Collaborative Testing Services, Inc.

Fasteners & Metals Interlaboratory Testing Program

Summary Report Cycle 136, 4th Qtr 2021

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ABOUT THE FASTENERS & METALS PROGRAM

Collaborative Testing Services operates and maintains the program for Fasteners and Metals as part of a series of Proficiency and Interlaboratory Testing Programs offered by CTS in cooperation with various associations for a wide range of industries. Personnel from the National Institute of Standards and Technology (formerly the National Bureau of Standards), Industrial Fasteners Institute (IFI), and the Naval Shipyard Laboratories provide technical guidance and advice to this program.

The purpose of the program is to give participating laboratories a means to compare periodically the level and uniformity of their testing with that of other laboratories in the industry. It also provides a realistic assessment of the state of fasteners and metals testing proficiency.

In each report, there is a summary of the statistics for the analysis and a graphical representation of the data for each test. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Refer to the 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 industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine 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 50 countries, currently participate in the CTS programs.
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Key for Fasteners & Metals Program Web Summary Report

WebCode - Assigned laboratory identification number(temporary)used to ensure lab confidentiality while permitting a lab to locate its data in the report published on the CTS website.

Lab Mean - 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.

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 (CPV) - 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. CPV = (LAB MEAN - GRAND MEAN)/ BETWEEN-LAB STANDARD DEVIATION. 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).

Instr. Code - 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 Flags

Data Flag Type	Statistically Included/Excluded	ACTION REQUIRED
*	INCLUDED	CAUTION - review testing procedure and monitor future results. Results fall outside the drawn 95% ellipse but within a 99% ellipse that is calculated but not drawn. Labs flagged with an * do not typically receive a specific note regarding the flag. If this error is repeated in future rounds, however, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm.
X	EXCLUDED	STOP - immediate review of data and/or testing procedure is required (all tests exept Chemical Analyses). Results fall outside the 99% ellipse. See the specific note following the data for more information on why the data are excluded. For Chemical Analyses see an additional Memo.
M	EXCLUDED	PROCEED - lab was unable to report data for at least one sample. However, a lab receiving two or more M flags for a test may need to stop and review its testing procedures.

Graph - For each laboratory, the Lab Mean for the second sample (y-axis) is plotted against the Lab Mean for the first sample (x-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 included 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. Labs not receiving a data flag appear as points on the plot.

Fasteners and Metals Interlaboratory Testing Program

Analysis 1004

Charpy V-Notch (Room Temperature)
ASTM E23

Cycle 136
4th Qtr 2021

WebCode	Data Flag	Sample U79 Lab Mean	Sample U79 Diff. from Grand Mean	Sample U79 CPV	Sample U80 Lab Mean	Sample U80 Diff. from Grand Mean	Sample U80 CPV
2NEQPQ	*	48.33	-23.05	-2.64	51.33	-23.20	-2.93
7X4RUA		71.00	-0.39	-0.04	77.67	3.13	0.39
8MWCGA		68.67	-2.72	-0.31	73.67	-0.87	-0.11
8ZYZDB		76.58	5.19	0.60	75.62	1.08	0.14
9NMHAT		71.67	0.28	0.03	78.33	3.80	0.48
BXMUG8		71.63	0.25	0.03	80.13	5.60	0.71
DB2AJA		52.33	-19.05	-2.18	55.67	-18.87	-2.38
DKCC6B		71.33	-0.05	-0.01	75.67	1.13	0.14
DKWFUJ		71.80	0.41	0.05	77.08	2.54	0.32
DV7CCR		72.10	0.71	0.08	71.80	-2.74	-0.35
EBF3QW		71.67	0.28	0.03	69.00	-5.54	-0.70
FV7WDZ		73.83	2.45	0.28	75.67	1.13	0.14
G7W83H		84.50	13.11	1.50	89.00	14.46	1.82
GREWE9		72.00	0.61	0.07	73.67	-0.87	-0.11
J8JB33	*	93.13	21.75	2.49	87.17	12.63	1.59
KG7PMK		68.10	-3.29	-0.38	73.30	-1.24	-0.16
L6MUH6		68.85	-2.53	-0.29	69.51	-5.03	-0.63
LNECE6		62.67	-8.72	-1.00	70.60	-3.94	-0.50
PZ4VH8		81.80	10.41	1.19	77.28	2.74	0.35
QR4CJ3		65.69	-5.70	-0.65	70.01	-4.53	-0.57
R4FD22		78.18	6.79	0.78	81.80	7.26	0.92
T2869M		74.60	3.21	0.37	81.13	6.60	0.83
UVWX23		66.67	-4.72	-0.54	76.33	1.80	0.23
VHZQJ6		73.13	1.74	0.20	79.71	5.17	0.65
W82DZJ		73.14	1.75	0.20	71.94	-2.60	-0.33
YF7LDA		72.64	1.26	0.14	74.93	0.39	0.05

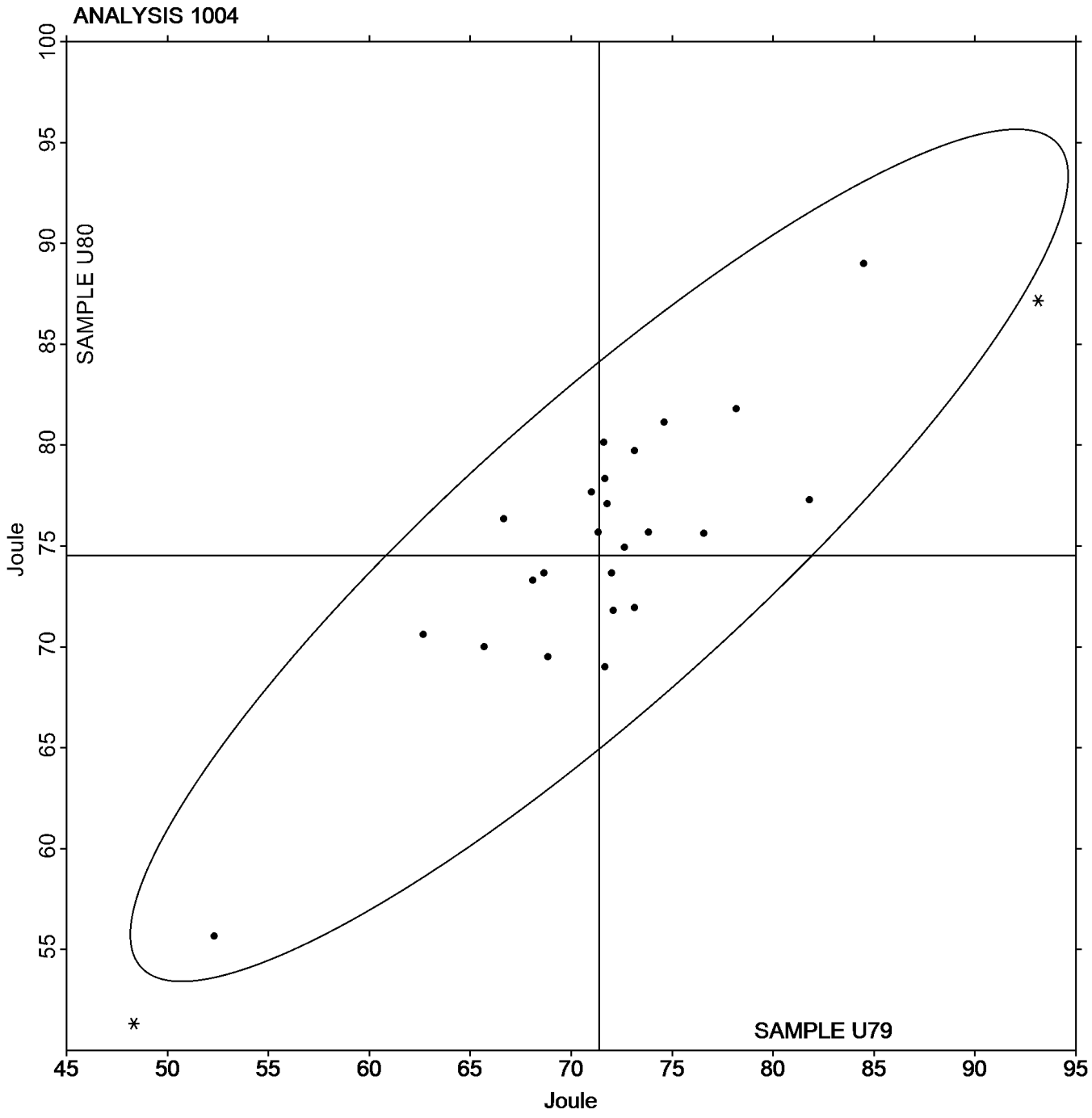
Summary Statistics

	Sample U79		Sample U80	
Grand Means	71.39	Joule	74.54	Joule
Stnd Dev Btwn Labs	8.72	Joule	7.93	Joule

Samples U79, U80 : AISI 4340, AISI 4340

Statistics based on 26 of 26 reporting participants

SAMPLE U79	SAMPLE U80
71.39 Joule	74.54 Joule



		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2BJ4DG		93.70	-4.47	-1.86	111.40	-0.33	-0.23
2H4PEV		94.70	-3.47	-1.44	112.00	0.27	0.18
2TM2UE		99.60	1.43	0.60	111.90	0.17	0.11
2VP2RQ		99.74	1.57	0.66	111.81	0.08	0.06
3FBDW2	X	109.00	10.83	4.51	114.90	3.17	2.17
3JTF2L		99.20	1.03	0.43	114.40	2.67	1.83
42UFQZ		98.10	-0.06	-0.03	110.65	-1.08	-0.74
4AY48W		98.77	0.61	0.25	111.87	0.14	0.09
4BWZR8		98.61	0.45	0.19	112.22	0.48	0.33
4C4WYA		100.00	1.83	0.76	113.00	1.27	0.87
4JMH7F	X	99.30	1.13	0.47	105.20	-6.53	-4.49
4KYUNX		98.88	0.71	0.30	110.89	-0.84	-0.58
4RGTAJ		97.22	-0.95	-0.40	111.20	-0.54	-0.37
4VHBG6		102.00	3.83	1.60	110.20	-1.53	-1.05
4X823Q		97.10	-1.07	-0.44	111.00	-0.73	-0.50
63H94V	X	98.05	-0.12	-0.05	106.89	-4.84	-3.32
63WE6H		98.78	0.62	0.26	111.59	-0.14	-0.10
69TCZN		98.69	0.53	0.22	111.89	0.15	0.10
6PA84B		99.39	1.22	0.51	112.00	0.27	0.18
6RX267		98.73	0.56	0.24	110.57	-1.16	-0.80
6TBDK3		95.03	-3.14	-1.31	113.53	1.80	1.23
7X4RUA		97.60	-0.57	-0.24	111.20	-0.53	-0.37
93MGHC		99.32	1.15	0.48	112.62	0.89	0.61
99UAC8		101.28	3.11	1.30	110.58	-1.15	-0.79
9QX688		93.68	-4.48	-1.87	109.19	-2.55	-1.75
9XVVNB		99.35	1.18	0.49	110.88	-0.85	-0.58
9ZJADL		97.74	-0.43	-0.18	113.37	1.64	1.12
AC9MR9		102.16	3.99	1.66	113.53	1.80	1.23
ACMQ38		101.96	3.80	1.58	112.84	1.11	0.76
AECFNR		100.00	1.83	0.76	111.20	-0.53	-0.37
AJB6C8		99.50	1.33	0.56	112.30	0.57	0.39
ARZH7K		99.21	1.04	0.43	110.52	-1.21	-0.83
AVY26C		98.40	0.23	0.10	114.10	2.37	1.62
BEB3FQ		99.35	1.19	0.49	112.84	1.11	0.76
C7DH7H		100.50	2.33	0.97	110.40	-1.33	-0.92
C9YG6X		100.10	1.93	0.81	112.80	1.07	0.73
CHPFY6	*	100.13	1.97	0.82	116.15	4.41	3.03
CRVECD		99.22	1.05	0.44	110.79	-0.94	-0.65
CRZ38T		101.20	3.03	1.26	110.70	-1.03	-0.71
D7UJG4		98.76	0.59	0.25	114.04	2.31	1.59
DJWJ2E		98.25	0.08	0.04	110.74	-1.00	-0.68
DKPZ72		94.10	-4.07	-1.69	110.00	-1.73	-1.19
DKWFUJ		99.19	1.03	0.43	111.79	0.06	0.04
DV7CCR		97.70	-0.47	-0.19	110.80	-0.93	-0.64
EB2WTF		94.70	-3.47	-1.44	111.00	-0.73	-0.50
F26Z6W	*	99.00	0.83	0.35	116.00	4.27	2.93
FBYNZL		97.51	-0.66	-0.27	111.40	-0.33	-0.23

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
FEUZWY		98.50	0.33	0.14	110.00	-1.73	-1.19
FQPQGQ		99.30	1.13	0.47	112.10	0.37	0.25
FV7WDZ		93.84	-4.32	-1.80	111.39	-0.34	-0.24
FY3P6A		97.00	-1.17	-0.49	111.00	-0.73	-0.50
GHQ32Q		100.60	2.43	1.01	110.20	-1.53	-1.05
HQ2PPK	*	92.47	-5.69	-2.37	109.35	-2.38	-1.64
HQJZJ7		93.20	-4.97	-2.07	111.00	-0.73	-0.50
JCYZ8X	X	105.30	7.13	2.97	107.18	-4.55	-3.13
JWMBHC		98.20	0.03	0.01	111.00	-0.73	-0.50
K6CZCX		93.54	-4.63	-1.93	110.84	-0.89	-0.61
KAMLDW	X	88.79	-9.37	-3.90	88.26	-23.48	-16.12
KDM2XY		94.10	-4.07	-1.69	112.60	0.87	0.60
KKJ4TJ		95.50	-2.67	-1.11	112.00	0.27	0.18
KMCFPQ		98.60	0.43	0.18	112.00	0.27	0.18
KQA2GT		97.57	-0.60	-0.25	111.23	-0.50	-0.35
KV7Z3W		99.50	1.33	0.56	111.50	-0.23	-0.16
KYNPF2		99.51	1.35	0.56	111.56	-0.17	-0.12
L22LYP		102.00	3.83	1.60	113.00	1.27	0.87
LLVJZC		101.30	3.13	1.30	112.40	0.67	0.46
LR2EJC		95.60	-2.57	-1.07	110.20	-1.53	-1.05
LYLCAK		96.97	-1.20	-0.50	111.69	-0.04	-0.03
M4929F		94.28	-3.89	-1.62	112.12	0.38	0.26
M8DC2H	X	83.92	-14.25	-5.93	92.45	-19.28	-13.24
MDV3NQ		93.13	-5.04	-2.10	109.29	-2.44	-1.67
MTBQT2	X	90.50	-7.67	-3.19	108.70	-3.03	-2.08
MUYWXB		99.40	1.23	0.51	111.59	-0.14	-0.10
N6M97P		97.57	-0.60	-0.25	112.36	0.63	0.43
NBVMZ8		99.50	1.33	0.56	112.00	0.27	0.18
NGUXMJ		96.19	-1.98	-0.82	113.41	1.68	1.15
NT6VMZ		95.30	-2.87	-1.19	111.00	-0.73	-0.50
PE68E8		98.50	0.33	0.14	111.30	-0.43	-0.30
PGDWL3		100.12	1.95	0.81	115.21	3.47	2.39
PYNXCU		99.00	0.83	0.35	114.10	2.37	1.62
PZ4VH8		99.93	1.77	0.74	112.41	0.67	0.46
Q447E8		98.27	0.11	0.05	111.90	0.17	0.11
QFAXHK		99.00	0.83	0.35	111.00	-0.73	-0.50
QNAUP4		99.28	1.11	0.46	114.10	2.37	1.62
QR4CJ3	*	98.09	-0.08	-0.03	107.80	-3.93	-2.70
R3HNCQ		95.73	-2.44	-1.02	112.41	0.67	0.46
REC62R		95.00	-3.17	-1.32	114.00	2.27	1.56
REUWDX	X	111.70	13.54	5.63	98.11	-13.63	-9.36
RNWELE		103.77	5.60	2.33	113.09	1.36	0.93
RZUKVZ		98.21	0.04	0.02	112.70	0.96	0.66
T4TVBD		97.27	-0.90	-0.37	113.59	1.86	1.27
T8R88D	X	87.17	-10.99	-4.58	152.19	40.46	27.78
TTUGP2		99.21	1.04	0.43	112.55	0.82	0.56
TU7UXN		97.60	-0.57	-0.24	110.00	-1.73	-1.19

Fasteners and Metals Interlaboratory Testing Program

Analysis 1131

Tensile Strength: Lab-Machined Flat Steel
ASTM E8

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
TZPPPY		98.50	0.33	0.14	112.10	0.37	0.25
U94LD7		92.60	-5.57	-2.32	110.00	-1.73	-1.19
UFEPYQ		99.60	1.43	0.60	111.90	0.17	0.11
UYVCL8		100.00	1.83	0.76	112.00	0.27	0.18
VB32ZF	X	93.50	-4.67	-1.94	81.80	-29.93	-20.55
VKQQ4U		100.30	2.13	0.89	111.50	-0.23	-0.16
VNUHA4		99.84	1.68	0.70	110.58	-1.16	-0.79
VZ4NY3		98.20	0.03	0.01	111.00	-0.73	-0.50
WGKQYF	X	91.03	-7.14	-2.97	105.44	-6.29	-4.32
WNKU2E	X	95.10	-3.07	-1.28	91.20	-20.53	-14.10
WWG9PD	X	80.80	-17.37	-7.23	86.40	-25.33	-17.39
XGLBHV		100.00	1.83	0.76	110.00	-1.73	-1.19
XLCYW2		93.30	-4.87	-2.03	110.30	-1.43	-0.98
XQPLTR		94.50	-3.67	-1.53	112.70	0.97	0.66
XQPYEF		95.70	-2.47	-1.03	109.00	-2.73	-1.88
XTXUX7		97.90	-0.27	-0.11	110.80	-0.93	-0.64
XWFW3P		98.77	0.61	0.25	113.96	2.22	1.53
XYY7U3	*	101.00	2.83	1.18	109.00	-2.73	-1.88
Y3DMMK		101.71	3.54	1.48	113.30	1.57	1.08
YF7LDA		97.30	-0.87	-0.36	110.68	-1.05	-0.72
YKUBRR		101.90	3.74	1.56	112.75	1.02	0.70
ZAELTM		100.20	2.03	0.85	109.50	-2.24	-1.54
ZLNW4B	X	86.10	-12.07	-5.02	84.40	-27.33	-18.77
ZZ4K8L		99.06	0.90	0.37	112.26	0.53	0.36
ZZ4WZ2		98.87	0.71	0.29	112.16	0.43	0.29
ZZNZMN		97.47	-0.70	-0.29	111.83	0.09	0.06
ZZQQVR		97.18	-0.99	-0.41	111.26	-0.47	-0.33

Summary Statistics

	Sample F79		Sample F80	
Grand Means	98.17	ksi	111.73	ksi
Stnd Dev Btwn Labs	2.40	ksi	1.46	ksi

Samples F79, F80 : AISI 4130 - 12G, AISI 4130 - 14G

Statistics based on 107 of 121 reporting participants

Comments on Assigned Data Flags for Test #1131

3FBDW2 (X) - Data for sample F79 are high.

4JMH7F (X) - Data for sample F80 are low.

63H94V (X) - Data for sample F80 are low.

JCYZ8X (X) - Data for sample F79 are high and data for sample F80 are low.

KAMLDW (X) - Data for both samples are low.

M8DC2H (X) - Data for both samples are low.

MTBQT2 (X) - Data for sample F79 are low.

REUWDX (X) - Data for sample F79 are high and data for sample F80 are low.

T8R88D (X) - Data for sample F79 are low and data for sample F80 are high.

VB32ZF (X) - Data for sample F80 are low.

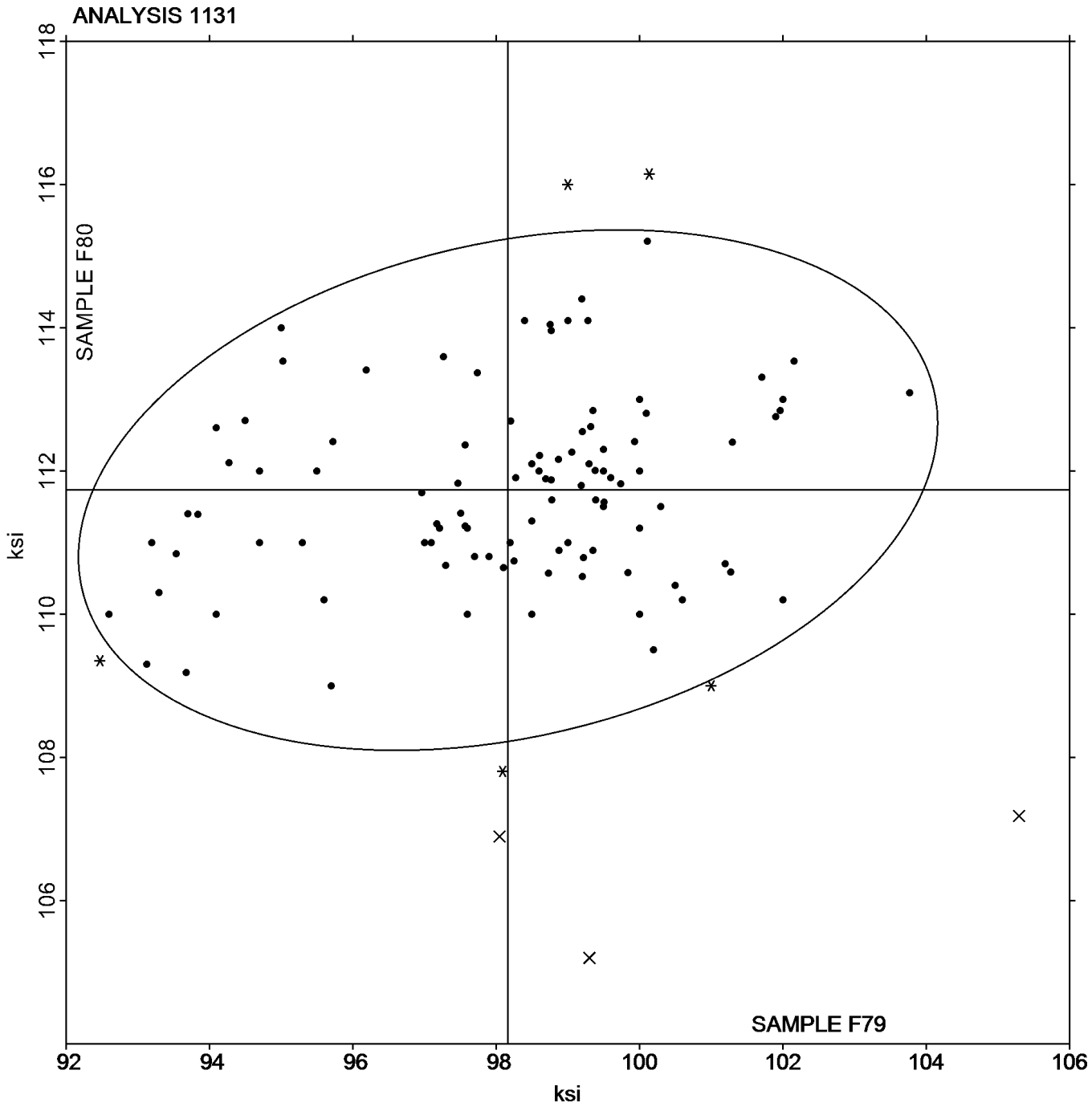
WGKQYF (X) - Data for both samples are low.

WNKU2E (X) - Data for sample F80 are low.

WWG9PD (X) - Appears to report yield strength instead tensile strength.

ZLNW4B (X) - Appears to report yield strength instead tensile strength.

SAMPLE F79	SAMPLE F80
98.17 ksi	111.73 ksi



		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2BJ4DG		80.20	-2.89	-0.80	92.20	1.22	0.75
2H4PEV		80.80	-2.29	-0.63	91.80	0.82	0.50
2TM2UE		83.60	0.51	0.14	90.50	-0.48	-0.30
2VP2RQ		84.79	1.70	0.47	90.85	-0.13	-0.08
3FBDW2	*	91.20	8.11	2.23	94.30	3.32	2.03
3JTF2L		83.20	0.11	0.03	90.00	-0.98	-0.60
42UFQZ		86.10	3.00	0.83	90.52	-0.46	-0.28
4AY48W		84.55	1.46	0.40	93.23	2.24	1.37
4BWZR8		80.84	-2.25	-0.62	90.69	-0.29	-0.18
4C4WYA		83.80	0.71	0.20	92.10	1.12	0.68
4JMH7F	X	82.00	-1.09	-0.30	82.70	-8.28	-5.07
4KYUNX		83.70	0.61	0.17	89.68	-1.30	-0.80
4RGTAJ		83.29	0.20	0.06	89.94	-1.04	-0.64
4VHBG6		89.30	6.21	1.71	90.10	-0.88	-0.54
4X823Q		82.50	-0.59	-0.16	90.20	-0.78	-0.48
63H94V	X	83.83	0.74	0.20	85.86	-5.12	-3.14
63WE6H		82.23	-0.86	-0.24	90.99	0.01	0.01
69TCZN		87.38	4.29	1.18	92.36	1.38	0.84
6PA84B		85.62	2.53	0.70	91.73	0.74	0.45
6RX267		82.32	-0.77	-0.21	88.68	-2.30	-1.41
6TBDK3	X	75.83	-7.26	-2.00	84.35	-6.63	-4.06
7X4RUA		83.00	-0.09	-0.03	90.80	-0.18	-0.11
93MGHC		82.14	-0.95	-0.26	90.93	-0.05	-0.03
99UAC8		90.42	7.33	2.02	90.39	-0.60	-0.37
9QX688		78.73	-4.36	-1.20	88.52	-2.47	-1.51
9XVVNB		86.85	3.76	1.04	90.58	-0.41	-0.25
9ZJADL		83.15	0.06	0.02	93.39	2.41	1.47
AC9MR9		84.85	1.76	0.48	91.50	0.52	0.32
ACMQ38	X	95.58	12.49	3.44	95.29	4.31	2.64
AECFNR		87.10	4.01	1.10	90.40	-0.58	-0.36
AJB6C8		80.40	-2.69	-0.74	90.40	-0.58	-0.36
ARZH7K		88.33	5.24	1.44	89.78	-1.20	-0.74
AVY26C		80.30	-2.79	-0.77	93.40	2.42	1.48
BEB3FQ		83.54	0.45	0.12	91.52	0.54	0.33
C7DH7H	X	90.30	7.21	1.99	86.60	-4.38	-2.69
C9YG6X		85.70	2.61	0.72	92.00	1.02	0.62
CHPFY6	*	84.20	1.10	0.30	94.94	3.96	2.42
CRVECD		92.00	8.91	2.46	93.00	2.02	1.24
CRZ38T		89.80	6.71	1.85	91.00	0.02	0.01
D7UJG4		80.99	-2.10	-0.58	92.33	1.35	0.83
DJWJ2E		78.12	-4.97	-1.37	88.82	-2.16	-1.32
DKPZ72		78.80	-4.29	-1.18	89.10	-1.88	-1.15
DKWFUJ		82.73	-0.36	-0.10	90.63	-0.35	-0.21
DV7CCR	X	85.20	2.11	0.58	97.70	6.72	4.11
EB2WTF		80.50	-2.59	-0.71	90.90	-0.08	-0.05
F26Z6W		78.30	-4.79	-1.32	92.60	1.62	0.99
FBYNZL		85.40	2.31	0.64	91.36	0.38	0.23

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
FEUZWY		80.10	-2.99	-0.82	89.30	-1.68	-1.03
FQPQGQ		84.40	1.31	0.36	91.20	0.22	0.13
FV7WDZ		84.27	1.18	0.32	94.13	3.15	1.93
FY3P6A	*	82.00	-1.09	-0.30	87.00	-3.98	-2.44
GHQ32Q		85.60	2.51	0.69	90.80	-0.18	-0.11
HQ2PPK		77.70	-5.39	-1.49	89.60	-1.38	-0.85
HQJZJ7		76.90	-6.19	-1.71	90.30	-0.68	-0.42
JCYZ8X	X	93.52	10.42	2.87	90.26	-0.73	-0.45
JWMBHC		84.20	1.11	0.31	89.50	-1.48	-0.91
K6CZCX		77.78	-5.31	-1.46	89.91	-1.07	-0.66
KAMLDW	X	99.74	16.64	4.59	108.17	17.18	10.52
KDM2XY		81.10	-1.99	-0.55	91.60	0.62	0.38
KKJ4TJ		80.70	-2.39	-0.66	90.70	-0.28	-0.17
KMCFPQ		85.00	1.91	0.53	91.00	0.02	0.01
KQA2GT		83.21	0.12	0.03	90.04	-0.94	-0.58
KV7Z3W		83.80	0.71	0.20	91.50	0.52	0.32
KYNPF2		87.17	4.08	1.12	92.36	1.38	0.84
L22LYP		85.80	2.71	0.75	92.30	1.32	0.81
LLVJZC		87.70	4.61	1.27	91.80	0.82	0.50
LR2EJC		79.80	-3.29	-0.91	89.60	-1.38	-0.85
LYLCAK		83.25	0.15	0.04	91.64	0.66	0.40
M4929F		78.32	-4.77	-1.31	91.37	0.39	0.24
M8DC2H	X	95.29	12.20	3.36	110.94	19.96	12.22
MDV3NQ		75.46	-7.63	-2.10	89.17	-1.81	-1.11
MTBQT2		77.60	-5.49	-1.51	89.40	-1.58	-0.97
MUYWXB		83.91	0.81	0.22	92.42	1.44	0.88
N6M97P		81.79	-1.30	-0.36	91.59	0.61	0.37
NBVMZ8		84.00	0.91	0.25	91.70	0.72	0.44
NT6VMZ		81.50	-1.59	-0.44	92.00	1.02	0.62
PE68E8		87.40	4.31	1.19	92.10	1.12	0.68
PGDWL3		86.95	3.86	1.06	94.29	3.31	2.03
PYNXCU		81.10	-1.99	-0.55	92.60	1.62	0.99
PZ4VH8		86.15	3.06	0.84	91.95	0.97	0.59
Q447E8		83.14	0.04	0.01	92.39	1.40	0.86
QFAXHK		81.40	-1.69	-0.47	88.50	-2.48	-1.52
QNAUP4	X	83.53	0.44	0.12	99.28	8.30	5.08
QR4CJ3		90.83	7.74	2.13	91.79	0.80	0.49
R3HNCQ		79.05	-4.05	-1.11	91.23	0.25	0.15
REC62R		80.00	-3.09	-0.85	93.00	2.02	1.24
REUWDX	X	91.52	8.43	2.32	83.32	-7.67	-4.70
RZUKVZ		84.46	1.36	0.38	92.33	1.35	0.83
T4TVBD		75.54	-7.55	-2.08	89.78	-1.20	-0.74
T8R88D	X	102.11	19.01	5.24	107.64	16.65	10.20
TTUGP2		80.79	-2.30	-0.64	91.23	0.25	0.15
TU7UXN		81.10	-1.99	-0.55	90.40	-0.58	-0.36
TZPPPY		83.00	-0.09	-0.03	91.70	0.72	0.44
U94LD7		76.90	-6.19	-1.71	88.30	-2.68	-1.64

Fasteners and Metals Interlaboratory Testing Program

Analysis 1132

Yield Strength: Lab-Machined Flat Steel
ASTM E8

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
UFEPYQ		84.10	1.01	0.28	91.10	0.12	0.07
UYVCL8		86.30	3.21	0.88	92.10	1.12	0.68
VB32ZF	X	79.10	-3.99	-1.10	81.80	-9.18	-5.63
VKQQ4U		87.00	3.91	1.08	90.00	-0.98	-0.60
VNUHA4		91.27	8.18	2.25	91.49	0.51	0.31
VZ4NY3		83.50	0.41	0.11	89.70	-1.28	-0.79
WGKQYF	*	79.90	-3.19	-0.88	86.07	-4.91	-3.01
WNKU2E		79.30	-3.79	-1.04	91.20	0.22	0.13
WWG9PD	X	97.80	14.71	4.05	110.00	19.02	11.65
XGLBHV	X	80.50	-2.59	-0.71	83.70	-7.28	-4.46
XLCYW2		76.20	-6.89	-1.90	89.60	-1.38	-0.85
XQPLTR		79.50	-3.59	-0.99	93.40	2.42	1.48
XQPYEF		79.20	-3.89	-1.07	87.40	-3.58	-2.20
XTXUX7	*	79.30	-3.79	-1.04	86.80	-4.18	-2.56
XWFW3P		86.88	3.79	1.04	93.52	2.54	1.55
XYY7U3	X	85.70	2.61	0.72	81.40	-9.58	-5.87
Y3DMMK		88.40	5.30	1.46	93.48	2.50	1.53
YF7LDA		83.50	0.41	0.11	90.56	-0.42	-0.26
YKUBRR		83.80	0.71	0.20	91.08	0.10	0.06
ZAELTM		83.14	0.04	0.01	88.11	-2.87	-1.76
ZLNW4B	X	86.10	3.01	0.83	84.40	-6.58	-4.03
ZZ4K8L		83.69	0.60	0.16	90.65	-0.33	-0.20
ZZ4WZ2		84.44	1.35	0.37	91.69	0.71	0.43
ZZNZMN		81.80	-1.29	-0.36	90.21	-0.77	-0.47
ZZQQVR		82.51	-0.58	-0.16	90.48	-0.51	-0.31

Summary Statistics

	Sample F79		Sample F80	
Grand Means	83.09	ksi	90.98	ksi
Stnd Dev Btwn Labs	3.63	ksi	1.63	ksi

Samples F79, F80 : AISI 4130 - 12G, AISI 4130 - 14G

Statistics based on 102 of 119 reporting participants

Comments on Assigned Data Flags for Test #1132

4JMH7F (X) - Data for sample F80 are low.

63H94V (X) - Data for sample F80 are low.

6TBDK3 (X) - Data for sample F80 are low.

ACMQ38 (X) - Data for sample F79 are high.

C7DH7H (X) - Inconsistent in testing between samples.

DV7CCR (X) - Data for sample F80 are high.

JCYZ8X (X) - Data for sample F79 are high.

KAMLDW (X) - Data for both samples are high.

M8DC2H (X) - Data for both samples are high.

QNAUP4 (X) - Data for sample F80 are high.

REUWDX (X) - Data for sample F80 are low.

T8R88D (X) - Data for both samples are high.

VB32ZF (X) - Data for sample F80 are low.

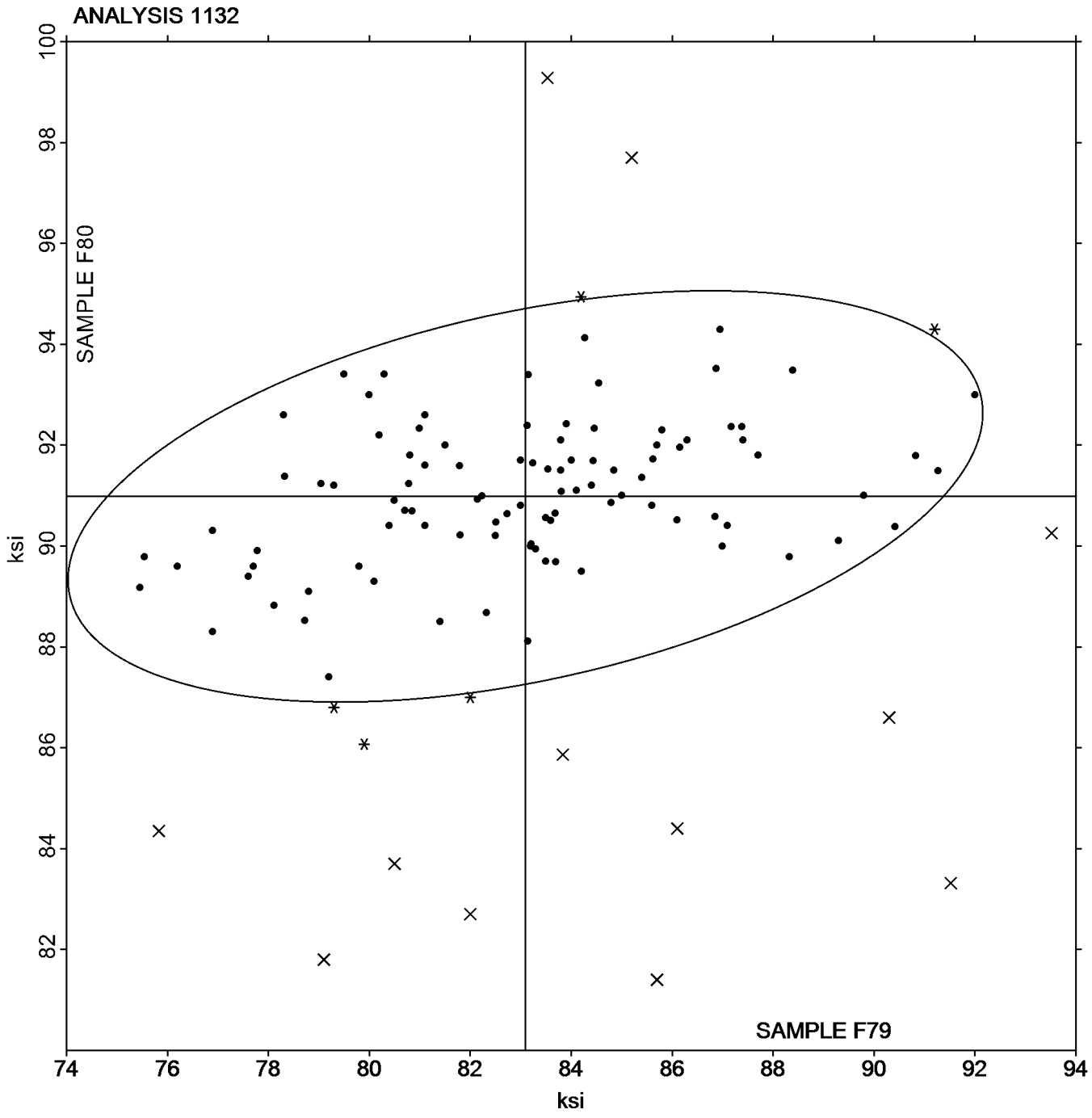
WWG9PD (X) - Appears to report tensile strength instead yield strength.

XGLBHV (X) - Data for sample F80 are low.

XYY7U3 (X) - Data for sample F80 are low.

ZLNW4B (X) - Data for sample F80 are low.

