

## Rubber Interlaboratory Testing Program

### Summary Report #179- 1st Qtr 2014

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## 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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<b>WebCode</b>	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.
<b>Lab Mean</b>	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.
<b>Grand Mean</b>	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.
<b>Difference from Grand Mean</b>	The difference of the LAB MEAN from the GRAND MEAN.
<b>Between-Lab Standard Deviation</b>	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).
<b>Comparative Performance Value</b>	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.
<b>Inst Code</b>	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).
<b>Data Flag</b>	DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

<b><u>DATA FLAG</u></b>	<b><u>STATISTICALLY INCLUDED/EXCLUDED</u></b>	<b><u>ACTION REQUIRED</u></b>
*	INCLUDED	<b>CAUTION</b> - 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	<b>STOP</b> - 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	<b>PROCEED</b> - 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.

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### 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.**
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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.

## Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		3,614.5	274.5	1.51	3,667.0	332.5	1.93	ZZ
2DH7PB		3,429.5	89.5	0.49	3,383.0	48.5	0.28	ZZ
2XFDKF		3,616.0	276.0	1.52	3,663.0	328.5	1.90	ZZ
3EAJRU		3,279.0	-61.0	-0.33	3,282.0	-52.5	-0.30	ZZ
3MXXBL		3,242.3	-97.6	-0.54	3,206.8	-127.7	-0.74	ZZ
3QVGDJ	X	3,357.5	17.5	0.10	3,677.0	342.5	1.98	ZZ
4A7N6R		3,548.8	208.8	1.15	3,377.2	42.7	0.25	ZZ
4HF7MP		3,395.0	55.0	0.30	3,395.0	60.5	0.35	ZZ
4PLP43		3,154.0	-186.0	-1.02	3,090.5	-244.0	-1.41	ZZ
4QFJPE		3,554.0	214.0	1.17	3,399.5	65.0	0.38	ZZ
6GLRRK		3,239.0	-101.0	-0.55	3,392.8	58.3	0.34	ZZ
6NM23J	*	2,985.5	-354.5	-1.95	2,904.0	-430.5	-2.49	ZZ
73WAAZ	*	3,307.6	-32.4	-0.18	3,491.1	156.6	0.91	ZZ
7HQRAW		3,135.5	-204.5	-1.12	3,105.5	-229.0	-1.33	ZZ
7LY9ZU		3,273.0	-67.0	-0.37	3,196.0	-138.5	-0.80	ZZ
7QPCHJ		3,091.0	-249.0	-1.37	3,102.0	-232.5	-1.35	ZZ
7VGLK6		3,356.5	16.5	0.09	3,340.0	5.5	0.03	ZZ
83WY8M		2,940.5	-399.5	-2.19	3,008.5	-326.0	-1.89	ZZ
8FJUEU		3,404.0	64.0	0.35	3,426.0	91.5	0.53	ZZ
9CXC3R3		3,241.5	-98.5	-0.54	3,250.5	-84.0	-0.49	ZZ
APJ977		3,427.0	87.0	0.48	3,441.0	106.5	0.62	ZZ
ARR9FJ		3,428.0	88.0	0.48	3,424.0	89.5	0.52	ZZ
B4LF28		3,355.0	15.0	0.08	3,317.5	-17.0	-0.10	ZZ
BHGYEP		3,403.3	63.3	0.35	3,369.8	35.3	0.20	ZZ
BRHND9		3,585.4	245.4	1.35	3,645.6	311.1	1.80	ZZ
BWTY8N		3,386.0	46.0	0.25	3,401.3	66.8	0.39	ZZ
CFMUJB		3,222.0	-118.0	-0.65	3,268.5	-66.0	-0.38	ZZ
CHTDKR		3,348.0	8.0	0.04	3,440.5	106.0	0.61	ZZ
DB4E8P		3,437.4	97.4	0.53	3,357.7	23.2	0.13	ZZ
DHVD7D		3,118.3	-221.6	-1.22	3,118.3	-216.1	-1.25	ZZ
DJKLEU		3,475.2	135.2	0.74	3,479.0	144.5	0.84	ZZ
DLLVYV		3,195.5	-144.5	-0.79	3,365.5	31.0	0.18	ZZ
DNHVBU		3,366.5	26.5	0.15	3,374.0	39.5	0.23	ZZ
DNVE8K		3,188.7	-151.3	-0.83	3,216.2	-118.2	-0.68	ZZ
DQY72J		3,277.0	-63.0	-0.35	3,273.0	-61.5	-0.36	ZZ
DRW8V		3,202.5	-137.5	-0.75	3,139.0	-195.5	-1.13	ZZ
EGA7FM		3,225.5	-114.5	-0.63	3,153.5	-181.0	-1.05	ZZ
EQWY8P		3,569.5	229.5	1.26	3,514.5	180.0	1.04	ZZ
FCWZW		3,342.0	2.0	0.01	3,448.5	114.0	0.66	ZZ

## Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
FWXCTT		3,511.0	171.0	0.94	3,465.0	130.5	0.76	ZZ
G2CX9Y		3,534.0	194.0	1.06	3,546.6	212.1	1.23	ZZ
G6UZDJ		3,071.2	-268.8	-1.48	3,013.2	-321.3	-1.86	ZZ
G9U9KE		3,449.8	109.8	0.60	3,463.5	129.0	0.75	ZZ
GK2CP9		3,390.0	50.0	0.27	3,380.0	45.5	0.26	ZZ
GTWGE4		3,467.5	127.5	0.70	3,392.0	57.5	0.33	ZZ
H7UU7K		3,265.5	-74.5	-0.41	3,218.0	-116.5	-0.67	ZZ
HAM3U9		3,172.5	-167.5	-0.92	3,230.0	-104.5	-0.61	ZZ
HPFY8K	*	2,858.0	-482.0	-2.65	2,849.5	-485.0	-2.81	ZZ
HRYAP		3,225.0	-115.0	-0.63	3,232.0	-102.5	-0.59	ZZ
J9LLW3		2,944.5	-395.5	-2.17	3,039.0	-295.5	-1.71	ZZ
JG27F2		3,380.0	40.0	0.22	3,286.5	-48.0	-0.28	ZZ
JLBXFL		3,181.4	-158.5	-0.87	3,300.4	-34.1	-0.20	ZZ
JNHB2U		3,061.8	-278.2	-1.53	3,133.6	-200.9	-1.16	ZZ
JP8TQ9		3,508.5	168.5	0.93	3,441.5	107.0	0.62	ZZ
JXZATC		3,349.6	9.6	0.05	3,472.2	137.7	0.80	ZZ
JYUZYT		3,474.7	134.7	0.74	3,356.6	22.1	0.13	ZZ
JZA3KD		3,368.8	28.8	0.16	3,332.3	-2.2	-0.01	ZZ
K3W9TT		3,187.7	-152.3	-0.84	3,179.0	-155.4	-0.90	ZZ
K6DKJH		3,502.7	162.7	0.89	3,422.9	88.4	0.51	ZZ
KAUFE3		3,345.5	5.5	0.03	3,281.4	-53.1	-0.31	ZZ
KFZ8NZ		3,113.0	-227.0	-1.25	3,256.0	-78.5	-0.45	ZZ
KWM23Q		3,298.5	-41.5	-0.23	3,350.0	15.5	0.09	ZZ
LAMNZR		3,498.0	158.0	0.87	3,442.5	108.0	0.63	ZZ
LH3KNY		3,460.3	120.3	0.66	3,462.3	127.8	0.74	ZZ
LRMBAH		3,258.3	-81.7	-0.45	3,215.5	-119.0	-0.69	ZZ
MPEX7U		3,219.9	-120.1	-0.66	3,212.6	-121.9	-0.71	ZZ
MR3EG3		3,330.0	-10.0	-0.05	3,440.0	105.5	0.61	ZZ
NBEL64		3,290.0	-50.0	-0.27	3,395.0	60.5	0.35	ZZ
NJRCTF		3,277.9	-62.1	-0.34	3,277.9	-56.6	-0.33	ZZ
NM8ZBR		3,239.0	-101.0	-0.55	3,280.0	-54.5	-0.32	ZZ
NN26QD		3,307.5	-32.5	-0.18	3,381.0	46.5	0.27	ZZ
NXQ2JR	*	3,482.5	142.5	0.78	3,283.0	-51.5	-0.30	ZZ
NZFQ89		3,482.4	142.4	0.78	3,564.3	229.8	1.33	ZZ
PDZMR3		3,703.0	363.0	1.99	3,736.5	402.0	2.33	ZZ
PX4HBT		3,404.5	64.5	0.35	3,464.0	129.5	0.75	ZZ
PZ7BBJ		3,257.1	-82.9	-0.45	3,310.6	-23.9	-0.14	ZZ
Q9CJ6P		3,572.4	232.4	1.28	3,395.7	61.2	0.35	ZZ
QAR27A		3,323.9	-16.1	-0.09	3,344.2	9.7	0.06	ZZ

Analysis 605  
Tensile Strength (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
QDBE7H		3,038.0	-302.0	-1.66	3,079.0	-255.5	-1.48	ZZ
QLKKMZ	X	1,632.5	-1,707.5	-9.37	1,623.5	-1,711.0	-9.91	ZZ
QUEK4E		3,250.5	-89.5	-0.49	3,174.0	-160.5	-0.93	ZZ
QVFD7T		3,277.9	-62.1	-0.34	3,292.4	-42.1	-0.24	ZZ
QZ2HLA		2,990.0	-350.0	-1.92	3,009.0	-325.5	-1.89	ZZ
RH4BD4		3,380.0	40.0	0.22	3,365.0	30.5	0.18	ZZ
TZWTKA		3,769.0	429.0	2.36	3,712.5	378.0	2.19	ZZ
UNXCCK		3,558.5	218.5	1.20	3,518.5	184.0	1.07	ZZ
WCYZB		3,024.1	-315.9	-1.73	2,995.1	-339.4	-1.97	ZZ
WKWTN		3,608.2	268.2	1.47	3,544.8	210.3	1.22	ZZ
WNTCPP		3,449.1	109.1	0.60	3,407.1	72.6	0.42	ZZ
WX3CA6		3,502.2	162.2	0.89	3,372.6	38.1	0.22	ZZ
XMR8Z8		3,309.8	-30.2	-0.17	3,401.9	67.4	0.39	ZZ
YA6J38		3,209.7	-130.3	-0.72	3,123.4	-211.1	-1.22	ZZ
YG3B9F		3,643.4	303.4	1.67	3,535.3	200.8	1.16	ZZ
ZBT3A7		3,587.0	247.0	1.36	3,570.5	236.0	1.37	ZZ
ZC4ZC2		3,343.0	3.0	0.02	3,377.5	43.0	0.25	ZZ
ZCJPPA		3,457.0	117.0	0.64	3,424.5	90.0	0.52	ZZ
ZLWPAB		3,650.0	310.0	1.70	3,565.5	231.0	1.34	ZZ
ZNE2YZ		3,284.0	-56.0	-0.31	3,257.5	-77.0	-0.45	ZZ
ZYWKH		3,519.0	179.0	0.98	3,445.5	111.0	0.64	ZZ

Summary Statistics			
Grand Means	3,339.98 psi	3,334.49 psi	
Std Dev Btwn Labs	182.15 psi	172.62 psi	
Statistics based on 97 of 99 reporting participants			

Summary Statistics in SI Units			
Grand Means	23.028 MPa	22.99 MPa	
Std Dev Btwn Labs	1.256 MPa	1.19 MPa	
Statistics based on 97 of 99 reporting participants			

Samples A41-A42: Polyisoprene compound, batch #1 & A43-A44: Polyisoprene compound, batch #2

Analysis 605

Tensile Strength (psi)

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**Comments on assigned Data Flags for Test #605**

3QVGDJ (X) - Inconsistency in testing between Sample groups.

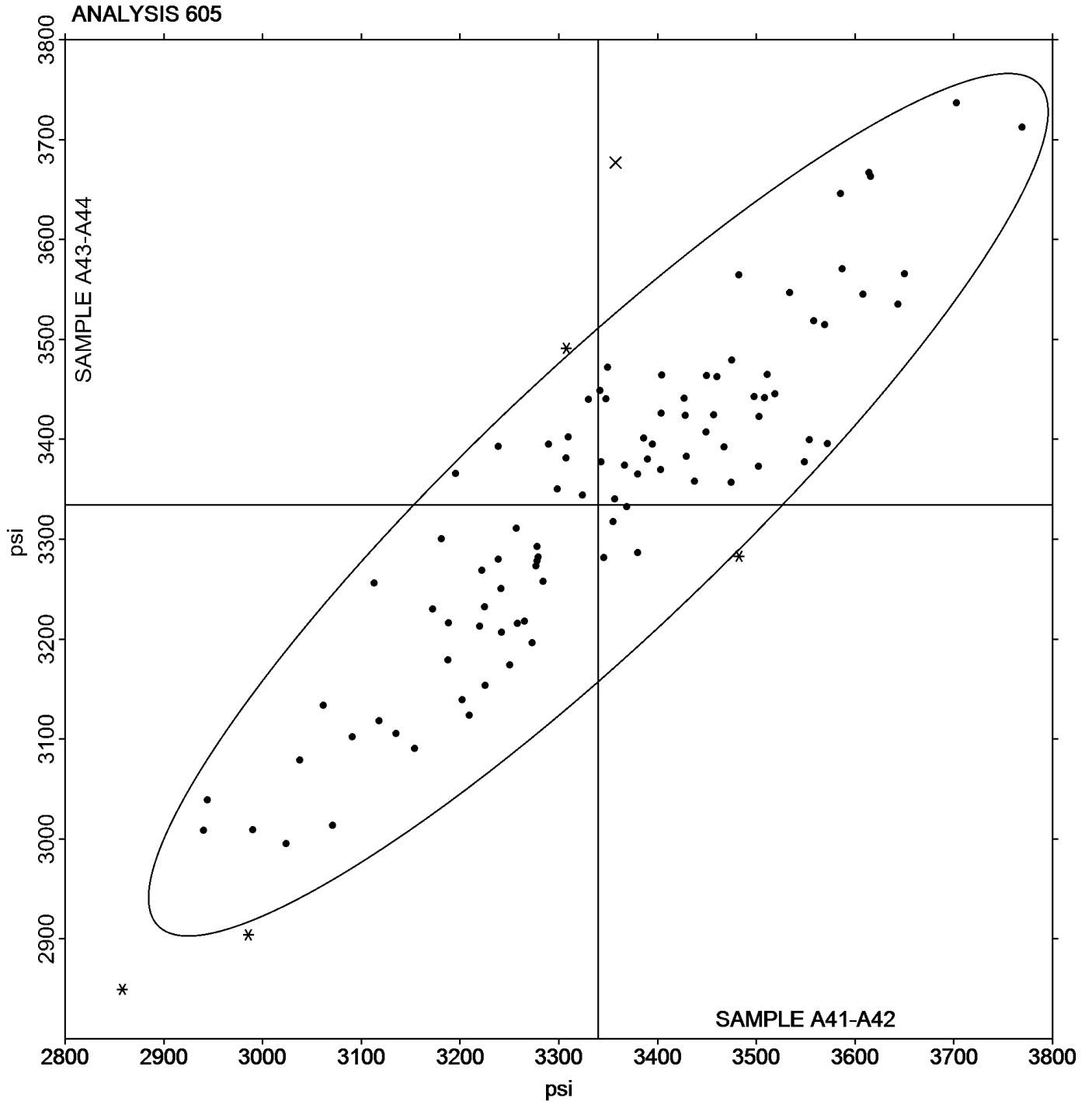
QLKKMZ (X) - Extreme data for both Sample groups.



Analysis 605  
Tensile Strength (psi)

Grand Mean Sample A41-A42 = 3,339.98 psi

Grand Mean Sample A43-A44 = 3,334.49 psi



## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		587.5	-2.8	-0.10	598.5	-0.2	-0.01	ZZ
2DH7PB		563.5	-26.8	-0.91	574.0	-24.7	-0.83	ZZ
2XFDKF		637.5	47.2	1.61	640.0	41.3	1.40	ZZ
3EAJRU		576.0	-14.3	-0.49	591.5	-7.2	-0.24	ZZ
3MXXBL		582.5	-7.8	-0.27	580.0	-18.7	-0.63	ZZ
3QVGDJ	X	480.5	-109.8	-3.75	506.0	-92.7	-3.13	ZZ
4A7N6R		602.5	12.2	0.42	604.0	5.3	0.18	ZZ
4HF7MP		538.5	-51.8	-1.77	545.5	-53.2	-1.80	ZZ
4PLP43	X	561.5	-28.8	-0.98	612.0	13.3	0.45	ZZ
4QFJPE	*	628.0	37.7	1.29	607.0	8.3	0.28	ZZ
6GLRRK	*	604.5	14.2	0.48	639.8	41.1	1.39	ZZ
6NM23J		525.0	-65.3	-2.23	528.0	-70.7	-2.39	ZZ
73WAAZ	X	661.5	71.2	2.43	637.0	38.3	1.29	ZZ
7HQRAW		622.0	31.7	1.08	605.5	6.8	0.23	ZZ
7LY9ZU		566.5	-23.8	-0.81	579.0	-19.7	-0.67	ZZ
7QPCHJ		609.0	18.7	0.64	631.0	32.3	1.09	ZZ
7VGLK6		610.0	19.7	0.67	615.0	16.3	0.55	ZZ
83WY8M	*	522.5	-67.8	-2.31	546.1	-52.6	-1.78	ZZ
8FJUEU		578.5	-11.8	-0.40	592.0	-6.7	-0.23	ZZ
9CXCR3		587.5	-2.8	-0.10	597.5	-1.2	-0.04	ZZ
APJ977		583.5	-6.8	-0.23	585.0	-13.7	-0.46	ZZ
ARR9FJ		607.6	17.4	0.59	630.6	31.9	1.08	ZZ
B4LF28		540.5	-49.8	-1.70	558.5	-40.2	-1.36	ZZ
BHGYEP		600.8	10.5	0.36	610.0	11.3	0.38	ZZ
BRHND9		579.5	-10.8	-0.37	600.0	1.3	0.04	ZZ
BWTY8N		588.7	-1.6	-0.06	602.9	4.2	0.14	ZZ
CFMUJB		593.0	2.7	0.09	603.5	4.8	0.16	ZZ
CHTDKR		552.5	-37.8	-1.29	570.0	-28.7	-0.97	ZZ
DB4E8P		606.0	15.7	0.54	618.0	19.3	0.65	ZZ
DHVD7D		584.5	-5.8	-0.20	585.5	-13.2	-0.45	ZZ
DJKLEU		565.3	-25.0	-0.85	570.4	-28.3	-0.95	ZZ
DLLVYV		612.5	22.2	0.76	632.0	33.3	1.12	ZZ
DNHVBU		584.5	-5.8	-0.20	602.5	3.8	0.13	ZZ
DNVE8K	X	460.5	-129.8	-4.43	474.0	-124.7	-4.21	ZZ
DQY72J		591.5	1.2	0.04	587.0	-11.7	-0.39	ZZ
DRW8V		565.5	-24.8	-0.85	564.5	-34.2	-1.15	ZZ
EGA7FM		589.0	-1.3	-0.04	608.0	9.3	0.31	ZZ
EQWY8P		612.0	21.7	0.74	618.5	19.8	0.67	ZZ
FCWZW		600.0	9.7	0.33	623.0	24.3	0.82	ZZ

## Rubber Interlaboratory Testing Program

## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
FWXCTT		610.5	20.2	0.69	618.5	19.8	0.67	ZZ
G2CX9Y		600.3	10.0	0.34	602.6	3.9	0.13	ZZ
G6UZDJ		626.0	35.7	1.22	636.5	37.8	1.28	ZZ
G9U9KE		601.5	11.2	0.38	602.5	3.8	0.13	ZZ
GK2CP9		572.5	-17.8	-0.61	585.5	-13.2	-0.45	ZZ
GTWGE4		544.0	-46.3	-1.58	535.5	-63.2	-2.13	ZZ
H7UU7K		611.5	21.2	0.72	614.5	15.8	0.53	ZZ
HAM3U9		590.0	-0.3	-0.01	605.0	6.3	0.21	ZZ
HPFY8K	*	675.5	85.2	2.91	680.5	81.8	2.76	ZZ
HRYAP		587.0	-3.3	-0.11	593.5	-5.2	-0.18	ZZ
J9LLW3		555.5	-34.8	-1.19	581.0	-17.7	-0.60	ZZ
JG27F2		548.5	-41.8	-1.43	550.5	-48.2	-1.63	ZZ
JLBXFL		598.5	8.2	0.28	622.5	23.8	0.80	ZZ
JNHB2U		568.1	-22.2	-0.76	577.4	-21.3	-0.72	ZZ
JP8TQ9		591.5	1.2	0.04	611.0	12.3	0.42	ZZ
JXZATC		587.7	-2.6	-0.09	576.9	-21.8	-0.74	ZZ
JYUZYT		580.7	-9.6	-0.33	578.8	-19.9	-0.67	ZZ
JZA3KD		583.5	-6.8	-0.23	594.5	-4.2	-0.14	ZZ
K3W9TT		582.0	-8.3	-0.28	597.5	-1.2	-0.04	ZZ
K6DKJH	*	582.5	-7.8	-0.27	560.0	-38.7	-1.31	ZZ
KAUFE3		618.0	27.7	0.95	609.0	10.3	0.35	ZZ
KFZ8NZ		537.0	-53.3	-1.82	551.5	-47.2	-1.59	ZZ
KWM23Q		611.0	20.7	0.71	631.0	32.3	1.09	ZZ
LAMNZR		652.0	61.7	2.11	654.5	55.8	1.88	ZZ
LH3KNY		608.0	17.7	0.60	608.5	9.8	0.33	ZZ
LRMBAH		561.0	-29.3	-1.00	559.5	-39.2	-1.32	ZZ
MPEX7U		579.5	-10.8	-0.37	588.5	-10.2	-0.34	ZZ
MR3EG3		587.0	-3.3	-0.11	610.0	11.3	0.38	ZZ
NBEL64		565.0	-25.3	-0.86	580.5	-18.2	-0.61	ZZ
NJRCTF		567.5	-22.8	-0.78	586.0	-12.7	-0.43	ZZ
NM8ZBR		622.5	32.2	1.10	640.5	41.8	1.41	ZZ
NN26QD		576.0	-14.3	-0.49	603.0	4.3	0.15	ZZ
NXQ2JR	*	660.0	69.7	2.38	654.0	55.3	1.87	ZZ
NZFQ89		650.0	59.7	2.04	650.0	51.3	1.73	ZZ
PDZMR3		618.0	27.7	0.95	619.0	20.3	0.69	ZZ
PX4HBT		610.0	19.7	0.67	619.0	20.3	0.69	ZZ
PZ7BBJ		578.2	-12.1	-0.41	587.5	-11.2	-0.38	ZZ
Q9CJ6P		572.5	-17.8	-0.61	580.9	-17.8	-0.60	ZZ
QAR27A		547.5	-42.8	-1.46	554.5	-44.2	-1.49	ZZ

## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
QDBE7H		537.5	-52.8	-1.80	550.0	-48.7	-1.64	ZZ
QLKKMZ		594.0	3.7	0.13	605.0	6.3	0.21	ZZ
QUEK4E		583.0	-7.3	-0.25	584.0	-14.7	-0.50	ZZ
QVFD7T		591.5	1.2	0.04	606.5	7.8	0.26	ZZ
RH4BD4	*	639.0	48.7	1.66	669.5	70.8	2.39	ZZ
TZWTKA	*	671.0	80.7	2.75	678.5	79.8	2.70	ZZ
UNXCCK		607.5	17.2	0.59	621.0	22.3	0.75	ZZ
WCYZB	X	476.2	-114.1	-3.90	488.2	-110.5	-3.73	ZZ
WKWTN		584.9	-5.4	-0.18	589.8	-8.9	-0.30	ZZ
WNTCPP		591.0	0.7	0.02	591.0	-7.7	-0.26	ZZ
WX3CA6		589.3	-1.0	-0.03	603.2	4.5	0.15	ZZ
XMR8Z8		586.0	-4.3	-0.15	589.0	-9.7	-0.33	ZZ
YA6J38		606.5	16.2	0.55	612.0	13.3	0.45	ZZ
YG3B9F		580.5	-9.8	-0.33	580.0	-18.7	-0.63	ZZ
ZBT3A7		577.5	-12.8	-0.44	586.5	-12.2	-0.41	ZZ
ZC4ZC2		576.0	-14.3	-0.49	591.0	-7.7	-0.26	ZZ
ZCJPPA		596.0	5.7	0.19	592.0	-6.7	-0.23	ZZ
ZLWPAB		605.5	15.2	0.52	605.0	6.3	0.21	ZZ
ZNE2YZ		568.5	-21.8	-0.74	572.0	-26.7	-0.90	ZZ
ZYWKH		595.5	5.2	0.18	596.5	-2.2	-0.07	ZZ

## Summary Statistics

Grand Means

590.29 percent

598.69 percent

Std Dev Btw Labs

29.30 percent

29.61 percent

Statistics based on 93 of 98 reporting participants

Samples A41-A42: Polyisoprene compound, batch #1 &amp; A43-A44: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #606**

3QVGDJ (X) - Data for all Samples are low. Possible systematic error.

4PLP43 (X) - Inconsistency in testing between Sample groups. Inconsistent in testing within Sample group A43-A44.

73WAAZ (X) - Inconsistency in testing between Sample groups.

DNVE8K (X) - Data for all Samples are low. Possible systematic error.

