Collaborative Testing Services, Inc.

Fasteners & Metals Interlaboratory Testing Program

Summary Report Cycle 141, 1st Qtr 2023

About the Metals Program About CTS Key to Tables and Graphs

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.
For further information contact:

COLLABORATIVE TESTING SERVICES, INC.
21331 Gentry Drive
Sterling, VA 20166

Phone: (571) 434-1925
FAX: (571)434-1937
e-mail: metals@cts-interlab.com
www.collaborativetesting.com
Office Hours: 8:00 a.m. - 4:30 p.m. ET

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.

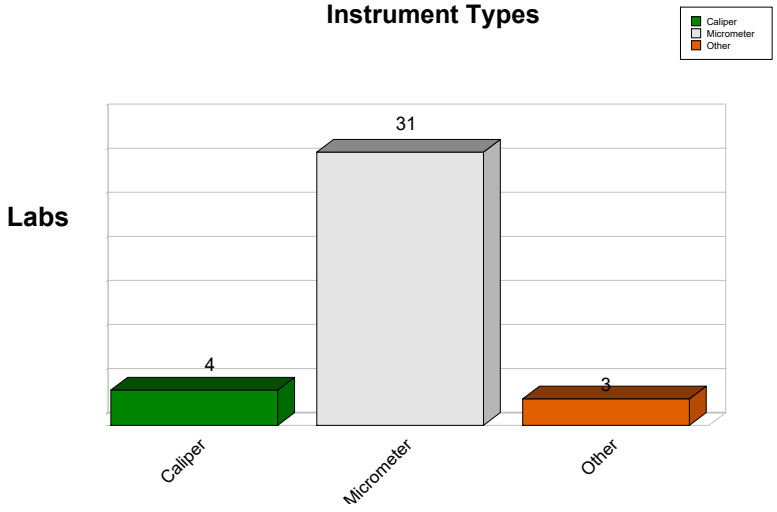
Fasteners and Metals Interlaboratory Testing Program

Analysis 1001

Dimensional: Outside Diameter of Plain Plug Gage
ISO GUM

Cycle 141
1st Qtr 2023

During Cycle 141, CTS conducted the Analysis #1001 - Round Dimensional. For this test all participants received two samples I89 and I90 with nominal diameters; 0.3750 in. and 0.3746 in. Each sample is an English Class X gage pin with 0.00002 in roundness limit made from 52100 bearing steel, hardened to 60-62 Rockwell C. Laboratories were asked to determine the outside diameter of the pins. 38 laboratories that subscribed for this test reported testing results. The graph below shows a breakdown of the types of instruments used.



Analysis of the Results

The most convenient and common method of judging the quality of measurement results is by calculating the performance statistic, En, calculated as:

$$E_n = \frac{\left(X_{lab} - X_{ref}\right)}{\sqrt{U_{lab}^2 + U_{ref}^2}}$$

Where the assigned value, Xref, is determined in a reference laboratory, Uref is the expanded uncertainty of Xref, and Ulab is the **Expanded Uncertainty** of a participant's result, Xlab. En is not calculated for Labs who did not report their Expanded Uncertainty.

Absolute values of En less than **1.00** should be obtained for the measurements to be acceptable.

The following graph and the table represent the results reported by participants. All tests were conducted at room temperature (20-23C or 68-77F).

Xref and Uref were determined by the gage pin manufacturer. The manufacturer is ISO 9001 Certified and an ISO 17025 Accredited company. All master gages used in checking the plug gages are calibrated with standards traceable to NIST.

$$E_n = \frac{\left(X_{lab} - X_{ref}\right)}{\sqrt{U_{lab}^2 + U_{ref}^2}}$$

Xref1 = 0.3750 in.

Xref2 = 0.3746 in.

WebCode	Data Flag (if assigned)	Reference Uncertainty (Uref)	Expanded Uncertainty (Ulab)	Sample I89 Lab Mean (Xlab)	Sample I89 Performance Statistic (En1)	Sample I90 Lab Mean (Xlab)	Sample I90 Performance Statistic (En2)	Instrument
2BAFAM		0.00004	0.00024	0.37490	-0.41	0.37452	-0.33	Micrometer
4922XR	X	0.00004	0.00006	0.37494	-0.88	0.37452	-1.12	Micrometer
4JBA77		0.00004	28.80000	0.37500	0.00	0.37460	0.00	Micrometer
7D3YMU	X	0.00004	0.00019	0.37488	-0.62	0.37440	-1.03	Micrometer
7YX4GZ		0.00004	0.00010	0.37497	-0.24	0.37459	-0.12	Micrometer
83G9BH	X	0.00004	0.00010	0.37488	-1.11	0.37452	-0.74	Other
9XC6EM		0.00004	0.00210	0.37450	-0.24	0.37400	-0.29	Caliper
BWWKPA		0.00004	0.00030	0.37512	0.40	0.37464	0.13	Micrometer
CAP6AK		0.00004	0.12000	0.37490	0.00	0.37450	0.00	Micrometer
CGTMUN	X	0.00004	0.00034	0.37390	-3.19	0.37409	-1.49	Other
CZD6F9		0.00004	0.00030	0.37485	-0.50	0.37450	-0.33	Micrometer
DZ8PLP		0.00004	0.00030	0.37500	0.00	0.37450	-0.33	Caliper
EGXCXE		0.00004	Not Reported	0.37483		0.37436		Micrometer
EUM92X		0.00004	0.00174	0.37406	-0.54	0.37358	-0.59	Caliper
FRVWEW		0.00004	0.00050	0.37500	0.00	0.37450	-0.20	Micrometer
GHKR4R		0.00004	0.00059	0.37493	-0.12	0.37456	-0.07	Micrometer
JLWETG		0.00004	0.00008	0.37494	-0.71	0.37454	-0.64	Micrometer
JQ637H		0.00004	0.00040	0.37495	-0.12	0.37461	0.02	Micrometer
JTTE6N		0.00004	0.00110	0.37495	-0.05	0.37452	-0.07	Micrometer
JYHZYG		0.00004	0.00260	0.37490	-0.04	0.37450	-0.04	Caliper
KGRVRV		0.00004	0.00034	0.37488	-0.35	0.37452	-0.23	Micrometer
KLB784		0.00004	0.00201	0.37490	-0.05	0.37450	-0.05	Micrometer
KU6C26		0.00004	0.00009	0.37491	-0.84	0.37452	-0.78	Micrometer
LARD2G		0.00004	0.00015	0.37490	-0.64	0.37448	-0.77	Micrometer
LLGAQ8		0.00004	0.20000	0.37489	0.00	0.37450	0.00	Micrometer
P7V2DT		0.00004	Not Reported	0.37466		0.37420		Other
Q2HFJE		0.00004	0.00024	0.37483	-0.67	0.37441	-0.77	Micrometer
QN2DB3	X	0.00004	0.00008	0.37487	-1.51	0.37457	-0.37	Micrometer
RPWTAC		0.00004	0.00016	0.37494	-0.36	0.37447	-0.79	Micrometer
RTEX6Z		0.00004	0.00030	0.37490	-0.33	0.37450	-0.33	Micrometer
TBZTDU		0.00004	0.00050	0.37500	0.00	0.37450	-0.20	Micrometer
TQE7PZ		0.00004	0.00019	0.37486	-0.72	0.37446	-0.72	Micrometer
UG4W6E		0.00004	0.00020	0.37490	-0.49	0.37450	-0.49	Micrometer

$$E_n = \frac{\left(X_{lab} - X_{ref}\right)}{\sqrt{U_{lab}^2 + U_{ref}^2}}$$

Xref1 = 0.3750 in.

Xref2 = 0.3746 in.

WebCode	Data Flag (if assigned)	Reference Uncertainty (Uref)	Expanded Uncertainty (Ulab)	Sample I89 Lab Mean (Xlab)	Sample I89 Performance Statistic (En1)	Sample I90 Lab Mean (Xlab)	Sample I90 Performance Statistic (En2)	Instrument
WDRYAA	X	0.00004	0.00009	0.37490	-1.04	0.37450	-1.04	Micrometer
XAMXKW		0.00004	0.00040	0.37484	-0.40	0.37440	-0.50	Micrometer
XLGE6R		0.00004	Not Reported	0.37480		0.37442		Micrometer
Y22WKT		0.00004	0.05735	0.37481	0.00	0.37446	0.00	Micrometer
Z2U8KZ		0.00004	Not Reported	0.37498		0.37459		Micrometer

Summary Statistics

	Sample I89		Sample I90	
Grand Means	0.3749	inch	0.3745	inch
Stnd Dev Btwn Labs	0.0001	inch	0.0001	inch

Samples I89, I90 : 52100 Steel, 52100 Steel

Statistics based on 34 of 38 reporting participants

Comments on Assigned Data Flags for Test #1001

4922XR (X) - En value for sample I90 was low.

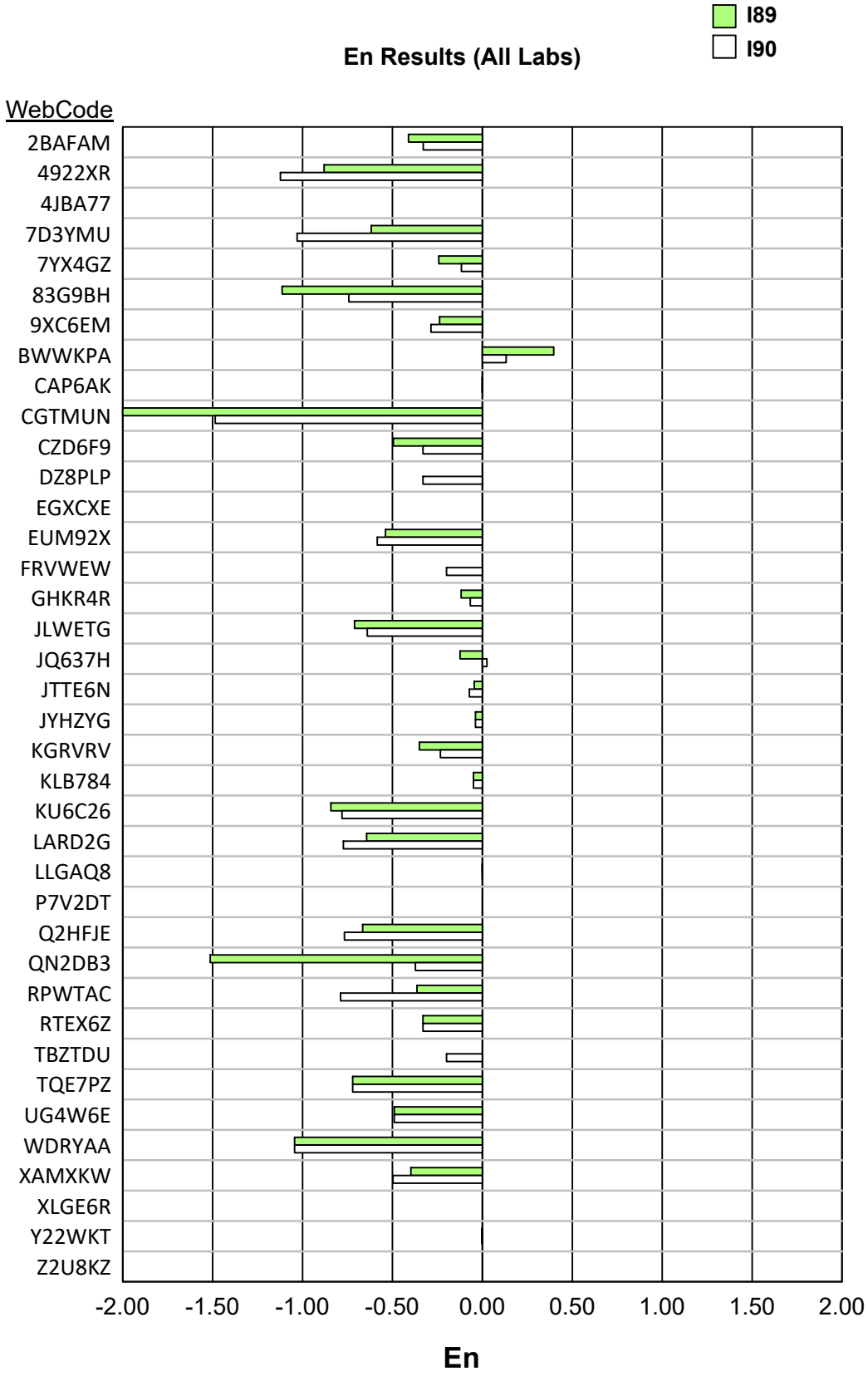
7D3YMU (X) - En value for sample I90 was low.

83G9BH (X) - En value for sample I89 was low.

CGTMUN (X) - En value for both samples was low.

QN2DB3 (X) - En value for sample I89 was low.

WDRYAA (X) - En value for both samples was low.



		Sample R89			Sample R90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
34WQRK		48.70	-0.30	-0.96	46.28	-0.53	-1.49
39TDMU		49.40	0.40	1.30	46.40	-0.41	-1.15
3GMHGV		49.10	0.10	0.33	46.90	0.09	0.25
46Y79W		48.50	-0.50	-1.61	46.40	-0.41	-1.15
4BXLP6		49.00	0.00	0.01	46.70	-0.11	-0.31
66MWHG	*	48.20	-0.80	-2.58	46.90	0.09	0.25
6CLYMV		49.10	0.10	0.33	46.80	-0.01	-0.03
7GPM3G		49.30	0.30	0.98	47.60	0.79	2.22
8NUKPR		49.20	0.20	0.66	46.70	-0.11	-0.31
92R8DY		49.20	0.20	0.66	47.20	0.39	1.10
9JB3Q8		49.20	0.20	0.66	47.10	0.29	0.82
A6NZ3N		49.10	0.10	0.33	47.00	0.19	0.54
ABFR6V		48.80	-0.20	-0.64	47.10	0.29	0.82
AEXU8U		48.70	-0.30	-0.96	46.40	-0.41	-1.15
BC9DKM		49.10	0.10	0.33	47.20	0.39	1.10
CAP3GL		48.90	-0.10	-0.31	46.70	-0.11	-0.31
ET2HFK		48.70	-0.30	-0.96	46.90	0.09	0.25
HNN2ZC		49.00	0.00	0.01	47.20	0.39	1.10
JN4RGA		48.60	-0.40	-1.28	46.30	-0.51	-1.43
JTNGFE		48.80	-0.20	-0.64	46.80	-0.01	-0.03
JWXZ22		48.72	-0.28	-0.90	46.37	-0.44	-1.24
K2DNDB		49.40	0.40	1.30	47.50	0.69	1.94
L6VPAN		49.20	0.20	0.66	47.00	0.19	0.54
LVC4NR		49.10	0.10	0.33	47.00	0.19	0.54
MUP74D		48.90	-0.10	-0.31	46.58	-0.23	-0.65
MVJWAR		49.49	0.49	1.58	47.44	0.63	1.76
MYZR6C		48.86	-0.14	-0.44	46.73	-0.08	-0.22
NE9ZL7		48.90	-0.10	-0.31	46.40	-0.41	-1.15
PAFNC8		48.90	-0.10	-0.31	46.40	-0.41	-1.15
PFJ8H8		48.70	-0.30	-0.96	46.40	-0.41	-1.15
QW2MY9		49.25	0.25	0.82	47.25	0.44	1.24
RA9KNY		49.30	0.30	0.98	47.00	0.19	0.54
RX3BH3		48.90	-0.10	-0.31	46.60	-0.21	-0.59
T37MKT	X	47.40	-1.60	-5.17	44.60	-2.21	-6.22
UGRCF3		49.30	0.30	0.98	47.10	0.29	0.82
VHF23N		48.90	-0.10	-0.31	46.40	-0.41	-1.15
VKXG7N	X	50.50	1.50	4.86	47.90	1.09	3.07
VWE4KV	X	47.46	-1.54	-4.97	45.53	-1.28	-3.60
W79V38		49.20	0.20	0.66	46.50	-0.31	-0.87
WFTLRZ		49.00	0.00	0.01	47.00	0.19	0.54
WG9ETA	X	50.30	1.30	4.22	47.80	0.99	2.79
WVBZZ7		48.90	-0.10	-0.31	46.70	-0.11	-0.31
WZELFG	X	48.10	-0.90	-2.90	43.80	-3.01	-8.47
XAMXKW	X	44.80	-4.20	-13.58	44.80	-2.01	-5.66
XDM2D6		48.73	-0.26	-0.85	46.41	-0.40	-1.12
XQY9PW		48.33	-0.67	-2.17	46.56	-0.25	-0.71
YA67HR		49.40	0.40	1.30	47.00	0.19	0.54

		Sample R89			Sample R90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
ZEHA3T		49.20	0.20	0.66	47.30	0.49	1.38
ZVP9BW	*	49.70	0.70	2.27	46.60	-0.21	-0.59

Summary Statistics

	Sample R89		Sample R90	
Grand Means	49.00	ksi	46.81	ksi
Stnd Dev Btwn Labs	0.31	ksi	0.36	ksi

Samples R89, R90 : 12G 6061-T6 (A), 14G 6061-T6 (B)

Statistics based on 43 of 49 reporting participants

Comments on Assigned Data Flags for Test #1101

T37MKT (X) - Data for both samples are low.

VKXG7N (X) - Data for both samples are high.

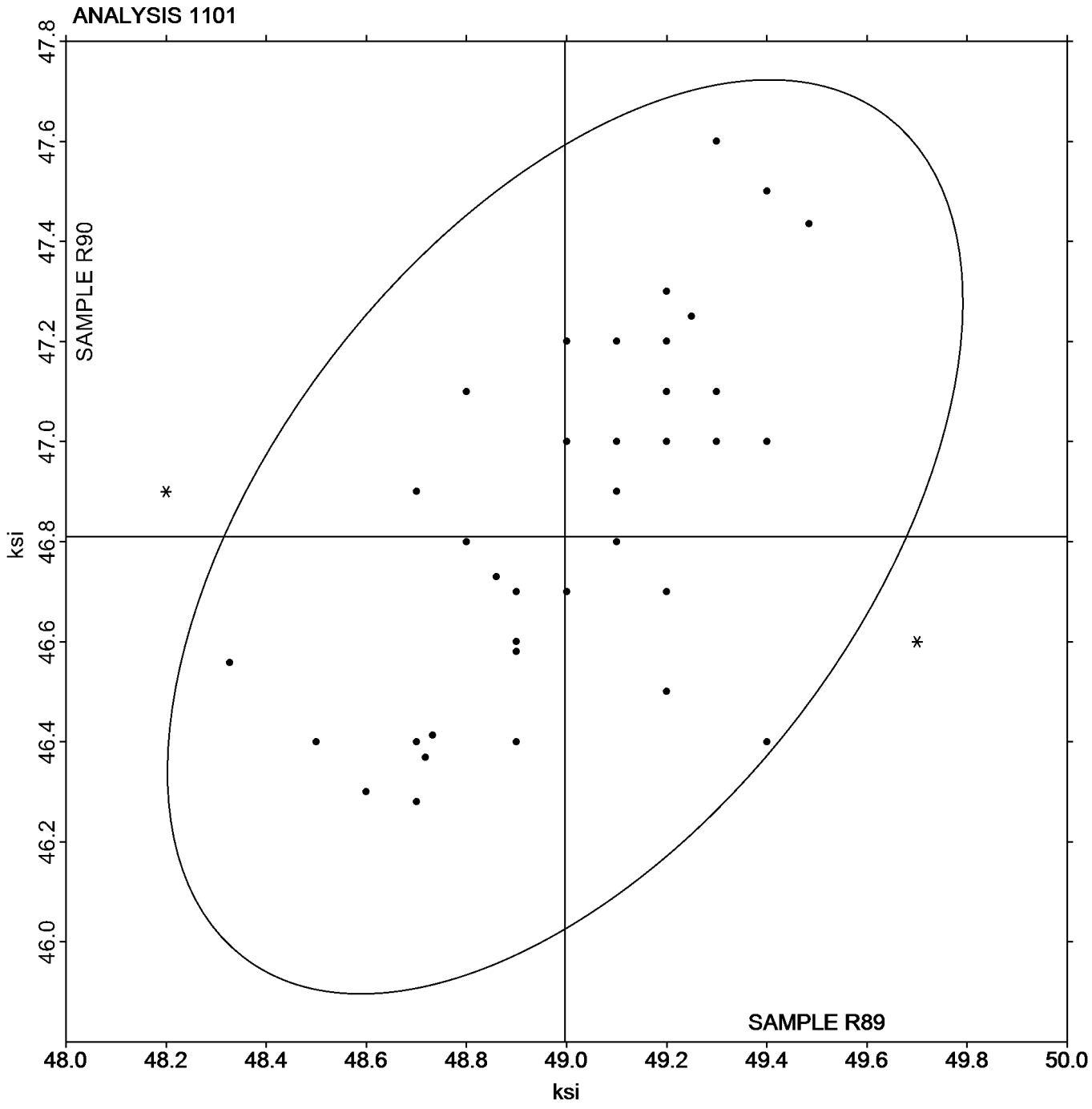
VWE4KV (X) - Data for both samples are low.

WG9ETA (X) - Data for both samples are high.

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

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

SAMPLE R89	SAMPLE R90
49.00 ksi	46.81 ksi



		Sample R89			Sample R90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
34WQRK		40.71	-0.33	-1.08	38.25	-0.38	-1.12
39TDMU	*	41.30	0.26	0.85	38.10	-0.53	-1.56
3GMHGV		41.20	0.16	0.52	38.60	-0.03	-0.08
46Y79W		40.90	-0.14	-0.46	38.70	0.07	0.22
4BXLP6		41.16	0.12	0.39	38.75	0.12	0.37
66MWHG	X	41.80	0.76	2.48	40.40	1.77	5.26
6CLYMV		41.10	0.06	0.19	38.50	-0.13	-0.37
7GPM3G		41.20	0.16	0.52	39.20	0.57	1.70
8NUKPR		41.00	-0.04	-0.13	38.40	-0.23	-0.67
92R8DY		41.20	0.16	0.52	39.20	0.57	1.70
9JB3Q8		41.50	0.46	1.50	39.20	0.57	1.70
A6NZ3N		41.20	0.16	0.52	38.80	0.17	0.51
ABFR6V	X	39.00	-2.04	-6.65	36.10	-2.53	-7.49
AEXU8U		41.40	0.36	1.17	38.40	-0.23	-0.67
BC9DKM		41.10	0.06	0.19	38.80	0.17	0.51
CAP3GL		40.90	-0.14	-0.46	38.60	-0.03	-0.08
ET2HFK		40.50	-0.54	-1.76	38.40	-0.23	-0.67
HNN2ZC		41.00	-0.04	-0.13	38.70	0.07	0.22
JN4RGA		41.10	0.06	0.19	38.10	-0.53	-1.56
JTNGFE		40.60	-0.44	-1.44	38.50	-0.13	-0.37
JWXZ22		41.09	0.05	0.16	38.51	-0.12	-0.35
K2DNDB		41.30	0.26	0.85	39.10	0.47	1.40
L6VPAN		41.30	0.26	0.85	39.00	0.37	1.11
LVC4NR		41.20	0.16	0.52	38.90	0.27	0.81
MUP74D		41.05	0.01	0.03	38.60	-0.03	-0.08
MVJWAR		41.06	0.02	0.06	38.56	-0.07	-0.20
MYZR6C		40.85	-0.19	-0.62	38.82	0.19	0.57
NE9ZL7		40.90	-0.14	-0.46	38.20	-0.43	-1.26
PAFNC8		40.90	-0.14	-0.46	38.30	-0.33	-0.97
PFJ8H8		40.80	-0.24	-0.78	38.40	-0.23	-0.67
QW2MY9		41.47	0.43	1.40	39.09	0.46	1.37
RA9KNY		41.40	0.36	1.17	39.10	0.47	1.40
RX3BH3		41.00	-0.04	-0.13	38.40	-0.23	-0.67
T37MKT	X	42.30	1.26	4.11	39.50	0.87	2.59
UGRCF3		41.20	0.16	0.52	38.90	0.27	0.81
VHF23N	*	40.40	-0.64	-2.09	37.80	-0.83	-2.45
VWE4KV	*	40.10	-0.94	-3.05	38.18	-0.45	-1.33
W79V38		41.20	0.16	0.52	38.50	-0.13	-0.37
WFTLRZ		41.00	-0.04	-0.13	38.70	0.07	0.22
WG9ETA	X	42.50	1.46	4.76	39.90	1.27	3.77
WVBZZ7		41.00	-0.04	-0.13	38.50	-0.13	-0.37
WZELFG	X	40.60	-0.44	-1.44	36.30	-2.33	-6.89
XDM2D6		41.05	0.01	0.02	38.73	0.10	0.29
XQY9PW		40.45	-0.59	-1.92	38.33	-0.29	-0.87
YA67HR		41.00	-0.04	-0.13	39.00	0.37	1.11
ZEHA3T		41.30	0.26	0.85	39.00	0.37	1.11
ZVP9BW		41.60	0.56	1.83	38.50	-0.13	-0.37

Summary Statistics

	Sample R89		Sample R90	
Grand Means	41.04	ksi	38.63	ksi
Stnd Dev Btwn Labs	0.31	ksi	0.34	ksi

Samples R89, R90 : 12G 6061-T6 (A), 14G 6061-T6 (B)

Statistics based on 42 of 47 reporting participants

Comments on Assigned Data Flags for Test #1102

66MWHG (X) - Data for sample R90 are high.

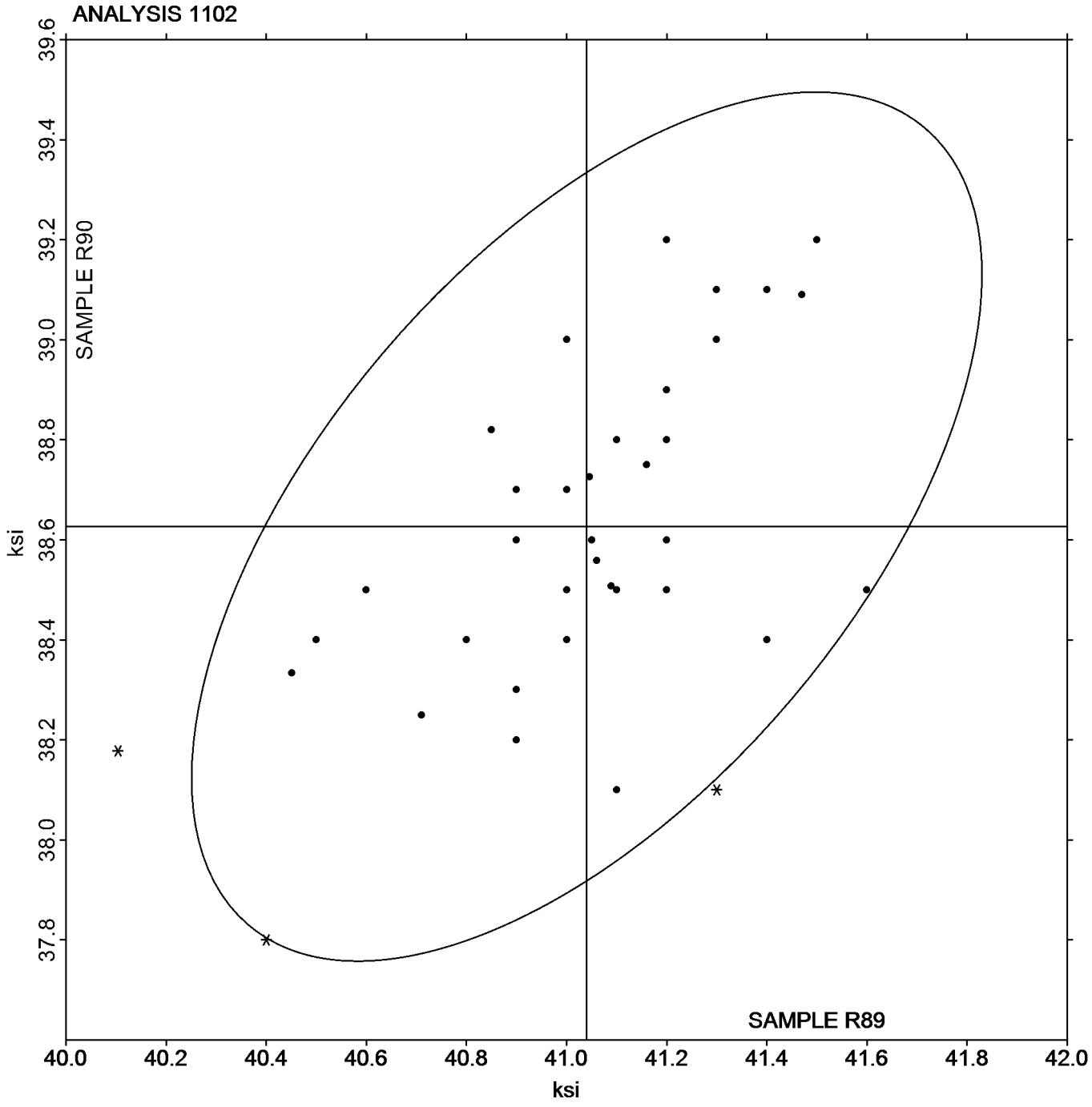
ABFR6V (X) - Data for both samples are low.

T37MKT (X) - Data for sample R89 are high.

WG9ETA (X) - Data for both samples are high.

WZELFG (X) - Data for sample R90 are low.

SAMPLE R89	SAMPLE R90
41.04 ksi	38.63 ksi



		Sample R89			Sample R90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
34WQRK		16.20	0.71	0.78	14.60	0.46	0.54
39TDMU		15.00	-0.49	-0.53	14.00	-0.14	-0.17
3GMHGV		15.50	0.01	0.01	14.00	-0.14	-0.17
46Y79W		14.20	-1.29	-1.40	13.80	-0.34	-0.41
4BXLP6		13.50	-1.99	-2.16	12.10	-2.04	-2.43
66MWHG		15.00	-0.49	-0.53	15.00	0.86	1.02
6CLYMV		15.50	0.01	0.01	14.50	0.36	0.43
7GPM3G		15.50	0.01	0.01	14.50	0.36	0.43
8NUKPR		16.00	0.51	0.56	14.50	0.36	0.43
92R8DY		14.80	-0.69	-0.75	13.20	-0.94	-1.12
9JB3Q8		16.70	1.21	1.32	14.90	0.76	0.90
A6NZ3N		15.00	-0.49	-0.53	14.50	0.36	0.43
ABFR6V		15.90	0.41	0.45	15.70	1.56	1.85
AEXU8U		14.70	-0.79	-0.86	13.90	-0.24	-0.29
BC9DKM		14.50	-0.99	-1.07	13.50	-0.64	-0.77
CAP3GL		15.00	-0.49	-0.53	13.30	-0.84	-1.00
ET2HFK		15.50	0.01	0.01	14.00	-0.14	-0.17
HNN2ZC		15.50	0.01	0.01	14.50	0.36	0.43
JN4RGA		16.50	1.01	1.10	15.60	1.46	1.74
JTNGFE		14.50	-0.99	-1.07	13.50	-0.64	-0.77
JWXZ22		16.10	0.61	0.67	13.50	-0.64	-0.77
K2DNDB		15.50	0.01	0.01	14.50	0.36	0.43
L6VPAN		15.10	-0.39	-0.42	13.60	-0.54	-0.65
LVC4NR	*	17.30	1.81	1.97	14.40	0.26	0.31
MUP74D		14.85	-0.64	-0.69	13.75	-0.39	-0.47
MVJWAR		16.73	1.24	1.35	15.13	0.99	1.18
MYZR6C	*	16.79	1.30	1.42	16.35	2.21	2.63
NE9ZL7		15.01	-0.48	-0.52	13.87	-0.27	-0.32
PAFNC8		14.90	-0.59	-0.64	13.50	-0.64	-0.77
PFJ8H8		16.00	0.51	0.56	13.50	-0.64	-0.77
QW2MY9		15.70	0.21	0.23	14.20	0.06	0.07
RA9KNY		14.00	-1.49	-1.62	13.00	-1.14	-1.36
RX3BH3		16.50	1.01	1.10	14.50	0.36	0.43
T37MKT	X	19.70	4.21	4.58	17.50	3.36	4.00
UGRCF3		16.50	1.01	1.10	15.00	0.86	1.02
VHF23N		17.00	1.51	1.64	14.50	0.36	0.43
VWE4KV		17.30	1.81	1.97	15.40	1.26	1.50
W79V38		15.10	-0.39	-0.42	13.00	-1.14	-1.36
WFTLRZ		15.50	0.01	0.01	14.00	-0.14	-0.17
WG9ETA		14.00	-1.49	-1.62	13.00	-1.14	-1.36
WVBZZ7		15.31	-0.18	-0.19	13.76	-0.38	-0.46
WZELFG		15.30	-0.19	-0.20	14.50	0.36	0.43
XDM2D6		15.50	0.01	0.01	14.00	-0.14	-0.17
XQY9PW		16.90	1.41	1.54	15.50	1.36	1.62
YA67HR		14.00	-1.49	-1.62	13.50	-0.64	-0.77
ZEHA3T		15.00	-0.49	-0.53	13.00	-1.14	-1.36
ZVP9BW		15.50	0.01	0.01	14.00	-0.14	-0.17

Summary Statistics

	Sample R89		Sample R90	
Grand Means	15.49	Percent	14.14	Percent
Stnd Dev Btwn Labs	0.92	Percent	0.84	Percent

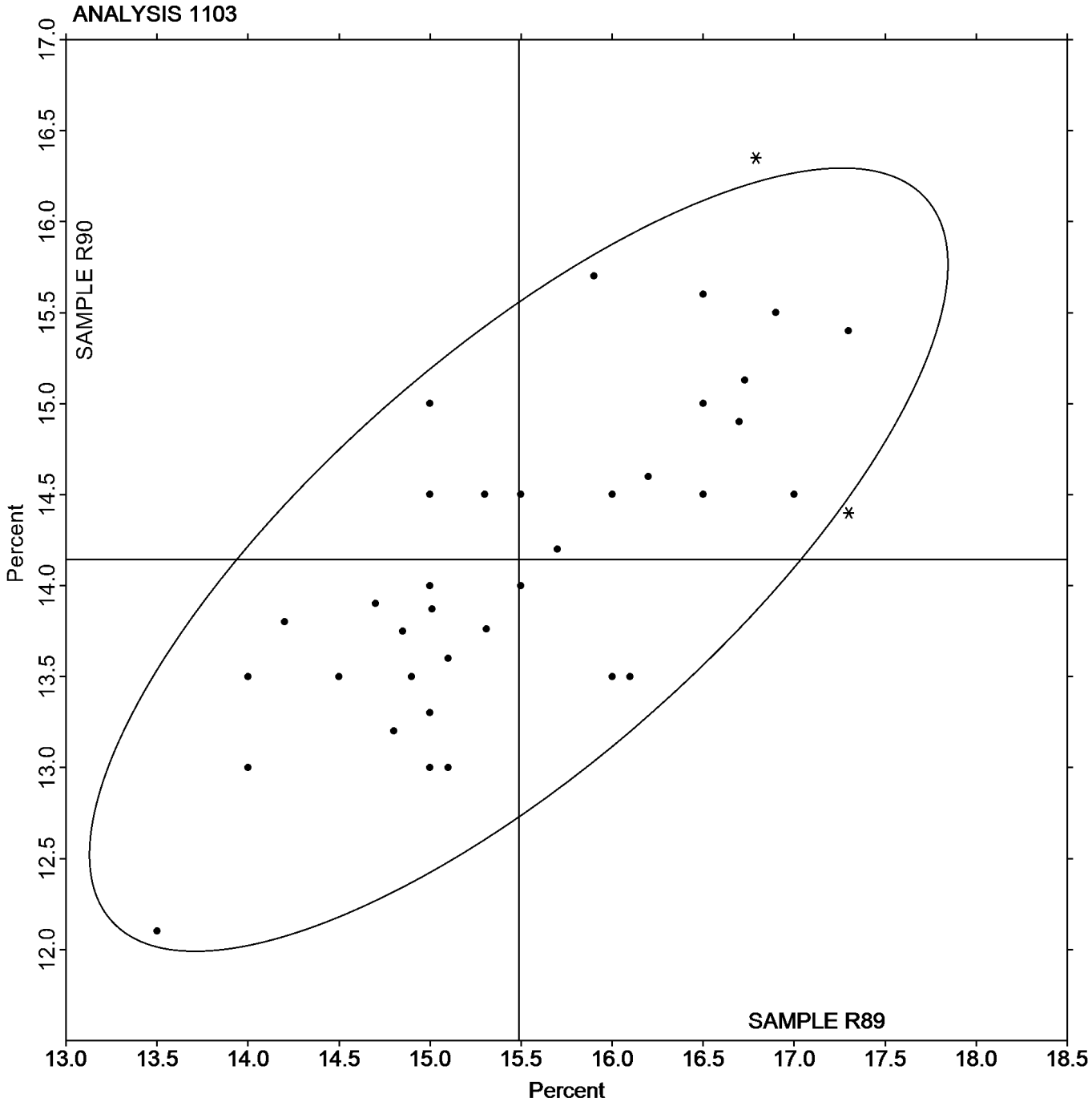
Samples R89, R90 : 12G 6061-T6 (A), 14G 6061-T6 (B)

Statistics based on 46 of 47 reporting participants

Comments on Assigned Data Flags for Test #1103

T37MKT (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE R89	SAMPLE R90
15.49 Percent	14.14 Percent



