0.08	-0.09	MR

Summary Statistics

	Sample V71-V72	Sample V73-V74
Grand Means	86.142 percent	91.124 percent
Stnd Dev Btwn Labs	1.783 percent	0.901 percent

Statistics based on 19 of 20 reporting participants

Samples V71-V72: SBR & V73-V74: Butyl

Comments on Assigned Data Flags for Test #663

PB9CG2 (X) - Data for all samples are low. Inconsistent within the determinations of sample group V73-V74.

Key to Instrument Codes Reported by Participants

MR	Alpha Technologies Model MV2000/MV2000E	MV	Montech
MZ	Rebuilt Monsanto Mooney Viscometer	TA	TA Instruments (any model)
TV	Tech Pro Visc Tech (any model)		

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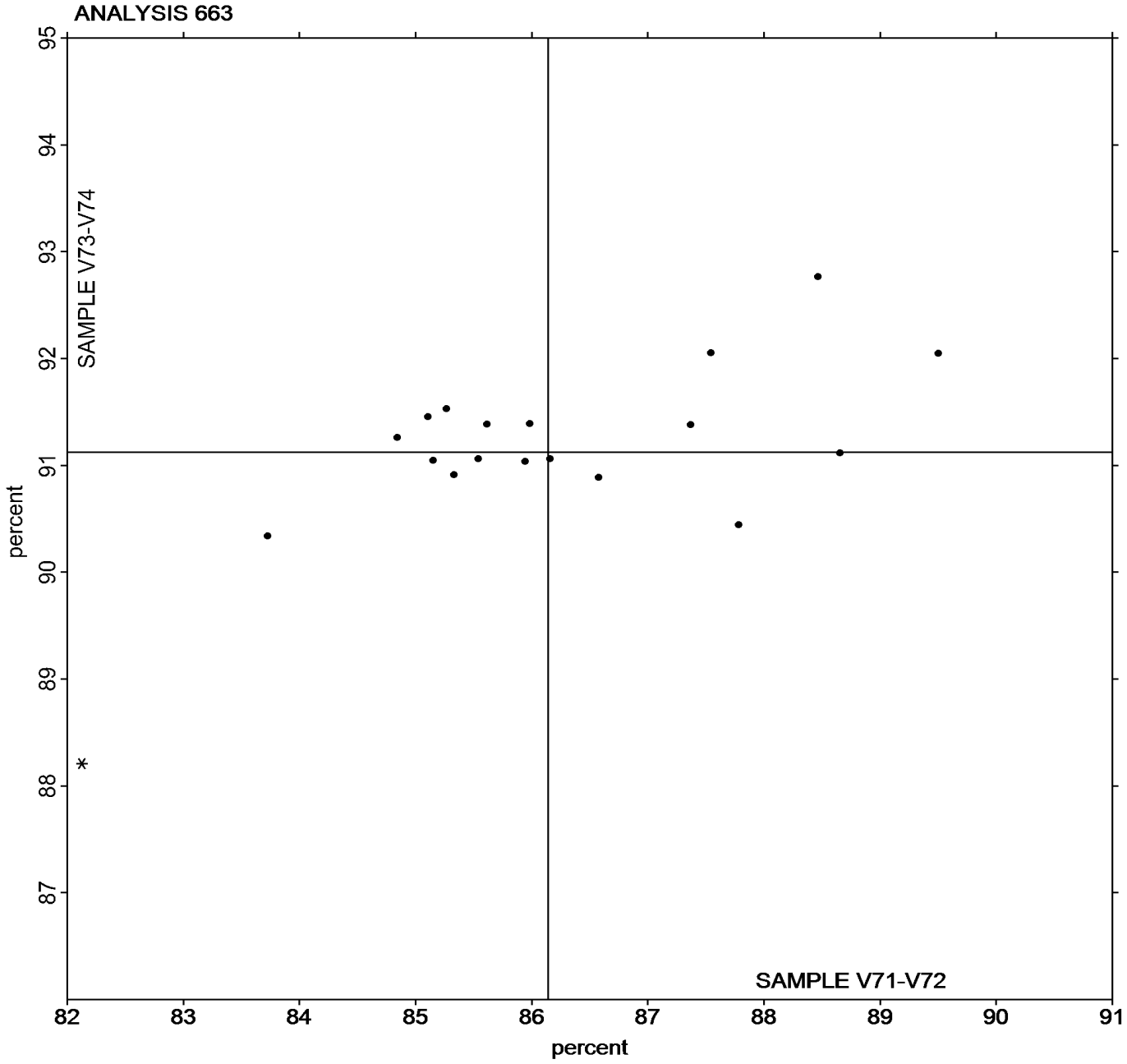
Grand Mean Sample **V71-V72** = 86.142 percent

Grand Mean Sample **V73-V74** = 91.124 percent



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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Mooney Stress Relaxation: Area under curve (M-s)

WebCode	Data Flag	Sample V71-V72 Lab Mean	Diff from Grand Mean	CPV	Sample V73-V74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		753.5	53.7	0.43	501.8	-29.1	-0.44	MR
3RN2XN		711.7	11.9	0.10	504.3	-26.7	-0.41	MV
48Y6WM		528.9	-170.9	-1.37	531.4	0.4	0.01	MV
7VCP46		719.2	19.3	0.15	539.6	8.7	0.13	MR
8MYTZX		580.8	-119.0	-0.95	599.9	68.9	1.05	TV
AD4UY3		629.0	-70.8	-0.57	488.1	-42.9	-0.65	TA
C8C7JN	*	940.7	240.8	1.93	718.8	187.8	2.86	MR
DTLRUE		485.7	-214.1	-1.71	467.5	-63.4	-0.96	MZ
GWWYQ4		563.9	-136.0	-1.09	423.2	-107.8	-1.64	MV
L82MNH		479.3	-220.6	-1.77	436.3	-94.6	-1.44	TA
LRMC42		766.7	66.9	0.54	515.6	-15.4	-0.23	MR
PB9CG2		785.9	86.1	0.69	600.4	69.5	1.06	MR
QE4D3G		780.8	80.9	0.65	544.1	13.2	0.20	MR
QMDR2C		750.8	51.0	0.41	523.8	-7.1	-0.11	MR
R99VFN		746.2	46.3	0.37	535.2	4.2	0.06	XX
RK8NQZ		700.1	0.3	0.00	525.3	-5.6	-0.09	MV
RR4JNY		870.5	170.7	1.37	590.2	59.3	0.90	MV
VHPQTL		737.2	37.3	0.30	502.5	-28.4	-0.43	MR
XUQB3N		766.1	66.2	0.53	539.9	8.9	0.14	MR

Summary Statistics

	Sample V71-V72	Sample V73-V74
Grand Means	699.84 M-s	530.94 M-s
Stnd Dev Btwn Labs	124.91 M-s	65.76 M-s

Statistics based on 19 of 19 reporting participants

Samples V71-V72: SBR & V73-V74: Butyl

Key to Instrument Codes Reported by Participants

MR	Alpha Technologies Model MV2000/MV2000E	MV	MonTech
MZ	Rebuilt Mooney Viscometer	TA	TA Instruments (any model)
TV	Tech Pro Visc Tech (any model)	XX	Instrument make/model not specified by lab

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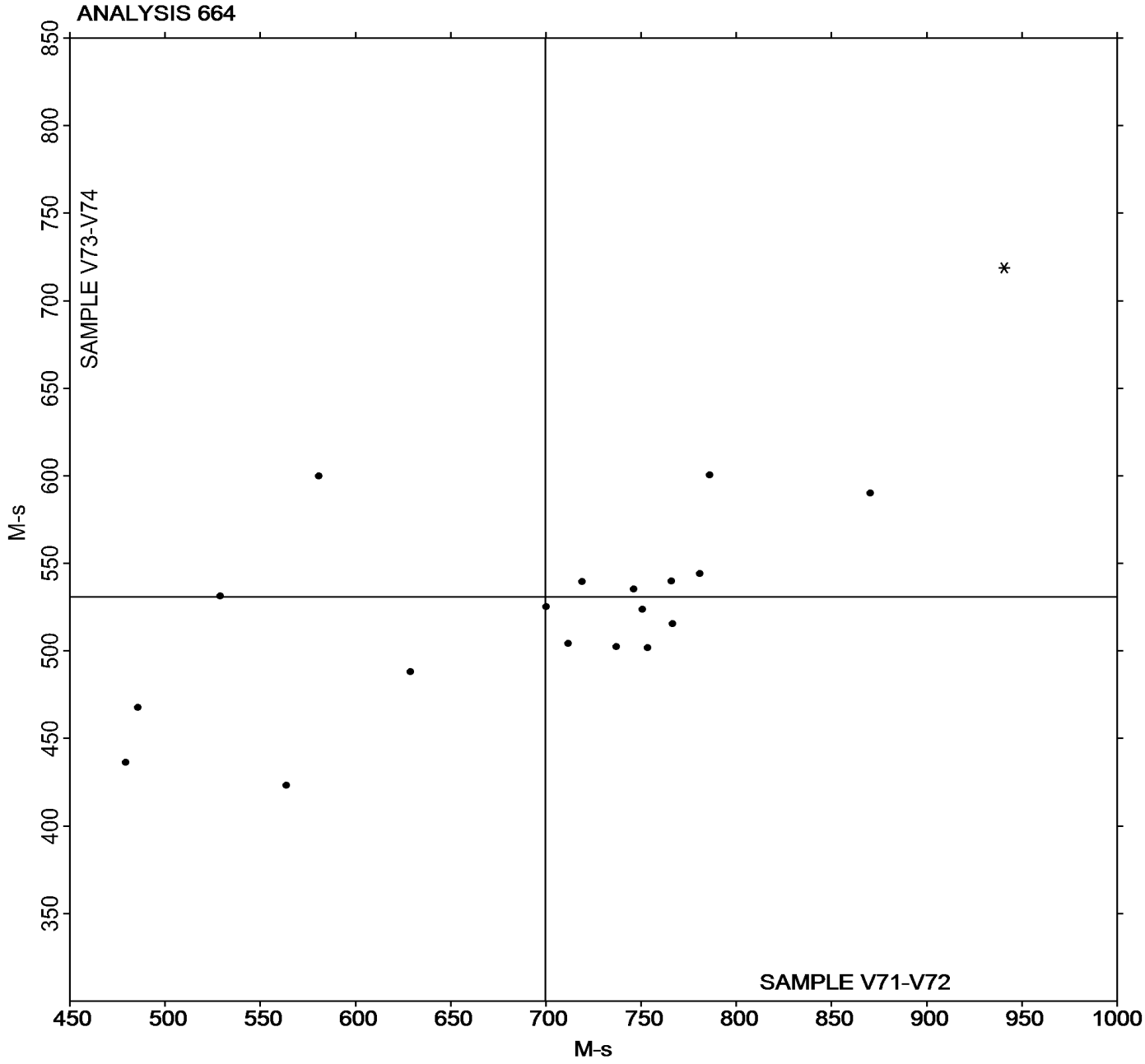
Grand Mean Sample **V71-V72** = 699.84 M-s

Grand Mean Sample **V73-V74** = 530.94 M-s



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Diff from Grand Mean	CPV	Sample Z73-Z74 Lab Mean	Diff from Grand Mean	CPV
8MYTZX		1.538	-0.006	-0.06	2.837	-0.050	-0.18
9JUMXX		1.450	-0.095	-0.93	2.835	-0.052	-0.19
BLF2KX		1.578	0.034	0.33	3.177	0.290	1.04
CHCRR8		1.495	-0.050	-0.49	2.212	-0.675	-2.42
GPYAAY		1.755	0.210	2.07	3.225	0.339	1.22
HZ8DRE		1.441	-0.103	-1.02	2.803	-0.083	-0.30
KEMBRZ		1.682	0.137	1.35	3.042	0.155	0.56
LRMC42		1.522	-0.023	-0.23	2.895	0.009	0.03
MEWWFF		1.508	-0.036	-0.36	2.968	0.082	0.29
ZHA2VA		1.477	-0.068	-0.67	2.872	-0.015	-0.05

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	1.5446 minutes	2.8865 minutes
Stnd Dev Btwn Labs	0.1015 minutes	0.2783 minutes

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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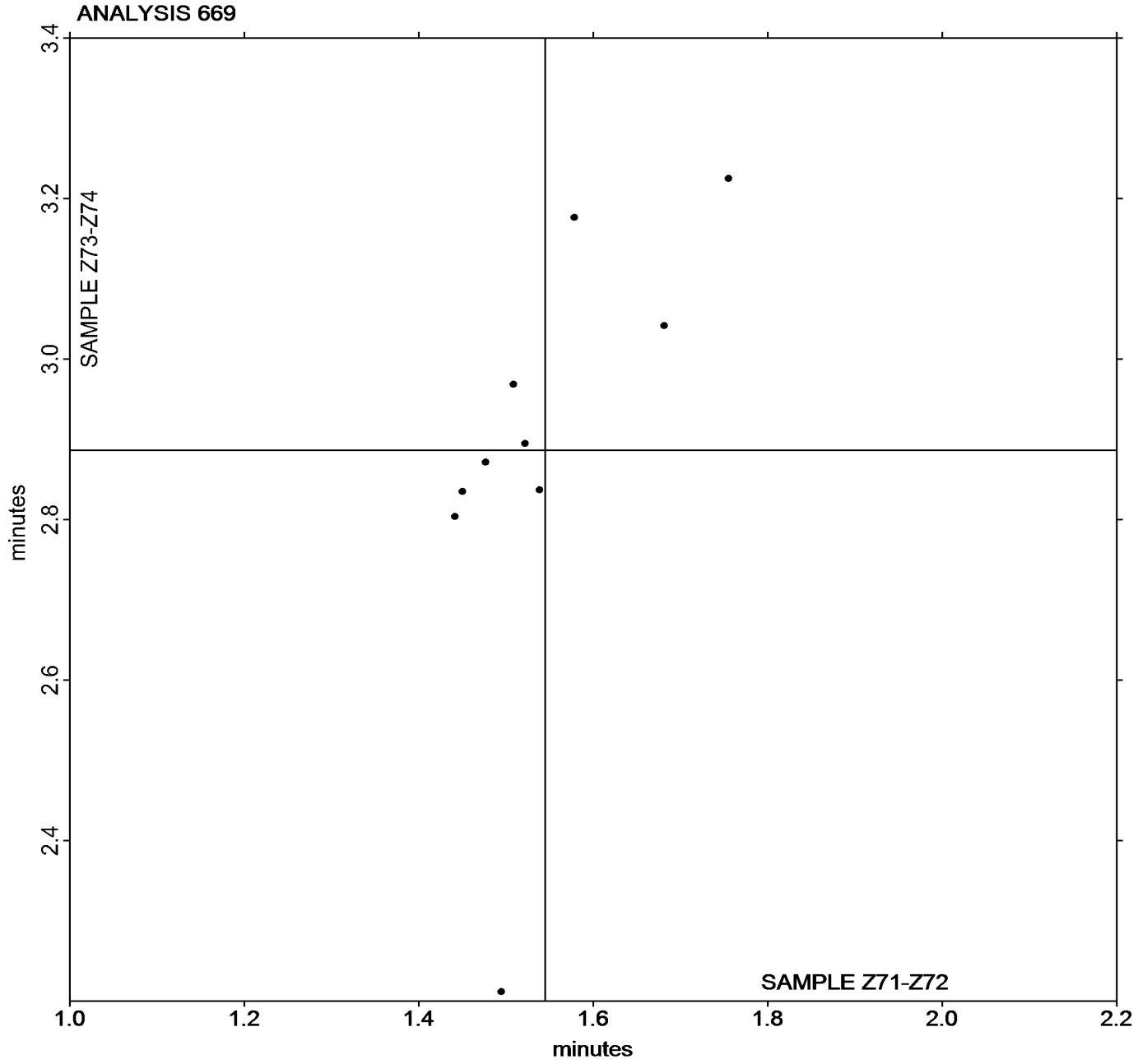
Grand Mean Sample **Z71-Z72** = 1.5446 minutes