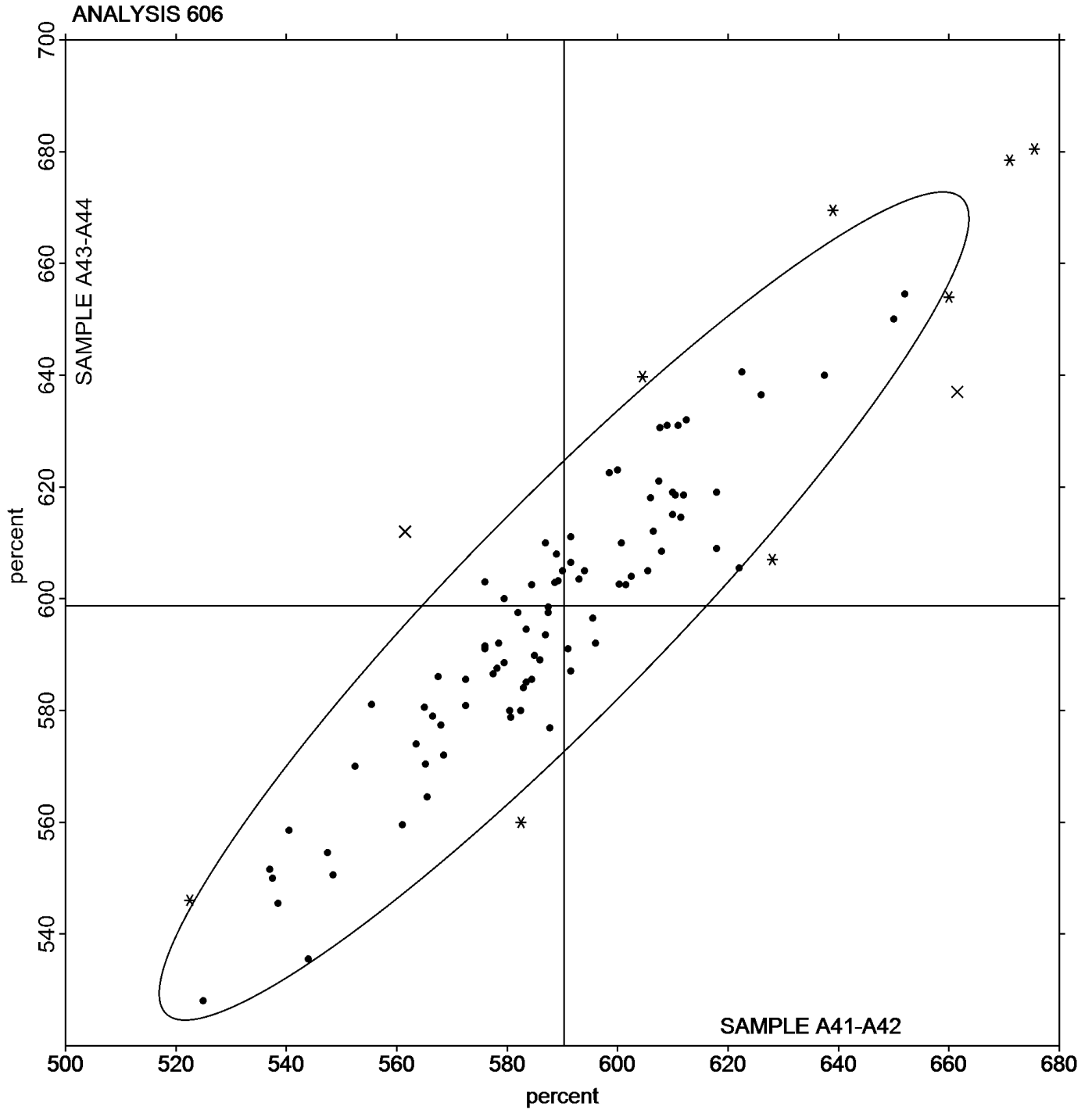
WCYZBQ (X) - Data for all Samples are low. Possible systematic error.

Analysis 606

Ultimate Elongation (percent)

Grand Mean Sample A41-A42 = 590.29 percent

Grand Mean Sample A43-A44 = 598.69 percent



## Analysis 607

## Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		1,143.5	30.9	0.46	1,099.5	39.3	0.58	ZZ
2DH7PB		1,214.0	101.4	1.52	1,133.5	73.3	1.08	ZZ
2XFDKF		1,056.0	-56.6	-0.85	1,035.5	-24.7	-0.36	ZZ
3EAJRU		1,171.0	58.4	0.87	1,095.5	35.3	0.52	ZZ
3MXXBL		1,098.7	-14.0	-0.21	1,072.6	12.3	0.18	ZZ
3QVGDJ	X	1,518.0	405.4	6.06	1,499.0	438.8	6.45	ZZ
4A7N6R		1,159.0	46.4	0.69	1,079.5	19.3	0.28	ZZ
4HF7MP	X	1,355.0	242.4	3.62	1,315.0	254.8	3.74	ZZ
6GLRRK	X	878.8	-233.9	-3.50	889.3	-171.0	-2.51	ZZ
6NM23J		1,170.0	57.4	0.86	1,099.0	38.8	0.57	ZZ
7HQRAW		1,015.5	-97.1	-1.45	998.0	-62.2	-0.91	ZZ
7LY9ZU		1,117.5	4.9	0.07	1,055.0	-5.2	-0.08	ZZ
7QPCHJ		962.0	-150.6	-2.25	905.0	-155.2	-2.28	ZZ
7VGLK6		1,042.0	-70.6	-1.06	1,015.5	-44.7	-0.66	ZZ
83WY8M		1,137.5	24.9	0.37	1,050.5	-9.7	-0.14	ZZ
8FJUEU		1,135.0	22.4	0.33	1,055.5	-4.7	-0.07	ZZ
9CXCR3		1,133.5	20.9	0.31	1,081.0	20.8	0.30	ZZ
APJ977	*	1,134.5	21.9	0.33	1,167.0	106.8	1.57	ZZ
ARR9FJ		1,096.0	-16.6	-0.25	991.8	-68.5	-1.01	ZZ
B4LF28	*	1,290.0	177.4	2.65	1,206.5	146.3	2.15	ZZ
BHGYEP		1,117.2	4.6	0.07	1,064.9	4.7	0.07	ZZ
BRHND9		1,195.1	82.5	1.23	1,125.5	65.3	0.96	ZZ
BWTY8N		1,123.2	10.5	0.16	1,051.9	-8.4	-0.12	ZZ
CFMUJB		1,026.0	-86.6	-1.30	992.0	-68.2	-1.00	ZZ
CHTDKR		1,217.0	104.4	1.56	1,154.0	93.8	1.38	ZZ
DB4E8P		1,121.2	8.5	0.13	1,041.4	-18.9	-0.28	ZZ
DHVD7D		1,037.8	-74.9	-1.12	1,033.4	-26.8	-0.39	ZZ
DJKLEU		1,210.6	98.0	1.47	1,166.7	106.4	1.56	ZZ
DLLVYV		1,057.5	-55.1	-0.82	1,031.5	-28.7	-0.42	ZZ
DNHVBU		1,125.0	12.4	0.18	1,057.0	-3.2	-0.05	ZZ
DNVE8K	X	1,576.6	463.9	6.94	1,493.9	433.7	6.37	ZZ
DQY72J		1,048.5	-64.1	-0.96	1,055.5	-4.7	-0.07	ZZ
DRW8V		1,087.5	-25.1	-0.38	1,084.5	24.3	0.36	ZZ
EGA7FM		1,052.5	-60.1	-0.90	1,013.5	-46.7	-0.69	ZZ
EQWY8P		1,159.5	46.9	0.70	1,067.0	6.8	0.10	ZZ
FCWZW		1,086.0	-26.6	-0.40	1,007.0	-53.2	-0.78	ZZ
FWXCTT		1,098.5	-14.1	-0.21	1,023.0	-37.2	-0.55	ZZ
G2CX9Y		1,144.7	32.0	0.48	1,086.3	26.0	0.38	ZZ
G6UZDJ		1,037.5	-75.1	-1.12	953.5	-106.7	-1.57	ZZ

## Analysis 607

## Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
G9U9KE		1,119.0	6.3	0.09	1,082.0	21.7	0.32	ZZ
GK2CP9		1,150.0	37.4	0.56	1,095.0	34.8	0.51	ZZ
GTWGE4	X	1,319.5	206.9	3.09	1,316.0	255.8	3.76	ZZ
H7UU7K		1,043.5	-69.1	-1.03	973.0	-87.2	-1.28	ZZ
HPFY8K	X	735.0	-377.6	-5.65	691.0	-369.2	-5.43	ZZ
HRYAP		1,050.5	-62.1	-0.93	1,058.0	-2.2	-0.03	ZZ
J9LLW3		1,056.5	-56.1	-0.84	1,002.5	-57.7	-0.85	ZZ
JG27F2	*	1,266.0	153.4	2.29	1,165.0	104.8	1.54	ZZ
JLBXFL		1,008.0	-104.6	-1.56	965.2	-95.0	-1.40	ZZ
JNHB2U		1,086.7	-25.9	-0.39	1,048.3	-11.9	-0.17	ZZ
JP8TQ9		1,121.5	8.9	0.13	1,041.0	-19.2	-0.28	ZZ
JXZATC		1,109.6	-3.0	-0.05	1,021.3	-39.0	-0.57	ZZ
JYUZYT		1,177.0	64.3	0.96	1,104.8	44.6	0.65	ZZ
JZA3KD		1,116.3	3.6	0.05	1,040.9	-19.4	-0.29	ZZ
K3W9TT		1,070.4	-42.2	-0.63	1,012.2	-48.0	-0.71	ZZ
K6DKJH		1,196.6	83.9	1.26	1,126.2	66.0	0.97	ZZ
KAUFE3		1,031.7	-80.9	-1.21	999.6	-60.6	-0.89	ZZ
KFZ8NZ		1,163.5	50.9	0.76	1,147.5	87.3	1.28	ZZ
KWM23Q		1,038.0	-74.6	-1.12	951.5	-108.7	-1.60	ZZ
LAMNZR		1,006.5	-106.1	-1.59	949.0	-111.2	-1.63	ZZ
LH3KNY		1,113.2	0.5	0.01	1,116.5	56.2	0.83	ZZ
LRMBAH		1,162.5	49.9	0.75	1,161.8	101.5	1.49	ZZ
MPEX7U		1,090.7	-21.9	-0.33	1,047.2	-13.1	-0.19	ZZ
MR3EG3		1,055.0	-57.6	-0.86	1,030.0	-30.2	-0.44	ZZ
NBEL64		1,160.0	47.4	0.71	1,110.0	49.8	0.73	ZZ
NM8ZBR		1,119.5	6.9	0.10	1,073.0	12.8	0.19	ZZ
NN26QD		1,127.5	14.9	0.22	1,059.0	-1.2	-0.02	ZZ
NXQ2JR		1,015.0	-97.6	-1.46	955.0	-105.2	-1.55	ZZ
PDZMR3	*	1,129.5	16.9	0.25	1,152.5	92.3	1.36	ZZ
PX4HBT		1,084.0	-28.6	-0.43	1,050.0	-10.2	-0.15	ZZ
PZ7BBJ		1,096.9	-15.8	-0.24	1,076.8	16.6	0.24	ZZ
Q9CJ6P		1,219.7	107.0	1.60	1,103.9	43.7	0.64	ZZ
QAR27A	*	1,272.9	160.2	2.40	1,228.8	168.6	2.48	ZZ
QDBE7H		1,094.0	-18.6	-0.28	1,053.0	-7.2	-0.11	ZZ
QLKKMZ	X	595.5	-517.1	-7.73	550.0	-510.2	-7.50	ZZ
QUEK4E		1,136.5	23.9	0.36	1,046.5	-13.7	-0.20	ZZ
QVFD7T		1,037.0	-75.6	-1.13	986.3	-74.0	-1.09	ZZ
RH4BD4	*	954.0	-158.6	-2.37	858.5	-201.7	-2.96	ZZ
TZWTKA		1,069.0	-43.6	-0.65	1,024.5	-35.7	-0.53	ZZ

Analysis 607

Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UNXCCK		1,081.5	-31.1	-0.47	1,009.0	-51.2	-0.75	ZZ
WCYZB	X	1,437.3	324.7	4.86	1,391.6	331.4	4.87	ZZ
WKWTN		1,203.9	91.3	1.37	1,187.8	127.5	1.87	ZZ
WNTCPP		1,140.3	27.6	0.41	1,114.6	54.4	0.80	ZZ
WX3CA6		1,157.0	44.4	0.66	1,055.7	-4.5	-0.07	ZZ
XMR8Z8		1,092.9	-19.8	-0.30	976.1	-84.1	-1.24	ZZ
YA6J38		1,001.5	-111.1	-1.66	937.7	-122.6	-1.80	ZZ
YG3B9F		1,185.7	73.1	1.09	1,142.9	82.7	1.21	ZZ
ZBT3A7		1,182.5	69.9	1.04	1,132.5	72.3	1.06	ZZ
ZC4ZC2		1,118.0	5.4	0.08	1,084.5	24.3	0.36	ZZ
ZCJPPA		1,133.5	20.9	0.31	1,092.0	31.8	0.47	ZZ
ZLWPAB		1,128.0	15.4	0.23	1,060.0	-0.2	0.00	ZZ
ZNE2YZ		1,144.5	31.9	0.48	1,093.0	32.8	0.48	ZZ
ZYWKH		1,123.0	10.4	0.16	1,109.5	49.3	0.72	ZZ

Summary Statistics	
Grand Means	1,112.63 psi      1,060.25 psi
Std Dev Btwn Labs	66.86 psi      68.06 psi
Statistics based on 84 of 92 reporting participants	

Summary Statistics in SI Units	
Grand Means	7.6713 MPa      7.31 MPa
Std Dev Btwn Labs	0.4610 MPa      0.47 MPa
Statistics based on 84 of 92 reporting participants	

Samples A41-A42: Polyisoprene compound, batch #1 & A43-A44: Polyisoprene compound, batch #2



## Analysis 607

Stress at 300% Elongation (psi)

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**Comments on assigned Data Flags for Test #607**

3QVGDJ (X) - Data for all Samples are high. Possible systematic error. Inconsistency in testing within Sample group A41-A42.

4HF7MP (X) - Data for all Samples are high. Possible systematic error.

6GLRRK (X) - Inconsistency in testing between Sample groups. Data for Sample group A41-A42 are low.

DNVE8K (X) - Data for all Samples are high. Possible systematic error.

GTWGE4 (X) - Data for all Samples are high. Possible systematic error.

HPFY8K (X) - Data for all Samples are low. Possible systematic error.

QLKKMZ (X) - Data for all Samples are low. Possible systematic error.

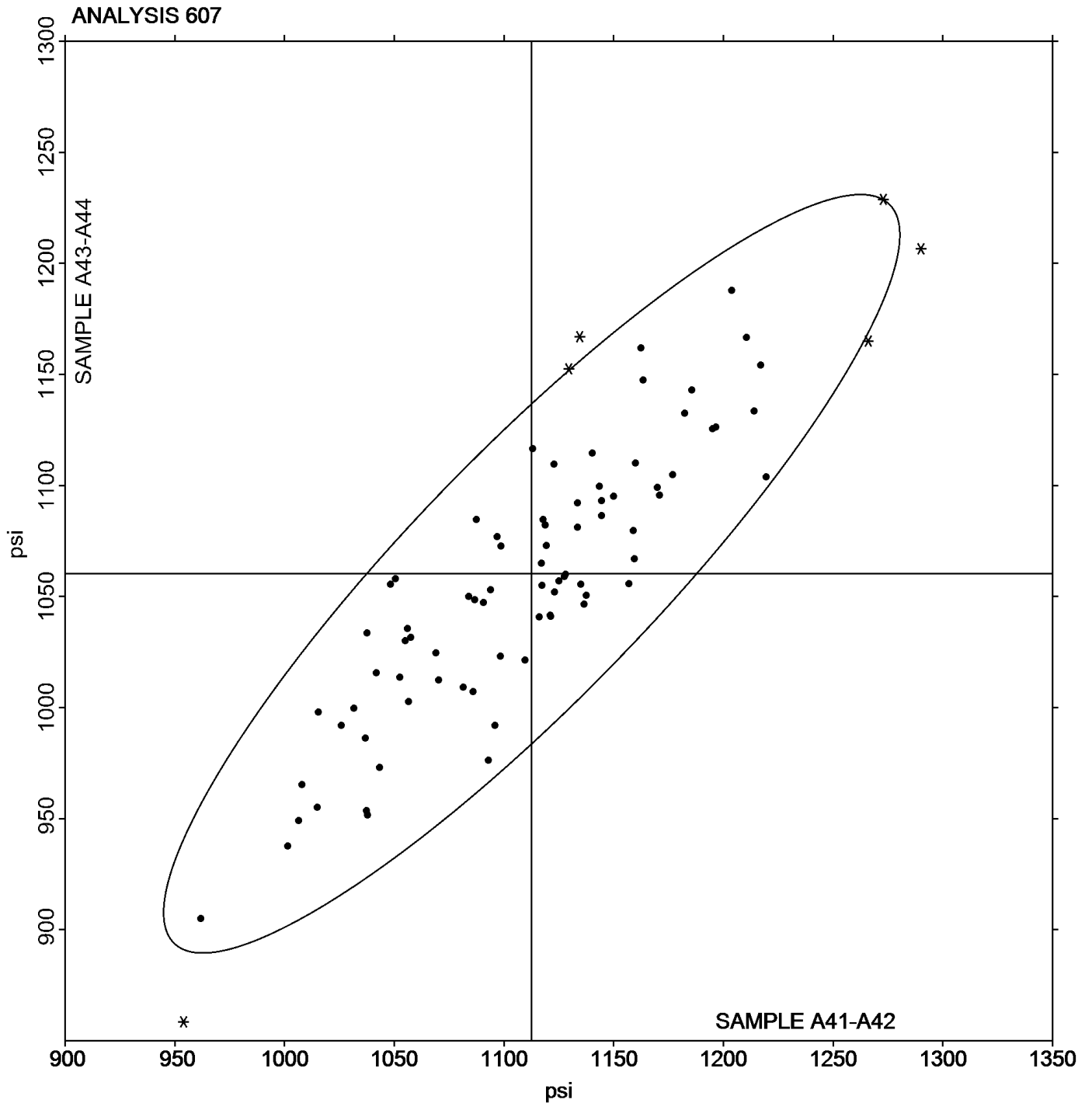
WCYZBQ (X) - Data for all Samples are high. Possible systematic error.

Analysis 607

Stress at 300% Elongation (psi)

Grand Mean Sample A41-A42 = 1,112.63 psi

Grand Mean Sample A43-A44 = 1,060.25 psi



## Rubber Interlaboratory Testing Program

## Analysis 608

## Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		245.0	0.8	0.05	237.0	3.7	0.24	ZZ
2DH7PB		254.5	10.3	0.68	236.5	3.2	0.21	ZZ
2XFDKF		247.0	2.8	0.19	244.5	11.2	0.72	ZZ
3EAJRU		266.0	21.8	1.45	251.0	17.7	1.13	ZZ
3MXXBL		241.5	-2.7	-0.18	232.1	-1.2	-0.08	ZZ
3QVGDJ	*	277.5	33.3	2.21	275.0	41.7	2.67	ZZ
4A7N6R		246.5	2.3	0.15	230.5	-2.8	-0.18	ZZ
4HF7MP	X	336.0	91.8	6.09	333.0	99.7	6.39	ZZ
4QFJPE	X	211.5	-32.7	-2.17	229.0	-4.3	-0.27	ZZ
6GLRRK	X	204.5	-39.7	-2.63	220.3	-13.0	-0.83	ZZ
6NM23J		254.5	10.3	0.68	240.0	6.7	0.43	ZZ
7HQRAW		222.8	-21.4	-1.42	219.5	-13.8	-0.88	ZZ
7LY9ZU		240.5	-3.7	-0.24	227.5	-5.8	-0.37	ZZ
7QPCHJ		211.5	-32.7	-2.17	202.0	-31.3	-2.00	ZZ
7VGLK6		231.5	-12.7	-0.84	226.0	-7.3	-0.47	ZZ
83WY8M		234.0	-10.2	-0.67	221.0	-12.3	-0.79	ZZ
8FJUEU		241.5	-2.7	-0.18	223.5	-9.8	-0.63	ZZ
9CXC3R3	*	280.5	36.3	2.41	258.0	24.7	1.58	ZZ
APJ977		246.0	1.8	0.12	242.0	8.7	0.56	ZZ
ARR9FJ		239.5	-4.7	-0.31	217.4	-15.9	-1.02	ZZ
B4LF28		265.5	21.3	1.41	249.0	15.7	1.01	ZZ
BHGYEP		236.1	-8.1	-0.54	231.2	-2.1	-0.13	ZZ
BRHND9		263.2	19.1	1.26	250.9	17.6	1.13	ZZ
BWTY8N		243.7	-0.5	-0.04	220.7	-12.6	-0.81	ZZ
CFMUJB		227.0	-17.2	-1.14	220.5	-12.8	-0.82	ZZ
CHTDKR		250.5	6.3	0.42	239.0	5.7	0.37	ZZ
DB4E8P		253.1	8.9	0.59	231.3	-1.9	-0.12	ZZ
DHVD7D		235.0	-9.2	-0.61	235.0	1.7	0.11	ZZ
DJKLEU		251.1	6.9	0.46	244.1	10.8	0.69	ZZ
DLLVYV		230.5	-13.7	-0.91	218.0	-15.3	-0.98	ZZ
DNHVBU		247.5	3.3	0.22	232.0	-1.3	-0.08	ZZ
DNVE8K	*	288.6	44.4	2.95	278.5	45.2	2.89	ZZ
DQY72J	*	229.5	-14.7	-0.97	236.5	3.2	0.21	ZZ
DRW8V		239.0	-5.2	-0.34	236.5	3.2	0.21	ZZ
EGA7FM		217.0	-27.2	-1.80	207.5	-25.8	-1.65	ZZ
EQWY8P		261.5	17.3	1.15	243.5	10.2	0.65	ZZ
FCWZW		234.5	-9.7	-0.64	217.5	-15.8	-1.01	ZZ
FWXCTT		230.0	-14.2	-0.94	217.0	-16.3	-1.04	ZZ
G2CX9Y		264.5	20.3	1.34	254.8	21.5	1.38	ZZ

## Rubber Interlaboratory Testing Program

## Analysis 608

## Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
G6UZDJ	*	278.0	33.8	2.24	254.0	20.7	1.33	ZZ
G9U9KE		239.3	-4.9	-0.32	235.7	2.4	0.15	ZZ
GK2CP9		244.0	-0.2	-0.01	231.0	-2.3	-0.15	ZZ
GTWGE4	X	287.5	43.3	2.87	288.5	55.2	3.54	ZZ
H7UU7K		226.5	-17.7	-1.17	210.5	-22.8	-1.46	ZZ
HPFY8K	X	168.0	-76.2	-5.05	156.5	-76.8	-4.92	ZZ
HRYAP		265.0	20.8	1.38	260.0	26.7	1.71	ZZ
J9LLW3		226.5	-17.7	-1.17	217.5	-15.8	-1.01	ZZ
JG27F2		250.5	6.3	0.42	227.0	-6.3	-0.40	ZZ
JLBXFL		229.9	-14.3	-0.95	218.3	-15.0	-0.96	ZZ
JNHB2U		230.7	-13.5	-0.89	227.1	-6.1	-0.39	ZZ
JP8TQ9		237.5	-6.7	-0.44	221.5	-11.8	-0.75	ZZ
JXZATC		233.6	-10.6	-0.70	220.7	-12.6	-0.81	ZZ
JYUZYT		255.4	11.3	0.75	237.7	4.5	0.29	ZZ
JZA3KD		238.9	-5.3	-0.35	224.5	-8.8	-0.56	ZZ
K3W9TT		233.0	-11.2	-0.74	227.5	-5.8	-0.37	ZZ
K6DKJH		253.8	9.6	0.64	234.2	1.0	0.06	ZZ
KAUFE3		227.9	-16.3	-1.08	220.4	-12.9	-0.83	ZZ
KFZ8NZ		242.5	-1.7	-0.11	240.5	7.2	0.46	ZZ
KWM23Q		233.5	-10.7	-0.71	214.5	-18.8	-1.20	ZZ
LAMNZR		229.0	-15.2	-1.01	217.5	-15.8	-1.01	ZZ
LH3KNY		246.6	2.4	0.16	250.0	16.7	1.07	ZZ
LRMBAH		247.3	3.1	0.21	250.2	16.9	1.08	ZZ
MPEX7U		231.3	-12.8	-0.85	223.4	-9.9	-0.64	ZZ
MR3EG3		235.0	-9.2	-0.61	236.5	3.2	0.21	ZZ
NBEL64		248.0	3.8	0.25	234.0	0.7	0.05	ZZ
NM8ZBR		237.5	-6.7	-0.44	229.0	-4.3	-0.27	ZZ
NN26QD		249.0	4.8	0.32	237.0	3.7	0.24	ZZ
NXQ2JR		218.5	-25.7	-1.70	206.0	-27.3	-1.75	ZZ
PDZMR3		246.5	2.3	0.15	246.0	12.7	0.81	ZZ
PX4HBT		240.0	-4.2	-0.28	233.5	0.2	0.01	ZZ
PZ7BBJ		238.0	-6.2	-0.41	231.6	-1.7	-0.11	ZZ
Q9CJ6P		256.4	12.2	0.81	231.2	-2.1	-0.13	ZZ
QAR27A		262.4	18.3	1.21	250.3	17.0	1.09	ZZ
QDBE7H		241.5	-2.7	-0.18	239.0	5.7	0.37	ZZ
QLKKMZ	X	150.5	-93.7	-6.21	137.0	-96.3	-6.17	ZZ
QUEK4E		243.5	-0.7	-0.05	226.0	-7.3	-0.47	ZZ
QVFD7T		246.6	2.4	0.16	217.6	-15.7	-1.01	ZZ
RH4BD4		233.0	-11.2	-0.74	212.0	-21.3	-1.36	ZZ

Analysis 608

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
TZWTKA		254.5	10.3	0.68	240.5	7.2	0.46	ZZ
UNXCCK		237.0	-7.2	-0.48	218.5	-14.8	-0.95	ZZ
WCYZB	*	282.1	37.9	2.51	274.8	41.6	2.66	ZZ
WKWTN		258.7	14.5	0.96	256.0	22.7	1.45	ZZ
WNTCPP		256.9	12.7	0.84	249.3	16.0	1.03	ZZ
WX3CA6		242.6	-1.6	-0.10	222.7	-10.6	-0.68	ZZ
XMR8Z8		229.2	-15.0	-1.00	213.2	-20.1	-1.29	ZZ
YA6J38		211.8	-32.4	-2.15	200.9	-32.4	-2.07	ZZ
YG3B9F		247.3	3.1	0.21	239.3	6.0	0.39	ZZ
ZBT3A7		247.0	2.8	0.19	238.5	5.2	0.33	ZZ
ZC4ZC2		239.5	-4.7	-0.31	238.5	5.2	0.33	ZZ
ZCJPPA		240.5	-3.7	-0.24	234.5	1.2	0.08	ZZ
ZLWPAB		243.0	-1.2	-0.08	228.5	-4.8	-0.31	ZZ
ZNE2YZ		255.0	10.8	0.72	248.0	14.7	0.94	ZZ
ZYWKH		254.5	10.3	0.68	252.0	18.7	1.20	ZZ

Summary Statistics			
Grand Means	244.18 psi	233.28 psi	
Std Dev Btwn Labs	15.09 psi	15.61 psi	
Statistics based on 87 of 93 reporting participants			

Summary Statistics in SI Units			
Grand Means	1.6836 MPa	1.61 MPa	
Std Dev Btwn Labs	0.1040 MPa	0.11 MPa	
Statistics based on 87 of 93 reporting participants			

Samples A41-A42: Polyisoprene compound, batch #1 & A43-A44: Polyisoprene compound, batch #2

## Analysis 608

Stress at 100% Elongation (psi)

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**Comments on assigned Data Flags for Test #608**

4HF7MP (X) - Data for all Samples are high. Possible systematic error.