SAMPLE F79	SAMPLE F80
83.09 ksi	90.98 ksi



		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2BJ4DG		19.50	2.19	1.25	14.90	0.63	0.49
2H4PEV		18.90	1.59	0.91	14.90	0.63	0.49
2TM2UE		20.29	2.98	1.70	16.28	2.01	1.57
2VP2RQ		14.02	-3.29	-1.88	12.21	-2.06	-1.60
3FBDW2		16.50	-0.81	-0.46	14.40	0.13	0.10
3JTF2L		15.40	-1.91	-1.09	13.40	-0.87	-0.67
42UFQZ	X	9.080	-8.23	-4.71	8.650	-5.62	-4.37
4AY48W		20.00	2.69	1.54	15.00	0.73	0.57
4BWZR8		17.20	-0.11	-0.06	14.10	-0.17	-0.13
4C4WYA		18.00	0.69	0.39	14.00	-0.27	-0.21
4JMH7F		15.00	-2.31	-1.32	14.50	0.23	0.18
4KYUNX		16.26	-1.05	-0.60	14.46	0.19	0.15
4RGTAJ		17.00	-0.31	-0.18	14.40	0.13	0.10
4VHBG6		17.10	-0.21	-0.12	14.70	0.43	0.34
4X823Q		16.50	-0.81	-0.46	13.90	-0.37	-0.29
63H94V	X	10.70	-6.61	-3.78	9.800	-4.47	-3.48
63WE6H		17.00	-0.31	-0.18	16.00	1.73	1.35
69TCZN		17.20	-0.11	-0.06	14.60	0.33	0.26
6PA84B	*	14.64	-2.67	-1.53	10.68	-3.59	-2.79
6RX267		17.58	0.27	0.15	13.78	-0.49	-0.38
6TBDK3	X	145.00	127.69	73.07	82.50	68.23	53.10
7X4RUA		19.60	2.29	1.31	14.10	-0.17	-0.13
93MGHC		16.40	-0.91	-0.52	14.80	0.53	0.41
99UAC8		15.15	-2.16	-1.24	13.74	-0.53	-0.41
9QX688		18.10	0.79	0.45	14.60	0.33	0.26
9XVVNB		19.70	2.39	1.37	16.75	2.48	1.93
9ZJADL		18.42	1.11	0.63	14.17	-0.10	-0.08
AC9MR9	X	16.90	-0.41	-0.24	9.800	-4.47	-3.48
ACMQ38	X	8.360	-8.95	-5.12	14.26	-0.01	-0.01
AECFNR		19.20	1.89	1.08	14.00	-0.27	-0.21
AJB6C8		15.20	-2.11	-1.21	12.90	-1.37	-1.06
ARZH7K		17.00	-0.31	-0.18	13.70	-0.57	-0.44
AVY26C		15.00	-2.31	-1.32	13.00	-1.27	-0.99
BEB3FQ		17.10	-0.21	-0.12	13.40	-0.87	-0.67
C7DH7H	*	12.90	-4.41	-2.52	11.10	-3.17	-2.46
C9YG6X		17.60	0.29	0.17	15.10	0.83	0.65
CHPFY6		18.40	1.09	0.62	13.80	-0.47	-0.36
CRVECD		15.40	-1.91	-1.09	14.20	-0.07	-0.05
CRZ38T		16.40	-0.91	-0.52	13.00	-1.27	-0.99
D7UJG4		17.78	0.47	0.27	13.74	-0.53	-0.41
DJWJ2E		17.10	-0.21	-0.12	13.80	-0.47	-0.36
DKPZ72		18.70	1.39	0.80	15.10	0.83	0.65
DKWFUJ		17.94	0.63	0.36	15.45	1.18	0.92
DV7CCR		18.90	1.59	0.91	16.40	2.13	1.66
EB2WTF		16.80	-0.51	-0.29	13.80	-0.47	-0.36
F26Z6W		15.60	-1.71	-0.98	12.50	-1.77	-1.38
FBYNZL		17.50	0.19	0.11	15.70	1.43	1.11

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
FEUZWY		18.00	0.69	0.39	15.80	1.53	1.19
FQPQGQ		14.60	-2.71	-1.55	12.20	-2.07	-1.61
FV7WDZ		19.40	2.09	1.20	14.40	0.13	0.10
FY3P6A		19.00	1.69	0.97	16.00	1.73	1.35
GHQ32Q		15.40	-1.91	-1.09	13.10	-1.17	-0.91
HQ2PPK		19.80	2.49	1.42	16.90	2.63	2.05
HQJZJ7		18.30	0.99	0.57	14.30	0.03	0.03
JCYZ8X		14.90	-2.41	-1.38	13.70	-0.57	-0.44
JWMBHC		18.20	0.89	0.51	14.40	0.13	0.10
K6CZCX		19.50	2.19	1.25	14.60	0.33	0.26
KAMLDW		16.60	-0.71	-0.41	15.20	0.93	0.73
KDM2XY		20.40	3.09	1.77	15.20	0.93	0.73
KKJ4TJ		18.80	1.49	0.85	15.90	1.63	1.27
KMCFPQ		16.80	-0.51	-0.29	13.80	-0.47	-0.36
KQA2GT		18.10	0.79	0.45	15.20	0.93	0.73
KV7Z3W		17.30	-0.01	-0.01	13.50	-0.77	-0.60
KYNPF2		18.60	1.29	0.74	14.80	0.53	0.41
L22LYP	X	11.40	-5.91	-3.38	13.10	-1.17	-0.91
LLVJZC		17.20	-0.11	-0.06	15.60	1.33	1.04
LR2EJC		19.20	1.89	1.08	14.90	0.63	0.49
LYLCAK		16.00	-1.31	-0.75	12.50	-1.77	-1.38
M4929F		20.60	3.29	1.88	16.00	1.73	1.35
M8DC2H		17.00	-0.31	-0.18	14.00	-0.27	-0.21
MDV3NQ		18.95	1.64	0.94	14.70	0.43	0.34
MTBQT2	X	52.58	35.27	20.18	53.16	38.89	30.26
MUYWXB		17.80	0.49	0.28	14.50	0.23	0.18
N6M97P		20.50	3.19	1.83	16.10	1.83	1.43
NBVMZ8		17.00	-0.31	-0.18	14.30	0.03	0.03
NGUXMJ	X	147.50	130.19	74.51	50.00	35.73	27.81
NT6VMZ		19.10	1.79	1.02	14.30	0.03	0.03
PE68E8		17.20	-0.11	-0.06	14.50	0.23	0.18
PGDWL3		18.39	1.08	0.62	14.92	0.65	0.51
PYNXCU		18.70	1.39	0.80	15.50	1.23	0.96
PZ4VH8		17.10	-0.21	-0.12	15.20	0.93	0.73
Q447E8		16.00	-1.31	-0.75	15.00	0.73	0.57
QFAXHK		14.10	-3.21	-1.84	12.50	-1.77	-1.38
QNAUP4		18.00	0.69	0.39	13.00	-1.27	-0.99
QR4CJ3		13.20	-4.11	-2.35	12.80	-1.47	-1.14
R3HNCQ		18.12	0.81	0.46	14.34	0.07	0.06
REC62R		18.80	1.49	0.85	14.40	0.13	0.10
REUWDX	X	13.28	-4.03	-2.31	17.23	2.96	2.31
RNWELE	X	50.00	32.69	18.71	100.00	85.73	66.71
RZUKVZ		17.20	-0.11	-0.06	14.20	-0.07	-0.05
T4TVBD	*	22.50	5.19	2.97	17.28	3.01	2.34
T8R88D	X	9.400	-7.91	-4.53	14.13	-0.14	-0.11
TTUGP2		16.10	-1.21	-0.69	14.70	0.43	0.34
TU7UXN		18.00	0.69	0.39	16.50	2.23	1.74

Fasteners and Metals Interlaboratory Testing Program

Analysis 1133

Elongation: Lab-Machined Flat Steel
ASTM E8

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
TZPPPY		16.40	-0.91	-0.52	12.80	-1.47	-1.14
U94LD7		17.40	0.09	0.05	12.90	-1.37	-1.06
UFEPYQ		16.00	-1.31	-0.75	13.80	-0.47	-0.36
UYVCL8		17.00	-0.31	-0.18	15.90	1.63	1.27
VB32ZF	X	24.20	6.89	3.94	12.50	-1.77	-1.38
VKQQ4U		15.00	-2.31	-1.32	13.00	-1.27	-0.99
VNUHA4		15.90	-1.41	-0.81	14.70	0.43	0.34
VZ4NY3		16.80	-0.51	-0.29	12.00	-2.27	-1.76
WGKQYF	*	14.60	-2.71	-1.55	10.80	-3.47	-2.70
WNKU2E	*	18.10	0.79	0.45	12.20	-2.07	-1.61
WWG9PD		18.60	1.29	0.74	16.40	2.13	1.66
XGLBHV		14.30	-3.01	-1.72	11.80	-2.47	-1.92
XLCYW2		19.60	2.29	1.31	14.80	0.53	0.41
XQPLTR		18.00	0.69	0.39	15.50	1.23	0.96
XQPYEF	*	14.00	-3.31	-1.89	14.30	0.03	0.03
XTXUX7		18.00	0.69	0.39	15.00	0.73	0.57
XWFW3P		18.00	0.69	0.39	14.30	0.03	0.03
XYY7U3		15.50	-1.81	-1.04	13.50	-0.77	-0.60
Y3DMMK	X	12.00	-5.31	-3.04	9.000	-5.27	-4.10
YF7LDA		16.32	-0.99	-0.57	12.86	-1.41	-1.10
YKUBRR		16.50	-0.81	-0.46	13.50	-0.77	-0.60
ZAELTM		15.90	-1.41	-0.81	12.70	-1.57	-1.22
ZZ4K8L		18.20	0.89	0.51	14.30	0.03	0.03
ZZ4WZ2		16.70	-0.61	-0.35	15.40	1.13	0.88
ZZNZMN		18.20	0.89	0.51	14.10	-0.17	-0.13
ZZQQVR		16.79	-0.52	-0.30	14.23	-0.04	-0.03

Summary Statistics

	Sample F79		Sample F80	
Grand Means	17.31	Percent	14.27	Percent
Stnd Dev Btwn Labs	1.75	Percent	1.29	Percent

Samples F79, F80 : AISI 4130 - 12G, AISI 4130 - 14G

Statistics based on 107 of 120 reporting participants

Comments on Assigned Data Flags for Test #1133

42UFQZ (X) - Data for both samples are low.

63H94V (X) - Data for both samples are low.

6TBDK3 (X) - Extreme data.

AC9MR9 (X) - Data for sample F80 are low.

ACMQ38 (X) - Data for sample F79 are low.

L22LYP (X) - Data for sample F79 are low.

MTBQT2 (X) - Extreme data.

NGUXMJ (X) - Extreme data.

REUWDX (X) - Inconsistent in testing between samples.

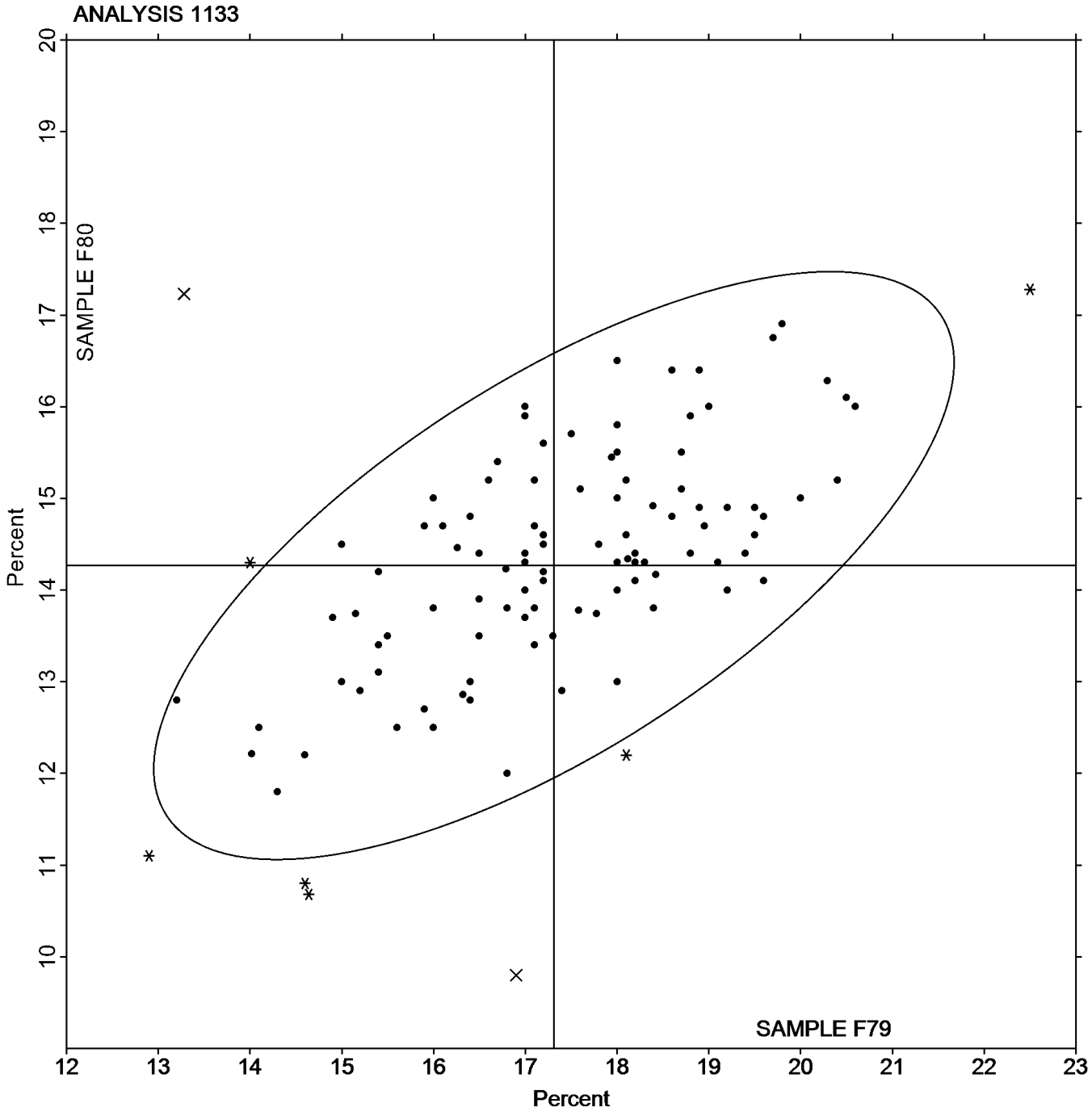
RNWELE (X) - Extreme data.

T8R88D (X) - Data for sample F79 are low.

VB32ZF (X) - Data for sample F79 are high.

Y3DMMK (X) - Data for both samples are low.

SAMPLE F79	SAMPLE F80
17.31 Percent	14.27 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1134

r-Value: Lab-Machined Flat Steel
ASTM E517

		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2BJ4DG	M	0.7060	-0.0309	-0.19	No Data Reported		
69TCZN		0.7900	0.0531	0.33	0.5300	-0.1062	-0.52
93MGHC		0.7610	0.0241	0.15	0.5460	-0.0902	-0.44
9QX688		0.7630	0.0261	0.16	0.5160	-0.1202	-0.59
9ZJADL		0.7100	-0.0269	-0.17	0.5400	-0.0962	-0.47
AC9MR9		0.7570	0.0201	0.13	0.5280	-0.1082	-0.53
AECFNR	M	0.6300	-0.1069	-0.67	No Data Reported		
ARZH7K		0.5600	-0.1769	-1.11	0.4400	-0.1962	-0.96
AVY26C		0.8100	0.0731	0.46	0.9300	0.2938	1.44
CHPFY6		0.8440	0.1071	0.67	0.5490	-0.0872	-0.43
CRZ38T	M	0.4780	-0.2589	-1.63	No Data Reported		
DKWFUJ		0.6470	-0.0899	-0.57	0.4790	-0.1572	-0.77
F26Z6W		0.5000	-0.2369	-1.49	0.5000	-0.1362	-0.67
FBYNZL		0.7900	0.0531	0.33	0.5400	-0.0962	-0.47
FQPQGQ	*	0.9160	0.1791	1.13	1.200	0.5638	2.75
FY3P6A	*	0.2830	-0.4539	-2.86	0.5800	-0.0562	-0.27
KQA2GT	M	0.5000	-0.2369	-1.49	No Data Reported		
KYNPF2		0.7000	-0.0369	-0.23	0.5200	-0.1162	-0.57
LLVJZC		0.6800	-0.0569	-0.36	0.6000	-0.0362	-0.18
LYLCAK	X	75.00	74.2631	468.01	75.00	74.3638	363.27
N6M97P	M	1.610	0.8731	5.50	No Data Reported		
PZ4VH8		0.7900	0.0531	0.33	0.6200	-0.0162	-0.08
TTUGP2		0.7100	-0.0269	-0.17	1.080	0.4438	2.17
TZPPPY		1.050	0.3131	1.97	0.7300	0.0938	0.46
XLCYW2	M	0.6200	-0.1169	-0.74	No Data Reported		
Y3DMMK		0.8800	0.1431	0.90	0.8900	0.2538	1.24
YF7LDA		0.5900	-0.1469	-0.93	0.4600	-0.1762	-0.86
ZAELTM		0.8580	0.1211	0.76	0.5820	-0.0542	-0.26
ZZNZMN		0.8230	0.0861	0.54	0.6370	0.0008	0.00

Summary Statistics

	Sample F79	Sample F80
Grand Means	0.7369	0.6362
Stnd Dev Btwn Labs	0.1587	0.2047

Samples F79, F80 : AISI 4130 - 12G, AISI 4130 - 14G

Statistics based on 22 of 29 reporting participants

Comments on Assigned Data Flags for Test #1134

2BJ4DG (M) - Participant did not submit data for sample F80.

AECFNR (M) - Participant did not submit data for sample F80.

CRZ38T (M) - Participant did not submit data for sample F80.

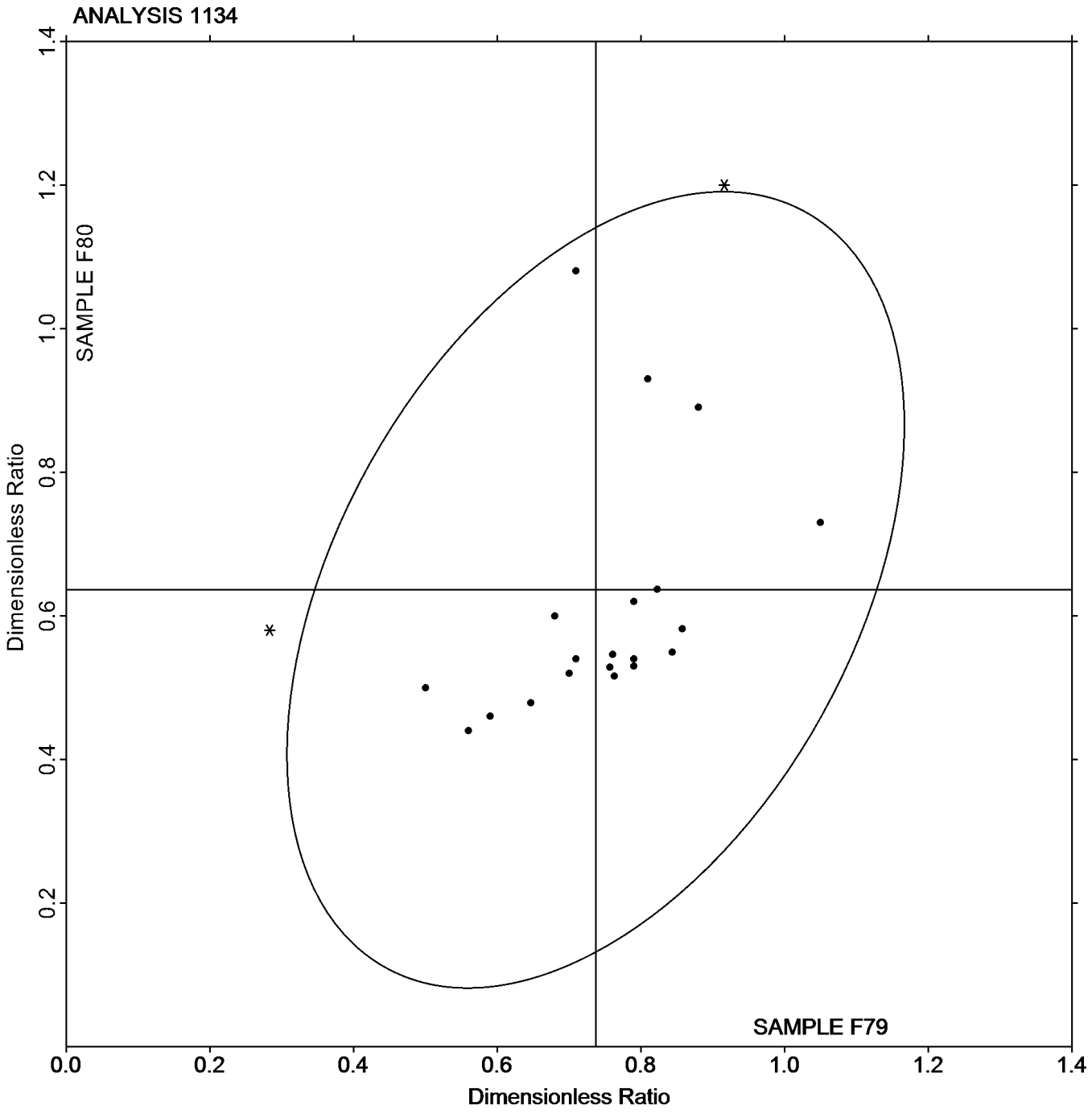
KQA2GT (M) - Participant did not submit data for sample F80.

LYLCAK (X) - Extreme data.

N6M97P (M) - Participant did not submit data for sample F80.

XLCYW2 (M) - Participant did not submit data for sample F80.

SAMPLE F79	SAMPLE F80
0.7369	0.6362



		Sample F79			Sample F80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2VP2RQ		0.0530	-0.0114	-1.42	0.1090	0.0186	1.10
4KYUNX		0.0610	-0.0034	-0.43	0.1040	0.0136	0.81
4VHBG6	M	0.1030	0.0386	4.81	No Data Reported		
4X823Q		0.0670	0.0026	0.32	0.0930	0.0026	0.15
69TCZN		0.0680	0.0036	0.45	0.0890	-0.0014	-0.08
93MGHC		0.0590	-0.0054	-0.68	0.1100	0.0196	1.16
9QX688	*	0.0840	0.0196	2.44	0.1100	0.0196	1.16
9ZJADL		0.0640	-0.0004	-0.05	0.0980	0.0076	0.45
AC9MR9		0.0550	-0.0094	-1.18	0.0850	-0.0054	-0.32
ACMQ38	X	0.2900	0.2256	28.13	0.3100	0.2196	13.01
AECFNR	*	0.0640	-0.0004	-0.05	0.0480	-0.0424	-2.51
AJB6C8		0.0640	-0.0004	-0.05	0.0740	-0.0164	-0.97
ARZH7K		0.0500	-0.0144	-1.80	0.1100	0.0196	1.16
AVY26C		0.0700	0.0056	0.70	0.1100	0.0196	1.16
CHPFY6		0.0670	0.0026	0.32	0.1100	0.0196	1.16
CRZ38T		0.0560	-0.0084	-1.05	0.0900	-0.0004	-0.02
DKWFUJ		0.0665	0.0021	0.26	0.1097	0.0193	1.14
EB2WTF		0.0720	0.0076	0.94	0.0920	0.0016	0.10
F26Z6W	X	0.5000	0.4356	54.33	0.5000	0.4096	24.26
FBYNZL		0.0680	0.0036	0.45	0.0790	-0.0114	-0.67
FQPQGQ		0.0640	-0.0004	-0.05	0.0740	-0.0164	-0.97
FY3P6A		0.0660	0.0016	0.20	0.0810	-0.0094	-0.56
GHQ32Q		0.0640	-0.0004	-0.05	0.0740	-0.0164	-0.97
HQJZJ7		0.0695	0.0051	0.63	0.1074	0.0170	1.01
JWMBHC		0.0674	0.0030	0.37	0.0807	-0.0097	-0.57
K6CZCX		0.0810	0.0166	2.07	0.0850	-0.0054	-0.32
KQA2GT		0.0680	0.0036	0.45	0.0710	-0.0194	-1.15
KV7Z3W		0.0640	-0.0004	-0.05	0.0740	-0.0164	-0.97
KYNPF2		0.0690	0.0046	0.57	0.1090	0.0186	1.10
LLVJZC		0.0510	-0.0134	-1.67	0.1120	0.0216	1.28
LYLCAK	X	50.00	49.9356	6,228.06	50.00	49.9096	2,956.27
N6M97P		0.0730	0.0086	1.07	0.0700	-0.0204	-1.21
PZ4VH8		0.0550	-0.0094	-1.18	0.1010	0.0106	0.63
REC62R		0.0670	0.0026	0.32	0.0740	-0.0164	-0.97
TTUGP2		0.0700	0.0056	0.70	0.0900	-0.0004	-0.02
TZPPPY		0.0690	0.0046	0.57	0.0900	-0.0004	-0.02
UYVCL8		0.0593	-0.0051	-0.64	0.0991	0.0087	0.52
WNKU2E	M	0.1010	0.0366	4.56	No Data Reported		
XGLBHV		0.0500	-0.0144	-1.80	0.0900	-0.0004	-0.02
Y3DMMK	X	0.1660	0.1016	12.67	0.2150	0.1246	7.38
ZAELTM		0.0520	-0.0124	-1.55	0.1045	0.0141	0.84
ZZ4K8L		0.0610	-0.0034	-0.43	0.0860	-0.0044	-0.26
ZZNZMN		0.0750	0.0106	1.32	0.0510	-0.0394	-2.33

Summary Statistics

	Sample F79	Sample F80
Grand Means	0.0644	0.0904
Stnd Dev Btwn Labs	0.0080	0.0169

Samples F79, F80 : AISI 4130 - 12G, AISI 4130 - 14G

Statistics based on 37 of 43 reporting participants

Comments on Assigned Data Flags for Test #1135

4VHBG6 (M) - Participant did not submit data for sample F80.

ACMQ38 (X) - Data for both samples are high.

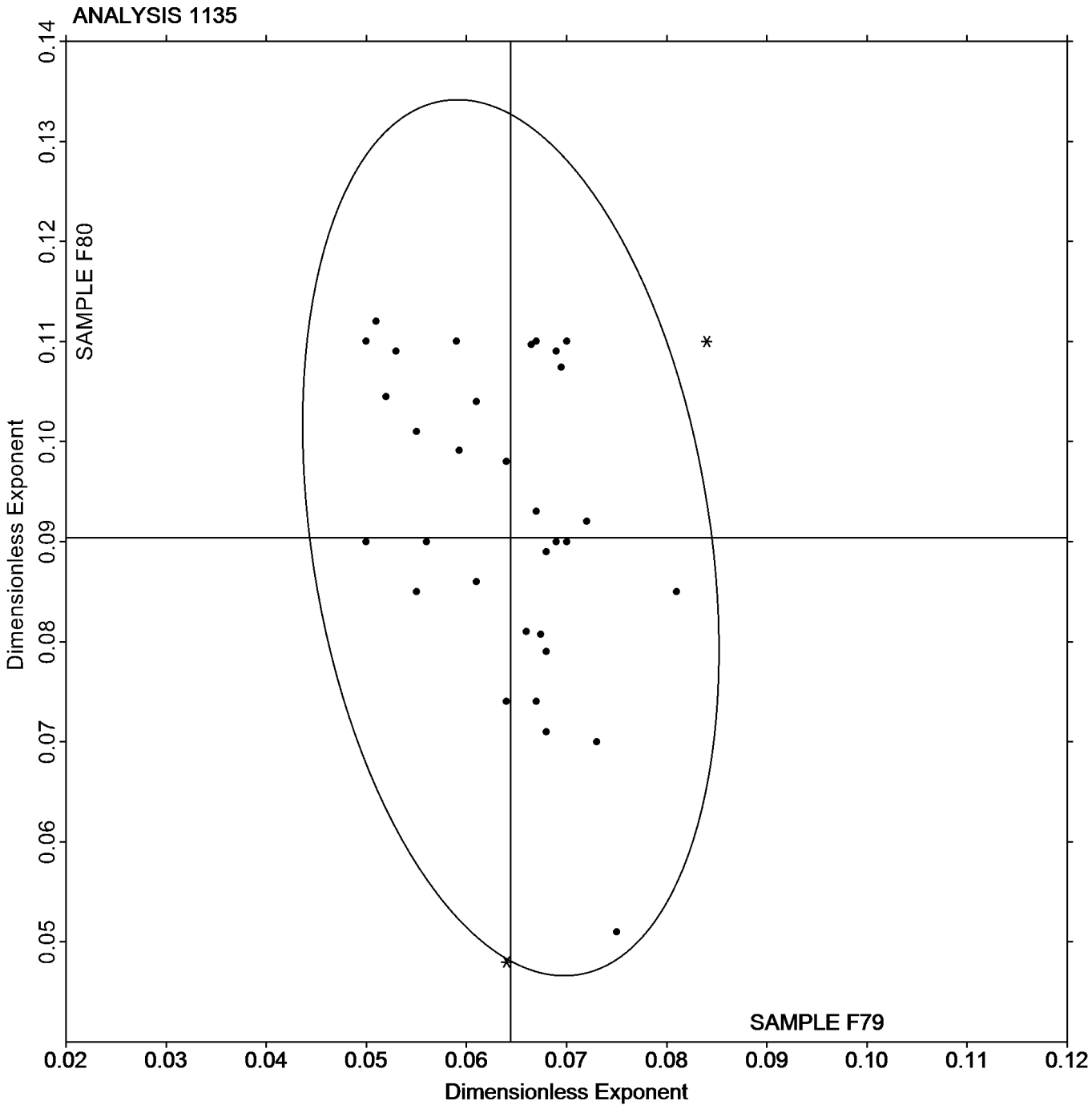
F26Z6W (X) - Data for both samples are high.

LYLCAK (X) - Extreme data.

WNKU2E (M) - Participant did not submit data for sample F80.

Y3DMMK (X) - Data for both samples are high.

SAMPLE F79	SAMPLE F80
0.0644	0.0904



		Sample X79			Sample X80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2GB98K		136.20	1.71	0.91	143.37	0.42	0.31
2HZ6ML		135.43	0.94	0.50	143.27	0.32	0.24
2PAARR		134.56	0.07	0.04	140.98	-1.97	-1.47
4AY48W		134.01	-0.48	-0.26	142.44	-0.51	-0.38
4F63EF		134.98	0.49	0.26	141.46	-1.49	-1.11
4G4ELP		136.77	2.28	1.22	144.12	1.17	0.88
688VQM		134.35	-0.14	-0.07	140.67	-2.28	-1.71
77DLZJ		133.68	-0.82	-0.44	140.82	-2.13	-1.60
88PLWD		133.37	-1.13	-0.60	143.80	0.85	0.64
8KEDKN		135.51	1.02	0.55	142.72	-0.23	-0.17
9EKZW6		135.83	1.34	0.72	143.83	0.88	0.66
9UEJYM		134.27	-0.23	-0.12	142.87	-0.08	-0.06
9UXECG		132.63	-1.86	-0.99	142.50	-0.45	-0.34
9Y489X	X	143.33	8.84	4.73	160.33	17.38	13.00
AHFEWZ		132.32	-2.17	-1.16	144.00	1.05	0.78
AJRTPF		134.13	-0.36	-0.19	143.30	0.35	0.26
BLUL6C	*	137.73	3.24	1.73	146.36	3.41	2.55
BMKAEE		133.30	-1.19	-0.64	142.40	-0.55	-0.41
BXMUG8		132.60	-1.89	-1.01	142.60	-0.35	-0.26
D87YPH		133.33	-1.16	-0.62	144.95	2.00	1.49
DB4YN8		132.23	-2.26	-1.21	140.53	-2.42	-1.81
DH7DMA		134.75	0.26	0.14	142.16	-0.79	-0.59
DKCC6B		133.65	-0.84	-0.45	144.01	1.06	0.79
DMD36H		134.33	-0.16	-0.08	144.33	1.38	1.03
FV7WDZ		137.11	2.62	1.40	142.33	-0.62	-0.46
G7JF9F	*	137.00	2.51	1.34	147.00	4.05	3.03
G7W83H		131.70	-2.80	-1.50	140.98	-1.97	-1.47
J7PCEA		131.07	-3.43	-1.83	142.23	-0.72	-0.54
JFVPN6		135.20	0.71	0.38	143.80	0.85	0.64
JUU7G6		132.33	-2.16	-1.15	142.47	-0.48	-0.36
KL46XT		133.60	-0.89	-0.48	143.77	0.82	0.61
KND4G3		136.00	1.51	0.81	143.00	0.05	0.04
LWD8UB		136.90	2.41	1.29	144.63	1.68	1.26
MFNEMJ		133.00	-1.49	-0.80	143.00	0.05	0.04
NKXWDY	X	135.29	0.79	0.42	155.72	12.77	9.55
NPQ6Q7		131.53	-2.96	-1.58	142.99	0.04	0.03
QA8AZZ		135.93	1.44	0.77	143.03	0.08	0.06
QRPBV3	*	138.52	4.03	2.15	141.24	-1.71	-1.28
RY4G9K		132.66	-1.83	-0.98	143.30	0.35	0.26
T2869M		134.20	-0.29	-0.16	141.38	-1.57	-1.18
TPAQYX		137.67	3.18	1.70	142.13	-0.82	-0.62
UAC7TT		131.63	-2.86	-1.53	141.50	-1.45	-1.08
UVWX23		134.37	-0.13	-0.07	143.40	0.45	0.34
V7CKRV		131.53	-2.97	-1.59	141.96	-0.99	-0.74
WG4TQN		136.01	1.52	0.81	143.89	0.94	0.71
XGZV7Y		133.77	-0.73	-0.39	142.03	-0.92	-0.69
XLE3CQ		135.73	1.24	0.66	143.20	0.25	0.19

		Sample X79			Sample X80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
XWUK2W	X	143.13	8.64	4.62	142.32	-0.63	-0.47
XYY7U3		135.47	0.97	0.52	143.63	0.68	0.51
YF4WAC		134.06	-0.43	-0.23	143.40	0.45	0.34
YRYJMF		136.24	1.74	0.93	143.46	0.51	0.38
Z7BKD3		133.70	-0.79	-0.43	141.85	-1.10	-0.83
ZQHNJK		137.69	3.20	1.71	144.44	1.49	1.11
ZZ8GPP	X	141.88	7.39	3.95	148.40	5.45	4.07

Summary Statistics

	Sample X79		Sample X80	
Grand Means	134.49	ksi	142.95	ksi
Stnd Dev Btwn Labs	1.87	ksi	1.34	ksi

Samples X79, X80 : 3/8-16 x 2 1/4, 3/8-16 x 2 1/2

Statistics based on 50 of 54 reporting participants

Comments on Assigned Data Flags for Test #1201

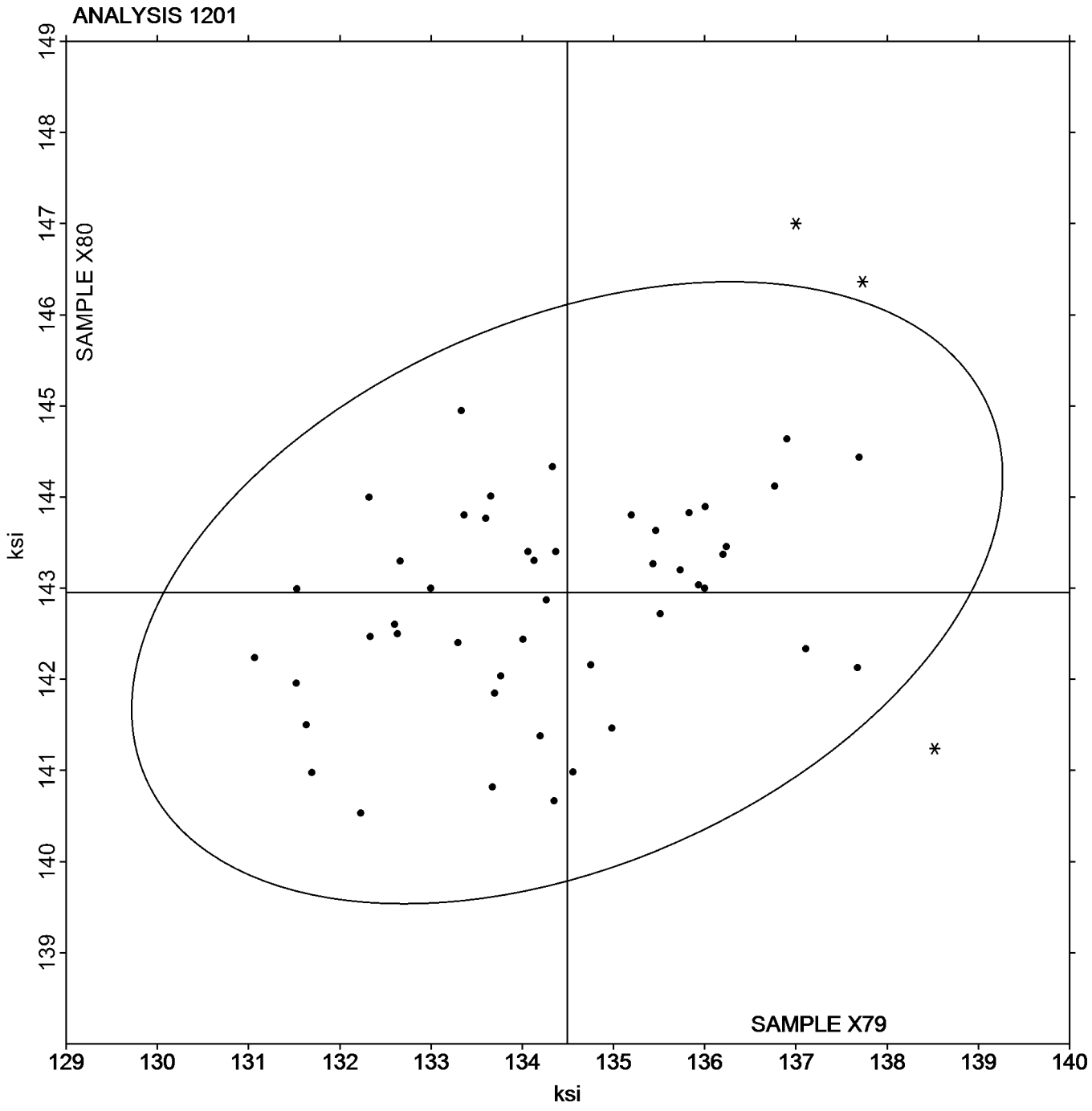
9Y489X (X) - Data for both samples are high. Inconsistent within the determinations of sample X80.

NKXWDY (X) - Data for sample X80 are high.

XWUK2W (X) - Data for sample X79 are high. Inconsistent within the determinations of sample X79.

ZZ8GPP (X) - Data for both samples are high.

SAMPLE X79	SAMPLE X80
134.49 ksi	142.95 ksi



		Sample Q79			Sample Q80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2HZ6ML		136.83	2.27	1.20	143.27	0.08	0.06
34YQ7N		131.95	-2.61	-1.38	142.29	-0.90	-0.67
3N7Q2M		133.07	-1.49	-0.79	143.09	-0.09	-0.07
3VPU9P		136.60	2.04	1.07	143.83	0.64	0.48
42AFCU	X	87.22	-47.34	-24.95	118.68	-24.51	-18.23
4F63EF		134.69	0.13	0.07	140.98	-2.21	-1.64
4G4ELP		136.53	1.97	1.04	144.12	0.93	0.70
4LUB8M		133.47	-1.10	-0.58	142.64	-0.54	-0.40
4N3V4H		136.82	2.25	1.19	144.07	0.89	0.66
688VQM		132.84	-1.73	-0.91	142.33	-0.86	-0.64
72XNCA	X	139.77	5.21	2.75	162.05	18.87	14.04
77DLZJ		133.51	-1.06	-0.56	141.94	-1.25	-0.93
8VFW7N		132.53	-2.03	-1.07	143.13	-0.05	-0.04
9EKZW6		135.18	0.62	0.33	141.33	-1.85	-1.38
9UEJYM		135.93	1.37	0.72	143.00	-0.19	-0.14
9UXECG		132.47	-2.10	-1.11	141.90	-1.29	-0.96
9Y489X	X	143.00	8.44	4.45	150.33	7.15	5.32
AHFEWZ		135.11	0.55	0.29	144.41	1.22	0.91
BF72YB		134.16	-0.40	-0.21	144.74	1.55	1.16
BLUL6C		137.50	2.94	1.55	145.99	2.80	2.08
BM29A4		134.40	-0.17	-0.09	143.52	0.34	0.25
BMKAEE		135.53	0.97	0.51	142.70	-0.49	-0.36
BQJV2B	X	119.33	-15.23	-8.03	127.69	-15.50	-11.53
BXMUG8		133.67	-0.90	-0.47	142.73	-0.45	-0.34
CKCECM		133.11	-1.45	-0.76	143.81	0.63	0.47
CW86X8		135.33	0.77	0.41	143.60	0.41	0.31
D87YPH		136.04	1.48	0.78	143.96	0.77	0.57
DB4YN8		133.30	-1.26	-0.67	140.60	-2.59	-1.92
DH7DMA		134.21	-0.35	-0.19	143.12	-0.06	-0.05
EPYLRD		134.43	-0.14	-0.07	143.13	-0.06	-0.04
FV7WDZ		135.76	1.19	0.63	143.20	0.02	0.01
G4RKMT	X	147.10	12.54	6.61	143.56	0.37	0.28
G7JF9F		134.93	0.37	0.19	144.00	0.81	0.61
G7W6DE		132.47	-2.09	-1.10	144.09	0.90	0.67
G7YGVV		135.77	1.21	0.64	143.45	0.27	0.20
GLTW42	*	139.67	5.10	2.69	144.00	0.81	0.61
HFH4NW	X	143.07	8.50	4.48	144.13	0.95	0.70
HPQ8P9		135.13	0.57	0.30	145.59	2.40	1.79
J7PCEA		135.73	1.17	0.62	142.23	-0.95	-0.71
JFVPN6		136.63	2.07	1.09	144.40	1.21	0.90
JUU7G6		136.50	1.94	1.02	142.20	-0.99	-0.73
K2RZCH		135.48	0.91	0.48	142.50	-0.68	-0.51
KL46XT	*	130.47	-4.10	-2.16	144.33	1.15	0.85
L3KTH9		137.34	2.78	1.46	144.79	1.61	1.19
M8DC2H	*	135.00	0.44	0.23	146.50	3.31	2.47
MLPB8V	X	137.53	2.97	1.57	138.23	-4.95	-3.68
N94X8E		135.32	0.75	0.40	145.04	1.85	1.38

Fasteners and Metals Interlaboratory Testing Program

Analysis 1202

Fastener Axial Tensile
ASTM F606

		Sample Q79			Sample Q80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
NKXWDY	X	133.48	-1.08	-0.57	160.80	17.62	13.11
NPQ6Q7		132.54	-2.02	-1.07	143.10	-0.09	-0.07
PT4TJU		133.10	-1.46	-0.77	142.73	-0.45	-0.34
PYBPGV		136.38	1.82	0.96	142.84	-0.35	-0.26
QRPBV3		136.82	2.26	1.19	142.29	-0.89	-0.66
RY4G9K		133.24	-1.32	-0.70	142.23	-0.95	-0.71
T2869M		132.16	-2.41	-1.27	142.34	-0.85	-0.63
UAC7TT		131.33	-3.23	-1.70	140.90	-2.29	-1.70
UHRK3Q	*	133.68	-0.88	-0.46	139.69	-3.50	-2.60
VYNMWZ		134.85	0.29	0.15	144.68	1.49	1.11
WG4TQN		135.26	0.70	0.37	143.77	0.59	0.44
XGZV7Y		133.17	-1.40	-0.74	142.07	-1.12	-0.83
XYY7U3		135.03	0.47	0.25	143.20	0.01	0.01
YRYJMF		130.21	-4.35	-2.29	140.71	-2.47	-1.84
Z3B69L		135.95	1.38	0.73	144.32	1.13	0.84
ZQHNJK		131.87	-2.69	-1.42	143.81	0.62	0.46
ZZ8GPP	X	139.45	4.89	2.58	149.71	6.52	4.85

Summary Statistics

	Sample Q79		Sample Q80	
Grand Means	134.56	ksi	143.19	ksi
Stnd Dev Btwn Labs	1.90	ksi	1.34	ksi

Samples Q79, Q80 : 3/8-16 x 2 1/4, 3/8-16 x 2 1/2

Statistics based on 55 of 64 reporting participants

Comments on Assigned Data Flags for Test #1202

42AFCU (X) - Data for both samples are low. Inconsistent within the determinations of both samples.