Grand Mean Sample **Z73-Z74** = 2.8865 minutes



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Diff from Grand Mean	CPV	Sample Z73-Z74 Lab Mean	Diff from Grand Mean	CPV
8MYTZX		1.155	0.000	0.00	2.327	0.020	0.08
9JUMXX		1.028	-0.127	-1.19	2.038	-0.269	-1.09
BLF2KX		1.240	0.085	0.80	2.818	0.511	2.08
CHCRR8		1.297	0.142	1.33	2.212	-0.096	-0.39
GPYAAY		1.313	0.158	1.48	2.567	0.260	1.05
HZ8DRE		1.018	-0.137	-1.28	2.063	-0.244	-0.99
KEMBRZ		1.205	0.050	0.47	2.300	-0.007	-0.03
LRMC42		1.075	-0.080	-0.75	2.180	-0.127	-0.52
MEWWFF		1.143	-0.012	-0.11	2.453	0.146	0.59
ZHA2VA		1.077	-0.079	-0.74	2.113	-0.194	-0.79

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	1.1552 minutes	2.3072 minutes
Stnd Dev Btwn Labs	0.1066 minutes	0.2461 minutes

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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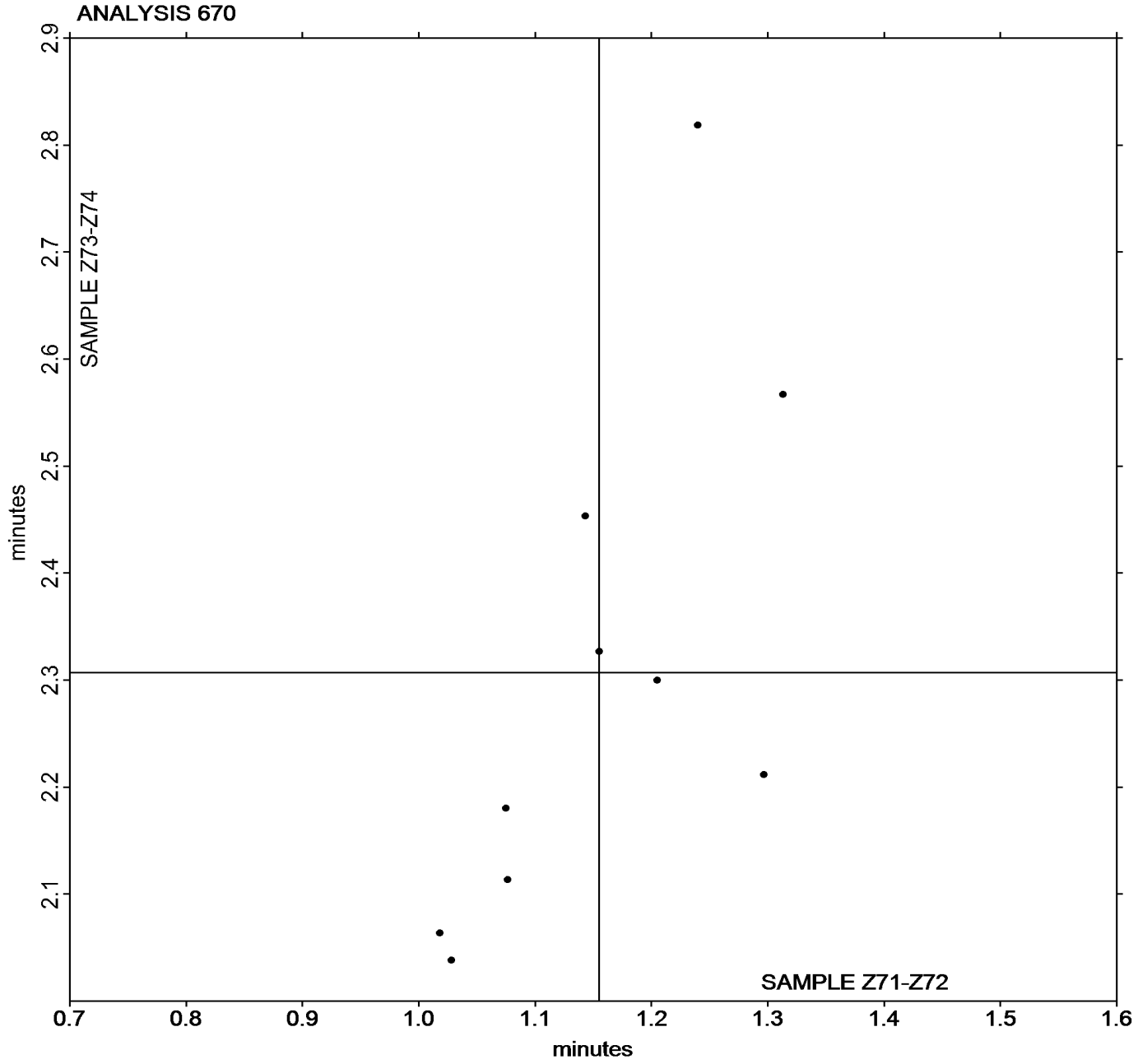
Grand Mean Sample **Z71-Z72** = 1.1552 minutes

Grand Mean Sample **Z73-Z74** = 2.3072 minutes



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Diff from Grand Mean	CPV	Sample Z73-Z74 Lab Mean	Diff from Grand Mean	CPV
8MYTZX		3.017	0.011	0.06	4.552	-0.299	-1.76
9JUMXX		2.878	-0.128	-0.71	4.817	-0.034	-0.20
BLF2KX		2.903	-0.103	-0.57	4.743	-0.107	-0.63
CHCRR8		2.798	-0.208	-1.15	4.820	-0.031	-0.18
GPYAAY		3.290	0.284	1.58	5.108	0.258	1.52
HZ8DRE		2.818	-0.188	-1.04	4.677	-0.174	-1.02
KEMBRZ		3.328	0.322	1.79	5.042	0.191	1.12
LRMC42		3.032	0.026	0.14	4.930	0.079	0.47
MEWWFF		3.010	0.004	0.02	4.835	-0.016	-0.09
ZHA2VA		2.985	-0.021	-0.12	4.983	0.133	0.78

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	3.0060 minutes	4.8507 minutes
Stnd Dev Btwn Labs	0.1798 minutes	0.1701 minutes

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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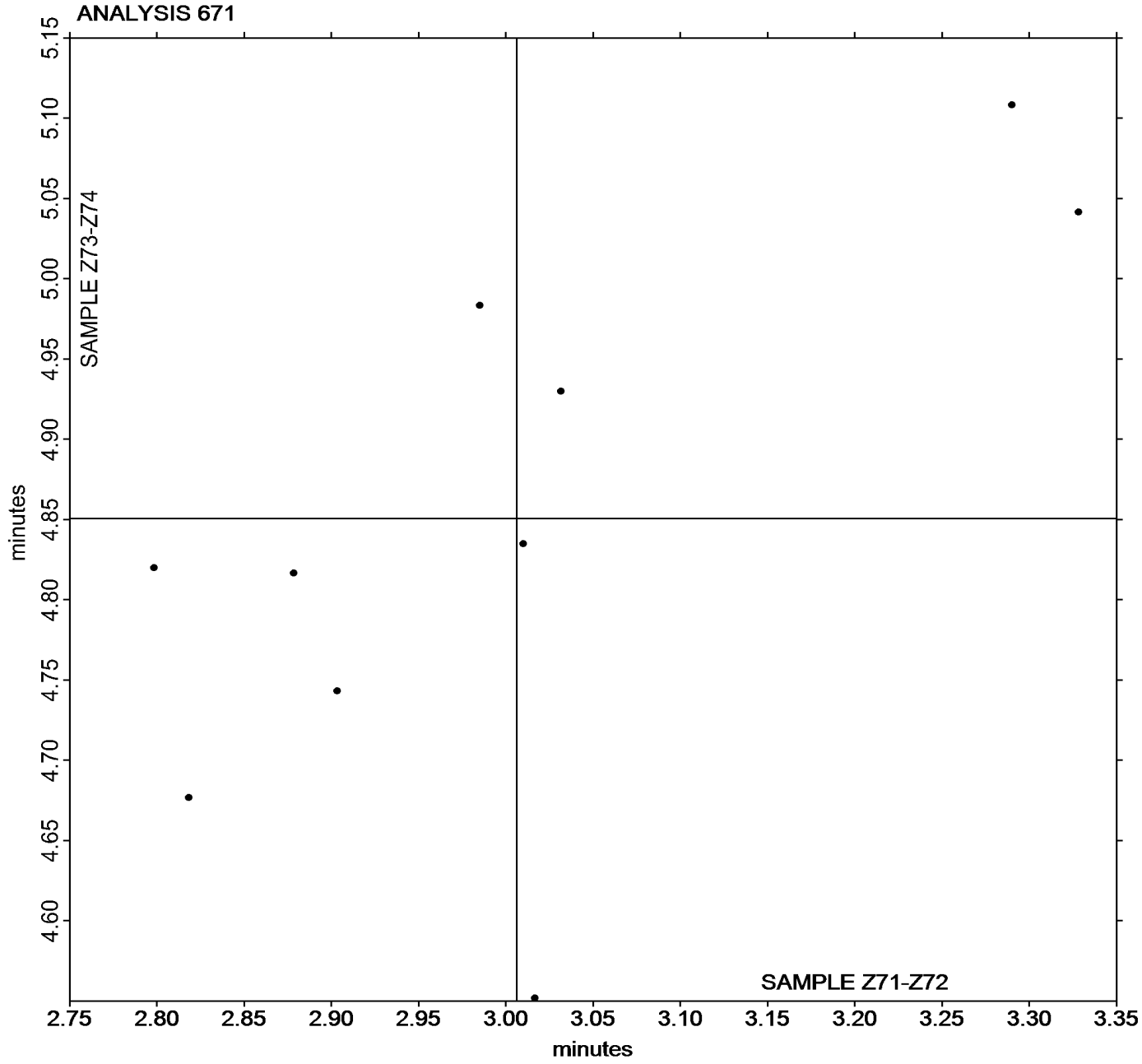
Grand Mean Sample **Z71-Z72** = 3.0060 minutes

Grand Mean Sample **Z73-Z74** = 4.8507 minutes



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Sample Z71-Z72 Diff from Grand Mean	Sample Z71-Z72 CPV	Sample Z73-Z74 Lab Mean	Sample Z73-Z74 Diff from Grand Mean	Sample Z73-Z74 CPV
8MYTZX		15.02	1.30	1.17	10.01	-0.85	-0.35
9JUMXX		13.34	-0.37	-0.34	10.17	-0.70	-0.28
BLF2KX		13.00	-0.71	-0.64	9.32	-1.55	-0.62
CHCRR8		11.83	-1.89	-1.70	9.35	-1.52	-0.61
GPYAAY		13.94	0.23	0.21	10.31	-0.56	-0.22
HZ8DRE		13.76	0.04	0.04	11.41	0.54	0.22
KEMBRZ		15.55	1.84	1.66	11.05	0.18	0.07
LRMC42		12.99	-0.72	-0.65	9.68	-1.18	-0.48
MEWWFF		13.09	-0.63	-0.57	9.72	-1.15	-0.46
ZHA2VA		14.63	0.91	0.82	17.64	6.77	2.74

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	13.714 minutes	10.866 minutes
Stnd Dev Btwn Labs	1.109 minutes	2.474 minutes

