Collaborative Testing Services, Inc.

Fasteners & Metals Interlaboratory Testing Program

Summary Report Cycle 121, 1st Qtr 2018

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.
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Key for Fasteners & Metals Program Web Summary Report

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

Lab Mean - The average of the test results obtained by the participant.

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

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

Comparative Performance Value (CPV) - An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. CPV = (LAB MEAN - GRAND MEAN)/ BETWEEN-LAB STANDARD DEVIATION. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa).

Instr. Code - A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

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

Data Flags

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

Graph - For each laboratory, the Lab Mean for the second sample (y-axis) is plotted against the Lab Mean for the first sample (x-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the Grand Means for each sample. When 20 or more laboratories are included in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above. Labs not receiving a data flag appear as points on the plot.

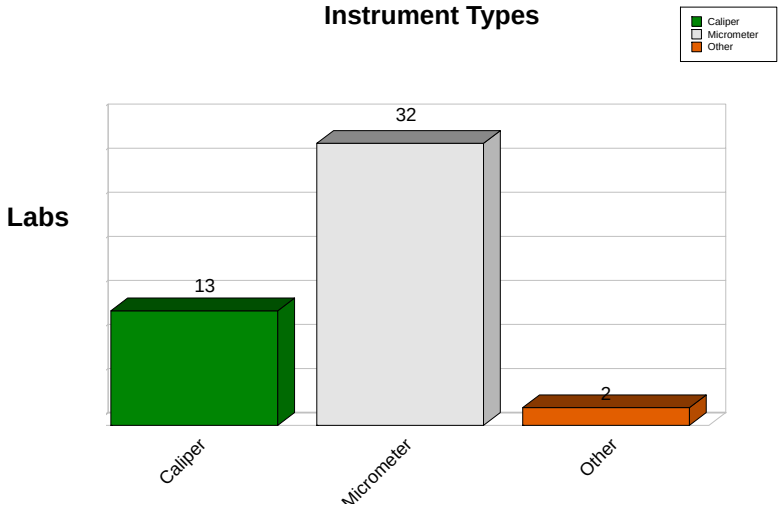
Fasteners and Metals Interlaboratory Testing Program

Analysis 101

Dimensional: Outside Diameter of Plain Plug Gage
ISO GUM

Cycle 121
1st Qtr 2018

During Cycle 121, CTS conducted the Analysis #101 - Round Dimensional. For this test all participants received two samples I49 and I50 with nominal diameters; 0.2500 in. and 0.2504 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. 47 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 9001:2000 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 = 0.2500 in.

Xref2 = 0.2504 in.

WebCode	Data Flag (if assigned)	Reference Uncertainty (Uref)	Expanded Uncertainty (Ulab)	Sample I49 Lab Mean (Xlab)	Sample I49 Performance Statistic (En1)	Sample I50 Lab Mean (Xlab)	Sample I50 Performance Statistic (En2)	Instrument
2AZDN7		0.00004	0.00007	0.25005	0.59	0.25043	0.35	Micrometer
2B7B2Z		0.00004	0.00023	0.24977	-0.97	0.25017	-0.96	Micrometer
2W8U8F		0.00004	0.00002	0.25000	0.00	0.25039	-0.33	Micrometer
3AUHG6		0.00004	0.00003	0.25000	0.00	0.25037	-0.61	Micrometer
4TLCYY		0.00004	0.00030	0.25000	0.00	0.25036	-0.13	Other
6XAPNT		0.00004	0.00116	0.24960	-0.34	0.25020	-0.17	Caliper
7A37FE		0.00004	0.00150	0.24960	-0.27	0.25000	-0.27	Caliper
7K2NLU		0.00004	Not Reported	0.24997		0.25038		Micrometer
7LFYY2		0.00004	0.00027	0.24997	-0.11	0.25038	-0.07	Micrometer
88AADL	X	0.00004	0.00042	0.24950	-1.19	0.25000	-0.95	Caliper
8B6QGJ		0.00004	0.00005	0.25000	0.00	0.25040	0.00	Micrometer
AUHXVD	X	0.00004	0.00100	0.24950	-0.50	0.50000	249.40	Caliper
AWHBEW		0.00004	0.00030	0.24990	-0.33	0.25030	-0.33	Micrometer
BDMZ43		0.00004	0.00157	0.24991	-0.06	0.25032	-0.05	Micrometer
CJTVN3		0.00004	0.00020	0.24996	-0.20	0.25032	-0.42	Micrometer
D9N28H		0.00004	0.00260	0.24980	-0.08	0.24990	-0.19	Caliper
DGC9EL		0.00004	0.00015	0.24990	-0.64	0.25030	-0.64	Micrometer
EH7BMM		0.00004	0.00047	0.25000	0.00	0.25046	0.13	Micrometer
F9B6CF		0.00004	0.00003	0.24999	-0.17	0.25040	0.08	Other
FA6TTQ		0.00004	Not Reported	0.24990		0.25030		Micrometer
FWYQEN	X	0.00004	0.00039	0.24913	-2.19	0.25039	-0.02	Caliper
GYLCEV		0.00004	0.00201	0.24980	-0.10	0.25019	-0.10	Micrometer
J49TVD		0.00004	0.00040	0.24992	-0.20	0.25031	-0.22	Micrometer
JVH8UL		0.00004	0.00010	0.25000	0.00	0.25050	0.93	Micrometer
KVCCLZ		0.00004	0.00059	0.24978	-0.37	0.25018	-0.37	Micrometer
LLLGDQ		0.00004	0.00009	0.24993	-0.71	0.25033	-0.69	Micrometer
LNQURN		0.00004	0.00060	0.24997	-0.05	0.25028	-0.20	Micrometer
LZH96Z		0.00004	0.00130	0.25000	0.00	0.25000	-0.31	Caliper
NMPNG9		0.00004	0.00030	0.24998	-0.07	0.25040	0.00	Micrometer
PAEFBA		0.00004	0.00040	0.24998	-0.05	0.25038	-0.05	Micrometer
PJLA8N		0.00004	0.00104	0.25000	0.00	0.25039	-0.01	Caliper
PT8Q6J		0.00004	0.00058	0.25000	0.00	0.25000	-0.69	Caliper
QFFLCD		0.00004	0.06378	0.24989	0.00	0.25028	0.00	Micrometer

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

Xref1 = 0.2500 in.

Xref2 = 0.2504 in.

WebCode	Data Flag (if assigned)	Reference Uncertainty (Uref)	Expanded Uncertainty (Ulab)	Sample I49 Lab Mean (Xlab)	Sample I49 Performance Statistic (En1)	Sample I50 Lab Mean (Xlab)	Sample I50 Performance Statistic (En2)	Instrument
QPA6WY		0.00004	0.00015	0.24992	-0.50	0.25032	-0.49	Micrometer
R2FHQ4		0.00004	0.00020	0.24998	-0.10	0.25040	0.00	Micrometer
R78BHT		0.00004	0.00092	0.25000	0.00	0.25050	0.11	Caliper
RFCAE9		0.00004	0.00210	0.25000	0.00	0.25000	-0.19	Caliper
RQXDL9		0.00004	0.00015	0.24995	-0.32	0.25040	0.00	Micrometer
T3JA2C		0.00004	0.00118	0.25000	0.00	0.25039	-0.01	Caliper
UJNV4X		0.00004	0.00047	0.24991	-0.18	0.25035	-0.10	Micrometer
UNKZZ4		0.00004	Not Reported	0.24960		0.25000		Caliper
UU3P2P		0.00004	0.94100	0.24972	0.00	0.25003	0.00	Micrometer
UUNYDE		0.00004	0.00200	0.24996	-0.02	0.25035	-0.02	Micrometer
XZYN3P		0.00004	0.00017	0.25002	0.11	0.25040	0.00	Micrometer
Y2CFTK		0.00004	0.83000	0.24940	0.00	0.25002	0.00	Micrometer
YCAF6P		0.00004	0.07874	0.24992	0.00	0.25032	0.00	Micrometer
Z4ENK3		0.00004	0.00050	0.24990	-0.20	0.25060	0.40	Micrometer

Summary Statistics

		Sample I49	Sample I50
Reference Uncertainty = 0.00004 in.	Reference Diameters:	0.2500 inch	0.2504 inch

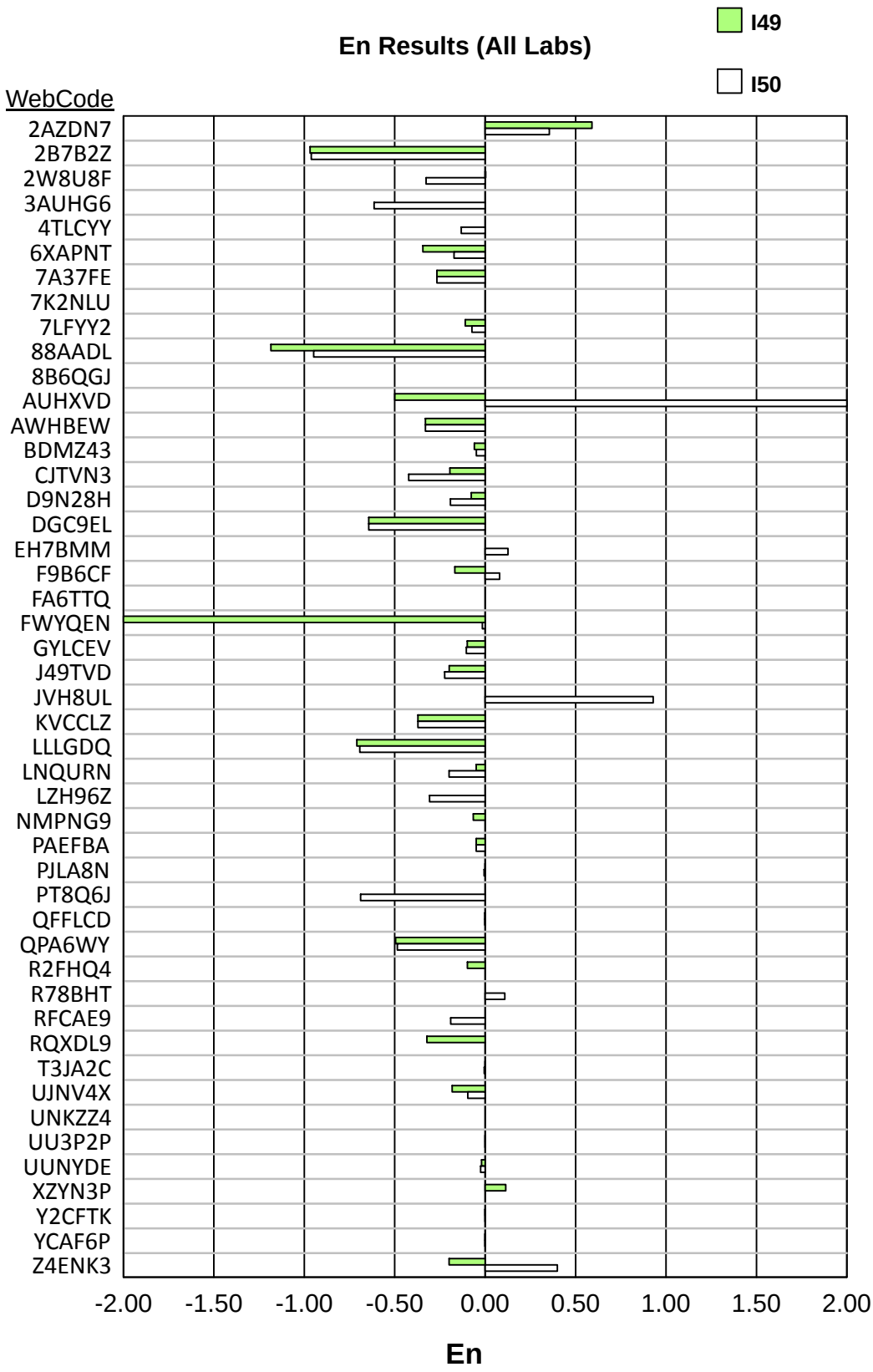
Samples I49, I50 : 52100 Steel, 52100 Steel

Comments on Assigned Data Flags for Test #101

88AADL (X) - En value for sample I49 was low. En value for sample I49 was low.

AUHXVD (X) - Extreme data for Sample I50. En value for sample I50 was high.

FWYQEN (X) - En value for sample I49 was low. En value for sample I49 was low.



		Sample R49			Sample R50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		47.90	-0.49	-1.73	49.10	-0.28	-1.00
2W8U8F		48.41	0.03	0.10	49.27	-0.11	-0.40
46BKAL		48.50	0.11	0.41	49.30	-0.08	-0.29
4TLCYY		48.80	0.41	1.48	49.80	0.42	1.49
64Y6G7	X	49.90	1.51	5.41	50.20	0.82	2.91
6976L4		48.10	-0.29	-1.02	49.30	-0.08	-0.29
6JUFB4		48.40	0.01	0.05	49.70	0.32	1.13
6RGH96		48.40	0.01	0.05	49.30	-0.08	-0.29
82KMP8		48.24	-0.15	-0.52	49.17	-0.21	-0.76
82NULE		48.60	0.21	0.77	49.40	0.02	0.06
8VDGNU		48.75	0.37	1.31	49.58	0.20	0.71
9HQUCT		48.40	0.01	0.05	49.20	-0.18	-0.65
BNZLCW		48.44	0.06	0.21	49.46	0.08	0.27
CZ8V9K	X	49.30	0.91	3.27	49.00	-0.38	-1.36
FD9GGT		48.20	-0.19	-0.66	49.30	-0.08	-0.29
FXVRD6		48.80	0.41	1.48	49.80	0.42	1.49
GGJWFJ		48.40	0.01	0.05	49.70	0.32	1.13
GQ8U44		48.20	-0.19	-0.66	49.40	0.02	0.06
J4EVWJ		47.90	-0.49	-1.73	49.00	-0.38	-1.36
JHT92X	X	48.70	0.31	1.12	47.70	-1.68	-5.99
K448TP		48.50	0.11	0.41	49.50	0.12	0.42
KJEUEZ		47.97	-0.42	-1.48	49.14	-0.24	-0.86
KRWDJL		48.20	-0.19	-0.66	49.20	-0.18	-0.65
KW34ND	*	47.82	-0.57	-2.03	48.59	-0.80	-2.83
M9A4HN		48.80	0.41	1.48	49.60	0.22	0.78
MCE27H	*	48.50	0.11	0.41	50.00	0.62	2.20
MWXAXH		48.13	-0.26	-0.92	49.18	-0.20	-0.72
P9ZHR7		48.30	-0.09	-0.30	49.40	0.02	0.06
PNFZ3Y		48.44	0.06	0.21	49.27	-0.11	-0.40
PUGZXG		48.45	0.06	0.23	49.11	-0.27	-0.98
RCRJQP	X	46.00	-2.39	-8.52	49.50	0.12	0.42
U9TBRE		48.60	0.21	0.77	49.70	0.32	1.13
V4AMM8		48.59	0.20	0.72	49.46	0.08	0.27
VP89BG	X	46.72	-1.67	-5.95	48.15	-1.23	-4.39
XLM228		48.90	0.51	1.84	49.52	0.14	0.49
ZUPXYA		48.30	-0.09	-0.30	49.40	0.02	0.06

Summary Statistics

	Sample R49		Sample R50	
Grand Means	48.39	ksi	49.38	ksi
Stnd Dev Btwn Labs	0.28	ksi	0.28	ksi

Samples R49, R50 : 16G 6061-T6 (A), 14G 6061-T6 (B)

Statistics based on 31 of 36 reporting participants

Comments on Assigned Data Flags for Test #105

64Y6G7 (X) - Data for both samples are high.

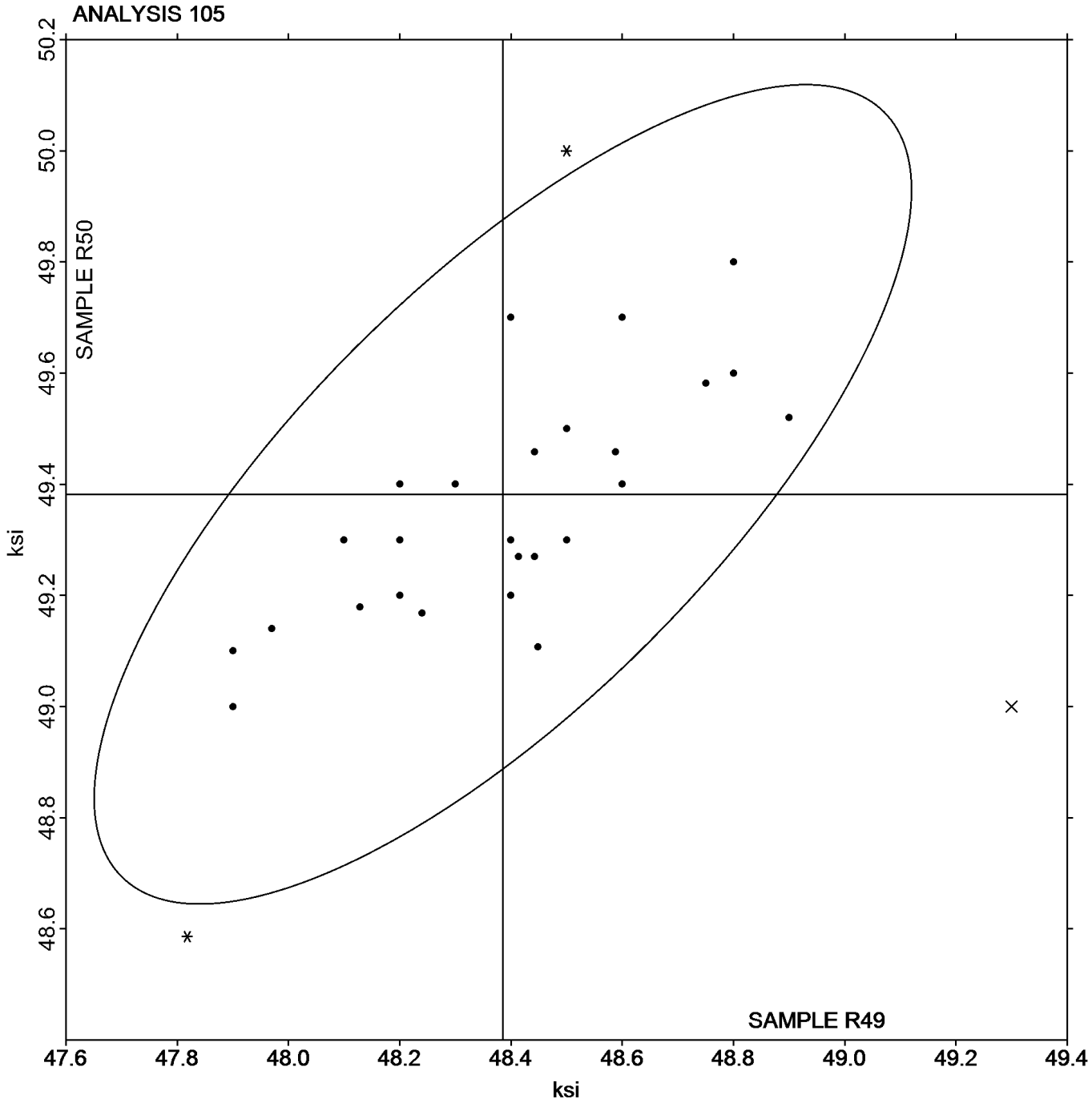
CZ8V9K (X) - Data for sample R49 are high.

JHT92X (X) - Data for sample R50 are low.

RCRJQP (X) - Data for sample R49 are low.

VP89BG (X) - Data for both samples are low. Possible Systematic Error.

SAMPLE R49	SAMPLE R50
48.39 ksi	49.38 ksi



		Sample R49			Sample R50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		41.00	-0.33	-0.47	42.40	0.09	0.18
2W8U8F		40.77	-0.56	-0.79	42.18	-0.14	-0.27
46BKAL		41.60	0.27	0.38	42.20	-0.11	-0.23
4TLCYY		41.90	0.57	0.80	42.70	0.39	0.78
64Y6G7		42.20	0.87	1.23	43.10	0.79	1.58
6976L4		41.30	-0.03	-0.04	42.50	0.19	0.38
6JUFB4		41.50	0.17	0.24	41.90	-0.41	-0.83
6RGH96		41.30	-0.03	-0.04	42.00	-0.31	-0.63
82KMP8		41.63	0.29	0.42	42.37	0.05	0.11
82NULE		41.60	0.27	0.38	42.10	-0.21	-0.43
8VDGNU		40.00	-1.34	-1.89	41.31	-1.00	-2.02
9HQUCT		41.40	0.07	0.10	42.10	-0.21	-0.43
BNZLCW	X	43.08	1.75	2.47	41.05	-1.27	-2.55
CZ8V9K	*	42.60	1.27	1.79	42.00	-0.31	-0.63
FD9GGT		41.40	0.07	0.10	42.30	-0.01	-0.03
FXVRD6		42.00	0.67	0.95	42.70	0.39	0.78
GGJWFJ		41.30	-0.03	-0.04	42.80	0.49	0.98
GQ8U44		41.50	0.17	0.24	42.70	0.39	0.78
J4EVWJ		41.10	-0.23	-0.33	42.10	-0.21	-0.43
JHT92X	X	41.80	0.47	0.66	40.70	-1.61	-3.24
K448TP		41.50	0.17	0.24	42.50	0.19	0.38
KJEUEZ		40.24	-1.09	-1.54	41.83	-0.48	-0.97
KRWDJL		41.50	0.17	0.24	42.20	-0.11	-0.23
KW34ND		40.99	-0.34	-0.48	41.40	-0.91	-1.83
M9A4HN		42.30	0.97	1.37	43.00	0.69	1.38
MCE27H	*	42.20	0.87	1.23	43.70	1.39	2.79
MWXAXH		40.70	-0.63	-0.90	42.22	-0.09	-0.19
P9ZHR7		41.50	0.17	0.24	42.40	0.09	0.18
PNFZ3Y		41.57	0.24	0.33	42.44	0.13	0.25
PUGZXG		41.35	0.02	0.03	41.90	-0.42	-0.84
RCRJQP	*	40.00	-1.33	-1.88	42.60	0.29	0.58
U9TBRE		41.30	-0.03	-0.04	42.90	0.59	1.18
V4AMM8		41.77	0.44	0.62	42.50	0.18	0.37
VP89BG	*	39.09	-2.24	-3.17	41.33	-0.98	-1.98
XLM228		41.86	0.53	0.75	41.96	-0.35	-0.71
ZUPXYA		41.30	-0.03	-0.04	42.30	-0.01	-0.03

Summary Statistics

	Sample R49		Sample R50	
Grand Means	41.33	ksi	42.31	ksi
Stnd Dev Btwn Labs	0.71	ksi	0.50	ksi

Samples R49, R50 : 16G 6061-T6 (A), 14G 6061-T6 (B)

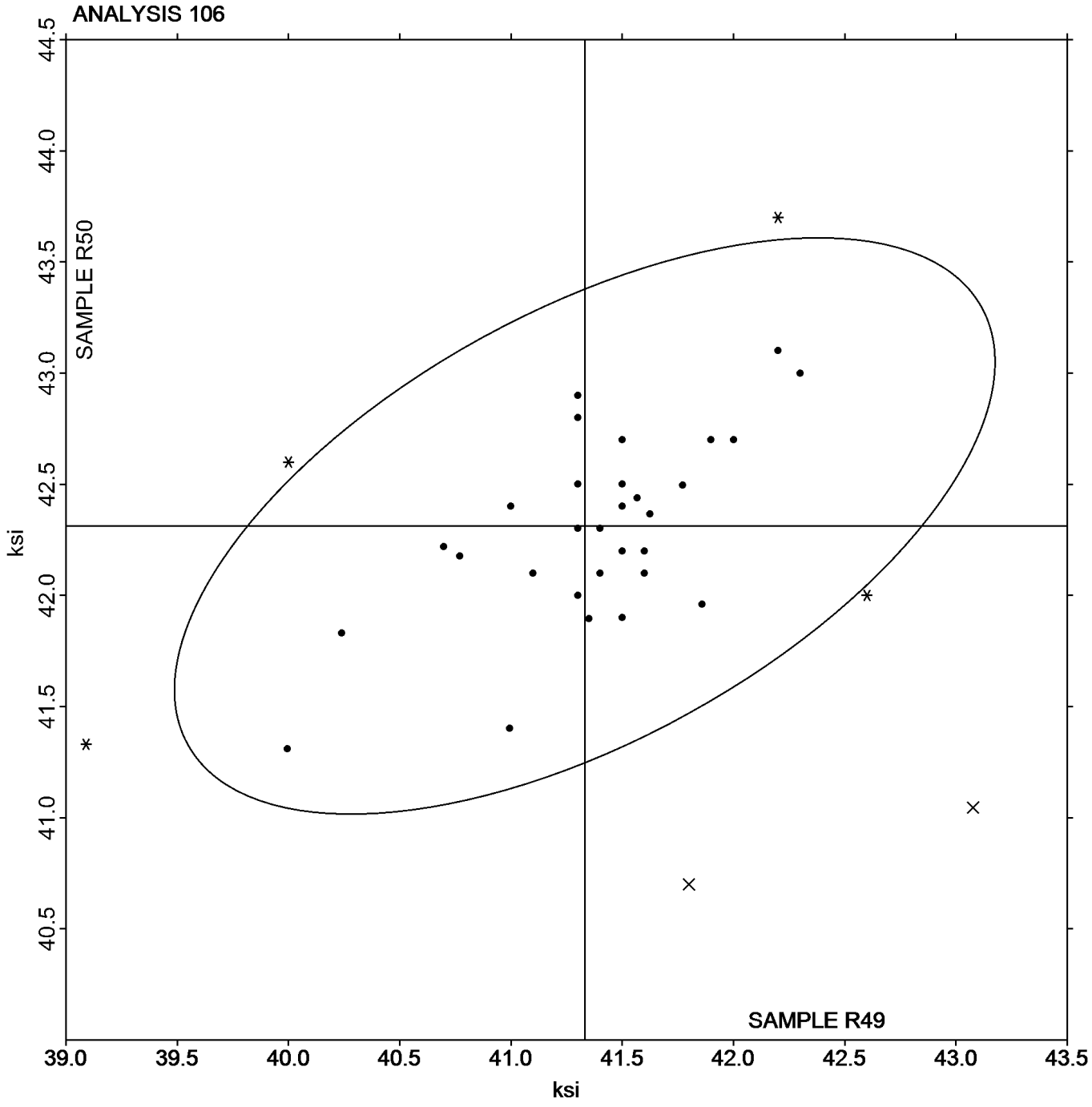
Statistics based on 34 of 36 reporting participants

Comments on Assigned Data Flags for Test #106

BNZLCW (X) - Inconsistent in testing between samples.

JHT92X (X) - Data for sample R50 are low.

SAMPLE R49	SAMPLE R50
41.33 ksi	42.31 ksi



		Sample R49			Sample R50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		12.90	-1.35	-2.29	14.10	-0.74	-1.13
2W8U8F		14.80	0.55	0.94	15.80	0.96	1.45
46BKAL		14.00	-0.25	-0.42	14.50	-0.34	-0.52
4TLCYY		14.00	-0.25	-0.42	14.50	-0.34	-0.52
64Y6G7		13.50	-0.75	-1.27	14.50	-0.34	-0.52
6976L4	X	10.73	-3.52	-5.99	11.12	-3.72	-5.65
6JUFB4		14.50	0.25	0.43	15.00	0.16	0.24
6RGH96		14.30	0.05	0.09	14.70	-0.14	-0.22
82KMP8		13.85	-0.40	-0.68	14.21	-0.63	-0.96
82NULE		14.30	0.05	0.09	14.10	-0.74	-1.13
8VDGNU		13.55	-0.70	-1.19	15.02	0.18	0.27
9HQUCT		14.00	-0.25	-0.42	14.50	-0.34	-0.52
BNZLCW	X	5.800	-8.45	-14.39	11.00	-3.84	-5.83
CZ8V9K		14.50	0.25	0.43	15.00	0.16	0.24
FD9GGT		14.30	0.05	0.09	14.50	-0.34	-0.52
FXVRD6		14.10	-0.15	-0.25	14.60	-0.24	-0.37
GGJWFJ		14.20	-0.05	-0.08	14.50	-0.34	-0.52
GQ8U44		14.70	0.45	0.77	14.50	-0.34	-0.52
J4EVWJ		14.50	0.25	0.43	15.00	0.16	0.24
JHT92X		14.00	-0.25	-0.42	15.00	0.16	0.24
K448TP		15.50	1.25	2.13	16.10	1.26	1.91
KJEUEZ		14.00	-0.25	-0.42	13.80	-1.04	-1.58
KRWDJL		14.30	0.05	0.09	14.60	-0.24	-0.37
KW34ND		15.00	0.75	1.28	15.80	0.96	1.45
M9A4HN		13.50	-0.75	-1.27	14.00	-0.84	-1.28
MCE27H		14.00	-0.25	-0.42	15.00	0.16	0.24
MWXAXH		14.80	0.55	0.94	15.20	0.36	0.54
P9ZHR7		14.00	-0.25	-0.42	14.90	0.06	0.09
PNFZ3Y		14.80	0.55	0.94	15.70	0.86	1.30
PUGZXG		15.60	1.35	2.30	15.90	1.06	1.61
RCRJQP		14.60	0.35	0.60	15.90	1.06	1.61
U9TBRE		14.30	0.05	0.09	15.30	0.46	0.69
V4AMM8		13.20	-1.05	-1.78	13.80	-1.04	-1.58
VP89BG		14.00	-0.25	-0.42	14.00	-0.84	-1.28
XLM228		13.80	-0.45	-0.76	14.60	-0.24	-0.37
ZUPXYA		15.00	0.75	1.28	16.00	1.16	1.76

Summary Statistics

	Sample R49		Sample R50	
Grand Means	14.25	Percent	14.84	Percent
Stnd Dev Btwn Labs	0.59	Percent	0.66	Percent

Samples R49, R50 : 16G 6061-T6 (A), 14G 6061-T6 (B)

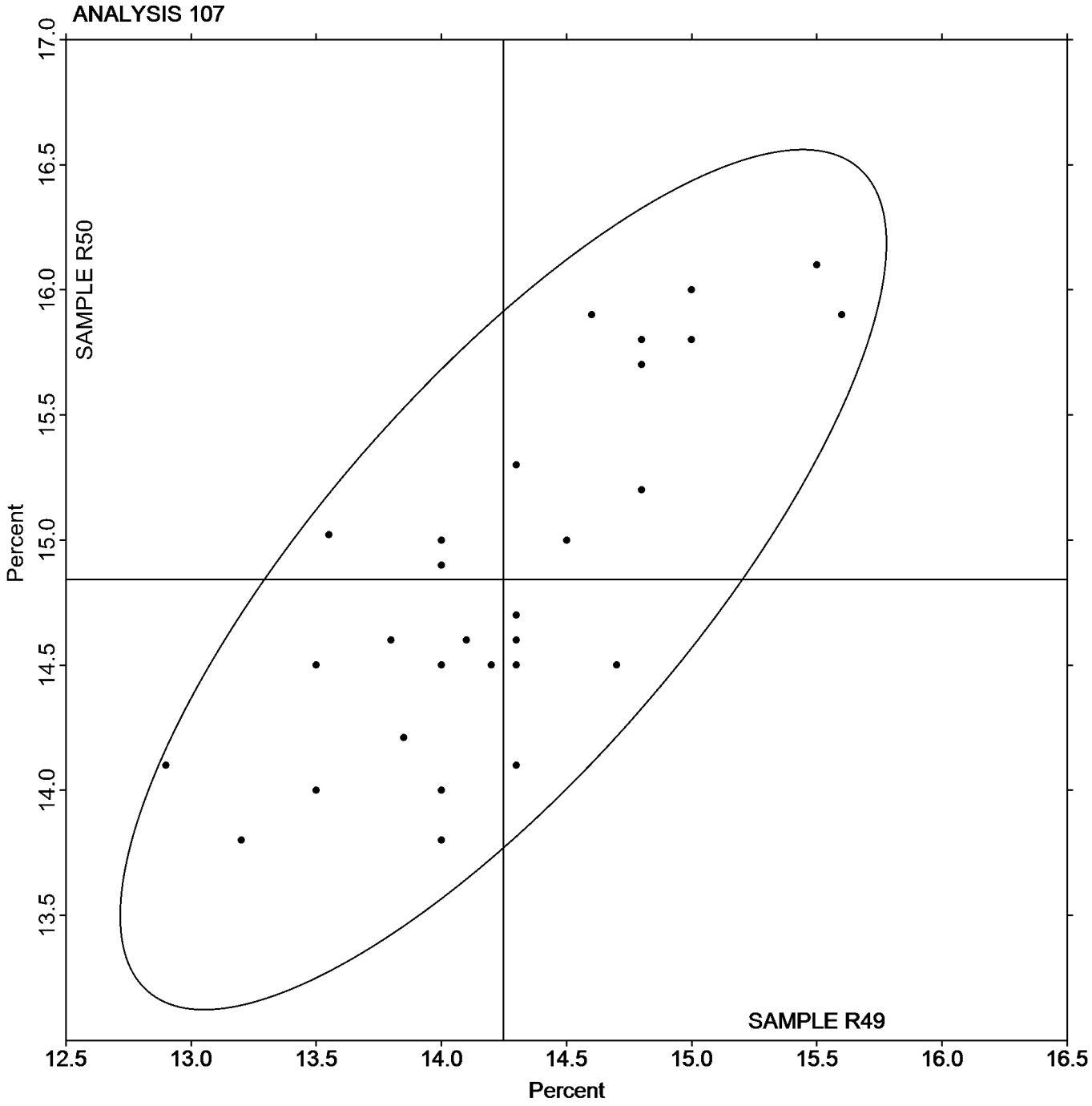
Statistics based on 34 of 36 reporting participants

Comments on Assigned Data Flags for Test #107

6976L4 (X) - Data for both samples are low. Possible Systematic Error.

BNZLCW (X) - Data for Sample R49 are extremely low. Data for Sample R50 are low.

SAMPLE R49	SAMPLE R50
14.25 Percent	14.84 Percent



		Sample A49			Sample A50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2UKZ2J		71.30	0.32	0.44	72.80	0.52	0.62
47R2LM		71.29	0.31	0.43	71.84	-0.44	-0.51
64VXHD		70.97	-0.01	-0.01	72.46	0.18	0.22
74QFRY		70.70	-0.28	-0.39	72.00	-0.28	-0.32
794MER		72.17	1.19	1.65	73.20	0.93	1.09
7DWW9Q	X	66.07	-4.92	-6.81	69.18	-3.09	-3.64
9FGJZ6		71.10	0.12	0.17	71.80	-0.48	-0.56
AA8V92		72.20	1.22	1.69	74.10	1.82	2.15
AUHXVD		70.90	-0.08	-0.11	72.90	0.62	0.73
B6TEYH		71.70	0.72	1.00	72.60	0.32	0.38
CHWKKM		70.49	-0.49	-0.68	71.79	-0.48	-0.57
DJ2AMV		71.23	0.25	0.34	72.35	0.07	0.08
FB2WD7		70.25	-0.73	-1.01	72.00	-0.28	-0.33
FPL6MQ		70.10	-0.88	-1.22	71.50	-0.78	-0.91
JHT92X		70.00	-0.98	-1.36	71.50	-0.78	-0.91
JNFNKH		71.80	0.82	1.13	72.80	0.52	0.62
JYFG9U		71.91	0.93	1.29	73.88	1.60	1.89
JYHA6G		71.67	0.69	0.95	73.16	0.88	1.04
K2XVUN		70.43	-0.55	-0.76	71.27	-1.01	-1.18
KHJ7XQ		70.60	-0.38	-0.53	72.10	-0.18	-0.21
KW34ND		70.65	-0.33	-0.46	71.76	-0.51	-0.61
LEKYMX		71.50	0.52	0.72	73.10	0.82	0.97
LLLGDQ		69.73	-1.25	-1.74	71.10	-1.18	-1.39
LNQURN		70.40	-0.58	-0.80	71.80	-0.48	-0.56
P9ZHR7		71.40	0.42	0.58	72.50	0.22	0.26
PTC4WL		72.08	1.10	1.53	73.24	0.97	1.14
QELXV3	X	62.50	-8.48	-11.74	68.30	-3.98	-4.68
QPA6WY		69.50	-1.48	-2.05	70.98	-1.29	-1.52
R86Z6F		71.00	0.02	0.03	71.90	-0.38	-0.44
RA8B4J		71.79	0.81	1.13	73.24	0.97	1.14
RD88JH		71.67	0.69	0.96	73.26	0.98	1.16
UDJHET		71.10	0.12	0.17	71.90	-0.38	-0.44
UHGLAF		70.70	-0.28	-0.39	72.00	-0.28	-0.32
UZWBHR		71.22	0.24	0.33	72.71	0.43	0.51
VHBQ4E		71.36	0.38	0.52	72.81	0.53	0.63
XJVR7K	X	70.20	-0.78	-1.08	73.53	1.26	1.48
YCP84V	*	69.65	-1.33	-1.85	70.11	-2.16	-2.55
YZH2D3		70.08	-0.90	-1.25	71.07	-1.21	-1.42
ZJ6CBL		70.63	-0.35	-0.48	72.66	0.39	0.46
ZTVAFE		71.00	0.02	0.03	72.00	-0.28	-0.32

Summary Statistics

	Sample A49		Sample A50	
Grand Means	70.98	ksi	72.28	ksi
Stnd Dev Btwn Labs	0.72	ksi	0.85	ksi

Samples A49, A50 : AISI 1018 (L), AISI 1018 (S)

Statistics based on 37 of 40 reporting participants

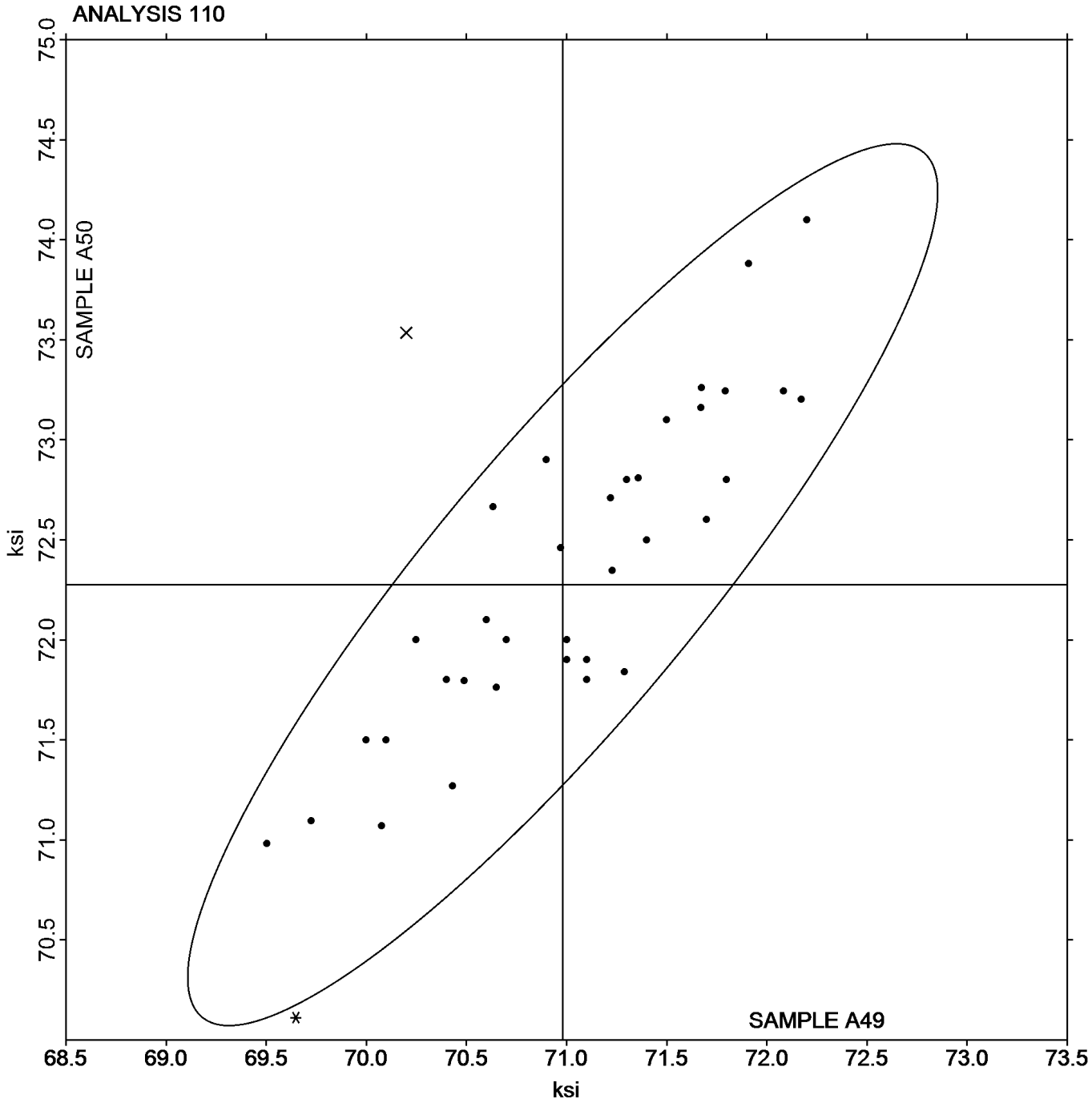
Comments on Assigned Data Flags for Test #110

7DWW9Q (X) - Data for both samples are low.