4QFJPE (X) - Inconsistency in testing between Sample groups. Inconsistent in testing within Sample group A41-A42.

6GLRRK (X) - Inconsistency in testing between Sample groups.

GTWGE4 (X) - Data for all Samples are high. Possible systematic error.

HPFY8K (X) - Data for all Samples are low. Possible systematic error.

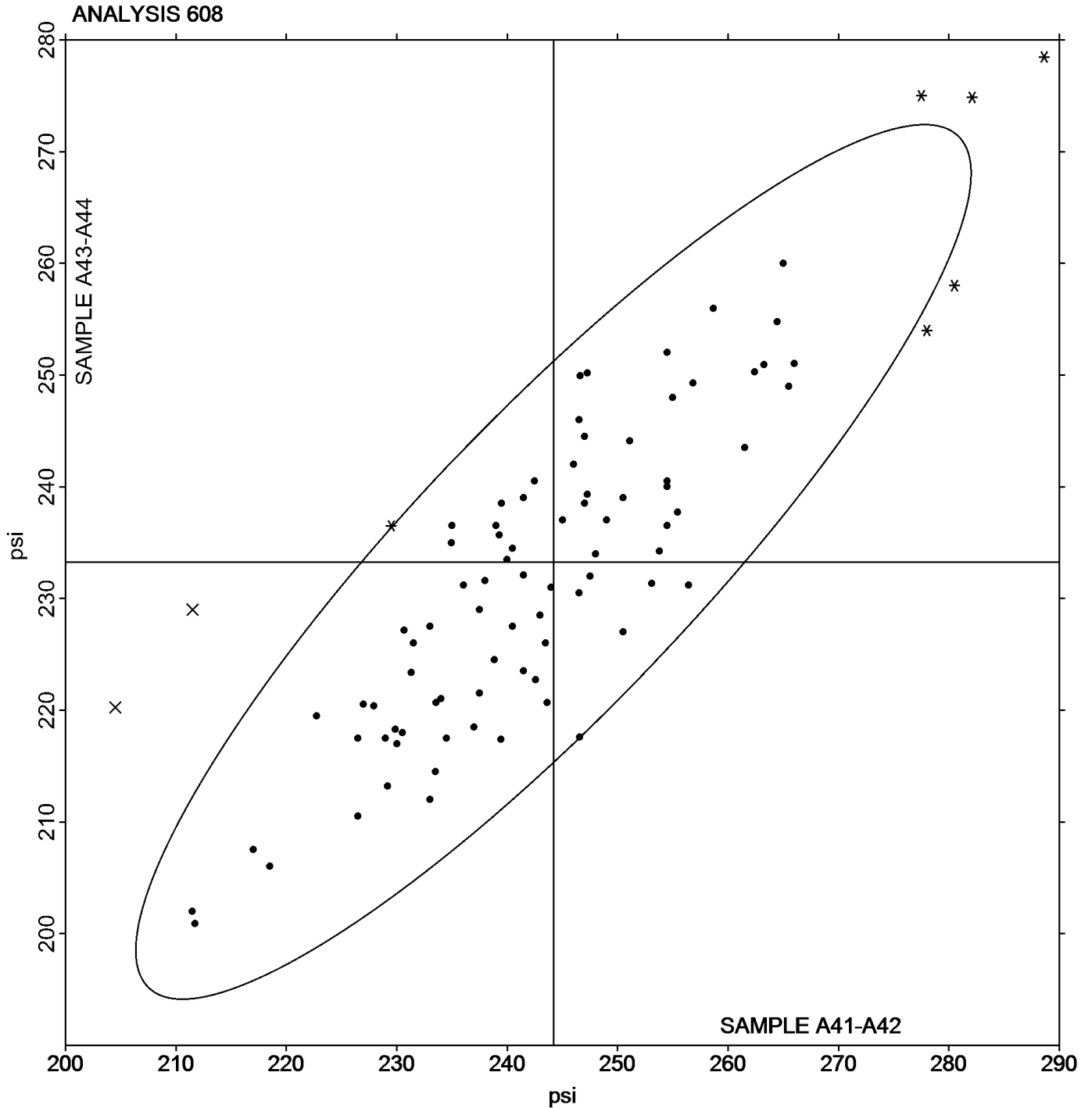
QLKKMZ (X) - Data for all Samples are low. Possible systematic error.

Analysis 608

Stress at 100% Elongation (psi)

Grand Mean Sample A41-A42 = 244.18 psi

Grand Mean Sample A43-A44 = 233.28 psi



## Rubber Interlaboratory Testing Program

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		52.00	-0.13	-0.08	51.00	-0.51	-0.32	ZZ
2DH7PB		51.00	-1.13	-0.71	50.50	-1.01	-0.64	ZZ
2XFDKF		50.00	-2.13	-1.34	49.50	-2.01	-1.26	ZZ
3EAJRU		52.90	0.77	0.48	52.20	0.69	0.43	ZZ
3MXXBL		52.00	-0.13	-0.08	51.50	-0.01	-0.01	ZZ
3QVGDJ		50.15	-1.98	-1.25	50.70	-0.81	-0.51	ZZ
4A7N6R		53.50	1.37	0.86	53.50	1.99	1.25	ZZ
4HF7MP		51.50	-0.63	-0.40	51.00	-0.51	-0.32	ZZ
4PLP43		50.40	-1.73	-1.09	49.00	-2.51	-1.58	ZZ
4QFJPE		51.00	-1.13	-0.71	52.00	0.49	0.31	ZZ
6GLRRK	*	49.50	-2.63	-1.66	51.00	-0.51	-0.32	ZZ
6NM23J		52.00	-0.13	-0.08	52.00	0.49	0.31	ZZ
7348Z4		53.00	0.87	0.55	52.00	0.49	0.31	ZZ
73WAAZ		53.65	1.52	0.96	53.35	1.84	1.15	ZZ
7HQRAW		51.50	-0.63	-0.40	52.00	0.49	0.31	ZZ
7LY9ZU		52.00	-0.13	-0.08	51.00	-0.51	-0.32	ZZ
7QPCHJ	*	48.00	-4.13	-2.60	48.00	-3.51	-2.21	ZZ
7VGLK6		51.20	-0.93	-0.59	50.60	-0.91	-0.57	ZZ
83WY8M		52.00	-0.13	-0.08	51.00	-0.51	-0.32	ZZ
8FJUEU		55.50	3.37	2.12	55.00	3.49	2.19	ZZ
9CXCR3	*	56.50	4.37	2.75	55.00	3.49	2.19	ZZ
APJ977		52.50	0.37	0.23	51.00	-0.51	-0.32	ZZ
ARR9FJ		53.85	1.72	1.08	51.75	0.24	0.15	ZZ
B4LF28		51.00	-1.13	-0.71	50.50	-1.01	-0.64	ZZ
BHGYEP		53.00	0.87	0.55	52.35	0.84	0.53	ZZ
BRHND9		51.45	-0.68	-0.43	51.50	-0.01	-0.01	ZZ
BWTY8N		51.50	-0.63	-0.40	49.50	-2.01	-1.26	ZZ
CFMUJB		52.75	0.62	0.39	52.00	0.49	0.31	ZZ
CHTDKR		52.00	-0.13	-0.08	51.00	-0.51	-0.32	ZZ
DB4E8P		50.50	-1.63	-1.03	49.50	-2.01	-1.26	ZZ
DHVD7D		52.00	-0.13	-0.08	51.95	0.44	0.27	ZZ
DJKLEU		53.55	1.42	0.89	52.30	0.79	0.49	ZZ
DLLVYV		51.55	-0.58	-0.37	50.05	-1.46	-0.92	ZZ
DNHVBU		51.50	-0.63	-0.40	51.00	-0.51	-0.32	ZZ
DNVE8K		50.00	-2.13	-1.34	50.00	-1.51	-0.95	ZZ
DQY72J		52.25	0.12	0.07	52.90	1.39	0.87	ZZ
DRW8V		51.50	-0.63	-0.40	52.50	0.99	0.62	ZZ
EE8NC7		50.70	-1.43	-0.90	49.75	-1.76	-1.11	ZZ
EGA7FM		53.00	0.87	0.55	53.00	1.49	0.93	ZZ



## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
EQWY8P		52.50	0.37	0.23	52.50	0.99	0.62	ZZ
EZNKTB		54.50	2.37	1.49	52.50	0.99	0.62	ZZ
FCWZW		52.75	0.62	0.39	51.80	0.29	0.18	ZZ
FWXCTT		52.00	-0.13	-0.08	52.00	0.49	0.31	ZZ
G2CX9Y	*	53.00	0.87	0.55	50.50	-1.01	-0.64	ZZ
G6UZDJ		53.05	0.92	0.58	52.50	0.99	0.62	ZZ
G9U9KE		52.00	-0.13	-0.08	50.60	-0.91	-0.57	ZZ
GK2CP9		51.50	-0.63	-0.40	50.00	-1.51	-0.95	ZZ
GTWGE4	*	55.50	3.37	2.12	55.50	3.99	2.50	ZZ
H7UU7K		52.00	-0.13	-0.08	52.00	0.49	0.31	ZZ
HAM3U9		50.00	-2.13	-1.34	49.50	-2.01	-1.26	ZZ
HPFY8K		54.00	1.87	1.18	53.50	1.99	1.25	ZZ
HRYAP		53.00	0.87	0.55	53.00	1.49	0.93	ZZ
J9LLW3		54.00	1.87	1.18	53.50	1.99	1.25	ZZ
JG27F2	*	48.50	-3.63	-2.29	49.00	-2.51	-1.58	ZZ
JLBXFL		54.00	1.87	1.18	53.00	1.49	0.93	ZZ
JNHB2U		51.50	-0.63	-0.40	50.80	-0.71	-0.45	ZZ
JP8TQ9		51.50	-0.63	-0.40	50.00	-1.51	-0.95	ZZ
JXZATC		54.50	2.37	1.49	54.00	2.49	1.56	ZZ
JYUZYT		50.50	-1.63	-1.03	50.00	-1.51	-0.95	ZZ
JZA3KD		49.50	-2.63	-1.66	48.00	-3.51	-2.21	ZZ
K3W9TT	*	47.50	-4.63	-2.92	48.00	-3.51	-2.21	ZZ
K6DKJH		53.00	0.87	0.55	52.00	0.49	0.31	ZZ
KAUFE3		52.00	-0.13	-0.08	51.50	-0.01	-0.01	ZZ
KFZ8NZ		52.00	-0.13	-0.08	51.50	-0.01	-0.01	ZZ
KWM23Q		52.00	-0.13	-0.08	52.00	0.49	0.31	ZZ
LAMNZR		53.55	1.42	0.89	52.70	1.19	0.74	ZZ
LH3KNY		55.15	3.02	1.90	55.05	3.54	2.22	ZZ
LRMBAH		55.60	3.47	2.18	55.45	3.94	2.47	ZZ
MPEX7U		53.15	1.02	0.64	52.75	1.24	0.78	ZZ
MR3EG3		51.00	-1.13	-0.71	49.50	-2.01	-1.26	ZZ
NBEL64		51.00	-1.13	-0.71	50.00	-1.51	-0.95	ZZ
NJRCTF		54.00	1.87	1.18	52.50	0.99	0.62	ZZ
NM8ZBR		51.00	-1.13	-0.71	52.00	0.49	0.31	ZZ
NN26QD		51.50	-0.63	-0.40	51.00	-0.51	-0.32	ZZ
NXQ2JR		52.25	0.12	0.07	51.25	-0.26	-0.17	ZZ
NZFQ89		51.50	-0.63	-0.40	51.50	-0.01	-0.01	ZZ
PDZMR3		53.50	1.37	0.86	53.50	1.99	1.25	ZZ
PX4HBT		52.00	-0.13	-0.08	51.50	-0.01	-0.01	ZZ

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
PZ7BBJ		52.95	0.82	0.51	52.35	0.84	0.53	ZZ
Q9CJ6P		52.70	0.57	0.36	50.90	-0.61	-0.39	ZZ
QAR27A		52.80	0.67	0.42	51.75	0.24	0.15	ZZ
QDBE7H		52.00	-0.13	-0.08	51.50	-0.01	-0.01	ZZ
QLKKMZ		52.75	0.62	0.39	51.00	-0.51	-0.32	ZZ
QUEK4E		50.65	-1.48	-0.93	49.55	-1.96	-1.23	ZZ
QVFD7T		51.00	-1.13	-0.71	50.00	-1.51	-0.95	ZZ
QZ2HLA		50.00	-2.13	-1.34	48.50	-3.01	-1.89	ZZ
RH4BD4		51.00	-1.13	-0.71	51.00	-0.51	-0.32	ZZ
TZWTKA		51.40	-0.73	-0.46	50.65	-0.86	-0.54	ZZ
UNXCCK		53.00	0.87	0.55	51.50	-0.01	-0.01	ZZ
WCYZB		55.00	2.87	1.80	55.00	3.49	2.19	ZZ
WKWTN		53.00	0.87	0.55	52.50	0.99	0.62	ZZ
WX3CA6		53.60	1.47	0.92	52.00	0.49	0.31	ZZ
XMR8Z8		50.00	-2.13	-1.34	49.00	-2.51	-1.58	ZZ
YA6J38		51.50	-0.63	-0.40	51.00	-0.51	-0.32	ZZ
YG3B9F		53.00	0.87	0.55	52.35	0.84	0.53	ZZ
Z9PAF8		50.50	-1.63	-1.03	50.50	-1.01	-0.64	ZZ
ZC4ZC2		52.50	0.37	0.23	52.00	0.49	0.31	ZZ
ZCJPPA		52.50	0.37	0.23	52.50	0.99	0.62	ZZ
ZLWPAB		53.00	0.87	0.55	51.00	-0.51	-0.32	ZZ
ZNE2YZ		53.00	0.87	0.55	52.50	0.99	0.62	ZZ
ZYWKH	X	57.00	4.87	3.06	57.00	5.49	3.44	ZZ

## Summary Statistics

Grand Means

52.133 Type A

51.514 Type A

Std Dev Btwn Labs

1.589 Type A

1.593 Type A

Statistics based on 100 of 101 reporting participants

Samples A41-A42: Polyisoprene compound, batch #1 &amp; A43-A44: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #620**

ZYWKHD (X) - Data for all Samples are high. Possible systematic error.

## Analysis 620

## Hardness (Shore A/Type A)

## Results by Reading Time (as reported by laboratory)

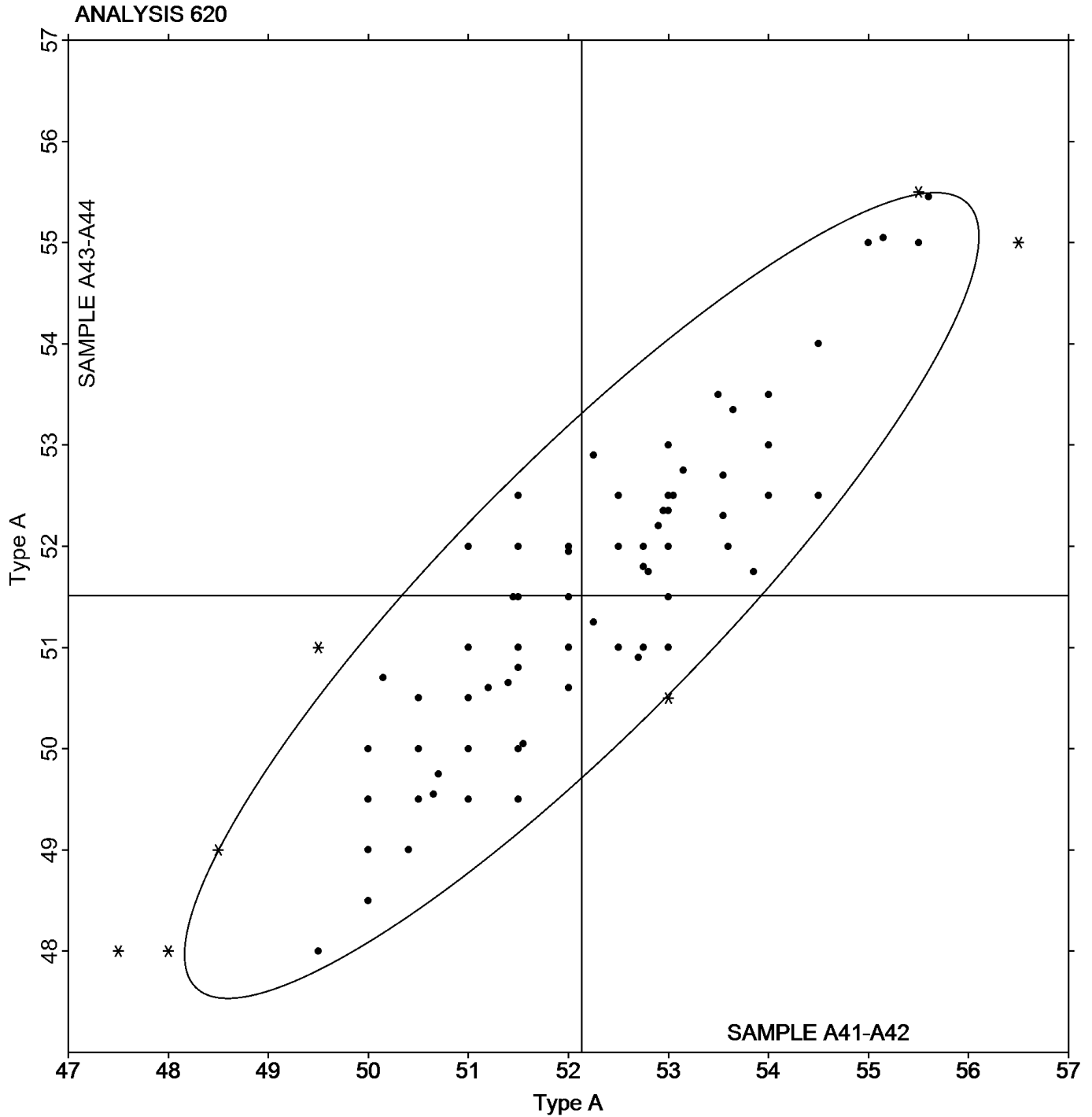
Reading Time	Sample A41 <i>Polyisoprene compound, batch #1</i>			Sample A42 <i>Polyisoprene compound, batch #1</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Select from list below	52.17	0.29	0.03	52.17	0.29	0.65	3	3
Readings taken within 0 - 5 second	52.46	1.34	0.33	51.85	1.38	0.33	67	71
Readings taken at 5 seconds	50.87	0.86	-1.27	50.08	1.30	-1.43	6	8
Readings taken after 5+ seconds	51.27	1.02	-0.87	50.49	1.40	-1.03	10	11
Maximum hardness indicator used	52.21	0.89	0.08	51.25	1.13	-0.26	7	8

Analysis 620

Hardness (Shore A/Type A)

Grand Mean Sample A41-A42 = 52.133 Type A

Grand Mean Sample A43-A44 = 51.514 Type A



## Analysis 621

## Density

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		1.137	0.001	0.21	1.136	-0.001	-0.16	ZZ
2XFDKF		1.137	0.000	0.13	1.136	0.000	-0.09	ZZ
3MXXBL		1.138	0.002	0.49	1.138	0.001	0.40	ZZ
4PLP43	X	1.052	-0.084	-23.85	1.130	-0.007	-1.89	ZZ
4QFJPE		1.139	0.002	0.57	1.140	0.003	0.79	ZZ
6GLRRK		1.136	0.000	-0.08	1.139	0.002	0.55	ZZ
6NM23J		1.136	-0.001	-0.23	1.136	-0.001	-0.28	ZZ
7348Z4		1.138	0.001	0.35	1.138	0.001	0.39	ZZ
7VGLK6	*	1.142	0.005	1.43	1.138	0.001	0.38	ZZ
83WY8M		1.141	0.004	1.17	1.138	0.002	0.46	ZZ
8FJUEU		1.139	0.003	0.72	1.139	0.002	0.51	ZZ
APJ977		1.135	-0.001	-0.40	1.137	0.000	0.00	ZZ
B4LF28		1.136	0.000	-0.11	1.136	0.000	-0.11	ZZ
BHGYEP		1.141	0.004	1.17	1.140	0.004	0.99	ZZ
BRHND9		1.136	0.000	-0.14	1.135	-0.001	-0.33	ZZ
CFMUJB		1.137	0.000	0.11	1.136	-0.001	-0.30	ZZ
DB4E8P		1.138	0.001	0.29	1.137	0.000	0.10	ZZ
DJKLEU		1.137	0.001	0.15	1.135	-0.002	-0.45	ZZ
DNHVBU		1.142	0.006	1.57	1.144	0.007	1.89	ZZ
DQY72J		1.131	-0.006	-1.70	1.132	-0.005	-1.41	ZZ
EGA7FM		1.133	-0.003	-0.94	1.135	-0.001	-0.37	ZZ
EZNKTB		1.143	0.006	1.75	1.142	0.005	1.50	ZZ
FCWZW		1.131	-0.005	-1.43	1.131	-0.006	-1.58	ZZ
FWXCTT		1.136	-0.001	-0.15	1.137	0.000	0.00	ZZ
G2CX9Y	*	1.129	-0.008	-2.26	1.127	-0.010	-2.68	ZZ
G9U9KE		1.138	0.002	0.43	1.138	0.001	0.24	ZZ
GTWGE4		1.136	0.000	-0.09	1.134	-0.003	-0.71	ZZ
H7UU7K		1.136	-0.001	-0.28	1.137	0.000	-0.04	ZZ
HAM3U9		1.139	0.002	0.57	1.138	0.001	0.38	ZZ
HPFY8K		1.139	0.002	0.57	1.138	0.002	0.50	ZZ
HRYAP		1.135	-0.001	-0.38	1.136	-0.001	-0.30	ZZ
J9LLW3		1.136	0.000	-0.12	1.136	0.000	-0.11	ZZ
JG27F2	*	1.146	0.009	2.69	1.146	0.010	2.62	ZZ
JP8TQ9		1.135	-0.002	-0.56	1.134	-0.003	-0.72	ZZ
JYUZYT		1.129	-0.008	-2.26	1.129	-0.008	-2.10	ZZ
JZA3KD		1.131	-0.005	-1.55	1.132	-0.005	-1.41	ZZ
K3W9TT		1.134	-0.002	-0.70	1.134	-0.003	-0.86	ZZ
K6DKJH		1.134	-0.003	-0.84	1.134	-0.003	-0.72	ZZ
KAUFE3		1.139	0.003	0.73	1.140	0.003	0.95	ZZ

## Analysis 621

## Density

WebCode	Data Flag	Sample A41-A42			Sample A43-A44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
LH3KNY	*	1.145	0.009	2.42	1.147	0.010	2.71	ZZ
LRMBAH	X	1.120	-0.016	-4.67	1.120	-0.017	-4.57	ZZ
NM8ZBR		1.140	0.004	1.00	1.142	0.005	1.34	ZZ
PX4HBT	X	1.135	-0.001	-0.39	1.130	-0.007	-1.81	ZZ
PZ7BBJ	X	1.150	0.014	3.89	1.158	0.022	5.92	ZZ
Q9CJ6P		1.134	-0.002	-0.63	1.137	0.000	-0.01	ZZ
QAR27A		1.135	-0.002	-0.53	1.138	0.001	0.24	ZZ
QDBE7H		1.137	0.000	0.09	1.136	-0.001	-0.17	ZZ
QLKKMZ	X	1.154	0.018	4.97	1.159	0.022	6.01	ZZ
QUEK4E		1.132	-0.004	-1.27	1.135	-0.002	-0.59	ZZ
WKWTN	*	1.136	-0.001	-0.25	1.140	0.003	0.82	ZZ
XMR8Z8		1.136	-0.001	-0.15	1.137	0.001	0.14	ZZ
YG3B9F		1.137	0.001	0.25	1.137	0.000	0.00	ZZ
Z9PAF8		1.136	-0.001	-0.16	1.138	0.001	0.38	ZZ
ZBT3A7		1.137	0.000	0.13	1.137	0.000	0.09	ZZ
ZC4ZC2	X	1.140	0.003	0.86	1.133	-0.004	-1.00	ZZ
ZCJPPA		1.138	0.001	0.35	1.137	0.000	0.09	ZZ
ZLWPAB		1.133	-0.004	-1.13	1.131	-0.006	-1.55	ZZ
ZNE2YZ		1.135	-0.001	-0.42	1.133	-0.004	-1.00	ZZ
ZYWKH		1.135	-0.002	-0.56	1.135	-0.002	-0.45	ZZ

## Summary Statistics

Grand Means

1.1365 Mg/M<sup>3</sup>1.1366 Mg/M<sup>3</sup>

Std Dev Btwn Labs

0.0035 Mg/M<sup>3</sup>0.0036 Mg/M<sup>3</sup>

Statistics based on 53 of 59 reporting participants

Samples A41-A42: Polyisoprene compound, batch #1 &amp; A43-A44: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #621**

4PLP43 (X) - Extreme data for Sample group A41-A42.