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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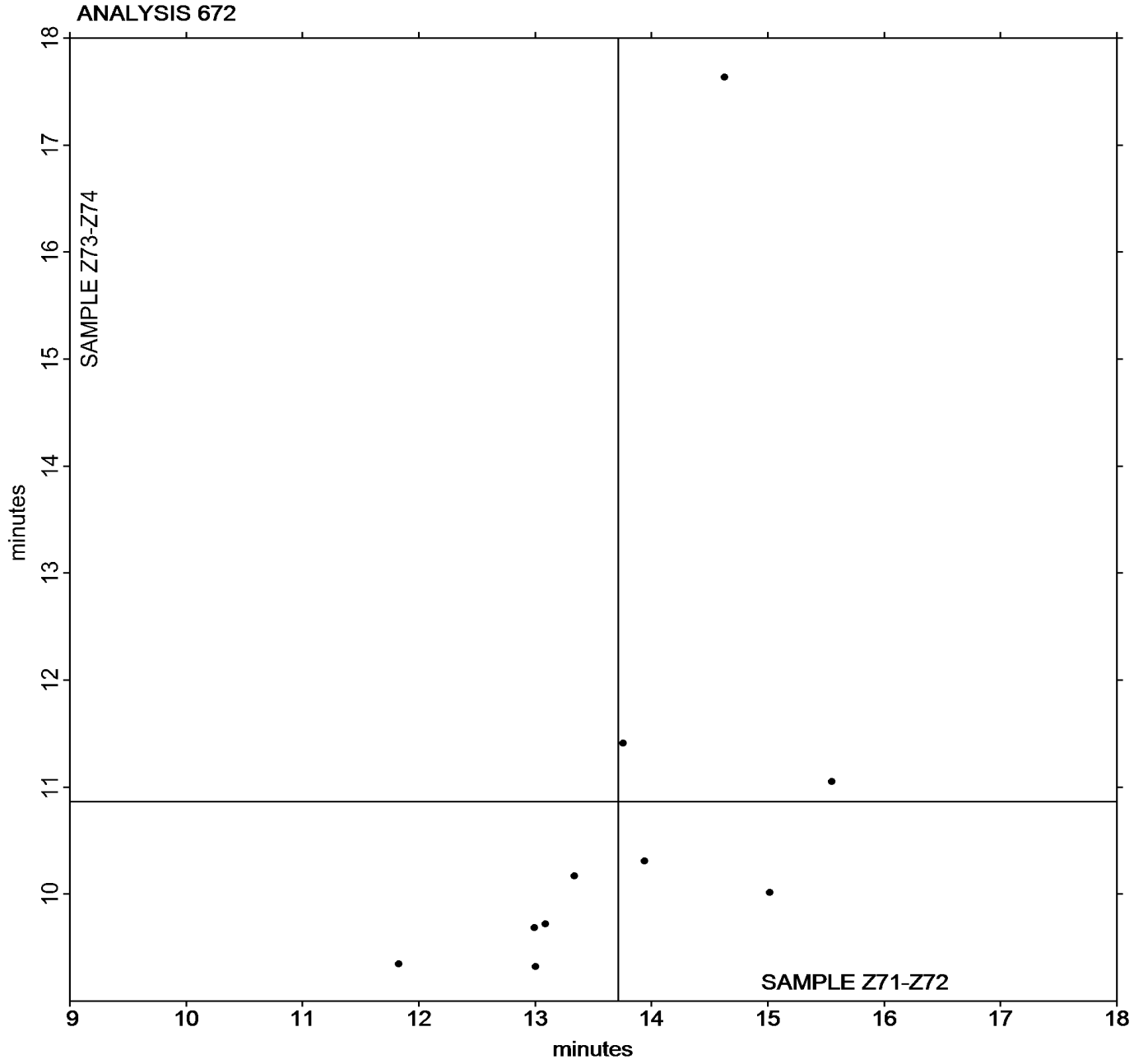
Grand Mean Sample **Z71-Z72** = 13.714 minutes

Grand Mean Sample **Z73-Z74** = 10.866 minutes



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Diff from Grand Mean	CPV	Sample Z73-Z74 Lab Mean	Diff from Grand Mean	CPV
8MYTZX		8.728	0.177	0.25	10.848	2.225	1.74
9JUMXX		8.243	-0.309	-0.44	7.768	-0.855	-0.67
BLF2KX		9.178	0.627	0.89	10.198	1.575	1.23
CHCRR8		8.312	-0.240	-0.34	7.762	-0.862	-0.67
GPYAAY		9.758	1.207	1.71	8.223	-0.400	-0.31
HZ8DRE		8.210	-0.342	-0.49	7.750	-0.873	-0.68
KEMBRZ		7.468	-1.084	-1.54	7.255	-1.368	-1.07
LRMC42		9.408	0.857	1.22	10.033	1.410	1.10
MEWWFF		8.192	-0.360	-0.51	8.765	0.142	0.11
ZHA2VA		8.020	-0.532	-0.75	7.630	-0.993	-0.78

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	8.5518 lbf.in	8.6233 lbf.in
Stnd Dev Btwn Labs	0.7047 lbf.in	1.2778 lbf.in

Statistics based on 10 of 10 reporting participants

Summary Statistics in SI Units

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	9.6623 dN.m	9.7431 dN.m
Stnd Dev Btwn Labs	0.7962 dN.m	1.4437 dN.m

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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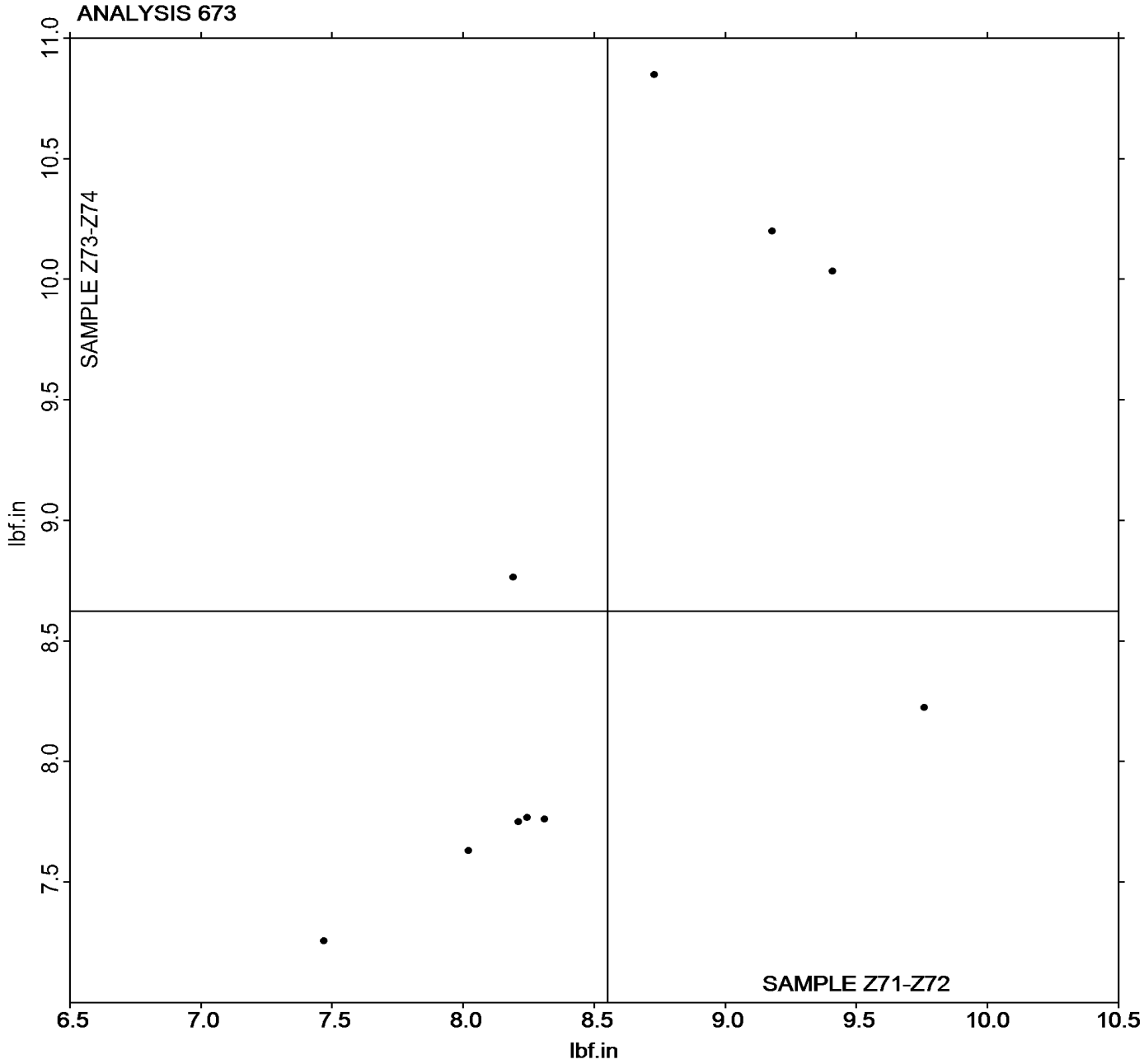
Grand Mean Sample **Z71-Z72** = 8.5518 lbf.in

Grand Mean Sample **Z73-Z74** = 8.6233 lbf.in



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z71-Z72 Lab Mean	Sample Z71-Z72 Diff from Grand Mean	Sample Z71-Z72 CPV	Sample Z73-Z74 Lab Mean	Sample Z73-Z74 Diff from Grand Mean	Sample Z73-Z74 CPV
8MYTZX		42.33	-2.03	-0.55	37.40	1.25	0.45
9JUMXX		48.94	4.58	1.25	39.97	3.83	1.38
BLF2KX		43.63	-0.73	-0.20	35.36	-0.78	-0.28
CHCRR8		42.18	-2.18	-0.59	34.74	-1.40	-0.51
GPYAAY		43.30	-1.06	-0.29	34.66	-1.48	-0.53
HZ8DRE		48.54	4.18	1.14	38.56	2.42	0.87
KEMBRZ		45.47	1.11	0.30	33.77	-2.38	-0.86
LRMC42		46.37	2.01	0.55	38.38	2.24	0.81
MEWWFF		36.43	-7.93	-2.16	30.78	-5.36	-1.94
ZHA2VA		46.42	2.06	0.56	37.81	1.66	0.60

Summary Statistics

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	44.358 lbf.in	36.142 lbf.in
Stnd Dev Btwn Labs	3.672 lbf.in	2.770 lbf.in

Statistics based on 10 of 10 reporting participants

Summary Statistics in SI Units

	Sample Z71-Z72	Sample Z73-Z74
Grand Means	50.118 dN.m	40.835 dN.m
Stnd Dev Btwn Labs	4.148 dN.m	3.130 dN.m

Statistics based on 10 of 10 reporting participants

Samples Z71-Z72: EPDM compound #1 & Z73-Z74: EPDM compound #2

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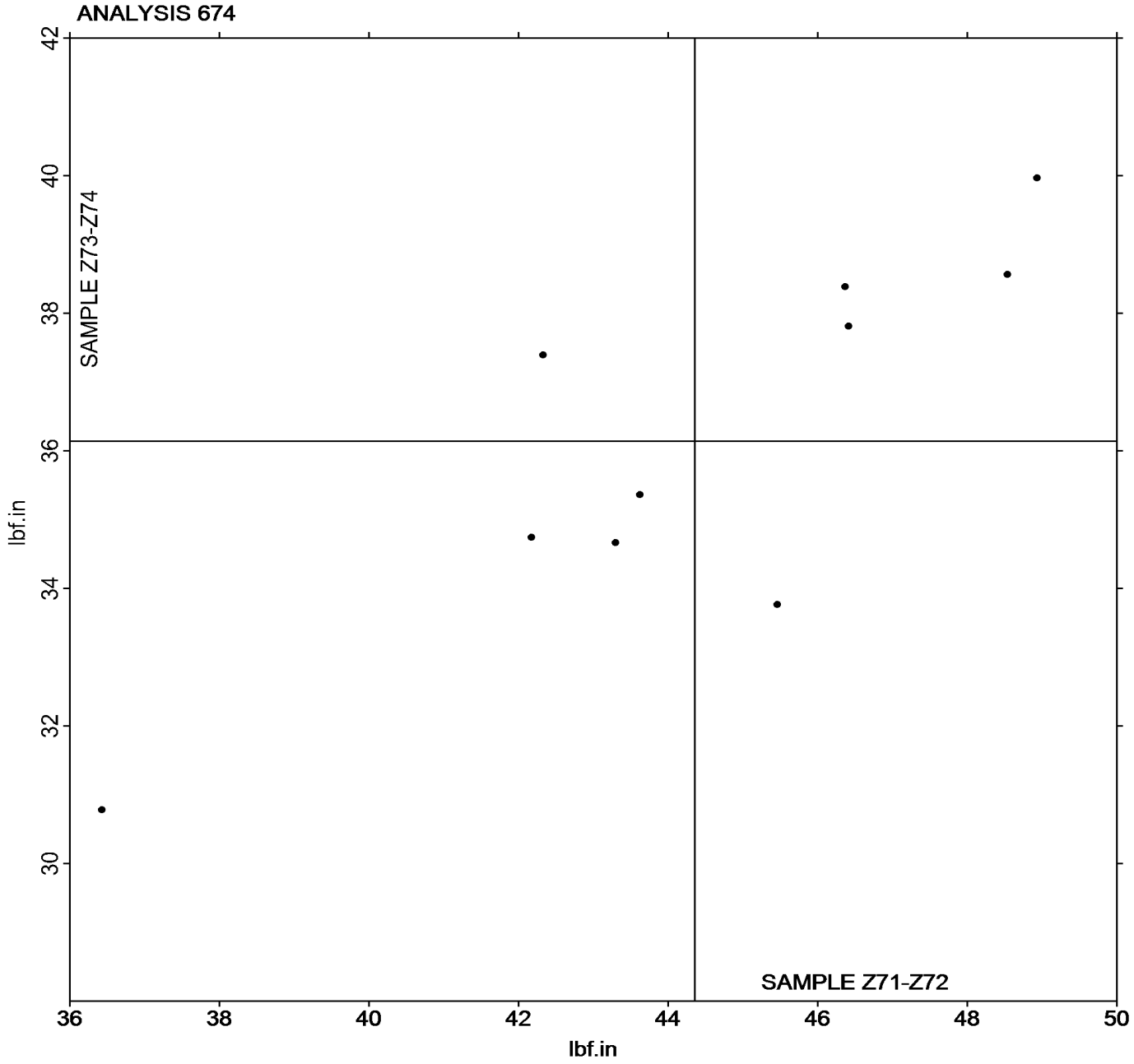
Grand Mean Sample **Z71-Z72** = 44.358 lbf.in