QELXV3 (X) - Data for Sample A49 are extremely low. Data for Sample A50 are low.

XJVR7K (X) - Inconsistent in testing between samples.

SAMPLE A49	SAMPLE A50
70.98 ksi	72.28 ksi



		Sample A49			Sample A50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2UKZ2J		52.40	4.73	1.20	51.90	3.33	0.87
47R2LM		46.28	-1.39	-0.35	46.17	-2.40	-0.63
64VXHD		44.39	-3.28	-0.83	47.57	-1.00	-0.26
74QFRY		47.20	-0.47	-0.12	48.80	0.23	0.06
794MER	X	56.28	8.60	2.18	50.80	2.23	0.59
7DWW9Q		45.85	-1.82	-0.46	48.57	0.00	0.00
9FGJZ6		46.70	-0.97	-0.25	49.30	0.73	0.19
AA8V92	*	57.40	9.73	2.47	58.90	10.33	2.71
AUHXVD		49.60	1.93	0.49	50.60	2.03	0.53
B6TEYH		42.17	-5.51	-1.40	41.14	-7.43	-1.95
CHWKKM	X	50.62	2.95	0.75	56.57	8.00	2.10
DJ2AMV		50.78	3.11	0.79	52.95	4.38	1.15
FB2WD7		47.56	-0.11	-0.03	48.73	0.16	0.04
FPL6MQ		43.80	-3.87	-0.98	46.20	-2.37	-0.62
JHT92X		46.10	-1.57	-0.40	47.80	-0.77	-0.20
JNFNKH		52.90	5.23	1.33	54.60	6.03	1.58
JYFG9U		50.44	2.77	0.70	50.82	2.25	0.59
JYHA6G		47.30	-0.37	-0.09	46.78	-1.79	-0.47
K2XVUN		45.15	-2.52	-0.64	46.00	-2.57	-0.67
KHJ7XQ		45.80	-1.87	-0.48	47.30	-1.27	-0.33
KW34ND		44.83	-2.85	-0.72	46.82	-1.76	-0.46
LEKYMX		53.00	5.33	1.35	53.60	5.03	1.32
LLLGDQ		43.67	-4.00	-1.02	44.58	-3.99	-1.05
LNQURN		45.40	-2.27	-0.58	43.70	-4.87	-1.28
P9ZHR7		43.90	-3.77	-0.96	45.20	-3.37	-0.88
PTC4WL		43.95	-3.72	-0.95	46.41	-2.16	-0.57
QELXV3	X	34.40	-13.27	-3.37	39.80	-8.77	-2.30
QPA6WY		43.56	-4.12	-1.04	44.09	-4.48	-1.17
R86Z6F	*	55.80	8.13	2.06	53.60	5.03	1.32
RA8B4J		48.88	1.21	0.31	49.17	0.60	0.16
RD88JH		54.77	7.10	1.80	54.95	6.38	1.67
UDJHET		45.30	-2.37	-0.60	48.70	0.13	0.03
UHGLAF		48.60	0.93	0.24	50.60	2.03	0.53
UZWBHR		48.60	0.93	0.24	46.73	-1.84	-0.48
VHBQ4E		50.47	2.80	0.71	50.33	1.76	0.46
XJVR7K		44.38	-3.29	-0.84	45.98	-2.59	-0.68
YCP84V		44.79	-2.88	-0.73	44.24	-4.33	-1.14
YZH2D3		45.51	-2.16	-0.55	45.88	-2.69	-0.71
ZJ6CBL		42.93	-4.74	-1.20	44.38	-4.19	-1.10
ZTVAFE		53.70	6.03	1.53	54.00	5.43	1.42

Summary Statistics

	Sample A49		Sample A50	
Grand Means	47.67	ksi	48.57	ksi
Stnd Dev Btwn Labs	3.94	ksi	3.81	ksi

Samples A49, A50 : AISI 1018 (L), AISI 1018 (S)

Statistics based on 37 of 40 reporting participants

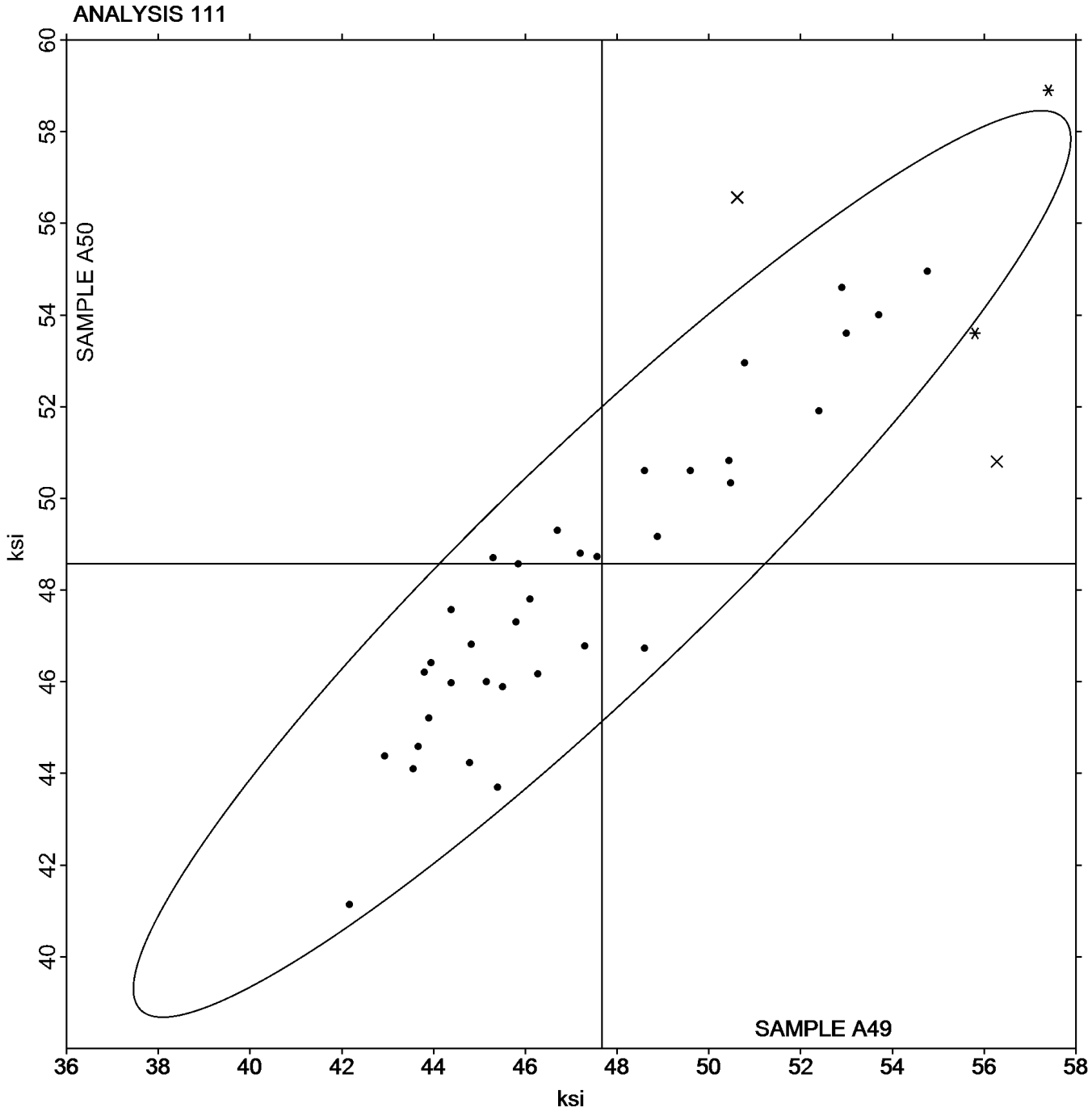
Comments on Assigned Data Flags for Test #111

794MER (X) - Inconsistent in testing between samples.

CHWKKM (X) - Inconsistent in testing between samples.

QELXV3 (X) - Data for sample A49 are low.

SAMPLE A49	SAMPLE A50
47.67 ksi	48.57 ksi



		Sample A49			Sample A50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2UKZ2J		34.60	-0.37	-0.27	33.30	-1.13	-0.91
47R2LM		34.00	-0.97	-0.70	35.30	0.87	0.70
64VXHD		34.60	-0.37	-0.27	34.00	-0.43	-0.35
74QFRY		34.50	-0.47	-0.34	35.60	1.17	0.95
794MER		35.17	0.20	0.15	34.10	-0.33	-0.27
7DWW9Q	*	38.20	3.23	2.35	37.20	2.77	2.24
9FGJZ6		37.00	2.03	1.48	34.10	-0.33	-0.27
AA8V92	*	35.50	0.53	0.39	31.80	-2.63	-2.13
AUHXVD		34.10	-0.87	-0.63	33.60	-0.83	-0.67
B6TEYH		34.68	-0.29	-0.21	34.18	-0.25	-0.21
CHWKKM		37.10	2.13	1.55	36.30	1.87	1.51
DJ2AMV		34.00	-0.97	-0.70	33.00	-1.43	-1.16
FB2WD7		36.54	1.57	1.14	35.28	0.85	0.69
FPL6MQ		35.10	0.13	0.10	33.50	-0.93	-0.75
JHT92X		36.00	1.03	0.75	35.00	0.57	0.46
JNFNKH		33.00	-1.97	-1.43	34.00	-0.43	-0.35
JYFG9U		34.70	-0.27	-0.19	32.90	-1.53	-1.24
JYHA6G		32.90	-2.07	-1.50	34.00	-0.43	-0.35
K2XVUN		35.00	0.03	0.02	36.00	1.57	1.27
KHJ7XQ		37.40	2.43	1.77	35.60	1.17	0.95
KW34ND		34.40	-0.57	-0.41	33.30	-1.13	-0.91
LEKYMX		35.80	0.83	0.61	34.50	0.07	0.06
LLLGDQ		34.44	-0.52	-0.38	36.00	1.58	1.27
LNQURN		35.50	0.53	0.39	34.00	-0.43	-0.35
P9ZHR7		34.50	-0.47	-0.34	33.50	-0.93	-0.75
PTC4WL		32.40	-2.57	-1.87	34.20	-0.23	-0.18
QELXV3		34.50	-0.47	-0.34	33.60	-0.83	-0.67
QPA6WY		35.90	0.93	0.68	36.20	1.77	1.43
R86Z6F		36.50	1.53	1.11	35.40	0.97	0.79
RA8B4J		32.30	-2.67	-1.94	32.60	-1.83	-1.48
RD88JH		34.00	-0.97	-0.70	33.00	-1.43	-1.16
UDJHET		35.60	0.63	0.46	33.70	-0.73	-0.59
UHGLAF		36.00	1.03	0.75	35.50	1.07	0.87
UZWBHR		35.10	0.13	0.10	36.00	1.57	1.27
VHBQ4E		33.20	-1.77	-1.28	32.90	-1.53	-1.24
XJVR7K		36.60	1.63	1.19	34.30	-0.13	-0.10
YCP84V		34.50	-0.47	-0.34	36.00	1.57	1.27
YZH2D3		33.25	-1.72	-1.25	35.39	0.96	0.78
ZJ6CBL		33.80	-1.17	-0.85	33.30	-1.13	-0.91
ZTVAFE		36.30	1.33	0.97	35.00	0.57	0.46

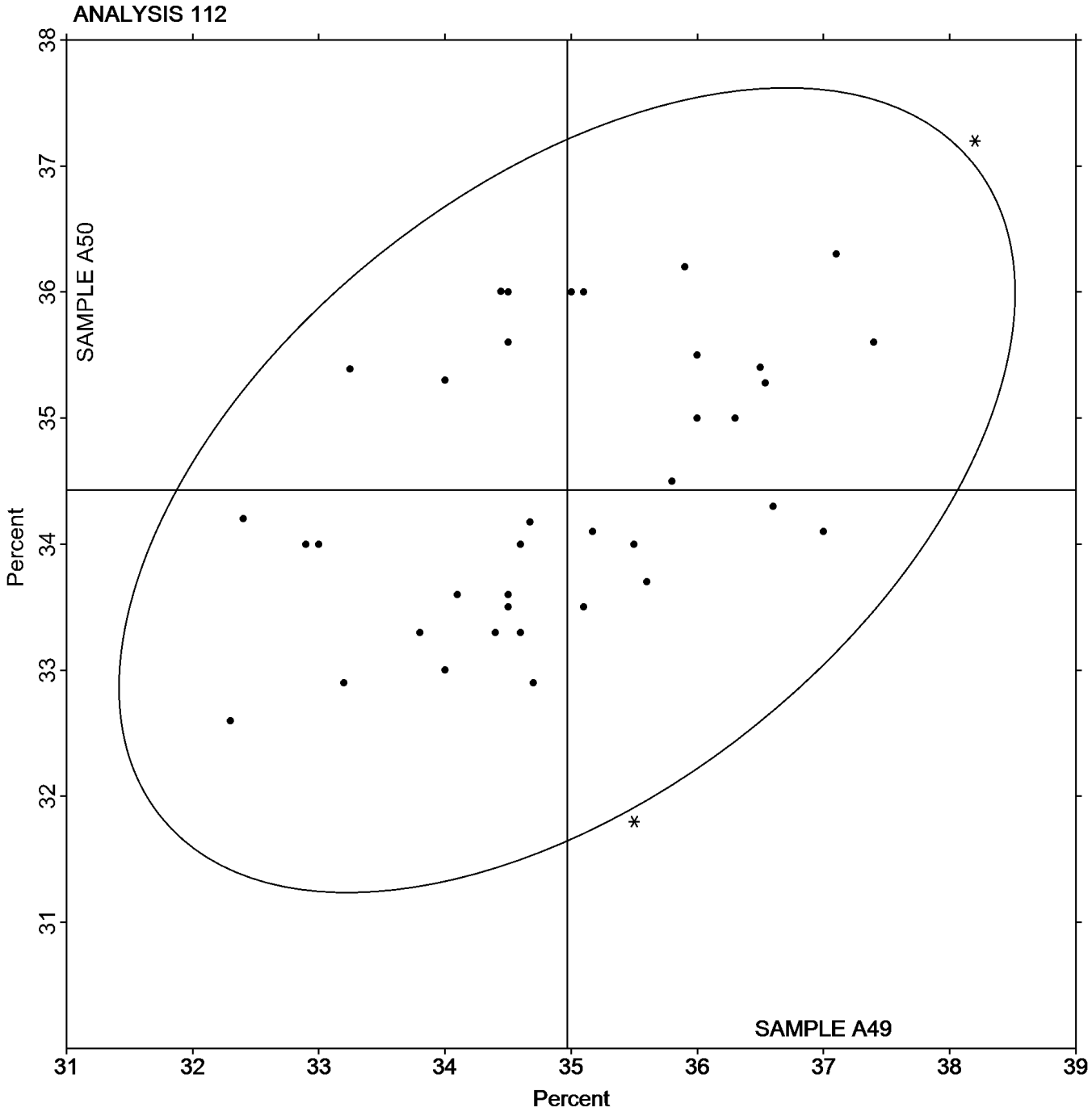
Summary Statistics

	Sample A49		Sample A50	
Grand Means	34.97	Percent	34.43	Percent
Stnd Dev Btwn Labs	1.38	Percent	1.24	Percent

Samples A49, A50 : AISI 1018 (L), AISI 1018 (S)

Statistics based on 40 of 40 reporting participants

SAMPLE A49	SAMPLE A50
34.97 Percent	34.43 Percent



		Sample A49			Sample A50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2UKZ2J		65.80	-0.01	-0.01	66.20	-0.48	-0.64
47R2LM		65.20	-0.61	-0.69	67.50	0.82	1.09
64VXHD		64.38	-1.43	-1.63	66.36	-0.32	-0.43
74QFRY		65.80	-0.01	-0.01	66.90	0.22	0.29
794MER		64.28	-1.53	-1.74	65.32	-1.36	-1.82
7DWW9Q		66.20	0.39	0.45	68.10	1.42	1.89
9FGJZ6		65.10	-0.71	-0.81	67.40	0.72	0.96
AA8V92		65.60	-0.21	-0.23	66.30	-0.38	-0.51
AUHXVD		65.60	-0.21	-0.23	66.60	-0.08	-0.11
B6TEYH	*	63.64	-2.17	-2.48	67.51	0.83	1.10
CHWKKM		66.00	0.19	0.22	67.00	0.32	0.42
DJ2AMV		66.00	0.19	0.22	66.60	-0.08	-0.11
FB2WD7		67.35	1.54	1.77	67.17	0.49	0.65
FPL6MQ		65.40	-0.41	-0.46	67.70	1.02	1.36
JHT92X		65.00	-0.81	-0.92	67.00	0.32	0.42
JNFNKH		65.60	-0.21	-0.23	66.60	-0.08	-0.11
JYFG9U		66.20	0.39	0.45	66.80	0.12	0.16
JYHA6G		66.80	0.99	1.14	66.40	-0.28	-0.38
K2XVUN		66.00	0.19	0.22	67.00	0.32	0.42
KHJ7XQ		66.40	0.59	0.68	66.80	0.12	0.16
KW34ND		64.90	-0.91	-1.04	64.80	-1.88	-2.51
LEKYMX		66.80	0.99	1.14	66.10	-0.58	-0.78
LLLGDQ		66.28	0.47	0.54	68.04	1.36	1.81
LNQURN		66.20	0.39	0.45	66.70	0.02	0.02
P9ZHR7		67.60	1.79	2.05	67.40	0.72	0.96
PTC4WL		65.50	-0.31	-0.35	66.30	-0.38	-0.51
QELXV3		65.80	-0.01	-0.01	65.21	-1.47	-1.96
QPA6WY		66.60	0.79	0.91	67.40	0.72	0.96
R86Z6F		66.60	0.79	0.91	66.80	0.12	0.16
RA8B4J		65.00	-0.81	-0.92	66.50	-0.18	-0.24
RD88JH		64.00	-1.81	-2.06	66.00	-0.68	-0.91
UDJHET		66.20	0.39	0.45	67.20	0.52	0.69
UHGLAF		66.00	0.19	0.22	67.00	0.32	0.42
UZWBHR		65.88	0.07	0.09	66.31	-0.37	-0.50
VHBQ4E		65.10	-0.71	-0.81	65.90	-0.78	-1.04
XJVR7K		67.00	1.19	1.37	66.00	-0.68	-0.91
YCP84V		66.00	0.19	0.22	65.50	-1.18	-1.58
YZH2D3		66.90	1.09	1.25	67.58	0.90	1.20
ZJ6CBL		65.70	-0.11	-0.12	66.60	-0.08	-0.11
ZTVAFE	X	60.50	-5.31	-6.07	65.50	-1.18	-1.58

Summary Statistics

	Sample A49		Sample A50	
Grand Means	65.81	Percent	66.68	Percent
Stnd Dev Btwn Labs	0.87	Percent	0.75	Percent

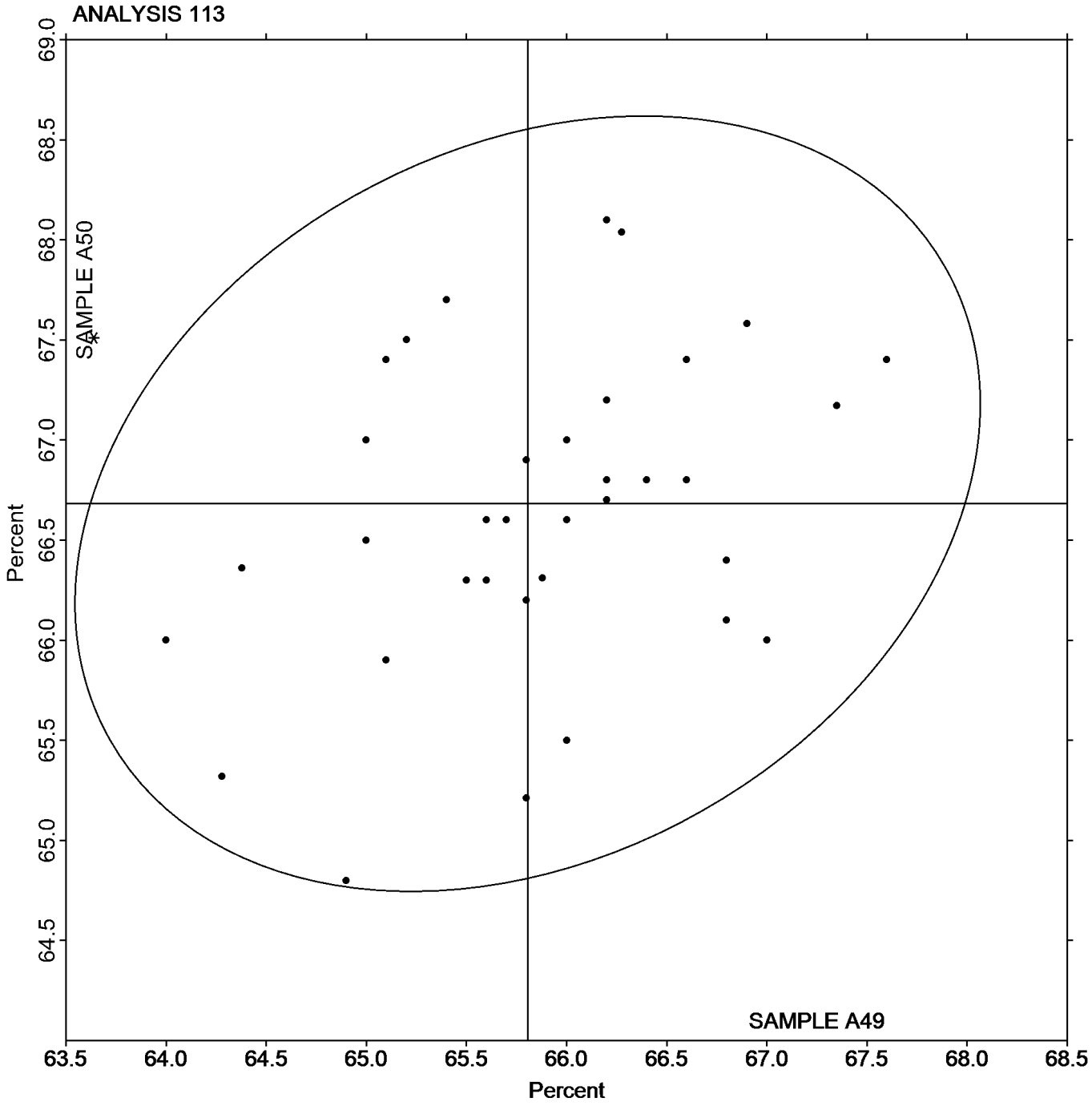
Samples A49, A50 : AISI 1018 (L), AISI 1018 (S)

Statistics based on 39 of 40 reporting participants

Comments on Assigned Data Flags for Test #113

ZTVAFE (X) - Data for sample A49 are low.

SAMPLE A49	SAMPLE A50
65.81 Percent	66.68 Percent



		Sample N49			Sample N50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2NTEVW	X	90.00	0.87	0.81	94.00	-1.19	-2.19
2YVZCP		89.74	0.61	0.57	95.72	0.53	0.98
3GCLB7		89.98	0.85	0.79	95.16	-0.03	-0.05
47R2LM		88.10	-1.03	-0.97	94.90	-0.29	-0.53
4CXX7M		88.86	-0.27	-0.25	95.48	0.29	0.54
6789D3		90.44	1.31	1.22	95.50	0.31	0.58
6G7Q66		88.30	-0.83	-0.78	95.10	-0.09	-0.16
6JTNEG		89.34	0.21	0.19	95.44	0.25	0.47
6JUFB4		90.14	1.01	0.94	94.92	-0.27	-0.49
86J87C		87.58	-1.55	-1.45	94.86	-0.33	-0.60
87YVWJ	*	88.10	-1.03	-0.97	95.78	0.59	1.09
88AADL		87.75	-1.39	-1.30	94.24	-0.95	-1.75
8FPG64		89.30	0.17	0.16	94.96	-0.23	-0.42
8M7J3C		90.01	0.88	0.82	95.90	0.71	1.31
9HN68W		87.88	-1.25	-1.17	94.88	-0.31	-0.57
AE4JP9		89.44	0.31	0.29	94.46	-0.73	-1.34
AJENNN		88.06	-1.07	-1.00	94.82	-0.37	-0.68
AJHA2V		89.20	0.07	0.06	94.90	-0.29	-0.53
AMUUQB		89.76	0.63	0.59	95.58	0.39	0.72
AWGZE2		89.32	0.19	0.18	96.02	0.83	1.54
BVNMV2		88.36	-0.77	-0.72	95.24	0.05	0.10
CALB3L		90.02	0.89	0.83	95.64	0.45	0.84
CFKD8Z		87.90	-1.23	-1.15	95.26	0.07	0.13
CN2CYC		91.58	2.45	2.29	96.38	1.19	2.20
CVY46K		89.28	0.15	0.14	95.26	0.07	0.13
DGC9EL		91.04	1.91	1.79	95.38	0.19	0.36
FKLMUB		86.98	-2.15	-2.01	94.58	-0.61	-1.12
GMBQ8V		89.94	0.81	0.76	95.02	-0.17	-0.31
GRHRDE		88.00	-1.13	-1.06	94.00	-1.19	-2.19
HC4BWG		88.44	-0.69	-0.65	94.88	-0.31	-0.57
HLDUJL		88.26	-0.87	-0.82	94.94	-0.25	-0.46
HX88GW	X	89.40	0.27	0.25	92.40	-2.79	-5.14
JN9LNH		89.70	0.57	0.53	95.70	0.51	0.95
JNFNKH		87.40	-1.73	-1.62	94.68	-0.51	-0.94
JYHA6G		90.76	1.63	1.52	96.26	1.07	1.98
L2VX7R		90.10	0.97	0.91	95.84	0.65	1.20
LGPXBT		90.02	0.89	0.83	95.38	0.19	0.36
LQVWME		88.54	-0.59	-0.55	95.00	-0.19	-0.35
M7K9Q9		90.40	1.27	1.19	95.60	0.41	0.76
MC9G6D		90.32	1.19	1.11	95.68	0.49	0.91
MCE27H		88.00	-1.13	-1.06	94.00	-1.19	-2.19
NDGGTE		90.08	0.95	0.89	95.22	0.03	0.06
NPA3YA		89.84	0.71	0.66	95.80	0.61	1.13
P3CTDM		88.20	-0.93	-0.87	94.80	-0.39	-0.71
PAEFBA		88.30	-0.83	-0.78	94.80	-0.39	-0.71
PBRXHL		89.20	0.07	0.06	94.86	-0.33	-0.60
PRUCLG		89.30	0.17	0.16	95.18	-0.01	-0.01

WebCode	Data Flag	Sample N49 Lab Mean	Sample N49 Diff. from Grand Mean	Sample N49 CPV	Sample N50 Lab Mean	Sample N50 Diff. from Grand Mean	Sample N50 CPV
R86Z6F		88.20	-0.93	-0.87	94.98	-0.21	-0.38
RD88JH		89.60	0.47	0.44	95.22	0.03	0.06
TC86ZR		91.02	1.89	1.77	96.24	1.05	1.94
TLDFFA		90.04	0.91	0.85	95.08	-0.11	-0.20
U2LT9R		89.48	0.35	0.33	95.18	-0.01	-0.01
U8BXUN		89.52	0.39	0.36	94.78	-0.41	-0.75
V4QUUB		89.78	0.65	0.61	94.82	-0.37	-0.68
W3A7NF		90.64	1.51	1.41	95.98	0.79	1.46
WVDAZD		87.64	-1.49	-1.40	95.14	-0.05	-0.09
XD662L		90.20	1.07	1.00	96.00	0.81	1.50
XKTDJC		88.14	-0.99	-0.93	95.40	0.21	0.39
XPJ96C		88.20	-0.93	-0.87	94.76	-0.43	-0.79
XXCGP3		88.30	-0.83	-0.78	95.06	-0.13	-0.23
XZYLE7		88.45	-0.68	-0.64	95.08	-0.11	-0.20
Y2B9GZ		88.04	-1.09	-1.02	94.02	-1.17	-2.15
Y2UUEW		89.14	0.01	0.01	95.16	-0.03	-0.05
Z37ET6		90.22	1.09	1.02	95.66	0.47	0.87
ZMK99P		87.47	-1.66	-1.56	94.23	-0.95	-1.76

Summary Statistics

	Sample N49		Sample N50	
Grand Means	89.13	HRB	95.19	HRB
Stnd Dev Btwn Labs	1.07	HRB	0.54	HRB

Samples N49, N50 : Brass, Steel

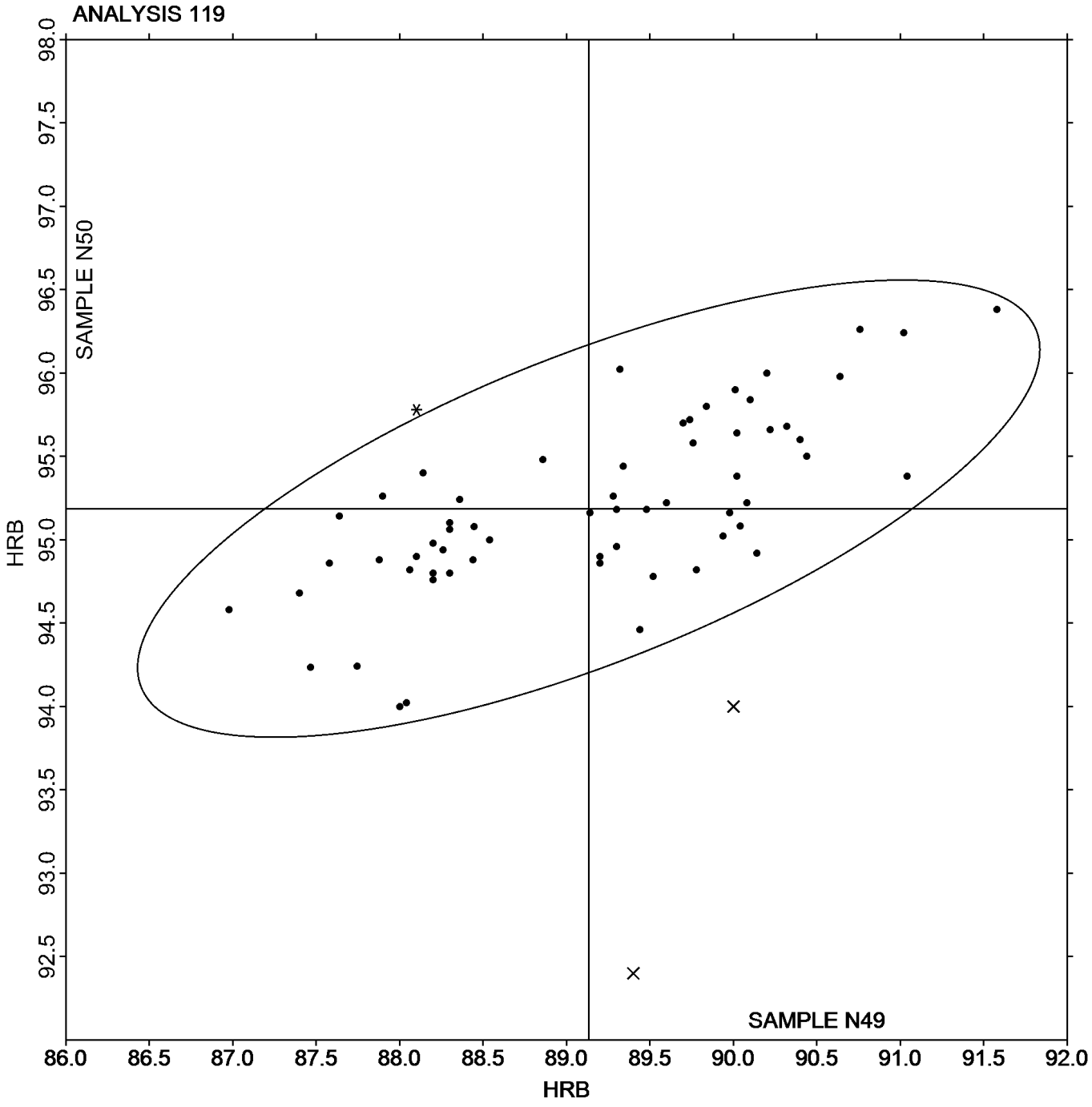
Statistics based on 63 of 65 reporting participants

Comments on Assigned Data Flags for Test #119

2NTEVW (X) - Inconsistent in testing between samples.

HX88GW (X) - Data for sample N50 are low. Inconsistent within the determinations of both samples.

