



Fasteners & Metals Testing Program

Summary Report # 87 - 3rd Q 2009

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ABOUT THE FASTENERS & METALS PROGRAM

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

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

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

ABOUT CTS

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 50 countries, currently participate in the CTS programs.

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Key for Fasteners & Metals Program Web Summary Report

- WebCode** - Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Report published on the CTS web site.
- 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 Flag	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 except 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.

Interlaboratory Testing Program for Metals

Analysis 105

Tensile Strength (Flat Aluminum) - ksi

ASTM B557

WebCode	Data Flag	Sample R79			Sample R80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1CW5BS		50.20	-0.20	-0.52	48.48	-0.95	-1.57	ZZ
1K7EK9		51.00	0.60	1.53	49.80	0.37	0.62	ZZ
2DYSCL		50.40	0.00	0.00	49.30	-0.13	-0.21	ZZ
42167Q		50.20	-0.20	-0.52	48.90	-0.53	-0.88	ZZ
4HBS1V		50.50	0.10	0.25	50.20	0.77	1.28	ZZ
4RQM8A		49.93	-0.47	-1.22	49.13	-0.30	-0.49	ZZ
5HEKM9		51.00	0.60	1.53	50.13	0.70	1.17	ZZ
6WZFN3		49.80	-0.60	-1.55	48.80	-0.63	-1.04	ZZ
7743PA	X	47.20	-3.20	-8.23	48.00	-1.43	-2.37	ZZ
7SPH42		50.35	-0.05	-0.12	49.39	-0.03	-0.06	ZZ
83YDQT	*	50.70	0.30	0.76	51.00	1.57	2.61	ZZ
93HG XU	*	50.70	0.30	0.76	50.90	1.47	2.44	ZZ
AZ8CP4		50.40	0.00	-0.01	49.40	-0.03	-0.05	ZZ
C4P9TV		50.60	0.20	0.51	49.60	0.17	0.29	ZZ
DJCG4A		49.50	-0.90	-2.32	48.30	-1.13	-1.87	ZZ
EZJESL		50.91	0.51	1.30	49.89	0.47	0.77	ZZ
G17ABP		51.13	0.73	1.87	50.13	0.70	1.16	ZZ
GPGTWY		50.20	-0.20	-0.52	48.93	-0.50	-0.83	ZZ
H5CR6Y		50.00	-0.40	-1.04	48.70	-0.73	-1.21	ZZ
J3YQBA		50.40	0.00	-0.01	49.50	0.07	0.12	ZZ
K9859S		50.50	0.10	0.25	49.40	-0.03	-0.05	ZZ
LA1UZJ		50.40	0.00	-0.01	49.20	-0.23	-0.38	ZZ
LKCXNE		50.10	-0.30	-0.78	48.90	-0.53	-0.88	ZZ
LPGT2V		50.90	0.50	1.28	49.60	0.17	0.29	ZZ
M2FRZR		50.80	0.40	1.02	49.80	0.37	0.62	ZZ
MEQR2E		50.20	-0.20	-0.52	49.10	-0.33	-0.54	ZZ
NJ1LKE		50.20	-0.20	-0.52	49.10	-0.33	-0.54	ZZ
P96PJ6		50.90	0.50	1.29	50.17	0.74	1.23	ZZ
QFJFFN		50.40	0.00	-0.01	49.10	-0.33	-0.54	ZZ
QKQ82T		50.37	-0.03	-0.08	49.35	-0.07	-0.12	ZZ
QZV32V		50.40	0.00	-0.01	49.30	-0.13	-0.21	ZZ
RW5YJH		50.60	0.20	0.51	49.60	0.17	0.29	ZZ
S7P2P2		50.10	-0.30	-0.78	49.60	0.17	0.29	ZZ
U8U3Y9	X	52.03	1.62	4.17	48.43	-0.99	-1.65	ZZ
VKKA36		49.66	-0.74	-1.91	48.82	-0.61	-1.01	ZZ
W8PCS9		50.64	0.24	0.61	49.45	0.02	0.04	ZZ
XDTYC3		50.00	-0.40	-1.04	49.00	-0.43	-0.71	ZZ
ZJSZC2	X	51.50	1.10	2.82	49.50	0.07	0.12	ZZ

Summary Statistics

	Sample R79	Sample R80
Grand Means	50.403 ksi	49.430 ksi
Std Dev Btwn Labs	0.389 ksi	0.602 ksi

Statistics based on 35 of 38 reporting participants

Samples R79 , R80 : 6061-T6

Interlaboratory Testing Program for Metals

Analysis 105

Tensile Strength (Flat Aluminum) - ksi

ASTM B557

Analysis Notes for Test #105

Testing results for the webcode XDTYC3 appeared to be transposed between samples.
Data corrected by CTS.

Comments on assigned Data Flags for Test #105

7743PA (X) - Low data for Sample R79.

U8U3Y9 (X) - High data for Sample R79.

ZJSZC2 (X) - High data for Sample R79.

Interlaboratory Testing Program for Metals

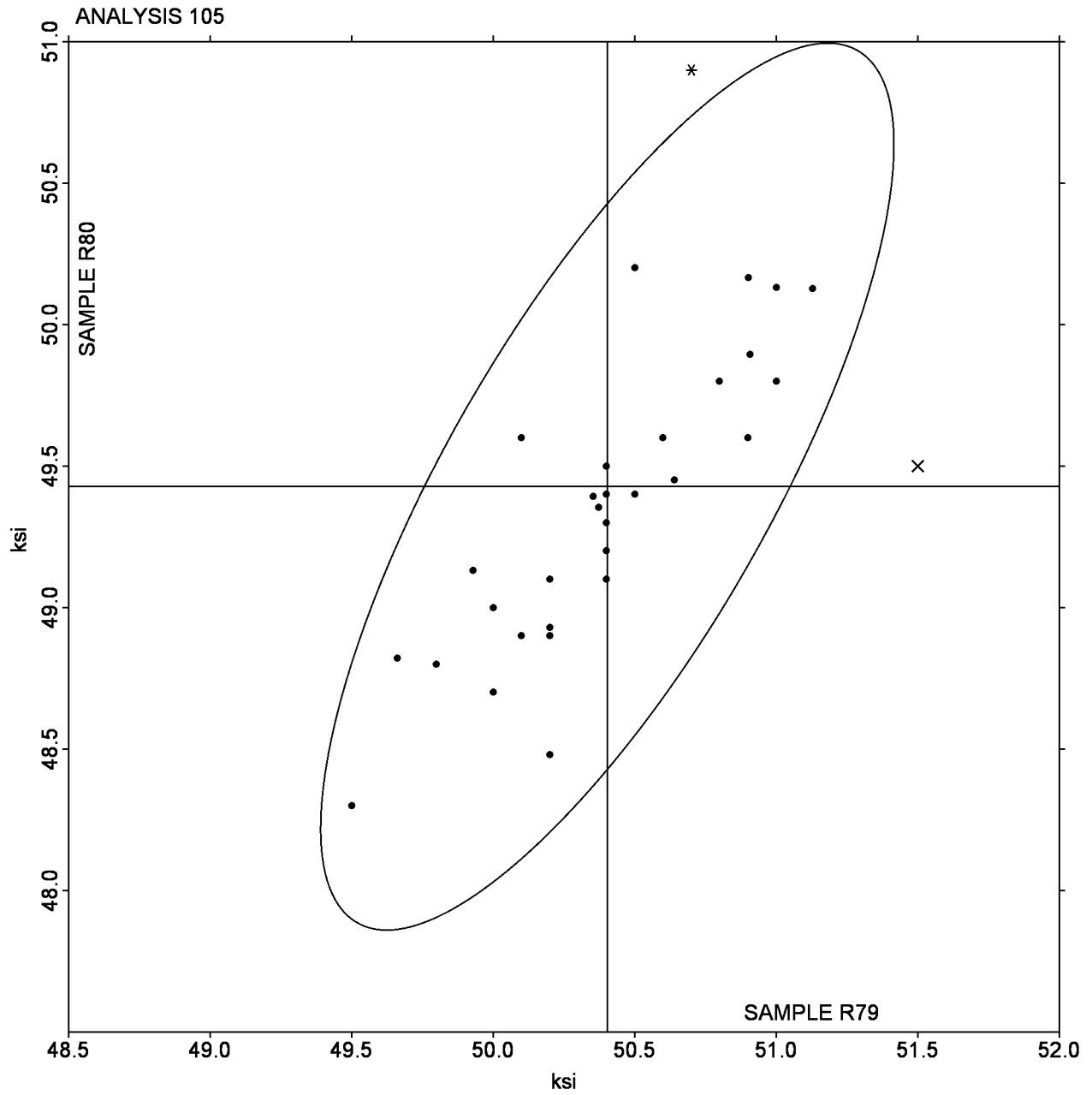
Analysis 105

Tensile Strength (Flat Aluminum) - ksi

ASTM B557

SAMPLE R79 = 50.403 ksi

SAMPLE R80 = 49.430 ksi



Interlaboratory Testing Program for Metals

Analysis 106

Yield Strength (Flat Aluminum) - ksi

ASTM B557

WebCode	Data Flag	Sample R79			Sample R80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1AZFGL		45.92	-0.04	-0.08	39.99	0.05	0.08	ZZ
2LNT29		46.43	0.47	0.99	40.57	0.63	1.02	ZZ
4FW6J9		45.23	-0.73	-1.51	39.57	-0.37	-0.60	ZZ
5TQ4LP		44.90	-1.06	-2.20	38.50	-1.44	-2.34	ZZ
633VHX	X	48.41	2.45	5.10	39.86	-0.08	-0.14	ZZ
93GQYV		45.40	-0.56	-1.16	39.10	-0.84	-1.37	ZZ
989T49		45.88	-0.08	-0.17	39.96	0.02	0.04	ZZ
9P4R9Y		46.00	0.04	0.09	40.00	0.06	0.10	ZZ
A4W6YW		46.65	0.70	1.45	40.52	0.58	0.94	ZZ
BJBHR	*	46.70	0.74	1.55	39.80	-0.14	-0.23	ZZ
DDFJ3Y		46.10	0.14	0.30	40.00	0.06	0.10	ZZ
E9XSAN		45.90	-0.06	-0.12	40.30	0.36	0.58	ZZ
FCFBVK		45.50	-0.46	-0.95	39.50	-0.44	-0.72	ZZ
FMEBKX		45.77	-0.19	-0.39	39.67	-0.27	-0.44	ZZ
FWZSRW		46.10	0.14	0.30	40.10	0.16	0.26	ZZ
G1CEAY	X	44.20	-1.76	-3.65	39.60	-0.34	-0.55	ZZ
G6VYZW		47.00	1.04	2.17	41.00	1.06	1.72	ZZ
H2HEHK		45.60	-0.36	-0.74	39.40	-0.54	-0.88	ZZ
H3EM4A		46.10	0.14	0.30	39.80	-0.14	-0.23	ZZ
H9BGQT	X	46.10	0.14	0.30	46.00	6.06	9.86	ZZ
HWJYXS		45.50	-0.46	-0.95	39.70	-0.24	-0.39	ZZ
JGHAYS	X	44.06	-1.89	-3.94	40.44	0.50	0.81	ZZ
JU1REP		46.00	0.04	0.09	39.90	-0.04	-0.07	ZZ
K8RYLR		46.40	0.44	0.92	40.30	0.36	0.58	ZZ
LSWEKF		46.10	0.14	0.30	40.80	0.86	1.40	ZZ
PH6UYS		45.66	-0.30	-0.63	39.67	-0.28	-0.45	ZZ
PZBZUV		46.00	0.04	0.09	39.90	-0.04	-0.07	ZZ
RB8498	X	46.60	0.64	1.34	38.60	-1.34	-2.18	ZZ
TAY17F		46.20	0.24	0.51	41.00	1.06	1.72	ZZ
TDT83G	*	45.50	-0.46	-0.95	38.50	-1.44	-2.34	ZZ
TDUY76		46.70	0.75	1.55	40.61	0.67	1.09	ZZ
U94NL1		46.51	0.55	1.15	40.83	0.89	1.45	ZZ
UA6TAY		46.07	0.11	0.24	39.55	-0.39	-0.64	ZZ
VZLXNL	X	42.90	-3.06	-6.35	38.30	-1.64	-2.67	ZZ
X62FB1		45.30	-0.66	-1.36	39.40	-0.54	-0.88	ZZ
XT3JG7		46.08	0.12	0.26	40.07	0.13	0.21	ZZ
XW5EBE		46.00	0.04	0.09	40.40	0.46	0.75	ZZ
ZHJM1C		45.40	-0.56	-1.16	39.70	-0.24	-0.39	ZZ

Summary Statistics

	Sample R79	Sample R80
Grand Means	45.956 ksi	39.940 ksi
Std Dev Btwn Labs	0.481 ksi	0.615 ksi

Statistics based on 32 of 38 reporting participants

Samples R79 , R80 : 6061-T6

Interlaboratory Testing Program for Metals

Analysis 106

Yield Strength (Flat Aluminum) - ksi

ASTM B557

Analysis Notes for Test #106

Testing results for the webcode RB8498 appeared to be transposed between samples.
Data corrected by CTS.

Comments on assigned Data Flags for Test #106

- 633VHX (X) - High data for Sample R79.
- G1CEAY (X) - Low data for Sample R79.
- H9BGQT (X) - High data for Sample R80.
- JGHAYS (X) - Low data for Sample R79.
- RB8498 (X) - Inconsistent in testing between samples.
- VZLXNL (X) - Data for both samples are low.

Interlaboratory Testing Program for Metals

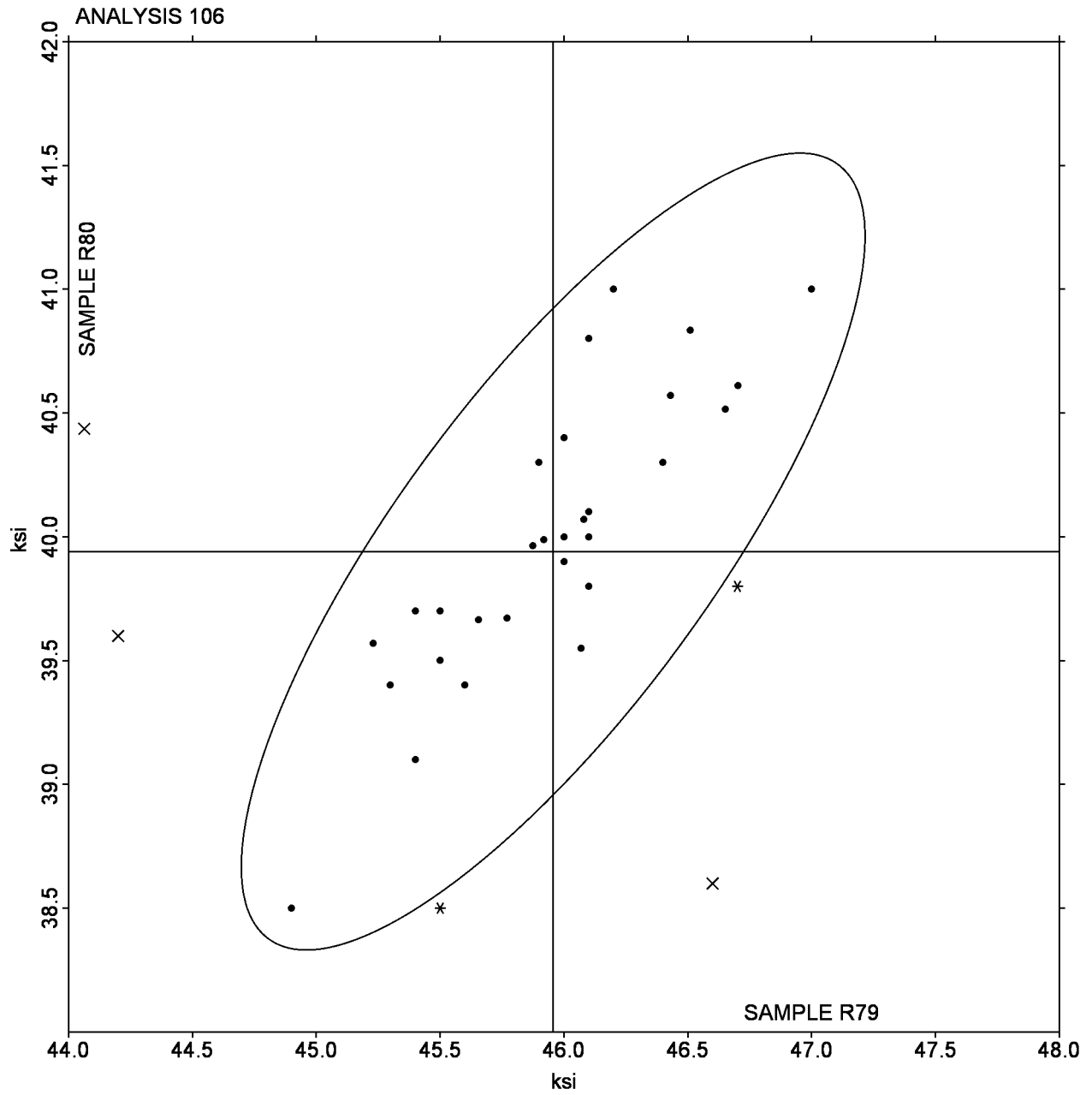
Analysis 106

Yield Strength (Flat Aluminum) - ksi

ASTM B557

SAMPLE R79 = 45.956 ksi

SAMPLE R80 = 39.940 ksi



Interlaboratory Testing Program for Metals

Analysis 107

Elongation (Flat Aluminum) - Percent

ASTM B557

WebCode	Data Flag	Sample R79			Sample R80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
144QQA		12.00	0.27	0.25	15.00	-1.51	-1.37	ZZ
155MJK		11.35	-0.39	-0.36	16.06	-0.45	-0.41	ZZ
2P91NH		11.50	-0.24	-0.22	16.70	0.19	0.17	ZZ
557TR3		10.10	-1.64	-1.53	13.90	-2.61	-2.37	ZZ
836W13		11.50	-0.24	-0.22	15.50	-1.01	-0.92	ZZ
8G6VPZ		13.00	1.27	1.18	17.50	0.99	0.90	ZZ
9BPJWZ	*	9.80	-1.94	-1.81	17.00	0.49	0.44	ZZ
9HVV3G		11.50	-0.24	-0.22	16.00	-0.51	-0.46	ZZ
9JK221		13.00	1.27	1.18	16.50	-0.01	-0.01	ZZ
9SSJPU		11.91	0.18	0.16	16.05	-0.46	-0.42	ZZ
A8NJTR		13.10	1.37	1.28	16.60	0.09	0.08	ZZ
AG8M81		12.50	0.77	0.72	16.00	-0.51	-0.46	ZZ
DFWLLX		11.33	-0.41	-0.38	15.87	-0.64	-0.58	ZZ
EYUQSW		11.20	-0.54	-0.50	16.50	-0.01	-0.01	ZZ
F1NQPM		12.20	0.47	0.44	17.30	0.79	0.72	ZZ
FXNW8P		11.70	-0.04	-0.03	17.30	0.79	0.72	ZZ
GPA9NG		13.60	1.87	1.75	18.60	2.09	1.90	ZZ
GR55V4		11.60	-0.14	-0.13	16.53	0.02	0.02	ZZ
GV5FR4		11.17	-0.57	-0.53	16.40	-0.11	-0.10	ZZ
H11E4S	*	10.00	-1.74	-1.62	17.80	1.29	1.17	ZZ
H11TMH		13.00	1.27	1.18	17.00	0.49	0.44	ZZ
H9MZ8J		11.50	-0.24	-0.22	16.00	-0.51	-0.46	ZZ
HWJHL7		11.50	-0.24	-0.22	15.50	-1.01	-0.92	ZZ
HXKWDW		11.00	-0.74	-0.69	16.00	-0.51	-0.46	ZZ
N7KY75		10.65	-1.09	-1.02	14.58	-1.93	-1.75	ZZ
PMVFJK		10.00	-1.74	-1.62	15.50	-1.01	-0.92	ZZ
PWKKQB		14.00	2.27	2.12	18.00	1.49	1.35	ZZ
Q3HPWJ		11.80	0.07	0.06	16.90	0.39	0.35	ZZ
Q41XFR		12.55	0.82	0.76	17.83	1.32	1.20	ZZ
SJMMP7		10.60	-1.14	-1.06	14.70	-1.81	-1.64	ZZ
TCNBAE		10.10	-1.64	-1.53	15.20	-1.31	-1.19	ZZ
U6CL6M		12.30	0.57	0.53	17.90	1.39	1.26	ZZ
UG2T8F		13.20	1.47	1.37	17.80	1.29	1.17	ZZ
ULQJAA		13.00	1.27	1.18	17.90	1.39	1.26	ZZ
VSCNYX		11.00	-0.74	-0.69	15.50	-1.01	-0.92	ZZ
W8HBKL		12.67	0.94	0.87	18.00	1.49	1.35	ZZ
WRM1CX		12.00	0.27	0.25	17.00	0.49	0.44	ZZ
X1N3U1		11.00	-0.74	-0.69	17.00	0.49	0.44	ZZ

Summary Statistics

	Sample R79	Sample R80
Grand Means	11.735 Percent	16.510 Percent
Std Dev Btwn Labs	1.069 Percent	1.102 Percent

Statistics based on 38 of 38 reporting participants

Samples R79 , R80 : 6061-T6

Interlaboratory Testing Program for Metals

Analysis 107

Elongation (Flat Aluminum) - Percent

ASTM B557

Analysis Notes for Test #107

No "X" flags were assigned for this analysis.

Testing results for the webcode X1N3U1 appeared to be transposed between samples.

Data corrected by CTS.

Interlaboratory Testing Program for Metals

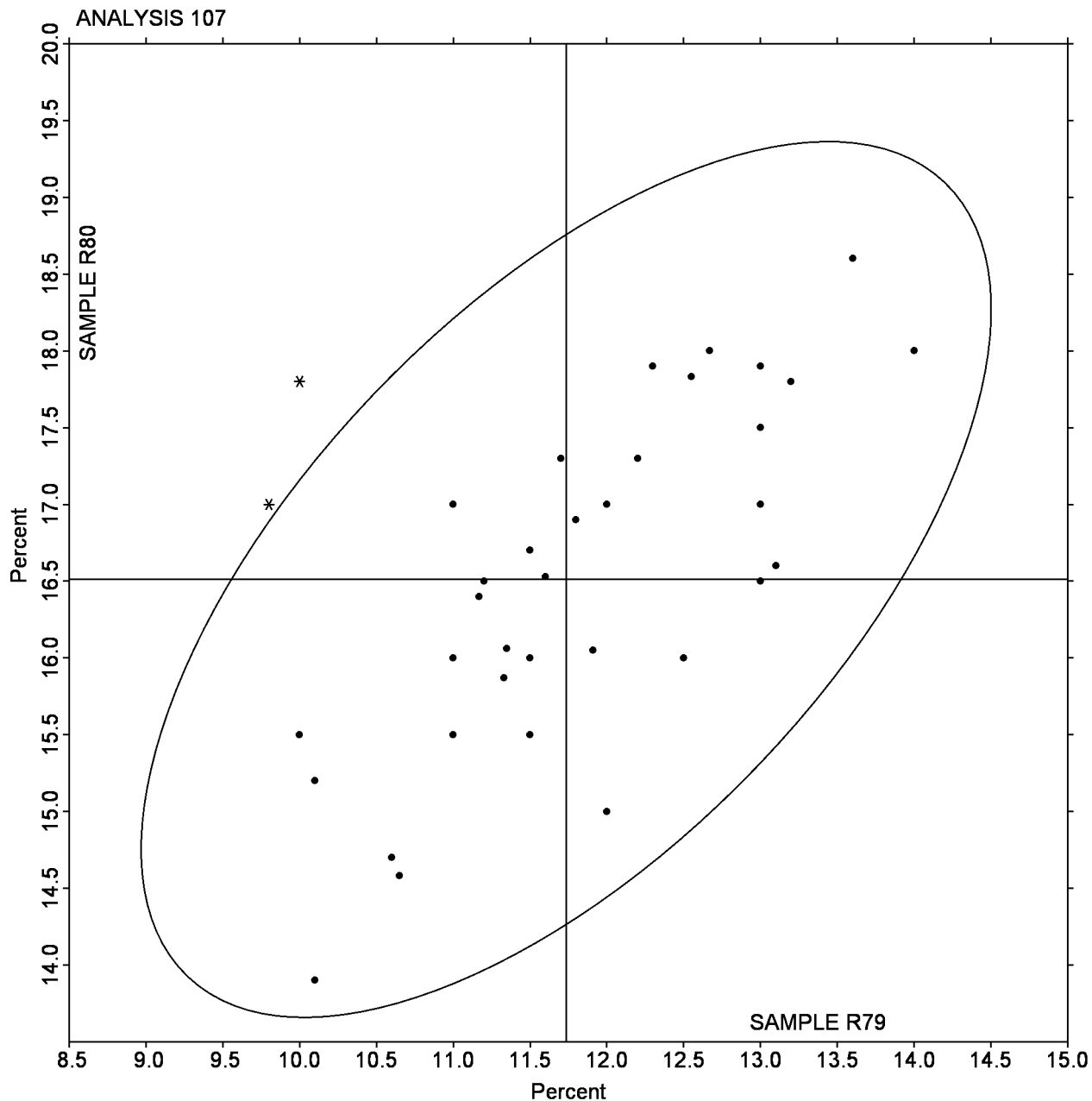
Analysis 107

Elongation (Flat Aluminum) - Percent

ASTM B557

SAMPLE R79 = 11.735 Percent

SAMPLE R80 = 16.510 Percent



Interlaboratory Testing Program for Metals

Analysis 110

Tensile Strength (Pre-Machined Round Steel) - ksi

ASTM E8

WebCode	Data Flag	Sample A79			Sample A80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
31DPR1		74.38	0.52	0.60	75.49	0.67	0.89	ZZ
3BZ98X		73.00	-0.86	-1.00	74.50	-0.32	-0.43	ZZ
3KGNMD		73.90	0.04	0.04	74.40	-0.42	-0.56	ZZ
3SWHDK	X	76.00	2.14	2.47	73.00	-1.82	-2.44	ZZ
4AJCFX		73.20	-0.66	-0.77	74.30	-0.52	-0.70	ZZ
4KRUBL		72.77	-1.10	-1.27	74.16	-0.66	-0.88	ZZ
5AVXLH		74.80	0.94	1.08	75.20	0.38	0.51	ZZ
5J3JL4		73.53	-0.33	-0.39	74.50	-0.32	-0.43	ZZ
5UB4AJ		73.73	-0.13	-0.16	74.60	-0.22	-0.29	ZZ
6BZ6N3		75.72	1.86	2.15	76.20	1.38	1.85	ZZ
7D6PLY		75.19	1.32	1.53	75.61	0.79	1.06	ZZ
84PBDQ		74.20	0.34	0.39	75.20	0.38	0.51	ZZ
8KDXY5	X	73.30	-0.56	-0.65	72.57	-2.25	-3.01	ZZ
8PDLMK		73.20	-0.66	-0.77	74.60	-0.22	-0.29	ZZ
8WPFLT		74.70	0.84	0.97	75.70	0.88	1.18	ZZ
9V9BFM		74.20	0.34	0.39	74.50	-0.32	-0.43	ZZ
B5XQ43		72.44	-1.43	-1.65	74.02	-0.80	-1.07	ZZ
GCD9Y9		73.30	-0.56	-0.65	74.40	-0.42	-0.56	ZZ
HL2CNP		73.90	0.04	0.04	75.10	0.28	0.38	ZZ
HVLGA9		73.90	0.04	0.04	74.90	0.08	0.11	ZZ
JSHX3T		72.59	-1.27	-1.47	73.62	-1.20	-1.61	ZZ
KZ4DXR		73.40	-0.46	-0.54	74.40	-0.42	-0.56	ZZ
LEZ57U		74.22	0.35	0.41	75.28	0.46	0.61	ZZ
MMD9ZQ		73.90	0.04	0.04	74.40	-0.42	-0.56	ZZ
MNWS42		73.90	0.04	0.04	74.80	-0.02	-0.03	ZZ
MZFS9D		73.00	-0.86	-1.00	74.00	-0.82	-1.10	ZZ
NNZDUH		74.00	0.14	0.16	75.10	0.28	0.38	ZZ
NW6FH2	*	72.70	-1.16	-1.35	73.20	-1.62	-2.17	ZZ
P7MD4E	X	74.01	0.15	0.17	76.51	1.69	2.26	ZZ
PYQLTZ		72.10	-1.76	-2.04	73.25	-1.57	-2.11	ZZ
QF1H45		73.40	-0.46	-0.54	74.00	-0.82	-1.10	ZZ
RJ8DTP		74.60	0.74	0.85	75.20	0.38	0.51	ZZ
RKDH1W		75.29	1.43	1.65	75.75	0.93	1.25	ZZ
SLUY4N		74.09	0.22	0.26	74.85	0.03	0.04	ZZ
T6P1MH	M				74.70	-0.12	-0.17	ZZ
TXXSWZ	*	73.79	-0.07	-0.09	75.65	0.83	1.11	ZZ
UQXR2A		73.88	0.02	0.02	75.00	0.18	0.24	ZZ
VM8M2B		75.80	1.94	2.24	76.20	1.38	1.85	ZZ
VT4PKM		73.00	-0.86	-1.00	74.00	-0.82	-1.10	ZZ
VW1UZ7		73.31	-0.55	-0.64	74.54	-0.28	-0.37	ZZ
WZCPBA		74.20	0.34	0.39	75.20	0.38	0.51	ZZ
XBFKHN		73.60	-0.26	-0.31	75.00	0.18	0.24	ZZ
YFZS26		75.20	1.34	1.54	76.30	1.48	1.98	ZZ
YNVAYP		74.60	0.74	0.85	75.70	0.88	1.18	ZZ
YPHUME		73.80	-0.06	-0.07	74.80	-0.02	-0.03	ZZ

Interlaboratory Testing Program for Metals
Analysis 110
Tensile Strength (Pre-Machined Round Steel) - ksi
ASTM E8

Summary Statistics

	Sample A79	Sample A80
Grand Means	73.864 ksi	74.820 ksi
Std Dev Btwn Labs	0.865 ksi	0.746 ksi
Statistics based on 41 of 45 reporting participants		

Samples A79 , A80 : AISI 1018

Comments on assigned Data Flags for Test #110

- 3SWHDK (X) - Inconsistent in testing between samples.
- 8KDXYS (X) - Low data for Sample A80.
- P7MD4E (X) - Inconsistent in testing between samples.
- T6P1MH (M) - Laboratory did not submit data for Sample A79.

Interlaboratory Testing Program for Metals

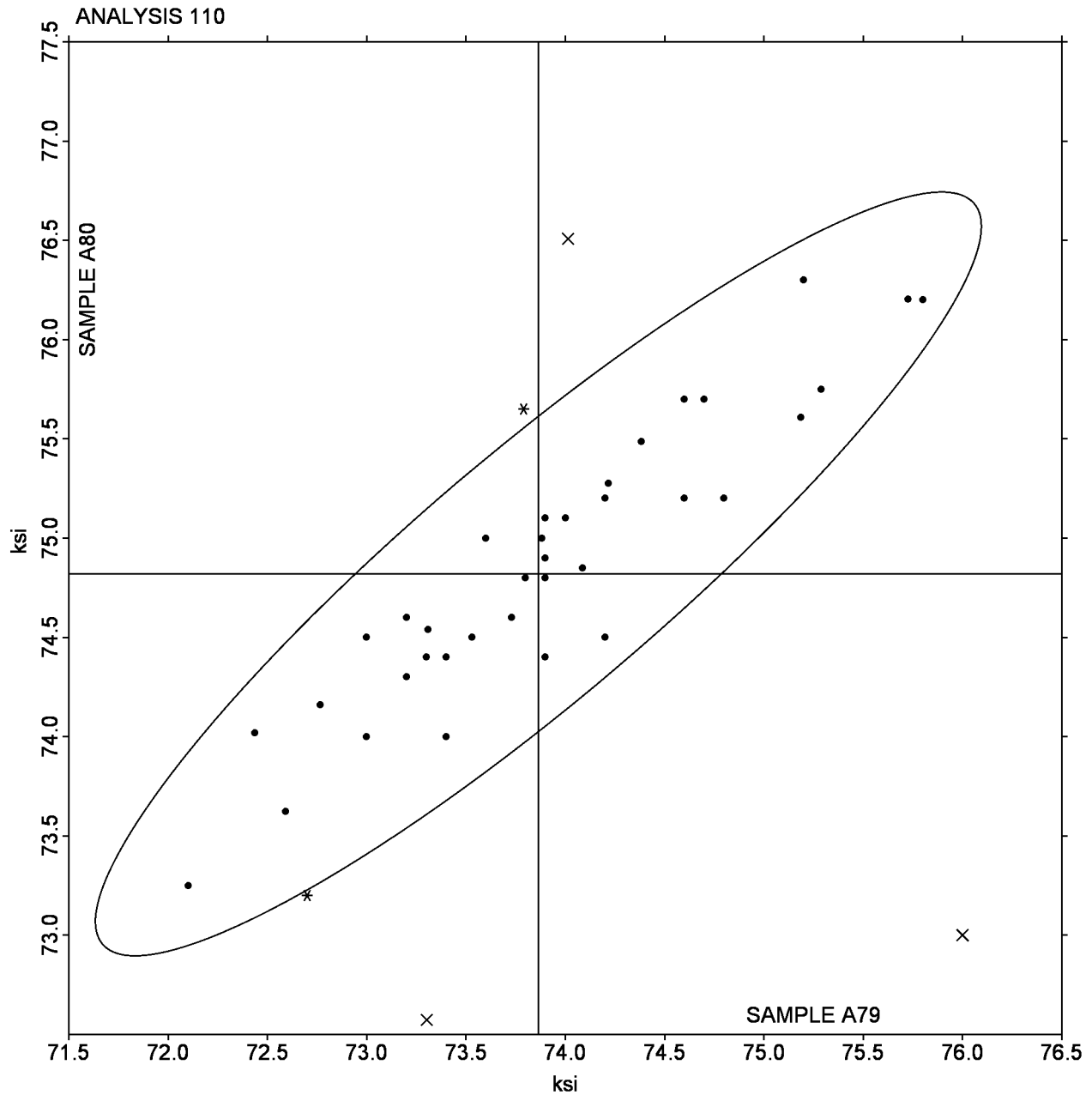
Analysis 110

Tensile Strength (Pre-Machined Round Steel) - ksi

ASTM E8

SAMPLE A79 = 73.864 ksi

SAMPLE A80 = 74.820 ksi



Interlaboratory Testing Program for Metals

Analysis 111

Yield Strength - ksi

ASTM E8

WebCode	Data Flag	Sample A79			Sample A80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1PRXWG		53.70	2.65	0.79	56.20	4.79	1.37	ZZ
1ZE5B4		49.60	-1.45	-0.43	48.60	-2.81	-0.81	ZZ
2JSW3C		59.30	8.25	2.45	59.80	8.39	2.40	ZZ
5614NG		53.60	2.55	0.76	52.20	0.79	0.22	ZZ
5UXGYY		51.74	0.69	0.20	54.90	3.48	1.00	ZZ
6BQ87Q		51.64	0.59	0.18	55.50	4.09	1.17	ZZ
6D7SKG		50.95	-0.10	-0.03	52.40	0.99	0.28	ZZ
6URJE4	M				53.04	1.63	0.47	ZZ
8KEARK		51.80	0.75	0.22	51.20	-0.21	-0.06	ZZ
9NDDZT		49.50	-1.55	-0.46	47.70	-3.71	-1.06	ZZ
9RZ4HE		51.70	0.65	0.19	52.10	0.69	0.20	ZZ
AHW342		53.30	2.25	0.67	54.80	3.39	0.97	ZZ
BAJD8Z		55.10	4.05	1.20	56.90	5.49	1.57	ZZ
C81CDL		46.80	-4.25	-1.26	47.60	-3.81	-1.09	ZZ
CGBEZL		47.00	-4.05	-1.20	48.80	-2.61	-0.75	ZZ
CV7WGQ	*	46.15	-4.90	-1.46	50.82	-0.60	-0.17	ZZ
CZL26S		49.50	-1.55	-0.46	49.60	-1.81	-0.52	ZZ
DET4SG		54.50	3.45	1.03	54.50	3.09	0.88	ZZ
EX6EHR		46.95	-4.10	-1.22	46.28	-5.13	-1.47	ZZ
F51Z2Y		47.00	-4.05	-1.20	46.70	-4.71	-1.35	ZZ
FU1TZH		54.10	3.05	0.91	53.10	1.69	0.48	ZZ
FVZD4H		47.70	-3.35	-0.99	47.00	-4.41	-1.26	ZZ
GKJXXX		49.30	-1.75	-0.52	49.80	-1.61	-0.46	ZZ
HXVD13		50.46	-0.59	-0.17	50.59	-0.82	-0.24	ZZ
J1X7GQ		51.42	0.37	0.11	50.29	-1.13	-0.32	ZZ
JLAEQ8	*	51.10	0.05	0.02	46.70	-4.71	-1.35	ZZ
KEMPHF		45.09	-5.96	-1.77	46.54	-4.87	-1.39	ZZ
LKVA31		48.80	-2.25	-0.67	47.36	-4.05	-1.16	ZZ
MHD31L		53.43	2.38	0.71	55.83	4.42	1.26	ZZ
MYCDD4		56.60	5.55	1.65	56.40	4.99	1.43	ZZ
QPJ16X		51.92	0.88	0.26	53.93	2.51	0.72	ZZ
SMNAY9		46.76	-4.29	-1.27	47.33	-4.08	-1.17	ZZ
TPNHAW		52.40	1.35	0.40	51.60	0.19	0.05	ZZ
U8KC59		48.41	-2.63	-0.78	49.26	-2.16	-0.62	ZZ
UEFL5A		52.40	1.35	0.40	52.50	1.09	0.31	ZZ
VLTEGG	*	58.35	7.30	2.17	55.06	3.64	1.04	ZZ
VTGA6K		47.08	-3.97	-1.18	49.05	-2.37	-0.68	ZZ
W8F8MN		55.50	4.45	1.32	54.00	2.59	0.74	ZZ
WHBGYG		48.47	-2.58	-0.77	47.86	-3.55	-1.02	ZZ
Z1XTZR		51.60	0.55	0.16	52.40	0.99	0.28	ZZ
ZB6FRF		51.20	0.15	0.05	53.40	1.99	0.57	ZZ

Interlaboratory Testing Program for Metals

Analysis 111

Yield Strength - ksi

ASTM E8

Summary Statistics		
	Sample A79	Sample A80
Grand Means	51.048 ksi	51.410 ksi
Stnd Dev Btwn Labs	3.367 ksi	3.494 ksi
Statistics based on 40 of 41 reporting participants		

Samples A79 , A80 : AISI 1018**Comments on assigned Data Flags for Test #111**

6URJE4 (M) - Laboratory did not submit data for Sample L79.