LRMBAH (X) - Data for all Samples are low. Possible systematic error.

PX4HBT (X) - Inconsistency in testing between Sample groups. Inconsistent in testing within Sample group A43-A44.

PZ7BBJ (X) - Data for all Samples are high. Possible systematic error. Inconsistency in testing within Sample group A41-A42.

QLKKMZ (X) - Data for all Samples are high. Possible systematic error.

ZC4ZC2 (X) - Inconsistency in testing between Sample groups.

Analysis 621

Density

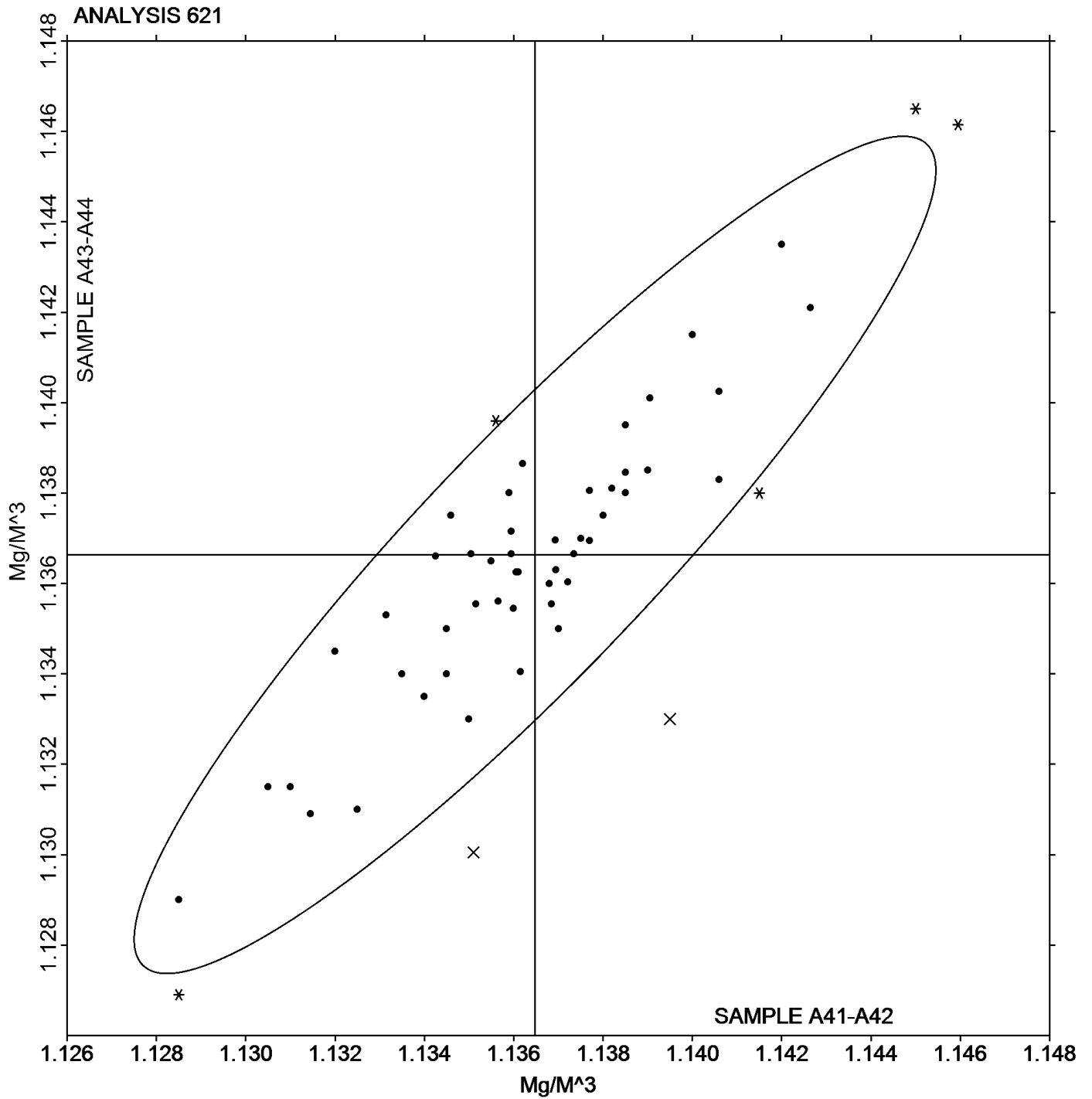
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Analysis 621

Density

Grand Mean Sample A41-A42 = 1.1365 Mg/M<sup>3</sup>

Grand Mean Sample A43-A44 = 1.1366 Mg/M<sup>3</sup>





Analysis 630

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

WebCode	Data Flag	Sample A41-A42			Sample J41-J42			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4A7N6R		3,548.8	149.4	1.19	3,179.6	-72.8	-0.40	ZZ
7LY9ZU		3,273.0	-126.4	-1.00	3,046.5	-205.8	-1.13	ZZ
BHGYEP		3,403.3	3.9	0.03	3,534.8	282.5	1.55	ZZ
BWTY8N		3,386.0	-13.4	-0.11	3,252.6	0.2	0.00	ZZ
CHTDKR		3,348.0	-51.4	-0.41	3,385.0	132.7	0.73	ZZ
DB4E8P		3,437.4	38.0	0.30	3,176.4	-76.0	-0.42	ZZ
DJKLEU		3,475.2	75.8	0.60	3,306.3	54.0	0.30	ZZ
DLLVYV		3,195.5	-203.9	-1.62	3,197.0	-55.3	-0.30	ZZ
DNHVBU		3,366.5	-32.9	-0.26	3,293.5	41.2	0.23	ZZ
DQY72J		3,277.0	-122.4	-0.97	3,066.0	-186.3	-1.02	ZZ
G2CX9Y	X	3,534.0	134.6	1.07	2,527.3	-725.1	-3.98	ZZ
HRYAP		3,225.0	-174.4	-1.38	2,914.5	-337.8	-1.85	ZZ
JP8TQ9		3,508.5	109.1	0.87	3,403.5	151.2	0.83	ZZ
JXZATC		3,349.6	-49.8	-0.40	3,150.4	-101.9	-0.56	ZZ
JYUZYT		3,474.7	75.3	0.60	3,571.1	318.8	1.75	ZZ
JZA3KD		3,368.8	-30.6	-0.24	3,396.2	143.8	0.79	ZZ
K3W9TT		3,187.7	-211.7	-1.68	3,173.7	-78.6	-0.43	ZZ
K6DKJH		3,502.7	103.3	0.82	3,169.1	-83.2	-0.46	ZZ
LAMNZR		3,498.0	98.6	0.78	3,061.0	-191.3	-1.05	ZZ
LH3KNY		3,460.3	60.9	0.48	3,416.3	164.0	0.90	ZZ
MPEX7U		3,219.9	-179.5	-1.43	3,053.1	-199.3	-1.09	ZZ
QAR27A		3,323.9	-75.5	-0.60	3,183.8	-68.5	-0.38	ZZ
QUEK4E		3,250.5	-148.9	-1.18	3,177.0	-75.3	-0.41	ZZ
QVFD7T		3,277.9	-121.5	-0.96	3,169.1	-83.2	-0.46	ZZ
UNXCCK		3,558.5	159.1	1.26	3,366.0	113.7	0.62	ZZ
WKWTN		3,608.2	208.8	1.66	3,399.4	147.1	0.81	ZZ
WNTCPP		3,449.1	49.7	0.39	3,374.6	122.2	0.67	ZZ
WX3CA6		3,502.2	102.8	0.82	3,578.0	325.7	1.79	ZZ
YG3B9F		3,643.4	244.0	1.94	3,517.9	265.6	1.46	ZZ
ZC4ZC2		3,343.0	-56.4	-0.45	2,886.5	-365.8	-2.01	ZZ
ZYWKH		3,519.0	119.6	0.95	3,171.0	-81.3	-0.45	ZZ

Summary Statistics

Grand Means

3,399.38 psi

3,252.32 psi

Std Dev Btwn Labs

125.96 psi

182.23 psi

Statistics based on 30 of 31 reporting participants

## Analysis 630

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

Summary Statistics in SI Units			
Grand Means	23.438 MPa	22.42 MPa	
Std Dev Btwn Labs	0.868 MPa	1.26 MPa	
Statistics based on 30 of 31 reporting participants			

All samples : Polyisoprene compound, batch #1

**Comments on assigned Data Flags for Test #630**

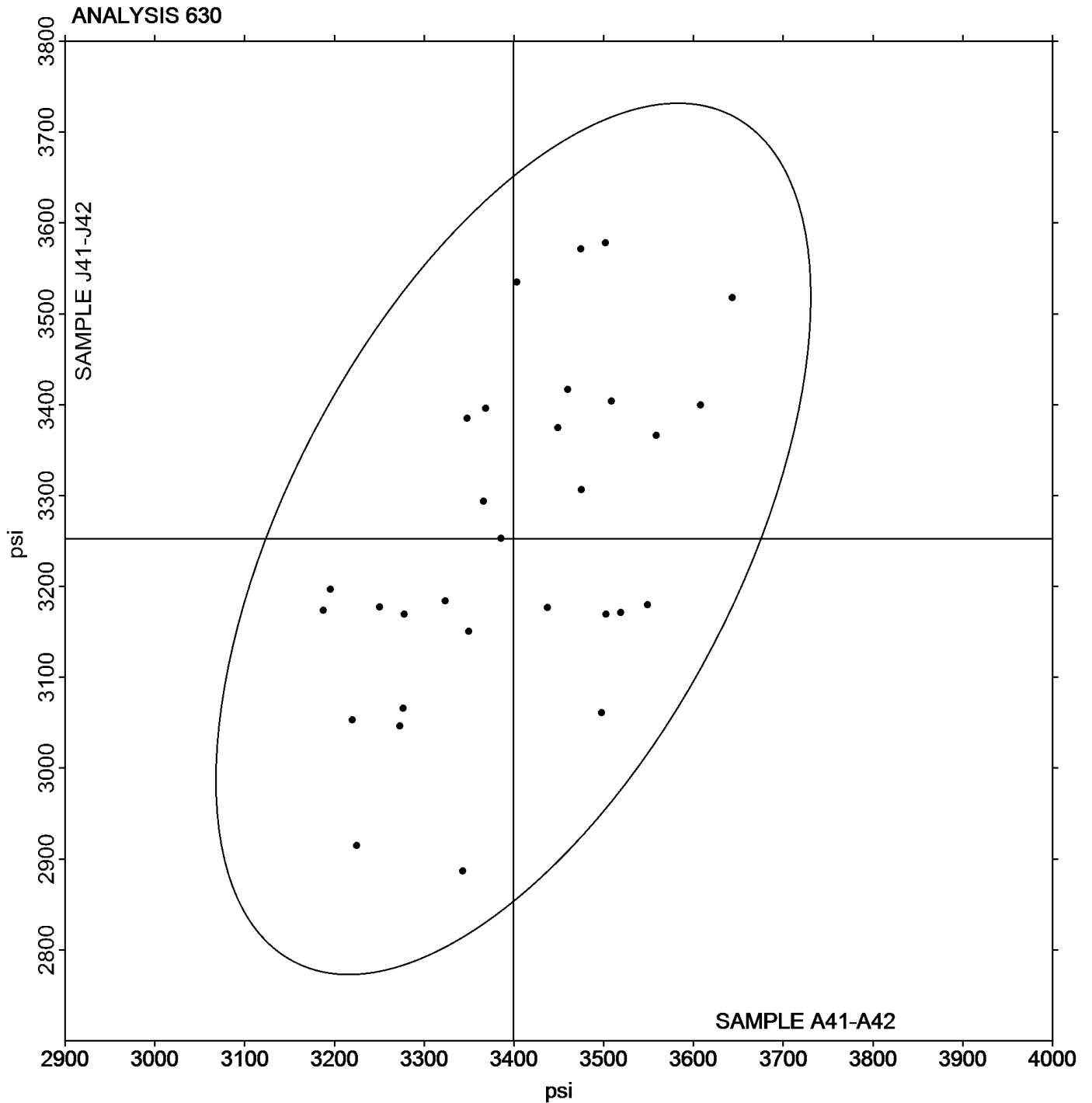
G2CX9Y (X) - Data for Sample group J41-J42 are low. Inconsistency in testing within Sample group J41-J42.

Analysis 630

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

Grand Mean Sample A41-A42 = 3,399.38 psi

Grand Mean Sample J41-J42 = 3,252.32 psi



Analysis 631

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

WebCode	Data Flag	Sample A41-A42			Sample J41-J42			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4A7N6R		602.5	13.7	0.72	603.5	10.6	0.42	ZZ
7LY9ZU		566.5	-22.3	-1.18	554.5	-38.4	-1.53	ZZ
BHGYEP		600.8	12.0	0.63	606.8	13.8	0.55	ZZ
BWY8N		588.7	-0.1	-0.01	592.9	0.0	0.00	ZZ
CHTDKR		552.5	-36.3	-1.92	557.5	-35.4	-1.41	ZZ
DB4E8P		606.0	17.2	0.91	611.5	18.6	0.74	ZZ
DJKLEU		565.3	-23.5	-1.24	555.6	-37.3	-1.49	ZZ
DLLVYV		612.5	23.7	1.25	612.5	19.6	0.78	ZZ
DNHVBU		584.5	-4.3	-0.23	593.5	0.6	0.02	ZZ
DQY72J		591.5	2.7	0.14	594.5	1.6	0.06	ZZ
G2CX9Y		600.3	11.5	0.61	584.8	-8.1	-0.32	ZZ
HRYAP		587.0	-1.8	-0.09	588.5	-4.4	-0.18	ZZ
JP8TQ9		591.5	2.7	0.14	602.0	9.1	0.36	ZZ
JXZATC		587.7	-1.0	-0.06	605.9	13.0	0.52	ZZ
JYUZYT		580.7	-8.1	-0.43	613.5	20.5	0.82	ZZ
JZA3KD		583.5	-5.3	-0.28	589.5	-3.4	-0.14	ZZ
K3W9TT		582.0	-6.8	-0.36	595.0	2.1	0.08	ZZ
K6DKJH		582.5	-6.3	-0.33	568.5	-24.4	-0.97	ZZ
LAMNZR	*	652.0	63.2	3.34	665.0	72.1	2.87	ZZ
LH3KNY		608.0	19.2	1.02	598.0	5.1	0.20	ZZ
MPEX7U		579.5	-9.3	-0.49	583.0	-9.9	-0.40	ZZ
QAR27A		547.5	-41.3	-2.18	529.0	-63.9	-2.55	ZZ
QUEK4E		583.0	-5.8	-0.31	604.0	11.1	0.44	ZZ
QVFD7T		591.5	2.7	0.14	612.5	19.6	0.78	ZZ
UNXCCK		607.5	18.7	0.99	607.5	14.6	0.58	ZZ
WKWTN		584.9	-3.9	-0.20	591.7	-1.3	-0.05	ZZ
WNTCPP		591.0	2.2	0.12	582.5	-10.4	-0.42	ZZ
WX3CA6		589.3	0.5	0.03	601.0	8.0	0.32	ZZ
YG3B9F		580.5	-8.3	-0.44	555.5	-37.4	-1.49	ZZ
ZC4ZC2		576.0	-12.8	-0.68	612.0	19.1	0.76	ZZ
ZYWKH		595.5	6.7	0.36	609.0	16.1	0.64	ZZ

Summary Statistics			
Grand Means	588.78 percent	592.94 percent	
Std Dev Btwn Labs	18.93 percent	25.07 percent	
Statistics based on 31 of 31 reporting participants			

All samples : Polyisoprene compound, batch #1

Analysis 631

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

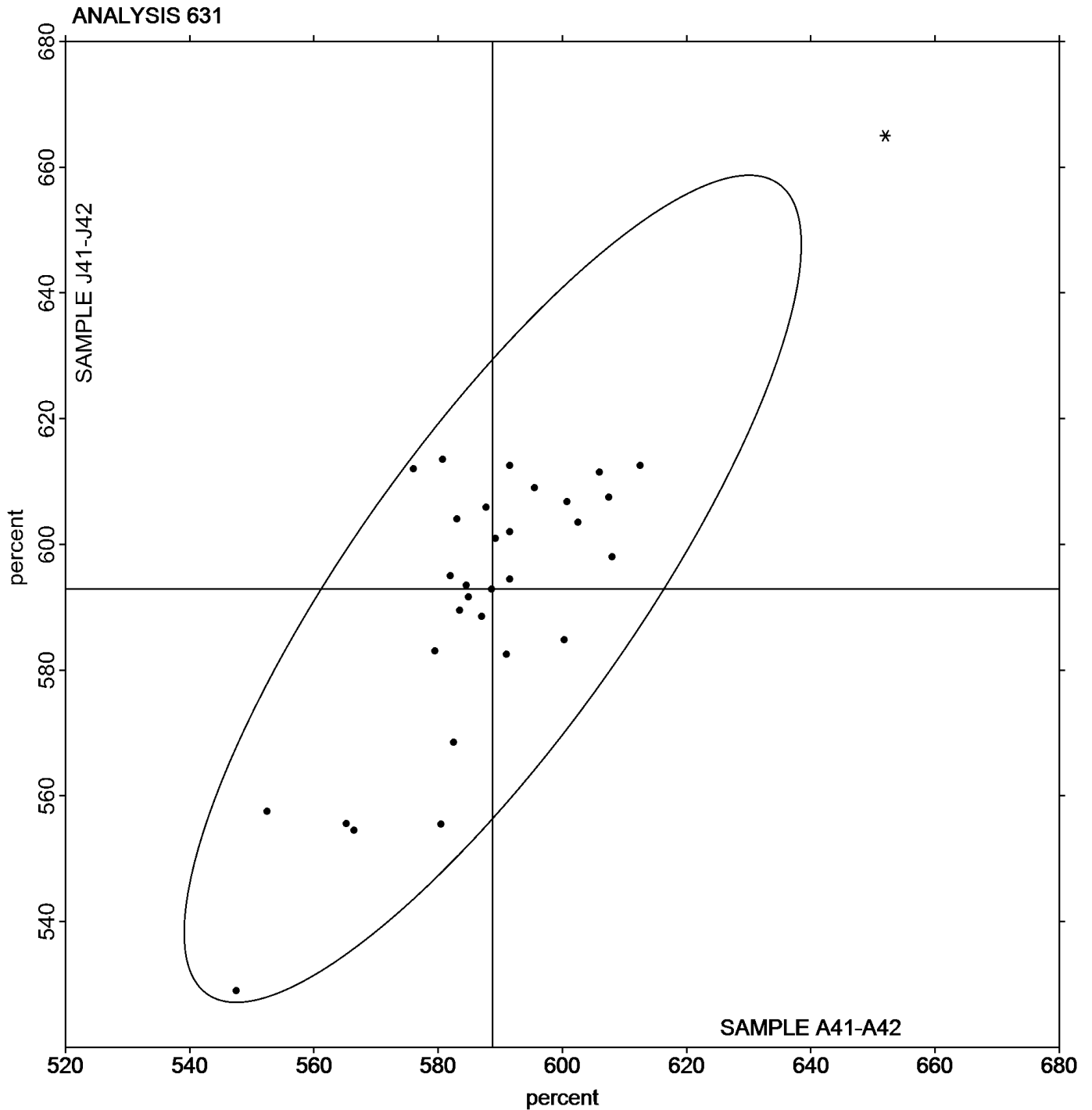
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Analysis 631

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

Grand Mean Sample A41-A42 = 588.78 percent

Grand Mean Sample J41-J42 = 592.94 percent



Analysis 632

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

WebCode	Data Flag	Sample A41-A42			Sample J41-J42			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4A7N6R		1,159.0	31.6	0.54	941.0	-101.4	-0.84	ZZ
7LY9ZU		1,117.5	-9.9	-0.17	1,038.0	-4.4	-0.04	ZZ
BHGYEP		1,117.2	-10.2	-0.17	1,170.9	128.5	1.06	ZZ
BWTY8N		1,123.2	-4.2	-0.07	1,124.8	82.3	0.68	ZZ
CHTDKR		1,217.0	89.6	1.53	1,102.5	60.1	0.49	ZZ
DB4E8P		1,121.2	-6.2	-0.11	1,024.0	-18.5	-0.15	ZZ
DJKLEU		1,210.6	83.2	1.42	1,247.1	204.6	1.69	ZZ
DLLVYV		1,057.5	-69.9	-1.20	1,054.0	11.6	0.10	ZZ
DNHVBU		1,125.0	-2.4	-0.04	1,042.5	0.1	0.00	ZZ
DQY72J		1,048.5	-78.9	-1.35	943.0	-99.4	-0.82	ZZ
G2CX9Y	*	1,144.7	17.3	0.30	802.6	-239.8	-1.97	ZZ
HRYAP		1,050.5	-76.9	-1.31	933.0	-109.4	-0.90	ZZ
JP8TQ9		1,121.5	-5.9	-0.10	1,103.5	61.1	0.50	ZZ
JXZATC		1,109.6	-17.8	-0.30	990.6	-51.8	-0.43	ZZ
JYUZYT		1,177.0	49.6	0.85	1,102.1	59.7	0.49	ZZ
JZA3KD		1,116.3	-11.1	-0.19	1,119.8	77.3	0.64	ZZ
K3W9TT		1,070.4	-57.0	-0.97	1,043.1	0.7	0.01	ZZ
K6DKJH		1,196.6	69.2	1.18	1,090.7	48.3	0.40	ZZ
LAMNZR		1,006.5	-120.9	-2.07	768.5	-273.9	-2.26	ZZ
LH3KNY		1,113.2	-14.2	-0.24	1,130.6	88.1	0.73	ZZ
MPEX7U		1,090.7	-36.7	-0.63	1,020.3	-22.1	-0.18	ZZ
QAR27A		1,272.9	145.5	2.49	1,267.0	224.6	1.85	ZZ
QUEK4E		1,136.5	9.1	0.16	1,017.0	-25.4	-0.21	ZZ
QVFD7T		1,037.0	-90.4	-1.55	906.5	-135.9	-1.12	ZZ
UNXCCK		1,081.5	-45.9	-0.78	1,018.5	-23.9	-0.20	ZZ
WKWTN		1,203.9	76.5	1.31	1,049.2	6.7	0.06	ZZ
WNTCPP		1,140.3	12.9	0.22	1,120.2	77.7	0.64	ZZ
WX3CA6		1,157.0	29.6	0.51	1,121.4	79.0	0.65	ZZ
YG3B9F		1,185.7	58.3	1.00	1,251.7	209.3	1.72	ZZ
ZC4ZC2		1,118.0	-9.4	-0.16	828.5	-213.9	-1.76	ZZ
ZYWKH		1,123.0	-4.4	-0.08	943.0	-99.4	-0.82	ZZ

Summary Statistics	
Grand Means	1,127.39 psi      1,042.43 psi
Std Dev Btwn Labs	58.48 psi      121.43 psi
Statistics based on 31 of 31 reporting participants	

## Analysis 632

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

		Summary Statistics in SI Units	
Grand Means	7.7730 MPa	7.19	MPa
Std Dev Btwn Labs	0.4032 MPa	0.84	MPa
Statistics based on 31 of 31 reporting participants			