SAMPLE N49	SAMPLE N50
89.13 HRB	95.19 HRB



		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
247PL6		462.20	-6.30	-0.42	511.20	-13.15	-0.80
264ATJ		477.60	9.10	0.60	517.60	-6.75	-0.41
26LALM		461.00	-7.50	-0.50	522.60	-1.75	-0.11
2NVUEP		438.00	-30.50	-2.02	513.00	-11.35	-0.69
2PPPRZ		444.36	-24.14	-1.60	494.64	-29.71	-1.81
4K7AK6		496.00	27.50	1.82	547.40	23.05	1.41
4T6DJG		445.48	-23.02	-1.52	516.24	-8.11	-0.50
4TLCYY		453.80	-14.70	-0.97	499.20	-25.15	-1.54
64VXHD		468.26	-0.24	-0.02	535.90	11.55	0.71
6976L4	*	432.00	-36.50	-2.41	501.40	-22.95	-1.40
6JUFB4		477.20	8.70	0.58	539.20	14.85	0.91
6RHDTW		479.00	10.50	0.69	524.00	-0.35	-0.02
6XAPNT		481.26	12.76	0.84	533.08	8.73	0.53
72NK9W		475.60	7.10	0.47	543.60	19.25	1.18
7K2E47		499.20	30.70	2.03	544.40	20.05	1.22
9D9F7T		482.80	14.30	0.95	551.00	26.65	1.63
9FGJZ6		484.16	15.66	1.04	540.20	15.85	0.97
9HQUCT		467.60	-0.90	-0.06	536.60	12.25	0.75
9W4A9X		457.40	-11.10	-0.73	503.60	-20.75	-1.27
9YM3PD		468.40	-0.10	-0.01	519.40	-4.95	-0.30
AA8V92		482.60	14.10	0.93	537.00	12.65	0.77
AVM63R		464.16	-4.34	-0.29	516.50	-7.85	-0.48
AWGZE2		472.24	3.74	0.25	539.02	14.67	0.90
AXELAY		452.40	-16.10	-1.06	516.20	-8.15	-0.50
B34376		475.34	6.84	0.45	530.66	6.31	0.39
BU7F7R		487.20	18.70	1.24	548.00	23.65	1.44
DU6FMP		481.60	13.10	0.87	528.70	4.35	0.27
E47WFL		456.02	-12.48	-0.83	522.54	-1.81	-0.11
EDBBRZ		448.40	-20.10	-1.33	493.00	-31.35	-1.91
EH8KLU		468.40	-0.10	-0.01	501.40	-22.95	-1.40
FEF2WF		476.00	7.50	0.50	537.40	13.05	0.80
FKLMUB		466.58	-1.92	-0.13	507.84	-16.51	-1.01
FQFZ2L		467.20	-1.30	-0.09	509.20	-15.15	-0.92
FWYQEN	X	447.40	-21.10	-1.40	538.80	14.45	0.88
GA7JF6		465.60	-2.90	-0.19	529.80	5.45	0.33
HKZ9NQ		489.60	21.10	1.40	543.80	19.45	1.19
HXQUFE		443.80	-24.70	-1.63	495.60	-28.75	-1.76
JHT92X		470.00	1.50	0.10	527.60	3.25	0.20
JNFNKH		461.00	-7.50	-0.50	506.40	-17.95	-1.10
JZCVVM		474.14	5.64	0.37	534.26	9.91	0.61
KT4Z4X		453.22	-15.28	-1.01	518.32	-6.03	-0.37
KYA9FF		483.80	15.30	1.01	544.60	20.25	1.24
L4LFEY		455.00	-13.50	-0.89	507.80	-16.55	-1.01
LEKYMX		500.80	32.30	2.14	561.80	37.45	2.29
LYTVRN		460.60	-7.90	-0.52	514.80	-9.55	-0.58
M9A4HN		490.60	22.10	1.46	536.00	11.65	0.71
MWXAXH		451.80	-16.70	-1.10	500.94	-23.41	-1.43

Fasteners and Metals Interlaboratory Testing Program

Analysis 121

Microhardness: Knoop Indenters (500 gf)
ASTM E384

		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
N8A3ZH		456.60	-11.90	-0.79	515.20	-9.15	-0.56
NDGGTE		484.20	15.70	1.04	553.40	29.05	1.77
P8AAT3	*	496.20	27.70	1.83	529.40	5.05	0.31
PBRXHL		486.20	17.70	1.17	536.20	11.85	0.72
PCLLZG		468.40	-0.10	-0.01	533.00	8.65	0.53
PNFZ3Y		449.20	-19.30	-1.28	506.40	-17.95	-1.10
PPRNDY		452.40	-16.10	-1.06	492.20	-32.15	-1.96
PWLKM2		460.20	-8.30	-0.55	516.20	-8.15	-0.50
QKVJXZ		449.40	-19.10	-1.26	521.80	-2.55	-0.16
QYQ2NJ		474.00	5.50	0.36	523.20	-1.15	-0.07
R2FHQ4		479.38	10.88	0.72	539.42	15.07	0.92
R2WDWR		456.60	-11.90	-0.79	523.80	-0.55	-0.03
RCRJQP		468.00	-0.50	-0.03	523.20	-1.15	-0.07
RFCAE9	*	493.60	25.10	1.66	570.40	46.05	2.81
RRMGYT		478.20	9.70	0.64	529.60	5.25	0.32
RVLUKW		455.00	-13.50	-0.89	519.00	-5.35	-0.33
U6NRJK		485.80	17.30	1.14	520.00	-4.35	-0.27
U8BXUN		455.88	-12.62	-0.83	501.86	-22.49	-1.37
U8TW4E	*	459.00	-9.50	-0.63	544.00	19.65	1.20
U9TBRE		461.80	-6.70	-0.44	526.80	2.45	0.15
UNKZZ4		480.00	11.50	0.76	525.80	1.45	0.09
V4UG8H		475.98	7.48	0.49	527.26	2.91	0.18
VJL4RN		470.58	2.08	0.14	518.26	-6.09	-0.37
VP89BG		465.40	-3.10	-0.21	535.40	11.05	0.67
VVEYWQ		453.80	-14.70	-0.97	508.60	-15.75	-0.96
WKXM8Y		453.57	-14.94	-0.99	513.96	-10.39	-0.63
XCFBCQ		479.76	11.26	0.74	527.44	3.09	0.19
XZYLE7		463.20	-5.30	-0.35	515.20	-9.15	-0.56
YN4U88		475.60	7.10	0.47	524.40	0.05	0.00
ZTVAFE		454.40	-14.10	-0.93	514.60	-9.75	-0.60
ZUPXYA		483.00	14.50	0.96	535.40	11.05	0.67

Summary Statistics

	Sample S49		Sample S50	
Grand Means	468.50	HK 500 gf	524.35	HK 500 gf
Stnd Dev Btwn Labs	15.12	HK 500 gf	16.38	HK 500 gf

Samples S49, S50 : Steel, Steel

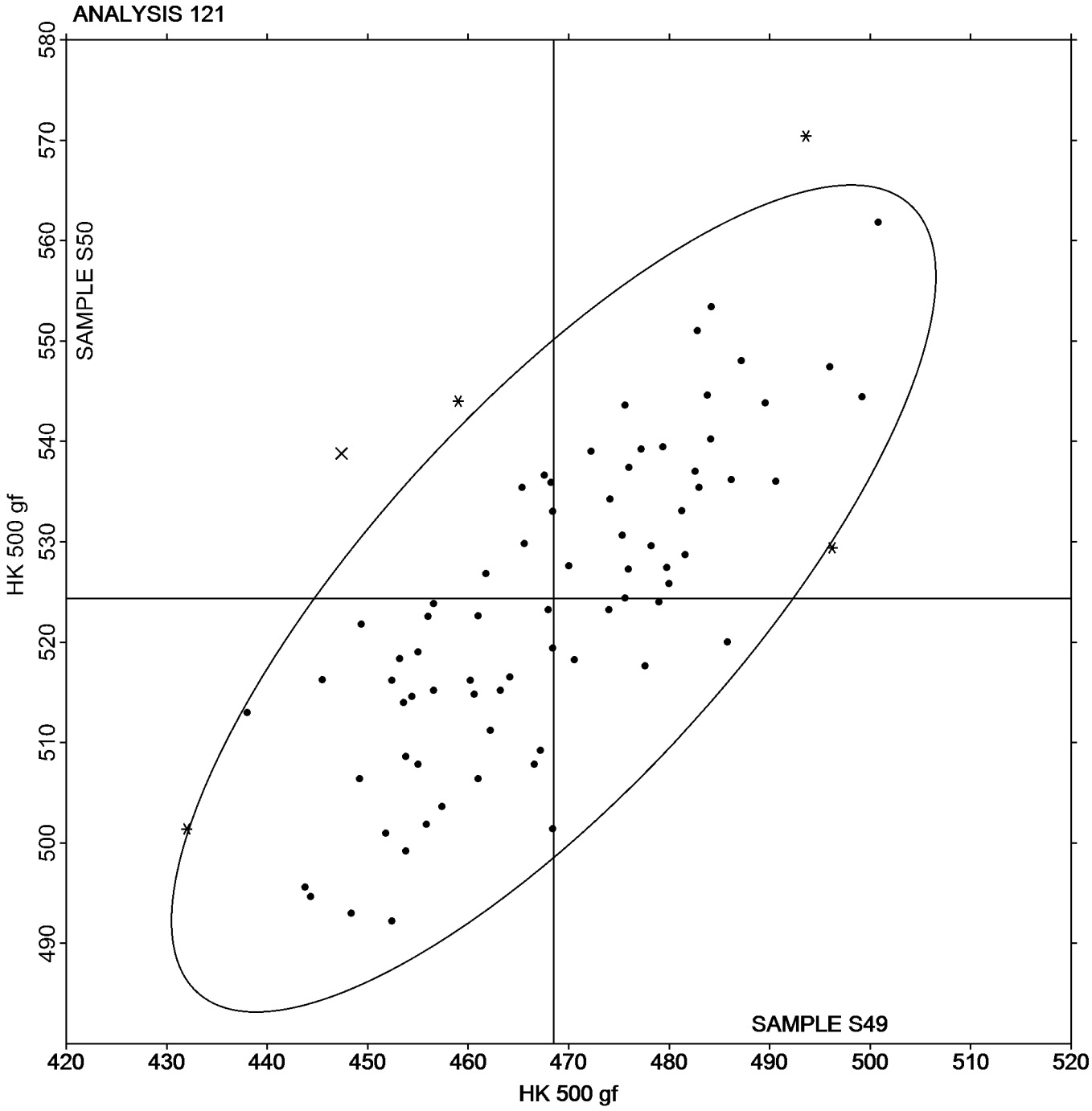
Statistics based on 77 of 78 reporting participants

Comments on Assigned Data Flags for Test #121

FWYQEN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

SAMPLE S49
468.50 HK 500 gf

SAMPLE S50
524.35 HK 500 gf



		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
247PL6		463.80	-15.73	-0.88	513.80	-25.04	-1.13
4TLCYY		466.40	-13.13	-0.73	515.00	-23.84	-1.07
64VXHD		464.92	-14.61	-0.82	534.32	-4.52	-0.20
6976L4		444.20	-35.33	-1.97	514.40	-24.44	-1.10
6XAPNT		504.26	24.73	1.38	565.46	26.62	1.20
72NK9W		517.20	37.67	2.10	582.20	43.36	1.95
7K2E47	*	520.00	40.47	2.26	559.20	20.36	0.91
9FGJZ6		496.56	17.03	0.95	537.88	-0.96	-0.04
9HQUCT		474.00	-5.53	-0.31	542.60	3.76	0.17
9YM3PD		490.20	10.67	0.60	553.00	14.16	0.64
AA8V92		490.00	10.47	0.59	558.40	19.56	0.88
AVM63R		463.16	-16.37	-0.91	517.42	-21.42	-0.96
AWGZE2		476.82	-2.71	-0.15	549.56	10.72	0.48
AXELAY		475.80	-3.73	-0.21	531.80	-7.04	-0.32
BDH3UL	X	450.00	-29.53	-1.65	520.00	-18.84	-0.85
EDBBRZ		466.40	-13.13	-0.73	496.40	-42.44	-1.91
EH8KLU		463.20	-16.33	-0.91	501.40	-37.44	-1.68
FEF2WF		472.20	-7.33	-0.41	537.20	-1.64	-0.07
FKLMUB		466.28	-13.25	-0.74	516.58	-22.26	-1.00
FQFZ2L		470.40	-9.13	-0.51	517.40	-21.44	-0.96
FWYQEN		515.40	35.87	2.00	561.80	22.96	1.03
GA7JF6		494.20	14.67	0.82	574.20	35.36	1.59
HKZ9NQ		505.00	25.47	1.42	575.60	36.76	1.65
HXQUFE		456.00	-23.53	-1.31	510.20	-28.64	-1.29
JZCVVM		488.84	9.31	0.52	564.22	25.38	1.14
KT4Z4X		465.46	-14.07	-0.79	512.96	-25.88	-1.16
KYA9FF		493.80	14.27	0.80	560.00	21.16	0.95
LYTVRN		466.60	-12.93	-0.72	516.40	-22.44	-1.01
M9A4HN		486.40	6.87	0.38	551.40	12.56	0.56
N8A3ZH		464.00	-15.53	-0.87	518.80	-20.04	-0.90
PCLLZG		487.40	7.87	0.44	563.60	24.76	1.11
PNFZ3Y		461.80	-17.73	-0.99	517.40	-21.44	-0.96
PPRNDY		481.40	1.87	0.10	530.20	-8.64	-0.39
QKVJXZ		463.40	-16.13	-0.90	549.40	10.56	0.47
QYQ2NJ		488.80	9.27	0.52	558.00	19.16	0.86
R2FHQ4		488.36	8.83	0.49	546.74	7.90	0.35
R2WDWR		480.00	0.47	0.03	532.80	-6.04	-0.27
RCRJQP		475.20	-4.33	-0.24	528.40	-10.44	-0.47
RFCAE9		523.20	43.67	2.44	588.80	49.96	2.24
RRMGYT		495.80	16.27	0.91	552.20	13.36	0.60
RVLUKW		486.20	6.67	0.37	555.00	16.16	0.73
U8BXUN		470.64	-8.89	-0.50	506.78	-32.06	-1.44
U8TW4E	*	461.60	-17.93	-1.00	554.20	15.36	0.69
U9TBRE		484.20	4.67	0.26	551.80	12.96	0.58
UNKZZ4		477.80	-1.73	-0.10	542.40	3.56	0.16
VP89BG		474.00	-5.53	-0.31	538.40	-0.44	-0.02
VVEYWQ		453.60	-25.93	-1.45	512.40	-26.44	-1.19

Analysis 122

Microhardness: Knoop Indenters (200 gf)
ASTM E384

		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
WKXM8Y		492.20	12.67	0.71	517.83	-21.01	-0.94
XCFBCQ		478.94	-0.59	-0.03	546.98	8.14	0.37
XZYLE7		467.60	-11.93	-0.67	519.80	-19.04	-0.86
YN4U88		488.80	9.27	0.52	541.80	2.96	0.13
ZTVAFE		453.40	-26.13	-1.46	536.40	-2.44	-0.11

Summary Statistics

	Sample S49		Sample S50	
Grand Means	479.53	HK 200 gf	538.84	HK 200 gf
Stnd Dev Btwn Labs	17.90	HK 200 gf	22.26	HK 200 gf

Samples S49, S50 : Steel, Steel

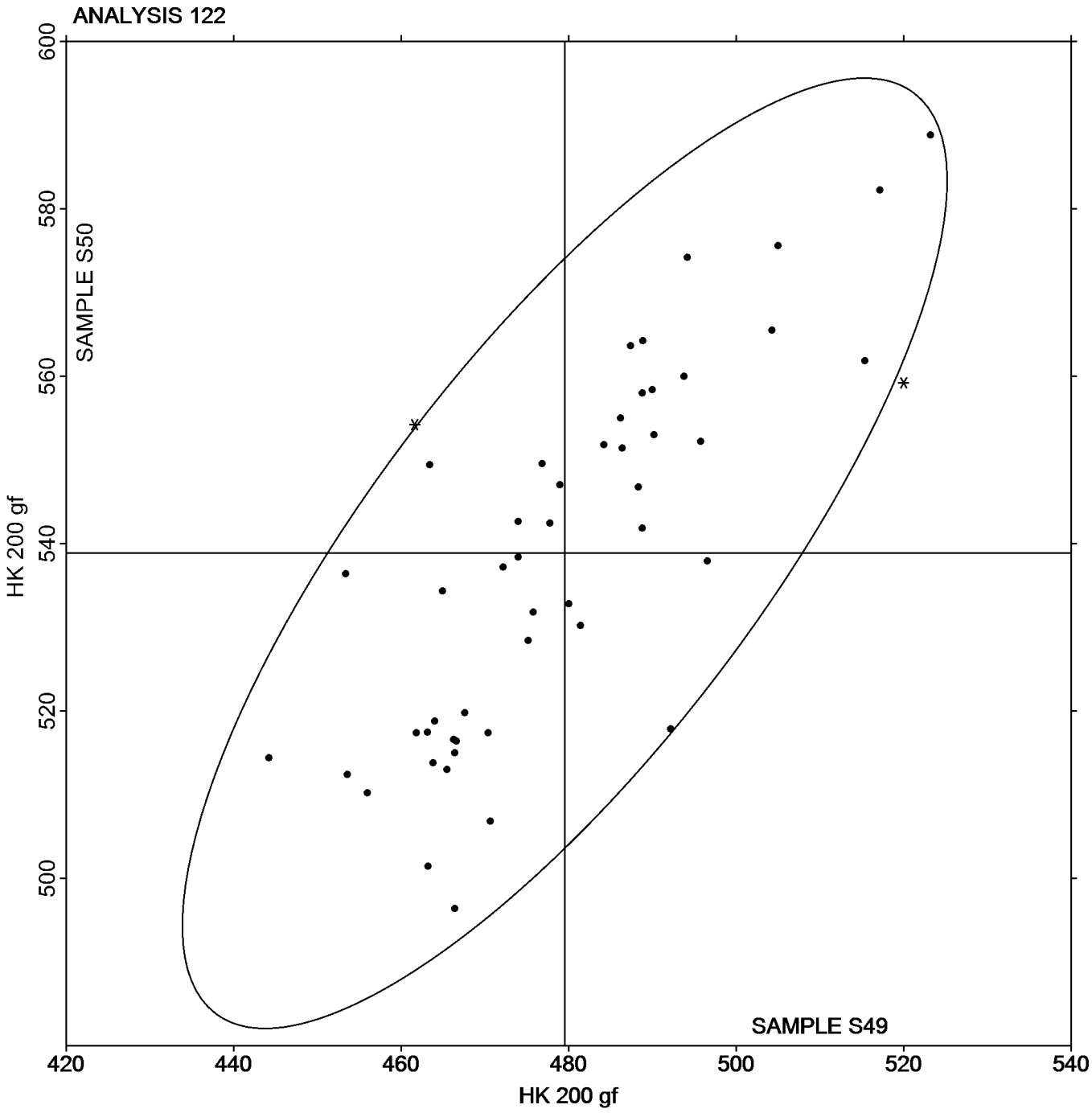
Statistics based on 51 of 52 reporting participants

Comments on Assigned Data Flags for Test #122

BDH3UL (X) - Data were submitted late. Results were consistent with the other laboratories.

SAMPLE S49
479.53 HK 200 gf

SAMPLE S50
538.84 HK 200 gf



		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
247PL6	*	454.00	2.19	0.17	487.80	-24.32	-1.62
264ATJ		468.80	16.99	1.30	515.00	2.88	0.19
2B7B2Z		470.80	18.99	1.45	521.20	9.08	0.60
3HNTPF		447.74	-4.07	-0.31	522.68	10.56	0.70
3MYQBG		459.02	7.21	0.55	515.82	3.70	0.25
3YWH62		454.00	2.19	0.17	516.00	3.88	0.26
46BKAL		466.40	14.59	1.11	532.80	20.68	1.38
4K7AK6		460.20	8.39	0.64	541.80	29.68	1.97
4TLCYY		445.20	-6.61	-0.50	498.00	-14.12	-0.94
4TN24W		428.60	-23.21	-1.77	489.40	-22.72	-1.51
66ACVF		462.40	10.59	0.81	505.20	-6.92	-0.46
6976L4		423.00	-28.81	-2.20	483.80	-28.32	-1.88
6CQVAM		429.40	-22.41	-1.71	495.20	-16.92	-1.12
6JUFB4		457.00	5.19	0.40	537.20	25.08	1.67
72NK9W		439.80	-12.01	-0.92	505.40	-6.72	-0.45
7K2E47		470.00	18.19	1.39	523.00	10.88	0.72
7M3KJC		444.06	-7.75	-0.59	524.18	12.06	0.80
7MNRNE		467.52	15.71	1.20	532.26	20.14	1.34
88AADL		430.34	-21.46	-1.64	489.96	-22.16	-1.47
9C38GN		454.80	2.99	0.23	510.40	-1.72	-0.11
9D9F7T		458.80	6.99	0.53	536.00	23.88	1.59
9DQ33P		443.10	-8.71	-0.66	508.26	-3.86	-0.26
9FGJZ6		462.96	11.15	0.85	524.70	12.58	0.84
9HN68W		446.40	-5.41	-0.41	507.00	-5.12	-0.34
9HQUCT		453.60	1.79	0.14	508.40	-3.72	-0.25
9W4A9X		445.60	-6.21	-0.47	493.80	-18.32	-1.22
9YM3PD		438.20	-13.61	-1.04	501.40	-10.72	-0.71
A7M9C8		441.60	-10.21	-0.78	502.80	-9.32	-0.62
AA8V92		464.40	12.59	0.96	517.60	5.48	0.36
AE4JP9	X	404.60	-47.21	-3.61	495.20	-16.92	-1.12
AND2CD		460.80	8.99	0.69	524.80	12.68	0.84
AVM63R		441.38	-10.43	-0.80	494.46	-17.66	-1.17
AXELAY		445.80	-6.01	-0.46	512.60	0.48	0.03
B34376		452.04	0.23	0.02	517.58	5.46	0.36
BDH3UL	X	435.60	-16.21	-1.24	512.40	0.28	0.02
BDMZ43		450.32	-1.49	-0.11	509.02	-3.10	-0.21
BU7F7R		461.80	9.99	0.76	533.00	20.88	1.39
BWKXR4		426.40	-25.41	-1.94	486.60	-25.52	-1.70
CCQNZM		474.80	22.99	1.76	544.60	32.48	2.16
CFKD8Z		434.40	-17.41	-1.33	507.60	-4.52	-0.30
CJTVN3		473.20	21.39	1.63	532.80	20.68	1.38
CPUQ7V		458.09	6.28	0.48	537.38	25.27	1.68
DF3YNA		440.40	-11.41	-0.87	494.80	-17.32	-1.15
EDBBRZ		438.00	-13.81	-1.05	494.00	-18.12	-1.20
EH8KLU		431.40	-20.41	-1.56	482.80	-29.32	-1.95
EJYY7H		456.40	4.59	0.35	519.60	7.48	0.50
F4EFR3		471.92	20.11	1.54	533.60	21.48	1.43

		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
F9B6CF		459.00	7.19	0.55	513.20	1.08	0.07
FEF2WF		456.80	4.99	0.38	512.40	0.28	0.02
FQFZ2L		430.00	-21.81	-1.67	489.40	-22.72	-1.51
FWYQEN		479.80	27.99	2.14	539.00	26.88	1.79
FY6B2N	*	437.16	-14.65	-1.12	521.42	9.30	0.62
G9XAN9		469.80	17.99	1.37	524.80	12.68	0.84
GA7JF6		450.00	-1.81	-0.14	500.00	-12.12	-0.81
HKJHN2		461.40	9.59	0.73	507.00	-5.12	-0.34
HKZ9NQ		463.40	11.59	0.89	522.00	9.88	0.66
HXQUFE		424.60	-27.21	-2.08	475.20	-36.92	-2.45
J9KRFJ		465.60	13.79	1.05	518.60	6.48	0.43
JFKN9B		474.32	22.52	1.72	535.88	23.76	1.58
JHT92X		446.80	-5.01	-0.38	505.20	-6.92	-0.46
JNFNKH		447.60	-4.21	-0.32	495.20	-16.92	-1.12
JVH8UL		454.66	2.85	0.22	506.84	-5.28	-0.35
JZCVVM		451.40	-0.41	-0.03	524.40	12.28	0.82
KYA9FF		456.20	4.39	0.34	515.60	3.48	0.23
L2VX7R		447.46	-4.35	-0.33	503.34	-8.78	-0.58
L437JH		451.00	-0.81	-0.06	512.80	0.68	0.05
L4LFEY		441.20	-10.61	-0.81	500.00	-12.12	-0.81
LEKYMX		451.20	-0.61	-0.05	522.60	10.48	0.70
LLGUKW		449.80	-2.01	-0.15	505.80	-6.32	-0.42
LYTVRN		446.80	-5.01	-0.38	507.60	-4.52	-0.30
M9A4HN		462.00	10.19	0.78	513.80	1.68	0.11
MWXAXH		446.60	-5.21	-0.40	507.40	-4.72	-0.31
N8A3ZH		449.20	-2.61	-0.20	493.20	-18.92	-1.26
N8TB3C		464.28	12.47	0.95	526.78	14.66	0.97
NMPNG9		455.52	3.71	0.28	499.18	-12.94	-0.86
P8AAT3		470.70	18.89	1.44	508.56	-3.56	-0.24
PAEFBA		474.00	22.19	1.70	534.20	22.08	1.47
PBRXHL		466.40	14.59	1.11	515.20	3.08	0.20
PJLA8N		459.00	7.19	0.55	509.32	-2.80	-0.19
PNFZ3Y		434.60	-17.21	-1.31	487.60	-24.52	-1.63
PPRNDY		444.20	-7.61	-0.58	492.00	-20.12	-1.34
PWLKM2		444.00	-7.81	-0.60	508.20	-3.92	-0.26
QKVJXZ		434.60	-17.21	-1.31	503.20	-8.92	-0.59
QP2DRV		453.00	1.19	0.09	519.60	7.48	0.50
QYQ2NJ		446.40	-5.41	-0.41	496.80	-15.32	-1.02
QZ76JB		460.08	8.27	0.63	531.78	19.66	1.31
R2WDWR		433.60	-18.21	-1.39	505.60	-6.52	-0.43
R7BCLK		480.80	28.99	2.21	534.80	22.68	1.51
R86Z6F		446.60	-5.21	-0.40	518.60	6.48	0.43
RCRJQP		457.60	5.79	0.44	517.20	5.08	0.34
RFCAE9		473.80	21.99	1.68	531.20	19.08	1.27
RFFGCF		469.78	17.97	1.37	539.08	26.96	1.79
RMDQPE		427.48	-24.33	-1.86	490.20	-21.92	-1.46
RQXDL9		456.32	4.51	0.34	526.42	14.30	0.95

		Sample S49			Sample S50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
RRMGYT		453.60	1.79	0.14	511.00	-1.12	-0.07
RYM8DB		463.28	11.47	0.88	519.72	7.60	0.51
U6NRJK		467.80	15.99	1.22	514.20	2.08	0.14
U8BXUN		451.64	-0.17	-0.01	500.40	-11.72	-0.78
U8TW4E		445.18	-6.63	-0.51	529.00	16.88	1.12
U9TBRE		454.60	2.79	0.21	526.00	13.88	0.92
UJNV4X		452.36	0.55	0.04	515.98	3.86	0.26
UNKZZ4		448.40	-3.41	-0.26	515.80	3.68	0.24
UU3P2P	X	418.20	-33.61	-2.57	505.80	-6.32	-0.42
V4AMM8		422.26	-29.55	-2.26	489.34	-22.78	-1.51
V4QUUB		444.80	-7.01	-0.54	507.60	-4.52	-0.30
V4UG8H		462.62	10.81	0.83	529.92	17.80	1.18
VJL4RN		451.66	-0.15	-0.01	492.32	-19.80	-1.32
VKFG89		456.20	4.39	0.34	508.80	-3.32	-0.22
VP89BG		441.60	-10.21	-0.78	512.40	0.28	0.02
VVEYWQ		435.00	-16.81	-1.28	487.20	-24.92	-1.66
WC4K2G		454.00	2.19	0.17	525.40	13.28	0.88
WKXM8Y		457.87	6.06	0.46	511.85	-0.26	-0.02
XCFBCQ		448.08	-3.73	-0.28	500.04	-12.08	-0.80
XWHY3L		451.80	-0.01	0.00	507.80	-4.32	-0.29
XZYLE7		437.40	-14.41	-1.10	499.60	-12.52	-0.83
YCP84V		434.80	-17.01	-1.30	513.60	1.48	0.10
YN4U88		455.60	3.79	0.29	514.40	2.28	0.15
Z3Y98Z		451.80	-0.01	0.00	507.60	-4.52	-0.30
ZTVAFE		450.20	-1.61	-0.12	521.40	9.28	0.62
ZURM38		437.20	-14.61	-1.12	515.80	3.68	0.24

Summary Statistics

	Sample S49		Sample S50	
Grand Means	451.81	HV 500 gf	512.12	HV 500 gf
Stnd Dev Btwn Labs	13.09	HV 500 gf	15.04	HV 500 gf

Samples S49, S50 : Steel, Steel

Statistics based on 117 of 120 reporting participants

Comments on Assigned Data Flags for Test #123

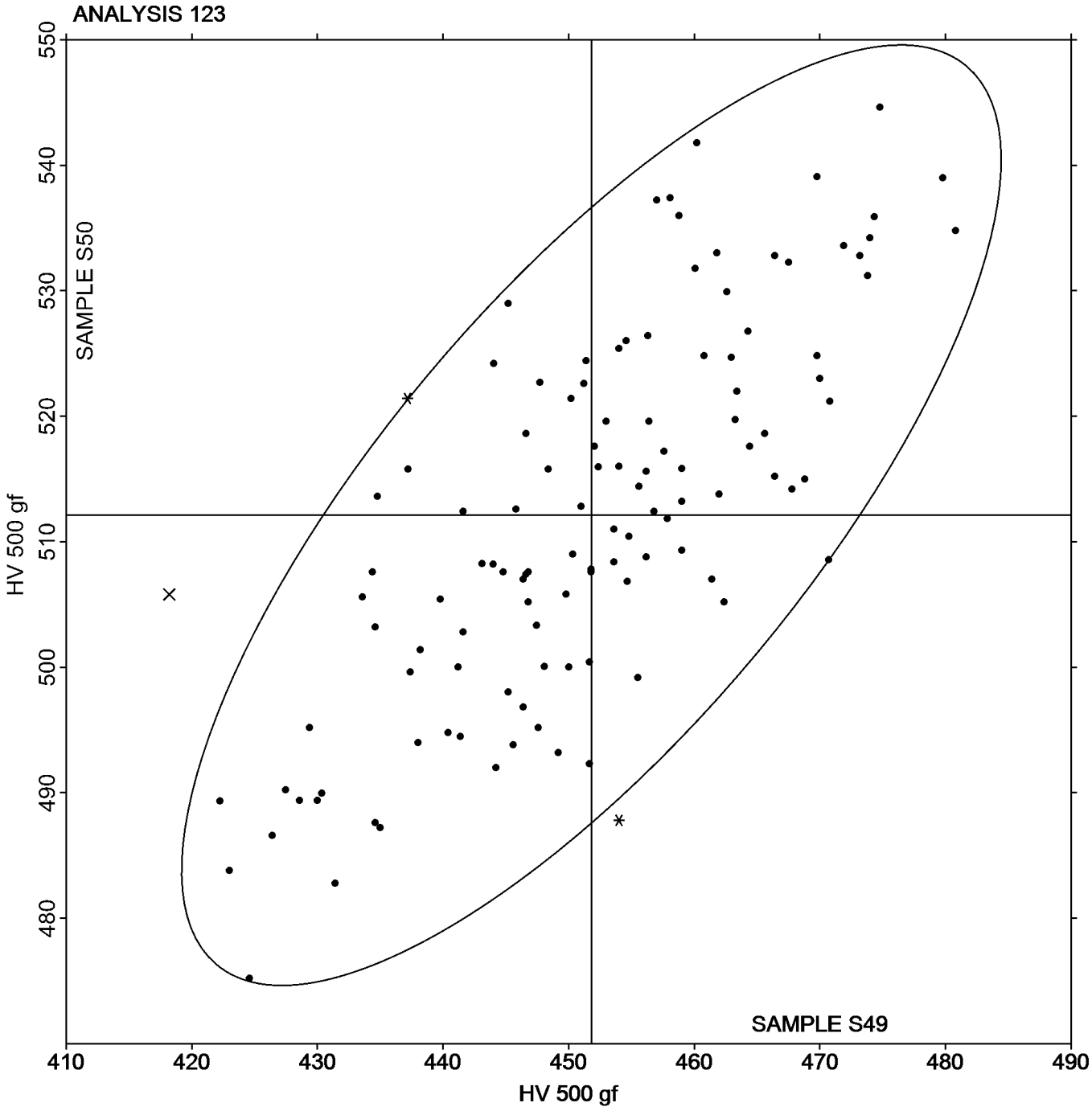
AE4JP9 (X) - Data for Sample S49 are low.

BDH3UL (X) - Data were submitted late. Results were consistent with the other laboratories.

UU3P2P (X) - Inconsistent in testing between samples.

SAMPLE S49
451.81 HV 500 gf

SAMPLE S50
512.12 HV 500 gf



		Sample D49			Sample D50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2UKZ2J		377.60	10.66	0.71	437.80	11.60	0.87
2W8U8F		346.32	-20.62	-1.38	413.20	-13.00	-0.98
2YVZCP		370.20	3.26	0.22	431.80	5.60	0.42
362LTE		393.20	26.26	1.76	444.00	17.80	1.34
3NUWML		342.40	-24.54	-1.64	407.60	-18.60	-1.40
3YWH62		346.00	-20.94	-1.40	405.00	-21.20	-1.60
46BKAL		373.80	6.86	0.46	428.40	2.20	0.17
4TLCYY		380.00	13.06	0.87	434.40	8.20	0.62
69D9G4		378.40	11.46	0.77	436.20	10.00	0.75
6JUFB4		382.80	15.86	1.06	444.00	17.80	1.34
6XAM4U		343.40	-23.54	-1.58	415.80	-10.40	-0.78
6XAYR6		363.00	-3.94	-0.26	415.00	-11.20	-0.84
7AJB3J		356.00	-10.94	-0.73	409.20	-17.00	-1.28
7DWW9Q		375.00	8.06	0.54	444.00	17.80	1.34
7GJTDP		353.00	-13.94	-0.93	415.00	-11.20	-0.84
87YVWJ		344.60	-22.34	-1.50	410.40	-15.80	-1.19
8KVLPV	X	374.60	7.66	0.51	235.80	-190.40	-14.34
8WBRKX		352.60	-14.34	-0.96	412.20	-14.00	-1.05
9D9F7T		382.40	15.46	1.04	439.40	13.20	0.99
9FGJZ6		388.00	21.06	1.41	435.00	8.80	0.66
9HQUCT		372.20	5.26	0.35	425.80	-0.40	-0.03
9W4A9X	*	370.60	3.66	0.24	410.20	-16.00	-1.21
9YM3PD		380.40	13.46	0.90	441.80	15.60	1.18
B34376		343.80	-23.14	-1.55	408.00	-18.20	-1.37
B6TEYH		368.60	1.66	0.11	423.20	-3.00	-0.23
BNZLCW	X	323.00	-43.94	-2.94	375.00	-51.20	-3.86
BU7F7R		379.00	12.06	0.81	434.80	8.60	0.65
CHWR22		352.00	-14.94	-1.00	415.00	-11.20	-0.84
CJTVN3		380.60	13.66	0.91	444.60	18.40	1.39
EDBBRZ		377.20	10.26	0.69	440.00	13.80	1.04
FA6TTQ		381.20	14.26	0.95	429.60	3.40	0.26
FEF2WF		356.40	-10.54	-0.71	419.00	-7.20	-0.54
FHZGGM		370.00	3.06	0.20	429.00	2.80	0.21
GA7JF6		341.40	-25.54	-1.71	415.40	-10.80	-0.81
GYN6BH		362.80	-4.14	-0.28	417.80	-8.40	-0.63
HLGBJ6		388.00	21.06	1.41	444.00	17.80	1.34
HRGCLY	*	365.40	-1.54	-0.10	441.00	14.80	1.11
J3CR23		359.00	-7.94	-0.53	420.00	-6.20	-0.47
JLBXHA		363.00	-3.94	-0.26	417.80	-8.40	-0.63
JNFNKH		375.80	8.86	0.59	438.60	12.40	0.93
JYFG9U		388.00	21.06	1.41	444.00	17.80	1.34
JYHA6G		382.00	15.06	1.01	433.00	6.80	0.51
K7CHM9		375.40	8.46	0.57	436.80	10.60	0.80
KW34ND		369.40	2.46	0.16	428.40	2.20	0.17
L2VX7R		380.00	13.06	0.87	434.80	8.60	0.65
L3RRYN		363.00	-3.94	-0.26	415.00	-11.20	-0.84
LEKYMX		363.00	-3.94	-0.26	415.00	-11.20	-0.84

WebCode	Data Flag	Sample D49 Lab Mean	Sample D49 Diff. from Grand Mean	Sample D49 CPV	Sample D50 Lab Mean	Sample D50 Diff. from Grand Mean	Sample D50 CPV
LV98LG		352.00	-14.94	-1.00	415.00	-11.20	-0.84
LYTVRN		388.00	21.06	1.41	444.00	17.80	1.34
M9A4HN		356.40	-10.54	-0.71	413.80	-12.40	-0.93
MK342Y		353.00	-13.94	-0.93	424.20	-2.00	-0.15
MWXAXH		353.20	-13.74	-0.92	419.40	-6.80	-0.51
NC8CFQ		377.60	10.66	0.71	444.00	17.80	1.34
P3CTDM		352.00	-14.94	-1.00	425.80	-0.40	-0.03
P8AAT3		393.60	26.66	1.78	448.20	22.00	1.66
PBRXHL		375.60	8.66	0.58	442.80	16.60	1.25
PNFZ3Y		382.20	15.26	1.02	440.80	14.60	1.10
PT8Q6J		352.00	-14.94	-1.00	415.00	-11.20	-0.84
QELXV3		393.60	26.66	1.78	439.60	13.40	1.01
QPKLUR		355.80	-11.14	-0.75	403.60	-22.60	-1.70
QUWJFT		378.80	11.86	0.79	437.20	11.00	0.83
QYQ2NJ		343.20	-23.74	-1.59	401.40	-24.80	-1.87
QZ76JB		346.00	-20.94	-1.40	411.80	-14.40	-1.08
R2WDWR		377.64	10.70	0.72	432.20	6.00	0.45
R3DTL8		360.18	-6.76	-0.45	423.56	-2.64	-0.20
R6EZH6		376.20	9.26	0.62	433.80	7.60	0.57
R86Z6F		345.00	-21.94	-1.47	406.20	-20.00	-1.51
RFCAE9		375.00	8.06	0.54	422.40	-3.80	-0.29
UNKZZ4		349.00	-17.94	-1.20	409.60	-16.60	-1.25
VP89BG		343.20	-23.74	-1.59	415.00	-11.20	-0.84
VQKMW6		373.80	6.86	0.46	429.00	2.80	0.21
VYTUE9		378.00	11.06	0.74	444.00	17.80	1.34
W3A7NF		373.80	6.86	0.46	430.20	4.00	0.30
WC3K33		376.59	9.65	0.65	433.32	7.12	0.54
XTLZGH		363.00	-3.94	-0.26	429.00	2.80	0.21
XZEEZV		374.80	7.86	0.53	433.60	7.40	0.56
YCP84V	*	337.80	-29.14	-1.95	391.80	-34.40	-2.59
YN4U88		351.20	-15.74	-1.05	413.80	-12.40	-0.93
Z37ET6		363.00	-3.94	-0.26	415.00	-11.20	-0.84
ZBRL6F		388.00	21.06	1.41	444.00	17.80	1.34
ZJ6CBL		376.20	9.26	0.62	432.80	6.60	0.50
ZUPXYA		363.00	-3.94	-0.26	429.00	2.80	0.21

Summary Statistics

	Sample D49		Sample D50	
Grand Means	366.94	HBW	426.20	HBW
Stnd Dev Btwn Labs	14.94	HBW	13.28	HBW

Samples D49, D50 : Steel, Steel

Statistics based on 80 of 82 reporting participants

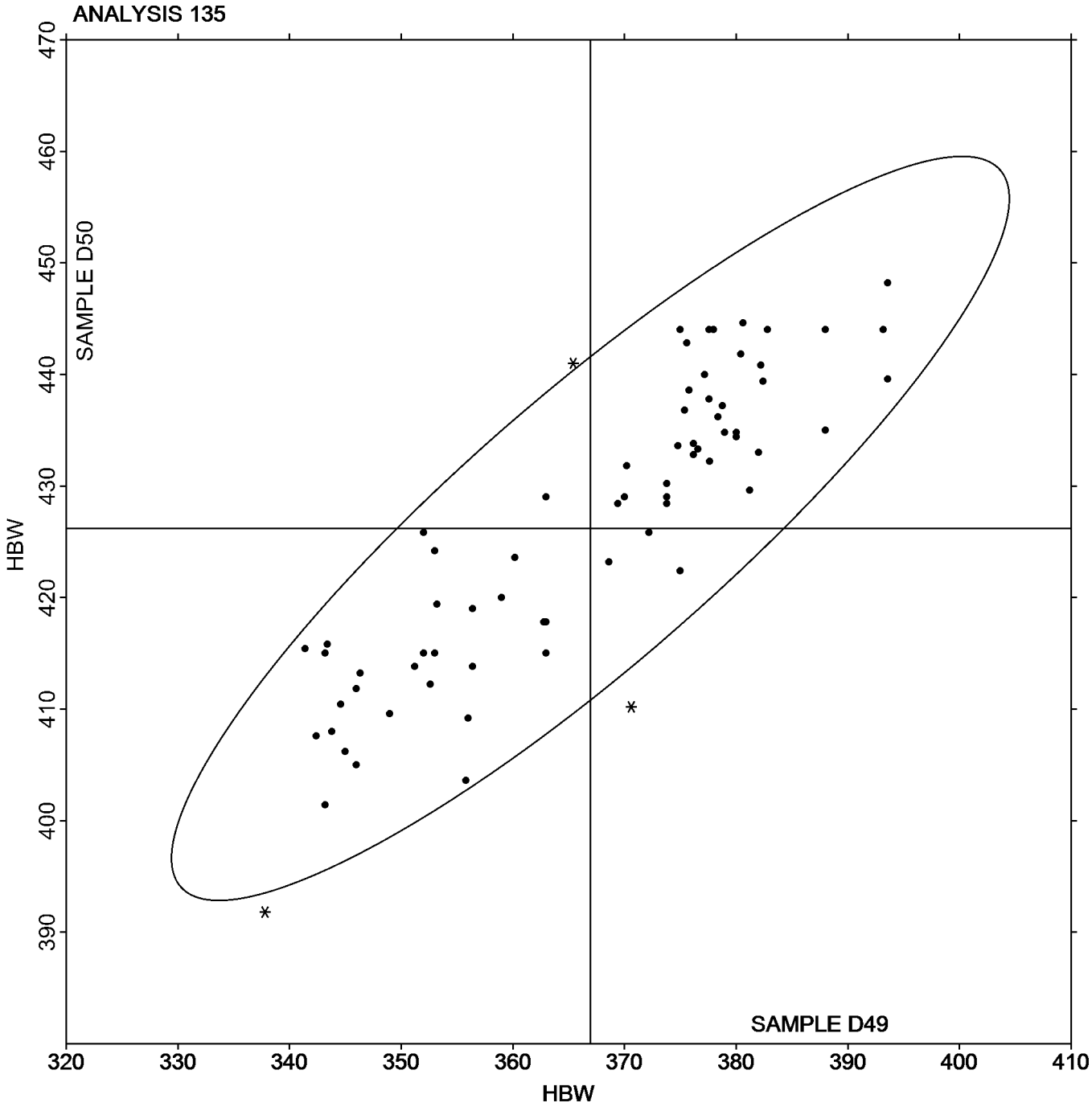
Samples D49, D50 are hardness test blocks made from steel. The blocks are heat treated to hardness levels specified by CTS.