		Sample A89			Sample A90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AQ9TR		64.79	-0.39	-0.50	73.31	-0.45	-0.65
4FW33W		65.60	0.42	0.54	73.60	-0.15	-0.22
7922L4		65.80	0.62	0.80	74.90	1.15	1.67
7YX4GZ		65.30	0.12	0.15	73.90	0.15	0.21
8Z4QTK		64.90	-0.28	-0.36	73.10	-0.65	-0.95
9HPGTW		65.90	0.72	0.92	74.10	0.35	0.50
AGLL2C		64.25	-0.93	-1.19	73.39	-0.36	-0.53
C7B2TZ		65.27	0.09	0.11	73.53	-0.22	-0.32
E9CNJA		66.63	1.45	1.86	75.09	1.34	1.95
EQ2PL7		65.20	0.02	0.03	74.30	0.55	0.80
EUM92X		64.91	-0.27	-0.35	73.27	-0.49	-0.71
G77WL8		66.40	1.22	1.56	74.70	0.95	1.38
GQXYN2		64.62	-0.56	-0.71	72.76	-1.00	-1.45
GXECQ8		65.00	-0.18	-0.23	74.10	0.35	0.50
HK9JXA	*	65.55	0.37	0.48	75.28	1.53	2.23
HQRU3X		63.67	-1.51	-1.93	73.53	-0.22	-0.32
J7Y9PY		65.80	0.62	0.80	74.50	0.75	1.09
LZQWLC		64.64	-0.54	-0.69	73.08	-0.67	-0.98
M44UHD		66.00	0.82	1.05	74.60	0.85	1.23
MJ9CYC	*	63.00	-2.18	-2.79	73.00	-0.75	-1.10
MWEDNA		66.10	0.92	1.18	74.80	1.05	1.52
NDDHJ6		64.40	-0.78	-1.00	73.68	-0.07	-0.11
NE9ZL7		65.70	0.52	0.67	73.90	0.15	0.21
NFKAG6		65.01	-0.17	-0.22	73.39	-0.37	-0.54
NHTF7C		65.89	0.71	0.91	73.80	0.04	0.06
NX7QWX		65.50	0.32	0.41	73.50	-0.25	-0.37
PMXHLC		65.10	-0.08	-0.10	74.80	1.05	1.52
PX2VKR	*	63.14	-2.04	-2.61	73.01	-0.74	-1.08
Q9NVM9		64.60	-0.58	-0.74	72.70	-1.05	-1.53
QDW96R		66.10	0.92	1.18	74.50	0.75	1.09
QNP3LG		65.25	0.07	0.09	73.38	-0.37	-0.54
RA9KNY		65.00	-0.18	-0.23	73.00	-0.75	-1.10
RB99JH	X	71.10	5.92	7.58	75.00	1.25	1.81
RHVJYC		65.00	-0.18	-0.23	73.10	-0.65	-0.95
RPWTAC		65.17	-0.01	-0.01	73.80	0.05	0.07
RW7T72		66.79	1.61	2.06	75.13	1.38	2.00
U92M49		65.24	0.06	0.08	73.29	-0.46	-0.67
UYEWQA		65.60	0.42	0.54	73.70	-0.05	-0.08
V8NPGW		65.15	-0.03	-0.04	73.62	-0.13	-0.19
VBCBDQ		65.00	-0.18	-0.23	73.50	-0.25	-0.37
VFWJA4		64.40	-0.78	-1.00	72.80	-0.95	-1.39
WARWE8		65.21	0.03	0.04	73.51	-0.25	-0.36
WD8DP7		65.89	0.71	0.91	73.67	-0.09	-0.12
XG679T	X	67.00	1.82	2.33	73.40	-0.35	-0.51
XLP4ZH		64.59	-0.59	-0.76	73.09	-0.67	-0.97
YA67HR		65.00	-0.18	-0.23	73.50	-0.25	-0.37
Z6M9A4		65.00	-0.18	-0.23	73.70	-0.05	-0.08

Summary Statistics

	Sample A89		Sample A90	
Grand Means	65.18	ksi	73.75	ksi
Stnd Dev Btwn Labs	0.78	ksi	0.69	ksi

Samples A89, A90 : AISI 1018 (S), AISI 1018 (L)

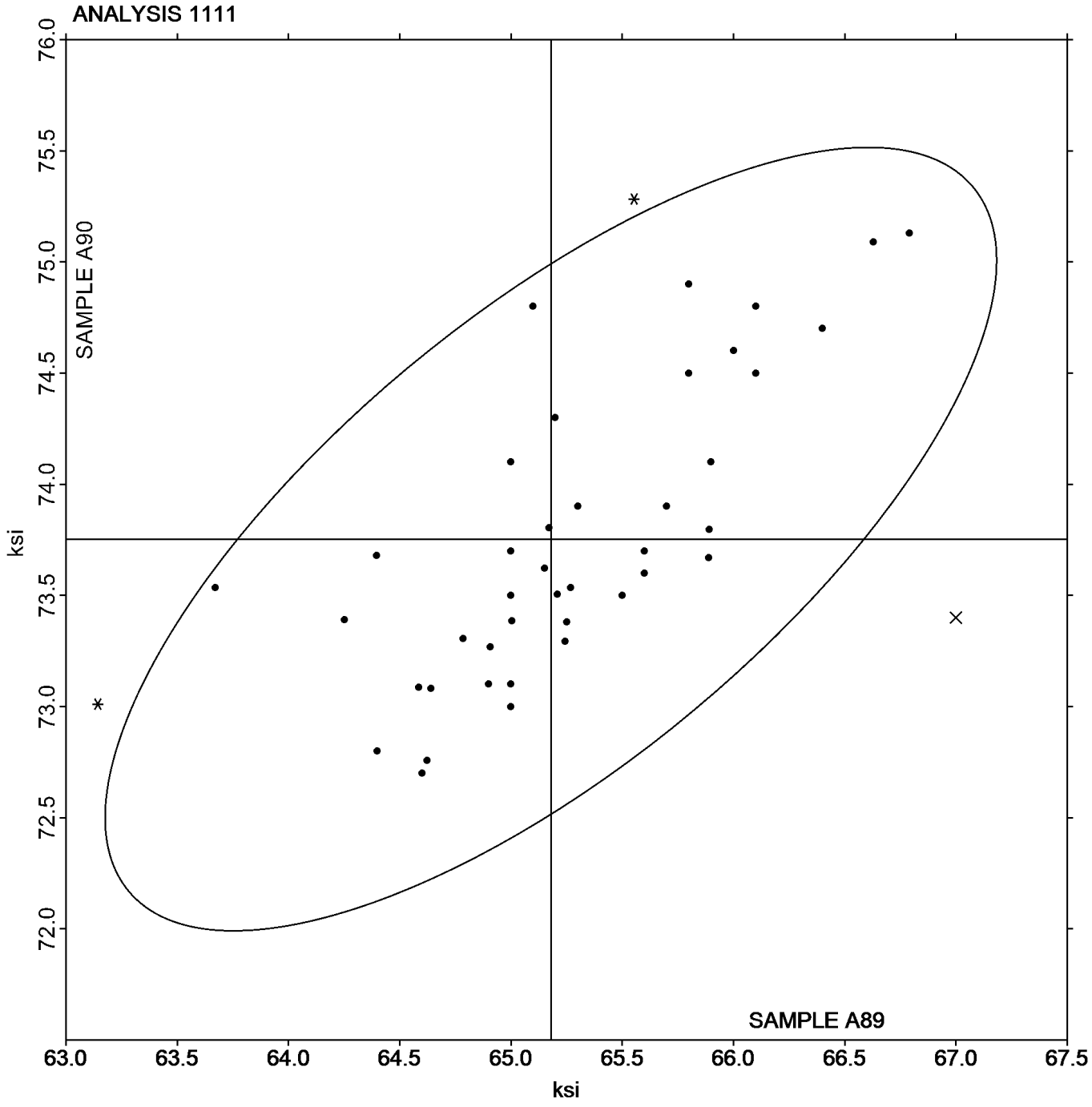
Statistics based on 45 of 47 reporting participants

Comments on Assigned Data Flags for Test #1111

RB99JH (X) - Data for sample A89 are high.

XG679T (X) - Inconsistent in testing between samples.

SAMPLE A89	SAMPLE A90
65.18 ksi	73.75 ksi



		Sample A89			Sample A90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AQ9TR		41.78	-3.81	-1.08	47.04	-2.25	-0.73
4FW33W		42.90	-2.69	-0.76	47.70	-1.58	-0.51
7922L4	X	44.20	-1.39	-0.39	54.90	5.62	1.82
7YX4GZ		44.90	-0.69	-0.20	49.10	-0.18	-0.06
8Z4QTK		40.40	-5.19	-1.47	46.80	-2.48	-0.80
9HPGTW		43.40	-2.19	-0.62	48.40	-0.88	-0.29
AGLL2C		44.67	-0.92	-0.26	48.88	-0.41	-0.13
C7B2TZ		49.31	3.72	1.06	54.82	5.54	1.79
E9CNJA		42.32	-3.27	-0.93	48.80	-0.48	-0.16
EQ2PL7		54.40	8.81	2.50	55.20	5.92	1.91
EUM92X		44.09	-1.51	-0.43	48.31	-0.98	-0.32
G77WL8		47.70	2.11	0.60	50.50	1.22	0.39
GQXYN2		44.58	-1.01	-0.29	47.12	-2.17	-0.70
GXECQ8		41.70	-3.89	-1.10	44.90	-4.38	-1.42
HK9JXA		45.63	0.04	0.01	51.04	1.76	0.57
HQRU3X		44.96	-0.63	-0.18	46.41	-2.87	-0.93
J7Y9PY		52.80	7.21	2.05	56.70	7.42	2.40
LZQWLC	X	54.63	9.04	2.57	45.84	-3.44	-1.11
M44UHD		49.50	3.91	1.11	52.40	3.12	1.01
MJ9CYC		41.00	-4.59	-1.30	47.20	-2.08	-0.67
MWEDNA		46.50	0.91	0.26	49.60	0.32	0.10
NDDHJ6		42.93	-2.66	-0.75	47.57	-1.71	-0.55
NE9ZL7		51.60	6.01	1.71	55.80	6.52	2.11
NFKAG6		46.33	0.74	0.21	48.07	-1.21	-0.39
NHTF7C		47.14	1.55	0.44	46.27	-3.02	-0.98
NX7QWX		46.90	1.31	0.37	48.80	-0.48	-0.16
PMXHLC	*	47.10	1.51	0.43	54.90	5.62	1.82
PX2VKR		41.59	-4.00	-1.14	46.64	-2.64	-0.85
Q9NVM9	X	54.23	8.64	2.45	48.29	-0.99	-0.32
QDW96R		43.28	-2.31	-0.66	49.19	-0.09	-0.03
QNP3LG		42.72	-2.87	-0.82	45.85	-3.43	-1.11
RA9KNY	*	55.50	9.91	2.81	55.50	6.22	2.01
RB99JH		45.60	0.01	0.00	46.50	-2.78	-0.90
RHVJYC		42.90	-2.69	-0.76	47.30	-1.98	-0.64
RPWTAC		43.63	-1.96	-0.56	47.63	-1.66	-0.54
RW7T72		45.40	-0.19	-0.06	49.89	0.61	0.20
U92M49		47.27	1.68	0.48	48.53	-0.76	-0.24
UYEWQA		43.10	-2.49	-0.71	46.60	-2.68	-0.87
V8NPGW		43.42	-2.17	-0.61	47.36	-1.93	-0.62
VBCBDQ		40.60	-4.99	-1.42	47.20	-2.08	-0.67
VFWJA4		47.10	1.51	0.43	46.40	-2.88	-0.93
WARWE8		45.17	-0.43	-0.12	48.69	-0.59	-0.19
WD8DP7		46.09	0.50	0.14	50.31	1.02	0.33
XG679T		47.00	1.41	0.40	50.10	0.82	0.26
XLP4ZH	X	53.06	7.46	2.12	46.70	-2.58	-0.83
YA67HR		50.00	4.41	1.25	54.50	5.22	1.69
Z6M9A4		45.50	-0.09	-0.03	48.70	-0.58	-0.19

Summary Statistics

	Sample A89		Sample A90	
Grand Means	45.59	ksi	49.28	ksi
Stnd Dev Btwn Labs	3.52	ksi	3.09	ksi

Samples A89, A90 : AISI 1018 (S), AISI 1018 (L)

Statistics based on 43 of 47 reporting participants

Comments on Assigned Data Flags for Test #1112

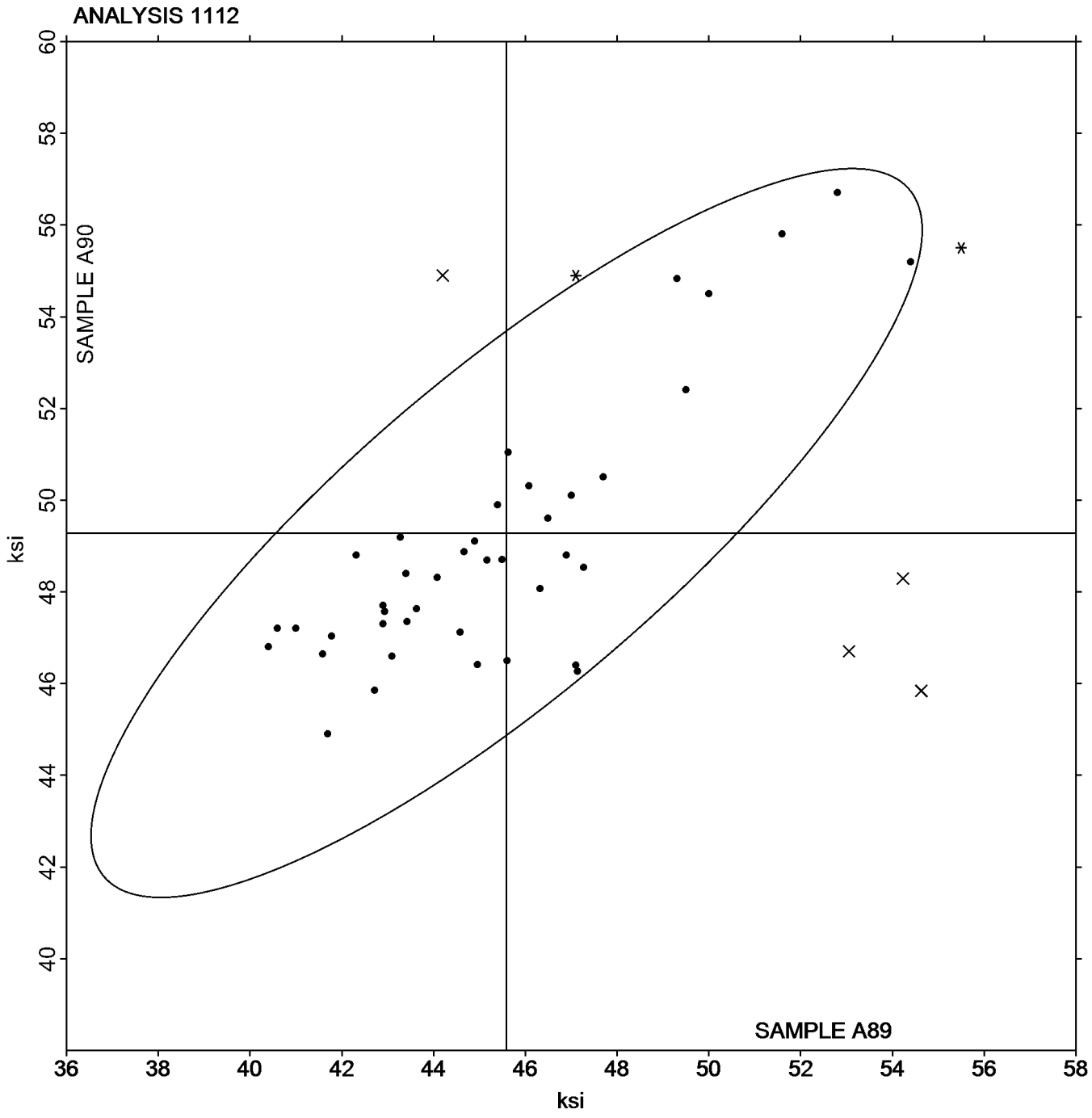
7922L4 (X) - Inconsistent in testing between samples.

LZQWLC (X) - Inconsistent in testing between samples.

Q9NVM9 (X) - Inconsistent in testing between samples.

XLP4ZH (X) - Inconsistent in testing between samples.

SAMPLE A89	SAMPLE A90
45.59 ksi	49.28 ksi



		Sample A89			Sample A90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AQ9TR		36.00	0.32	0.31	32.00	-0.60	-0.62
4FW33W		35.60	-0.08	-0.08	32.80	0.20	0.20
7922L4		35.00	-0.68	-0.66	31.00	-1.60	-1.65
7YX4GZ		35.30	-0.38	-0.37	32.30	-0.30	-0.31
8Z4QTK		36.80	1.12	1.08	34.10	1.50	1.54
9HPGTW		35.20	-0.48	-0.47	32.60	0.00	-0.01
AGLL2C	X	40.20	4.52	4.37	40.18	7.58	7.80
C7B2TZ		35.20	-0.48	-0.47	33.00	0.40	0.41
E9CNJA	*	33.00	-2.68	-2.60	31.00	-1.60	-1.65
EQ2PL7	X	45.60	9.92	9.59	33.40	0.80	0.82
EUM92X		37.05	1.37	1.32	34.60	2.00	2.05
G77WL8		35.00	-0.68	-0.66	33.50	0.90	0.92
GQXYN2		36.79	1.11	1.07	33.69	1.09	1.12
GXECQ8		33.65	-2.03	-1.97	30.55	-2.05	-2.11
HK9JXA		34.32	-1.36	-1.32	32.74	0.14	0.14
HQRU3X		36.50	0.82	0.79	31.70	-0.90	-0.93
J7Y9PY		35.60	-0.08	-0.08	33.10	0.50	0.51
LZQWLC		37.00	1.32	1.27	33.31	0.71	0.73
M44UHD		35.80	0.12	0.11	32.80	0.20	0.20
MJ9CYC		36.00	0.32	0.31	32.00	-0.60	-0.62
MWEDNA		34.10	-1.58	-1.53	31.10	-1.50	-1.55
NDDHJ6		36.00	0.32	0.31	33.00	0.40	0.41
NE9ZL7		35.30	-0.38	-0.37	32.20	-0.40	-0.42
NFKAG6		35.60	-0.08	-0.08	32.40	-0.20	-0.21
NHTF7C		35.50	-0.18	-0.18	32.40	-0.20	-0.21
NX7QWX		35.00	-0.68	-0.66	32.00	-0.60	-0.62
PMXHLC		36.60	0.92	0.89	34.40	1.80	1.85
PX2VKR		36.15	0.47	0.45	34.22	1.62	1.66
Q9NVM9		36.50	0.82	0.79	33.00	0.40	0.41
QDW96R		35.40	-0.28	-0.27	31.60	-1.00	-1.03
QNP3LG		36.40	0.72	0.69	33.20	0.60	0.61
RA9KNY		34.00	-1.68	-1.63	32.00	-0.60	-0.62
RB99JH		37.70	2.02	1.95	33.00	0.40	0.41
RHVJYC		35.20	-0.48	-0.47	32.00	-0.60	-0.62
RPWTAC		36.00	0.32	0.31	33.00	0.40	0.41
RW7T72		35.67	-0.01	-0.01	32.47	-0.13	-0.14
U92M49		36.40	0.72	0.69	33.28	0.68	0.69
UYEWQA		35.00	-0.68	-0.66	32.00	-0.60	-0.62
V8NPGW		35.10	-0.58	-0.56	32.00	-0.60	-0.62
VBCBDQ		35.00	-0.68	-0.66	31.00	-1.60	-1.65
VFWJA4		38.20	2.52	2.43	34.10	1.50	1.54
WARWE8		34.80	-0.88	-0.86	31.70	-0.90	-0.93
WD8DP7		35.36	-0.32	-0.31	31.96	-0.64	-0.66
XG679T		36.50	0.82	0.79	33.70	1.10	1.13
XLP4ZH		37.00	1.32	1.27	33.30	0.70	0.72
YA67HR	X	32.00	-3.68	-3.56	32.00	-0.60	-0.62
Z6M9A4		35.80	0.12	0.11	32.80	0.20	0.20

Summary Statistics

	Sample A89		Sample A90	
Grand Means	35.68	Percent	32.61	Percent
Stnd Dev Btwn Labs	1.03	Percent	0.97	Percent

Samples A89, A90 : AISI 1018 (S), AISI 1018 (L)

Statistics based on 44 of 47 reporting participants

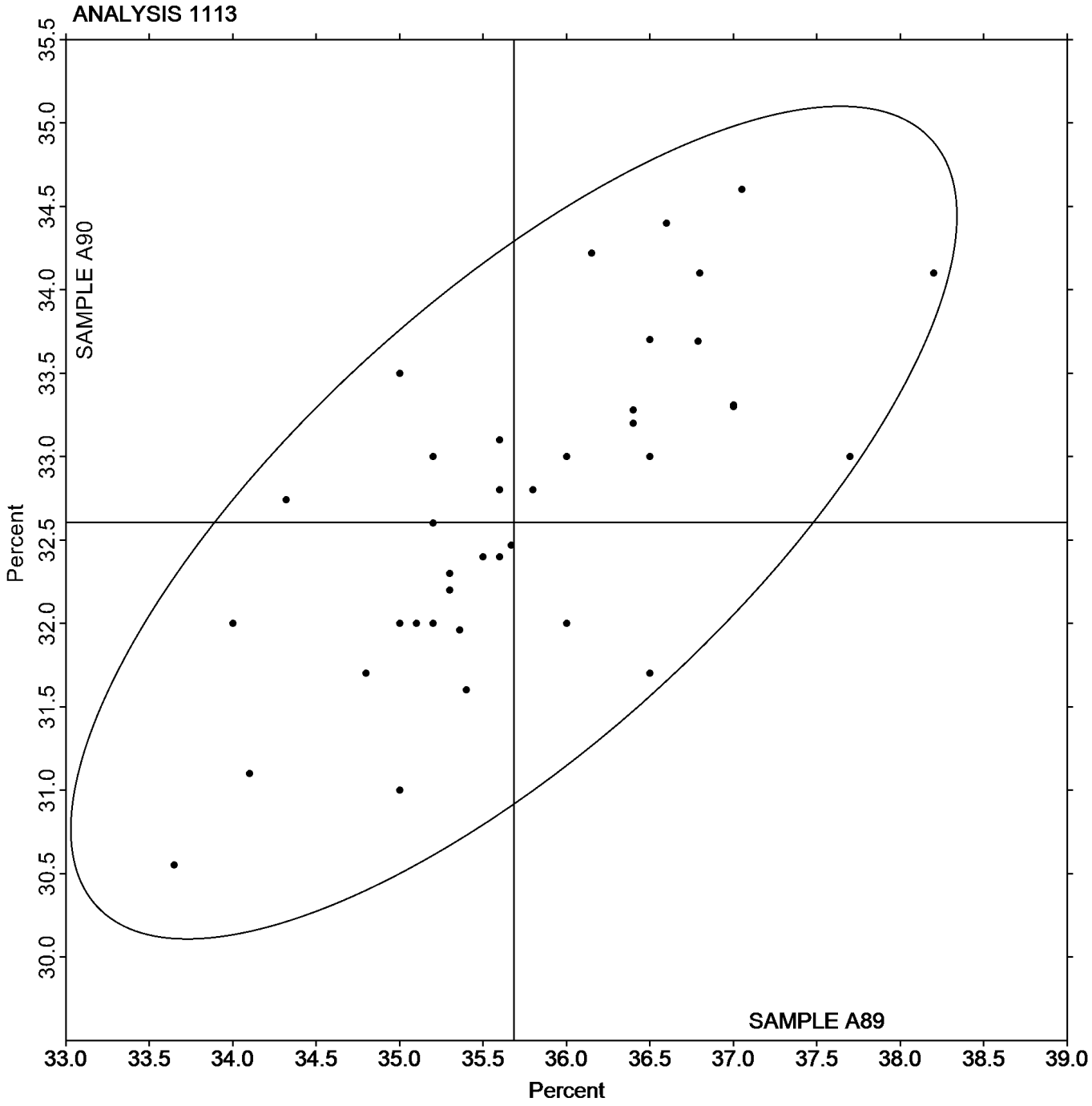
Comments on Assigned Data Flags for Test #1113

AGLL2C (X) - Data for both samples are high. Possible Systematic Error.

EQ2PL7 (X) - Data for sample A89 are high.

YA67HR (X) - Data for sample A89 are low.

SAMPLE A89	SAMPLE A90
35.68 Percent	32.61 Percent



		Sample A89			Sample A90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AQ9TR		70.00	1.13	1.55	65.00	-0.16	-0.23
4FW33W	X	62.80	-6.07	-8.34	59.60	-5.56	-7.96
7YX4GZ		69.90	1.03	1.41	65.50	0.34	0.48
8Z4QTK		69.40	0.53	0.72	64.90	-0.26	-0.38
9HPGTW		68.20	-0.67	-0.92	66.30	1.14	1.63
C7B2TZ		68.40	-0.47	-0.65	65.10	-0.06	-0.09
E9CNJA		68.20	-0.67	-0.92	65.00	-0.16	-0.23
EQ2PL7		70.20	1.33	1.82	64.20	-0.96	-1.38
EUM92X		68.71	-0.16	-0.22	64.99	-0.17	-0.25
G77WL8		68.00	-0.87	-1.20	65.30	0.14	0.20
GQXYN2	X	65.34	-3.53	-4.85	62.99	-2.17	-3.11
GXECQ8		69.01	0.14	0.19	64.67	-0.50	-0.71
HK9JXA	X	44.13	-24.74	-33.97	40.39	-24.77	-35.45
HQRU3X		69.00	0.13	0.17	65.00	-0.16	-0.23
J7Y9PY		68.60	-0.27	-0.38	65.10	-0.06	-0.09
LZQWLC		70.20	1.33	1.82	65.10	-0.06	-0.09
M44UHD		69.00	0.13	0.17	65.30	0.14	0.20
MJ9CYC	X	69.00	0.13	0.17	62.00	-3.16	-4.53
MWEDNA		69.30	0.43	0.59	64.80	-0.36	-0.52
NDDHJ6	*	68.00	-0.87	-1.20	67.00	1.84	2.63
NFKAG6		68.10	-0.77	-1.06	63.90	-1.26	-1.81
NHTF7C		68.60	-0.27	-0.38	65.40	0.24	0.34
NX7QWX		68.00	-0.87	-1.20	64.00	-1.16	-1.66
PMXHLC		69.40	0.53	0.72	66.20	1.04	1.48
PX2VKR	*	69.85	0.98	1.34	63.45	-1.71	-2.45
Q9NVM9		68.10	-0.77	-1.06	65.30	0.14	0.20
QDW96R		67.90	-0.97	-1.34	64.50	-0.66	-0.95
QNP3LG		68.86	-0.01	-0.02	65.74	0.58	0.83
RA9KNY		69.00	0.13	0.17	65.00	-0.16	-0.23
RB99JH	X	65.80	-3.07	-4.22	63.00	-2.16	-3.10
RHVJYC		68.00	-0.87	-1.20	65.20	0.04	0.05
RPWTAC	X	69.00	0.13	0.17	60.00	-5.16	-7.39
RW7T72		69.35	0.48	0.65	66.29	1.13	1.61
U92M49		67.44	-1.43	-1.97	65.21	0.05	0.07
UYEWQA		70.00	1.13	1.55	66.00	0.84	1.20
V8NPGW		68.90	0.03	0.04	64.30	-0.86	-1.23
VBCBDQ		68.00	-0.87	-1.20	65.00	-0.16	-0.23
VFWJA4		69.40	0.53	0.72	65.50	0.34	0.48
WARWE8		68.80	-0.07	-0.10	65.40	0.24	0.34
WD8DP7		68.57	-0.30	-0.42	65.75	0.59	0.84
XG679T		68.80	-0.07	-0.10	65.90	0.74	1.05
XLP4ZH		69.40	0.53	0.72	65.00	-0.16	-0.23
YA67HR		69.00	0.13	0.17	65.00	-0.16	-0.23
Z6M9A4		69.60	0.73	1.00	64.90	-0.26	-0.38

Summary Statistics

	Sample A89		Sample A90	
Grand Means	68.87	Percent	65.16	Percent
Stnd Dev Btwn Labs	0.73	Percent	0.70	Percent

Samples A89, A90 : AISI 1018 (S), AISI 1018 (L)

Statistics based on 38 of 44 reporting participants

Comments on Assigned Data Flags for Test #1114

4FW33W (X) - Data for both samples are low.

GQXYN2 (X) - Data for both samples are low.

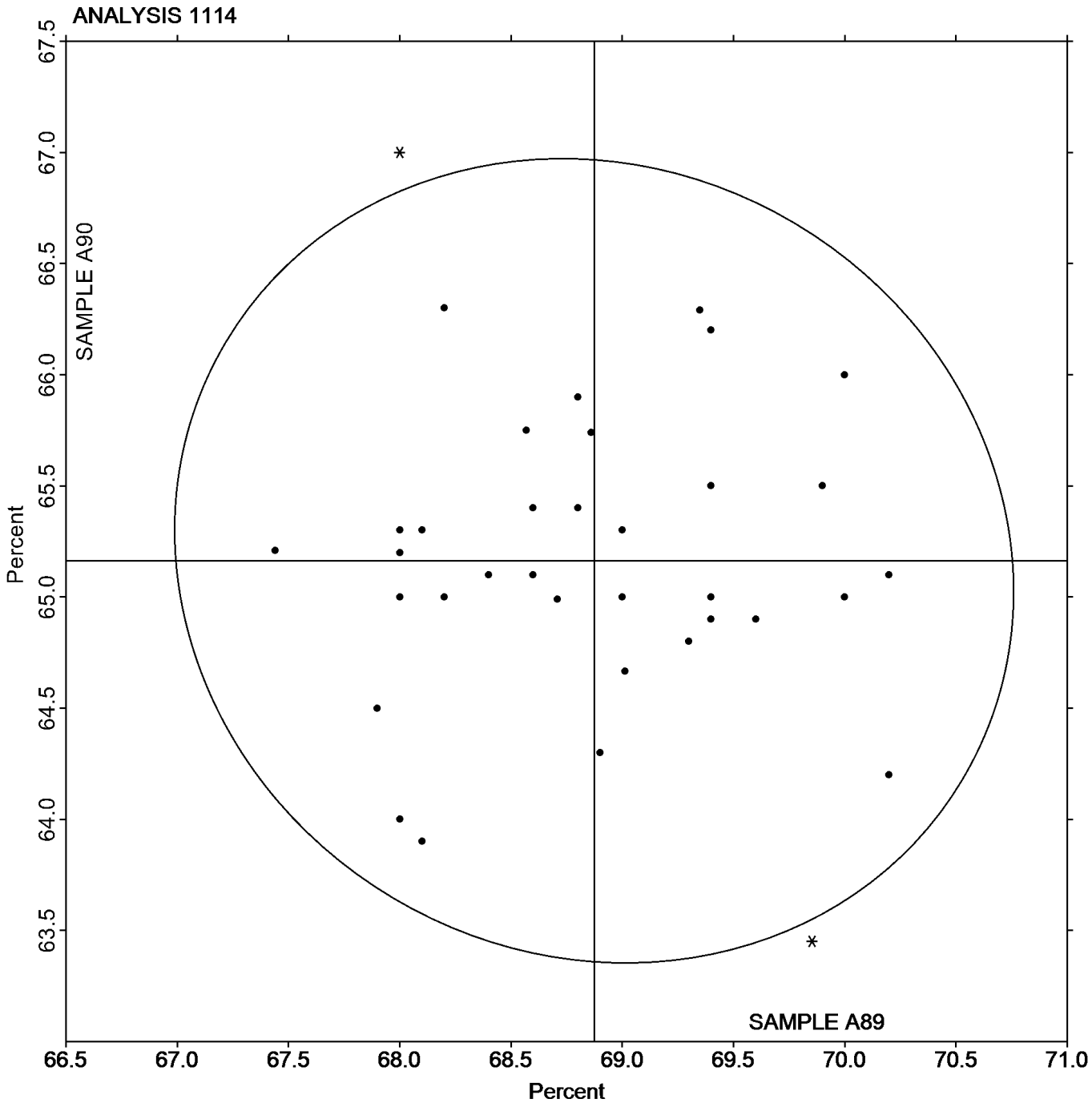
HK9JXA (X) - Extreme data.

MJ9CYC (X) - Data for sample A90 are low.

RB99JH (X) - Data for both samples are low.

RPWTAC (X) - Data for sample A90 are low.

SAMPLE A89	SAMPLE A90
68.87 Percent	65.16 Percent



		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2DMHPR		65.56	0.14	0.21	73.68	0.06	0.07
2WPXGJ		66.00	0.59	0.86	74.50	0.88	1.16
32XZH7	X	64.11	-1.31	-1.92	73.97	0.35	0.46
3ABMVF		64.80	-0.61	-0.90	73.20	-0.42	-0.56
3NQULL		64.77	-0.64	-0.95	73.15	-0.48	-0.63
3PTDAA		65.30	-0.11	-0.17	73.20	-0.42	-0.56
4BXLP6		65.06	-0.35	-0.52	73.12	-0.50	-0.67
4V424A		64.96	-0.45	-0.67	73.27	-0.36	-0.48
6XX4NW		65.66	0.24	0.36	73.97	0.35	0.46
76JYH6		66.10	0.69	1.01	75.00	1.38	1.83
83JQJE		64.11	-1.31	-1.92	72.81	-0.81	-1.08
83UP7H	X	69.11	3.70	5.43	77.07	3.45	4.57
8DBPKQ	X	64.50	-0.91	-1.35	71.60	-2.02	-2.69
9B3D8G		65.91	0.49	0.73	74.35	0.72	0.96
9HPGTW		65.90	0.49	0.71	74.30	0.68	0.90
9XC6EM		65.50	0.09	0.13	74.00	0.38	0.50
AGD7BJ		65.60	0.19	0.27	73.90	0.28	0.37
BJ748J		66.02	0.61	0.89	73.82	0.20	0.27
C6AT74		65.99	0.58	0.85	74.26	0.64	0.84
DFBFXZ		65.20	-0.21	-0.32	73.10	-0.52	-0.70
DNEQPX		66.10	0.69	1.01	74.10	0.48	0.63
G2PFCP		65.32	-0.10	-0.14	73.55	-0.08	-0.10
G68UFP		65.42	0.00	0.01	73.45	-0.18	-0.24
GU7ADW		65.57	0.16	0.23	73.63	0.01	0.01
HHEWXQ	X	66.90	1.49	2.18	93.80	20.18	26.79
HLJLJ9	X	63.38	-2.03	-2.99	72.81	-0.81	-1.08
HUG4HJ		65.30	-0.11	-0.17	73.20	-0.42	-0.56
JBMYKV		65.41	0.00	0.00	73.53	-0.09	-0.12
JR9DQU		65.48	0.06	0.09	73.41	-0.21	-0.28
KAVDPB		65.56	0.14	0.21	74.41	0.78	1.04
KBW2E3		66.30	0.89	1.30	74.50	0.88	1.16
KVDPFD		66.60	1.19	1.74	75.10	1.48	1.96
L6VPAN		66.60	1.19	1.74	74.60	0.98	1.30
LGK3BY	*	67.18	1.77	2.60	75.05	1.43	1.90
LGTMCF	X	63.80	-1.61	-2.37	73.20	-0.42	-0.56
LPVR4H		64.63	-0.78	-1.15	73.24	-0.38	-0.51
LYLBLX	X	68.42	3.01	4.42	76.37	2.75	3.65
MU6X8B		64.83	-0.58	-0.86	72.66	-0.96	-1.27
MWXCPE		65.30	-0.11	-0.17	73.20	-0.42	-0.56
N2LHJ7		66.60	1.19	1.74	75.10	1.48	1.96
N63UBG		64.60	-0.81	-1.20	72.90	-0.72	-0.96
N7ZWNZ		64.91	-0.50	-0.74	73.29	-0.33	-0.44
NDV3W8		65.00	-0.41	-0.61	73.40	-0.22	-0.30
NE9ZL7		66.10	0.69	1.01	74.00	0.38	0.50
NFKAG6		65.51	0.10	0.14	73.66	0.04	0.05
NJM9XP		64.82	-0.60	-0.88	72.96	-0.66	-0.88
NKTTJ4		65.90	0.49	0.71	74.00	0.38	0.50

Fasteners and Metals Interlaboratory Testing Program

Analysis 1121

Tensile Strength: Lab-Machined Round Steel
ASTM E8

Cycle 141
1st Qtr 2023

WebCode	Data Flag	Sample P89 Lab Mean	Sample P89 Diff. from Grand Mean	Sample P89 CPV	Sample P90 Lab Mean	Sample P90 Diff. from Grand Mean	Sample P90 CPV
NQQB79		64.30	-1.11	-1.64	72.50	-1.12	-1.49
PCF749		64.60	-0.81	-1.20	73.00	-0.62	-0.83
PTEU7L		65.70	0.29	0.42	73.60	-0.02	-0.03
Q8MB6Y		64.50	-0.91	-1.35	73.00	-0.62	-0.83
QQCQ93		64.37	-1.05	-1.54	72.68	-0.95	-1.26
QX4UED		65.31	-0.10	-0.15	73.64	0.01	0.02
RB99JH	*	64.80	-0.61	-0.90	72.20	-1.42	-1.89
RBQDXA		65.08	-0.34	-0.50	73.01	-0.62	-0.82
RV9GCT	*	63.67	-1.74	-2.56	71.79	-1.83	-2.43
RW7T72		66.04	0.62	0.91	74.26	0.64	0.84
TJWJ6W		64.66	-0.76	-1.11	72.85	-0.77	-1.02
ULCHRQ	X	61.00	-4.41	-6.49	70.00	-3.62	-4.81
UVWUNB		65.02	-0.40	-0.58	73.62	0.00	0.00
V4A7JL		65.50	0.09	0.13	73.50	-0.12	-0.17
VHLBCG		65.90	0.49	0.71	74.30	0.68	0.90
VKXG7N		65.00	-0.41	-0.61	73.70	0.08	0.10
VWE4KV	*	65.71	0.30	0.43	73.01	-0.61	-0.82
W8HHGU		64.73	-0.68	-1.01	72.95	-0.67	-0.90
WXAVNU		66.30	0.89	1.30	74.50	0.88	1.16
X8H8BW		65.90	0.49	0.71	74.20	0.58	0.76
XQY9PW		64.96	-0.45	-0.66	73.07	-0.55	-0.74
Y22WKT	*	66.50	1.09	1.60	75.50	1.88	2.49
Y9UA3F		65.32	-0.09	-0.14	73.29	-0.33	-0.44
YE4ETU		66.14	0.72	1.06	74.74	1.12	1.49
YFN2UB		66.00	0.59	0.86	74.00	0.38	0.50
YHQGA7		64.90	-0.51	-0.76	72.70	-0.92	-1.23
YLJ9UH	X	64.20	-1.21	-1.79	74.06	0.44	0.58
ZKRWZ9	X	61.00	-4.41	-6.49	68.70	-4.92	-6.54
ZMEYT6		64.99	-0.42	-0.62	73.01	-0.61	-0.81

Summary Statistics

	Sample P89		Sample P90	
Grand Means	65.41	ksi	73.62	ksi
Stnd Dev Btwn Labs	0.68	ksi	0.75	ksi

Samples P89, P90 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 66 of 76 reporting participants

Comments on Assigned Data Flags for Test #1121

32XZH7 (X) - Inconsistent in testing between samples.