Interlaboratory Testing Program for Metals

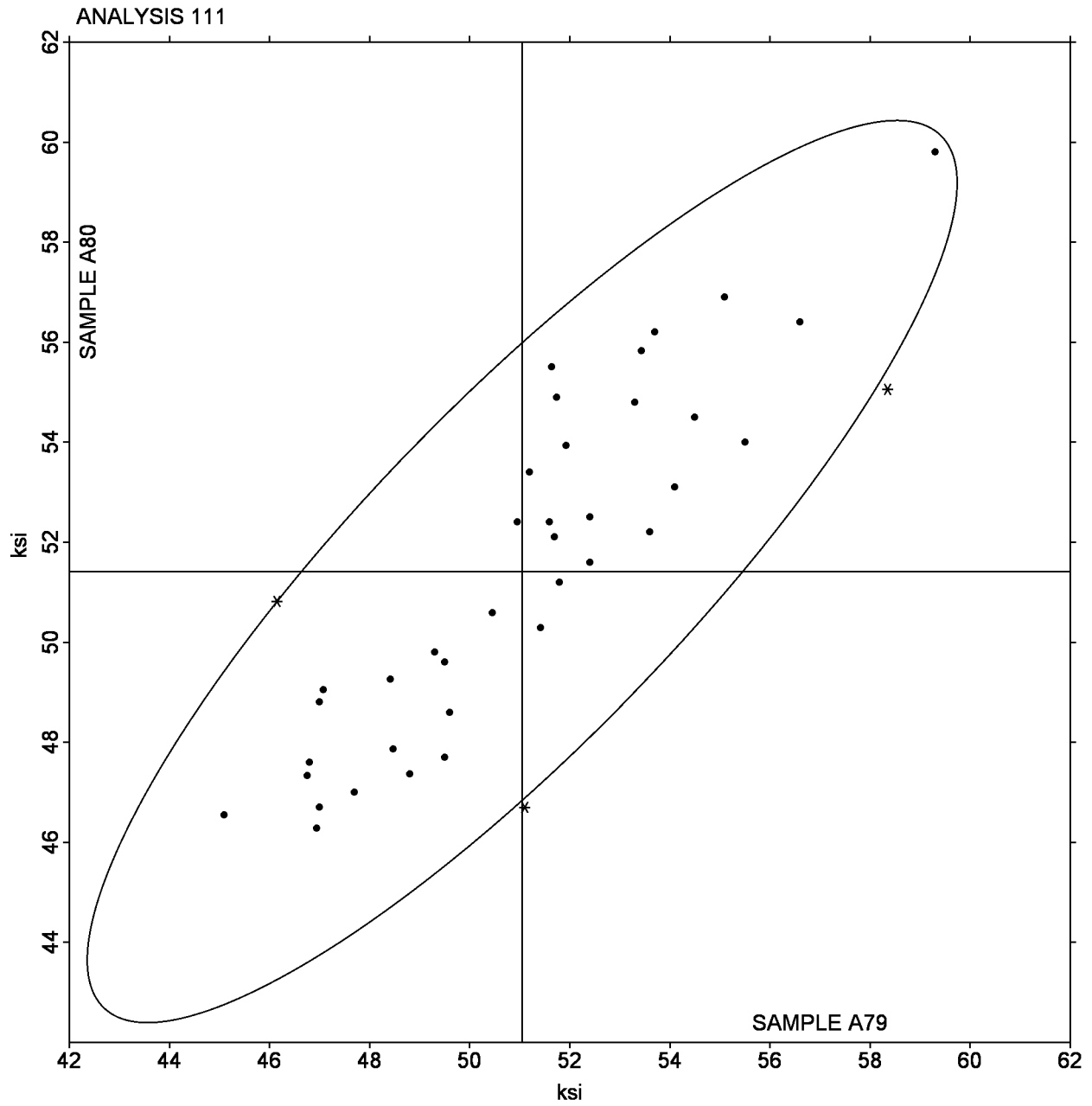
Analysis 111

Yield Strength - ksi

ASTM E8

SAMPLE A79 = 51.048 ksi

SAMPLE A80 = 51.410 ksi



Interlaboratory Testing Program for Metals

Analysis 112

Elongation - Percent increase (in 4XD)

ASTM E8

WebCode	Data Flag	Sample A79			Sample A80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1N8ZFC		33.66	0.81	0.70	31.97	0.03	0.03	ZZ
1RQPSL		32.50	-0.35	-0.31	31.50	-0.44	-0.43	ZZ
5B9ES3		33.70	0.85	0.74	32.50	0.56	0.54	ZZ
5BLBTW	X	39.96	7.11	6.18	31.16	-0.78	-0.76	ZZ
6HSQ9C		32.10	-0.75	-0.65	30.80	-1.14	-1.11	ZZ
6LGGT3	M				31.70	-0.24	-0.24	ZZ
6QZG8S		34.33	1.48	1.29	32.40	0.46	0.44	ZZ
6Y965S		32.00	-0.85	-0.74	31.00	-0.94	-0.92	ZZ
7S7N9V	*	32.20	-0.65	-0.57	33.50	1.56	1.52	ZZ
7V2CNY		33.30	0.45	0.39	33.20	1.26	1.22	ZZ
8FJFTJ		31.50	-1.35	-1.18	31.00	-0.94	-0.92	ZZ
8T53QV		31.30	-1.55	-1.35	31.10	-0.84	-0.82	ZZ
AEWS82		33.10	0.25	0.22	32.00	0.06	0.05	ZZ
AN3TAN	*	33.10	0.25	0.22	34.00	2.06	2.00	ZZ
B7EKE2		33.00	0.15	0.13	31.40	-0.54	-0.53	ZZ
BBMB43		34.80	1.95	1.69	33.10	1.16	1.13	ZZ
DH1V59		33.54	0.69	0.60	31.58	-0.36	-0.35	ZZ
DHGWA1		31.60	-1.25	-1.09	30.60	-1.34	-1.31	ZZ
EML6Q7		33.25	0.40	0.35	33.13	1.19	1.16	ZZ
FHBCES		34.00	1.15	1.00	33.00	1.06	1.03	ZZ
G5U276		34.00	1.15	1.00	31.40	-0.54	-0.53	ZZ
JD9AFT		33.20	0.35	0.30	32.20	0.26	0.25	ZZ
K5KTMV		30.20	-2.65	-2.31	30.60	-1.34	-1.31	ZZ
KB5SAG		30.50	-2.35	-2.05	31.10	-0.84	-0.82	ZZ
KSD5WG		33.60	0.75	0.65	31.80	-0.14	-0.14	ZZ
LZGBLA		33.80	0.95	0.82	33.20	1.26	1.22	ZZ
ME3JJA		32.60	-0.25	-0.22	31.10	-0.84	-0.82	ZZ
PYBKZR		32.40	-0.45	-0.39	32.00	0.06	0.05	ZZ
S5LHAM		34.00	1.15	1.00	33.00	1.06	1.03	ZZ
SUDCSZ	X	34.00	1.15	1.00	29.50	-2.44	-2.38	ZZ
T4TPCU		33.30	0.45	0.39	32.10	0.16	0.15	ZZ
THSV1M		35.50	2.65	2.30	34.20	2.26	2.20	ZZ
TMDCXA		31.30	-1.55	-1.35	30.50	-1.44	-1.41	ZZ
UBFA9B		32.40	-0.45	-0.39	31.00	-0.94	-0.92	ZZ
UQLAGM		33.00	0.15	0.13	31.50	-0.44	-0.43	ZZ
V92PZV		33.00	0.15	0.13	31.50	-0.44	-0.43	ZZ
W8VZP1		34.20	1.35	1.17	32.60	0.66	0.64	ZZ
W8ZY12		31.92	-0.93	-0.81	32.36	0.42	0.41	ZZ
WEB63G		33.20	0.35	0.30	31.50	-0.44	-0.43	ZZ
WQHBJD		33.70	0.85	0.74	33.40	1.46	1.42	ZZ
X3CPUX		33.40	0.55	0.48	32.30	0.36	0.35	ZZ
YDKLSW		32.30	-0.55	-0.48	32.20	0.26	0.25	ZZ
YTL6XS		33.00	0.15	0.13	32.00	0.06	0.05	ZZ
Z9QDFM		31.30	-1.55	-1.35	30.30	-1.64	-1.60	ZZ
ZXH5T3		31.00	-1.85	-1.61	30.00	-1.94	-1.89	ZZ

Interlaboratory Testing Program for Metals

Analysis 112

Elongation - Percent increase (in 4XD)

ASTM E8

Summary Statistics				
	Sample A79		Sample A80	
Grand Means	32.852	Percent	31.940	Percent
Std Dev Btwn Labs	1.150	Percent	1.027	Percent
Statistics based on 42 of 45 reporting participants				

Samples A79 , A80 : AISI 1018**Comments on assigned Data Flags for Test #112**

5BLBTW (X) - High data for Sample A79.

6LGGT3 (M) - Laboratory did not submit data for Sample A79.

SUDCSZ (X) - Inconsistent in testing between samples due to the fact that Sample A79 slipped out of threads as reported by lab.

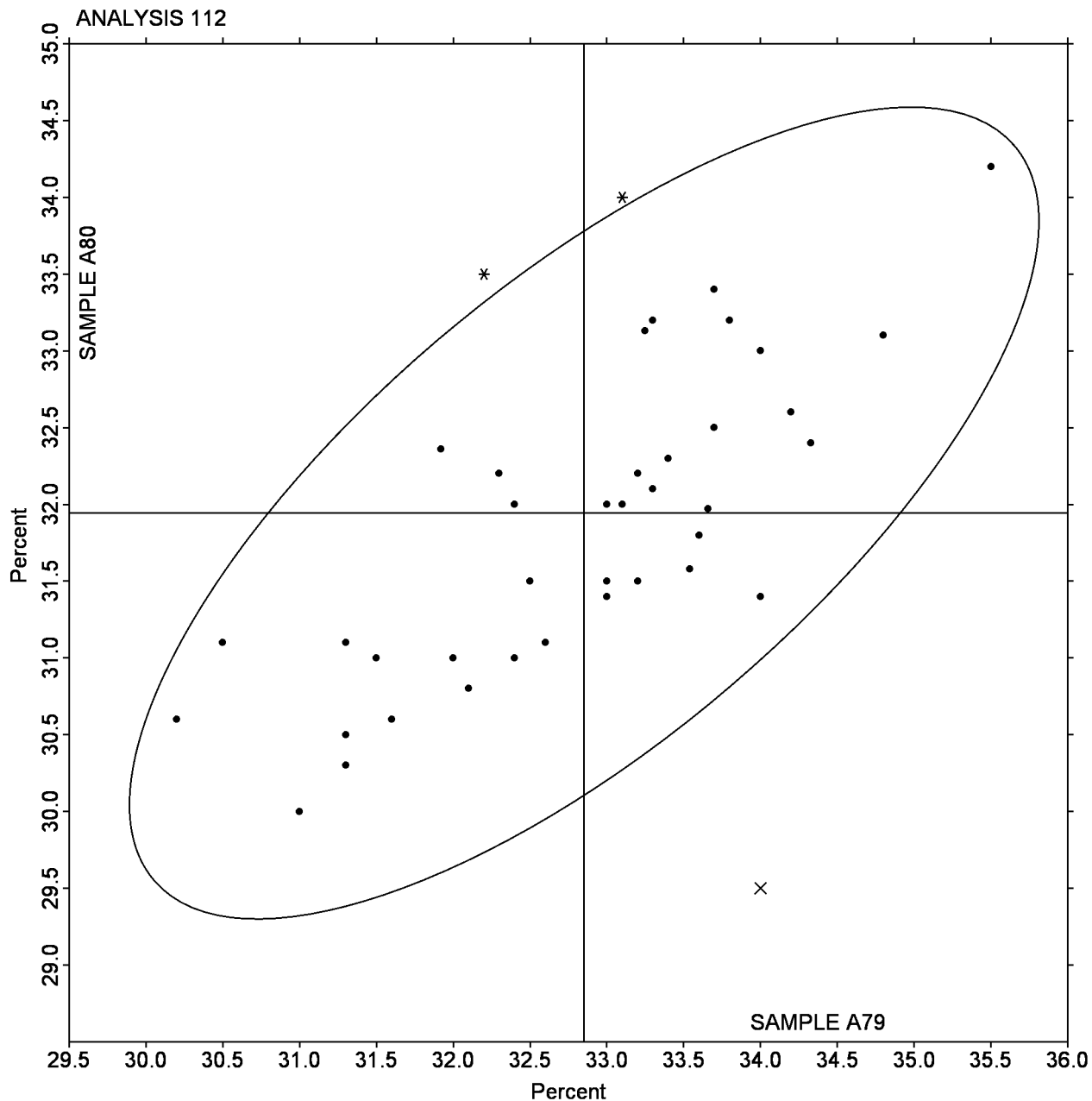
Interlaboratory Testing Program for Metals

Analysis 112

Elongation - Percent increase (in 4XD)

ASTM E8

SAMPLE A79 = 32.852 Percent SAMPLE A80 = 31.940 Percent



Interlaboratory Testing Program for Metals

Analysis 113

Reduction of Area - Percent

ASTM E8

WebCode	Data Flag	Sample A79			Sample A80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
2ZJNAV		67.10	1.47	1.44	66.00	1.82	1.82	ZZ
35M1JB		64.20	-1.43	-1.41	64.50	0.32	0.32	ZZ
4K8GW1		65.50	-0.13	-0.13	64.30	0.12	0.12	ZZ
52YC62		66.20	0.57	0.56	64.30	0.12	0.12	ZZ
61PFQ6		67.50	1.87	1.83	64.10	-0.08	-0.08	ZZ
6BBDTF		65.30	-0.33	-0.33	63.80	-0.38	-0.38	ZZ
7BAW61	M				63.60	-0.58	-0.58	ZZ
84MM9S		66.30	0.67	0.65	64.00	-0.18	-0.18	ZZ
85VMD3		65.70	0.07	0.07	63.80	-0.38	-0.38	ZZ
8DKG35		66.48	0.85	0.83	63.31	-0.87	-0.87	ZZ
9K42RK		65.90	0.27	0.26	64.70	0.52	0.52	ZZ
ARJ41C		66.50	0.87	0.85	63.40	-0.78	-0.78	ZZ
BRXF9M		64.87	-0.76	-0.75	64.53	0.35	0.35	ZZ
BX3N3R	X	59.00	-6.63	-6.51	60.00	-4.18	-4.17	ZZ
CBAQPG		66.00	0.37	0.36	65.60	1.42	1.42	ZZ
CJFT31		66.70	1.07	1.05	65.30	1.12	1.12	ZZ
CPLNRK		65.10	-0.53	-0.52	64.70	0.52	0.52	ZZ
D2YYJ2		63.70	-1.93	-1.90	62.20	-1.98	-1.98	ZZ
EUW6MG		67.10	1.47	1.44	63.90	-0.28	-0.28	ZZ
F2QSZ5	*	63.70	-1.93	-1.90	65.60	1.42	1.42	ZZ
G81ATS		65.00	-0.63	-0.62	64.00	-0.18	-0.18	ZZ
KGCWZ1		66.75	1.12	1.10	66.06	1.88	1.88	ZZ
L3YU7Z		66.80	1.17	1.15	64.33	0.15	0.15	ZZ
N6SGX9		65.20	-0.43	-0.42	62.00	-2.18	-2.17	ZZ
NNZFCT		66.90	1.27	1.24	64.50	0.32	0.32	ZZ
NZSGSR		66.00	0.37	0.36	64.10	-0.08	-0.08	ZZ
P4JHHR		66.60	0.97	0.95	65.90	1.72	1.72	ZZ
PWCL8P		64.80	-0.83	-0.82	62.50	-1.68	-1.68	ZZ
RT6ZFA		65.20	-0.43	-0.42	63.60	-0.58	-0.58	ZZ
SAZRP2		65.20	-0.43	-0.42	64.50	0.32	0.32	ZZ
SEU558		64.54	-1.09	-1.07	63.23	-0.95	-0.95	ZZ
T9XVJJ		66.60	0.97	0.95	63.80	-0.38	-0.38	ZZ
TZ3TRU		66.30	0.67	0.65	63.90	-0.28	-0.28	ZZ
U2TTMS		64.00	-1.63	-1.60	63.00	-1.18	-1.18	ZZ
U7LFC9		66.20	0.57	0.56	64.60	0.42	0.42	ZZ
UEX2EW		63.45	-2.18	-2.14	62.91	-1.27	-1.27	ZZ
UFKBYP		66.20	0.57	0.56	64.10	-0.08	-0.08	ZZ
VP4QW7		64.20	-1.43	-1.41	63.80	-0.38	-0.38	ZZ
W51M42	X	63.13	-2.50	-2.46	66.31	2.13	2.13	ZZ
W9H9DR		65.20	-0.43	-0.42	65.20	1.02	1.02	ZZ
WBMT7N		65.00	-0.63	-0.62	64.00	-0.18	-0.18	ZZ
WDB2HV		65.80	0.17	0.16	63.70	-0.48	-0.48	ZZ
WLNHLB		66.10	0.47	0.46	66.10	1.92	1.92	ZZ
Y6PPB2		65.50	-0.13	-0.13	64.70	0.52	0.52	ZZ
ZXXNGE		65.20	-0.43	-0.42	62.90	-1.28	-1.28	ZZ

Interlaboratory Testing Program for Metals

Analysis 113

Reduction of Area - Percent

ASTM E8

Summary Statistics

	Sample A79	Sample A80
Grand Means	65.633 Percent	64.180 Percent
Stnd Dev Btwn Labs	1.019 Percent	1.001 Percent
Statistics based on 42 of 45 reporting participants		

Samples A79 , A80 : AISI 1018**Comments on assigned Data Flags for Test #113**

7BAW61 (M) - Laboratory did not submit data for Sample A79.

BX3N3R (X) - Data for both samples are low.

W51M42 (X) - Inconsistent in testing between samples.

Interlaboratory Testing Program for Metals

Analysis 140

Tensile Strength (Lab-Machined Round Steel) - ksi

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
13TSRJ	X	74.70	1.17	1.50	73.80	-0.77	-0.96	ZZ
1VLJDB		72.95	-0.57	-0.73	74.41	-0.17	-0.21	ZZ
21SYL8		73.20	-0.32	-0.41	74.22	-0.36	-0.44	ZZ
2AUR6K		73.20	-0.33	-0.42	74.30	-0.27	-0.34	ZZ
2EYBGQ	*	73.97	0.44	0.57	73.53	-1.04	-1.29	ZZ
2V3GDT		73.30	-0.23	-0.29	73.90	-0.67	-0.84	ZZ
3CDB3Z		74.10	0.57	0.73	74.80	0.23	0.28	ZZ
3M5D3R		73.90	0.37	0.48	75.30	0.73	0.90	ZZ
3Z85A4		73.10	-0.43	-0.54	73.82	-0.75	-0.93	ZZ
4PQNHW		72.00	-1.53	-1.94	74.00	-0.57	-0.71	ZZ
5ARMGZ		72.60	-0.93	-1.18	73.40	-1.17	-1.46	ZZ
5JDZH3	X	72.80	-0.73	-0.93	76.10	1.53	1.89	ZZ
6S68N1		73.50	-0.03	-0.03	73.90	-0.67	-0.84	ZZ
6YMD1U		73.53	0.01	0.01	74.70	0.12	0.15	ZZ
75PB9T		73.77	0.25	0.32	74.79	0.21	0.26	ZZ
92XHAT		75.00	1.47	1.88	75.00	0.43	0.53	ZZ
9LQ21N		74.90	1.37	1.75	75.80	1.23	1.52	ZZ
AV1VS2		74.40	0.87	1.11	75.40	0.83	1.02	ZZ
AWEUW4		74.23	0.70	0.90	75.04	0.47	0.58	ZZ
B8VUDW		73.10	-0.43	-0.54	74.40	-0.17	-0.22	ZZ
C6T7TK		74.04	0.52	0.66	75.86	1.28	1.59	ZZ
CBNDND		72.50	-1.03	-1.31	73.10	-1.47	-1.83	ZZ
CW3MB2		72.80	-0.73	-0.93	74.20	-0.37	-0.46	ZZ
CWXMFL		73.54	0.01	0.02	74.84	0.27	0.33	ZZ
D2DBWC		73.90	0.37	0.48	75.40	0.83	1.02	ZZ
DLP29A		74.00	0.47	0.60	74.90	0.33	0.40	ZZ
DM8HJ6	X	77.10	3.57	4.56	76.30	1.73	2.14	ZZ
DWT85Q	*	74.52	1.00	1.27	76.51	1.94	2.40	ZZ
E9LZTS		72.10	-1.43	-1.82	72.60	-1.97	-2.45	ZZ
EGELUQ		72.60	-0.93	-1.18	73.90	-0.67	-0.84	ZZ
EJ6K8M		72.70	-0.83	-1.05	73.30	-1.27	-1.58	ZZ
EJ7MR1		74.70	1.17	1.50	76.40	1.83	2.26	ZZ
EQ2EEF	*	75.57	2.04	2.60	75.42	0.85	1.05	ZZ
EUV432		72.80	-0.73	-0.93	74.50	-0.07	-0.09	ZZ
EVVUEJ		73.50	-0.03	-0.03	74.30	-0.27	-0.34	ZZ
FU1B6V		73.36	-0.17	-0.21	74.29	-0.28	-0.35	ZZ
FW2GAL	X	76.57	3.04	3.87	75.45	0.87	1.08	ZZ
FWFGYR		73.82	0.30	0.38	75.42	0.85	1.05	ZZ
GNY1QU		73.20	-0.33	-0.42	74.90	0.33	0.40	ZZ
GSXEDK		73.60	0.07	0.09	74.80	0.23	0.28	ZZ
GTSB2K		73.40	-0.13	-0.16	75.10	0.53	0.65	ZZ
GUKGBY		72.55	-0.98	-1.25	74.68	0.11	0.13	ZZ
GULRCQ		73.00	-0.53	-0.67	74.40	-0.17	-0.22	ZZ
H7AAJL		74.11	0.59	0.75	75.86	1.28	1.59	ZZ
JCXMWT		73.10	-0.43	-0.54	74.80	0.23	0.28	ZZ

Interlaboratory Testing Program for Metals

Analysis 140

Tensile Strength (Lab-Machined Round Steel) - ksi

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
JVCZCA		73.30	-0.23	-0.29	74.80	0.23	0.28	ZZ
K3C7TX		72.40	-1.12	-1.43	73.80	-0.78	-0.96	ZZ
K6BHPX		74.35	0.82	1.05	75.80	1.22	1.51	ZZ
KS5521		74.20	0.67	0.86	75.60	1.03	1.27	ZZ
LUSU7W		73.55	0.02	0.03	74.99	0.42	0.51	ZZ
M9AUWN		74.10	0.57	0.73	74.50	-0.07	-0.09	ZZ
MAE2XT		73.70	0.17	0.22	74.00	-0.57	-0.71	ZZ
MTB1TT		73.20	-0.33	-0.42	74.50	-0.07	-0.09	ZZ
ND5H8C		73.60	0.07	0.09	74.50	-0.07	-0.09	ZZ
NYHUMP		74.30	0.77	0.99	75.40	0.83	1.02	ZZ
P18W9R		74.60	1.07	1.37	75.70	1.13	1.39	ZZ
PYASZX		72.60	-0.93	-1.18	74.30	-0.27	-0.34	ZZ
QGL5ZC		73.53	0.01	0.01	74.26	-0.32	-0.39	ZZ
QSKQDX		73.50	-0.03	-0.03	74.60	0.03	0.03	ZZ
QY4ZED		72.80	-0.73	-0.93	73.10	-1.47	-1.83	ZZ
R48316		73.90	0.37	0.48	74.70	0.13	0.15	ZZ
RELDCR		74.20	0.68	0.86	76.04	1.47	1.82	ZZ
SF5VEV		71.80	-1.73	-2.20	73.10	-1.47	-1.83	ZZ
SPGUA9		73.68	0.15	0.20	73.82	-0.75	-0.93	ZZ
SU662M		74.30	0.77	0.99	74.50	-0.07	-0.09	ZZ
THL3WP		72.90	-0.63	-0.80	74.50	-0.07	-0.09	ZZ
TZ6VQB		72.81	-0.72	-0.91	73.53	-1.04	-1.29	ZZ
UQW8ED		72.70	-0.83	-1.05	73.90	-0.67	-0.84	ZZ
V3WXPDP		72.39	-1.14	-1.45	73.77	-0.81	-1.00	ZZ
V5T69W		73.10	-0.43	-0.54	73.97	-0.61	-0.75	ZZ
VK9MHB		73.90	0.37	0.48	74.84	0.27	0.33	ZZ
VTYP7Z		74.50	0.97	1.24	74.50	-0.07	-0.09	ZZ
W89MRR		74.00	0.47	0.60	74.00	-0.57	-0.71	ZZ
WCSWKZ	X	77.85	4.32	5.51	76.83	2.26	2.79	ZZ
WJBMRS		72.60	-0.93	-1.18	74.00	-0.57	-0.71	ZZ
WS4PY1	X	74.42	0.89	1.14	58.35	-16.22	-20.11	ZZ
XJNYTU	*	75.60	2.07	2.64	76.60	2.03	2.51	ZZ
XJTSLG		73.70	0.17	0.22	73.70	-0.87	-1.08	ZZ
XPW75Q		74.50	0.97	1.24	74.90	0.33	0.40	ZZ
YG1MT4		73.29	-0.24	-0.30	74.78	0.20	0.25	ZZ
YV8B7Z	X	69.33	-4.20	-5.35	71.65	-2.92	-3.62	ZZ
YXHSPV		72.50	-1.03	-1.31	74.00	-0.57	-0.71	ZZ
ZEG5XU		73.80	0.27	0.35	74.10	-0.47	-0.59	ZZ
ZEL997		73.40	-0.13	-0.16	74.80	0.23	0.28	ZZ
ZGLZ17		73.59	0.07	0.09	74.71	0.13	0.17	ZZ
ZK7YZH		72.60	-0.93	-1.18	74.30	-0.27	-0.34	ZZ
ZXQFCP		74.40	0.87	1.11	74.90	0.33	0.40	ZZ

Interlaboratory Testing Program for Metals

Analysis 140

Tensile Strength (Lab-Machined Round Steel) - ksi

ASTM E8

Summary Statistics

	Sample P79	Sample P80
Grand Means	73.526 ksi	74.570 ksi
Std Dev Btwn Labs	0.785 ksi	0.807 ksi
Statistics based on 80 of 87 reporting participants		

Samples P79 , P80 : AISI 1018**Analysis Notes for Test #140**

Testing results for the webcode YG1MT4 and DM8HJ6 appeared to be transposed between the tests # 140 and # 141. Data corrected by CTS.

Comments on assigned Data Flags for Test #140

13TSRJ (X) - Inconsistent in testing between samples.

5JDZH3 (X) - Inconsistent in testing between samples.

DM8HJ6 (X) - Inconsistent in testing between samples, data for Sample P79 are high.

FW2GAL (X) - Inconsistent in testing between samples, data for Sample P79 are high.

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

WS4PY1 (X) - Inconsistent in testing between samples, data for Sample P80 are low.

YV8B7Z (X) - Data for both samples are low.

Interlaboratory Testing Program for Metals

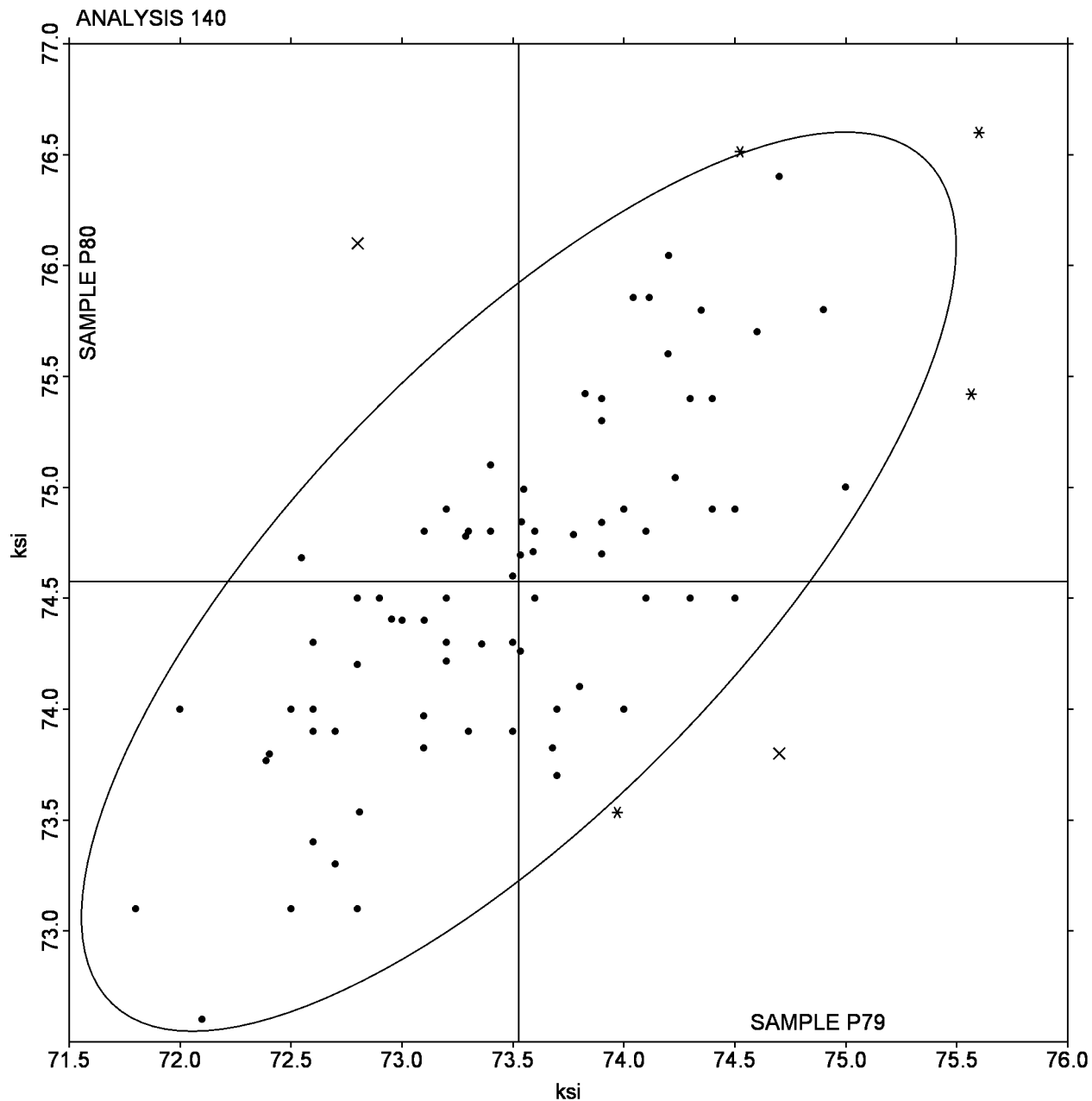
Analysis 140

Tensile Strength (Lab-Machined Round Steel) - ksi

ASTM E8

SAMPLE P79 = 73.526 ksi

SAMPLE P80 = 74.570 ksi



Interlaboratory Testing Program for Metals

Analysis 141

Yield Strength - ksi

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
116LA3		45.69	-4.65	-1.47	46.12	-3.97	-1.25	ZZ
2DQ4DW		48.15	-2.18	-0.69	49.60	-0.49	-0.15	ZZ
2SG8WZ		47.70	-2.63	-0.84	46.80	-3.30	-1.04	ZZ
3PZN5J		56.70	6.37	2.02	55.30	5.20	1.64	ZZ
4U58QW		58.00	7.67	2.43	56.80	6.70	2.11	ZZ
4UTZTA		48.09	-2.24	-0.71	48.40	-1.70	-0.53	ZZ
5FF4YP		52.60	2.27	0.72	51.40	1.30	0.41	ZZ
5LMCZ2		48.01	-2.33	-0.74	48.01	-2.09	-0.66	ZZ
6UBSCS		47.68	-2.66	-0.84	46.57	-3.52	-1.11	ZZ
72V9SG		53.00	2.67	0.85	50.60	0.50	0.16	ZZ
7QV8TE		48.00	-2.33	-0.74	51.90	1.80	0.57	ZZ
7SJKSK		47.60	-2.73	-0.87	47.60	-2.50	-0.78	ZZ
8CFS3T		51.30	0.97	0.31	52.90	2.80	0.88	ZZ
8K2ZB7		50.20	-0.13	-0.04	48.20	-1.90	-0.60	ZZ
8W9YK9		46.94	-3.39	-1.08	48.66	-1.44	-0.45	ZZ
8WD9PS		47.37	-2.96	-0.94	46.74	-3.36	-1.05	ZZ
9L8D17		56.90	6.57	2.08	53.20	3.10	0.98	ZZ
AH5TML		53.37	3.04	0.96	50.91	0.81	0.26	ZZ
AM4QC1		47.21	-3.12	-0.99	45.97	-4.12	-1.30	ZZ
AVCN9W		47.40	-2.93	-0.93	47.50	-2.60	-0.82	ZZ
B2H4MG		52.30	1.97	0.62	49.70	-0.40	-0.12	ZZ
B8UY3U		47.60	-2.73	-0.87	48.70	-1.40	-0.44	ZZ
BFG524	*	56.00	5.67	1.80	59.30	9.20	2.89	ZZ
BHAVLB		47.37	-2.96	-0.94	46.64	-3.45	-1.08	ZZ
BRYQL1		48.80	-1.53	-0.49	48.40	-1.70	-0.53	ZZ
BZKC2Q		49.60	-0.73	-0.23	49.31	-0.78	-0.25	ZZ
CGCETU		46.80	-3.53	-1.12	46.80	-3.30	-1.04	ZZ
CZ44JS		51.20	0.87	0.27	48.90	-1.20	-0.38	ZZ
ES6EGH	M	54.24	3.91	1.24				ZZ
EVVC6Q		51.40	1.07	0.34	50.40	0.30	0.10	ZZ
FAJAN6		50.80	0.47	0.15	51.10	1.00	0.32	ZZ
FDWTH5	*	53.70	3.37	1.07	48.40	-1.70	-0.53	ZZ
FEB68L		48.81	-1.53	-0.48	48.54	-1.56	-0.49	ZZ
FJYF2K	*	53.30	2.97	0.94	58.10	8.00	2.52	ZZ
FMV9D2		48.16	-2.17	-0.69	48.20	-1.90	-0.60	ZZ
G684XZ		53.10	2.77	0.88	53.00	2.90	0.91	ZZ
HZJQ2S		53.20	2.87	0.91	55.80	5.70	1.79	ZZ
J9US1G		48.00	-2.33	-0.74	50.70	0.60	0.19	ZZ
JAPVYT		48.40	-1.93	-0.61	47.30	-2.80	-0.88	ZZ
K2GL8Q		46.30	-4.04	-1.28	49.05	-1.04	-0.33	ZZ
KDXAHE	*	51.10	0.77	0.24	55.70	5.60	1.76	ZZ
KXGCVW		50.24	-0.10	-0.03	51.93	1.83	0.58	ZZ
L69ZF1		49.20	-1.13	-0.36	47.60	-2.50	-0.78	ZZ
L6BY1H		53.66	3.33	1.06	54.53	4.44	1.40	ZZ
L7C934		42.90	-7.43	-2.36	42.60	-7.50	-2.36	ZZ

Interlaboratory Testing Program for Metals

Analysis 141

Yield Strength - ksi

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
L8LLHK		52.40	2.07	0.66	49.80	-0.30	-0.09	ZZ
MKPVFA		50.76	0.43	0.14	48.44	-1.65	-0.52	ZZ
NEDLQJ		51.36	1.02	0.32	52.17	2.07	0.65	ZZ
P293VH		47.90	-2.43	-0.77	47.60	-2.50	-0.78	ZZ
Q2CLFK		51.50	1.17	0.37	51.50	1.40	0.44	ZZ
QEJVDA		47.57	-2.76	-0.88	49.75	-0.35	-0.11	ZZ
QKXEZ4		49.80	-0.53	-0.17	48.90	-1.20	-0.38	ZZ
QKZN6Q		47.60	-2.73	-0.87	49.40	-0.70	-0.22	ZZ
QR3BLP		48.90	-1.43	-0.45	48.40	-1.70	-0.53	ZZ
QVRLDZ		56.20	5.87	1.86	52.80	2.70	0.85	ZZ
QVZBVJ		47.82	-2.52	-0.80	49.85	-0.25	-0.08	ZZ
SRP9HE		53.08	2.75	0.87	52.07	1.97	0.62	ZZ
SZKK24	X	67.12	16.79	5.32	45.80	-4.30	-1.35	ZZ
T5Z8Z4		54.80	4.47	1.42	51.80	1.70	0.54	ZZ
TK5BM9		48.00	-2.33	-0.74	47.00	-3.10	-0.97	ZZ
TR278M		51.89	1.56	0.49	51.84	1.74	0.55	ZZ
U7Y3VE		50.89	0.56	0.18	50.58	0.48	0.15	ZZ
UFAQLY		47.70	-2.63	-0.84	48.10	-2.00	-0.63	ZZ
V7KAUG		51.70	1.37	0.43	50.70	0.60	0.19	ZZ
VT64QE	X	61.90	11.57	3.67	48.20	-1.90	-0.60	ZZ
W98MAS		49.90	-0.43	-0.14	47.90	-2.20	-0.69	ZZ
W9L2LS		54.50	4.17	1.32	54.00	3.90	1.23	ZZ
WHAHWQ		51.40	1.07	0.34	51.60	1.50	0.47	ZZ
WJS4KX		46.60	-3.73	-1.18	45.30	-4.80	-1.51	ZZ
XHM5NY		48.50	-1.83	-0.58	46.40	-3.70	-1.16	ZZ
XU9JAR		49.60	-0.73	-0.23	49.10	-1.00	-0.31	ZZ
XZU7HW	*	58.70	8.37	2.65	55.70	5.60	1.76	ZZ
Y9LCGU		49.90	-0.43	-0.14	48.00	-2.10	-0.66	ZZ
YDHWNY	X	51.71	1.38	0.44	34.52	-15.58	-4.89	ZZ
ZQKCK7		50.90	0.57	0.18	54.20	4.10	1.29	ZZ

Summary Statistics

	Sample P79	Sample P80
Grand Means	50.334 ksi	50.100 ksi
Std Dev Btw Labs	3.153 ksi	3.182 ksi

Statistics based on 71 of 75 reporting participants

Samples P79 , P80 : AISI 1018

Analysis Notes for Test #141

Testing results for the webcode FEB68L and QKXEZ4 appeared to be transposed between the tests # 140 and # 141. Data corrected by CTS.

Interlaboratory Testing Program for Metals

Analysis 141

Yield Strength - ksi

ASTM E8

Comments on assigned Data Flags for Test #141

ES6EGH (M) - Laboratory did not submit Upper Yield Strength data for Sample P80.

SZKK24 (X) - Inconsistent in testing between samples, data for Sample P79 are high.

VT64QE (X) - Inconsistent in testing between samples, data for Sample P79 are high.

YDHWNY (X) - Inconsistent in testing between samples, data for Sample P80 are low.