Comments on Assigned Data Flags for Test #135

8KVLPV (X) - Data for sample D50 are extremely low.

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

SAMPLE D49	SAMPLE D50
366.94 HBW	426.20 HBW



		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		72.00	-0.24	-0.30	70.00	-1.09	-1.25
2PPPRZ		71.71	-0.53	-0.66	71.03	-0.06	-0.07
2QZZWW		72.39	0.15	0.18	71.53	0.45	0.52
2UKZ2J		73.30	1.06	1.31	72.10	1.01	1.17
2W8U8F		71.53	-0.71	-0.88	70.24	-0.84	-0.97
2YVZCP		71.60	-0.64	-0.79	70.60	-0.49	-0.56
3JZXAB		71.60	-0.64	-0.79	71.20	0.11	0.13
3NUWML	*	70.63	-1.61	-1.99	68.89	-2.19	-2.53
46BKAL		71.20	-1.04	-1.29	70.20	-0.89	-1.02
4CHELP		72.60	0.36	0.44	71.30	0.21	0.25
4TLCYY		71.50	-0.74	-0.92	70.70	-0.39	-0.44
64Y6G7	*	72.30	0.06	0.07	72.20	1.11	1.29
69D9G4		73.09	0.85	1.05	71.47	0.38	0.44
6JUFB4		72.40	0.16	0.20	71.30	0.21	0.25
6XAYR6		72.20	-0.04	-0.05	71.40	0.31	0.36
76MTER		71.78	-0.46	-0.57	71.31	0.22	0.26
7GJTDP		72.56	0.32	0.40	71.58	0.49	0.57
7MNRNE		72.00	-0.24	-0.30	70.80	-0.29	-0.33
87YVWJ		71.40	-0.84	-1.04	70.30	-0.79	-0.91
8KVLPV		74.17	1.93	2.38	72.99	1.90	2.20
8VDGNU		73.75	1.50	1.86	72.48	1.40	1.61
8WBRKX		72.55	0.31	0.38	71.60	0.51	0.59
9D9F7T		71.67	-0.57	-0.71	70.97	-0.12	-0.14
9W4A9X		73.10	0.86	1.06	71.36	0.27	0.32
9YM3PD		71.50	-0.74	-0.92	70.00	-1.09	-1.25
BBDEDB	*	69.90	-2.34	-2.90	68.70	-2.39	-2.75
BU7F7R		72.01	-0.23	-0.29	70.80	-0.28	-0.33
C7ZFCL		72.58	0.34	0.41	71.20	0.11	0.13
CN2CYC		73.36	1.12	1.38	72.54	1.46	1.68
D6JC92		72.10	-0.14	-0.18	70.70	-0.39	-0.44
D9LKJJ		73.60	1.36	1.68	73.00	1.91	2.21
EH8KLU		72.05	-0.19	-0.24	71.03	-0.06	-0.06
FHZGGM		71.60	-0.64	-0.79	70.30	-0.79	-0.91
FRQEBV	X	71.42	-0.82	-1.02	72.17	1.08	1.25
FZKA46	*	71.50	-0.74	-0.92	71.50	0.41	0.48
G8XH8R		72.90	0.66	0.81	71.80	0.71	0.82
GA7JF6		72.10	-0.14	-0.18	71.10	0.01	0.02
GYN6BH		71.90	-0.34	-0.42	70.90	-0.19	-0.21
H69W6B		72.70	0.46	0.57	71.30	0.21	0.25
HFPHEC		72.90	0.66	0.81	71.80	0.71	0.82
HLGBJ6		73.50	1.26	1.56	72.30	1.21	1.40
HRGCLY		73.11	0.87	1.07	71.48	0.39	0.46
J3CR23		71.70	-0.54	-0.67	70.40	-0.69	-0.79
JNE2EJ		72.76	0.52	0.64	72.41	1.33	1.53
JRFU2A		72.60	0.36	0.44	71.30	0.21	0.25
JYHA6G		72.88	0.64	0.79	71.39	0.30	0.35
KW34ND		71.63	-0.61	-0.75	70.46	-0.62	-0.72

		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
LNMUQH		72.23	-0.01	-0.02	70.63	-0.45	-0.52
LV98LG		71.00	-1.24	-1.54	69.80	-1.29	-1.48
LYTVRN		72.50	0.26	0.32	71.50	0.41	0.48
M9A4HN		71.80	-0.44	-0.55	70.90	-0.19	-0.21
MK342Y		71.00	-1.24	-1.54	70.00	-1.09	-1.25
MKNMVD		71.60	-0.64	-0.79	70.80	-0.29	-0.33
NXJE6F		71.65	-0.59	-0.73	70.19	-0.90	-1.03
P3CTDM		72.66	0.42	0.52	71.21	0.13	0.15
P9ZHR7		72.90	0.66	0.81	71.50	0.41	0.48
PNFZ3Y		71.88	-0.36	-0.45	70.65	-0.44	-0.50
PT8Q6J		73.50	1.26	1.56	72.20	1.11	1.29
Q2293R		73.26	1.02	1.26	71.45	0.36	0.42
Q2YM8C		72.26	0.01	0.02	70.73	-0.35	-0.41
QPKLUR		73.20	0.96	1.18	71.40	0.31	0.36
R6EZH6		72.23	-0.01	-0.02	71.21	0.13	0.15
RCRJQP	*	70.50	-1.74	-2.15	68.90	-2.19	-2.52
RD88JH		72.87	0.63	0.78	72.19	1.10	1.27
RFCAE9		71.40	-0.84	-1.04	69.90	-1.19	-1.37
RKQTF3		72.36	0.12	0.14	70.75	-0.33	-0.38
RV494M	X	69.71	-2.54	-3.14	70.98	-0.10	-0.12
TBH9H6		72.68	0.44	0.54	71.69	0.61	0.70
U2LT9R		71.40	-0.84	-1.04	70.60	-0.49	-0.56
UNKZZ4		73.40	1.16	1.43	72.30	1.21	1.40
V26JQX		72.70	0.46	0.57	71.40	0.31	0.36
VKFG89		72.60	0.36	0.44	71.20	0.11	0.13
VP89BG		73.12	0.88	1.09	72.33	1.24	1.44
VQKMW6	*	71.50	-0.74	-0.92	71.50	0.41	0.48
W2JTA4		72.97	0.73	0.90	71.91	0.82	0.95
WC3K33		72.49	0.25	0.30	71.26	0.17	0.20
YNNZKY		71.80	-0.44	-0.55	69.70	-1.39	-1.60
Z37ET6		70.90	-1.34	-1.66	69.80	-1.29	-1.48
Z4E423		72.48	0.24	0.30	71.14	0.05	0.06
ZK2GEU		73.00	0.76	0.94	71.30	0.21	0.25
ZN2Y7V		71.36	-0.88	-1.09	69.91	-1.18	-1.36
ZUPXYA		71.80	-0.44	-0.55	70.90	-0.19	-0.21
ZURM38	X	74.90	2.66	3.29	72.00	0.91	1.06
ZZRTG4		72.70	0.46	0.57	71.10	0.01	0.02

Summary Statistics

	Sample P49		Sample P50	
Grand Means	72.24	ksi	71.09	ksi
Stnd Dev Btwn Labs	0.81	ksi	0.87	ksi

Samples P49, P50 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 81 of 84 reporting participants

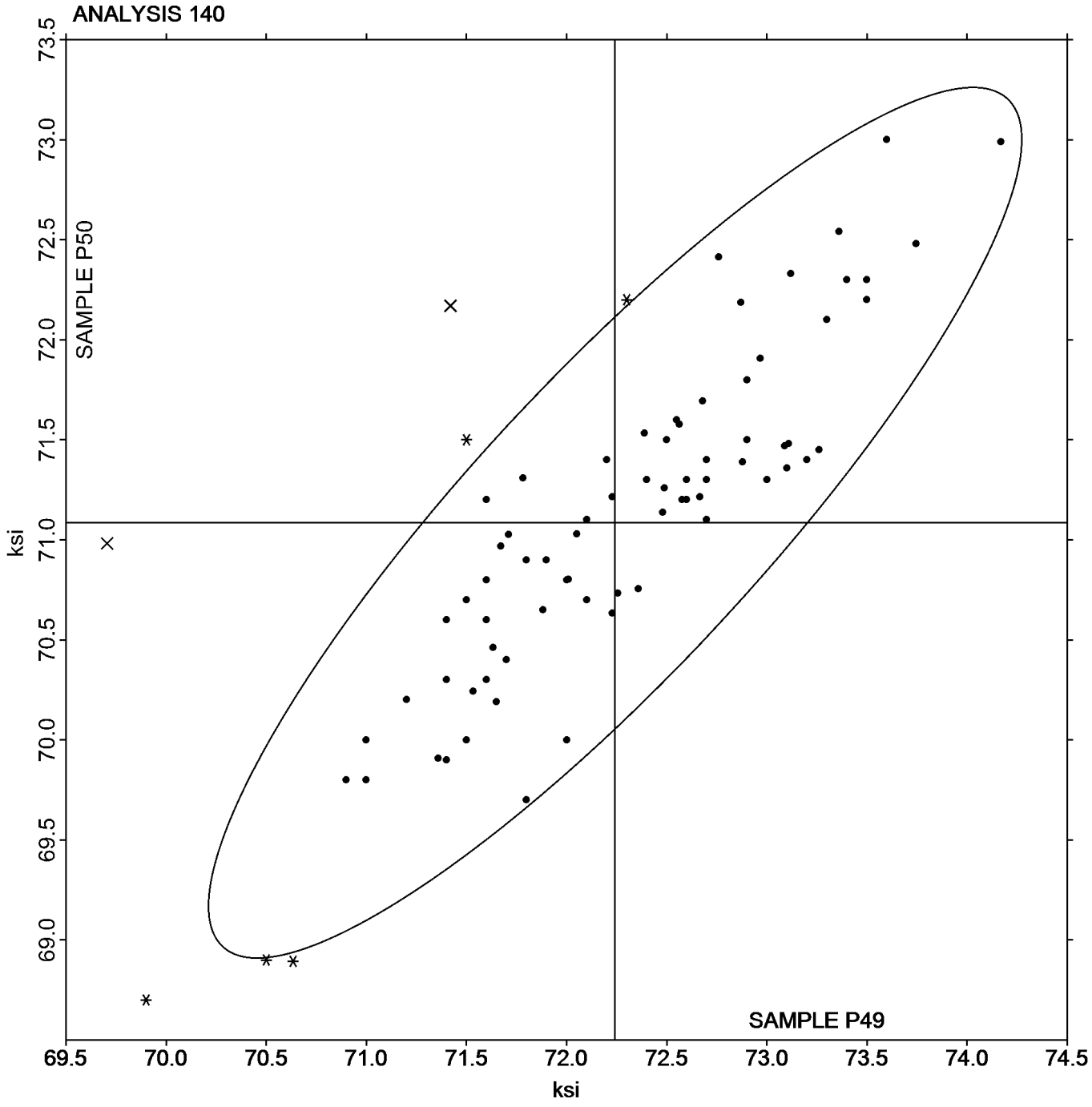
Comments on Assigned Data Flags for Test #140

FRQEBV (X) - Inconsistent in testing between samples.

RV494M (X) - Data for sample P49 are low.

ZURM38 (X) - Data for sample P49 are high.

SAMPLE P49	SAMPLE P50
72.24 ksi	71.09 ksi



		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		49.20	0.82	0.28	47.80	0.75	0.26
2PPPRZ		47.05	-1.33	-0.45	46.07	-0.97	-0.34
2QZZWW		48.53	0.15	0.05	49.70	2.66	0.92
2UKZ2J	*	50.70	2.32	0.79	44.90	-2.15	-0.74
2W8U8F		52.81	4.42	1.51	51.39	4.34	1.50
2YVZCP		51.10	2.72	0.93	48.50	1.45	0.50
3JZXAB		47.60	-0.78	-0.27	47.50	0.45	0.16
3NUWML		48.30	-0.09	-0.03	44.96	-2.08	-0.72
46BKAL		45.50	-2.88	-0.99	46.40	-0.65	-0.22
4CHELP		51.60	3.22	1.10	49.60	2.55	0.88
4TLCYY		44.60	-3.78	-1.29	44.30	-2.75	-0.95
64Y6G7	X	56.60	8.22	2.81	50.50	3.45	1.20
69D9G4	X	51.86	3.48	1.19	45.07	-1.98	-0.68
6JUFB4	X	52.00	3.62	1.24	55.20	8.15	2.82
6XAYR6	*	53.29	4.91	1.68	55.08	8.03	2.78
76MTER		46.30	-2.08	-0.71	45.78	-1.27	-0.44
7GJTDP		52.33	3.95	1.35	50.69	3.65	1.26
7MNRNE		52.40	4.02	1.37	50.20	3.15	1.09
87YVWJ		50.80	2.42	0.83	46.50	-0.55	-0.19
8KVLPV	X	57.71	9.33	3.19	50.88	3.83	1.33
8VDGNU		48.06	-0.33	-0.11	45.94	-1.10	-0.38
8WBRKX		47.70	-0.68	-0.23	45.24	-1.81	-0.63
9D9F7T		44.96	-3.42	-1.17	44.00	-3.04	-1.05
9W4A9X		47.72	-0.67	-0.23	44.09	-2.95	-1.02
9YM3PD		45.00	-3.38	-1.16	44.70	-2.35	-0.81
BBDEDB		43.40	-4.98	-1.70	43.30	-3.75	-1.30
BU7F7R		49.24	0.86	0.29	48.08	1.04	0.36
C7ZFCL		50.44	2.06	0.70	47.85	0.80	0.28
CN2CYC		47.58	-0.80	-0.27	46.84	-0.21	-0.07
D6JC92		45.10	-3.28	-1.12	44.50	-2.55	-0.88
D9LKJJ		46.50	-1.88	-0.64	45.20	-1.85	-0.64
EH8KLU		45.20	-3.18	-1.09	43.30	-3.75	-1.30
FHZGGM		47.80	-0.58	-0.20	46.10	-0.95	-0.33
FRQEBV		44.72	-3.66	-1.25	44.98	-2.07	-0.72
FZKA46		44.80	-3.58	-1.22	46.00	-1.05	-0.36
G8XH8R		51.50	3.12	1.06	52.20	5.15	1.78
GA7JF6		43.70	-4.68	-1.60	41.60	-5.45	-1.89
GYN6BH	*	55.10	6.72	2.30	50.70	3.65	1.27
H69W6B		50.40	2.02	0.69	49.30	2.25	0.78
HFPHEC		51.10	2.72	0.93	50.00	2.95	1.02
HLGBJ6		49.60	1.22	0.42	48.30	1.25	0.43
HRGCLY		46.10	-2.28	-0.78	44.50	-2.55	-0.88
J3CR23		46.00	-2.38	-0.81	43.80	-3.25	-1.12
JNE2EJ		46.25	-2.13	-0.73	44.06	-2.99	-1.03
JRFU2A		50.60	2.22	0.76	49.50	2.45	0.85
JYHA6G		52.06	3.68	1.26	50.08	3.03	1.05
KW34ND		45.79	-2.59	-0.89	45.41	-1.64	-0.57

		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
LNMUQH		52.65	4.27	1.46	49.02	1.98	0.68
LV98LG		48.10	-0.28	-0.10	45.90	-1.15	-0.40
LYTVRN		48.20	-0.18	-0.06	48.50	1.45	0.50
M9A4HN		49.40	1.02	0.35	50.40	3.35	1.16
MK342Y		44.80	-3.58	-1.22	42.20	-4.85	-1.68
MKNMVD		45.70	-2.68	-0.92	44.10	-2.95	-1.02
NXJE6F		47.39	-0.99	-0.34	46.64	-0.41	-0.14
P3CTDM		51.92	3.54	1.21	47.86	0.82	0.28
P9ZHR7		54.40	6.02	2.06	51.90	4.85	1.68
PNFZ3Y		46.33	-2.06	-0.70	46.01	-1.04	-0.36
PT8Q6J		47.10	-1.28	-0.44	45.80	-1.25	-0.43
Q2293R		45.37	-3.01	-1.03	43.40	-3.65	-1.26
Q2YM8C		47.45	-0.93	-0.32	44.73	-2.32	-0.80
QPKLUR		47.10	-1.28	-0.44	45.90	-1.15	-0.40
R6EZH6	*	49.60	1.22	0.42	52.65	5.60	1.94
RCRJQP		46.10	-2.28	-0.78	44.70	-2.35	-0.81
RD88JH		55.28	6.90	2.36	52.02	4.97	1.72
RKQTF3		50.80	2.41	0.82	48.86	1.81	0.63
RV494M		45.99	-2.39	-0.82	47.08	0.03	0.01
TBH9H6		51.94	3.55	1.21	50.46	3.41	1.18
U2LT9R		47.60	-0.78	-0.27	47.50	0.45	0.16
UNKZZ4		47.90	-0.48	-0.17	47.20	0.15	0.05
V26JQX		51.70	3.32	1.13	49.30	2.25	0.78
VKFG89		51.00	2.62	0.89	48.60	1.55	0.54
VP89BG		51.27	2.88	0.98	49.88	2.83	0.98
VQKMW6		45.50	-2.88	-0.99	44.40	-2.65	-0.92
W2JTA4		46.88	-1.51	-0.52	46.96	-0.09	-0.03
WC3K33		45.16	-3.23	-1.10	44.03	-3.02	-1.05
YNNZKY	*	44.10	-4.28	-1.46	40.20	-6.85	-2.37
Z37ET6		53.00	4.62	1.58	52.20	5.15	1.78
Z4E423		47.45	-0.93	-0.32	46.15	-0.90	-0.31
ZK2GEU		51.10	2.72	0.93	49.00	1.95	0.68
ZN2Y7V		46.12	-2.26	-0.77	43.95	-3.10	-1.07
ZUPXYA		46.90	-1.48	-0.51	49.00	1.95	0.68
ZURM38		46.20	-2.18	-0.75	46.90	-0.15	-0.05
ZZRTG4		46.30	-2.08	-0.71	44.30	-2.75	-0.95

Summary Statistics

	Sample P49		Sample P50	
Grand Means	48.38	ksi	47.05	ksi
Stnd Dev Btwn Labs	2.93	ksi	2.89	ksi

Samples P49, P50 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 79 of 83 reporting participants

Comments on Assigned Data Flags for Test #141

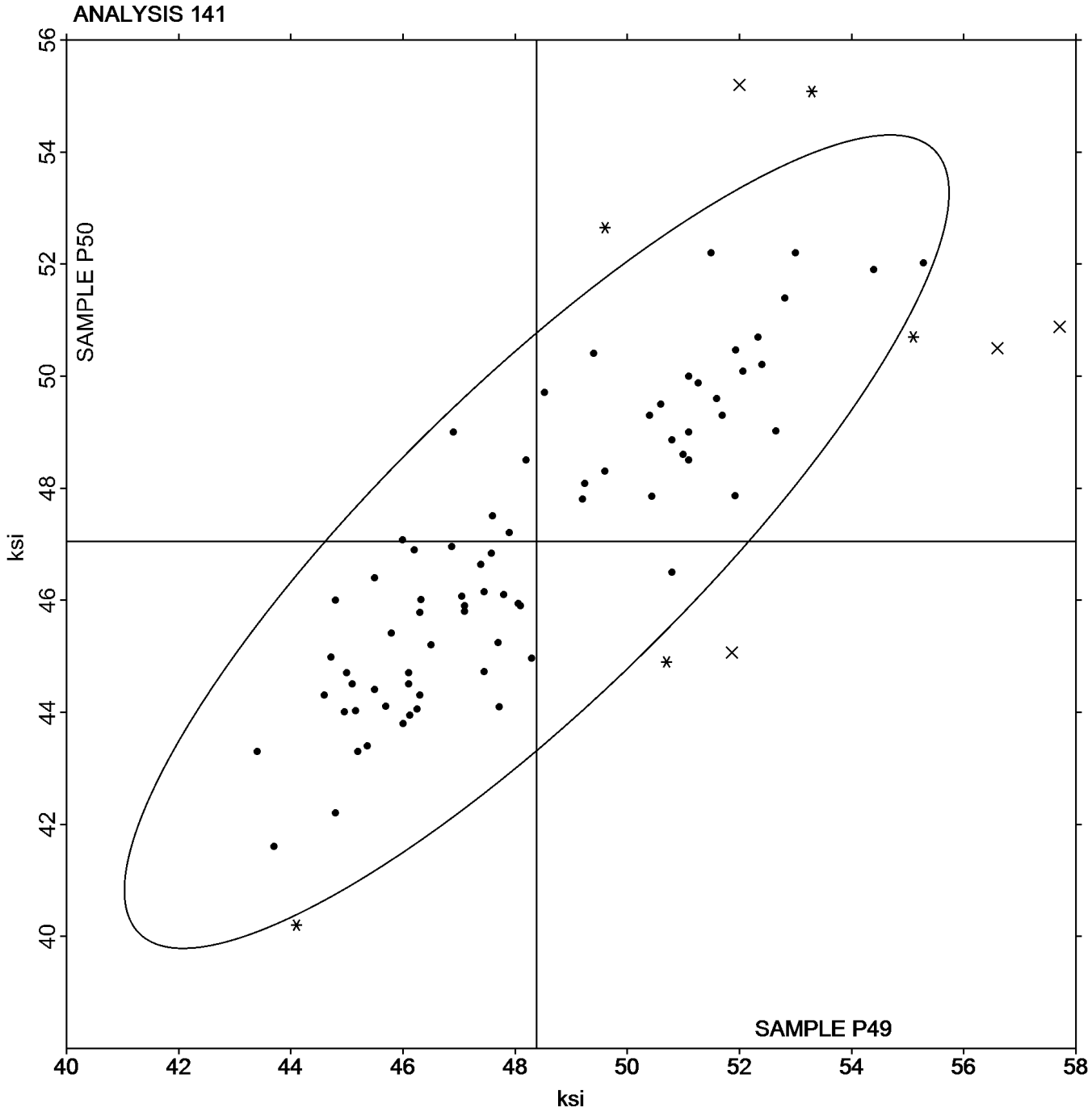
64Y6G7 (X) - Data for sample P49 are high.

69D9G4 (X) - Inconsistent in testing between samples.

6JUFB4 (X) - Data for sample P50 are high.

8KVLPV (X) - Data for sample P49 are high.

SAMPLE P49	SAMPLE P50
48.38 ksi	47.05 ksi



		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		32.00	-2.46	-1.34	34.00	-0.31	-0.15
2PPPRZ		37.50	3.04	1.66	36.60	2.29	1.12
2QZZWW		34.20	-0.26	-0.14	33.40	-0.91	-0.45
2UKZ2J		32.40	-2.06	-1.12	32.10	-2.21	-1.09
2W8U8F		35.60	1.14	0.62	35.40	1.09	0.53
2YVZCP	X	36.80	2.34	1.28	33.00	-1.31	-0.64
3JZXAB		36.50	2.04	1.11	34.50	0.19	0.09
3NUWML		32.20	-2.26	-1.23	30.80	-3.51	-1.72
46BKAL		35.30	0.84	0.46	36.00	1.69	0.83
4CHELP		33.00	-1.46	-0.79	33.00	-1.31	-0.64
4TLCYY		33.50	-0.96	-0.52	34.00	-0.31	-0.15
64Y6G7		34.00	-0.46	-0.25	33.00	-1.31	-0.64
69D9G4		37.20	2.74	1.49	35.60	1.29	0.63
6JUFB4		32.70	-1.76	-0.96	31.40	-2.91	-1.43
6XAYR6		34.80	0.34	0.19	34.70	0.39	0.19
76MTER		35.00	0.54	0.29	33.60	-0.71	-0.35
7GJTDP		31.90	-2.56	-1.39	31.80	-2.51	-1.23
7MNRNE		36.50	2.04	1.11	37.90	3.59	1.76
87YVWJ		32.90	-1.56	-0.85	32.80	-1.51	-0.74
8KVLPV		35.44	0.98	0.53	34.60	0.29	0.14
8VDGNU		33.25	-1.21	-0.66	33.83	-0.48	-0.24
8WBRKX		35.90	1.44	0.79	35.90	1.59	0.78
9D9F7T		37.10	2.64	1.44	37.35	3.04	1.49
9W4A9X		36.80	2.34	1.28	38.00	3.69	1.81
9YM3PD		36.00	1.54	0.84	37.00	2.69	1.32
BBDEDB	X	44.00	9.54	5.20	40.00	5.69	2.79
BU7F7R		35.25	0.79	0.43	35.10	0.79	0.39
C7ZFCL		33.40	-1.06	-0.58	34.10	-0.21	-0.11
CN2CYC		32.40	-2.06	-1.12	31.30	-3.01	-1.48
D6JC92	*	29.20	-5.26	-2.87	29.80	-4.51	-2.21
D9LKJJ		33.50	-0.96	-0.52	33.40	-0.91	-0.45
EH8KLU		35.40	0.94	0.51	33.90	-0.41	-0.20
FHZGGM		36.00	1.54	0.84	36.00	1.69	0.83
FRQEBV	X	16.60	-17.86	-9.73	17.00	-17.31	-8.49
FZKA46		34.80	0.34	0.19	32.60	-1.71	-0.84
G8XH8R		36.00	1.54	0.84	36.00	1.69	0.83
GA7JF6		33.80	-0.66	-0.36	34.10	-0.21	-0.11
GYN6BH		33.20	-1.26	-0.69	33.10	-1.21	-0.60
H69W6B		33.00	-1.46	-0.79	33.50	-0.81	-0.40
HFPHEC		33.50	-0.96	-0.52	32.50	-1.81	-0.89
HLGBJ6		32.50	-1.96	-1.07	32.50	-1.81	-0.89
HRGCLY	*	31.00	-3.46	-1.88	33.00	-1.31	-0.64
J3CR23		37.10	2.64	1.44	37.90	3.59	1.76
JNE2EJ	*	35.00	0.54	0.29	32.00	-2.31	-1.14
JRFU2A		33.50	-0.96	-0.52	33.00	-1.31	-0.64
JYHA6G		32.80	-1.66	-0.90	31.80	-2.51	-1.23
KW34ND		36.40	1.94	1.06	35.50	1.19	0.58

		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
LNMUQH		33.60	-0.86	-0.47	34.20	-0.11	-0.06
LV98LG	*	38.20	3.74	2.04	40.40	6.09	2.99
LYTVRN		35.00	0.54	0.29	35.00	0.69	0.34
M9A4HN		34.00	-0.46	-0.25	33.50	-0.81	-0.40
MK342Y		34.00	-0.46	-0.25	36.00	1.69	0.83
MKNMVD		37.00	2.54	1.38	37.00	2.69	1.32
NXJE6F		33.00	-1.46	-0.79	33.50	-0.81	-0.40
P3CTDM	*	33.00	-1.46	-0.79	30.00	-4.31	-2.12
P9ZHR7		32.70	-1.76	-0.96	34.30	-0.01	-0.01
PNFZ3Y		34.50	0.04	0.02	34.20	-0.11	-0.06
PT8Q6J		33.30	-1.16	-0.63	32.90	-1.41	-0.69
Q2293R		35.00	0.54	0.29	35.50	1.19	0.58
Q2YM8C		36.20	1.74	0.95	36.10	1.79	0.88
QPKLUR		34.50	0.04	0.02	35.10	0.79	0.39
R6EZH6		36.20	1.74	0.95	35.30	0.99	0.48
RCRJQP		37.10	2.64	1.44	36.40	2.09	1.02
RD88JH		34.00	-0.46	-0.25	34.00	-0.31	-0.15
RFCAE9		33.00	-1.46	-0.79	31.00	-3.31	-1.63
RKQTF3		32.70	-1.76	-0.96	32.30	-2.01	-0.99
RV494M		33.30	-1.16	-0.63	34.40	0.09	0.04
TBH9H6		34.30	-0.16	-0.09	34.20	-0.11	-0.06
U2LT9R		37.10	2.64	1.44	37.30	2.99	1.46
UNKZZ4		36.50	2.04	1.11	37.50	3.19	1.56
V26JQX		33.50	-0.96	-0.52	33.00	-1.31	-0.64
VKFG89		33.70	-0.76	-0.41	33.30	-1.01	-0.50
VP89BG		34.00	-0.46	-0.25	34.00	-0.31	-0.15
VQKMW6		35.00	0.54	0.29	34.00	-0.31	-0.15
W2JTA4		30.00	-4.46	-2.43	30.00	-4.31	-2.12
WC3K33		36.20	1.74	0.95	35.62	1.31	0.64
YNNZKY		34.80	0.34	0.19	34.00	-0.31	-0.15
Z37ET6		36.00	1.54	0.84	36.20	1.89	0.93
Z4E423		33.42	-1.04	-0.57	33.05	-1.26	-0.62
ZK2GEU		33.50	-0.96	-0.52	33.50	-0.81	-0.40
ZN2Y7V	*	38.80	4.34	2.37	37.40	3.09	1.51
ZUPXYA	*	33.00	-1.46	-0.79	35.50	1.19	0.58
ZURM38		36.00	1.54	0.84	36.00	1.69	0.83
ZZRTG4		35.60	1.14	0.62	35.40	1.09	0.53

Summary Statistics

	Sample P49		Sample P50	
Grand Means	34.46	Percent	34.31	Percent
Stnd Dev Btwn Labs	1.84	Percent	2.04	Percent

Samples P49, P50 : AISI 1018 (E), AISI 1018 (F)

Statistics based on 81 of 84 reporting participants

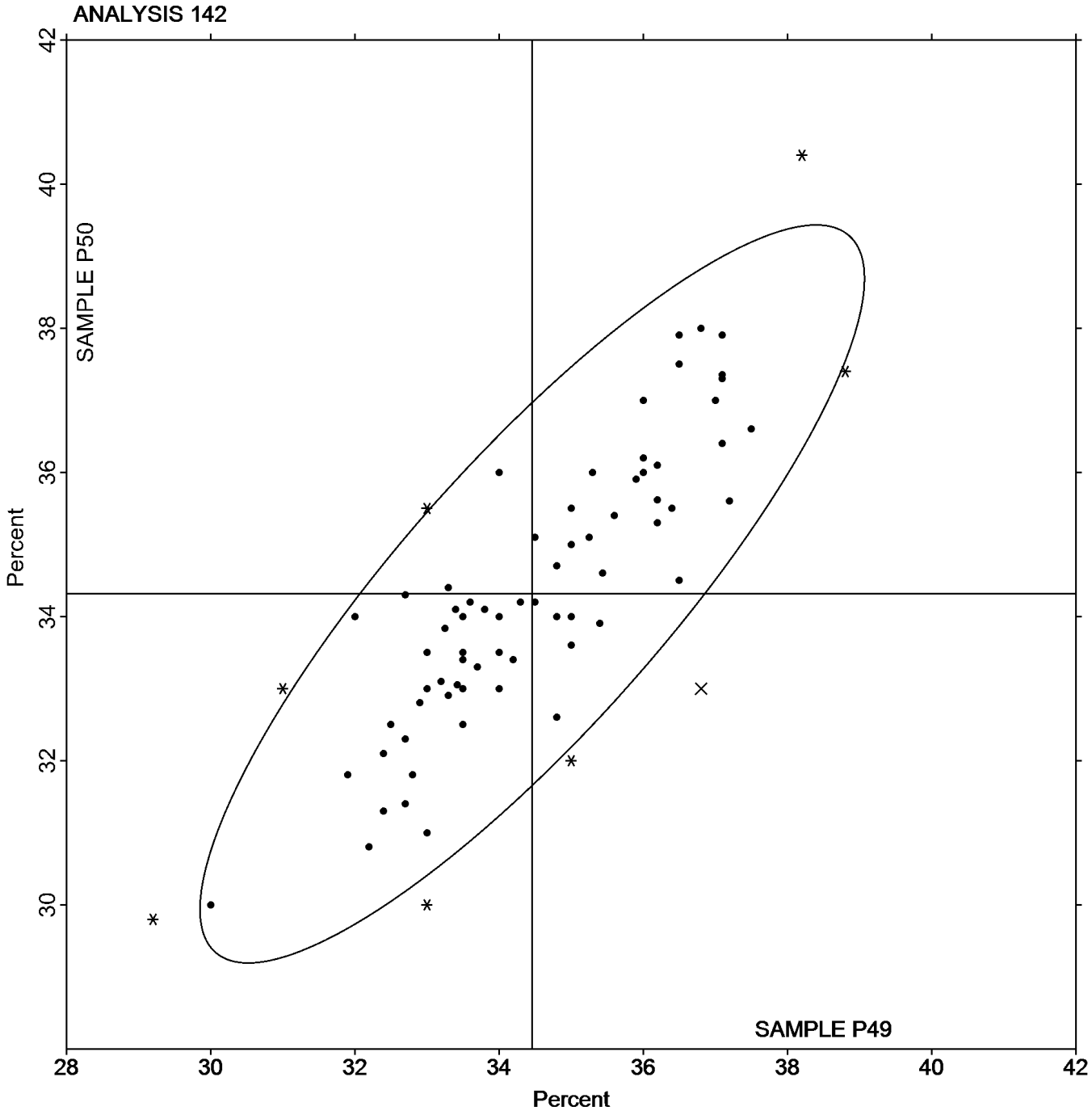
Comments on Assigned Data Flags for Test #142

2YVZCP (X) - Inconsistent in testing between samples.