All samples : Polyisoprene compound, batch #1

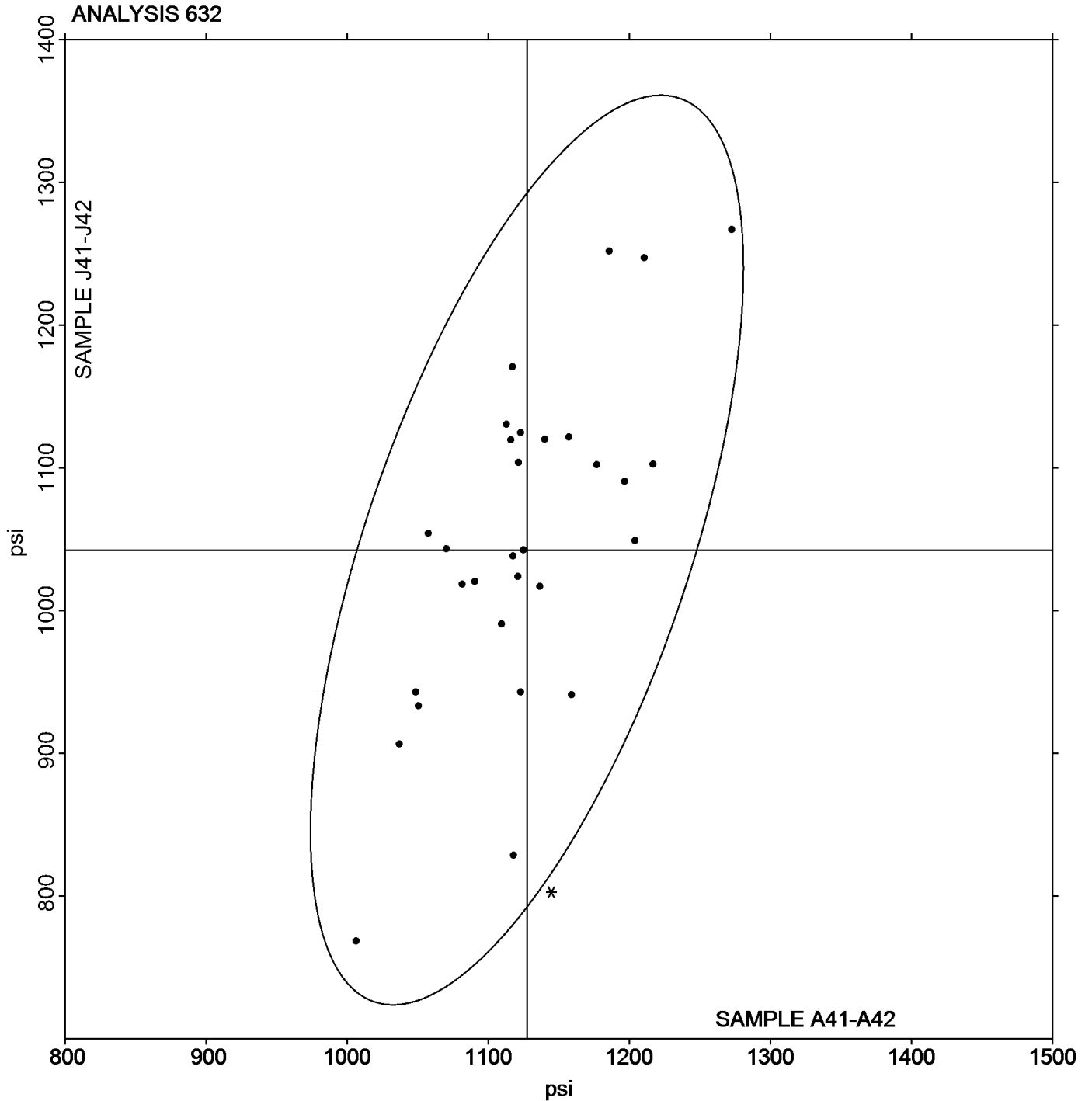


Analysis 632

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

Grand Mean Sample A41-A42 = 1,127.39 psi

Grand Mean Sample J41-J42 = 1,042.43 psi





## Analysis 633

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

		Summary Statistics in SI Units	
Grand Means	1.6917 MPa	1.58	MPa
Std Dev Btwn Labs	0.0723 MPa	0.15	MPa
Statistics based on 31 of 31 reporting participants			

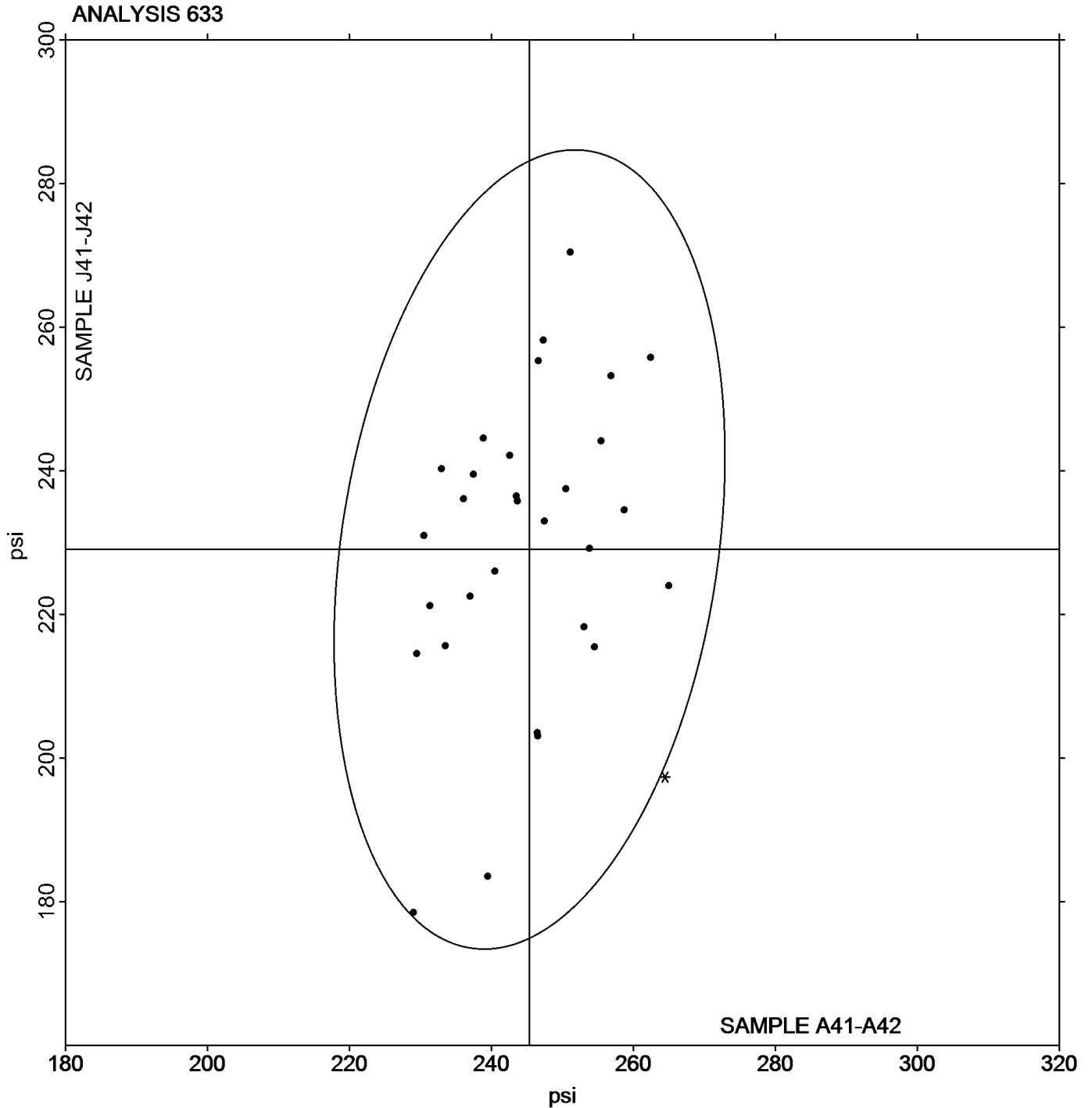
All samples : Polyisoprene compound, batch #1

Analysis 633

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

Grand Mean Sample A41-A42 = 245.37 psi

Grand Mean Sample J41-J42 = 229.05 psi



## Rubber Interlaboratory Testing Program

## Analysis 660

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

WebCode	Data Flag	Sample S41-S42			Sample S43-S44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		50.02	0.07	0.07	55.43	0.79	0.87	MR
2VXD3T		49.38	-0.56	-0.58	54.23	-0.41	-0.46	MR
37TLLG		50.12	0.17	0.18	54.82	0.17	0.19	MR
3EAJRU		49.85	-0.09	-0.10	53.18	-1.46	-1.62	MR
4A7N6R		49.78	-0.17	-0.17	54.58	-0.07	-0.07	MR
7LY9ZU		51.80	1.86	1.92	54.42	-0.23	-0.26	MR
CHTDKR		48.35	-1.59	-1.65	54.38	-0.26	-0.29	MR
DJKLEU		50.50	0.56	0.57	54.55	-0.10	-0.11	MR
DNHVBU		51.47	1.53	1.58	55.38	0.73	0.82	MR
FD48DT		48.17	-1.77	-1.83	54.16	-0.49	-0.54	TV
G2CX9Y	X	54.65	4.70	4.86	56.56	1.91	2.12	TV
JLBXFL	X	43.67	-6.27	-6.48	50.41	-4.24	-4.71	MR
JYUZYT		51.55	1.61	1.66	55.98	1.34	1.48	XX
K3W9TT		49.63	-0.31	-0.32	54.72	0.07	0.08	MR
K6DKJH	M	50.85	0.91	0.94	No data reported for this sample			MR
LH3KNY		49.12	-0.83	-0.86	53.31	-1.34	-1.49	TV
MPEX7U		49.00	-0.94	-0.98	53.93	-0.71	-0.79	MR
MR3EG3		50.80	0.86	0.88	55.38	0.74	0.82	MR
NM8ZBR		51.53	1.59	1.64	55.38	0.74	0.82	MR
NTPMQP		50.00	0.06	0.06	53.83	-0.81	-0.90	MR
NWPVW		49.47	-0.48	-0.49	53.95	-0.70	-0.77	MR
PZT3H4		50.28	0.34	0.35	55.30	0.65	0.73	MR
Q9CJ6P		49.82	-0.13	-0.13	54.09	-0.55	-0.61	MR
QAR27A		50.23	0.29	0.30	53.65	-1.00	-1.11	MR
QUEK4E		50.47	0.52	0.54	54.38	-0.26	-0.29	MR
QVFD7T		48.50	-1.44	-1.49	54.58	-0.06	-0.07	MR
UK2HPQ		49.00	-0.94	-0.97	54.14	-0.51	-0.56	MR
VNVACY		48.65	-1.29	-1.34	55.10	0.45	0.50	MR
WKWTN		50.22	0.27	0.28	54.77	0.12	0.13	TV
WX3CA6		50.07	0.12	0.13	53.87	-0.78	-0.86	MR
YG3B9F		50.48	0.53	0.55	56.69	2.04	2.27	TV
ZC4ZC2	*	49.87	-0.08	-0.08	57.18	2.54	2.82	MR
ZLWPAB		48.93	-1.01	-1.05	54.80	0.15	0.17	MR
ZYWKH		51.22	1.28	1.32	53.86	-0.78	-0.87	XX

Analysis 660

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

		Summary Statistics	
Grand Means	49.944 ML 1 + 4	54.647	ML 1 + 4
Stnd Dev Btwn Labs	0.967 ML 1 + 4	0.901	ML 1 + 4
Statistics based on 31 of 34 reporting participants			

Samples S41-S42: NBR & S43-S44: Butyl

**Comments on assigned Data Flags for Test #660**

G2CX9Y (X) - Data for Sample group S41-S42 are high. Inconsistency in testing within Sample group S41-S42.

JLBXFL (X) - Data for all Samples are low. Inconsistency in testing within Sample group S41-S42.

K6DKJH (M) - Data not reported for Sample group S43-S44.

Instrument Code Listing

<b>660</b> Mooney Viscosity: 4-minute readings (ML 1 + 4)
-----------------------------------------------------------

**Instruments:**

- |                                                      |                                              |
|------------------------------------------------------|----------------------------------------------|
| (ML) Alpha Technologies/Monsanto model not specified | (MM) Alpha Technologies Model 1xxx or OSM    |
| (MP) Monsanto Compact Mooney Viscometer              | (MR) Alpha Technologies Model MV2000/MV2000E |
| (MZ) Rebuilt Monsanto Mooney Viscometer              | (SF) Scott STI (any model)                   |
| (TV) Tech Pro Visc Tech (any model)                  | (XA) Special In-House Instrument             |
| (XX) Instrument make/model not specified by lab      |                                              |



## Analysis 661

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

WebCode	Data Flag	Sample S41-S42			Sample S43-S44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		50.02	0.03	0.03	52.98	0.76	0.72	MR
2VXD3T		49.38	-0.61	-0.62	51.93	-0.29	-0.28	MR
37TLLG		50.12	0.13	0.13	52.27	0.04	0.04	MR
3EAJRU		49.85	-0.14	-0.14	51.05	-1.17	-1.11	MR
4A7N6R		49.78	-0.21	-0.22	52.19	-0.03	-0.03	MR
7LY9ZU		51.80	1.81	1.85	51.63	-0.59	-0.56	MP
CHTDKR		48.35	-1.64	-1.68	51.90	-0.32	-0.31	XX
DJKLEU		50.50	0.51	0.52	52.03	-0.19	-0.18	MR
DNHVBU		51.47	1.48	1.52	52.81	0.59	0.56	XX
FD48DT	*	48.17	-1.82	-1.86	54.31	2.09	1.97	XX
G2CX9Y	X	54.65	4.66	4.77	53.75	1.52	1.44	TV
JLBXFL	X	43.67	-6.32	-6.47	49.19	-3.03	-2.86	XX
JYUZYT		51.55	1.56	1.60	52.82	0.59	0.56	XX
K3W9TT		49.63	-0.36	-0.36	51.95	-0.27	-0.26	MR
K6DKJH		50.85	0.86	0.88	52.65	0.43	0.40	MR
LH3KNY		49.12	-0.87	-0.89	50.16	-2.07	-1.95	TV
MPEX7U		49.00	-0.99	-1.01	51.60	-0.62	-0.59	MR
MR3EG3		50.80	0.81	0.83	52.07	-0.16	-0.15	MR
NM8ZBR		51.53	1.54	1.58	52.97	0.74	0.70	MR
NTPMQP		50.00	0.01	0.01	51.43	-0.79	-0.75	MR
PZT3H4		50.28	0.29	0.30	52.50	0.28	0.26	MR
Q9CJ6P		49.82	-0.17	-0.17	51.71	-0.52	-0.49	MR
QAR27A		50.23	0.24	0.25	50.77	-1.46	-1.38	XX
QUEK4E		50.47	0.48	0.49	52.07	-0.16	-0.15	MR
QVFD7T		48.50	-1.49	-1.52	52.35	0.13	0.12	MR
UK2HPQ		49.00	-0.99	-1.01	51.88	-0.34	-0.33	MR
VNVACY		48.65	-1.34	-1.37	52.53	0.31	0.29	MR
WKWTN		50.22	0.23	0.23	52.85	0.63	0.59	XX
WX3CA6		50.07	0.08	0.08	51.54	-0.69	-0.65	MR
YG3B9F		50.48	0.49	0.50	53.79	1.57	1.48	TV
ZC4ZC2	*	49.87	-0.12	-0.13	55.57	3.34	3.15	MR
ZLWPAB		48.93	-1.06	-1.08	52.08	-0.14	-0.13	MR
ZYWKH		51.22	1.23	1.26	50.57	-1.65	-1.56	XX



## Analysis 661

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

		Summary Statistics	
Grand Means	49.989 ML 1 + 8	52.225 ML 1 + 8	
Std Dev Btwn Labs	0.976 ML 1 + 8	1.059 ML 1 + 8	
Statistics based on 31 of 33 reporting participants			

Please refer to the sample information provided for Analysis 660.

**Comments on assigned Data Flags for Test #661**

G2CX9Y (X) - Data for Sample group S41-S42 are high. Inconsistency in testing within Sample group S41-S42.

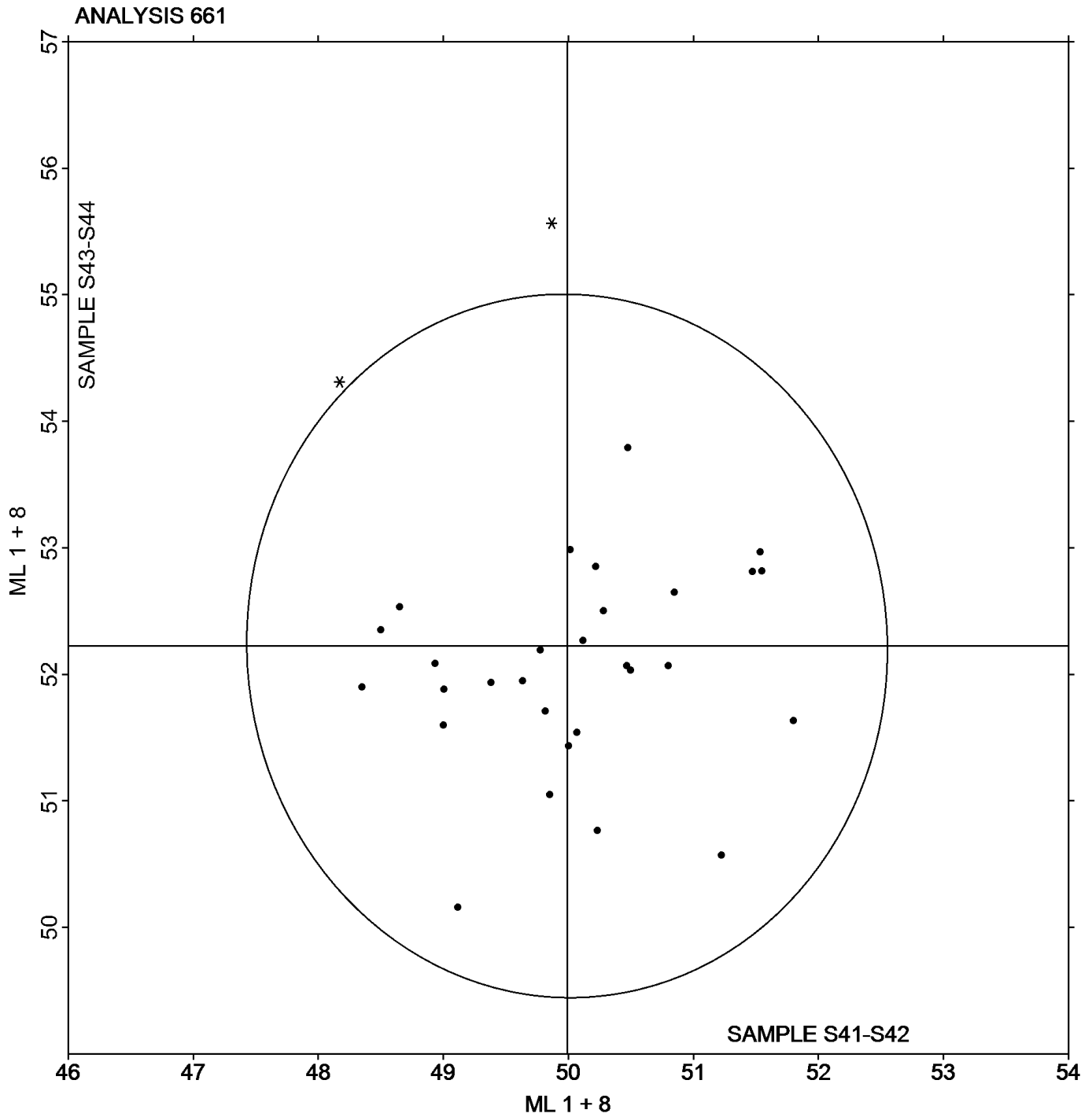
JLBXFL (X) - Data for all Samples are low. Inconsistency in testing within Sample group S41-S42.

Analysis 661

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

Grand Mean Sample S41-S42 = 49.989 ML 1 + 8

Grand Mean Sample S43-S44 = 52.225 ML 1 + 8



## Analysis 662

## Mooney Stress Relaxation: t80 (seconds)

WebCode	Data Flag	Sample S41-S42			Sample S43-S44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2VXD3T		5.600	0.030	0.02	7.100	-0.263	-0.35	MR
4A7N6R		4.937	-0.633	-0.48	6.852	-0.511	-0.68	MR
CHTDKR		5.030	-0.540	-0.41	7.060	-0.303	-0.41	MR
DJKLEU		4.940	-0.630	-0.48	6.782	-0.581	-0.78	XX
DNHVBU		7.008	1.439	1.09	7.473	0.111	0.15	MR
FD48DT		9.235	3.665	2.78	8.533	1.171	1.57	TV
G2CX9Y	X	14.592	9.022	6.85	9.133	1.771	2.37	TV
K6DKJH		5.110	-0.460	-0.35	7.187	-0.176	-0.24	MR
MPEX7U		5.267	-0.303	-0.23	7.367	0.004	0.01	MR
NTPMQP		4.453	-1.116	-0.85	6.288	-1.074	-1.44	MR
NWPVW		4.800	-0.770	-0.58	7.800	0.437	0.59	MR
QAR27A		4.973	-0.596	-0.45	6.977	-0.386	-0.52	MR
QVFD7T		5.483	-0.086	-0.07	8.933	1.571	2.10	XX

## Summary Statistics

Grand Means

5.5697 seconds

7.3626 seconds

Std Dev Btwn Labs

1.3177 seconds

0.7468 seconds

Statistics based on 12 of 13 reporting participants

Samples S41-S42: NBR &amp; S43-S44: Butyl

**Comments on assigned Data Flags for Test #662**

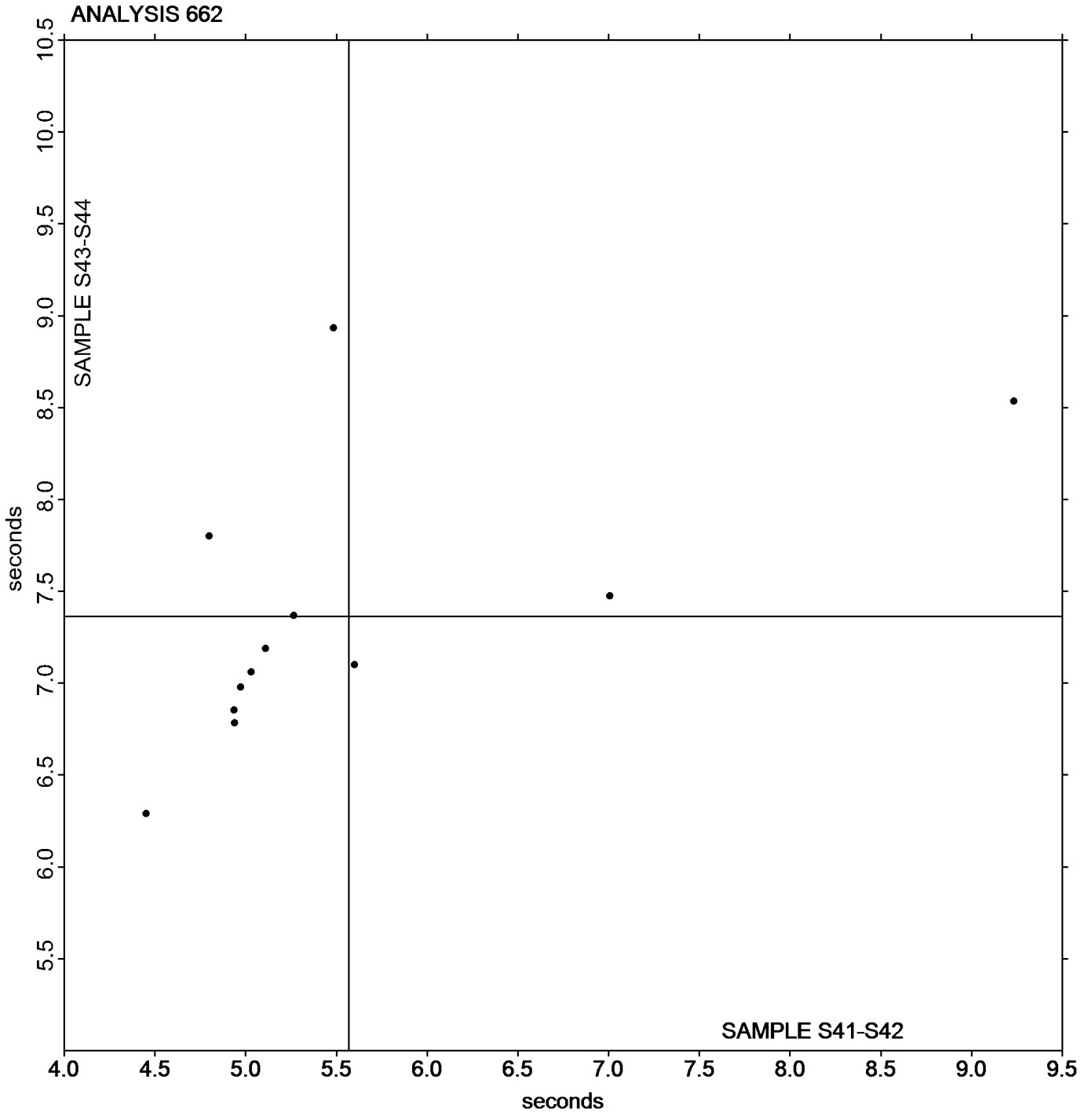
G2CX9Y (X) - Data for Sample group S41-S42 are high. Data appear to be reported as seconds and not minutes as indicated on datasheet.

Analysis 662

Mooney Stress Relaxation: t80 (seconds)

Grand Mean Sample S41-S42 = 5.5697 seconds

Grand Mean Sample S43-S44 = 7.3626 seconds



## Analysis 663

## Mooney Stress Relaxation: X30 (percent)

WebCode	Data Flag	Sample S41-S42			Sample S43-S34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2VXD3T		90.42	0.31	0.16	92.77	0.41	0.41	MR
4A7N6R		91.01	0.90	0.47	92.81	0.45	0.45	MR
CHTDKR		90.79	0.69	0.36	92.43	0.07	0.07	MR
DJKLEU		90.86	0.75	0.39	93.27	0.92	0.91	XX
DNHVBU		89.71	-0.40	-0.21	90.88	-1.48	-1.46	MR
FD48DT		85.40	-4.71	-2.44	92.10	-0.26	-0.26	TV
G2CX9Y		87.04	-3.07	-1.59	91.58	-0.77	-0.77	TV
K6DKJH		90.93	0.82	0.43	92.50	0.14	0.14	MR
MPEX7U		91.02	0.91	0.47	92.80	0.44	0.44	MR
NTPMQP		92.03	1.93	1.00	93.65	1.29	1.28	MR
QAR27A		91.47	1.36	0.71	93.24	0.88	0.88	MR
QVFD7T		90.62	0.51	0.26	90.25	-2.11	-2.09	XX

## Summary Statistics

Grand Means

90.107 percent

92.356 percent

Std Dev Btwn Labs

1.932 percent

1.008 percent

Statistics based on 12 of 12 reporting participants

Samples S41-S42: NBR &amp; S43-S34: Butyl

**Analysis Notes:**

4A7N6R - Data appear to be reported as percent decay and not X30. Data corrected by CTS.

CHTDKR - Data appear to be reported as percent decay and not X30. Data corrected by CTS.

NTPMQP - Data appear to be reported as percent decay and not X30. Data corrected by CTS.

QAR27A - Data appear to be reported as percent decay and not X30. Data corrected by CTS.