72XNCA (X) - Data for both samples are high.

9Y489X (X) - Data for both samples are high.

BQJV2B (X) - Data for both samples are low.

G4RKMT (X) - Data for sample Q79 are high. Inconsistent within the determinations of sample Q79.

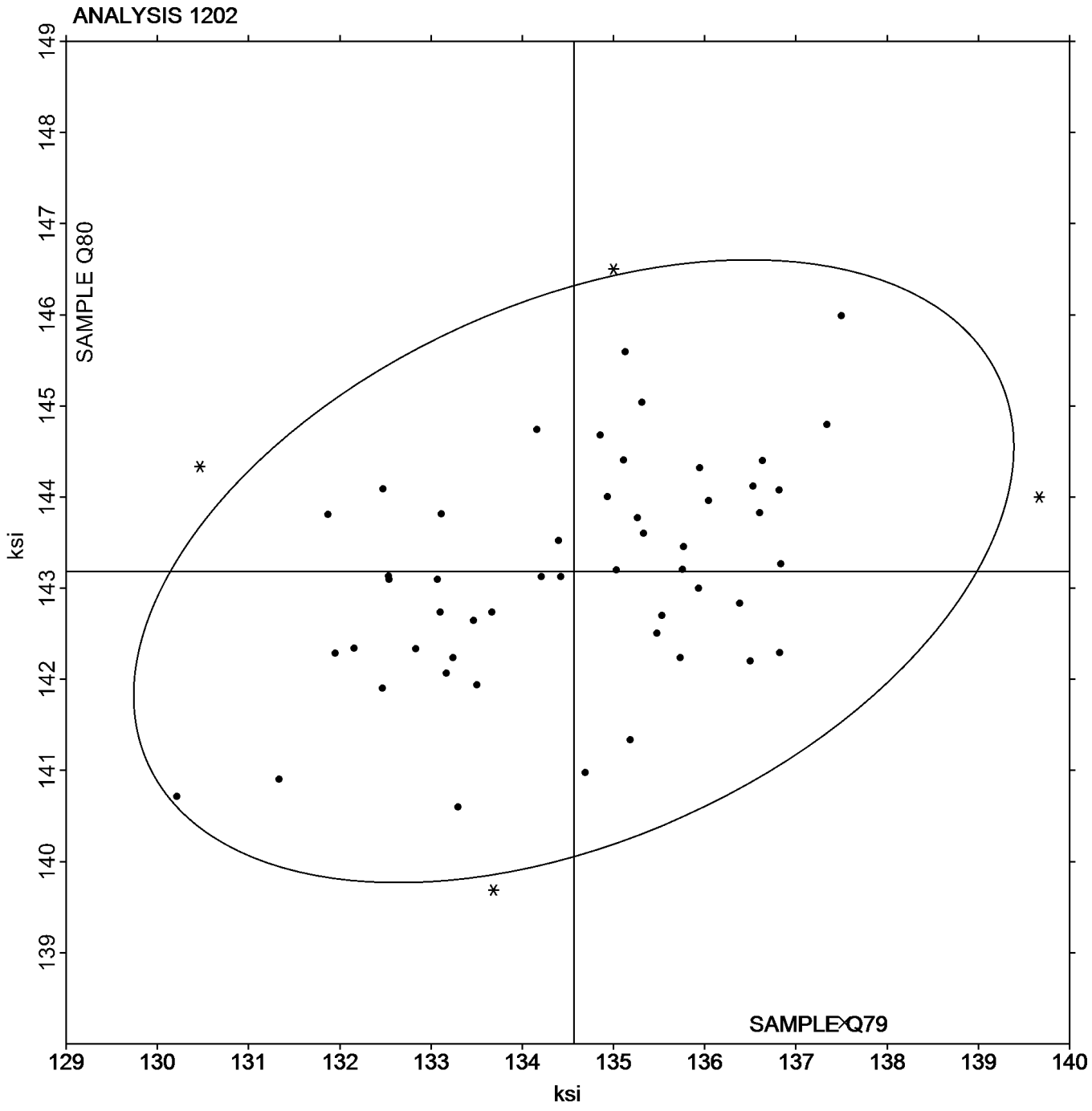
HFH4NW (X) - Data for sample Q79 are high.

MLPB8V (X) - Data for sample Q80 are low.

NKXWDY (X) - Data for sample Q80 are high. Inconsistent within the determinations of sample Q80.

ZZ8GPP (X) - Data for sample Q80 are high.

SAMPLE Q79	SAMPLE Q80
134.56 ksi	143.19 ksi



Fasteners and Metals Interlaboratory Testing Program

Analysis 1203

Fastener Wedge Tensile (10 degree) - Metric
ASTM F606M

		Sample B79			Sample B80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
3G62EW		1,142	7	0.79	1,138	31	2.31
3WWB3F		1,135	0	-0.05	1,101	-6	-0.43
4HVKU3		1,132	-3	-0.42	1,110	3	0.22
4LT4V2		1,144	9	1.04	1,086	-21	-1.55
4TZEBM		1,128	-7	-0.90	1,092	-14	-1.08
83CBQG		1,154	18	2.17	1,132	25	1.89
8G4CX9		1,141	5	0.63	1,131	24	1.79
94ZTXF		1,122	-14	-1.64	1,100	-7	-0.50
9MVAHC		1,147	11	1.34	1,121	15	1.10
BMKAEE		1,136	0	0.06	1,100	-7	-0.49
DTNX87		1,144	8	0.96	1,136	29	2.16
ETJXNH		1,126	-9	-1.14	1,098	-8	-0.63
FE9L8L		1,138	2	0.23	1,117	11	0.79
FEE2ZA		1,130	-6	-0.74	1,117	11	0.79
G7JF9F	X	1,169	33	4.02	1,166	59	4.43
GR3H8L		1,142	6	0.77	1,100	-7	-0.49
H62J4Z		1,141	6	0.67	1,102	-5	-0.35
J7PCEA		1,134	-2	-0.25	1,107	0	0.02
JUU7G6		1,134	-2	-0.22	1,098	-9	-0.67
K2ZBE4		1,132	-4	-0.46	1,113	6	0.44
KA4C6A		1,139	3	0.41	1,113	6	0.47
KL46XT		1,150	14	1.67	1,108	1	0.08
LAYCN7		1,126	-10	-1.22	1,090	-17	-1.28
NF3662	X	66.11	-1,070	-129.49	64.80	-1,042	-77.91
QUPLMV		1,130	-6	-0.76	1,088	-19	-1.41
RHF4UR		1,130	-5	-0.66	1,091	-16	-1.18
RQ9GR8		1,128	-8	-0.97	1,104	-3	-0.21
RURHZZ		1,124	-12	-1.46	1,102	-5	-0.37
T7X4FB		1,134	-2	-0.21	1,107	1	0.05
TTF37Y		1,126	-10	-1.22	1,099	-8	-0.58
UJYZAW		1,150	14	1.72	1,103	-3	-0.25
WQTLD2		1,132	-3	-0.42	1,105	-2	-0.15
XC7YJU		1,144	8	0.95	1,101	-6	-0.44
XWUK2W		1,130	-5	-0.66	1,106	-1	-0.05
ZBTWZR	X	750.47	-385	-46.64	1,086	-21	-1.58

Summary Statistics

	Sample B79		Sample B80	
Grand Means	1,136	MPa	1,107	MPa
Stnd Dev Btwn Labs	8	MPa	13	MPa

Samples B79, B80 : M-10x1.5x70, M-10x1.5x75

Statistics based on 32 of 35 reporting participants

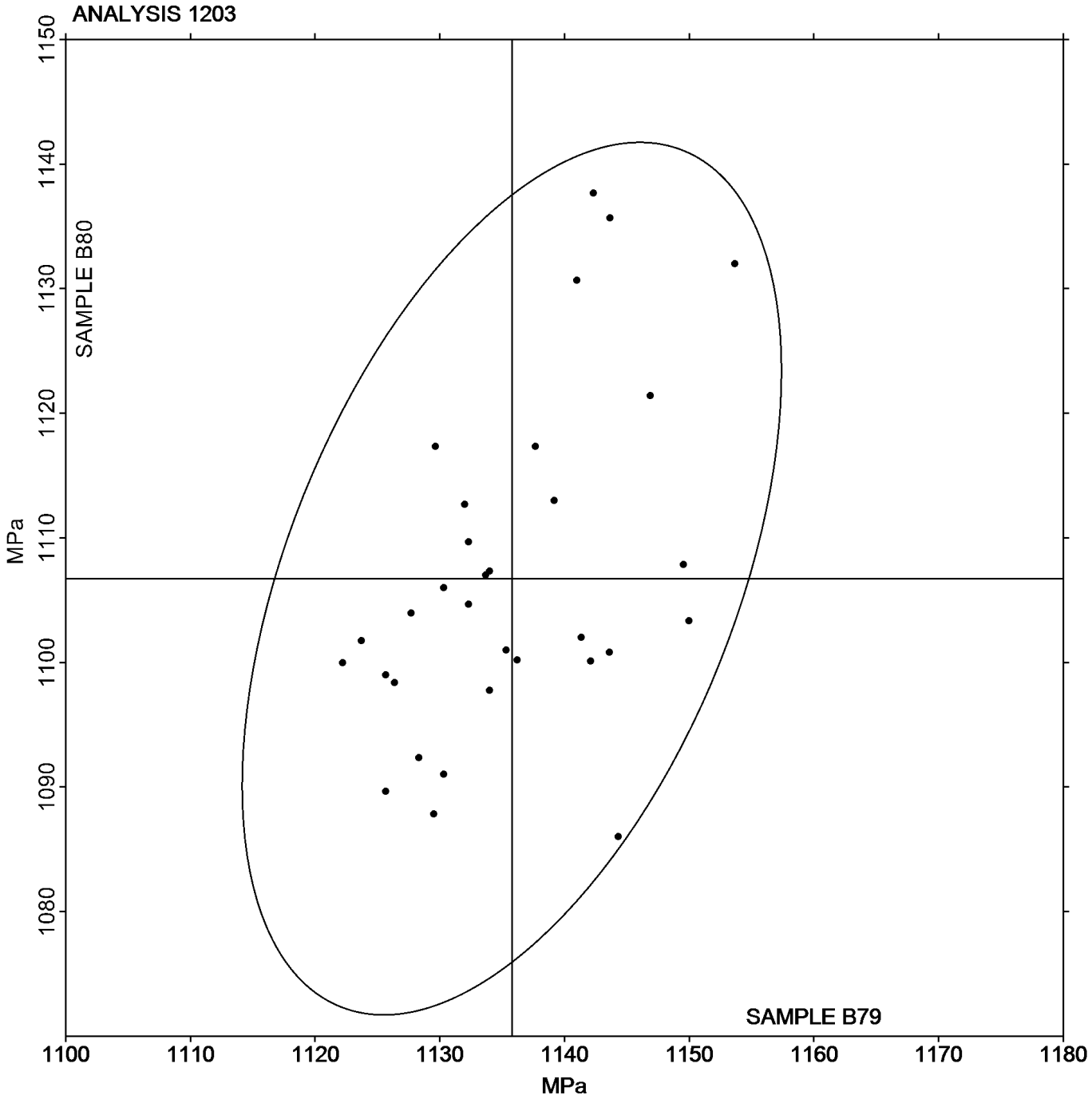
Comments on Assigned Data Flags for Test #1203

G7JF9F (X) - Data for both samples are high.

NF3662 (X) - Extreme data.

ZBTWZR (X) - Data for sample B79 are extreme.

SAMPLE B79	SAMPLE B80
1,136 MPa	1,107 MPa



Fasteners and Metals Interlaboratory Testing Program

Analysis 1204

Fastener Axial Tensile - Metric
ASTM F606M

		Sample T79			Sample T80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
33NLCD		1,132	-8	-0.57	1,104	-3	-0.21
4TZEBM		1,134	-6	-0.42	1,100	-7	-0.45
83CBQG		1,158	19	1.34	1,122	15	0.89
8Z7WZ3		1,136	-3	-0.23	1,104	-4	-0.23
AVY26C		1,141	1	0.08	1,092	-15	-0.94
CCXT2X		1,143	3	0.23	1,121	13	0.82
DTNX87		1,138	-1	-0.11	1,117	9	0.54
FBWAWE		1,159	19	1.40	1,130	22	1.34
G7JF9F	*	1,181	42	3.04	1,158	50	3.06
GR3H8L		1,139	0	-0.01	1,108	1	0.05
J7PCEA		1,145	5	0.38	1,105	-3	-0.19
JUU7G6		1,128	-11	-0.81	1,108	1	0.03
PCF67X		1,128	-11	-0.83	1,090	-18	-1.10
PQE8N6		1,136	-3	-0.25	1,102	-5	-0.33
RDYDBV		1,131	-8	-0.59	1,091	-17	-1.03
TTF37Y		1,124	-15	-1.12	1,086	-22	-1.32
UJYZAW		1,133	-6	-0.45	1,120	12	0.75
WN78PR		1,124	-15	-1.12	1,094	-13	-0.82
WQTLD2		1,139	0	-0.04	1,106	-2	-0.13
XC7YJU		1,153	14	0.99	1,107	-1	-0.06
XWUK2W		1,127	-12	-0.88	1,096	-11	-0.69

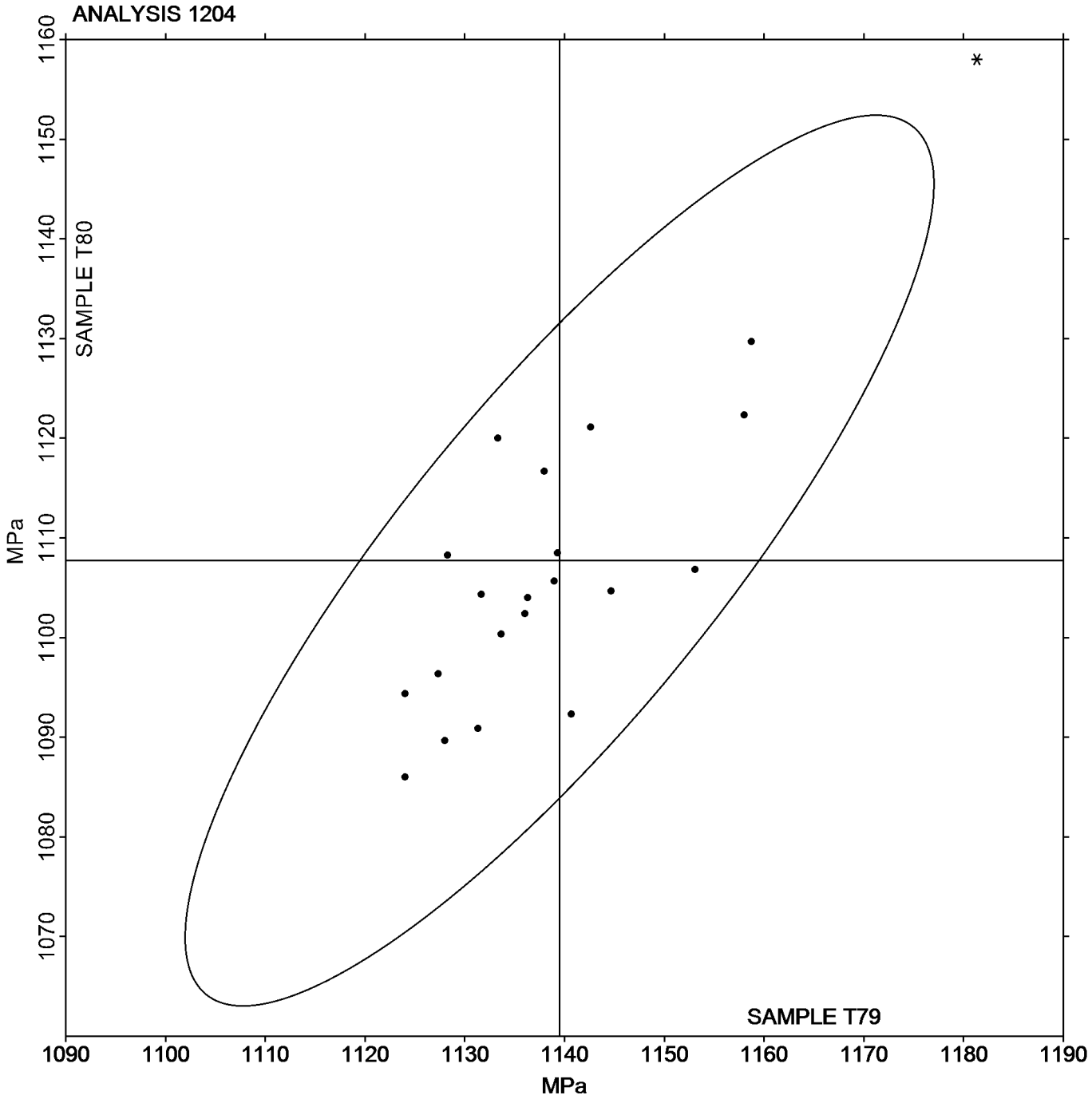
Summary Statistics

	Sample T79		Sample T80	
Grand Means	1,139	MPa	1,108	MPa
Stnd Dev Btwn Labs	14	MPa	16	MPa

Samples T79, T80 : M-10x1.5x70, M-10x1.5x75

Statistics based on 21 of 21 reporting participants

SAMPLE T79	SAMPLE T80
1,139 MPa	1,108 MPa



		Sample G79			Sample G80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2JCY7R		28.61	-0.72	-0.82	28.49	-0.83	-0.87
2VP2RQ		29.23	-0.10	-0.12	27.85	-1.46	-1.54
34YQ7N		28.78	-0.55	-0.62	28.61	-0.70	-0.74
4F63EF		30.85	1.52	1.74	30.71	1.39	1.46
4G4ELP		27.85	-1.48	-1.69	28.78	-0.53	-0.56
4HVKU3		30.24	0.91	1.04	30.78	1.46	1.54
4LT4V2		29.31	-0.02	-0.03	29.74	0.42	0.44
6C2LKH		29.44	0.11	0.13	29.04	-0.27	-0.28
77DLZJ		28.13	-1.20	-1.37	28.06	-1.25	-1.31
7TPHWT		28.34	-0.99	-1.12	28.29	-1.03	-1.08
83CBQG		29.13	-0.20	-0.23	29.64	0.33	0.35
88PLWD		29.17	-0.16	-0.18	29.15	-0.16	-0.17
8GUTCD		28.50	-0.83	-0.95	28.44	-0.88	-0.92
8VFW7N		29.65	0.32	0.37	29.45	0.14	0.14
9EKZW6		31.21	1.88	2.15	31.34	2.03	2.13
9MVAHC	X	27.45	-1.88	-2.14	29.27	-0.05	-0.05
9UXECG		27.80	-1.53	-1.74	27.98	-1.34	-1.41
9Y489X		29.98	0.65	0.74	29.93	0.61	0.64
AJRTPF		27.94	-1.39	-1.59	28.04	-1.27	-1.33
BMKAEE		29.63	0.30	0.34	29.00	-0.31	-0.33
BQJV2B	X	26.36	-2.97	-3.38	25.94	-3.37	-3.54
BXMUG8		29.57	0.24	0.27	29.89	0.58	0.61
CW86X8		29.18	-0.15	-0.18	29.27	-0.05	-0.05
D87YPH		29.63	0.30	0.34	29.24	-0.07	-0.07
DH7DMA		30.34	1.01	1.15	30.73	1.42	1.49
DHGF99		29.31	-0.02	-0.03	29.84	0.52	0.55
DTNX87		31.16	1.83	2.09	30.84	1.53	1.61
ETJXNH		29.75	0.42	0.48	29.76	0.44	0.47
FEE2ZA		29.69	0.36	0.41	29.88	0.57	0.60
FV7WDZ		31.10	1.77	2.02	30.73	1.42	1.49
G7JF9F		28.85	-0.48	-0.55	28.81	-0.50	-0.53
G7W6DE		29.71	0.38	0.43	29.37	0.05	0.06
GLTW42		29.25	-0.08	-0.09	29.44	0.12	0.13
H62J4Z		29.34	0.01	0.02	28.61	-0.70	-0.74
HFH4NW		29.10	-0.23	-0.26	29.90	0.59	0.62
HZQVJQ		28.99	-0.34	-0.38	28.77	-0.55	-0.57
JFVPN6		28.94	-0.39	-0.45	29.58	0.26	0.27
K2ZBE4		29.74	0.41	0.47	29.45	0.14	0.14
K9TWV2		29.64	0.31	0.35	29.24	-0.07	-0.07
KA4C6A		28.23	-1.10	-1.25	29.01	-0.31	-0.32
KL46XT		29.89	0.56	0.64	30.44	1.13	1.19
L36KJ7		29.31	-0.02	-0.02	29.35	0.04	0.04
L3KTH9		29.23	-0.10	-0.12	28.80	-0.51	-0.54
LA423Y		29.39	0.06	0.07	28.68	-0.63	-0.66
LAYCN7		29.69	0.36	0.41	28.63	-0.69	-0.72
LWD8UB	*	29.27	-0.06	-0.07	27.84	-1.47	-1.54
N94X8E		28.57	-0.76	-0.87	28.88	-0.44	-0.46

		Sample G79			Sample G80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
NF3662		29.09	-0.24	-0.28	29.73	0.42	0.44
NKXWDY	X	25.76	-3.57	-4.08	24.69	-4.62	-4.85
PCF67X		29.25	-0.08	-0.09	29.29	-0.02	-0.02
PMCNN6		29.91	0.58	0.67	30.03	0.72	0.75
QRPBV3		29.14	-0.19	-0.22	29.26	-0.05	-0.05
RQ9GR8		27.69	-1.64	-1.87	27.84	-1.47	-1.54
RURHZZ		29.75	0.42	0.48	29.72	0.40	0.43
RY4G9K		29.79	0.46	0.52	30.33	1.02	1.07
UVWX23	*	27.02	-2.31	-2.64	27.88	-1.44	-1.51
VYNMWZ	*	28.28	-1.05	-1.20	26.91	-2.40	-2.52
WN78PR		30.93	1.60	1.82	30.41	1.09	1.15
XC7YJU		29.43	0.10	0.11	29.70	0.39	0.41
XF8ZLC		30.08	0.75	0.85	29.08	-0.24	-0.25
XGZV7Y		29.09	-0.24	-0.27	29.13	-0.18	-0.19
XWUK2W		29.68	0.35	0.40	29.29	-0.02	-0.02
YRYJMF		28.85	-0.48	-0.55	28.66	-0.65	-0.68
ZBTWZR		28.54	-0.79	-0.90	29.73	0.42	0.44
ZQHNJK	*	31.28	1.95	2.22	32.16	2.84	2.98

Summary Statistics

	Sample G79		Sample G80	
Grand Means	29.33	HRC	29.31	HRC
Stnd Dev Btwn Labs	0.88	HRC	0.95	HRC

Samples G79, G80 : 1/2-20 x 2 1/4, 1/2-20 x 2 1/4

Statistics based on 62 of 65 reporting participants

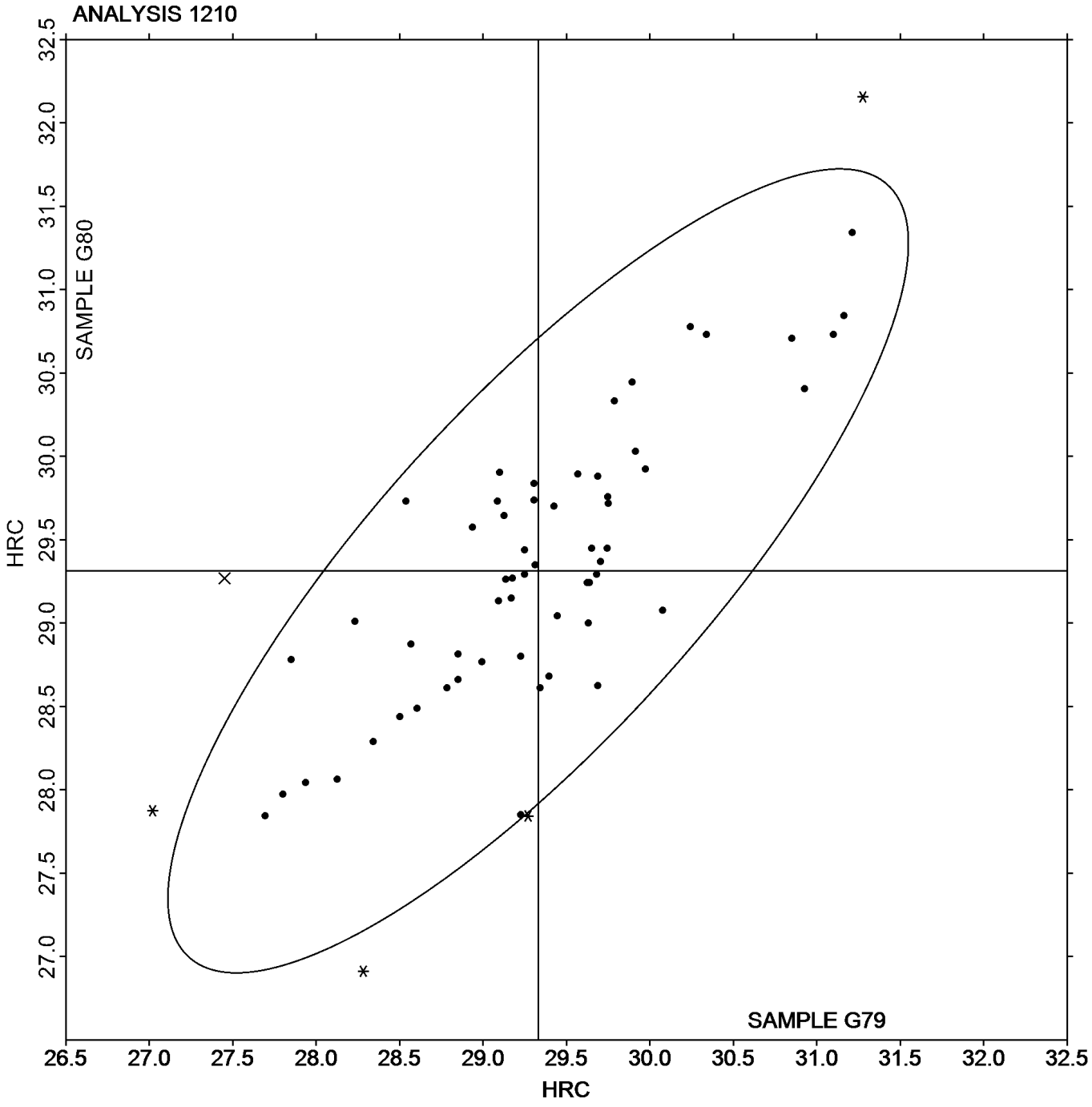
Comments on Assigned Data Flags for Test #1210

9MVAHC (X) - Inconsistent in testing between samples.

BQJV2B (X) - Data for both samples are low. Possible Systematic Error.

NKXWDY (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.

SAMPLE G79	SAMPLE G80
29.33 HRC	29.31 HRC



Fasteners and Metals Interlaboratory Testing Program

Analysis 1211

Vickers Hardness: Externally Threaded Fasteners
ASTM E92

		Sample V79			Sample V80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2VP2RQ		305.33	4.12	0.67	313.11	11.20	1.65
4F63EF		297.56	-3.65	-0.59	301.94	0.02	0.00
4G4ELP	*	318.19	16.98	2.76	312.31	10.40	1.54
4HVKU3		310.69	9.48	1.54	312.13	10.21	1.51
63H94V		312.31	11.10	1.81	314.13	12.21	1.80
7DVPTJ		304.34	3.13	0.51	302.67	0.75	0.11
7RBZTM		301.90	0.69	0.11	311.61	9.69	1.43
83CBQG		299.64	-1.57	-0.26	302.54	0.62	0.09
AVY26C		303.00	1.79	0.29	299.06	-2.85	-0.42
BXMUG8		295.00	-6.21	-1.01	296.86	-5.06	-0.75
DH7DMA		297.39	-3.82	-0.62	298.04	-3.88	-0.57
DMD36H		302.50	1.29	0.21	303.46	1.55	0.23
FV7WDZ		299.76	-1.45	-0.24	300.88	-1.04	-0.15
GR3H8L		296.69	-4.52	-0.74	295.38	-6.54	-0.97
HDVURW		304.78	3.57	0.58	307.36	5.44	0.80
KG7PMK		299.63	-1.58	-0.26	300.13	-1.79	-0.26
L36KJ7		301.44	0.23	0.04	305.88	3.96	0.59
L3KTH9		295.50	-5.71	-0.93	294.88	-7.04	-1.04
LZU66Z		301.15	-0.06	-0.01	305.89	3.97	0.59
Q7KTLL		294.63	-6.58	-1.07	295.81	-6.10	-0.90
RDYDBV		300.94	-0.27	-0.04	299.43	-2.48	-0.37
RHF4UR		297.88	-3.33	-0.54	301.13	-0.79	-0.12
RURHZZ		295.72	-5.49	-0.89	301.53	-0.39	-0.06
TEN26B		301.69	0.48	0.08	301.84	-0.08	-0.01
TTF37Y		298.75	-2.46	-0.40	293.00	-8.91	-1.32
UHRK3Q		300.86	-0.35	-0.06	298.13	-3.79	-0.56
UJYZAW		308.69	7.48	1.22	308.06	6.15	0.91
W4YWKN		298.08	-3.13	-0.51	293.13	-8.78	-1.30
XC7YJU		293.31	-7.90	-1.29	290.56	-11.35	-1.68
XF8ZLC		311.00	9.79	1.59	308.94	7.02	1.04
YC6TQJ		289.18	-12.03	-1.96	289.59	-12.32	-1.82

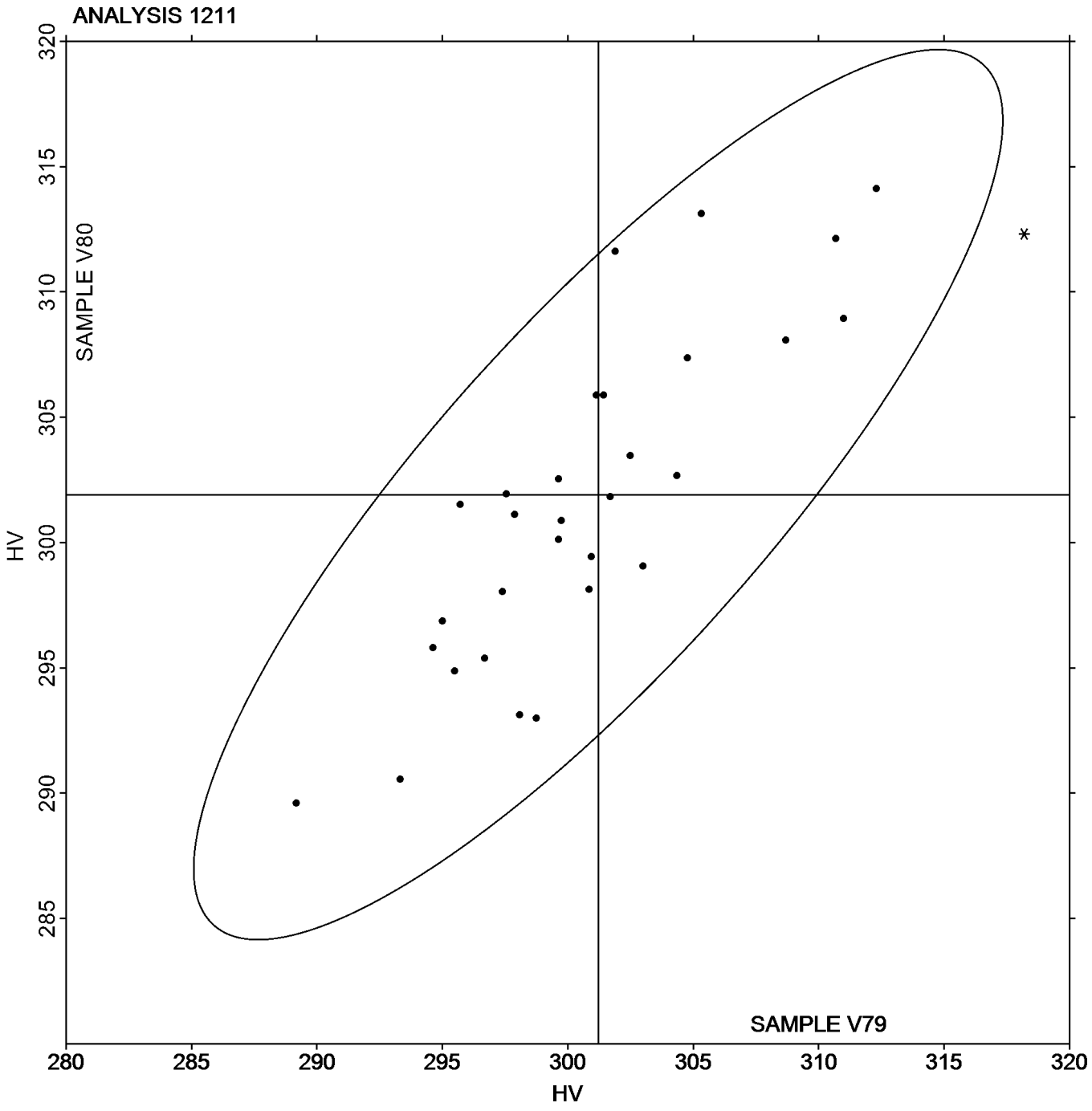
Summary Statistics

	Sample V79		Sample V80	
Grand Means	301.21	HV	301.91	HV
Stnd Dev Btwn Labs	6.14	HV	6.77	HV

Samples V79, V80 : 1/2-20 x 2 1/4, 1/2-20 x 2 1/4

Statistics based on 31 of 31 reporting participants

SAMPLE V79	SAMPLE V80
301.21 HV	301.91 HV



		Sample Z79			Sample Z80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2JCY7R		17,654	86	0.11	19,060	258	0.60
6YYJDQ		17,168	-400	-0.51	18,245	-556	-1.29
8VFW7N		17,069	-499	-0.64	18,508	-294	-0.68
BQJV2B		17,443	-125	-0.16	19,021	219	0.51
BXMUG8		17,433	-135	-0.17	19,259	457	1.06
G7W6DE		17,833	265	0.34	19,533	732	1.69
GLTW42		16,685	-883	-1.13	18,433	-368	-0.85
JFVPN6		17,146	-422	-0.54	18,516	-285	-0.66
JUU7G6	*	19,732	2,164	2.78	18,224	-577	-1.34
K2ZBE4		17,681	113	0.14	19,064	262	0.61
L3KTH9		16,929	-639	-0.82	18,495	-307	-0.71
N94X8E		17,141	-427	-0.55	18,604	-198	-0.46
NKXWDY		17,469	-99	-0.13	19,219	418	0.97
QA8AZZ		17,183	-385	-0.49	18,367	-435	-1.01
ZQHNJK		17,486	-82	-0.10	18,818	17	0.04
ZZ8GPP		19,034	1,466	1.88	19,460	658	1.52

Summary Statistics

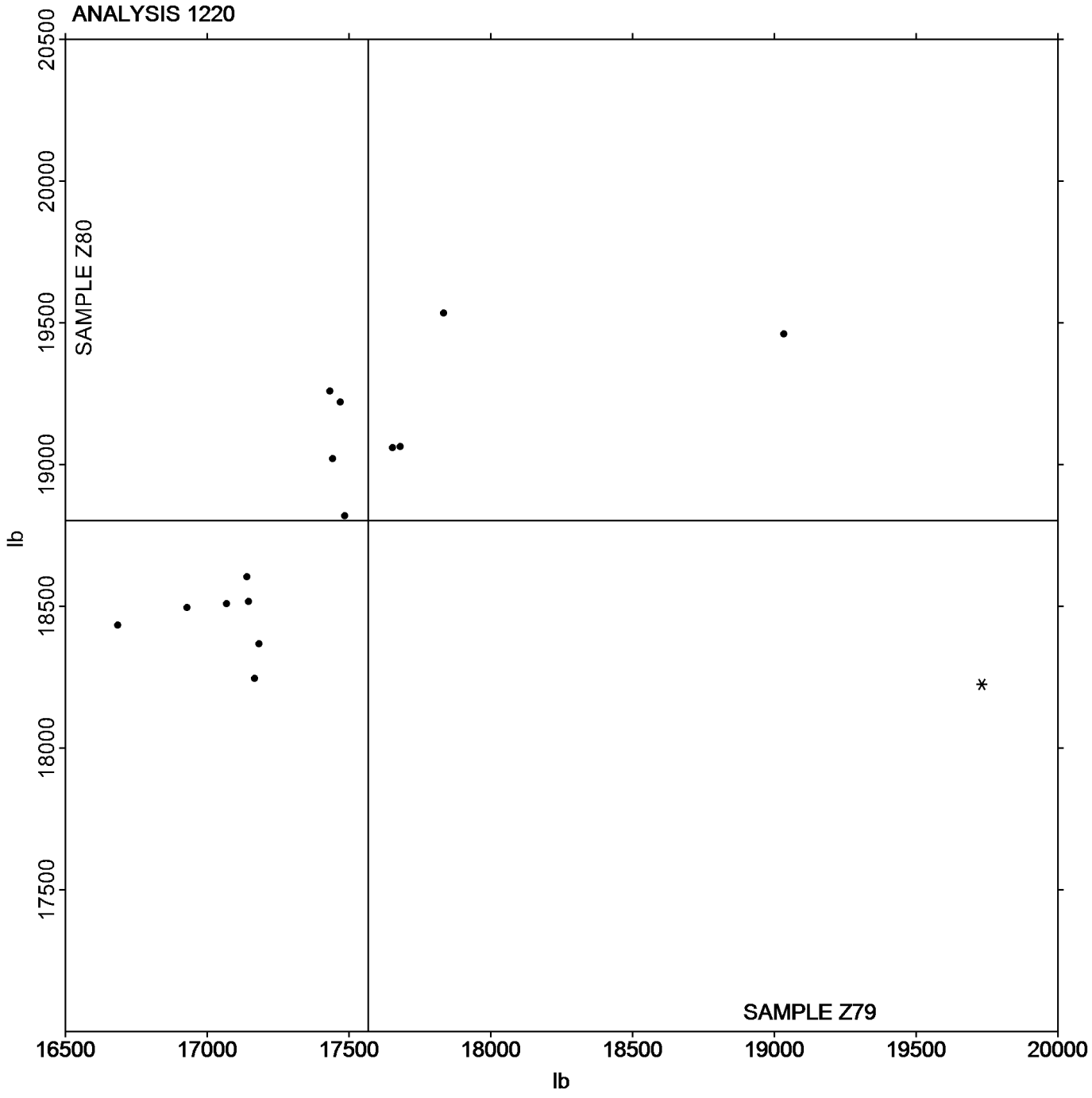
	Sample Z79		Sample Z80	
Grand Means	17,568	lb	18,802	lb
Stnd Dev Btwn Labs	778	lb	432	lb