Grand Mean Sample **Z73-Z74** = 36.142 lbf.in



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		2.090	-0.054	-0.51	1.422	-0.076	-0.76	MC
3NQKJ9		2.163	0.019	0.18	1.445	-0.053	-0.53	MC
3QC6QX		1.992	-0.153	-1.44	1.330	-0.168	-1.68	MC
3RN2XN		2.278	0.134	1.27	1.563	0.066	0.66	MC
48Y6WM		2.270	0.126	1.19	1.622	0.124	1.24	MM
68FBZK		1.990	-0.154	-1.46	1.330	-0.168	-1.68	MC
6VZQCG		2.073	-0.071	-0.67	1.502	0.004	0.04	XX
6YYZMJ		2.140	-0.004	-0.04	1.487	-0.011	-0.11	ME
7CN2WX		2.102	-0.043	-0.40	1.405	-0.093	-0.93	MP
7VCP46		2.150	0.006	0.05	1.498	0.001	0.01	MD
9JUMXX		2.260	0.116	1.09	1.675	0.177	1.78	MC
AJUZ36		2.148	0.004	0.04	1.530	0.032	0.32	MC
BJPA3Z		2.078	-0.066	-0.62	1.468	-0.029	-0.29	ME
BRFPUP		2.030	-0.114	-1.08	1.518	0.021	0.21	MD
C8C7JN		2.145	0.001	0.01	1.482	-0.016	-0.16	MM
DTLRUE		2.217	0.072	0.68	1.617	0.119	1.19	MX
F8HPTV		2.068	-0.076	-0.72	1.410	-0.088	-0.88	MC
FJDWV7		2.173	0.029	0.28	1.448	-0.049	-0.50	MC
FR4FBZ		1.987	-0.158	-1.49	1.415	-0.083	-0.83	MC
GDFYEE		2.277	0.132	1.25	1.595	0.097	0.98	MD
GPYAAY		2.243	0.099	0.94	1.527	0.029	0.29	MC
GWWYQ4		2.265	0.121	1.14	1.692	0.194	1.95	MR
H7V2LK		2.353	0.209	1.97	1.639	0.141	1.42	MC
HZ8DRE		2.135	-0.009	-0.09	1.468	-0.029	-0.29	MC
L82MNH	X	2.097	-0.048	-0.45	1.700	0.202	2.03	MD
LRMC42	*	2.030	-0.114	-1.08	1.275	-0.223	-2.24	TP
MJP7JY		2.178	0.034	0.32	1.512	0.014	0.14	MD
MTYDJ9		2.163	0.019	0.18	1.558	0.061	0.61	MC
N9M8A4		2.178	0.034	0.32	1.538	0.041	0.41	MC
NPU34Y		2.303	0.159	1.50	1.628	0.131	1.31	MC
PB9CG2		1.958	-0.186	-1.75	1.353	-0.144	-1.45	MC
QE4D3G		2.182	0.037	0.35	1.500	0.002	0.02	MC
QMDR2C		1.960	-0.184	-1.74	1.412	-0.086	-0.86	MC
R4W336		2.160	0.016	0.15	1.500	0.002	0.02	MC
RK8NQZ		2.267	0.122	1.16	1.565	0.067	0.68	MM
RR4JNY		1.945	-0.199	-1.88	1.322	-0.176	-1.77	MC
TKLCML		2.108	-0.036	-0.34	1.500	0.002	0.02	MC

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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
V3UDC6		2.139	-0.005	-0.05	1.600	0.102	1.03	MC
VDQJ73		2.185	0.041	0.39	1.525	0.027	0.27	TP
XUQB3N		2.227	0.082	0.78	1.522	0.024	0.24	MC
Y3LBCA		2.030	-0.114	-1.08	1.398	-0.099	-1.00	MC
ZC742C		2.270	0.126	1.19	1.608	0.111	1.11	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	2.1442 minutes	1.4977 minutes
Stnd Dev Btwn Labs	0.1059 minutes	0.0996 minutes

Statistics based on 41 of 42 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #684

L82MNH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group Z77-Z78.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	TP	Tech Pro MDR model MDPT
XX	Instrument model not specified by lab		

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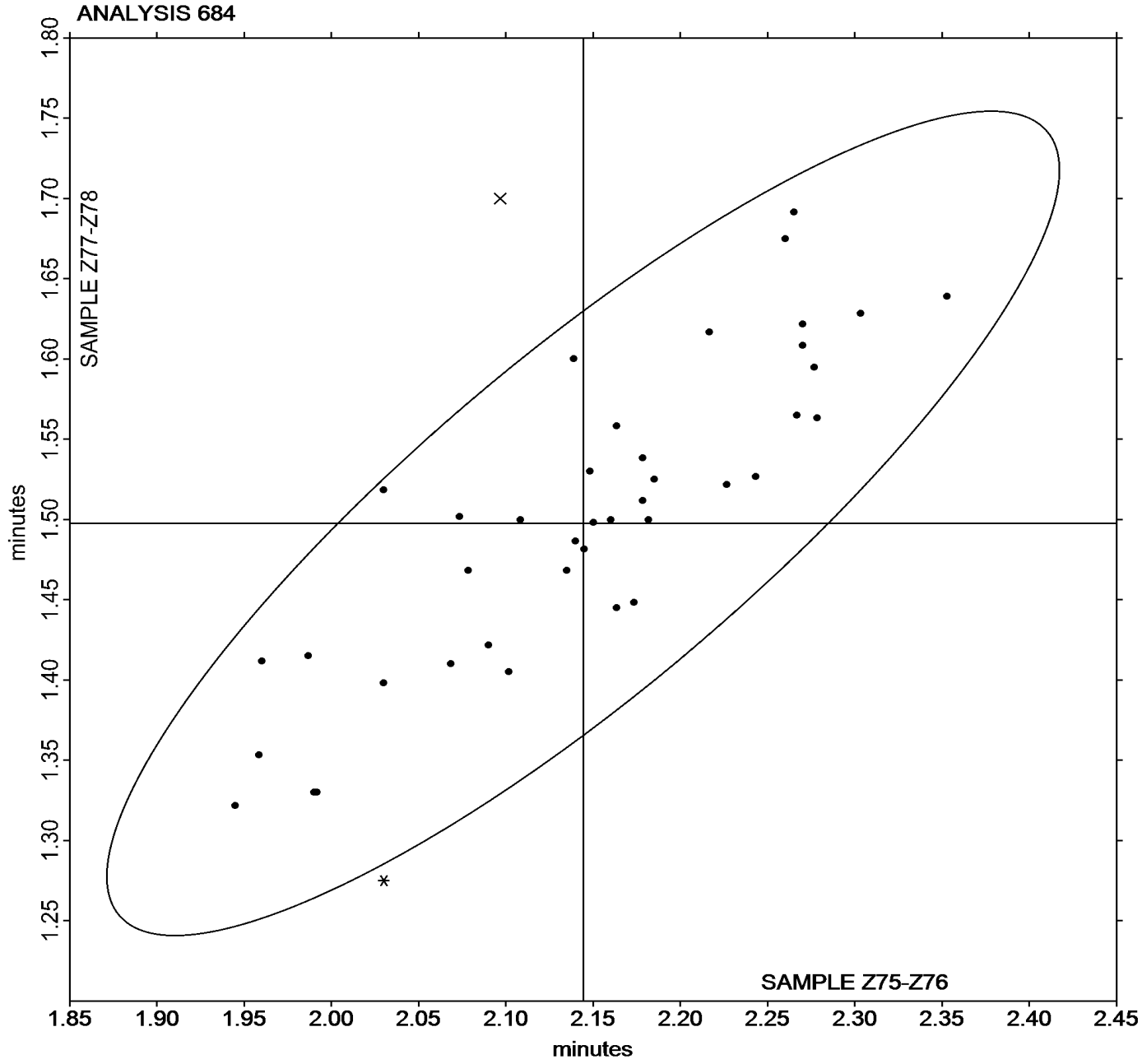
Grand Mean Sample **Z75-Z76** = 2.1442 minutes

Grand Mean Sample **Z77-Z78** = 1.4977 minutes



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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		2.045	0.022	0.19	1.457	-0.003	-0.03	MC
2RUW4N		1.958	-0.065	-0.55	1.365	-0.095	-0.88	MC
3NQKJ9		2.090	0.067	0.57	1.500	0.040	0.38	MC
3QC6QX		1.801	-0.222	-1.89	1.221	-0.239	-2.23	MC
3RN2XN		2.150	0.127	1.08	1.518	0.059	0.55	MC
48Y6WM		2.252	0.229	1.94	1.667	0.207	1.93	MM
68FBZK		1.938	-0.085	-0.72	1.360	-0.100	-0.93	MC
6VZQCG		1.988	-0.035	-0.29	1.450	-0.010	-0.09	XX
6YYZMJ		2.075	0.052	0.44	1.488	0.029	0.27	ME
7CN2WX		1.877	-0.146	-1.24	1.345	-0.115	-1.07	MP
7VCP46		2.055	0.032	0.27	1.510	0.050	0.47	MD
9JUMXX		2.143	0.120	1.02	1.608	0.149	1.39	MC
AJUZ36		2.030	0.007	0.06	1.492	0.032	0.30	MC
B6N9RK		1.940	-0.083	-0.71	1.425	-0.035	-0.32	MC
BJPA3Z		1.998	-0.025	-0.21	1.457	-0.003	-0.03	ME
BRFPUP		1.813	-0.210	-1.78	1.285	-0.175	-1.63	MD
C8C7JN		2.027	0.004	0.03	1.452	-0.008	-0.07	MM
DTLRUE		2.130	0.107	0.91	1.575	0.115	1.08	MX
F8HPTV		1.858	-0.165	-1.40	1.332	-0.128	-1.19	MC
FJDWV7		2.037	0.014	0.12	1.437	-0.023	-0.21	MC
FR4FBZ		1.917	-0.106	-0.90	1.323	-0.136	-1.27	MC
GDFYEE		2.243	0.220	1.87	1.648	0.189	1.76	MD
GPYAAY		2.100	0.077	0.65	1.520	0.060	0.56	MC
GWWYQ4		1.837	-0.186	-1.58	1.312	-0.148	-1.38	MR
H7V2LK		2.244	0.221	1.88	1.606	0.146	1.36	MC
HZ8DRE		2.050	0.027	0.23	1.500	0.040	0.38	MC
L82MNH		1.893	-0.130	-1.10	1.357	-0.103	-0.96	MD
LRMC42		2.045	0.022	0.19	1.433	-0.026	-0.24	TP
MJP7JY		1.972	-0.051	-0.44	1.398	-0.061	-0.57	MD
MTYDJ9		2.012	-0.011	-0.10	1.485	0.025	0.24	MC
N9M8A4		2.078	0.055	0.47	1.502	0.042	0.39	MC
NPU34Y		2.255	0.232	1.97	1.653	0.194	1.81	MC
PB9CG2		1.847	-0.176	-1.50	1.303	-0.156	-1.46	MC
QE4D3G		1.983	-0.040	-0.34	1.467	0.007	0.07	MC
QMDR2C		1.922	-0.101	-0.86	1.400	-0.060	-0.56	MC
R4W336		1.990	-0.033	-0.28	1.425	-0.035	-0.32	MC
R99VFN		1.898	-0.125	-1.06	1.333	-0.127	-1.18	MC
RK8NQZ		2.098	0.075	0.64	1.552	0.092	0.86	MM

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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
RR4JNY	X	1.407	-0.616	-5.24	0.867	-0.593	-5.54	MC
TKLCML		1.997	-0.026	-0.22	1.432	-0.028	-0.26	MC
V3UDC6	X	2.003	-0.020	-0.17	1.569	0.110	1.03	MC
V9KNL3		2.038	0.015	0.13	1.448	-0.011	-0.10	MC
VDQJ73		2.160	0.137	1.16	1.597	0.137	1.28	TP
XUQB3N		2.090	0.067	0.57	1.475	0.015	0.14	MC
Y3LBCA		1.998	-0.025	-0.21	1.458	-0.001	-0.01	MC
ZC742C	*	2.138	0.115	0.98	1.650	0.190	1.78	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	2.0230 minutes	1.4595 minutes
Stnd Dev Btwn Labs	0.1177 minutes	0.1071 minutes

Statistics based on 44 of 46 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #685

RR4JNY (X) - Data for all samples are low. Possible Systematic Error.

V3UDC6 (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	TP	Tech Pro MDR model MDPT
XX	Instrument model not specified by lab		

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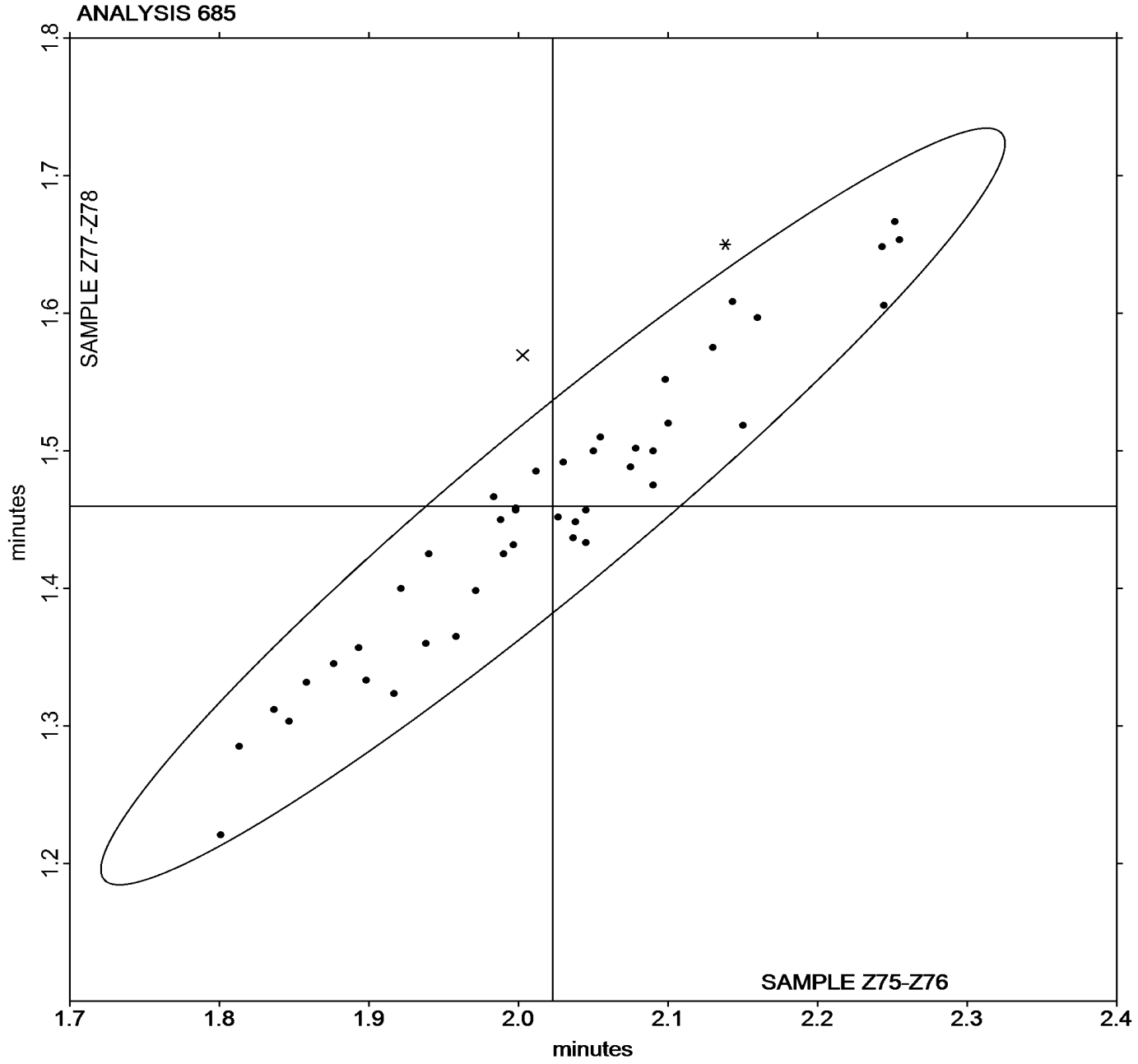
Grand Mean Sample **Z75-Z76** = 2.0230 minutes