Interlaboratory Testing Program for Metals

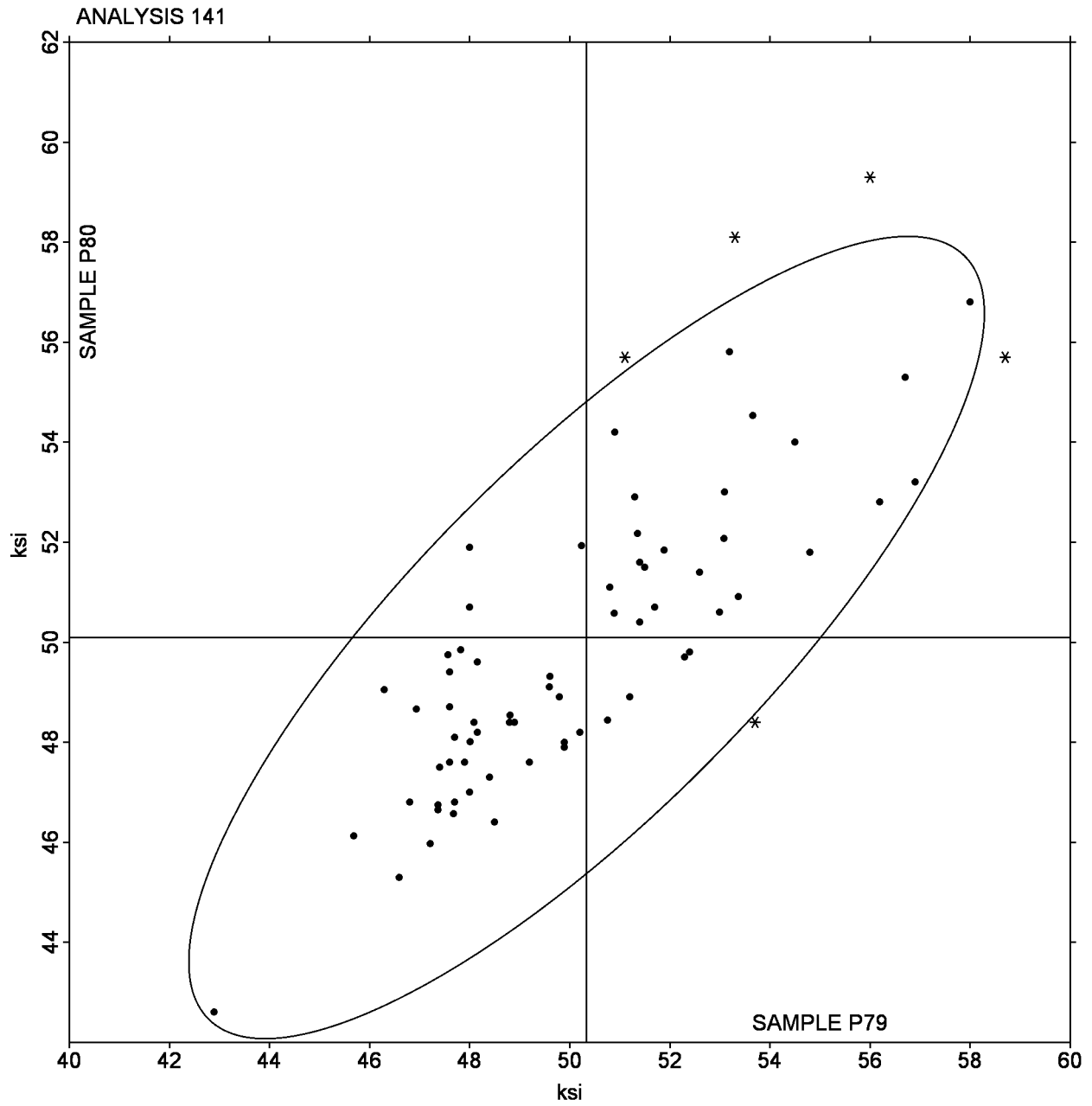
Analysis 141

Yield Strength - ksi

ASTM E8

SAMPLE P79 = 50.334 ksi

SAMPLE P80 = 50.100 ksi



Interlaboratory Testing Program for Metals

Analysis 142

Elongation - Percent Increase (In 4XD)

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
181UHZ		35.00	1.36	0.64	34.20	0.87	0.43	ZZ
1JK2JA		32.00	-1.64	-0.77	31.80	-1.53	-0.76	ZZ
1NQMUU		35.80	2.16	1.01	35.00	1.67	0.83	ZZ
1SKZH3		34.00	0.36	0.17	34.00	0.67	0.33	ZZ
2EB89Q		35.50	1.86	0.87	34.80	1.47	0.73	ZZ
2HF58C		31.40	-2.24	-1.05	31.50	-1.83	-0.91	ZZ
2NHX1Z		35.60	1.96	0.92	33.90	0.57	0.28	ZZ
3418UU		31.20	-2.44	-1.14	32.00	-1.33	-0.66	ZZ
3Y65HW		31.00	-2.64	-1.24	31.40	-1.93	-0.96	ZZ
4K3HZ2		30.00	-3.64	-1.70	30.00	-3.33	-1.66	ZZ
4QWSLK		37.00	3.36	1.58	36.00	2.67	1.33	ZZ
4VVJ2Y	X	37.00	3.36	1.58	32.70	-0.63	-0.31	ZZ
5182AW		34.90	1.26	0.59	34.30	0.97	0.48	ZZ
54TD9S		33.70	0.06	0.03	33.60	0.27	0.13	ZZ
56UHJV		32.00	-1.64	-0.77	32.00	-1.33	-0.66	ZZ
5ED46X	X	34.00	0.36	0.17	30.00	-3.33	-1.66	ZZ
5LAYS9		34.50	0.86	0.41	32.50	-0.83	-0.41	ZZ
5LU65V		31.60	-2.04	-0.95	33.40	0.07	0.03	ZZ
5NHH41		31.80	-1.84	-0.86	30.80	-2.53	-1.26	ZZ
71JNX3		34.00	0.36	0.17	34.50	1.17	0.58	ZZ
7NEW93		34.50	0.86	0.41	33.00	-0.33	-0.16	ZZ
7TAVA1		36.60	2.96	1.39	36.40	3.07	1.53	ZZ
8H7NWM		33.50	-0.14	-0.06	32.70	-0.63	-0.31	ZZ
9EDKCS		33.70	0.06	0.03	32.80	-0.53	-0.26	ZZ
A2MPUB		30.20	-3.44	-1.61	31.10	-2.23	-1.11	ZZ
A4U41H		36.30	2.66	1.25	34.40	1.07	0.53	ZZ
BBAPCU		34.20	0.56	0.26	33.80	0.47	0.23	ZZ
BBXULV		37.00	3.36	1.58	35.50	2.17	1.08	ZZ
BFAJ3L		34.00	0.36	0.17	35.00	1.67	0.83	ZZ
BGYZ3D		33.20	-0.44	-0.20	32.60	-0.73	-0.36	ZZ
C3T8UB		37.00	3.36	1.58	36.00	2.67	1.33	ZZ
CJSRXJ		35.00	1.36	0.64	34.00	0.67	0.33	ZZ
CVHNWW		33.00	-0.64	-0.30	32.80	-0.53	-0.26	ZZ
DM2Z91		35.40	1.76	0.83	35.70	2.37	1.18	ZZ
DNY3BP		30.00	-3.64	-1.70	32.00	-1.33	-0.66	ZZ
E83J9D		35.90	2.26	1.06	37.20	3.87	1.93	ZZ
E83ZEN		31.70	-1.94	-0.91	32.20	-1.13	-0.56	ZZ
EJK6K1		33.50	-0.14	-0.06	32.60	-0.73	-0.36	ZZ
FN89QU	X	27.60	-6.04	-2.83	32.00	-1.33	-0.66	ZZ
FT7NQP		34.00	0.36	0.17	34.00	0.67	0.33	ZZ
GXDY4X		32.00	-1.64	-0.77	30.00	-3.33	-1.66	ZZ
GYF3ZE	*	40.00	6.36	2.98	38.10	4.77	2.38	ZZ
H1D1LG		32.00	-1.64	-0.77	30.50	-2.83	-1.41	ZZ
HH4Y3M		32.40	-1.24	-0.58	33.40	0.07	0.03	ZZ
J3G8BC		35.40	1.76	0.83	34.60	1.27	0.63	ZZ

Interlaboratory Testing Program for Metals

Analysis 142

Elongation - Percent Increase (In 4XD)

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
J6QNBA		33.05	-0.59	-0.27	31.45	-1.88	-0.94	ZZ
JQH3NK		37.60	3.96	1.86	37.00	3.67	1.83	ZZ
JTUPYM		31.40	-2.24	-1.05	32.00	-1.33	-0.66	ZZ
L29PK1		33.30	-0.34	-0.16	33.00	-0.33	-0.16	ZZ
LB9YJ9		33.50	-0.14	-0.06	33.50	0.17	0.08	ZZ
LBMBNT		33.00	-0.64	-0.30	31.50	-1.83	-0.91	ZZ
LGHW3B		34.50	0.86	0.41	34.00	0.67	0.33	ZZ
M1GP3M		31.00	-2.64	-1.24	31.50	-1.83	-0.91	ZZ
M2ES3R		33.40	-0.24	-0.11	34.30	0.97	0.48	ZZ
MDVPYT		34.00	0.36	0.17	33.00	-0.33	-0.16	ZZ
N8FTWF		34.60	0.96	0.45	32.20	-1.13	-0.56	ZZ
NCPVG5		32.50	-1.14	-0.53	31.50	-1.83	-0.91	ZZ
NY9SZH		33.50	-0.14	-0.06	35.00	1.67	0.83	ZZ
PASBYM		33.00	-0.64	-0.30	32.00	-1.33	-0.66	ZZ
PBGQ39		35.00	1.36	0.64	35.00	1.67	0.83	ZZ
QB3WH1	*	31.00	-2.64	-1.24	33.50	0.17	0.08	ZZ
QJQKKW		32.40	-1.24	-0.58	32.50	-0.83	-0.41	ZZ
QR36DB		33.00	-0.64	-0.30	31.00	-2.33	-1.16	ZZ
QSS9HZ		35.10	1.46	0.69	34.00	0.67	0.33	ZZ
RQ44QD		33.00	-0.64	-0.30	33.00	-0.33	-0.16	ZZ
S48S48		35.00	1.36	0.64	35.50	2.17	1.08	ZZ
SCCPJ7		35.40	1.76	0.83	34.80	1.47	0.73	ZZ
SFFC23		36.00	2.36	1.11	37.00	3.67	1.83	ZZ
SRXLP2		36.00	2.36	1.11	35.00	1.67	0.83	ZZ
TAN7UD		34.00	0.36	0.17	33.50	0.17	0.08	ZZ
TGFX3U	*	32.20	-1.44	-0.67	35.00	1.67	0.83	ZZ
TJNP2H		38.60	4.96	2.33	37.00	3.67	1.83	ZZ
TPCFZC		33.60	-0.04	-0.02	35.00	1.67	0.83	ZZ
TYX34D		37.40	3.76	1.76	37.40	4.07	2.03	ZZ
UQ2PPY		34.50	0.86	0.41	34.10	0.77	0.38	ZZ
USL31F		30.20	-3.44	-1.61	31.00	-2.33	-1.16	ZZ
VA3VM2		30.00	-3.64	-1.70	30.00	-3.33	-1.66	ZZ
WT727K		30.74	-2.90	-1.36	30.09	-3.24	-1.61	ZZ
X2M1MS		33.80	0.16	0.08	35.70	2.37	1.18	ZZ
XEK9VH		30.50	-3.14	-1.47	30.00	-3.33	-1.66	ZZ
XK6STJ		34.50	0.86	0.41	33.50	0.17	0.08	ZZ
XMU4SP		31.50	-2.14	-1.00	30.30	-3.03	-1.51	ZZ
Y5FKWM		30.10	-3.54	-1.66	30.20	-3.13	-1.56	ZZ
Y7WL8L		32.80	-0.84	-0.39	31.90	-1.43	-0.71	ZZ
Y96GZ3		34.35	0.71	0.33	32.45	-0.88	-0.44	ZZ
Z9LW9X		31.20	-2.44	-1.14	29.90	-3.43	-1.71	ZZ

Interlaboratory Testing Program for Metals

Analysis 142

Elongation - Percent Increase (In 4XD)

ASTM E8

Summary Statistics				
	Sample P79		Sample P80	
Grand Means	33.635	Percent	33.330	Percent
Stnd Dev Btwn Labs	2.133	Percent	2.006	Percent
Statistics based on 83 of 86 reporting participants				

Samples P79 , P80 : AISI 1018**Comments on assigned Data Flags for Test #142**

4VJ2Y (X) - Inconsistent in testing between samples.

5ED46X (X) - Inconsistent in testing between samples.

FN89QU (X) - Low data for Sample P79.

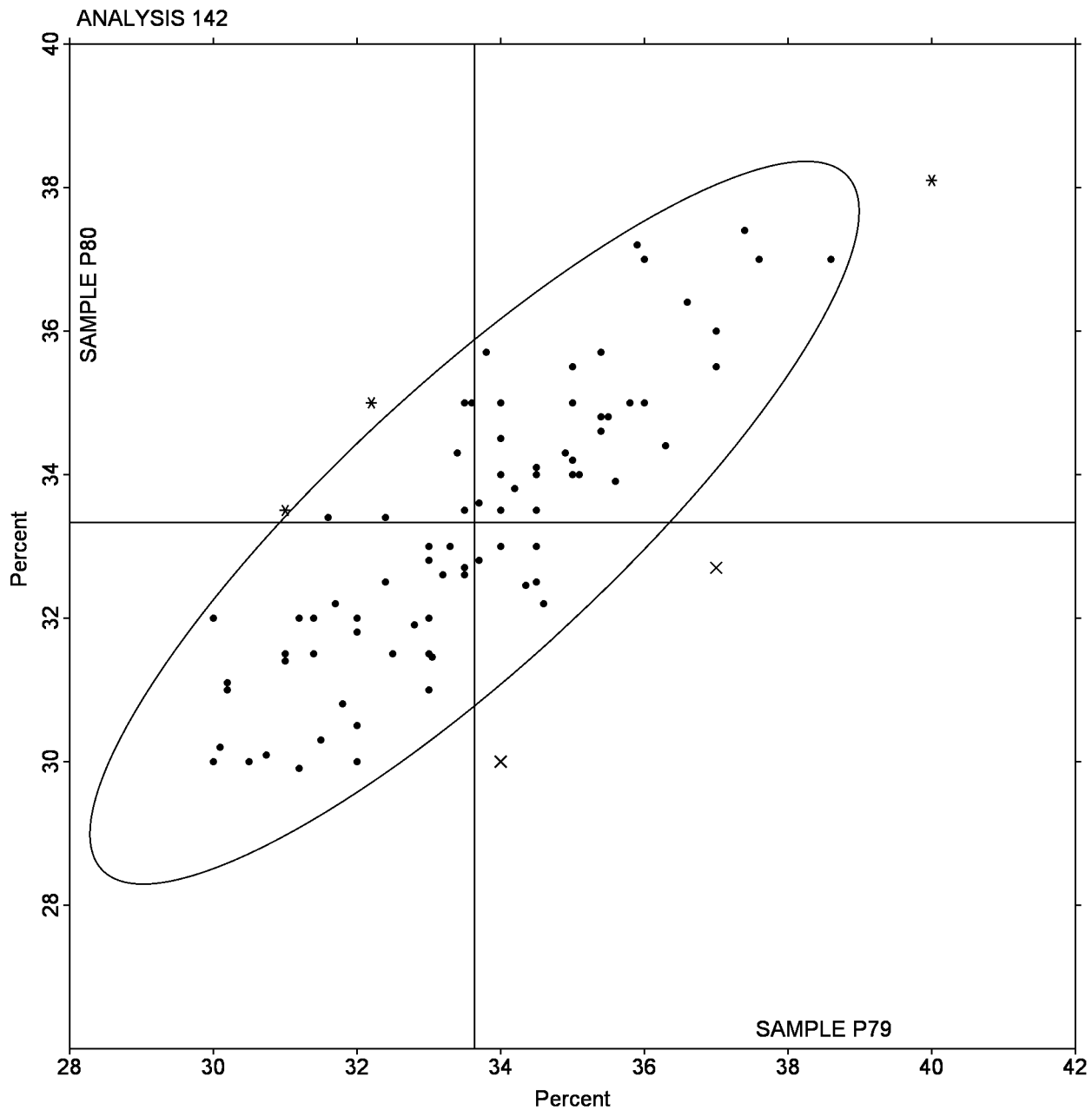
Interlaboratory Testing Program for Metals

Analysis 142

Elongation - Percent Increase (In 4XD)

ASTM E8

SAMPLE P79 = 33.635 Percent SAMPLE P80 = 33.330 Percent



Interlaboratory Testing Program for Metals

Analysis 143

Reduction of Area - Percent

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1K3Z79		64.53	-1.38	-1.18	62.68	-2.04	-2.03	ZZ
1KTDYR		65.30	-0.61	-0.52	65.10	0.38	0.38	ZZ
1RNPM1		66.00	0.09	0.08	66.00	1.28	1.28	ZZ
2GPZ2Z		65.72	-0.19	-0.16	63.59	-1.13	-1.12	ZZ
2JM43Y		68.10	2.19	1.88	66.20	1.48	1.48	ZZ
2WBK3U		67.40	1.49	1.28	64.40	-0.32	-0.31	ZZ
2X34TT		67.35	1.44	1.23	64.11	-0.61	-0.60	ZZ
3RRJ37		66.00	0.09	0.08	64.50	-0.22	-0.21	ZZ
489XZW	X	0.29	-65.62	-56.27	0.30	-64.42	-64.29	ZZ
4FWNL2		68.00	2.09	1.79	66.00	1.28	1.28	ZZ
4G3742		65.00	-0.91	-0.78	64.00	-0.72	-0.71	ZZ
67GFFZ		66.50	0.59	0.50	64.50	-0.22	-0.21	ZZ
6F9RRX		68.10	2.19	1.88	65.90	1.18	1.18	ZZ
6T82DF		65.10	-0.81	-0.70	63.60	-1.12	-1.11	ZZ
6U54U5		64.81	-1.10	-0.94	63.43	-1.29	-1.28	ZZ
6WZDYW		65.50	-0.41	-0.35	63.50	-1.22	-1.21	ZZ
79YA83		64.40	-1.51	-1.30	64.60	-0.12	-0.11	ZZ
7TVVKS		66.60	0.69	0.59	66.10	1.38	1.38	ZZ
8Z1WFP		65.00	-0.91	-0.78	64.00	-0.72	-0.71	ZZ
99ANTK	*	65.00	-0.91	-0.78	62.00	-2.72	-2.71	ZZ
9BYM3P		65.76	-0.15	-0.13	66.11	1.39	1.39	ZZ
9VZA4D		66.00	0.09	0.08	65.80	1.08	1.08	ZZ
9Z6XFJ		66.70	0.79	0.68	66.50	1.78	1.78	ZZ
ALNFHK		66.30	0.39	0.33	63.90	-0.82	-0.81	ZZ
AUCQFN		64.80	-1.11	-0.95	65.00	0.28	0.28	ZZ
C6U44L	X	69.00	3.09	2.65	69.00	4.28	4.28	ZZ
C9FKXG	X	61.76	-4.15	-3.56	63.56	-1.16	-1.15	ZZ
CDTT3Y	X	66.20	0.29	0.25	57.30	-7.42	-7.40	ZZ
CF5N2X		65.80	-0.11	-0.10	64.40	-0.32	-0.31	ZZ
CFGU6V		66.40	0.49	0.42	63.80	-0.92	-0.91	ZZ
CQCRBA		66.04	0.13	0.11	64.53	-0.19	-0.18	ZZ
CXPV2T		65.50	-0.41	-0.35	63.10	-1.62	-1.61	ZZ
E58RGF	*	69.00	3.09	2.65	66.30	1.58	1.58	ZZ
E95ANK	*	69.00	3.09	2.65	66.50	1.78	1.78	ZZ
FD14K1		67.00	1.09	0.93	65.00	0.28	0.28	ZZ
FQUX2J		65.40	-0.51	-0.44	64.40	-0.32	-0.31	ZZ
GEP8AW		65.70	-0.21	-0.18	64.60	-0.12	-0.11	ZZ
H57N2L		65.00	-0.91	-0.78	64.00	-0.72	-0.71	ZZ
HPN184		66.20	0.29	0.25	64.30	-0.42	-0.41	ZZ
HZ8S1G		65.00	-0.91	-0.78	65.00	0.28	0.28	ZZ
JH1L19		65.00	-0.91	-0.78	66.00	1.28	1.28	ZZ
JM4F9U		66.10	0.19	0.16	65.20	0.48	0.48	ZZ
JQA9FZ		67.30	1.39	1.19	66.20	1.48	1.48	ZZ
JTRNT7		65.00	-0.91	-0.78	64.00	-0.72	-0.71	ZZ
KC7F5S		65.00	-0.91	-0.78	65.30	0.58	0.58	ZZ

Interlaboratory Testing Program for Metals

Analysis 143

Reduction of Area - Percent

ASTM E8

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
KGVN4A		65.00	-0.91	-0.78	64.60	-0.12	-0.11	ZZ
L1SDYC		67.20	1.29	1.10	65.30	0.58	0.58	ZZ
LBUQM9		66.60	0.69	0.59	65.50	0.78	0.78	ZZ
LR3BLK		66.10	0.19	0.16	64.70	-0.02	-0.02	ZZ
LY1ELG		66.00	0.09	0.08	65.00	0.28	0.28	ZZ
MT4QHR	X	65.50	-0.41	-0.35	68.30	3.58	3.58	ZZ
NC235H		67.00	1.09	0.93	65.10	0.38	0.38	ZZ
NRKQNY		66.00	0.09	0.08	65.10	0.38	0.38	ZZ
NTEY2G		65.80	-0.11	-0.10	65.80	1.08	1.08	ZZ
NUNNW6	X	67.50	1.59	1.36	68.10	3.38	3.38	ZZ
P6W1W1		64.90	-1.01	-0.87	64.30	-0.42	-0.41	ZZ
PD7DMG		66.10	0.19	0.16	65.10	0.38	0.38	ZZ
PS7UJ6		66.50	0.59	0.50	64.00	-0.72	-0.71	ZZ
QM562H		65.90	-0.01	-0.01	64.00	-0.72	-0.71	ZZ
QNWFKY	X	66.40	0.49	0.42	61.70	-3.02	-3.01	ZZ
RMQL2F		65.50	-0.41	-0.35	66.00	1.28	1.28	ZZ
S7AXGT		63.60	-2.31	-1.98	63.70	-1.02	-1.01	ZZ
S9CDN7		67.40	1.49	1.28	65.00	0.28	0.28	ZZ
S9LGUS		66.10	0.19	0.16	64.20	-0.52	-0.51	ZZ
T9MS9T		65.00	-0.91	-0.78	63.80	-0.92	-0.91	ZZ
TT4KPV		66.90	0.99	0.85	64.90	0.18	0.18	ZZ
U52WRF		64.70	-1.21	-1.04	63.10	-1.62	-1.61	ZZ
U6EJAF		65.00	-0.91	-0.78	64.00	-0.72	-0.71	ZZ
UHYTE2		64.00	-1.91	-1.64	64.00	-0.72	-0.71	ZZ
UJT1KQ		65.30	-0.61	-0.52	63.50	-1.22	-1.21	ZZ
ULGCJW		67.00	1.09	0.93	65.80	1.08	1.08	ZZ
UUHUL8		63.60	-2.31	-1.98	63.10	-1.62	-1.61	ZZ
UVS1JS		67.30	1.39	1.19	65.70	0.98	0.98	ZZ
V25U2W		66.00	0.09	0.08	64.80	0.08	0.08	ZZ
V71ZW9	*	63.00	-2.91	-2.50	64.10	-0.62	-0.61	ZZ
VY9NVE		66.80	0.89	0.76	65.40	0.68	0.68	ZZ
VZATUW		64.00	-1.91	-1.64	63.00	-1.72	-1.71	ZZ
W1V144		65.10	-0.81	-0.70	64.70	-0.02	-0.02	ZZ
WAHABZ		65.90	-0.01	-0.01	65.00	0.28	0.28	ZZ
XCE797	X	45.60	-20.31	-17.42	39.10	-25.62	-25.56	ZZ
XN6EKS		66.60	0.69	0.59	65.90	1.18	1.18	ZZ
Y84GHG		66.30	0.39	0.33	66.10	1.38	1.38	ZZ
YG82EA	X	66.50	0.59	0.50	68.30	3.58	3.58	ZZ
ZQEP2P		66.40	0.49	0.42	64.50	-0.22	-0.21	ZZ
ZYCM14		66.30	0.39	0.33	65.40	0.68	0.68	ZZ

Summary Statistics

	Sample P79		Sample P80	
Grand Means	65.912	Percent	64.720	Percent
Std Dev Btwn Labs	1.166	Percent	1.002	Percent

Statistics based on 76 of 85 reporting participants

Interlaboratory Testing Program for Metals

Analysis 143

Reduction of Area - Percent

ASTM E8

Samples P79 , P80 : AISI 1018**Comments on assigned Data Flags for Test #143**

489XZW (X) - Extreme data.

C6U44L (X) - High data for Sample P80.

C9FKXG (X) - Low data for Sample P79.

CDTT3Y (X) - Low data for Sample P80.

MT4QHR (X) - High data for Sample P80.

NUNNW6 (X) - High data for Sample P80.

QNWFKY (X) - Low data for Sample P80.

XCE797 (X) - Data for both samples are low.

YG82EA (X) - High data for Sample P80.

Interlaboratory Testing Program for Metals

Analysis 118

Rockwell Hardness - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1475CP		94.60	0.14	0.29	95.98	-0.05	-0.10	NA
17DAU9	*	95.80	1.34	2.72	97.40	1.37	2.81	OG
1EVE9P		94.66	0.20	0.41	96.14	0.11	0.23	WI
1J3RG2		94.12	-0.34	-0.68	95.86	-0.17	-0.35	LE
2DE3Z1		94.72	0.26	0.53	95.80	-0.23	-0.47	WI
2UB7VC	*	94.66	0.20	0.41	96.92	0.89	1.83	NA
2Z1TFK	*	93.22	-1.24	-2.51	94.68	-1.35	-2.77	NA
3YSK3R		93.84	-0.62	-1.25	95.74	-0.29	-0.59	WI
41CWUP		94.70	0.24	0.49	96.50	0.47	0.97	WI
498DJD		94.78	0.32	0.65	95.94	-0.09	-0.18	WI
4C8UK4		94.80	0.34	0.69	96.40	0.37	0.76	MI
4ETN56		93.98	-0.48	-0.97	95.58	-0.45	-0.92	CL
4VWGCS		94.38	-0.08	-0.16	96.14	0.11	0.23	WI
54M4CP		94.10	-0.36	-0.73	95.62	-0.41	-0.84	WI
5DMTNG		94.12	-0.34	-0.68	95.78	-0.25	-0.51	WI
5GWFPF		94.94	0.48	0.98	96.42	0.39	0.80	MA
5JRR48		94.94	0.48	0.98	96.18	0.15	0.31	XX
6149AT		93.88	-0.58	-1.17	95.88	-0.15	-0.31	WI
6K49LQ		93.98	-0.48	-0.97	95.52	-0.51	-1.05	MI
7FNFFD		94.76	0.30	0.61	96.16	0.13	0.27	WI
7L7G3X		94.02	-0.44	-0.89	95.78	-0.25	-0.51	WI
8NTJFD		94.74	0.28	0.57	96.08	0.05	0.10	WI
8TR11V	M	94.50	0.04	0.09				MA
8WVYYQ		94.24	-0.22	-0.44	95.70	-0.33	-0.68	XX
9EE1K4		93.82	-0.64	-1.29	95.44	-0.59	-1.21	WI
9K1YU1		94.78	0.32	0.65	96.60	0.57	1.17	WI
9MZNMJ		95.00	0.54	1.10	96.60	0.57	1.17	WI
9QUWT5		94.16	-0.30	-0.60	96.04	0.01	0.02	NA
A262F8		94.32	-0.14	-0.28	95.88	-0.15	-0.31	WI
A85U9C		94.74	0.28	0.57	96.32	0.29	0.60	WI
A8LXVR		95.06	0.60	1.22	96.54	0.51	1.05	XX
A9ZNAX		94.50	0.04	0.09	96.16	0.13	0.27	CL
AE8NGM		94.12	-0.34	-0.68	95.54	-0.49	-1.00	WI
AEN2RG		94.72	0.26	0.53	96.48	0.45	0.92	WI
AMKT5C		93.60	-0.86	-1.74	95.00	-1.03	-2.11	XX
AT4KEL		94.40	-0.06	-0.12	96.00	-0.03	-0.06	CL
B3S6A2		94.18	-0.28	-0.56	96.32	0.29	0.60	XX
BNH9BN		94.60	0.14	0.29	96.08	0.05	0.10	BU
BSFC3Z		94.36	-0.10	-0.20	95.72	-0.31	-0.64	WI
C1UAV7		94.32	-0.14	-0.28	95.38	-0.65	-1.33	WI
C39JNS		93.72	-0.74	-1.50	95.12	-0.91	-1.87	WI
C6Q32D		94.22	-0.24	-0.48	96.14	0.11	0.23	WI
END87M		94.16	-0.30	-0.60	95.84	-0.19	-0.39	UN
EXACY9		94.76	0.30	0.61	96.28	0.25	0.51	NA
EZU5BJ	*	95.84	1.38	2.80	97.02	0.99	2.03	WI

Interlaboratory Testing Program for Metals

Analysis 118

Rockwell Hardness - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
G6T4AH		94.94	0.48	0.98	96.52	0.49	1.01	WI
GAM7V7		94.14	-0.32	-0.64	95.96	-0.07	-0.14	UN
GQG51K		94.34	-0.12	-0.24	95.80	-0.23	-0.47	WI
H5D21M		94.52	0.06	0.13	96.08	0.05	0.10	UN
HHEZMZ		93.72	-0.74	-1.50	95.12	-0.91	-1.87	NA
HZKESQ		94.88	0.42	0.86	96.22	0.19	0.39	UN
J2L7B9		95.32	0.86	1.75	96.88	0.85	1.74	WI
J7NA3L		94.36	-0.10	-0.20	95.86	-0.17	-0.35	WI
JX888Z		94.90	0.44	0.90	96.58	0.55	1.13	WI
KDDU5S		94.06	-0.40	-0.81	95.64	-0.39	-0.80	UN
KJF4AP		94.50	0.04	0.09	96.06	0.03	0.06	WI
KNA7TU		94.50	0.04	0.09	96.16	0.13	0.27	UN
KW4BMV		94.68	0.22	0.45	96.40	0.37	0.76	UN
KXC1UT		94.18	-0.28	-0.56	95.70	-0.33	-0.68	XX
KYYEVD		95.34	0.88	1.79	96.90	0.87	1.79	WI
L4JVN1		94.44	-0.02	-0.04	95.70	-0.33	-0.68	UN
L5W9B9		94.46	0.00	0.00	95.92	-0.11	-0.22	BU
LPLRGP		95.08	0.62	1.26	96.90	0.87	1.79	WI
LX43Z7		94.12	-0.34	-0.68	95.96	-0.07	-0.14	WI
LXD4E3		95.22	0.76	1.55	96.92	0.89	1.83	WI
M5353R		93.88	-0.58	-1.17	95.78	-0.25	-0.51	MI
ML1BCE		94.18	-0.28	-0.56	95.84	-0.19	-0.39	XX
MU933R		93.73	-0.73	-1.47	95.40	-0.63	-1.29	WI
MY2C2L		94.36	-0.10	-0.20	95.96	-0.07	-0.14	WI
NU4627		94.06	-0.40	-0.81	95.70	-0.33	-0.68	WI
P8673E		94.34	-0.12	-0.24	95.84	-0.19	-0.39	WI
PAJYUS	X	95.54	1.08	2.19	94.14	-1.89	-3.88	CL
PN2EE6		94.06	-0.40	-0.81	95.58	-0.45	-0.92	WI
QB4ST3		95.00	0.54	1.10	96.40	0.37	0.76	WI
QJ7SET		94.86	0.40	0.82	96.12	0.09	0.19	UN
QQAR58		94.70	0.24	0.49	96.28	0.25	0.51	WI
QR3APF		95.04	0.58	1.18	96.46	0.43	0.88	WI
QTY42M		93.42	-1.04	-2.10	95.06	-0.97	-1.99	NA
QZ569E		94.56	0.10	0.21	96.50	0.47	0.97	NA
R19XBU		94.40	-0.06	-0.12	96.00	-0.03	-0.06	WI
RGTND7		94.22	-0.24	-0.48	95.78	-0.25	-0.51	UN
S74TRD	*	95.78	1.32	2.68	96.92	0.89	1.83	WI
S7EQV5		94.80	0.34	0.69	96.20	0.17	0.35	AV
S7PDLT		94.24	-0.22	-0.44	95.84	-0.19	-0.39	LE
S814T8		94.68	0.22	0.45	95.94	-0.09	-0.18	WI
SRYRAD		93.84	-0.62	-1.25	95.62	-0.41	-0.84	BU
T3VRK2	*	93.66	-0.80	-1.62	95.80	-0.23	-0.47	NA
T51RLF		94.70	0.24	0.49	96.08	0.05	0.10	WI
T62HXU		94.60	0.14	0.29	96.06	0.03	0.06	CL
T71172		93.74	-0.72	-1.46	95.02	-1.01	-2.07	WI

Interlaboratory Testing Program for Metals

Analysis 118

Rockwell Hardness - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
T9MDXC		94.46	0.00	0.00	95.54	-0.49	-1.00	CL
TM17TX		93.78	-0.68	-1.37	95.52	-0.51	-1.05	UN
TR25QB		93.88	-0.58	-1.18	95.09	-0.94	-1.93	UN
TUGR7W		94.50	0.04	0.09	95.56	-0.47	-0.96	NA
TW73U7		94.20	-0.26	-0.52	96.16	0.13	0.27	WI
U6K8NJ		95.24	0.78	1.59	96.34	0.31	0.64	UN
UJJ275		95.14	0.68	1.38	96.62	0.59	1.21	WI
UK3SRL		95.00	0.54	1.10	96.90	0.87	1.79	WI
UYP5XJ		94.22	-0.24	-0.48	96.04	0.01	0.02	CL
VEJ7WS		94.68	0.22	0.45	96.22	0.19	0.39	WI
VMTAJL		94.66	0.20	0.41	96.28	0.25	0.51	WI
VS8VSL		94.60	0.14	0.29	95.78	-0.25	-0.51	WI
WZEMEL		94.34	-0.12	-0.24	95.76	-0.27	-0.55	UN
X8UJZC		94.62	0.16	0.33	96.44	0.41	0.84	UN
XARTKV		94.72	0.26	0.53	96.52	0.49	1.01	WI
XCGBT3		94.90	0.44	0.90	96.50	0.47	0.97	WI
XSLWSD		94.73	0.27	0.56	96.38	0.35	0.72	WI
XXQEQQ		94.00	-0.46	-0.93	96.00	-0.03	-0.06	WI
Y16BW2		93.90	-0.56	-1.13	95.22	-0.81	-1.66	WI
Y1QSDQ		94.70	0.24	0.49	96.06	0.03	0.06	NA
Y4XNYY		95.10	0.64	1.30	96.50	0.47	0.97	MS
Y87HM9		94.60	0.14	0.29	96.38	0.35	0.72	UN
Y9U378		94.48	0.02	0.05	96.30	0.27	0.55	IN
YAS8VY		94.28	-0.18	-0.36	95.84	-0.19	-0.39	MI
YQ945V		93.80	-0.66	-1.33	95.40	-0.63	-1.29	WI
ZDT52S		95.12	0.66	1.34	96.68	0.65	1.33	IN
ZHYXNH	*	93.66	-0.80	-1.62	95.80	-0.23	-0.47	BU
ZT26KP		93.88	-0.58	-1.17	95.44	-0.59	-1.21	WI

Summary Statistics

	Sample N79		Sample N80	
Grand Means	94.458	Rockwell Number	96.030	Rockwell Number
Std Dev Btwn Labs	0.493	Rockwell Number	0.487	Rockwell Number
Statistics based on 116 of 118 reporting participants				

Samples N79 , N80 : steel (Use C scale)

Analysis Notes for Test #118

Testing results for the webcode 5JRR48 appeared to be transposed between the tests # 118 and # 123. Data corrected by CTS.

Comments on assigned Data Flags for Test #118

8TR11V (M) - Laboratory did not submit data for Sample N80. Laboratory reported data for Sample S80 instead of N80.

PAJYUS (X) - Inconsistent in testing between samples, data for Sample N80 are low.