Samples Z79, Z80 : 3/8-16 x 2 1/4, 3/8-16 x 2 1/2

Statistics based on 16 of 16 reporting participants

SAMPLE Z79
17,568 lb

SAMPLE Z80
18,802 lb



		Sample E79			Sample E80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2R9B89		54.28	0.26	0.51	59.72	0.46	1.04
2Y6BJF		53.78	-0.24	-0.46	59.24	-0.02	-0.05
39AFAB		54.58	0.56	1.08	59.84	0.58	1.31
3FAVYH		54.00	-0.02	-0.03	59.90	0.64	1.45
3FBDW2		54.62	0.60	1.16	59.66	0.40	0.90
3G62EW		54.46	0.44	0.85	59.54	0.28	0.63
3XEQPC		53.34	-0.68	-1.30	59.02	-0.24	-0.54
4LUB8M		54.34	0.32	0.62	59.46	0.20	0.45
4ZEHYZ		54.39	0.37	0.72	59.45	0.19	0.44
62NKKY		53.64	-0.38	-0.73	58.96	-0.30	-0.68
6V2AFN		53.41	-0.61	-1.16	59.23	-0.03	-0.07
77DLZJ		53.96	-0.06	-0.11	58.60	-0.66	-1.49
78M7QK		54.25	0.23	0.44	59.58	0.32	0.72
8G4CX9		54.12	0.10	0.20	59.40	0.14	0.32
96D4BM		53.95	-0.07	-0.13	59.20	-0.06	-0.13
98HNM7		53.64	-0.38	-0.73	58.68	-0.58	-1.31
9FUH39		53.58	-0.44	-0.84	58.86	-0.40	-0.91
9PYPH9		54.00	-0.02	-0.03	59.00	-0.26	-0.59
9XVVNB		53.38	-0.64	-1.23	58.80	-0.46	-1.04
9Y489X		54.16	0.14	0.28	58.74	-0.52	-1.18
AHERPE		54.26	0.24	0.47	59.10	-0.16	-0.36
AJRTPF	*	52.88	-1.14	-2.19	59.16	-0.10	-0.23
BFPECA		54.14	0.12	0.24	59.58	0.32	0.72
BLTB32		54.06	0.04	0.08	59.64	0.38	0.86
BXPWDJ		53.24	-0.78	-1.50	59.04	-0.22	-0.50
CNVBH6		54.32	0.30	0.58	59.52	0.26	0.59
D9FAJT		53.60	-0.42	-0.80	59.50	0.24	0.54
DDBP4G		53.46	-0.56	-1.07	59.00	-0.26	-0.59
DJWJ2E		53.86	-0.16	-0.30	59.48	0.22	0.50
DKPZ72		54.44	0.42	0.81	60.08	0.82	1.86
DMD36H		54.58	0.56	1.08	59.90	0.64	1.45
DP6HJC		54.74	0.72	1.39	59.72	0.46	1.04
DYAPYC		53.18	-0.84	-1.61	58.70	-0.56	-1.27
DZJCWQ		54.18	0.16	0.31	59.34	0.08	0.18
EBYAAG		54.30	0.28	0.54	59.42	0.16	0.36
EMVBQQ		54.18	0.16	0.31	59.04	-0.22	-0.50
EPHWJE		54.18	0.16	0.31	59.28	0.02	0.04
EPYLRD		53.32	-0.70	-1.34	58.40	-0.86	-1.95
FV7WDZ		54.28	0.26	0.51	58.74	-0.52	-1.18
FY3P6A		54.12	0.10	0.20	59.52	0.26	0.59
GUQWVW		54.57	0.55	1.06	59.79	0.53	1.20
H2WXA9		53.66	-0.36	-0.69	59.08	-0.18	-0.41
HDVURW		53.96	-0.06	-0.11	59.30	0.04	0.09
HMYJCZ		53.00	-1.02	-1.96	58.53	-0.73	-1.66
JL4FZ6		54.20	0.18	0.35	59.40	0.14	0.32
JMHBXC		53.94	-0.08	-0.15	59.38	0.12	0.27
JUU7G6	*	55.34	1.32	2.55	60.12	0.86	1.95

		Sample E79			Sample E80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
KG7PMK		54.22	0.20	0.39	58.84	-0.42	-0.95
KND4G3		54.00	-0.02	-0.03	59.00	-0.26	-0.59
LR7PLB		54.62	0.60	1.16	59.70	0.44	1.00
LYLCAK		53.94	-0.08	-0.15	59.36	0.10	0.23
MM26Q3		54.38	0.36	0.69	59.28	0.02	0.04
MUYWXB		53.18	-0.84	-1.61	58.44	-0.82	-1.86
MWRQWZ		54.60	0.58	1.12	59.60	0.34	0.77
MX7FHK	X	53.74	-0.27	-0.53	58.04	-1.22	-2.77
NKXWDY		54.06	0.04	0.08	58.64	-0.62	-1.40
NPQ6Q7		53.80	-0.22	-0.43	59.09	-0.17	-0.39
NYDU3C		54.62	0.60	1.16	59.82	0.56	1.27
P9GPWP	X	54.32	0.30	0.58	58.40	-0.86	-1.95
PEMZT3	X	55.40	1.38	2.66	59.30	0.04	0.09
PGDWL3		54.68	0.66	1.28	59.66	0.40	0.90
QCABZW		55.20	1.18	2.28	60.02	0.76	1.72
R3HNCQ		55.06	1.04	2.01	59.82	0.56	1.27
RANN8A		54.98	0.96	1.85	60.12	0.86	1.95
TDW96L		54.12	0.10	0.20	59.08	-0.18	-0.41
TLT9Z2		53.40	-0.62	-1.19	59.16	-0.10	-0.23
TPAQYX		53.74	-0.28	-0.53	58.80	-0.46	-1.04
TTF37Y		53.64	-0.38	-0.73	58.94	-0.32	-0.73
UH6Q7Y		54.36	0.34	0.66	59.54	0.28	0.63
UVWX23		53.68	-0.34	-0.65	59.32	0.06	0.13
UYABNN		53.24	-0.78	-1.50	58.46	-0.80	-1.81
V6XNDX		54.22	0.20	0.39	59.68	0.42	0.95
V7CKRV		53.64	-0.38	-0.73	58.92	-0.34	-0.77
VJVAK7		53.10	-0.92	-1.76	58.70	-0.56	-1.27
VL2FYY		54.32	0.30	0.58	59.44	0.18	0.41
W29F8L		53.89	-0.13	-0.25	59.22	-0.04	-0.10
XF8ZLC	X	56.04	2.02	3.89	60.60	1.34	3.03
XGKB39		54.00	-0.02	-0.03	58.70	-0.56	-1.27
XVZUWG		53.20	-0.82	-1.57	58.30	-0.96	-2.17
YE9V98		54.00	-0.02	-0.03	59.40	0.14	0.32
YF7LDA		54.38	0.36	0.70	59.82	0.56	1.27
Z7BKD3		53.92	-0.10	-0.19	59.24	-0.02	-0.05
ZWAAQU		53.30	-0.72	-1.38	58.82	-0.44	-1.00

Summary Statistics

	Sample E79		Sample E80	
Grand Means	54.02	HRC	59.26	HRC
Stnd Dev Btwn Labs	0.52	HRC	0.44	HRC

Samples E79, E80 : Steel, Steel

Statistics based on 79 of 83 reporting participants

Comments on Assigned Data Flags for Test #1303

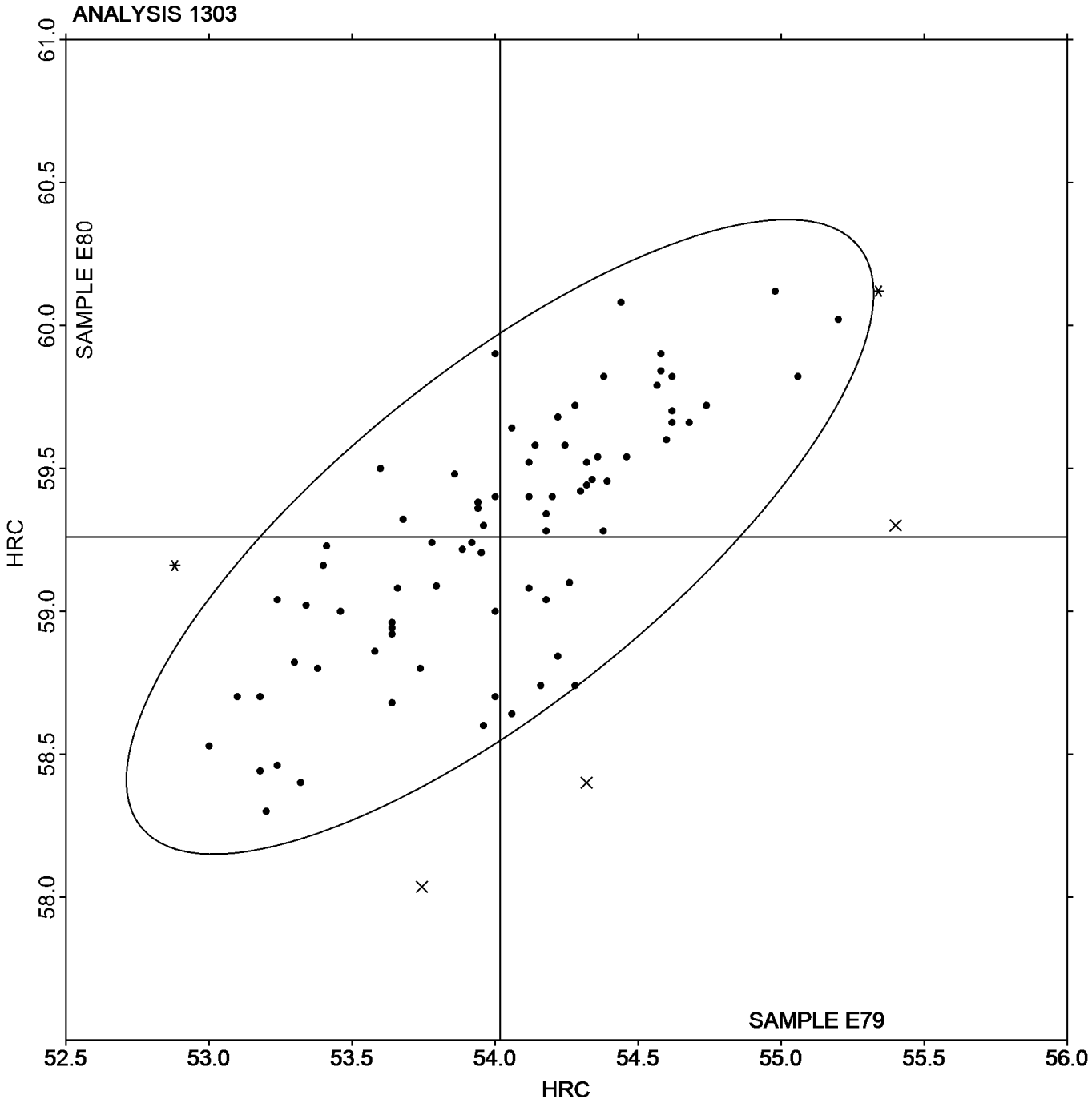
MX7FHK (X) - Data for sample E80 are low. Inconsistent within the determinations of sample E80.

P9GPWP (X) - Inconsistent in testing between samples.

PEMZT3 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample E80.

XF8ZLC (X) - Data for both samples are high. Inconsistent within the determinations of both samples.

SAMPLE E79	SAMPLE E80
54.02 HRC	59.26 HRC



		Sample E79			Sample E80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2T73EV		71.80	-0.82	-1.76	76.04	-0.88	-1.62
3JTF2L		72.22	-0.40	-0.86	76.10	-0.82	-1.51
3MFUPV		72.90	0.28	0.60	76.50	-0.42	-0.77
3TH28J		72.56	-0.06	-0.13	76.88	-0.04	-0.07
4TZEBM		71.86	-0.76	-1.64	76.10	-0.82	-1.51
7TPHWT		72.04	-0.58	-1.25	76.90	-0.02	-0.03
8VFW7N		72.36	-0.26	-0.56	76.68	-0.24	-0.44
94HK9L		72.48	-0.14	-0.30	77.20	0.28	0.53
99UAC8		72.40	-0.22	-0.48	77.22	0.30	0.56
9FEQ66		73.36	0.74	1.59	77.38	0.46	0.86
9FUH39		71.92	-0.70	-1.51	76.48	-0.44	-0.81
9UXECG	X	70.60	-2.02	-4.34	75.66	-1.26	-2.33
AJRTPF		72.20	-0.42	-0.90	76.60	-0.32	-0.58
C9YG6X		72.28	-0.34	-0.73	76.74	-0.18	-0.33
CKCECM		72.62	0.00	0.00	76.72	-0.20	-0.36
DKCC6B	X	70.62	-2.00	-4.30	74.28	-2.64	-4.88
DTNX87		73.48	0.86	1.84	78.06	1.14	2.12
EG7C2V	X	71.76	-0.86	-1.85	74.18	-2.74	-5.07
G4RKMT		73.40	0.78	1.67	77.74	0.82	1.53
G7JF9F	*	71.66	-0.96	-2.06	75.26	-1.66	-3.07
G7W83H		72.58	-0.04	-0.09	76.86	-0.06	-0.10
H62J4Z		71.84	-0.78	-1.68	76.24	-0.68	-1.25
HPQ8P9		72.80	0.18	0.38	77.00	0.08	0.16
HQJZJ7		72.28	-0.34	-0.73	76.86	-0.06	-0.10
JFVPN6		72.86	0.24	0.51	76.70	-0.22	-0.40
K2ZBE4		72.78	0.16	0.34	77.62	0.70	1.30
L36KJ7		72.32	-0.30	-0.65	77.00	0.08	0.16
LAYCN7		72.50	-0.12	-0.26	76.80	-0.12	-0.21
LR7PLB		73.32	0.70	1.50	77.66	0.74	1.38
M28JA8		72.75	0.12	0.27	77.37	0.45	0.83
MLPB8V		72.54	-0.08	-0.17	77.40	0.48	0.90
NU3J9X		73.30	0.68	1.45	77.38	0.46	0.86
PE68E8		72.52	-0.10	-0.22	76.46	-0.46	-0.84
R74YG6		73.04	0.42	0.90	77.62	0.70	1.30
TL7CGQ		73.18	0.56	1.20	77.46	0.54	1.01
TZRBKE		72.50	-0.12	-0.26	77.40	0.48	0.90
U7BV4K	X	71.02	-1.60	-3.44	74.08	-2.84	-5.25
VKQQ4U		72.44	-0.18	-0.39	76.78	-0.14	-0.25
VZ4NY3		72.94	0.32	0.68	76.68	-0.24	-0.44
W4YWKN		72.60	-0.02	-0.05	77.36	0.44	0.82
XF8ZLC		73.06	0.44	0.94	76.46	-0.46	-0.84
XWFW3P		73.20	0.58	1.24	77.00	0.08	0.16
YE9V98		72.62	0.00	0.00	76.66	-0.26	-0.47
YF4WAC	X	74.84	2.22	4.76	76.60	-0.32	-0.58
YWQW3A		72.82	0.20	0.42	77.01	0.09	0.17
ZBTWZR		73.04	0.42	0.90	76.84	-0.08	-0.14
ZCYNKT	X	75.08	2.46	5.28	77.28	0.36	0.67

		Sample E79			Sample E80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
ZQ4MTY		72.74	0.12	0.25	77.26	0.34	0.64

Summary Statistics

	Sample E79		Sample E80	
Grand Means	72.62	HR30N	76.92	HR30N
Stnd Dev Btwn Labs	0.47	HR30N	0.54	HR30N

Samples E79, E80 : Steel, Steel

Statistics based on 42 of 48 reporting participants

Comments on Assigned Data Flags for Test #1351

9UXECG (X) - Data for sample E79 are low.

DKCC6B (X) - Data for both samples are low. Inconsistent within the determinations of both samples.

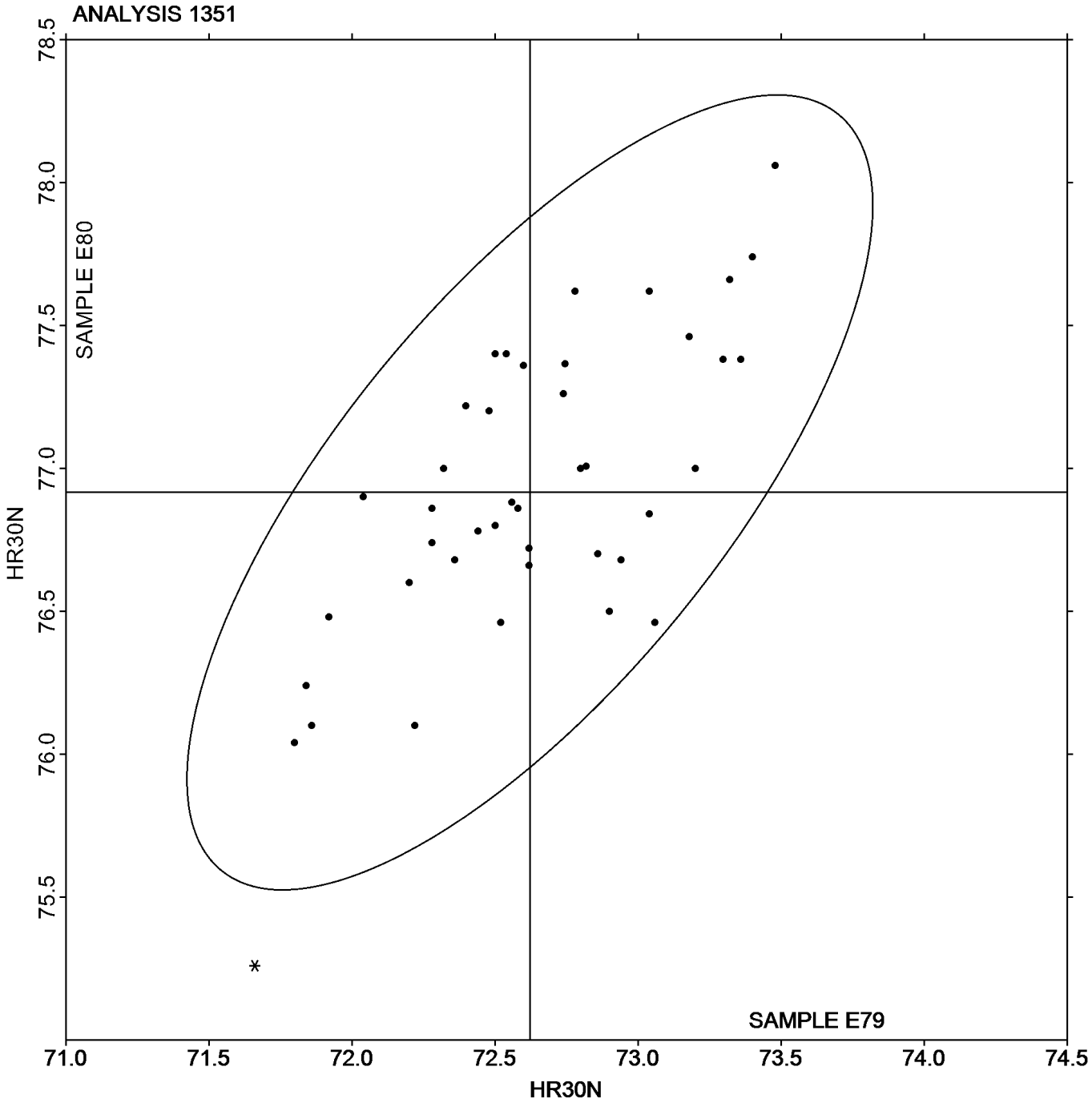
EG7C2V (X) - Data for sample E80 are low. Inconsistent within the determinations of both samples.

U7BV4K (X) - Data for both samples are low. Inconsistent within the determinations of both samples.

YF4WAC (X) - Data for sample E79 are high. Inconsistent within the determinations of both samples.

ZCYNKT (X) - Data for sample E79 are high. Inconsistent within the determinations of sample E79.

SAMPLE E79	SAMPLE E80
72.62 HR30N	76.92 HR30N



		Sample C79			Sample C80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2HZ6ML		0.0270	0.0016	0.32	0.0298	0.0006	0.13
2R9B89		0.0252	-0.0002	-0.03	0.0266	-0.0026	-0.54
2T73EV		0.0257	0.0003	0.06	0.0244	-0.0048	-0.98
2VP2RQ		0.0178	-0.0076	-1.54	0.0250	-0.0043	-0.86
3K6PWK		0.0164	-0.0090	-1.82	0.0211	-0.0081	-1.64
3TH28J		0.0220	-0.0034	-0.69	0.0278	-0.0014	-0.29
692DEM		0.0234	-0.0019	-0.39	0.0252	-0.0041	-0.82
9FEQ66		0.0282	0.0028	0.57	0.0350	0.0058	1.17
9FUH39		0.0246	-0.0008	-0.17	0.0269	-0.0023	-0.46
A7ZUKB		0.0344	0.0090	1.82	0.0407	0.0115	2.32
BMKAEE		0.0284	0.0030	0.62	0.0324	0.0032	0.64
DB4YN8		0.0248	-0.0006	-0.12	0.0298	0.0006	0.12
DHGF99		0.0222	-0.0032	-0.65	0.0248	-0.0044	-0.90
DTNX87		0.0168	-0.0086	-1.73	0.0210	-0.0082	-1.67
DV7CCR		0.0286	0.0032	0.65	0.0306	0.0014	0.28
EMVBQQ		0.0246	-0.0008	-0.16	0.0246	-0.0046	-0.94
FV7WDZ		0.0307	0.0053	1.07	0.0346	0.0054	1.10
FY3P6A		0.0276	0.0022	0.45	0.0341	0.0049	1.00
HQJZJ7		0.0178	-0.0076	-1.53	0.0224	-0.0068	-1.37
J7PCEA		0.0274	0.0020	0.41	0.0264	-0.0028	-0.57
JFVPN6	X	0.00234	-0.0231	-4.66	0.00254	-0.0267	-5.40
JUU7G6		0.0279	0.0025	0.50	0.0285	-0.0008	-0.15
KL46XT	*	0.0144	-0.0110	-2.22	0.0242	-0.0050	-1.02
LEDUYV		0.0268	0.0014	0.28	0.0300	0.0008	0.16
MLPB8V		0.0206	-0.0048	-0.96	0.0254	-0.0038	-0.77
MLVW76		0.0214	-0.0040	-0.81	0.0251	-0.0041	-0.83
N83KMJ		0.0220	-0.0034	-0.68	0.0237	-0.0055	-1.11
PQCYJ6		0.0324	0.0070	1.42	0.0380	0.0088	1.78
Q6ATM7		0.0327	0.0073	1.47	0.0349	0.0057	1.15
QHXBJB		0.0166	-0.0088	-1.78	0.0240	-0.0052	-1.06
REYR44		0.0210	-0.0044	-0.89	0.0242	-0.0050	-1.02
RURHZZ		0.0291	0.0037	0.74	0.0351	0.0059	1.19
THTPLL		0.0305	0.0051	1.04	0.0326	0.0034	0.69
TTF37Y		0.0205	-0.0049	-0.99	0.0248	-0.0044	-0.90
TZRBKE		0.0246	-0.0008	-0.16	0.0310	0.0018	0.36
VY8QUT		0.0313	0.0059	1.19	0.0372	0.0079	1.61
WQTLD2		0.0262	0.0008	0.17	0.0279	-0.0013	-0.27
XC7YJU		0.0284	0.0030	0.61	0.0325	0.0033	0.67
XF8ZLC		0.0251	-0.0003	-0.07	0.0269	-0.0023	-0.47
XFNXEF		0.0260	0.0006	0.13	0.0303	0.0011	0.21
XTXUX7		0.0323	0.0069	1.39	0.0363	0.0070	1.42
XWFW3P		0.0275	0.0021	0.43	0.0305	0.0013	0.26
Y3ZH7U		0.0195	-0.0059	-1.19	0.0231	-0.0061	-1.24
YE9V98		0.0324	0.0070	1.42	0.0358	0.0066	1.33
YLCTZK		0.0286	0.0032	0.64	0.0332	0.0040	0.80
ZBTWZR		0.0230	-0.0024	-0.49	0.0277	-0.0015	-0.30
ZCYNKT		0.0316	0.0062	1.25	0.0336	0.0044	0.89

		Sample C79			Sample C80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
ZQHBPK		0.0274	0.0020	0.41	0.0338	0.0046	0.93

Summary Statistics

	Sample C79		Sample C80	
Grand Means	0.0254	inches	0.0292	inches
Stnd Dev Btwn Labs	0.0049	inches	0.0049	inches

Samples C79, C80 : Steel, Steel

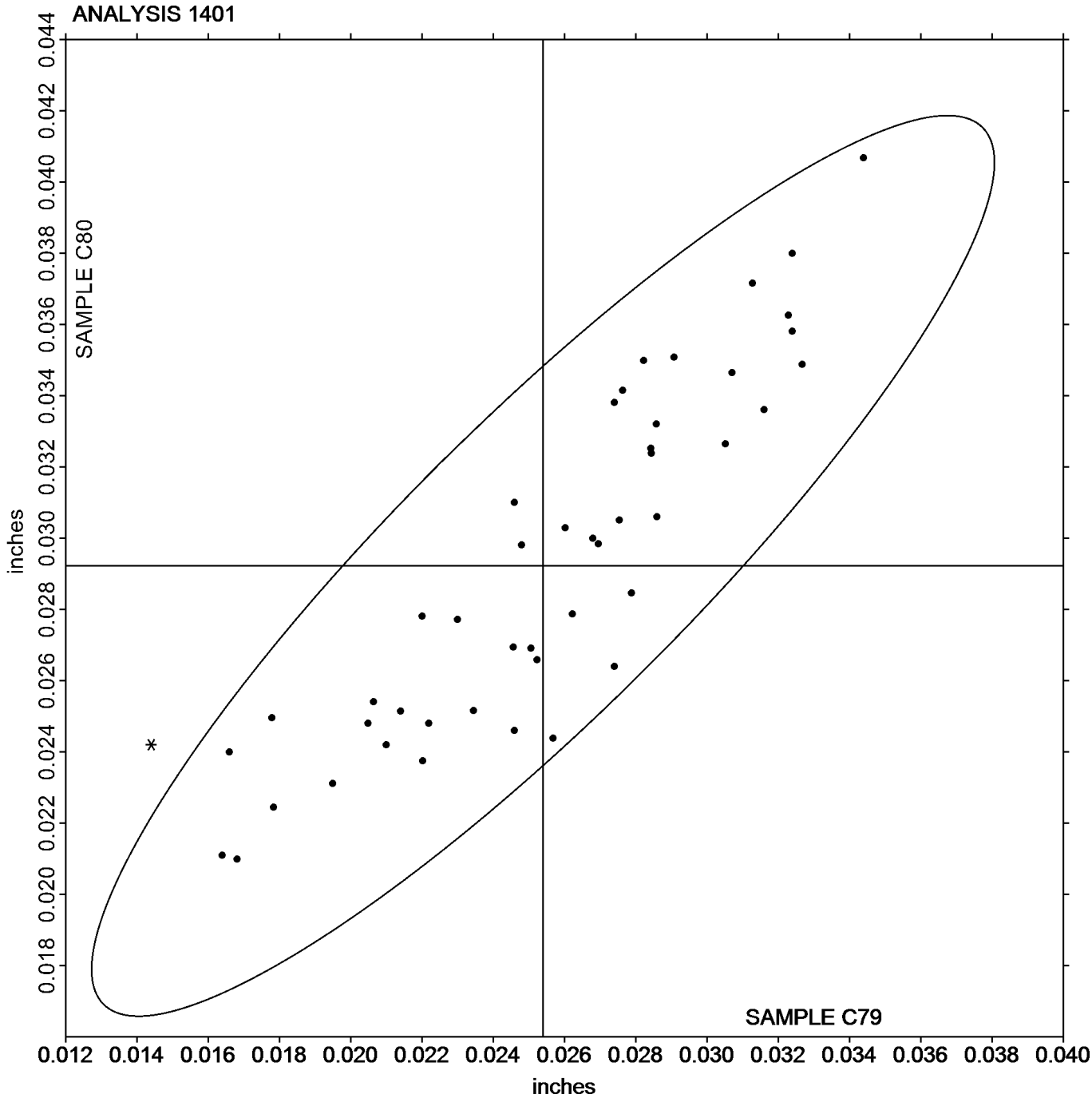
Statistics based on 47 of 48 reporting participants

Comments on Assigned Data Flags for Test #1401

JFVPN6 (X) - Data for both samples are low. Possible Systematic Error.

SAMPLE C79
0.0254 inches

SAMPLE C80
0.0292 inches



		Sample C79			Sample C80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2HZ6ML		0.0258	0.0003	0.17	0.0294	0.0002	0.14
2R9B89		0.0252	-0.0003	-0.14	0.0286	-0.0006	-0.38
2VP2RQ		0.0251	-0.0004	-0.21	0.0291	-0.0001	-0.04
39AFAB		0.0280	0.0025	1.29	0.0313	0.0021	1.34
3K6PWK		0.0245	-0.0010	-0.52	0.0294	0.0002	0.12
3TH28J		0.0223	-0.0032	-1.65	0.0267	-0.0025	-1.61
4LUB8M		0.0278	0.0023	1.21	0.0316	0.0024	1.56
688VQM	*	0.0198	-0.0057	-2.96	0.0251	-0.0041	-2.63
692DEM		0.0254	0.0000	-0.02	0.0286	-0.0006	-0.36
6YYJDQ		0.0250	-0.0005	-0.24	0.0282	-0.0010	-0.64
7JLA9F		0.0263	0.0008	0.43	0.0291	-0.0001	-0.06
9FEQ66		0.0259	0.0004	0.23	0.0285	-0.0007	-0.44
9FUH39		0.0241	-0.0014	-0.71	0.0272	-0.0020	-1.29
A7ZUKB		0.0255	0.0000	0.02	0.0305	0.0014	0.88
AHFEWZ		0.0262	0.0007	0.39	0.0313	0.0021	1.37
BMKAEE		0.0247	-0.0008	-0.39	0.0285	-0.0007	-0.47
BXMUG8		0.0268	0.0013	0.69	0.0324	0.0032	2.08
DB4YN8		0.0258	0.0003	0.17	0.0296	0.0004	0.27
DH7DMA		0.0253	-0.0002	-0.10	0.0294	0.0003	0.17
DHGF99		0.0248	-0.0007	-0.35	0.0294	0.0002	0.14
DKCC6B		0.0252	-0.0003	-0.14	0.0289	-0.0003	-0.19
DTNX87	X	0.0295	0.0040	2.08	0.0272	-0.0020	-1.29
DV7CCR		0.0262	0.0007	0.38	0.0290	-0.0002	-0.12
EMVBQQ	X	0.0248	-0.0007	-0.35	0.0236	-0.0056	-3.62
FV7WDZ		0.0245	-0.0010	-0.51	0.0290	-0.0002	-0.14
FY3P6A		0.0242	-0.0012	-0.64	0.0298	0.0006	0.40
G7W83H		0.0262	0.0008	0.39	0.0294	0.0002	0.12
H92X6R		0.0239	-0.0016	-0.81	0.0293	0.0001	0.05
HQJZJ7		0.0208	-0.0047	-2.43	0.0267	-0.0025	-1.60
HZQVJQ		0.0292	0.0037	1.93	0.0306	0.0014	0.90
JUU7G6		0.0252	-0.0003	-0.13	0.0268	-0.0024	-1.53
KL46XT	X	0.0134	-0.0121	-6.27	0.0208	-0.0084	-5.43
LEDUYV		0.0256	0.0001	0.07	0.0282	-0.0010	-0.64
LWD8UB		0.0256	0.0001	0.07	0.0290	-0.0002	-0.12
MLVW76		0.0254	-0.0001	-0.06	0.0294	0.0002	0.12
N83KMJ	*	0.0274	0.0019	1.00	0.0274	-0.0018	-1.16
PEK8WF	*	0.0311	0.0056	2.91	0.0319	0.0027	1.77
PQCYJ6		0.0280	0.0025	1.31	0.0304	0.0012	0.79
PT4TJU		0.0244	-0.0011	-0.56	0.0278	-0.0014	-0.90
Q6ATM7		0.0230	-0.0025	-1.28	0.0278	-0.0014	-0.90
RURHZZ		0.0271	0.0016	0.83	0.0315	0.0024	1.52
RY4G9K		0.0275	0.0020	1.05	0.0302	0.0010	0.68
THTPLL		0.0236	-0.0019	-0.97	0.0264	-0.0028	-1.81
TTF37Y		0.0229	-0.0025	-1.32	0.0275	-0.0017	-1.11
TZRBKE		0.0246	-0.0009	-0.45	0.0292	0.0000	0.01
VY8QUT		0.0262	0.0007	0.37	0.0307	0.0015	0.97
WQTLD2		0.0247	-0.0007	-0.39	0.0285	-0.0007	-0.44

		Sample C79			Sample C80		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
XC7YJU		0.0257	0.0002	0.10	0.0307	0.0015	0.97
XF8ZLC		0.0255	0.0001	0.04	0.0289	-0.0003	-0.19
XFNXEF		0.0257	0.0003	0.14	0.0299	0.0007	0.48
XTXUX7		0.0214	-0.0041	-2.13	0.0258	-0.0034	-2.18
XWFW3P		0.0259	0.0004	0.23	0.0291	-0.0001	-0.08
Y3XDHP		0.0254	0.0000	-0.02	0.0306	0.0015	0.94
Y3ZH7U	*	0.0296	0.0041	2.12	0.0296	0.0004	0.24
YE9V98		0.0268	0.0013	0.69	0.0308	0.0016	1.05
YLCTZK		0.0263	0.0008	0.43	0.0308	0.0016	1.04
ZBTWZR		0.0256	0.0001	0.05	0.0304	0.0012	0.77
ZCYNKT		0.0260	0.0005	0.28	0.0284	-0.0008	-0.51
ZFH39F		0.0254	-0.0001	-0.04	0.0288	-0.0004	-0.25
ZQHBPK		0.0258	0.0003	0.17	0.0306	0.0014	0.92

Summary Statistics

	Sample C79		Sample C80	
Grand Means	0.0255	inches	0.0292	inches
Stnd Dev Btwn Labs	0.0019	inches	0.0015	inches

Samples C79, C80 : Steel, Steel

Statistics based on 57 of 60 reporting participants

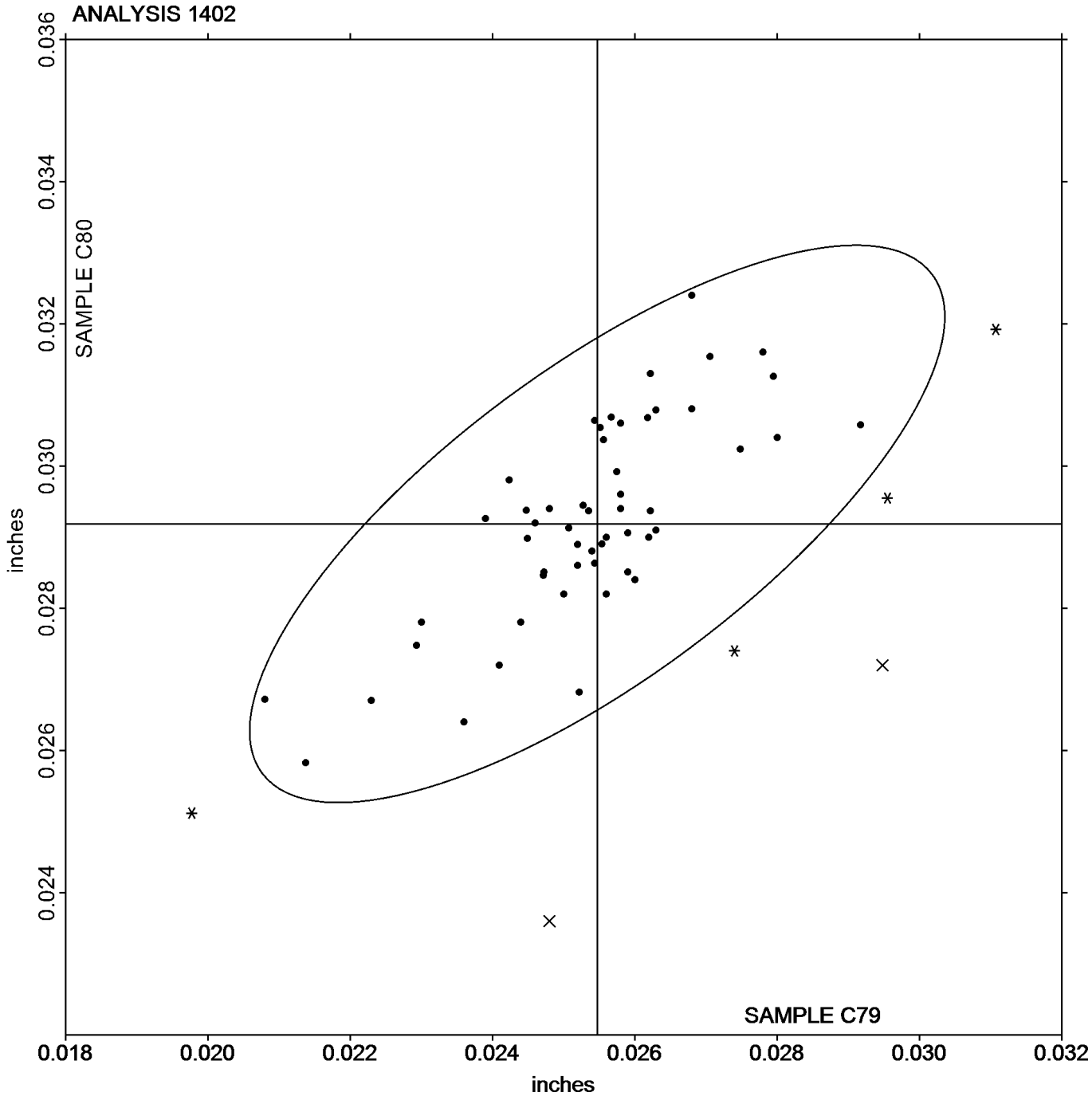
Comments on Assigned Data Flags for Test #1402

DTNX87 (X) - Inconsistent in testing between samples.

EMVBQQ (X) - Data for sample C80 are low.

KL46XT (X) - Data for both samples are low.