Grand Mean Sample **Z77-Z78** = 1.4595 minutes



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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		4.055	-0.103	-0.42	3.270	-0.112	-0.58	MC
2RUW4N		4.063	-0.094	-0.39	3.323	-0.058	-0.30	MC
3NQKJ9		4.205	0.047	0.19	3.313	-0.068	-0.35	MC
3QC6QX		3.845	-0.313	-1.28	3.057	-0.325	-1.68	MC
3RN2XN		4.452	0.294	1.21	3.522	0.140	0.72	MC
48Y6WM		4.335	0.177	0.73	3.538	0.157	0.81	MM
68FBZK		3.832	-0.326	-1.34	3.063	-0.318	-1.65	MC
6VZQCG		3.842	-0.316	-1.30	3.297	-0.085	-0.44	XX
6YYZMJ		4.152	-0.006	-0.02	3.348	-0.033	-0.17	ME
7CN2WX		4.090	-0.068	-0.28	3.225	-0.157	-0.81	MC
7VCP46		4.145	-0.013	-0.05	3.337	-0.045	-0.23	MD
9JUMXX		4.387	0.229	0.94	3.692	0.310	1.61	MC
AJUZ36		4.298	0.141	0.58	3.528	0.147	0.76	MC
B6N9RK		3.838	-0.319	-1.31	3.107	-0.275	-1.42	MC
BJPA3Z		4.068	-0.089	-0.37	3.335	-0.047	-0.24	ME
BRFPUP	*	3.740	-0.418	-1.71	3.262	-0.120	-0.62	XX
C8C7JN		4.213	0.056	0.23	3.425	0.043	0.22	MM
DTLRUE		4.200	0.042	0.17	3.502	0.120	0.62	MX
F8HPTV		4.197	0.039	0.16	3.398	0.017	0.09	MC
FJDWV7		4.415	0.257	1.06	3.462	0.080	0.41	MC
FR4FBZ		3.893	-0.264	-1.09	3.242	-0.140	-0.73	MC
GDFYEE		4.427	0.269	1.10	3.552	0.170	0.88	MD
GPYAAY		4.412	0.254	1.04	3.487	0.105	0.54	MC
GWWYQ4	*	4.557	0.399	1.64	3.897	0.515	2.67	MR
H7V2LK		4.428	0.270	1.11	3.597	0.216	1.12	MC
HZ8DRE		4.262	0.104	0.43	3.368	-0.013	-0.07	MC
L82MNH		3.850	-0.308	-1.26	3.240	-0.142	-0.73	MD
LRMC42		4.058	-0.099	-0.41	3.323	-0.058	-0.30	TP
MJP7JY		4.303	0.146	0.60	3.428	0.047	0.24	MD
MTYDJ9		4.337	0.179	0.74	3.578	0.197	1.02	MC
N9M8A4		4.173	0.016	0.06	3.450	0.068	0.35	MC
NPU34Y		4.382	0.224	0.92	3.573	0.192	0.99	MC
PB9CG2	*	3.575	-0.583	-2.39	2.880	-0.502	-2.60	MC
QE4D3G		4.420	0.262	1.08	3.392	0.010	0.05	MC
QMDR2C		3.773	-0.384	-1.58	3.185	-0.197	-1.02	MC
R4W336		4.210	0.052	0.21	3.390	0.008	0.04	MC
R99VFN		4.176	0.019	0.08	3.393	0.011	0.06	MC
RK8NQZ		4.445	0.287	1.18	3.610	0.228	1.18	MM

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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Sample Z75-Z76 Diff from Grand Mean	Sample Z75-Z76 CPV	Sample Z77-Z78 Lab Mean	Sample Z77-Z78 Diff from Grand Mean	Sample Z77-Z78 CPV	Instr Code
RR4JNY		3.583	-0.574	-2.36	2.940	-0.442	-2.29	MC
TKLCML		4.132	-0.026	-0.11	3.380	-0.002	-0.01	MC
V3UDC6		4.264	0.106	0.44	3.517	0.135	0.70	MC
V9KNL3		4.200	0.042	0.17	3.312	-0.070	-0.36	MC
VDQJ73		4.218	0.061	0.25	3.365	-0.017	-0.09	TP
XUQB3N		4.427	0.269	1.10	3.608	0.227	1.17	MC
Y3LBCA		4.000	-0.158	-0.65	3.277	-0.105	-0.54	MC
ZC742C		4.375	0.217	0.89	3.573	0.192	0.99	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	4.1576 minutes	3.3817 minutes
Stnd Dev Btwn Labs	0.2435 minutes	0.1930 minutes

Statistics based on 46 of 46 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	MX	Rebuilt MonTech Alpha
TP	Tech Pro MDR model MDPT	XX	Instrument model not specified by lab

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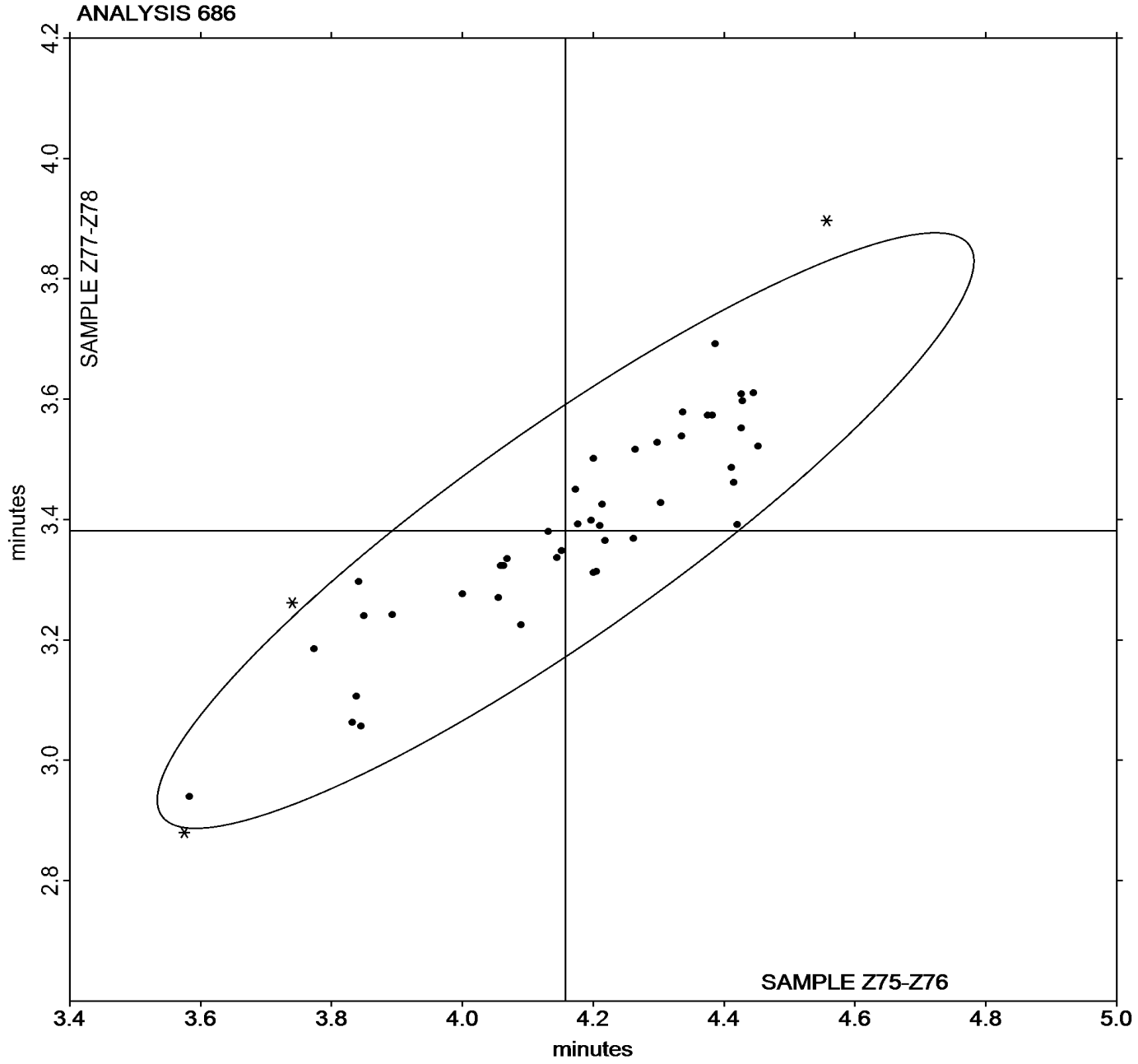
Grand Mean Sample **Z75-Z76** = 4.1576 minutes

Grand Mean Sample **Z77-Z78** = 3.3817 minutes



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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		6.907	-0.239	-0.63	6.505	-0.053	-0.21	MC
2RUW4N		7.077	-0.069	-0.18	6.615	0.057	0.23	MC
3NQKJ9		7.018	-0.127	-0.33	6.415	-0.143	-0.57	MC
3QC6QX		6.967	-0.178	-0.47	6.407	-0.151	-0.61	MC
3RN2XN	*	7.682	0.536	1.41	7.200	0.642	2.58	MC
48Y6WM		7.465	0.320	0.84	6.613	0.056	0.22	MM
68FBZK		6.415	-0.730	-1.92	6.080	-0.478	-1.92	MC
6VZQCG		6.990	-0.155	-0.41	6.665	0.107	0.43	XX
6YYZMJ		7.290	0.145	0.38	6.618	0.061	0.24	ME
7CN2WX		7.060	-0.085	-0.22	6.548	-0.009	-0.04	MP
7VCP46		7.150	0.005	0.01	6.407	-0.151	-0.61	MD
9JUMXX		7.715	0.570	1.50	7.028	0.471	1.89	MC
AJUZ36		6.997	-0.149	-0.39	6.377	-0.181	-0.73	MC
B6N9RK		6.410	-0.735	-1.93	6.436	-0.122	-0.49	MC
BJPA3Z		6.918	-0.227	-0.60	6.577	0.019	0.08	ME
BRFPUP		7.377	0.231	0.61	6.677	0.119	0.48	MD
C8C7JN		7.867	0.721	1.89	6.993	0.436	1.75	MM
DTLRUE		7.063	-0.082	-0.21	6.527	-0.031	-0.13	MX
F8HPTV		7.077	-0.069	-0.18	6.455	-0.103	-0.41	MC
FJDWV7		7.193	0.048	0.13	6.603	0.046	0.18	MC
FR4FBZ		6.370	-0.775	-2.04	6.333	-0.224	-0.90	MC
GDFYEE		7.035	-0.110	-0.29	6.582	0.024	0.10	MD
GPYAAY		7.377	0.231	0.61	6.617	0.059	0.24	MC
GWWYQ4	X	9.125	1.980	5.20	8.013	1.456	5.86	MR
H7V2LK		7.372	0.227	0.60	6.939	0.381	1.53	MC
HZ8DRE		6.892	-0.254	-0.67	6.547	-0.011	-0.04	MC
L82MNH		7.587	0.441	1.16	6.590	0.032	0.13	MD
LRMC42		6.465	-0.680	-1.79	6.162	-0.396	-1.59	TP
MJP7JY		7.160	0.015	0.04	6.618	0.061	0.24	MD
MTYDJ9		7.085	-0.060	-0.16	6.447	-0.111	-0.45	MC
N9M8A4		7.417	0.271	0.71	6.558	0.001	0.00	MC
NPU34Y		7.322	0.176	0.46	6.437	-0.121	-0.49	MC
PB9CG2	X	6.572	-0.574	-1.51	5.620	-0.938	-3.77	MC
QE4D3G		7.213	0.068	0.18	6.403	-0.154	-0.62	MC
QMDR2C		6.723	-0.422	-1.11	6.687	0.129	0.52	MC
R4W336		7.210	0.065	0.17	6.295	-0.263	-1.06	MC
R99VFN		7.184	0.039	0.10	6.612	0.054	0.22	MC

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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Sample Z75-Z76 Diff from Grand Mean	Sample Z75-Z76 CPV	Sample Z77-Z78 Lab Mean	Sample Z77-Z78 Diff from Grand Mean	Sample Z77-Z78 CPV	Instr Code
RK8NQZ	*	8.057	0.911	2.39	6.790	0.232	0.93	MM
RR4JNY		7.515	0.370	0.97	6.650	0.092	0.37	MC
TKLCML		6.938	-0.207	-0.54	6.335	-0.223	-0.90	MC
V3UDC6		7.197	0.052	0.14	6.739	0.181	0.73	MC
V9KNL3		6.953	-0.192	-0.50	6.303	-0.254	-1.02	MC
VDQJ73	*	7.032	-0.114	-0.30	6.057	-0.501	-2.02	TP
XUQB3N	*	7.838	0.693	1.82	7.210	0.652	2.63	MC
Y3LBCA		6.565	-0.580	-1.52	6.337	-0.221	-0.89	MC
ZC742C		7.243	0.098	0.26	6.550	-0.008	-0.03	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	7.1452 minutes	6.5578 minutes
Stnd Dev Btwn Labs	0.3809 minutes	0.2484 minutes

Statistics based on 44 of 46 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #687

GWWYQ4 (X) - Data for all samples are high.