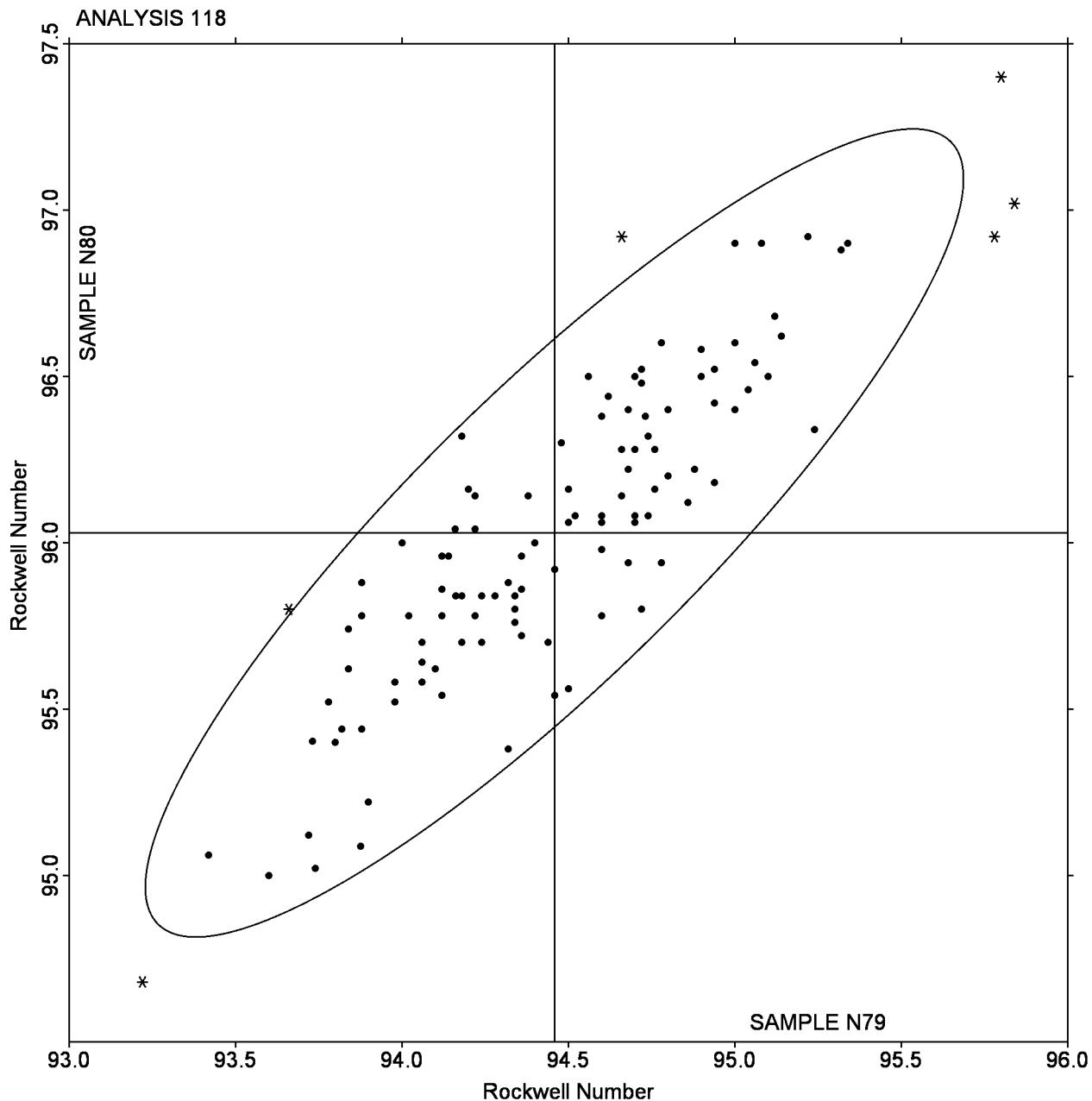
Interlaboratory Testing Program for Metals

Analysis 118

Rockwell Hardness - Rockwell Hardness Number

ASTM E18

SAMPLE N79 = 94.458 HRB SAMPLE N80 = 96.030 HRB



Interlaboratory Testing Program for Metals

Analysis 119

Rockwell Hardness (B Scale) - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1M1K96		95.40	0.31	0.59	96.78	0.22	0.41	NA
26LXCA		94.74	-0.35	-0.68	96.32	-0.24	-0.43	CL
45BGLG		95.16	0.07	0.13	96.78	0.22	0.41	BU
46V5C4		94.96	-0.13	-0.26	96.82	0.26	0.48	CL
5AB874		93.92	-1.17	-2.27	95.38	-1.18	-2.13	WI
6BSH8X		94.42	-0.67	-1.30	95.84	-0.72	-1.30	WI
6C2LSN		95.18	0.09	0.17	96.38	-0.18	-0.33	WI
6J67GV		94.26	-0.83	-1.61	95.80	-0.76	-1.38	WI
6SSSJZ		94.80	-0.29	-0.57	96.24	-0.32	-0.57	MI
7AX713		95.46	0.37	0.71	97.08	0.52	0.95	XX
7WJB77		95.40	0.31	0.59	96.50	-0.06	-0.10	CL
857YMM		95.20	0.11	0.21	96.72	0.16	0.30	UN
89DEEN		94.76	-0.33	-0.64	96.06	-0.50	-0.90	NA
8SQ3MH		95.54	0.45	0.87	97.28	0.72	1.31	NA
8YB19K		94.58	-0.51	-0.99	96.16	-0.40	-0.72	LE
8ZJS87		94.00	-1.09	-2.11	95.20	-1.36	-2.46	WI
8ZUU85		96.00	0.91	1.76	97.70	1.14	2.07	WI
989XED		95.00	-0.09	-0.18	97.00	0.44	0.80	NA
99SF4N		94.90	-0.19	-0.37	96.46	-0.10	-0.17	LE
9H3VQL		94.90	-0.19	-0.37	96.02	-0.54	-0.97	DE
9Y96BN		94.70	-0.39	-0.76	96.38	-0.18	-0.32	WI
9Z5J3P	X	95.74	0.65	1.25	96.22	-0.34	-0.61	AN
AM9FRM		94.76	-0.33	-0.64	96.30	-0.26	-0.46	WI
AMZULW		95.60	0.51	0.98	96.80	0.24	0.44	XX
AR8UEC		95.22	0.13	0.25	96.94	0.38	0.70	CL
BWBUPV		94.90	-0.19	-0.37	96.30	-0.26	-0.46	XX
BZLYFR		95.64	0.55	1.06	97.20	0.64	1.17	UN
C1K7PM		95.98	0.89	1.72	97.66	1.10	2.00	WI
CJXPSZ		94.70	-0.39	-0.76	96.30	-0.26	-0.46	WI
CK5NHA		94.88	-0.21	-0.41	96.28	-0.28	-0.50	CL
CRJPD	X	96.62	1.53	2.95	97.52	0.96	1.75	MA
CSLYHA		96.00	0.91	1.76	97.60	1.04	1.89	XX
CZE4BB		95.22	0.13	0.25	96.88	0.32	0.59	XX
D7AUCB		95.00	-0.09	-0.18	96.18	-0.38	-0.68	WI
D8VWJE		95.36	0.27	0.52	96.84	0.28	0.51	WI
DRK5L8		95.04	-0.05	-0.10	96.24	-0.32	-0.57	IN
DSW1UT		94.72	-0.37	-0.72	96.04	-0.52	-0.94	WI
DU1QW3		95.20	0.11	0.21	97.00	0.44	0.80	WI
DVAQZC		95.44	0.35	0.67	96.86	0.30	0.55	FU
DVURMF		95.12	0.03	0.05	96.76	0.20	0.37	WI
DWKYRV		94.76	-0.33	-0.64	96.26	-0.30	-0.54	BU
EPP2YR		94.82	-0.27	-0.53	96.02	-0.54	-0.97	WI
EPRWN6		95.58	0.49	0.94	97.04	0.48	0.88	UN
EQ9T62		94.16	-0.93	-1.80	95.76	-0.80	-1.44	NA
F8YTT3		95.74	0.65	1.25	97.10	0.54	0.99	XX

Interlaboratory Testing Program for Metals

Analysis 119

Rockwell Hardness (B Scale) - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
FA5DME		94.12	-0.97	-1.88	95.42	-1.14	-2.06	WI
GYK28Q		96.06	0.97	1.87	97.76	1.20	2.18	WI
H9BKBL		94.82	-0.27	-0.53	96.50	-0.06	-0.10	UN
HMZPKJ	*	96.46	1.37	2.65	98.08	1.52	2.76	BU
HW1HRH		94.76	-0.33	-0.64	96.12	-0.44	-0.79	MI
JB9556		95.54	0.45	0.87	96.74	0.18	0.33	WI
KF5GTU		94.50	-0.59	-1.15	96.30	-0.26	-0.46	WI
LD4KKU		95.68	0.59	1.14	97.14	0.58	1.06	IN
M393U9		94.80	-0.29	-0.57	95.92	-0.64	-1.15	WI
N1LR TK		95.00	-0.09	-0.18	97.00	0.44	0.80	WI
NB6HHH		94.92	-0.17	-0.33	96.70	0.14	0.26	WI
NXJWVX		95.38	0.29	0.56	96.92	0.36	0.66	WI
P8SUA2		94.40	-0.69	-1.34	96.00	-0.56	-1.01	WI
Q1JLWZ		94.42	-0.67	-1.30	95.72	-0.84	-1.52	WI
QM5SDG		94.70	-0.39	-0.76	96.22	-0.34	-0.61	CL
RA6U1B		95.78	0.69	1.33	96.78	0.22	0.41	WI
RB362G		94.70	-0.39	-0.76	96.50	-0.06	-0.10	WI
RFLR2S		95.52	0.43	0.83	96.94	0.38	0.70	WI
RXJM7U		94.88	-0.21	-0.41	96.18	-0.38	-0.68	WI
RYHPAU		95.12	0.03	0.05	96.56	0.00	0.01	WI
RZ34AG		94.92	-0.17	-0.33	96.24	-0.32	-0.57	WI
SM9AZH	X	95.40	0.31	0.59	95.90	-0.66	-1.19	WI
SS74JJ		95.10	0.01	0.01	96.34	-0.22	-0.39	UN
STDK KC		95.33	0.24	0.46	96.85	0.29	0.53	UN
TBGFXA		95.62	0.53	1.02	97.12	0.56	1.02	WI
TDL4CJ		95.84	0.75	1.45	97.36	0.80	1.46	EM
TFR4DW		95.46	0.37	0.71	97.02	0.46	0.84	UN
TG8G9X		95.08	-0.01	-0.02	96.42	-0.14	-0.25	WI
TQ44FD		94.98	-0.11	-0.22	96.72	0.16	0.30	CL
TY8TMB		94.64	-0.45	-0.88	96.24	-0.32	-0.57	AK
U6K4E3	X	93.50	-1.59	-3.08	96.26	-0.30	-0.54	WI
U88FE8		95.90	0.81	1.56	97.04	0.48	0.88	EM
UCWYTS		95.12	0.03	0.05	96.78	0.22	0.41	WI
V29QT1	X	96.26	1.17	2.26	94.66	-1.90	-3.44	UN
VBGB6V		94.66	-0.43	-0.84	95.96	-0.60	-1.08	WI
WHQH MN		96.06	0.97	1.88	97.19	0.63	1.15	WI
X2P3MS		95.20	0.11	0.21	96.50	-0.06	-0.10	AV
X6JNDU		95.00	-0.09	-0.18	96.76	0.20	0.37	XX
XD2THV		95.02	-0.07	-0.14	96.68	0.12	0.22	NA
XHMRYX		95.06	-0.03	-0.06	96.30	-0.26	-0.46	WI
XP2T7K		95.14	0.05	0.09	96.44	-0.12	-0.21	NA
XSG4MV		95.20	0.11	0.21	96.68	0.12	0.22	MI
XTU6HB		95.50	0.41	0.79	97.00	0.44	0.80	WI
XUMS36		95.58	0.49	0.94	96.74	0.18	0.33	CL
XXDF44		94.34	-0.76	-1.46	95.74	-0.81	-1.48	CL

Interlaboratory Testing Program for Metals

Analysis 119

Rockwell Hardness (B Scale) - Rockwell Hardness Number

ASTM E18

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
Y45DVB		95.40	0.31	0.59	96.80	0.24	0.44	AN
YFXNY5		95.00	-0.09	-0.18	96.00	-0.56	-1.01	WI
YQ88UT		94.60	-0.49	-0.95	96.30	-0.26	-0.46	XX
ZHJA54	*	96.10	1.01	1.95	97.10	0.54	0.99	XX
ZJKEDA		94.08	-1.01	-1.96	95.34	-1.22	-2.21	WI
ZLFWQX		94.82	-0.27	-0.53	96.22	-0.34	-0.61	MA

Summary Statistics

	Sample N79		Sample N80	
Grand Means	95.093	HRB	96.560	HRB
Std Dev Btwn Labs	0.517	HRB	0.552	HRB

Statistics based on 91 of 96 reporting participants

Samples N79 , N80 : brass & steel (Use B scale)

Comments on assigned Data Flags for Test #119

9Z5J3P (X) - Inconsistent in testing between samples.

CRJPDJ (X) - High data for Sample N79.

SM9AZH (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample N80.

U6K4E3 (X) - Low data for Sample N79. Inconsistent within the determinations for Sample N79.

V29QT1 (X) - Low data for Sample N80.

Interlaboratory Testing Program for Metals

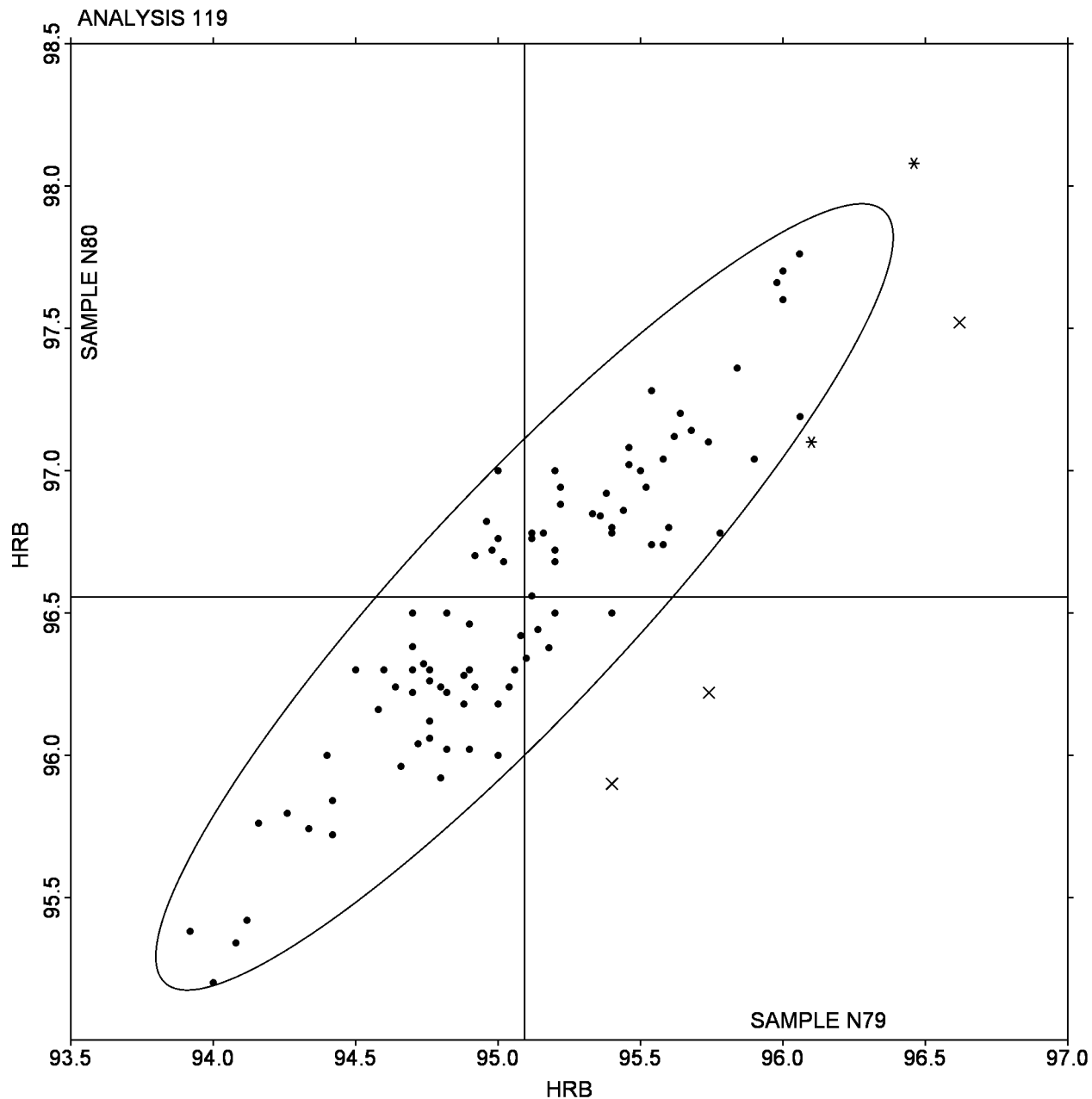
Analysis 119

Rockwell Hardness (B Scale) - Rockwell Hardness Number

ASTM E18

SAMPLE N79 = 95.093 HRB

SAMPLE N80 = 96.560 HRB



Interlaboratory Testing Program for Metals

Analysis 121

Microhardness - Knoop Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1C73AJ		456.2	9.4	0.81	495.4	16.0	1.24	LE
1JRRXC		461.6	14.8	1.27	485.2	5.8	0.45	BU
1Q2TDG		443.4	-3.3	-0.29	483.1	3.7	0.29	BU
2DA9WF		443.6	-3.2	-0.27	475.4	-4.0	-0.31	LE
2G3EY7		434.8	-12.0	-1.03	469.0	-10.4	-0.81	AN
3427XQ		443.4	-3.4	-0.29	482.1	2.7	0.21	LE
3QKZKB		448.0	1.2	0.11	475.8	-3.6	-0.28	SH
3TRGUH		456.1	9.3	0.80	477.5	-1.9	-0.15	BU
3X94GQ		470.8	24.0	2.06	499.0	19.6	1.53	LE
452PDA		451.0	4.2	0.36	480.2	0.8	0.06	BU
4E4QFG		426.4	-20.4	-1.75	454.6	-24.8	-1.93	ST
4EDATD		430.5	-16.3	-1.39	461.9	-17.5	-1.36	XX
4NXHVV		452.8	6.0	0.52	498.2	18.8	1.46	XX
51TRS2		438.0	-8.8	-0.75	463.8	-15.6	-1.22	LE
57JAHH		445.1	-1.7	-0.14	481.6	2.2	0.17	BU
5NH3KE		442.2	-4.6	-0.39	489.8	10.4	0.81	LE
61LCQA		435.2	-11.6	-0.99	465.4	-14.0	-1.09	LE
62B2W7		451.6	4.8	0.42	480.4	1.0	0.08	BU
6NAXJN		452.5	5.8	0.50	481.7	2.2	0.17	WT
6PN86V		448.2	1.4	0.12	483.5	4.0	0.31	BU
6QEVTG		466.0	19.2	1.65	490.1	10.7	0.83	FU
756WWH		441.2	-5.6	-0.48	478.8	-0.6	-0.05	BU
77TK5U		453.0	6.2	0.54	486.0	6.6	0.51	SH
7A4VKK	*	414.0	-32.7	-2.81	456.1	-23.3	-1.81	AN
7FD469		459.4	12.6	1.08	496.6	17.2	1.34	BU
7KJR95		440.2	-6.5	-0.56	474.7	-4.7	-0.37	BU
7RFVT8	X	436.0	-10.8	-0.92	442.0	-37.4	-2.91	BU
8ABXS3		426.5	-20.3	-1.74	464.6	-14.8	-1.15	FU
8SHRJH		427.0	-19.8	-1.69	464.4	-15.0	-1.17	WT
8VVGJP	X	264.4	-182.4	-15.64	271.8	-207.6	-16.17	WT
8ZL5PU		439.8	-7.0	-0.60	474.6	-4.8	-0.38	WI
952SDK		452.0	5.2	0.45	480.4	1.0	0.08	XX
9652X1		427.4	-19.4	-1.66	464.2	-15.2	-1.19	LE
97Q4CR		460.1	13.3	1.14	494.0	14.6	1.14	MI
9AGK3X		442.8	-4.0	-0.34	470.8	-8.6	-0.67	CL
9MGKWK	*	431.4	-15.4	-1.32	484.4	5.0	0.39	BU
AFGCBB		441.0	-5.8	-0.49	475.8	-3.6	-0.28	CL
AWBSXR	*	472.2	25.4	2.18	514.8	35.4	2.76	BU
B1T7KN	*	449.8	3.0	0.26	501.2	21.8	1.70	LE
B936YB		439.1	-7.7	-0.66	471.3	-8.1	-0.63	WT
BC7Q75		427.0	-19.8	-1.69	460.8	-18.6	-1.45	XX
BMFAD2		448.0	1.2	0.11	485.6	6.2	0.48	BU
BTWZU8		418.6	-28.2	-2.41	457.8	-21.6	-1.68	ST
BZUSNB		457.0	10.2	0.88	498.0	18.6	1.45	WT
DT5C99		444.5	-2.3	-0.20	474.0	-5.4	-0.42	WI

Interlaboratory Testing Program for Metals

Analysis 121

Microhardness - Knoop Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
ECB5R2	X	469.4	22.6	1.94	471.8	-7.6	-0.59	BU
EUMZ2V		445.6	-1.1	-0.10	492.1	12.6	0.98	LE
EXQ33D		457.6	10.8	0.93	491.8	12.4	0.96	BU
F2J9SM		455.6	8.8	0.76	478.2	-1.2	-0.09	LE
FBWUSR		458.6	11.8	1.02	483.8	4.4	0.34	MI
FJM3J7		439.0	-7.8	-0.66	463.8	-15.6	-1.22	BU
FPKNXG		431.2	-15.6	-1.33	457.2	-22.2	-1.73	WI
FS3L9G		451.0	4.2	0.36	481.2	1.8	0.14	XX
FWNJ82		465.4	18.6	1.60	507.0	27.6	2.15	LE
GRLDVS		447.8	1.0	0.09	472.8	-6.6	-0.52	MI
GWD42T		438.0	-8.8	-0.75	477.2	-2.2	-0.17	LE
GZSU7C		466.0	19.2	1.65	489.6	10.2	0.79	ST
H5EWRL		430.0	-16.7	-1.44	457.8	-21.6	-1.68	BU
HDURXG		450.7	3.9	0.34	483.7	4.2	0.33	BU
HM4ZP3		443.4	-3.4	-0.29	471.8	-7.6	-0.59	LI
HYVQ6Q		442.0	-4.8	-0.41	480.4	1.0	0.08	XX
JEWLM7		448.0	1.2	0.11	481.0	1.6	0.12	BU
JKG5R5		434.2	-12.6	-1.08	470.0	-9.4	-0.73	AN
JQWF2K		463.2	16.4	1.41	487.2	7.8	0.61	LI
JSYKGW		447.4	0.7	0.06	490.6	11.2	0.87	BU
JT2J2C		473.4	26.6	2.29	499.8	20.4	1.59	AT
K24AWZ		464.8	18.0	1.55	506.2	26.8	2.09	SH
K4TH7B		459.4	12.6	1.08	485.8	6.4	0.50	WT
K91RBA		443.8	-3.0	-0.25	477.6	-1.8	-0.14	WT
KA5HWK		440.0	-6.7	-0.58	465.2	-14.2	-1.11	LE
LHXJUU	X	451.6	4.8	0.42	449.0	-30.4	-2.37	LE
LVFYFV	*	458.8	12.0	1.03	508.4	29.0	2.26	BU
M1MAU1		447.7	0.9	0.08	484.9	5.5	0.43	CL
M3XMS6		436.2	-10.6	-0.90	462.2	-17.2	-1.34	SH
M9YZNN		457.6	10.8	0.93	482.8	3.4	0.26	LE
MTKVXM		460.0	13.2	1.14	502.0	22.6	1.76	LE
N3LFYU		444.8	-2.0	-0.17	472.8	-6.6	-0.52	LE
NCB2YE		456.0	9.2	0.79	489.6	10.2	0.79	WT
NKBLBU		453.4	6.6	0.57	485.4	6.0	0.47	WT
P77ZTV		452.7	5.9	0.51	484.7	5.3	0.41	BU
PCHV2R		440.4	-6.4	-0.54	478.4	-1.0	-0.08	CL
PEX7AU		440.6	-6.2	-0.53	469.4	-10.0	-0.78	AT
PFYGJB		453.2	6.4	0.55	488.6	9.2	0.72	FU
PM3CA1	X	454.6	7.8	0.67	534.1	54.7	4.26	WT
PR89HP		441.2	-5.6	-0.48	462.0	-17.4	-1.36	LE
PUCASF		442.0	-4.8	-0.41	471.4	-8.0	-0.62	BU
QAKRD9		436.2	-10.6	-0.90	464.8	-14.6	-1.14	LE
QERCT5		447.6	0.8	0.07	471.0	-8.4	-0.66	CM
QPRGMQ		449.8	3.0	0.26	475.6	-3.8	-0.30	CL
RWBE9Q		454.4	7.6	0.66	476.6	-2.8	-0.22	BU

Interlaboratory Testing Program for Metals

Analysis 121

Microhardness - Knoop Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
S2R5RZ		442.5	-4.2	-0.36	487.6	8.2	0.64	LE
S5S971		433.2	-13.6	-1.16	458.2	-21.2	-1.65	FU
SGQD2X		464.4	17.6	1.51	499.0	19.6	1.53	WT
SL3SC8		449.6	2.8	0.24	479.8	0.4	0.03	WT
STWJJK		453.8	7.0	0.60	484.8	5.4	0.42	LE
SWT62X		444.2	-2.6	-0.22	472.4	-7.0	-0.55	MI
U74PUM		442.0	-4.8	-0.41	459.9	-19.5	-1.52	BU
UD4M9G		426.8	-20.0	-1.71	464.2	-15.2	-1.19	WT
URAPGN		454.2	7.4	0.64	481.4	2.0	0.15	LE
UZ4X2D		448.2	1.4	0.12	478.9	-0.5	-0.04	LE
VBTNDV		442.2	-4.6	-0.39	475.6	-3.8	-0.30	BU
W3CM8Z		458.8	12.0	1.03	486.0	6.6	0.51	BU
WMVZ9U		449.1	2.3	0.20	471.0	-8.4	-0.65	FU
XX4GEE		449.6	2.9	0.25	480.8	1.4	0.11	MI
YRSKP9		433.3	-13.5	-1.16	472.7	-6.7	-0.52	WT
ZSNTU8		452.0	5.2	0.45	483.8	4.4	0.34	AN

Summary Statistics

	Sample S79		Sample S80	
Grand Means	446.75	HK 500 gf	479.40	HK 500 gf
Stnd Dev Btwn Labs	11.66	HK 500 gf	12.84	HK 500 gf
Statistics based on 101 of 106 reporting participants				

Samples S79 , S80 : steel

Analysis Notes for Test #121

Testing results for the webcode HDURXG appeared to be transposed between samples.
Data corrected by CTS.

Comments on assigned Data Flags for Test #121

- 7RFVT8 (X) - Inconsistent in testing between samples, data for Sample S80 are low.
- 8VVGJP (X) - Data for both samples are low.
- ECB5R2 (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample S79.
- LHXJUJ (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample S80.
- PM3CA1 (X) - Inconsistent in testing between samples, data for Sample S80 are high.

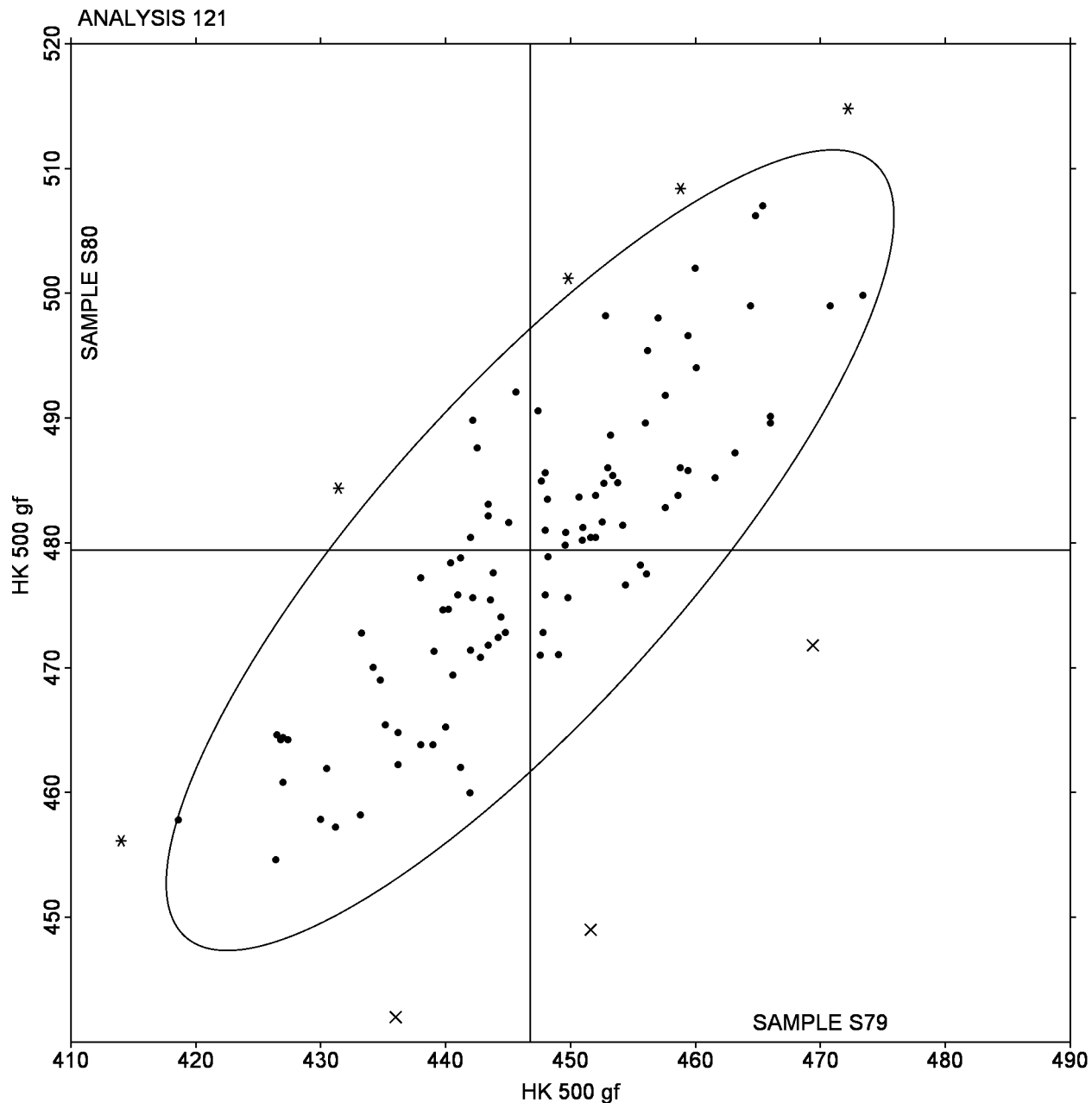
Interlaboratory Testing Program for Metals

Analysis 121

Microhardness - Knoop Hardness Number (500 gf)

ASTM E384

SAMPLE S79 = 446.75 HK 500 gf SAMPLE S80 = 479.40 HK 500 gf



Interlaboratory Testing Program for Metals

Analysis 122

Microhardness - Knoop Hardness Number (200 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1A793Z		450.6	-5.5	-0.47	489.2	-0.5	-0.04	FU
1F7D4V		447.8	-8.3	-0.71	490.8	1.1	0.09	CM
1SSSSC		472.6	16.5	1.42	511.8	22.1	1.79	LE
27NHFP		457.3	1.2	0.11	494.5	4.8	0.39	AN
56MEVK		468.2	12.1	1.04	505.0	15.3	1.24	WT
5CB7XH	X	468.0	11.9	1.03	446.6	-43.1	-3.49	BU
5NANY7		459.8	3.7	0.32	491.0	1.3	0.11	BU
5UPA1N		436.0	-20.1	-1.72	475.6	-14.1	-1.14	FU
5Z3Y12		465.6	9.5	0.82	489.8	0.1	0.01	MI
69XZTR		464.0	7.9	0.68	508.8	19.1	1.55	XX
6F8XX2		477.6	21.5	1.85	515.8	26.1	2.12	LE
72P8EU		482.4	26.3	2.26	510.8	21.1	1.71	LE
7CD8H6		449.2	-6.8	-0.59	478.5	-11.2	-0.90	LE
7NQ9L6		459.8	3.7	0.32	490.0	0.3	0.03	BU
84SHU5		473.2	17.1	1.47	506.2	16.5	1.34	BU
85JLDV		458.4	2.3	0.20	487.4	-2.3	-0.18	XX
92SAU8		458.8	2.7	0.24	495.6	5.9	0.48	BU
9B7Q9A		470.8	14.7	1.27	489.4	-0.3	-0.02	LE
9MW14S		441.4	-14.7	-1.26	475.6	-14.1	-1.14	SH
A4FWDU		463.8	7.7	0.66	492.4	2.7	0.22	LE
ATDPJJ		461.8	5.7	0.49	472.7	-17.0	-1.37	LE
BG8PZ5		464.6	8.5	0.73	498.8	9.1	0.74	WT
BNAW8R		465.2	9.1	0.79	489.4	-0.3	-0.02	LE
BQHBMGM		468.6	12.5	1.07	488.8	-0.9	-0.07	FU
CACDTL		459.1	3.1	0.26	492.9	3.2	0.26	BU
CLF3WP		465.4	9.3	0.80	485.8	-3.9	-0.31	ST
D4W4EL		441.8	-14.3	-1.23	469.4	-20.3	-1.64	LE
EM4QC5		467.2	11.2	0.96	491.4	1.7	0.14	BU
F74TR7		435.0	-21.0	-1.81	491.1	1.4	0.12	BU
FAEJBB		459.8	3.7	0.32	490.0	0.4	0.03	FU
FVGJKT		440.6	-15.5	-1.33	463.8	-25.9	-2.09	LE
G41R94		460.0	3.9	0.34	483.4	-6.3	-0.51	ST
GGCFLT		437.0	-19.1	-1.64	476.2	-13.5	-1.09	WT
GSQP15		458.3	2.3	0.20	497.5	7.8	0.63	CL
GWT6JW		452.0	-4.1	-0.35	476.6	-13.1	-1.06	LE
H4EF6K		456.4	0.3	0.03	485.0	-4.7	-0.38	WI
HLMLJP		467.0	10.9	0.94	502.6	12.9	1.05	AN
JQD4EY		462.6	6.5	0.56	491.6	1.9	0.16	LE
K9GS4S		451.1	-4.9	-0.42	491.1	1.4	0.11	BU
KFUVTV		451.9	-4.2	-0.36	479.6	-10.1	-0.81	CL
KJFUV3		446.3	-9.8	-0.84	476.5	-13.2	-1.06	WI
L1493N		454.9	-1.1	-0.10	495.0	5.4	0.43	MI
LKXGNP		458.1	2.0	0.17	497.5	7.8	0.63	LE
LQLBDQ		456.8	0.7	0.06	492.8	3.1	0.25	MI
MBEHDJ		466.6	10.5	0.91	513.6	23.9	1.94	BU

Interlaboratory Testing Program for Metals

Analysis 122

Microhardness - Knoop Hardness Number (200 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
MF1J4Z		472.6	16.5	1.42	500.2	10.5	0.85	MI
MUUJX5		445.0	-11.0	-0.95	499.5	9.8	0.80	LE
MXWRSW	X	400.0	-56.1	-4.82	428.8	-60.9	-4.93	ST
MZDLXK		452.6	-3.5	-0.30	482.4	-7.3	-0.59	CL
N4N8X2	*	441.9	-14.2	-1.22	504.8	15.2	1.23	BU
NQ37A7		462.6	6.5	0.56	509.0	19.3	1.56	WT
PEZ2M1		463.6	7.5	0.65	488.8	-0.9	-0.07	BU
PHD4NT		458.4	2.3	0.20	502.2	12.5	1.01	LE
RF2KQ7		441.0	-15.1	-1.29	472.8	-16.9	-1.37	BU
RH2W3N	X	462.8	6.7	0.58	447.2	-42.5	-3.44	LE
RX93UX		454.6	-1.5	-0.13	476.8	-12.9	-1.04	MI
S9FKWK		439.6	-16.4	-1.41	467.9	-21.8	-1.77	BU
TBDRPN		441.4	-14.7	-1.26	474.4	-15.3	-1.24	XX
TLTZWQ		453.6	-2.5	-0.21	483.6	-6.1	-0.49	LI
U9L87P	X	569.2	113.1	9.72	638.2	148.5	12.02	LE
UCJ85D		456.5	0.5	0.04	494.8	5.1	0.42	WT
UJQB3K		468.4	12.3	1.06	498.6	8.9	0.72	LE
VAY2MN	X	513.0	56.9	4.89	540.4	50.7	4.11	LE
VEQWAT		462.8	6.7	0.58	494.4	4.7	0.38	AN
VKYS4R	M				487.0	-2.7	-0.22	WT
W86T5B	*	430.4	-25.7	-2.20	484.2	-5.5	-0.44	AN
WBG78K	*	465.6	9.5	0.82	472.0	-17.7	-1.43	BU
WC69KA		452.4	-3.7	-0.31	492.6	2.9	0.24	LE
WJKQRP		451.4	-4.7	-0.40	486.4	-3.3	-0.27	CL
WRAC8U		429.2	-26.9	-2.31	465.2	-24.5	-1.98	WT
WRLDUV		461.4	5.3	0.46	505.0	15.3	1.24	BU
Y7B72K		438.7	-17.4	-1.49	470.6	-19.1	-1.54	XX
YU4DM3	X	503.0	46.9	4.03	534.2	44.5	3.60	BU
Z9P5B3		446.8	-9.3	-0.80	490.6	0.9	0.07	XX

Summary Statistics

	Sample S79		Sample S80	
Grand Means	456.06	HK 200 gf	489.70	HK 200 gf
Stnd Dev Btwn Labs	11.64	HK 200 gf	12.35	HK 200 gf
Statistics based on 67 of 74 reporting participants				

Samples S79 , S80 : steel

Analysis Notes for Test #122

Testing results for the webcode CACDTL appeared to be transposed between samples.

Data corrected by CTS.

Interlaboratory Testing Program for Metals
Analysis 122
Microhardness - Knoop Hardness Number (200 gf)
ASTM E384

Comments on assigned Data Flags for Test #122

5CB7XH (X) - Inconsistent in testing between samples, data for Sample S80 are low.

MXWRSW (X) - Data for both samples are low. Possible systematic error.

RH2W3N (X) - Low data for Sample S80. Inconsistent within the determinations for Sample S80.

U9L87P (X) - Data for both samples are high. Inconsistent within the determinations for Sample S79.

VAY2MN (X) - Data for both samples are high. Possible systematic error.

VKYS4R (M) - Laboratory did not submit data for Sample S79.

YU4DM3 (X) - Data for both samples are high. Inconsistent within the determinations for Sample S79.