SAMPLE C79	SAMPLE C80
0.0255 inches	0.0292 inches



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.0461	0.0014	0.49	0.0461	0.0038	1.20	OE
2L4XKQ		0.0463	0.0016	0.56	0.0411	-0.0013	-0.41	CI
2NEQPQ		0.0445	-0.0002	-0.06	0.0415	-0.0009	-0.28	CO
42UFQZ		0.0433	-0.0013	-0.46	0.0431	0.0008	0.25	OE
4AY48W		0.0505	0.0058	2.02	0.0489	0.0065	2.08	CI
4DKCNR		0.0415	-0.0031	-1.09	0.0393	-0.0031	-0.98	CI
4ERTJG		0.0451	0.0005	0.16	0.0428	0.0005	0.15	CI
4MBWUQ		0.0436	-0.0011	-0.38	0.0379	-0.0044	-1.41	CI
6YYJDQ		0.0490	0.0043	1.50	0.0477	0.0053	1.70	OE
8AQPLE		0.0447	0.0000	0.01	0.0387	-0.0036	-1.17	XX
8VFW7N		0.0444	-0.0003	-0.10	0.0425	0.0002	0.05	OE
9QX688	*	0.0533	0.0087	2.99	0.0510	0.0087	2.77	OE
9V4WCY		0.0454	0.0008	0.26	0.0380	-0.0043	-1.38	CI
9XVVNB		0.0472	0.0026	0.88	0.0429	0.0005	0.17	XX
D389ZB		0.0435	-0.0011	-0.39	0.0416	-0.0008	-0.25	CI
DB2AJA		0.0429	-0.0018	-0.63	0.0406	-0.0018	-0.57	CO
ETYX66		0.0434	-0.0013	-0.45	0.0386	-0.0037	-1.19	CI
FE9L8L	*	0.0536	0.0089	3.09	0.0511	0.0088	2.80	OE
FQTQLD		0.0403	-0.0043	-1.50	0.0393	-0.0030	-0.96	OE
FV7WDZ		0.0433	-0.0013	-0.46	0.0400	-0.0023	-0.75	OE
G7W83H		0.0461	0.0014	0.49	0.0462	0.0039	1.23	CO
GR3H8L		0.0447	0.0000	0.00	0.0433	0.0010	0.32	OE
HU2XVF		0.0436	-0.0011	-0.37	0.0418	-0.0005	-0.16	OE
HWQY24		0.0466	0.0019	0.65	0.0436	0.0012	0.39	OE
J7PCEA	X	0.0433	-0.0013	-0.46	0.4267	0.3843	122.99	OE
JUU7G6		0.0444	-0.0003	-0.11	0.0433	0.0009	0.30	CO
JZ48ZM		0.0429	-0.0018	-0.61	0.0408	-0.0015	-0.48	OE
KND4G3		0.0447	0.0000	0.01	0.0436	0.0013	0.40	OE
KP2QMB		0.0415	-0.0031	-1.09	0.0393	-0.0031	-0.98	CI
KYNPF2		0.0447	0.0000	0.00	0.0460	0.0037	1.17	OE
LTCQ7Z		0.0413	-0.0033	-1.16	0.0388	-0.0035	-1.13	CO
LYLCAK		0.0476	0.0030	1.02	0.0438	0.0014	0.46	OE
MHAX9U		0.0427	-0.0020	-0.69	0.0407	-0.0017	-0.54	CI
MLVW76		0.0447	0.0000	0.00	0.0447	0.0023	0.74	CO
MPPGNM		0.0407	-0.0040	-1.39	0.0387	-0.0037	-1.18	CI
MUYWXB	X	0.0576	0.0129	4.47	0.0568	0.0144	4.62	OE
NYDU3C	X	0.0266	-0.0180	-6.24	0.0243	-0.0180	-5.77	XX
PCF67X		0.0453	0.0007	0.23	0.0473	0.0050	1.60	OE
PGDWL3		0.0437	-0.0010	-0.35	0.0417	-0.0007	-0.22	OE
PYNXCU		0.0421	-0.0025	-0.88	0.0410	-0.0014	-0.44	OE
Q6ATM7		0.0424	-0.0023	-0.80	0.0405	-0.0019	-0.60	CO
QAR22X		0.0481	0.0034	1.17	0.0439	0.0016	0.51	GD
T2869M		0.0447	0.0001	0.02	0.0424	0.0001	0.02	OE
U7AFV8		0.0400	-0.0047	-1.62	0.0403	-0.0020	-0.64	GD
UTPMZT		0.0496	0.0049	1.69	0.0452	0.0029	0.92	OE
UVWX23		0.0447	0.0000	0.00	0.0424	0.0001	0.02	OE
VAA96W		0.0413	-0.0033	-1.16	0.0390	-0.0033	-1.07	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1640

Corrosion Resistant Steel, CARBON (C)

CARBON (C)

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VFXDWJ		0.0453	0.0007	0.23	0.0423	0.0000	0.00	OE
WQTLD2		0.0430	-0.0017	-0.58	0.0380	-0.0043	-1.39	OE
XUP8MW		0.0427	-0.0020	-0.68	0.0414	-0.0010	-0.31	CI
Y3ZH7U		0.0427	-0.0020	-0.69	0.0420	-0.0003	-0.11	OE
YF7LDA		0.0447	0.0000	0.00	0.0436	0.0012	0.40	CI
YLCTZK		0.0442	-0.0005	-0.18	0.0421	-0.0003	-0.09	CI
ZAELTM	X	0.1280	0.0833	28.81	0.0897	0.0473	15.14	IR
ZQHBPK		0.0479	0.0032	1.10	0.0416	-0.0007	-0.23	CI
ZQHNJK		0.0427	-0.0020	-0.69	0.0401	-0.0022	-0.71	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.0447	Percent	0.0423	Percent
Stnd Dev Btwn Labs	0.0029	Percent	0.0031	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 52 of 56 reporting participants

Key to Method Codes Reported by Participants

CI	Combustion / IR	CO	Combustion
DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IR	IR (Absorption / Detection)	OE	Spectrometry - Optical Emission (OES)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #1640

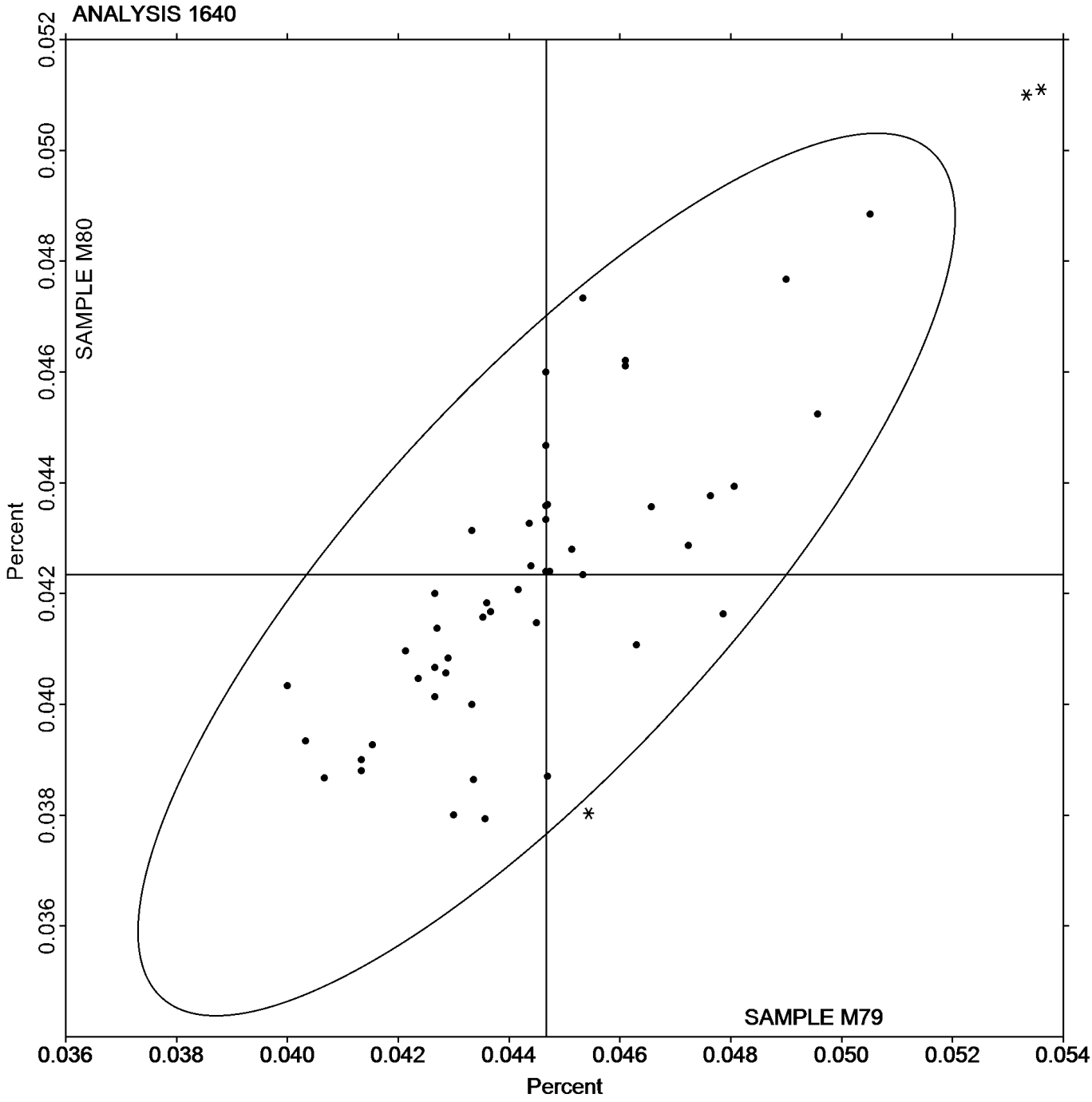
J7PCEA (X) - Data for sample M80 appear to be off by a factor of ten.

MUYWXB (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample M79.

NYDU3C (X) - Data for both samples are low. Possible Systematic Error.

ZAELTM (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

SAMPLE M79	SAMPLE M80
0.0447 Percent	0.0423 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		1.455	-0.015	-0.82	1.448	0.022	1.05	OE
2L4XKQ		1.469	-0.002	-0.09	1.427	0.000	0.00	WD
2NEQPQ		1.482	0.012	0.63	1.437	0.011	0.52	OE
42UFQZ		1.474	0.004	0.20	1.428	0.001	0.05	WD
4AY48W		1.443	-0.028	-1.48	1.403	-0.023	-1.12	OE
4DKCNR		1.472	0.002	0.09	1.424	-0.003	-0.14	WD
4ERTJG		1.467	-0.004	-0.19	1.421	-0.006	-0.29	WD
4MBWUQ		1.456	-0.015	-0.80	1.408	-0.019	-0.90	WD
6YYJDQ		1.490	0.019	1.03	1.470	0.043	2.10	XX
8AQPLE		1.513	0.043	2.28	1.443	0.017	0.81	XX
8VFW7N	X	1.443	-0.027	-1.47	1.559	0.132	6.40	OE
9QX688		1.494	0.023	1.23	1.439	0.013	0.62	OE
9V4WCY		1.453	-0.017	-0.93	1.416	-0.011	-0.51	OE
9XVVNB		1.477	0.006	0.32	1.427	0.000	0.00	XX
D389ZB		1.485	0.014	0.76	1.435	0.008	0.41	WD
DB2AJA		1.453	-0.017	-0.93	1.407	-0.020	-0.96	OE
ETYX66		1.474	0.004	0.19	1.432	0.005	0.26	OE
FE9L8L		1.493	0.023	1.21	1.473	0.047	2.26	OE
FQTQLD		1.480	0.009	0.48	1.436	0.010	0.47	OE
FV7WDZ		1.503	0.032	1.71	1.458	0.032	1.54	OE
G7W83H		1.455	-0.016	-0.84	1.408	-0.019	-0.90	OE
GR3H8L		1.483	0.013	0.68	1.453	0.027	1.30	OE
HU2XVF		1.461	-0.010	-0.53	1.417	-0.010	-0.46	OE
HWQY24		1.471	0.000	0.00	1.425	-0.002	-0.08	OE
J7PCEA		1.443	-0.027	-1.46	1.403	-0.023	-1.13	OE
JUU7G6		1.460	-0.011	-0.57	1.417	-0.010	-0.48	OE
JZ48ZM		1.461	-0.009	-0.49	1.424	-0.002	-0.10	OE
KBW66Y		1.452	-0.018	-0.98	1.403	-0.024	-1.14	WD
KND4G3		1.460	-0.011	-0.57	1.410	-0.017	-0.80	OE
KP2QMB		1.462	-0.008	-0.44	1.410	-0.017	-0.80	WD
KYNPF2		1.472	0.001	0.07	1.419	-0.008	-0.38	OE
LTCQ7Z		1.468	-0.003	-0.14	1.421	-0.005	-0.25	OE
LYLCAK		1.486	0.016	0.84	1.450	0.023	1.13	OE
MHAX9U		1.490	0.019	1.03	1.437	0.010	0.50	IC
MLVW76		1.453	-0.017	-0.93	1.390	-0.037	-1.77	IC
MPPGNM		1.498	0.027	1.47	1.443	0.016	0.78	IC
MUYWXB		1.463	-0.007	-0.39	1.423	-0.003	-0.16	OE
NYDU3C		1.477	0.006	0.32	1.427	0.000	0.00	OE
PCF67X		1.471	0.000	0.02	1.433	0.006	0.31	OE
PGDWL3		1.443	-0.027	-1.46	1.390	-0.037	-1.77	OE
PYNXCU		1.440	-0.031	-1.64	1.407	-0.020	-0.96	OE
Q6ATM7		1.464	-0.007	-0.37	1.406	-0.021	-1.00	OE
QAR22X	*	1.523	0.053	2.82	1.463	0.037	1.78	GD
T2869M		1.452	-0.019	-1.01	1.411	-0.016	-0.76	OE
U7AFV8		1.457	-0.014	-0.75	1.423	-0.003	-0.16	GD
UTPMZT		1.492	0.021	1.12	1.432	0.005	0.26	OE
UVWX23		1.470	-0.001	-0.03	1.423	-0.003	-0.16	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1641

Corrosion Resistant Steel, MANGANESE (Mn)

MANGANESE (Mn)

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VAA96W		1.452	-0.018	-0.98	1.420	-0.007	-0.34	OE
VFXDWJ		1.502	0.031	1.68	1.445	0.019	0.91	OE
VHYUBU		1.463	-0.007	-0.39	1.457	0.030	1.46	OE
WQTLD2		1.470	-0.001	-0.03	1.420	-0.007	-0.32	OE
XUP8MW		1.440	-0.031	-1.63	1.371	-0.055	-2.67	IC
Y3ZH7U		1.477	0.007	0.36	1.438	0.011	0.55	OE
YF7LDA		1.461	-0.009	-0.49	1.413	-0.013	-0.64	XR
YLCTZK		1.469	-0.001	-0.07	1.437	0.011	0.52	IC
ZAELTM		1.450	-0.021	-1.10	1.402	-0.025	-1.19	XX
ZQHBPK		1.479	0.008	0.45	1.452	0.026	1.25	IC
ZQHNJK		1.499	0.029	1.53	1.457	0.031	1.49	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	1.471	Percent	1.427	Percent
Stnd Dev Btwn Labs	0.019	Percent	0.021	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 57 of 58 reporting participants

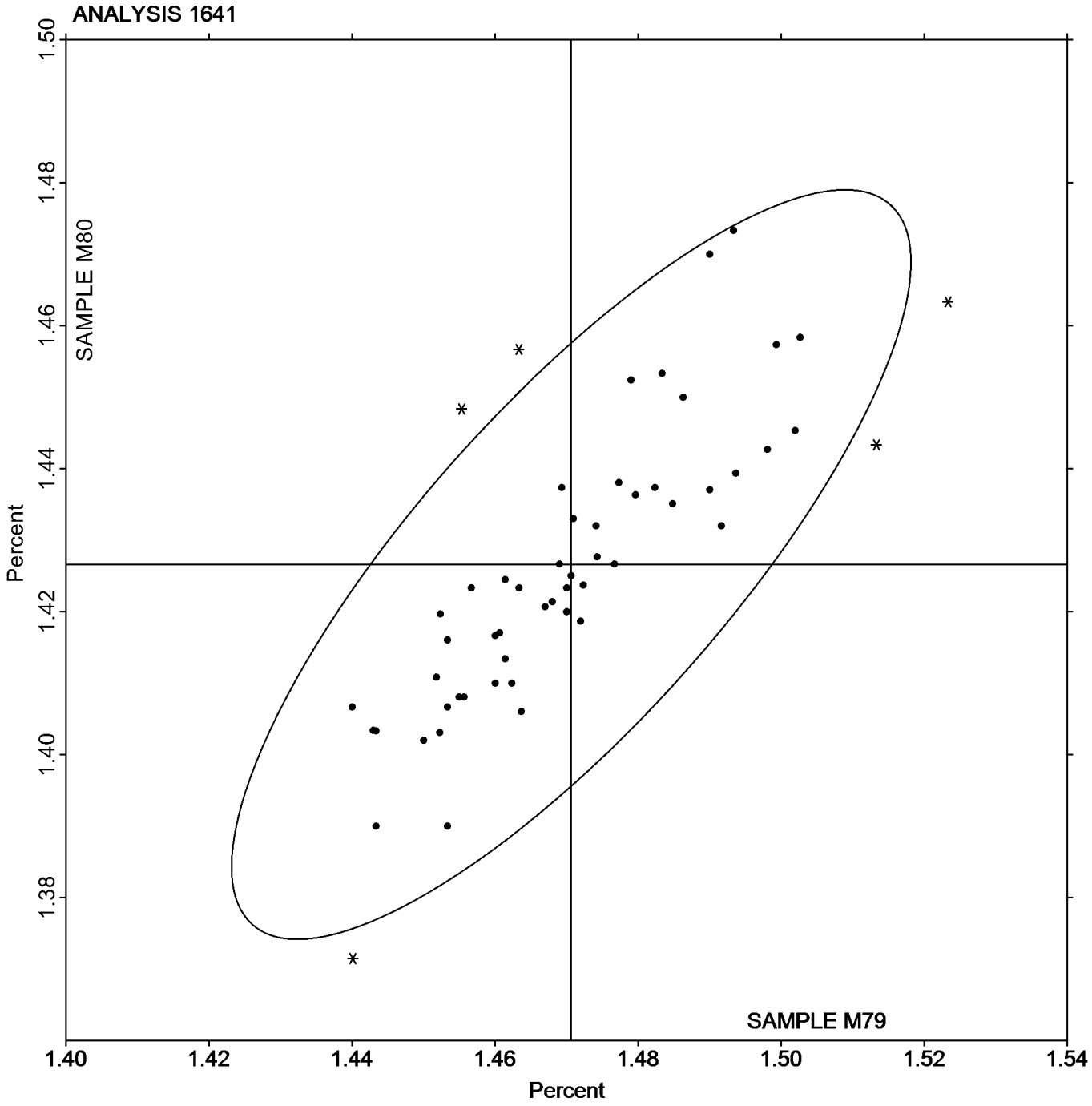
Key to Method Codes Reported by Participants

DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XR	X-Ray Fluorescence - ED or WD not specified
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #1641

8VFW7N (X) - Data for sample M80 are high. Inconsistent within the determinations of sample M80.

SAMPLE M79	SAMPLE M80
1.471 Percent	1.427 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.0316	0.0003	0.11	0.0311	0.0022	1.11	OE
2L4XKQ		0.0323	0.0010	0.40	0.0291	0.0002	0.12	WD
2NEQPQ		0.0323	0.0009	0.37	0.0296	0.0007	0.35	OE
42UFQZ		0.0315	0.0001	0.06	0.0287	-0.0002	-0.10	WD
4AY48W		0.0264	-0.0050	-2.02	0.0261	-0.0028	-1.37	OE
4DKCNR		0.0317	0.0003	0.14	0.0286	-0.0002	-0.11	WD
4ERTJG		0.0316	0.0002	0.10	0.0287	-0.0002	-0.08	WD
4MBWUQ		0.0307	-0.0007	-0.28	0.0290	0.0001	0.07	WD
6YYJDQ		0.0313	0.0000	-0.01	0.0310	0.0021	1.06	XX
8AQPLE		0.0352	0.0038	1.56	0.0300	0.0011	0.56	XX
8VFW7N		0.0312	-0.0002	-0.08	0.0283	-0.0006	-0.30	OE
9QX688		0.0303	-0.0010	-0.41	0.0280	-0.0009	-0.43	OE
9V4WCY		0.0323	0.0010	0.40	0.0291	0.0003	0.13	OE
9XVVNB		0.0304	-0.0009	-0.37	0.0285	-0.0004	-0.20	XX
D389ZB		0.0318	0.0004	0.18	0.0283	-0.0005	-0.26	WD
DB2AJA		0.0280	-0.0034	-1.36	0.0260	-0.0029	-1.42	OE
ETYX66		0.0323	0.0010	0.39	0.0292	0.0003	0.16	OE
FE9L8L		0.0314	0.0001	0.03	0.0277	-0.0012	-0.59	OE
FQTQLD		0.0297	-0.0017	-0.68	0.0283	-0.0005	-0.26	OE
FV7WDZ		0.0308	-0.0006	-0.22	0.0282	-0.0006	-0.31	XX
G7W83H		0.0293	-0.0021	-0.83	0.0268	-0.0021	-1.02	OE
GR3H8L		0.0317	0.0003	0.13	0.0313	0.0025	1.22	OE
HU2XVF		0.0302	-0.0012	-0.47	0.0285	-0.0003	-0.16	OE
HWQY24		0.0331	0.0017	0.71	0.0301	0.0013	0.63	OE
J7PCEA		0.0317	0.0004	0.15	0.0291	0.0002	0.10	OE
JUU7G6		0.0293	-0.0020	-0.82	0.0280	-0.0009	-0.43	OE
JZ48ZM		0.0311	-0.0003	-0.10	0.0283	-0.0005	-0.26	OE
KBW66Y		0.0297	-0.0017	-0.67	0.0266	-0.0023	-1.12	WD
KND4G3		0.0306	-0.0008	-0.30	0.0277	-0.0012	-0.58	OE
KP2QMB		0.0324	0.0010	0.42	0.0291	0.0002	0.10	WD
KYNPF2		0.0260	-0.0054	-2.17	0.0240	-0.0049	-2.41	OE
LTCQ7Z		0.0307	-0.0007	-0.28	0.0280	-0.0009	-0.43	OE
LYLCAK		0.0363	0.0049	1.99	0.0321	0.0033	1.62	OE
MHAX9U		0.0347	0.0033	1.34	0.0317	0.0028	1.39	IC
MLVW76		0.0303	-0.0010	-0.41	0.0300	0.0011	0.56	IC
MPPGNM		0.0351	0.0037	1.50	0.0306	0.0018	0.88	IC
MUYWXB		0.0281	-0.0033	-1.32	0.0263	-0.0025	-1.25	OE
NYDU3C		0.0314	0.0000	0.02	0.0272	-0.0016	-0.81	OE
PCF67X		0.0278	-0.0035	-1.43	0.0262	-0.0027	-1.32	OE
PGDWL3		0.0287	-0.0027	-1.07	0.0259	-0.0030	-1.47	OE
PYNXCU		0.0313	0.0000	-0.01	0.0300	0.0012	0.58	OE
Q6ATM7		0.0315	0.0002	0.07	0.0281	-0.0008	-0.39	OE
QAR22X		0.0306	-0.0008	-0.30	0.0299	0.0011	0.53	GD
T2869M	X	0.0304	-0.0009	-0.37	0.0367	0.0078	3.88	OE
U7AFV8		0.0287	-0.0027	-1.09	0.0270	-0.0019	-0.92	GD
UTPMZT	*	0.0377	0.0063	2.56	0.0330	0.0041	2.05	OE
UVWX23		0.0367	0.0053	2.15	0.0329	0.0041	2.02	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1642

Corrosion Resistant Steel, PHOSPHORUS (P)
PHOSPHORUS (P)

Cycle 136
4th Qtr 2021

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VAA96W		0.0313	0.0000	-0.01	0.0303	0.0015	0.73	OE
VFXDWJ		0.0341	0.0027	1.11	0.0307	0.0018	0.91	OE
VHYUBU		0.0319	0.0006	0.24	0.0314	0.0025	1.24	OE
WQTLD2		0.0307	-0.0007	-0.28	0.0280	-0.0009	-0.43	OE
XUP8MW		0.0376	0.0063	2.54	0.0337	0.0048	2.38	IC
Y3ZH7U		0.0317	0.0003	0.13	0.0300	0.0011	0.56	OE
YF7LDA		0.0301	-0.0013	-0.52	0.0270	-0.0018	-0.91	XR
YLCTZK	*	0.0333	0.0019	0.79	0.0253	-0.0036	-1.77	IC
ZAELTM	X	0.0310	-0.0004	-0.14	0.2833	0.2545	126.13	WD
ZQHBPK		0.0281	-0.0033	-1.32	0.0254	-0.0035	-1.72	IC

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.0314	Percent	0.0289	Percent
Stnd Dev Btwn Labs	0.0025	Percent	0.0020	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 54 of 57 reporting participants

Key to Method Codes Reported by Participants

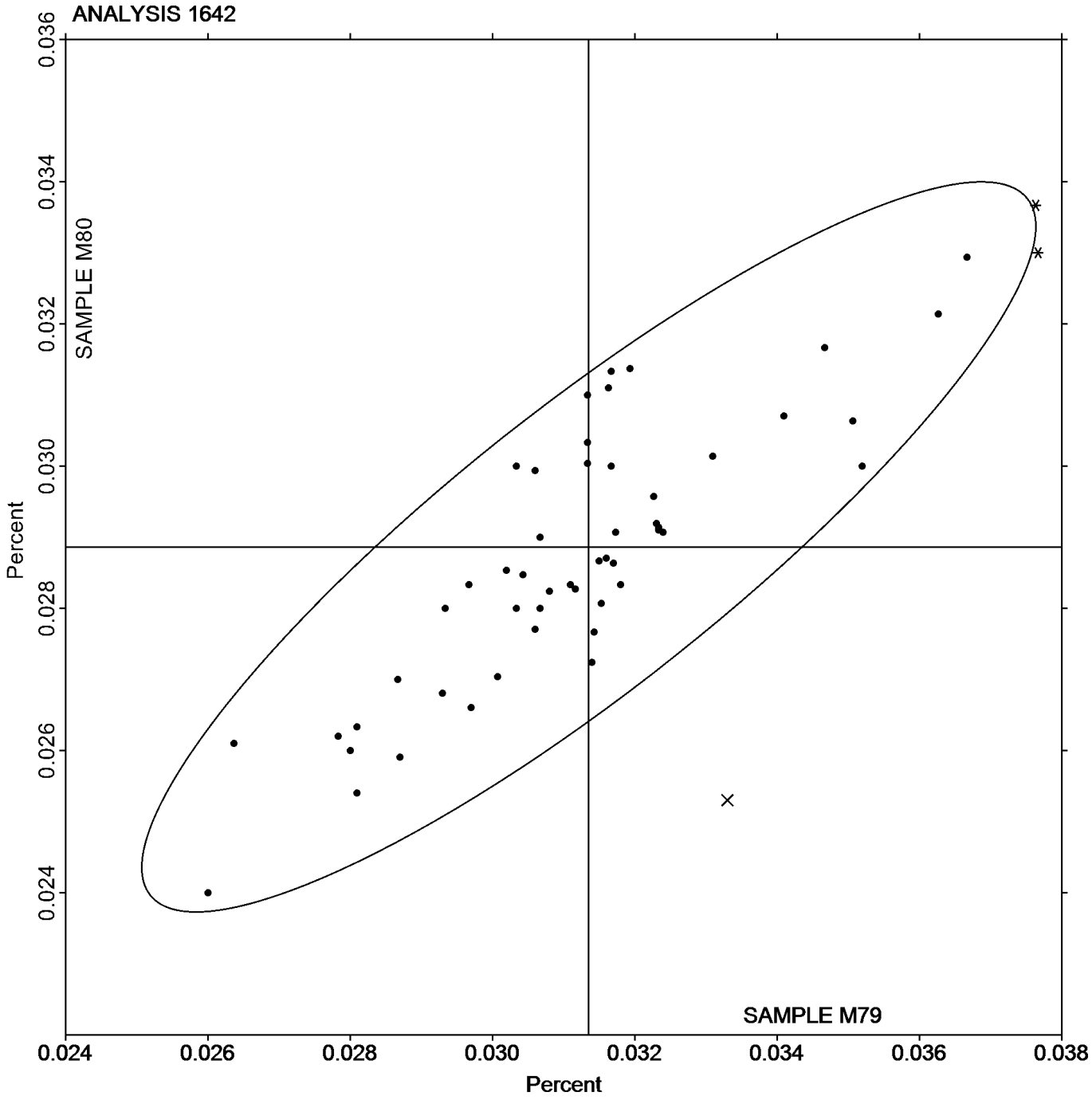
GD	Spectrometry - Glow Discharge (GDS)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1642

T2869M (X) - Data for sample M80 are high. Inconsistent within the determinations of sample M80.

ZAELTM (X) - Data for sample M80 appear to be off by a factor of ten.

SAMPLE M79	SAMPLE M80
0.0314 Percent	0.0289 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.00337	0.00107	0.83	0.00457	0.00118	0.86	OE
2L4XKQ		0.00138	-0.00091	-0.71	0.00279	-0.00060	-0.44	CI
2NEQPQ		0.00127	-0.00103	-0.80	0.00243	-0.00095	-0.69	CO
42UFQZ		0.00107	-0.00123	-0.95	0.00203	-0.00135	-0.98	OE
4AY48W		0.00164	-0.00066	-0.51	0.00287	-0.00052	-0.38	OE
4DKCNR		0.00183	-0.00046	-0.36	0.00217	-0.00122	-0.89	CI
4ERTJG		0.00153	-0.00076	-0.59	0.00283	-0.00055	-0.40	CI
4MBWUQ		0.00167	-0.00063	-0.49	0.00270	-0.00069	-0.50	IR
6YYJDQ		0.00100	-0.00130	-1.01	0.00267	-0.00072	-0.52	XX
8AQPLE		0.00487	0.00257	2.00	0.00603	0.00265	1.92	XX
8VFW7N		0.00110	-0.00120	-0.93	0.00220	-0.00119	-0.86	OE
9QX688		0.00200	-0.00030	-0.23	0.00300	-0.00039	-0.28	OE
9V4WCY		0.00167	-0.00063	-0.49	0.00303	-0.00035	-0.26	CI
9XVVNB	*	0.00563	0.00334	2.59	0.00737	0.00398	2.89	XX
D389ZB		0.00119	-0.00111	-0.86	0.00230	-0.00109	-0.79	CI
DB2AJA		0.00120	-0.00110	-0.85	0.00217	-0.00122	-0.89	CO
ETYX66		0.00141	-0.00088	-0.69	0.00238	-0.00100	-0.73	CI
FE9L8L		0.00147	-0.00083	-0.64	0.00187	-0.00152	-1.10	OE
FQTQLD		0.00500	0.00270	2.10	0.00600	0.00261	1.90	OE
FV7WDZ		0.00227	-0.00003	-0.02	0.00327	-0.00012	-0.09	OE
G7W83H		0.00160	-0.00070	-0.54	0.00310	-0.00029	-0.21	CO
GR3H8L	*	0.00367	0.00137	1.07	0.00600	0.00261	1.90	OE
HU2XVF		0.00290	0.00060	0.47	0.00343	0.00005	0.03	OE
HWQY24		0.00143	-0.00086	-0.67	0.00253	-0.00085	-0.62	OE
J7PCEA	X	0.00273	0.00044	0.34	0.00110	-0.00229	-1.66	OE
JUU7G6		0.00243	0.00013	0.10	0.00314	-0.00025	-0.18	CO
JZ48ZM		0.00147	-0.00083	-0.64	0.00303	-0.00035	-0.26	OE
KND4G3		0.00200	-0.00030	-0.23	0.00300	-0.00039	-0.28	OE
KP2QMB		0.00183	-0.00046	-0.36	0.00217	-0.00122	-0.89	CI
KYNPF2		0.00500	0.00270	2.10	0.00567	0.00228	1.66	XX
LTCQ7Z		0.00130	-0.00100	-0.77	0.00230	-0.00109	-0.79	CO
LYLCAK		0.00340	0.00110	0.86	0.00483	0.00145	1.05	OE
MHAX9U		0.00147	-0.00083	-0.64	0.00270	-0.00069	-0.50	CI
MLVW76		0.00267	0.00037	0.29	0.00450	0.00111	0.81	CO
MPPGNM		0.00160	-0.00070	-0.54	0.00253	-0.00085	-0.62	CI
MUYWXB		0.00170	-0.00060	-0.46	0.00167	-0.00172	-1.25	OE
NYDU3C		0.00257	0.00027	0.21	0.00310	-0.00029	-0.21	OE
PCF67X	*	0.00613	0.00384	2.98	0.00710	0.00371	2.70	OE
PGDWL3		0.00237	0.00007	0.06	0.00320	-0.00019	-0.13	OE
Q6ATM7		0.00280	0.00050	0.39	0.00437	0.00098	0.71	CO
QAR22X		0.00300	0.00070	0.55	0.00390	0.00051	0.37	GD
T2869M		0.00337	0.00107	0.83	0.00430	0.00091	0.66	OE
UTPMZT		0.00240	0.00010	0.08	0.00357	0.00018	0.13	OE
VAA96W		0.00203	-0.00026	-0.20	0.00307	-0.00032	-0.23	OE
VFXDWJ		0.00397	0.00167	1.30	0.00513	0.00175	1.27	OE
WQTLD2	X	0.0120	0.00970	7.54	0.0120	0.00861	6.26	OE
XUP8MW		0.00163	-0.00066	-0.51	0.00273	-0.00065	-0.47	CI

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
Y3ZH7U		0.00100	-0.00130	-1.01	0.00267	-0.00072	-0.52	OE
YF7LDA		0.00170	-0.00060	-0.46	0.00267	-0.00072	-0.52	CI
YLCTZK		0.00123	-0.00106	-0.82	0.00240	-0.00099	-0.72	CI
ZAELTM		0.00300	0.00070	0.55	0.00400	0.00061	0.45	IR
ZQHBPK		0.000533	-0.00176	-1.37	0.00180	-0.00159	-1.15	CI

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.00230	Percent	0.00339	Percent
Stnd Dev Btwn Labs	0.00129	Percent	0.00138	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 50 of 52 reporting participants

Key to Method Codes Reported by Participants

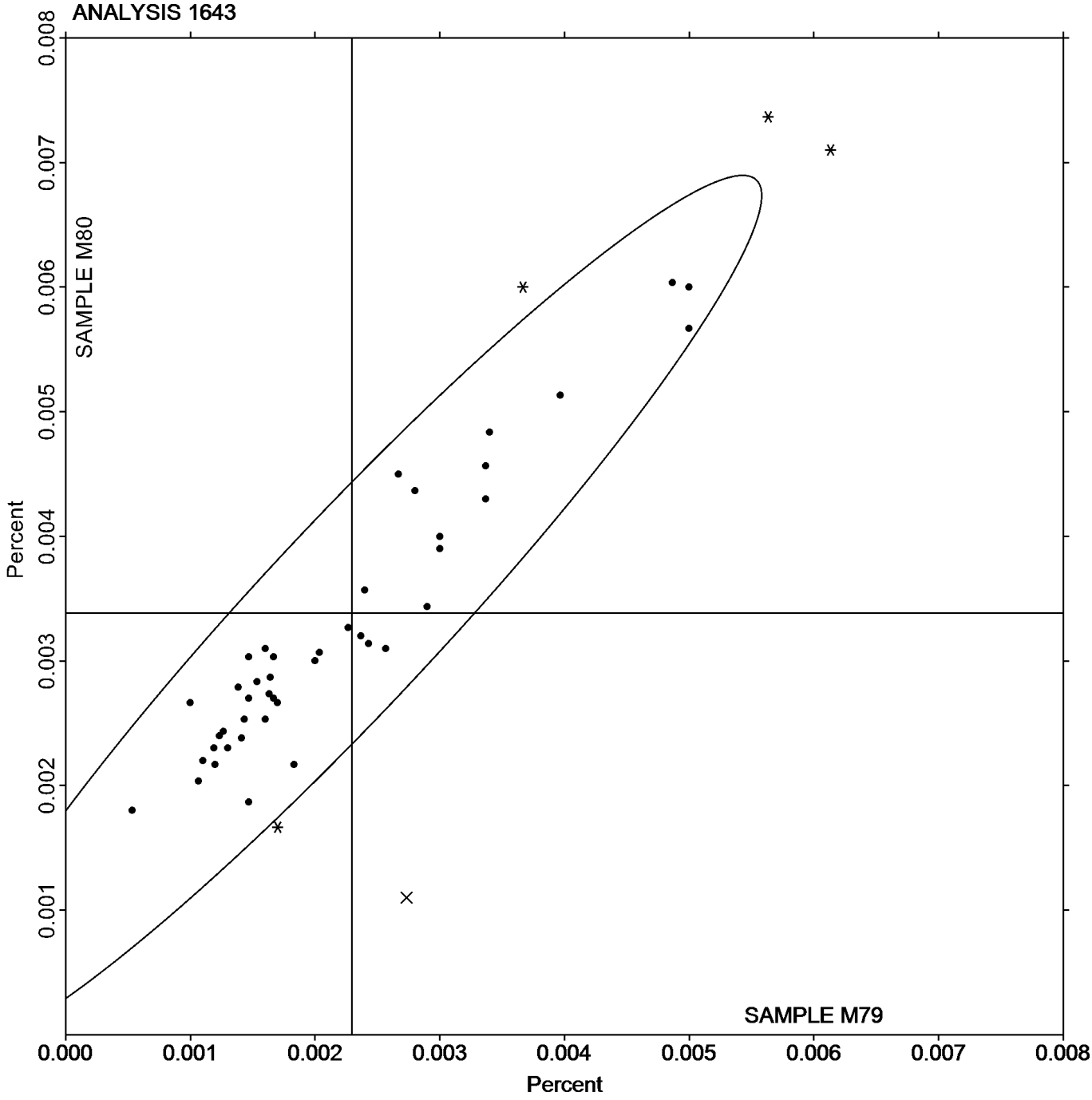
CI	Combustion / IR	CO	Combustion
GD	Spectrometry - Glow Discharge (GDS)	IR	IR (Absorption / Detection)
OE	Spectrometry - Optical Emission (OES)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1643

J7PCEA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample M79.

WQTLD2 (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE M79	SAMPLE M80
0.00230 Percent	0.00339 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.4447	-0.0091	-0.75	0.4117	0.0034	0.34	OE
2L4XKQ		0.4517	-0.0021	-0.17	0.4057	-0.0026	-0.26	WD
2NEQPQ		0.4477	-0.0061	-0.50	0.4027	-0.0056	-0.56	OE
42UFQZ		0.4500	-0.0038	-0.31	0.4000	-0.0082	-0.82	WD
4AY48W		0.4583	0.0045	0.37	0.4176	0.0094	0.94	OE
4DKCNR		0.4337	-0.0201	-1.66	0.3867	-0.0216	-2.15	WD
4ERTJG		0.4440	-0.0098	-0.81	0.3967	-0.0116	-1.16	WD
4MBWUQ		0.4469	-0.0069	-0.57	0.4004	-0.0078	-0.78	WD
6YYJDQ		0.4510	-0.0028	-0.23	0.4093	0.0011	0.11	XX
8AQPLE		0.4670	0.0132	1.09	0.4127	0.0044	0.44	XX
8VFW7N		0.4420	-0.0118	-0.97	0.4012	-0.0070	-0.70	OE
9QX688	X	0.5257	0.0719	5.94	0.4730	0.0648	6.47	OE
9V4WCY		0.4460	-0.0078	-0.64	0.4140	0.0058	0.58	OE
9XVVNB		0.4353	-0.0184	-1.52	0.3890	-0.0192	-1.92	XX
D389ZB		0.4469	-0.0068	-0.56	0.3998	-0.0084	-0.84	WD
DB2AJA		0.4500	-0.0038	-0.31	0.4067	-0.0016	-0.16	OE
ETYX66		0.4566	0.0029	0.24	0.4110	0.0028	0.28	OE
FE9L8L		0.4480	-0.0058	-0.48	0.4087	0.0004	0.04	OE
FQTQLD		0.4663	0.0126	1.04	0.4147	0.0064	0.64	OE
FV7WDZ		0.4530	-0.0008	-0.06	0.4100	0.0018	0.18	OE
G7W83H		0.4720	0.0182	1.51	0.4230	0.0148	1.47	OE
GR3H8L		0.4600	0.0062	0.52	0.4113	0.0031	0.31	OE
HU2XVF		0.4530	-0.0008	-0.06	0.4040	-0.0042	-0.42	OE
HWQY24		0.4713	0.0176	1.45	0.4237	0.0154	1.54	OE
J7PCEA		0.4547	0.0009	0.08	0.4100	0.0018	0.18	OE
JUU7G6	*	0.4653	0.0116	0.96	0.3987	-0.0096	-0.96	OE
JZ48ZM		0.4533	-0.0004	-0.03	0.4052	-0.0031	-0.31	OE
KBW66Y		0.4486	-0.0052	-0.43	0.4159	0.0077	0.77	WD
KND4G3		0.4540	0.0002	0.02	0.4100	0.0018	0.18	OE
KP2QMB	X	0.4337	-0.0201	-1.66	0.3537	-0.0546	-5.45	WD
KYNPF2		0.4750	0.0212	1.76	0.4210	0.0128	1.27	XX
LTCQ7Z		0.4320	-0.0218	-1.80	0.3853	-0.0229	-2.29	OE
LYLCAK	X	0.5092	0.0554	4.58	0.4302	0.0220	2.19	OE
MHAX9U		0.4477	-0.0061	-0.50	0.4047	-0.0036	-0.36	IC
MLVW76	X	0.4263	-0.0274	-2.27	0.3600	-0.0482	-4.82	IC
MPPGNM		0.4544	0.0007	0.06	0.4021	-0.0061	-0.61	IC
MUYWXB	X	0.4900	0.0362	2.99	0.4467	0.0384	3.84	OE
NYDU3C		0.4630	0.0092	0.76	0.4177	0.0094	0.94	OE
PCF67X	X	0.5040	0.0502	4.15	0.4597	0.0514	5.14	OE
PGDWL3		0.4447	-0.0091	-0.75	0.4000	-0.0082	-0.82	OE
PYNXCU		0.4677	0.0139	1.15	0.4180	0.0098	0.98	OE
Q6ATM7		0.4560	0.0022	0.19	0.4083	0.0001	0.01	OE
QAR22X		0.4783	0.0246	2.03	0.4190	0.0108	1.08	GD
T2869M		0.4527	-0.0010	-0.08	0.4037	-0.0045	-0.45	OE
U7AFV8		0.4663	0.0126	1.04	0.4187	0.0104	1.04	GD
UTPMZT		0.4690	0.0152	1.26	0.4170	0.0088	0.88	OE
UVWX23		0.4790	0.0252	2.09	0.4253	0.0171	1.71	OE

Analysis 1644

Corrosion Resistant Steel, SILICON (Si)
SILICON (Si)

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
VAA96W		0.4360	-0.0178	-1.47	0.3960	-0.0122	-1.22	OE
VFXDWJ		0.4700	0.0162	1.34	0.4157	0.0074	0.74	OE
VHYUBU		0.4443	-0.0094	-0.78	0.4063	-0.0019	-0.19	OE
WQTLD2		0.4597	0.0059	0.49	0.4233	0.0151	1.51	OE
XUP8MW		0.4399	-0.0139	-1.15	0.3941	-0.0142	-1.42	IC
Y3ZH7U		0.4520	-0.0018	-0.14	0.4083	0.0001	0.01	OE
YF7LDA		0.4680	0.0142	1.18	0.4267	0.0184	1.84	OE
YLCTZK		0.4603	0.0066	0.54	0.4110	0.0028	0.28	IC
ZAELTM		0.4353	-0.0184	-1.52	0.3907	-0.0176	-1.76	WD
ZQHBPK		0.4318	-0.0220	-1.81	0.3988	-0.0094	-0.94	IC
ZQHNJK		0.4523	-0.0014	-0.12	0.4070	-0.0012	-0.12	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.4538	Percent	0.4082	Percent
Stnd Dev Btwn Labs	0.0121	Percent	0.0100	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 51 of 58 reporting participants

Key to Method Codes Reported by Participants

DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1644

9QX688 (X) - Data for both samples are high.