PB9CG2 (X) - Data for sample group Z77-Z78 are low.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	TP	Tech Pro MDR model MDPT
XX	Instrument model not specified by lab		

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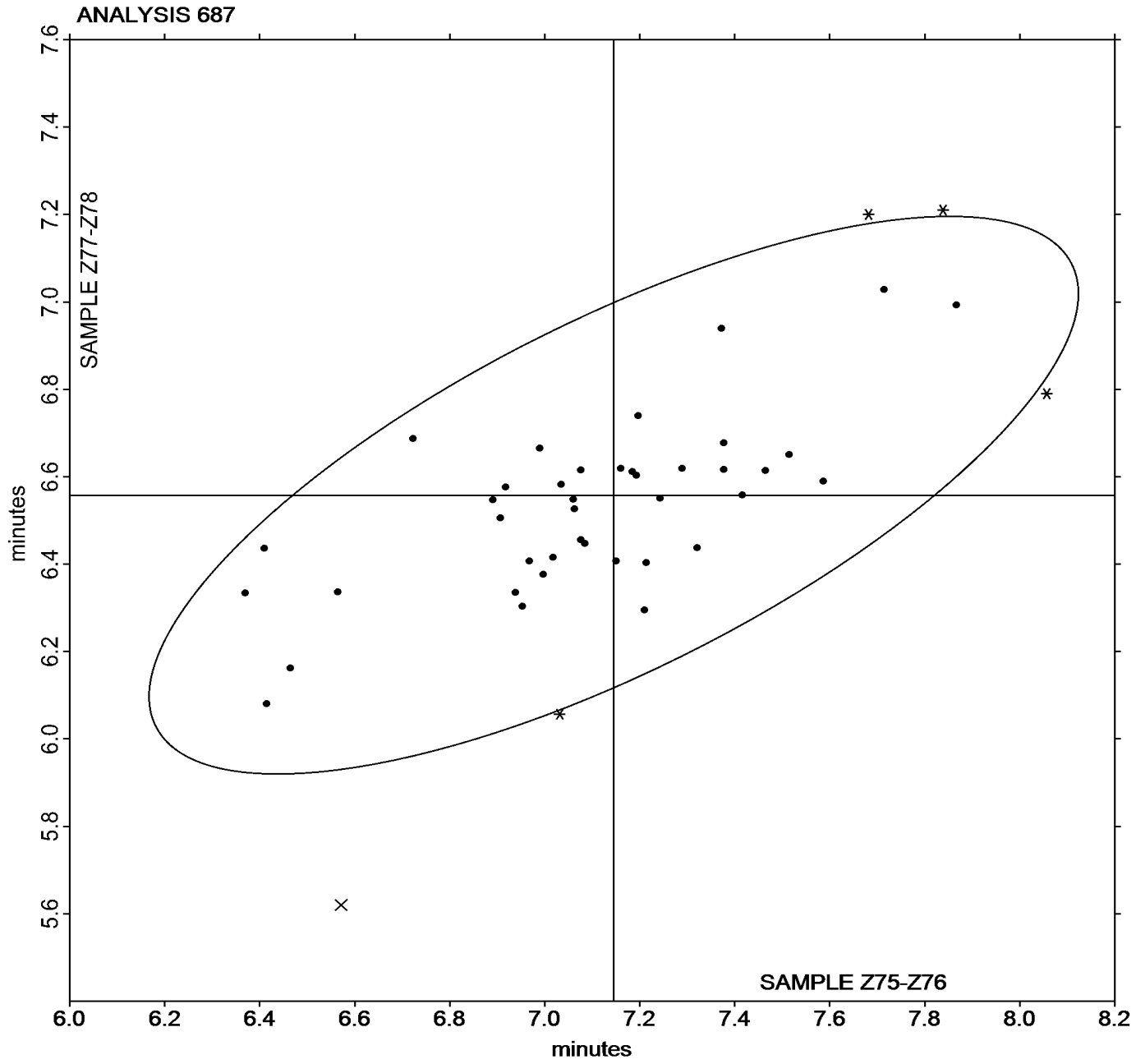
Grand Mean Sample **Z75-Z76** = 7.1452 minutes

Grand Mean Sample **Z77-Z78** = 6.5578 minutes



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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Sample Z75-Z76 Diff from Grand Mean	Sample Z75-Z76 CPV	Sample Z77-Z78 Lab Mean	Sample Z77-Z78 Diff from Grand Mean	Sample Z77-Z78 CPV	Instr Code
23D9F2		2.513	0.089	0.21	2.118	0.011	0.04	MC
2RUW4N		2.758	0.334	0.78	2.288	0.180	0.65	MC
3NQKJ9		2.089	-0.336	-0.78	1.831	-0.277	-1.01	MC
3QC6QX		2.938	0.514	1.20	2.335	0.227	0.83	MC
3RN2XN		2.297	-0.128	-0.30	2.015	-0.093	-0.34	MC
48Y6WM		1.903	-0.521	-1.21	1.793	-0.314	-1.14	MM
68FBZK		2.933	0.509	1.19	2.328	0.221	0.80	MC
6VZQCG		2.997	0.572	1.33	2.448	0.341	1.24	XX
6YYZMJ		2.693	0.269	0.63	2.207	0.099	0.36	ME
7CN2WX		2.045	-0.380	-0.89	1.885	-0.222	-0.81	MP
7VCP46		1.919	-0.505	-1.18	1.741	-0.366	-1.33	MD
9JUMXX		1.888	-0.536	-1.25	1.817	-0.291	-1.06	MC
AJUZ36		2.218	-0.206	-0.48	2.038	-0.069	-0.25	MC
B6N9RK		2.651	0.227	0.53	2.238	0.131	0.47	MC
BJPA3Z		2.397	-0.028	-0.06	2.082	-0.026	-0.09	ME
BRFPUP	X	0.513	-1.911	-4.45	0.208	-1.899	-6.90	MD
C8C7JN		2.713	0.289	0.67	2.218	0.111	0.40	MM
DTLRUE		2.642	0.217	0.51	2.263	0.156	0.57	MX
F8HPTV		2.517	0.092	0.21	2.237	0.129	0.47	MC
FJDWV7		2.130	-0.295	-0.69	1.950	-0.158	-0.57	MC
FR4FBZ	*	3.578	1.154	2.69	2.852	0.744	2.70	MC
GDFYEE		2.180	-0.245	-0.57	1.966	-0.142	-0.52	MD
GPYAAY		2.022	-0.403	-0.94	1.858	-0.249	-0.91	MC
GWWYQ4		2.230	-0.195	-0.45	1.990	-0.118	-0.43	MR
H7V2LK		3.102	0.677	1.58	2.623	0.516	1.87	MC
HZ8DRE		2.167	-0.258	-0.60	1.998	-0.109	-0.40	MC
LRMC42	X	12.040	9.615	22.40	10.620	8.512	30.92	TP
MJP7JY		2.418	-0.007	-0.02	2.155	0.047	0.17	MD
MTYDJ9		2.122	-0.303	-0.71	1.988	-0.119	-0.43	MC
N9M8A4		2.368	-0.056	-0.13	2.043	-0.064	-0.23	MC
NPU34Y		2.662	0.237	0.55	2.242	0.134	0.49	MC
PB9CG2		3.033	0.609	1.42	2.497	0.389	1.41	MC
QE4D3G		1.949	-0.476	-1.11	1.766	-0.342	-1.24	MC
QMDR2C		3.233	0.809	1.88	2.667	0.559	2.03	MC
R4W336		2.174	-0.250	-0.58	1.965	-0.143	-0.52	MC
R99VFN		2.314	-0.110	-0.26	2.002	-0.106	-0.38	MC
RK8NQZ		2.003	-0.421	-0.98	1.867	-0.241	-0.88	MM

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Rubber Interlaboratory Testing Program

Report #194

Analysis 688

4th Qtr 2017

MDR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Sample Z75-Z76 Diff from Grand Mean	Sample Z75-Z76 CPV	Sample Z77-Z78 Lab Mean	Sample Z77-Z78 Diff from Grand Mean	Sample Z77-Z78 CPV	Instr Code
RR4JNY		3.175	0.750	1.75	2.577	0.469	1.70	MC
TKLCML		2.570	0.145	0.34	2.228	0.121	0.44	MC
V3UDC6		2.048	-0.376	-0.88	2.010	-0.098	-0.35	MC
V9KNL3		2.363	-0.061	-0.14	2.195	0.087	0.32	MC
VDQJ73		1.997	-0.428	-1.00	1.847	-0.261	-0.95	TP
XUQB3N		1.988	-0.436	-1.02	1.758	-0.349	-1.27	MC
Y3LBCA		2.528	0.104	0.24	2.137	0.029	0.11	MC
ZC742C	*	1.788	-0.637	-1.48	1.568	-0.540	-1.96	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	2.4245 lbf.in	2.1077 lbf.in
Stnd Dev Btwn Labs	0.4293 lbf.in	0.2753 lbf.in

Statistics based on 43 of 45 reporting participants

Summary Statistics in SI Units

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	2.7394 dN.m	2.3814 dN.m
Stnd Dev Btwn Labs	0.4850 dN.m	0.3110 dN.m

Statistics based on 43 of 45 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #688

BRFPUP (X) - Data for all samples are low.

LRMC42 (X) - Extreme Data.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	TP	Tech Pro MDR model MDPT
XX	Instrument model not specified by lab		

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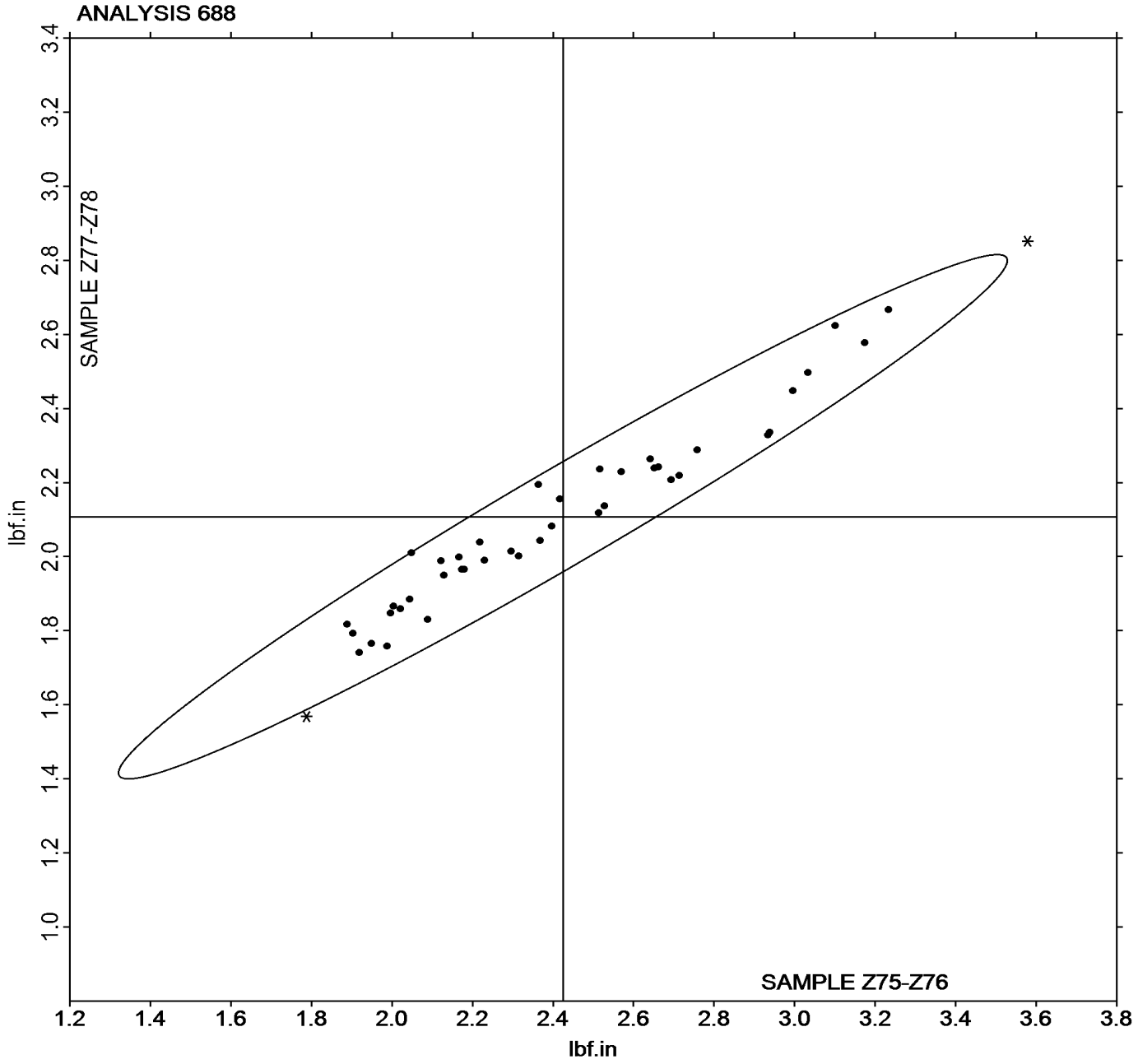
Grand Mean Sample **Z75-Z76** = 2.4245 lbf.in