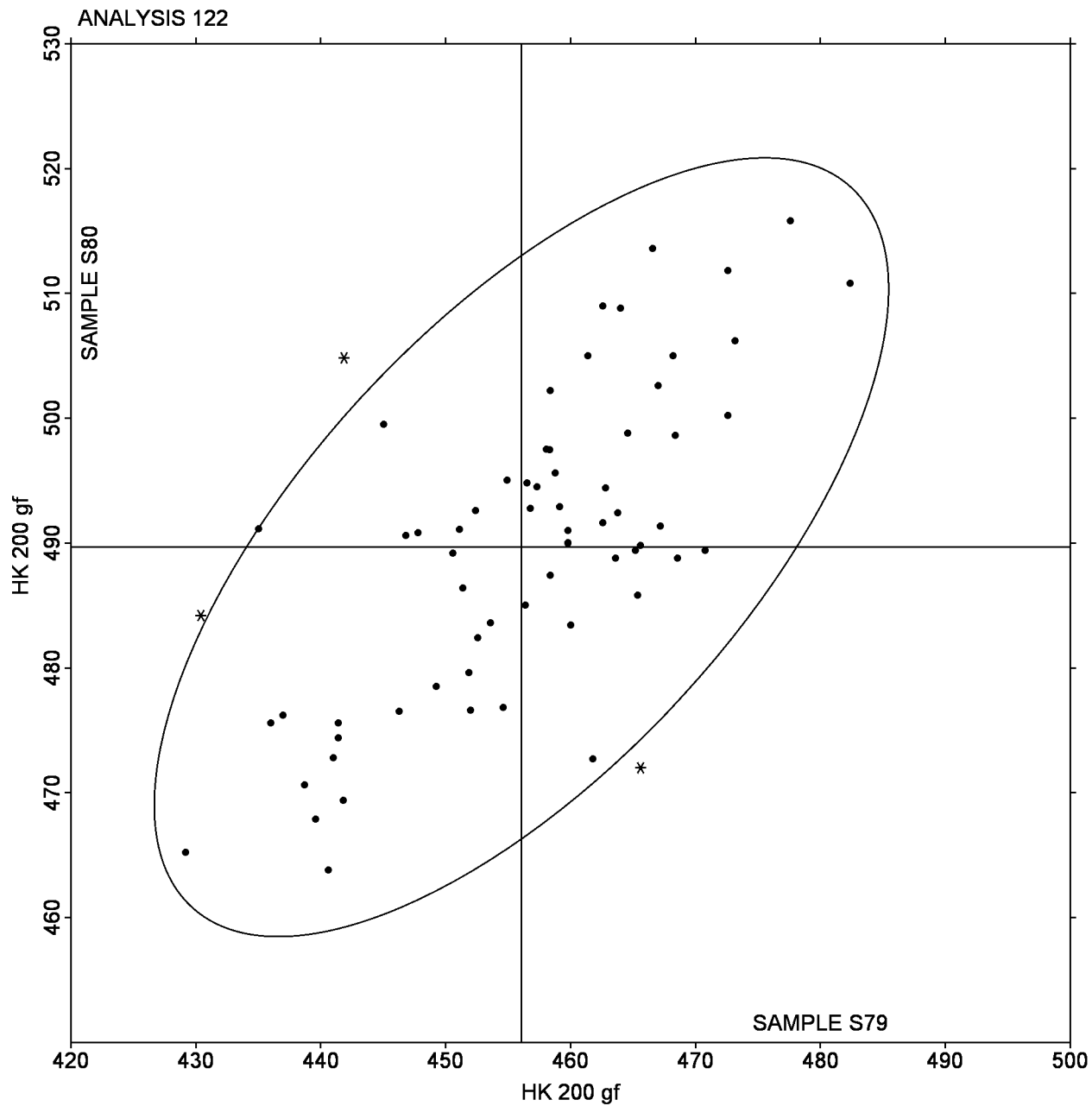
Interlaboratory Testing Program for Metals

Analysis 122

Microhardness - Knoop Hardness Number (200 gf)

ASTM E384

SAMPLE S79 = 456.06 HK 200 gf SAMPLE S80 = 489.70 HK 200 gf



Interlaboratory Testing Program for Metals

Analysis 123

Microhardness - Vickers Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
14DJZU		421.6	-8.6	-0.83	452.4	-11.1	-1.00	BU
1HDW5E		430.8	0.6	0.06	458.4	-5.1	-0.46	LE
2AGFMW		438.8	8.6	0.82	466.0	2.5	0.23	LE
2BJ684		420.8	-9.4	-0.90	456.0	-7.5	-0.67	ST
2FXF6N	*	438.3	8.1	0.77	485.5	22.0	1.99	FU
2V2HEA		442.2	12.0	1.15	482.6	19.1	1.73	XX
2V8JFM		429.8	-0.4	-0.04	458.0	-5.5	-0.49	BU
2Y27SG	X	3,350.2	2,920.0	280.03	3,535.0	3,071.5	277.37	LE
3PGWWY		432.2	2.0	0.19	457.0	-6.5	-0.58	LE
3TNK12		444.0	13.8	1.32	472.5	9.0	0.82	SH
43ZDJX		442.9	12.7	1.21	473.6	10.2	0.92	LE
4ENYRD		411.0	-19.2	-1.84	450.8	-12.7	-1.14	LE
4L2GFM		423.0	-7.2	-0.69	460.4	-3.1	-0.28	BU
4QX8MY		418.0	-12.2	-1.17	457.4	-6.1	-0.55	LE
4VG1JX		433.8	3.6	0.34	468.4	4.9	0.45	LE
4ZKS2B	*	450.2	20.0	1.92	471.0	7.5	0.68	MI
559U52		431.4	1.2	0.11	464.4	0.9	0.08	BU
6CKSRC		440.3	10.1	0.97	472.2	8.8	0.79	BU
6FPM39		438.8	8.6	0.82	469.8	6.3	0.57	WT
6KF7KG		435.9	5.7	0.54	473.3	9.9	0.89	MA
6VWDCL		429.8	-0.4	-0.04	457.8	-5.7	-0.51	EM
72FSZR		426.5	-3.7	-0.36	467.3	3.8	0.34	BU
7DJG3U		436.2	6.0	0.57	466.8	3.3	0.30	LI
7G49D6	*	427.2	-3.0	-0.29	445.6	-17.9	-1.61	LE
8437W5		420.5	-9.7	-0.93	453.5	-9.9	-0.90	LE
85JKGM		418.6	-11.6	-1.11	458.4	-5.1	-0.46	FU
8C2AA3	*	447.2	17.0	1.63	493.4	29.9	2.70	LE
924ZWK		426.6	-3.6	-0.35	470.6	7.2	0.65	MI
92WNN9		413.4	-16.8	-1.61	459.0	-4.5	-0.40	LE
93ME9V		426.0	-4.2	-0.40	458.6	-4.9	-0.44	CL
9A7X58		421.4	-8.8	-0.84	457.4	-6.1	-0.55	CL
9CMGPR		435.2	5.0	0.48	467.6	4.1	0.37	AK
9JPAGD		436.2	6.0	0.57	466.8	3.3	0.30	WZ
A3F41W		410.4	-19.8	-1.90	455.6	-7.9	-0.71	WZ
AG2VYC		429.4	-0.8	-0.08	462.8	-0.7	-0.06	BU
AQFNNM		422.8	-7.4	-0.71	458.6	-4.9	-0.44	MA
ARCLR7		415.8	-14.4	-1.38	449.0	-14.5	-1.31	ST
ASZ5EY	*	411.0	-19.2	-1.84	434.8	-28.7	-2.59	BU
AWVEJG		428.6	-1.6	-0.15	457.8	-5.7	-0.51	XX
BNCG5W		434.0	3.8	0.36	467.0	3.5	0.32	AN
BXNBJC		418.6	-11.6	-1.11	457.9	-5.6	-0.50	WT
C15W31		423.6	-6.6	-0.63	453.4	-10.1	-0.91	CL
C4KHKM		441.2	11.0	1.05	471.4	7.9	0.72	FU
C5KY44		419.8	-10.4	-1.00	453.8	-9.6	-0.87	WT
C95PKY		423.2	-7.0	-0.67	447.4	-16.1	-1.45	CL

Interlaboratory Testing Program for Metals

Analysis 123

Microhardness - Vickers Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
CA6R2X		434.2	4.0	0.38	466.2	2.7	0.25	FU
CASCHU		430.6	0.4	0.04	466.8	3.3	0.30	MI
CSBNL2		433.2	3.0	0.29	464.2	0.7	0.07	WT
CTXYS4	X	464.8	34.6	3.32	448.5	-14.9	-1.35	WT
DYMFQ6		436.7	6.5	0.62	470.6	7.2	0.65	XX
EAJ4GM		420.8	-9.4	-0.90	450.6	-12.9	-1.16	AK
EJ8GGF		434.0	3.8	0.36	458.0	-5.5	-0.49	XX
EZ8GY8	X	454.4	24.2	2.32	459.8	-3.7	-0.33	BU
F49BUG		430.0	-0.2	-0.02	455.9	-7.6	-0.69	CL
F6K6UF	X	246.2	-184.0	-17.65	246.8	-216.7	-19.57	WT
FGSZTV		443.2	13.0	1.24	476.3	12.9	1.16	XX
FMRYP6		431.0	0.8	0.08	465.8	2.3	0.21	WT
FS3SG2		436.6	6.4	0.61	467.4	3.9	0.36	BU
FZ35QN	X	523.0	92.8	8.90	570.0	106.5	9.62	LE
G2WEVW		417.8	-12.4	-1.19	447.6	-15.8	-1.43	BU
G72DZS	*	407.8	-22.4	-2.15	434.6	-28.9	-2.61	WT
GNZW2W		418.8	-11.4	-1.09	450.4	-13.1	-1.18	BU
GQPN7J		439.6	9.4	0.90	462.7	-0.7	-0.07	BU
GTTUNW		429.8	-0.4	-0.04	461.8	-1.7	-0.15	LE
H4Z85X		441.4	11.2	1.07	466.8	3.3	0.30	BU
H73EUS		436.6	6.4	0.61	478.6	15.1	1.37	LE
HHFC2S		434.2	4.0	0.38	481.8	18.3	1.66	ST
J9Y351		439.4	9.2	0.88	467.6	4.1	0.37	LI
JECCPJ		451.8	21.6	2.07	481.5	18.1	1.63	XX
JME9TT		433.2	3.0	0.29	460.8	-2.7	-0.24	BU
JMTV3V		413.6	-16.6	-1.59	444.4	-19.1	-1.72	FU
JN7EV5		415.2	-15.0	-1.44	444.8	-18.7	-1.69	SH
JSC1MX		434.8	4.6	0.44	468.2	4.7	0.43	XX
JVD6ZH		450.0	19.8	1.90	488.0	24.5	2.22	LE
L4SF7P		447.9	17.7	1.70	483.8	20.3	1.83	XX
L8A6GZ		449.6	19.4	1.86	473.4	9.9	0.90	XX
LCJ3WZ		432.8	2.6	0.25	465.2	1.7	0.16	AK
LR2DHP		445.2	15.0	1.44	483.8	20.3	1.84	BU
LUFM8H		427.4	-2.8	-0.27	460.4	-3.1	-0.28	XX
LVE2WZ		410.5	-19.7	-1.89	444.9	-18.5	-1.67	FU
LVPFYD4		421.0	-9.2	-0.88	453.4	-10.1	-0.91	BU
LW4Y7N		440.0	9.8	0.94	468.4	4.9	0.44	MI
M39XJ9		435.2	5.0	0.48	471.8	8.3	0.75	XX
M7QGHZ		443.2	13.0	1.25	474.6	11.1	1.01	MI
M9VV6B		429.8	-0.4	-0.04	470.0	6.5	0.59	CM
MBPV5P		425.8	-4.4	-0.42	457.8	-5.7	-0.51	CM
MEPQ7J		425.5	-4.7	-0.46	471.6	8.1	0.73	MI
N1HQM2	X	458.8	28.6	2.74	473.0	9.5	0.86	CL
N2MK23		427.2	-3.0	-0.29	454.6	-8.9	-0.80	XX
N8KCV6		420.8	-9.4	-0.90	458.9	-4.6	-0.41	BU

Interlaboratory Testing Program for Metals

Analysis 123

Microhardness - Vickers Hardness Number (500 gf)

ASTM E384

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
NF4GYR		409.2	-21.0	-2.01	452.8	-10.7	-0.96	BU
P4FMNA		422.0	-8.2	-0.79	457.6	-5.9	-0.53	LE
P6NAEG	*	421.4	-8.8	-0.84	473.4	9.9	0.90	SH
PEZ1PS		430.8	0.6	0.06	456.8	-6.7	-0.60	LE
PKLHXQ		413.5	-16.7	-1.60	452.2	-11.3	-1.02	BU
PVNE3J		429.3	-0.9	-0.09	466.7	3.2	0.29	LE
PY44JY		420.2	-10.0	-0.96	457.2	-6.3	-0.57	WT
Q8N937		417.2	-13.0	-1.25	455.4	-8.1	-0.73	CM
QJETNE		450.0	19.8	1.90	486.6	23.1	2.09	XX
QNKP1B		431.8	1.6	0.15	466.2	2.7	0.25	WI
QQKDV3		431.8	1.6	0.15	471.4	7.9	0.72	AK
R6RH46		419.4	-10.8	-1.04	448.0	-15.5	-1.40	BU
RB16V9		442.1	11.9	1.14	476.7	13.3	1.20	MA
RJGRV1		438.8	8.6	0.82	477.8	14.3	1.29	AK
RU44GD		443.2	13.0	1.25	480.6	17.1	1.55	WT
RYP9GE		435.8	5.6	0.54	463.4	-0.1	-0.01	AW
RZHUXZ		420.0	-10.2	-0.98	464.2	0.7	0.07	FU
S7TTYU		419.0	-11.2	-1.07	461.8	-1.7	-0.15	BU
SD7UVD	X	428.0	-2.2	-0.21	539.4	75.9	6.86	LE
SDV1GA		447.0	16.8	1.61	483.2	19.7	1.78	MI
SXJK8B		444.3	14.1	1.35	466.0	2.6	0.23	FU
TGQQ5N		438.7	8.5	0.81	467.3	3.9	0.35	BU
TZEL8Q		417.9	-12.3	-1.18	453.4	-10.1	-0.91	XX
U35M6Y		431.0	0.8	0.08	467.4	3.9	0.36	BU
UH7WQX		420.0	-10.2	-0.98	442.4	-21.1	-1.90	WT
ULY1JC		430.8	0.6	0.06	459.4	-4.1	-0.37	BU
UM332R		436.2	6.0	0.57	464.0	0.5	0.05	SH
V31H8Y		439.3	9.1	0.87	463.6	0.2	0.02	WT
V48PJD		433.6	3.4	0.33	465.8	2.3	0.21	LC
VFK9NW	X	407.8	-22.4	-2.15	465.4	1.9	0.17	BU
VJXW2B		432.0	1.8	0.17	456.4	-7.1	-0.64	LE
VKBFXC		416.2	-14.0	-1.34	453.0	-10.5	-0.94	CM
VZGB7T		430.4	0.2	0.02	464.2	0.7	0.07	BU
W77R1H	X	400.4	-29.8	-2.86	404.0	-59.5	-5.37	BU
WBNQHQ	M				463.6	0.1	0.01	WT
WDN5EG		428.6	-1.6	-0.15	458.4	-5.1	-0.46	LE
WDZW8J		423.6	-6.6	-0.63	459.6	-3.9	-0.35	LE
WV1C4X		412.4	-17.8	-1.71	438.8	-24.7	-2.23	BU
X5SWMH		432.1	1.9	0.18	464.5	1.1	0.10	CL
Y6LZX5		439.5	9.3	0.89	470.7	7.3	0.66	XX
YLPTVD		431.4	1.2	0.11	461.8	-1.7	-0.15	BU
YM9AK7		438.8	8.6	0.82	467.6	4.1	0.37	LE
YX2WHA		433.0	2.8	0.27	470.8	7.3	0.66	CL
ZDM3U8		445.2	15.0	1.44	476.8	13.3	1.20	LE
ZMZN2K		435.6	5.4	0.52	472.6	9.1	0.83	WI

Interlaboratory Testing Program for Metals

Analysis 123

Microhardness - Vickers Hardness Number (500 gf)

ASTM E384

Summary Statistics

	Sample S79	Sample S80
Grand Means	430.21 HV 500 gf	463.50 HV 500 gf
Stnd Dev Btwn Labs	10.43 HV 500 gf	11.07 HV 500 gf
Statistics based on 125 of 135 reporting participants		

Samples S79 , S80 : steel**Analysis Notes for Test #123**

Testing results for the webcode CSBNL2 appeared to be transposed between the tests # 118 and # 123. Testing results for the webcode 72FSZR appeared to be transposed between samples. Data corrected by CTS.

Comments on assigned Data Flags for Test #123

2Y27SG (X) - Extreme data.

CTXYS4 (X) - High data for Sample S79 and inconsistent within the determinations for both samples.

EZ8GY8 (X) - Inconsistent in testing between samples.

F6K6UF (X) - Data for both samples are low.

FZ35QN (X) - Data for both samples are high. Possible systematic error.

N1HQM2 (X) - Inconsistent in testing between samples.

SD7UVD (X) - High data for Sample S80 and inconsistent within the determinations for both samples.

VFK9NW (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample S79.

W77R1H (X) - Data for both samples are low.

WBNQHQ (M) - Laboratory did not submit data for Sample S79.

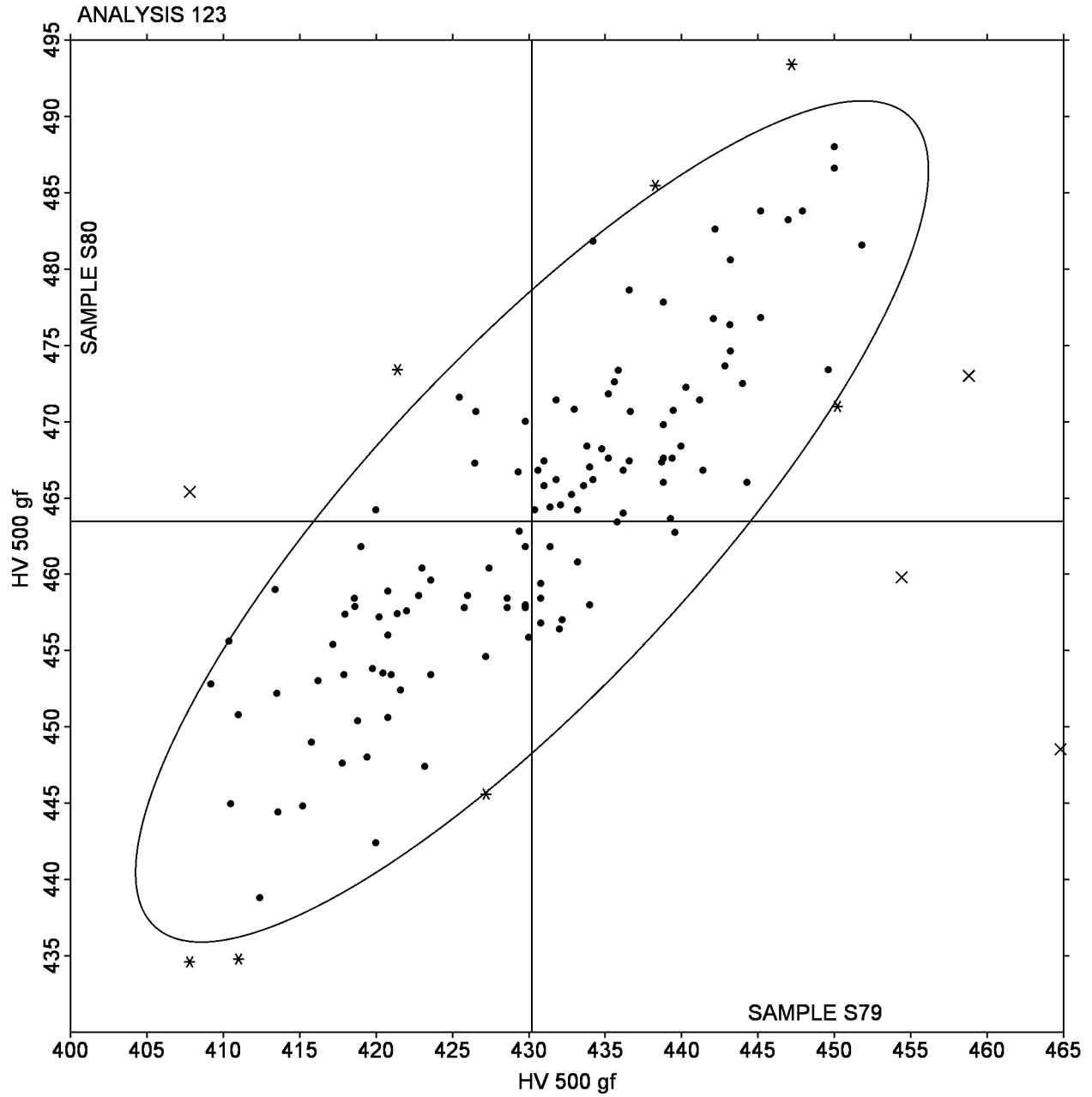
Interlaboratory Testing Program for Metals

Analysis 123

Microhardness - Vickers Hardness Number (500 gf)

ASTM E384

SAMPLE S79 = 430.21 HV 500 gf SAMPLE S80 = 463.50 HV 500 gf



Interlaboratory Testing Program for Metals

Analysis 135

Brinell Hardness - HBW

ASTM E10

WebCode	Data Flag	Sample D79			Sample D80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
19ZUVU		392.9	-3.3	-0.50	368.1	-2.3	-0.34	EM
1E4EL2	X	3.1	-393.1	-60.24	3.2	-367.2	-53.55	DE
1YLV9B	X	412.6	16.4	2.52	362.2	-8.2	-1.20	EM
263TYJ		400.0	3.8	0.59	380.0	9.6	1.40	RI
275KCP		390.6	-5.6	-0.85	367.8	-2.6	-0.38	AN
2AR81U		388.0	-8.2	-1.25	363.0	-7.4	-1.08	TI
2CHBQV		396.2	0.0	0.01	365.4	-5.0	-0.73	DE
2ESEFW		402.8	6.6	1.02	381.8	11.4	1.66	KI
2JXNCQ		401.0	4.8	0.74	373.8	3.4	0.49	ER
2XVBBQ		395.0	-1.2	-0.18	371.2	0.8	0.11	NA
5A5SF5		398.0	1.8	0.28	378.2	7.8	1.13	DE
5JY11W		401.6	5.4	0.83	373.4	3.0	0.43	AV
5QYDRZ		401.0	4.8	0.74	375.0	4.6	0.67	LS
5UDTEG		390.6	-5.6	-0.85	363.0	-7.4	-1.08	ST
6CBBAK		395.8	-0.4	-0.06	371.4	1.0	0.14	RI
6JCLEC		402.8	6.6	1.02	374.2	3.8	0.55	TI
7QVSSG	X	412.6	16.4	2.52	364.2	-6.2	-0.91	SA
897RJW		401.0	4.8	0.74	375.0	4.6	0.67	XX
8CY96B		399.6	3.4	0.53	379.6	9.2	1.34	RI
8UPGUF		388.0	-8.2	-1.25	363.0	-7.4	-1.08	DE
8VXC13		394.0	-2.2	-0.33	368.0	-2.4	-0.35	DE
95BA5V		388.0	-8.2	-1.25	363.0	-7.4	-1.08	DE
9JQ7XJ		401.0	4.8	0.74	376.6	6.2	0.90	NS
9QCWM5		398.0	1.8	0.28	366.6	-3.8	-0.56	TI
9SZY8E		392.4	-3.8	-0.58	368.8	-1.6	-0.24	SP
9TBDPV		399.2	3.0	0.47	370.0	-0.4	-0.06	DE
9V6P3E	X	388.0	-8.2	-1.25	341.0	-29.4	-4.29	ST
A47T3Y	*	415.0	18.8	2.89	388.0	17.6	2.56	TI
AQBTFE		388.0	-8.2	-1.25	363.0	-7.4	-1.08	WI
BGXSTB		390.6	-5.6	-0.85	363.0	-7.4	-1.08	ST
D4T1LN		401.0	4.8	0.74	363.0	-7.4	-1.08	LS
D4V8VQ		388.0	-8.2	-1.25	363.0	-7.4	-1.08	DE
DPHARV		401.0	4.8	0.74	375.0	4.6	0.67	WI
EH1K8B		398.0	1.8	0.28	375.0	4.6	0.67	TI
EV2VD8		388.0	-8.2	-1.25	363.0	-7.4	-1.08	RI
F2LDKC		395.2	-1.0	-0.15	378.0	7.6	1.11	TI
FGS1GK		388.8	-7.4	-1.13	363.0	-7.4	-1.08	EM
G3VMAV		388.0	-8.2	-1.25	363.0	-7.4	-1.08	PI
GJWMPS		388.0	-8.2	-1.25	363.0	-7.4	-1.08	SD
GZW599		396.4	0.2	0.04	368.4	-2.0	-0.29	MA
H2RQZX		397.0	0.8	0.13	370.0	-0.4	-0.06	LS
HPRPMU		401.0	4.8	0.74	364.0	-6.4	-0.94	DE
HTRHN6	*	388.0	-8.2	-1.25	375.0	4.6	0.67	TI
J3SQWW		401.0	4.8	0.74	375.0	4.6	0.67	TI
JEVRA1		388.0	-8.2	-1.25	363.0	-7.4	-1.08	DE

Interlaboratory Testing Program for Metals

Analysis 135

Brinell Hardness - HBW

ASTM E10

WebCode	Data Flag	Sample D79			Sample D80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
JFG6VV		388.0	-8.2	-1.25	363.0	-7.4	-1.08	AM
JV2CN5		401.0	4.8	0.74	375.0	4.6	0.67	XX
K81QZU	*	401.0	4.8	0.74	388.0	17.6	2.56	LS
KH2AZ2		388.0	-8.2	-1.25	363.0	-7.4	-1.08	RI
KJL2GR	*	386.4	-9.8	-1.50	374.4	4.0	0.58	XX
KNQTAP		401.0	4.8	0.74	371.8	1.4	0.20	TI
KYUJAB		386.8	-9.4	-1.43	365.2	-5.2	-0.76	ST
L9LMJ4		401.0	4.8	0.74	375.0	4.6	0.67	NA
LGFPLE		401.0	4.8	0.74	364.4	-6.0	-0.88	TI
LJJ1BH	*	413.8	17.6	2.70	378.0	7.6	1.11	XX
LPH8CX		391.0	-5.2	-0.79	361.8	-8.6	-1.26	TI
N3GNT1		400.0	3.8	0.59	376.0	5.6	0.81	TI
N7XE1K		401.0	4.8	0.74	375.0	4.6	0.67	WI
NSWHP		401.0	4.8	0.74	375.0	4.6	0.67	WI
NV93U9		401.0	4.8	0.74	363.0	-7.4	-1.08	DE
PBU1HB		388.0	-8.2	-1.25	363.0	-7.4	-1.08	TI
PKLHVY		401.0	4.8	0.74	375.0	4.6	0.67	TI
Q7KFR3		388.0	-8.2	-1.25	363.0	-7.4	-1.08	NA
Q8V459		402.0	5.8	0.89	382.0	11.6	1.69	TI
QEHMZM		395.8	-0.4	-0.06	370.2	-0.2	-0.03	NA
QGALNY		401.0	4.8	0.74	375.0	4.6	0.67	WI
QKKFVC		409.2	13.0	2.00	379.4	9.0	1.31	AL
QX7MSL		395.4	-0.8	-0.12	362.6	-7.8	-1.14	EM
RPEX1W		388.0	-8.2	-1.25	363.0	-7.4	-1.08	KI
RRQG3J		398.8	2.6	0.40	366.2	-4.2	-0.62	WI
S2KJSG	X	347.7	-48.5	-7.43	347.7	-22.7	-3.31	KI
SBRB5H		401.0	4.8	0.74	385.0	14.6	2.13	DE
SP26ZX		401.0	4.8	0.74	375.0	4.6	0.67	KI
T5J3K7		393.2	-3.0	-0.46	368.1	-2.3	-0.33	WI
WAJBN6		398.6	2.4	0.37	375.0	4.6	0.67	XX
XL2CFH		390.0	-6.2	-0.94	367.0	-3.4	-0.50	ST
YXWET3		387.4	-8.8	-1.34	364.8	-5.6	-0.82	MA
ZPSUW9		401.0	4.8	0.74	365.4	-5.0	-0.73	NA

Summary Statistics

	Sample D79	Sample D80
Grand Means	396.16 HBW	370.40 HBW
Std Dev Btwn Labs	6.53 HBW	6.86 HBW

Statistics based on 73 of 78 reporting participants

Samples D79 , D80 are hardness test blocks made from steel. The blocks are heat treated to hardness levels specified by CTS.

Interlaboratory Testing Program for Metals

Analysis 135

Brinell Hardness - HBW

ASTM E10

Comments on assigned Data Flags for Test #135

1E4EL2 (X) - Data were reported in mm instead of HBW.

1YLV9B (X) - Inconsistent in testing between samples.

7QVSSG (X) - Inconsistent in testing between samples.

9V6P3E (X) - Inconsistent in testing between samples, data for Sample D80 are low.

S2KJSG (X) - Data for both samples are low.

Interlaboratory Testing Program for Metals

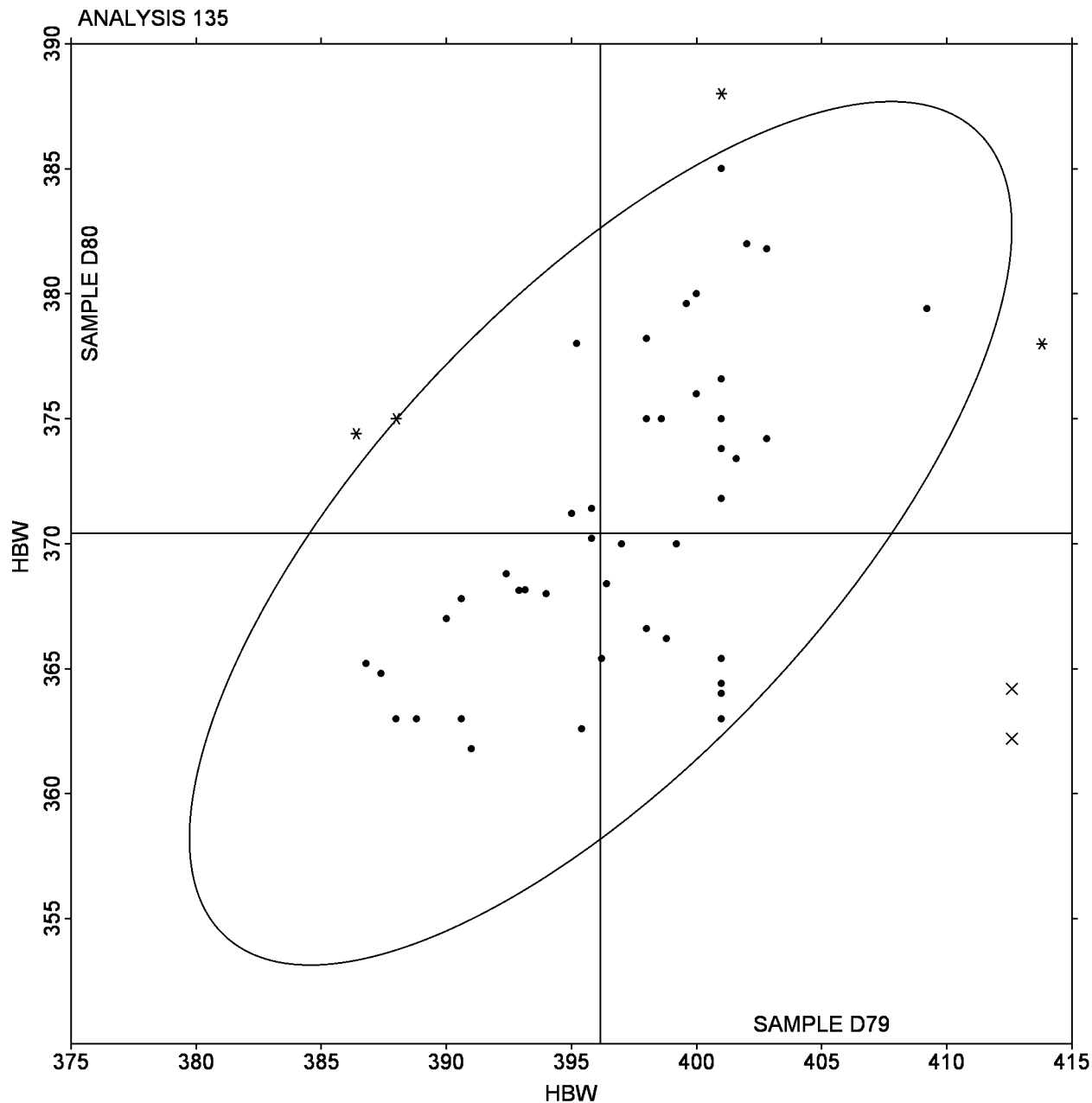
Analysis 135

Brinell Hardness - HBW

ASTM E10

SAMPLE D79 = 396.16 HBW

SAMPLE D80 = 370.40 HBW



Interlaboratory Testing Program for Metals

Analysis 170

Chemical Analysis Element #1 - Carbon & Low Alloy Steel - Percent

CARBON (C)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
133FB9		0.430	0.008	0.75	0.300	0.000	-0.02	OE
1A9HWA		0.427	0.005	0.44	0.300	0.000	0.02	OE
1DNTGL		0.423	0.001	0.13	0.303	0.003	0.44	OE
1GJF2A	X	0.459	0.037	3.45	0.319	0.019	2.36	GD
1GMZ39		0.423	0.001	0.11	0.298	-0.002	-0.22	OE
1MVRJE		0.425	0.003	0.25	0.300	0.000	0.06	CO
1PQHLD		0.400	-0.022	-2.06	0.289	-0.011	-1.40	CO
2MC9SJ		0.408	-0.014	-1.31	0.287	-0.013	-1.61	OE
34ADUB	*	0.415	-0.007	-0.62	0.309	0.009	1.15	OE
3VMREW		0.422	0.000	0.00	0.299	-0.001	-0.11	CI
46TSY1		0.433	0.011	1.04	0.306	0.006	0.77	OE
4BXCQ3		0.428	0.006	0.54	0.295	-0.005	-0.56	DR
4C7BML		0.425	0.003	0.32	0.298	-0.002	-0.27	OE
56DE4D		0.447	0.025	2.35	0.314	0.014	1.73	OE
5CMK9K		0.419	-0.003	-0.25	0.304	0.004	0.52	CO
5TDZ9K		0.428	0.006	0.54	0.306	0.006	0.81	CI
5X3GE4		0.426	0.004	0.38	0.299	-0.001	-0.08	OE
6BG1ND		0.416	-0.006	-0.56	0.302	0.002	0.23	OE
6GFVPG		0.410	-0.012	-1.12	0.287	-0.013	-1.65	OE
6MT7WY		0.429	0.007	0.63	0.298	-0.002	-0.27	GD
6QTFWU		0.427	0.005	0.50	0.301	0.001	0.10	CI
73QCHR	X	0.479	0.057	5.35	0.358	0.058	7.28	OE
7F4X49		0.418	-0.004	-0.38	0.289	-0.011	-1.35	OE
7RRTFE	*	0.393	-0.029	-2.75	0.286	-0.014	-1.73	OE
8AMKJB		0.442	0.020	1.84	0.309	0.009	1.10	OE
8GEZST		0.442	0.020	1.88	0.311	0.011	1.38	OE
8SQJR8		0.422	0.000	0.03	0.301	0.001	0.14	CI
8VMMH9		0.429	0.007	0.67	0.306	0.006	0.79	OE
94V6BQ		0.411	-0.011	-1.03	0.302	0.002	0.23	DR
9EPAWQ		0.421	-0.001	-0.09	0.303	0.003	0.40	IR
9Q2QYY		0.408	-0.014	-1.31	0.288	-0.012	-1.44	OE
9RL6BL		0.439	0.017	1.63	0.307	0.007	0.94	OE
A2WVJ7		0.444	0.022	2.02	0.317	0.017	2.18	OE
A34QXV		0.416	-0.006	-0.59	0.292	-0.008	-1.02	CI
ASYJGZ		0.421	-0.001	-0.10	0.297	-0.003	-0.38	XX
AT4JHC		0.433	0.011	1.06	0.305	0.005	0.67	DR
AUVT2G	X	0.403	-0.019	-1.75	0.310	0.010	1.27	OE
B2GQ14		0.417	-0.005	-0.50	0.298	-0.002	-0.23	CO
BKELKZ		0.415	-0.007	-0.65	0.291	-0.009	-1.11	IR
BS7JRT		0.425	0.003	0.25	0.302	0.002	0.27	CO
C1BWJE		0.420	-0.002	-0.18	0.300	0.000	0.02	CI
C4U4RG		0.417	-0.005	-0.50	0.297	-0.003	-0.40	IR
CDXTB8		0.431	0.009	0.85	0.303	0.003	0.35	OE
CEK4HM		0.402	-0.020	-1.89	0.282	-0.017	-2.18	XX
CKTWVB		0.405	-0.017	-1.62	0.295	-0.005	-0.61	OE

Interlaboratory Testing Program for Metals

Analysis 170

Chemical Analysis Element #1 - Carbon & Low Alloy Steel - Percent

CARBON (C)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
CQ1RU8		0.410	-0.012	-1.12	0.295	-0.005	-0.56	OE
CTSBVN	*	0.410	-0.012	-1.12	0.280	-0.020	-2.48	OE
CX5L71		0.423	0.001	0.13	0.304	0.004	0.52	CO
CZ6ELR	*	0.448	0.026	2.48	0.322	0.022	2.81	OE
D1FJU8		0.418	-0.004	-0.34	0.296	-0.004	-0.50	OE
D4AZX2		0.433	0.011	1.00	0.307	0.007	0.94	CO
DBZ1LR		0.421	-0.001	-0.12	0.296	-0.004	-0.48	OE
DGTA5H		0.414	-0.008	-0.72	0.290	-0.010	-1.19	OE
DJBLL9		0.426	0.004	0.38	0.311	0.011	1.35	DR
DNG2EF	X	0.455	0.033	3.13	0.326	0.026	3.31	OE
E9C4TD		0.435	0.013	1.24	0.299	-0.001	-0.17	DR
EM7FKJ		0.416	-0.006	-0.53	0.284	-0.016	-1.95	AA
F3KC1X		0.411	-0.011	-1.00	0.292	-0.008	-0.98	CO
F4L4BC		0.406	-0.016	-1.50	0.291	-0.009	-1.11	OE
FSVT6H		0.418	-0.004	-0.40	0.298	-0.002	-0.19	CO
G91PKB		0.419	-0.003	-0.31	0.302	0.002	0.31	CI
GBLBND		0.420	-0.002	-0.18	0.301	0.001	0.14	OE
GBPWEW		0.407	-0.015	-1.37	0.310	0.010	1.23	OE
GP7LEU		0.426	0.004	0.35	0.299	-0.001	-0.15	OE
GSB8YS		0.428	0.006	0.60	0.300	0.000	-0.03	OE
GW8F5G		0.422	0.000	0.03	0.306	0.006	0.81	OE
H17B6L		0.422	0.000	-0.03	0.305	0.005	0.60	CI
H3VHE4		0.423	0.001	0.13	0.310	0.010	1.27	GD
H6P4NM		0.419	-0.003	-0.25	0.300	0.000	0.02	OE
HPLY7H		0.424	0.002	0.16	0.288	-0.012	-1.52	OE
J2U817	X	0.451	0.029	2.76	0.330	0.030	3.73	OE
J46H1C		0.425	0.003	0.28	0.312	0.012	1.56	CO
JBWCNB	*	0.438	0.016	1.47	0.297	-0.003	-0.31	OE
JKA8QB		0.423	0.001	0.13	0.304	0.004	0.52	CI
KPA1YR		0.413	-0.009	-0.84	0.301	0.001	0.14	OE
L4P3DY		0.411	-0.011	-1.06	0.291	-0.009	-1.15	OE
LUGLA9		0.417	-0.005	-0.47	0.293	-0.007	-0.90	OE
LZKJS1		0.418	-0.004	-0.40	0.298	-0.002	-0.19	IR
M3JN18		0.411	-0.011	-1.00	0.294	-0.006	-0.73	OE
M6XETE		0.407	-0.015	-1.44	0.298	-0.002	-0.27	IR
MTJ3TK		0.418	-0.004	-0.40	0.298	-0.002	-0.19	OE
N89WVL		0.421	-0.001	-0.09	0.300	0.000	0.02	OE
NQNC16		0.423	0.001	0.10	0.306	0.006	0.77	OE
NZYLVD		0.423	0.001	0.13	0.302	0.002	0.27	CI
PFZH5H	X	0.411	-0.011	-1.03	0.311	0.011	1.40	OE
PH1A6X		0.422	0.000	-0.03	0.295	-0.005	-0.65	OE
PJPPVM	*	0.408	-0.014	-1.33	0.303	0.003	0.41	OC
PYTNGK		0.426	0.004	0.35	0.302	0.002	0.27	CE
Q9NDRF		0.414	-0.008	-0.78	0.300	0.000	0.06	OE
Q9NS4W		0.413	-0.009	-0.84	0.286	-0.014	-1.69	OE

Interlaboratory Testing Program for Metals

Analysis 170

Chemical Analysis Element #1 - Carbon & Low Alloy Steel - Percent

CARBON (C)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
QKVQFD		0.402	-0.020	-1.84	0.293	-0.007	-0.90	CI
QYXZYZ		0.429	0.007	0.69	0.302	0.002	0.29	CO
R817SR		0.434	0.012	1.16	0.300	0.000	0.06	OE
R985JV		0.445	0.023	2.16	0.318	0.018	2.31	GD
RDCSRJ		0.426	0.004	0.38	0.302	0.002	0.31	OE
RHVCXW		0.431	0.009	0.88	0.310	0.010	1.23	OE
RLKKGY		0.436	0.014	1.35	0.306	0.006	0.73	OE
RUUGBB		0.414	-0.008	-0.74	0.293	-0.007	-0.91	OE
RYGGV1		0.420	-0.002	-0.15	0.304	0.004	0.48	OE
SDTVSB		0.429	0.007	0.66	0.307	0.007	0.94	CO
SJYX2H	X	0.412	-0.010	-0.96	0.315	0.015	1.92	OE
SR7SDX		0.419	-0.003	-0.25	0.302	0.002	0.27	CO
SZGH13		0.425	0.003	0.28	0.301	0.001	0.14	CI
T3KJ4X		0.403	-0.019	-1.75	0.290	-0.010	-1.23	XX
TFHA6B		0.402	-0.020	-1.84	0.295	-0.005	-0.56	CO
TFJR92	X	0.395	-0.027	-2.50	0.260	-0.040	-5.03	OE
TJLLBB		0.424	0.002	0.16	0.307	0.007	0.94	GD
TP3PWF		0.428	0.006	0.57	0.303	0.003	0.40	OE
U7NHPP		0.439	0.017	1.63	0.311	0.011	1.40	OE
UCT66C		0.426	0.004	0.41	0.298	-0.002	-0.23	OE
UMEXAB		0.430	0.008	0.79	0.306	0.006	0.73	CI
V8423C		0.429	0.007	0.63	0.301	0.001	0.19	OE
VDP8B8	X	0.423	0.001	0.13	0.283	-0.017	-2.07	GD
VPADK4		0.403	-0.019	-1.80	0.282	-0.018	-2.19	CO
VPX35Q	X	0.428	0.006	0.54	0.268	-0.032	-3.94	OE
W4SR5C		0.417	-0.005	-0.47	0.292	-0.008	-0.98	OE
W66KEA		0.412	-0.010	-0.97	0.286	-0.014	-1.73	OE
W7V37V		0.420	-0.002	-0.21	0.302	0.002	0.29	OE
X64BN3		0.424	0.002	0.16	0.305	0.005	0.60	XX
XDXGG4		0.433	0.011	1.07	0.312	0.012	1.56	OE
XHE8RE		0.435	0.013	1.26	0.307	0.007	0.90	OE
XR76LK		0.427	0.005	0.44	0.293	-0.007	-0.81	OE
Y6DJGC		0.418	-0.004	-0.34	0.302	0.002	0.27	OE
YEYJ88		0.434	0.012	1.13	0.317	0.017	2.19	GD
ZHZB6L		0.435	0.013	1.21	0.302	0.002	0.27	OE

Summary Statistics

	Sample L79	Sample L80
Grand Means	0.4220 Percent	0.3000 Percent
Std Dev Btwn Labs	0.0107 Percent	0.0080 Percent

Statistics based on 114 of 125 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 170

Chemical Analysis Element #1 - Carbon & Low Alloy Steel - Percent
CARBON (C)

Comments on assigned Data Flags for Test #170

- 1GJF2A (X) - High data for Sample L79.
- 73QCHR (X) - Data for both samples are high.
- AUVT2G (X) - Inconsistent within the determinations for Sample L80.
- DNG2EF (X) - Data for both samples are high.
- J2U817 (X) - High data for Sample L80.
- PFZH5H (X) - Inconsistent within the determinations for Sample L79.
- SJYX2H (X) - Inconsistent within the determinations for Sample L80.
- TFJR92 (X) - Low data for Sample L80.
- VDP8B8 (X) - Inconsistent within the determinations for Sample L79.
- VPX35Q (X) - Low data for Sample L80.