KP2QMB (X) - Data for sample M80 are low.

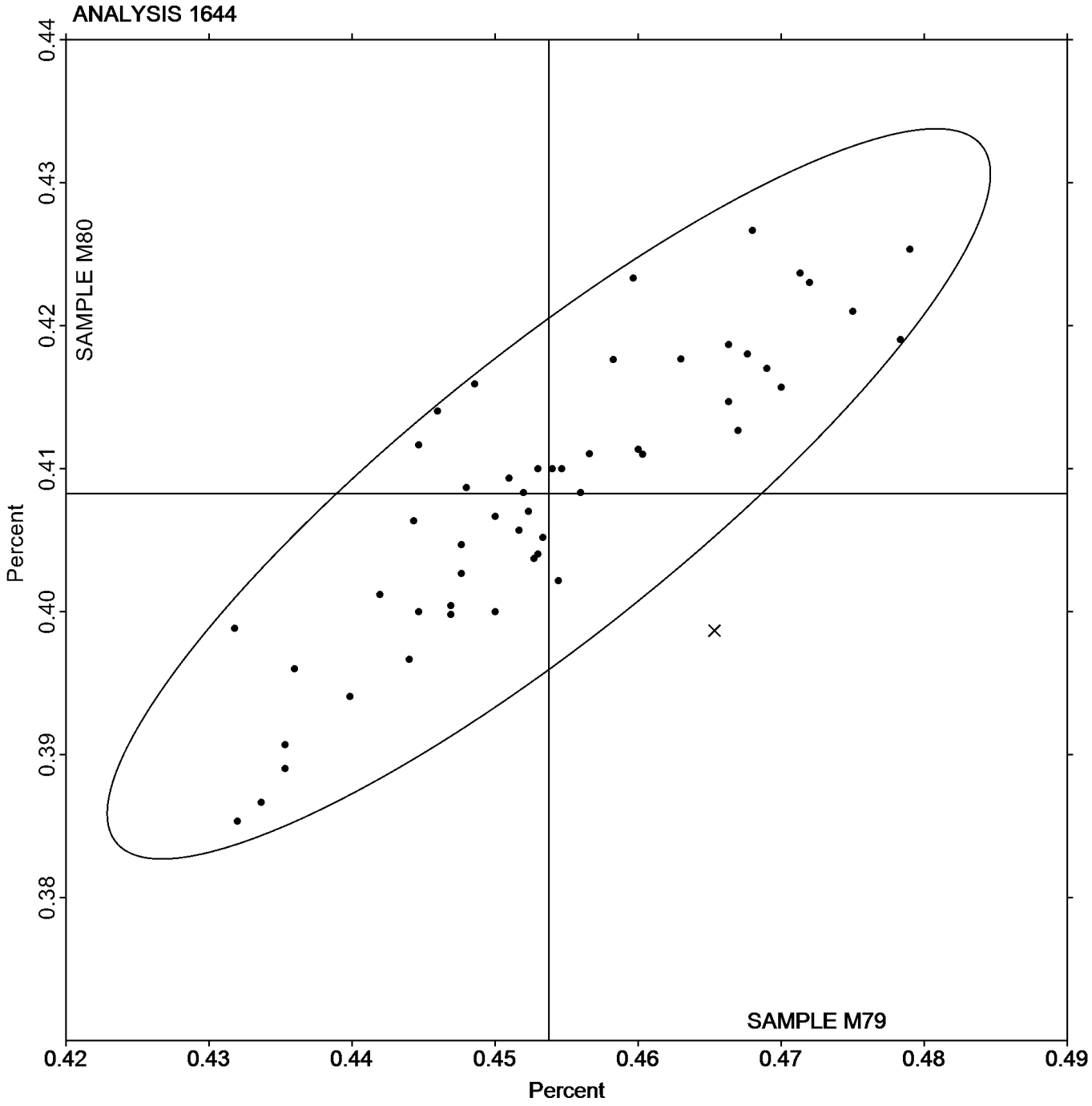
LYLCAK (X) - Data for sample M79 are high. Inconsistent within the determinations of sample M79.

MLVW76 (X) - Data for sample M80 are low.

MUYWXB (X) - Data for both samples are high. Inconsistent within the determinations of sample M80.

PCF67X (X) - Data for both samples are high.

SAMPLE M79	SAMPLE M80
0.4538 Percent	0.4082 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.1707	-0.0136	-2.02	0.1600	-0.0085	-1.31	OE
2L4XKQ		0.1859	0.0016	0.24	0.1703	0.0018	0.27	WD
2NEQPQ		0.1840	-0.0002	-0.04	0.1690	0.0005	0.08	OE
42UFQZ		0.1820	-0.0022	-0.33	0.1657	-0.0028	-0.44	WD
4AY48W		0.1887	0.0045	0.67	0.1716	0.0031	0.48	OE
4DKCNR		0.1830	-0.0012	-0.19	0.1670	-0.0015	-0.23	WD
4ERTJG		0.1877	0.0034	0.51	0.1707	0.0022	0.34	WD
4MBWUQ		0.1741	-0.0102	-1.52	0.1580	-0.0105	-1.63	WD
8AQPLE		0.1883	0.0041	0.61	0.1700	0.0015	0.23	XX
9QX688		0.1920	0.0078	1.15	0.1727	0.0042	0.65	OE
9V4WCY		0.1863	0.0021	0.31	0.1720	0.0035	0.54	OE
9XVVNB		0.1783	-0.0059	-0.88	0.1633	-0.0052	-0.80	XX
D389ZB		0.1870	0.0028	0.41	0.1706	0.0021	0.33	WD
DB2AJA		0.1800	-0.0042	-0.63	0.1700	0.0015	0.23	OE
ETYX66		0.1851	0.0008	0.12	0.1688	0.0003	0.05	OE
FE9L8L		0.1913	0.0071	1.05	0.1720	0.0035	0.54	OE
FQTQLD	*	0.1650	-0.0192	-2.87	0.1487	-0.0198	-3.07	OE
FV7WDZ		0.1887	0.0044	0.66	0.1710	0.0025	0.39	OE
G7W83H		0.1820	-0.0022	-0.33	0.1650	-0.0035	-0.54	OE
GR3H8L		0.1817	-0.0026	-0.38	0.1653	-0.0032	-0.49	OE
HWQY24		0.1867	0.0024	0.36	0.1710	0.0025	0.39	OE
J7PCEA	*	0.1657	-0.0186	-2.77	0.1500	-0.0185	-2.86	OE
JUU7G6		0.1893	0.0051	0.76	0.1780	0.0095	1.47	OE
JZ48ZM		0.1847	0.0005	0.07	0.1698	0.0013	0.20	OE
KBW66Y		0.1860	0.0017	0.26	0.1677	-0.0008	-0.12	WD
KND4G3		0.1850	0.0008	0.11	0.1700	0.0015	0.23	OE
KP2QMB		0.1830	-0.0012	-0.19	0.1680	-0.0005	-0.08	WD
LTCQ7Z		0.1850	0.0008	0.11	0.1673	-0.0012	-0.18	OE
LYLCAK		0.1877	0.0035	0.51	0.1720	0.0035	0.54	OE
MHAX9U		0.1887	0.0044	0.66	0.1717	0.0032	0.49	IC
MLVW76		0.1857	0.0014	0.21	0.1700	0.0015	0.23	IC
MPPGNM		0.1842	0.0000	-0.01	0.1685	0.0000	0.00	IC
MUYWXB	*	0.1633	-0.0209	-3.11	0.1500	-0.0185	-2.86	OE
NYDU3C		0.1783	-0.0059	-0.88	0.1617	-0.0068	-1.06	OE
PGDWL3	X	0.2527	0.0684	10.18	0.2353	0.0668	10.35	OE
PYNXCU		0.1833	-0.0009	-0.14	0.1697	0.0012	0.18	OE
Q6ATM7		0.1843	0.0001	0.01	0.1687	0.0002	0.03	OE
QAR22X		0.1950	0.0108	1.60	0.1810	0.0125	1.94	GD
T2869M		0.1853	0.0011	0.16	0.1678	-0.0007	-0.10	OE
U7AFV8		0.1810	-0.0032	-0.48	0.1683	-0.0002	-0.02	GD
UTPMZT		0.1900	0.0058	0.86	0.1700	0.0015	0.23	OE
UVWX23		0.1870	0.0028	0.41	0.1693	0.0008	0.13	OE
VAA96W		0.1860	0.0018	0.26	0.1710	0.0025	0.39	OE
VFXDWJ		0.1836	-0.0006	-0.10	0.1671	-0.0014	-0.21	OE
WQTLD2		0.1957	0.0114	1.70	0.1827	0.0142	2.19	OE
XUP8MW		0.1878	0.0036	0.53	0.1729	0.0044	0.69	IC
Y3ZH7U		0.1860	0.0018	0.26	0.1700	0.0015	0.23	OE

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
YF7LDA		0.1872	0.0030	0.44	0.1714	0.0029	0.45	XR
YLCTZK		0.1857	0.0014	0.21	0.1697	0.0012	0.18	IC
ZAELTM		0.1877	0.0034	0.51	0.1710	0.0025	0.39	XX
ZQHBPK		0.1919	0.0077	1.14	0.1768	0.0083	1.29	IC

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.1842	Percent	0.1685	Percent
Stnd Dev Btwn Labs	0.0067	Percent	0.0065	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 50 of 51 reporting participants

Key to Method Codes Reported by Participants

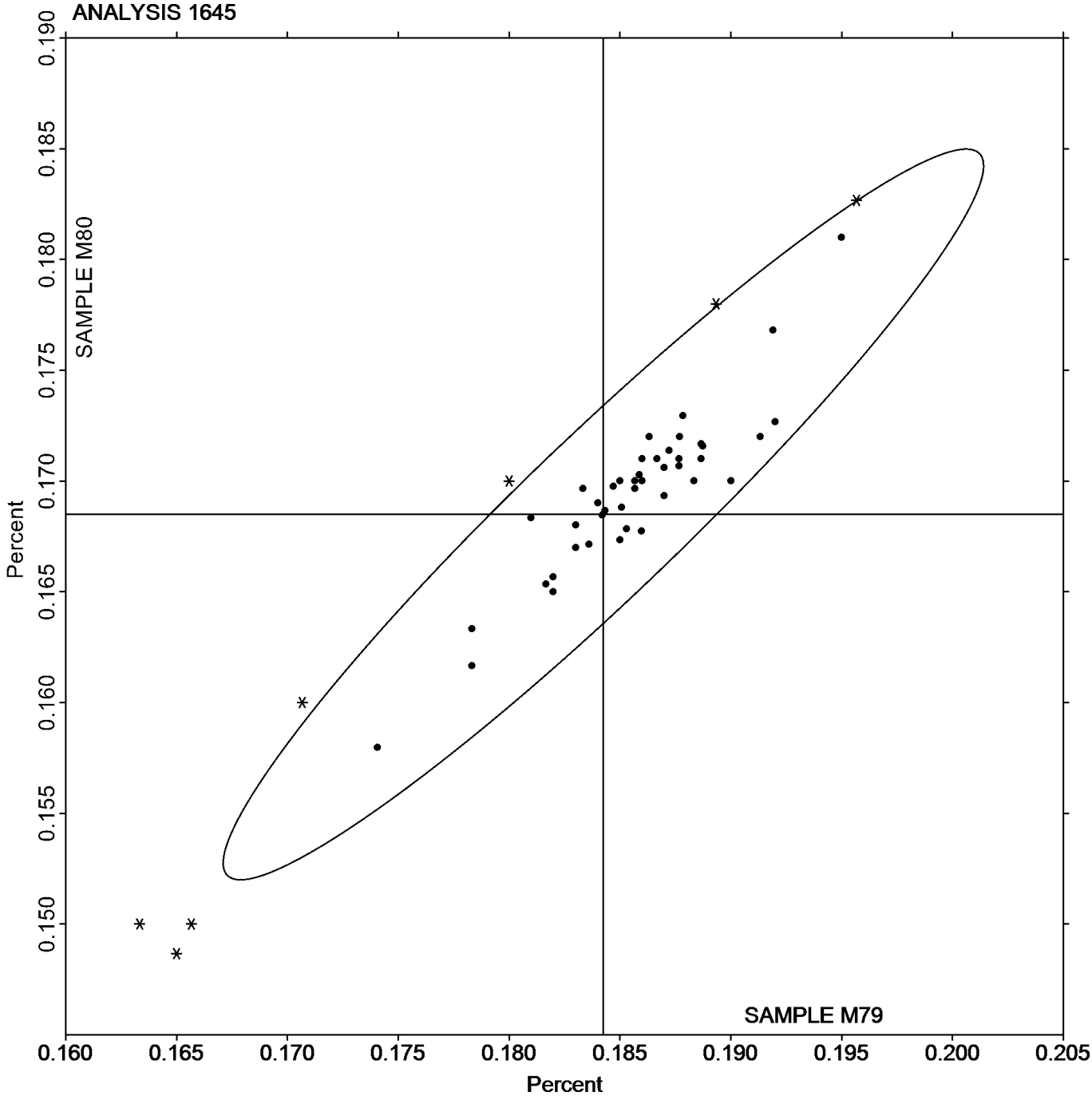
GD	Spectrometry - Glow Discharge (GDS)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1645

PGDWL3 (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE M79
0.1842 Percent

SAMPLE M80
0.1685 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		9.143	0.095	0.96	9.097	0.036	0.39	OE
2L4XKQ		9.049	0.000	0.00	9.100	0.040	0.43	WD
2NEQPQ		9.033	-0.015	-0.16	9.060	0.000	0.00	OE
42UFQZ		9.028	-0.021	-0.21	9.043	-0.017	-0.18	WD
48VWZK		9.109	0.060	0.61	9.115	0.055	0.59	WC
4AY48W		9.086	0.038	0.38	9.082	0.022	0.24	OE
4DKCNR		8.938	-0.111	-1.12	8.980	-0.080	-0.87	WD
4ERTJG		8.981	-0.068	-0.68	9.013	-0.047	-0.51	WD
4MBWUQ		9.040	-0.008	-0.08	9.053	-0.007	-0.08	WD
6YYJDQ	X	9.187	0.138	1.40	9.377	0.316	3.43	XX
8AQPLE	*	9.297	0.248	2.51	9.077	0.016	0.18	XX
8VFW7N		9.045	-0.003	-0.03	9.055	-0.005	-0.05	OE
9QX688		8.910	-0.139	-1.41	8.936	-0.125	-1.35	OE
9V4WCY		9.090	0.041	0.42	9.137	0.076	0.83	OE
9XVVNB		9.213	0.165	1.67	9.163	0.103	1.12	XX
D389ZB		9.040	-0.008	-0.08	9.046	-0.014	-0.15	WD
DB2AJA		9.077	0.028	0.28	9.120	0.060	0.65	OE
ETYX66		8.926	-0.123	-1.25	8.941	-0.120	-1.30	OE
FE9L8L		8.967	-0.082	-0.83	9.047	-0.014	-0.15	OE
FQTQLD		8.977	-0.072	-0.73	8.999	-0.061	-0.66	OE
FV7WDZ		9.049	0.000	0.00	9.029	-0.032	-0.34	OE
G7W83H		8.902	-0.147	-1.48	8.942	-0.118	-1.28	OE
GR3H8L		8.880	-0.169	-1.71	8.960	-0.100	-1.09	OE
HU2XVF		9.034	-0.015	-0.15	9.075	0.015	0.16	OE
HWQY24		9.084	0.036	0.36	9.086	0.025	0.28	OE
J7PCEA		9.143	0.095	0.96	9.080	0.020	0.21	OE
JUU7G6		9.137	0.088	0.89	9.033	-0.027	-0.29	OE
JZ48ZM		9.006	-0.042	-0.43	9.105	0.045	0.49	OE
KND4G3		8.987	-0.062	-0.62	8.963	-0.097	-1.06	OE
KP2QMB		8.969	-0.079	-0.80	8.988	-0.073	-0.79	WD
KYNPF2		8.898	-0.151	-1.52	8.917	-0.144	-1.56	OE
LTCQ7Z		9.031	-0.018	-0.18	9.064	0.004	0.04	OE
LYLCAK		9.280	0.232	2.34	9.269	0.209	2.27	OE
MHAX9U		9.141	0.092	0.93	9.143	0.083	0.90	IC
MLVW76		9.103	0.055	0.55	9.077	0.016	0.18	IC
MPPGNM		9.172	0.124	1.25	9.146	0.086	0.93	IC
MUYWXB		9.140	0.091	0.92	9.047	-0.014	-0.15	OE
NYDU3C		9.013	-0.035	-0.36	9.043	-0.017	-0.18	OE
PCF67X		9.110	0.061	0.62	9.147	0.086	0.94	OE
PGDWL3		9.020	-0.029	-0.29	8.917	-0.144	-1.56	OE
PYNXCU		8.970	-0.079	-0.80	9.097	0.036	0.39	OE
Q6ATM7		8.999	-0.050	-0.51	8.985	-0.076	-0.82	OE
QAR22X		9.123	0.075	0.76	9.193	0.133	1.44	GD
T2869M		8.956	-0.092	-0.93	8.973	-0.087	-0.95	OE
U7AFV8	*	9.250	0.201	2.04	9.333	0.273	2.96	GD
UTPMZT		9.214	0.165	1.67	9.146	0.085	0.93	OE
UVWX23		9.110	0.061	0.62	9.080	0.020	0.21	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1646

Corrosion Resistant Steel, NICKEL (Ni)
NICKEL (Ni)

Cycle 136
4th Qtr 2021

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VAA96W		9.068	0.020	0.20	8.998	-0.062	-0.67	OE
VFXDWJ		9.189	0.140	1.42	9.176	0.116	1.26	OE
VHYUBU	*	8.997	-0.052	-0.53	9.287	0.226	2.46	OE
WQTLD2		9.057	0.008	0.08	9.067	0.006	0.07	OE
XUP8MW		9.071	0.023	0.23	9.169	0.108	1.18	XX
Y3ZH7U		8.930	-0.119	-1.20	9.073	0.013	0.14	OE
YF7LDA		9.009	-0.040	-0.40	9.028	-0.033	-0.35	XR
YLCTZK	*	8.881	-0.167	-1.69	8.806	-0.254	-2.76	IC
ZAELTM		8.955	-0.093	-0.94	8.965	-0.095	-1.03	WD
ZQHBPK		9.235	0.186	1.88	9.193	0.133	1.44	IC
ZQHNJK		8.907	-0.142	-1.44	9.017	-0.044	-0.47	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	9.049	Percent	9.060	Percent
Stnd Dev Btwn Labs	0.099	Percent	0.092	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 55 of 58 reporting participants

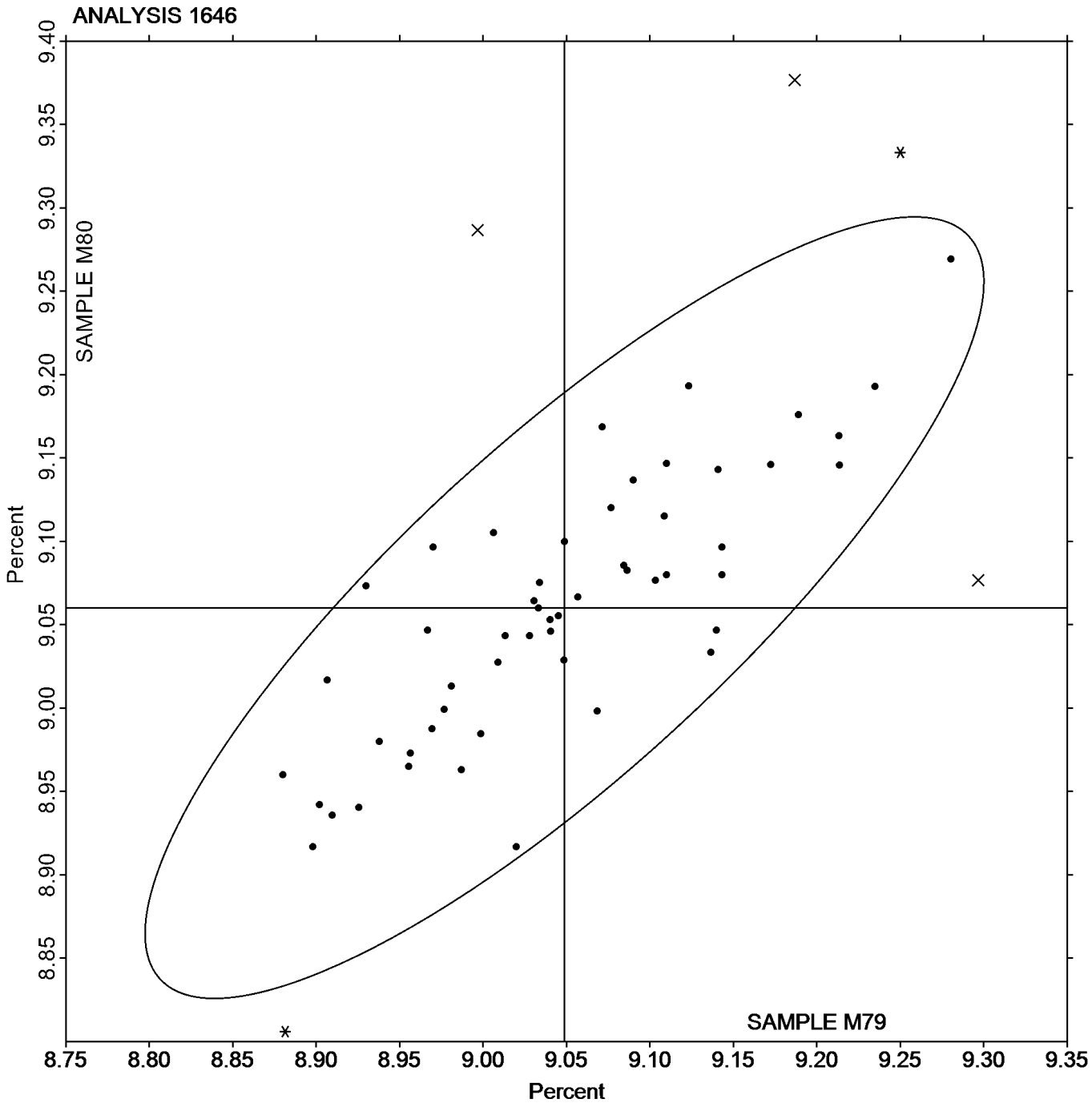
Key to Method Codes Reported by Participants

DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WC	Wet Chemistry	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1646

6YYJDQ (X) - Data for sample M80 are high.

SAMPLE M79	SAMPLE M80
9.049 Percent	9.060 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		17.43	0.00	0.01	17.21	-0.04	-0.43	OE
2L4XKQ		17.42	-0.01	-0.13	17.25	0.00	-0.04	WD
2NEQPQ		17.40	-0.03	-0.31	17.25	-0.01	-0.11	OE
42UFQZ		17.36	-0.07	-0.80	17.18	-0.08	-0.72	WD
48VWZK		17.41	-0.02	-0.19	17.23	-0.03	-0.25	WC
4AY48W		17.45	0.02	0.21	17.25	-0.01	-0.06	OE
4DKCNR		17.41	-0.02	-0.23	17.20	-0.06	-0.54	WD
4ERTJG		17.47	0.03	0.37	17.30	0.05	0.43	WD
4MBWUQ		17.60	0.17	1.77	17.42	0.16	1.50	WD
6YYJDQ		17.38	-0.06	-0.59	17.13	-0.13	-1.22	XX
8AQPLE		17.32	-0.11	-1.16	17.22	-0.03	-0.33	XX
8VFW7N		17.44	0.01	0.05	17.24	-0.02	-0.17	OE
9QX688		17.64	0.20	2.18	17.50	0.24	2.32	OE
9V4WCY		17.44	0.01	0.12	17.27	0.01	0.11	OE
9XVVNB		17.52	0.09	0.98	17.38	0.12	1.16	XX
D389ZB		17.46	0.03	0.29	17.29	0.03	0.27	WD
DB2AJA		17.41	-0.02	-0.20	17.24	-0.02	-0.17	OE
ETYX66		17.35	-0.08	-0.86	17.16	-0.09	-0.90	OE
FE9L8L	*	17.70	0.26	2.83	17.55	0.29	2.78	OE
FQTQLD		17.55	0.12	1.25	17.37	0.11	1.05	OE
FV7WDZ		17.47	0.04	0.38	17.22	-0.04	-0.36	OE
G7W83H		17.49	0.06	0.62	17.32	0.06	0.59	OE
GR3H8L	X	17.79	0.35	3.80	17.64	0.38	3.60	OE
HU2XVF		17.49	0.06	0.66	17.34	0.08	0.75	OE
HWQY24		17.43	0.00	0.00	17.25	-0.01	-0.05	OE
J7PCEA		17.43	-0.01	-0.06	17.31	0.06	0.52	OE
JUU7G6		17.36	-0.07	-0.77	17.26	0.01	0.05	OE
JZ48ZM		17.36	-0.08	-0.81	17.19	-0.07	-0.62	OE
KBW66Y		17.41	-0.02	-0.25	17.24	-0.01	-0.14	WD
KND4G3		17.31	-0.12	-1.31	17.06	-0.20	-1.89	OE
KP2QMB		17.36	-0.07	-0.72	17.17	-0.09	-0.85	WD
KYNPF2		17.42	-0.01	-0.14	17.30	0.05	0.43	XX
LTCQ7Z		17.52	0.09	0.98	17.27	0.01	0.11	OE
LYLCAK	*	17.19	-0.25	-2.63	17.26	0.01	0.05	OE
MHAX9U		17.38	-0.05	-0.55	17.23	-0.03	-0.25	IC
MLVW76		17.44	0.00	0.05	17.22	-0.03	-0.33	TI
MPPGNM		17.43	-0.01	-0.06	17.28	0.03	0.24	IC
MUYWXB	*	17.72	0.28	3.05	17.59	0.33	3.12	OE
NYDU3C		17.36	-0.08	-0.81	17.20	-0.06	-0.59	OE
PCF67X		17.34	-0.10	-1.02	17.18	-0.07	-0.71	OE
PGDWL3		17.43	0.00	-0.02	17.27	0.02	0.14	OE
PYNXCU		17.43	0.00	-0.02	17.24	-0.01	-0.14	OE
Q6ATM7		17.31	-0.12	-1.27	17.14	-0.12	-1.13	OE
QAR22X		17.43	0.00	0.01	17.20	-0.06	-0.55	GD
T2869M	*	17.51	0.08	0.87	17.22	-0.04	-0.34	OE
U7AFV8		17.30	-0.13	-1.41	17.07	-0.19	-1.82	GD
UTPMZT		17.21	-0.22	-2.38	17.05	-0.21	-2.01	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1647

Corrosion Resistant Steel, CHROMIUM (Cr)
CHROMIUM (Cr)

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
UVWX23		17.49	0.06	0.62	17.35	0.09	0.84	OE
VAA96W		17.44	0.00	0.05	17.33	0.08	0.71	OE
VFXDWJ		17.33	-0.10	-1.04	17.21	-0.05	-0.45	OE
VHYUBU		17.28	-0.16	-1.66	17.07	-0.19	-1.79	OE
WQTLD2		17.48	0.05	0.55	17.35	0.09	0.87	OE
XUP8MW	X	17.48	0.04	0.48	17.66	0.40	3.80	XX
Y3ZH7U		17.45	0.01	0.16	17.26	0.01	0.05	OE
YF7LDA		17.46	0.03	0.30	17.36	0.10	0.94	XR
YLCTZK		17.47	0.03	0.37	17.32	0.07	0.62	IC
ZAELTM		17.38	-0.05	-0.59	17.23	-0.03	-0.30	XX
ZQHBPK		17.40	-0.03	-0.34	17.19	-0.07	-0.65	IC
ZQHNJK		17.52	0.09	0.94	17.29	0.04	0.33	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	17.43	Percent	17.26	Percent
Stnd Dev Btwn Labs	0.09	Percent	0.11	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 56 of 59 reporting participants

Key to Method Codes Reported by Participants

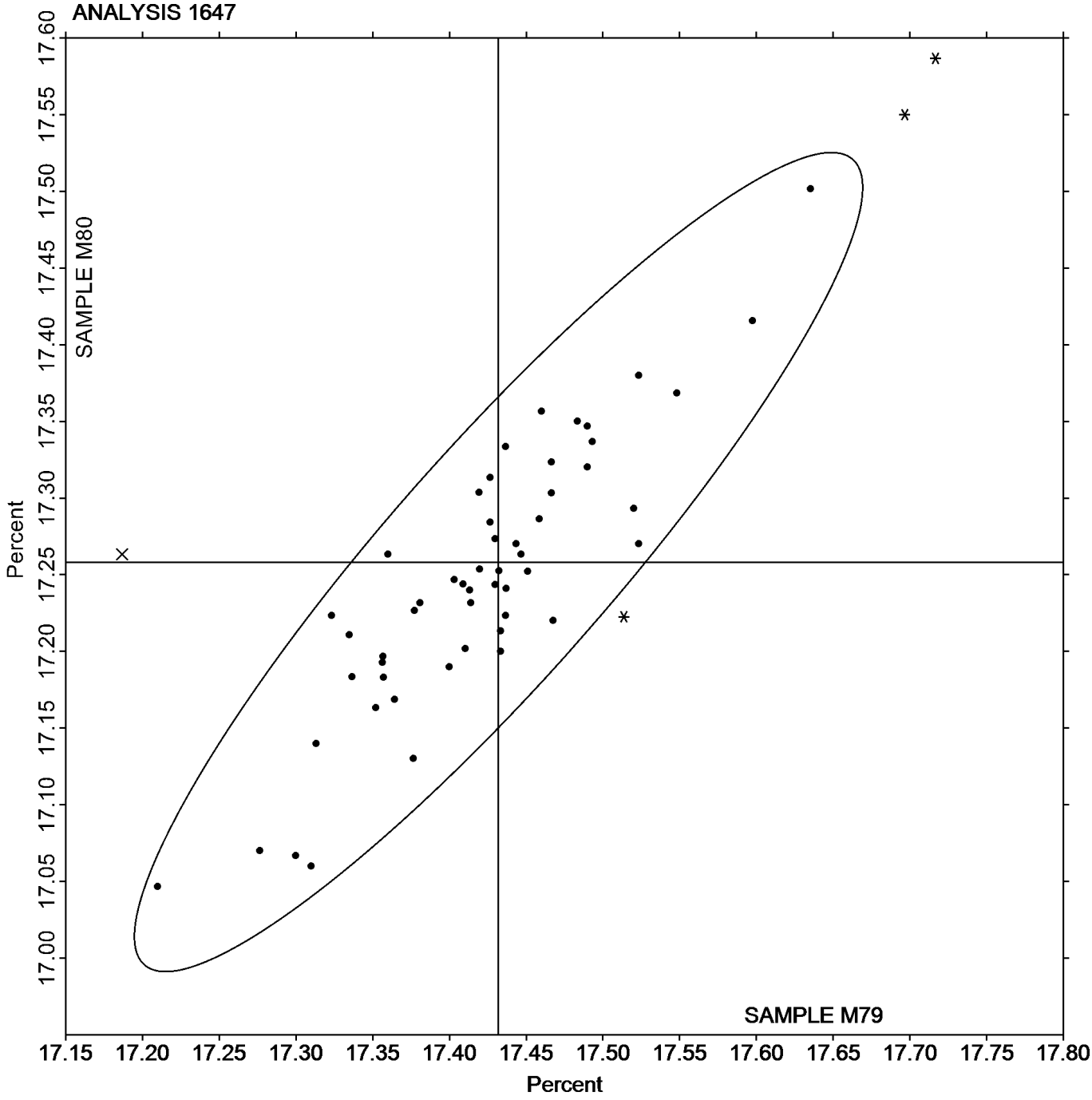
DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
TI	Titrimetry	WC	Wet Chemistry
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XR	X-Ray Fluorescence - ED or WD not specified
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #1647

GR3H8L (X) - Data for both samples are high. Possible Systematic Error.

XUP8MW (X) - Data for sample M80 are high. Inconsistent within the determinations of both samples.

SAMPLE M79	SAMPLE M80
17.43 Percent	17.26 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.3767	-0.0089	-0.89	0.3527	-0.0024	-0.26	OE
2L4XKQ		0.3860	0.0004	0.04	0.3543	-0.0007	-0.08	WD
2NEQPQ		0.3830	-0.0026	-0.26	0.3527	-0.0024	-0.26	OE
42UFQZ		0.3850	-0.0006	-0.06	0.3533	-0.0017	-0.19	WD
4AY48W		0.3952	0.0096	0.96	0.3578	0.0027	0.29	OE
4DKCNR		0.3877	0.0021	0.21	0.3563	0.0013	0.14	WD
4ERTJG		0.3813	-0.0042	-0.42	0.3500	-0.0051	-0.55	WD
4MBWUQ		0.3917	0.0061	0.61	0.3590	0.0039	0.43	WD
6YYJDQ		0.3673	-0.0182	-1.82	0.3403	-0.0147	-1.61	XX
8AQPLE		0.3957	0.0101	1.01	0.3587	0.0036	0.39	XX
9QX688		0.3707	-0.0149	-1.49	0.3427	-0.0124	-1.35	OE
9V4WCY		0.3843	-0.0012	-0.12	0.3543	-0.0007	-0.08	OE
9XVVNB		0.4037	0.0181	1.80	0.3720	0.0169	1.85	XX
D389ZB		0.3833	-0.0023	-0.23	0.3515	-0.0036	-0.39	WD
DB2AJA		0.3800	-0.0056	-0.56	0.3500	-0.0051	-0.55	OE
ETYX66		0.3782	-0.0073	-0.73	0.3481	-0.0070	-0.76	OE
FE9L8L	X	0.0360	-0.3496	-34.86	0.0335	-0.3215	-35.06	OE
FQTQLD	X	0.3983	0.0128	1.27	0.3007	-0.0544	-5.93	OE
FV7WDZ		0.3847	-0.0009	-0.09	0.3530	-0.0021	-0.23	OE
G7W83H		0.4010	0.0154	1.54	0.3680	0.0129	1.41	OE
GR3H8L		0.3893	0.0038	0.38	0.3620	0.0069	0.75	OE
HU2XVF		0.4093	0.0238	2.37	0.3747	0.0196	2.14	OE
HWQY24		0.3930	0.0074	0.74	0.3617	0.0066	0.72	OE
J7PCEA	X	0.3417	-0.0439	-4.38	0.3190	-0.0361	-3.93	OE
JUU7G6		0.3787	-0.0069	-0.69	0.3513	-0.0037	-0.41	OE
JZ48ZM		0.3878	0.0022	0.22	0.3576	0.0026	0.28	OE
KBW66Y		0.3660	-0.0196	-1.95	0.3346	-0.0205	-2.23	XX
KND4G3		0.3830	-0.0026	-0.26	0.3520	-0.0031	-0.34	OE
KP2QMB		0.3840	-0.0016	-0.16	0.3520	-0.0031	-0.34	WD
KYNPF2		0.3950	0.0094	0.94	0.3670	0.0119	1.30	OE
LTCQ7Z		0.3827	-0.0029	-0.29	0.3510	-0.0041	-0.44	OE
LYLCAK	X	0.3649	-0.0206	-2.06	0.3477	-0.0074	-0.81	OE
MHAX9U		0.3787	-0.0069	-0.69	0.3473	-0.0077	-0.84	IC
MLVW76		0.3803	-0.0052	-0.52	0.3473	-0.0077	-0.84	IC
MPPGNM		0.3801	-0.0055	-0.55	0.3470	-0.0080	-0.88	IC
MUYWXB	X	0.3333	-0.0522	-5.21	0.3033	-0.0517	-5.64	OE
NYDU3C		0.3887	0.0031	0.31	0.3577	0.0026	0.28	OE
PCF67X		0.3717	-0.0139	-1.39	0.3443	-0.0107	-1.17	OE
PGDWL3		0.3743	-0.0112	-1.12	0.3440	-0.0111	-1.21	OE
PYNXCU		0.3880	0.0024	0.24	0.3590	0.0039	0.43	OE
Q6ATM7		0.3877	0.0021	0.21	0.3553	0.0003	0.03	OE
QAR22X		0.4097	0.0241	2.40	0.3797	0.0246	2.68	GD
T2869M		0.3876	0.0020	0.20	0.3581	0.0030	0.33	OE
U7AFV8		0.3843	-0.0012	-0.12	0.3547	-0.0004	-0.04	GD
UTPMZT		0.4073	0.0218	2.17	0.3723	0.0173	1.88	OE
UVWX23		0.3940	0.0084	0.84	0.3653	0.0103	1.12	OE
VAA96W		0.3790	-0.0066	-0.66	0.3570	0.0019	0.21	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1648

Corrosion Resistant Steel, MOLYBDENUM (Mo)

MOLYBDENUM (Mo)

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VFXDWJ		0.3831	-0.0025	-0.25	0.3503	-0.0048	-0.52	OE
VHYUBU		0.3820	-0.0036	-0.36	0.3540	-0.0011	-0.12	OE
WQTLD2		0.3697	-0.0159	-1.59	0.3443	-0.0107	-1.17	OE
XUP8MW	X	1.444	1.0589	105.57	1.371	1.0164	110.82	IC
Y3ZH7U		0.3827	-0.0029	-0.29	0.3543	-0.0007	-0.08	OE
YF7LDA		0.3807	-0.0049	-0.49	0.3483	-0.0067	-0.74	XR
YLCTZK		0.3783	-0.0072	-0.72	0.3470	-0.0081	-0.88	IC
ZAELTM		0.3860	0.0004	0.04	0.3550	-0.0001	-0.01	WD
ZQHBPK		0.4006	0.0150	1.50	0.3729	0.0178	1.94	IC

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.3856	Percent	0.3551	Percent
Stnd Dev Btwn Labs	0.0100	Percent	0.0092	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 50 of 56 reporting participants

Key to Method Codes Reported by Participants

GD	Spectrometry - Glow Discharge (GDS)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1648

FE9L8L (X) - Data appear to be off by a factor of ten.

FQTQLD (X) - Data for sample M80 are low.