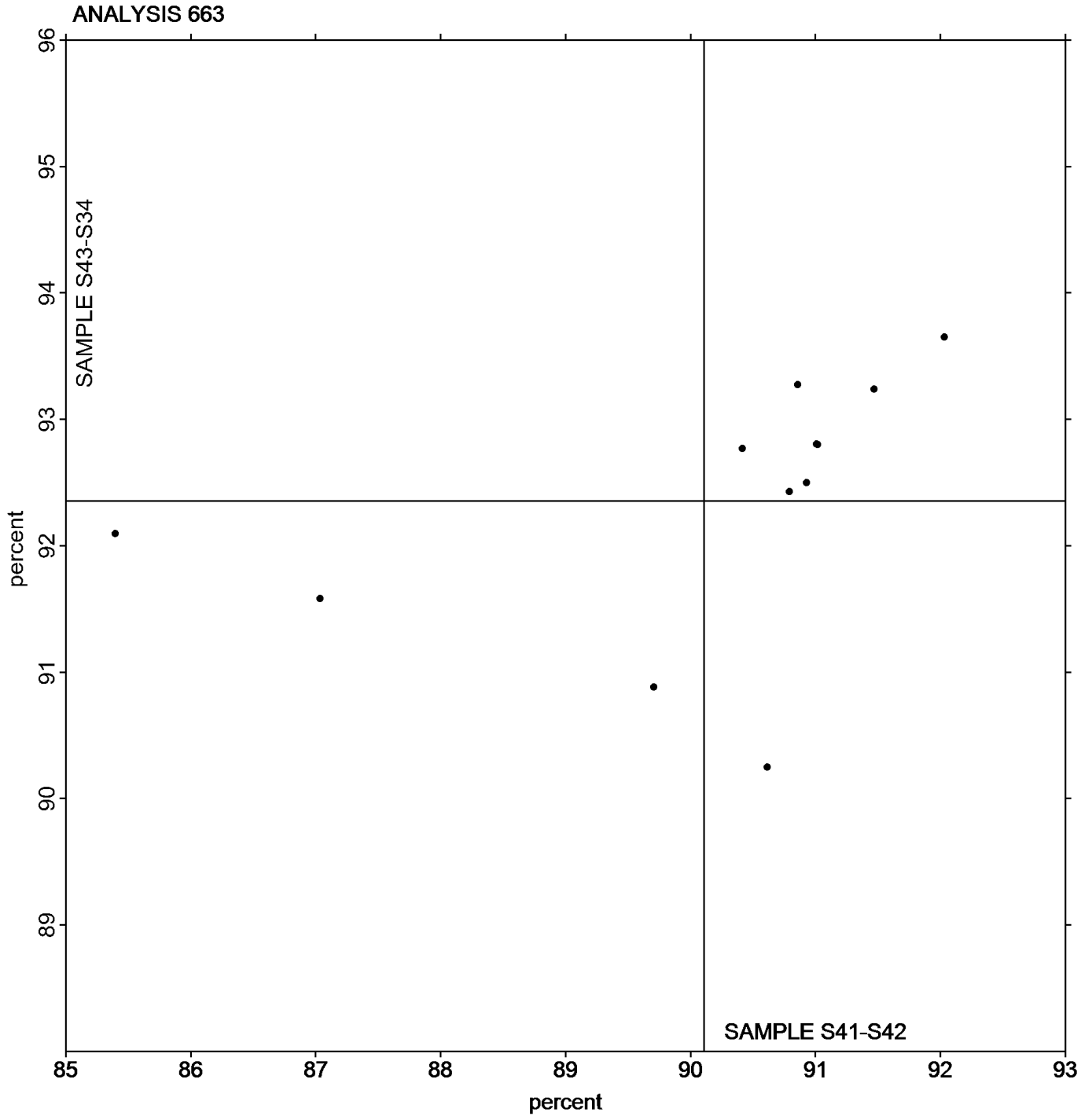
QVFD7T - Data appear to be reported as percent decay and not X30. Data corrected by CTS.

Analysis 663

Mooney Stress Relaxation: X30 (percent)

Grand Mean Sample S41-S42 = 90.107 percent

Grand Mean Sample S43-S34 = 92.356 percent



## Analysis 664

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

WebCode	Data Flag	Sample S41-S42			Sample S43-S44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2VXD3T		516.0	24.9	0.61	429.5	-15.7	-0.32	MR
4A7N6R		482.6	-8.5	-0.21	426.3	-18.9	-0.38	MR
CHTDKR		479.0	-12.1	-0.29	446.8	1.7	0.03	MR
DJKLEU		500.3	9.2	0.22	407.7	-37.4	-0.76	XX
DNHVBU		567.5	76.3	1.86	523.5	78.3	1.59	MR
FD48DT		546.9	55.7	1.36	509.9	64.7	1.31	TV
G2CX9Y		444.0	-47.1	-1.15	506.5	61.3	1.24	TV
K6DKJH		498.0	6.9	0.17	451.8	6.6	0.13	MR
MPEX7U		476.7	-14.5	-0.35	429.2	-16.0	-0.32	XX
NTPMQP		430.9	-60.2	-1.46	372.1	-73.1	-1.48	MR
QAR27A		460.5	-30.6	-0.75	393.8	-51.4	-1.04	MR

## Summary Statistics

Grand Means

491.12 M-s

445.18 M-s

Std Dev Btwn Labs

41.11 M-s

49.36 M-s

Statistics based on 11 of 11 reporting participants

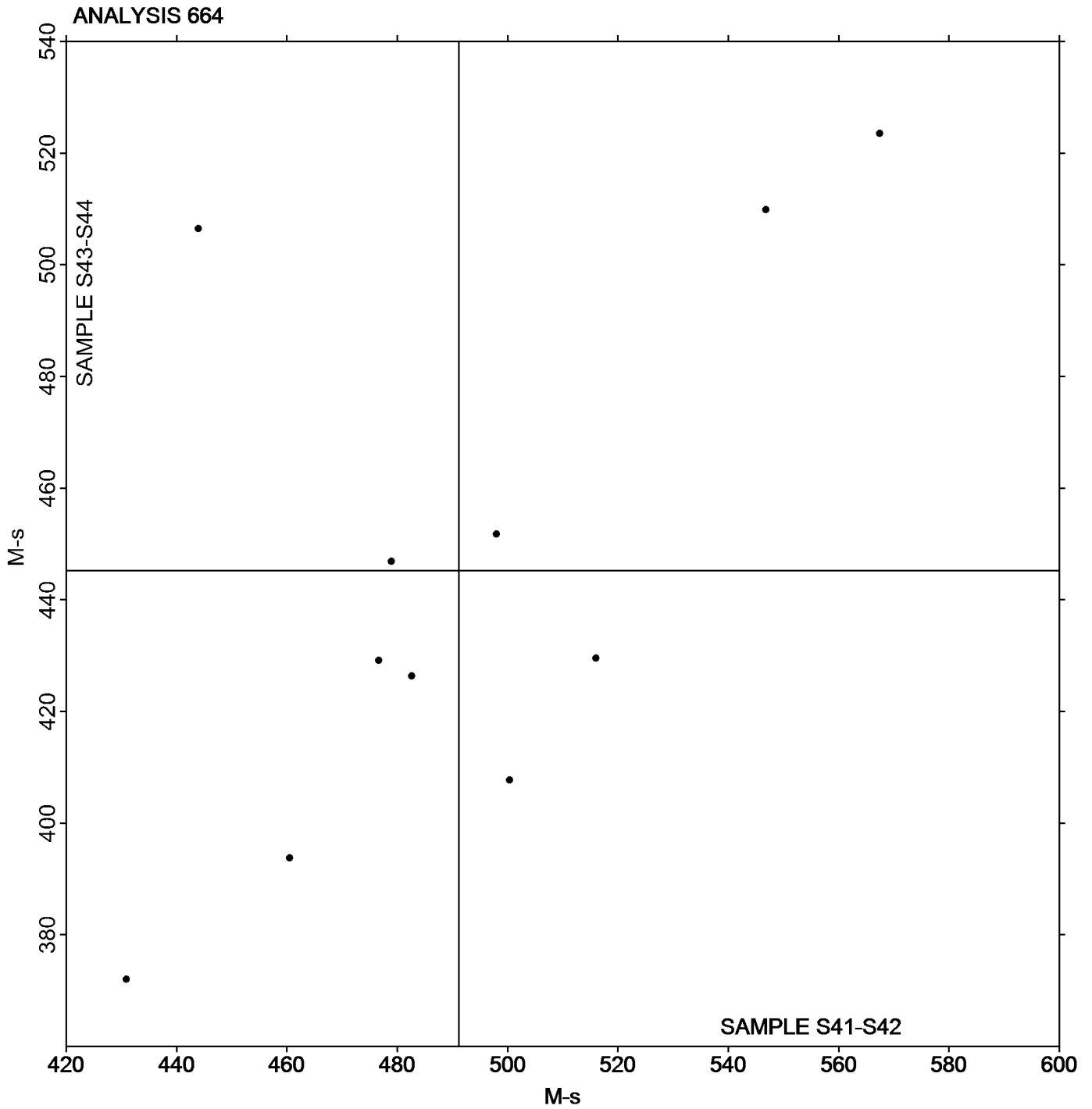
Samples S41-S42: NBR &amp; S43-S44: Butyl

Analysis 664

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

Grand Mean Sample S41-S42 = 491.12 M-s

Grand Mean Sample S43-S44 = 445.18 M-s





Analysis 669

ODR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		2.210	0.170	1.27	2.328	0.163	1.24	ZZ
3EAJRU		2.173	0.134	1.00	2.260	0.095	0.72	ZZ
7LY9ZU		2.218	0.179	1.33	2.332	0.167	1.26	ZZ
DNHVBU		1.853	-0.186	-1.39	1.905	-0.260	-1.96	ZZ
G2CX9Y		1.930	-0.110	-0.82	2.055	-0.110	-0.83	ZZ
JXZATC		2.065	0.025	0.19	2.192	0.027	0.20	ZZ
K3W9TT		2.152	0.112	0.83	2.298	0.133	1.01	ZZ
NM8ZBR		1.988	-0.051	-0.38	2.152	-0.013	-0.10	ZZ
Q9CJ6P		1.930	-0.110	-0.82	2.095	-0.070	-0.53	ZZ
QUEK4E		1.952	-0.088	-0.66	2.153	-0.012	-0.09	ZZ
QVFD7T		2.133	0.094	0.70	2.200	0.035	0.27	ZZ
UK2HPQ		1.872	-0.168	-1.25	2.008	-0.157	-1.18	ZZ

Summary Statistics			
Grand Means	2.0397 minutes	2.1649 minutes	
Std Dev Btwn Labs	0.1342 minutes	0.1323 minutes	
Statistics based on 12 of 12 reporting participants			

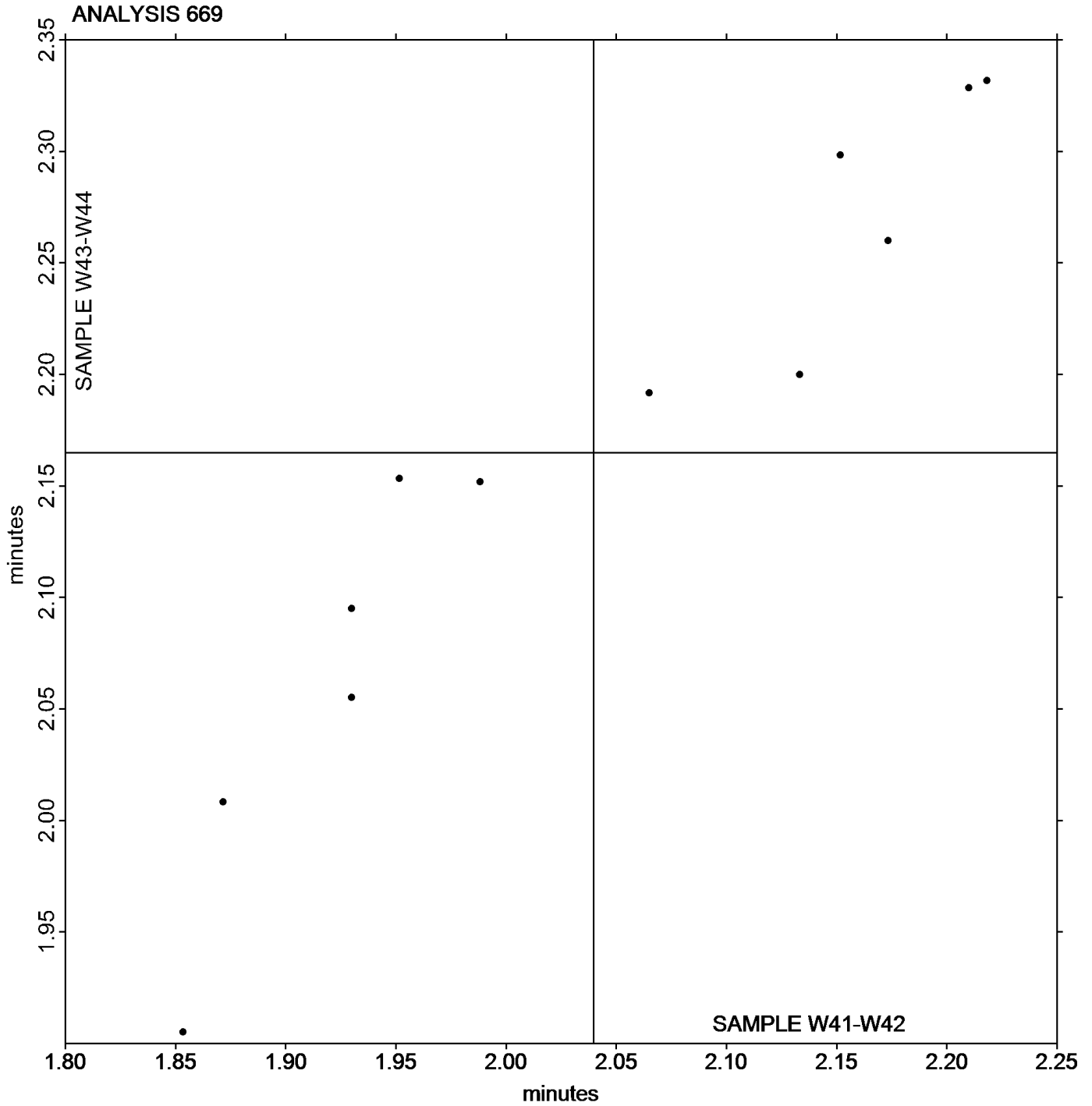
Samples W41-W42: EPDM compound #1 & W43-W44: EPDM compound #2

Analysis 669

ODR Vulcanization-Cure Time 10% (minutes)

Grand Mean Sample W41-W42 = 2.0397 minutes

Grand Mean Sample W43-W44 = 2.1649 minutes



## Analysis 670

## ODR Vulcanization-Scorch Time, Ts1 (minutes)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		1.505	0.042	0.49	1.608	0.079	1.03	ZZ
3EAJRU		1.603	0.140	1.64	1.642	0.113	1.47	ZZ
7LY9ZU		1.607	0.144	1.68	1.638	0.109	1.42	ZZ
DNHVBU		1.365	-0.098	-1.15	1.407	-0.122	-1.59	ZZ
G2CX9Y		1.417	-0.046	-0.54	1.508	-0.021	-0.27	ZZ
JXZATC		1.517	0.054	0.63	1.540	0.011	0.14	ZZ
K3W9TT		1.483	0.020	0.24	1.583	0.054	0.71	ZZ
NM8ZBR		1.408	-0.055	-0.64	1.498	-0.031	-0.40	ZZ
Q9CJ6P		1.403	-0.060	-0.70	1.472	-0.057	-0.74	ZZ
QUEK4E		1.420	-0.043	-0.50	1.523	-0.006	-0.07	ZZ
QVFD7T		1.483	0.020	0.24	1.500	-0.029	-0.38	ZZ
UK2HPQ		1.343	-0.120	-1.40	1.427	-0.102	-1.33	ZZ

## Summary Statistics

Grand Means

1.4629 minutes

1.5289 minutes

Std Dev Btwn Labs

0.0854 minutes

0.0769 minutes

Statistics based on 12 of 12 reporting participants

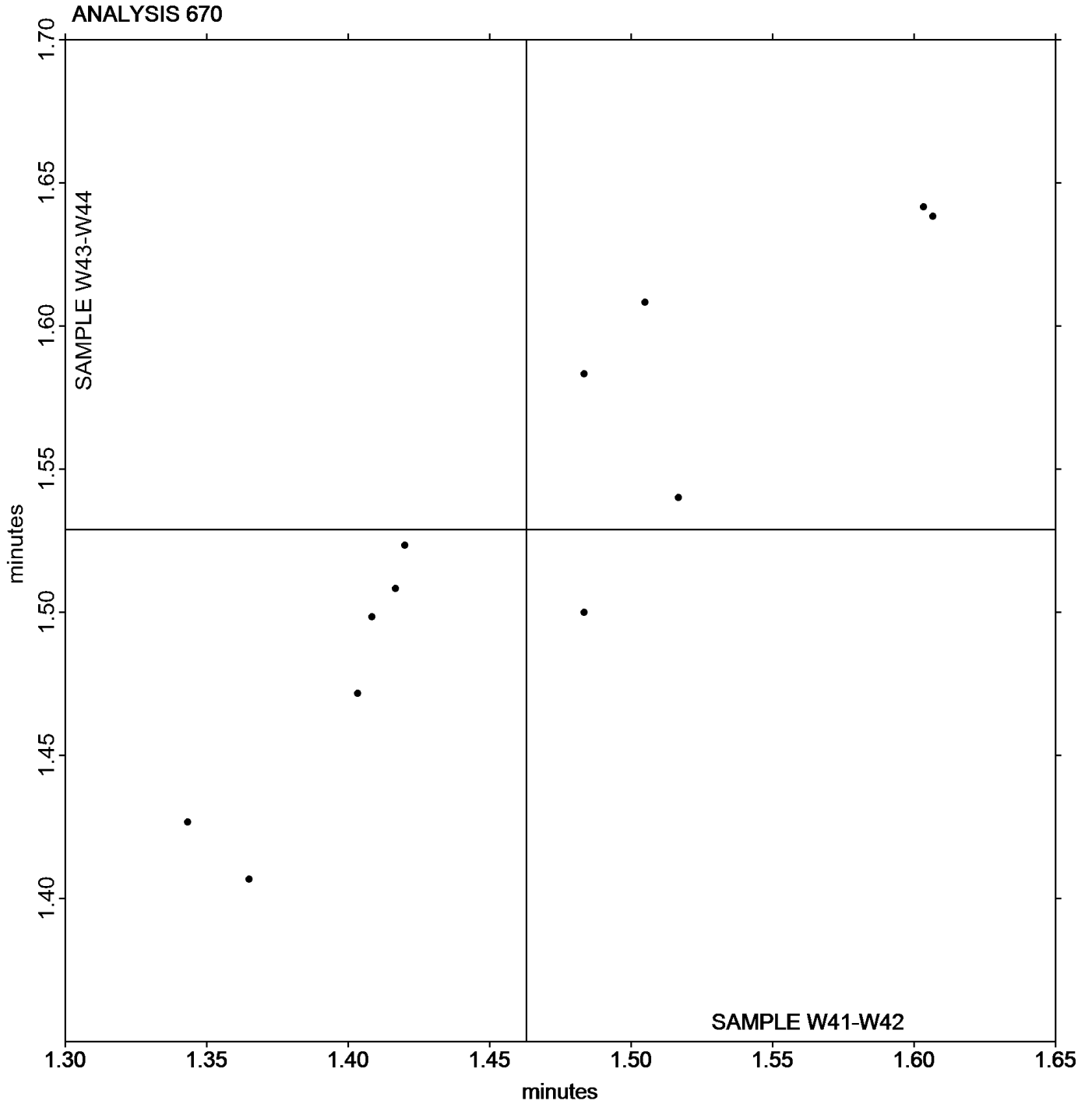
Samples W41-W42: EPDM compound #1 &amp; W43-W44: EPDM compound #2

Analysis 670

ODR Vulcanization-Scorch Time, Ts1 (minutes)

Grand Mean Sample W41-W42 = 1.4629 minutes

Grand Mean Sample W43-W44 = 1.5289 minutes



Analysis 671

ODR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		4.138	0.128	0.52	3.843	0.123	0.54	ZZ
3EAJRU		4.205	0.195	0.79	3.838	0.118	0.51	ZZ
7LY9ZU		4.342	0.332	1.35	4.013	0.293	1.27	ZZ
DNHVBU		3.617	-0.393	-1.60	3.235	-0.485	-2.11	ZZ
G2CX9Y		3.755	-0.255	-1.04	3.447	-0.273	-1.19	ZZ
JXZATC		3.910	-0.100	-0.41	3.820	0.100	0.43	ZZ
K3W9TT		4.373	0.363	1.48	3.963	0.243	1.06	ZZ
NM8ZBR		4.037	0.027	0.11	3.758	0.038	0.17	ZZ
Q9CJ6P		3.743	-0.267	-1.09	3.597	-0.123	-0.54	ZZ
QUEK4E		3.942	-0.068	-0.28	3.758	0.038	0.17	ZZ
QVFD7T		4.200	0.190	0.77	3.867	0.147	0.64	ZZ
UK2HPQ		3.860	-0.150	-0.61	3.498	-0.222	-0.96	ZZ

Summary Statistics			
Grand Means	4.0101 minutes	3.7199 minutes	
Std Dev Btwn Labs	0.2452 minutes	0.2303 minutes	
Statistics based on 12 of 12 reporting participants			

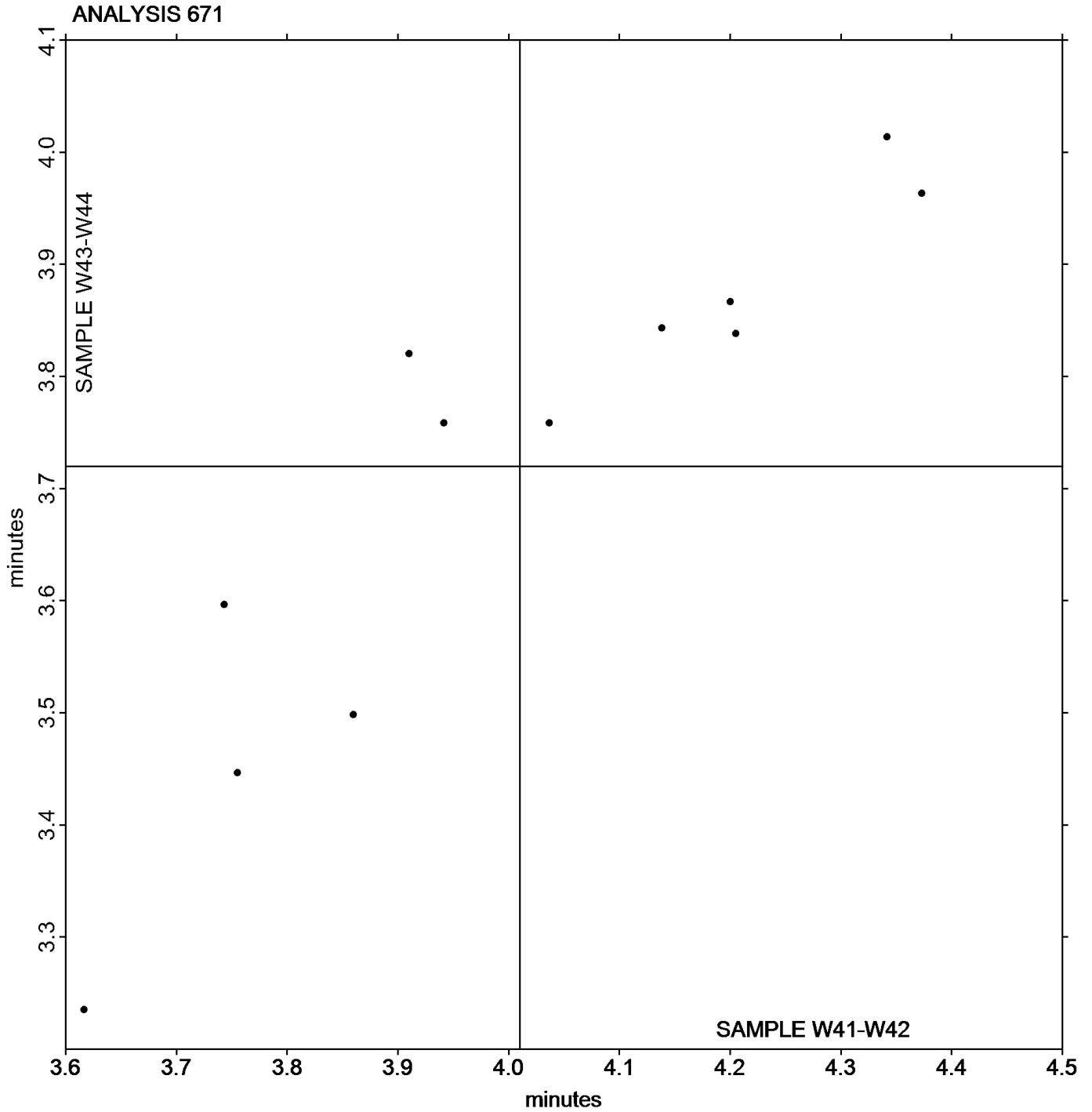
Samples W41-W42: EPDM compound #1 & W43-W44: EPDM compound #2

Analysis 671

ODR Vulcanization-Cure Time 50% (minutes)

Grand Mean Sample W41-W42 = 4.0101 minutes

Grand Mean Sample W43-W44 = 3.7199 minutes



Analysis 672

ODR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		14.27	-0.11	-0.12	9.197	0.671	0.93	ZZ
3EAJRU		14.12	-0.26	-0.28	8.563	0.038	0.05	ZZ
7LY9ZU		15.45	1.07	1.14	9.675	1.149	1.59	ZZ
DNHVBU		12.85	-1.53	-1.63	7.362	-1.164	-1.61	ZZ
G2CX9Y		14.54	0.16	0.17	8.262	-0.264	-0.36	ZZ
JXZATC		13.01	-1.37	-1.46	8.243	-0.282	-0.39	ZZ
K3W9TT		15.34	0.96	1.02	9.413	0.888	1.23	ZZ
NM8ZBR		13.73	-0.65	-0.69	8.122	-0.404	-0.56	ZZ
Q9CJ6P		15.53	1.15	1.23	7.692	-0.834	-1.15	ZZ
QUEK4E		14.67	0.30	0.32	9.010	0.484	0.67	ZZ
QVFD7T		13.68	-0.69	-0.74	7.850	-0.676	-0.93	ZZ
UK2HPQ		15.36	0.98	1.04	8.918	0.393	0.54	ZZ