83UP7H (X) - Data for both samples are high. Possible Systematic Error.

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

HHEWXQ (X) - Data for sample P90 are extreme.

HLJLJ9 (X) - Data for sample P89 are low.

LGTMCF (X) - Inconsistent in testing between samples.

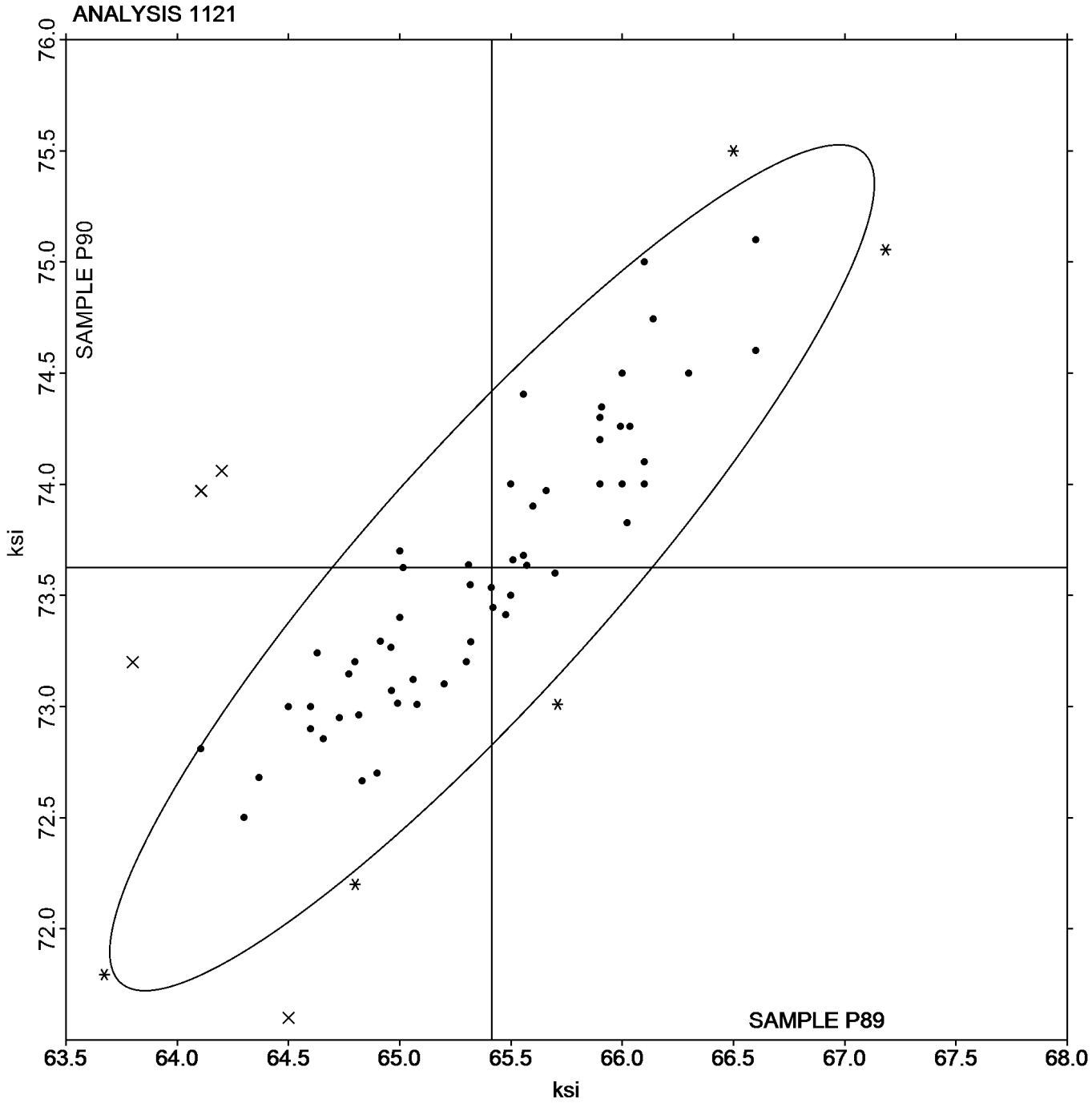
LYLBLX (X) - Data for both samples are high. Possible Systematic Error.

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

YLJ9UH (X) - Inconsistent in testing between samples.

ZKRWZ9 (X) - Data for both samples are low. Possible Systematic Error.

SAMPLE P89	SAMPLE P90
65.41 ksi	73.62 ksi



		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2DMHPR		43.37	-1.19	-0.36	47.43	-1.05	-0.42
2WPXGJ		40.00	-4.56	-1.39	46.90	-1.58	-0.63
32XZH7		46.99	2.44	0.74	50.91	2.43	0.97
3ABMVF		42.90	-1.66	-0.50	48.20	-0.28	-0.11
3NQULL		41.98	-2.57	-0.78	47.41	-1.07	-0.43
3PTDAA		41.40	-3.16	-0.96	45.90	-2.58	-1.03
4BXLP6	X	53.75	9.19	2.80	49.90	1.42	0.57
4V424A		50.01	5.45	1.66	52.33	3.85	1.53
6XX4NW		43.66	-0.90	-0.27	49.76	1.28	0.51
76JYH6		44.20	-0.36	-0.11	48.70	0.22	0.09
83JQJE		49.31	4.76	1.45	51.63	3.15	1.25
83UP7H	X	46.38	1.82	0.56	56.39	7.91	3.15
8DBPKQ		50.30	5.74	1.75	51.80	3.32	1.32
9B3D8G		47.38	2.82	0.86	49.71	1.23	0.49
9HPGTW		43.50	-1.06	-0.32	46.20	-2.28	-0.91
9XC6EM		40.20	-4.36	-1.33	45.60	-2.88	-1.15
AGD7BJ		49.30	4.74	1.44	50.20	1.72	0.68
BJ748J	X	56.51	11.95	3.64	49.40	0.92	0.37
C6AT74		43.37	-1.19	-0.36	47.14	-1.34	-0.53
DFBFXZ		43.80	-0.76	-0.23	48.60	0.12	0.05
DNEQPX		43.70	-0.86	-0.26	48.90	0.42	0.17
G2PFCP		49.44	4.88	1.49	53.69	5.21	2.07
G68UFP		50.70	6.15	1.87	53.17	4.69	1.87
GU7ADW		51.03	6.48	1.97	52.88	4.40	1.75
HHEWXQ	X	50.00	5.44	1.66	84.10	35.62	14.17
HLJLJ9	X	41.05	-3.51	-1.07	50.62	2.14	0.85
HUG4HJ		44.90	0.34	0.10	48.90	0.42	0.17
JBMYKV		40.03	-4.53	-1.38	46.70	-1.78	-0.71
JR9DQU		42.47	-2.09	-0.63	46.02	-2.46	-0.98
KAVDPB		43.22	-1.33	-0.41	46.85	-1.63	-0.65
KBW2E3		41.30	-3.26	-0.99	45.80	-2.68	-1.07
KVDPFD		47.30	2.74	0.84	51.40	2.92	1.16
L6VPAN		46.30	1.74	0.53	49.20	0.72	0.29
LGK3BY		46.51	1.95	0.60	49.44	0.96	0.38
LGTMCF		42.50	-2.06	-0.63	47.50	-0.98	-0.39
LPVR4H		40.98	-3.58	-1.09	46.50	-1.98	-0.79
LYLBLX		45.06	0.50	0.15	50.58	2.10	0.83
MU6X8B		42.06	-2.50	-0.76	46.56	-1.92	-0.76
MWXCPE		42.00	-2.56	-0.78	48.90	0.42	0.17
N2LHJ7		42.90	-1.66	-0.50	48.40	-0.08	-0.03
N63UBG		42.00	-2.56	-0.78	45.70	-2.78	-1.11
N7ZWNZ		44.24	-0.31	-0.10	47.55	-0.93	-0.37
NDV3W8		44.40	-0.16	-0.05	46.80	-1.68	-0.67
NE9ZL7		48.90	4.34	1.32	52.80	4.32	1.72
NFKAG6		43.82	-0.74	-0.22	47.15	-1.33	-0.53
NJM9XP		50.16	5.60	1.70	51.62	3.14	1.25
NKTTJ4		42.20	-2.36	-0.72	45.40	-3.08	-1.22

		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
NQQB79		42.90	-1.66	-0.50	47.70	-0.78	-0.31
PCF749		41.30	-3.26	-0.99	46.20	-2.28	-0.91
PTEU7L		43.80	-0.76	-0.23	47.40	-1.08	-0.43
Q8MB6Y		38.00	-6.56	-2.00	43.00	-5.48	-2.18
QQCQ93	X	52.77	8.21	2.50	48.75	0.27	0.11
QX4UED		46.86	2.31	0.70	50.69	2.21	0.88
RB99JH		42.80	-1.76	-0.53	46.00	-2.48	-0.99
RBQDXA		43.98	-0.58	-0.18	48.36	-0.12	-0.05
RV9GCT		39.89	-4.67	-1.42	45.98	-2.50	-0.99
RW7T72		44.67	0.12	0.04	49.17	0.69	0.27
TJWJ6W		47.43	2.87	0.87	50.65	2.17	0.86
ULCHRQ		47.50	2.94	0.90	51.00	2.52	1.00
UVWUNB	*	49.72	5.16	1.57	54.32	5.84	2.32
V4A7JL	X	51.40	6.84	2.08	48.10	-0.38	-0.15
VHLBCG	X	52.70	8.14	2.48	57.30	8.82	3.51
VWE4KV		45.87	1.32	0.40	49.71	1.23	0.49
W8HHGU		41.55	-3.01	-0.92	46.33	-2.15	-0.85
WXAVNU		44.00	-0.56	-0.17	48.00	-0.48	-0.19
X8H8BW		43.30	-1.26	-0.38	46.90	-1.58	-0.63
XQY9PW		44.86	0.30	0.09	47.18	-1.30	-0.52
Y22WKT		49.40	4.84	1.47	53.50	5.02	2.00
Y9UA3F		41.85	-2.71	-0.82	46.26	-2.22	-0.88
YE4ETU		45.99	1.44	0.44	49.58	1.10	0.44
YFN2UB	*	46.40	1.84	0.56	46.80	-1.68	-0.67
YHQGA7		40.40	-4.16	-1.27	46.40	-2.08	-0.83
YLJ9UH		48.25	3.69	1.12	49.05	0.57	0.23
ZKRWZ9		37.20	-7.36	-2.24	42.90	-5.58	-2.22
ZMEYT6		47.56	3.00	0.91	48.23	-0.25	-0.10

Summary Statistics

	Sample P89		Sample P90	
Grand Means	44.56	ksi	48.48	ksi
Stnd Dev Btwn Labs	3.28	ksi	2.51	ksi

Samples P89, P90 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 67 of 75 reporting participants

Comments on Assigned Data Flags for Test #1122

4BXLP6 (X) - Data for sample P89 are high.

83UP7H (X) - Data for sample P90 are high.

BJ748J (X) - Data for sample P89 are high.

HHEWXQ (X) - Data for sample P90 are extreme.

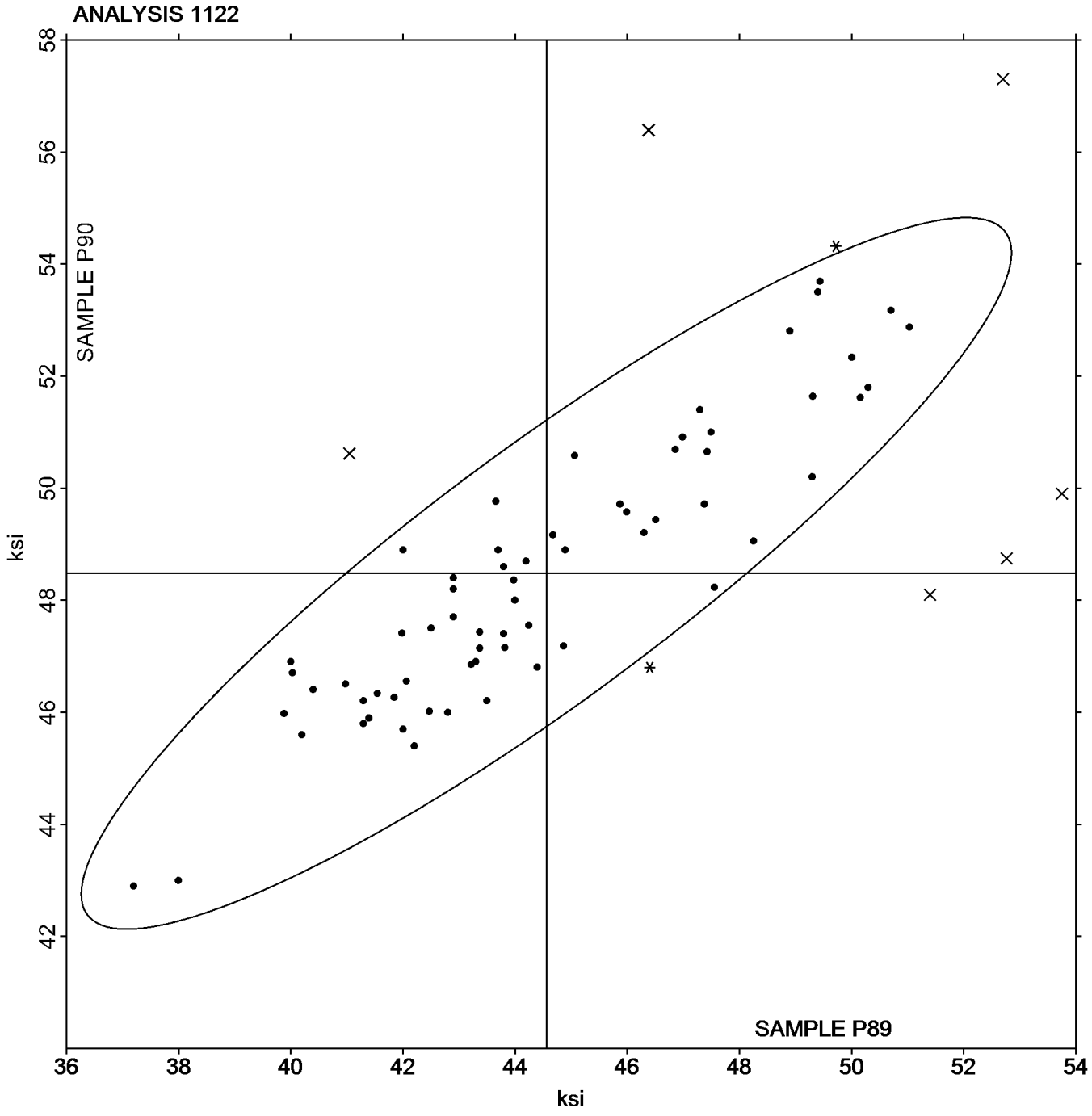
HLJLJ9 (X) - Inconsistent in testing between samples.

QQCQ93 (X) - Inconsistent in testing between samples.

V4A7JL (X) - Inconsistent in testing between samples.

VHLBCG (X) - Data for sample P90 are high.

SAMPLE P89	SAMPLE P90
44.56 ksi	48.48 ksi



Fasteners and Metals Interlaboratory Testing Program

Analysis 1123

Elongation: Lab-Machined Round Steel
ASTM E8

Cycle 141
1st Qtr 2023

		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2DMHPR		39.00	1.87	0.92	36.00	2.05	1.16
2WPXGJ		38.00	0.87	0.43	34.00	0.05	0.03
32XZH7	X	39.00	1.87	0.92	31.00	-2.95	-1.67
3ABMVF		39.60	2.47	1.21	35.90	1.95	1.10
3NQULL		34.00	-3.13	-1.53	32.00	-1.95	-1.11
3PTDAA		36.70	-0.43	-0.21	32.30	-1.65	-0.94
4BXLP6		36.40	-0.73	-0.36	33.04	-0.91	-0.52
4V424A		35.50	-1.63	-0.80	32.50	-1.45	-0.82
6XX4NW		37.00	-0.13	-0.06	35.80	1.85	1.05
76JYH6	*	33.20	-3.93	-1.92	33.00	-0.95	-0.54
83JQJE	X	33.38	-3.75	-1.83	22.07	-11.88	-6.74
83UP7H	X	35.80	-1.33	-0.65	25.60	-8.35	-4.73
8DBPKQ		41.20	4.07	1.99	37.00	3.05	1.73
9B3D8G		35.85	-1.28	-0.63	32.62	-1.33	-0.76
9HPGTW		36.60	-0.53	-0.26	33.30	-0.65	-0.37
9XC6EM		37.20	0.07	0.03	34.80	0.85	0.48
AGD7BJ		35.00	-2.13	-1.04	32.00	-1.95	-1.11
BJ748J	X	32.72	-4.41	-2.16	34.57	0.62	0.35
C6AT74		34.00	-3.13	-1.53	31.20	-2.75	-1.56
DFBFXZ		40.00	2.87	1.41	35.50	1.55	0.88
DNEQPX		38.30	1.17	0.57	34.60	0.65	0.37
G2PFCP		35.50	-1.63	-0.80	32.00	-1.95	-1.11
G68UFP		35.50	-1.63	-0.80	32.50	-1.45	-0.82
GU7ADW		35.50	-1.63	-0.80	32.00	-1.95	-1.11
HHEWXQ	X	35.30	-1.83	-0.89	17.90	-16.05	-9.10
HLJLJ9		41.00	3.87	1.89	36.00	2.05	1.16
HUG4HJ		37.80	0.67	0.33	35.80	1.85	1.05
JBMYKV		37.00	-0.13	-0.06	32.50	-1.45	-0.82
JR9DQU		36.60	-0.53	-0.26	33.60	-0.35	-0.20
KAVDPB		36.00	-1.13	-0.55	34.00	0.05	0.03
KBW2E3		40.70	3.57	1.75	37.60	3.65	2.07
KVDPFD		38.70	1.57	0.77	33.80	-0.15	-0.09
L6VPAN		35.00	-2.13	-1.04	31.30	-2.65	-1.50
LGK3BY		36.67	-0.46	-0.22	34.83	0.88	0.50
LGTMCF	X	33.50	-3.63	-1.78	34.10	0.15	0.08
LPVR4H		40.80	3.67	1.80	35.90	1.95	1.10
LYLBLX		35.90	-1.23	-0.60	32.70	-1.25	-0.71
MU6X8B		39.60	2.47	1.21	36.80	2.85	1.61
MWXCPE		39.10	1.97	0.96	37.10	3.15	1.78
N2LHJ7		41.40	4.27	2.09	36.00	2.05	1.16
N63UBG		39.30	2.17	1.06	36.40	2.45	1.39
N7ZWNZ		36.50	-0.63	-0.31	33.30	-0.65	-0.37
NDV3W8		40.00	2.87	1.41	35.70	1.75	0.99
NE9ZL7		37.20	0.07	0.03	32.80	-1.15	-0.65
NFKAG6		35.00	-2.13	-1.04	32.90	-1.05	-0.60
NJM9XP		35.50	-1.63	-0.80	32.50	-1.45	-0.82
NKTTJ4		36.80	-0.33	-0.16	33.50	-0.45	-0.26

Fasteners and Metals Interlaboratory Testing Program

Analysis 1123

Elongation: Lab-Machined Round Steel
ASTM E8

Cycle 141
1st Qtr 2023

		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
NQQB79		38.40	1.27	0.62	35.10	1.15	0.65
PCF749		39.30	2.17	1.06	35.70	1.75	0.99
PTEU7L		36.90	-0.23	-0.11	33.50	-0.45	-0.26
Q8MB6Y		37.60	0.47	0.23	33.80	-0.15	-0.09
QQCQ93		37.70	0.57	0.28	34.30	0.35	0.20
QX4UED		39.10	1.97	0.96	35.90	1.95	1.10
RB99JH		35.60	-1.53	-0.75	32.20	-1.75	-0.99
RBQDXA	X	39.55	2.42	1.18	31.50	-2.45	-1.39
RV9GCT	X	48.80	11.67	5.71	45.10	11.15	6.32
RW7T72		35.60	-1.53	-0.75	32.40	-1.55	-0.88
TJWJ6W		32.80	-4.33	-2.12	29.90	-4.05	-2.30
ULCHRQ		35.00	-2.13	-1.04	31.00	-2.95	-1.67
UVWUNB		35.50	-1.63	-0.80	32.00	-1.95	-1.11
V4A7JL		38.00	0.87	0.43	36.00	2.05	1.16
VHLBCG		35.00	-2.13	-1.04	34.00	0.05	0.03
VWE4KV		34.60	-2.53	-1.24	32.10	-1.85	-1.05
W8HHGU		37.20	0.07	0.03	34.60	0.65	0.37
WXAVNU		36.20	-0.93	-0.45	33.80	-0.15	-0.09
X8H8BW		36.10	-1.03	-0.50	33.10	-0.85	-0.48
XQY9PW		38.00	0.87	0.43	35.00	1.05	0.59
Y22WKT	X	35.30	-1.83	-0.89	28.80	-5.15	-2.92
Y9UA3F		38.20	1.07	0.52	34.00	0.05	0.03
YE4ETU		34.85	-2.28	-1.12	31.50	-2.45	-1.39
YFN2UB		36.70	-0.43	-0.21	33.20	-0.75	-0.43
YHQGA7		40.00	2.87	1.41	36.40	2.45	1.39
YLJ9UH	X	42.00	4.87	2.38	31.80	-2.15	-1.22
ZKRWZ9	*	35.40	-1.73	-0.85	35.20	1.25	0.71
ZMEYT6		39.00	1.87	0.92	35.20	1.25	0.71

Summary Statistics

	Sample P89		Sample P90	
Grand Means	37.13	Percent	33.95	Percent
Stnd Dev Btwn Labs	2.04	Percent	1.76	Percent

Samples P89, P90 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 65 of 75 reporting participants

Comments on Assigned Data Flags for Test #1123

32XZH7 (X) - Inconsistent in testing between samples.

83JQJE (X) - Data for sample P90 are low.

83UP7H (X) - Data for sample P90 are low.

BJ748J (X) - Inconsistent in testing between samples.

HHEWXQ (X) - Data for sample P90 are low.

LGTMCF (X) - Inconsistent in testing between samples.

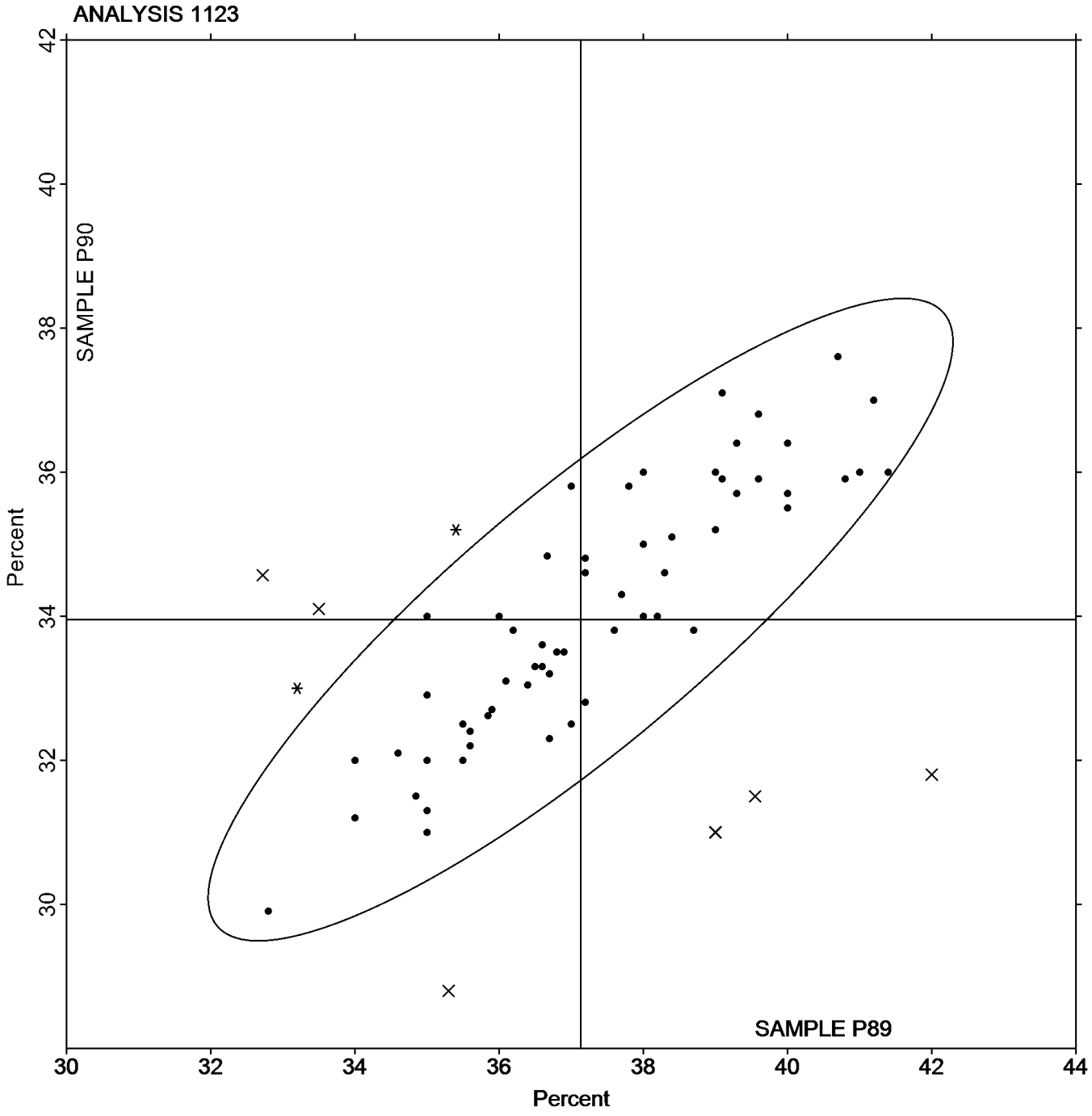
RBQDXA (X) - Inconsistent in testing between samples.

RV9GCT (X) - Data for both samples are high. Possible Systematic Error.

Y22WKT (X) - Data for sample P90 are low.

YLJ9UH (X) - Inconsistent in testing between samples.

SAMPLE P89	SAMPLE P90
37.13 Percent	33.95 Percent



		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2DMHPR		68.00	-0.84	-0.70	65.00	-0.24	-0.20
2WPXGJ		69.00	0.16	0.13	66.00	0.76	0.62
32XZH7	*	68.73	-0.11	-0.09	62.01	-3.23	-2.65
3ABMVF		69.10	0.26	0.21	66.20	0.96	0.79
3NQULL	*	66.00	-2.84	-2.36	66.00	0.76	0.62
3PTDAA		71.70	2.86	2.37	65.90	0.66	0.54
4BXLP6		69.23	0.39	0.32	64.90	-0.34	-0.28
4V424A		69.30	0.46	0.38	66.00	0.76	0.62
6XX4NW		70.50	1.66	1.38	67.00	1.76	1.44
76JYH6		67.70	-1.14	-0.95	66.30	1.06	0.87
83JQJE		69.26	0.42	0.35	62.83	-2.41	-1.97
83UP7H		68.76	-0.08	-0.07	65.03	-0.21	-0.17
8DBPKQ		69.20	0.36	0.30	63.40	-1.84	-1.51
9B3D8G		67.36	-1.48	-1.23	64.08	-1.16	-0.95
9HPGTW		68.40	-0.44	-0.37	65.40	0.16	0.13
9XC6EM		66.50	-2.34	-1.94	64.60	-0.64	-0.52
AGD7BJ		69.00	0.16	0.13	65.30	0.06	0.05
BJ748J		66.45	-2.39	-1.98	64.94	-0.30	-0.25
C6AT74		67.00	-1.84	-1.53	64.00	-1.24	-1.02
DFBFXZ		69.20	0.36	0.30	63.60	-1.64	-1.34
DNEQPX	X	64.20	-4.64	-3.85	59.90	-5.34	-4.38
G2PFCP		69.30	0.46	0.38	66.10	0.86	0.70
G68UFP		69.10	0.26	0.21	65.90	0.66	0.54
GU7ADW		69.10	0.26	0.21	65.90	0.66	0.54
HHEWXQ	X	69.00	0.16	0.13	60.00	-5.24	-4.29
HLJLJ9		70.00	1.16	0.96	67.00	1.76	1.44
HUG4HJ		68.60	-0.24	-0.20	66.20	0.96	0.79
JBMYKV		68.70	-0.14	-0.12	65.20	-0.04	-0.03
JR9DQU		70.30	1.46	1.21	66.60	1.36	1.11
KAVDPB	X	72.00	3.16	2.62	70.00	4.76	3.90
KBW2E3		70.20	1.36	1.13	68.10	2.86	2.34
KVDPFD		68.60	-0.24	-0.20	64.50	-0.74	-0.61
L6VPAN		70.10	1.26	1.04	65.70	0.46	0.38
LGK3BY		68.80	-0.04	-0.03	65.78	0.54	0.44
LGTMCF		69.80	0.96	0.79	65.60	0.36	0.29
LPVR4H	*	70.00	1.16	0.96	62.80	-2.44	-2.00
LYLBLX	*	66.00	-2.84	-2.36	65.40	0.16	0.13
MU6X8B		70.60	1.76	1.46	66.20	0.96	0.79
MWXCPE	X	67.20	-1.64	-1.36	71.30	6.06	4.96
N2LHJ7		69.90	1.06	0.88	66.40	1.16	0.95
N7ZWNZ		68.71	-0.13	-0.11	65.34	0.10	0.08
NFKAG6		66.30	-2.54	-2.11	63.50	-1.74	-1.43
NJM9XP		69.50	0.66	0.55	66.40	1.16	0.95
NKTTJ4		69.30	0.46	0.38	65.70	0.46	0.38
NQQB79		66.50	-2.34	-1.94	62.60	-2.64	-2.16
PTEU7L		69.40	0.56	0.46	66.10	0.86	0.70
Q8MB6Y		69.60	0.76	0.63	65.90	0.66	0.54

Fasteners and Metals Interlaboratory Testing Program

Analysis 1124

Reduction of Area: Lab-Machined Round Steel
ASTM E8

		Sample P89			Sample P90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
QQCQ93		69.20	0.36	0.30	66.10	0.86	0.70
QX4UED		68.90	0.06	0.05	65.10	-0.14	-0.11
RB99JH		69.40	0.56	0.46	65.30	0.06	0.05
RBQDXA		69.51	0.67	0.55	65.58	0.34	0.28
RV9GCT		68.90	0.06	0.05	65.10	-0.14	-0.11
RW7T72		70.00	1.16	0.96	67.20	1.96	1.61
TJWJ6W		69.10	0.26	0.21	64.20	-1.04	-0.85
ULCHRQ	*	67.00	-1.84	-1.53	62.00	-3.24	-2.65
UVWUNB		68.60	-0.24	-0.20	65.70	0.46	0.38
V4A7JL		70.00	1.16	0.96	65.50	0.26	0.21
VWE4KV		67.10	-1.74	-1.45	63.90	-1.34	-1.10
W8HHGU		70.00	1.16	0.96	66.00	0.76	0.62
X8H8BW		69.20	0.36	0.30	65.60	0.36	0.29
XQY9PW		68.70	-0.14	-0.12	65.10	-0.14	-0.11
Y22WKT		69.70	0.86	0.71	64.50	-0.74	-0.61
Y9UA3F		68.70	-0.14	-0.12	65.00	-0.24	-0.20
YE4ETU	X	64.52	-4.32	-3.59	64.71	-0.53	-0.43
YFN2UB		69.20	0.36	0.30	65.30	0.06	0.05
YLJ9UH	X	60.00	-8.84	-7.33	43.40	-21.84	-17.89
ZKRWZ9		67.50	-1.34	-1.11	65.00	-0.24	-0.20
ZMEYT6		68.70	-0.14	-0.12	65.30	0.06	0.05

Summary Statistics

	Sample P89		Sample P90	
Grand Means	68.84	Percent	65.24	Percent
Stnd Dev Btwn Labs	1.21	Percent	1.22	Percent

Samples P89, P90 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 62 of 68 reporting participants

Comments on Assigned Data Flags for Test #1124

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

HHEWXQ (X) - Data for sample P90 are low.

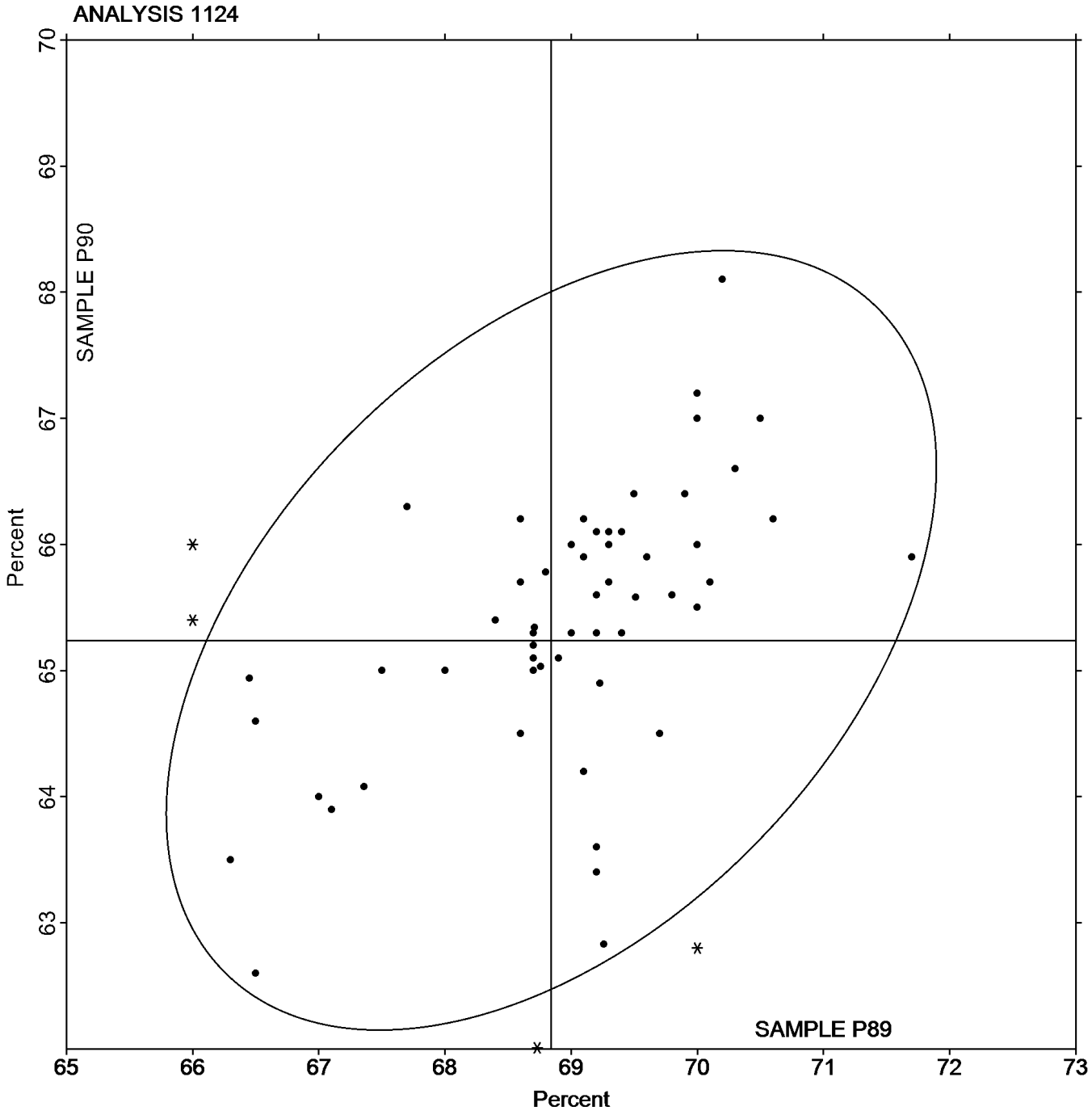
KAVDPB (X) - Data for sample P90 are high.

MWXCPE (X) - Data for sample P90 are high.

YE4ETU (X) - Data for sample P89 are low.

YLJ9UH (X) - Data for both samples are low.