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

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

SAMPLE P49	SAMPLE P50
34.46 Percent	34.31 Percent



		Sample P49			Sample P50		
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV
2AZDN7		67.00	0.38	0.35	66.00	0.38	0.31
2PPPRZ	X	70.30	3.68	3.39	61.90	-3.72	-3.09
2QZZWW		66.50	-0.12	-0.11	63.70	-1.92	-1.60
2UKZ2J		65.00	-1.62	-1.49	62.70	-2.92	-2.43
2W8U8F		67.40	0.78	0.72	65.00	-0.62	-0.52
2YVZCP		66.10	-0.52	-0.48	65.80	0.18	0.15
3JZXAB		67.00	0.38	0.35	66.40	0.78	0.65
3NUWML	*	66.40	-0.22	-0.20	68.50	2.88	2.39
46BKAL		68.00	1.38	1.27	65.60	-0.02	-0.02
4CHELP		67.70	1.08	1.00	66.40	0.78	0.65
4TLCYY		66.80	0.18	0.17	64.80	-0.82	-0.68
64Y6G7		67.20	0.58	0.53	65.50	-0.12	-0.10
69D9G4		67.90	1.28	1.18	65.50	-0.12	-0.10
6JUFB4		67.30	0.68	0.63	65.40	-0.22	-0.19
6XAYR6		66.50	-0.12	-0.11	65.70	0.08	0.06
76MTER		67.20	0.58	0.53	65.60	-0.02	-0.02
7GJTDP		67.18	0.56	0.52	65.14	-0.48	-0.40
7MNRNE		65.70	-0.92	-0.85	66.50	0.88	0.73
87YVWJ		64.70	-1.92	-1.77	65.80	0.18	0.15
8KVLPV		65.97	-0.65	-0.60	65.36	-0.26	-0.22
8VDGNU		66.17	-0.45	-0.42	63.57	-2.05	-1.71
8WBRKX		67.00	0.38	0.35	65.00	-0.62	-0.52
9D9F7T		67.28	0.66	0.61	67.05	1.43	1.19
9W4A9X		65.20	-1.42	-1.31	65.60	-0.02	-0.02
9YM3PD		67.00	0.38	0.35	67.00	1.38	1.14
BBDEDB	*	69.60	2.98	2.75	67.40	1.78	1.48
BU7F7R		66.62	0.00	0.00	66.37	0.75	0.62
C7ZFCL		67.30	0.68	0.63	66.00	0.38	0.31
CN2CYC		66.40	-0.22	-0.20	64.60	-1.02	-0.85
D6JC92		64.30	-2.32	-2.14	63.30	-2.32	-1.93
D9LKJJ		66.80	0.18	0.17	65.60	-0.02	-0.02
EH8KLU		67.30	0.68	0.63	66.00	0.38	0.31
FHZGGM		67.00	0.38	0.35	66.00	0.38	0.31
FRQEBV	*	64.00	-2.62	-2.41	66.00	0.38	0.31
FZKA46		65.00	-1.62	-1.49	64.09	-1.53	-1.27
G8XH8R		68.00	1.38	1.27	66.00	0.38	0.31
GA7JF6		64.80	-1.82	-1.68	64.10	-1.52	-1.27
GYN6BH		66.90	0.28	0.26	65.30	-0.32	-0.27
H69W6B		67.00	0.38	0.35	66.30	0.68	0.56
HFPHEC		67.20	0.58	0.53	66.60	0.98	0.81
HLGBJ6		66.90	0.28	0.26	66.20	0.58	0.48
HRGCLY		67.00	0.38	0.35	66.00	0.38	0.31
JNE2EJ		66.00	-0.62	-0.57	64.00	-1.62	-1.35
JRFU2A		67.20	0.58	0.53	66.10	0.48	0.40
JYHA6G		67.80	1.18	1.09	67.40	1.78	1.48
KW34ND		66.00	-0.62	-0.57	65.80	0.18	0.15
LNMUQH		66.10	-0.52	-0.48	66.60	0.98	0.81

WebCode	Data Flag	Sample P49 Lab Mean	Sample P49 Diff. from Grand Mean	Sample P49 CPV	Sample P50 Lab Mean	Sample P50 Diff. from Grand Mean	Sample P50 CPV
LV98LG		67.40	0.78	0.72	66.10	0.48	0.40
LYTVRN		67.00	0.38	0.35	65.00	-0.62	-0.52
M9A4HN		66.90	0.28	0.26	66.00	0.38	0.31
MK342Y	*	64.00	-2.62	-2.41	66.00	0.38	0.31
MKNMVD		64.90	-1.72	-1.58	64.40	-1.22	-1.02
NXJE6F		66.80	0.18	0.17	66.20	0.58	0.48
P3CTDM		66.00	-0.62	-0.57	63.00	-2.62	-2.18
P9ZHR7		68.30	1.68	1.55	67.80	2.18	1.81
PNFZ3Y		66.90	0.28	0.26	66.70	1.08	0.89
PT8Q6J		66.30	-0.32	-0.29	65.40	-0.22	-0.19
Q2293R		66.46	-0.16	-0.15	66.15	0.53	0.44
Q2YM8C		68.30	1.68	1.55	67.50	1.88	1.56
QPKLUR		67.30	0.68	0.63	66.00	0.38	0.31
R6EZH6		66.30	-0.32	-0.29	66.10	0.48	0.40
RCRJQP		67.10	0.48	0.44	65.80	0.18	0.15
RD88JH		66.00	-0.62	-0.57	64.00	-1.62	-1.35
RFCAE9		68.00	1.38	1.27	67.30	1.68	1.39
RV494M		66.92	0.30	0.28	68.27	2.65	2.20
TBH9H6		66.40	-0.22	-0.20	65.80	0.18	0.15
U2LT9R		67.30	0.68	0.63	65.50	-0.12	-0.10
UNKZZ4		65.70	-0.92	-0.85	65.30	-0.32	-0.27
V26JQX		67.20	0.58	0.53	66.60	0.98	0.81
VKFG89		66.90	0.28	0.26	65.60	-0.02	-0.02
VP89BG		66.00	-0.62	-0.57	64.00	-1.62	-1.35
VQKMW6		68.00	1.38	1.27	65.00	-0.62	-0.52
W2JTA4		65.93	-0.69	-0.64	65.00	-0.62	-0.52
WC3K33	*	63.90	-2.72	-2.51	62.05	-3.57	-2.97
YNNZKY		64.00	-2.62	-2.41	63.50	-2.12	-1.76
Z37ET6		66.10	-0.52	-0.48	66.50	0.88	0.73
Z4E423		67.18	0.57	0.52	65.51	-0.12	-0.10
ZK2GEU		67.20	0.58	0.53	66.10	0.48	0.40
ZN2Y7V	X	75.00	8.38	7.72	66.00	0.38	0.31
ZUPXYA		66.60	-0.02	-0.02	64.70	-0.92	-0.77
ZURM38		67.00	0.38	0.35	65.00	-0.62	-0.52
ZZRTG4		67.84	1.22	1.12	66.59	0.97	0.80

Summary Statistics

	Sample P49		Sample P50	
Grand Means	66.62	Percent	65.62	Percent
Stnd Dev Btwn Labs	1.09	Percent	1.20	Percent

Samples P49, P50 : AISI 1018 (E), AISI 1018 (F)

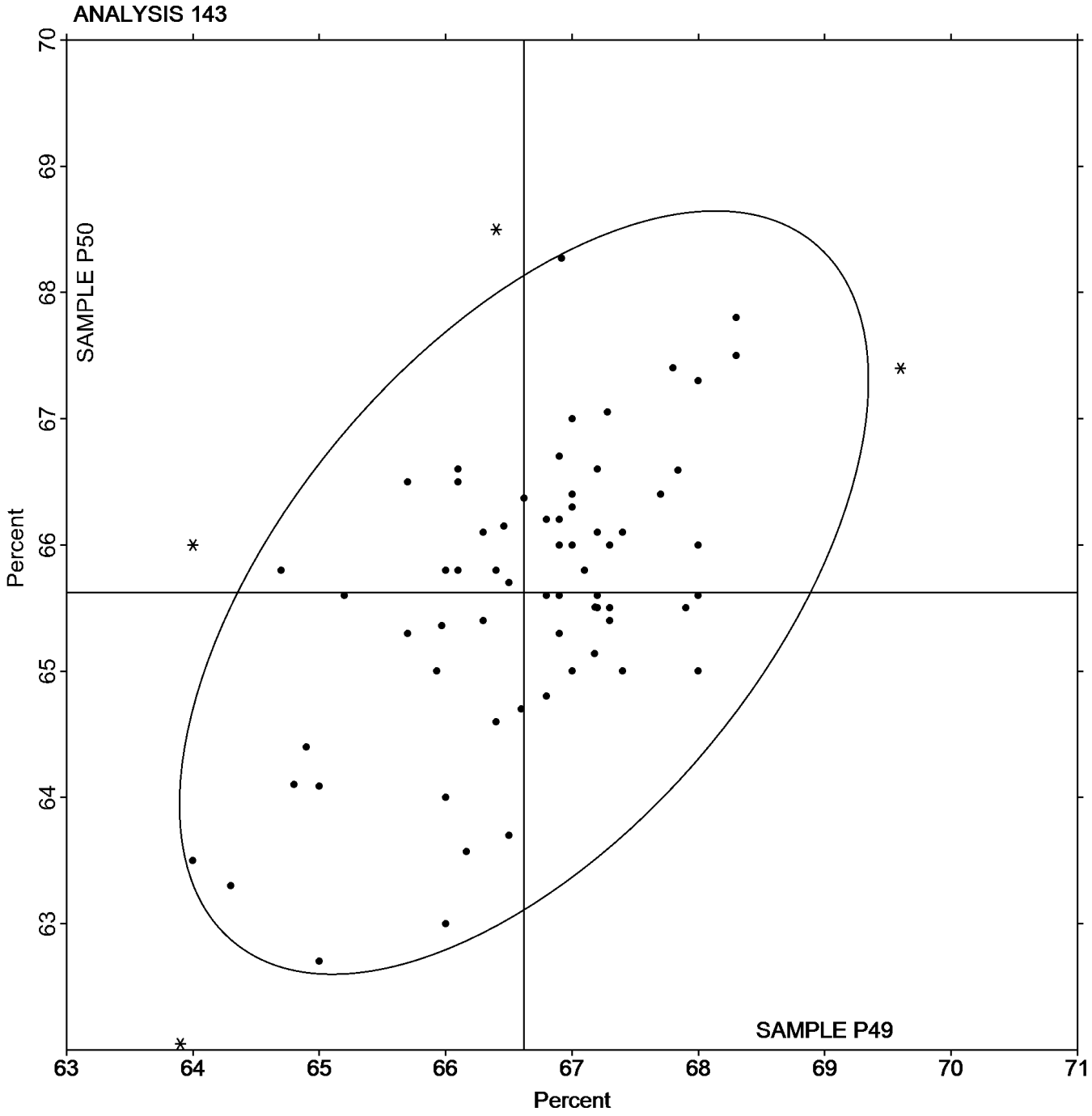
Statistics based on 80 of 82 reporting participants

Comments on Assigned Data Flags for Test #143

2PPPRZ (X) - Data for sample P49 are high and data for sample P50 are low.

ZN2Y7V (X) - Data for sample P49 are high.

SAMPLE P49	SAMPLE P50
66.62 Percent	65.62 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ		0.1970	0.0075	1.24	0.1840	0.0067	1.11	GD
2B7B2Z		0.1861	-0.0034	-0.56	0.1755	-0.0018	-0.29	OE
2PPPRZ		0.1867	-0.0028	-0.46	0.1750	-0.0023	-0.38	OE
2UKZ2J		0.1850	-0.0045	-0.74	0.1737	-0.0036	-0.60	OE
2XK7JV		0.1913	0.0019	0.31	0.1783	0.0011	0.18	OE
3NUWML		0.1913	0.0019	0.31	0.1780	0.0007	0.12	CI
3YWH62	X	0.2337	0.0442	7.32	0.2162	0.0389	6.45	OE
46BKAL		0.1965	0.0070	1.16	0.1803	0.0031	0.51	CO
4769PV		0.1887	-0.0008	-0.13	0.1760	-0.0013	-0.21	CI
47R2LM		0.1836	-0.0059	-0.97	0.1719	-0.0054	-0.90	OE
4H2NM8		0.1824	-0.0071	-1.17	0.1737	-0.0035	-0.59	OE
4UFJ4R		0.1930	0.0035	0.58	0.1803	0.0031	0.51	CI
638CX4		0.1963	0.0069	1.13	0.1857	0.0084	1.39	CI
63XRVR	X	0.1601	-0.0294	-4.86	0.1497	-0.0275	-4.56	OE
66ACVF		0.1883	-0.0011	-0.19	0.1730	-0.0043	-0.71	CI
69D9G4		0.1877	-0.0018	-0.30	0.1740	-0.0033	-0.54	AE
6N3NQM		0.1887	-0.0008	-0.13	0.1787	0.0014	0.23	OE
7DWW9Q		0.2023	0.0129	2.13	0.1893	0.0121	2.00	OE
7EU84U		0.1907	0.0012	0.20	0.1777	0.0004	0.06	OE
83VML2		0.1947	0.0052	0.86	0.1820	0.0047	0.78	OE
8B6QGJ		0.1907	0.0012	0.20	0.1787	0.0014	0.23	GD
8NDAEE	X	0.2123	0.0229	3.78	0.1937	0.0164	2.72	OE
9CEH2T		0.1917	0.0022	0.36	0.1777	0.0004	0.06	CO
9FGJZ6		0.1990	0.0095	1.58	0.1890	0.0117	1.94	GD
9W4A9X		0.1903	0.0009	0.14	0.1803	0.0031	0.51	OE
AA8V92		0.1970	0.0075	1.24	0.1860	0.0087	1.45	AE
AUVGTP		0.1890	-0.0005	-0.08	0.1777	0.0004	0.06	CO
B34376	*	0.1877	-0.0018	-0.30	0.1823	0.0051	0.84	CI
B6TEYH		0.1911	0.0016	0.26	0.1756	-0.0017	-0.28	OE
BPCHJM		0.1913	0.0019	0.31	0.1767	-0.0006	-0.10	OE
BWDQ83		0.1899	0.0004	0.07	0.1778	0.0005	0.08	OE
C7ZFCL		0.1897	0.0002	0.04	0.1784	0.0012	0.19	CI
CALB3L		0.1897	0.0002	0.03	0.1770	-0.0003	-0.05	CI
CAW36A		0.1877	-0.0018	-0.30	0.1753	-0.0019	-0.32	OE
CCQNZM		0.1867	-0.0028	-0.46	0.1747	-0.0026	-0.43	OE
CFKD8Z		0.1800	-0.0095	-1.58	0.1677	-0.0096	-1.59	OE
CFMF6D		0.2045	0.0150	2.49	0.1899	0.0126	2.09	OE
CJTVN3		0.1794	-0.0101	-1.66	0.1655	-0.0118	-1.96	OE
CN2CYC		0.1810	-0.0085	-1.40	0.1700	-0.0073	-1.21	OE
DTTVNM		0.1920	0.0025	0.42	0.1787	0.0014	0.23	CI
DZ9YTN		0.1891	-0.0003	-0.06	0.1765	-0.0008	-0.13	OE
EBLB6P		0.1868	-0.0027	-0.45	0.1747	-0.0025	-0.42	OE
EF6YBV	*	0.2007	0.0112	1.85	0.1937	0.0164	2.72	GD
EH8KLU		0.1903	0.0009	0.14	0.1750	-0.0023	-0.38	GD
EXX7XT		0.1833	-0.0061	-1.02	0.1700	-0.0073	-1.21	OE
F6DG2Z		0.1900	0.0005	0.09	0.1767	-0.0006	-0.10	CI
F9B6CF		0.1812	-0.0083	-1.37	0.1691	-0.0081	-1.35	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
FACEL7		0.1877	-0.0017	-0.29	0.1746	-0.0027	-0.44	OE
G9XAN9		0.1773	-0.0121	-2.01	0.1677	-0.0096	-1.59	OE
GRHRDE		0.1912	0.0018	0.29	0.1802	0.0029	0.48	OE
GTX42B		0.1870	-0.0025	-0.41	0.1763	-0.0009	-0.16	OE
GYN6BH	X	0.1901	0.0007	0.11	0.1847	0.0075	1.24	CO
H4DTH9		0.1889	-0.0006	-0.10	0.1781	0.0008	0.14	OE
HBCPDL		0.1943	0.0049	0.80	0.1837	0.0064	1.06	OE
HLDUJL		0.1833	-0.0061	-1.02	0.1737	-0.0036	-0.60	OE
HLGBJ6		0.1887	-0.0008	-0.13	0.1777	0.0004	0.06	OE
HX88GW		0.1920	0.0025	0.42	0.1790	0.0017	0.29	OE
J96EQM		0.1920	0.0025	0.41	0.1814	0.0042	0.69	OE
JLBXHA		0.1963	0.0069	1.13	0.1827	0.0054	0.89	OE
JN9LNH		0.1987	0.0092	1.52	0.1890	0.0117	1.94	OE
JNE2EJ		0.1920	0.0026	0.42	0.1787	0.0014	0.23	OE
JNFNKH		0.1863	-0.0031	-0.52	0.1760	-0.0013	-0.21	OE
KW34ND		0.1950	0.0055	0.91	0.1830	0.0057	0.95	OE
L2VX7R		0.1878	-0.0016	-0.27	0.1761	-0.0012	-0.20	CI
LLLGDQ		0.1850	-0.0045	-0.74	0.1750	-0.0023	-0.38	DR
M7K9Q9		0.1803	-0.0091	-1.51	0.1690	-0.0083	-1.37	OE
MWXAXH		0.1970	0.0075	1.24	0.1857	0.0084	1.39	GD
NJQPAJ		0.1790	-0.0104	-1.73	0.1672	-0.0101	-1.68	OE
NKHVF2		0.1851	-0.0044	-0.72	0.1709	-0.0063	-1.05	CI
NPA3YA		0.1963	0.0069	1.13	0.1870	0.0097	1.61	OE
NXAX4G		0.1784	-0.0110	-1.83	0.1674	-0.0099	-1.64	OE
P3XEZL		0.1837	-0.0058	-0.96	0.1700	-0.0073	-1.21	CI
PBRXHL		0.1930	0.0035	0.58	0.1800	0.0027	0.45	OE
PEAUQR		0.1897	0.0002	0.03	0.1784	0.0011	0.19	OE
PNFZ3Y		0.1853	-0.0041	-0.69	0.1713	-0.0059	-0.98	OE
PTC4WL		0.1943	0.0049	0.80	0.1800	0.0027	0.45	OE
PVEYHA		0.1963	0.0069	1.13	0.1877	0.0104	1.72	OE
PWTMJ2		0.1913	0.0018	0.30	0.1786	0.0013	0.22	OE
Q2YM8C	*	0.1917	0.0022	0.36	0.1907	0.0134	2.22	OE
Q7B23B		0.1923	0.0029	0.47	0.1770	-0.0003	-0.05	CO
QELXV3	*	0.2065	0.0171	2.82	0.1947	0.0174	2.88	OE
R6EZH6	*	0.1930	0.0035	0.58	0.1910	0.0137	2.27	CI
R7BCLK		0.1887	-0.0008	-0.13	0.1733	-0.0039	-0.65	OE
R86Z6F		0.1777	-0.0118	-1.95	0.1650	-0.0123	-2.03	OE
RA8B4J		0.1893	-0.0001	-0.02	0.1743	-0.0029	-0.49	OE
RD88JH		0.1840	-0.0055	-0.91	0.1710	-0.0063	-1.04	OE
RFFGCF		0.1967	0.0072	1.19	0.1833	0.0061	1.00	OE
RJDRJ9		0.1837	-0.0058	-0.96	0.1717	-0.0056	-0.93	OE
RYM8DB	X	0.1720	-0.0175	-2.89	0.1633	-0.0139	-2.31	OE
TLDFFA		0.2013	0.0119	1.96	0.1877	0.0104	1.72	XX
TPKQJ6		0.1833	-0.0061	-1.02	0.1713	-0.0059	-0.98	OE
U9TBRE		0.1797	-0.0097	-1.61	0.1684	-0.0088	-1.47	OE
UHGLAF		0.1843	-0.0051	-0.85	0.1740	-0.0033	-0.54	OE
UUNYDE		0.1951	0.0056	0.93	0.1825	0.0052	0.86	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VBAFNA		0.1997	0.0102	1.69	0.1879	0.0107	1.77	OE
VHBQ4E		0.1880	-0.0015	-0.24	0.1750	-0.0023	-0.38	OE
VP89BG		0.1923	0.0029	0.47	0.1793	0.0021	0.34	CI
VQKMW6		0.1817	-0.0078	-1.29	0.1693	-0.0079	-1.32	GD
VVUHGM		0.1943	0.0049	0.80	0.1847	0.0074	1.22	OE
VYTUE9	*	0.1967	0.0072	1.19	0.1777	0.0004	0.06	OE
W2JTA4		0.1883	-0.0011	-0.19	0.1760	-0.0013	-0.21	DR
WC3K33		0.1893	-0.0002	-0.03	0.1760	-0.0013	-0.22	OE
WPMYQE		0.1880	-0.0014	-0.24	0.1752	-0.0021	-0.34	OE
XRAAAY		0.1933	0.0039	0.64	0.1798	0.0025	0.41	OE
XWHY3L		0.1870	-0.0025	-0.41	0.1737	-0.0036	-0.60	OE
XXCGP3		0.1931	0.0037	0.60	0.1811	0.0038	0.63	OE
XZYLE7		0.1767	-0.0128	-2.11	0.1665	-0.0107	-1.78	OE
Y2B9GZ	X	0.1697	-0.0198	-3.28	0.1607	-0.0166	-2.75	OE
ZMP3Y6		0.1911	0.0017	0.27	0.1827	0.0054	0.89	OE
ZRXKXX		0.1874	-0.0021	-0.34	0.1775	0.0003	0.04	OE
ZTVAFE	*	0.1900	0.0005	0.09	0.1700	-0.0073	-1.21	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.1895	Percent	0.1773	Percent
Stnd Dev Btwn Labs	0.0060	Percent	0.0060	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 99 of 111 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #170

3YWH62 (X) - Data for both samples are high. Possible Systematic Error. Very inconsistent within the determinations of both samples.

63XRVR (X) - Data for both samples are low. Possible Systematic Error.

8NDAEE (X) - Data for sample L49 are high. Inconsistent within the determinations of sample L50.

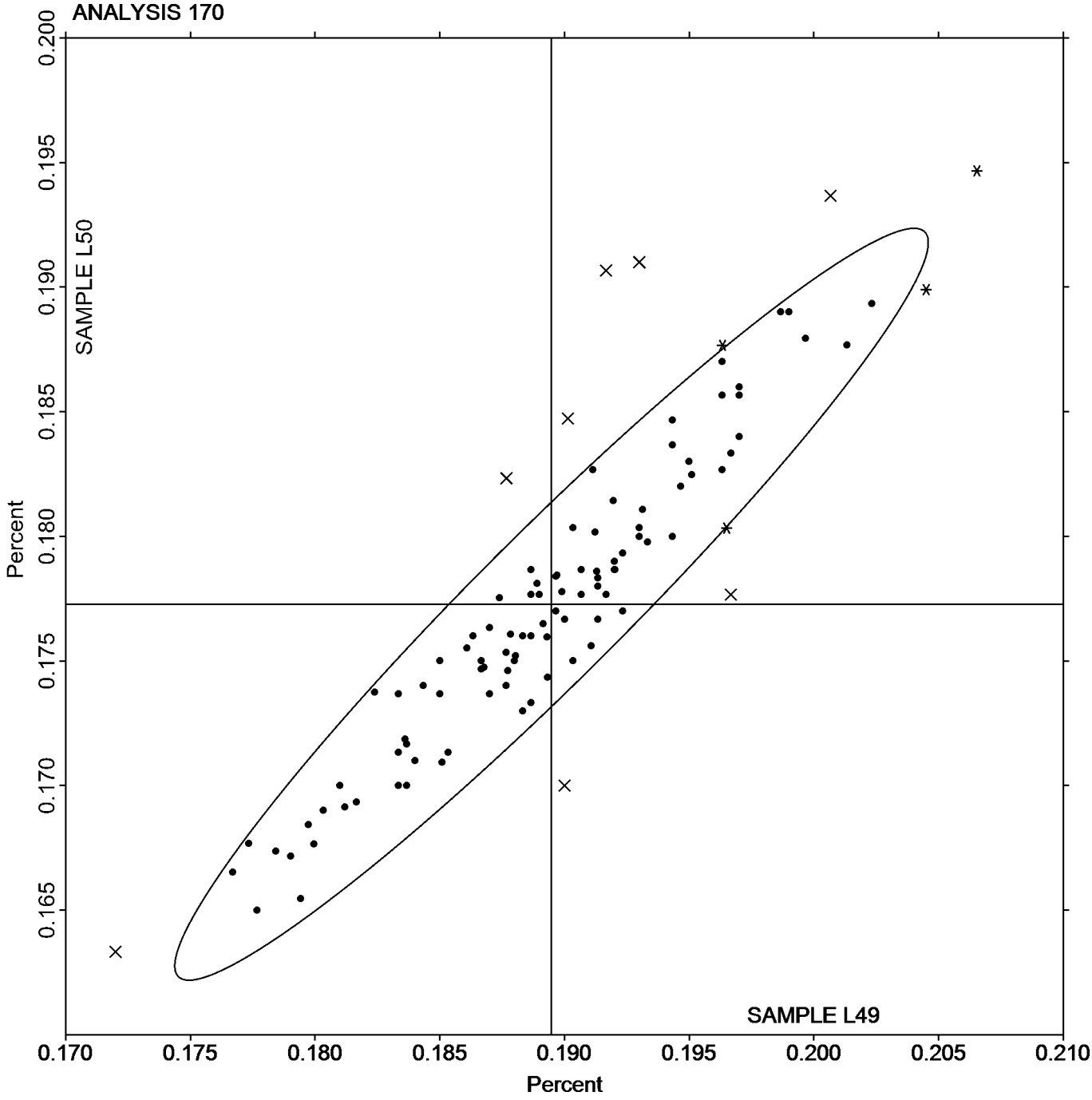
GYN6BH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L50.

RYM8DB (X) - Data for sample L49 are low.

Y2B9GZ (X) - Data for sample L49 are low.

SAMPLE L49
0.1895 Percent

SAMPLE L50
0.1773 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ		0.5457	0.0046	0.61	0.5757	0.0019	0.24	GD
2B7B2Z		0.5439	0.0028	0.37	0.5760	0.0022	0.28	OE
2PPPRZ	*	0.5487	0.0076	1.00	0.5923	0.0185	2.41	OE
2UKZ2J		0.5480	0.0069	0.91	0.5783	0.0045	0.59	OE
2XK7JV		0.5600	0.0189	2.49	0.5933	0.0195	2.54	OE
3NUWML		0.5427	0.0016	0.21	0.5777	0.0039	0.50	OE
3YWH62		0.5479	0.0068	0.90	0.5811	0.0073	0.95	OE
46BKAL		0.5519	0.0109	1.43	0.5789	0.0051	0.67	WD
4769PV		0.5520	0.0109	1.44	0.5833	0.0095	1.24	OE
47R2LM		0.5357	-0.0054	-0.70	0.5675	-0.0063	-0.83	OE
4H2NM8		0.5395	-0.0015	-0.20	0.5772	0.0034	0.44	OE
4UFJ4R		0.5490	0.0079	1.04	0.5783	0.0045	0.58	OE
638CX4		0.5463	0.0053	0.69	0.5807	0.0069	0.89	OE
63XRVR	X	0.5723	0.0312	4.11	0.6045	0.0307	4.00	OE
66ACVF		0.5390	-0.0020	-0.27	0.5689	-0.0049	-0.64	IC
69D9G4		0.5360	-0.0051	-0.67	0.5653	-0.0085	-1.10	AE
6N3NQM		0.5467	0.0056	0.74	0.5767	0.0029	0.37	OE
7DWW9Q		0.5540	0.0129	1.70	0.5910	0.0172	2.24	OE
7EQKQL	X	0.4920	-0.0491	-6.45	0.5300	-0.0438	-5.71	IC
7EU84U		0.5450	0.0039	0.52	0.5760	0.0022	0.28	OE
83VML2		0.5380	-0.0031	-0.40	0.5653	-0.0085	-1.10	OE
8B6QGJ		0.5430	0.0019	0.25	0.5723	-0.0015	-0.19	GD
8NDAEE		0.5340	-0.0071	-0.93	0.5703	-0.0035	-0.45	OE
9CEH2T		0.5430	0.0019	0.25	0.5750	0.0012	0.15	IC
9FGJZ6		0.5240	-0.0171	-2.24	0.5590	-0.0148	-1.93	GD
9W4A9X		0.5373	-0.0037	-0.49	0.5773	0.0035	0.46	OE
AA8V92		0.5417	0.0006	0.08	0.5750	0.0012	0.15	AE
AJDCPT		0.5493	0.0083	1.09	0.5867	0.0129	1.67	OE
AUVGTP		0.5367	-0.0044	-0.58	0.5673	-0.0065	-0.84	OE
B6TEYH		0.5588	0.0177	2.33	0.5884	0.0145	1.89	OE
BPCHJM		0.5447	0.0036	0.47	0.5760	0.0022	0.28	OE
BWDQ83		0.5537	0.0126	1.66	0.5880	0.0142	1.84	OE
C7ZFCL		0.5437	0.0026	0.34	0.5760	0.0022	0.28	WD
CALB3L		0.5474	0.0064	0.84	0.5776	0.0038	0.49	OE
CAW36A		0.5423	0.0013	0.17	0.5767	0.0029	0.37	OE
CCQNZM		0.5457	0.0046	0.61	0.5783	0.0045	0.59	XX
CFKD8Z		0.5293	-0.0118	-1.55	0.5626	-0.0113	-1.47	OE
CFMF6D	X	0.5713	0.0303	3.98	0.6043	0.0305	3.97	OE
CJTVN3		0.5399	-0.0012	-0.16	0.5740	0.0002	0.02	OE
CN2CYC		0.5277	-0.0134	-1.76	0.5603	-0.0135	-1.76	OE
DTTVNM		0.5440	0.0029	0.39	0.5777	0.0039	0.50	IC
DZ9YTN		0.5429	0.0018	0.24	0.5717	-0.0021	-0.27	OE
EBLB6P		0.5473	0.0063	0.82	0.5791	0.0053	0.68	OE
EF6YBV		0.5283	-0.0127	-1.67	0.5577	-0.0161	-2.10	GD
EH8KLU	X	0.5660	0.0249	3.28	0.5927	0.0189	2.45	GD
EXX7XT		0.5343	-0.0067	-0.88	0.5703	-0.0035	-0.45	OE
F6DG2Z	*	0.5207	-0.0204	-2.68	0.5513	-0.0225	-2.93	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
F9B6CF		0.5410	-0.0001	-0.01	0.5743	0.0005	0.06	OE
FACEL7		0.5421	0.0010	0.13	0.5758	0.0020	0.26	OE
G9XAN9		0.5400	-0.0011	-0.14	0.5700	-0.0038	-0.50	OE
GRHRDE		0.5382	-0.0029	-0.38	0.5704	-0.0034	-0.44	OE
GTX42B		0.5377	-0.0034	-0.45	0.5677	-0.0061	-0.80	OE
GYN6BH		0.5406	-0.0005	-0.06	0.5755	0.0017	0.22	AE
H4DTH9		0.5445	0.0035	0.46	0.5746	0.0008	0.10	OE
HBCPDL		0.5490	0.0079	1.04	0.5813	0.0075	0.98	OE
HLDUJL		0.5333	-0.0077	-1.02	0.5650	-0.0088	-1.15	OE
HLGBJ6		0.5347	-0.0064	-0.84	0.5723	-0.0015	-0.19	OE
HX88GW		0.5560	0.0149	1.96	0.5877	0.0139	1.80	OE
J96EQM		0.5431	0.0020	0.27	0.5764	0.0026	0.34	OE
JLBXHA		0.5440	0.0029	0.39	0.5780	0.0042	0.54	OE
JN9LNH		0.5407	-0.0004	-0.05	0.5767	0.0029	0.37	OE
JNE2EJ		0.5394	-0.0017	-0.22	0.5701	-0.0037	-0.48	OE
JNFNKH		0.5430	0.0019	0.25	0.5760	0.0022	0.28	OE
KW34ND		0.5477	0.0066	0.87	0.5803	0.0065	0.85	OE
L2VX7R		0.5474	0.0063	0.83	0.5810	0.0072	0.94	OE
LLLGDQ		0.5413	0.0003	0.04	0.5793	0.0055	0.72	DR
M7K9Q9		0.5400	-0.0011	-0.14	0.5700	-0.0038	-0.50	OE
MWXAXH		0.5373	-0.0037	-0.49	0.5693	-0.0045	-0.58	GD
NJQPAJ		0.5433	0.0023	0.30	0.5752	0.0014	0.18	OE
NKHVF2		0.5494	0.0083	1.10	0.5831	0.0093	1.21	AE
NPA3YA		0.5383	-0.0027	-0.36	0.5720	-0.0018	-0.24	XX
NXAX4G		0.5417	0.0006	0.08	0.5759	0.0021	0.27	XX
P3XEZL		0.5230	-0.0180	-2.37	0.5565	-0.0173	-2.26	IC
PBRXHL		0.5390	-0.0021	-0.27	0.5710	-0.0028	-0.37	OE
PEAUQR		0.5433	0.0022	0.29	0.5711	-0.0027	-0.35	OE
PNFZ3Y		0.5420	0.0009	0.12	0.5740	0.0002	0.02	OE
PTC4WL		0.5413	0.0003	0.04	0.5753	0.0015	0.20	OE
PVEYHA	*	0.5330	-0.0081	-1.06	0.5573	-0.0165	-2.15	OE
PWTMJ2		0.5369	-0.0042	-0.55	0.5689	-0.0049	-0.64	OE
Q2YM8C	X	0.5130	-0.0281	-3.69	0.5577	-0.0161	-2.10	OE
Q7B23B		0.5410	-0.0001	-0.01	0.5753	0.0015	0.20	OE
QELXV3		0.5412	0.0001	0.01	0.5762	0.0024	0.31	OE
R6EZH6		0.5350	-0.0061	-0.80	0.5690	-0.0048	-0.63	OE
R7BCLK		0.5323	-0.0087	-1.15	0.5610	-0.0128	-1.67	OE
R86Z6F		0.5387	-0.0024	-0.31	0.5727	-0.0011	-0.15	OE
RA8B4J		0.5447	0.0036	0.47	0.5800	0.0062	0.81	OE
RD88JH		0.5450	0.0039	0.52	0.5790	0.0052	0.68	OE
RFFGCF		0.5400	-0.0011	-0.14	0.5700	-0.0038	-0.50	OE
RJDRJ9		0.5297	-0.0114	-1.50	0.5610	-0.0128	-1.67	OE
RYM8DB		0.5463	0.0053	0.69	0.5803	0.0065	0.85	XX
TLDFFA		0.5370	-0.0041	-0.53	0.5753	0.0015	0.20	OE
TPKQJ6		0.5420	0.0009	0.12	0.5737	-0.0001	-0.02	OE
U9TBRE		0.5433	0.0023	0.30	0.5741	0.0003	0.04	OE
UHGLAF		0.5507	0.0096	1.26	0.5820	0.0082	1.07	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 171

Carbon & Low Alloy Steel, Element #2

MANGANESE (Mn)

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
UUNYDE		0.5494	0.0083	1.09	0.5845	0.0107	1.39	OE
VBAFNA		0.5286	-0.0124	-1.63	0.5601	-0.0137	-1.78	OE
VHBQ4E		0.5473	0.0063	0.82	0.5817	0.0079	1.02	OE
VP89BG	*	0.5393	-0.0017	-0.23	0.5630	-0.0108	-1.41	IC
VQKMW6	X	0.5147	-0.0264	-3.47	0.5437	-0.0301	-3.93	GD
VVUHGM		0.5363	-0.0047	-0.62	0.5693	-0.0045	-0.58	OE
VYTUE9	*	0.5200	-0.0211	-2.77	0.5567	-0.0171	-2.23	OE
W2JTA4		0.5423	0.0013	0.17	0.5770	0.0032	0.41	DR
WC3K33	X	0.2636	-0.2774	-36.46	0.3317	-0.2421	-31.52	OE
WPMYQE		0.5426	0.0015	0.20	0.5755	0.0017	0.22	OE
XRAAAY		0.5273	-0.0137	-1.80	0.5623	-0.0115	-1.50	OE
XWHY3L		0.5367	-0.0044	-0.58	0.5717	-0.0021	-0.28	OE
XXCGP3		0.5461	0.0050	0.66	0.5766	0.0028	0.37	OE
XZYLE7		0.5242	-0.0168	-2.21	0.5614	-0.0124	-1.62	OE
Y2B9GZ	X	0.5617	0.0206	2.71	0.6080	0.0342	4.45	OE
ZMP3Y6		0.5415	0.0004	0.05	0.5768	0.0030	0.39	OE
ZRXKXX		0.5346	-0.0065	-0.85	0.5674	-0.0064	-0.83	OE
ZTVAFE		0.5433	0.0023	0.30	0.5700	-0.0038	-0.50	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.5411	Percent	0.5738	Percent
Stnd Dev Btwn Labs	0.0076	Percent	0.0077	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 101 of 112 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #171

63XRVR (X) - Data for both samples are high. Possible Systematic Error.

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

CFMF6D (X) - Data for both samples are high. Possible Systematic Error.

EH8KLU (X) - Data for sample L49 are high.

Q2YM8C (X) - Data for sample L49 are low.

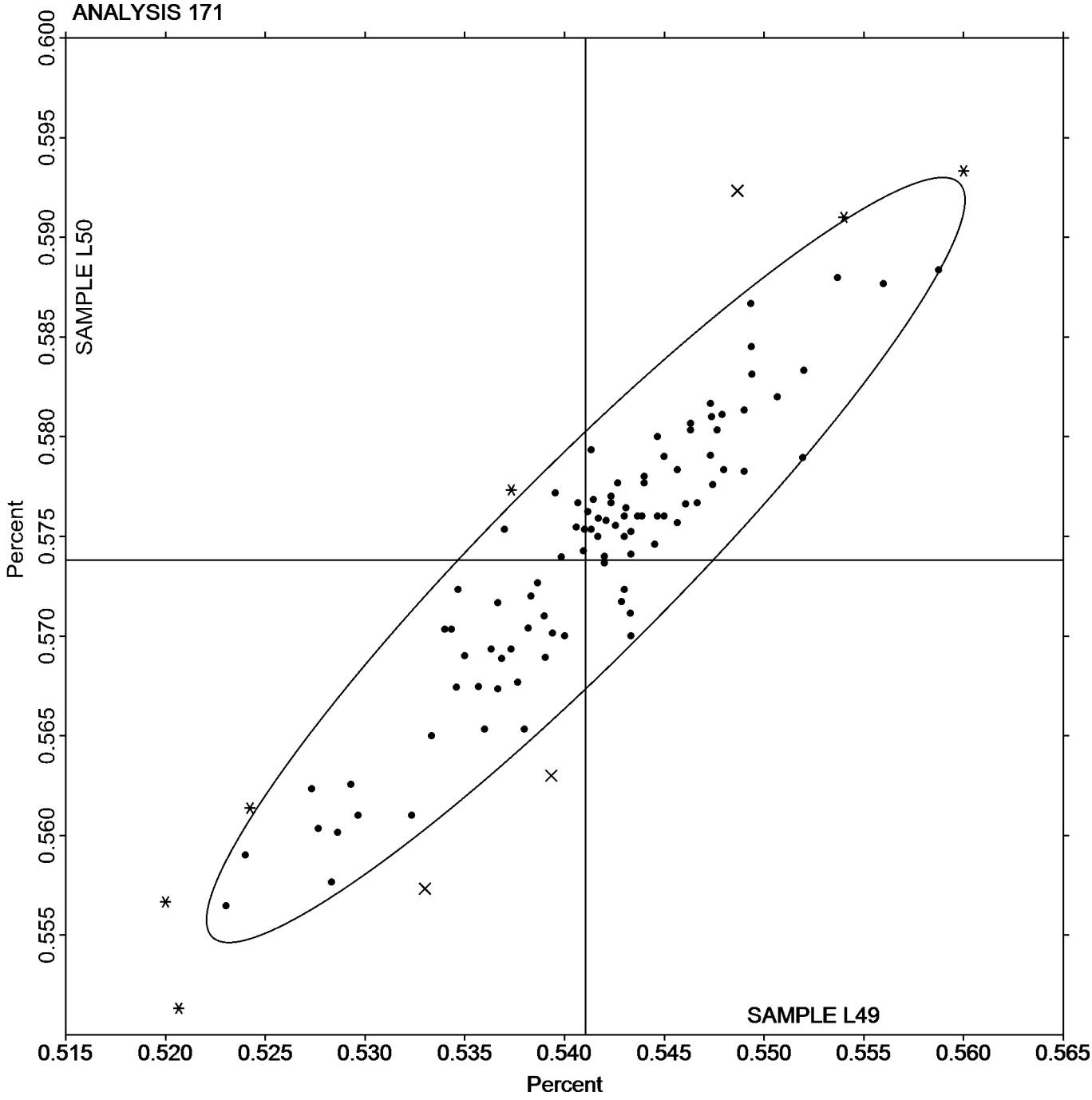
VQKMW6 (X) - Data for both samples are low. Possible Systematic Error.