Summary Statistics	
Grand Means	14.377 minutes
	8.5256 minutes
Std Dev Btwn Labs	0.938 minutes
	0.7242 minutes
Statistics based on 12 of 12 reporting participants	

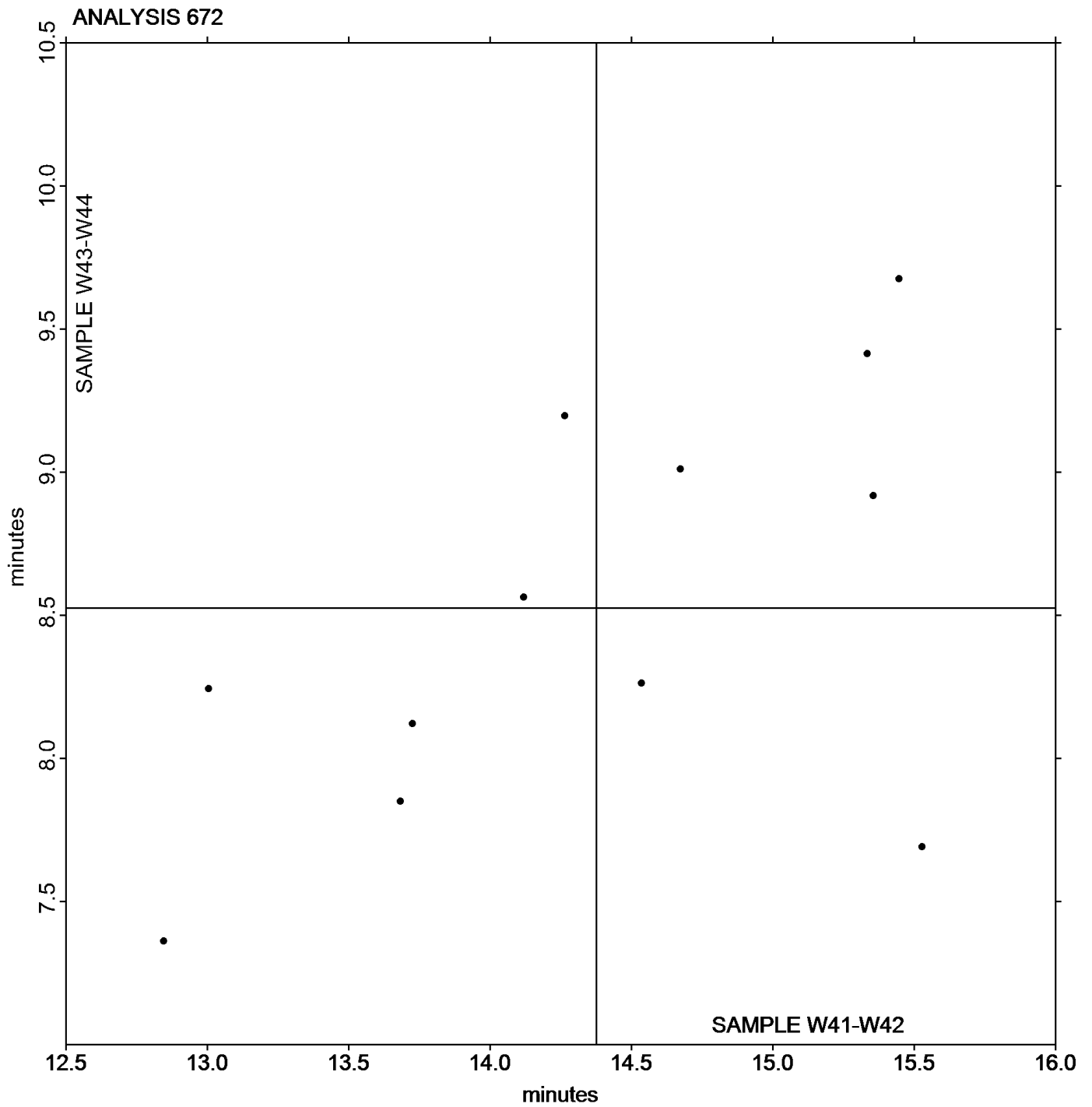
Samples W41-W42: EPDM compound #1 & W43-W44: EPDM compound #2

Analysis 672

ODR Vulcanization-Cure Time 90% (minutes)

Grand Mean Sample W41-W42 = 14.377 minutes

Grand Mean Sample W43-W44 = 8.5256 minutes





Analysis 673

ODR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		5.830	0.331	0.62	6.583	0.270	0.43	ZZ
3EAJRU		5.258	-0.241	-0.45	6.087	-0.227	-0.36	ZZ
7LY9ZU		6.698	1.199	2.26	7.867	1.553	2.45	ZZ
DNHVBU		5.657	0.157	0.30	6.445	0.131	0.21	ZZ
G2CX9Y		6.033	0.534	1.01	6.942	0.628	0.99	ZZ
JXZATC		5.322	-0.178	-0.34	6.230	-0.084	-0.13	ZZ
K3W9TT		5.127	-0.373	-0.70	5.643	-0.670	-1.06	ZZ
NM8ZBR		5.085	-0.414	-0.78	5.887	-0.427	-0.67	ZZ
Q9CJ6P		4.800	-0.699	-1.32	5.625	-0.689	-1.09	ZZ
QUEK4E		5.103	-0.396	-0.75	5.737	-0.577	-0.91	ZZ
QVFD7T		5.233	-0.266	-0.50	6.433	0.120	0.19	ZZ
UK2HPQ		5.847	0.347	0.65	6.285	-0.029	-0.05	ZZ

		Summary Statistics	
Grand Means		5.4994 lbf.in	6.3136 lbf.in
Std Dev Btwn Labs		0.5304 lbf.in	0.6331 lbf.in
Statistics based on 12 of 12 reporting participants			

		Summary Statistics in SI Units	
Grand Means		6.2135 dN.m	7.1334 dN.m
Std Dev Btwn Labs		0.5992 dN.m	0.7153 dN.m
Statistics based on 12 of 12 reporting participants			

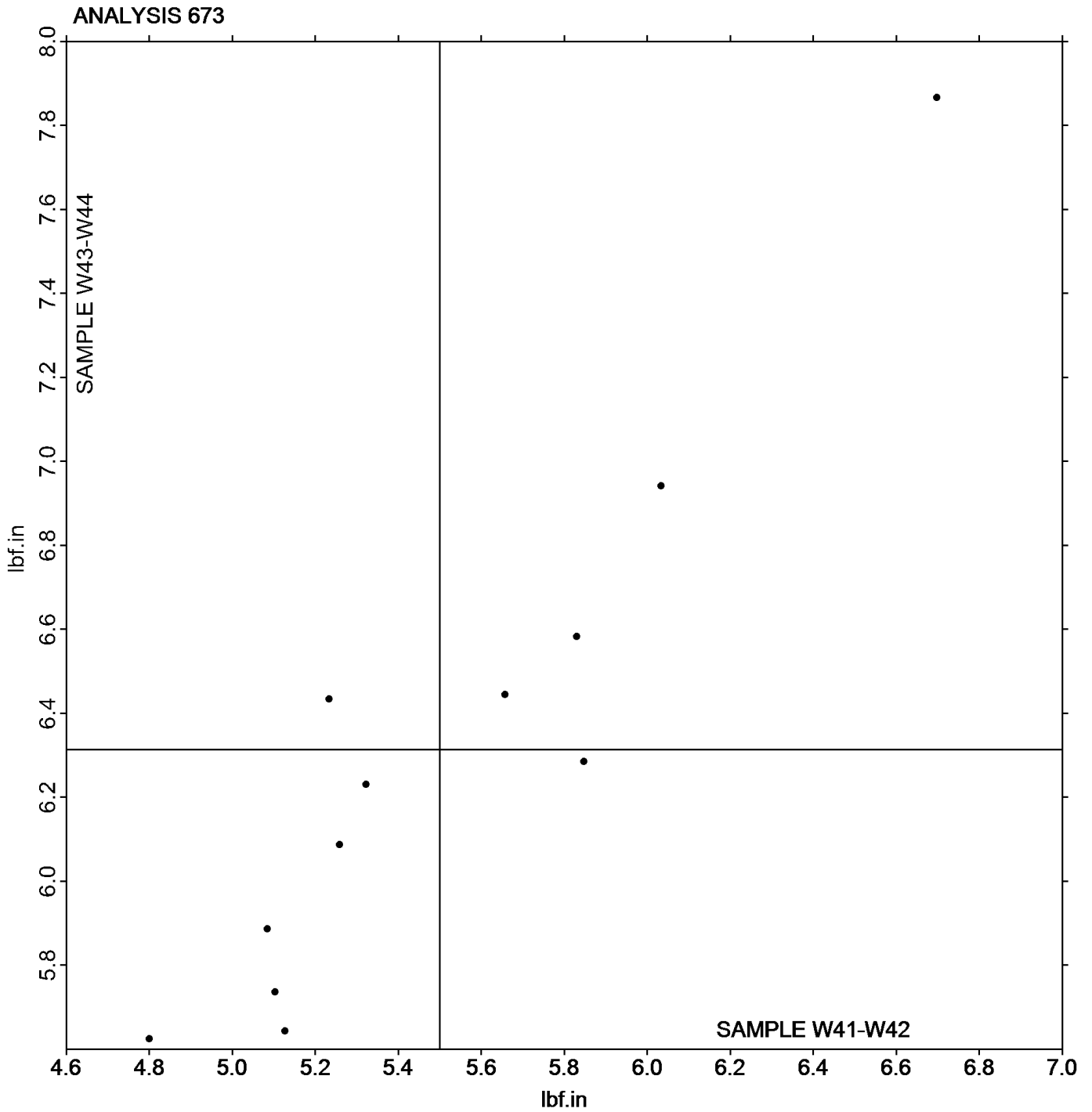
Samples W41-W42: EPDM compound #1 & W43-W44: EPDM compound #2

Analysis 673

ODR Vulcanization: Minimum Torque (lbf.in)

Grand Mean Sample W41-W42 = 5.4994 lbf.in

Grand Mean Sample W43-W44 = 6.3136 lbf.in



## Analysis 674

## ODR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample W41-W42			Sample W43-W44			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37TLLG		40.61	-0.52	-0.19	37.20	-1.20	-0.66	ZZ
3EAJRU		38.12	-3.01	-1.08	35.54	-2.86	-1.57	ZZ
7LY9ZU		41.78	0.65	0.23	40.35	1.96	1.07	ZZ
DNHVBU		40.08	-1.06	-0.38	36.53	-1.86	-1.02	ZZ
G2CX9Y		40.56	-0.58	-0.21	37.83	-0.57	-0.31	ZZ
JXZATC		39.38	-1.75	-0.63	37.80	-0.59	-0.33	ZZ
K3W9TT		48.38	7.25	2.59	42.26	3.86	2.11	ZZ
NM8ZBR		43.26	2.13	0.76	40.07	1.68	0.92	ZZ
Q9CJ6P		37.38	-3.75	-1.34	37.44	-0.96	-0.53	ZZ
QUEK4E		40.91	-0.22	-0.08	38.95	0.55	0.30	ZZ
QVFD7T		41.12	-0.02	-0.01	38.12	-0.28	-0.15	ZZ
UK2HPQ		42.02	0.89	0.32	38.67	0.27	0.15	ZZ

## Summary Statistics

Grand Means

41.132 lbf.in

38.396 lbf.in

Std Dev Btwn Labs

2.800 lbf.in

1.826 lbf.in

Statistics based on 12 of 12 reporting participants

## Summary Statistics in SI Units

Grand Means

46.473 dN.m

43.381 dN.m

Std Dev Btwn Labs

3.164 dN.m

2.063 dN.m

Statistics based on 12 of 12 reporting participants

Samples W41-W42: EPDM compound #1 &amp; W43-W44: EPDM compound #2

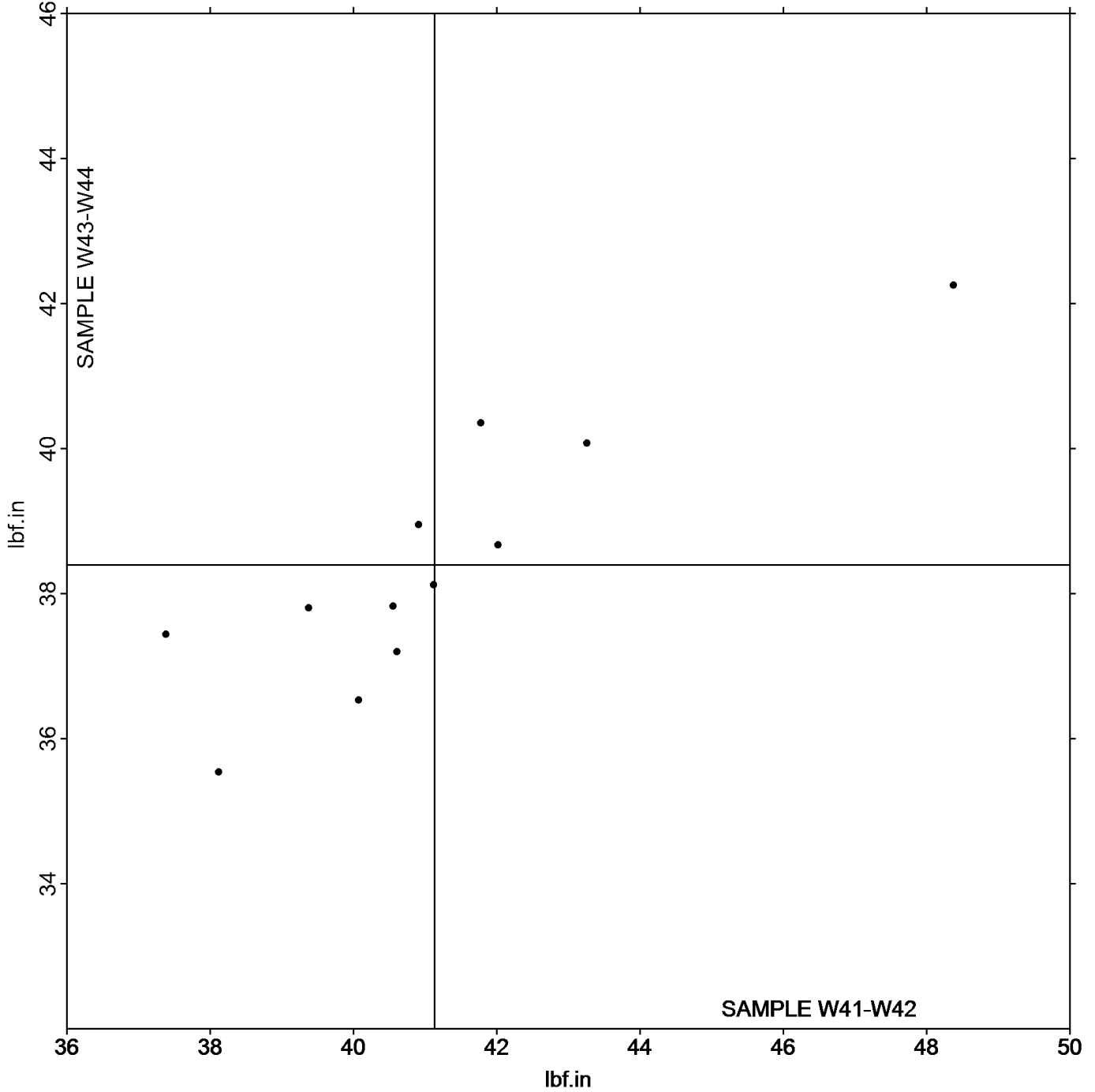
Analysis 674

ODR Vulcanization: Maximum Torque (lbf.in)

Grand Mean Sample W41-W42 = 41.132 lbf.in

Grand Mean Sample W43-W44 = 38.396 lbf.in

ANALYSIS 674



## Analysis 684

## MDR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33	*	1.412	-0.168	-2.46	1.472	-0.052	-0.97	MC
37TLLG		1.513	-0.066	-0.97	1.467	-0.057	-1.06	MC
3EAJRU		1.630	0.050	0.74	1.530	0.007	0.13	MC
4A7N6R		1.500	-0.080	-1.17	1.432	-0.092	-1.72	MC
AL4WRV		1.568	-0.011	-0.17	1.510	-0.013	-0.25	MC
BHGYEP		1.577	-0.003	-0.05	1.500	-0.023	-0.44	MC
BRHND9		1.665	0.085	1.25	1.555	0.032	0.60	MC
CHTDKR	X	1.307	-0.273	-4.00	1.270	-0.253	-4.76	MC
DB4E8P		1.586	0.006	0.09	1.569	0.046	0.87	MC
DJKLEU		1.595	0.015	0.22	1.560	0.037	0.69	MD
DLLVYV		1.590	0.010	0.15	1.537	0.013	0.25	MC
FCWZW		1.418	-0.161	-2.36	1.395	-0.128	-2.41	TP
JP8TQ9		1.633	0.054	0.78	1.500	-0.023	-0.43	MC
JYUZYT		1.620	0.040	0.59	1.572	0.048	0.91	XX
K6DKJH		1.555	-0.025	-0.36	1.527	0.003	0.07	MC
LH3KNY		1.490	-0.090	-1.31	1.475	-0.048	-0.91	MC
NM8ZBR		1.665	0.085	1.25	1.642	0.118	2.23	MC
PZ7BBJ		1.617	0.037	0.54	1.608	0.085	1.60	MC
PZT3H4		1.640	0.060	0.88	1.550	0.027	0.50	MC
Q9CJ6P		1.582	0.002	0.03	1.498	-0.025	-0.47	MC
QAR27A		1.583	0.004	0.05	1.503	-0.020	-0.37	MC
R2GFU7		1.668	0.089	1.30	1.563	0.040	0.75	MC
WX3CA6		1.637	0.057	0.83	1.557	0.033	0.63	MD
YG3B9F		1.552	-0.028	-0.41	1.500	-0.023	-0.44	MD
ZC4ZC2		1.635	0.055	0.81	1.537	0.013	0.25	TP
ZLWPAB		1.553	-0.026	-0.39	1.483	-0.040	-0.75	MC
ZYWKH		1.590	0.010	0.15	1.562	0.038	0.72	XX

## Summary Statistics

Grand Means

1.5798 minutes

1.5232 minutes

Std Dev Btwn Labs

0.0683 minutes

0.0532 minutes

Statistics based on 26 of 27 reporting participants

Samples W45-W46: EPDM compound, batch #1 &amp; W47-W48: EPDM compound, batch #2

**Comments on assigned Data Flags for Test #684**

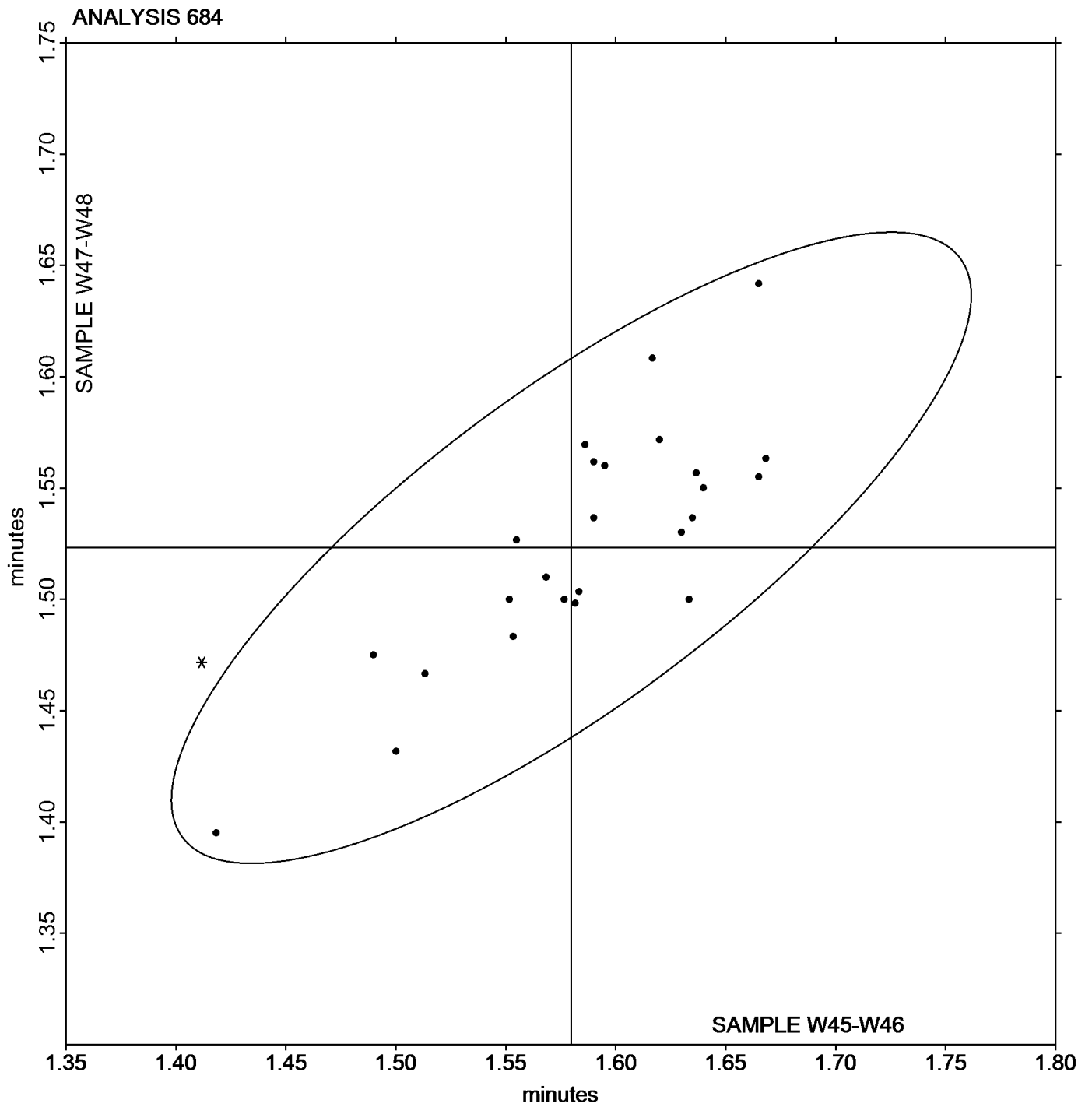
CHTDKR (X) - Data for all Samples are low.