SAMPLE P89	SAMPLE P90
68.84 Percent	65.24 Percent



		Sample N89			Sample N90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2Q43HZ		91.18	1.63	1.04	95.54	0.34	0.64
39HXTK		89.58	0.03	0.02	95.48	0.28	0.52
3E2ZTX		91.44	1.89	1.20	96.10	0.90	1.70
3LQLW4		91.18	1.63	1.04	95.20	0.00	-0.01
3PTDAA		87.72	-1.83	-1.17	95.08	-0.12	-0.23
66MWHG	X	87.80	-1.75	-1.12	86.72	-8.48	-16.07
6R7XXM		89.92	0.37	0.23	95.44	0.24	0.45
7BDMNP		90.52	0.97	0.62	94.56	-0.64	-1.22
82Q6KV		91.20	1.65	1.05	95.38	0.18	0.33
8FYKCK		91.06	1.51	0.96	94.84	-0.36	-0.69
ABFR6V		91.10	1.55	0.98	95.24	0.04	0.07
AYPVHP		87.74	-1.81	-1.15	95.04	-0.16	-0.31
BAKKHX		90.54	0.99	0.63	95.72	0.52	0.98
BLKYYN		88.84	-0.71	-0.45	95.56	0.36	0.68
BZDWHK		88.28	-1.27	-0.81	95.94	0.74	1.40
DZ8PLP		91.36	1.81	1.15	95.64	0.44	0.83
EEHD6N		90.14	0.59	0.37	95.20	0.00	-0.01
EQ2PL7		86.90	-2.65	-1.69	94.06	-1.14	-2.17
FU9MGT		91.52	1.97	1.25	95.66	0.46	0.87
G4QPXQ		87.44	-2.11	-1.34	94.72	-0.48	-0.92
G4YLVH		90.00	0.45	0.28	94.78	-0.42	-0.80
GPU9CY		90.20	0.65	0.41	94.56	-0.64	-1.22
GZCFZA		89.84	0.29	0.18	95.32	0.12	0.22
H2RKAC		88.00	-1.55	-0.99	95.20	0.00	-0.01
HUDNM6	*	86.42	-3.13	-1.99	93.66	-1.54	-2.92
J7RXAM		88.44	-1.11	-0.71	95.12	-0.08	-0.16
JYHZYG		89.14	-0.41	-0.26	94.42	-0.78	-1.48
KAVDPB		91.80	2.25	1.43	96.06	0.86	1.62
KN9RRG		91.60	2.05	1.30	95.70	0.50	0.94
LARD2G		89.70	0.15	0.09	95.02	-0.18	-0.35
LZQWLC		87.46	-2.09	-1.33	94.60	-0.60	-1.14
M8D4DN		87.72	-1.83	-1.17	94.64	-0.56	-1.07
MV2DHL		90.20	0.65	0.41	95.18	-0.02	-0.04
NN8W39		91.62	2.07	1.32	95.72	0.52	0.98
NQQB79		90.22	0.67	0.42	95.58	0.38	0.71
NX7QWX		90.00	0.45	0.28	95.00	-0.20	-0.39
PTKBT7		87.32	-2.23	-1.42	95.42	0.22	0.41
PUEE7D		91.54	1.99	1.26	95.68	0.48	0.90
PXD86W	X	89.80	0.25	0.16	97.00	1.80	3.40
QDW96R		91.06	1.51	0.96	95.44	0.24	0.45
RB99JH		90.52	0.97	0.62	95.75	0.55	1.04
RR32VP		87.54	-2.01	-1.28	95.42	0.22	0.41
T6FNRL		90.93	1.38	0.88	95.37	0.17	0.32
TTF6QT		91.04	1.49	0.95	95.48	0.28	0.52
UWJ3C8		87.58	-1.97	-1.26	94.42	-0.78	-1.48
V7C7ED		89.40	-0.15	-0.10	95.00	-0.20	-0.39
V7HDQK		87.40	-2.15	-1.37	94.00	-1.20	-2.28

WebCode	Data Flag	Sample N89 Lab Mean	Sample N89 Diff. from Grand Mean	Sample N89 CPV	Sample N90 Lab Mean	Sample N90 Diff. from Grand Mean	Sample N90 CPV
VERKJ6		86.90	-2.65	-1.69	94.70	-0.50	-0.95
W79V38		88.58	-0.97	-0.62	95.62	0.42	0.79
WBQYDW		90.54	0.99	0.63	95.64	0.44	0.83
WE2BPQ		90.00	0.45	0.28	95.00	-0.20	-0.39
WYM3Q9		90.40	0.85	0.54	95.98	0.78	1.47
XAMXKW		91.06	1.51	0.96	95.20	0.00	-0.01
XLGE6R		87.84	-1.71	-1.09	95.08	-0.12	-0.23
XLP4ZH		88.08	-1.47	-0.94	95.08	-0.12	-0.23
YE4ETU		88.10	-1.45	-0.92	95.74	0.54	1.02

Summary Statistics

	Sample N89		Sample N90	
Grand Means	89.55	HRB	95.20	HRB
Stnd Dev Btwn Labs	1.57	HRB	0.53	HRB

Samples N89, N90 : Brass, Steel

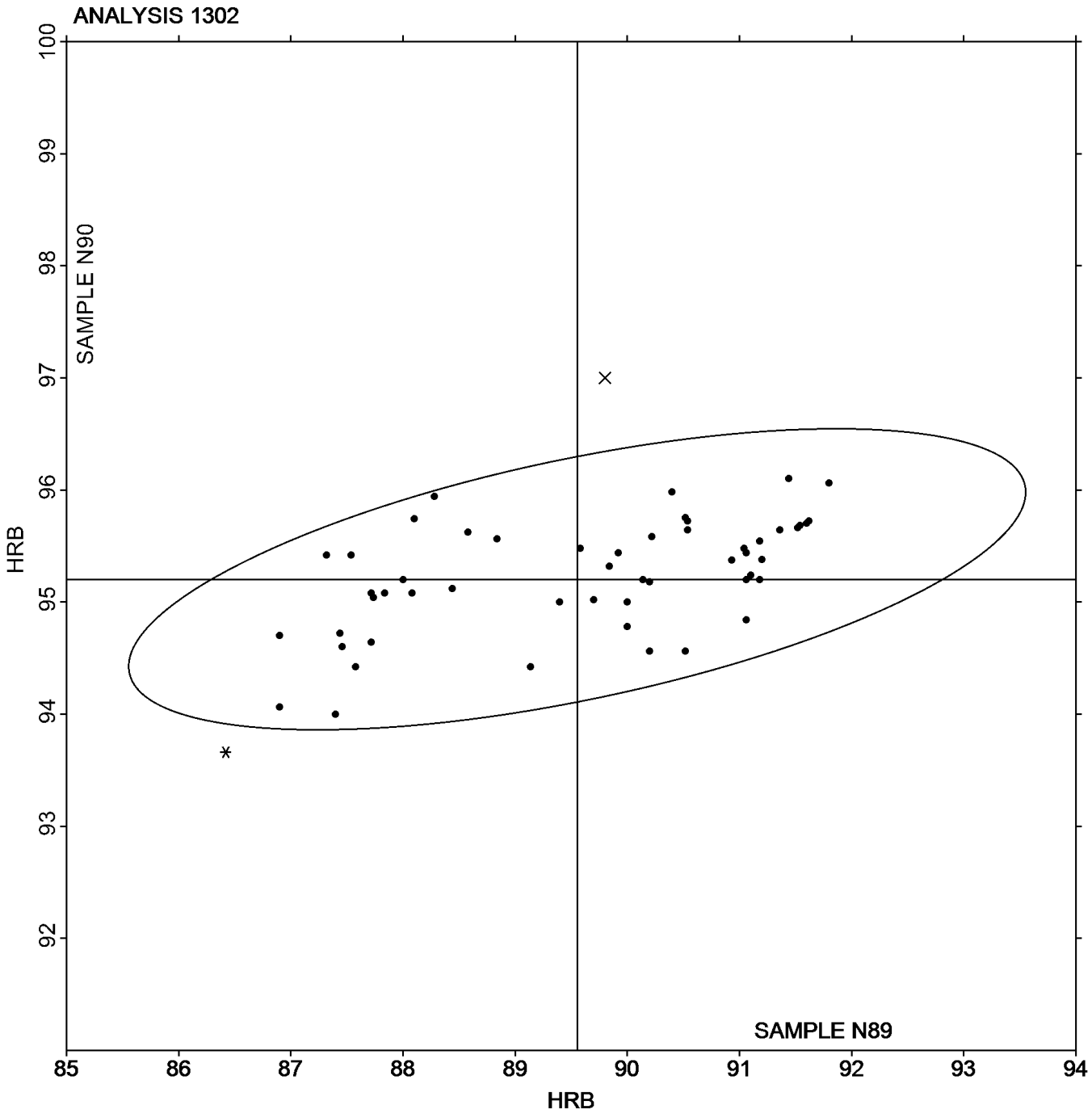
Statistics based on 54 of 56 reporting participants

Comments on Assigned Data Flags for Test #1302

66MWHG (X) - Data for sample N90 are low.

PXD86W (X) - Data for sample N90 are high.

SAMPLE N89	SAMPLE N90
89.55 HRB	95.20 HRB



		Sample S89			Sample S90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
3NQULL	X	460.00	6.91	0.47	594.80	62.07	4.58
3WKVBC		436.40	-16.69	-1.14	520.40	-12.33	-0.91
483VDR	X	406.40	-46.69	-3.20	520.80	-11.93	-0.88
4BXLP6		472.06	18.97	1.30	541.92	9.19	0.68
6M6QXQ		473.18	20.09	1.38	546.24	13.51	1.00
6RQHVT		461.00	7.91	0.54	530.20	-2.53	-0.19
7D3YMU		460.70	7.61	0.52	530.60	-2.13	-0.16
8MQ7WY		453.50	0.41	0.03	520.28	-12.45	-0.92
8Z4QTK		449.20	-3.89	-0.27	534.60	1.87	0.14
9JB3Q8	*	475.00	21.91	1.50	524.20	-8.53	-0.63
9L3AHC		419.60	-33.49	-2.30	511.80	-20.93	-1.54
9QJMLX		428.20	-24.89	-1.71	516.00	-16.73	-1.23
9XC6EM		462.60	9.51	0.65	556.80	24.07	1.78
ACC7RN		434.60	-18.49	-1.27	525.40	-7.33	-0.54
AJ2HBP		444.95	-8.14	-0.56	522.18	-10.55	-0.78
AVT79H		431.60	-21.49	-1.47	528.60	-4.13	-0.30
CAP3GL		445.40	-7.69	-0.53	519.80	-12.93	-0.95
CAP6AK		458.80	5.71	0.39	532.60	-0.13	-0.01
CHYRW7		461.60	8.51	0.58	539.60	6.87	0.51
DRQKJA		456.60	3.51	0.24	546.00	13.27	0.98
EH8KT6	X	124.94	-328.15	-22.50	116.10	-416.63	-30.76
FLEGNR		462.66	9.57	0.66	549.78	17.05	1.26
FU9MGT		452.02	-1.07	-0.07	547.24	14.51	1.07
G4QPXQ		463.20	10.11	0.69	520.60	-12.13	-0.90
GLLZ93		468.80	15.71	1.08	546.80	14.07	1.04
HUG4HJ	X	449.40	-3.69	-0.25	482.40	-50.33	-3.72
HUKM88		462.00	8.91	0.61	536.00	3.27	0.24
J7Y9PY		451.80	-1.29	-0.09	534.20	1.47	0.11
JBJ34R		447.20	-5.89	-0.40	515.80	-16.93	-1.25
JGKH3L		468.20	15.11	1.04	547.40	14.67	1.08
JRQUUF		451.24	-1.85	-0.13	538.36	5.63	0.42
L6VPAN		469.20	16.11	1.10	530.80	-1.93	-0.14
LZQWLC		459.40	6.31	0.43	542.40	9.67	0.71
M44UHD		473.00	19.91	1.37	549.40	16.67	1.23
M8D4DN		472.60	19.51	1.34	532.00	-0.73	-0.05
M8HKPT		461.60	8.51	0.58	545.40	12.67	0.94
ML37ZZ		468.74	15.65	1.07	555.14	22.41	1.65
MVJWAR		444.20	-8.89	-0.61	545.00	12.27	0.91
N2LHJ7	X	417.00	-36.09	-2.48	467.60	-65.13	-4.81
N7ZWNZ		454.52	1.43	0.10	526.92	-5.81	-0.43
N9YQA4		450.20	-2.89	-0.20	521.49	-11.24	-0.83
NX7QWX		444.00	-9.09	-0.62	525.00	-7.73	-0.57
P42MK4		439.20	-13.89	-0.95	544.60	11.87	0.88
PMXHLC	X	406.80	-46.29	-3.17	526.80	-5.93	-0.44
PTEU7L		454.20	1.11	0.08	537.80	5.07	0.37
QNP3LG	*	416.04	-37.05	-2.54	502.04	-30.69	-2.27
QQCQ93		476.66	23.57	1.62	546.32	13.59	1.00

		Sample S89			Sample S90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
QWGEZH		462.96	9.87	0.68	545.00	12.27	0.91
QXGEFB		441.80	-11.29	-0.77	533.80	1.07	0.08
RKKTBY		453.20	0.11	0.01	550.00	17.27	1.28
RV9GCT		458.60	5.51	0.38	540.60	7.87	0.58
RWW3VH		436.80	-16.29	-1.12	515.80	-16.93	-1.25
T2XALZ		453.40	0.31	0.02	534.00	1.27	0.09
TTF6QT		434.60	-18.49	-1.27	519.40	-13.33	-0.98
U2NYJZ		425.00	-28.09	-1.93	527.60	-5.13	-0.38
V8NPGW		457.80	4.71	0.32	530.40	-2.33	-0.17
VWE4KV		443.00	-10.09	-0.69	527.40	-5.33	-0.39
W6K6H2		459.80	6.71	0.46	534.40	1.67	0.12
WDRYAA		432.32	-20.78	-1.42	525.04	-7.69	-0.57
WELR6T		469.04	15.95	1.09	553.38	20.65	1.52
WEUT7M		455.20	2.11	0.14	532.60	-0.13	-0.01
WM8KVK		458.04	4.95	0.34	534.80	2.07	0.15
WQUKL8		455.20	2.11	0.14	543.60	10.87	0.80
X6VLP2		437.52	-15.57	-1.07	507.92	-24.81	-1.83
XLGE6R		461.60	8.51	0.58	532.80	0.07	0.01
XQY9PW		440.60	-12.49	-0.86	520.00	-12.73	-0.94
XXCHHX		468.14	15.05	1.03	556.76	24.03	1.77
Y9UA3F		438.20	-14.89	-1.02	505.40	-27.33	-2.02
YA67HR		467.40	14.31	0.98	550.00	17.27	1.28
YQRH4J	*	459.80	6.71	0.46	509.40	-23.33	-1.72
YRRGBL		458.60	5.51	0.38	538.60	5.87	0.43
Z2TELT		424.80	-28.29	-1.94	504.80	-27.93	-2.06
ZDEDUB		460.40	7.31	0.50	525.60	-7.13	-0.53
ZP3MXH		477.20	24.11	1.65	549.40	16.67	1.23
ZUBW8K		436.60	-16.49	-1.13	522.00	-10.73	-0.79

Summary Statistics

	Sample S89		Sample S90	
Grand Means	453.09	HK 500 gf	532.73	HK 500 gf
Stnd Dev Btwn Labs	14.58	HK 500 gf	13.55	HK 500 gf

Samples S89, S90 : Steel, Steel

Statistics based on 69 of 75 reporting participants

Comments on Assigned Data Flags for Test #1321

3NQULL (X) - Data for sample S90 are high.

483VDR (X) - Data for sample S89 are low.

EH8KT6 (X) - Extreme data.

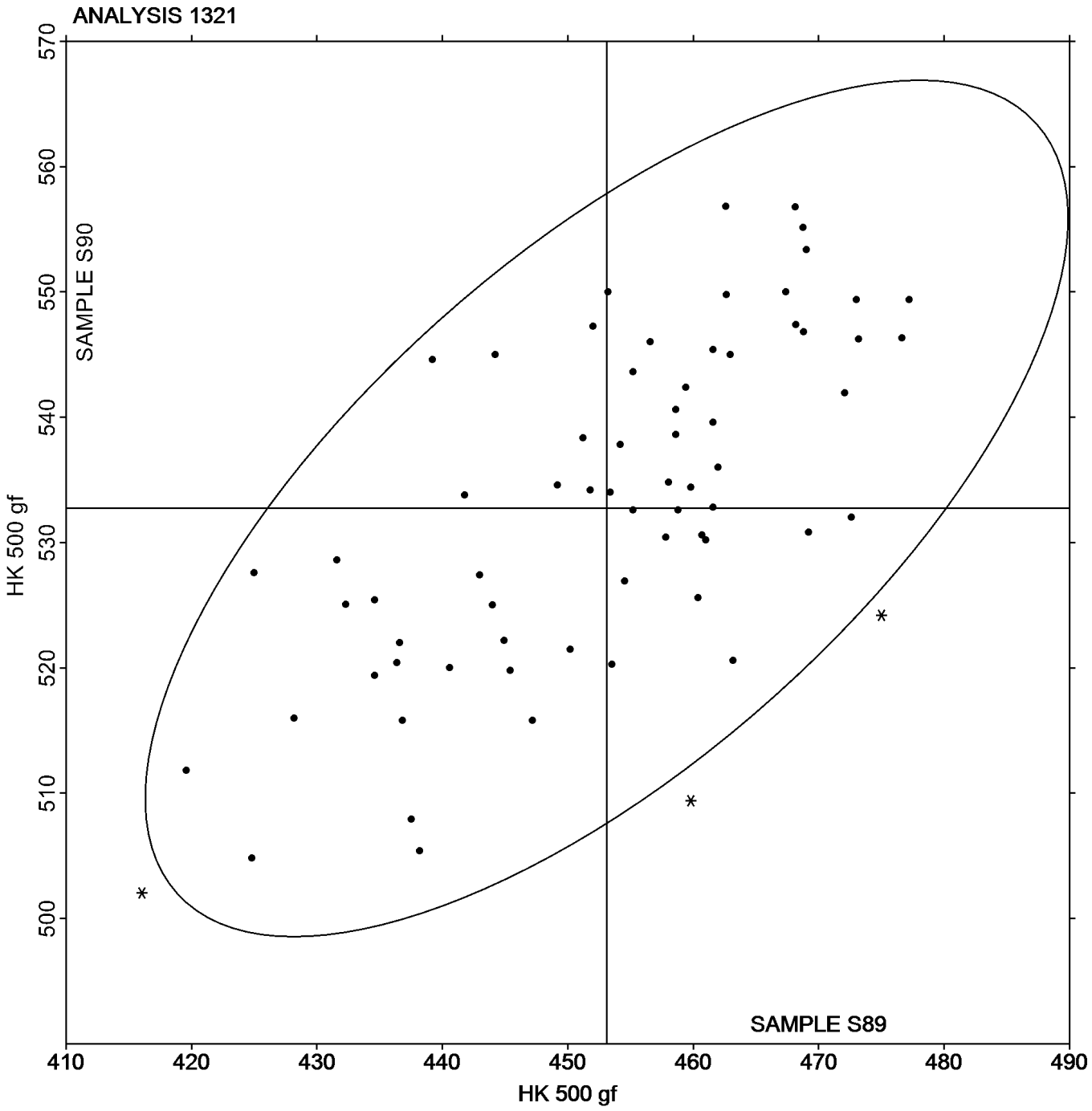
HUG4HJ (X) - Data for sample S90 are low.

N2LHJ7 (X) - Data for sample S90 are low.

PMXHLC (X) - Data for sample S89 are low.

SAMPLE S89
453.09 HK 500 gf

SAMPLE S90
532.73 HK 500 gf



		Sample S89			Sample S90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
3NQULL	*	438.40	-22.96	-1.28	572.60	24.32	1.33
3WKVBC		457.60	-3.76	-0.21	534.80	-13.48	-0.74
483VDR	*	416.60	-44.76	-2.49	549.20	0.92	0.05
4BXLP6		460.12	-1.24	-0.07	529.98	-18.30	-1.00
6M6QXQ		478.52	17.16	0.95	559.56	11.28	0.62
6RQHVT		468.40	7.04	0.39	541.20	-7.08	-0.39
7D3YMU		454.66	-6.70	-0.37	534.44	-13.84	-0.76
8MQ7WY		468.40	7.04	0.39	566.44	18.16	0.99
8Z4QTK		466.60	5.24	0.29	562.40	14.12	0.77
9JB3Q8		464.60	3.24	0.18	536.60	-11.68	-0.64
9XC6EM		482.40	21.04	1.17	586.00	37.72	2.06
ACC7RN		450.00	-11.36	-0.63	544.80	-3.48	-0.19
AVT79H		453.60	-7.76	-0.43	534.40	-13.88	-0.76
CAP3GL		462.60	1.24	0.07	545.00	-3.28	-0.18
CAP6AK		470.60	9.24	0.51	564.00	15.72	0.86
DRQKJA		460.20	-1.16	-0.06	560.20	11.92	0.65
EH8KT6	X	77.89	-383.47	-21.31	71.35	-476.93	-26.09
G4QPXQ		473.40	12.04	0.67	548.60	0.32	0.02
HUKM88		474.60	13.24	0.74	554.00	5.72	0.31
J7Y9PY		459.00	-2.36	-0.13	544.00	-4.28	-0.23
JBJ34R		439.60	-21.76	-1.21	533.60	-14.68	-0.80
JGKH3L		480.40	19.04	1.06	561.40	13.12	0.72
JRQUUF		454.30	-7.06	-0.39	541.46	-6.82	-0.37
L6VPAN		474.40	13.04	0.72	550.00	1.72	0.09
LZQWLC		472.40	11.04	0.61	555.40	7.12	0.39
M44UHD		485.80	24.44	1.36	560.80	12.52	0.68
M8D4DN		463.00	1.64	0.09	528.40	-19.88	-1.09
M8HKPT		469.00	7.64	0.42	553.80	5.52	0.30
ML37ZZ		481.02	19.66	1.09	574.30	26.02	1.42
MVJWAR		450.20	-11.16	-0.62	533.20	-15.08	-0.83
N2LHJ7	X	431.00	-30.36	-1.69	479.40	-68.88	-3.77
N7ZWNZ		454.52	-6.84	-0.38	526.74	-21.54	-1.18
NX7QWX		458.00	-3.36	-0.19	531.00	-17.28	-0.95
P42MK4		483.20	21.84	1.21	556.80	8.52	0.47
PMXHLC	*	413.00	-48.36	-2.69	535.00	-13.28	-0.73
PTEU7L		462.40	1.04	0.06	560.00	11.72	0.64
QNP3LG	*	420.46	-40.90	-2.27	497.72	-50.56	-2.77
QQCQ93		472.14	10.78	0.60	562.98	14.70	0.80
T2XALZ		461.80	0.44	0.02	552.20	3.92	0.21
TTF6QT		443.60	-17.76	-0.99	532.60	-15.68	-0.86
U2NYJZ	*	432.60	-28.76	-1.60	566.40	18.12	0.99
VWE4KV		444.20	-17.16	-0.95	524.80	-23.48	-1.28
W6K6H2		471.40	10.04	0.56	556.60	8.32	0.46
WDRYAA		451.75	-9.61	-0.53	547.56	-0.72	-0.04
WELR6T	*	494.08	32.72	1.82	603.38	55.10	3.01
WEUT7M		462.40	1.04	0.06	545.40	-2.88	-0.16
WM8KVK		467.80	6.44	0.36	550.64	2.36	0.13

WebCode	Data Flag	Sample S89 Lab Mean	Sample S89 Diff. from Grand Mean	Sample S89 CPV	Sample S90 Lab Mean	Sample S90 Diff. from Grand Mean	Sample S90 CPV
WQUKL8		468.60	7.24	0.40	561.40	13.12	0.72
XLGE6R		472.20	10.84	0.60	545.60	-2.68	-0.15
XQY9PW		458.00	-3.36	-0.19	522.80	-25.48	-1.39
YA67HR		492.60	31.24	1.74	566.60	18.32	1.00
YQRH4J		432.00	-29.36	-1.63	517.80	-30.48	-1.67
Z2TELT		457.00	-4.36	-0.24	527.00	-21.28	-1.16
ZP3MXH		486.80	25.44	1.41	559.00	10.72	0.59

Summary Statistics

	Sample S89		Sample S90	
Grand Means	461.36	HK 200 gf	548.28	HK 200 gf
Stnd Dev Btwn Labs	17.99	HK 200 gf	18.28	HK 200 gf

Samples S89, S90 : Steel, Steel

Statistics based on 52 of 54 reporting participants

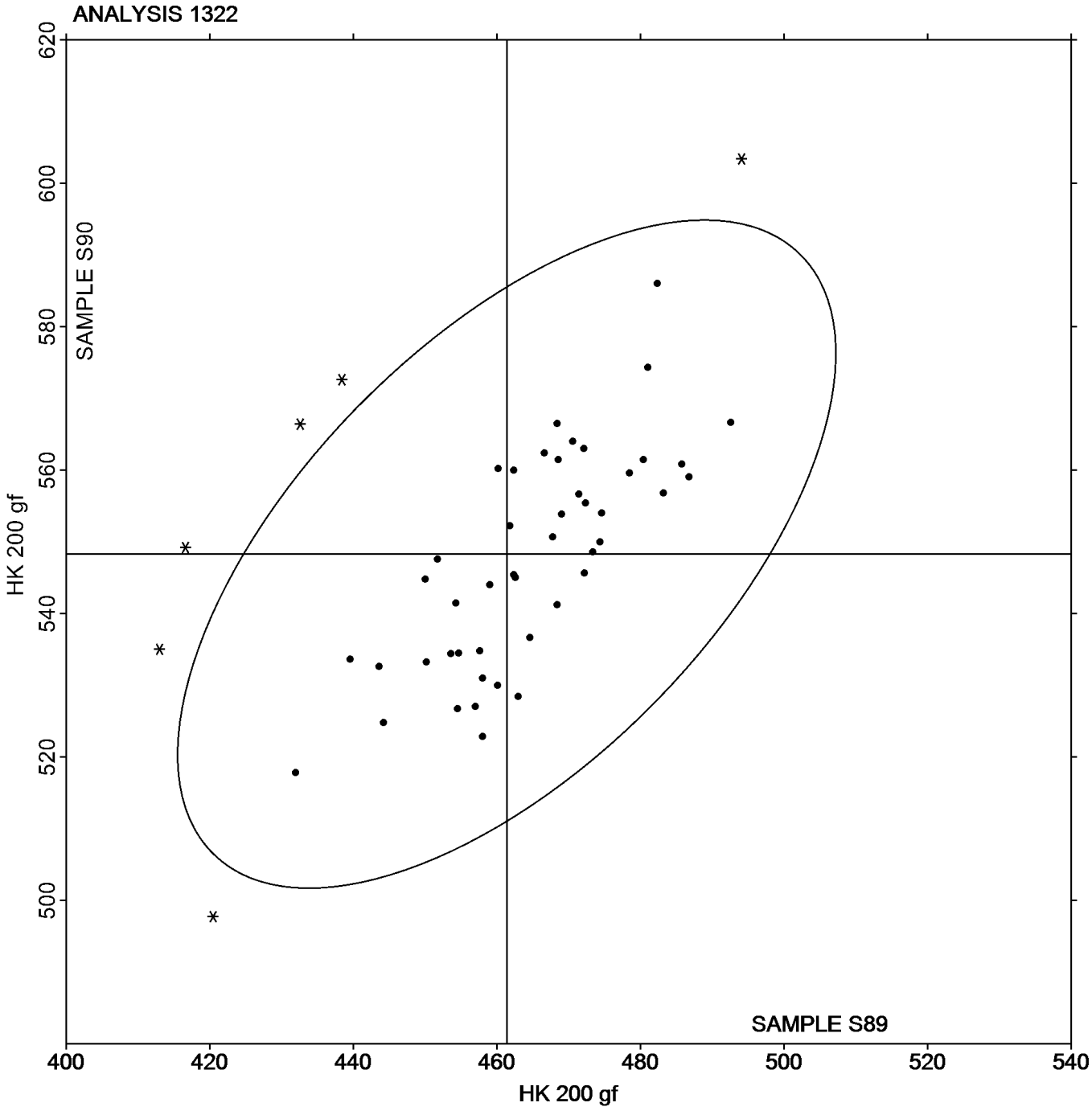
Comments on Assigned Data Flags for Test #1322

EH8KT6 (X) - Extreme data.

N2LHJ7 (X) - Data for sample S90 are low.

SAMPLE S89
461.36 HK 200 gf

SAMPLE S90
548.28 HK 200 gf



		Sample S89			Sample S90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2ATJHN		450.14	15.87	1.38	541.10	20.22	1.62
2BAFAM	*	411.48	-22.79	-1.99	518.66	-2.22	-0.18
2H9ZCH		439.40	5.13	0.45	522.60	1.72	0.14
3ABMVF		439.60	5.33	0.46	528.20	7.32	0.59
3NQULL	X	391.00	-43.27	-3.78	542.40	21.52	1.73
3WKVBC		425.40	-8.87	-0.77	507.80	-13.08	-1.05
483VDR	X	386.20	-48.07	-4.19	512.40	-8.48	-0.68
4922XR		453.00	18.73	1.63	544.80	23.92	1.92
4BXLP6		436.60	2.33	0.20	517.16	-3.72	-0.30
4EEBN8		440.20	5.93	0.52	528.00	7.12	0.57
4P7G6D	X	394.68	-39.59	-3.45	512.14	-8.74	-0.70
6M6QXQ		456.44	22.17	1.93	527.64	6.76	0.54
6RQHVT		439.80	5.53	0.48	522.80	1.92	0.15
7YX4GZ		437.58	3.31	0.29	523.48	2.60	0.21
8FYKCK		420.70	-13.57	-1.18	521.16	0.28	0.02
8HN86T		438.80	4.53	0.40	518.80	-2.08	-0.17
8Z4QTK		428.20	-6.07	-0.53	519.00	-1.88	-0.15
9JB3Q8		428.00	-6.27	-0.55	507.20	-13.68	-1.10
9QJMLX		418.00	-16.27	-1.42	514.60	-6.28	-0.50
9XC6EM	*	443.60	9.33	0.81	552.40	31.52	2.53
ACC7RN		423.20	-11.07	-0.97	520.80	-0.08	-0.01
AJ2HBP		430.27	-4.00	-0.35	523.08	2.20	0.18
AVT79H		439.80	5.53	0.48	517.40	-3.48	-0.28
BQHDQJ	*	450.20	15.93	1.39	553.80	32.92	2.64
BWWKPA		423.12	-11.15	-0.97	509.48	-11.40	-0.92
C9XMFW		437.60	3.33	0.29	523.20	2.32	0.19
CAP3GL		426.20	-8.07	-0.70	505.40	-15.48	-1.24
CAP6AK		428.20	-6.07	-0.53	505.60	-15.28	-1.23
CDYM47		438.26	3.99	0.35	525.08	4.20	0.34
DRQKJA		431.00	-3.27	-0.29	525.60	4.72	0.38
DZ8PLP		425.20	-9.07	-0.79	503.20	-17.68	-1.42
EDY7BL	X	477.42	43.15	3.77	570.76	49.88	4.01
EQ2PL7		433.40	-0.87	-0.08	531.80	10.92	0.88
EUM92X		416.20	-18.07	-1.58	513.80	-7.08	-0.57
FCXMUC	*	405.80	-28.47	-2.48	503.40	-17.48	-1.40
G4QPXQ		435.00	0.73	0.06	514.00	-6.88	-0.55
GV7867		436.20	1.93	0.17	522.00	1.12	0.09
GYXJG4		442.26	7.99	0.70	528.36	7.48	0.60
HUKM88		446.20	11.93	1.04	530.60	9.72	0.78
J7Y9PY		438.40	4.13	0.36	512.20	-8.68	-0.70
JBJ34R		425.40	-8.87	-0.77	515.20	-5.68	-0.46
JGKH3L		448.80	14.53	1.27	539.40	18.52	1.49
JLWETG		432.86	-1.41	-0.12	515.72	-5.16	-0.41
JPCVB7		440.00	5.73	0.50	529.20	8.32	0.67
JRQUUF		431.88	-2.39	-0.21	516.64	-4.24	-0.34
JTTE6N		429.60	-4.67	-0.41	517.20	-3.68	-0.30
KAHLYF		425.20	-9.07	-0.79	504.60	-16.28	-1.31

		Sample S89			Sample S90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
KAVDPB		442.40	8.13	0.71	519.20	-1.68	-0.14
KNZMGR	X	443.20	8.93	0.78	498.60	-22.28	-1.79
KU6C26		458.40	24.13	2.11	538.00	17.12	1.38
KVDPFD		436.68	2.41	0.21	519.80	-1.08	-0.09
L6VPAN		451.40	17.13	1.49	526.80	5.92	0.48
LLGAQ8		439.80	5.53	0.48	534.20	13.32	1.07
LUWUCR		438.60	4.33	0.38	526.80	5.92	0.48
LZQWLC		433.00	-1.27	-0.11	520.80	-0.08	-0.01
M44UHD		448.60	14.33	1.25	524.60	3.72	0.30
M8D4DN		432.20	-2.07	-0.18	518.60	-2.28	-0.18
M8HKPT		450.80	16.53	1.44	533.00	12.12	0.97
ML37ZZ		441.08	6.81	0.59	524.38	3.50	0.28
MVJWAR		435.00	0.73	0.06	517.60	-3.28	-0.26
N2LHJ7	X	400.40	-33.87	-2.96	453.00	-67.88	-5.45
N7ZWNZ		440.10	5.83	0.51	516.22	-4.66	-0.37
N9YQA4		430.47	-3.80	-0.33	513.32	-7.57	-0.61
NDDHJ6		437.80	3.53	0.31	526.00	5.12	0.41
NET49Q		426.80	-7.47	-0.65	515.80	-5.08	-0.41
NX7QWX		429.00	-5.27	-0.46	504.00	-16.88	-1.36
P42MK4		423.20	-11.07	-0.97	517.60	-3.28	-0.26
P6GAPH	X	423.81	-10.46	-0.91	479.28	-41.61	-3.34
PK7NHG		436.98	2.71	0.24	524.04	3.16	0.25
PMXHLC	X	386.20	-48.07	-4.19	507.60	-13.28	-1.07
PQJUCP		434.20	-0.07	-0.01	522.20	1.32	0.11
PTEU7L		424.80	-9.47	-0.83	516.00	-4.88	-0.39
QDW96R		442.80	8.53	0.74	522.00	1.12	0.09
QNP3LG	X	404.80	-29.47	-2.57	475.40	-45.48	-3.65
QQCQ93		435.14	0.87	0.08	534.52	13.64	1.10
QXGEFB		433.40	-0.87	-0.08	530.00	9.12	0.73
RV9GCT		440.20	5.93	0.52	527.40	6.52	0.52
RW7T72	*	411.10	-23.17	-2.02	486.22	-34.66	-2.78
T2XALZ		430.00	-4.27	-0.37	507.60	-13.28	-1.07
TQC9HB		435.76	1.49	0.13	515.08	-5.80	-0.47
TTF6QT		409.80	-24.47	-2.14	491.80	-29.08	-2.34
TYNA87		444.20	9.93	0.87	519.60	-1.28	-0.10
U2NYJZ		410.20	-24.07	-2.10	503.40	-17.48	-1.40
U92M49		447.08	12.81	1.12	548.42	27.54	2.21
U9H9KH		442.76	8.49	0.74	529.94	9.05	0.73
V4A7JL		438.40	4.13	0.36	536.00	15.12	1.21
V8NPGW		428.60	-5.67	-0.49	507.20	-13.68	-1.10
VWE4KV		411.66	-22.61	-1.97	513.40	-7.48	-0.60
W6K6H2		430.40	-3.87	-0.34	509.80	-11.08	-0.89
WDRYAA	*	409.21	-25.06	-2.19	512.74	-8.14	-0.65
WELR6T		434.84	0.57	0.05	527.20	6.32	0.51
WEUT7M		440.40	6.13	0.53	532.00	11.12	0.89
WJTKUH		432.20	-2.07	-0.18	526.00	5.12	0.41
WM8KVK		435.76	1.49	0.13	526.70	5.82	0.47

WebCode	Data Flag	Sample S89 Lab Mean	Sample S89 Diff. from Grand Mean	Sample S89 CPV	Sample S90 Lab Mean	Sample S90 Diff. from Grand Mean	Sample S90 CPV
WQUKL8		455.00	20.73	1.81	547.40	26.52	2.13
X8H8BW		438.40	4.13	0.36	530.40	9.52	0.76
XLGE6R		444.00	9.73	0.85	538.40	17.52	1.41
XQY9PW		420.80	-13.47	-1.18	510.00	-10.88	-0.87
XXCHHX		448.54	14.27	1.25	531.42	10.54	0.85
YA67HR		441.20	6.93	0.60	512.40	-8.48	-0.68
YG3WRG	X	484.00	49.73	4.34	574.20	53.32	4.28
YQRH4J		420.00	-14.27	-1.25	496.00	-24.88	-2.00
Z2TELT	*	457.20	22.93	2.00	521.80	0.92	0.07
ZKRWZ9	X	420.80	-13.47	-1.18	481.20	-39.68	-3.19
ZP3MXH		430.60	-3.67	-0.32	499.80	-21.08	-1.69
ZUBW8K		417.60	-16.67	-1.45	508.20	-12.68	-1.02

Summary Statistics

	Sample S89		Sample S90	
Grand Means	434.27	HV 500 gf	520.88	HV 500 gf
Stnd Dev Btwn Labs	11.46	HV 500 gf	12.45	HV 500 gf

Samples S89, S90 : Steel, Steel

Statistics based on 95 of 106 reporting participants

Comments on Assigned Data Flags for Test #1323

3NQULL (X) - Data for sample S89 are low.

483VDR (X) - Data for sample S89 are low.

4P7G6D (X) - Data for sample S89 are low.

EDY7BL (X) - Data for both samples are high. Possible Systematic Error.

KNZMGR (X) - Inconsistent in testing between samples.

N2LHJ7 (X) - Data for both samples are low. Possible Systematic Error.

P6GAPH (X) - Data for sample S90 are low.

PMXHLC (X) - Data for sample S89 are low.

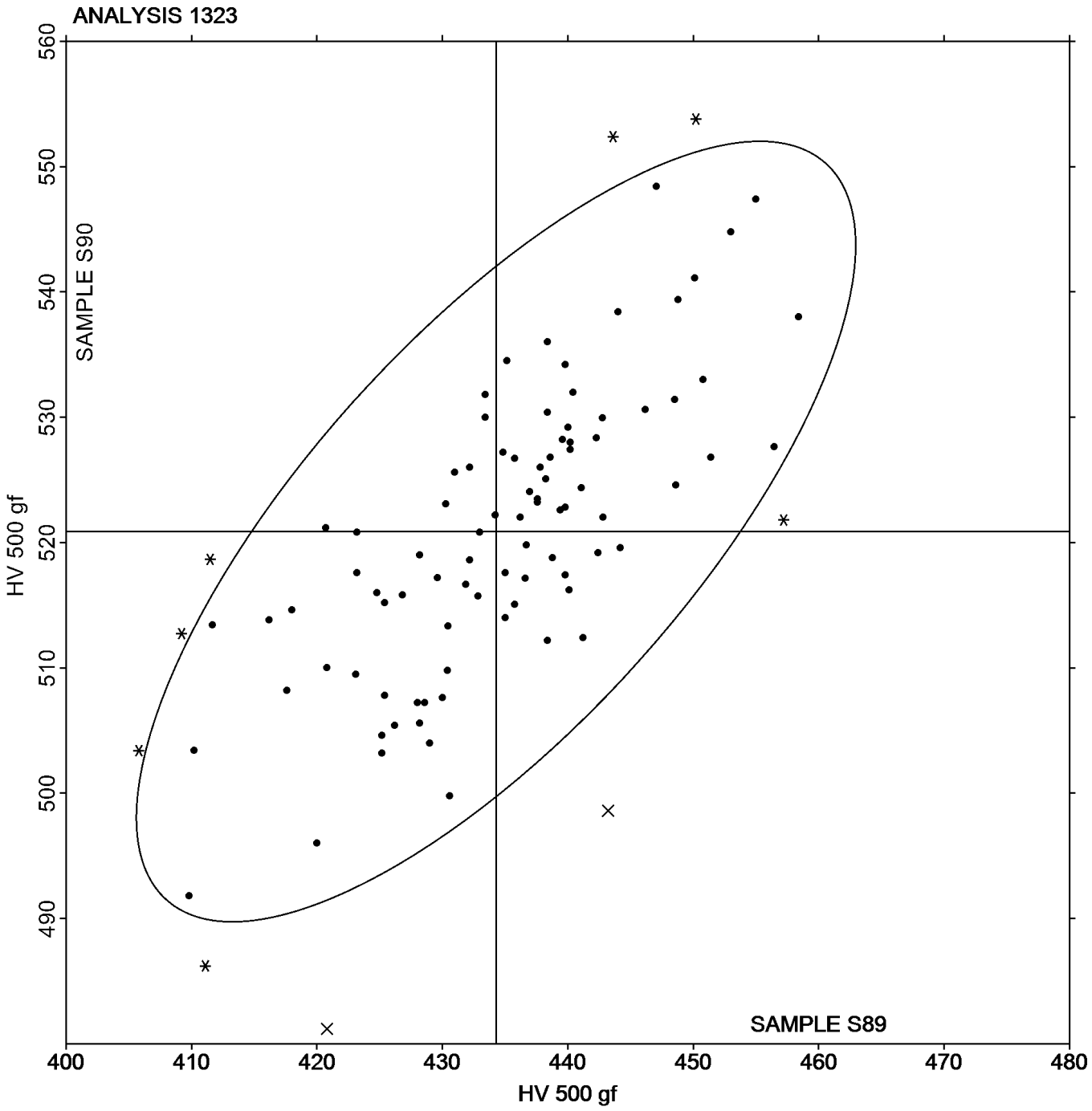
QNP3LG (X) - Data for sample S90 are low.