WC3K33 (X) - Appears to have reported Silicon (Si) data in lieu of Manganese (Mn) data.

Y2B9GZ (X) - Data for sample L50 are high.

SAMPLE L49
0.5411 Percent

SAMPLE L50
0.5738 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ		0.00770	-0.00057	-0.47	0.00610	-0.00058	-0.46	GD
2B7B2Z		0.00847	0.00020	0.16	0.00702	0.00034	0.28	OE
2PPPRZ		0.00967	0.00139	1.15	0.00767	0.00099	0.79	OE
2UKZ2J		0.00903	0.00076	0.63	0.00773	0.00105	0.84	OE
2XK7JV		0.00667	-0.00161	-1.33	0.00467	-0.00201	-1.61	OE
3NUWML		0.00827	-0.00001	-0.01	0.00660	-0.00008	-0.06	OE
3YWH62		0.00820	-0.00007	-0.06	0.00650	-0.00018	-0.14	OE
4769PV		0.00737	-0.00091	-0.75	0.00573	-0.00095	-0.76	OE
47R2LM		0.00737	-0.00091	-0.75	0.00590	-0.00078	-0.62	OE
4H2NM8	X	0.0114	0.00316	2.61	0.0107	0.00405	3.24	OE
4UFJ4R		0.00667	-0.00161	-1.33	0.00510	-0.00158	-1.26	OE
638CX4		0.00823	-0.00004	-0.03	0.00660	-0.00008	-0.06	OE
63XRVR		0.0103	0.00206	1.70	0.00787	0.00119	0.95	XX
66ACVF		0.00680	-0.00147	-1.22	0.00603	-0.00065	-0.52	IC
69D9G4		0.00637	-0.00191	-1.57	0.00443	-0.00225	-1.80	XX
6N3NQM		0.00800	-0.00027	-0.23	0.00700	0.00032	0.26	OE
7DWW9Q		0.0100	0.00176	1.45	0.00867	0.00199	1.59	OE
7EU84U	M	0.00653	-0.00174	-1.44	No Data Reported			OE
83VML2		0.00877	0.00049	0.41	0.00630	-0.00038	-0.30	OE
8B6QGJ		0.0107	0.00239	1.98	0.00967	0.00299	2.39	GD
8NDAEE	X	0.00470	-0.00357	-2.95	0.00767	0.00099	0.79	OE
9CEH2T		0.00853	0.00026	0.21	0.00740	0.00072	0.58	IC
9FGJZ6		0.0100	0.00173	1.43	0.00800	0.00132	1.06	GD
9W4A9X		0.00727	-0.00101	-0.83	0.00527	-0.00141	-1.13	OE
AA8V92		0.0102	0.00193	1.59	0.00967	0.00299	2.39	AE
AJDCPT		0.0108	0.00249	2.06	0.00957	0.00289	2.31	OE
AUVGTP		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	OE
B6TEYH		0.00741	-0.00087	-0.72	0.00531	-0.00137	-1.09	OE
BPCHJM		0.00747	-0.00081	-0.67	0.00633	-0.00035	-0.28	OE
BWDQ83		0.00767	-0.00061	-0.50	0.00613	-0.00055	-0.44	OE
C7ZFCL		0.00793	-0.00034	-0.28	0.00637	-0.00031	-0.25	WD
CALB3L		0.00867	0.00040	0.33	0.00695	0.00027	0.22	OE
CAW36A		0.00790	-0.00037	-0.31	0.00657	-0.00011	-0.09	OE
CCQNZM		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	XX
CFKD8Z		0.00968	0.00141	1.16	0.00803	0.00135	1.08	OE
CFMF6D		0.00957	0.00129	1.07	0.00767	0.00099	0.79	OE
CJTVN3		0.00961	0.00134	1.11	0.00754	0.00086	0.69	OE
CN2CYC		0.00523	-0.00304	-2.51	0.00367	-0.00301	-2.41	OE
DTTVNM		0.00690	-0.00137	-1.13	0.00537	-0.00131	-1.05	IC
DZ9YTN		0.00883	0.00056	0.46	0.00719	0.00051	0.41	OE
EBLB6P		0.00733	-0.00094	-0.78	0.00557	-0.00111	-0.89	OE
EF6YBV		0.0101	0.00186	1.54	0.00903	0.00235	1.88	GD
EH8KLU		0.0113	0.00306	2.53	0.00933	0.00265	2.12	GD
EXX7XT		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	OE
F6DG2Z		0.00870	0.00043	0.35	0.00683	0.00015	0.12	OE
F9B6CF	*	0.00853	0.00026	0.21	0.00817	0.00149	1.19	OE
FACEL7		0.00770	-0.00057	-0.47	0.00634	-0.00034	-0.27	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
G9XAN9		0.00647	-0.00181	-1.49	0.00537	-0.00131	-1.05	OE
GRHRDE	*	0.00463	-0.00364	-3.00	0.00320	-0.00348	-2.78	OE
GTX42B		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	OE
GYN6BH		0.00830	0.00003	0.02	0.00647	-0.00021	-0.17	AE
H4DTH9		0.00770	-0.00057	-0.47	0.00623	-0.00045	-0.36	OE
HBCPDL		0.00890	0.00063	0.52	0.00667	-0.00001	-0.01	OE
HLDUJL		0.00900	0.00073	0.60	0.00700	0.00032	0.26	OE
HLGBJ6		0.00898	0.00071	0.59	0.00704	0.00036	0.29	OE
HX88GW		0.00800	-0.00027	-0.23	0.00700	0.00032	0.26	OE
J96EQM		0.00968	0.00140	1.16	0.00790	0.00122	0.98	OE
JLBXHA		0.00700	-0.00127	-1.05	0.00600	-0.00068	-0.54	OE
JN9LNH		0.00967	0.00139	1.15	0.00833	0.00165	1.32	XX
JNE2EJ		0.00802	-0.00026	-0.21	0.00682	0.00014	0.11	OE
JNFNKH		0.00860	0.00033	0.27	0.00747	0.00079	0.63	OE
KW34ND		0.00777	-0.00051	-0.42	0.00623	-0.00045	-0.36	OE
L2VX7R		0.00710	-0.00117	-0.97	0.00550	-0.00118	-0.94	OE
M7K9Q9		0.00700	-0.00127	-1.05	0.00600	-0.00068	-0.54	OE
MWXAXH		0.0100	0.00173	1.43	0.00833	0.00165	1.32	GD
NJQPAJ		0.00833	0.00006	0.05	0.00680	0.00012	0.10	OE
NKHVF2		0.0108	0.00249	2.06	0.00833	0.00165	1.32	AE
NPA3YA		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	XX
NXAX4G		0.00843	0.00016	0.13	0.00693	0.00025	0.20	XX
P3XEZL		0.00707	-0.00121	-1.00	0.00573	-0.00095	-0.76	IC
PBRXHL		0.00757	-0.00071	-0.58	0.00577	-0.00091	-0.73	OE
PEAUQR		0.00833	0.00006	0.05	0.00657	-0.00011	-0.09	OE
PNFZ3Y		0.00737	-0.00091	-0.75	0.00553	-0.00115	-0.92	OE
PTC4WL		0.00770	-0.00057	-0.47	0.00600	-0.00068	-0.54	OE
PVEYHA		0.00703	-0.00124	-1.02	0.00633	-0.00035	-0.28	OE
PWTMJ2		0.00727	-0.00101	-0.83	0.00577	-0.00091	-0.73	OE
Q2YM8C	M	0.00723	-0.00104	-0.86	No Data Reported			OE
Q7B23B		0.00800	-0.00027	-0.23	0.00600	-0.00068	-0.54	OE
QELXV3		0.00870	0.00043	0.35	0.00713	0.00045	0.36	OE
R6EZH6		0.00900	0.00073	0.60	0.00800	0.00132	1.06	OE
R7BCLK		0.00967	0.00139	1.15	0.00853	0.00185	1.48	OE
R86Z6F		0.00813	-0.00014	-0.12	0.00667	-0.00001	-0.01	OE
RA8B4J		0.00820	-0.00007	-0.06	0.00630	-0.00038	-0.30	OE
RD88JH	*	0.00817	-0.00011	-0.09	0.00493	-0.00175	-1.40	OE
RFFGCF		0.00767	-0.00061	-0.50	0.00593	-0.00075	-0.60	OE
RJDRJ9		0.00680	-0.00147	-1.22	0.00527	-0.00141	-1.13	OE
RYM8DB		0.00597	-0.00231	-1.90	0.00453	-0.00215	-1.72	OE
TLDFFA		0.00867	0.00039	0.32	0.00633	-0.00035	-0.28	OE
TPKQJ6		0.00843	0.00016	0.13	0.00657	-0.00011	-0.09	OE
U9TBRE		0.00903	0.00076	0.63	0.00737	0.00069	0.55	OE
UHGLAF		0.00833	0.00006	0.05	0.00800	0.00132	1.06	OE
UUNYDE		0.00730	-0.00097	-0.80	0.00543	-0.00125	-1.00	OE
VBAFNA		0.00737	-0.00091	-0.75	0.00570	-0.00098	-0.78	OE
VHBQ4E		0.00820	-0.00007	-0.06	0.00657	-0.00011	-0.09	OE

WebCode	Data Flag	Sample L49 Lab Mean	Sample L49 Diff. from Grand Mean	Sample L49 CPV	Sample L50 Lab Mean	Sample L50 Diff. from Grand Mean	Sample L50 CPV	Method
VP89BG		0.00900	0.00073	0.60	0.00733	0.00065	0.52	IC
VQKMW6		0.00867	0.00039	0.32	0.00800	0.00132	1.06	GD
VVUHGM		0.00767	-0.00061	-0.50	0.00500	-0.00168	-1.34	OE
VYTUE9	*	0.0117	0.00339	2.80	0.0102	0.00355	2.84	OE
W2JTA4	X	0.00900	0.00073	0.60	0.00533	-0.00135	-1.08	DR
WC3K33		0.00837	0.00009	0.08	0.00650	-0.00018	-0.14	OE
WPMYQE		0.00853	0.00026	0.21	0.00683	0.00015	0.12	OE
XRAAAY		0.00953	0.00126	1.04	0.00753	0.00085	0.68	OE
XWHY3L		0.00840	0.00013	0.10	0.00717	0.00049	0.39	OE
XXCGP3		0.00910	0.00083	0.68	0.00673	0.00005	0.04	OE
XZYLE7		0.00810	-0.00017	-0.14	0.00670	0.00002	0.02	OE
Y2B9GZ		0.00767	-0.00061	-0.50	0.00600	-0.00068	-0.54	OE
ZMP3Y6		0.00780	-0.00047	-0.39	0.00613	-0.00055	-0.44	OE
ZRXKXX		0.00683	-0.00144	-1.19	0.00517	-0.00151	-1.21	OE
ZTVAFE		0.00867	0.00039	0.32	0.00700	0.00032	0.26	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.00827	Percent	0.00668	Percent
Stnd Dev Btwn Labs	0.00121	Percent	0.00125	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 103 of 109 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #172

4H2NM8 (X) - Data for sample L50 are high. Inconsistent within the determinations of sample L50.

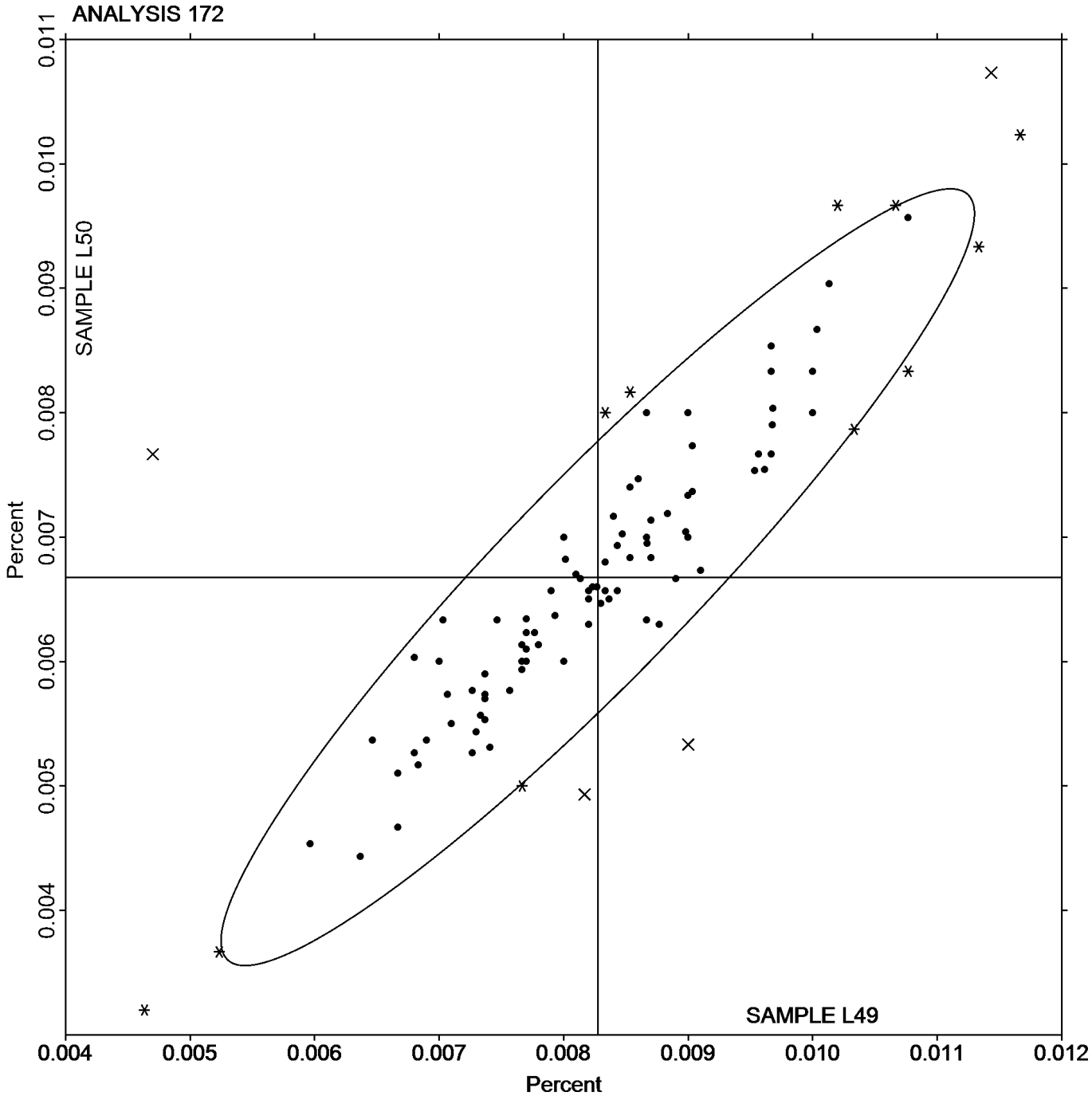
7EU84U (M) - Participant did not submit data for sample L50.

8NDAEE (X) - Data for sample L49 are low. Inconsistent within the determinations of sample L50.

Q2YM8C (M) - Participant did not submit data for sample L50.

W2JTA4 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L49.

SAMPLE L49	SAMPLE L50
0.00827 Percent	0.00668 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ		0.0188	0.0004	0.30	0.0246	0.0002	0.16	GD
2B7B2Z		0.0172	-0.0012	-0.80	0.0222	-0.0022	-1.47	OE
2PPPRZ		0.0187	0.0003	0.21	0.0233	-0.0010	-0.68	OE
2UKZ2J		0.0186	0.0003	0.19	0.0242	-0.0001	-0.08	OE
2XK7JV		0.0197	0.0013	0.90	0.0243	0.0000	-0.02	CO
3NUWML		0.0193	0.0010	0.67	0.0249	0.0005	0.36	CI
3YWH62	*	0.0141	-0.0043	-2.93	0.0216	-0.0028	-1.84	OE
4769PV		0.0190	0.0006	0.44	0.0257	0.0013	0.87	CI
47R2LM		0.0180	-0.0004	-0.27	0.0232	-0.0011	-0.75	OE
4H2NM8	X	0.0133	-0.0051	-3.51	0.0178	-0.0066	-4.40	OE
4UFJ4R		0.0178	-0.0005	-0.36	0.0239	-0.0005	-0.31	CI
63XRVR	X	0.0129	-0.0054	-3.74	0.0181	-0.0063	-4.20	OE
66ACVF		0.0170	-0.0013	-0.91	0.0233	-0.0010	-0.68	CI
69D9G4		0.0191	0.0007	0.49	0.0240	-0.0004	-0.26	XX
6N3NQM		0.0190	0.0006	0.44	0.0247	0.0003	0.21	OE
7DWW9Q		0.0185	0.0001	0.07	0.0244	0.0001	0.05	OE
7EU84U		0.0155	-0.0028	-1.95	0.0240	-0.0004	-0.26	OE
83VML2		0.0205	0.0021	1.45	0.0259	0.0016	1.05	OE
8B6QGJ		0.0193	0.0010	0.67	0.0243	0.0000	-0.02	GD
8NDAEE		0.0163	-0.0020	-1.40	0.0249	0.0006	0.38	OE
9CEH2T		0.0173	-0.0011	-0.73	0.0242	-0.0002	-0.11	CO
9FGJZ6		0.0190	0.0006	0.44	0.0270	0.0026	1.76	GD
9W4A9X		0.0176	-0.0008	-0.52	0.0235	-0.0009	-0.60	OE
AA8V92	*	0.0188	0.0004	0.28	0.0281	0.0037	2.47	AE
AUVGTP		0.0173	-0.0010	-0.71	0.0243	0.0000	-0.02	CO
B34376		0.0196	0.0012	0.83	0.0256	0.0012	0.83	CI
B6TEYH		0.0188	0.0004	0.27	0.0225	-0.0019	-1.25	OE
BPCHJM		0.0171	-0.0012	-0.85	0.0221	-0.0022	-1.49	OE
BWDQ83		0.0185	0.0002	0.12	0.0240	-0.0004	-0.26	OE
C7ZFCL		0.0180	-0.0004	-0.25	0.0241	-0.0003	-0.17	CI
CALB3L		0.0181	-0.0003	-0.18	0.0241	-0.0003	-0.20	CI
CAW36A		0.0176	-0.0007	-0.50	0.0240	-0.0004	-0.26	CI
CCQNZM		0.0177	-0.0007	-0.48	0.0230	-0.0014	-0.91	XX
CFKD8Z		0.0189	0.0005	0.36	0.0247	0.0003	0.21	OE
CFMF6D	X	0.0233	0.0049	3.40	0.0306	0.0063	4.19	OE
CJTVN3		0.0179	-0.0005	-0.31	0.0218	-0.0025	-1.69	OE
CN2CYC		0.0146	-0.0038	-2.59	0.0219	-0.0025	-1.66	OE
DTTVNM		0.0183	0.0000	-0.02	0.0254	0.0010	0.67	CI
DZ9YTN		0.0188	0.0004	0.28	0.0250	0.0007	0.45	OE
EBLB6P		0.0194	0.0011	0.74	0.0252	0.0009	0.58	OE
EF6YBV		0.0196	0.0012	0.83	0.0252	0.0008	0.54	GD
EH8KLU		0.0207	0.0023	1.59	0.0260	0.0016	1.10	GD
EXX7XT		0.0190	0.0006	0.44	0.0233	-0.0010	-0.68	OE
F6DG2Z		0.0166	-0.0018	-1.24	0.0225	-0.0018	-1.22	CI
F9B6CF		0.0186	0.0003	0.19	0.0263	0.0019	1.27	OE
FACEL7		0.0173	-0.0011	-0.77	0.0235	-0.0009	-0.58	OE
G9XAN9		0.0163	-0.0020	-1.40	0.0223	-0.0020	-1.35	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
GRHRDE		0.0188	0.0005	0.32	0.0236	-0.0008	-0.51	OE
GTX42B		0.0193	0.0010	0.67	0.0250	0.0006	0.43	OE
GYN6BH		0.0195	0.0011	0.76	0.0265	0.0021	1.41	CO
H4DTH9		0.0168	-0.0016	-1.10	0.0236	-0.0007	-0.48	OE
HBCPDL		0.0176	-0.0008	-0.55	0.0236	-0.0007	-0.48	OE
HLDUJL		0.0177	-0.0007	-0.48	0.0263	0.0020	1.32	OE
HLGBJ6		0.0170	-0.0014	-0.96	0.0251	0.0007	0.47	OE
HX88GW		0.0167	-0.0017	-1.17	0.0230	-0.0014	-0.91	OE
J96EQM		0.0200	0.0017	1.14	0.0251	0.0007	0.48	OE
JLBXHA		0.0190	0.0006	0.44	0.0257	0.0013	0.87	OE
JN9LNH		0.0193	0.0010	0.67	0.0273	0.0030	1.99	XX
JNE2EJ		0.0191	0.0007	0.51	0.0255	0.0011	0.76	OE
JNFNKH		0.0173	-0.0010	-0.71	0.0250	0.0007	0.45	OE
KW34ND		0.0212	0.0029	1.98	0.0264	0.0021	1.38	OE
L2VX7R		0.0169	-0.0015	-1.01	0.0228	-0.0016	-1.04	CI
LLLGDQ		0.0160	-0.0024	-1.63	0.0220	-0.0024	-1.57	DR
M7K9Q9		0.0203	0.0020	1.36	0.0230	-0.0014	-0.91	OE
MWXAXH		0.0213	0.0030	2.05	0.0280	0.0036	2.43	GD
NJQPAJ		0.0180	-0.0004	-0.27	0.0234	-0.0009	-0.62	OE
NKHVF2		0.0193	0.0009	0.62	0.0255	0.0011	0.74	CI
NPA3YA		0.0200	0.0016	1.13	0.0253	0.0010	0.65	XX
NXAX4G		0.0216	0.0033	2.25	0.0279	0.0036	2.39	XX
P3XEZL		0.0173	-0.0010	-0.71	0.0243	0.0000	-0.02	XX
PBRXHL		0.0171	-0.0012	-0.85	0.0227	-0.0017	-1.11	OE
PEAUQR		0.0187	0.0004	0.26	0.0251	0.0008	0.52	OE
PNFZ3Y		0.0181	-0.0003	-0.18	0.0245	0.0002	0.12	OE
PTC4WL		0.0187	0.0003	0.21	0.0243	-0.0001	-0.06	OE
PVEYHA	X	0.0137	-0.0047	-3.23	0.0187	-0.0057	-3.80	OE
PWTMJ2		0.0200	0.0017	1.15	0.0258	0.0015	0.98	OE
Q2YM8C	X	0.0175	-0.0009	-0.62	0.0120	-0.0124	-8.25	OE
Q7B23B		0.0183	0.0000	-0.02	0.0227	-0.0017	-1.13	CO
QELXV3		0.0196	0.0012	0.85	0.0274	0.0030	2.03	OE
R6EZH6		0.0197	0.0013	0.90	0.0260	0.0016	1.10	CI
R7BCLK		0.0198	0.0014	0.97	0.0241	-0.0002	-0.15	OE
R86Z6F		0.0198	0.0014	0.97	0.0257	0.0013	0.89	OE
RA8B4J		0.0186	0.0002	0.16	0.0238	-0.0006	-0.37	OE
RD88JH		0.0177	-0.0007	-0.48	0.0236	-0.0008	-0.53	CO
RFFGCF		0.0166	-0.0018	-1.21	0.0231	-0.0012	-0.82	OE
RJDRJ9		0.0167	-0.0016	-1.12	0.0230	-0.0014	-0.91	OE
RYM8DB		0.0161	-0.0023	-1.56	0.0208	-0.0035	-2.35	OE
TLDFFA		0.0177	-0.0007	-0.48	0.0237	-0.0007	-0.46	OE
TPKQJ6		0.0211	0.0028	1.91	0.0258	0.0015	0.98	OE
U9TBRE		0.0195	0.0011	0.76	0.0238	-0.0006	-0.40	OE
UHGLAF		0.0183	0.0000	-0.02	0.0243	0.0000	-0.02	OE
UUNYDE		0.0201	0.0017	1.20	0.0274	0.0030	2.01	OE
VBAFNA		0.0184	0.0001	0.05	0.0251	0.0007	0.49	OE
VHBQ4E		0.0189	0.0005	0.35	0.0247	0.0003	0.21	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VP89BG		0.0200	0.0016	1.13	0.0280	0.0036	2.43	CI
VQKMW6		0.0167	-0.0017	-1.17	0.0230	-0.0014	-0.91	GD
VVUHGM		0.0163	-0.0020	-1.40	0.0237	-0.0007	-0.46	OE
VYTUE9	*	0.0227	0.0043	2.96	0.0273	0.0030	1.99	OE
W2JTA4		0.0183	0.0000	-0.02	0.0237	-0.0007	-0.46	DR
WC3K33		0.0173	-0.0010	-0.71	0.0241	-0.0002	-0.15	OE
WPMYQE		0.0187	0.0004	0.26	0.0232	-0.0012	-0.77	OE
XRAAAY		0.0180	-0.0004	-0.27	0.0239	-0.0004	-0.28	OE
XWHY3L		0.0180	-0.0004	-0.25	0.0233	-0.0010	-0.68	OE
XXCGP3		0.0176	-0.0008	-0.55	0.0234	-0.0010	-0.66	OE
XZYLE7		0.0171	-0.0012	-0.85	0.0224	-0.0019	-1.29	OE
Y2B9GZ		0.0187	0.0003	0.21	0.0243	0.0000	-0.02	OE
ZMP3Y6		0.0173	-0.0010	-0.71	0.0246	0.0002	0.16	OE
ZRXKXX		0.0176	-0.0008	-0.52	0.0232	-0.0012	-0.77	OE
ZTVAFE	X	0.0200	0.0016	1.13	0.0200	-0.0044	-2.91	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.0184	Percent	0.0244	Percent
Stnd Dev Btwn Labs	0.0015	Percent	0.0015	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 102 of 109 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #173

4H2NM8 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L50.

63XRVR (X) - Data for both samples are low. Possible Systematic Error.

CFMF6D (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample L50.

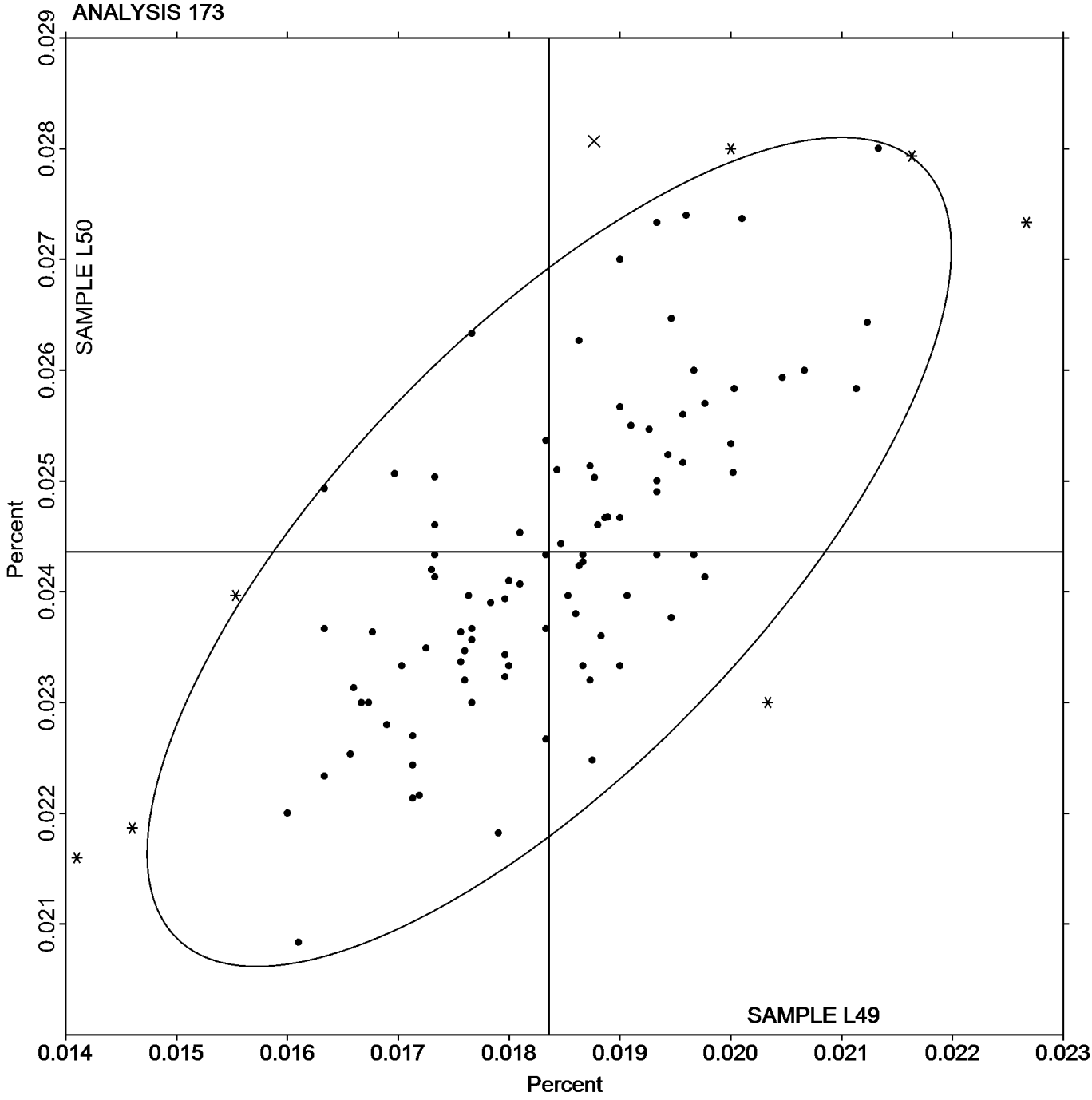
PVEYHA (X) - Data for both samples are low. Possible Systematic Error.

Q2YM8C (X) - Data for sample L50 are very low. Inconsistent within the determinations of sample L49.

ZTVAFE (X) - Data for sample L50 are low.

SAMPLE L49
0.0184 Percent

SAMPLE L50
0.0244 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ		0.2430	-0.0157	-2.43	0.3023	-0.0215	-2.59	GD
2B7B2Z		0.2630	0.0043	0.66	0.3246	0.0007	0.08	OE
2PPPRZ		0.2497	-0.0091	-1.40	0.3207	-0.0032	-0.39	OE
2UKZ2J		0.2653	0.0066	1.02	0.3283	0.0045	0.54	OE
2XK7JV		0.2600	0.0013	0.20	0.3267	0.0028	0.34	OE
3NUWML		0.2630	0.0043	0.66	0.3280	0.0041	0.50	OE
3YWH62		0.2590	0.0003	0.04	0.3205	-0.0034	-0.41	OE
46BKAL		0.2656	0.0069	1.07	0.3243	0.0004	0.05	WD
4769PV		0.2557	-0.0031	-0.47	0.3193	-0.0045	-0.55	OE
47R2LM		0.2569	-0.0018	-0.28	0.3241	0.0002	0.03	OE
4H2NM8		0.2523	-0.0064	-1.00	0.3147	-0.0091	-1.10	OE
4UFJ4R		0.2548	-0.0039	-0.61	0.3156	-0.0083	-1.00	OE
638CX4		0.2650	0.0063	0.97	0.3303	0.0065	0.78	OE
63XRVR		0.2464	-0.0123	-1.91	0.3086	-0.0153	-1.84	OE
66ACVF		0.2540	-0.0047	-0.73	0.3238	-0.0001	-0.01	GR
69D9G4		0.2483	-0.0104	-1.61	0.3160	-0.0079	-0.95	AE
6N3NQM		0.2550	-0.0037	-0.58	0.3193	-0.0045	-0.55	OE
7DWW9Q		0.2720	0.0133	2.05	0.3440	0.0201	2.42	OE
7EU84U	X	0.2567	-0.0021	-0.32	0.2913	-0.0325	-3.91	OE
83VML2		0.2653	0.0066	1.02	0.3247	0.0008	0.10	OE
8B6QGJ		0.2490	-0.0097	-1.51	0.3167	-0.0072	-0.87	GD
8NDAEE		0.2503	-0.0084	-1.30	0.3133	-0.0105	-1.27	OE
9CEH2T		0.2617	0.0029	0.45	0.3187	-0.0052	-0.63	IC
9FGJZ6		0.2590	0.0003	0.04	0.3250	0.0011	0.14	GD
9W4A9X		0.2677	0.0089	1.38	0.3390	0.0151	1.82	OE
AA8V92		0.2540	-0.0047	-0.73	0.3157	-0.0082	-0.99	AE
AJDCPT		0.2580	-0.0007	-0.11	0.3200	-0.0039	-0.47	OE
AUVGTP		0.2620	0.0033	0.51	0.3283	0.0045	0.54	OE
B6TEYH		0.2632	0.0045	0.69	0.3244	0.0005	0.07	OE
BPCHJM	*	0.2460	-0.0127	-1.97	0.3020	-0.0219	-2.63	OE
BWDQ83		0.2627	0.0040	0.61	0.3346	0.0107	1.29	OE
C7ZFCL		0.2595	0.0008	0.12	0.3277	0.0038	0.46	WD
CALB3L		0.2637	0.0049	0.76	0.3271	0.0033	0.39	OE
CAW36A		0.2653	0.0066	1.02	0.3367	0.0128	1.54	OE
CCQNZM		0.2590	0.0003	0.04	0.3240	0.0001	0.02	XX
CFKD8Z		0.2555	-0.0033	-0.51	0.3189	-0.0050	-0.60	OE
CFMF6D		0.2586	-0.0001	-0.02	0.3272	0.0034	0.40	OE
CJTVN3		0.2617	0.0029	0.46	0.3288	0.0049	0.59	OE
CN2CYC		0.2680	0.0093	1.43	0.3347	0.0108	1.30	OE
DTTVNM		0.2573	-0.0014	-0.22	0.3183	-0.0055	-0.67	IC
DZ9YTN		0.2543	-0.0045	-0.69	0.3242	0.0003	0.03	OE
EBLB6P		0.2499	-0.0088	-1.37	0.3124	-0.0114	-1.37	OE
EF6YBV		0.2570	-0.0017	-0.27	0.3290	0.0051	0.62	GD
EH8KLU		0.2487	-0.0101	-1.56	0.3117	-0.0122	-1.47	GD
EXX7XT		0.2530	-0.0057	-0.89	0.3170	-0.0069	-0.83	OE
F6DG2Z	X	0.2810	0.0223	3.45	0.3610	0.0371	4.46	OE
F9B6CF		0.2587	0.0000	0.00	0.3283	0.0044	0.53	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
FACEL7		0.2551	-0.0037	-0.57	0.3130	-0.0109	-1.30	OE
G9XAN9		0.2563	-0.0024	-0.37	0.3277	0.0038	0.46	OE
GRHRDE		0.2682	0.0094	1.46	0.3343	0.0104	1.25	OE
GTX42B		0.2610	0.0023	0.35	0.3227	-0.0012	-0.14	OE
GYN6BH		0.2540	-0.0047	-0.73	0.3220	-0.0019	-0.22	AE
H4DTH9		0.2576	-0.0011	-0.17	0.3198	-0.0040	-0.49	OE
HBCPDL		0.2650	0.0063	0.97	0.3303	0.0065	0.78	OE
HLDUJL		0.2587	-0.0001	-0.01	0.3257	0.0018	0.22	OE
HLGBJ6		0.2600	0.0013	0.20	0.3297	0.0058	0.70	OE
HX88GW		0.2633	0.0046	0.71	0.3297	0.0058	0.70	OE
J96EQM		0.2690	0.0103	1.59	0.3394	0.0156	1.87	OE
JLBXHA		0.2623	0.0036	0.56	0.3270	0.0031	0.38	OE
JN9LNH		0.2613	0.0026	0.40	0.3283	0.0045	0.54	XX
JNE2EJ	*	0.2587	-0.0001	-0.01	0.3121	-0.0118	-1.42	OE
JNFNKH		0.2607	0.0019	0.30	0.3233	-0.0005	-0.06	OE
KW34ND		0.2580	-0.0007	-0.11	0.3213	-0.0025	-0.31	OE
L2VX7R		0.2608	0.0021	0.32	0.3253	0.0014	0.17	OE
LLLGDQ		0.2553	-0.0034	-0.53	0.3193	-0.0045	-0.55	DR
M7K9Q9		0.2653	0.0066	1.02	0.3313	0.0075	0.90	XX
MWXAXH		0.2530	-0.0057	-0.89	0.3140	-0.0099	-1.19	GD
NJQPAJ		0.2689	0.0101	1.57	0.3343	0.0104	1.25	OE
NKHVF2		0.2547	-0.0040	-0.62	0.3182	-0.0057	-0.68	AE
NPA3YA		0.2683	0.0096	1.49	0.3367	0.0128	1.54	XX
NXAX4G		0.2631	0.0043	0.67	0.3306	0.0067	0.81	XX
P3XEZL		0.2559	-0.0028	-0.43	0.3220	-0.0019	-0.22	IC
PBRXHL		0.2583	-0.0004	-0.06	0.3253	0.0015	0.18	OE
PEAUQR		0.2605	0.0017	0.27	0.3242	0.0004	0.04	OE
PNFZ3Y		0.2557	-0.0031	-0.47	0.3177	-0.0062	-0.75	OE
PTC4WL		0.2527	-0.0061	-0.94	0.3160	-0.0079	-0.95	OE
PVEYHA	*	0.2397	-0.0191	-2.95	0.3013	-0.0225	-2.71	OE
PWTMJ2		0.2671	0.0083	1.29	0.3346	0.0107	1.29	OE
Q2YM8C		0.2483	-0.0104	-1.61	0.3113	-0.0125	-1.51	OE
Q7B23B		0.2583	-0.0004	-0.06	0.3243	0.0005	0.06	OE
QELXV3		0.2584	-0.0003	-0.05	0.3253	0.0015	0.18	OE
R6EZH6		0.2657	0.0069	1.07	0.3297	0.0058	0.70	OE
R7BCLK		0.2707	0.0119	1.85	0.3417	0.0178	2.14	OE
R86Z6F		0.2617	0.0029	0.45	0.3303	0.0065	0.78	OE
RA8B4J		0.2577	-0.0011	-0.16	0.3230	-0.0009	-0.10	OE
RD88JH		0.2563	-0.0024	-0.37	0.3190	-0.0049	-0.59	OE
RFFGCF		0.2500	-0.0087	-1.35	0.3167	-0.0072	-0.87	OE
RJDRJ9		0.2720	0.0133	2.05	0.3363	0.0125	1.50	OE
RYM8DB		0.2540	-0.0047	-0.73	0.3163	-0.0075	-0.91	OE
TLDFFA		0.2520	-0.0067	-1.04	0.3103	-0.0135	-1.63	OE
TPKQJ6		0.2537	-0.0051	-0.78	0.3143	-0.0095	-1.15	OE
U9TBRE		0.2627	0.0039	0.61	0.3280	0.0041	0.50	OE
UHGLAF		0.2540	-0.0047	-0.73	0.3197	-0.0042	-0.51	OE
UUNYDE		0.2638	0.0051	0.78	0.3253	0.0014	0.17	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 174