Grand Mean Sample **Z77-Z78** = 2.1077 lbf.in



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WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Sample Z75-Z76 Diff from Grand Mean	Sample Z75-Z76 CPV	Sample Z77-Z78 Lab Mean	Sample Z77-Z78 Diff from Grand Mean	Sample Z77-Z78 CPV	Instr Code
23D9F2		13.10	-0.59	-0.72	11.69	-0.54	-0.61	MC
2RUW4N		13.83	0.15	0.18	12.59	0.35	0.40	MC
3NQKJ9		11.82	-1.87	-2.28	10.03	-2.21	-2.48	MC
3QC6QX		14.59	0.90	1.10	12.77	0.53	0.60	MC
3RN2XN		13.75	0.06	0.08	12.66	0.42	0.47	MC
48Y6WM		12.18	-1.51	-1.84	11.26	-0.98	-1.10	MM
68FBZK		13.75	0.06	0.07	11.87	-0.36	-0.41	MC
6VZQCG		14.44	0.75	0.92	13.24	1.01	1.13	XX
6YYZMJ		13.59	-0.10	-0.12	12.16	-0.08	-0.09	ME
7CN2WX		13.69	0.00	0.00	11.56	-0.68	-0.76	MC
7VCP46		13.10	-0.59	-0.72	11.61	-0.62	-0.70	MD
9JUMXX		13.45	-0.24	-0.29	12.77	0.53	0.60	MC
AJUZ36		13.77	0.08	0.10	12.53	0.29	0.33	MC
B6N9RK		13.20	-0.48	-0.59	11.73	-0.51	-0.58	MC
BJPA3Z		13.52	-0.17	-0.21	12.19	-0.05	-0.06	ME
BRFPUP	X	13.13	-0.56	-0.68	13.15	0.91	1.02	MD
C8C7JN		14.45	0.77	0.93	12.74	0.50	0.56	MM
DTLRUE		14.06	0.38	0.46	13.02	0.78	0.88	MX
F8HPTV		15.21	1.52	1.85	13.33	1.09	1.23	MC
FJDWV7		13.84	0.15	0.18	12.15	-0.09	-0.10	MC
FR4FBZ	*	14.80	1.11	1.36	14.22	1.98	2.23	MC
GDFYEE		12.58	-1.11	-1.35	11.28	-0.96	-1.08	MD
GPYAAY		13.72	0.03	0.04	11.96	-0.28	-0.32	MC
GWWYQ4	X	17.66	3.97	4.84	17.10	4.86	5.47	MR
H7V2LK		14.78	1.09	1.33	13.10	0.86	0.97	MC
HZ8DRE		13.32	-0.37	-0.45	11.64	-0.60	-0.67	MC
LRMC42	X	2.23	-11.45	-13.95	1.99	-10.25	-11.53	TP
MJP7JY		13.95	0.26	0.32	12.53	0.30	0.33	MD
MTYDJ9		14.06	0.37	0.45	12.99	0.75	0.84	MC
N9M8A4		13.64	-0.04	-0.05	12.51	0.27	0.30	MC
NPU34Y		13.26	-0.43	-0.52	11.86	-0.38	-0.43	MC
PB9CG2		15.13	1.44	1.75	13.42	1.18	1.33	MC
QE4D3G		13.12	-0.56	-0.69	11.09	-1.14	-1.29	MC
QMDR2C		13.92	0.23	0.28	12.71	0.48	0.54	MC
R4W336		13.87	0.18	0.22	12.72	0.48	0.54	MC
R99VFN		14.32	0.63	0.77	12.94	0.71	0.80	MC
RK8NQZ		14.08	0.40	0.48	12.12	-0.12	-0.13	MM

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Rubber Interlaboratory Testing Program

Report #194

Analysis 689

4th Qtr 2017

MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample Z75-Z76 Lab Mean	Diff from Grand Mean	CPV	Sample Z77-Z78 Lab Mean	Diff from Grand Mean	CPV	Instr Code
RR4JNY		15.30	1.61	1.96	13.34	1.10	1.24	MC
TKLCML		14.19	0.50	0.61	13.19	0.95	1.07	MC
V3UDC6		13.79	0.10	0.12	12.48	0.25	0.28	MC
V9KNL3		13.87	0.18	0.22	12.38	0.14	0.15	MC
VDQJ73		12.35	-1.34	-1.64	10.95	-1.29	-1.45	TP
XUQB3N		12.25	-1.44	-1.76	11.21	-1.03	-1.16	MC
Y3LBCA		12.99	-0.69	-0.85	11.41	-0.83	-0.94	MC
ZC742C	*	12.31	-1.38	-1.68	10.05	-2.18	-2.46	ME

Summary Statistics

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	13.688 lbf.in	12.237 lbf.in
Stnd Dev Btwn Labs	0.821 lbf.in	0.889 lbf.in

Statistics based on 42 of 45 reporting participants

Summary Statistics in SI Units

	Sample Z75-Z76	Sample Z77-Z78
Grand Means	15.466 dN.m	13.826 dN.m
Stnd Dev Btwn Labs	0.928 dN.m	1.004 dN.m

Statistics based on 42 of 45 reporting participants

Samples Z75-Z76: EPDM compound, batch #1 & Z77-Z78: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #689

BRFPUP (X) - Inconsistent in testing between samples.

GWWYQ4 (X) - Data for all samples are high. Possible Systematic Error.

LRMC42 (X) - Data for both samples are very low.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	MX	Rebuilt MonTech Alpha
TP	Tech Pro MDR model MDPT	XX	Instrument model not specified by lab

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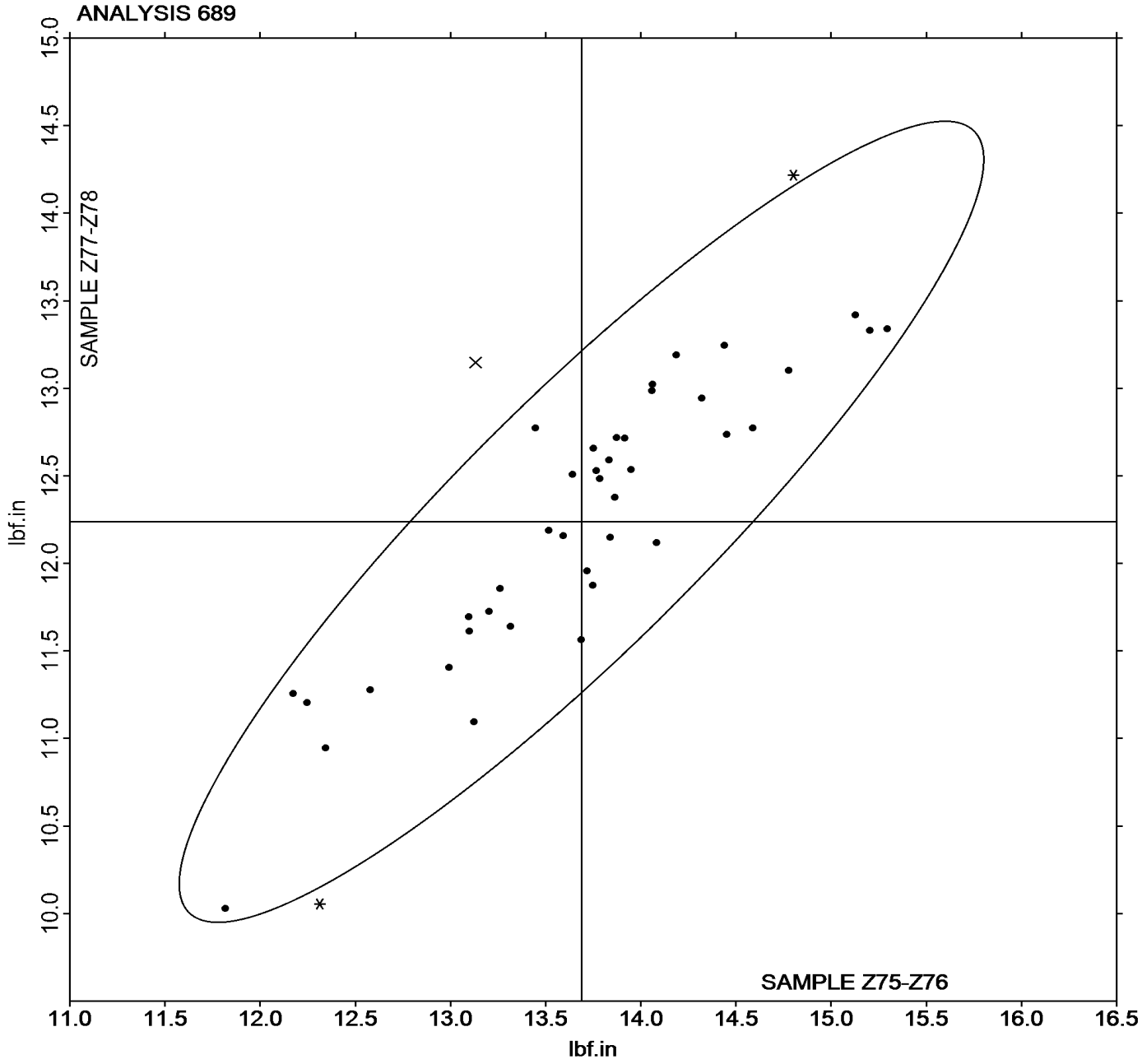
Grand Mean Sample **Z75-Z76** = 13.688 lbf.in

Grand Mean Sample **Z77-Z78** = 12.237 lbf.in



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WebCode	Data Flag	Sample H71-H72 Lab Mean	Sample H71-H72 Diff from Grand Mean	Sample H71-H72 CPV	Sample H73-H74 Lab Mean	Sample H73-H74 Diff from Grand Mean	Sample H73-H74 CPV	Instr Code
23D9F2		533.3	-1.3	-0.03	497.0	-7.4	-0.23	PP
3QC6QX		617.9	83.3	1.71	557.1	52.7	1.65	XX
QE4D3G		504.5	-30.1	-0.62	498.2	-6.3	-0.20	RP
R99VFN		495.5	-39.1	-0.80	470.3	-34.2	-1.07	RP
XUQB3N		521.8	-12.9	-0.26	499.6	-4.8	-0.15	RP

Summary Statistics

	Sample H71-H72	Sample H73-H74
Grand Means	534.61 kPa	504.43 kPa
Stnd Dev Btwn Labs	48.86 kPa	31.85 kPa

Statistics based on 5 of 5 reporting participants

Samples H71-H72: EPDM compound, batch #1 & H73-H74: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

PP	PPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

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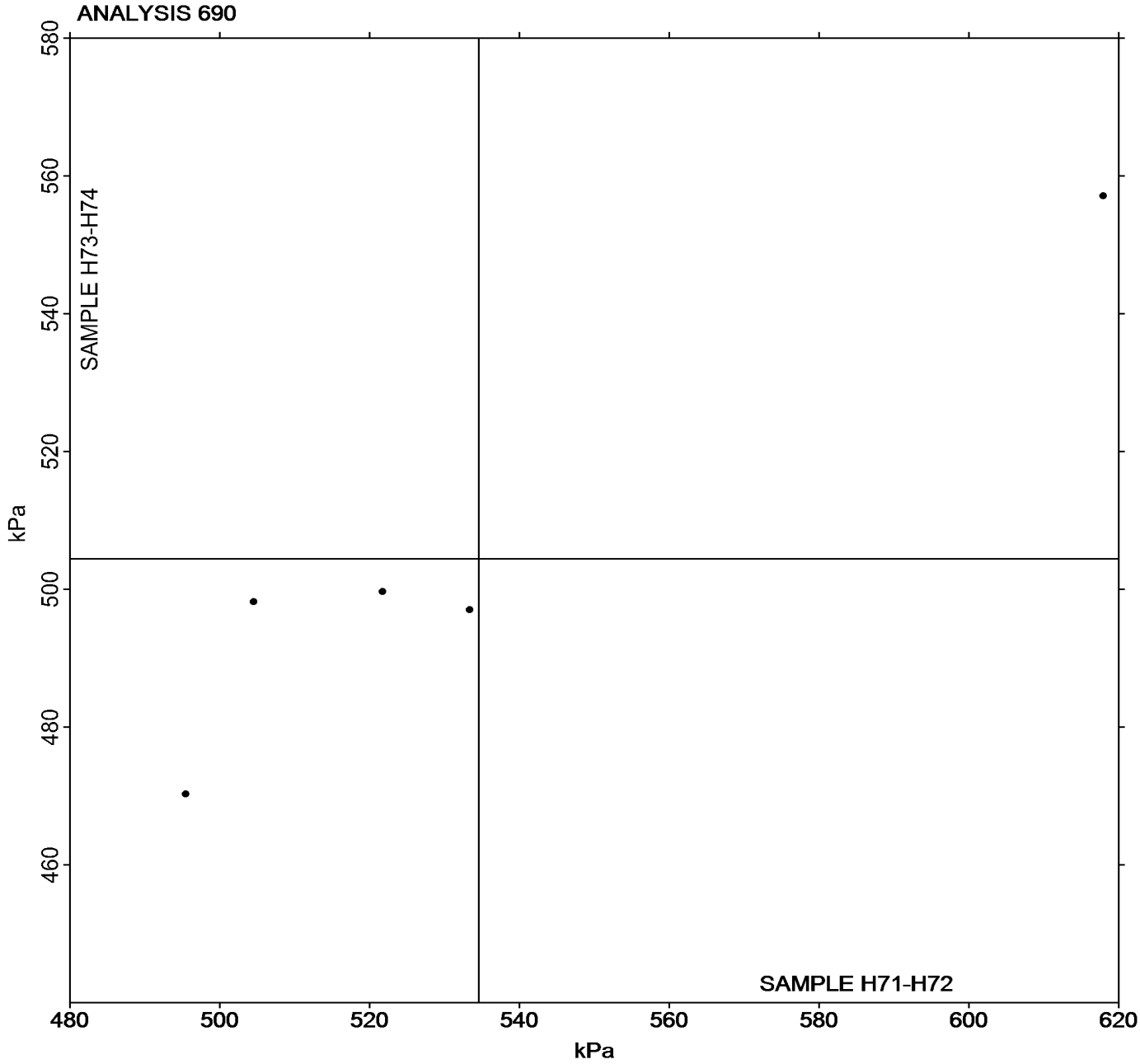
Grand Mean Sample **H71-H72** = 534.61 kPa

Grand Mean Sample **H73-H74** = 504.43 kPa



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

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WebCode	Data Flag	Sample H71-H72 Lab Mean	Diff from Grand Mean	CPV	Sample H73-H74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		216.8	0.1	0.01	213.2	-2.1	-0.28	PP
3QC6QX		224.5	7.7	0.95	215.9	0.7	0.09	XX
QE4D3G		220.3	3.6	0.45	223.3	8.1	1.11	XX
R99VFN		203.1	-13.6	-1.68	204.1	-11.1	-1.52	RP
XUQB3N		218.9	2.2	0.27	219.7	4.4	0.61	RP