YG3WRG (X) - Data for both samples are high. Possible Systematic Error.

ZKRWZ9 (X) - Data for sample S90 are low. Inconsistent within the determinations of sample S90.

SAMPLE S89
434.27 HV 500 gf

SAMPLE S90
520.88 HV 500 gf



		Sample D89			Sample D90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
22ECNK		373.94	5.04	0.69	420.37	7.32	1.32
2637ZY		374.26	5.36	0.74	419.12	6.07	1.10
2AQ9TR		363.00	-5.90	-0.81	415.00	1.95	0.35
2HK2VW		372.20	3.30	0.45	406.60	-6.45	-1.16
2WPXGJ		375.80	6.90	0.95	414.60	1.55	0.28
3PTDAA		363.00	-5.90	-0.81	415.00	1.95	0.35
3WKVBC		374.32	5.42	0.74	415.84	2.79	0.50
4FW33W		378.60	9.70	1.33	415.00	1.95	0.35
4KRRKQ		363.00	-5.90	-0.81	415.00	1.95	0.35
4P7G6D		367.80	-1.10	-0.15	415.00	1.95	0.35
6RQHVT		368.00	-0.90	-0.12	411.00	-2.05	-0.37
6Z4NDH		371.60	2.70	0.37	412.00	-1.05	-0.19
76JYH6		361.80	-7.10	-0.97	405.60	-7.45	-1.34
83UP7H		365.20	-3.70	-0.51	407.00	-6.05	-1.09
8DBPKQ		363.00	-5.90	-0.81	412.60	-0.45	-0.08
8Z4QTK		367.80	-1.10	-0.15	416.80	3.75	0.68
9QJMLX		363.00	-5.90	-0.81	415.00	1.95	0.35
9XC6EM		358.80	-10.10	-1.39	408.40	-4.65	-0.84
ACC7RN		377.80	8.90	1.22	413.80	0.75	0.14
BAKKHX		368.40	-0.50	-0.07	412.00	-1.05	-0.19
C6AT74		361.80	-7.10	-0.97	401.40	-11.65	-2.10
C7B2TZ		372.94	4.04	0.55	417.56	4.51	0.81
CAP6AK	*	355.20	-13.70	-1.88	396.80	-16.25	-2.93
DNEQPX	X	406.60	37.70	5.18	429.28	16.23	2.93
DRQKJA		387.20	18.30	2.51	420.00	6.95	1.26
E9CNJA		375.20	6.30	0.87	414.60	1.55	0.28
EQ2PL7		352.60	-16.30	-2.24	406.80	-6.25	-1.13
G4QPXQ		370.40	1.50	0.21	408.20	-4.85	-0.88
G77WL8		370.60	1.70	0.23	420.00	6.95	1.26
HGARVA	X	358.60	-10.30	-1.41	393.20	-19.85	-3.58
HK9JXA	*	388.00	19.10	2.62	415.00	1.95	0.35
HUG4HJ		367.20	-1.70	-0.23	410.20	-2.85	-0.51
HUKM88		367.30	-1.60	-0.22	411.44	-1.61	-0.29
KAVDPB		367.80	-1.10	-0.15	405.00	-8.05	-1.45
KG3WB9		373.00	4.10	0.56	415.00	1.95	0.35
KU6C26		377.48	8.58	1.18	422.52	9.47	1.71
LGK3BY		369.40	0.50	0.07	416.48	3.43	0.62
LGLHFP		364.69	-4.21	-0.58	412.16	-0.89	-0.16
M3QJC7		366.60	-2.30	-0.32	410.20	-2.85	-0.51
MLXJJ9		360.00	-8.90	-1.22	399.60	-13.45	-2.43
N2LHJ7		362.60	-6.30	-0.86	412.60	-0.45	-0.08
N63UBG		377.70	8.80	1.21	416.86	3.81	0.69
NDV3W8		371.06	2.16	0.30	412.04	-1.01	-0.18
NFKAG6		370.60	1.70	0.23	415.00	1.95	0.35
NQQB79		372.00	3.10	0.43	417.20	4.15	0.75
PCF749		364.42	-4.48	-0.61	410.46	-2.59	-0.47
QQCQ93		358.80	-10.10	-1.39	410.20	-2.85	-0.51

		Sample D89			Sample D90		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
RB99JH	*	383.80	14.90	2.05	411.80	-1.25	-0.23
RV9GCT		368.64	-0.26	-0.04	409.86	-3.19	-0.58
TTF6QT		368.00	-0.90	-0.12	415.00	1.95	0.35
U2YJWW		368.60	-0.30	-0.04	412.80	-0.25	-0.04
U9H9KH	*	366.00	-2.90	-0.40	424.40	11.35	2.05
UG4W6E		363.00	-5.90	-0.81	415.00	1.95	0.35
ULCHRQ		363.00	-5.90	-0.81	415.00	1.95	0.35
V8NPGW		360.00	-8.90	-1.22	406.80	-6.25	-1.13
VBCBDQ		363.00	-5.90	-0.81	401.20	-11.85	-2.14
VFWJA4	*	380.40	11.50	1.58	427.40	14.35	2.59
VHLBCG		376.60	7.70	1.06	415.00	1.95	0.35
VJBNUY		364.20	-4.70	-0.64	415.40	2.35	0.42
VKXG7N		375.00	6.10	0.84	415.00	1.95	0.35
VWE4KV		375.00	6.10	0.84	415.00	1.95	0.35
WXAVNU	X	341.00	-27.90	-3.83	389.40	-23.65	-4.27
XQY9PW		363.00	-5.90	-0.81	414.00	0.95	0.17
XXCHHX		373.45	4.56	0.63	418.63	5.58	1.01
Y9UA3F		375.00	6.10	0.84	413.60	0.55	0.10
YA67HR		368.00	-0.90	-0.12	415.80	2.75	0.50
YFN2UB		359.40	-9.50	-1.30	413.80	0.75	0.14
YHQGA7		377.98	9.08	1.25	417.78	4.73	0.85
ZKRWZ9		359.20	-9.70	-1.33	404.80	-8.25	-1.49

Summary Statistics

	Sample D89		Sample D90	
Grand Means	368.90	HBW	413.05	HBW
Stnd Dev Btwn Labs	7.29	HBW	5.54	HBW

Samples D89, D90 : Steel, Steel

Statistics based on 66 of 69 reporting participants

Samples D89, D90 are hardness test blocks made from steel. The blocks are heat treated to hardness levels specified by CTS.

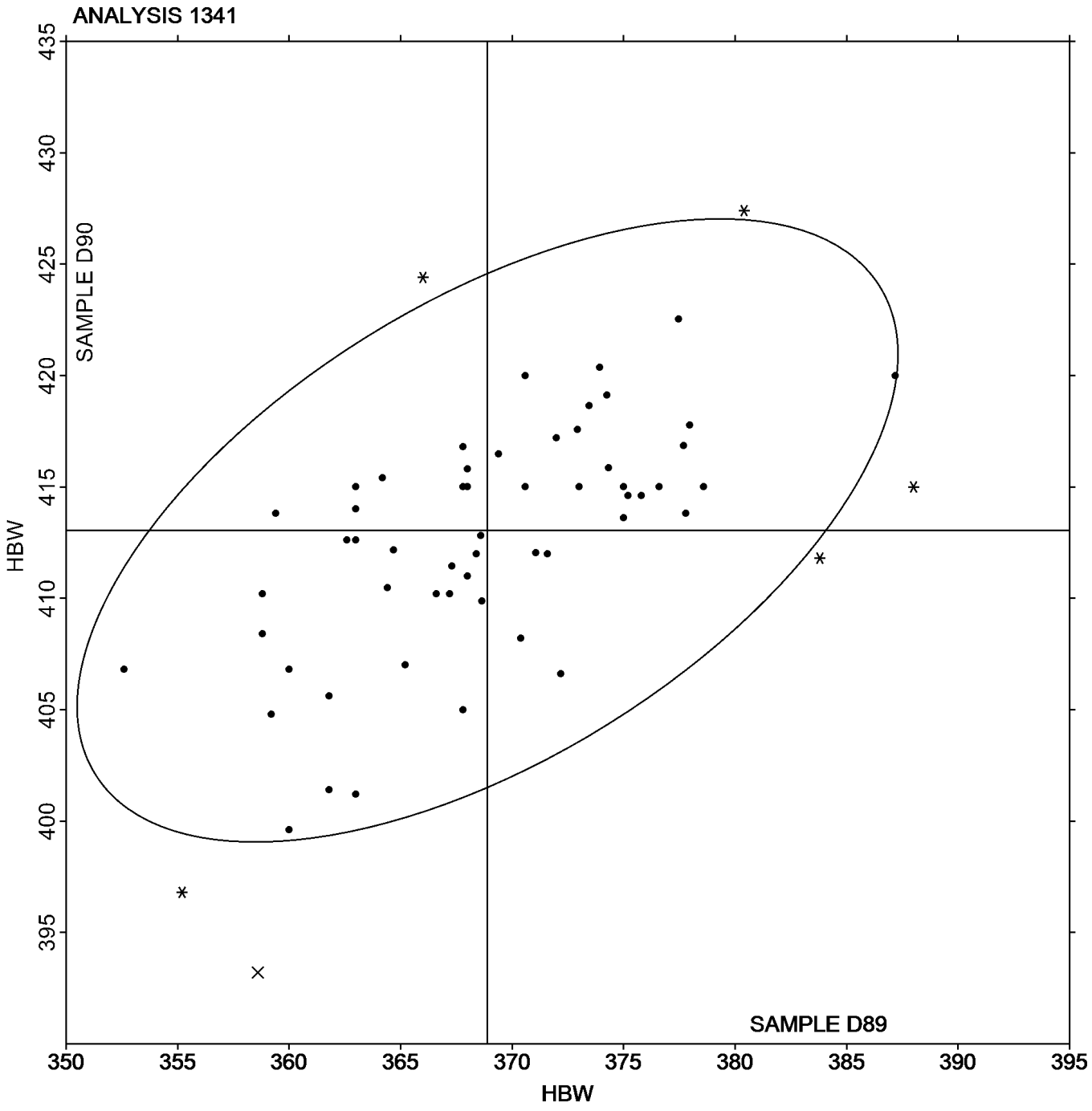
Comments on Assigned Data Flags for Test #1341

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

HGARVA (X) - Data for sample D90 are low. Inconsistent within the determinations of sample D90.

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

SAMPLE D89	SAMPLE D90
368.90 HBW	413.05 HBW



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.1703	0.0042	0.62	0.1777	0.0010	0.14	OE
24QCFR		0.1720	0.0058	0.87	0.1810	0.0043	0.60	OE
2637ZY		0.1655	-0.0006	-0.09	0.1798	0.0031	0.43	OE
2DMHPR		0.1690	0.0028	0.42	0.1762	-0.0005	-0.06	CO
32XZH7		0.1720	0.0058	0.87	0.1860	0.0093	1.29	OE
36E7DU		0.1713	0.0052	0.77	0.1824	0.0057	0.79	OE
3NQULL		0.1583	-0.0079	-1.17	0.1711	-0.0056	-0.78	CO
4922XR		0.1702	0.0041	0.61	0.1797	0.0030	0.42	OE
4FW33W		0.1560	-0.0102	-1.52	0.1673	-0.0094	-1.29	OE
6H6HDN		0.1667	0.0005	0.07	0.1767	0.0000	0.00	OE
6NHRNC		0.1673	0.0012	0.17	0.1890	0.0123	1.70	OE
6XX4NW		0.1639	-0.0022	-0.33	0.1755	-0.0012	-0.17	CI
73LBLV		0.1683	0.0022	0.32	0.1797	0.0030	0.41	CO
7TT3LD		0.1537	-0.0125	-1.87	0.1590	-0.0177	-2.44	CO
82Q6KV		0.1633	-0.0028	-0.42	0.1700	-0.0067	-0.92	GD
8G2VEN		0.1587	-0.0075	-1.12	0.1693	-0.0074	-1.02	CI
8LT3WW		0.1716	0.0054	0.80	0.1778	0.0011	0.15	OE
8VBKF3		0.1703	0.0042	0.62	0.1800	0.0033	0.46	OE
8Z4QTK		0.1597	-0.0065	-0.97	0.1700	-0.0067	-0.92	CI
96W2QP		0.1653	-0.0008	-0.13	0.1710	-0.0057	-0.79	CI
9B3D8G		0.1764	0.0103	1.53	0.1848	0.0081	1.13	OE
9QXQPJ		0.1651	-0.0010	-0.16	0.1781	0.0014	0.19	OE
A2X26Q		0.1570	-0.0092	-1.37	0.1610	-0.0157	-2.17	OE
ACC7RN		0.1633	-0.0028	-0.42	0.1757	-0.0010	-0.14	OE
AE7NDN		0.1663	0.0002	0.02	0.1710	-0.0057	-0.79	CO
AQVT48		0.1667	0.0006	0.08	0.1786	0.0019	0.26	AE
BQHDQJ		0.1697	0.0035	0.52	0.1727	-0.0040	-0.56	OE
BZDWHK		0.1703	0.0042	0.62	0.1897	0.0130	1.79	XX
C6AT74		0.1593	-0.0068	-1.02	0.1713	-0.0054	-0.74	XX
C7B2TZ		0.1711	0.0049	0.73	0.1805	0.0038	0.53	CI
C9LBUT	X	0.1804	0.0142	2.12	0.2052	0.0285	3.94	OE
CDYM47		0.1733	0.0072	1.07	0.1800	0.0033	0.46	OE
CHQN78		0.1693	0.0032	0.47	0.1730	-0.0037	-0.51	OE
CY6UWY		0.1698	0.0036	0.54	0.1785	0.0018	0.26	OE
D4TVD4		0.1633	-0.0028	-0.42	0.1757	-0.0010	-0.14	OE
DNEQPX		0.1603	-0.0058	-0.87	0.1740	-0.0027	-0.37	AE
DWRL2J		0.1600	-0.0062	-0.92	0.1733	-0.0034	-0.46	OE
EGXCXE		0.1627	-0.0035	-0.52	0.1740	-0.0027	-0.37	DR
EQ2PL7		0.1670	0.0008	0.12	0.1813	0.0046	0.64	OE
FAVMLD		0.1555	-0.0107	-1.59	0.1729	-0.0038	-0.53	OE
FEDPAB	X	0.1273	-0.0388	-5.80	0.1397	-0.0370	-5.12	OE
FPP6VW		0.1660	-0.0002	-0.03	0.1770	0.0003	0.04	OE
FRVWEW	X	0.1617	-0.0045	-0.67	0.1847	0.0080	1.10	GD
GYXJG4		0.1673	0.0012	0.17	0.1773	0.0006	0.09	OE
GZCFZA		0.1690	0.0028	0.42	0.1847	0.0080	1.10	OE
H3FZCU	*	0.1650	-0.0012	-0.17	0.1913	0.0146	2.02	OE
HK9JXA		0.1787	0.0125	1.86	0.1900	0.0133	1.84	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HUG4HJ		0.1503	-0.0158	-2.36	0.1667	-0.0100	-1.38	OE
J7R3H6		0.1647	-0.0015	-0.22	0.1830	0.0063	0.87	OE
J7Y9PY		0.1600	-0.0062	-0.92	0.1690	-0.0077	-1.06	OE
JAZFVJ		0.1667	0.0005	0.07	0.1800	0.0033	0.46	OE
JN4RGA		0.1717	0.0055	0.82	0.1797	0.0030	0.41	OE
KG3WB9		0.1710	0.0048	0.72	0.1820	0.0053	0.73	OE
KNZMGR		0.1710	0.0048	0.72	0.1867	0.0100	1.38	GD
KU6C26		0.1723	0.0062	0.92	0.1837	0.0070	0.96	OE
LARD2G		0.1815	0.0153	2.29	0.1938	0.0171	2.37	OE
LGLHFP		0.1740	0.0078	1.17	0.1837	0.0070	0.96	OE
LUWUCR		0.1582	-0.0079	-1.18	0.1667	-0.0100	-1.38	CI
LYLBLX		0.1579	-0.0083	-1.24	0.1690	-0.0077	-1.07	XX
M44UHD		0.1700	0.0038	0.57	0.1803	0.0036	0.50	OE
MED6EW	X	0.1767	0.0105	1.57	0.2055	0.0288	3.98	OE
MG6L3H		0.1677	0.0015	0.22	0.1787	0.0020	0.27	OE
MV2DHL		0.1575	-0.0087	-1.30	0.1683	-0.0084	-1.15	OE
MVJWAR		0.1697	0.0035	0.52	0.1807	0.0040	0.55	GD
N6BR7E		0.1643	-0.0018	-0.27	0.1793	0.0026	0.37	CI
N7ZWNZ		0.1550	-0.0112	-1.67	0.1667	-0.0100	-1.38	OE
NE9ZL7		0.1610	-0.0052	-0.77	0.1687	-0.0080	-1.11	OE
NFKAG6		0.1698	0.0037	0.55	0.1858	0.0091	1.26	OE
NN8W39		0.1550	-0.0112	-1.67	0.1737	-0.0030	-0.42	OE
NQ6J6X		0.1625	-0.0037	-0.55	0.1721	-0.0046	-0.63	OE
NX6V8M		0.1607	-0.0055	-0.82	0.1667	-0.0100	-1.38	OE
NX7QWX		0.1800	0.0138	2.06	0.1880	0.0113	1.56	OE
PJDVMX		0.1550	-0.0112	-1.67	0.1640	-0.0127	-1.75	CI
PQJUCP		0.1681	0.0019	0.29	0.1717	-0.0050	-0.69	CI
PTKBT7	X	0.1440	-0.0222	-3.31	0.1453	-0.0314	-4.33	XX
Q8MB6Y		0.1571	-0.0091	-1.36	0.1693	-0.0074	-1.03	OE
QNP3LG		0.1677	0.0015	0.22	0.1720	-0.0047	-0.65	OE
RHVJYC		0.1703	0.0042	0.62	0.1783	0.0016	0.23	OE
RR32VP		0.1630	-0.0032	-0.47	0.1743	-0.0024	-0.33	XX
RV9GCT		0.1640	-0.0022	-0.32	0.1710	-0.0057	-0.79	CO
T37MKT		0.1820	0.0158	2.36	0.1923	0.0156	2.16	OE
T73CNU		0.1567	-0.0095	-1.41	0.1683	-0.0084	-1.16	GD
TH3PGZ		0.1718	0.0057	0.84	0.1780	0.0013	0.19	OE
U9H9KH		0.1693	0.0032	0.47	0.1857	0.0090	1.24	OE
UAFJKR		0.1698	0.0036	0.54	0.1805	0.0038	0.52	OE
UYEWQA		0.1733	0.0072	1.07	0.1817	0.0050	0.69	OE
V7HDQK		0.1810	0.0148	2.21	0.1930	0.0163	2.25	OE
VERKJ6		0.1543	-0.0118	-1.77	0.1667	-0.0100	-1.38	XX
VHF23N		0.1705	0.0043	0.64	0.1816	0.0049	0.67	OE
VWE4KV		0.1663	0.0002	0.02	0.1690	-0.0077	-1.06	GD
W2ANC4		0.1623	-0.0038	-0.57	0.1710	-0.0057	-0.79	OE
WBQYDW		0.1653	-0.0008	-0.13	0.1777	0.0010	0.14	CO
WYM3Q9		0.1703	0.0042	0.62	0.1801	0.0034	0.48	OE
XHGZNU		0.1761	0.0099	1.48	0.1813	0.0046	0.64	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1600

Carbon & Low Alloy Steel, CARBON (C)

CARBON (C)

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
XLH6H2		0.1707	0.0045	0.67	0.1859	0.0092	1.27	OE
Y22WKT		0.1570	-0.0092	-1.37	0.1667	-0.0100	-1.38	CI
Y79CT4		0.1620	-0.0042	-0.62	0.1700	-0.0067	-0.92	AE
YE4ETU		0.1747	0.0085	1.27	0.1863	0.0096	1.33	OE
YFN2UB		0.1659	-0.0003	-0.04	0.1744	-0.0023	-0.31	OE
YG3WRG		0.1607	-0.0055	-0.82	0.1723	-0.0044	-0.60	OE
Z6M9A4		0.1677	0.0015	0.22	0.1777	0.0010	0.14	OE
ZCPFVX		0.1660	-0.0002	-0.03	0.1743	-0.0024	-0.33	OE
ZTRMWZ	X	0.4106	0.2444	36.47	0.4406	0.2639	36.48	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.1662	Percent	0.1767	Percent
Stnd Dev Btwn Labs	0.0067	Percent	0.0072	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 96 of 103 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	CI	Combustion / IR
CO	Combustion	DR	Spectrometry - Direct Reading OE (DROES)
GD	Spectrometry - Glow Discharge (GDS)	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 #1600

C9LBUT (X) - Data for sample L90 are high. Inconsistent within the determinations of sample L90.

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

FRVWEW (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L90.

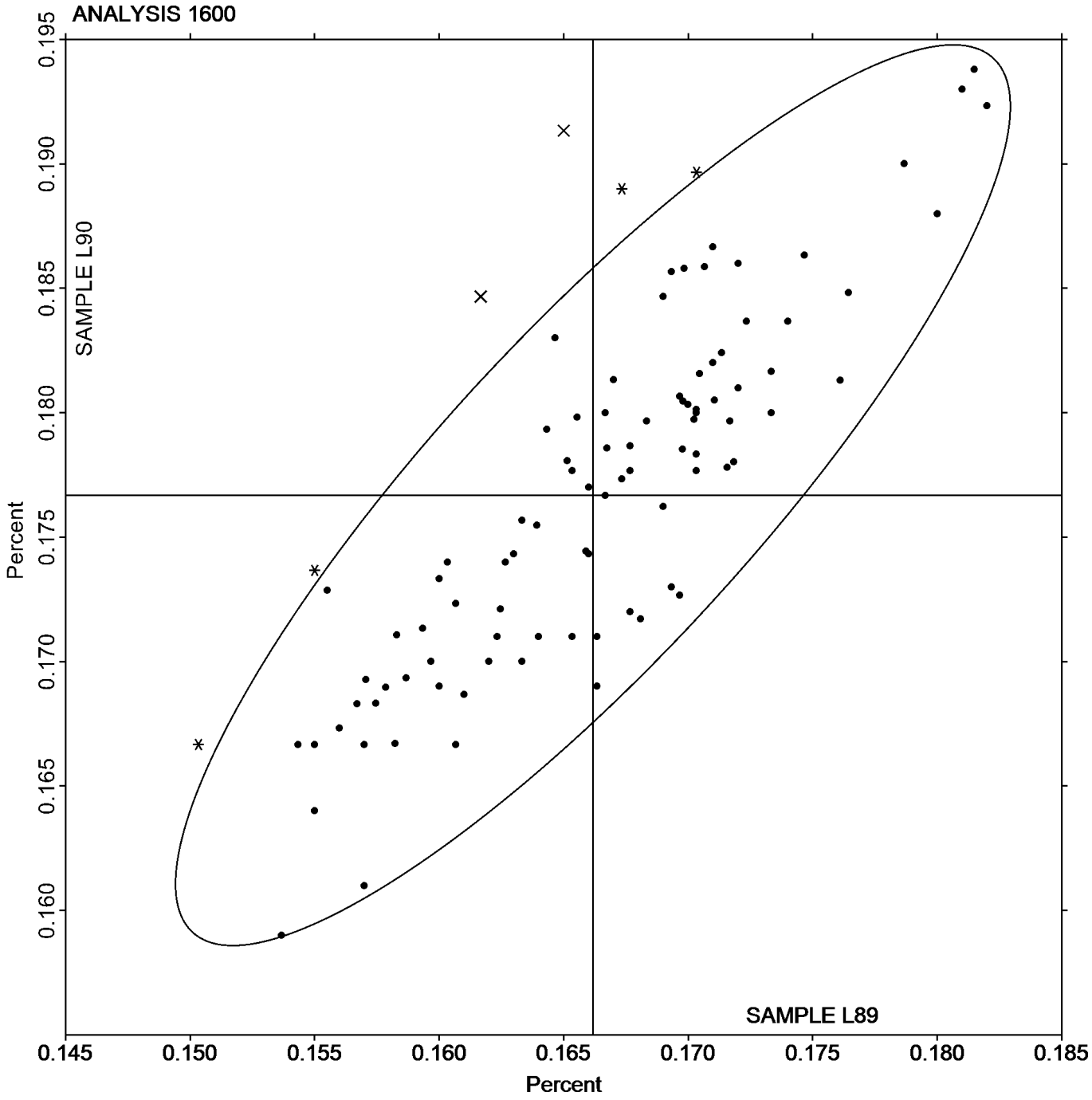
MED6EW (X) - Data for sample L90 are high. Inconsistent within the determinations of sample L90.

PTKBT7 (X) - Data for both samples are low. Possible Systematic Error.

ZTRMWZ (X) - Extreme data.

SAMPLE L89
0.1662 Percent

SAMPLE L90
0.1767 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.6803	0.0003	0.03	0.6327	-0.0020	-0.21	OE
24QCFR		0.6740	-0.0060	-0.58	0.6267	-0.0080	-0.85	OE
2637ZY		0.6829	0.0029	0.28	0.6407	0.0060	0.64	OE
2DMHPR	*	0.6603	-0.0197	-1.89	0.6535	0.0188	2.01	IC
32XZH7		0.6813	0.0013	0.13	0.6293	-0.0053	-0.57	OE
36E7DU		0.6752	-0.0048	-0.47	0.6287	-0.0060	-0.64	OE
3NQULL		0.6791	-0.0009	-0.09	0.6301	-0.0045	-0.48	XR
4922XR		0.6871	0.0071	0.68	0.6454	0.0107	1.14	XX
4FW33W		0.6700	-0.0100	-0.96	0.6250	-0.0097	-1.03	OE
6H6HDN		0.6833	0.0033	0.32	0.6433	0.0087	0.93	OE
6NHRNC		0.7050	0.0250	2.40	0.6477	0.0130	1.39	OE
6XX4NW		0.6789	-0.0011	-0.11	0.6451	0.0104	1.11	WD
73LBLV		0.6887	0.0087	0.83	0.6400	0.0053	0.57	OE
7TT3LD		0.6750	-0.0050	-0.48	0.6400	0.0053	0.57	OE
82Q6KV	X	0.6567	-0.0233	-2.24	0.6400	0.0053	0.57	GD
8G2VEN		0.6817	0.0017	0.16	0.6390	0.0043	0.46	OE
8LT3WW		0.6909	0.0109	1.05	0.6388	0.0041	0.44	OE
8VBKF3		0.6837	0.0037	0.35	0.6400	0.0053	0.57	OE
8Z4QTK		0.6867	0.0067	0.64	0.6433	0.0087	0.93	OE
96W2QP		0.6900	0.0100	0.96	0.6325	-0.0021	-0.23	IC
9B3D8G		0.6788	-0.0012	-0.12	0.6347	0.0000	0.00	OE
9QXQPJ		0.6738	-0.0062	-0.60	0.6303	-0.0044	-0.47	OE
A2X26Q		0.6670	-0.0130	-1.25	0.6243	-0.0103	-1.10	OE
ACC7RN		0.6860	0.0060	0.58	0.6413	0.0067	0.71	OE
AE7NDN		0.6887	0.0087	0.83	0.6457	0.0110	1.18	OE
AQVT48		0.6690	-0.0110	-1.06	0.6255	-0.0091	-0.97	AE
BQHDQJ		0.6850	0.0050	0.48	0.6317	-0.0030	-0.32	OE
BZDWHK		0.6887	0.0087	0.83	0.6380	0.0033	0.36	XX
C6AT74		0.6853	0.0053	0.51	0.6393	0.0047	0.50	XX
C7B2TZ		0.6853	0.0053	0.51	0.6430	0.0083	0.89	IC
C9LBUT		0.6828	0.0028	0.26	0.6238	-0.0108	-1.16	OE
CDYM47		0.6667	-0.0133	-1.28	0.6200	-0.0147	-1.57	OE
CHQN78	*	0.6940	0.0140	1.34	0.6350	0.0003	0.04	OE
CY6UWY		0.6818	0.0018	0.17	0.6318	-0.0029	-0.31	OE
D4TVD4		0.6830	0.0030	0.29	0.6373	0.0027	0.29	OE
DFBFXZ		0.6600	-0.0200	-1.92	0.6160	-0.0187	-1.99	XR
DNEQPX		0.6693	-0.0107	-1.03	0.6310	-0.0037	-0.39	AE
DWRL2J		0.6833	0.0033	0.32	0.6433	0.0087	0.93	OE
EGXCXE		0.6590	-0.0210	-2.02	0.6160	-0.0187	-1.99	DR
EQ2PL7		0.6933	0.0133	1.28	0.6477	0.0130	1.39	OE
FAVMLD		0.6760	-0.0040	-0.39	0.6401	0.0055	0.59	OE
FEDPAB	X	0.7200	0.0400	3.84	0.6767	0.0420	4.49	OE
FPP6VW		0.6817	0.0017	0.16	0.6390	0.0043	0.46	OE
FRVWEW		0.6980	0.0180	1.73	0.6533	0.0187	1.99	GD
GYXJG4		0.6827	0.0027	0.26	0.6403	0.0057	0.61	OE
GZCFZA		0.6783	-0.0017	-0.16	0.6367	0.0020	0.21	OE
H3FZCU		0.6777	-0.0023	-0.22	0.6353	0.0007	0.07	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.6967	0.0167	1.60	0.6500	0.0153	1.64	OE
HUG4HJ		0.6753	-0.0047	-0.45	0.6367	0.0020	0.21	OE
J7R3H6		0.6827	0.0027	0.26	0.6407	0.0060	0.64	OE
J7Y9PY		0.6710	-0.0090	-0.87	0.6207	-0.0140	-1.49	OE
JAZFVJ		0.6540	-0.0260	-2.50	0.6173	-0.0173	-1.85	OE
JN4RGA		0.6880	0.0080	0.77	0.6433	0.0087	0.93	OE
KG3WB9		0.6850	0.0050	0.48	0.6383	0.0037	0.39	OE
KNZMGR		0.6880	0.0080	0.77	0.6473	0.0127	1.35	GD
KU6C26		0.6850	0.0050	0.48	0.6340	-0.0007	-0.07	OE
LARD2G		0.7022	0.0222	2.13	0.6565	0.0218	2.33	OE
LGLHFP		0.6693	-0.0107	-1.03	0.6247	-0.0100	-1.07	OE
LUWUCR		0.6815	0.0015	0.14	0.6462	0.0116	1.24	IC
LYLBLX		0.6961	0.0161	1.55	0.6373	0.0027	0.28	XX
M44UHD		0.6897	0.0097	0.93	0.6460	0.0113	1.21	OE
MED6EW		0.6967	0.0167	1.60	0.6413	0.0067	0.71	OE
MG6L3H		0.6717	-0.0083	-0.80	0.6233	-0.0113	-1.21	OE
MV2DHL		0.6877	0.0077	0.74	0.6418	0.0072	0.77	OE
MVJWAR		0.6633	-0.0167	-1.60	0.6177	-0.0170	-1.81	GD
N6BR7E		0.6820	0.0020	0.19	0.6420	0.0073	0.78	IC
N7ZWNZ		0.6683	-0.0117	-1.12	0.6257	-0.0090	-0.96	OE
NE9ZL7		0.6523	-0.0277	-2.66	0.6133	-0.0213	-2.28	OE
NFKAG6		0.6910	0.0110	1.06	0.6478	0.0131	1.40	OE
NN8W39		0.6713	-0.0087	-0.83	0.6360	0.0013	0.14	OE
NQ6J6X		0.6877	0.0077	0.74	0.6445	0.0098	1.05	OE
NX6V8M		0.6783	-0.0017	-0.16	0.6337	-0.0010	-0.11	OE
NX7QWX		0.6800	0.0000	0.00	0.6310	-0.0037	-0.39	OE
PJDVMX		0.6747	-0.0053	-0.51	0.6290	-0.0057	-0.60	IC
PTKBT7		0.6800	0.0000	0.00	0.6267	-0.0080	-0.85	XX
Q8MB6Y		0.6847	0.0047	0.45	0.6401	0.0054	0.58	OE
QNP3LG	X	0.7233	0.0433	4.16	0.6723	0.0377	4.02	OE
RHVJYC		0.6800	0.0000	0.00	0.6307	-0.0040	-0.43	OE
RR32VP		0.6740	-0.0060	-0.58	0.6297	-0.0050	-0.53	XX
RV9GCT		0.6730	-0.0070	-0.67	0.6280	-0.0067	-0.71	OE
T37MKT	X	0.6483	-0.0317	-3.04	0.6027	-0.0320	-3.42	OE
T73CNU		0.6615	-0.0185	-1.78	0.6185	-0.0162	-1.73	GD
TH3PGZ		0.6874	0.0074	0.71	0.6345	-0.0002	-0.02	OE
U9H9KH		0.6750	-0.0050	-0.48	0.6310	-0.0037	-0.39	OE
UAFJKR		0.6832	0.0032	0.30	0.6376	0.0029	0.31	OE
UYEWQA		0.6887	0.0087	0.83	0.6400	0.0053	0.57	OE
V7HDQK	X	0.7210	0.0410	3.94	0.6573	0.0227	2.42	OE
VERKJ6		0.6637	-0.0163	-1.57	0.6227	-0.0120	-1.28	XX
VHF23N		0.6748	-0.0052	-0.50	0.6305	-0.0042	-0.45	OE
VWE4KV		0.6800	0.0000	0.00	0.6287	-0.0060	-0.64	GD
W2ANC4		0.6770	-0.0030	-0.29	0.6323	-0.0023	-0.25	OE
WBQYDW		0.6717	-0.0083	-0.80	0.6257	-0.0090	-0.96	OE
WYM3Q9	*	0.6522	-0.0278	-2.67	0.6121	-0.0226	-2.41	OE
XHGZNU		0.6834	0.0034	0.33	0.6375	0.0029	0.31	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1601

Carbon & Low Alloy Steel, MANGANESE (Mn)

MANGANESE (Mn)

WebCode	Data Flag	Sample L89 Lab Mean	Sample L89 Diff. from Grand Mean	Sample L89 CPV	Sample L90 Lab Mean	Sample L90 Diff. from Grand Mean	Sample L90 CPV	Method
XLH6H2		0.6940	0.0140	1.34	0.6479	0.0133	1.42	OE
Y22WKT		0.6803	0.0003	0.03	0.6367	0.0020	0.21	IC
Y79CT4		0.6847	0.0047	0.45	0.6353	0.0007	0.07	AE
YE4ETU		0.6850	0.0050	0.48	0.6427	0.0080	0.86	OE
YFN2UB		0.6972	0.0172	1.65	0.6475	0.0128	1.37	OE
YG3WRG		0.6743	-0.0057	-0.54	0.6300	-0.0047	-0.50	OE
Z6M9A4		0.6787	-0.0013	-0.13	0.6313	-0.0033	-0.35	OE
ZCPFVX		0.6660	-0.0140	-1.35	0.6273	-0.0073	-0.78	OE
ZTRMWZ		0.6721	-0.0079	-0.76	0.6217	-0.0129	-1.38	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.6800	Percent	0.6347	Percent
Stnd Dev Btwn Labs	0.0104	Percent	0.0094	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 97 of 103 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1601

82Q6KV (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L90.