Carbon & Low Alloy Steel, Element #5
SILICON (Si)

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VBAFNA		0.2654	0.0067	1.04	0.3357	0.0118	1.42	OE
VHBQ4E		0.2637	0.0049	0.76	0.3303	0.0065	0.78	OE
VP89BG	X	0.2420	-0.0167	-2.59	0.3117	-0.0122	-1.47	IC
VQKMW6	*	0.2617	0.0029	0.45	0.3137	-0.0102	-1.23	GD
VVUHGM		0.2537	-0.0051	-0.78	0.3207	-0.0032	-0.39	OE
VYTUE9		0.2560	-0.0027	-0.42	0.3230	-0.0009	-0.10	OE
W2JTA4		0.2627	0.0039	0.61	0.3233	-0.0005	-0.06	DR
WC3K33		0.2636	0.0049	0.76	0.3317	0.0079	0.94	OE
WPMYQE		0.2607	0.0020	0.31	0.3239	0.0001	0.01	OE
XRAAAY		0.2660	0.0073	1.12	0.3287	0.0048	0.58	OE
XWHY3L		0.2603	0.0016	0.25	0.3250	0.0011	0.14	OE
XXCGP3		0.2564	-0.0024	-0.37	0.3210	-0.0028	-0.34	OE
XZYLE7		0.2446	-0.0141	-2.18	0.3084	-0.0154	-1.86	OE
Y2B9GZ		0.2603	0.0016	0.25	0.3323	0.0085	1.02	XX
ZMP3Y6		0.2566	-0.0021	-0.33	0.3261	0.0022	0.27	OE
ZRXKXX		0.2583	-0.0005	-0.07	0.3241	0.0002	0.03	OE
ZTVAFE		0.2700	0.0113	1.74	0.3400	0.0161	1.94	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.2587	Percent	0.3239	Percent
Stnd Dev Btwn Labs	0.0065	Percent	0.0083	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 106 of 111 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)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #174

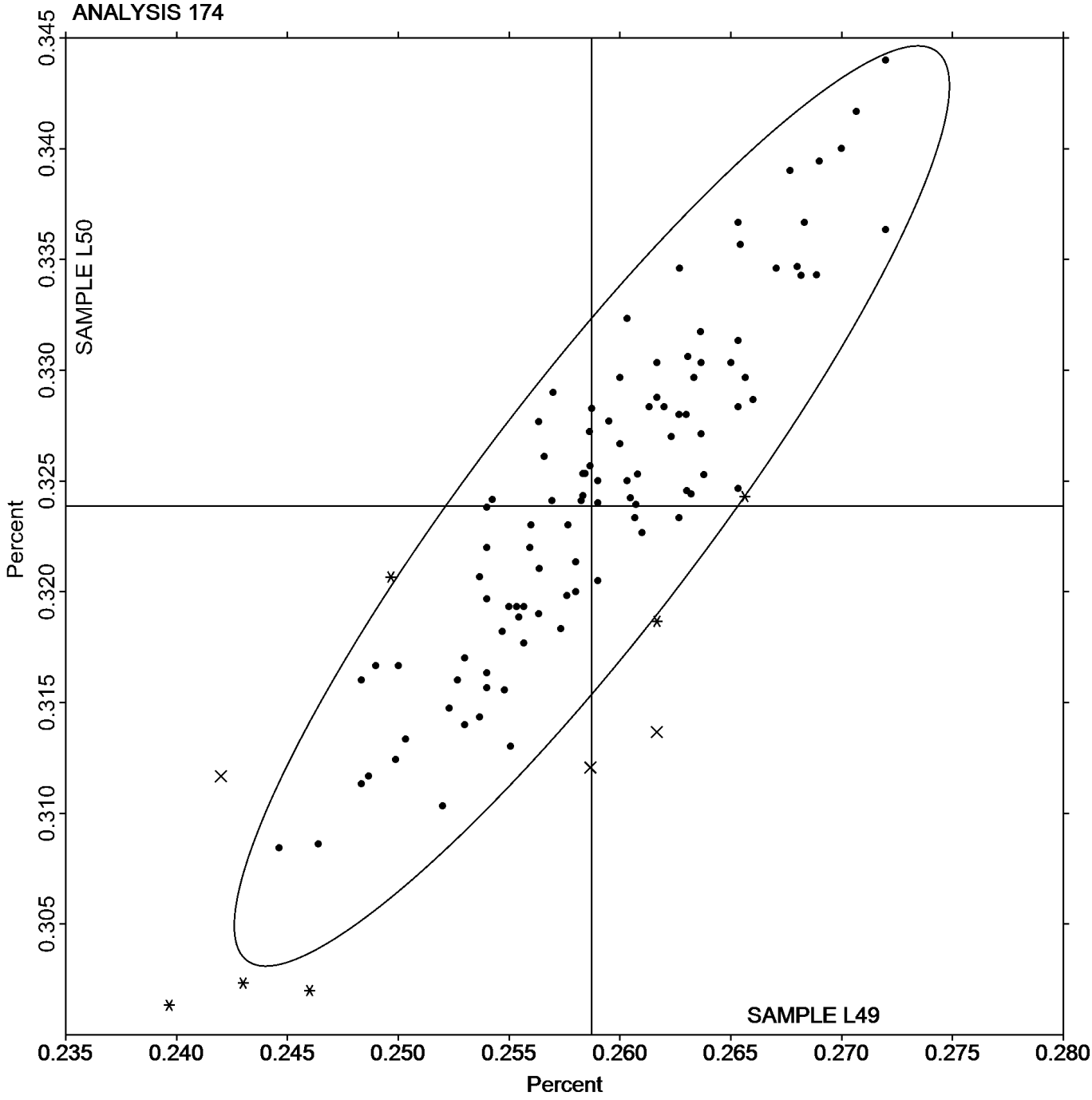
7EU84U (X) - Data for sample L50 are low.

F6DG2Z (X) - Data for both samples are high.

VP89BG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

SAMPLE L49
0.2587 Percent

SAMPLE L50
0.3239 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2B7B2Z		0.2807	-0.0031	-0.42	0.1970	-0.0033	-0.63	OE
2PPPRZ		0.2767	-0.0071	-0.96	0.2000	-0.0003	-0.05	OE
2UKZ2J		0.2927	0.0089	1.21	0.2050	0.0047	0.92	OE
2XK7JV		0.2837	-0.0001	-0.01	0.2003	0.0001	0.02	OE
3NUWML		0.2846	0.0009	0.12	0.1998	-0.0004	-0.08	OE
3YWH62		0.2926	0.0089	1.20	0.2034	0.0031	0.61	OE
46BKAL		0.2830	-0.0008	-0.11	0.2007	0.0004	0.09	WD
4769PV	*	0.2682	-0.0155	-2.11	0.1938	-0.0064	-1.24	OE
47R2LM		0.2864	0.0026	0.36	0.1981	-0.0022	-0.42	OE
4H2NM8		0.2734	-0.0104	-1.41	0.1906	-0.0097	-1.87	OE
4UFJ4R		0.2761	-0.0076	-1.04	0.1937	-0.0066	-1.27	OE
638CX4		0.2782	-0.0055	-0.75	0.1972	-0.0031	-0.60	OE
63XRVR	X	0.3100	0.0262	3.57	0.2268	0.0266	5.14	OE
66ACVF		0.2838	0.0000	0.00	0.1989	-0.0013	-0.25	IC
69D9G4		0.2780	-0.0057	-0.78	0.1960	-0.0043	-0.82	AE
6N3NQM		0.2690	-0.0147	-2.01	0.1943	-0.0059	-1.14	OE
7DWW9Q		0.2787	-0.0051	-0.69	0.2017	0.0014	0.27	OE
7EQKQL		0.2975	0.0138	1.87	0.2095	0.0092	1.79	IC
7EU84U		0.2850	0.0013	0.17	0.2063	0.0061	1.18	OE
83VML2		0.2800	-0.0037	-0.51	0.1933	-0.0069	-1.34	OE
8B6QGJ		0.2850	0.0013	0.17	0.1960	-0.0043	-0.82	GD
8NDAEE		0.2817	-0.0021	-0.28	0.1987	-0.0016	-0.31	OE
9CEH2T		0.2787	-0.0051	-0.69	0.1973	-0.0029	-0.56	IC
9FGJZ6	X	0.3070	0.0233	3.16	0.2020	0.0017	0.34	GD
9W4A9X		0.2927	0.0089	1.21	0.2103	0.0101	1.95	OE
AA8V92		0.2710	-0.0127	-1.73	0.1923	-0.0079	-1.53	AE
AJDCPT		0.2710	-0.0127	-1.73	0.1937	-0.0066	-1.27	OE
AUVGTP		0.2860	0.0023	0.31	0.2000	-0.0003	-0.05	OE
B6TEYH		0.2903	0.0066	0.90	0.2036	0.0033	0.64	OE
BPCHJM	*	0.2620	-0.0217	-2.96	0.1850	-0.0153	-2.95	OE
BWDQ83		0.2796	-0.0042	-0.57	0.1986	-0.0017	-0.32	OE
C7ZFCL		0.2892	0.0054	0.74	0.2015	0.0013	0.25	WD
CALB3L		0.2837	0.0000	0.00	0.1976	-0.0027	-0.52	OE
CAW36A		0.2919	0.0081	1.11	0.2068	0.0066	1.27	OE
CCQNZM		0.2733	-0.0104	-1.42	0.1967	-0.0036	-0.69	XX
CFKD8Z		0.2827	-0.0010	-0.14	0.1984	-0.0019	-0.37	OE
CFMF6D		0.2967	0.0129	1.76	0.2090	0.0088	1.70	OE
CJTVN3		0.2792	-0.0046	-0.62	0.1966	-0.0037	-0.72	OE
CN2CYC		0.2843	0.0006	0.08	0.2007	0.0004	0.08	OE
DTTVNM		0.2820	-0.0017	-0.24	0.1990	-0.0013	-0.24	IC
DZ9YTN		0.2851	0.0013	0.18	0.2006	0.0003	0.06	OE
EBLB6P		0.2918	0.0081	1.10	0.2035	0.0033	0.63	OE
EF6YBV		0.2757	-0.0081	-1.10	0.1923	-0.0079	-1.53	GD
EH8KLU		0.2750	-0.0087	-1.19	0.1927	-0.0076	-1.47	GD
EXX7XT		0.2840	0.0003	0.03	0.2007	0.0004	0.08	OE
F6DG2Z		0.2910	0.0073	0.99	0.2050	0.0047	0.92	OE
F9B6CF		0.2821	-0.0016	-0.22	0.1960	-0.0042	-0.82	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
FACEL7		0.2765	-0.0072	-0.98	0.1959	-0.0043	-0.84	OE
G9XAN9		0.2990	0.0153	2.08	0.2137	0.0134	2.59	OE
GRHRDE		0.2940	0.0102	1.39	0.2093	0.0090	1.75	OE
GTX42B		0.2793	-0.0044	-0.60	0.1963	-0.0039	-0.76	OE
GYN6BH		0.2834	-0.0003	-0.04	0.1996	-0.0007	-0.13	AE
H4DTH9		0.2823	-0.0014	-0.20	0.2010	0.0007	0.14	OE
HBCPDL		0.2727	-0.0111	-1.51	0.1923	-0.0079	-1.53	OE
HLDUJL		0.2877	0.0039	0.53	0.2037	0.0034	0.66	OE
HLGBJ6		0.2817	-0.0021	-0.28	0.2013	0.0011	0.21	OE
HX88GW		0.2663	-0.0174	-2.37	0.1920	-0.0083	-1.59	OE
J96EQM		0.2859	0.0022	0.29	0.1999	-0.0003	-0.06	OE
JLBXHA		0.2830	-0.0007	-0.10	0.1983	-0.0019	-0.37	OE
JN9LNH		0.2820	-0.0017	-0.24	0.1983	-0.0019	-0.37	XX
JNE2EJ		0.2829	-0.0008	-0.11	0.1996	-0.0007	-0.13	OE
JNFNKH		0.2840	0.0003	0.03	0.1993	-0.0009	-0.18	OE
KW34ND		0.2883	0.0046	0.62	0.2017	0.0014	0.27	OE
L2VX7R		0.2821	-0.0016	-0.22	0.2020	0.0018	0.34	OE
LLLGDQ		0.2913	0.0076	1.03	0.2067	0.0064	1.24	DR
M7K9Q9	X	0.2413	-0.0424	-5.77	0.1717	-0.0286	-5.52	XX
MWXAXH		0.2840	0.0003	0.03	0.1983	-0.0019	-0.37	GD
NJQPAJ		0.2874	0.0037	0.50	0.2033	0.0031	0.60	OE
NKHVF2		0.2867	0.0030	0.40	0.2038	0.0035	0.68	AE
NPA3YA		0.2987	0.0149	2.03	0.2053	0.0051	0.98	XX
NXAX4G		0.2924	0.0087	1.18	0.2072	0.0070	1.35	XX
P3XEZL		0.2816	-0.0021	-0.29	0.2035	0.0032	0.63	IC
PBRXHL		0.2812	-0.0025	-0.34	0.1972	-0.0031	-0.60	OE
PEAUQR		0.2851	0.0014	0.19	0.2003	0.0000	0.01	OE
PNFZ3Y		0.2937	0.0099	1.35	0.2053	0.0051	0.98	OE
PTC4WL		0.2807	-0.0031	-0.42	0.1967	-0.0036	-0.69	OE
PVEYHA	X	0.2717	-0.0121	-1.64	0.1797	-0.0206	-3.98	OE
PWTMJ2		0.2863	0.0026	0.35	0.2046	0.0043	0.84	OE
Q2YM8C		0.2683	-0.0154	-2.10	0.1907	-0.0096	-1.85	OE
Q7B23B		0.2850	0.0013	0.17	0.2020	0.0017	0.34	OE
QELXV3		0.2877	0.0040	0.54	0.2046	0.0044	0.85	OE
R6EZH6		0.2893	0.0056	0.76	0.2060	0.0057	1.11	OE
R7BCLK		0.2917	0.0079	1.08	0.2073	0.0071	1.37	OE
R86Z6F		0.2870	0.0033	0.44	0.2030	0.0027	0.53	OE
RA8B4J		0.2850	0.0013	0.17	0.1997	-0.0006	-0.11	OE
RD88JH		0.2880	0.0043	0.58	0.2020	0.0017	0.34	OE
RFFGCF		0.2900	0.0063	0.85	0.2000	-0.0003	-0.05	OE
RJDRJ9		0.2813	-0.0024	-0.33	0.1967	-0.0036	-0.69	OE
RYM8DB	X	0.2573	-0.0264	-3.59	0.1827	-0.0176	-3.40	OE
TLDFFA	X	0.2967	0.0129	1.76	0.2153	0.0151	2.91	OE
TPKQJ6		0.2807	-0.0031	-0.42	0.1970	-0.0033	-0.63	OE
U9TBRE		0.2790	-0.0047	-0.65	0.1970	-0.0033	-0.63	OE
UHGLAF		0.2813	-0.0024	-0.33	0.1977	-0.0026	-0.50	OE
UUNYDE		0.2853	0.0016	0.22	0.2028	0.0025	0.49	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 175

Carbon & Low Alloy Steel, Element #6
MOLYBDENUM (Mo)

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
VBAFNA		0.2735	-0.0102	-1.39	0.1919	-0.0084	-1.61	OE
VHBQ4E		0.2850	0.0013	0.17	0.2017	0.0014	0.27	OE
VP89BG		0.2797	-0.0041	-0.55	0.1950	-0.0053	-1.01	IC
VQKMW6	X	0.2690	-0.0147	-2.01	0.1827	-0.0176	-3.40	GD
VVUHGM		0.2950	0.0113	1.53	0.2040	0.0037	0.72	OE
VYTUE9		0.2970	0.0133	1.80	0.2133	0.0131	2.53	OE
W2JTA4		0.2877	0.0039	0.53	0.2027	0.0024	0.47	DR
WC3K33		0.2908	0.0071	0.96	0.2050	0.0047	0.91	OE
WPMYQE		0.2825	-0.0012	-0.16	0.2019	0.0016	0.31	OE
XRAAAY		0.2882	0.0045	0.61	0.2042	0.0039	0.76	OE
XWHY3L		0.2870	0.0033	0.44	0.2027	0.0024	0.47	OE
XXCGP3		0.2996	0.0158	2.15	0.2110	0.0108	2.08	OE
XZYLE7		0.2888	0.0051	0.69	0.2058	0.0055	1.07	OE
Y2B9GZ	X	0.2510	-0.0327	-4.45	0.1760	-0.0243	-4.69	OE
ZMP3Y6		0.2768	-0.0069	-0.94	0.1959	-0.0044	-0.85	OE
ZRXKXX		0.2801	-0.0037	-0.50	0.1958	-0.0045	-0.86	OE
ZTVAFE		0.2800	-0.0037	-0.51	0.2000	-0.0003	-0.05	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.2837	Percent	0.2003	Percent
Stnd Dev Btwn Labs	0.0074	Percent	0.0052	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 103 of 111 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #175

63XRVR (X) - Data for both samples are high.

9FGJZ6 (X) - Data for sample L49 are high.

M7K9Q9 (X) - Data for both samples are low.

PVEYHA (X) - Data for sample L50 are low.

RYM8DB (X) - Data for both samples are low.

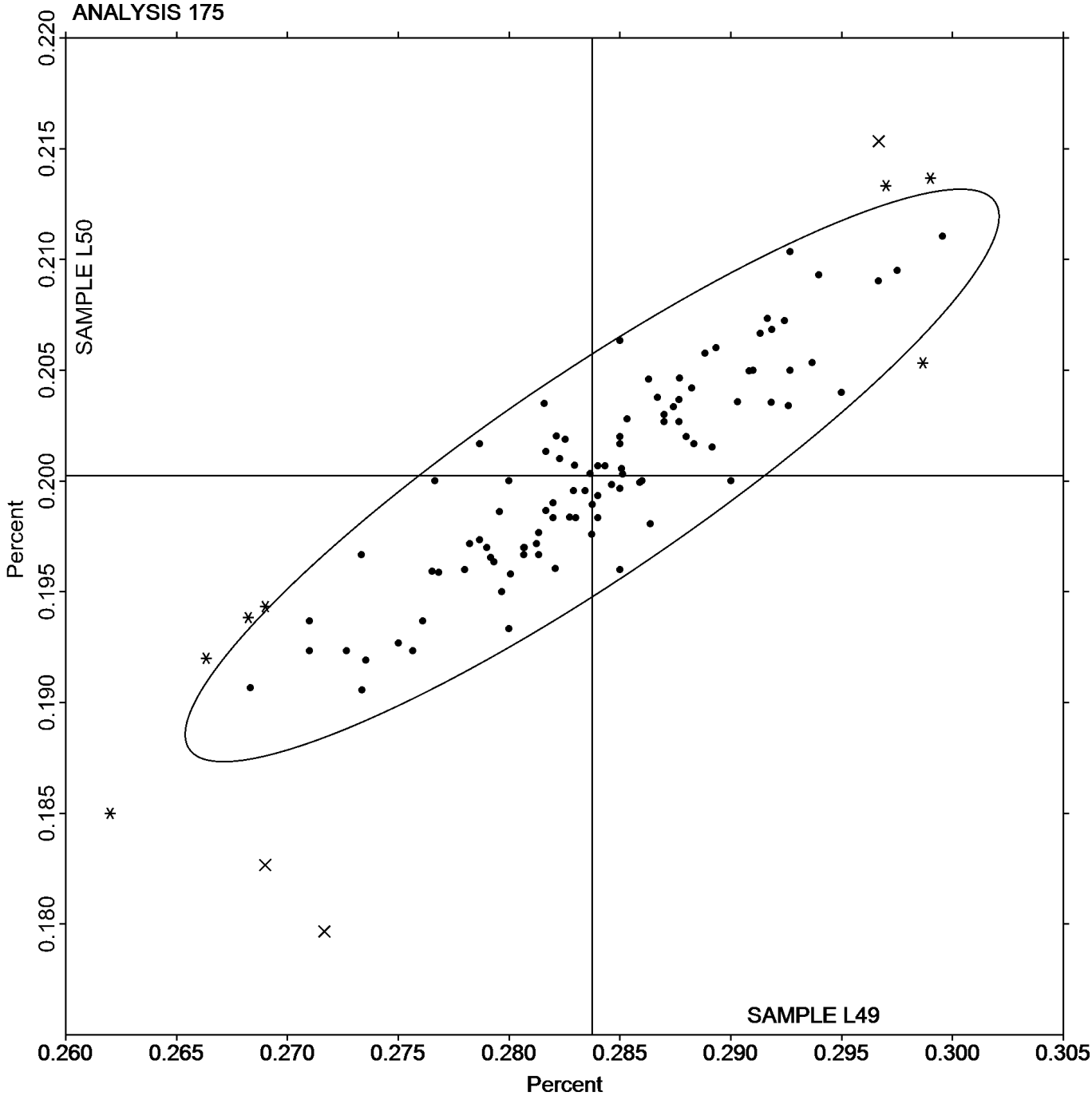
TLDFFA (X) - Data for sample L50 are high.

VQKMW6 (X) - Data for sample L50 are low.

Y2B9GZ (X) - Data for both samples are low. Inconsistent within the determinations of sample L50.

SAMPLE L49
0.2837 Percent

SAMPLE L50
0.2003 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2B7B2Z		3.450	-0.076	-0.90	3.268	-0.081	-1.03	OE
2PPPRZ		3.549	0.023	0.27	3.403	0.054	0.69	OE
2UKZ2J		3.437	-0.089	-1.06	3.283	-0.066	-0.84	OE
2XK7JV		3.657	0.130	1.55	3.413	0.064	0.82	OE
3NUWML		3.545	0.019	0.22	3.361	0.012	0.15	OE
3YWH62	X	2.933	-0.593	-7.03	2.834	-0.515	-6.57	OE
46BKAL		3.477	-0.049	-0.58	3.299	-0.050	-0.63	WD
4769PV		3.440	-0.086	-1.02	3.324	-0.025	-0.32	OE
47R2LM	X	3.808	0.281	3.34	3.603	0.254	3.24	OE
4H2NM8	*	3.778	0.251	2.98	3.576	0.227	2.90	OE
63XRVR		3.725	0.199	2.36	3.563	0.214	2.73	OE
66ACVF		3.541	0.015	0.18	3.371	0.022	0.29	IC
69D9G4		3.573	0.046	0.55	3.391	0.042	0.54	AE
6N3NQM		3.490	-0.036	-0.43	3.307	-0.042	-0.54	OE
7DWW9Q		3.516	-0.010	-0.12	3.340	-0.009	-0.11	OE
7EQKQL	X	3.270	-0.256	-3.04	3.255	-0.094	-1.20	XX
7EU84U		3.555	0.029	0.34	3.388	0.039	0.50	OE
83VML2		3.643	0.116	1.38	3.482	0.133	1.69	OE
8B6QGJ		3.517	-0.010	-0.11	3.347	-0.002	-0.03	GD
8NDAEE		3.523	-0.003	-0.03	3.370	0.021	0.27	OE
9CEH2T		3.504	-0.022	-0.26	3.324	-0.025	-0.32	IC
9FGJZ6		3.410	-0.116	-1.38	3.280	-0.069	-0.88	GD
9W4A9X		3.505	-0.021	-0.25	3.368	0.019	0.24	OE
AA8V92		3.460	-0.066	-0.79	3.257	-0.092	-1.18	AE
AJDCPT		3.367	-0.160	-1.89	3.183	-0.166	-2.11	OE
AUVGTP		3.523	-0.003	-0.03	3.353	0.004	0.05	WD
B6TEYH		3.439	-0.088	-1.04	3.263	-0.086	-1.09	OE
BPCHJM		3.504	-0.022	-0.26	3.328	-0.021	-0.27	OE
C7ZFCL		3.525	-0.001	-0.01	3.348	-0.001	-0.01	WD
CALB3L		3.596	0.069	0.82	3.425	0.076	0.98	OE
CAW36A		3.541	0.015	0.18	3.372	0.023	0.30	WD
CCQNZM		3.525	-0.001	-0.01	3.340	-0.009	-0.11	XX
CFKD8Z		3.504	-0.022	-0.27	3.322	-0.027	-0.35	OE
CFMF6D	*	3.741	0.214	2.54	3.567	0.218	2.78	OE
CJTVN3		3.493	-0.033	-0.39	3.316	-0.033	-0.42	OE
CN2CYC		3.533	0.007	0.08	3.347	-0.002	-0.03	OE
DTTVNM		3.573	0.047	0.56	3.387	0.038	0.49	IC
DZ9YTN		3.570	0.044	0.52	3.381	0.032	0.40	OE
EBLB6P		3.461	-0.066	-0.78	3.277	-0.072	-0.91	OE
EF6YBV	*	3.527	0.000	0.01	3.453	0.104	1.33	GD
EH8KLU		3.540	0.014	0.16	3.407	0.058	0.74	GD
EXX7XT		3.605	0.078	0.93	3.454	0.105	1.35	OE
F6DG2Z		3.558	0.031	0.37	3.367	0.018	0.24	OE
F9B6CF		3.487	-0.039	-0.46	3.298	-0.050	-0.64	OE
FACEL7		3.484	-0.042	-0.50	3.291	-0.058	-0.74	OE
G9XAN9		3.467	-0.060	-0.71	3.290	-0.059	-0.75	OE
GRHRDE		3.431	-0.095	-1.12	3.253	-0.096	-1.23	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
GTX42B		3.631	0.105	1.24	3.470	0.121	1.55	OE
GYN6BH		3.514	-0.012	-0.14	3.354	0.006	0.07	AE
H4DTH9		3.529	0.003	0.04	3.357	0.008	0.11	OE
HBCPDL		3.307	-0.220	-2.60	3.143	-0.206	-2.62	OE
HLDUJL		3.581	0.055	0.65	3.411	0.062	0.79	OE
HLGBJ6		3.550	0.024	0.28	3.370	0.021	0.27	OE
HX88GW	X	3.820	0.294	3.48	3.626	0.277	3.54	OE
J96EQM		3.531	0.004	0.05	3.355	0.006	0.08	OE
JLBXHA	*	3.759	0.232	2.76	3.538	0.189	2.41	OE
JNE2EJ		3.596	0.070	0.83	3.358	0.009	0.12	OE
JNFNKH		3.503	-0.023	-0.28	3.329	-0.020	-0.25	OE
KW34ND		3.569	0.042	0.50	3.391	0.042	0.53	OE
L2VX7R		3.511	-0.015	-0.18	3.325	-0.024	-0.30	OE
MWXAXH		3.630	0.104	1.23	3.440	0.091	1.16	GD
NJQPAJ		3.521	-0.005	-0.06	3.365	0.016	0.20	OE
NKHVF2		3.478	-0.048	-0.57	3.300	-0.049	-0.63	AE
NXAX4G		3.706	0.179	2.13	3.502	0.153	1.96	XX
P3XEZL		3.484	-0.042	-0.50	3.316	-0.033	-0.41	IC
PBRXHL		3.380	-0.146	-1.73	3.228	-0.121	-1.54	OE
PEAUQR		3.527	0.001	0.01	3.346	-0.003	-0.04	OE
PNFZ3Y		3.626	0.100	1.19	3.418	0.069	0.88	OE
PTC4WL		3.503	-0.023	-0.27	3.330	-0.019	-0.25	OE
PVEYHA		3.482	-0.044	-0.52	3.273	-0.076	-0.97	OE
PWTMJ2		3.561	0.035	0.41	3.377	0.028	0.36	OE
Q2YM8C	*	3.430	-0.096	-1.14	3.373	0.024	0.31	OE
QELXV3		3.564	0.038	0.45	3.355	0.006	0.08	OE
R6EZH6		3.587	0.060	0.72	3.398	0.049	0.62	OE
R7BCLK		3.620	0.094	1.11	3.417	0.068	0.86	OE
R86Z6F		3.466	-0.060	-0.71	3.292	-0.057	-0.73	OE
RA8B4J		3.483	-0.043	-0.51	3.300	-0.049	-0.62	OE
RD88JH		3.547	0.020	0.24	3.370	0.021	0.27	OE
RFFGCF		3.507	-0.020	-0.23	3.327	-0.022	-0.28	OE
RYM8DB		3.447	-0.080	-0.94	3.243	-0.106	-1.35	OE
TPKQJ6		3.447	-0.079	-0.94	3.267	-0.082	-1.04	OE
U9TBRE		3.639	0.112	1.33	3.443	0.094	1.20	OE
UHGLAF		3.453	-0.073	-0.86	3.313	-0.036	-0.45	OE
UUNYDE		3.579	0.052	0.62	3.379	0.030	0.38	OE
VBAFNA	*	3.270	-0.257	-3.04	3.125	-0.224	-2.85	OE
VHBQ4E		3.516	-0.010	-0.12	3.338	-0.011	-0.14	OE
VP89BG		3.553	0.027	0.32	3.320	-0.029	-0.37	IC
VQKMW6	*	3.617	0.090	1.07	3.503	0.154	1.97	GD
VVUHGM		3.444	-0.082	-0.97	3.294	-0.055	-0.70	OE
VYTUE9		3.533	0.007	0.08	3.367	0.018	0.23	OE
W2JTA4		3.537	0.010	0.12	3.325	-0.024	-0.30	DR
WC3K33		3.493	-0.033	-0.39	3.365	0.016	0.20	OE
WPMYQE		3.523	-0.003	-0.04	3.342	-0.007	-0.08	OE
XRAAAY		3.492	-0.034	-0.40	3.316	-0.033	-0.42	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 176

Carbon & Low Alloy Steel, Element #7

NICKEL (Ni)

WebCode	Data Flag	Sample L49 Lab Mean	Sample L49 Diff. from Grand Mean	Sample L49 CPV	Sample L50 Lab Mean	Sample L50 Diff. from Grand Mean	Sample L50 CPV	Method
XWHY3L		3.483	-0.043	-0.51	3.307	-0.042	-0.54	OE
XXCGP3		3.545	0.018	0.22	3.363	0.014	0.18	OE
XZYLE7		3.473	-0.053	-0.63	3.300	-0.049	-0.63	OE
ZMP3Y6		3.530	0.003	0.04	3.374	0.026	0.33	OE
ZRXKXX	X	3.954	0.428	5.08	3.709	0.360	4.60	OE
ZTVAFE		3.440	-0.086	-1.02	3.277	-0.072	-0.92	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	3.526	Percent	3.349	Percent
Stnd Dev Btwn Labs	0.084	Percent	0.078	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 92 of 100 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #176

3YWH62 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.

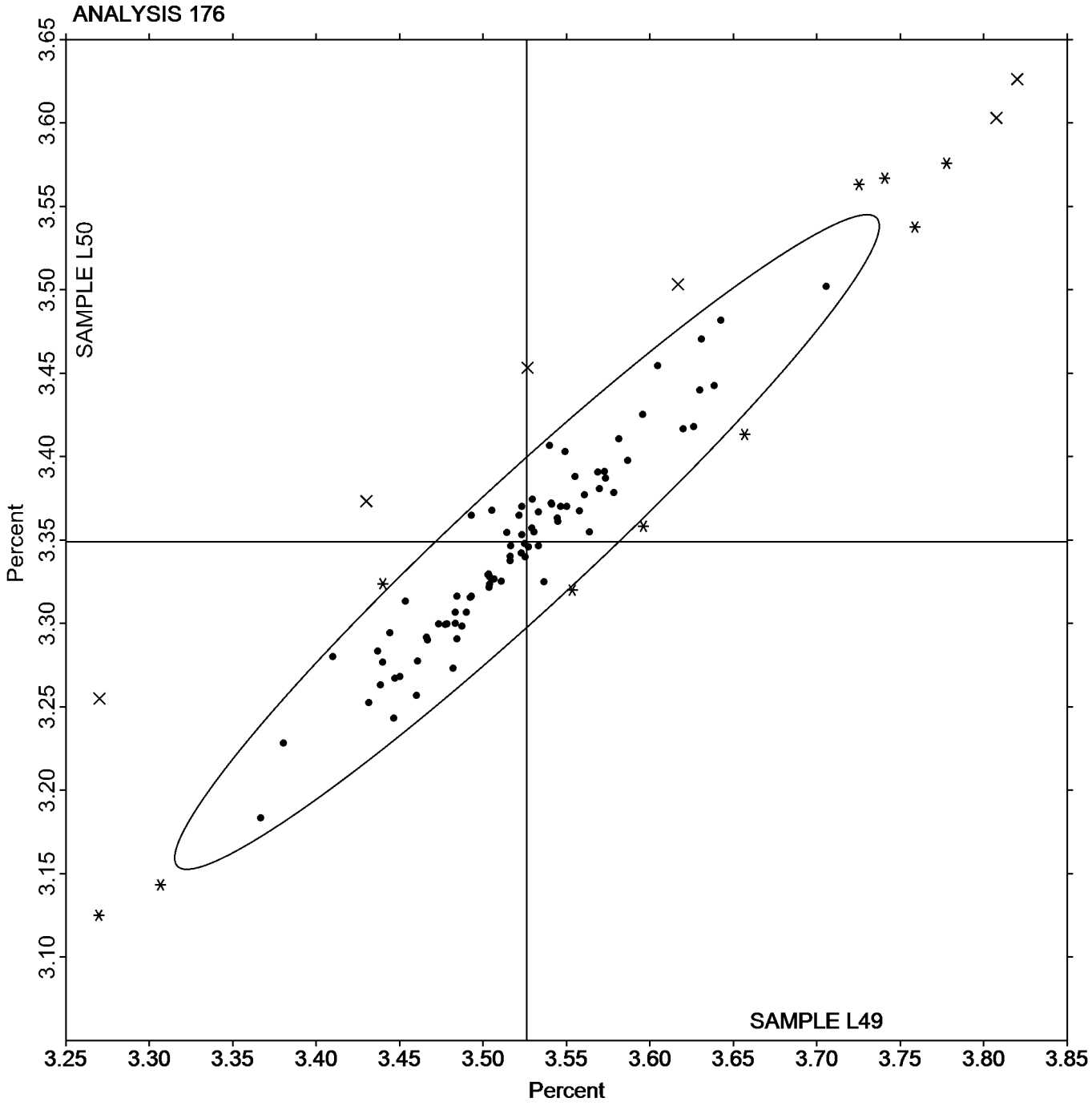
47R2LM (X) - Data for both samples are high. Possible Systematic Error.

7EQKQL (X) - Data for sample L49 are low.

HX88GW (X) - Data for both samples are high. Possible Systematic Error.