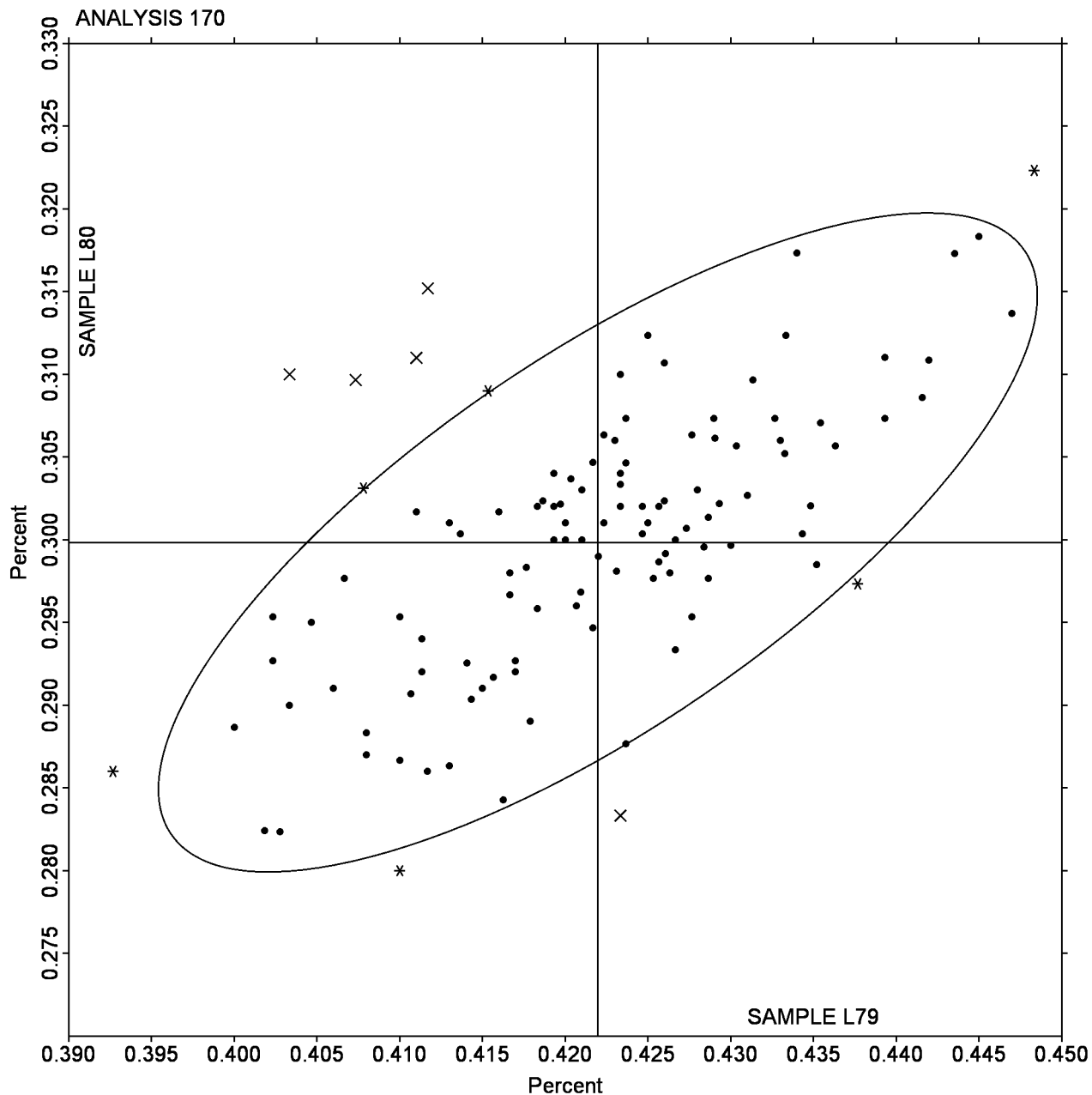
Interlaboratory Testing Program for Metals

Analysis 170

Chemical Analysis Element #1 - Carbon & Low Alloy Steel - Percent

CARBON (C)

SAMPLE L79 = 0.4220 Percent SAMPLe L80 = 0.3000 Percent



Interlaboratory Testing Program for Metals

Analysis 171

Chemical Analysis Element #2 - Carbon & Low Alloy Steel - Percent

MANGANESE (Mn)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
135NT6		0.749	0.000	0.02	1.009	0.009	0.67	OE
18AGM2		0.750	0.001	0.12	1.003	0.003	0.25	GD
1BFGWU		0.750	0.001	0.16	1.000	0.000	-0.01	OE
1DK56A	*	0.767	0.018	1.95	1.006	0.006	0.43	GD
1F3D14		0.751	0.002	0.27	1.000	0.000	-0.01	OE
1HLS5T		0.745	-0.004	-0.39	0.993	-0.007	-0.57	DR
1ME5VH		0.752	0.003	0.34	1.000	0.000	0.02	OE
1TF342		0.736	-0.013	-1.41	0.993	-0.007	-0.55	DC
238J5L		0.743	-0.006	-0.61	1.000	0.000	-0.01	OE
28ACHG		0.749	0.000	0.05	0.999	-0.001	-0.06	OE
2HDYWJ		0.749	0.000	0.05	1.011	0.011	0.85	OE
2R69Z6	*	0.730	-0.019	-2.03	0.999	-0.001	-0.08	OE
2Y9N5H		0.761	0.012	1.37	1.012	0.012	0.90	OE
39TRA1		0.753	0.004	0.42	1.013	0.013	1.03	OE
3WA4E6		0.751	0.002	0.23	1.008	0.008	0.64	OE
49KQTX		0.750	0.001	0.09	0.996	-0.004	-0.32	OE
4AM8DZ		0.756	0.007	0.75	1.001	0.001	0.07	DR
4E7ADZ		0.747	-0.002	-0.24	1.000	0.000	0.02	OE
4JSH6Y		0.734	-0.015	-1.65	0.987	-0.014	-1.05	OE
4PRNFD		0.746	-0.003	-0.35	0.987	-0.013	-1.04	IC
4TURHQ		0.751	0.002	0.23	0.986	-0.014	-1.06	XR
4XARVJ		0.732	-0.017	-1.81	0.981	-0.019	-1.45	OE
54W92K		0.759	0.010	1.07	1.015	0.015	1.18	OE
5K3WME	*	0.772	0.023	2.50	1.012	0.012	0.90	OE
5M16T4		0.749	0.000	0.02	0.998	-0.002	-0.19	OE
5U7441		0.738	-0.011	-1.20	0.988	-0.012	-0.93	IC
6MDKWV		0.745	-0.004	-0.39	1.003	0.003	0.25	OE
76NHPS		0.748	-0.001	-0.06	1.005	0.005	0.40	SP
78SNBC		0.751	0.002	0.26	0.999	-0.001	-0.05	DR
7BCY5Y		0.748	-0.001	-0.13	0.996	-0.004	-0.29	OE
7TMKEZ	X	0.758	0.009	1.00	0.968	-0.032	-2.46	GD
7WBCDF		0.767	0.018	1.95	1.027	0.027	2.06	GD
7X42FH		0.760	0.011	1.22	1.015	0.015	1.18	OE
8WPENL		0.741	-0.008	-0.90	0.988	-0.012	-0.96	OE
8ZNDSS		0.743	-0.006	-0.61	1.013	0.013	1.03	OE
928VGL		0.749	0.000	-0.02	0.989	-0.011	-0.88	GD
94FMTD		0.749	0.000	0.05	1.012	0.012	0.90	OE
9A9QWK		0.755	0.006	0.67	1.020	0.020	1.54	OE
9CPZA3		0.738	-0.011	-1.20	0.973	-0.027	-2.07	OE
9LY81Q		0.747	-0.002	-0.20	0.998	-0.002	-0.16	OE
9SCSMH	*	0.770	0.021	2.32	1.037	0.037	2.84	OE
9SEF9Y		0.750	0.001	0.15	0.994	-0.006	-0.44	XX
9ZP93U		0.753	0.004	0.42	1.003	0.003	0.25	OE
BSZM7E		0.752	0.003	0.38	0.994	-0.006	-0.50	OE
BXHE54		0.744	-0.005	-0.57	0.976	-0.024	-1.89	DR

Interlaboratory Testing Program for Metals

Analysis 171

Chemical Analysis Element #2 - Carbon & Low Alloy Steel - Percent

MANGANESE (Mn)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
CTAR9Z		0.756	0.007	0.75	0.990	-0.010	-0.78	OE
DDGH9B		0.745	-0.004	-0.46	1.014	0.014	1.11	IC
DLZSUS		0.732	-0.017	-1.88	0.978	-0.022	-1.71	OE
DQVY7K		0.737	-0.012	-1.34	0.990	-0.010	-0.78	OE
DRUWYC		0.750	0.001	0.12	0.999	-0.001	-0.11	OE
DS28EG		0.744	-0.005	-0.50	0.993	-0.007	-0.55	OE
DVZXB2	X	0.748	-0.001	-0.06	0.931	-0.069	-5.35	OE
E2H2R2		0.752	0.003	0.38	1.003	0.003	0.20	OE
EXJ56U		0.760	0.011	1.22	1.010	0.010	0.77	OE
FKXKQE		0.759	0.010	1.07	1.016	0.016	1.23	OE
FUDFDR		0.757	0.008	0.86	1.017	0.017	1.29	OE
G5N2SS		0.750	0.001	0.16	1.000	0.000	-0.01	OE
G6P389	X	0.760	0.011	1.22	1.047	0.047	3.61	WD
G6U3GV		0.760	0.011	1.22	0.980	-0.020	-1.55	OE
GRDM8F		0.750	0.001	0.16	1.003	0.003	0.20	OE
HDR2QX		0.733	-0.016	-1.77	0.983	-0.017	-1.35	OE
HZY43T		0.734	-0.015	-1.66	0.997	-0.003	-0.21	IC
JBH4ZN		0.729	-0.020	-2.18	0.981	-0.019	-1.48	OE
JXD22M		0.750	0.001	0.09	1.017	0.017	1.29	OE
JXWDZE	X	0.715	-0.034	-3.75	0.958	-0.042	-3.28	SP
K6WLGV		0.771	0.022	2.37	1.020	0.020	1.55	OE
KAZN59		0.739	-0.010	-1.04	0.986	-0.014	-1.09	OE
KKQMZ7		0.742	-0.007	-0.72	0.993	-0.007	-0.57	OE
KQGW7K	X	0.781	0.032	3.48	1.052	0.052	4.00	OE
KRM1CR		0.748	-0.001	-0.13	0.998	-0.002	-0.13	OE
L4PKB6		0.753	0.004	0.49	1.002	0.002	0.15	OE
L5ZC47		0.757	0.008	0.92	1.001	0.001	0.11	DR
LQ96J8		0.751	0.002	0.20	1.010	0.010	0.80	OE
LYAEFX		0.755	0.006	0.64	1.011	0.011	0.85	IC
LZKLCY		0.759	0.010	1.11	1.004	0.004	0.33	OE
M2A1QE		0.753	0.004	0.49	1.013	0.013	1.03	OE
M5HHG3		0.730	-0.019	-2.03	0.979	-0.021	-1.66	OE
MPD8Q3		0.735	-0.014	-1.52	1.014	0.014	1.05	OE
MVNRCC		0.753	0.004	0.40	0.999	-0.001	-0.07	OE
MXPPKC	*	0.752	0.003	0.35	1.027	0.027	2.09	OE
NRMYSX		0.753	0.004	0.45	0.999	-0.001	-0.11	OE
NRBYBQ		0.763	0.014	1.59	1.007	0.007	0.51	OE
NTD3D6		0.746	-0.003	-0.31	0.994	-0.006	-0.47	OE
P1124X		0.734	-0.015	-1.64	0.982	-0.018	-1.41	OE
P5C8TF		0.767	0.018	1.99	1.023	0.023	1.80	GD
P824LN	X	0.783	0.034	3.78	1.050	0.050	3.87	OE
PGCTE7		0.741	-0.008	-0.86	0.991	-0.009	-0.70	OE
PJW4UX		0.750	0.001	0.12	1.011	0.011	0.85	DR
PN14EB		0.750	0.001	0.12	1.000	0.000	-0.01	OE
PYATW2	X	0.710	-0.039	-4.26	0.958	-0.042	-3.23	OE

Interlaboratory Testing Program for Metals

Analysis 171

Chemical Analysis Element #2 - Carbon & Low Alloy Steel - Percent

MANGANESE (Mn)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
Q7JKZ5		0.741	-0.008	-0.86	0.981	-0.019	-1.45	OE
QTGZM6		0.745	-0.004	-0.39	0.989	-0.011	-0.86	OE
R4NH5Q		0.754	0.005	0.52	1.010	0.010	0.74	OE
SCZRJG		0.747	-0.002	-0.17	0.990	-0.010	-0.75	OE
SELAZE		0.758	0.009	1.00	1.013	0.013	1.03	OE
SJ9KTQ		0.743	-0.006	-0.61	0.980	-0.020	-1.55	OE
T1M1FW		0.751	0.002	0.27	0.998	-0.002	-0.16	OE
T5B5QF		0.767	0.018	2.01	0.971	-0.029	-2.25	OE
TRK7B5		0.746	-0.003	-0.35	0.997	-0.003	-0.24	DR
TUYW7B		0.763	0.014	1.59	1.023	0.023	1.80	OE
TV8WE8		0.747	-0.002	-0.24	0.996	-0.004	-0.29	OE
UBG98S		0.751	0.002	0.27	0.998	-0.002	-0.16	IC
UD5GYF		0.745	-0.004	-0.42	1.003	0.003	0.21	OE
UKZB6V		0.749	0.000	-0.02	0.998	-0.002	-0.16	OE
UMQJ5		0.754	0.005	0.53	1.002	0.002	0.15	OE
URERJQ		0.743	-0.006	-0.64	0.989	-0.011	-0.83	OE
UTYNTR		0.760	0.011	1.22	1.013	0.013	1.03	OE
VDFE6E		0.750	0.001	0.12	0.999	-0.001	-0.11	OE
VL6KQ5		0.743	-0.006	-0.65	0.987	-0.013	-1.00	OE
VUJDP		0.737	-0.012	-1.30	0.985	-0.015	-1.19	OE
W3BNAJ		0.759	0.010	1.07	1.004	0.004	0.28	OE
W5R7NR		0.747	-0.002	-0.24	1.000	0.000	-0.01	OE
W5R9DX		0.757	0.008	0.91	1.016	0.016	1.24	OE
WQXP23		0.729	-0.020	-2.18	0.971	-0.029	-2.23	OE
X1U1PG		0.754	0.005	0.53	1.013	0.013	1.03	OE
X4N9CC	X	0.781	0.032	3.48	1.047	0.047	3.61	OE
XQ79T9		0.739	-0.010	-1.12	0.992	-0.008	-0.60	IC
YEGXUR		0.745	-0.004	-0.39	1.008	0.008	0.61	OE
YEL79V	X	0.769	0.020	2.24	1.057	0.057	4.38	OE
Z85FQU		0.752	0.003	0.38	1.017	0.017	1.34	OE
ZD5H8J	*	0.734	-0.015	-1.62	0.964	-0.036	-2.81	OE
ZED6J9		0.754	0.005	0.53	1.003	0.003	0.25	OE
ZG8TA3		0.740	-0.009	-0.97	0.990	-0.010	-0.78	OE
ZNMKG4	X	0.765	0.016	1.77	1.060	0.060	4.62	GD
ZP5JME		0.752	0.003	0.38	0.996	-0.004	-0.32	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.7489	Percent	1.0000	Percent
Std Dev Btw Labs	0.0091	Percent	0.0129	Percent

Statistics based on 112 of 125 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 171

Chemical Analysis Element #2 - Carbon & Low Alloy Steel - Percent

MANGANESE (Mn)

Comments on assigned Data Flags for Test #171

7TMKEZ (X) - Inconsistent within the determinations for Sample L79.

DVZXB2 (X) - Low data for Sample L80.

G6P389 (X) - High data for Sample L80.

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

KQGW7K (X) - Data for both samples are high.

P824LN (X) - Data for both samples are high.

PYATW2 (X) - Data for both samples are low.

X4N9CC (X) - Data for both samples are high.

YEL79V (X) - High data for Sample L80.

ZNMKG4 (X) - High data for Sample L80.

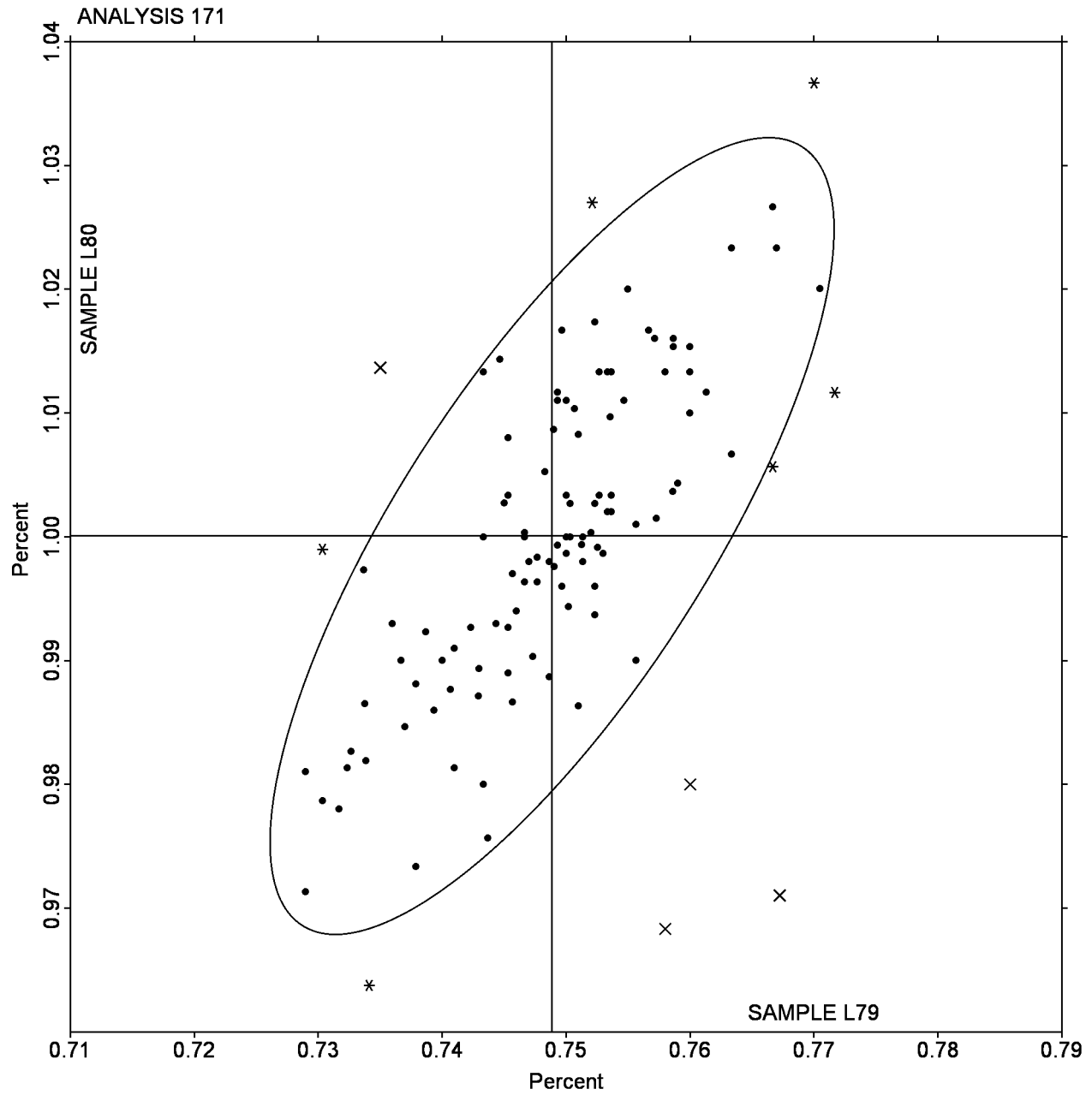
Interlaboratory Testing Program for Metals

Analysis 171

Chemical Analysis Element #2 - Carbon & Low Alloy Steel - Percent

MANGANESE (Mn)

SAMPLE L79 = 0.7489 Percent SAMPLe L80 = 1.0000 Percent



Interlaboratory Testing Program for Metals

Analysis 172

Chemical Analysis Element #3 - Carbon & Low Alloy Steel - Percent

PHOSPHORUS(P)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
155LMB		0.0080	0.0000	0.01	0.0060	0.0004	0.37	GD
18F61U		0.0077	-0.0003	-0.38	0.0050	-0.0006	-0.56	OE
18TU98		0.0079	-0.0001	-0.15	0.0054	-0.0002	-0.16	OE
19JRBD		0.0083	0.0003	0.32	0.0052	-0.0004	-0.37	OE
1HL42L		0.0087	0.0007	0.87	0.0066	0.0010	0.92	DR
1ZQ2BK		0.0080	0.0000	0.05	0.0053	-0.0003	-0.28	OE
23RWS7		0.0080	0.0000	0.01	0.0060	0.0004	0.37	OE
2DJ5YH		0.0090	0.0010	1.18	0.0068	0.0012	1.14	OE
2SG212		0.0074	-0.0006	-0.66	0.0050	-0.0006	-0.53	OE
32USQK		0.0092	0.0012	1.42	0.0073	0.0017	1.60	OE
3GGUVU		0.0079	-0.0001	-0.07	0.0055	-0.0001	-0.13	OE
3GJQ71		0.0070	-0.0010	-1.17	0.0040	-0.0016	-1.48	IC
3NBXKL		0.0080	0.0000	0.01	0.0050	-0.0006	-0.56	OE
3PFYL5		0.0068	-0.0012	-1.44	0.0041	-0.0015	-1.42	OE
49NSTX		0.0090	0.0010	1.22	0.0058	0.0002	0.21	OE
4PVFMQ	*	0.0085	0.0005	0.63	0.0079	0.0023	2.16	OE
5415X4		0.0070	-0.0010	-1.20	0.0043	-0.0013	-1.17	OE
55MP67		0.0087	0.0007	0.83	0.0071	0.0015	1.42	OE
5M92SU		0.0072	-0.0008	-0.97	0.0045	-0.0011	-1.05	OE
5Q68WT		0.0070	-0.0010	-1.17	0.0043	-0.0013	-1.17	OE
5XRQS5		0.0077	-0.0003	-0.38	0.0050	-0.0006	-0.56	IC
65T4EB		0.0070	-0.0010	-1.17	0.0046	-0.0010	-0.93	OE
6E84QJ		0.0073	-0.0007	-0.81	0.0046	-0.0010	-0.93	OE
6XFVDK		0.0079	-0.0001	-0.15	0.0057	0.0001	0.12	OE
6YC2HW		0.0079	-0.0001	-0.07	0.0058	0.0002	0.15	GD
7FCSDC		0.0080	0.0000	0.01	0.0050	-0.0006	-0.56	OE
82TEQA		0.0074	-0.0006	-0.74	0.0044	-0.0012	-1.08	OE
8A4LKS		0.0078	-0.0002	-0.19	0.0054	-0.0002	-0.19	OE
8D361X		0.0080	0.0000	0.01	0.0057	0.0001	0.06	OE
8W3159		0.0070	-0.0010	-1.17	0.0051	-0.0005	-0.46	IC
96V2AY		0.0081	0.0001	0.09	0.0053	-0.0003	-0.25	OE
98ATQF		0.0076	-0.0004	-0.42	0.0039	-0.0017	-1.54	OE
9GK487		0.0090	0.0010	1.18	0.0073	0.0017	1.60	OE
9NDD2K		0.0080	0.0000	-0.03	0.0061	0.0005	0.46	OE
9STLAW		0.0070	-0.0010	-1.17	0.0047	-0.0009	-0.87	OE
9U7MYK		0.0077	-0.0003	-0.38	0.0050	-0.0006	-0.56	OE
9UNA7K		0.0078	-0.0002	-0.20	0.0057	0.0001	0.12	OE
9XG74J		0.0073	-0.0007	-0.77	0.0053	-0.0003	-0.28	DR
9YDGF7		0.0094	0.0014	1.69	0.0067	0.0011	1.02	OE
ACF9TJ		0.0067	-0.0013	-1.56	0.0040	-0.0016	-1.48	OE
AN6UEE		0.0073	-0.0007	-0.77	0.0055	-0.0001	-0.06	OE
ASA4E9	*	0.0094	0.0014	1.69	0.0085	0.0029	2.65	OE
BLUXCH		0.0080	0.0000	0.01	0.0051	-0.0005	-0.43	OE
BREEJD		0.0074	-0.0006	-0.70	0.0056	0.0000	-0.03	IC
C3EHM1		0.0077	-0.0003	-0.38	0.0060	0.0004	0.37	OE

Interlaboratory Testing Program for Metals

Analysis 172

Chemical Analysis Element #3 - Carbon & Low Alloy Steel - Percent

PHOSPHORUS(P)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
C7AMGC	*	0.0103	0.0023	2.75	0.0083	0.0027	2.53	OE
CTGRQD		0.0080	0.0000	0.01	0.0080	0.0024	2.22	DR
CTQZET	*	0.0097	0.0017	2.04	0.0086	0.0030	2.77	GD
D32R37		0.0067	-0.0013	-1.56	0.0047	-0.0009	-0.87	OE
D45VTQ		0.0080	0.0000	0.01	0.0053	-0.0003	-0.25	OE
D4LJ7T		0.0080	0.0000	0.01	0.0050	-0.0006	-0.56	OE
DHD4YP	*	0.0077	-0.0003	-0.38	0.0070	0.0014	1.29	DC
DQZS6K		0.0079	-0.0001	-0.11	0.0069	0.0013	1.20	AA
E8W1Y9		0.0080	0.0000	0.01	0.0060	0.0004	0.37	OE
ECRA46		0.0077	-0.0003	-0.38	0.0047	-0.0009	-0.87	OE
ECT16C	*	0.0083	0.0003	0.32	0.0044	-0.0012	-1.11	OE
ESE8MB	X	0.0120	0.0040	4.70	0.0127	0.0071	6.53	OE
G838QS		0.0065	-0.0015	-1.79	0.0037	-0.0019	-1.73	OE
HARRUX		0.0080	0.0000	0.01	0.0060	0.0004	0.37	OE
HRVRC9		0.0075	-0.0005	-0.62	0.0051	-0.0005	-0.46	OE
HWPR6V	*	0.0104	0.0024	2.79	0.0080	0.0024	2.20	OE
JBFB3WA		0.0083	0.0003	0.40	0.0060	0.0004	0.37	DR
JC4P4F		0.0080	0.0000	-0.01	0.0055	-0.0001	-0.06	OE
JK1KRN		0.0084	0.0004	0.52	0.0062	0.0006	0.52	OE
KLH6HE		0.0090	0.0010	1.18	0.0063	0.0007	0.68	OE
KRM5NV		0.0057	-0.0023	-2.73	0.0043	-0.0013	-1.17	OE
L5NZ6Y		0.0080	0.0000	0.05	0.0052	-0.0004	-0.34	OE
LC182P		0.0079	-0.0001	-0.07	0.0049	-0.0007	-0.62	OE
LUW5BF		0.0061	-0.0019	-2.18	0.0033	-0.0023	-2.16	OE
LWTH9U	*	0.0103	0.0023	2.71	0.0080	0.0024	2.25	OE
MGCG3L		0.0083	0.0003	0.40	0.0061	0.0005	0.49	XX
MR53M1		0.0081	0.0001	0.09	0.0048	-0.0008	-0.71	OE
MSSJAC		0.0082	0.0002	0.28	0.0062	0.0006	0.52	OE
MY67VG		0.0080	0.0000	0.01	0.0052	-0.0004	-0.37	OE
N9MGNW		0.0079	-0.0001	-0.11	0.0047	-0.0009	-0.80	OE
NBX4XW		0.0087	0.0007	0.79	0.0064	0.0008	0.77	OE
P6V9UA		0.0074	-0.0006	-0.66	0.0048	-0.0008	-0.74	OE
PAX5XB		0.0070	-0.0010	-1.17	0.0053	-0.0003	-0.25	OE
PHN9CP		0.0100	0.0020	2.36	0.0075	0.0019	1.79	OE
PU41BK		0.0077	-0.0003	-0.34	0.0051	-0.0005	-0.50	OU
QB2HVN		0.0074	-0.0006	-0.74	0.0053	-0.0003	-0.31	OE
QX8XPW		0.0080	0.0000	0.01	0.0052	-0.0004	-0.41	OE
R6FGHX		0.0092	0.0012	1.42	0.0070	0.0014	1.29	OE
R9EU3B		0.0075	-0.0005	-0.54	0.0053	-0.0003	-0.28	DR
RCW2DL		0.0076	-0.0004	-0.46	0.0047	-0.0009	-0.87	OE
RLZBJA		0.0085	0.0005	0.63	0.0067	0.0011	1.05	OE
RZATNZ		0.0080	0.0000	0.01	0.0060	0.0004	0.37	OE
S17W8G	*	0.0061	-0.0019	-2.18	0.0046	-0.0010	-0.93	OE
SBV2RW		0.0075	-0.0005	-0.62	0.0045	-0.0011	-1.02	OE
SSXEVM		0.0088	0.0008	0.91	0.0069	0.0013	1.20	OE

Interlaboratory Testing Program for Metals

Analysis 172

Chemical Analysis Element #3 - Carbon & Low Alloy Steel - Percent

PHOSPHORUS(P)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
SUETZB	X	0.0110	0.0030	3.53	0.0103	0.0047	4.38	OE
T47VAB		0.0082	0.0002	0.28	0.0065	0.0009	0.86	OE
T5ESEP		0.0092	0.0012	1.46	0.0068	0.0012	1.11	OE
T6JKL1	*	0.0090	0.0010	1.18	0.0053	-0.0003	-0.25	OE
TBWSSD		0.0071	-0.0009	-1.05	0.0044	-0.0012	-1.08	OE
TL2QDA		0.0077	-0.0003	-0.38	0.0050	-0.0006	-0.56	GD
U2DSZA		0.0065	-0.0015	-1.71	0.0037	-0.0019	-1.73	OE
UA5U77		0.0080	0.0000	0.01	0.0067	0.0011	0.98	GD
UAEKP3		0.0080	0.0000	0.01	0.0057	0.0001	0.06	OE
UBJEZH		0.0078	-0.0002	-0.19	0.0051	-0.0005	-0.50	DR
UDKTGA		0.0081	0.0001	0.13	0.0052	-0.0004	-0.40	OE
ULDN2Q		0.0098	0.0018	2.12	0.0069	0.0013	1.23	OE
UM5ACN		0.0090	0.0010	1.18	0.0060	0.0004	0.37	OE
UW241Z		0.0073	-0.0007	-0.77	0.0057	0.0001	0.06	OE
UZP7WL		0.0087	0.0007	0.87	0.0063	0.0007	0.61	OE
VFJ79W		0.0083	0.0003	0.36	0.0061	0.0005	0.46	GD
VNXQAQ		0.0073	-0.0007	-0.77	0.0050	-0.0006	-0.56	GD
W58EPX		0.0083	0.0003	0.32	0.0057	0.0001	0.06	OE
W7PY48	X	0.0419	0.0339	39.83	0.0339	0.0283	26.21	IC
XGMMF3		0.0080	0.0000	0.01	0.0060	0.0004	0.37	OE
XL3Q7B		0.0075	-0.0005	-0.58	0.0054	-0.0002	-0.22	OE
XYE7EH		0.0084	0.0004	0.43	0.0053	-0.0003	-0.27	OE
Y8C1A7	X	0.0120	0.0040	4.70	0.0110	0.0054	4.99	OE
YJ5DPZ		0.0068	-0.0012	-1.44	0.0043	-0.0013	-1.17	XX
YSYF41	X	0.0144	0.0064	7.52	0.0122	0.0066	6.13	EM
ZG2TMU		0.0079	-0.0001	-0.15	0.0046	-0.0010	-0.90	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.00799	Percent	0.00560	Percent
Stnd Dev Btwn Labs	0.00085	Percent	0.00108	Percent

Statistics based on 109 of 116 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Comments on assigned Data Flags for Test #172

- ESE8MB (X) - Data for both samples are high and inconsistent within the determinations for both samples.
 SUETZB (X) - Data for both samples are high.
 W7PY48 (X) - Extreme data.
 Y8C1A7 (X) - Data for both samples are high.
 YSYF41 (X) - Data for both samples are high.