Summary Statistics

	Sample H71-H72	Sample H73-H74
Grand Means	216.72 kPa	215.23 kPa
Stnd Dev Btwn Labs	8.10 kPa	7.31 kPa

Statistics based on 5 of 5 reporting participants

Samples H71-H72: EPDM compound, batch #1 & H73-H74: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

PP	PPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

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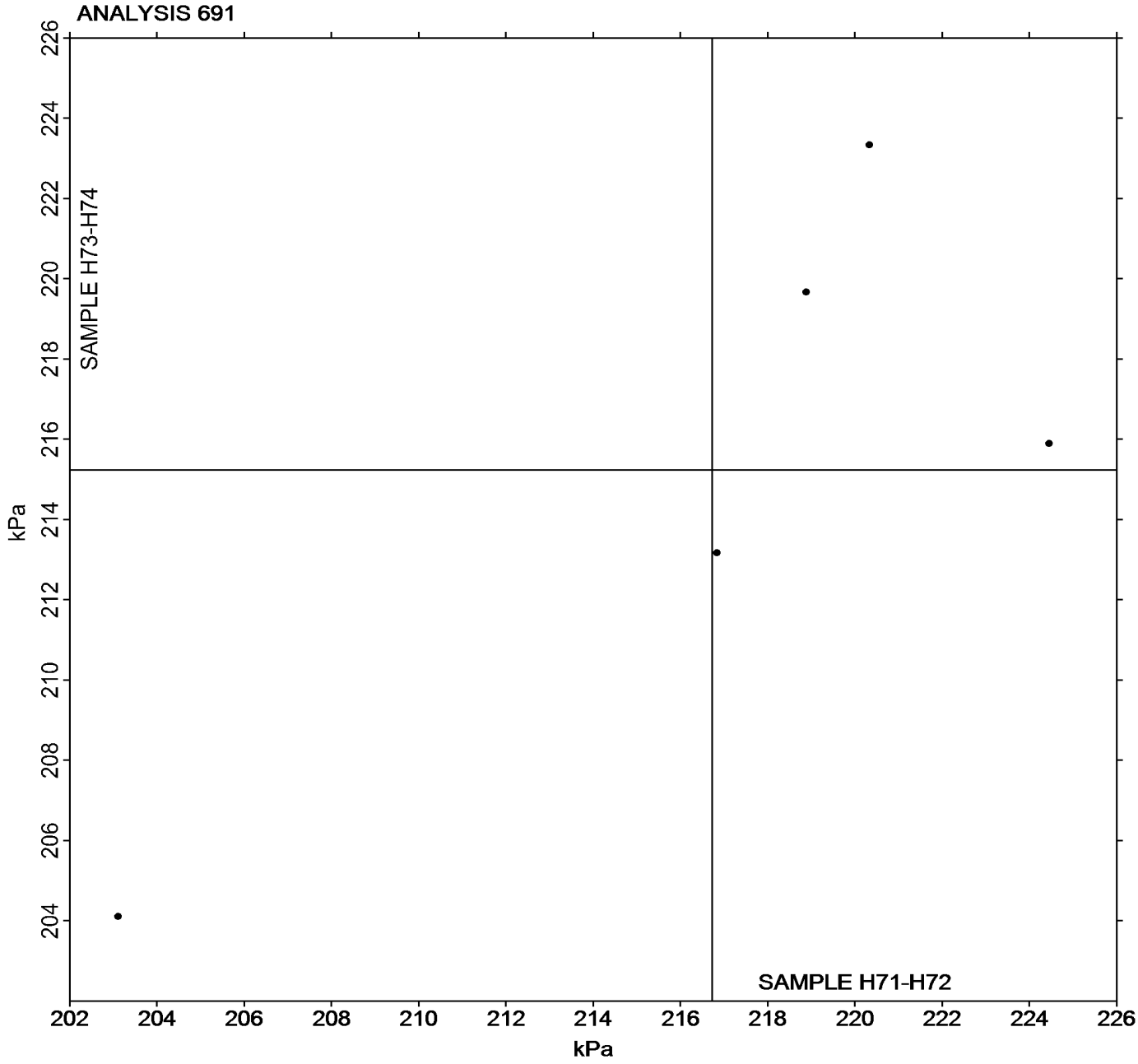
Grand Mean Sample **H71-H72** = 216.72 kPa

Grand Mean Sample **H73-H74** = 215.23 kPa



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WebCode	Data Flag	Sample H71-H72 Lab Mean	Sample H71-H72 Diff from Grand Mean	Sample H71-H72 CPV	Sample H73-H74 Lab Mean	Sample H73-H74 Diff from Grand Mean	Sample H73-H74 CPV	Instr Code
23D9F2		90.75	2.75	0.25	87.34	2.50	0.25	PR
3QC6QX		106.01	18.01	1.61	99.74	14.90	1.50	XX
QE4D3G		80.42	-7.58	-0.68	81.18	-3.66	-0.37	XX
R99VFN		78.05	-9.95	-0.89	72.58	-12.26	-1.24	RP
XUQB3N		84.78	-3.22	-0.29	83.35	-1.49	-0.15	RP

Summary Statistics

	Sample H71-H72	Sample H73-H74
Grand Means	88.001 kPa	84.839 kPa
Stnd Dev Btwn Labs	11.166 kPa	9.926 kPa

Statistics based on 5 of 5 reporting participants

Samples H71-H72: EPDM compound, batch #1 & H73-H74: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

PR	PRPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

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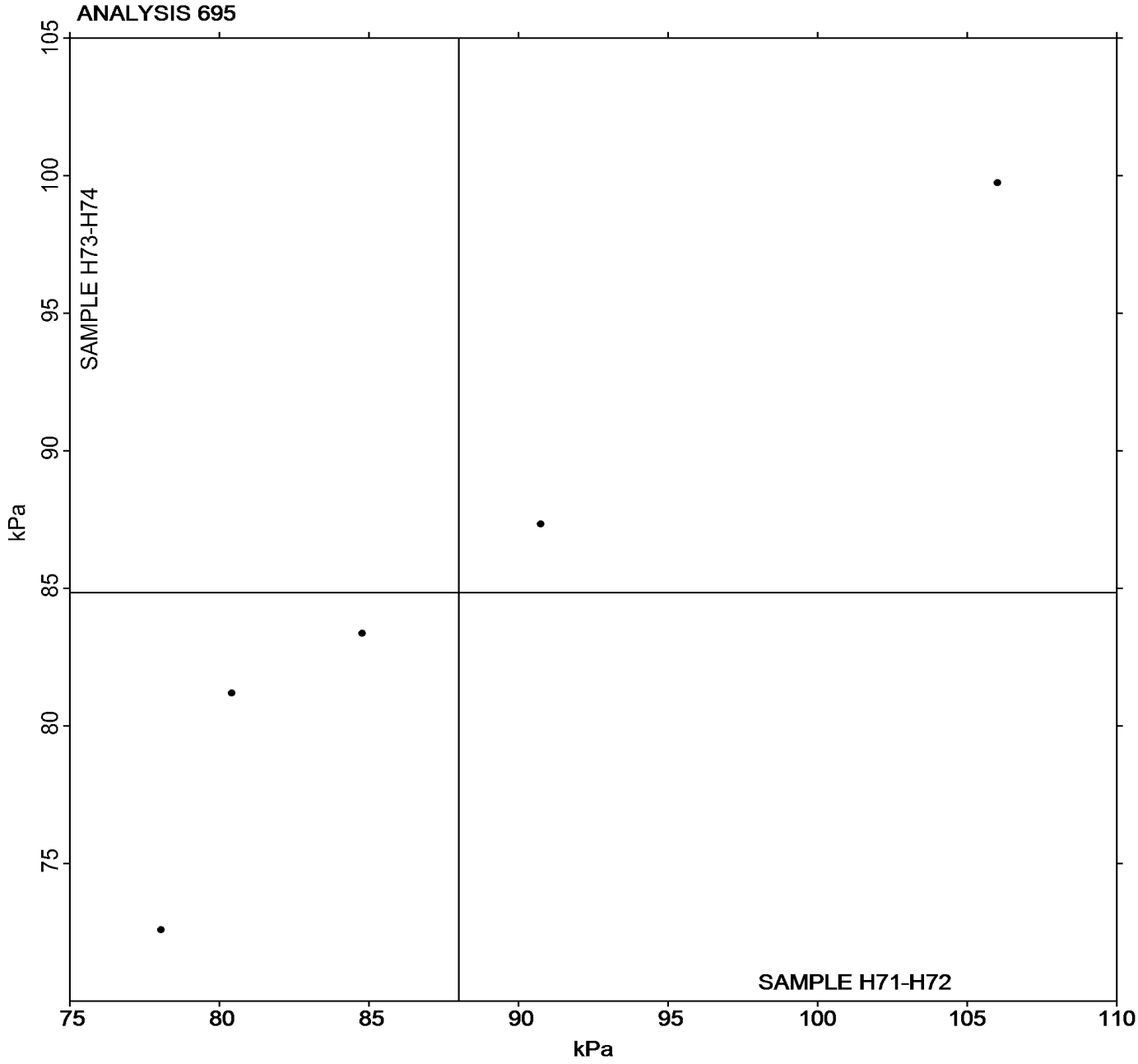
Grand Mean Sample **H71-H72** = 88.001 kPa

Grand Mean Sample **H73-H74** = 84.839 kPa



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WebCode	Data Flag	Sample H71-H72 Lab Mean	Diff from Grand Mean	CPV	Sample H73-H74 Lab Mean	Diff from Grand Mean	CPV	Instr Code
23D9F2		70.72	-0.53	-0.13	66.77	-1.06	-0.32	PP
3QC6QX		78.07	6.83	1.64	73.15	5.32	1.59	XX
QE4D3G		67.27	-3.98	-0.96	66.13	-1.70	-0.51	XX
R99VFN		68.73	-2.52	-0.61	64.42	-3.41	-1.02	RP
XUQB3N		71.43	0.19	0.05	68.68	0.85	0.25	RP

Summary Statistics

	Sample H71-H72	Sample H73-H74
Grand Means	71.243 kPa	67.831 kPa
Stnd Dev Btwn Labs	4.156 kPa	3.343 kPa

Statistics based on 5 of 5 reporting participants

Samples H71-H72: EPDM compound, batch #1 & H73-H74: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

PP	PPA 2000	RP	RPA 2000
XX	Instrument model not specified by lab		

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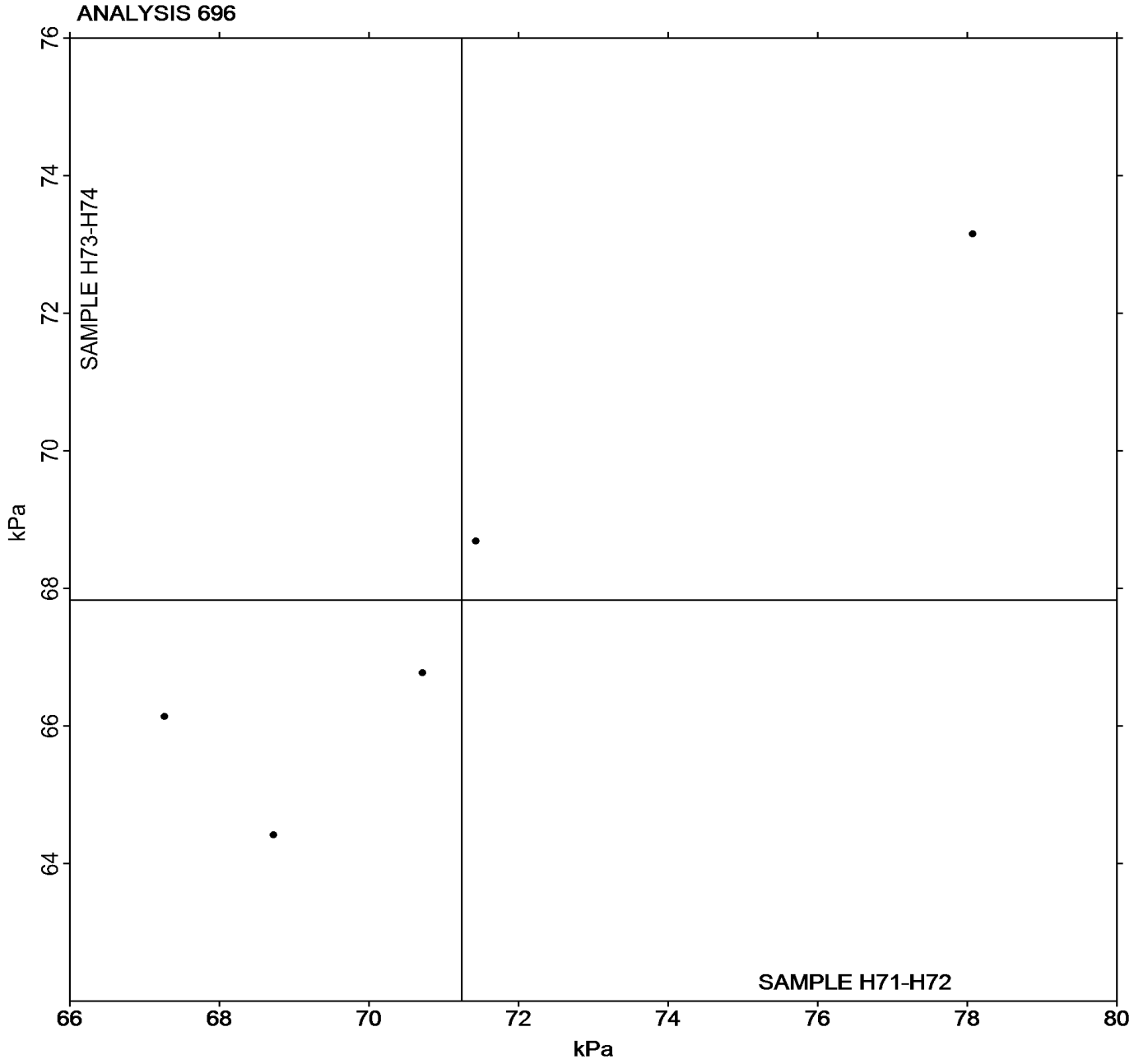
Grand Mean Sample **H71-H72** = 71.243 kPa

Grand Mean Sample **H73-H74** = 67.831 kPa



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