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

SAMPLE L49	SAMPLE L50
3.526 Percent	3.349 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
264ATJ	X	0.1567	0.0130	3.40	0.1643	0.0142	3.76	GD
2B7B2Z		0.1434	-0.0003	-0.08	0.1503	0.0002	0.05	OE
2PPPRZ		0.1537	0.0100	2.61	0.1593	0.0092	2.44	OE
2UKZ2J		0.1423	-0.0014	-0.36	0.1487	-0.0015	-0.39	OE
2XK7JV		0.1363	-0.0074	-1.93	0.1440	-0.0061	-1.63	OE
3NUWML		0.1447	0.0010	0.25	0.1517	0.0015	0.41	OE
3YWH62		0.1436	-0.0001	-0.03	0.1503	0.0002	0.04	OE
46BKAL		0.1406	-0.0031	-0.81	0.1465	-0.0037	-0.97	WD
4769PV		0.1478	0.0041	1.08	0.1544	0.0042	1.12	OE
47R2LM		0.1352	-0.0085	-2.22	0.1411	-0.0090	-2.40	OE
4H2NM8	X	0.1434	-0.0003	-0.09	0.1389	-0.0112	-2.98	OE
4UFJ4R		0.1457	0.0020	0.52	0.1511	0.0010	0.26	OE
638CX4		0.1430	-0.0007	-0.18	0.1497	-0.0005	-0.12	OE
63XRVR	X	0.1727	0.0290	7.60	0.1563	0.0061	1.62	OE
66ACVF		0.1494	0.0057	1.50	0.1573	0.0072	1.91	IC
69D9G4		0.1420	-0.0017	-0.45	0.1480	-0.0021	-0.57	AE
7DWW9Q	X	0.1473	0.0036	0.95	0.1487	-0.0015	-0.39	OE
7EQKQL	X	0.1270	-0.0167	-4.38	0.1375	-0.0126	-3.35	IC
7EU84U		0.1423	-0.0014	-0.36	0.1480	-0.0021	-0.57	OE
83VML2	*	0.1453	0.0016	0.43	0.1477	-0.0025	-0.66	OE
8B6QGJ		0.1370	-0.0067	-1.76	0.1437	-0.0065	-1.72	GD
8NDAEE		0.1393	-0.0044	-1.15	0.1457	-0.0045	-1.19	OE
9CEH2T		0.1440	0.0003	0.08	0.1497	-0.0005	-0.12	IC
9FGJZ6	X	0.1560	0.0123	3.23	0.1590	0.0089	2.35	GD
9W4A9X		0.1503	0.0066	1.74	0.1573	0.0072	1.91	OE
AA8V92	X	0.1553	0.0116	3.05	0.1627	0.0125	3.32	AE
AJDCPT		0.1413	-0.0024	-0.62	0.1483	-0.0018	-0.48	OE
AUVGTP		0.1430	-0.0007	-0.18	0.1490	-0.0011	-0.30	OE
B6TEYH		0.1443	0.0006	0.15	0.1506	0.0004	0.12	OE
BPCHJM		0.1440	0.0003	0.08	0.1503	0.0002	0.05	OE
BWDQ83		0.1465	0.0028	0.74	0.1531	0.0029	0.78	OE
C7ZFCL		0.1431	-0.0006	-0.17	0.1501	-0.0001	-0.02	WD
CALB3L		0.1403	-0.0034	-0.89	0.1460	-0.0041	-1.10	OE
CAW36A		0.1463	0.0026	0.69	0.1537	0.0035	0.94	OE
CCQNZM		0.1413	-0.0024	-0.62	0.1480	-0.0021	-0.57	XX
CFKD8Z		0.1435	-0.0002	-0.05	0.1498	-0.0003	-0.08	OE
CFMF6D		0.1426	-0.0011	-0.29	0.1487	-0.0014	-0.37	OE
CJTVN3	*	0.1416	-0.0021	-0.55	0.1509	0.0007	0.19	OE
CN2CYC		0.1460	0.0023	0.60	0.1513	0.0012	0.32	OE
DTTVNM		0.1490	0.0053	1.39	0.1537	0.0035	0.94	IC
DZ9YTN		0.1440	0.0003	0.09	0.1496	-0.0005	-0.13	OE
EBLB6P		0.1459	0.0022	0.58	0.1524	0.0023	0.61	OE
EF6YBV		0.1430	-0.0007	-0.18	0.1493	-0.0008	-0.21	GD
EH8KLU		0.1437	0.0000	-0.01	0.1503	0.0002	0.05	GD
EXX7XT		0.1410	-0.0027	-0.71	0.1483	-0.0018	-0.48	OE
F6DG2Z		0.1440	0.0003	0.08	0.1505	0.0004	0.10	OE
F9B6CF		0.1437	0.0000	0.01	0.1497	-0.0004	-0.11	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
FACEL7		0.1425	-0.0012	-0.32	0.1497	-0.0004	-0.11	OE
G9XAN9		0.1413	-0.0024	-0.62	0.1487	-0.0015	-0.39	OE
GRHRDE		0.1490	0.0053	1.38	0.1552	0.0051	1.35	OE
GTX42B		0.1390	-0.0047	-1.23	0.1457	-0.0045	-1.19	OE
GYN6BH	X	0.1394	-0.0043	-1.14	0.1526	0.0025	0.65	AE
H4DTH9		0.1424	-0.0013	-0.34	0.1489	-0.0012	-0.33	OE
HBCPDL		0.1483	0.0046	1.22	0.1540	0.0039	1.02	OE
HLDUJL		0.1470	0.0033	0.87	0.1540	0.0039	1.02	OE
HLGBJ6		0.1423	-0.0014	-0.36	0.1490	-0.0011	-0.30	OE
HX88GW		0.1430	-0.0007	-0.18	0.1497	-0.0005	-0.12	OE
J96EQM		0.1406	-0.0031	-0.80	0.1473	-0.0028	-0.75	OE
JLBXHA		0.1430	-0.0007	-0.18	0.1490	-0.0011	-0.30	OE
JN9LNH		0.1397	-0.0040	-1.06	0.1443	-0.0058	-1.54	XX
JNE2EJ		0.1411	-0.0026	-0.69	0.1465	-0.0037	-0.97	OE
JNFNKH		0.1450	0.0013	0.34	0.1510	0.0009	0.23	OE
KW34ND	X	0.1610	0.0173	4.54	0.1677	0.0175	4.65	OE
L2VX7R		0.1446	0.0009	0.24	0.1512	0.0011	0.28	OE
M7K9Q9		0.1417	-0.0020	-0.53	0.1483	-0.0018	-0.48	OE
MWXAXH		0.1457	0.0020	0.52	0.1520	0.0019	0.49	GD
NJQPAJ		0.1432	-0.0005	-0.14	0.1493	-0.0008	-0.22	OE
NKHVF2		0.1449	0.0012	0.31	0.1520	0.0019	0.49	AE
NPA3YA		0.1357	-0.0080	-2.11	0.1433	-0.0068	-1.80	XX
NXAX4G		0.1418	-0.0019	-0.51	0.1490	-0.0011	-0.29	XX
P3XEZL		0.1509	0.0072	1.89	0.1583	0.0082	2.17	IC
PBRXHL		0.1490	0.0053	1.39	0.1553	0.0052	1.38	OE
PEAUQR		0.1435	-0.0002	-0.05	0.1488	-0.0013	-0.35	OE
PNFZ3Y		0.1450	0.0013	0.34	0.1507	0.0005	0.14	OE
PTC4WL		0.1443	0.0006	0.17	0.1513	0.0012	0.32	OE
PVEYHA		0.1353	-0.0084	-2.19	0.1420	-0.0081	-2.16	OE
PWTMJ2		0.1527	0.0090	2.36	0.1583	0.0082	2.16	OE
Q2YM8C		0.1487	0.0050	1.30	0.1540	0.0039	1.02	OE
Q7B23B		0.1433	-0.0004	-0.10	0.1500	-0.0001	-0.04	OE
QELXV3		0.1440	0.0003	0.08	0.1511	0.0010	0.26	OE
R6EZH6		0.1400	-0.0037	-0.97	0.1470	-0.0031	-0.83	OE
R7BCLK		0.1387	-0.0050	-1.32	0.1433	-0.0068	-1.80	OE
R86Z6F	X	0.1527	0.0090	2.35	0.1613	0.0112	2.97	OE
RA8B4J		0.1420	-0.0017	-0.45	0.1497	-0.0005	-0.12	OE
RD88JH		0.1450	0.0013	0.34	0.1523	0.0022	0.58	OE
RFFGCF	*	0.1400	-0.0037	-0.97	0.1500	-0.0001	-0.04	OE
RJDRJ9		0.1443	0.0006	0.17	0.1507	0.0005	0.14	OE
RYM8DB	*	0.1407	-0.0030	-0.80	0.1493	-0.0008	-0.21	OE
TLDFFA	*	0.1447	0.0010	0.25	0.1483	-0.0018	-0.48	OE
TPKQJ6		0.1417	-0.0020	-0.53	0.1480	-0.0021	-0.57	OE
U9TBRE		0.1417	-0.0020	-0.52	0.1479	-0.0022	-0.59	OE
UHGLAF	*	0.1550	0.0113	2.96	0.1617	0.0115	3.06	OE
UUNYDE		0.1448	0.0011	0.28	0.1510	0.0009	0.24	OE
VBAFNA		0.1400	-0.0037	-0.96	0.1462	-0.0040	-1.05	OE

Fasteners and Metals Interlaboratory Testing Program

Analysis 177

Carbon & Low Alloy Steel, Element #8
CHROMIUM (Cr)

WebCode	Data Flag	Sample L49 Lab Mean	Sample L49 Diff. from Grand Mean	Sample L49 CPV	Sample L50 Lab Mean	Sample L50 Diff. from Grand Mean	Sample L50 CPV	Method
VHBQ4E		0.1447	0.0010	0.25	0.1517	0.0015	0.41	OE
VP89BG		0.1463	0.0026	0.69	0.1513	0.0012	0.32	IC
VQKMW6	X	0.1560	0.0123	3.23	0.1650	0.0149	3.94	GD
VVUHGM		0.1427	-0.0010	-0.27	0.1493	-0.0008	-0.21	OE
VYTUE9	*	0.1550	0.0113	2.96	0.1610	0.0109	2.88	OE
W2JTA4		0.1433	-0.0004	-0.10	0.1497	-0.0005	-0.12	DR
WC3K33		0.1469	0.0032	0.85	0.1524	0.0022	0.59	OE
WPMYQE		0.1429	-0.0008	-0.21	0.1495	-0.0006	-0.17	OE
XRAAAY		0.1407	-0.0030	-0.80	0.1477	-0.0025	-0.66	OE
XWHY3L		0.1453	0.0016	0.43	0.1523	0.0022	0.58	OE
XXCGP3		0.1414	-0.0023	-0.59	0.1484	-0.0017	-0.46	OE
XZYLE7		0.1424	-0.0013	-0.34	0.1492	-0.0010	-0.26	OE
Y2B9GZ	*	0.1463	0.0026	0.69	0.1557	0.0055	1.47	OE
ZMP3Y6		0.1420	-0.0017	-0.45	0.1485	-0.0016	-0.43	OE
ZRXKXX		0.1409	-0.0028	-0.73	0.1472	-0.0030	-0.79	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.1437	Percent	0.1501	Percent
Stnd Dev Btwn Labs	0.0038	Percent	0.0038	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 93 of 109 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #177

264ATJ (X) - Data for both samples are high. Possible Systematic Error.

4H2NM8 (X) - Data for sample L50 are low.

63XRVR (X) - Data for sample L49 are high.

7DWW9Q (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L49.

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

9FGJZ6 (X) - Data for sample L49 are high.

AA8V92 (X) - Data for both samples are high. Possible Systematic Error.

GYN6BH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L49.

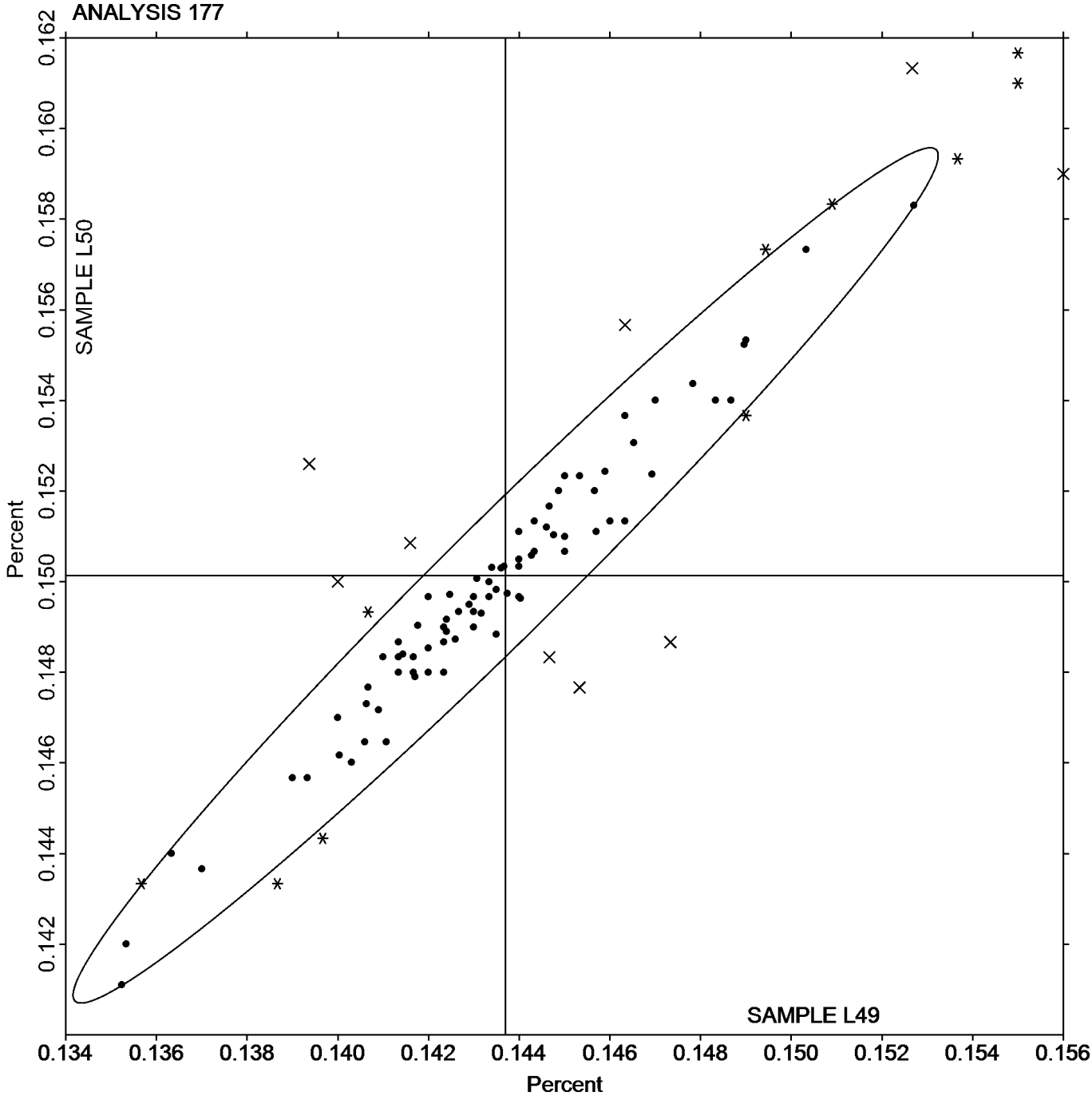
KW34ND (X) - Data for both samples are high. Possible Systematic Error.

R86Z6F (X) - Data for sample L50 are high. Inconsistent within the determinations of sample L50.

VQKMW6 (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE L49
0.1437 Percent

SAMPLE L50
0.1501 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2B7B2Z		0.1685	-0.0002	-0.05	0.1721	-0.0001	-0.01	OE
2PPPRZ	X	0.1910	0.0223	4.67	0.1927	0.0205	4.49	OE
2UKZ2J		0.1750	0.0063	1.32	0.1780	0.0059	1.28	OE
2XK7JV		0.1700	0.0013	0.27	0.1733	0.0012	0.26	OE
3NUWML		0.1683	-0.0004	-0.08	0.1723	0.0002	0.04	OE
3YWH62		0.1697	0.0010	0.20	0.1731	0.0010	0.21	XX
46BKAL		0.1701	0.0014	0.29	0.1721	0.0000	-0.01	WD
4769PV	X	0.1562	-0.0125	-2.63	0.1649	-0.0072	-1.59	OE
47R2LM		0.1677	-0.0010	-0.22	0.1729	0.0008	0.16	OE
4H2NM8	X	0.2523	0.0836	17.54	0.3147	0.1426	31.19	OE
4UFJ4R	X	0.1498	-0.0189	-3.97	0.1500	-0.0222	-4.85	OE
638CX4		0.1650	-0.0037	-0.78	0.1687	-0.0035	-0.76	OE
63XRVR		0.1674	-0.0013	-0.28	0.1708	-0.0013	-0.29	OE
66ACVF		0.1698	0.0011	0.22	0.1729	0.0008	0.16	IC
69D9G4		0.1697	0.0009	0.20	0.1717	-0.0005	-0.10	AE
7DWW9Q		0.1713	0.0026	0.55	0.1720	-0.0001	-0.03	OE
7EQKQL	X	0.1405	-0.0282	-5.92	0.1525	-0.0196	-4.30	IC
7EU84U		0.1670	-0.0017	-0.36	0.1697	-0.0025	-0.54	OE
83VML2		0.1733	0.0046	0.97	0.1763	0.0042	0.92	OE
8B6QGJ		0.1710	0.0023	0.48	0.1750	0.0029	0.62	GD
8NDAEE		0.1697	0.0009	0.20	0.1720	-0.0001	-0.03	OE
9CEH2T		0.1667	-0.0021	-0.43	0.1690	-0.0031	-0.69	IC
9FGJZ6		0.1680	-0.0007	-0.15	0.1730	0.0009	0.19	GD
9W4A9X		0.1673	-0.0014	-0.29	0.1707	-0.0015	-0.32	OE
AA8V92		0.1597	-0.0091	-1.90	0.1627	-0.0095	-2.07	AE
AJDCPT		0.1673	-0.0014	-0.29	0.1713	-0.0008	-0.18	OE
AUVGTP		0.1690	0.0003	0.06	0.1723	0.0002	0.04	OE
B6TEYH	X	0.1465	-0.0222	-4.66	0.1550	-0.0172	-3.75	OE
BPCHJM	*	0.1820	0.0133	2.79	0.1840	0.0119	2.59	OE
BWDQ83		0.1643	-0.0044	-0.92	0.1653	-0.0068	-1.49	OE
C7ZFCL		0.1707	0.0020	0.41	0.1734	0.0012	0.27	WD
CALB3L		0.1709	0.0022	0.46	0.1740	0.0018	0.40	OE
CAW36A		0.1690	0.0003	0.06	0.1723	0.0002	0.03	OE
CCQNZM		0.1683	-0.0004	-0.08	0.1717	-0.0005	-0.10	XX
CFKD8Z		0.1802	0.0114	2.40	0.1828	0.0106	2.32	OE
CFMF6D		0.1742	0.0055	1.15	0.1783	0.0062	1.35	OE
CJTVN3		0.1775	0.0088	1.84	0.1800	0.0079	1.72	OE
CN2CYC		0.1640	-0.0047	-0.99	0.1690	-0.0031	-0.69	OE
DTTVNM		0.1680	-0.0007	-0.15	0.1710	-0.0011	-0.25	IC
DZ9YTN		0.1717	0.0030	0.63	0.1748	0.0027	0.59	OE
EBLB6P		0.1713	0.0025	0.53	0.1735	0.0014	0.30	OE
EF6YBV		0.1650	-0.0037	-0.78	0.1713	-0.0008	-0.18	GD
EH8KLU		0.1613	-0.0074	-1.55	0.1627	-0.0095	-2.07	GD
EXX7XT		0.1570	-0.0117	-2.46	0.1627	-0.0095	-2.07	OE
F6DG2Z		0.1573	-0.0115	-2.41	0.1610	-0.0111	-2.44	OE
F9B6CF		0.1670	-0.0017	-0.36	0.1695	-0.0026	-0.57	OE
FACEL7		0.1635	-0.0053	-1.11	0.1676	-0.0045	-0.99	OE

		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
G9XAN9		0.1650	-0.0037	-0.78	0.1700	-0.0021	-0.47	OE
GRHRDE		0.1736	0.0048	1.02	0.1761	0.0039	0.86	OE
GTX42B		0.1667	-0.0021	-0.43	0.1723	0.0002	0.04	OE
GYN6BH	X	0.1821	0.0134	2.81	0.1788	0.0066	1.45	AE
H4DTH9		0.1710	0.0023	0.48	0.1755	0.0034	0.74	OE
HBCPDL		0.1683	-0.0004	-0.08	0.1720	-0.0001	-0.03	OE
HLDUJL		0.1730	0.0043	0.90	0.1753	0.0032	0.70	OE
HLGBJ6		0.1697	0.0009	0.20	0.1740	0.0019	0.41	OE
HX88GW		0.1650	-0.0037	-0.78	0.1680	-0.0041	-0.91	OE
J96EQM		0.1740	0.0053	1.11	0.1781	0.0059	1.30	OE
JLBXHA		0.1573	-0.0114	-2.39	0.1627	-0.0095	-2.07	OE
JN9LNH	*	0.1607	-0.0081	-1.69	0.1683	-0.0038	-0.83	XX
JNE2EJ		0.1687	-0.0001	-0.01	0.1696	-0.0025	-0.55	OE
JNFNKH		0.1690	0.0003	0.06	0.1710	-0.0011	-0.25	OE
KW34ND		0.1680	-0.0007	-0.15	0.1700	-0.0021	-0.47	OE
L2VX7R		0.1698	0.0011	0.22	0.1737	0.0015	0.33	OE
M7K9Q9		0.1703	0.0016	0.34	0.1767	0.0045	0.99	OE
MWXAXH		0.1633	-0.0054	-1.13	0.1650	-0.0071	-1.56	GD
NJQPAJ		0.1714	0.0027	0.57	0.1759	0.0037	0.81	OE
NKHVF2		0.1611	-0.0076	-1.59	0.1645	-0.0077	-1.68	AE
NPA3YA	X	0.1897	0.0209	4.39	0.1927	0.0205	4.49	XX
NXAX4G		0.1729	0.0041	0.87	0.1785	0.0064	1.40	XX
P3XEZL		0.1654	-0.0033	-0.69	0.1695	-0.0027	-0.59	IC
PBRXHL		0.1679	-0.0008	-0.17	0.1720	-0.0001	-0.02	OE
PEAUQR		0.1706	0.0019	0.39	0.1731	0.0009	0.20	OE
PNFZ3Y		0.1677	-0.0011	-0.22	0.1697	-0.0025	-0.54	OE
PTC4WL		0.1697	0.0009	0.20	0.1727	0.0005	0.11	OE
PVEYHA		0.1657	-0.0031	-0.64	0.1713	-0.0008	-0.18	OE
PWTMJ2		0.1696	0.0009	0.19	0.1732	0.0010	0.22	OE
Q2YM8C	X	0.1757	0.0069	1.46	0.1957	0.0235	5.15	OE
Q7B23B		0.1683	-0.0004	-0.08	0.1697	-0.0025	-0.54	OE
QELXV3		0.1651	-0.0037	-0.77	0.1703	-0.0019	-0.41	OE
R6EZH6		0.1790	0.0103	2.16	0.1810	0.0089	1.94	OE
R7BCLK	*	0.1607	-0.0081	-1.69	0.1690	-0.0031	-0.69	OE
R86Z6F		0.1733	0.0046	0.97	0.1767	0.0045	0.99	OE
RA8B4J		0.1680	-0.0007	-0.15	0.1727	0.0005	0.11	OE
RD88JH		0.1763	0.0076	1.60	0.1787	0.0065	1.43	OE
RFFGCF		0.1700	0.0013	0.27	0.1720	-0.0001	-0.03	OE
RJDRJ9		0.1633	-0.0054	-1.13	0.1660	-0.0061	-1.34	OE
RYM8DB		0.1653	-0.0034	-0.71	0.1720	-0.0001	-0.03	OE
TLDFFA		0.1660	-0.0027	-0.57	0.1707	-0.0015	-0.32	OE
TPKQJ6		0.1710	0.0023	0.48	0.1710	-0.0011	-0.25	OE
U9TBRE	X	0.1876	0.0189	3.96	0.1891	0.0169	3.70	OE
UHGLAF		0.1687	-0.0001	-0.01	0.1693	-0.0028	-0.62	OE
UUNYDE		0.1742	0.0055	1.15	0.1775	0.0054	1.17	OE
VBAFNA	X	0.1860	0.0172	3.62	0.1869	0.0148	3.23	OE
VHBQ4E		0.1730	0.0043	0.90	0.1780	0.0059	1.28	OE

WebCode	Data Flag	Sample L49 Lab Mean	Sample L49 Diff. from Grand Mean	Sample L49 CPV	Sample L50 Lab Mean	Sample L50 Diff. from Grand Mean	Sample L50 CPV	Method
VP89BG		0.1730	0.0043	0.90	0.1727	0.0005	0.11	IC
VQKMW6		0.1667	-0.0021	-0.43	0.1693	-0.0028	-0.62	GD
VVUHGM		0.1677	-0.0011	-0.22	0.1717	-0.0005	-0.10	OE
VYTUE9		0.1670	-0.0017	-0.36	0.1690	-0.0031	-0.69	OE
W2JTA4		0.1707	0.0019	0.41	0.1770	0.0049	1.06	DR
WC3K33		0.1685	-0.0002	-0.05	0.1744	0.0023	0.50	OE
WPMYQE		0.1730	0.0043	0.90	0.1760	0.0038	0.84	OE
XRAAAY		0.1753	0.0066	1.39	0.1793	0.0072	1.57	OE
XWHY3L		0.1763	0.0076	1.60	0.1793	0.0072	1.57	OE
XXCGP3		0.1678	-0.0010	-0.20	0.1729	0.0007	0.16	OE
XZYLE7		0.1657	-0.0030	-0.64	0.1699	-0.0023	-0.50	OE
Y2B9GZ	X	0.1837	0.0149	3.14	0.1897	0.0175	3.83	OE
ZMP3Y6		0.1706	0.0019	0.39	0.1725	0.0004	0.08	OE
ZRXKXX	*	0.1552	-0.0136	-2.85	0.1592	-0.0130	-2.84	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.1687	Percent	0.1721	Percent
Stnd Dev Btwn Labs	0.0048	Percent	0.0046	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 95 of 108 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)
XX	Please Indicate Method Used for Current Element		

Comments on Assigned Data Flags for Test #178

2PPPRZ (X) - Data for both samples are high. Possible Systematic Error.

4769PV (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L49.

4H2NM8 (X) - Appears to have reported Silicon (Si) data in lieu of Copper (Cu) data.

4UFJ4R (X) - Data for both samples are low. Possible Systematic Error.

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

B6TEYH (X) - Data for both samples are low. Possible Systematic Error.

GYN6BH (X) - Data for sample L49 are high. Inconsistent within the determinations of sample L49.

NPA3YA (X) - Data for both samples are high. Possible Systematic Error.

Q2YM8C (X) - Data for sample L50 are high.

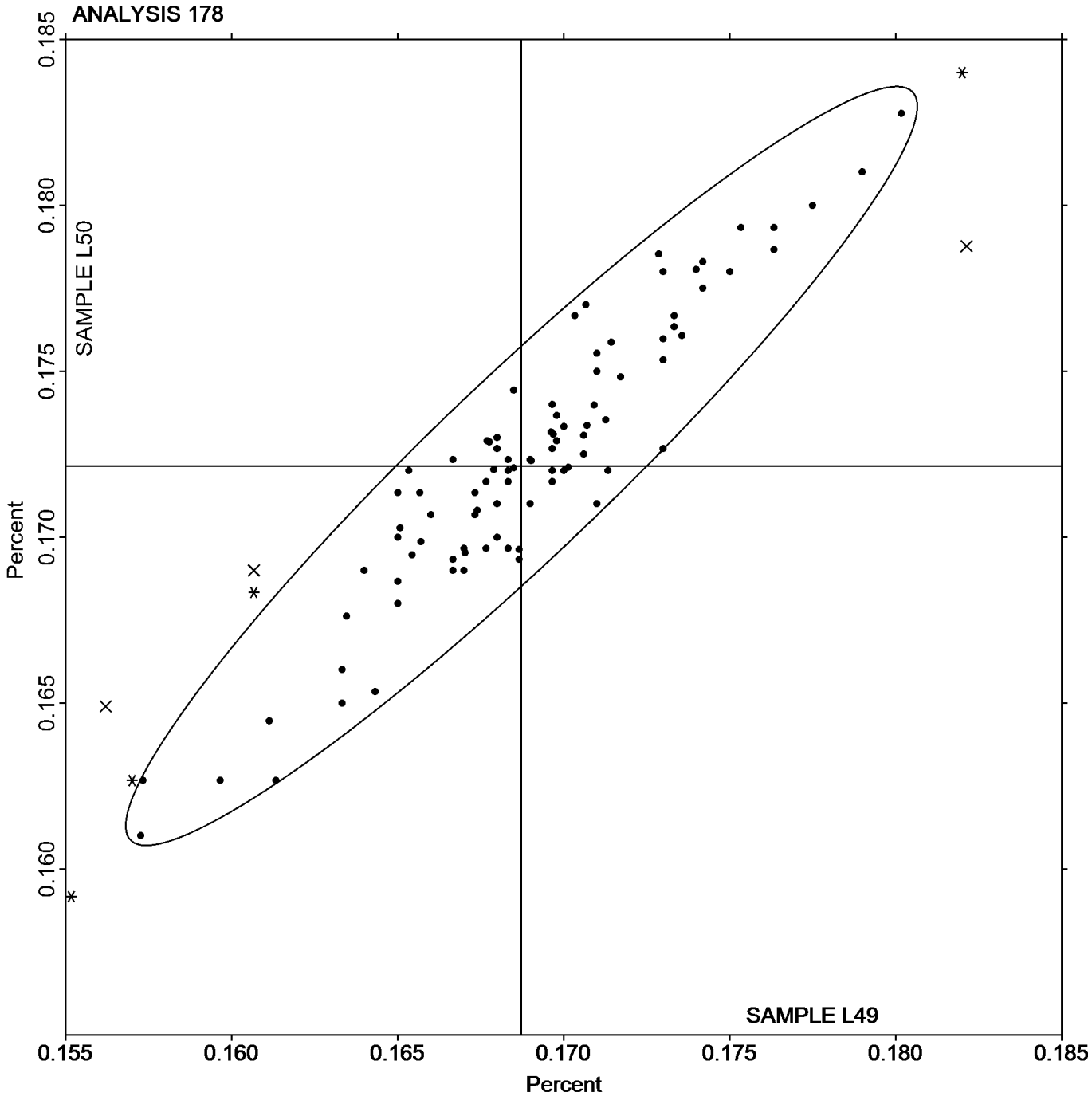
U9TBRE (X) - Data for both samples are high. Possible Systematic Error.

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

Y2B9GZ (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE L49
0.1687 Percent

SAMPLE L50
0.1721 Percent



		Sample L49			Sample L50			
WebCode	Data Flag	Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	Method
2B7B2Z		0.0124	0.0020	1.47	0.0120	0.0020	1.54	OE
2UKZ2J		0.0110	0.0006	0.43	0.0105	0.0005	0.37	OE
3NUWML		0.00930	-0.0011	-0.81	0.00907	-0.0009	-0.72	OE
47R2LM		0.00997	-0.0004	-0.31	0.00970	-0.0003	-0.24	OE
4UFJ4R		0.00997	-0.0004	-0.31	0.00937	-0.0006	-0.49	OE
638CX4		0.0115	0.0011	0.85	0.0112	0.0012	0.88	OE
63XRVR		0.0111	0.0007	0.55	0.0100	0.0000	-0.01	OE
66ACVF		0.00990	-0.0005	-0.36	0.00957	-0.0004	-0.34	IC
69D9G4	X	0.0160	0.0056	4.18	0.0150	0.0050	3.79	AE
7DWW9Q		0.00963	-0.0008	-0.56	0.00860	-0.0014	-1.07	OE
8NDAEE		0.0119	0.0015	1.13	0.0115	0.0015	1.16	OE
9FGJZ6	*	0.0110	0.0006	0.46	0.00900	-0.0010	-0.77	GD
9W4A9X		0.00993	-0.0005	-0.34	0.00987	-0.0001	-0.11	OE
AA8V92		0.0101	-0.0003	-0.21	0.00993	-0.0001	-0.06	AE
AJDCPT	X	0.0201	0.0097	7.23	0.0196	0.0096	7.25	OE
AUVGTP		0.0110	0.0006	0.46	0.0110	0.0010	0.75	OE
B6TEYH		0.0119	0.0015	1.15	0.0115	0.0015	1.12	OE
BPCHJM		0.00855	-0.0018	-1.37	0.00760	-0.0024	-1.83	OE
BWDQ83		0.00880	-0.0016	-1.18	0.00853	-0.0015	-1.12	OE
CAW36A		0.0101	-0.0003	-0.24	0.0101	0.0001	0.07	OE
CCQNZM		0.0110	0.0006	0.46	0.0107	0.0007	0.50	XX
CFKD8Z		0.0128	0.0024	1.81	0.0124	0.0024	1.83	OE
CFMF6D		0.0119	0.0015	1.15	0.0116	0.0016	1.23	OE
CJTVN3	*	0.00896	-0.0014	-1.07	0.00958	-0.0004	-0.33	OE
CN2CYC	X	0.00427	-0.0061	-4.56	0.00410	-0.0059	-4.49	OE
DTTVNM		0.0104	0.0000	0.03	0.0101	0.0001	0.09	IC
DZ9YTN		0.0107	0.0003	0.24	0.0104	0.0004	0.31	OE
EBLB6P		0.0105	0.0001	0.11	0.0102	0.0002	0.17	OE
EH8KLU	*	0.00967	-0.0007	-0.54	0.0113	0.0013	1.00	GD
EXX7XT		0.00900	-0.0014	-1.03	0.00800	-0.0020	-1.53	OE
F6DG2Z		0.0110	0.0006	0.46	0.0110	0.0010	0.75	OE
F9B6CF		0.0108	0.0004	0.28	0.0105	0.0005	0.35	OE
FACEL7		0.0132	0.0028	2.10	0.0125	0.0025	1.89	OE
GRHRDE		0.0102	-0.0002	-0.16	0.0101	0.0001	0.07	OE
GTX42B		0.00907	-0.0013	-0.98	0.00880	-0.0012	-0.92	OE
GYN6BH		0.0117	0.0013	0.95	0.0110	0.0010	0.75	AE
HBCPDL	X	0.00467	-0.0057	-4.26	0.00430	-0.0057	-4.33	OE
HLDUJL		0.0110	0.0006	0.46	0.0100	0.0000	-0.01	OE
HX88GW		0.0130	0.0026	1.94	0.0120	0.0020	1.51	OE
JLBXHA		0.00850	-0.0019	-1.40	0.00837	-0.0016	-1.25	OE
JNE2EJ		0.0108	0.0004	0.28	0.0101	0.0001	0.04	OE
KW34ND		0.0110	0.0006	0.46	0.0103	0.0003	0.25	XX
L2VX7R		0.00943	-0.0010	-0.71	0.00920	-0.0008	-0.61	OE
MWXAXH	X	0.0140	0.0036	2.69	0.0120	0.0020	1.51	GD
NJQPAJ		0.00727	-0.0031	-2.32	0.00700	-0.0030	-2.28	OE
NKHVF2		0.00983	-0.0006	-0.41	0.00913	-0.0009	-0.67	AE
NXAX4G		0.0113	0.0009	0.65	0.0111	0.0011	0.80	XX

Fasteners and Metals Interlaboratory Testing Program

Analysis 179

Carbon & Low Alloy Steel, Element #10
COBALT (Co)

Cycle 121
1st Qtr 2018

WebCode	Data Flag	Sample L49 Lab Mean	Sample L49 Diff. from Grand Mean	Sample L49 CPV	Sample L50 Lab Mean	Sample L50 Diff. from Grand Mean	Sample L50 CPV	Method
P3XEZL		0.00840	-0.0020	-1.48	0.00807	-0.0019	-1.47	IC
PNFZ3Y		0.00967	-0.0007	-0.54	0.00940	-0.0006	-0.46	OE
PTC4WL		0.00937	-0.0010	-0.76	0.00900	-0.0010	-0.77	OE
PVEYHA		0.00977	-0.0006	-0.46	0.0101	0.0001	0.09	OE
PWTMJ2		0.00873	-0.0017	-1.23	0.00850	-0.0015	-1.15	OE
Q2YM8C	*	0.0119	0.0015	1.13	0.00953	-0.0005	-0.36	OE
Q7B23B		0.0100	-0.0004	-0.29	0.0100	0.0000	-0.01	OE
QELXV3		0.0108	0.0004	0.28	0.0105	0.0005	0.37	OE
R6EZH6		0.0100	-0.0004	-0.29	0.00900	-0.0010	-0.77	OE
R7BCLK		0.0116	0.0012	0.93	0.0115	0.0015	1.11	OE
RA8B4J		0.0115	0.0011	0.85	0.0112	0.0012	0.93	OE
RD88JH		0.0110	0.0006	0.46	0.0110	0.0010	0.75	OE
RFFGCF		0.0100	-0.0004	-0.29	0.0100	0.0000	-0.01	OE
TPKQJ6		0.00940	-0.0010	-0.74	0.00917	-0.0008	-0.64	OE
U9TBRE		0.0122	0.0018	1.32	0.0117	0.0017	1.31	OE
UHGLAF	*	0.0107	0.0003	0.21	0.0120	0.0020	1.51	OE
VHBQ4E		0.0106	0.0002	0.16	0.0104	0.0004	0.30	OE
VP89BG		0.00900	-0.0014	-1.03	0.00900	-0.0010	-0.77	IC
VQKMW6	X	0.000667	-0.0097	-7.23	0.000667	-0.0093	-7.09	GD
VVUHGM		0.0100	-0.0004	-0.29	0.00900	-0.0010	-0.77	OE
VYTUE9		0.00760	-0.0028	-2.07	0.00673	-0.0033	-2.49	OE
W2JTA4		0.0140	0.0036	2.69	0.0130	0.0030	2.27	DR
WC3K33		0.00897	-0.0014	-1.06	0.00897	-0.0010	-0.79	OE
WPMYQE		0.00997	-0.0004	-0.31	0.00963	-0.0004	-0.29	OE
XRAAAY		0.0120	0.0016	1.20	0.0116	0.0016	1.23	OE
XWHY3L	X	0.0160	0.0056	4.18	0.0157	0.0057	4.29	OE
XZYLE7		0.00907	-0.0013	-0.98	0.00853	-0.0015	-1.12	OE
ZMP3Y6		0.0108	0.0004	0.31	0.0104	0.0004	0.27	OE

Summary Statistics

	Sample L49		Sample L50	
Grand Means	0.0104	Percent	0.0100	Percent
Stnd Dev Btwn Labs	0.0013	Percent	0.0013	Percent

Samples L49, L50 : AISI 4820, AISI 4820

Statistics based on 64 of 75 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)	XX	Please Indicate Method Used for Current Element

Comments on Assigned Data Flags for Test #179

69D9G4 (X) - Data for both samples are high. Possible Systematic Error.

AJDCPT (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample L50.

CN2CYC (X) - Data for both samples are low. Possible Systematic Error.

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

MWXAXH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L49.

VQKMW6 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L50.

XWHY3L (X) - Data for both samples are high. Possible Systematic Error.

SAMPLE L49
0.0104 Percent

SAMPLE L50
0.0100 Percent