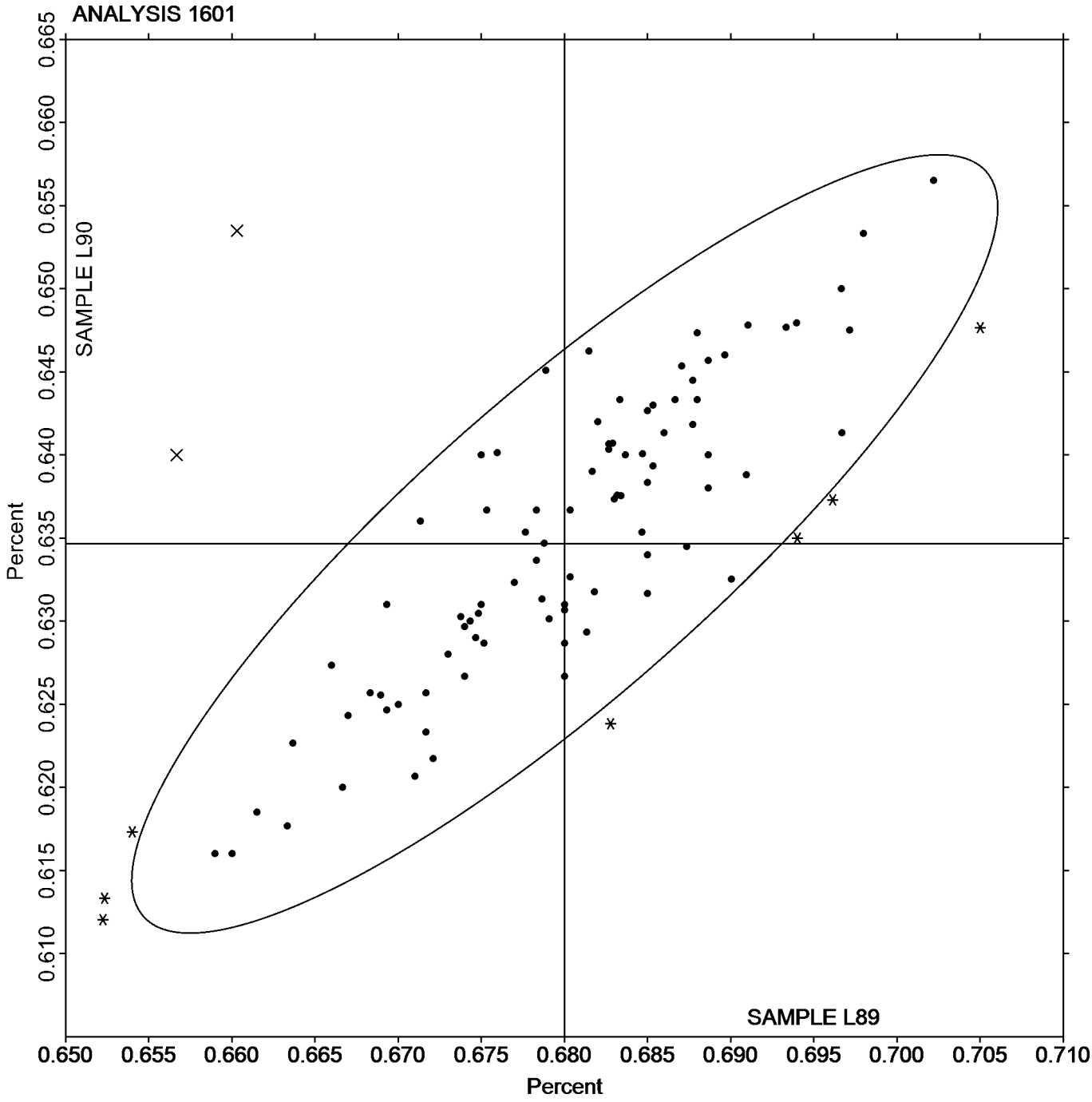
FEDPAB (X) - Data for both samples are high. Possible Systematic Error.

QNP3LG (X) - Data for both samples are high. Possible Systematic Error.

T37MKT (X) - Data for both samples are low. Possible Systematic Error.

V7HDQK (X) - Data for sample L89 are high.

SAMPLE L89	SAMPLE L90
0.6800 Percent	0.6347 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.00907	-0.00058	-0.66	0.00700	-0.00084	-0.98	OE
24QCFR		0.00857	-0.00108	-1.23	0.00663	-0.00120	-1.41	OE
2637ZY		0.0106	0.00100	1.13	0.00921	0.00138	1.61	OE
2DMHPR		0.00730	-0.00235	-2.67	0.00633	-0.00150	-1.76	IC
32XZH7		0.0100	0.00039	0.44	0.00843	0.00060	0.70	OE
36E7DU		0.0104	0.00071	0.81	0.00881	0.00097	1.14	OE
3NQULL	X	0.0210	0.01139	12.95	0.0225	0.01470	17.24	XR
4922XR		0.00964	-0.00001	-0.01	0.00810	0.00026	0.30	XX
4FW33W		0.0110	0.00135	1.54	0.00923	0.00140	1.64	OE
6H6HDN		0.00967	0.00002	0.02	0.00800	0.00016	0.19	OE
6NHRNC	*	0.00937	-0.00028	-0.32	0.00987	0.00203	2.38	OE
6XX4NW		0.0101	0.00049	0.55	0.00820	0.00036	0.42	OE
73LBLV		0.0100	0.00035	0.40	0.00783	0.00000	-0.01	OE
82Q6KV		0.00933	-0.00031	-0.36	0.00700	-0.00084	-0.98	GD
8G2VEN		0.00853	-0.00111	-1.27	0.00683	-0.00100	-1.18	OE
8LT3WW		0.0109	0.00122	1.39	0.00860	0.00076	0.89	OE
8VBKF3		0.0100	0.00035	0.40	0.00800	0.00016	0.19	OE
8Z4QTK		0.00880	-0.00085	-0.96	0.00710	-0.00074	-0.87	OE
96W2QP		0.00983	0.00019	0.21	0.00743	-0.00040	-0.47	IC
9B3D8G		0.00937	-0.00027	-0.31	0.00753	-0.00030	-0.36	OE
9QXQPJ		0.00889	-0.00075	-0.86	0.00730	-0.00053	-0.63	OE
A2X26Q		0.00860	-0.00105	-1.19	0.00713	-0.00070	-0.83	OE
ACC7RN		0.00933	-0.00031	-0.36	0.00753	-0.00030	-0.36	OE
AE7NDN		0.00900	-0.00065	-0.74	0.00700	-0.00084	-0.98	OE
AQVT48		0.00940	-0.00025	-0.28	0.00787	0.00003	0.03	AE
BQHDQJ	*	0.0121	0.00242	2.75	0.0103	0.00243	2.85	OE
BZDWHK		0.00900	-0.00065	-0.74	0.00700	-0.00084	-0.98	XX
C6AT74		0.00993	0.00029	0.33	0.00800	0.00016	0.19	XX
C7B2TZ		0.00963	-0.00001	-0.02	0.00787	0.00003	0.03	IC
C9LBUT		0.00973	0.00009	0.10	0.00760	-0.00024	-0.28	OE
CDYM47		0.0113	0.00165	1.88	0.00947	0.00163	1.91	OE
CHQN78		0.00903	-0.00061	-0.70	0.00673	-0.00110	-1.30	OE
CY6UWY		0.0101	0.00042	0.48	0.00803	0.00020	0.23	OE
D4TVD4		0.0100	0.00035	0.40	0.00800	0.00016	0.19	OE
DNEQPX	X	0.0250	0.01535	17.46	0.0217	0.01383	16.22	AE
DWRL2J		0.00867	-0.00098	-1.12	0.00633	-0.00150	-1.76	OE
EGXCXE		0.0102	0.00059	0.67	0.00847	0.00063	0.74	DR
EQ2PL7		0.00993	0.00029	0.33	0.00790	0.00006	0.07	OE
FAVMLD		0.00930	-0.00035	-0.39	0.00800	0.00016	0.19	OE
FEDPAB		0.00807	-0.00158	-1.80	0.00630	-0.00154	-1.80	OE
FPP6VW		0.00900	-0.00065	-0.74	0.00767	-0.00017	-0.20	OE
FRVWEW		0.00920	-0.00045	-0.51	0.00713	-0.00070	-0.83	GD
GYXJG4		0.00933	-0.00031	-0.36	0.00740	-0.00044	-0.51	OE
GZCFZA		0.00867	-0.00098	-1.12	0.00680	-0.00104	-1.22	OE
H3FZCU		0.00853	-0.00111	-1.27	0.00697	-0.00087	-1.02	OE
HK9JXA	X	0.00267	-0.00698	-7.94	0.00150	-0.00634	-7.43	OE
HUG4HJ	*	0.00867	-0.00098	-1.12	0.00833	0.00050	0.58	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
J7R3H6		0.00950	-0.00015	-0.17	0.00817	0.00033	0.39	OE
J7Y9PY		0.00950	-0.00015	-0.17	0.00690	-0.00094	-1.10	OE
JAZFVJ		0.00900	-0.00065	-0.74	0.00800	0.00016	0.19	OE
JN4RGA		0.00950	-0.00015	-0.17	0.00810	0.00026	0.31	OE
KG3WB9		0.0100	0.00035	0.40	0.00847	0.00063	0.74	OE
KNZMGR		0.0108	0.00115	1.31	0.00927	0.00143	1.68	GD
KU6C26		0.0106	0.00095	1.08	0.00883	0.00100	1.17	OE
LARD2G		0.00930	-0.00035	-0.39	0.00750	-0.00034	-0.40	OE
LGLHFP		0.00867	-0.00098	-1.12	0.00700	-0.00084	-0.98	OE
LUWUCR		0.00983	0.00019	0.21	0.00757	-0.00027	-0.32	IC
LYLBLX		0.0103	0.00062	0.70	0.00876	0.00092	1.08	XX
M44UHD	X	0.0139	0.00422	4.80	0.0123	0.00446	5.23	OE
MED6EW		0.0101	0.00042	0.48	0.00843	0.00060	0.70	OE
MG6L3H		0.00887	-0.00078	-0.89	0.00733	-0.00050	-0.59	OE
MV2DHL		0.00907	-0.00058	-0.66	0.00753	-0.00030	-0.36	OE
MVJWAR		0.0110	0.00135	1.54	0.00867	0.00083	0.97	GD
N6BR7E		0.00857	-0.00108	-1.23	0.00673	-0.00110	-1.30	IC
N7ZWNZ		0.00900	-0.00065	-0.74	0.00700	-0.00084	-0.98	OE
NE9ZL7	*	0.0120	0.00235	2.68	0.00993	0.00210	2.46	OE
NFKAG6		0.00933	-0.00031	-0.36	0.00753	-0.00030	-0.36	OE
NN8W39		0.0103	0.00069	0.78	0.00933	0.00150	1.75	OE
NQ6J6X		0.0100	0.00035	0.40	0.00893	0.00110	1.28	OE
NX6V8M		0.00907	-0.00058	-0.66	0.00713	-0.00070	-0.83	OE
NX7QWX		0.0104	0.00075	0.86	0.00770	-0.00014	-0.16	OE
PJDVMX		0.00867	-0.00098	-1.12	0.00733	-0.00050	-0.59	IC
PTKBT7		0.0100	0.00035	0.40	0.00800	0.00016	0.19	XX
Q8MB6Y		0.00980	0.00015	0.17	0.00843	0.00060	0.70	OE
QNP3LG		0.0100	0.00035	0.40	0.00767	-0.00017	-0.20	OE
RHVJYC		0.00967	0.00002	0.02	0.00717	-0.00067	-0.79	OE
RR32VP		0.00800	-0.00165	-1.87	0.00600	-0.00184	-2.16	XX
RV9GCT		0.00990	0.00025	0.29	0.00800	0.00016	0.19	OE
T37MKT		0.00993	0.00029	0.33	0.00793	0.00010	0.11	OE
T73CNU	X	0.0140	0.00435	4.95	0.0118	0.00396	4.65	GD
TH3PGZ		0.00963	-0.00001	-0.02	0.00753	-0.00030	-0.36	OE
U9H9KH		0.00827	-0.00138	-1.57	0.00737	-0.00047	-0.55	OE
UAFJKR		0.00990	0.00025	0.29	0.00800	0.00016	0.19	OE
UYEWQA		0.00943	-0.00021	-0.24	0.00767	-0.00017	-0.20	OE
V7HDQK		0.00833	-0.00131	-1.49	0.00700	-0.00084	-0.98	OE
VERKJ6	X	0.0113	0.00169	1.92	0.0110	0.00316	3.71	XX
VHF23N		0.0118	0.00219	2.49	0.00953	0.00170	1.99	OE
VWE4KV	*	0.00983	0.00018	0.21	0.00619	-0.00165	-1.93	GD
W2ANC4		0.0110	0.00135	1.54	0.00910	0.00126	1.48	OE
WBQYDW		0.0108	0.00118	1.35	0.00862	0.00079	0.92	OE
WYM3Q9		0.0102	0.00058	0.66	0.00829	0.00046	0.53	OE
XHGZNU		0.0110	0.00135	1.54	0.00897	0.00113	1.32	OE
XLH6H2		0.00977	0.00012	0.14	0.00813	0.00030	0.35	OE
Y22WKT		0.0106	0.00092	1.05	0.00873	0.00090	1.05	IC

Fasteners and Metals Interlaboratory Testing Program
Analysis 1602
Carbon & Low Alloy Steel, PHOSPHORUS (P)
PHOSPHORUS (P)

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
Y79CT4	X	0.0130	0.00332	3.78	0.0114	0.00360	4.22	AE
YE4ETU		0.00950	-0.00015	-0.17	0.00767	-0.00017	-0.20	OE
YFN2UB		0.00897	-0.00068	-0.77	0.00783	0.00000	-0.01	OE
YG3WRG		0.00967	0.00002	0.02	0.00833	0.00050	0.58	OE
Z6M9A4		0.00887	-0.00078	-0.89	0.00697	-0.00087	-1.02	OE
ZCPFVX		0.00983	0.00019	0.21	0.00803	0.00020	0.23	OE
ZTRMWZ		0.00957	-0.00008	-0.09	0.00707	-0.00077	-0.90	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.00965	Percent	0.00784	Percent
Stnd Dev Btwn Labs	0.00088	Percent	0.00085	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 91 of 101 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1602

3NQULL (X) - Extreme data.

DNEQPX (X) - Extreme data.

HK9JXA (X) - Data for both samples are low. Possible Systematic Error.

M44UHD (X) - Data for both samples are high. Possible Systematic Error.

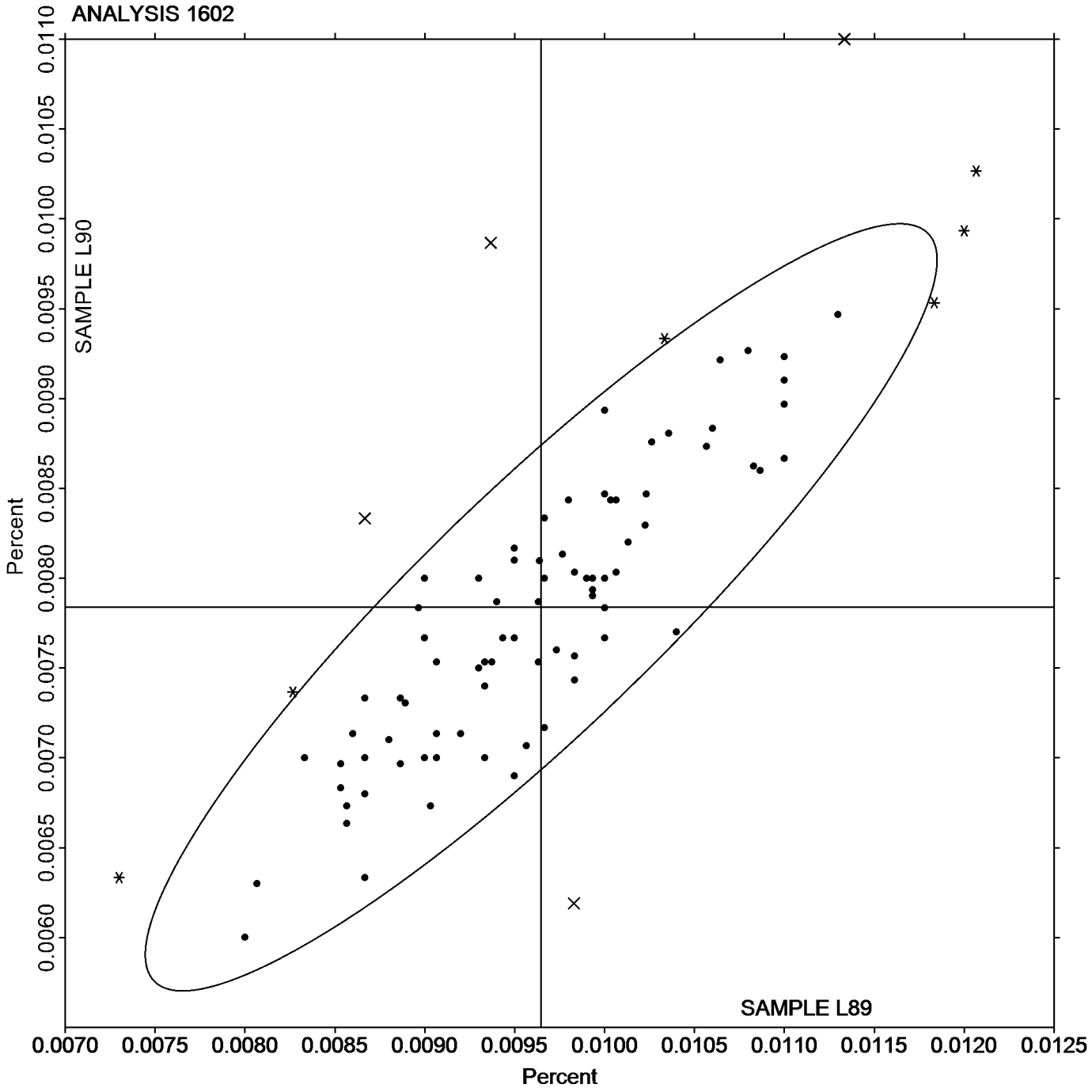
T73CNU (X) - Data for both samples are high. Possible Systematic Error.

VERKJ6 (X) - Data for sample L90 are high.

Y79CT4 (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE L89
0.00965 Percent

SAMPLE L90
0.00784 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.0328	0.0001	0.05	0.0279	-0.0014	-0.60	OE
24QCFR		0.0309	-0.0018	-0.71	0.0274	-0.0019	-0.83	OE
2637ZY		0.0345	0.0017	0.69	0.0328	0.0035	1.51	OE
2DMHPR	*	0.0340	0.0013	0.51	0.0263	-0.0030	-1.28	CO
32XZH7		0.0317	-0.0010	-0.41	0.0298	0.0005	0.20	OE
36E7DU		0.0338	0.0011	0.44	0.0317	0.0024	1.04	OE
3NQULL		0.0328	0.0001	0.02	0.0320	0.0027	1.16	XR
4922XR		0.0295	-0.0032	-1.26	0.0266	-0.0027	-1.17	XX
4FW33W	*	0.0326	-0.0001	-0.04	0.0353	0.0060	2.59	OE
6H6HDN		0.0377	0.0050	1.95	0.0323	0.0030	1.30	OE
6NHRNC		0.0370	0.0043	1.67	0.0301	0.0008	0.35	OE
6XX4NW		0.0336	0.0009	0.36	0.0303	0.0010	0.43	CI
73LBLV		0.0320	-0.0007	-0.29	0.0294	0.0001	0.05	CO
82Q6KV		0.0287	-0.0040	-1.59	0.0250	-0.0043	-1.84	GD
8G2VEN		0.0318	-0.0009	-0.34	0.0297	0.0004	0.19	CI
8LT3WW		0.0353	0.0026	1.02	0.0317	0.0024	1.02	OE
8VBKF3		0.0360	0.0033	1.29	0.0327	0.0034	1.45	OE
8Z4QTK		0.0383	0.0056	2.21	0.0330	0.0037	1.59	CI
96W2QP		0.0318	-0.0009	-0.36	0.0282	-0.0011	-0.45	CI
9B3D8G		0.0302	-0.0025	-0.97	0.0270	-0.0023	-0.99	OE
9QXQPJ		0.0303	-0.0024	-0.93	0.0282	-0.0011	-0.47	OE
A2X26Q		0.0307	-0.0020	-0.77	0.0264	-0.0029	-1.24	OE
ACC7RN		0.0333	0.0006	0.22	0.0297	0.0004	0.17	OE
AE7NDN		0.0313	-0.0014	-0.54	0.0273	-0.0020	-0.84	OE
AQVT48		0.0344	0.0017	0.65	0.0309	0.0016	0.70	AE
BQHDQJ		0.0377	0.0050	1.96	0.0309	0.0016	0.70	OE
BZDWHK		0.0387	0.0060	2.34	0.0333	0.0040	1.73	XX
C6AT74		0.0326	-0.0001	-0.05	0.0303	0.0010	0.45	XX
C7B2TZ		0.0329	0.0002	0.09	0.0299	0.0006	0.26	CI
C9LBUT		0.0315	-0.0012	-0.49	0.0258	-0.0035	-1.48	OE
CDYM47		0.0350	0.0023	0.90	0.0307	0.0014	0.59	OE
CHQN78		0.0319	-0.0008	-0.33	0.0260	-0.0033	-1.41	OE
CY6UWY		0.0340	0.0013	0.50	0.0294	0.0001	0.05	OE
D4TVD4		0.0330	0.0003	0.12	0.0293	0.0000	0.02	OE
DNEQPX		0.0323	-0.0004	-0.15	0.0307	0.0014	0.59	AE
DWRL2J		0.0313	-0.0014	-0.54	0.0280	-0.0013	-0.55	OE
EGXCXE		0.0311	-0.0016	-0.63	0.0287	-0.0006	-0.25	DR
EQ2PL7		0.0334	0.0007	0.27	0.0299	0.0006	0.26	OE
FAVMLD		0.0306	-0.0021	-0.83	0.0294	0.0001	0.05	OE
FEDPAB		0.0337	0.0010	0.38	0.0303	0.0010	0.43	OE
FPP6VW		0.0360	0.0033	1.29	0.0337	0.0044	1.88	OE
FRVWEW		0.0319	-0.0008	-0.32	0.0283	-0.0010	-0.44	GD
GYXJG4		0.0351	0.0024	0.95	0.0320	0.0027	1.18	OE
GZCFZA		0.0341	0.0014	0.55	0.0299	0.0006	0.26	OE
H3FZCU		0.0307	-0.0020	-0.77	0.0297	0.0004	0.16	OE
HK9JXA		0.0310	-0.0017	-0.67	0.0292	-0.0001	-0.04	OE
HUG4HJ	*	0.0357	0.0030	1.16	0.0343	0.0050	2.16	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
J7R3H6		0.0289	-0.0038	-1.51	0.0261	-0.0032	-1.38	OE
J7Y9PY		0.0317	-0.0010	-0.41	0.0270	-0.0023	-0.98	OE
JAZFVJ		0.0313	-0.0014	-0.54	0.0290	-0.0003	-0.13	OE
JN4RGA		0.0277	-0.0050	-1.98	0.0233	-0.0060	-2.56	OE
KG3WB9		0.0355	0.0028	1.11	0.0330	0.0037	1.58	OE
KNZMGR		0.0317	-0.0010	-0.38	0.0287	-0.0006	-0.24	GD
KU6C26		0.0319	-0.0008	-0.32	0.0284	-0.0009	-0.37	OE
LARD2G		0.0321	-0.0006	-0.24	0.0280	-0.0013	-0.55	OE
LGLHFP		0.0360	0.0033	1.29	0.0333	0.0040	1.73	OE
LUWUCR		0.0315	-0.0012	-0.47	0.0291	-0.0002	-0.10	CI
LYLBLX		0.0331	0.0004	0.17	0.0294	0.0001	0.06	XX
M44UHD		0.0363	0.0036	1.43	0.0317	0.0024	1.02	OE
MED6EW	X	0.0357	0.0030	1.18	0.0372	0.0079	3.39	OE
MG6L3H		0.0283	-0.0044	-1.73	0.0250	-0.0043	-1.86	OE
MV2DHL		0.0281	-0.0046	-1.82	0.0248	-0.0045	-1.91	OE
MVJWAR		0.0333	0.0006	0.25	0.0290	-0.0003	-0.13	GD
N6BR7E		0.0318	-0.0009	-0.36	0.0298	0.0005	0.23	CI
N7ZWNZ		0.0313	-0.0014	-0.54	0.0283	-0.0010	-0.41	OE
NE9ZL7		0.0277	-0.0050	-1.98	0.0263	-0.0030	-1.27	OE
NFKAG6		0.0332	0.0005	0.19	0.0316	0.0023	0.98	OE
NN8W39		0.0370	0.0043	1.69	0.0320	0.0027	1.16	XX
NQ6J6X		0.0337	0.0010	0.40	0.0297	0.0004	0.16	OE
NX6V8M		0.0336	0.0009	0.35	0.0328	0.0035	1.52	OE
NX7QWX		0.0364	0.0037	1.45	0.0312	0.0019	0.82	OE
PJDVMX		0.0301	-0.0026	-1.02	0.0277	-0.0016	-0.67	CI
PTKBT7		0.0340	0.0013	0.51	0.0287	-0.0006	-0.27	XX
Q8MB6Y		0.0317	-0.0010	-0.38	0.0282	-0.0011	-0.45	OE
QNP3LG		0.0313	-0.0014	-0.54	0.0280	-0.0013	-0.55	OE
RHVJYC		0.0318	-0.0009	-0.36	0.0288	-0.0005	-0.23	OE
RR32VP		0.0337	0.0010	0.38	0.0287	-0.0006	-0.27	XX
RV9GCT		0.0335	0.0008	0.31	0.0293	0.0000	0.00	CO
T37MKT		0.0366	0.0039	1.53	0.0321	0.0028	1.22	OE
T73CNU		0.0270	-0.0057	-2.24	0.0238	-0.0055	-2.36	XX
TH3PGZ		0.0325	-0.0002	-0.08	0.0272	-0.0021	-0.91	OE
U9H9KH		0.0296	-0.0031	-1.22	0.0283	-0.0010	-0.41	OE
UAFJKR		0.0346	0.0019	0.74	0.0313	0.0020	0.85	OE
UYEWQA		0.0326	-0.0001	-0.05	0.0280	-0.0013	-0.54	OE
V7HDQK		0.0327	0.0000	-0.02	0.0283	-0.0010	-0.41	OE
VERKJ6		0.0337	0.0010	0.38	0.0293	0.0000	0.02	XX
VHF23N		0.0369	0.0042	1.66	0.0325	0.0032	1.36	OE
VWE4KV		0.0312	-0.0015	-0.59	0.0263	-0.0030	-1.28	GD
W2ANC4		0.0296	-0.0031	-1.23	0.0279	-0.0014	-0.60	OE
WBQYDW		0.0290	-0.0037	-1.47	0.0270	-0.0023	-0.98	CO
XHGZNU		0.0325	-0.0002	-0.09	0.0272	-0.0021	-0.90	OE
XLH6H2		0.0324	-0.0003	-0.11	0.0311	0.0018	0.79	OE
Y22WKT		0.0323	-0.0004	-0.15	0.0295	0.0002	0.07	CI
Y79CT4		0.0343	0.0016	0.64	0.0296	0.0003	0.13	AE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
YE4ETU		0.0289	-0.0038	-1.51	0.0269	-0.0024	-1.01	OE
YFN2UB		0.0287	-0.0040	-1.57	0.0259	-0.0034	-1.47	OE
YG3WRG		0.0360	0.0033	1.29	0.0330	0.0037	1.59	OE
Z6M9A4		0.0314	-0.0013	-0.51	0.0277	-0.0016	-0.70	OE
ZCPFVX		0.0338	0.0011	0.44	0.0309	0.0016	0.70	OE
ZTRMWZ		0.0353	0.0026	1.03	0.0306	0.0013	0.58	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.0327	Percent	0.0293	Percent
Stnd Dev Btwn Labs	0.0025	Percent	0.0023	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 97 of 100 reporting participants

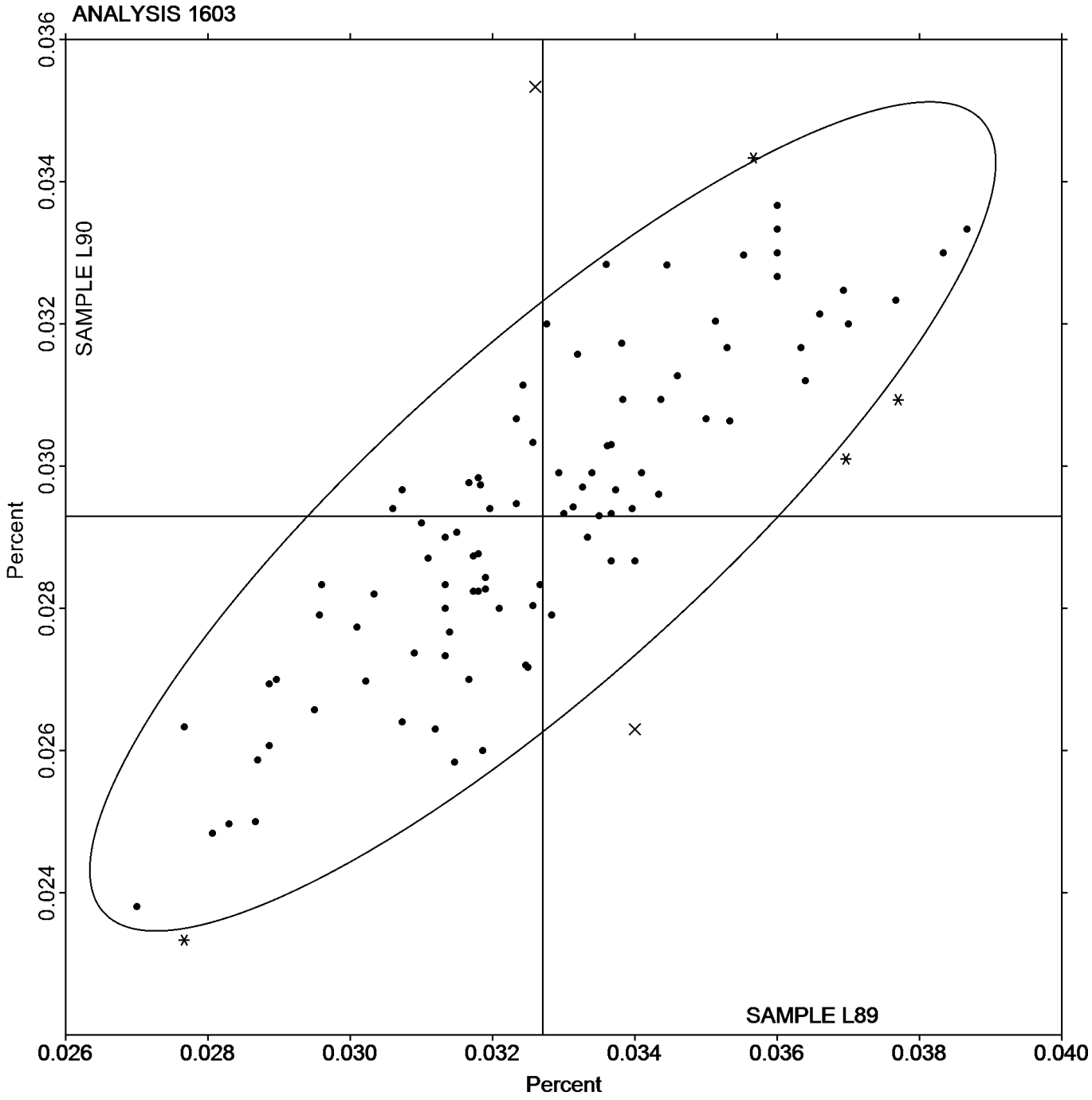
Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	CI	Combustion / IR
CO	Combustion	DR	Spectrometry - Direct Reading OE (DROES)
GD	Spectrometry - Glow Discharge (GDS)	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 #1603

MED6EW (X) - Data for sample L90 are high.

SAMPLE L89	SAMPLE L90
0.0327 Percent	0.0293 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.2430	0.0052	0.78	0.2287	0.0023	0.37	OE
24QCFR		0.2427	0.0049	0.73	0.2283	0.0020	0.32	OE
2637ZY		0.2400	0.0023	0.34	0.2282	0.0019	0.30	OE
2DMHPR	*	0.2330	-0.0047	-0.70	0.2308	0.0044	0.70	IC
32XZH7		0.2430	0.0052	0.78	0.2287	0.0023	0.37	OE
36E7DU		0.2418	0.0041	0.61	0.2307	0.0043	0.69	OE
3NQULL		0.2324	-0.0054	-0.80	0.2244	-0.0019	-0.30	XR
4922XR		0.2298	-0.0080	-1.19	0.2222	-0.0041	-0.65	XX
4FW33W		0.2217	-0.0161	-2.39	0.2103	-0.0160	-2.54	OE
6H6HDN		0.2477	0.0099	1.47	0.2370	0.0107	1.69	OE
6NHRNC	*	0.2427	0.0049	0.73	0.2163	-0.0100	-1.58	OE
6XX4NW		0.2313	-0.0064	-0.96	0.2230	-0.0033	-0.53	OE
73LBLV		0.2377	-0.0001	-0.01	0.2270	0.0007	0.11	OE
7TT3LD		0.2230	-0.0148	-2.20	0.2180	-0.0083	-1.32	OE
82Q6KV		0.2367	-0.0011	-0.16	0.2300	0.0037	0.58	GD
8G2VEN		0.2370	-0.0008	-0.11	0.2280	0.0017	0.26	OE
8LT3WW		0.2404	0.0026	0.39	0.2302	0.0039	0.61	OE
8VBKF3		0.2293	-0.0084	-1.25	0.2167	-0.0097	-1.53	OE
8Z4QTK		0.2363	-0.0014	-0.21	0.2253	-0.0010	-0.16	OE
96W2QP		0.2393	0.0015	0.23	0.2277	0.0014	0.22	IC
9B3D8G		0.2350	-0.0027	-0.41	0.2233	-0.0030	-0.48	OE
9QXQPJ		0.2480	0.0102	1.52	0.2353	0.0090	1.42	OE
A2X26Q		0.2373	-0.0004	-0.06	0.2227	-0.0037	-0.58	OE
ACC7RN		0.2383	0.0006	0.09	0.2287	0.0023	0.37	OE
AE7NDN		0.2367	-0.0011	-0.16	0.2250	-0.0013	-0.21	OE
AQVT48		0.2405	0.0027	0.41	0.2293	0.0030	0.47	AE
BQHDQJ		0.2420	0.0042	0.63	0.2267	0.0003	0.05	OE
BZDWHK		0.2243	-0.0134	-2.00	0.2117	-0.0147	-2.32	XX
C6AT74		0.2400	0.0022	0.33	0.2250	-0.0013	-0.21	XX
C7B2TZ		0.2407	0.0029	0.43	0.2293	0.0030	0.47	IC
C9LBUT		0.2447	0.0069	1.03	0.2296	0.0033	0.52	OE
CDYM47		0.2400	0.0022	0.33	0.2300	0.0037	0.58	OE
CHQN78	X	0.2373	-0.0004	-0.06	0.2350	0.0087	1.37	OE
CY6UWY		0.2380	0.0002	0.04	0.2230	-0.0034	-0.53	OE
D4TVD4		0.2500	0.0122	1.82	0.2400	0.0137	2.16	OE
DFBFXZ	X	0.2897	0.0519	7.73	0.2563	0.0300	4.75	XR
DNEQPX		0.2193	-0.0184	-2.74	0.2110	-0.0153	-2.43	AE
DWRL2J		0.2433	0.0056	0.83	0.2267	0.0003	0.05	OE
EGXCXE		0.2330	-0.0048	-0.71	0.2230	-0.0033	-0.53	DR
EQ2PL7	X	0.2407	0.0029	0.43	0.2460	0.0197	3.12	OE
FAVMLD		0.2411	0.0034	0.50	0.2337	0.0074	1.17	OE
FEDPAB		0.2313	-0.0064	-0.96	0.2223	-0.0040	-0.63	OE
FPP6VW		0.2387	0.0009	0.14	0.2267	0.0003	0.05	OE
FRVWEW		0.2353	-0.0024	-0.36	0.2223	-0.0040	-0.63	GD
GYXJG4		0.2407	0.0029	0.43	0.2293	0.0030	0.47	OE
GZCFZA		0.2453	0.0076	1.13	0.2360	0.0097	1.53	OE
H3FZCU		0.2310	-0.0068	-1.01	0.2223	-0.0040	-0.63	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.2447	0.0069	1.03	0.2317	0.0053	0.84	OE
HUG4HJ	*	0.2443	0.0066	0.98	0.2220	-0.0043	-0.69	OE
J7R3H6		0.2377	-0.0001	-0.01	0.2267	0.0003	0.05	OE
J7Y9PY		0.2413	0.0036	0.53	0.2303	0.0040	0.63	OE
JAZFVJ		0.2213	-0.0164	-2.44	0.2110	-0.0153	-2.43	OE
JN4RGA		0.2350	-0.0028	-0.41	0.2247	-0.0017	-0.26	OE
KG3WB9		0.2357	-0.0021	-0.31	0.2243	-0.0020	-0.32	OE
KNZMGR	X	0.2647	0.0269	4.00	0.2530	0.0267	4.22	GD
KU6C26		0.2443	0.0066	0.98	0.2330	0.0067	1.06	OE
LARD2G		0.2509	0.0131	1.96	0.2389	0.0126	1.99	OE
LGLHFP		0.2330	-0.0048	-0.71	0.2190	-0.0073	-1.16	OE
LUWUCR		0.2482	0.0104	1.55	0.2329	0.0066	1.05	GR
LYLBLX	*	0.2386	0.0008	0.12	0.2172	-0.0092	-1.45	XX
M44UHD		0.2433	0.0056	0.83	0.2320	0.0057	0.90	OE
MED6EW		0.2414	0.0037	0.55	0.2330	0.0066	1.05	OE
MG6L3H		0.2230	-0.0148	-2.20	0.2100	-0.0163	-2.59	OE
MV2DHL		0.2380	0.0003	0.04	0.2248	-0.0016	-0.25	OE
MVJWAR		0.2517	0.0139	2.07	0.2393	0.0130	2.06	GD
N6BR7E		0.2350	-0.0028	-0.41	0.2240	-0.0023	-0.37	IC
N7ZWNZ		0.2357	-0.0021	-0.31	0.2243	-0.0020	-0.32	OE
NE9ZL7		0.2277	-0.0101	-1.50	0.2153	-0.0110	-1.74	OE
NFKAG6		0.2420	0.0042	0.63	0.2327	0.0064	1.01	OE
NN8W39		0.2317	-0.0061	-0.91	0.2233	-0.0030	-0.48	OE
NQ6J6X		0.2343	-0.0035	-0.52	0.2228	-0.0036	-0.57	OE
NX6V8M		0.2323	-0.0054	-0.81	0.2267	0.0003	0.05	OE
NX7QWX		0.2310	-0.0068	-1.01	0.2220	-0.0043	-0.69	OE
PJDVMX		0.2373	-0.0004	-0.06	0.2243	-0.0020	-0.32	IC
PTKBT7		0.2477	0.0099	1.47	0.2360	0.0097	1.53	XX
Q8MB6Y		0.2306	-0.0072	-1.07	0.2200	-0.0063	-1.00	OE
QNP3LG		0.2433	0.0056	0.83	0.2293	0.0030	0.47	OE
RHVJYC		0.2343	-0.0034	-0.51	0.2223	-0.0040	-0.63	OE
RR32VP		0.2477	0.0099	1.47	0.2373	0.0110	1.74	XX
RV9GCT		0.2380	0.0002	0.04	0.2260	-0.0003	-0.05	OE
T37MKT		0.2460	0.0082	1.23	0.2333	0.0070	1.11	OE
T73CNU	X	0.2163	-0.0215	-3.19	0.2025	-0.0238	-3.78	XX
TH3PGZ		0.2397	0.0019	0.29	0.2249	-0.0014	-0.22	XX
U9H9KH		0.2323	-0.0054	-0.81	0.2207	-0.0057	-0.90	OE
UAFJKR		0.2371	-0.0007	-0.10	0.2244	-0.0020	-0.31	OE
UYEWQA		0.2377	-0.0001	-0.01	0.2237	-0.0027	-0.42	OE
V7HDQK	*	0.2460	0.0082	1.23	0.2240	-0.0023	-0.37	OE
VERKJ6	*	0.2217	-0.0161	-2.39	0.2340	0.0077	1.21	XX
VHF23N		0.2376	-0.0002	-0.02	0.2263	-0.0001	-0.01	OE
VWE4KV		0.2383	0.0006	0.09	0.2260	-0.0003	-0.05	GD
W2ANC4		0.2347	-0.0031	-0.46	0.2253	-0.0010	-0.16	OE
WBQYDW		0.2419	0.0041	0.62	0.2312	0.0049	0.77	OE
XHGZNU		0.2473	0.0095	1.42	0.2307	0.0043	0.69	OE
XLH6H2		0.2351	-0.0027	-0.40	0.2229	-0.0035	-0.55	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1604

Carbon & Low Alloy Steel, SILICON (Si)

SILICON (Si)

WebCode	Data Flag	Sample L89 Lab Mean	Sample L89 Diff. from Grand Mean	Sample L89 CPV	Sample L90 Lab Mean	Sample L90 Diff. from Grand Mean	Sample L90 CPV	Method
Y22WKT		0.2383	0.0006	0.09	0.2250	-0.0013	-0.21	IC
Y79CT4		0.2387	0.0009	0.14	0.2260	-0.0003	-0.05	AE
YE4ETU		0.2463	0.0086	1.28	0.2343	0.0080	1.27	OE
YFN2UB		0.2332	-0.0045	-0.67	0.2211	-0.0052	-0.82	OE
YG3WRG		0.2373	-0.0004	-0.06	0.2307	0.0043	0.69	OE
Z6M9A4		0.2347	-0.0031	-0.46	0.2207	-0.0057	-0.90	OE
ZCPFVX		0.2363	-0.0014	-0.21	0.2277	0.0013	0.21	OE
ZTRMWZ	*	0.2517	0.0140	2.08	0.2192	-0.0072	-1.14	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.2378	Percent	0.2263	Percent
Stnd Dev Btwn Labs	0.0067	Percent	0.0063	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 90 of 102 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	DR	Spectrometry - Direct Reading OE (DROES)
GD	Spectrometry - Glow Discharge (GDS)	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		

Comments on Assigned Data Flags for Test #1604

CHQN78 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L89.