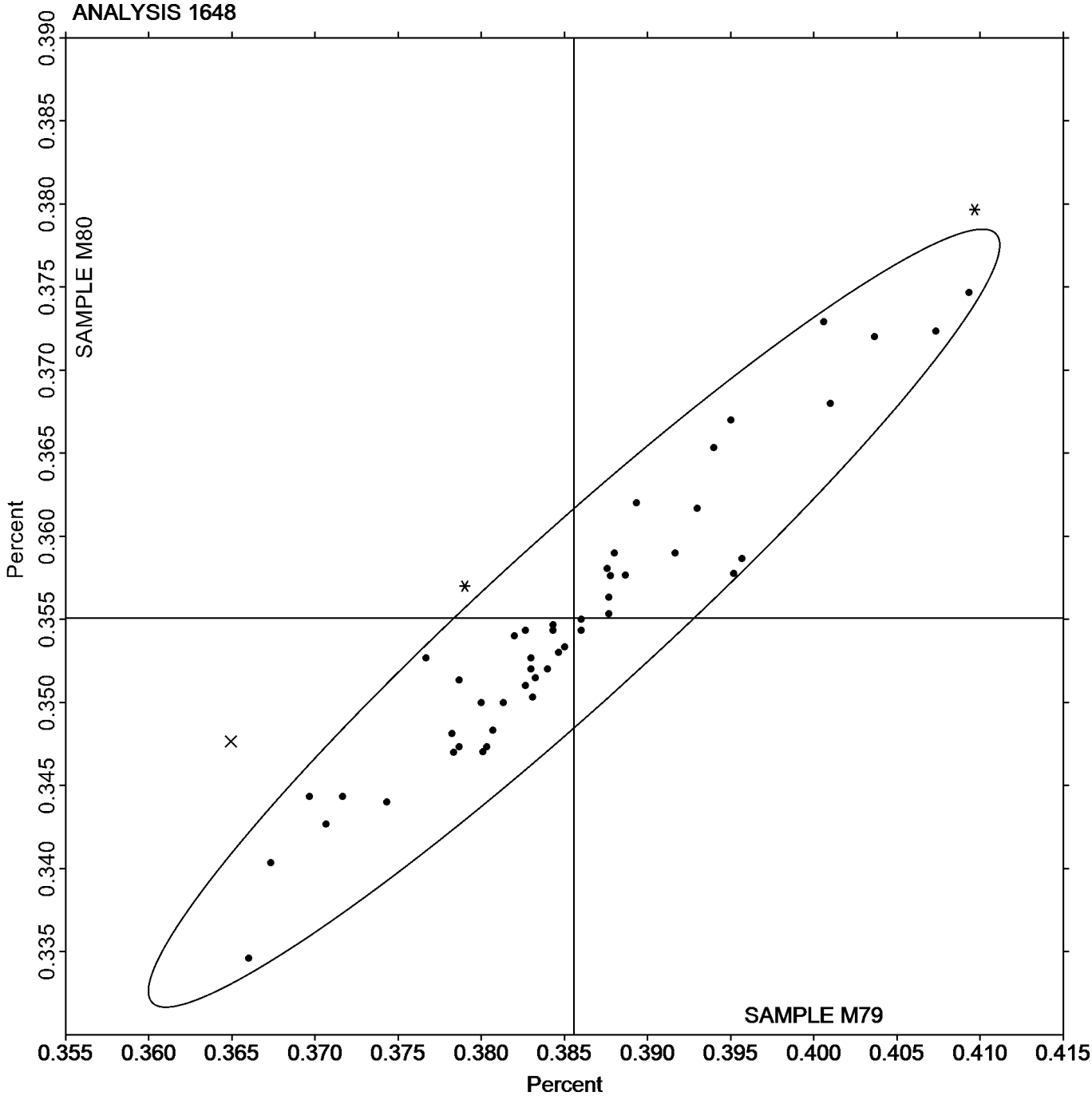
J7PCEA (X) - Data for both samples are low. Possible Systematic Error.

LYLCAK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample M79.

MUYWXB (X) - Data for both samples are low. Possible Systematic Error.

XUP8MW (X) - Extreme data.

SAMPLE M79	SAMPLE M80
0.3856 Percent	0.3551 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.4367	-0.0051	-0.51	0.3897	0.0069	0.85	XX
2L4XKQ		0.4417	-0.0001	-0.01	0.3857	0.0029	0.36	WD
2NEQPQ		0.4490	0.0073	0.73	0.3897	0.0069	0.85	OE
42UFQZ		0.4533	0.0116	1.16	0.3900	0.0073	0.89	WD
4AY48W	X	0.3867	-0.0551	-5.52	0.3525	-0.0303	-3.69	OE
4DKCNR		0.4430	0.0013	0.13	0.3847	0.0019	0.24	WD
4ERTJG		0.4433	0.0016	0.16	0.3863	0.0036	0.44	WD
4MBWUQ		0.4523	0.0106	1.06	0.3897	0.0069	0.85	WD
8AQPLE		0.4603	0.0186	1.86	0.3887	0.0059	0.73	XX
9QX688	X	0.3893	-0.0524	-5.25	0.3407	-0.0421	-5.13	OE
9V4WCY		0.4417	-0.0001	-0.01	0.3777	-0.0051	-0.62	OE
9XVVNB		0.4333	-0.0084	-0.84	0.3733	-0.0094	-1.15	XX
D389ZB		0.4436	0.0019	0.19	0.3842	0.0015	0.18	WD
DB2AJA		0.4633	0.0216	2.16	0.4000	0.0173	2.11	OE
ETYX66		0.4333	-0.0084	-0.84	0.3737	-0.0090	-1.10	OE
FE9L8L		0.4320	-0.0097	-0.98	0.3750	-0.0077	-0.94	OE
FQTQLD		0.4393	-0.0024	-0.24	0.3813	-0.0014	-0.17	OE
FV7WDZ		0.4477	0.0059	0.59	0.3850	0.0023	0.28	OE
G7W83H		0.4230	-0.0187	-1.88	0.3680	-0.0147	-1.80	OE
GR3H8L		0.4420	0.0003	0.03	0.3870	0.0043	0.52	OE
HU2XVF		0.4380	-0.0037	-0.38	0.3787	-0.0041	-0.49	OE
HWQY24		0.4570	0.0153	1.53	0.3960	0.0133	1.62	OE
J7PCEA		0.4310	-0.0107	-1.08	0.3733	-0.0094	-1.15	OE
JUU7G6	*	0.4297	-0.0121	-1.21	0.3883	0.0056	0.68	OE
JZ48ZM		0.4520	0.0103	1.03	0.3908	0.0081	0.99	OE
KBW66Y		0.4356	-0.0061	-0.62	0.3780	-0.0047	-0.58	WD
KND4G3		0.4520	0.0103	1.03	0.3920	0.0093	1.13	OE
KP2QMB		0.4427	0.0009	0.09	0.3830	0.0003	0.03	WD
KYNPF2		0.4417	-0.0001	-0.01	0.3847	0.0019	0.24	OE
LTCQ7Z		0.4477	0.0059	0.59	0.3890	0.0063	0.77	OE
LYLCAK	*	0.4664	0.0246	2.47	0.3969	0.0141	1.73	OE
MHAX9U		0.4480	0.0063	0.63	0.3857	0.0029	0.36	IC
MLVW76		0.4357	-0.0061	-0.61	0.3713	-0.0114	-1.39	IC
MPPGNM		0.4476	0.0058	0.58	0.3854	0.0027	0.33	IC
MUYWXB		0.4333	-0.0084	-0.84	0.3767	-0.0061	-0.74	OE
NYDU3C		0.4273	-0.0144	-1.44	0.3683	-0.0144	-1.76	OE
PCF67X		0.4433	0.0016	0.16	0.3877	0.0049	0.60	OE
PGDWL3		0.4370	-0.0047	-0.48	0.3790	-0.0037	-0.45	OE
PYNXCU		0.4393	-0.0024	-0.24	0.3853	0.0026	0.32	OE
Q6ATM7		0.4200	-0.0217	-2.18	0.3657	-0.0171	-2.08	OE
QAR22X	X	0.4777	0.0359	3.60	0.3953	0.0126	1.54	GD
T2869M		0.4323	-0.0094	-0.95	0.3788	-0.0039	-0.47	OE
U7AFV8	X	0.4687	0.0269	2.70	0.4127	0.0299	3.65	GD
UTPMZT	X	0.4823	0.0406	4.07	0.4153	0.0326	3.98	OE
UVWX23		0.4390	-0.0027	-0.28	0.3780	-0.0047	-0.58	OE
VAA96W		0.4383	-0.0034	-0.34	0.3860	0.0033	0.40	OE
VFXDWJ		0.4380	-0.0037	-0.38	0.3817	-0.0011	-0.13	OE

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
WQTLD2		0.4230	-0.0187	-1.88	0.3610	-0.0217	-2.65	OE
XUP8MW		0.4445	0.0027	0.27	0.3862	0.0035	0.42	XX
Y3ZH7U		0.4457	0.0039	0.39	0.3883	0.0056	0.68	OE
YF7LDA		0.4470	0.0053	0.53	0.3884	0.0057	0.70	XR
YLCTZK		0.4283	-0.0134	-1.34	0.3747	-0.0081	-0.98	IC
ZAELTM		0.4490	0.0073	0.73	0.3847	0.0019	0.24	WD
ZQHBPK		0.4442	0.0024	0.24	0.3858	0.0030	0.37	IC

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.4417	Percent	0.3827	Percent
Stnd Dev Btwn Labs	0.0100	Percent	0.0082	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 48 of 54 reporting participants

Key to Method Codes Reported by Participants

GD	Spectrometry - Glow Discharge (GDS)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1649

4AY48W (X) - Data for both samples are low.

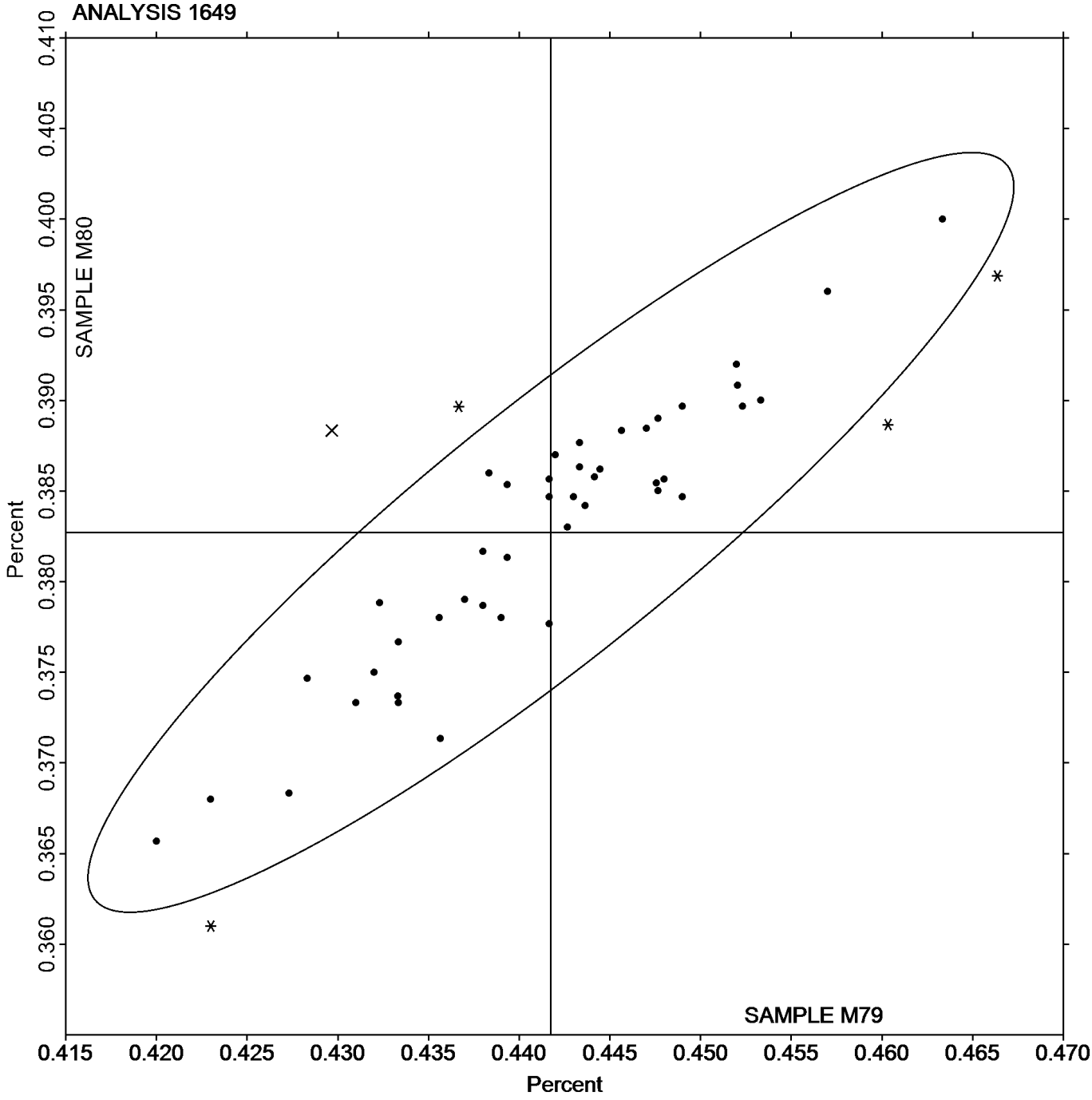
9QX688 (X) - Data for both samples are low.

QAR22X (X) - Data for sample M79 are high.

U7AFV8 (X) - Data for sample M80 are high. Inconsistent within the determinations of sample M79.

UTPMZT (X) - Data for both samples are high.

SAMPLE M79	SAMPLE M80
0.4417 Percent	0.3827 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.0847	0.0038	1.32	0.0843	0.0041	1.48	XX
2L4XKQ		0.0829	0.0021	0.71	0.0824	0.0022	0.79	WD
2NEQPQ		0.0820	0.0012	0.40	0.0817	0.0015	0.52	OE
42UFQZ		0.0811	0.0003	0.10	0.0818	0.0016	0.56	OE
4AY48W		0.0806	-0.0003	-0.10	0.0797	-0.0005	-0.17	OE
4ERTJG		0.0790	-0.0018	-0.64	0.0777	-0.0025	-0.90	WD
4MBWUQ		0.0797	-0.0012	-0.41	0.0793	-0.0009	-0.31	XX
8AQPLE		0.0858	0.0050	1.73	0.0848	0.0046	1.63	XX
9QX688	X	0.0950	0.0142	4.90	0.0943	0.0141	5.04	OE
9V4WCY		0.0803	-0.0005	-0.18	0.0800	-0.0002	-0.07	OE
9XVVNB		0.0766	-0.0043	-1.48	0.0762	-0.0040	-1.43	XX
D389ZB		0.0788	-0.0020	-0.70	0.0784	-0.0018	-0.63	WD
DB2AJA	X	0.1000	0.0192	6.63	0.1000	0.0198	7.07	OE
ETYX66		0.0778	-0.0030	-1.04	0.0772	-0.0030	-1.08	OE
FE9L8L		0.0792	-0.0016	-0.56	0.0778	-0.0024	-0.84	OE
FQTQLD		0.0833	0.0025	0.86	0.0827	0.0025	0.88	OE
FV7WDZ		0.0800	-0.0008	-0.29	0.0800	-0.0002	-0.07	OE
G7W83H	X	0.0930	0.0122	4.21	0.0920	0.0118	4.21	OE
GR3H8L		0.0783	-0.0025	-0.87	0.0783	-0.0019	-0.67	OE
HWQY24		0.0773	-0.0035	-1.21	0.0767	-0.0035	-1.25	OE
J7PCEA		0.0830	0.0022	0.75	0.0820	0.0018	0.64	OE
JUU7G6		0.0800	-0.0008	-0.29	0.0810	0.0008	0.29	OE
JZ48ZM		0.0806	-0.0003	-0.10	0.0803	0.0001	0.05	OE
KBW66Y		0.0788	-0.0020	-0.71	0.0781	-0.0021	-0.75	WD
KND4G3	*	0.0800	-0.0008	-0.29	0.0820	0.0018	0.64	OE
KP2QMB		0.0801	-0.0007	-0.25	0.0795	-0.0007	-0.26	WD
LTCQ7Z		0.0790	-0.0018	-0.64	0.0770	-0.0032	-1.14	OE
LYLCAK	*	0.0862	0.0054	1.87	0.0838	0.0036	1.29	OE
MHAX9U		0.0800	-0.0008	-0.29	0.0793	-0.0009	-0.31	IC
MLVW76		0.0820	0.0012	0.40	0.0803	0.0001	0.05	IC
MPPGNM		0.0820	0.0012	0.40	0.0808	0.0006	0.20	IC
MUYWXB	X	0.0699	-0.0109	-3.79	0.0713	-0.0089	-3.16	OE
NYDU3C		0.0751	-0.0057	-1.98	0.0747	-0.0055	-1.96	OE
PGDWL3		0.0870	0.0062	2.13	0.0869	0.0067	2.40	OE
PYNXCU		0.0797	-0.0011	-0.40	0.0781	-0.0021	-0.74	OE
Q6ATM7		0.0843	0.0035	1.21	0.0837	0.0035	1.24	OE
QAR22X		0.0820	0.0012	0.40	0.0813	0.0011	0.40	GD
T2869M		0.0801	-0.0008	-0.27	0.0794	-0.0008	-0.30	OE
U7AFV8		0.0743	-0.0065	-2.25	0.0743	-0.0059	-2.09	GD
UTPMZT		0.0827	0.0018	0.63	0.0817	0.0015	0.52	OE
UVWX23		0.0772	-0.0036	-1.25	0.0767	-0.0035	-1.24	OE
VAA96W		0.0823	0.0015	0.52	0.0830	0.0028	1.00	OE
VFXDWJ		0.0839	0.0030	1.05	0.0826	0.0024	0.87	OE
WQTLD2		0.0787	-0.0022	-0.75	0.0777	-0.0025	-0.90	OE
XUP8MW		0.0822	0.0014	0.47	0.0806	0.0004	0.14	XX
Y3ZH7U		0.0860	0.0052	1.78	0.0850	0.0048	1.71	OE
YF7LDA		0.0836	0.0027	0.95	0.0825	0.0023	0.83	OE

		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
YLCTZK		0.0803	-0.0005	-0.18	0.0807	0.0005	0.17	IC
ZAELTM		0.0783	-0.0025	-0.87	0.0787	-0.0015	-0.55	WD
ZQHBPK	X	0.0641	-0.0167	-5.79	0.0649	-0.0153	-5.46	IC

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.0808	Percent	0.0802	Percent
Stnd Dev Btwn Labs	0.0029	Percent	0.0028	Percent

Samples M79, M80 : AISI 321, AISI 321

Statistics based on 44 of 50 reporting participants

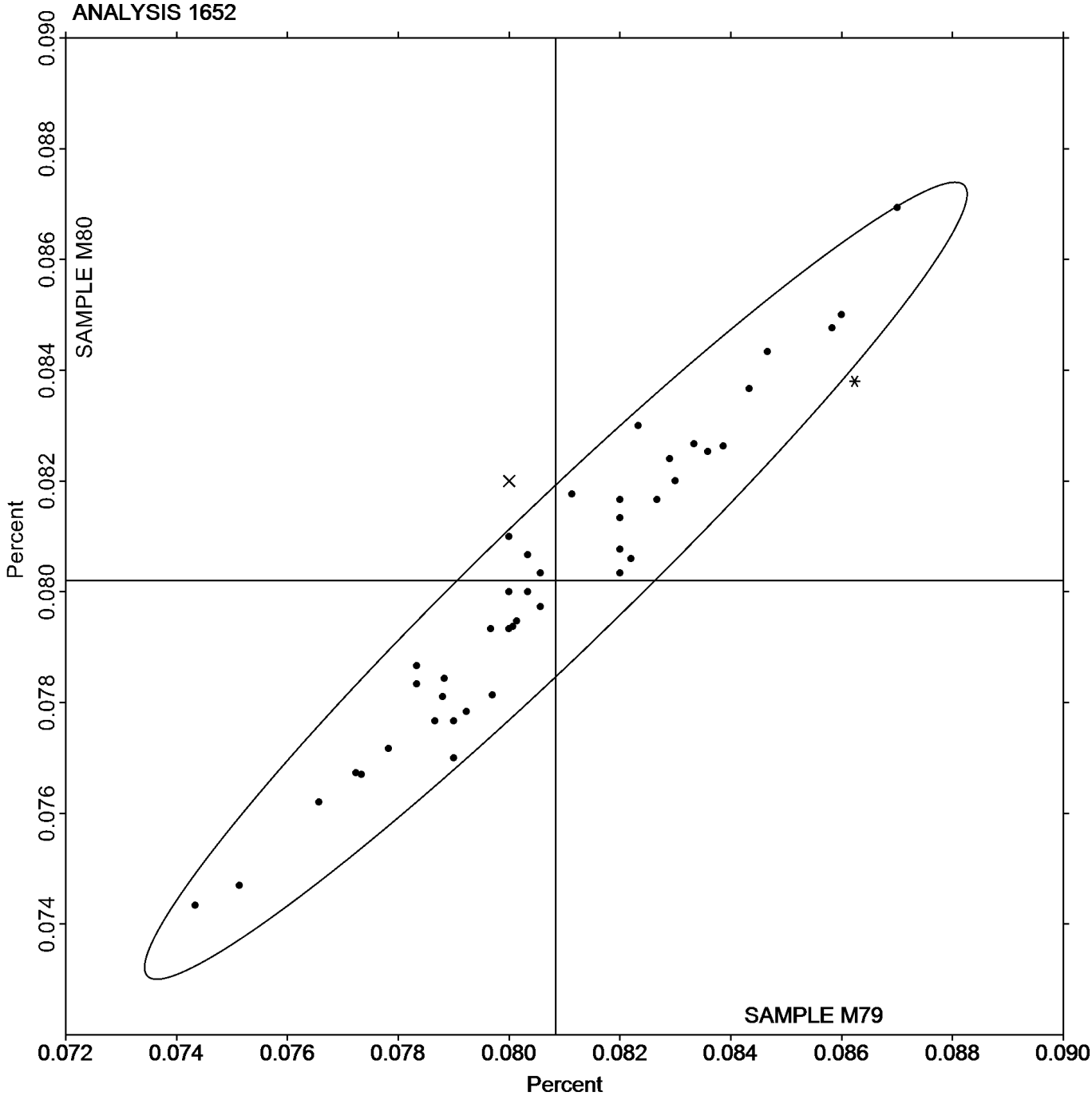
Key to Method Codes Reported by Participants

GD Spectrometry - Glow Discharge (GDS)
IC Spectrometry - Inductively Coupled Plasma (ICP)
OE Spectrometry - Optical Emission (OES)
WD X-Ray Fluorescence - Wavelength Dispersive (WDX)
XX Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1652

9QX688 (X) - Data for both samples are high. Possible Systematic Error.
DB2AJA (X) - Data for both samples are high. Possible Systematic Error.
G7W83H (X) - Data for both samples are high. Possible Systematic Error.
MUYWXB (X) - Data for both samples are low. Possible Systematic Error.
ZQHBPK (X) - Data for both samples are low. Possible Systematic Error.

SAMPLE M79	SAMPLE M80
0.0808 Percent	0.0802 Percent



		Sample M79			Sample M80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.4120	0.0193	1.67	0.3770	-0.0060	-0.51	OE
2L4XKQ		0.3915	-0.0012	-0.10	0.3802	-0.0028	-0.24	WD
2NEQPQ		0.4017	0.0090	0.78	0.3807	-0.0023	-0.20	OE
42UFQZ		0.3863	-0.0063	-0.54	0.3827	-0.0003	-0.03	WD
4AY48W		0.3920	-0.0007	-0.06	0.3687	-0.0143	-1.22	OE
4ERTJG		0.3967	0.0040	0.35	0.3997	0.0167	1.41	WD
4MBWUQ		0.3973	0.0047	0.40	0.3950	0.0120	1.02	WD
8AQPLE		0.3953	0.0027	0.23	0.3777	-0.0053	-0.45	XX
8VFW7N		0.3872	-0.0055	-0.47	0.3756	-0.0074	-0.63	OE
9QX688		0.3653	-0.0273	-2.35	0.3670	-0.0160	-1.36	OE
9V4WCY		0.3994	0.0068	0.58	0.3956	0.0126	1.07	OE
9XVVNB		0.4020	0.0093	0.81	0.4007	0.0177	1.50	XX
D389ZB		0.4015	0.0089	0.77	0.3961	0.0131	1.11	WD
DB2AJA		0.3900	-0.0027	-0.23	0.3900	0.0070	0.59	OE
ETYX66		0.4002	0.0076	0.65	0.3938	0.0108	0.92	OE
FE9L8L		0.3797	-0.0130	-1.12	0.3693	-0.0137	-1.16	OE
FQTQLD		0.4123	0.0197	1.70	0.3933	0.0103	0.88	OE
FV7WDZ		0.4027	0.0100	0.86	0.4037	0.0207	1.75	OE
G7W83H		0.3660	-0.0267	-2.30	0.3580	-0.0250	-2.12	OE
GR3H8L		0.3960	0.0033	0.29	0.3797	-0.0033	-0.28	OE
HWQY24		0.4037	0.0110	0.95	0.3943	0.0113	0.96	OE
J7PCEA		0.3677	-0.0250	-2.15	0.3590	-0.0240	-2.04	OE
JUU7G6		0.4063	0.0137	1.18	0.3813	-0.0017	-0.14	OE
JZ48ZM		0.3977	0.0050	0.43	0.3841	0.0011	0.10	OE
KBW66Y		0.3844	-0.0083	-0.71	0.3799	-0.0031	-0.26	WD
KND4G3		0.3890	-0.0037	-0.32	0.3770	-0.0060	-0.51	OE
KP2QMB		0.3896	-0.0031	-0.26	0.3738	-0.0092	-0.78	WD
LTCQ7Z		0.3980	0.0053	0.46	0.3923	0.0093	0.79	OE
LYLCAK		0.4069	0.0142	1.23	0.3922	0.0092	0.78	OE
MHAX9U		0.3897	-0.0030	-0.26	0.3887	0.0057	0.48	IC
MLVW76		0.3877	-0.0050	-0.43	0.3793	-0.0037	-0.31	IC
MPPGNM		0.3868	-0.0059	-0.50	0.3737	-0.0093	-0.79	IC
MUYWXB		0.3900	-0.0027	-0.23	0.3800	-0.0030	-0.25	OE
NYDU3C		0.3850	-0.0077	-0.66	0.3927	0.0097	0.82	OE
PGDWL3		0.3810	-0.0117	-1.00	0.3800	-0.0030	-0.25	OE
PYNXCU		0.3937	0.0010	0.09	0.3890	0.0060	0.51	OE
Q6ATM7		0.3897	-0.0030	-0.26	0.3767	-0.0063	-0.54	OE
QAR22X		0.3780	-0.0147	-1.26	0.3640	-0.0190	-1.61	GD
T2869M		0.3739	-0.0188	-1.62	0.3774	-0.0056	-0.47	OE
U7AFV8		0.3863	-0.0063	-0.54	0.3757	-0.0073	-0.62	GD
UTPMZT		0.4143	0.0217	1.87	0.4010	0.0180	1.53	OE
UVWX23		0.3880	-0.0047	-0.40	0.3847	0.0017	0.14	OE
VAA96W		0.3987	0.0060	0.52	0.3650	-0.0180	-1.53	OE
VFXDWJ		0.4195	0.0269	2.32	0.4025	0.0195	1.66	OE
WQTLD2		0.3823	-0.0103	-0.89	0.3623	-0.0207	-1.75	OE
XUP8MW		0.3847	-0.0079	-0.68	0.3685	-0.0145	-1.23	XX
Y3ZH7U		0.3867	-0.0060	-0.52	0.3790	-0.0040	-0.34	OE

WebCode	Data Flag	Sample M79 Lab Mean	Sample M79 Diff. from Grand Mean	Sample M79 CPV	Sample M80 Lab Mean	Sample M80 Diff. from Grand Mean	Sample M80 CPV	Method
YF7LDA		0.3962	0.0035	0.31	0.3981	0.0151	1.28	OE
YLCTZK		0.4030	0.0103	0.89	0.3923	0.0093	0.79	IC
ZAELTM		0.3860	-0.0067	-0.57	0.3853	0.0023	0.20	XX
ZQHBPK		0.3962	0.0036	0.31	0.3894	0.0064	0.55	IC
ZQHNJK		0.4023	0.0097	0.83	0.3923	0.0093	0.79	DR

Summary Statistics

	Sample M79		Sample M80	
Grand Means	0.3927	Percent	0.3830	Percent
Stnd Dev Btwn Labs	0.0116	Percent	0.0118	Percent

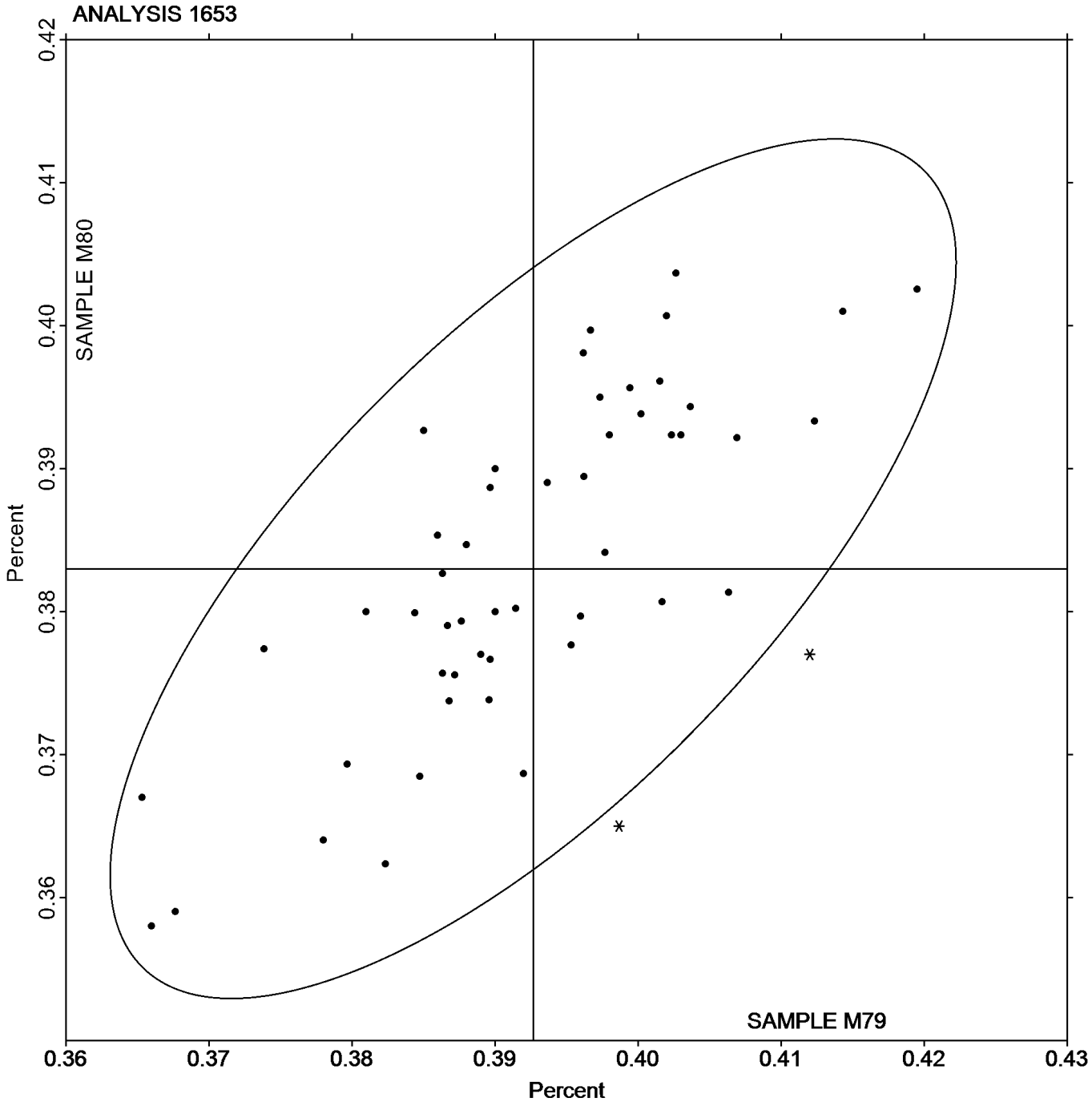
Samples M79, M80 : AISI 321, AISI 321

Statistics based on 52 of 52 reporting participants

Key to Method Codes Reported by Participants

DR	Spectrometry - Direct Reading OE (DROES)	GD	Spectrometry - Glow Discharge (GDS)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

SAMPLE M79	SAMPLE M80
0.3927 Percent	0.3830 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1700

Copper-based Alloy, COPPER (Cu)
COPPER (Cu)

		Sample K79			Sample K80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
4JMH7F		80.57	-0.42	-0.47	80.94	-0.39	-0.53	IC
9WG67C	*	82.35	1.36	1.54	82.16	0.83	1.12	ED
9XVVNB		80.30	-0.69	-0.77	80.80	-0.53	-0.72	XX
B4C8HU	X	85.56	4.57	5.17	85.65	4.32	5.84	BD
B6H8GM		81.03	0.05	0.05	81.40	0.07	0.09	BD
BJ7WDR	X	81.00	0.01	0.02	79.80	-1.53	-2.07	AA
D389ZB		80.37	-0.61	-0.69	80.80	-0.54	-0.73	WD
DNPC22		80.63	-0.36	-0.40	81.11	-0.22	-0.30	IC
FV7WDZ		80.51	-0.47	-0.53	81.04	-0.29	-0.39	GR
G7W83H		80.75	-0.24	-0.27	81.11	-0.22	-0.30	OE
GR3H8L		80.98	-0.01	-0.01	81.28	-0.05	-0.07	OE
JUU7G6		80.63	-0.35	-0.40	80.90	-0.43	-0.59	OE
M2KRWU		80.92	-0.06	-0.07	81.16	-0.18	-0.24	XX
Q6ATM7		80.55	-0.43	-0.49	81.10	-0.24	-0.32	OE
QAR22X	*	83.82	2.83	3.20	83.83	2.50	3.38	EL
T2869M		80.68	-0.30	-0.34	81.04	-0.29	-0.39	XR
UTPMZT		80.86	-0.13	-0.15	81.37	0.04	0.05	OE
UVWX23		80.80	-0.19	-0.21	81.30	-0.03	-0.05	OE

Summary Statistics

	Sample K79		Sample K80	
Grand Means	80.99	Percent	81.33	Percent
Stnd Dev Btwn Labs	0.89	Percent	0.74	Percent

Samples K79, K80 : CDA 630, CDA 630

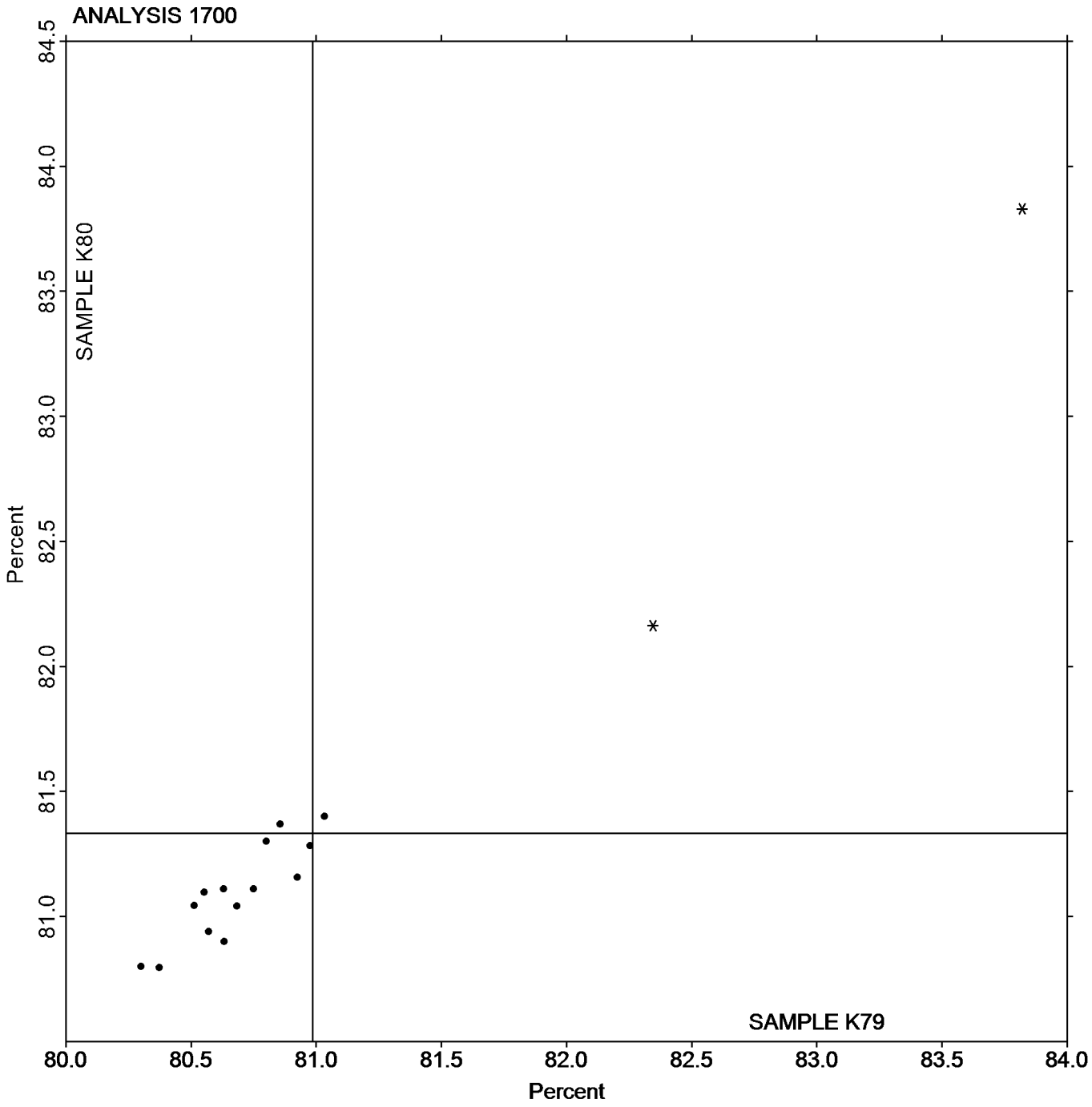
Statistics based on 16 of 18 reporting participants

Key to Method Codes Reported by Participants

AA	Spectrometry - Atomic Absorption (AAS)	BD	By Difference
ED	X-Ray Fluorescence - Energy Dispersive (EDX)	EL	Electrochemistry
GR	Gravimetry	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XR	X-Ray Fluorescence - ED or WD not specified	XX	Please Indicate Method Used for Current Element

BJ7WDR (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K80.