Interlaboratory Testing Program for Metals

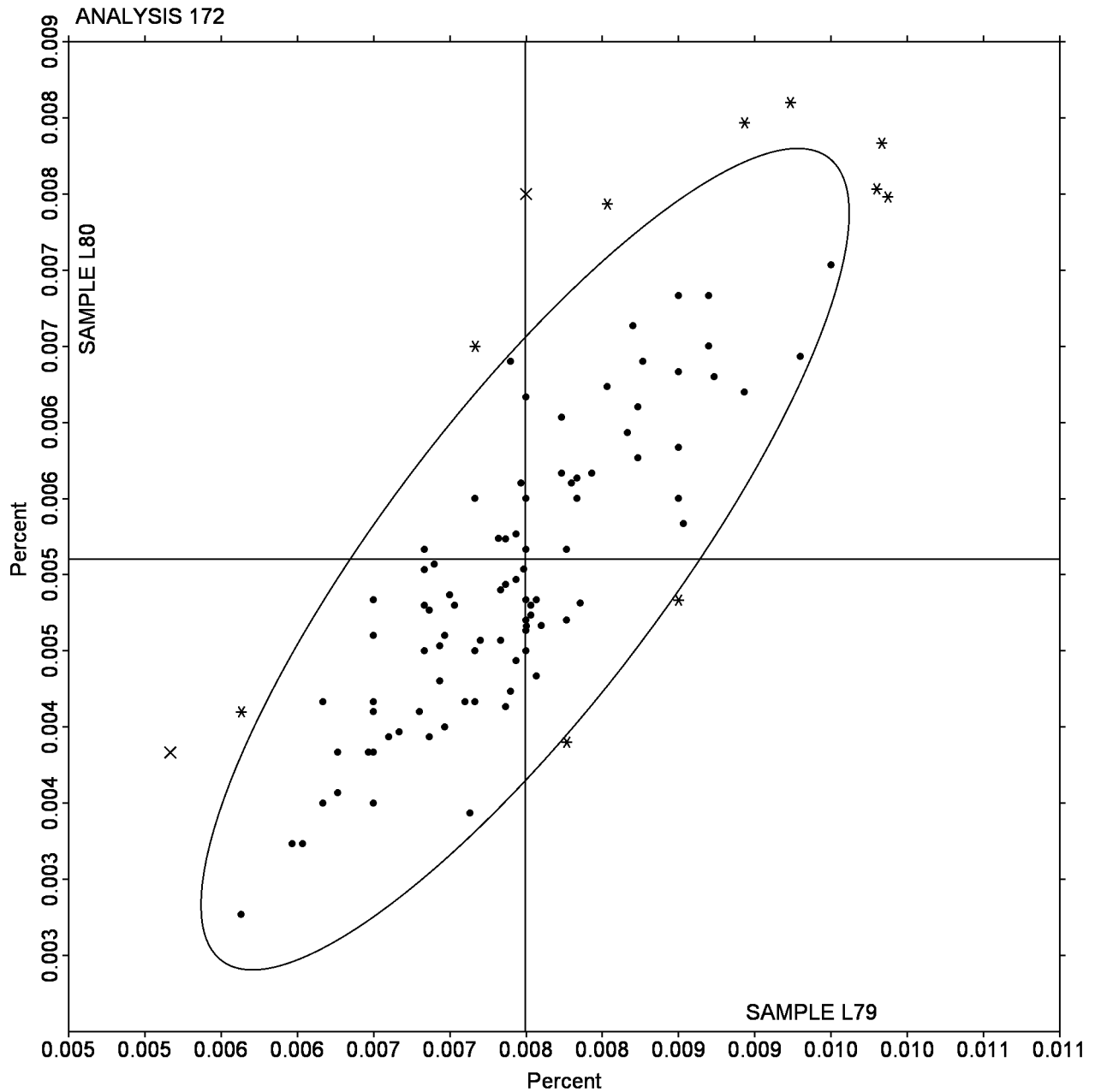
Analysis 172

Chemical Analysis Element #3 - Carbon & Low Alloy Steel - Percent

PHOSPHORUS(P)

SAMPLE L79 = 0.00799 Percent

SAMPLE L80 = 0.00560 Percent



Interlaboratory Testing Program for Metals

Analysis 173

Chemical Analysis Element #4 - Carbon & Low Alloy Steel - Percent

SULFUR (S)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
13LB4T		0.0023	0.0000	0.03	0.0014	-0.0002	-0.21	OE
16A4AA	*	0.0020	-0.0002	-0.27	0.0004	-0.0012	-1.16	DR
1BQ5NJ		0.0029	0.0007	0.73	0.0024	0.0008	0.72	OE
1KLYA1		0.0030	0.0008	0.84	0.0030	0.0014	1.32	CO
1U1GE3		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
3956AL		0.0016	-0.0007	-0.75	0.0007	-0.0009	-0.84	CI
3RLSVR		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
41DVXK		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
4K1LPP		0.0012	-0.0010	-1.15	0.0005	-0.0011	-1.03	CI
4PRP2B		0.0025	0.0003	0.30	0.0012	-0.0005	-0.43	OE
5518LC		0.0014	-0.0008	-0.92	0.0005	-0.0011	-1.04	OE
5A7TU4		0.0025	0.0003	0.32	0.0020	0.0004	0.34	XX
5DGU73		0.0015	-0.0007	-0.78	0.0009	-0.0007	-0.71	OC
5JCUUY	X	0.0063	0.0041	4.52	0.0060	0.0044	4.19	OE
5MDYAZ		0.0027	0.0004	0.47	0.0021	0.0005	0.43	CI
5ULPNF	*	0.0020	-0.0002	-0.27	0.0023	0.0007	0.69	OE
5YPHW1		0.0010	-0.0012	-1.37	0.0010	-0.0006	-0.59	OE
6DA92C		0.0040	0.0018	1.94	0.0030	0.0014	1.32	OE
6LXM9Z	X	0.0093	0.0071	7.83	0.0100	0.0084	8.01	OE
6T93T3		0.0016	-0.0007	-0.75	0.0006	-0.0010	-0.94	OU
7HAW7D		0.0020	-0.0003	-0.31	0.0012	-0.0004	-0.43	CO
7LMCDR		0.0040	0.0018	1.94	0.0030	0.0014	1.32	OE
7P9WMF		0.0013	-0.0010	-1.08	0.0005	-0.0011	-1.03	CO
8H6GUD		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	GD
9DW6KH		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
9PNZJS	*	0.0047	0.0024	2.68	0.0040	0.0024	2.28	GD
9Q8YA3		0.0024	0.0002	0.17	0.0017	0.0001	0.11	OE
9THC49		0.0025	0.0003	0.32	0.0016	0.0000	0.02	OE
9YF7FN	*	0.0048	0.0026	2.86	0.0042	0.0026	2.47	OE
A8V4TG		0.0033	0.0011	1.20	0.0028	0.0012	1.10	OE
ASMLUH		0.0015	-0.0007	-0.78	0.0006	-0.0010	-0.97	OE
AT1XQC		0.0011	-0.0011	-1.26	0.0004	-0.0012	-1.13	XX
ATLMZG		0.0023	0.0001	0.06	0.0017	0.0001	0.05	OE
C88RJ1		0.0014	-0.0008	-0.93	0.0007	-0.0009	-0.84	CO
CDY2NM		0.0014	-0.0008	-0.91	0.0027	0.0010	0.99	OE
CUYCG5		0.0008	-0.0015	-1.63	0.0005	-0.0011	-1.03	OE
DPWTL3	M	0.0010	-0.0012	-1.37				CO
DU1NB4		0.0015	-0.0007	-0.78	0.0009	-0.0007	-0.68	OE
DV1JD8		0.0015	-0.0007	-0.79	0.0006	-0.0011	-1.01	CO
DZ8UMA		0.0021	-0.0002	-0.19	0.0011	-0.0005	-0.49	CI
E6BWQM		0.0018	-0.0004	-0.49	0.0012	-0.0004	-0.43	DR
E6XHAS		0.0021	-0.0001	-0.16	0.0014	-0.0002	-0.21	IR
ENSPAY		0.0030	0.0008	0.84	0.0030	0.0014	1.32	OE
EVVT7P		0.0020	-0.0002	-0.27	0.0013	-0.0003	-0.27	OE
EXQ7DD	X	0.0048	0.0025	2.79	0.0054	0.0038	3.58	OE

Interlaboratory Testing Program for Metals

Analysis 173

Chemical Analysis Element #4 - Carbon & Low Alloy Steel - Percent

SULFUR (S)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
F5KRV2		0.0015	-0.0008	-0.86	0.0005	-0.0011	-1.08	OE
FND3FA	X	0.0023	0.0001	0.10	0.0043	0.0027	2.60	OE
FWGG1J		0.0038	0.0015	1.68	0.0038	0.0022	2.09	OE
GCZPFG		0.0022	0.0000	-0.01	0.0012	-0.0004	-0.36	XX
GLY2ZG		0.0012	-0.0010	-1.15	0.0007	-0.0009	-0.91	CI
H6WVWW		0.0040	0.0018	1.94	0.0040	0.0024	2.28	OE
HB35AE		0.0022	0.0000	-0.05	0.0012	-0.0004	-0.43	OE
HPC8RN		0.0032	0.0009	1.02	0.0030	0.0014	1.35	GD
HUVMYL		0.0021	-0.0001	-0.16	0.0021	0.0005	0.50	OE
J3L6SV		0.0013	-0.0010	-1.08	0.0003	-0.0013	-1.29	CO
J5F2V2		0.0038	0.0015	1.68	0.0038	0.0022	2.12	CD
JVYTL6		0.0024	0.0002	0.21	0.0016	0.0000	-0.01	OE
JY6CXX		0.0014	-0.0008	-0.93	0.0008	-0.0008	-0.81	CI
K1H17D	X	0.0083	0.0060	6.65	0.0078	0.0062	5.94	XX
K25685	X	0.0090	0.0068	7.46	0.0100	0.0084	8.01	OE
KM2GY6	X	0.0113	0.0091	10.04	0.0115	0.0099	9.41	OE
LQA5MZ		0.0042	0.0019	2.12	0.0036	0.0020	1.90	DR
M1H4FD	*	0.0023	0.0001	0.10	0.0027	0.0011	1.00	OE
M22XWQ		0.0033	0.0011	1.20	0.0029	0.0013	1.23	OE
MSAAEM		0.0033	0.0011	1.17	0.0025	0.0009	0.85	OE
N3Z7KJ		0.0022	0.0000	-0.01	0.0016	0.0000	-0.01	OE
N8JZ4D		0.0037	0.0014	1.57	0.0037	0.0021	1.96	GD
NWA9GG		0.0023	0.0001	0.06	0.0018	0.0002	0.21	CO
PBKF5E		0.0013	-0.0009	-1.04	0.0008	-0.0008	-0.78	CI
PK41RG		0.0034	0.0012	1.28	0.0029	0.0013	1.26	OE
PN1CUX		0.0006	-0.0017	-1.87	0.0003	-0.0013	-1.24	CO
PRSL3R		0.0013	-0.0009	-1.00	0.0005	-0.0011	-1.06	OE
Q3SF9M		0.0010	-0.0012	-1.34	0.0004	-0.0012	-1.16	CI
Q47XV5		0.0020	-0.0003	-0.31	0.0011	-0.0005	-0.49	OE
Q6R8BV		0.0021	-0.0002	-0.19	0.0028	0.0012	1.13	DR
QBBQNU		0.0040	0.0017	1.90	0.0030	0.0014	1.29	OE
QNV6KV		0.0029	0.0007	0.73	0.0026	0.0010	0.91	OE
RBDMP		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
RC4FB3		0.0020	-0.0002	-0.27	0.0010	-0.0006	-0.59	OE
REWT17	X	0.0058	0.0035	3.89	0.0046	0.0030	2.88	AA
RNJMY2		0.0027	0.0005	0.55	0.0028	0.0012	1.14	OE
RVFSNP	M	0.0010	-0.0012	-1.37				OE
S9BEKB	M	0.0014	-0.0009	-0.97				IR
SAFEZP		0.0030	0.0008	0.84	0.0030	0.0014	1.32	OE
SCP9X9		0.0023	0.0000	0.03	0.0013	-0.0003	-0.30	OE
SFZVTQ		0.0020	-0.0003	-0.31	0.0014	-0.0002	-0.24	OE
SU4YRR		0.0015	-0.0008	-0.86	0.0006	-0.0010	-1.00	OE
T2JRTH		0.0025	0.0003	0.32	0.0024	0.0008	0.72	OE
TM3AJ4	M	0.0010	-0.0012	-1.37				OE
TVNTEF		0.0018	-0.0005	-0.53	0.0009	-0.0007	-0.65	CI

Interlaboratory Testing Program for Metals

Analysis 173

Chemical Analysis Element #4 - Carbon & Low Alloy Steel - Percent

SULFUR (S)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
U3D6XP		0.0025	0.0003	0.32	0.0017	0.0001	0.08	OE
U5ARW9		0.0033	0.0010	1.13	0.0022	0.0006	0.53	CI
UCU8RM		0.0020	-0.0002	-0.27	0.0020	0.0004	0.37	OE
UEYZKV		0.0010	-0.0013	-1.41	0.0004	-0.0012	-1.16	CO
UJQPV2		0.0027	0.0005	0.50	0.0006	-0.0010	-0.94	CO
UR687D		0.0013	-0.0010	-1.08	0.0003	-0.0013	-1.29	OE
V2XZUK		0.0030	0.0008	0.84	0.0030	0.0014	1.32	OE
V5PU74		0.0020	-0.0002	-0.27	0.0015	-0.0001	-0.11	OE
VXW3UQ		0.0030	0.0008	0.84	0.0027	0.0011	1.00	OE
WA4KLT		0.0023	0.0001	0.06	0.0012	-0.0004	-0.36	OE
WEA8WU		0.0027	0.0005	0.50	0.0022	0.0006	0.53	OE
WRED6M		0.0015	-0.0007	-0.78	0.0009	-0.0007	-0.68	IR
WRV1R3		0.0022	0.0000	-0.01	0.0012	-0.0004	-0.36	OE
X75JMD		0.0019	-0.0003	-0.38	0.0013	-0.0003	-0.33	OE
X9K92Z		0.0016	-0.0006	-0.71	0.0008	-0.0008	-0.78	CI
XN9ET3		0.0005	-0.0018	-1.96	0.0002	-0.0014	-1.35	OE
Y2R6Z3	X	0.0051	0.0029	3.19	0.0039	0.0023	2.18	OE
YK3W2R		0.0023	0.0001	0.10	0.0021	0.0005	0.43	OE
YMN1AC	X	0.0064	0.0042	4.63	0.0055	0.0039	3.74	OE
YP3J1T		0.0016	-0.0007	-0.75	0.0007	-0.0009	-0.84	DR
Z12X53		0.0020	-0.0002	-0.27	0.0013	-0.0003	-0.33	GD
ZKFCLU		0.0026	0.0003	0.36	0.0021	0.0005	0.50	OE
ZN48Q4		0.0013	-0.0009	-1.04	0.0002	-0.0014	-1.35	CI

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.00224	Percent	0.00160	Percent
Stnd Dev Btwn Labs	0.00091	Percent	0.00105	Percent
Statistics based on 96 of 113 reporting participants				

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 173

Chemical Analysis Element #4 - Carbon & Low Alloy Steel - Percent
SULFUR (S)

Comments on assigned Data Flags for Test #173

- 5JCUUY (X) - Data for both samples are high. Inconsistent within the determinations for Sample L80.
- 6LXM9Z (X) - Data for both samples are high.
- DPWTL3 (M) - Laboratory did not submit data for Sample L80.
- EXQ7DD (X) - Data for both samples are high.
- FND3FA (X) - Inconsistent within the determinations for Sample L80.
- K1H17D (X) - Data for both samples are high.
- K25685 (X) - Data for both samples are high.
- KM2GY6 (X) - Data for both samples are high. Inconsistent within the determinations for Sample L80.
- REWT17 (X) - Data for both samples are high.
- RVFSNP (M) - Laboratory did not submit data for Sample L80.
- S9BEKB (M) - Laboratory did not submit data for Sample L80.
- TM3AJ4 (M) - Laboratory did not submit data for Sample L80.
- Y2R6Z3 (X) - High data for Sample L79.
- YMN1AC (X) - Data for both samples are high.

Interlaboratory Testing Program for Metals

Analysis 174

Chemical Analysis Element #5 - Carbon & Low Alloy Steel - Percent

SILICON (Si)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1JHV7G		0.274	-0.001	-0.12	0.271	-0.005	-0.69	OU
1TQNKH		0.281	0.005	0.78	0.277	0.001	0.21	OE
1W97GX		0.275	-0.001	-0.07	0.274	-0.002	-0.26	OE
1WJBMH		0.276	0.000	0.07	0.274	-0.002	-0.22	OE
1WZJUI		0.280	0.005	0.68	0.277	0.001	0.11	OE
28K74X		0.280	0.005	0.68	0.280	0.004	0.59	OE
2BBWQZ		0.273	-0.002	-0.31	0.274	-0.002	-0.22	DC
2FQMWD		0.276	0.001	0.12	0.275	-0.001	-0.08	OE
2V1BUX		0.268	-0.007	-0.98	0.268	-0.008	-1.11	OE
4KDZKL		0.269	-0.006	-0.88	0.268	-0.008	-1.11	OE
59AD28		0.274	-0.002	-0.22	0.275	-0.001	-0.17	OE
62AQZ1		0.279	0.004	0.59	0.279	0.003	0.44	OE
69469S	X	0.299	0.024	3.39	0.294	0.018	2.57	OE
6BC6KS		0.269	-0.006	-0.82	0.267	-0.008	-1.19	OE
6EJHUI	X	0.274	-0.001	-0.17	0.292	0.016	2.24	IC
6P3LQ5		0.273	-0.002	-0.26	0.277	0.001	0.11	OE
6QMOKJ		0.261	-0.014	-2.02	0.267	-0.009	-1.29	OE
6R13AZ		0.278	0.003	0.40	0.282	0.006	0.92	OE
6VUKN6		0.272	-0.003	-0.41	0.272	-0.004	-0.50	GD
7WLLW4		0.274	-0.001	-0.17	0.281	0.005	0.77	DR
81VAPB		0.266	-0.009	-1.31	0.269	-0.007	-1.02	OE
859YF6		0.271	-0.004	-0.60	0.270	-0.006	-0.78	OE
89DFBW		0.284	0.009	1.25	0.288	0.012	1.72	OE
AA99UX		0.287	0.012	1.74	0.281	0.006	0.78	XX
ACF8VA	X	0.285	0.010	1.36	0.297	0.021	3.01	DR
AGNVA7		0.285	0.010	1.44	0.288	0.012	1.72	OE
AHBDQN	X	0.297	0.022	3.14	0.305	0.029	4.07	XX
AJBBKG		0.273	-0.002	-0.26	0.275	-0.001	-0.15	DR
AKGVUH		0.272	-0.003	-0.45	0.280	0.004	0.59	OE
B4JFU6		0.271	-0.004	-0.55	0.270	-0.006	-0.81	OE
BAJ6C2		0.278	0.003	0.45	0.283	0.007	1.01	OE
BR6LAT	*	0.272	-0.004	-0.50	0.282	0.006	0.82	GD
CU9AGF		0.276	0.001	0.10	0.271	-0.005	-0.67	OE
CXWUVK		0.282	0.006	0.91	0.283	0.007	1.02	XX
DG6KLT		0.275	-0.001	-0.09	0.277	0.001	0.15	AA
DPWUJB		0.280	0.005	0.73	0.283	0.007	0.96	OE
DVSAM2		0.277	0.002	0.26	0.282	0.006	0.87	OE
E1CFP7		0.274	-0.001	-0.12	0.273	-0.003	-0.41	OE
E4ZWCB		0.273	-0.003	-0.36	0.270	-0.006	-0.88	OE
E7VSHG		0.275	-0.001	-0.07	0.273	-0.003	-0.36	OE
EM7M7E		0.275	-0.001	-0.07	0.273	-0.003	-0.41	OE
EP1YZD		0.278	0.003	0.45	0.278	0.002	0.35	GD
ETJ2IH		0.270	-0.005	-0.74	0.272	-0.004	-0.59	OE
F2AN46		0.276	0.000	0.07	0.281	0.005	0.68	OE
F7XNTM		0.280	0.005	0.73	0.277	0.001	0.16	OE

Interlaboratory Testing Program for Metals

Analysis 174

Chemical Analysis Element #5 - Carbon & Low Alloy Steel - Percent

SILICON (Si)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
FSQ4EL		0.278	0.003	0.40	0.277	0.001	0.21	DR
FZ2QEK		0.286	0.011	1.54	0.284	0.008	1.11	OE
G9NQEK		0.285	0.010	1.44	0.286	0.010	1.44	GD
GJCEB6		0.274	-0.001	-0.12	0.272	-0.004	-0.50	GD
GPULCU	*	0.296	0.021	3.02	0.296	0.020	2.88	OE
GREVBZ		0.262	-0.014	-1.93	0.263	-0.012	-1.76	OE
GYW9CJ		0.256	-0.019	-2.73	0.265	-0.011	-1.49	OE
H4MWTA		0.277	0.002	0.26	0.279	0.003	0.49	XR
H4MYKF		0.270	-0.005	-0.69	0.273	-0.003	-0.41	OE
HFZR XV		0.277	0.002	0.21	0.283	0.007	1.03	DR
HT6JWL	*	0.295	0.020	2.87	0.295	0.019	2.76	OE
HU722X		0.281	0.005	0.78	0.279	0.003	0.49	WC
JNQ2RX		0.280	0.005	0.73	0.278	0.002	0.30	OE
JV8218		0.277	0.001	0.21	0.276	0.000	0.02	OE
JYCGYY		0.279	0.004	0.54	0.282	0.006	0.82	OE
KBKQCZ		0.283	0.008	1.16	0.287	0.011	1.53	GD
KKC5XX		0.271	-0.005	-0.64	0.271	-0.005	-0.74	OE
KQG2JJ		0.271	-0.005	-0.64	0.267	-0.009	-1.21	OE
KUXDEZ		0.282	0.007	0.96	0.282	0.006	0.83	OE
KVAB2A		0.270	-0.005	-0.69	0.268	-0.008	-1.11	OE
L1KYHK		0.269	-0.007	-0.93	0.276	0.000	-0.03	OE
L2KRMM		0.273	-0.002	-0.26	0.274	-0.002	-0.26	OE
LHNMRS		0.269	-0.006	-0.88	0.267	-0.009	-1.26	OE
LS1CWH		0.275	-0.001	-0.07	0.278	0.002	0.30	DR
M3T7E5	*	0.258	-0.017	-2.40	0.264	-0.012	-1.73	OE
MMVCD6		0.273	-0.002	-0.31	0.275	-0.001	-0.12	OE
MRCZAQ		0.275	0.000	-0.03	0.268	-0.008	-1.07	OE
NE4V9P	*	0.295	0.020	2.87	0.295	0.019	2.76	OE
NN7C9B		0.280	0.005	0.68	0.287	0.011	1.53	DR
PNB3CV		0.270	-0.006	-0.80	0.273	-0.002	-0.35	OE
Q2JNUZ		0.266	-0.009	-1.26	0.271	-0.005	-0.69	OE
Q9EKHV		0.278	0.002	0.35	0.273	-0.003	-0.36	OE
QH9QBW		0.278	0.003	0.45	0.277	0.001	0.11	OE
QQ2D5K		0.287	0.011	1.63	0.290	0.014	2.00	OE
QTY34D		0.277	0.001	0.21	0.272	-0.004	-0.50	OE
R8QX1H		0.268	-0.007	-1.02	0.275	-0.001	-0.08	DR
RER9WE		0.275	0.000	0.02	0.273	-0.003	-0.36	IC
RQGTSU		0.275	-0.001	-0.07	0.274	-0.002	-0.31	OE
S3JP97		0.269	-0.007	-0.94	0.274	-0.002	-0.34	OE
S49R3P		0.263	-0.012	-1.72	0.262	-0.014	-1.95	OE
SK392L		0.273	-0.003	-0.36	0.275	-0.001	-0.08	OE
SMLLEK		0.274	-0.002	-0.22	0.270	-0.006	-0.78	OE
SS1445		0.277	0.002	0.31	0.276	0.000	0.07	OE
T7W6K3		0.272	-0.003	-0.41	0.278	0.002	0.30	OE
TMZSH5		0.273	-0.002	-0.26	0.276	0.000	0.02	OE

Interlaboratory Testing Program for Metals

Analysis 174

Chemical Analysis Element #5 - Carbon & Low Alloy Steel - Percent

SILICON (Si)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
TS7WA1		0.270	-0.006	-0.79	0.266	-0.010	-1.44	OE
TSN5ZD		0.275	0.000	-0.02	0.273	-0.003	-0.39	OE
U78SHN		0.271	-0.005	-0.64	0.269	-0.007	-1.02	OE
U7R42N	X	0.297	0.022	3.15	0.301	0.025	3.51	OE
U8GH82		0.267	-0.009	-1.21	0.265	-0.011	-1.54	OE
U9EM91		0.264	-0.011	-1.54	0.266	-0.010	-1.42	OE
UDDG8A		0.280	0.005	0.73	0.279	0.003	0.40	OE
UF2Z3E		0.270	-0.006	-0.79	0.285	0.009	1.34	IC
UNXYGG	X	0.291	0.016	2.25	0.307	0.031	4.46	OE
VW1VXF	*	0.257	-0.019	-2.64	0.260	-0.016	-2.25	GD
W7JB7S		0.273	-0.002	-0.26	0.275	-0.001	-0.12	OE
W9GYGE		0.281	0.006	0.83	0.283	0.007	1.06	OE
WD47C2		0.260	-0.016	-2.21	0.264	-0.012	-1.73	OE
WNMZ75	*	0.279	0.004	0.52	0.269	-0.007	-0.94	OE
WQJ61J		0.274	-0.002	-0.22	0.276	0.000	-0.03	OE
WXDNLG		0.279	0.003	0.50	0.278	0.002	0.30	OE
WZ3R61		0.281	0.005	0.78	0.279	0.003	0.49	OE
X5LDE1		0.273	-0.002	-0.26	0.280	0.004	0.59	OE
X75MXJ		0.266	-0.010	-1.36	0.266	-0.010	-1.35	OE
XA9DM6		0.273	-0.002	-0.31	0.276	0.000	0.07	OE
XAHVZH		0.283	0.008	1.16	0.290	0.014	2.00	OE
XK9BWG		0.269	-0.006	-0.83	0.269	-0.006	-0.92	OE
XKA3X3		0.270	-0.005	-0.74	0.273	-0.003	-0.36	OE
XMJ5XT		0.287	0.012	1.73	0.285	0.009	1.34	OE
Y99C1S		0.277	0.002	0.26	0.282	0.006	0.87	OE
YBTLVK		0.270	-0.005	-0.74	0.269	-0.007	-1.02	IC
YEFJKG	X	0.247	-0.028	-3.97	0.250	-0.026	-3.71	OE
YFF2QU		0.284	0.008	1.21	0.276	0.000	0.07	OE
Z6G4QP		0.271	-0.005	-0.64	0.273	-0.003	-0.45	OE
Z6J8D8		0.286	0.010	1.49	0.279	0.003	0.40	OE
ZE4PNH		0.276	0.001	0.12	0.275	-0.001	-0.12	OE
ZG8B89		0.284	0.009	1.25	0.285	0.009	1.34	OE
ZH5GWZ		0.274	-0.001	-0.17	0.277	0.001	0.11	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.2752	Percent	0.2760	Percent
Stnd Dev Btwn Labs	0.0070	Percent	0.0071	Percent

Statistics based on 114 of 123 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 174

Chemical Analysis Element #5 - Carbon & Low Alloy Steel - Percent
SILICON (Si)

Comments on assigned Data Flags for Test #174

69469S (X) - High data for Sample L79. Inconsistent within the determinations for Sample L79.

6EJHUU (X) - Inconsistent within the determinations for Sample L79.

ACF8VA (X) - Inconsistent in testing between samples, data for Sample L80 are high.

AHBDQN (X) - Data for both samples are high. Possible systematic error.

U7R42N (X) - Data for both samples are high. Possible systematic error.

UNXYGG (X) - Inconsistent in testing between samples, data for Sample L80 are high.

YEFJKG (X) - Data for both samples are low. Possible systematic error.

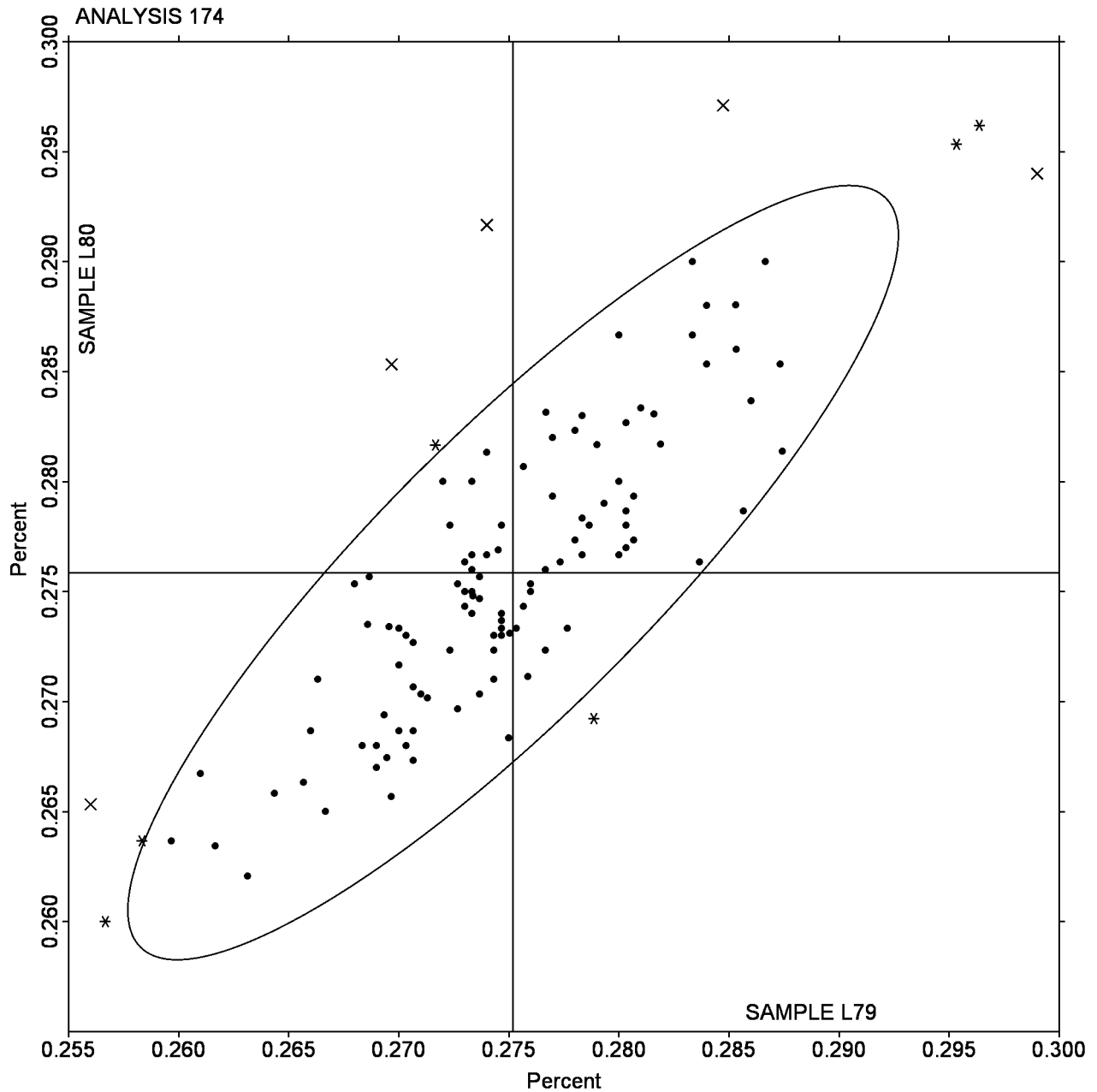
Interlaboratory Testing Program for Metals

Analysis 174

Chemical Analysis Element #5 - Carbon & Low Alloy Steel - Percent

SILICON (Si)

SAMPLE L79 = 0.2752 Percent SAMPLe L80 = 0.2760 Percent



Interlaboratory Testing Program for Metals

Analysis 175

Chemical Analysis Element #6 - Carbon & Low Alloy Steel - Percent

COPPER (Cu)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
284KQJ		0.0512	0.0020	0.85	0.0774	0.0011	0.35	OE
2C946H	X	0.0534	0.0042	1.77	0.7891	0.7127	226.76	OE
2RNZ4P		0.0520	0.0028	1.18	0.0780	0.0017	0.53	OE
2SXC MN		0.0470	-0.0022	-0.95	0.0770	0.0007	0.21	OE
2ULVGR	*	0.0460	-0.0032	-1.37	0.0687	-0.0077	-2.44	OE
32GUH2		0.0460	-0.0032	-1.37	0.0720	-0.0043	-1.38	OE
33YPK5		0.0527	0.0034	1.46	0.0830	0.0067	2.12	DR
3G91ND		0.0520	0.0028	1.18	0.0773	0.0010	0.32	OE
3HWHBF		0.0505	0.0012	0.52	0.0758	-0.0005	-0.16	OE
44ELZC		0.0455	-0.0038	-1.60	0.0700	-0.0063	-2.01	OE
4K3G3T		0.0460	-0.0032	-1.36	0.0747	-0.0017	-0.53	OE
4KGWCC		0.0503	0.0011	0.47	0.0787	0.0023	0.74	OE
5243GD		0.0500	0.0008	0.33	0.0737	-0.0027	-0.85	IC
59K32R		0.0513	0.0021	0.89	0.0787	0.0023	0.74	OE
5AUNKR		0.0478	-0.0015	-0.62	0.0742	-0.0021	-0.68	OE
5M9WNT		0.0503	0.0011	0.47	0.0743	-0.0020	-0.64	OE
5NLR7Z		0.0507	0.0014	0.61	0.0770	0.0007	0.21	GD
677EPZ		0.0480	-0.0012	-0.52	0.0737	-0.0027	-0.85	OE
6ERZA2		0.0493	0.0001	0.04	0.0767	0.0003	0.11	IC
6GK6T1	X	0.0499	0.0007	0.30	0.0922	0.0159	5.05	OE
6KFU8B		0.0520	0.0028	1.18	0.0770	0.0007	0.21	OU
6MMVXE		0.0500	0.0008	0.33	0.0787	0.0023	0.74	OE
7SMR6C		0.0500	0.0008	0.33	0.0700	-0.0063	-2.01	OE
7WSLCH		0.0499	0.0006	0.27	0.0747	-0.0017	-0.53	OE
88VL4G		0.0527	0.0034	1.46	0.0793	0.0030	0.95	OE
8KKKUJ	*	0.0426	-0.0067	-2.83	0.0690	-0.0073	-2.33	GD
8Q842E		0.0501	0.0009	0.37	0.0684	-0.0079	-2.51	OE
8UDELN		0.0503	0.0011	0.45	0.0773	0.0010	0.32	OE
8ZHYYL		0.0462	-0.0030	-1.29	0.0720	-0.0043	-1.38	OE
96T9DD		0.0483	-0.0009	-0.38	0.0757	-0.0007	-0.21	OE
9DW6N9		0.0459	-0.0033	-1.40	0.0723	-0.0040	-1.27	DR
9ME9EA		0.0491	-0.0001	-0.06	0.0772	0.0009	0.29	OE
9WZQN1		0.0521	0.0029	1.23	0.0829	0.0066	2.10	OE
A6BFK9		0.0488	-0.0004	-0.17	0.0783	0.0020	0.64	DR
A6CSFH		0.0493	0.0000	0.01	0.0780	0.0017	0.53	XR
AB1351		0.0507	0.0014	0.61	0.0783	0.0020	0.64	OE
B6R4E8		0.0507	0.0014	0.61	0.0827	0.0063	2.02	OE
BEV17B		0.0472	-0.0021	-0.88	0.0738	-0.0025	-0.81	GD
BYA1EF		0.0464	-0.0029	-1.22	0.0742	-0.0021	-0.67	OE
CA5LB9		0.0493	0.0001	0.04	0.0760	-0.0003	-0.11	OE
CL629Z		0.0483	-0.0009	-0.38	0.0777	0.0013	0.42	GD
CV7XDY		0.0493	0.0001	0.04	0.0743	-0.0020	-0.64	GD
D1U3DU		0.0496	0.0004	0.17	0.0773	0.0010	0.31	OE
D3E47S		0.0493	0.0001	0.04	0.0770	0.0007	0.21	OE
D7VHZS		0.0458	-0.0035	-1.47	0.0713	-0.0051	-1.61	AA

Interlaboratory Testing Program for Metals

Analysis 175

Chemical Analysis Element #6 - Carbon & Low Alloy Steel - Percent

COPPER (Cu)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
DFVSS3		0.0473	-0.0019	-0.81	0.0720	-0.0043	-1.38	OE
DREM2K		0.0494	0.0001	0.06	0.0757	-0.0007	-0.21	OE
DSCCBY		0.0493	0.0001	0.04	0.0783	0.0020	0.64	OE
DUVRFN		0.0530	0.0038	1.60	0.0790	0.0027	0.85	DR
E1RFCD		0.0487	-0.0006	-0.24	0.0763	0.0000	0.00	OE
E2RPU2		0.0513	0.0021	0.89	0.0787	0.0023	0.74	OE
E396BM		0.0482	-0.0011	-0.45	0.0743	-0.0020	-0.64	OE
EASUBB	X	0.0617	0.0124	5.29	0.0860	0.0097	3.08	OE
ED7HDV		0.0500	0.0008	0.33	0.0800	0.0037	1.17	OE
EH8EB2		0.0455	-0.0038	-1.60	0.0725	-0.0038	-1.21	OE
EUM1Y4		0.0493	0.0001	0.04	0.0773	0.0010	0.32	OE
EZULGS	X	0.4160	0.3668	155.91	0.0863	0.0100	3.18	OE
F4REF7		0.0500	0.0008	0.33	0.0800	0.0037	1.17	OE
F6WG6R		0.0514	0.0021	0.91	0.0761	-0.0002	-0.06	XX
FG3NMM		0.0470	-0.0022	-0.94	0.0759	-0.0004	-0.13	IC
GB1SNG		0.0493	0.0001	0.04	0.0753	-0.0010	-0.32	OE
GGT4WE		0.0463	-0.0029	-1.23	0.0770	0.0007	0.21	IC
GVZK9J	*	0.0546	0.0054	2.28	0.0795	0.0032	1.01	OE
H4USTQ	*	0.0550	0.0058	2.45	0.0847	0.0083	2.65	OE
HJBD9S		0.0483	-0.0009	-0.38	0.0767	0.0003	0.11	OE
HQ77ZL		0.0520	0.0028	1.18	0.0810	0.0047	1.48	OE
HTH27D		0.0500	0.0008	0.33	0.0785	0.0022	0.70	SP
HVVRLV		0.0540	0.0048	2.03	0.0790	0.0027	0.85	OE
J6ZT6K		0.0487	-0.0006	-0.24	0.0753	-0.0010	-0.32	OE
K7PUU1		0.0485	-0.0008	-0.33	0.0720	-0.0043	-1.37	OE
K8KEGZ	X	0.5233	0.4741	201.54	0.9200	0.8437	268.42	GD
K981N5		0.0494	0.0002	0.09	0.0764	0.0000	0.01	OE
KGLMGK		0.0487	-0.0006	-0.24	0.0753	-0.0010	-0.32	IC
LGVGGD		0.0527	0.0034	1.46	0.0817	0.0053	1.70	GD
LNZ9P4		0.0470	-0.0022	-0.95	0.0730	-0.0033	-1.06	OE
MCQHAD		0.0488	-0.0004	-0.17	0.0756	-0.0008	-0.24	DR
MG2XPP		0.0497	0.0004	0.18	0.0773	0.0010	0.32	OE
N9RF7P		0.0477	-0.0016	-0.67	0.0792	0.0029	0.91	DR
NH2L1D		0.0467	-0.0026	-1.09	0.0743	-0.0020	-0.64	DR
NNDY58		0.0527	0.0034	1.46	0.0757	-0.0007	-0.21	OE
NTXAP3		0.0520	0.0028	1.18	0.0788	0.0024	0.77	OE
NV62RH		0.0480	-0.0012	-0.52	0.0763	0.0000	0.00	OE
PHXF9Q		0.0497	0.0004	0.18	0.0757	-0.0007	-0.21	OE
PKWE2G		0.0513	0.0021	0.89	0.0780	0.0017	0.53	OE
PZ826M		0.0473	-0.0019	-0.81	0.0753	-0.0010	-0.32	OE
QD1JDR		0.0483	-0.0009	-0.38	0.0763	0.0000	0.00	OE
QZB6QT	*	0.0505	0.0013	0.55	0.0828	0.0065	2.06	OE
RE8SX1		0.0490	-0.0002	-0.10	0.0743	-0.0020	-0.64	OE
RMGGWU		0.0500	0.0008	0.33	0.0727	-0.0037	-1.17	OE
S5HHPM		0.0450	-0.0042	-1.80	0.0733	-0.0030	-0.95	IC

Interlaboratory Testing Program for Metals

Analysis 175

Chemical Analysis Element #6 - Carbon & Low Alloy Steel - Percent

COPPER (Cu)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
SCFFPP	X	0.0492	0.0000	0.00	0.0668	-0.0095	-3.02	OE
SGTXSQ		0.0499	0.0007	0.30	0.0798	0.0034	1.09	OE
T1LL8K		0.0513	0.0021	0.89	0.0770	0.0007	0.21	OE
T2S91K		0.0478	-0.0014	-0.60	0.0753	-0.0010	-0.32	OE
T43WY9		0.0492	-0.0001	-0.03	0.0764	0.0001	0.02	OE
TCBJTJ	*	0.0553	0.0061	2.59	0.0820	0.0057	1.80	OE
TCCQ3L		0.0505	0.0013	0.56	0.0771	0.0008	0.24	OE
TKYRTT		0.0477	-0.0016	-0.67	0.0777	0.0013	0.42	OE
UEDCX6		0.0507	0.0014	0.61	0.0780	0.0017	0.53	DR
UKVVU3		0.0503	0.0011	0.47	0.0787	0.0023	0.74	OE
UPEE3H		0.0469	-0.0024	-1.01	0.0713	-0.0050	-1.59	OE
USYSQL	X	0.0600	0.0108	4.58	0.0900	0.0137	4.35	OE
VDJG4N		0.0491	-0.0002	-0.07	0.0770	0.0007	0.21	OE
VTL8HL		0.0500	0.0008	0.33	0.0800	0.0037	1.17	OE
VXX7MZ		0.0497	0.0004	0.18	0.0733	-0.0030	-0.95	OE
WH2VX2		0.0469	-0.0023	-0.98	0.0730	-0.0033	-1.06	OE
WYMF6B		0.0517	0.0025	1.05	0.0796	0.0032	1.03	OE
X1Q49Y		0.0503	0.0011	0.47	0.0780	0.0017	0.53	OE
X1SZK4		0.0460	-0.0032	-1.37	0.0757	-0.0007	-0.21	OE
X74NVR		0.0457	-0.0036	-1.52	0.0700	-0.0063	-2.01	OE
XCGAWU		0.0488	-0.0004	-0.18	0.0755	-0.0008	-0.25	OE
XFF9Z2		0.0497	0.0005	0.21	0.0730	-0.0033	-1.06	OE
XJ6NAP		0.0487	-0.0006	-0.24	0.0753	-0.0010	-0.32	OE
XSU5FT		0.0500	0.0008	0.33	0.0750	-0.0013	-0.42	OE
YBL7ST		0.0504	0.0012	0.50	0.0730	-0.0033	-1.06	OE
YF9J43		0.0473	-0.0019	-0.81	0.0733	-0.0030	-0.95	OE
YSSTG4		0.0463	-0.0029	-1.23	0.0733	-0.0030	-0.95	DC
YTW172	*	0.0427	-0.0066	-2.79	0.0720	-0.0043	-1.38	OE
ZX7N7V	*	0.0507	0.0014	0.61	0.0830	0.0067	2.12	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.04923	Percent	0.07630	Percent
Stnd Dev Btwn Labs	0.00235	Percent	0.00314	Percent

Statistics based on 110 of 119 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 175

Chemical Analysis Element #6 - Carbon & Low Alloy Steel - Percent

COPPER (Cu)

Comments on assigned Data Flags for Test #175

2C946H (X) - It appears that the data for Sample L80 are off by a factor of 10.