Analysis 684

MDR Vulcanization-Cure Time 10% (minutes)

Grand Mean Sample W45-W46 = 1.5798 minutes

Grand Mean Sample W47-W48 = 1.5232 minutes



## Analysis 685

## MDR Vulcanization-Scorch Time, Ts1 (minutes)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33	*	1.243	-0.091	-1.20	1.305	0.012	0.18	MC
37TLLG		1.263	-0.071	-0.93	1.227	-0.066	-1.00	MC
3EAJRU		1.398	0.064	0.85	1.313	0.021	0.31	MC
3MXXBL		1.393	0.059	0.78	1.342	0.049	0.74	MC
4A7N6R		1.303	-0.031	-0.41	1.242	-0.051	-0.77	MC
AL4WRV		1.390	0.056	0.74	1.335	0.042	0.64	MC
BHGYEP		1.357	0.023	0.30	1.308	0.016	0.24	MC
BRHND9		1.390	0.056	0.74	1.320	0.027	0.41	MC
CHTDKR		1.293	-0.041	-0.54	1.250	-0.043	-0.65	MC
DB4E8P		1.358	0.024	0.32	1.350	0.057	0.87	MC
DJKLEU		1.387	0.053	0.70	1.345	0.052	0.79	MD
DLLVYV		1.241	-0.093	-1.24	1.203	-0.090	-1.36	MC
FCWZW		1.223	-0.111	-1.46	1.222	-0.071	-1.08	TP
JP8TQ9		1.397	0.063	0.84	1.297	0.004	0.07	MC
JYUZYT		1.398	0.064	0.85	1.370	0.077	1.17	XX
K6DKJH		1.237	-0.097	-1.29	1.232	-0.061	-0.93	MC
LH3KNY		1.278	-0.056	-0.74	1.262	-0.031	-0.47	MC
MPEX7U		1.261	-0.073	-0.96	1.270	-0.023	-0.35	MC
NM8ZBR		1.405	0.071	0.94	1.398	0.106	1.60	MC
NTPMQP	*	1.117	-0.217	-2.87	1.088	-0.204	-3.10	MC
NWPVW		1.383	0.049	0.65	1.287	-0.006	-0.09	MC
PZ7BBJ		1.333	-0.001	-0.01	1.332	0.039	0.59	MC
PZT3H4		1.317	-0.017	-0.23	1.253	-0.039	-0.60	MC
Q9CJ6P		1.357	0.023	0.30	1.300	0.007	0.11	MC
QAR27A		1.302	-0.032	-0.43	1.252	-0.041	-0.62	MC
R2GFU7		1.430	0.096	1.27	1.350	0.057	0.87	MC
WX3CA6		1.427	0.093	1.23	1.358	0.066	0.99	MD
YG3B9F		1.303	-0.031	-0.41	1.267	-0.026	-0.40	MD
ZC4ZC2		1.385	0.051	0.67	1.298	0.006	0.08	TP
ZLWPAB		1.335	0.001	0.01	1.270	-0.023	-0.35	MC
ZYWKH		1.448	0.114	1.51	1.432	0.139	2.10	XX

## Summary Statistics

Grand Means

1.3340 minutes

1.2928 minutes

Std Dev Btwn Labs

0.0756 minutes

0.0660 minutes

Statistics based on 31 of 31 reporting participants

## Analysis 685

MDR Vulcanization-Scorch Time, Ts1 (minutes)

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Instrument Code Listing

<b>685</b> MDR Vulcanization-Scorch Time, Ts1 (minutes)
---------------------------------------------------------

**Instruments:**

- |                                                      |                                                     |
|------------------------------------------------------|-----------------------------------------------------|
| (MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E | (MD) Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| (MP) Alpha Technologies [Monsanto] MDR 2000P         | (TP) Tech Pro MDR model MDPT                        |
| (XX) Instrument model not specified by lab           |                                                     |





Analysis 686

MDR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33	*	3.108	-0.195	-1.41	3.210	-0.010	-0.08	MC
37TLLG		3.102	-0.201	-1.45	3.057	-0.163	-1.32	MC
3EAJRU		3.405	0.102	0.74	3.258	0.038	0.31	MC
3MXXBL		3.343	0.040	0.29	3.262	0.042	0.34	MC
4A7N6R		3.138	-0.165	-1.19	3.053	-0.167	-1.34	MC
AL4WRV		3.245	-0.058	-0.42	3.155	-0.065	-0.52	MC
BHGYEP		3.303	0.000	0.00	3.183	-0.037	-0.30	MC
BRHND9		3.445	0.142	1.03	3.290	0.070	0.56	MC
CHTDKR		3.213	-0.090	-0.65	3.132	-0.088	-0.71	MC
DB4E8P		3.281	-0.022	-0.16	3.247	0.027	0.22	MC
DJKLEU		3.342	0.039	0.28	3.297	0.077	0.62	MD
DLLVYV		3.373	0.070	0.51	3.290	0.070	0.56	MC
FCWZW		3.055	-0.248	-1.79	2.990	-0.230	-1.85	TP
JP8TQ9		3.417	0.114	0.82	3.211	-0.009	-0.07	MC
JYUZYT		3.368	0.065	0.47	3.317	0.097	0.78	XX
K6DKJH		3.250	-0.053	-0.38	3.208	-0.012	-0.09	MC
LH3KNY		3.205	-0.098	-0.71	3.202	-0.018	-0.15	MC
MPEX7U		3.276	-0.027	-0.19	3.300	0.079	0.64	MC
NM8ZBR		3.488	0.185	1.34	3.455	0.235	1.89	MC
NTPMQP	*	2.872	-0.431	-3.12	2.808	-0.412	-3.32	MC
NWPVW		3.407	0.104	0.75	3.198	-0.022	-0.18	MC
PZ7BBJ		3.417	0.114	0.82	3.410	0.190	1.53	MC
PZT3H4		3.412	0.109	0.79	3.280	0.060	0.48	MC
Q9CJ6P		3.322	0.019	0.14	3.198	-0.022	-0.18	XX
QAR27A		3.347	0.044	0.32	3.203	-0.017	-0.13	MC
R2GFU7		3.448	0.145	1.05	3.298	0.078	0.63	MC
WX3CA6		3.492	0.189	1.36	3.380	0.160	1.29	MD
YG3B9F		3.292	-0.011	-0.08	3.208	-0.012	-0.09	MD
ZC4ZC2		3.410	0.107	0.77	3.258	0.038	0.31	TP
ZLWPAB		3.303	0.000	0.00	3.178	-0.042	-0.34	MC
ZYWKH		3.312	0.009	0.06	3.283	0.063	0.51	XX

Summary Statistics

Grand Means

3.3029 minutes

3.2200 minutes

Std Dev Btwn Labs

0.1384 minutes

0.1240 minutes

Statistics based on 31 of 31 reporting participants

**Analysis 686**

**MDR Vulcanization-Cure Time 50% (minutes)**

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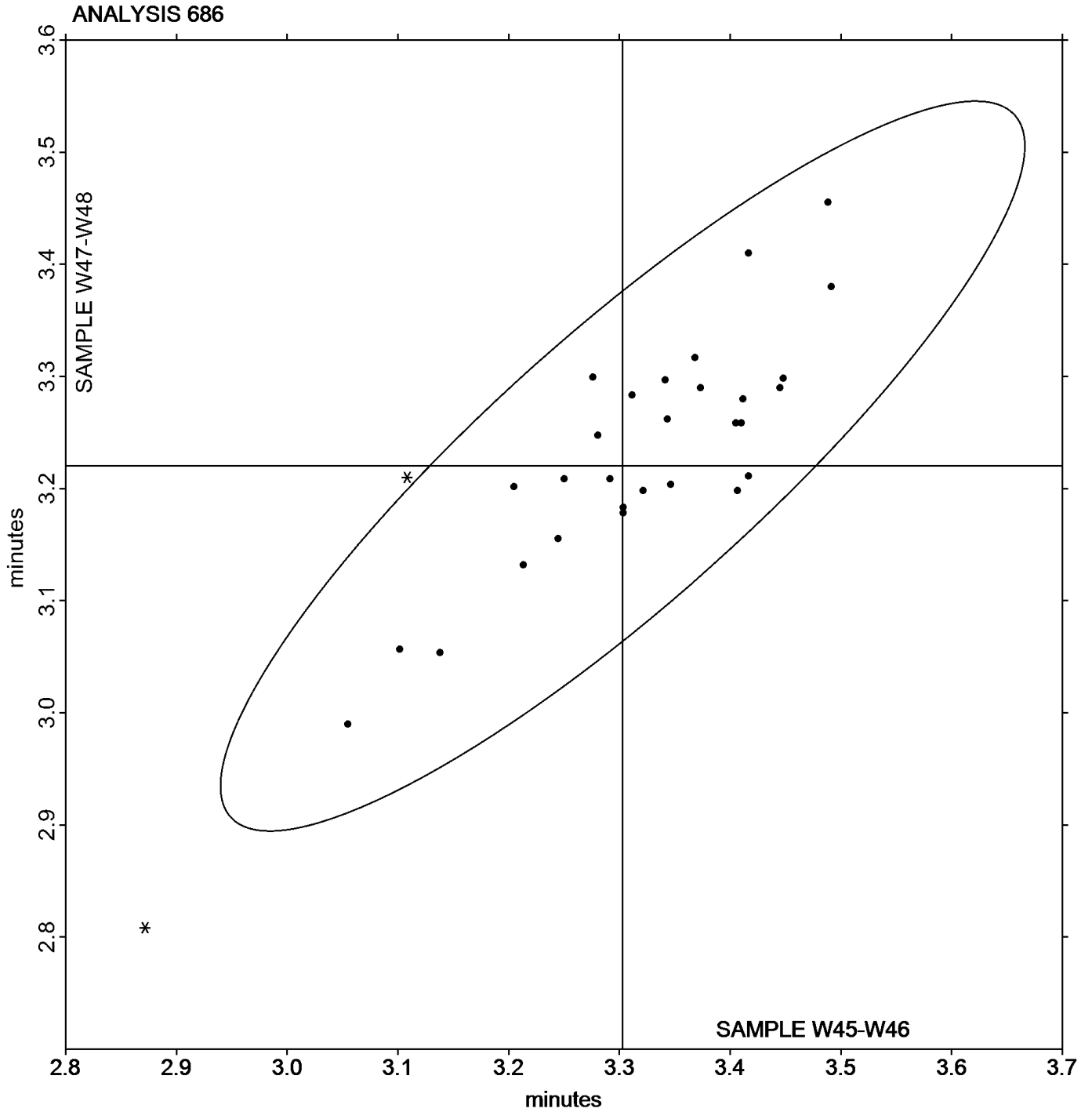
Samples W45-W46: EPDM compound, batch #1 & W47-W48: EPDM compound, batch #2

Analysis 686

MDR Vulcanization-Cure Time 50% (minutes)

Grand Mean Sample W45-W46 = 3.3029 minutes

Grand Mean Sample W47-W48 = 3.2200 minutes



Analysis 687

MDR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		6.812	-0.308	-0.81	6.918	-0.109	-0.30	MC
37TLLG		6.575	-0.545	-1.44	6.652	-0.376	-1.03	MC
3EAJRU		7.003	-0.116	-0.31	6.985	-0.042	-0.12	MC
3MXXBL		7.023	-0.096	-0.25	6.975	-0.052	-0.14	XX
4A7N6R		6.638	-0.481	-1.27	6.632	-0.396	-1.09	MC
AL4WRV		7.112	-0.008	-0.02	7.135	0.108	0.30	MC
BHGYEP		6.868	-0.251	-0.66	6.785	-0.242	-0.67	MC
BRHND9		7.380	0.260	0.69	7.160	0.133	0.37	MC
CHTDKR		7.392	0.272	0.72	7.180	0.153	0.42	MC
DB4E8P		6.961	-0.159	-0.42	6.986	-0.041	-0.11	MC
DJKLEU		6.940	-0.180	-0.47	7.065	0.038	0.10	MD
DLLVYV		7.481	0.361	0.95	7.382	0.354	0.98	MC
FCWZW	*	6.690	-0.430	-1.13	6.302	-0.726	-2.00	TP
JP8TQ9		7.239	0.119	0.31	6.897	-0.130	-0.36	MC
JYUZYT		7.005	-0.115	-0.30	6.893	-0.134	-0.37	XX
K6DKJH		7.225	0.105	0.28	7.102	0.074	0.20	MC
LH3KNY		7.027	-0.093	-0.25	7.090	0.063	0.17	XX
MPEX7U		7.056	-0.064	-0.17	7.018	-0.009	-0.02	MC
NM8ZBR		7.903	0.784	2.06	7.805	0.778	2.14	MC
NTPMQP	*	6.065	-1.055	-2.78	5.943	-1.084	-2.99	MP
NWPVW	*	7.293	0.174	0.46	6.833	-0.194	-0.53	MC
PZ7BBJ		7.605	0.485	1.28	7.543	0.516	1.42	MC
PZT3H4		7.157	0.037	0.10	7.015	-0.012	-0.03	MC
Q9CJ6P		6.970	-0.150	-0.39	6.900	-0.127	-0.35	XX
QAR27A		7.680	0.560	1.48	7.487	0.459	1.27	MC
R2GFU7		7.557	0.437	1.15	7.435	0.408	1.12	MC
WX3CA6		7.592	0.472	1.24	7.497	0.469	1.29	MD
YG3B9F		7.342	0.222	0.58	7.157	0.129	0.36	MD
ZC4ZC2		7.407	0.287	0.76	7.280	0.253	0.70	TP
ZLWPAB		6.730	-0.390	-1.03	6.802	-0.226	-0.62	MC
ZYWKH		6.987	-0.133	-0.35	6.992	-0.036	-0.10	XX

Summary Statistics	
Grand Means	7.1198 minutes
	7.0273 minutes
Std Dev Btwn Labs	0.3794 minutes
	0.3631 minutes
Statistics based on 31 of 31 reporting participants	

Samples W45-W46: EPDM compound, batch #1 & W47-W48: EPDM compound, batch #2

**Analysis 687**

**MDR Vulcanization-Cure Time 90% (minutes)**

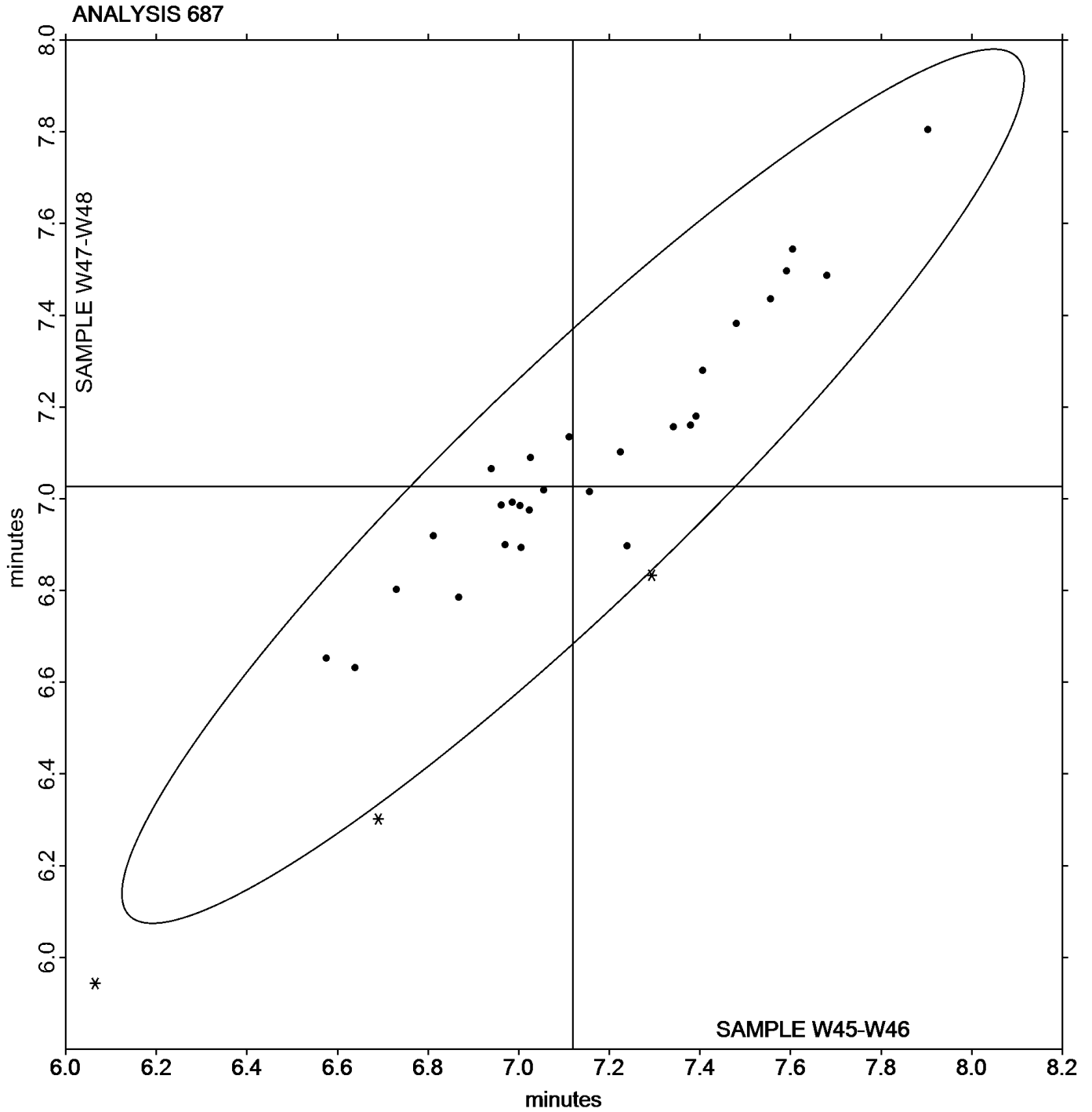
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Analysis 687

MDR Vulcanization-Cure Time 90% (minutes)

Grand Mean Sample W45-W46 = 7.1198 minutes

Grand Mean Sample W47-W48 = 7.0273 minutes



## Analysis 688

## MDR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33	*	1.842	0.225	1.86	1.873	0.180	1.45	MC
37TLLG		1.658	0.042	0.35	1.732	0.038	0.31	MC
3EAJRU		1.510	-0.106	-0.88	1.580	-0.113	-0.91	MC
3MXXBL		1.727	0.110	0.91	1.805	0.112	0.90	MC
4A7N6R		1.758	0.142	1.17	1.812	0.118	0.95	MC
AL4WRV		1.557	-0.060	-0.49	1.635	-0.058	-0.47	MC
BHGYEP		1.557	-0.060	-0.49	1.642	-0.052	-0.42	MC
BRHND9		1.494	-0.122	-1.01	1.559	-0.134	-1.08	MC
CHTDKR		1.925	0.309	2.55	2.015	0.322	2.59	MC
DB4E8P		1.690	0.074	0.61	1.780	0.087	0.70	MC
DJKLEU		1.552	-0.064	-0.53	1.632	-0.061	-0.49	MD
DLLVYV		1.651	0.034	0.28	1.689	-0.004	-0.03	MC
FCWZW		1.600	-0.016	-0.14	1.648	-0.045	-0.36	TP
JP8TQ9		1.532	-0.085	-0.70	1.632	-0.062	-0.50	MC
JYUZYT		1.630	0.014	0.11	1.698	0.005	0.04	XX
K6DKJH		1.561	-0.056	-0.46	1.634	-0.059	-0.47	MC
LH3KNY	*	1.907	0.290	2.40	2.017	0.323	2.60	XX
MPEX7U		1.637	0.021	0.17	1.680	-0.013	-0.11	MC
NM8ZBR		1.505	-0.111	-0.92	1.602	-0.092	-0.74	MC
NTPMQP		1.702	0.086	0.71	1.795	0.102	0.82	MP
NWPVW		1.588	-0.028	-0.23	1.685	-0.008	-0.07	MC
PZ7BBJ		1.577	-0.040	-0.33	1.655	-0.038	-0.31	MC
PZT3H4		1.555	-0.062	-0.51	1.642	-0.051	-0.41	MC
Q9CJ6P		1.540	-0.076	-0.63	1.610	-0.083	-0.67	XX
QAR27A		1.630	0.014	0.11	1.723	0.030	0.24	MC
R2GFU7		1.658	0.042	0.35	1.755	0.062	0.50	MC
WX3CA6		1.485	-0.132	-1.09	1.593	-0.101	-0.81	MD
YG3B9F		1.583	-0.034	-0.28	1.669	-0.024	-0.19	MD
ZC4ZC2		1.598	-0.018	-0.15	1.707	0.013	0.11	TP
ZLWPAB		1.527	-0.090	-0.74	1.577	-0.117	-0.94	MC
ZYWKH		1.375	-0.241	-2.00	1.415	-0.278	-2.24	XX

## Summary Statistics

Grand Means

1.6164 lbf.in

1.6932 lbf.in

Std Dev Btwn Labs

0.1209 lbf.in

0.1242 lbf.in

Statistics based on 31 of 31 reporting participants



## Analysis 688

## MDR Vulcanization: Minimum Torque (lbf.in)

		Summary Statistics in SI Units	
Grand Means	1.8263 dN.m	1.9131	dN.m
Std Dev Btwn Labs	0.1366 dN.m	0.1403	dN.m
Statistics based on 31 of 31 reporting participants			

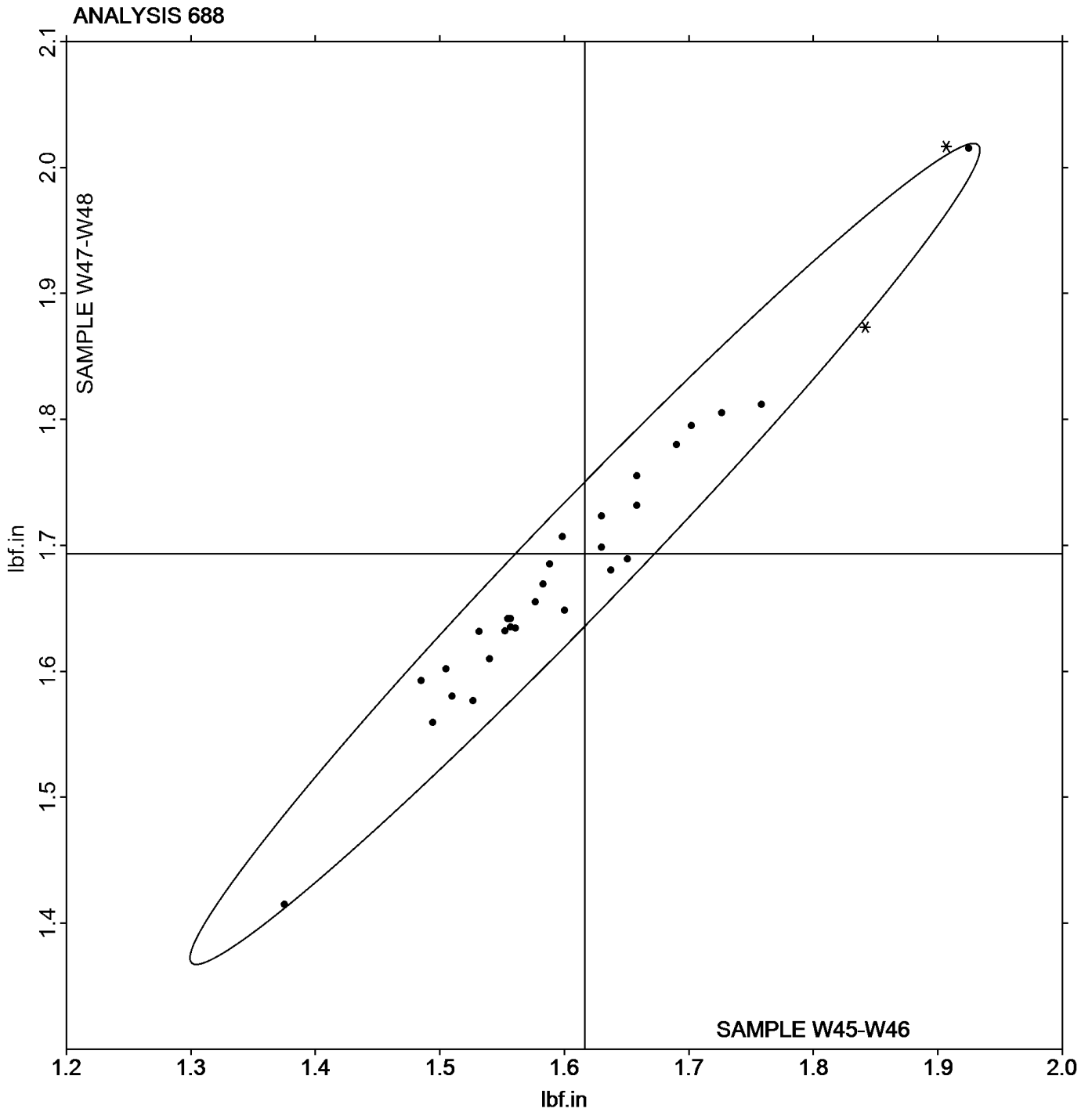
Samples W45-W46: EPDM compound, batch #1 & W47-W48: EPDM compound, batch #2

Analysis 688

MDR Vulcanization: Minimum Torque (lbf.in)

Grand Mean Sample W45-W46 = 1.6164 lbf.in

Grand Mean Sample W47-W48 = 1.6932 lbf.in



Analysis 689

MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample W45-W46			Sample W47-W48			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2D3C33		15.06	-0.91	-1.33	15.05	-0.84	-1.26	MC
37TLLG		16.64	0.67	0.98	16.81	0.92	1.38	MC
3EAJRU		15.60	-0.37	-0.54	15.61	-0.28	-0.42	MC
3MXXBL		15.20	-0.77	-1.12	15.27	-0.62	-0.92	MC
4A7N6R		15.60	-0.37	-0.54	15.78	-0.11	-0.16	MC
AL4WRV		15.01	-0.96	-1.40	15.11	-0.78	-1.16	MC
BHGYEP		15.72	-0.25	-0.36	15.44	-0.45	-0.67	MC
BRHND9		15.96	-0.01	-0.01	15.61	-0.27	-0.41	MC
CHTDKR		16.23	0.26	0.38	16.11	0.22	0.33	MC
DB4E8P		16.35	0.38	0.55	16.29	0.40	0.59	MC
DJKLEU		15.75	-0.23	-0.33	15.93	0.04	0.06	MD
DLLVYV		16.91	0.94	1.37	16.90	1.02	1.52	MC
FCWZW		15.96	-0.01	-0.02	15.43	-0.46	-0.68	TP
JP8TQ9		15.83	-0.14	-0.21	15.71	-0.18	-0.27	MC
JYUZYT		15.61	-0.36	-0.52	15.43	-0.46	-0.68	XX
K6DKJH		16.35	0.38	0.55	16.11	0.22	0.33	MC
LH3KNY		16.16	0.18	0.27	16.34	0.45	0.68	XX
MPEX7U		16.14	0.17	0.25	15.95	0.06	0.09	MC
NM8ZBR		16.42	0.45	0.65	16.35	0.46	0.69	MC
NTPMQP		16.62	0.64	0.94	16.56	0.67	1.00	MP
NWPVW		16.43	0.46	0.66	16.01	0.12	0.18	MC
PZ7BBJ		17.30	1.33	1.94	17.04	1.15	1.72	MC
PZT3H4		15.99	0.02	0.03	15.90	0.01	0.02	MC
Q9CJ6P		15.81	-0.16	-0.23	15.56	-0.33	-0.49	XX
QAR27A		17.17	1.20	1.74	17.02	1.13	1.69	MC
R2GFU7		16.10	0.13	0.19	15.95	0.06	0.09	MC
WX3CA6		15.21	-0.76	-1.11	15.36	-0.53	-0.80	MD
YG3B9F		16.54	0.57	0.82	16.40	0.51	0.76	MD
ZC4ZC2		16.08	0.10	0.15	16.15	0.26	0.39	TP
ZLWPAB		15.48	-0.49	-0.71	15.61	-0.28	-0.42	MC
ZYWKH	*	13.89	-2.08	-3.03	13.77	-2.12	-3.17	XX

Summary Statistics	
Grand Means	15.972 lbf.in
Std Dev Btwn Labs	0.688 lbf.in
	15.888 lbf.in
	0.669 lbf.in
Statistics based on 31 of 31 reporting participants	

## Analysis 689

## MDR Vulcanization: Maximum Torque (lbf.in)

		Summary Statistics in SI Units	
Grand Means	18.046 dN.m	17.951	dN.m
Std Dev Btwn Labs	0.777 dN.m	0.756	dN.m
Statistics based on 31 of 31 reporting participants			

Samples W45-W46: EPDM compound, batch #1 & W47-W48: EPDM compound, batch #2

Analysis 689

MDR Vulcanization: Maximum Torque (lbf.in)

Grand Mean Sample W45-W46 = 15.972 lbf.in

Grand Mean Sample W47-W48 = 15.888 lbf.in