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

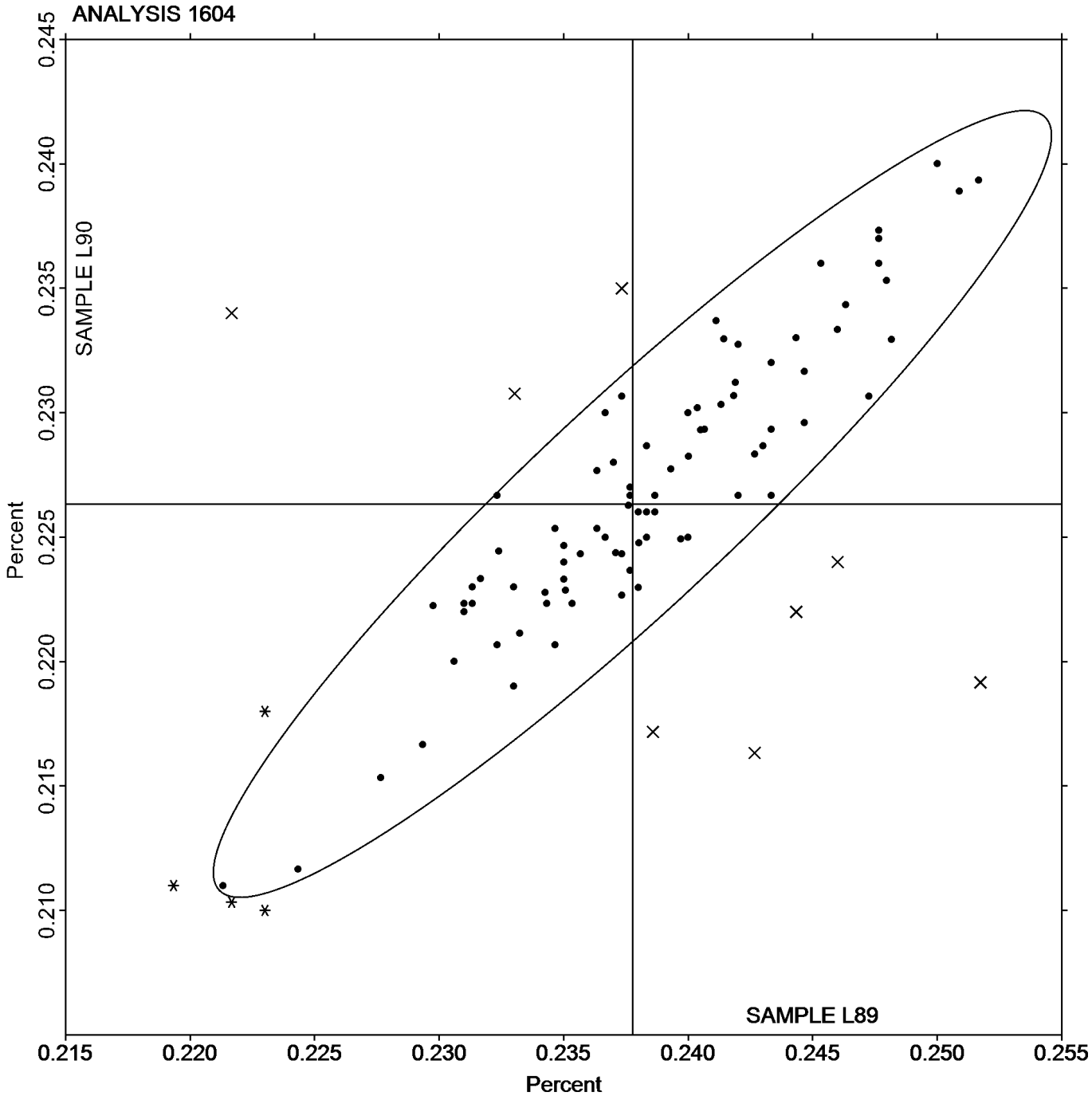
EQ2PL7 (X) - Data for sample L90 are high. Inconsistent within the determinations of sample L90.

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

T73CNU (X) - Data for both samples are low. Possible Systematic Error.

SAMPLE L89
0.2378 Percent

SAMPLE L90
0.2263 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.0251	-0.0001	-0.06	0.0161	0.0001	0.08	OE
24QCFR		0.0249	-0.0003	-0.19	0.0156	-0.0004	-0.28	OE
2637ZY		0.0261	0.0010	0.64	0.0172	0.0012	0.85	OE
2DMHPR		0.0254	0.0002	0.14	0.0179	0.0019	1.36	IC
32XZH7		0.0283	0.0031	2.10	0.0192	0.0032	2.25	OE
36E7DU		0.0263	0.0011	0.75	0.0172	0.0013	0.90	OE
3NQULL		0.0286	0.0034	2.30	0.0191	0.0031	2.18	XR
4922XR		0.0243	-0.0008	-0.56	0.0154	-0.0006	-0.41	XX
4FW33W		0.0244	-0.0008	-0.51	0.0152	-0.0008	-0.53	OE
6H6HDN		0.0257	0.0005	0.35	0.0163	0.0004	0.26	OE
6NHRNC		0.0249	-0.0003	-0.17	0.0175	0.0016	1.11	OE
6XX4NW		0.0280	0.0029	1.94	0.0197	0.0037	2.60	OE
73LBLV		0.0251	0.0000	-0.01	0.0158	-0.0002	-0.11	OE
7TT3LD	X	0.0220	-0.0032	-2.12	0.00900	-0.0070	-4.89	OE
82Q6KV		0.0257	0.0005	0.35	0.0177	0.0017	1.20	GD
8G2VEN		0.0265	0.0013	0.88	0.0166	0.0007	0.47	OE
8LT3WW		0.0263	0.0011	0.77	0.0167	0.0007	0.50	OE
8VBKF3		0.0250	-0.0002	-0.10	0.0157	-0.0003	-0.21	OE
8Z4QTK		0.0250	-0.0002	-0.10	0.0150	-0.0010	-0.67	OE
96W2QP		0.0261	0.0009	0.62	0.0159	0.0000	-0.02	IC
9B3D8G		0.0240	-0.0011	-0.77	0.0149	-0.0010	-0.72	OE
9QXQPJ		0.0267	0.0015	1.04	0.0169	0.0009	0.64	OE
A2X26Q		0.0223	-0.0029	-1.94	0.0139	-0.0020	-1.42	OE
ACC7RN		0.0258	0.0006	0.41	0.0173	0.0014	0.96	OE
AE7NDN		0.0250	-0.0002	-0.10	0.0160	0.0000	0.03	OE
AQVT48		0.0258	0.0006	0.44	0.0164	0.0004	0.29	AE
BQHDQJ	X	0.0293	0.0042	2.81	0.0183	0.0023	1.64	OE
BZDWHK		0.0230	-0.0022	-1.45	0.0140	-0.0020	-1.38	XX
C6AT74		0.0262	0.0010	0.68	0.0167	0.0008	0.54	XX
C7B2TZ		0.0253	0.0002	0.12	0.0158	-0.0002	-0.14	IC
C9LBUT		0.0271	0.0019	1.29	0.0173	0.0014	0.96	OE
CDYM47		0.0253	0.0002	0.12	0.0163	0.0004	0.26	OE
CHQN78		0.0240	-0.0012	-0.78	0.0137	-0.0022	-1.56	OE
CY6UWY		0.0255	0.0004	0.26	0.0158	-0.0002	-0.14	OE
D4TVD4		0.0243	-0.0008	-0.55	0.0157	-0.0003	-0.21	XX
DFBFXZ		0.0250	-0.0002	-0.10	0.0157	-0.0003	-0.21	XR
DNEQPX	X	0.0197	-0.0055	-3.69	0.0150	-0.0010	-0.67	AE
DWRL2J	X	0.0257	0.0005	0.35	0.0143	-0.0016	-1.14	OE
EGXCXE		0.0280	0.0028	1.89	0.0182	0.0023	1.60	DR
EQ2PL7		0.0238	-0.0014	-0.93	0.0140	-0.0020	-1.40	OE
FAVMLD		0.0259	0.0007	0.50	0.0169	0.0009	0.66	OE
FEDPAB	X	0.0182	-0.0070	-4.70	0.00810	-0.0079	-5.52	OE
FPP6VW		0.0230	-0.0022	-1.45	0.0140	-0.0020	-1.38	OE
FRVWEW		0.0238	-0.0014	-0.91	0.0146	-0.0013	-0.93	GD
GYXJG4		0.0252	0.0000	0.01	0.0164	0.0004	0.31	OE
GZCFZA		0.0267	0.0015	1.02	0.0170	0.0010	0.73	OE
H3FZCU		0.0257	0.0005	0.35	0.0167	0.0007	0.50	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.0221	-0.0031	-2.08	0.0124	-0.0036	-2.50	OE
HUG4HJ		0.0237	-0.0015	-1.00	0.0160	0.0000	0.03	OE
J7R3H6		0.0252	0.0001	0.05	0.0162	0.0002	0.15	OE
JAZFVJ	X	0.0200	-0.0052	-3.47	0.0110	-0.0050	-3.48	OE
JN4RGA		0.0240	-0.0012	-0.78	0.0153	-0.0006	-0.44	OE
KG3WB9		0.0256	0.0004	0.28	0.0162	0.0002	0.17	OE
KNZMGR		0.0248	-0.0004	-0.24	0.0157	-0.0003	-0.21	GD
KU6C26		0.0261	0.0010	0.66	0.0163	0.0003	0.24	OE
LARD2G		0.0239	-0.0013	-0.84	0.0146	-0.0014	-0.95	OE
LGLHFP		0.0247	-0.0005	-0.33	0.0150	-0.0010	-0.67	OE
LUWUCR		0.0266	0.0014	0.95	0.0175	0.0015	1.08	IC
LYLBLX		0.0262	0.0011	0.73	0.0161	0.0001	0.09	XX
M44UHD	*	0.0293	0.0042	2.81	0.0193	0.0033	2.35	OE
MED6EW		0.0262	0.0011	0.73	0.0175	0.0016	1.11	OE
MG6L3H		0.0228	-0.0023	-1.56	0.0140	-0.0020	-1.38	OE
MV2DHL		0.0236	-0.0015	-1.02	0.0140	-0.0020	-1.40	OE
MVJWAR		0.0250	-0.0002	-0.10	0.0153	-0.0006	-0.44	GD
N6BR7E		0.0246	-0.0006	-0.39	0.0153	-0.0007	-0.49	IC
N7ZWNZ		0.0260	0.0008	0.57	0.0170	0.0010	0.73	OE
NE9ZL7		0.0257	0.0005	0.35	0.0170	0.0010	0.73	OE
NFKAG6		0.0254	0.0002	0.17	0.0167	0.0007	0.52	OE
NN8W39		0.0240	-0.0012	-0.78	0.0150	-0.0010	-0.67	OE
NQ6J6X		0.0244	-0.0008	-0.53	0.0163	0.0004	0.26	OE
NX6V8M		0.0247	-0.0004	-0.28	0.0153	-0.0007	-0.46	OE
NX7QWX		0.0248	-0.0004	-0.24	0.0150	-0.0010	-0.67	OE
PJDVMX	X	0.0557	0.0305	20.54	0.0487	0.0327	22.97	IC
PTKBT7		0.0233	-0.0018	-1.23	0.0153	-0.0006	-0.44	XX
Q8MB6Y		0.0256	0.0004	0.28	0.0161	0.0001	0.10	OE
QNP3LG	X	0.0293	0.0042	2.81	0.0180	0.0020	1.43	OE
RHVJYC		0.0249	-0.0003	-0.17	0.0156	-0.0004	-0.25	OE
RR32VP		0.0250	-0.0002	-0.10	0.0150	-0.0010	-0.67	XX
RV9GCT		0.0250	-0.0002	-0.10	0.0157	-0.0003	-0.18	OE
T37MKT		0.0221	-0.0031	-2.06	0.0139	-0.0021	-1.47	OE
T73CNU	*	0.0210	-0.0042	-2.80	0.0122	-0.0038	-2.64	XX
TH3PGZ		0.0257	0.0006	0.39	0.0159	0.0000	-0.02	OE
U9H9KH		0.0248	-0.0003	-0.22	0.0155	-0.0004	-0.30	OE
UAFJKR		0.0255	0.0003	0.23	0.0163	0.0003	0.24	OE
UYEWQA		0.0230	-0.0022	-1.45	0.0130	-0.0030	-2.08	OE
V7HDQK		0.0240	-0.0012	-0.78	0.0150	-0.0010	-0.67	OE
VERKJ6		0.0247	-0.0005	-0.33	0.0160	0.0000	0.03	XX
VHF23N	*	0.0292	0.0040	2.70	0.0196	0.0036	2.53	OE
VWE4KV		0.0243	-0.0009	-0.57	0.0155	-0.0004	-0.30	GD
W2ANC4		0.0235	-0.0017	-1.11	0.0148	-0.0012	-0.84	OE
WBQYDW		0.0239	-0.0013	-0.85	0.0148	-0.0012	-0.84	OE
WYM3Q9		0.0246	-0.0006	-0.39	0.0154	-0.0006	-0.39	OE
XHGZNU		0.0249	-0.0002	-0.15	0.0153	-0.0006	-0.44	OE
XLH6H2		0.0247	-0.0004	-0.28	0.0153	-0.0006	-0.44	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1605

Carbon & Low Alloy Steel, MOLYBDENUM (Mo)

MOLYBDENUM (Mo)

WebCode	Data Flag	Sample L89 Lab Mean	Sample L89 Diff. from Grand Mean	Sample L89 CPV	Sample L90 Lab Mean	Sample L90 Diff. from Grand Mean	Sample L90 CPV	Method
Y22WKT		0.0252	0.0000	0.01	0.0159	0.0000	-0.02	IC
Y79CT4		0.0257	0.0005	0.37	0.0162	0.0002	0.17	AE
YE4ETU		0.0284	0.0032	2.16	0.0180	0.0020	1.43	OE
YFN2UB	*	0.0263	0.0011	0.75	0.0143	-0.0017	-1.17	OE
YG3WRG		0.0247	-0.0005	-0.33	0.0167	0.0007	0.50	OE
Z6M9A4		0.0264	0.0013	0.86	0.0161	0.0001	0.08	OE
ZCPFVX		0.0261	0.0010	0.66	0.0172	0.0012	0.87	OE
ZTRMWZ		0.0249	-0.0002	-0.15	0.0150	-0.0010	-0.67	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.0252	Percent	0.0160	Percent
Stnd Dev Btwn Labs	0.0015	Percent	0.0014	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 93 of 102 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1605

7TT3LD (X) - Data for sample L90 are low.

BQHDQJ (X) - Data for sample L89 are high.

DNEQPX (X) - Data for sample L89 are low. Inconsistent within the determinations of sample L90.

DWRL2J (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L89.

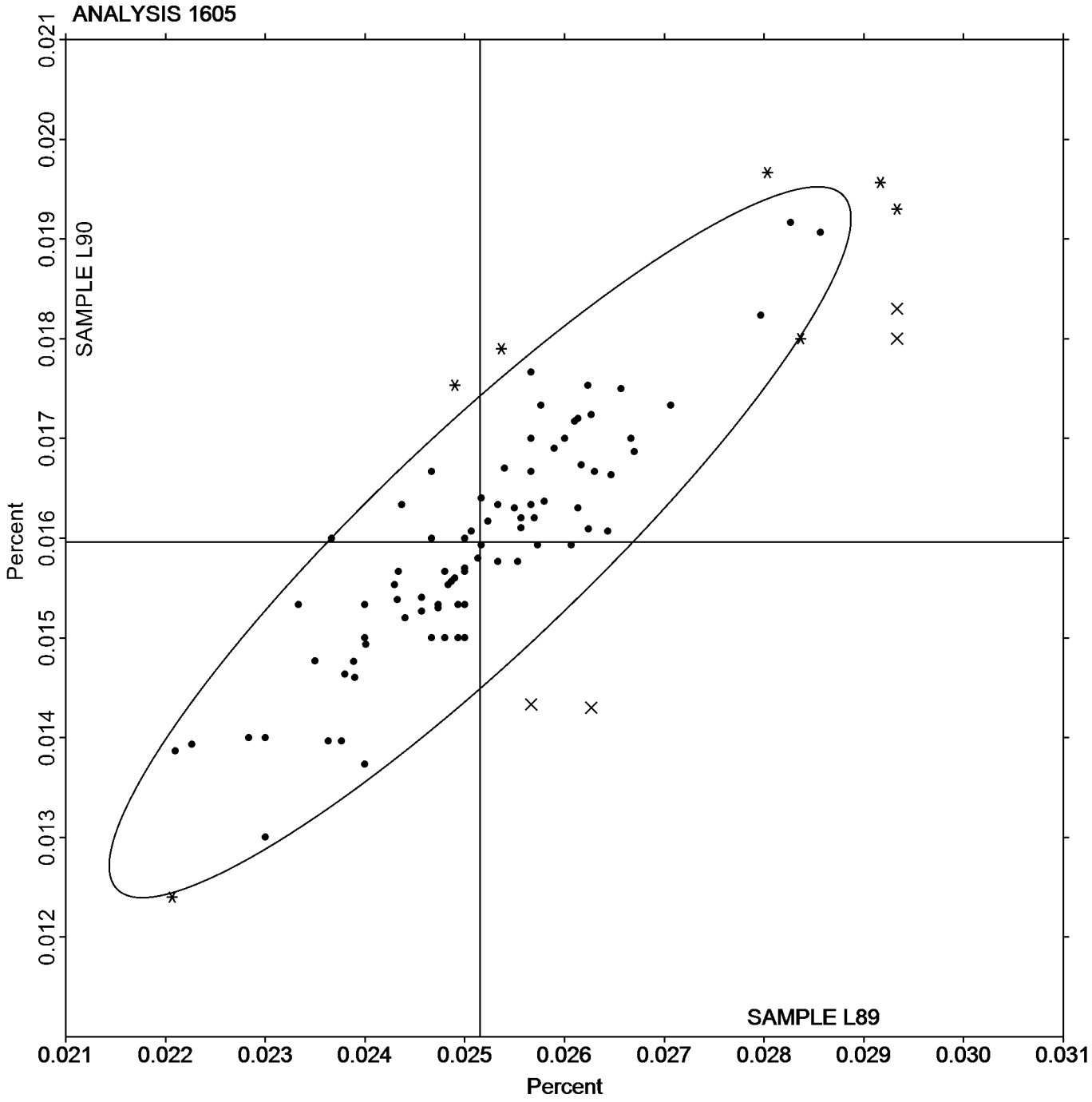
FEDPAB (X) - Data for both samples are low. Possible Systematic Error.

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

PJDVMX (X) - Extreme data.

QNP3LG (X) - Data for sample L89 are high.

SAMPLE L89	SAMPLE L90
0.0252 Percent	0.0160 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.1063	0.0062	2.09	0.0393	0.0031	1.86	OE
24QCFR		0.1017	0.0016	0.53	0.0367	0.0005	0.29	OE
2637ZY	*	0.0992	-0.0009	-0.29	0.0398	0.0036	2.16	OE
2DMHPR		0.0981	-0.0020	-0.67	0.0360	-0.0003	-0.16	IC
32XZH7		0.0989	-0.0012	-0.41	0.0353	-0.0010	-0.58	OE
36E7DU		0.1015	0.0014	0.46	0.0374	0.0011	0.66	OE
3NQULL		0.0981	-0.0020	-0.66	0.0356	-0.0007	-0.40	XR
4922XR		0.1021	0.0020	0.65	0.0383	0.0020	1.24	XX
4FW33W		0.1017	0.0016	0.53	0.0370	0.0007	0.45	OE
6H6HDN	X	0.0967	-0.0034	-1.15	0.0300	-0.0063	-3.79	OE
6NHRNC		0.1010	0.0009	0.30	0.0357	-0.0005	-0.32	OE
6XX4NW	X	0.1034	0.0033	1.10	0.0426	0.0063	3.84	OE
73LBLV		0.0997	-0.0004	-0.14	0.0365	0.0003	0.17	OE
7TT3LD	X	0.0870	-0.0131	-4.38	0.0310	-0.0053	-3.18	OE
82Q6KV		0.1000	-0.0001	-0.03	0.0370	0.0007	0.45	GD
8G2VEN		0.0993	-0.0008	-0.25	0.0360	-0.0002	-0.14	OE
8LT3WW		0.0961	-0.0040	-1.33	0.0369	0.0006	0.37	OE
8VBKF3		0.1020	0.0019	0.64	0.0373	0.0011	0.65	OE
8Z4QTK		0.0997	-0.0004	-0.14	0.0353	-0.0009	-0.56	OE
96W2QP		0.1014	0.0013	0.45	0.0359	-0.0004	-0.24	IC
9B3D8G		0.0987	-0.0014	-0.46	0.0367	0.0005	0.28	OE
9QXQPJ		0.0993	-0.0008	-0.25	0.0366	0.0004	0.23	OE
A2X26Q		0.0982	-0.0019	-0.62	0.0343	-0.0020	-1.19	OE
ACC7RN		0.1007	0.0006	0.19	0.0363	0.0000	0.00	OE
AE7NDN		0.1003	0.0002	0.08	0.0340	-0.0023	-1.37	OE
AQVT48		0.0996	-0.0005	-0.15	0.0372	0.0010	0.59	AE
BQHDQJ		0.0990	-0.0011	-0.37	0.0338	-0.0024	-1.47	OE
BZDWHK		0.0960	-0.0041	-1.37	0.0323	-0.0039	-2.38	XX
C6AT74		0.1007	0.0006	0.19	0.0360	-0.0003	-0.16	XX
C7B2TZ		0.1005	0.0004	0.14	0.0355	-0.0007	-0.44	IC
C9LBUT		0.1050	0.0049	1.64	0.0384	0.0022	1.32	OE
CDYM47		0.1013	0.0012	0.41	0.0363	0.0001	0.05	OE
CHQN78	X	0.1117	0.0116	3.87	0.0433	0.0071	4.28	OE
CY6UWY		0.1013	0.0012	0.41	0.0359	-0.0004	-0.24	OE
D4TVD4		0.1003	0.0002	0.08	0.0350	-0.0013	-0.76	OE
DFBFXZ	M	0.0963	-0.0038	-1.26	No Data Reported			XR
DNEQPX		0.0927	-0.0074	-2.48	0.0320	-0.0043	-2.58	AE
DWRL2J	*	0.0953	-0.0048	-1.59	0.0380	0.0017	1.05	OE
EGXCXE	*	0.0922	-0.0079	-2.63	0.0313	-0.0050	-3.00	DR
EQ2PL7		0.1060	0.0059	1.97	0.0380	0.0017	1.05	OE
FAVMLD		0.0991	-0.0010	-0.34	0.0364	0.0002	0.11	OE
FEDPAB		0.1003	0.0002	0.08	0.0343	-0.0019	-1.17	OE
FPP6VW		0.0997	-0.0004	-0.14	0.0360	-0.0003	-0.16	OE
FRVWEW		0.1020	0.0019	0.64	0.0355	-0.0007	-0.44	GD
GYXJG4		0.0980	-0.0021	-0.69	0.0350	-0.0013	-0.78	OE
GZCFZA		0.1010	0.0009	0.30	0.0380	0.0017	1.05	OE
H3FZCU		0.0953	-0.0048	-1.59	0.0363	0.0001	0.05	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.0980	-0.0021	-0.70	0.0350	-0.0013	-0.76	OE
HUG4HJ	X	0.1050	0.0049	1.64	0.0297	-0.0066	-3.99	OE
J7R3H6		0.0947	-0.0054	-1.80	0.0342	-0.0021	-1.27	OE
JAZFVJ		0.1017	0.0016	0.53	0.0377	0.0014	0.85	OE
JN4RGA		0.1017	0.0016	0.53	0.0357	-0.0006	-0.36	OE
KG3WB9		0.1007	0.0006	0.19	0.0364	0.0001	0.09	OE
KNZMGR		0.0966	-0.0035	-1.18	0.0334	-0.0029	-1.73	GD
KU6C26		0.1030	0.0029	0.97	0.0400	0.0038	2.29	OE
LARD2G		0.1012	0.0011	0.37	0.0371	0.0008	0.51	OE
LGLHFP		0.1053	0.0052	1.75	0.0383	0.0021	1.26	OE
LUWUCR		0.1001	0.0000	0.00	0.0369	0.0006	0.39	IC
LYLBLX		0.0972	-0.0029	-0.98	0.0364	0.0002	0.10	XX
M44UHD		0.1020	0.0019	0.64	0.0386	0.0023	1.40	OE
MED6EW		0.1056	0.0055	1.85	0.0384	0.0022	1.32	OE
MG6L3H		0.0977	-0.0024	-0.81	0.0370	0.0007	0.45	OE
MV2DHL		0.0997	-0.0004	-0.14	0.0358	-0.0004	-0.26	OE
MVJWAR		0.0987	-0.0014	-0.48	0.0373	0.0011	0.65	GD
N6BR7E		0.0987	-0.0014	-0.48	0.0357	-0.0006	-0.36	IC
N7ZWNZ		0.1043	0.0042	1.42	0.0377	0.0014	0.85	OE
NE9ZL7	X	0.0827	-0.0174	-5.83	0.0277	-0.0086	-5.20	OE
NFKAG6		0.1003	0.0002	0.08	0.0369	0.0006	0.37	OE
NN8W39		0.1020	0.0019	0.64	0.0377	0.0014	0.85	OE
NQ6J6X		0.0941	-0.0060	-2.02	0.0341	-0.0022	-1.33	OE
NX6V8M		0.0995	-0.0006	-0.20	0.0345	-0.0018	-1.06	OE
NX7QWX		0.1040	0.0039	1.31	0.0366	0.0003	0.21	OE
PJDVMX	*	0.1077	0.0076	2.53	0.0390	0.0027	1.66	IC
PTKBT7		0.1010	0.0009	0.30	0.0383	0.0021	1.26	XX
Q8MB6Y		0.0984	-0.0017	-0.58	0.0359	-0.0003	-0.20	OE
QNP3LG	X	0.0953	-0.0048	-1.59	0.0290	-0.0073	-4.40	OE
RHVJYC		0.1017	0.0016	0.53	0.0367	0.0004	0.27	OE
RR32VP		0.0977	-0.0024	-0.81	0.0350	-0.0013	-0.76	XX
RV9GCT		0.1030	0.0029	0.97	0.0373	0.0010	0.63	OE
T37MKT		0.1067	0.0066	2.20	0.0406	0.0044	2.65	OE
T73CNU	X	0.0953	-0.0048	-1.60	0.0292	-0.0071	-4.27	XX
TH3PGZ		0.1012	0.0011	0.38	0.0362	-0.0001	-0.04	OE
U9H9KH		0.1017	0.0016	0.53	0.0370	0.0007	0.45	OE
UAFJKR		0.1007	0.0006	0.20	0.0370	0.0007	0.43	OE
UYEWQA	X	0.0953	-0.0048	-1.59	0.0290	-0.0073	-4.40	OE
V7HDQK		0.1007	0.0006	0.19	0.0370	0.0007	0.45	OE
VERKJ6		0.0957	-0.0044	-1.48	0.0367	0.0004	0.25	XX
VHF23N	X	0.1171	0.0170	5.70	0.0494	0.0131	7.96	OE
VWE4KV	*	0.1017	0.0016	0.54	0.0331	-0.0031	-1.89	GD
W2ANC4		0.0953	-0.0048	-1.59	0.0343	-0.0019	-1.17	OE
WBQYDW		0.1006	0.0005	0.15	0.0369	0.0006	0.38	OE
WYM3Q9		0.1048	0.0047	1.58	0.0386	0.0023	1.39	OE
XHGZNU	*	0.1063	0.0062	2.07	0.0361	-0.0002	-0.10	OE
XLH6H2		0.1013	0.0012	0.40	0.0370	0.0007	0.43	OE

Fasteners and Metals Interlaboratory Testing Program
Analysis 1606
Carbon & Low Alloy Steel, NICKEL (Ni)
NICKEL (Ni)

WebCode	Data Flag	Sample L89 Lab Mean	Sample L89 Diff. from Grand Mean	Sample L89 CPV	Sample L90 Lab Mean	Sample L90 Diff. from Grand Mean	Sample L90 CPV	Method
Y22WKT		0.0990	-0.0011	-0.37	0.0353	-0.0010	-0.60	IC
Y79CT4		0.1003	0.0002	0.08	0.0361	-0.0002	-0.12	AE
YE4ETU		0.0962	-0.0039	-1.31	0.0350	-0.0012	-0.74	OE
YFN2UB	*	0.0923	-0.0078	-2.60	0.0379	0.0016	0.99	OE
YG3WRG		0.0970	-0.0031	-1.04	0.0340	-0.0023	-1.37	OE
Z6M9A4		0.1000	-0.0001	-0.03	0.0353	-0.0009	-0.56	OE
ZCPFVX		0.0975	-0.0026	-0.88	0.0351	-0.0012	-0.72	OE
ZTRMWZ		0.0988	-0.0013	-0.44	0.0350	-0.0013	-0.76	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.1001	Percent	0.0363	Percent
Stnd Dev Btwn Labs	0.0030	Percent	0.0017	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 86 of 102 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1606

6H6HDN (X) - Data for sample L90 are low. Inconsistent within the determinations of sample L89.

6XX4NW (X) - Data for sample L90 are high.

7TT3LD (X) - Data for both samples are low.

CHQN78 (X) - Data for both samples are high.

DFBFXZ (M) - Participant did not submit data for sample L90.

HUG4HJ (X) - Data for sample L90 are low. Inconsistent within the determinations of sample L90.

NE9ZL7 (X) - Data for both samples are low.

QNP3LG (X) - Data for sample L90 are low.

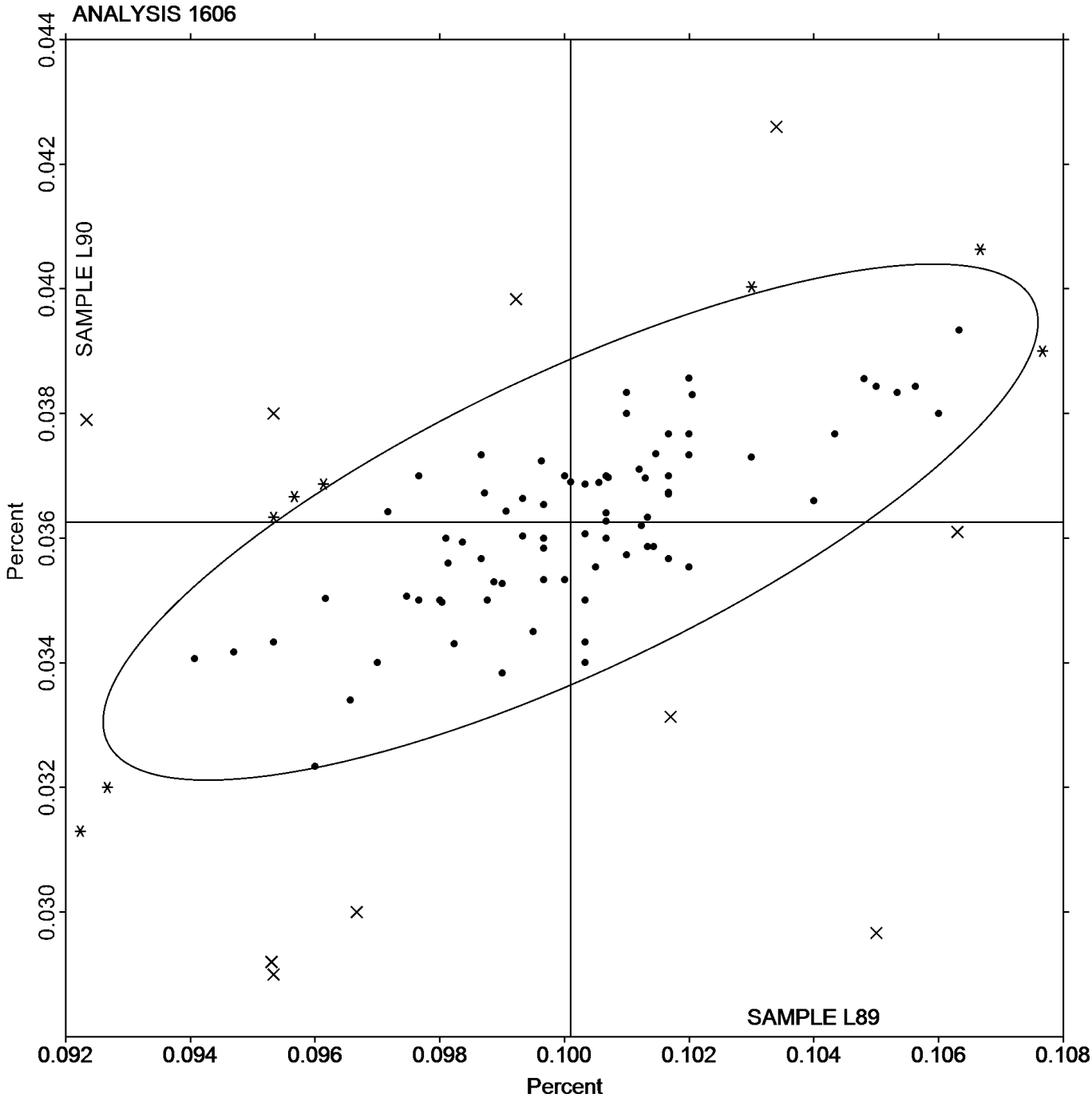
T73CNU (X) - Data for sample L90 are low.

UYEWQA (X) - Data for sample L90 are low.

VHF23N (X) - Data for both samples are high. Inconsistent within the determinations of sample L89.