SAMPLE K79	SAMPLE K80
80.99 Percent	81.33 Percent



WebCode	Data Flag	Sample K79 Lab Mean	Sample K79 Diff. from Grand Mean	Sample K79 CPV	Sample K80 Lab Mean	Sample K80 Diff. from Grand Mean	Sample K80 CPV	Method
2HZ6ML		0.0127	-0.0019	-0.42	0.0110	-0.0012	-0.30	OE
4JMH7F		0.0171	0.0024	0.53	0.0132	0.0010	0.26	IC
9XVVNB		0.0225	0.0079	1.73	0.0201	0.0079	2.02	XX
B4C8HU		0.0109	-0.0038	-0.82	0.00976	-0.0024	-0.63	OE
B6H8GM		0.0110	-0.0036	-0.80	0.00867	-0.0035	-0.91	IC
D389ZB		0.00547	-0.0092	-2.01	0.00443	-0.0078	-2.00	WD
DNPC22		0.0137	-0.0010	-0.21	0.0127	0.0005	0.12	IC
FV7WDZ		0.0179	0.0033	0.72	0.0127	0.0005	0.12	IC
GR3H8L		0.0180	0.0034	0.74	0.0150	0.0028	0.72	OE
JUU7G6		0.0140	-0.0006	-0.14	0.0120	-0.0002	-0.05	OE
M2KRWU		0.0188	0.0042	0.92	0.0163	0.0041	1.04	OE
Q6ATM7		0.0221	0.0074	1.63	0.0180	0.0058	1.50	OE
Q779VW		0.0118	-0.0028	-0.61	0.00983	-0.0024	-0.61	IC
T2869M		0.0102	-0.0045	-0.98	0.00880	-0.0034	-0.87	OE
UTPMZT		0.0126	-0.0021	-0.45	0.00953	-0.0027	-0.69	OE
UVWX23		0.0154	0.0008	0.17	0.0133	0.0011	0.28	OE

Summary Statistics

	Sample K79		Sample K80	
Grand Means	0.0146	Percent	0.0122	Percent
Stnd Dev Btwn Labs	0.0046	Percent	0.0039	Percent

Samples K79, K80 : CDA 630, CDA 630

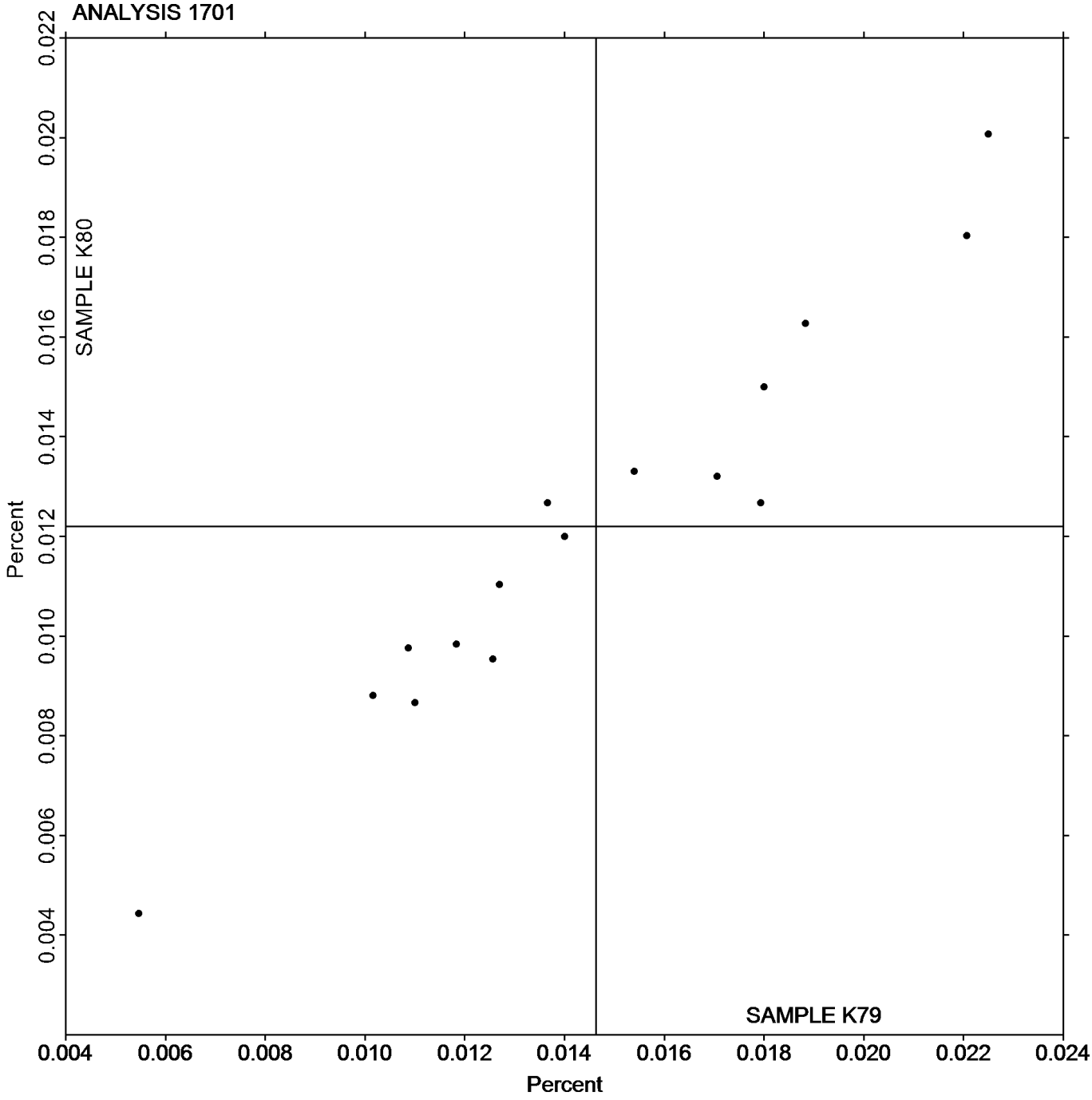
Statistics based on 16 of 16 reporting participants

Key to Method Codes Reported by Participants

IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

SAMPLE K79
0.0146 Percent

SAMPLE K80
0.0122 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1703

Copper-based Alloy, ZINC (Zn)
ZINC (Zn)

Cycle 136
4th Qtr 2021

		Sample K79			Sample K80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		0.0750	0.0105	0.76	0.1377	-0.0138	-0.37	OE
4JMH7F		0.0708	0.0063	0.46	0.1660	0.0146	0.40	IC
9WG67C	M	No Data Reported			0.5346	0.3832	10.41	XX
9XVVNB		0.0570	-0.0075	-0.54	0.1290	-0.0224	-0.61	XX
B4C8HU	*	0.0240	-0.0405	-2.94	0.0377	-0.1138	-3.09	XX
B6H8GM		0.0723	0.0078	0.57	0.1667	0.0152	0.41	IC
BJ7WDR		0.0700	0.0055	0.40	0.1600	0.0086	0.23	AA
D389ZB		0.0823	0.0177	1.29	0.1745	0.0231	0.63	WD
DNPC22		0.0683	0.0038	0.28	0.1637	0.0122	0.33	IC
FV7WDZ		0.0693	0.0048	0.35	0.1595	0.0080	0.22	IC
G7W83H		0.0690	0.0045	0.32	0.1640	0.0126	0.34	OE
GR3H8L		0.0650	0.0005	0.03	0.1577	0.0062	0.17	OE
JUU7G6		0.0610	-0.0035	-0.26	0.1397	-0.0118	-0.32	OE
M2KRWU		0.0331	-0.0314	-2.28	0.0976	-0.0538	-1.46	OE
Q6ATM7		0.0673	0.0028	0.20	0.1593	0.0079	0.21	OE
Q779VW		0.0643	-0.0002	-0.01	0.1487	-0.0028	-0.08	IC
QAR22X	*	0.0713	0.0068	0.49	0.2273	0.0759	2.06	IC
T2869M		0.0666	0.0021	0.15	0.1582	0.0068	0.18	OE
UTPMZT		0.0693	0.0048	0.35	0.1623	0.0109	0.30	OE
UVWX23		0.0700	0.0054	0.39	0.1680	0.0166	0.45	OE
YC6TQJ	X	0.6230	0.5585	40.51	1.492	1.3406	36.41	XX

Summary Statistics

	Sample K79		Sample K80	
Grand Means	0.0645	Percent	0.1514	Percent
Stnd Dev Btwn Labs	0.0138	Percent	0.0368	Percent

Samples K79, K80 : CDA 630, CDA 630

Statistics based on 19 of 21 reporting participants

Key to Method Codes Reported by Participants

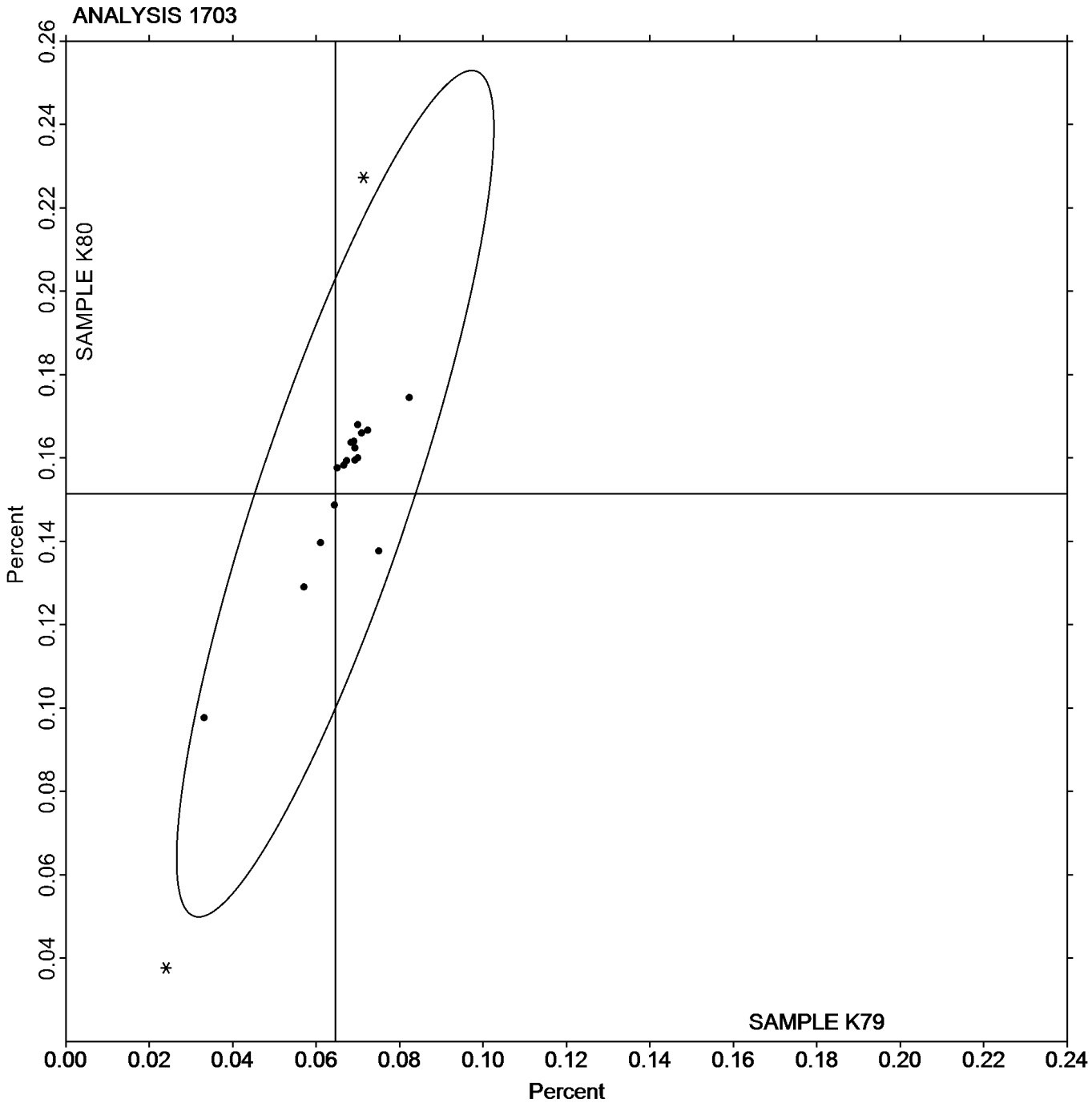
AA	Spectrometry - Atomic Absorption (AAS)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #1703

9WG67C (M) - Participant did not submit data for sample K79. Data for Sample K80 are high.

YC6TQJ (X) - Data appear to be off by a factor of ten.

SAMPLE K79	SAMPLE K80
0.0645 Percent	0.1514 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1704

Copper-based Alloy, IRON (Fe)
IRON (Fe)

Cycle 136
4th Qtr 2021

		Sample K79			Sample K80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		3.628	0.034	0.32	3.186	0.011	0.08	OE
4JMH7F		3.700	0.106	0.97	3.310	0.135	0.96	IC
9WG67C	*	3.248	-0.346	-3.19	2.769	-0.406	-2.89	ED
9XVVNB		3.690	0.096	0.88	3.297	0.122	0.87	XX
B6H8GM		3.547	-0.047	-0.44	3.127	-0.048	-0.34	IC
BJ7WDR		3.670	0.076	0.70	3.500	0.325	2.31	AA
D389ZB		3.511	-0.083	-0.76	3.089	-0.086	-0.61	WD
DNPC22		3.681	0.087	0.80	3.239	0.064	0.46	IC
FV7WDZ		3.725	0.131	1.21	3.241	0.066	0.47	IC
G7W83H		3.593	-0.001	-0.01	3.170	-0.005	-0.04	OE
GR3H8L		3.548	-0.046	-0.42	3.189	0.014	0.10	OE
JUU7G6		3.607	0.013	0.12	3.220	0.045	0.32	OE
M2KRWU		3.566	-0.029	-0.26	3.166	-0.009	-0.07	ED
Q6ATM7		3.681	0.087	0.80	3.229	0.054	0.38	OE
Q779VW		3.624	0.030	0.28	3.160	-0.015	-0.11	IC
QAR22X		3.467	-0.127	-1.17	3.030	-0.145	-1.03	IC
T2869M		3.593	-0.001	-0.01	3.167	-0.008	-0.06	OE
UTPMZT		3.647	0.053	0.48	3.130	-0.045	-0.32	OE
UVWX23		3.563	-0.031	-0.28	3.107	-0.068	-0.49	OE
YC6TQJ	X	32.13	28.534	262.60	28.23	25.059	178.43	XX

Summary Statistics

	Sample K79		Sample K80	
Grand Means	3.594	Percent	3.175	Percent
Stnd Dev Btwn Labs	0.109	Percent	0.140	Percent

Samples K79, K80 : CDA 630, CDA 630

Statistics based on 19 of 20 reporting participants

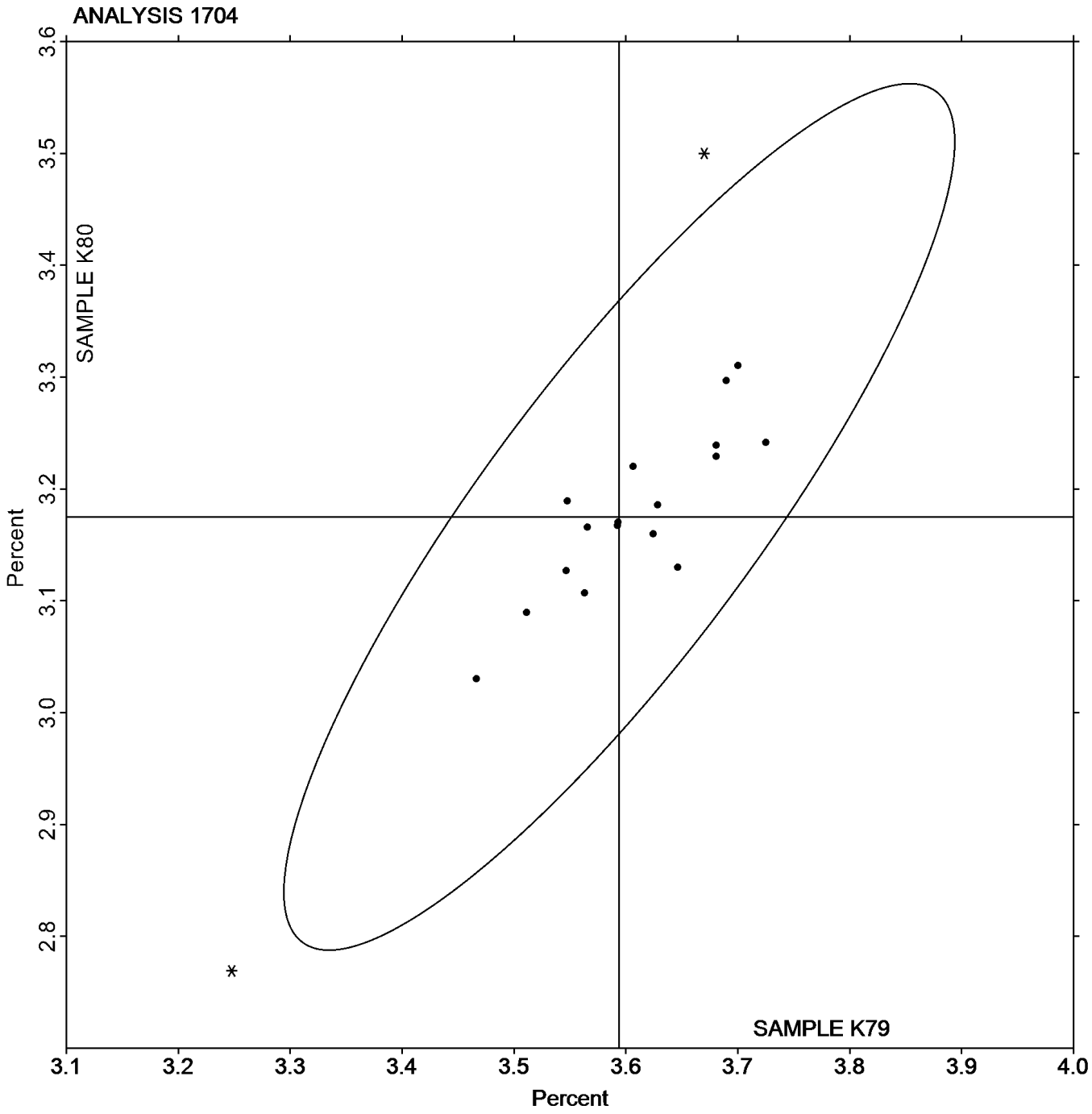
Key to Method Codes Reported by Participants

AA	Spectrometry - Atomic Absorption (AAS)	ED	X-Ray Fluorescence - Energy Dispersive (EDX)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1704

YC6TQJ (X) - Data appear to be off by a factor of ten.

SAMPLE K79	SAMPLE K80
3.594 Percent	3.175 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1705

Copper-based Alloy, NICKEL (Ni)
NICKEL (Ni)

Cycle 136
4th Qtr 2021

		Sample K79			Sample K80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		4.975	0.089	0.82	4.889	0.102	0.81	OE
4JMH7F		4.977	0.090	0.84	4.850	0.063	0.50	IC
9WG67C		4.669	-0.217	-2.01	4.699	-0.089	-0.71	ED
9XVVNB		4.940	0.054	0.50	4.833	0.046	0.37	XX
B4C8HU	X	1.217	-3.670	-33.96	1.053	-3.734	-29.74	OE
B6H8GM		4.800	-0.086	-0.80	4.700	-0.087	-0.70	XX
BJ7WDR		4.820	-0.066	-0.61	4.890	0.103	0.82	AA
D389ZB		4.901	0.015	0.14	4.847	0.059	0.47	WD
DNPC22		4.938	0.051	0.48	4.833	0.045	0.36	IC
FV7WDZ		5.073	0.187	1.73	4.876	0.088	0.70	IC
G7W83H		5.079	0.193	1.78	5.031	0.244	1.94	OE
GR3H8L		4.961	0.075	0.69	4.846	0.058	0.46	OE
JUU7G6		4.853	-0.033	-0.30	4.683	-0.104	-0.83	OE
M2KRWU		4.840	-0.046	-0.42	4.855	0.068	0.54	ED
Q6ATM7		4.860	-0.027	-0.25	4.732	-0.055	-0.44	OE
Q779VW		4.945	0.059	0.54	4.869	0.081	0.65	IC
QAR22X	*	4.857	-0.030	-0.27	4.500	-0.287	-2.29	IC
T2869M		4.733	-0.153	-1.41	4.588	-0.199	-1.58	OE
UTPMZT		4.746	-0.141	-1.30	4.654	-0.134	-1.07	OE
UVWX23		4.870	-0.016	-0.15	4.787	-0.001	-0.01	OE

Summary Statistics

	Sample K79		Sample K80	
Grand Means	4.886	Percent	4.787	Percent
Stnd Dev Btwn Labs	0.108	Percent	0.126	Percent

Samples K79, K80 : CDA 630, CDA 630

Statistics based on 19 of 20 reporting participants

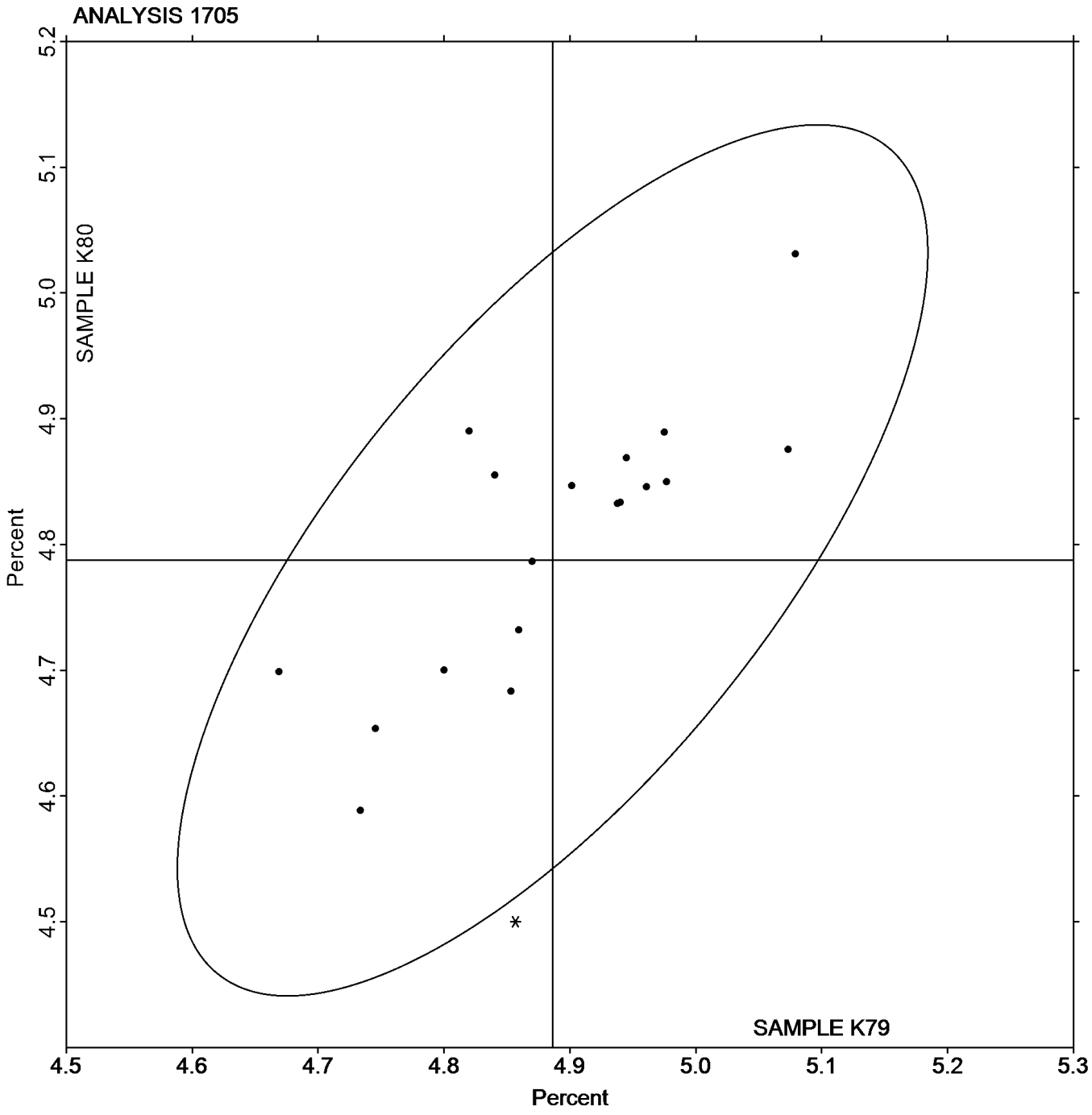
Key to Method Codes Reported by Participants

AA	Spectrometry - Atomic Absorption (AAS)	ED	X-Ray Fluorescence - Energy Dispersive (EDX)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #1705

B4C8HU (X) - Data for both samples are low. Inconsistent within the determinations of sample K79.

SAMPLE K79	SAMPLE K80
4.886 Percent	4.787 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1708

Copper-based Alloy, ALUMINUM (Al)
ALUMINUM (Al)

		Sample K79			Sample K80			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2HZ6ML		9.817	0.026	0.04	9.790	-0.102	-0.16	OE
4JMH7F		9.873	0.082	0.14	9.993	0.101	0.16	IC
9WG67C	*	7.589	-2.202	-3.65	7.596	-2.296	-3.65	ED
9XVVNB		10.14	0.352	0.58	10.19	0.294	0.47	XX
B6H8GM		9.820	0.029	0.05	9.967	0.074	0.12	IC
D389ZB		10.15	0.361	0.60	10.33	0.442	0.70	WD
DNPC22		9.784	-0.007	-0.01	9.878	-0.015	-0.02	IC
FV7WDZ		9.906	0.115	0.19	10.04	0.151	0.24	IC
G7W83H		9.753	-0.038	-0.06	9.871	-0.021	-0.03	OE
GR3H8L		9.643	-0.148	-0.25	9.823	-0.069	-0.11	OE
JUU7G6		9.813	0.022	0.04	9.970	0.078	0.12	OE
M2KRWU		10.55	0.759	1.26	10.68	0.786	1.25	IC
Q6ATM7		9.982	0.191	0.32	10.05	0.154	0.25	OE
Q779VW		9.848	0.057	0.09	9.955	0.063	0.10	IC
QAR22X	*	9.720	-0.071	-0.12	9.197	-0.696	-1.11	IC
T2869M		9.977	0.186	0.31	10.11	0.216	0.34	OE
UTPMZT		9.895	0.104	0.17	9.998	0.106	0.17	OE
UVWX23		9.903	0.112	0.19	9.930	0.038	0.06	OE
YC6TQJ	X	95.66	85.869	142.36	96.54	86.649	137.89	XX

Summary Statistics

	Sample K79		Sample K80	
Grand Means	9.791	Percent	9.892	Percent
Stnd Dev Btwn Labs	0.603	Percent	0.628	Percent

Samples K79, K80 : CDA 630, CDA 630

Statistics based on 17 of 19 reporting participants

Key to Method Codes Reported by Participants

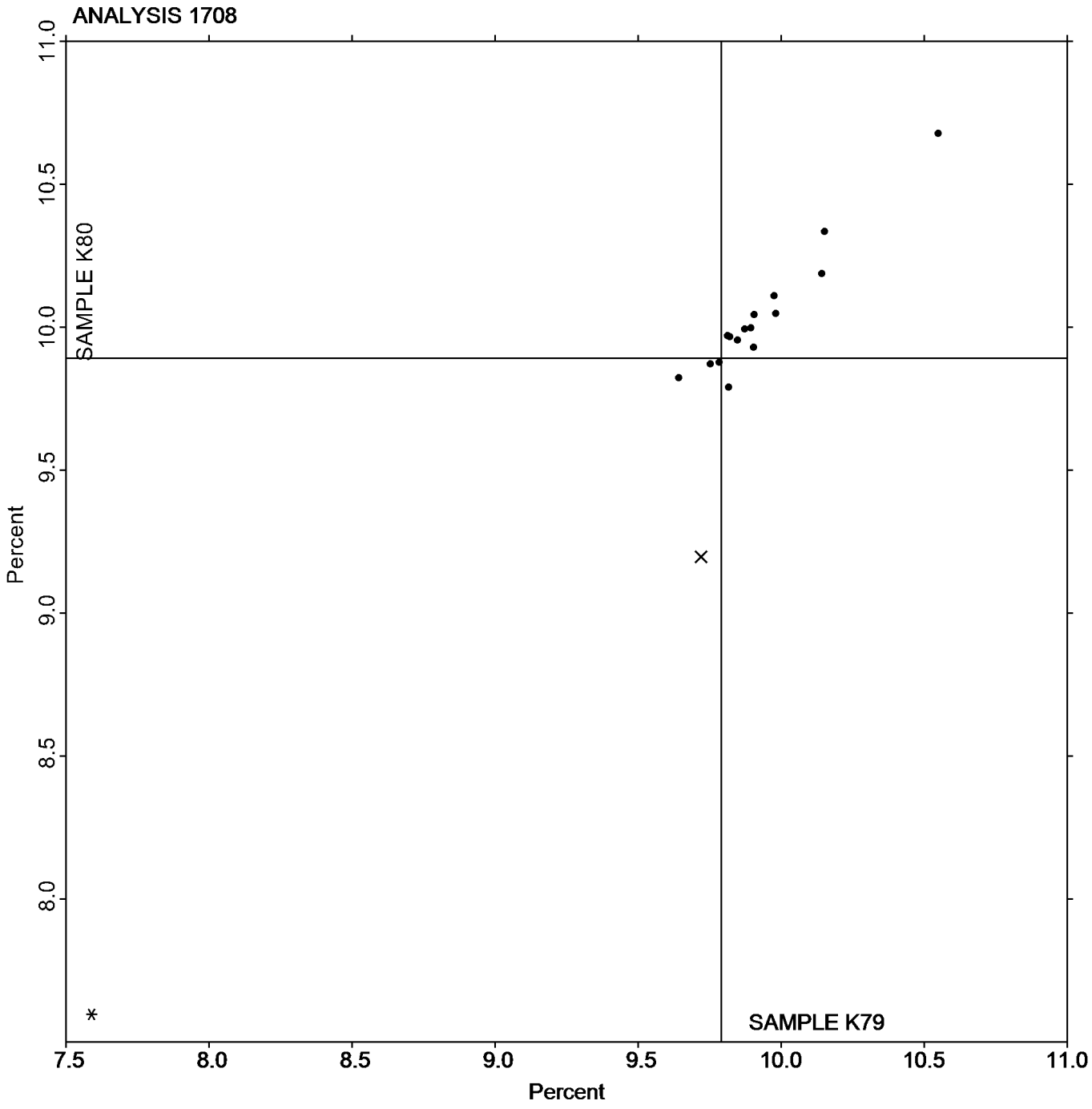
ED	X-Ray Fluorescence - Energy Dispersive (EDX)	IC	Spectrometry - Inductively Coupled Plasma (ICP)
OE	Spectrometry - Optical Emission (OES)	WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #1708

YC6TQJ (X) - Data appear to be off by a factor of ten.

SAMPLE K79
9.791 Percent

SAMPLE K80
9.892 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1710

Copper-based Alloy, MANGANESE (Mn)
MANGANESE (Mn)

WebCode	Data Flag	Sample K79 Lab Mean	Sample K79 Diff. from Grand Mean	Sample K79 CPV	Sample K80 Lab Mean	Sample K80 Diff. from Grand Mean	Sample K80 CPV	Method
2HZ6ML		0.7070	-0.0027	-0.05	0.5950	-0.0131	-0.25	OE
4JMH7F		0.7247	0.0149	0.27	0.6543	0.0462	0.89	IC
9WG67C		0.6351	-0.0747	-1.36	0.5469	-0.0612	-1.18	ED
9XVVNB		0.6657	-0.0441	-0.80	0.5733	-0.0348	-0.67	XX
B4C8HU	*	0.5430	-0.1667	-3.03	0.4386	-0.1695	-3.26	OE
B6H8GM		0.6700	-0.0397	-0.72	0.5667	-0.0414	-0.80	IC
BJ7WDR		0.7000	-0.0097	-0.18	0.6000	-0.0081	-0.16	AA
D389ZB		0.7157	0.0060	0.11	0.6118	0.0037	0.07	WD
DNPC22		0.7727	0.0629	1.15	0.6617	0.0536	1.03	IC
FV7WDZ		0.7190	0.0093	0.17	0.6272	0.0191	0.37	IC
G7W83H		0.8010	0.0913	1.66	0.6830	0.0749	1.44	OE
GR3H8L		0.7237	0.0139	0.25	0.6170	0.0089	0.17	OE
JUU7G6		0.7300	0.0203	0.37	0.6267	0.0186	0.36	OE
M2KRWU		0.7609	0.0512	0.93	0.6614	0.0533	1.03	IC
Q6ATM7		0.7580	0.0483	0.88	0.6307	0.0226	0.43	OE
Q779VW		0.7190	0.0093	0.17	0.6100	0.0019	0.04	IC
QAR22X		0.6740	-0.0357	-0.65	0.5983	-0.0098	-0.19	IC
T2869M		0.7244	0.0147	0.27	0.6196	0.0115	0.22	OE
UTPMZT		0.7183	0.0086	0.16	0.6060	-0.0021	-0.04	OE
UVWX23		0.7323	0.0226	0.41	0.6337	0.0256	0.49	OE

Summary Statistics

	Sample K79		Sample K80	
Grand Means	0.7097	Percent	0.6081	Percent
Stnd Dev Btwn Labs	0.0549	Percent	0.0520	Percent

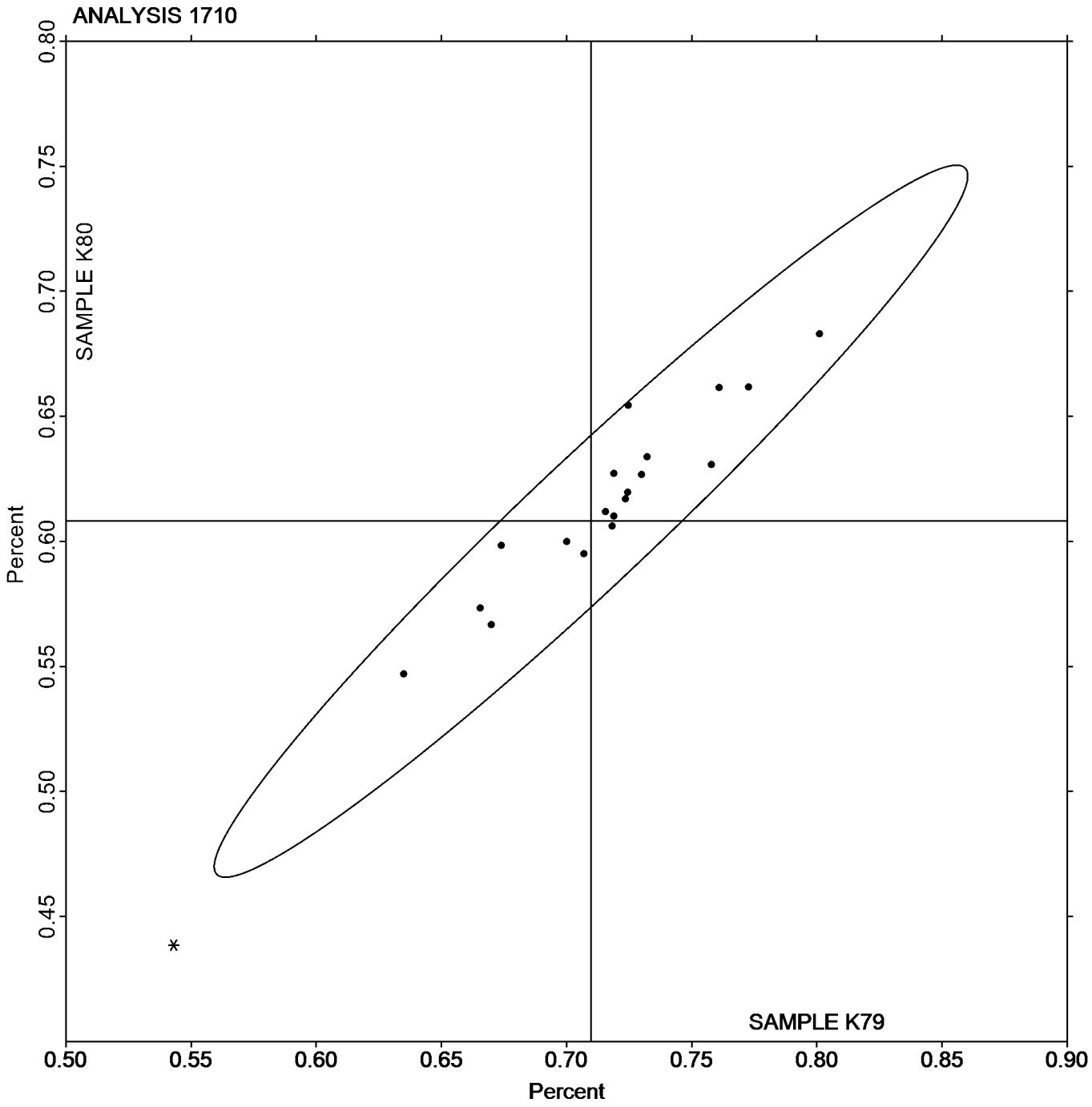
Samples K79, K80 : CDA 630, CDA 630

Statistics based on 20 of 20 reporting participants

Key to Method Codes Reported by Participants

AA	Spectrometry - Atomic Absorption (AAS)	ED	X-Ray Fluorescence - Energy Dispersive (EDX)
IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

SAMPLE K79	SAMPLE K80
0.7097 Percent	0.6081 Percent



Fasteners and Metals Interlaboratory Testing Program

Analysis 1711

Copper-based Alloy, SILICON (Si)
SILICON (Si)

WebCode	Data Flag	Sample K79 Lab Mean	Sample K79 Diff. from Grand Mean	Sample K79 CPV	Sample K80 Lab Mean	Sample K80 Diff. from Grand Mean	Sample K80 CPV	Method
2HZ6ML		0.0299	0.0030	1.18	0.0403	0.0039	1.03	OE
4JMH7F		0.0276	0.0008	0.30	0.0367	0.0003	0.09	IC
9XVVNB		0.0234	-0.0035	-1.39	0.0342	-0.0022	-0.57	XX
B4C8HU		0.0217	-0.0052	-2.06	0.0285	-0.0079	-2.07	OE
B6H8GM		0.0277	0.0008	0.31	0.0357	-0.0007	-0.19	IC
D389ZB		0.0273	0.0004	0.16	0.0395	0.0031	0.82	WD
DNPC22		0.0253	-0.0015	-0.61	0.0307	-0.0057	-1.51	IC
FV7WDZ		0.0262	-0.0006	-0.25	0.0350	-0.0014	-0.36	IC
G7W83H		0.0264	-0.0005	-0.19	0.0368	0.0004	0.10	OE
GR3H8L		0.0270	0.0001	0.05	0.0357	-0.0007	-0.19	OE
JUU7G6		0.0287	0.0018	0.71	0.0393	0.0029	0.77	OE
M2KRWU		0.0247	-0.0022	-0.87	0.0312	-0.0052	-1.37	IC
Q6ATM7		0.0293	0.0025	0.97	0.0396	0.0032	0.83	OE
Q779VW		0.0281	0.0013	0.50	0.0387	0.0023	0.60	IC
T2869M		0.0290	0.0021	0.84	0.0413	0.0049	1.30	OE
UTPMZT		0.0311	0.0042	1.67	0.0412	0.0048	1.27	OE
UVWX23		0.0235	-0.0033	-1.32	0.0343	-0.0021	-0.55	OE

Summary Statistics

	Sample K79		Sample K80	
Grand Means	0.0269	Percent	0.0364	Percent
Stnd Dev Btwn Labs	0.0025	Percent	0.0038	Percent

Samples K79, K80 : CDA 630, CDA 630

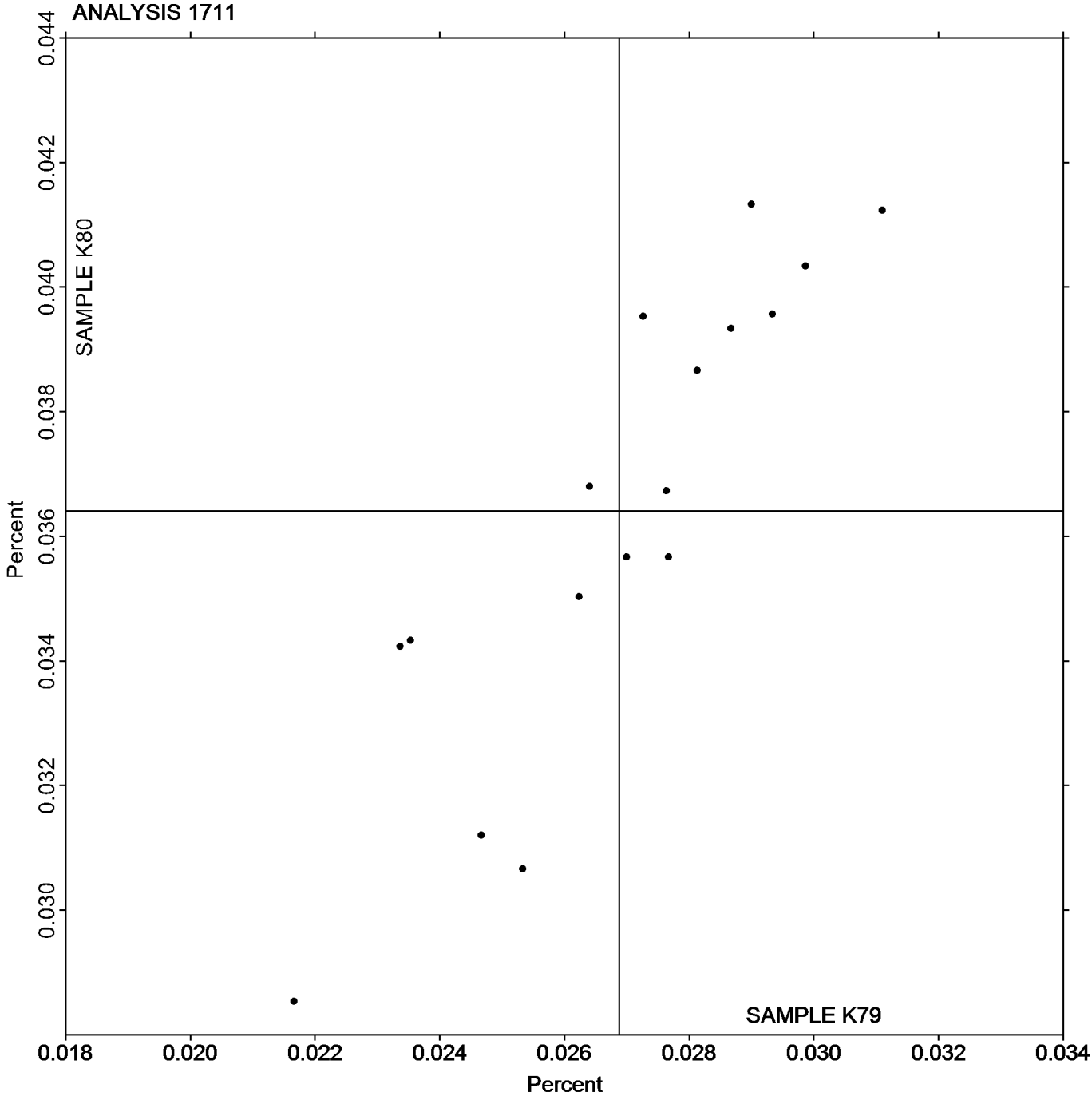
Statistics based on 17 of 17 reporting participants

Key to Method Codes Reported by Participants

IC	Spectrometry - Inductively Coupled Plasma (ICP)	OE	Spectrometry - Optical Emission (OES)
WD	X-Ray Fluorescence - Wavelength Dispersive (WDX)	XX	Please Indicate Method Used for Current Element

SAMPLE K79
0.0269 Percent

SAMPLE K80
0.0364 Percent



-End of Report-