SAMPLE L89
0.1001 Percent

SAMPLE L90
0.0363 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.0847	0.0015	0.53	0.0920	0.0003	0.10	OE
24QCFR		0.0837	0.0005	0.18	0.0913	-0.0004	-0.13	OE
2637ZY		0.0894	0.0063	2.17	0.0953	0.0036	1.23	OE
2DMHPR	X	0.0840	0.0009	0.30	0.0871	-0.0047	-1.61	IC
32XZH7		0.0790	-0.0042	-1.44	0.0878	-0.0039	-1.35	OE
36E7DU		0.0832	0.0001	0.03	0.0914	-0.0004	-0.13	OE
3NQULL		0.0830	-0.0001	-0.05	0.0891	-0.0026	-0.90	XR
4922XR		0.0849	0.0018	0.62	0.0917	0.0000	-0.01	XX
4FW33W		0.0847	0.0015	0.53	0.0933	0.0016	0.56	OE
6H6HDN		0.0800	-0.0031	-1.08	0.0900	-0.0017	-0.59	OE
6NHRNC		0.0820	-0.0011	-0.39	0.0877	-0.0041	-1.40	OE
6XX4NW		0.0813	-0.0018	-0.62	0.0912	-0.0005	-0.17	OE
73LBLV		0.0842	0.0011	0.38	0.0927	0.0010	0.34	OE
7TT3LD	X	0.0710	-0.0121	-4.19	0.0790	-0.0127	-4.39	OE
82Q6KV		0.0823	-0.0008	-0.28	0.0927	0.0009	0.33	GD
8G2VEN		0.0837	0.0005	0.18	0.0927	0.0009	0.33	OE
8LT3WW		0.0829	-0.0003	-0.09	0.0910	-0.0007	-0.25	OE
8VBKF3		0.0843	0.0012	0.41	0.0927	0.0009	0.33	OE
8Z4QTK		0.0860	0.0029	0.99	0.0943	0.0026	0.90	OE
96W2QP		0.0846	0.0015	0.50	0.0906	-0.0011	-0.39	IC
9B3D8G		0.0806	-0.0026	-0.89	0.0872	-0.0046	-1.57	OE
9QXQPJ		0.0895	0.0064	2.20	0.0993	0.0076	2.62	OE
A2X26Q		0.0786	-0.0045	-1.57	0.0877	-0.0041	-1.40	OE
ACC7RN		0.0840	0.0009	0.30	0.0937	0.0019	0.67	OE
AE7NDN		0.0840	0.0009	0.30	0.0933	0.0016	0.56	OE
AQVT48		0.0819	-0.0012	-0.43	0.0905	-0.0013	-0.43	AE
BQHDQJ		0.0880	0.0049	1.68	0.0967	0.0049	1.70	OE
BZDWHK	X	0.0730	-0.0101	-3.50	0.0797	-0.0121	-4.16	XX
C6AT74		0.0837	0.0005	0.18	0.0920	0.0003	0.10	XX
C7B2TZ		0.0783	-0.0048	-1.66	0.0877	-0.0041	-1.40	IC
C9LBUT	X	0.1060	0.0228	7.88	0.1204	0.0287	9.90	OE
CDYM47		0.0813	-0.0018	-0.62	0.0897	-0.0021	-0.71	OE
CHQN78		0.0843	0.0012	0.41	0.0913	-0.0004	-0.13	OE
CY6UWY		0.0825	-0.0006	-0.22	0.0907	-0.0010	-0.35	OE
D4TVD4		0.0900	0.0069	2.37	0.0963	0.0046	1.59	OE
DFBFXZ	X	0.0603	-0.0228	-7.88	0.0680	-0.0237	-8.18	XR
DNEQPX		0.0813	-0.0018	-0.62	0.0907	-0.0011	-0.36	AE
DWRL2J		0.0840	0.0009	0.30	0.0920	0.0003	0.10	OE
EGXCXE	X	0.0842	0.0011	0.38	0.1023	0.0106	3.66	DR
EQ2PL7	*	0.0891	0.0060	2.06	0.0955	0.0037	1.29	OE
FAVMLD		0.0798	-0.0033	-1.15	0.0888	-0.0029	-1.00	OE
FEDPAB		0.0827	-0.0005	-0.16	0.0897	-0.0021	-0.71	OE
FPP6VW		0.0810	-0.0021	-0.74	0.0900	-0.0017	-0.59	OE
FRVWEW		0.0844	0.0013	0.45	0.0944	0.0027	0.93	GD
GYXJG4		0.0855	0.0023	0.80	0.0942	0.0025	0.85	OE
GZCFZA		0.0833	0.0002	0.07	0.0930	0.0013	0.44	OE
H3FZCU		0.0857	0.0025	0.87	0.0947	0.0029	1.01	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.0807	-0.0025	-0.85	0.0890	-0.0027	-0.94	OE
HUG4HJ		0.0820	-0.0011	-0.39	0.0927	0.0009	0.33	OE
J7R3H6		0.0793	-0.0038	-1.31	0.0879	-0.0038	-1.31	OE
JAZFVJ		0.0790	-0.0041	-1.43	0.0883	-0.0034	-1.17	OE
JN4RGA		0.0810	-0.0021	-0.74	0.0890	-0.0027	-0.94	OE
KG3WB9		0.0837	0.0005	0.18	0.0943	0.0026	0.90	OE
KNZMGR		0.0778	-0.0053	-1.84	0.0870	-0.0047	-1.62	GD
KU6C26		0.0820	-0.0011	-0.38	0.0923	0.0006	0.21	OE
LARD2G		0.0856	0.0025	0.85	0.0944	0.0027	0.92	OE
LGLHFP		0.0820	-0.0011	-0.39	0.0900	-0.0017	-0.59	OE
LUWUCR	X	0.0820	-0.0011	-0.38	0.0951	0.0033	1.15	IC
LYLBLX		0.0816	-0.0015	-0.53	0.0907	-0.0010	-0.36	XX
M44UHD		0.0773	-0.0058	-2.02	0.0853	-0.0064	-2.20	OE
MED6EW		0.0830	-0.0001	-0.05	0.0937	0.0020	0.68	OE
MG6L3H		0.0800	-0.0031	-1.08	0.0877	-0.0041	-1.40	OE
MV2DHL		0.0809	-0.0022	-0.76	0.0894	-0.0023	-0.80	OE
MVJWAR		0.0837	0.0005	0.18	0.0933	0.0016	0.56	GD
N6BR7E		0.0810	-0.0021	-0.74	0.0900	-0.0017	-0.59	IC
N7ZWNZ		0.0880	0.0049	1.68	0.0970	0.0053	1.82	OE
NE9ZL7		0.0807	-0.0025	-0.85	0.0903	-0.0014	-0.48	OE
NFKAG6		0.0850	0.0019	0.65	0.0940	0.0023	0.78	OE
NN8W39		0.0863	0.0032	1.10	0.0970	0.0053	1.82	OE
NQ6J6X		0.0779	-0.0052	-1.81	0.0875	-0.0043	-1.47	OE
NX6V8M		0.0815	-0.0017	-0.58	0.0893	-0.0025	-0.85	OE
NX7QWX		0.0830	-0.0001	-0.05	0.0920	0.0003	0.10	OE
PJDVMX	*	0.0907	0.0075	2.60	0.0973	0.0056	1.93	IC
PTKBT7		0.0797	-0.0035	-1.20	0.0867	-0.0051	-1.74	XX
Q8MB6Y		0.0826	-0.0006	-0.20	0.0913	-0.0004	-0.15	OE
QNP3LG		0.0840	0.0009	0.30	0.0937	0.0019	0.67	OE
RHVJYC		0.0840	0.0009	0.30	0.0920	0.0003	0.10	OE
RR32VP		0.0807	-0.0025	-0.85	0.0890	-0.0027	-0.94	XX
RV9GCT		0.0870	0.0039	1.33	0.0960	0.0043	1.47	OE
T37MKT	X	0.0847	0.0015	0.53	0.0880	-0.0037	-1.28	OE
T73CNU		0.0843	0.0012	0.40	0.0930	0.0013	0.44	XX
TH3PGZ		0.0834	0.0003	0.10	0.0914	-0.0003	-0.10	OE
U9H9KH		0.0818	-0.0014	-0.47	0.0909	-0.0008	-0.27	OE
UAFJKR		0.0817	-0.0014	-0.50	0.0911	-0.0006	-0.21	OE
UYEWQA		0.0853	0.0022	0.76	0.0950	0.0033	1.13	OE
V7HDQK		0.0837	0.0005	0.18	0.0920	0.0003	0.10	OE
VERKJ6		0.0810	-0.0021	-0.74	0.0920	0.0003	0.10	XX
VHF23N		0.0821	-0.0011	-0.37	0.0910	-0.0008	-0.26	OE
VWE4KV		0.0871	0.0040	1.38	0.0943	0.0025	0.88	GD
W2ANC4		0.0833	0.0002	0.07	0.0909	-0.0008	-0.28	OE
WBQYDW		0.0789	-0.0042	-1.46	0.0862	-0.0055	-1.90	OE
XHGZNU		0.0845	0.0013	0.46	0.0941	0.0024	0.82	OE
XLH6H2		0.0874	0.0043	1.47	0.0958	0.0041	1.42	OE
Y22WKT		0.0843	0.0012	0.41	0.0923	0.0006	0.21	IC

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
Y79CT4		0.0833	0.0002	0.07	0.0912	-0.0005	-0.18	AE
YE4ETU		0.0898	0.0067	2.30	0.0995	0.0077	2.67	OE
YFN2UB		0.0832	0.0001	0.02	0.0912	-0.0005	-0.18	OE
YG3WRG		0.0803	-0.0028	-0.97	0.0900	-0.0017	-0.59	OE
Z6M9A4		0.0810	-0.0021	-0.74	0.0897	-0.0021	-0.71	OE
ZCPFVX		0.0834	0.0002	0.08	0.0924	0.0006	0.22	OE
ZTRMWZ	*	0.0845	0.0013	0.46	0.0890	-0.0027	-0.94	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.0831	Percent	0.0917	Percent
Stnd Dev Btwn Labs	0.0029	Percent	0.0029	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 92 of 101 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1607

2DMHPR (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L90.

7TT3LD (X) - Data for both samples are low. Possible Systematic Error.

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

C9LBUT (X) - Data for both samples are high. Possible Systematic Error.

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

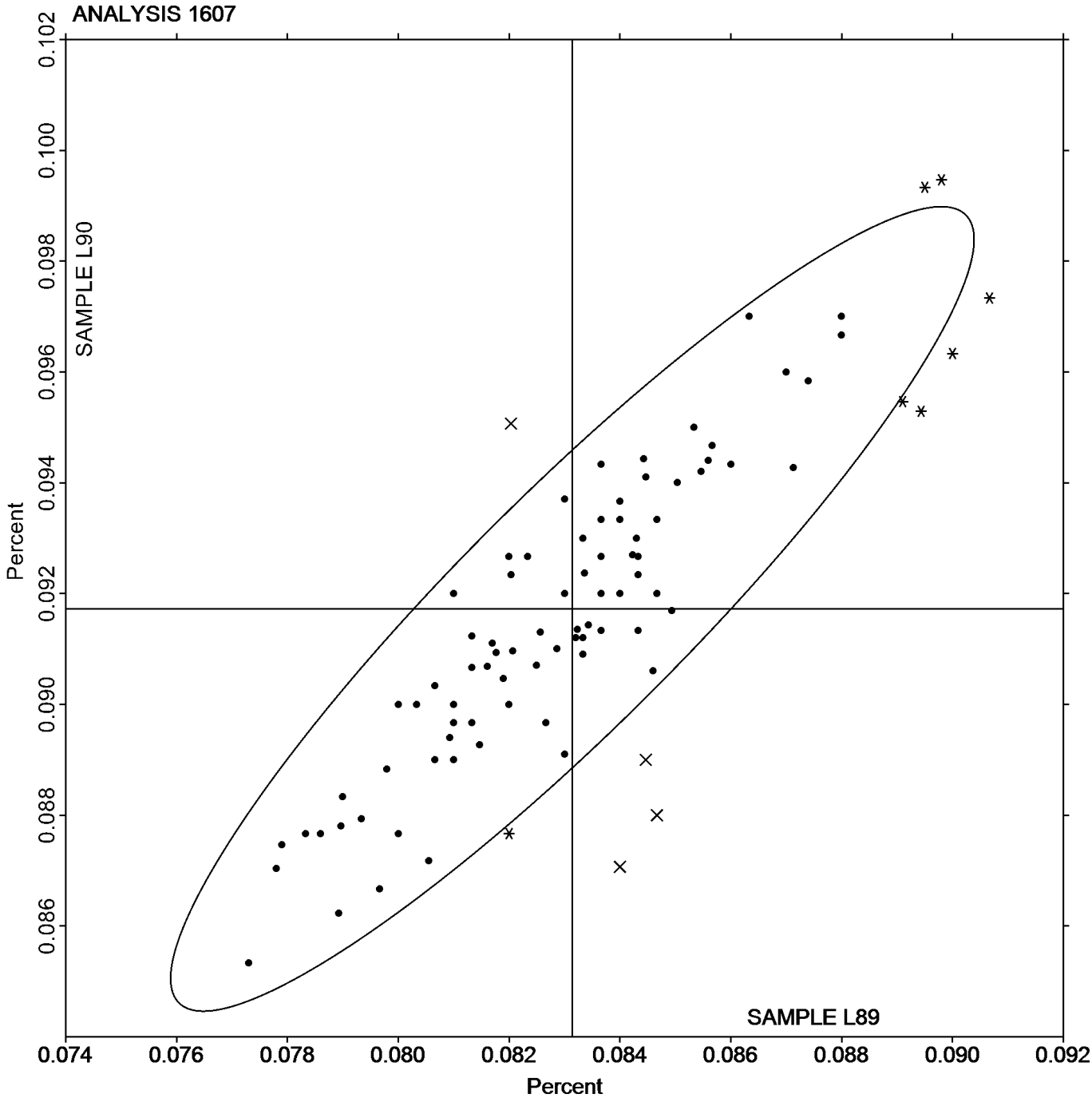
EGXCXE (X) - Data for sample L90 are high.

LUWUCR (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L90.

T37MKT (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L89.

SAMPLE L89
0.0831 Percent

SAMPLE L90
0.0917 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.2463	0.0064	1.11	0.1057	0.0003	0.10	OE
24QCFR		0.2467	0.0068	1.17	0.1073	0.0020	0.59	OE
2637ZY		0.2399	0.0000	-0.01	0.1107	0.0053	1.57	OE
2DMHPR		0.2429	0.0030	0.51	0.1031	-0.0022	-0.66	IC
32XZH7		0.2407	0.0008	0.13	0.1077	0.0023	0.69	OE
36E7DU		0.2408	0.0009	0.16	0.1056	0.0002	0.06	OE
3NQULL		0.2457	0.0058	1.00	0.1127	0.0073	2.17	XR
4922XR		0.2340	-0.0060	-1.03	0.1004	-0.0049	-1.45	XX
4FW33W		0.2387	-0.0012	-0.22	0.1047	-0.0007	-0.20	OE
6H6HDN		0.2367	-0.0032	-0.56	0.1000	-0.0053	-1.58	OE
6NHRNC	X	0.2570	0.0171	2.97	0.0947	-0.0107	-3.16	OE
6XX4NW		0.2422	0.0023	0.39	0.1068	0.0015	0.44	OE
73LBLV		0.2370	-0.0029	-0.51	0.1107	0.0053	1.57	OE
7TT3LD	X	0.2220	-0.0179	-3.11	0.1100	0.0047	1.38	OE
82Q6KV		0.2367	-0.0032	-0.56	0.1067	0.0013	0.39	GD
8G2VEN		0.2470	0.0071	1.23	0.1090	0.0037	1.08	OE
8LT3WW		0.2518	0.0119	2.07	0.1098	0.0045	1.33	OE
8VBKF3		0.2460	0.0061	1.06	0.1070	0.0017	0.49	OE
8Z4QTK		0.2400	0.0001	0.01	0.1050	-0.0003	-0.10	OE
96W2QP		0.2418	0.0019	0.33	0.1031	-0.0023	-0.67	IC
9B3D8G		0.2346	-0.0054	-0.93	0.1046	-0.0007	-0.22	OE
9QXQPJ		0.2478	0.0079	1.37	0.1102	0.0049	1.44	OE
A2X26Q		0.2340	-0.0059	-1.03	0.1043	-0.0010	-0.30	OE
ACC7RN		0.2310	-0.0089	-1.55	0.1077	0.0023	0.69	OE
AE7NDN		0.2423	0.0024	0.42	0.1090	0.0037	1.08	OE
AQVT48		0.2412	0.0013	0.22	0.1043	-0.0010	-0.31	AE
BQHDQJ		0.2450	0.0051	0.88	0.1070	0.0017	0.49	OE
BZDWHK		0.2383	-0.0016	-0.27	0.1073	0.0020	0.59	XX
C6AT74		0.2403	0.0004	0.07	0.1043	-0.0010	-0.30	XX
C7B2TZ		0.2408	0.0009	0.16	0.1034	-0.0019	-0.57	IC
C9LBUT		0.2474	0.0075	1.30	0.1084	0.0030	0.89	OE
CDYM47		0.2500	0.0101	1.75	0.1100	0.0047	1.38	OE
CHQN78		0.2470	0.0071	1.23	0.1070	0.0017	0.49	OE
CY6UWY		0.2437	0.0038	0.66	0.1024	-0.0029	-0.87	OE
D4TVD4		0.2347	-0.0052	-0.91	0.1020	-0.0033	-0.99	OE
DFBFXZ	X	0.2513	0.0114	1.98	0.1177	0.0123	3.64	XR
DNEQPX		0.2387	-0.0012	-0.22	0.1133	0.0080	2.36	AE
DWRL2J	*	0.2333	-0.0066	-1.14	0.0967	-0.0087	-2.57	OE
EGXCXE		0.2267	-0.0132	-2.30	0.1013	-0.0040	-1.19	DR
EQ2PL7		0.2383	-0.0016	-0.27	0.0963	-0.0090	-2.66	OE
FAVMLD		0.2454	0.0055	0.95	0.1027	-0.0027	-0.79	OE
FEDPAB		0.2423	0.0024	0.42	0.1063	0.0010	0.29	OE
FPP6VW		0.2373	-0.0026	-0.45	0.1090	0.0037	1.08	OE
FRVWEW		0.2473	0.0074	1.29	0.1093	0.0040	1.18	GD
GYXJG4		0.2423	0.0024	0.42	0.1077	0.0023	0.69	OE
GZCFZA		0.2367	-0.0032	-0.56	0.1093	0.0040	1.18	OE
H3FZCU	*	0.2233	-0.0166	-2.88	0.0987	-0.0067	-1.97	OE

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
HK9JXA		0.2440	0.0041	0.71	0.1073	0.0020	0.59	OE
HUG4HJ		0.2353	-0.0046	-0.80	0.1087	0.0033	0.98	OE
J7R3H6		0.2387	-0.0012	-0.22	0.1047	-0.0007	-0.20	OE
JAZFVJ		0.2417	0.0018	0.30	0.1043	-0.0010	-0.30	OE
JN4RGA		0.2367	-0.0032	-0.56	0.1093	0.0040	1.18	OE
KG3WB9		0.2433	0.0034	0.59	0.0987	-0.0067	-1.97	OE
KNZMGR		0.2503	0.0104	1.81	0.1083	0.0030	0.88	GD
KU6C26		0.2450	0.0051	0.88	0.1080	0.0027	0.79	OE
LARD2G		0.2384	-0.0015	-0.26	0.1097	0.0044	1.29	OE
LGLHFP		0.2490	0.0091	1.58	0.1047	-0.0007	-0.20	OE
LUWUCR		0.2292	-0.0107	-1.85	0.1016	-0.0037	-1.11	IC
LYLBLX		0.2450	0.0050	0.87	0.0992	-0.0062	-1.83	XX
M44UHD		0.2357	-0.0042	-0.74	0.1047	-0.0007	-0.20	OE
MED6EW		0.2409	0.0010	0.18	0.1040	-0.0013	-0.39	OE
MG6L3H		0.2430	0.0031	0.54	0.1060	0.0007	0.19	OE
MV2DHL		0.2325	-0.0074	-1.29	0.1061	0.0008	0.22	OE
MVJWAR		0.2457	0.0058	1.00	0.1047	-0.0007	-0.20	GD
N6BR7E		0.2400	0.0001	0.01	0.1067	0.0013	0.39	IC
N7ZWNZ		0.2373	-0.0026	-0.45	0.1033	-0.0020	-0.59	OE
NE9ZL7		0.2300	-0.0099	-1.72	0.1040	-0.0013	-0.40	OE
NFKAG6		0.2432	0.0033	0.57	0.1073	0.0020	0.59	OE
NN8W39		0.2407	0.0008	0.13	0.1080	0.0027	0.79	OE
NQ6J6X		0.2357	-0.0042	-0.73	0.0981	-0.0072	-2.13	OE
NX6V8M		0.2367	-0.0032	-0.56	0.1060	0.0007	0.19	OE
NX7QWX		0.2430	0.0031	0.54	0.1050	-0.0003	-0.10	OE
PJDVMX		0.2373	-0.0026	-0.45	0.1053	0.0000	0.00	IC
PTKBT7	X	0.2437	0.0038	0.65	0.1163	0.0110	3.25	XX
Q8MB6Y	X	0.2409	0.0010	0.17	0.0662	-0.0391	-11.57	OE
QNP3LG		0.2327	-0.0072	-1.26	0.1027	-0.0027	-0.79	OE
RHVJYC		0.2457	0.0058	1.00	0.1040	-0.0013	-0.40	OE
RR32VP		0.2390	-0.0009	-0.16	0.1060	0.0007	0.19	XX
RV9GCT		0.2470	0.0071	1.23	0.1090	0.0037	1.08	OE
T37MKT	X	0.2487	0.0088	1.52	0.1327	0.0273	8.08	OE
T73CNU	*	0.2225	-0.0174	-3.02	0.0990	-0.0063	-1.88	XX
TH3PGZ		0.2426	0.0027	0.47	0.1055	0.0002	0.05	OE
U9H9KH		0.2400	0.0001	0.01	0.1070	0.0017	0.49	OE
UAFJKR		0.2434	0.0035	0.61	0.0998	-0.0055	-1.64	OE
UYEWQA		0.2440	0.0041	0.71	0.1067	0.0013	0.39	OE
V7HDQK		0.2317	-0.0082	-1.43	0.1037	-0.0017	-0.50	OE
VERKJ6		0.2267	-0.0132	-2.30	0.1037	-0.0017	-0.50	XX
VHF23N		0.2426	0.0027	0.46	0.1023	-0.0030	-0.89	OE
VWE4KV		0.2390	-0.0009	-0.16	0.1037	-0.0017	-0.50	GD
W2ANC4		0.2420	0.0021	0.36	0.1067	0.0013	0.39	OE
WBQYDW	X	0.2219	-0.0180	-3.12	0.0973	-0.0080	-2.37	OE
WYM3Q9		0.2456	0.0057	0.99	0.1085	0.0032	0.95	OE
XHGZNU		0.2408	0.0009	0.16	0.1080	0.0027	0.79	OE
XLH6H2		0.2426	0.0027	0.47	0.1024	-0.0029	-0.87	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1608

Carbon & Low Alloy Steel, COPPER (Cu)
COPPER (Cu)

WebCode	Data Flag	Sample L89 Lab Mean	Sample L89 Diff. from Grand Mean	Sample L89 CPV	Sample L90 Lab Mean	Sample L90 Diff. from Grand Mean	Sample L90 CPV	Method
Y22WKT		0.2383	-0.0016	-0.27	0.1047	-0.0007	-0.20	IC
Y79CT4		0.2360	-0.0039	-0.68	0.1043	-0.0010	-0.30	AE
YE4ETU		0.2340	-0.0059	-1.03	0.1047	-0.0007	-0.20	OE
YFN2UB		0.2413	0.0014	0.25	0.1040	-0.0013	-0.40	OE
YG3WRG		0.2370	-0.0029	-0.51	0.1070	0.0017	0.49	OE
Z6M9A4		0.2420	0.0021	0.36	0.1053	0.0000	0.00	OE
ZCPFVX		0.2337	-0.0062	-1.08	0.1050	-0.0003	-0.10	OE
ZTRMWZ		0.2389	-0.0010	-0.18	0.1018	-0.0035	-1.05	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.2399	Percent	0.1053	Percent
Stnd Dev Btwn Labs	0.0058	Percent	0.0034	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 95 of 102 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1608

6NHRNC (X) - Data for sample L89 are high and data for sample L90 are low.

7TT3LD (X) - Data for sample L89 are low.

DFBFXZ (X) - Data for sample L90 are high. Inconsistent within the determinations of sample L90.

PTKBT7 (X) - Data for sample L90 are high.

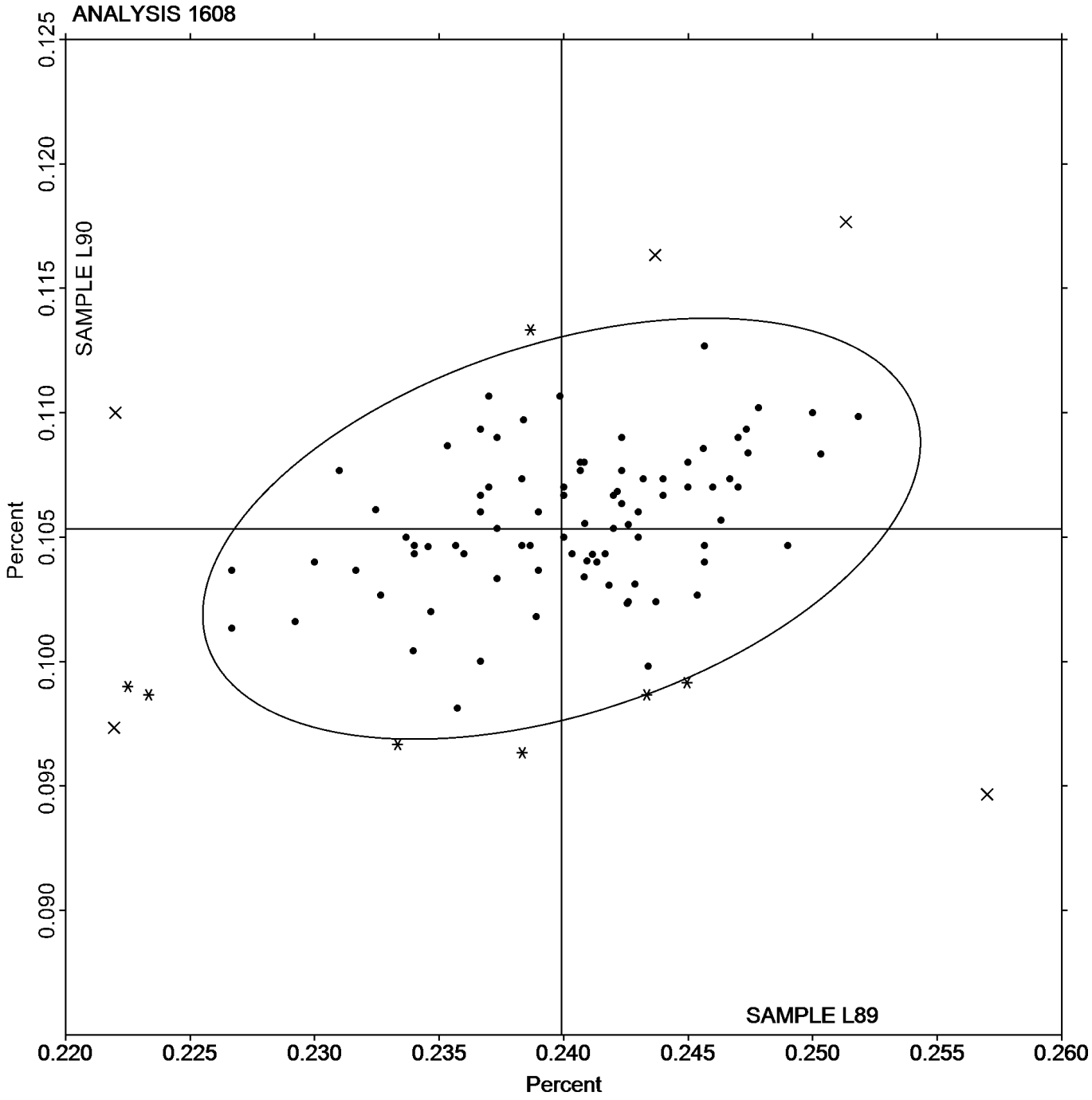
Q8MB6Y (X) - Data for sample L90 are low.

T37MKT (X) - Data for sample L90 are high.

WBQYDW (X) - Data for sample L89 are low.

SAMPLE L89
0.2399 Percent

SAMPLE L90
0.1053 Percent



		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
22DBR2		0.00867	-0.00032	-0.45	0.00550	-0.00052	-0.75	OE
24QCFR		0.00907	0.00008	0.12	0.00567	-0.00036	-0.51	OE
2637ZY		0.00864	-0.00034	-0.49	0.00508	-0.00094	-1.34	OE
2DMHPR		0.00817	-0.00081	-1.17	0.00550	-0.00052	-0.75	IC
32XZH7		0.00977	0.00078	1.13	0.00667	0.00064	0.92	OE
36E7DU		0.00912	0.00014	0.20	0.00605	0.00003	0.04	OE
3NQULL		0.00793	-0.00105	-1.51	0.00547	-0.00056	-0.79	XR
4922XR		0.00970	0.00071	1.03	0.00675	0.00073	1.04	XX
4FW33W		0.00847	-0.00052	-0.74	0.00580	-0.00022	-0.32	OE
6H6HDN		0.00867	-0.00032	-0.45	0.00600	-0.00002	-0.03	OE
6XX4NW		0.00914	0.00016	0.22	0.00560	-0.00043	-0.61	IC
82Q6KV	X	0.0170	0.00802	11.52	0.00167	-0.00436	-6.22	GD
8G2VEN		0.00947	0.00048	0.70	0.00630	0.00028	0.40	OE
8VBKF3		0.00900	0.00002	0.03	0.00600	-0.00002	-0.03	OE
8Z4QTK		0.00900	0.00002	0.03	0.00600	-0.00002	-0.03	OE
96W2QP		0.00833	-0.00065	-0.93	0.00567	-0.00036	-0.51	IC
9B3D8G		0.00811	-0.00087	-1.25	0.00538	-0.00065	-0.92	OE
9QXQPJ		0.00977	0.00078	1.13	0.00663	0.00061	0.87	OE
A2X26Q		0.0102	0.00118	1.70	0.00730	0.00128	1.82	OE
ACC7RN		0.00853	-0.00045	-0.64	0.00560	-0.00042	-0.60	OE
AE7NDN		0.00900	0.00002	0.03	0.00600	-0.00002	-0.03	OE
AQVT48		0.00903	0.00005	0.07	0.00643	0.00041	0.59	AE
C6AT74		0.00867	-0.00031	-0.45	0.00597	-0.00006	-0.08	XX
C7B2TZ	X	0.0133	0.00435	6.25	0.00940	0.00338	4.82	IC
C9LBUT		0.00863	-0.00035	-0.50	0.00560	-0.00042	-0.60	OE
DNEQPX		0.00917	0.00018	0.27	0.00627	0.00024	0.35	AE
DWRL2J	*	0.00700	-0.00198	-2.85	0.00467	-0.00136	-1.94	OE
EGXCXE	X	0.0131	0.00415	5.96	0.00980	0.00378	5.39	DR
EQ2PL7		0.0103	0.00135	1.94	0.00700	0.00098	1.39	OE
FAVMLD		0.00887	-0.00012	-0.17	0.00613	0.00011	0.16	OE
FEDPAB	X	0.00637	-0.00262	-3.76	0.00287	-0.00316	-4.51	OE
FPP6VW		0.00900	0.00002	0.03	0.00600	-0.00002	-0.03	OE
GZCFZA		0.00917	0.00018	0.27	0.00637	0.00034	0.49	OE
HK9JXA	X	0.0139	0.00495	7.11	0.00990	0.00388	5.53	OE
J7R3H6		0.00933	0.00035	0.51	0.00697	0.00094	1.35	OE
JAZFVJ	*	0.0100	0.00102	1.46	0.00767	0.00164	2.35	OE
JN4RGA		0.00870	-0.00028	-0.40	0.00517	-0.00086	-1.22	OE
KG3WB9		0.00950	0.00052	0.74	0.00637	0.00034	0.49	OE
KU6C26		0.00930	0.00032	0.46	0.00627	0.00024	0.35	OE
LGLHFP		0.00900	0.00002	0.03	0.00567	-0.00036	-0.51	OE
LUWUCR		0.00960	0.00062	0.89	0.00630	0.00028	0.40	IC
LYLBLX	*	0.00918	0.00020	0.29	0.00738	0.00135	1.93	XX
M44UHD		0.00933	0.00035	0.51	0.00600	-0.00002	-0.03	OE
MED6EW		0.00877	-0.00021	-0.31	0.00590	-0.00012	-0.18	OE
N6BR7E		0.00937	0.00039	0.55	0.00647	0.00044	0.63	IC
N7ZWNZ		0.00767	-0.00132	-1.89	0.00433	-0.00169	-2.41	OE
NE9ZL7	X	0.00577	-0.00322	-4.62	0.00383	-0.00219	-3.13	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 1610

Carbon & Low Alloy Steel, TIN (Sn)

TIN (Sn)

		Sample L89			Sample L90			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
NFKAG6		0.00847	-0.00052	-0.74	0.00547	-0.00056	-0.79	OE
NN8W39		0.0100	0.00102	1.46	0.00700	0.00098	1.39	OE
NX7QWX		0.00810	-0.00088	-1.27	0.00560	-0.00042	-0.60	OE
PJDVMX	*	0.0110	0.00202	2.90	0.00800	0.00198	2.82	IC
Q8MB6Y		0.00877	-0.00021	-0.31	0.00640	0.00038	0.54	OE
QNP3LG	X	0.00467	-0.00432	-6.20	0.00333	-0.00269	-3.84	OE
RHVJYC		0.00953	0.00055	0.79	0.00640	0.00038	0.54	OE
RV9GCT		0.00890	-0.00008	-0.12	0.00600	-0.00002	-0.03	OE
T37MKT		0.00880	-0.00018	-0.26	0.00593	-0.00009	-0.13	OE
TH3PGZ		0.00913	0.00015	0.22	0.00573	-0.00029	-0.41	OE
U9H9KH		0.0101	0.00112	1.61	0.00670	0.00068	0.97	OE
UAFJKR		0.00940	0.00042	0.60	0.00637	0.00034	0.49	OE
UYEWQA		0.00970	0.00072	1.03	0.00670	0.00068	0.97	OE
V7HDQK		0.00800	-0.00098	-1.41	0.00500	-0.00102	-1.46	OE
VERKJ6	X	0.0133	0.00435	6.25	0.00967	0.00364	5.20	XX
VHF23N		0.00807	-0.00092	-1.31	0.00553	-0.00049	-0.70	OE
W2ANC4		0.00830	-0.00068	-0.98	0.00503	-0.00099	-1.41	OE
WBQYDW		0.00892	-0.00006	-0.09	0.00588	-0.00014	-0.20	OE
XHGZNU		0.00910	0.00012	0.17	0.00613	0.00011	0.16	OE
XLH6H2		0.00883	-0.00015	-0.21	0.00583	-0.00019	-0.27	OE
Y22WKT		0.00957	0.00059	0.84	0.00643	0.00041	0.59	IC
Y79CT4	X	0.0103	0.00129	1.85	0.00990	0.00388	5.53	AE
YE4ETU		0.00797	-0.00102	-1.46	0.00507	-0.00096	-1.37	OE
YFN2UB		0.00887	-0.00012	-0.17	0.00680	0.00078	1.11	OE
YG3WRG		0.00900	0.00002	0.03	0.00667	0.00064	0.92	OE
Z6M9A4		0.00920	0.00022	0.31	0.00593	-0.00009	-0.13	OE
ZTRMWZ		0.00797	-0.00102	-1.46	0.00437	-0.00166	-2.36	WD

Summary Statistics

	Sample L89		Sample L90	
Grand Means	0.00898	Percent	0.00602	Percent
Stnd Dev Btwn Labs	0.00070	Percent	0.00070	Percent

Samples L89, L90 : AISI 1018, AISI 1018

Statistics based on 64 of 74 reporting participants

Key to Method Codes Reported by Participants

AE	Spectrometry - Atomic Emission (AES)	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 #1610

82Q6KV (X) - Data for sample L89 are high and data for sample L90 are low. Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

C7B2TZ (X) - Data for both samples are high. Possible Systematic Error.

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

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

HK9JXA (X) - Data for both samples are high. Possible Systematic Error.

NE9ZL7 (X) - Data for both samples are low. Possible Systematic Error.

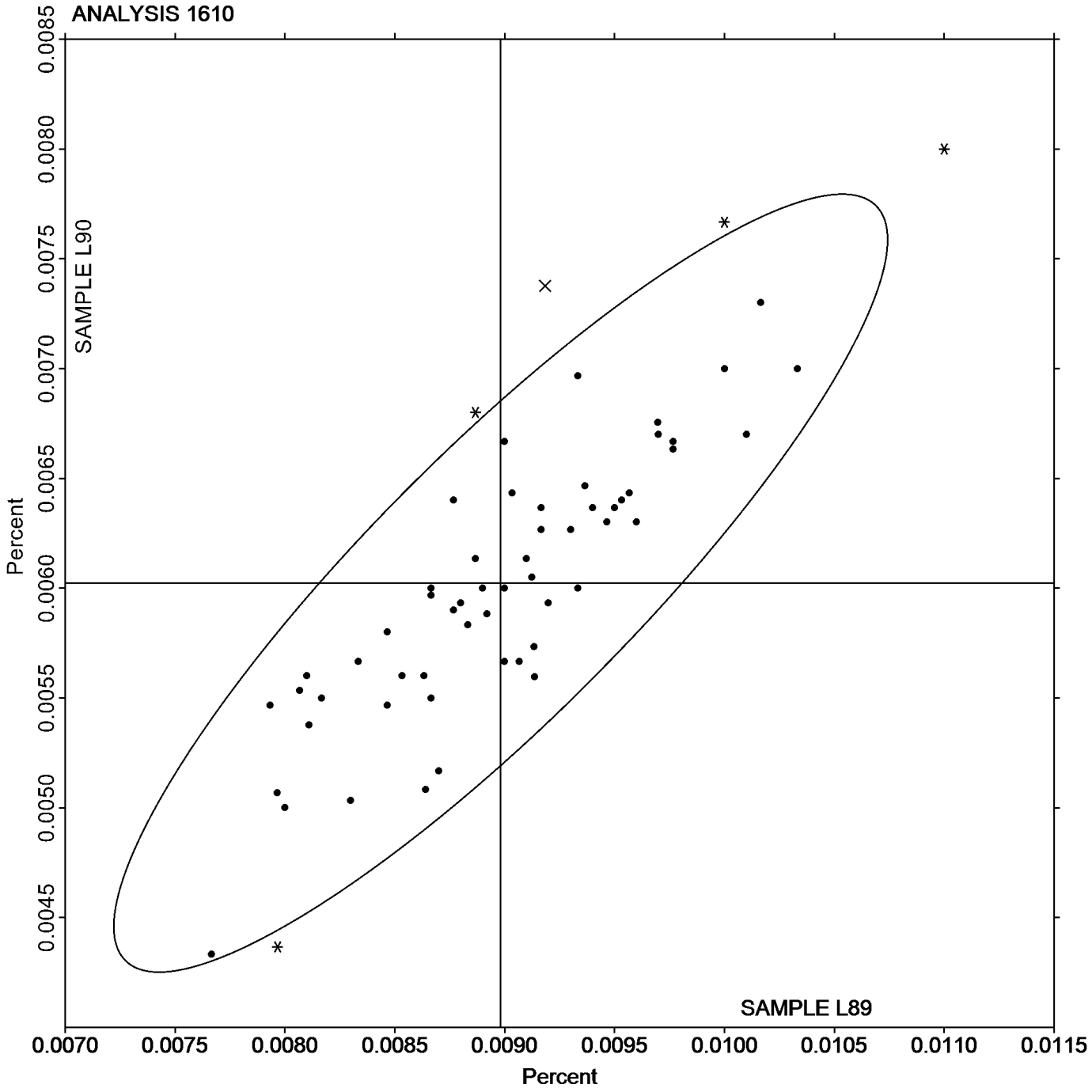
QNP3LG (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L90.

VERKJ6 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample L90.

Y79CT4 (X) - Data for sample L90 are high.

SAMPLE L89
0.00898 Percent

SAMPLE L90
0.00602 Percent



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