6GK6T1 (X) - High data for Sample L80.

EASUBB (X) - Data for both samples are high. Inconsistent within the determinations for Sample L80.

EZULGS (X) - Extreme data for Sample L79. High data for Sample L80.

K8KEGZ (X) - Extreme data.

SCFFPP (X) - Low data for Sample L80.

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

Interlaboratory Testing Program for Metals

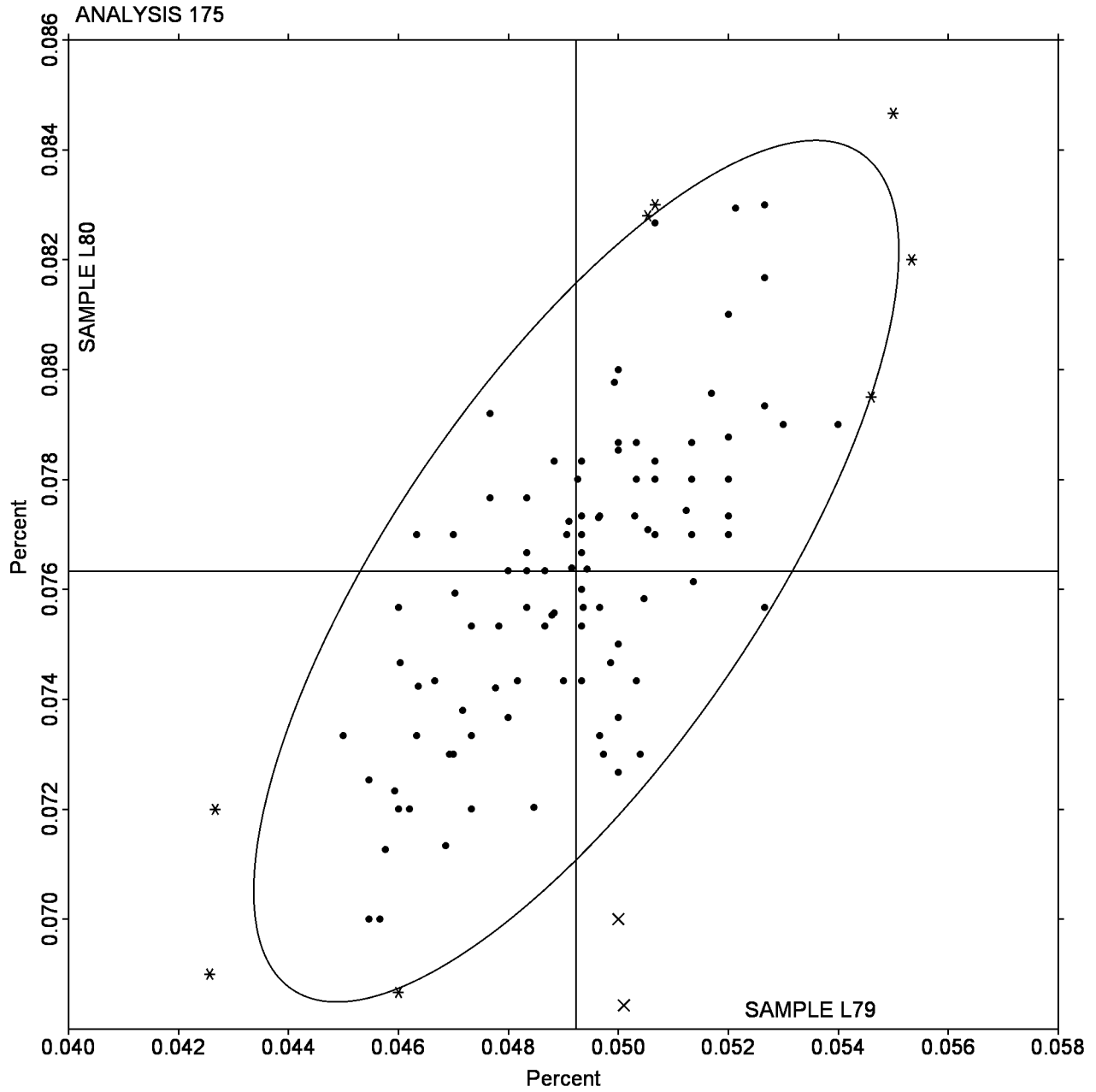
Analysis 175

Chemical Analysis Element #6 - Carbon & Low Alloy Steel - Percent

COPPER (Cu)

SAMPLE L79 = 0.04923 Percent

SAMPLE L80 = 0.07630 Percent



Interlaboratory Testing Program for Metals

Analysis 176

Chemical Analysis Element #7 - Carbon & Low Alloy Steel - Percent

NICKEL (Ni)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
25QUKZ		1.707	0.023	0.99	1.810	0.012	0.44	WD
2HDXYA		1.717	0.033	1.41	1.833	0.035	1.33	OE
2SSKHU		1.648	-0.035	-1.49	1.758	-0.041	-1.54	OE
31UEKX		1.684	0.001	0.03	1.824	0.025	0.96	OE
31UGG2	*	1.677	-0.006	-0.27	1.830	0.031	1.19	OE
33XQLM		1.667	-0.017	-0.70	1.796	-0.002	-0.09	OE
39E5ZA		1.684	0.001	0.03	1.781	-0.018	-0.68	OE
3CNY2P		1.650	-0.033	-1.41	1.773	-0.025	-0.95	GD
3ETVMH		1.713	0.030	1.27	1.800	0.002	0.06	OE
3P97JF		1.640	-0.043	-1.83	1.753	-0.045	-1.71	OE
3TZG6V		1.712	0.029	1.22	1.813	0.015	0.56	OE
4G367T	*	1.621	-0.062	-2.63	1.750	-0.048	-1.84	OE
4QA7P2		1.702	0.019	0.79	1.787	-0.011	-0.42	XX
4ZUFT1		1.660	-0.023	-0.99	1.787	-0.012	-0.44	IC
5G3E53		1.640	-0.043	-1.83	1.840	0.042	1.58	IC
5YEVRE		1.680	-0.004	-0.15	1.801	0.003	0.10	DR
64Y85Q	*	1.716	0.033	1.38	1.867	0.068	2.60	IC
67YFDG		1.674	-0.009	-0.38	1.801	0.002	0.09	GD
6GPN44		1.697	0.013	0.56	1.810	0.012	0.44	GD
6JYKSV		1.673	-0.010	-0.42	1.790	-0.008	-0.32	OE
6MLTYG		1.660	-0.023	-0.99	1.763	-0.035	-1.33	OE
6N5TT8		1.663	-0.020	-0.84	1.773	-0.025	-0.95	IC
6XKQBR		1.703	0.020	0.83	1.816	0.018	0.67	OE
7653BG		1.635	-0.049	-2.06	1.771	-0.028	-1.05	OE
7B8N37		1.676	-0.007	-0.30	1.779	-0.019	-0.73	OE
7METJ3		1.663	-0.020	-0.84	1.807	0.008	0.32	GD
7PRG85		1.680	-0.003	-0.14	1.800	0.002	0.06	OE
83FHXA		1.725	0.041	1.75	1.845	0.047	1.79	OE
8R9VCU		1.707	0.024	1.00	1.836	0.037	1.42	DR
8W8RCY		1.700	0.016	0.69	1.816	0.018	0.68	OE
95AWKZ		1.667	-0.017	-0.70	1.800	0.002	0.06	OE
97Q3FH		1.676	-0.007	-0.31	1.759	-0.039	-1.49	OE
98Y6Y7		1.638	-0.046	-1.93	1.745	-0.053	-2.01	OE
9CUX5J		1.668	-0.015	-0.65	1.798	-0.001	-0.03	IC
9HGVH2		1.684	0.001	0.04	1.812	0.014	0.53	OE
9YKJHF		1.655	-0.028	-1.18	1.755	-0.044	-1.66	OE
A3WU5E		1.692	0.009	0.38	1.813	0.014	0.54	OE
ATEP5Q		1.686	0.003	0.13	1.810	0.011	0.43	OE
BC1QSR		1.672	-0.011	-0.46	1.790	-0.008	-0.30	GD
BNJS1B		1.673	-0.010	-0.42	1.790	-0.008	-0.32	OE
BVCESK		1.674	-0.010	-0.41	1.799	0.000	0.01	SP
CV8HWE		1.641	-0.042	-1.77	1.748	-0.050	-1.90	OE
DC1TX5		1.707	0.023	0.99	1.803	0.005	0.19	OE
DF4EYD		1.673	-0.011	-0.45	1.782	-0.017	-0.64	OE
DKP74E		1.709	0.025	1.07	1.824	0.026	0.98	OE

Interlaboratory Testing Program for Metals

Analysis 176

Chemical Analysis Element #7 - Carbon & Low Alloy Steel - Percent

NICKEL (Ni)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
EASV8J	X	1.517	-0.167	-7.04	1.640	-0.158	-6.02	OE
EQTZLE		1.671	-0.012	-0.51	1.778	-0.021	-0.79	OE
EXQXCQ	X	1.794	0.111	4.69	1.933	0.135	5.12	AA
EXR5GD	*	1.614	-0.069	-2.91	1.721	-0.077	-2.93	OE
FKH948		1.678	-0.005	-0.21	1.805	0.007	0.25	OE
FUGHA5		1.665	-0.018	-0.76	1.782	-0.016	-0.62	OE
FWCVA3		1.671	-0.012	-0.51	1.855	0.057	2.15	DR
G15EYK		1.688	0.004	0.18	1.800	0.002	0.08	XR
G3M5YJ	X	1.772	0.089	3.76	1.913	0.115	4.36	GD
G97GR7		1.690	0.007	0.28	1.807	0.008	0.32	OE
GHVTF4		1.677	-0.007	-0.28	1.807	0.008	0.32	OE
HEGSPT		1.683	0.000	0.00	1.767	-0.032	-1.20	DC
HHSPFL	X	1.701	0.018	0.76	1.966	0.168	6.37	OE
HTDLYU		1.693	0.009	0.39	1.799	0.001	0.03	OE
HYH4VD		1.673	-0.010	-0.44	1.793	-0.006	-0.22	OE
JPVHB4		1.703	0.020	0.83	1.817	0.018	0.70	OE
JX3BRH	X	1.624	-0.059	-2.49	1.790	-0.009	-0.33	IC
JYHUFT		1.687	0.003	0.14	1.798	0.000	0.00	OE
K2LXAH	*	1.756	0.073	3.07	1.864	0.066	2.50	OE
K4QKJY		1.677	-0.007	-0.28	1.793	-0.005	-0.19	GD
KD8VPD	X	1.767	0.083	3.52	1.877	0.078	2.98	OE
KNF689	*	1.668	-0.016	-0.66	1.741	-0.058	-2.19	OE
KXDX5V	X	1.706	0.023	0.97	0.978	-0.820	-31.17	OE
L9HZ5C		1.700	0.016	0.69	1.823	0.024	0.92	OE
LE7K65		1.729	0.045	1.91	1.842	0.043	1.65	OE
LKUT9M		1.643	-0.040	-1.69	1.748	-0.051	-1.93	OE
LKXHLX		1.689	0.006	0.25	1.800	0.002	0.06	OE
LV5C82		1.689	0.006	0.24	1.801	0.002	0.09	OE
M8UTNC		1.719	0.035	1.49	1.826	0.028	1.05	OE
M9Q6ED		1.690	0.007	0.28	1.821	0.023	0.87	DR
MB45WL		1.726	0.042	1.79	1.823	0.024	0.92	OE
MTT6AS		1.700	0.017	0.70	1.830	0.032	1.20	OE
N1X4YN		1.658	-0.025	-1.07	1.762	-0.036	-1.37	OE
N1ZWYW	X	1.823	0.140	5.91	1.940	0.142	5.38	OE
NDFNYS		1.703	0.020	0.84	1.817	0.018	0.70	OU
PEHUS4		1.680	-0.004	-0.15	1.796	-0.002	-0.07	OE
PER8G7		1.690	0.007	0.30	1.804	0.006	0.23	OE
PRGZXP		1.681	-0.002	-0.10	1.806	0.008	0.29	OE
Q9NDNP		1.692	0.009	0.38	1.833	0.035	1.33	OE
QEAT6S	X	1.770	0.087	3.66	1.870	0.072	2.72	OE
QMM9L9		1.701	0.018	0.75	1.795	-0.003	-0.11	OE
QP1MT5		1.686	0.002	0.10	1.824	0.025	0.96	OE
RGMNYT		1.678	-0.006	-0.24	1.786	-0.012	-0.46	OE
RP6UUB		1.712	0.029	1.22	1.833	0.035	1.32	DR
RV9NZT		1.692	0.009	0.38	1.794	-0.004	-0.16	OE

Interlaboratory Testing Program for Metals

Analysis 176

Chemical Analysis Element #7 - Carbon & Low Alloy Steel - Percent

NICKEL (Ni)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
RVTGQ5		1.689	0.005	0.23	1.815	0.017	0.65	OE
T8Z1LW	X	1.806	0.123	5.19	1.924	0.126	4.79	OE
TKJ9PG		1.709	0.025	1.06	1.815	0.017	0.64	OE
TNJKN8		1.709	0.026	1.08	1.793	-0.006	-0.22	OE
TU9EZL		1.703	0.020	0.84	1.802	0.003	0.13	OE
U4BJH2		1.664	-0.019	-0.81	1.769	-0.029	-1.11	OE
UG2AAX		1.708	0.025	1.03	1.805	0.006	0.24	OE
UUR921		1.680	-0.003	-0.14	1.820	0.022	0.82	OE
V18LQ8		1.663	-0.020	-0.84	1.783	-0.015	-0.57	OE
V8DQ11		1.673	-0.010	-0.42	1.793	-0.005	-0.19	OE
V94X5G		1.657	-0.027	-1.13	1.803	0.005	0.19	OE
V9TZ7P		1.700	0.017	0.70	1.837	0.038	1.46	oe
VKMWV6		1.694	0.010	0.44	1.807	0.009	0.34	OE
VMZSWH		1.662	-0.021	-0.90	1.785	-0.013	-0.51	OE
VUCJXA		1.657	-0.027	-1.13	1.757	-0.042	-1.58	OE
VZ2XUG		1.673	-0.010	-0.44	1.794	-0.005	-0.18	DR
W1YBT1		1.670	-0.013	-0.56	1.786	-0.012	-0.47	OE
W9YWSU		1.631	-0.053	-2.22	1.805	0.006	0.24	OE
WPBDBK		1.680	-0.003	-0.14	1.780	-0.018	-0.70	OE
XDQZ4S		1.703	0.019	0.82	1.832	0.034	1.29	OE
XHL86T	X	1.862	0.178	7.53	1.954	0.156	5.92	OE
Y8XR5D		1.673	-0.010	-0.42	1.790	-0.008	-0.32	OE
YB95GY		1.684	0.001	0.04	1.795	-0.003	-0.12	XX
YBA883		1.688	0.004	0.18	1.799	0.001	0.03	OE
YLMXJ8		1.684	0.001	0.04	1.787	-0.011	-0.43	OE
YSTRD3		1.708	0.025	1.06	1.820	0.022	0.84	OE
YWH16H		1.731	0.048	2.01	1.838	0.040	1.51	OE
Z69JUG		1.682	-0.001	-0.04	1.810	0.012	0.46	OE
ZXQ3K7		1.676	-0.007	-0.31	1.777	-0.022	-0.82	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	1.6833	Percent	1.7980	Percent
Stnd Dev Btwn Labs	0.0237	Percent	0.0263	Percent

Statistics based on 105 of 119 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 176

Chemical Analysis Element #7 - Carbon & Low Alloy Steel - Percent

NICKEL (Ni)

Comments on assigned Data Flags for Test #176

EASV8J (X) - Data for both samples are low. Inconsistent within the determinations for Sample L79.

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

G3M5YJ (X) - Data for both samples are high.

HHSPL (X) - High data for Sample L80.

JX3BRH (X) - Inconsistent within the determinations for Sample L79.

KD8VPD (X) - Data for both samples are high.

KXDX5V (X) - For Sample L80 laboratory mistakenly submitted data from the test # 171.

N1ZWYW (X) - Data for both samples are high.

QEAT6S (X) - High data for Sample L79. Inconsistent within the determinations for Sample L79.

T8Z1LW (X) - Data for both samples are high.

XHL86T (X) - Data for both samples are high.

Interlaboratory Testing Program for Metals

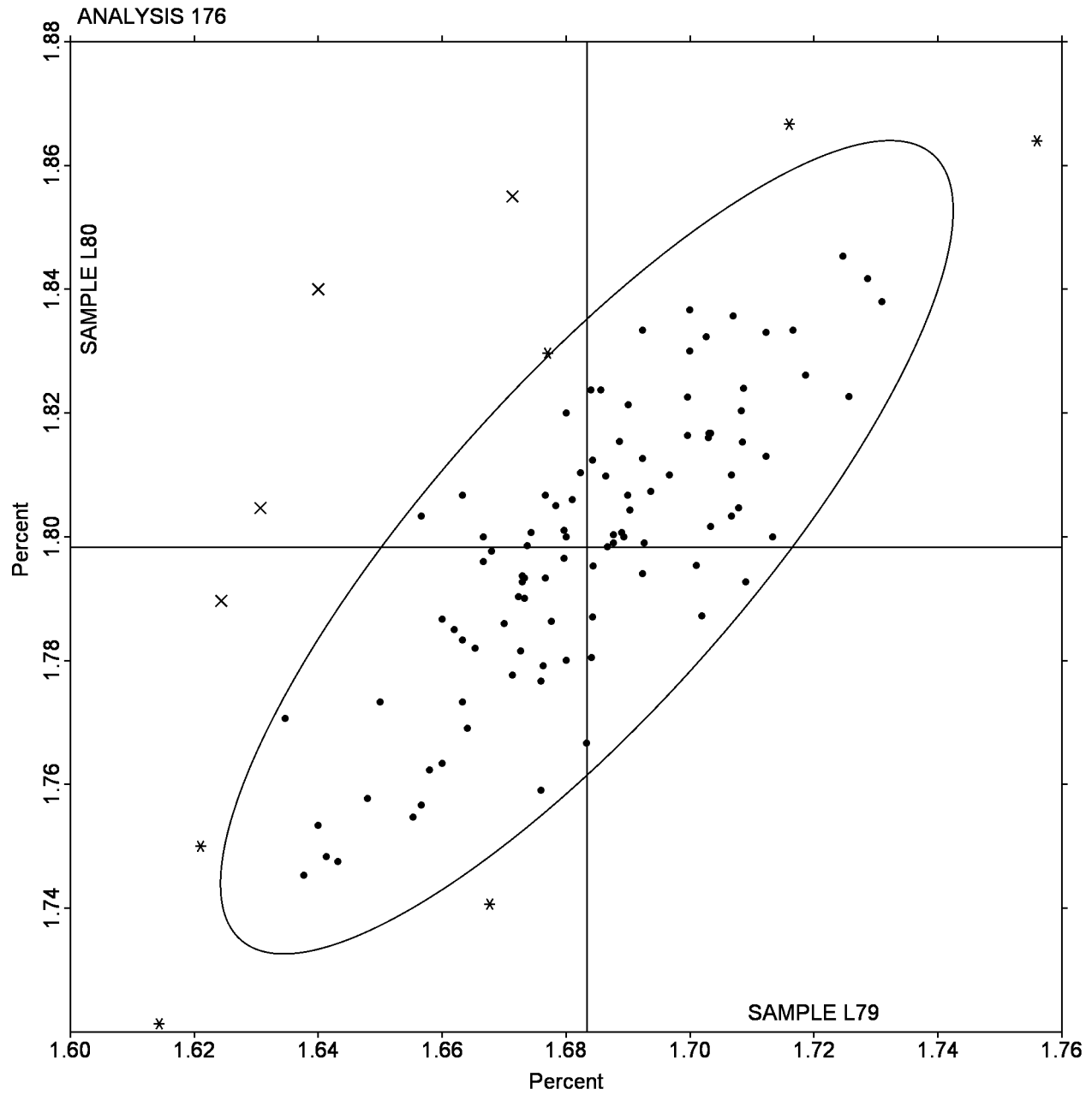
Analysis 176

Chemical Analysis Element #7 - Carbon & Low Alloy Steel - Percent

NICKEL (Ni)

SAMPLE L79 = 1.6833 Percent

SAMPLE L80 = 1.7980 Percent



Interlaboratory Testing Program for Metals

Analysis 177

Chemical Analysis Element #8 - Carbon & Low Alloy Steel - Percent

CHROMIUM (Cr)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
19S2A9		0.824	0.011	0.88	0.906	0.003	0.20	GD
1DN5LC		0.823	0.010	0.83	0.914	0.011	0.77	OE
1HSRK7		0.810	-0.003	-0.20	0.917	0.014	0.93	OE
1PE1Z6		0.796	-0.017	-1.32	0.892	-0.011	-0.74	OE
1UD5GJ		0.793	-0.019	-1.53	0.890	-0.013	-0.90	OE
2CB9JB		0.800	-0.013	-1.03	0.884	-0.019	-1.29	OE
2HQT3L		0.829	0.016	1.30	0.917	0.014	0.95	OE
2SLYPD		0.811	-0.002	-0.13	0.895	-0.008	-0.53	OE
3VF82Z		0.825	0.012	0.99	0.919	0.016	1.09	OE
3X1AKB		0.815	0.002	0.19	0.903	-0.001	-0.04	OE
3Z871A		0.807	-0.006	-0.47	0.890	-0.013	-0.90	IC
416X6F		0.810	-0.003	-0.20	0.893	-0.010	-0.67	OE
42SFRU		0.817	0.004	0.33	0.903	0.000	0.02	OE
44XBBP		0.819	0.006	0.48	0.911	0.008	0.52	IC
4B8C9S	*	0.783	-0.030	-2.38	0.881	-0.022	-1.50	OE
4HK96C		0.821	0.008	0.64	0.939	0.036	2.45	IC
4Q6SB2		0.824	0.011	0.88	0.918	0.015	1.05	AA
518X3E		0.813	0.000	0.03	0.909	0.006	0.38	OE
51SUF1	X	0.812	-0.001	-0.07	0.929	0.026	1.76	OE
5VZ8CK		0.820	0.007	0.56	0.919	0.016	1.09	OE
62VFBR	*	0.809	-0.003	-0.26	0.921	0.018	1.25	IC
6YXDJL		0.827	0.014	1.15	0.925	0.022	1.51	OE
72H68A		0.830	0.017	1.39	0.920	0.017	1.16	GD
72Z8Z8		0.815	0.003	0.22	0.906	0.003	0.20	OU
7HDY8D		0.802	-0.011	-0.84	0.888	-0.015	-1.04	OE
88NMPG		0.814	0.002	0.15	0.907	0.004	0.29	DR
8A6UNR		0.819	0.006	0.51	0.901	-0.002	-0.14	OE
8AT88Q	X	0.851	0.039	3.08	0.932	0.029	2.01	GD
9CUZQG		0.824	0.011	0.87	0.902	-0.001	-0.05	OE
9HSWUL		0.798	-0.015	-1.19	0.889	-0.014	-0.95	OE
9MDJWP		0.817	0.004	0.33	0.912	0.009	0.61	OE
9QQLPL		0.813	0.000	0.00	0.900	-0.003	-0.22	OE
9SWG4N	X	0.776	-0.037	-2.94	0.847	-0.056	-3.88	OE
9WGQTW		0.816	0.003	0.25	0.905	0.002	0.11	OE
A36XBZ		0.812	-0.001	-0.05	0.904	0.001	0.04	OE
AFWQ3V		0.815	0.003	0.22	0.898	-0.005	-0.35	OE
B2AVXC		0.823	0.011	0.86	0.915	0.012	0.84	OE
BCVXLZ	*	0.782	-0.031	-2.43	0.878	-0.025	-1.73	DC
C2TZCZ		0.813	0.000	0.03	0.902	-0.001	-0.05	OE
CGKBRD		0.806	-0.006	-0.49	0.891	-0.012	-0.80	OE
CJYUX1		0.814	0.001	0.09	0.917	0.014	0.96	OE
CNCSKX		0.820	0.007	0.59	0.913	0.010	0.70	GD
CNNY94	X	0.674	-0.139	-11.02	0.752	-0.151	-10.39	OE
CVHGPN	*	0.776	-0.037	-2.95	0.870	-0.033	-2.29	IC
CZC71Y		0.817	0.004	0.33	0.905	0.002	0.15	OE

Interlaboratory Testing Program for Metals

Analysis 177

Chemical Analysis Element #8 - Carbon & Low Alloy Steel - Percent

CHROMIUM (Cr)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
D1HF6A		0.823	0.011	0.86	0.910	0.007	0.48	OE
DPP1CT		0.820	0.007	0.59	0.905	0.002	0.13	OE
E1RS8M		0.818	0.006	0.46	0.911	0.008	0.57	OE
E7W42J		0.813	0.000	0.02	0.912	0.008	0.58	OE
ED7FTW		0.789	-0.024	-1.90	0.875	-0.028	-1.91	OE
EFQUXL		0.812	0.000	-0.02	0.900	-0.003	-0.19	DR
ESDJE3		0.835	0.023	1.81	0.927	0.024	1.62	DR
F6PST8		0.794	-0.019	-1.50	0.892	-0.011	-0.74	OE
G8S5SL		0.820	0.007	0.59	0.910	0.007	0.48	OE
GCNU9E		0.817	0.004	0.35	0.911	0.008	0.57	OE
GR7A7X		0.810	-0.003	-0.20	0.910	0.007	0.48	OE
GU38CP		0.801	-0.011	-0.89	0.897	-0.006	-0.44	IC
GUUGU9	*	0.789	-0.023	-1.85	0.865	-0.038	-2.64	OE
GYXS7E		0.812	-0.001	-0.05	0.901	-0.002	-0.12	OE
GZTQJE		0.835	0.022	1.76	0.938	0.034	2.37	XX
H8HWVC		0.785	-0.028	-2.22	0.878	-0.025	-1.70	OE
HGVLYS		0.814	0.002	0.12	0.912	0.009	0.65	OE
HVEUNC		0.832	0.019	1.55	0.922	0.019	1.32	OE
HYHK3A		0.799	-0.013	-1.05	0.885	-0.018	-1.26	OE
J6QLK5	*	0.782	-0.031	-2.46	0.878	-0.025	-1.75	OE
K3K9F4	X	0.840	0.027	2.15	0.093	-0.810	-55.69	OE
KAYHG6		0.799	-0.014	-1.11	0.888	-0.015	-1.01	GD
KAZPQ8		0.807	-0.006	-0.47	0.896	-0.007	-0.49	OE
KCPY3Y		0.813	0.001	0.06	0.900	-0.003	-0.21	OE
L1496E		0.813	0.000	0.03	0.898	-0.005	-0.37	OE
LG981F		0.818	0.006	0.46	0.906	0.003	0.18	DR
M1KRV4		0.807	-0.005	-0.42	0.898	-0.005	-0.33	OE
M5VCGC		0.801	-0.012	-0.94	0.888	-0.015	-1.07	DR
MXW7TU		0.837	0.024	1.94	0.920	0.017	1.19	OE
N11ELT		0.817	0.005	0.38	0.908	0.005	0.36	OE
N2P96Z		0.819	0.006	0.48	0.902	-0.001	-0.05	GD
N8J11H		0.818	0.005	0.41	0.900	-0.003	-0.20	XX
NRFWKD		0.817	0.004	0.33	0.898	-0.005	-0.37	XR
NWQD6V		0.811	-0.002	-0.13	0.903	0.000	0.02	DR
P3FNCP	*	0.801	-0.011	-0.89	0.909	0.006	0.43	OE
P63JCC		0.793	-0.020	-1.58	0.881	-0.022	-1.50	OE
PLTP86		0.815	0.002	0.19	0.896	-0.007	-0.49	OE
PM4AD7		0.813	0.000	0.03	0.906	0.003	0.18	OE
PMKKGC		0.795	-0.018	-1.40	0.883	-0.020	-1.40	OE
PVMF1S		0.818	0.005	0.40	0.911	0.008	0.54	OE
PWMGXW	*	0.819	0.006	0.48	0.890	-0.013	-0.90	DR
Q1JJYW		0.817	0.004	0.33	0.903	0.000	-0.03	OE
Q1WDDU		0.830	0.017	1.39	0.930	0.027	1.85	OE
Q4RGJW		0.802	-0.010	-0.81	0.887	-0.016	-1.11	OE
Q4ZGEC	*	0.826	0.013	1.04	0.899	-0.004	-0.30	OE

Interlaboratory Testing Program for Metals

Analysis 177

Chemical Analysis Element #8 - Carbon & Low Alloy Steel - Percent

CHROMIUM (Cr)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
Q67S63		0.814	0.001	0.09	0.912	0.009	0.61	OE
QL35NK		0.832	0.019	1.55	0.933	0.030	2.06	OE
QRHY52		0.821	0.009	0.70	0.908	0.005	0.32	OE
QWQKST		0.813	0.001	0.06	0.899	-0.004	-0.30	OE
QYMHEE		0.810	-0.003	-0.20	0.887	-0.016	-1.13	OE
R7EKCA		0.818	0.006	0.46	0.903	0.000	-0.01	OE
RSVYT9		0.817	0.004	0.33	0.917	0.014	0.93	DR
S9SSQ8		0.829	0.016	1.27	0.922	0.019	1.33	OE
SAS5QJ		0.833	0.021	1.65	0.923	0.020	1.39	OE
SHFBQT		0.809	-0.004	-0.28	0.906	0.003	0.22	OE
SYAK6M		0.810	-0.002	-0.18	0.901	-0.002	-0.17	OE
T6RD7E		0.823	0.010	0.83	0.912	0.009	0.59	OE
TB7S89		0.825	0.013	1.01	0.930	0.027	1.87	GD
TD3SER		0.809	-0.003	-0.26	0.895	-0.008	-0.56	OE
U7R8PX		0.823	0.011	0.85	0.927	0.024	1.65	OE
UNMCHH		0.812	-0.001	-0.05	0.904	0.001	0.04	OE
UVTFQ9		0.833	0.021	1.65	0.926	0.023	1.55	OE
V56EUH		0.815	0.002	0.16	0.903	0.000	0.01	OE
V5PCAM		0.804	-0.008	-0.66	0.880	-0.023	-1.59	OE
V65L9G		0.804	-0.009	-0.71	0.893	-0.010	-0.69	OE
VCYV4U		0.810	-0.003	-0.20	0.900	-0.003	-0.21	OE
VDL94Z		0.821	0.008	0.66	0.913	0.010	0.66	SP
W2DYK8		0.799	-0.014	-1.11	0.884	-0.019	-1.34	OE
W53Q3Z	*	0.777	-0.036	-2.86	0.863	-0.040	-2.78	OE
W9XXQ2	X	0.920	0.107	8.55	0.830	-0.073	-5.03	OE
WGN87P		0.810	-0.003	-0.20	0.898	-0.005	-0.37	OE
X56LFF		0.817	0.004	0.33	0.910	0.007	0.48	OE
XCE5J1		0.809	-0.004	-0.28	0.902	-0.001	-0.10	OE
XV14TS		0.814	0.002	0.14	0.908	0.005	0.32	OE
Y5DBK7		0.802	-0.010	-0.81	0.886	-0.017	-1.19	OE
Y7EDB2		0.816	0.003	0.27	0.910	0.007	0.48	OE
ZAFDXZ		0.824	0.011	0.88	0.913	0.010	0.70	OE
ZGBCB2		0.822	0.010	0.78	0.920	0.017	1.16	OE
ZQWNBF		0.824	0.012	0.94	0.884	-0.019	-1.31	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.8126	Percent	0.9030	Percent
Stnd Dev Btwn Labs	0.0126	Percent	0.0145	Percent

Statistics based on 116 of 124 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 177

Chemical Analysis Element #8 - Carbon & Low Alloy Steel - Percent

CHROMIUM (Cr)

Comments on assigned Data Flags for Test #177

51SUF1 (X) - Inconsistent within the determinations for Sample L80.

8AT88Q (X) - High data for Sample L79.

9SWG4N (X) - Data for both samples are low.

CNNY94 (X) - Data for both samples are low.

K3K9F4 (X) - It appears that the data were off by a factor of 0.1 .

W9XXQ2 (X) - High data for Sample L79. Low data for Sample L80. Data may be transposed between samples.

Interlaboratory Testing Program for Metals

Analysis 178

Chemical Analysis Element #9 - Carbon & Low Alloy Steel - Percent

MOLYBDENUM (Mo)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
1A7J4S		0.255	-0.010	-1.44	0.389	-0.014	-1.25	OE
1FB5FR		0.280	0.016	2.32	0.427	0.023	2.11	OE
1RDUKJ		0.253	-0.011	-1.68	0.396	-0.007	-0.65	OE
28M4DA		0.261	-0.003	-0.49	0.399	-0.005	-0.41	OE
2AK6UA		0.263	-0.001	-0.20	0.405	0.002	0.16	OE
2D9CKE		0.267	0.003	0.45	0.397	-0.006	-0.53	OE
2WYEU2		0.263	-0.001	-0.17	0.402	-0.001	-0.07	AA
2XA3D2		0.264	-0.001	-0.10	0.403	0.000	0.01	OE
31NR7Q		0.264	-0.001	-0.10	0.395	-0.008	-0.71	OE
34TT8N		0.264	-0.001	-0.10	0.411	0.008	0.73	GD
3CBBAF		0.265	0.001	0.10	0.408	0.004	0.40	OE
3H6DA6		0.266	0.001	0.20	0.403	0.000	0.01	DR
3JSPTU		0.266	0.002	0.30	0.406	0.003	0.28	OE
3KQYSP		0.262	-0.002	-0.29	0.393	-0.010	-0.91	OE
3LNLLF		0.264	0.000	0.00	0.397	-0.007	-0.59	OE
3QQUGY		0.260	-0.004	-0.64	0.394	-0.009	-0.79	OE
49VB1R	*	0.282	0.018	2.62	0.426	0.023	2.08	OE
4B5B61		0.265	0.001	0.12	0.410	0.007	0.62	XX
5CRZML		0.263	-0.002	-0.27	0.401	-0.002	-0.15	OE
5DP5KT		0.256	-0.009	-1.28	0.385	-0.018	-1.60	OE
5LLEP8		0.260	-0.004	-0.64	0.397	-0.007	-0.59	IC
5QLQXC		0.262	-0.002	-0.29	0.406	0.003	0.28	DR
5V2B8R		0.264	0.000	-0.05	0.405	0.002	0.16	OE
6J47NM		0.263	-0.002	-0.25	0.400	-0.003	-0.29	OE
6SGSVZ		0.270	0.006	0.84	0.415	0.012	1.06	OE
6VKLYG		0.268	0.003	0.50	0.406	0.003	0.28	GD
6XSCX5	*	0.265	0.001	0.15	0.419	0.016	1.45	OE
7L9743		0.263	-0.001	-0.20	0.406	0.002	0.22	OE
7RMJBV		0.254	-0.010	-1.53	0.379	-0.024	-2.14	OE
7VHP2T		0.261	-0.003	-0.44	0.393	-0.010	-0.91	OE
89EPFE		0.264	0.000	-0.05	0.410	0.007	0.61	OE
8W25EF		0.255	-0.009	-1.38	0.391	-0.013	-1.12	OE
8Z4156		0.255	-0.009	-1.33	0.396	-0.007	-0.65	OE
93A234	X	0.231	-0.033	-4.94	0.355	-0.048	-4.30	OE
9QC9EM		0.262	-0.002	-0.29	0.402	-0.002	-0.14	OE
9XFRSY		0.270	0.006	0.84	0.410	0.007	0.61	OE
9ZCK4F		0.262	-0.002	-0.31	0.399	-0.004	-0.33	DR
A2SKEN		0.277	0.013	1.94	0.428	0.025	2.26	OE
A3NY6P		0.265	0.001	0.12	0.398	-0.005	-0.46	DR
A5T2W1		0.264	0.000	0.01	0.406	0.003	0.26	IC
AKY5ME		0.263	-0.001	-0.20	0.406	0.003	0.25	OE
AWJ51N		0.280	0.016	2.32	0.430	0.027	2.41	OE
AWK1BP		0.265	0.001	0.10	0.400	-0.003	-0.26	OE
BT1Y2Z		0.267	0.003	0.40	0.405	0.001	0.13	OE
BUVVQZ		0.262	-0.002	-0.29	0.396	-0.007	-0.62	OE

Interlaboratory Testing Program for Metals

Analysis 178

Chemical Analysis Element #9 - Carbon & Low Alloy Steel - Percent

MOLYBDENUM (Mo)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
CSBSW6		0.270	0.006	0.84	0.410	0.007	0.61	GD
CTGAK5		0.280	0.015	2.28	0.424	0.021	1.87	OE
D6JBKC		0.261	-0.003	-0.44	0.398	-0.005	-0.47	OE
DTQZWY		0.258	-0.006	-0.91	0.395	-0.008	-0.74	OE
DXGBDN		0.266	0.002	0.25	0.408	0.005	0.43	OE
DYQ35W		0.257	-0.008	-1.13	0.403	-0.001	-0.05	GD
ENHQG1		0.266	0.002	0.25	0.410	0.007	0.61	DR
FF13AE		0.267	0.002	0.36	0.403	0.000	-0.02	OE
FZW3J4		0.270	0.006	0.84	0.414	0.010	0.94	OE
G7GAZZ		0.262	-0.002	-0.34	0.421	0.018	1.60	IC
GDC8D2		0.250	-0.014	-2.12	0.429	0.025	2.29	OE
GMVJEJ		0.262	-0.002	-0.34	0.405	0.001	0.13	XR
GYWS5N		0.267	0.003	0.45	0.410	0.007	0.64	OE
JDKPMG		0.269	0.005	0.69	0.411	0.007	0.67	OE
JNPV42	*	0.270	0.006	0.86	0.395	-0.008	-0.71	DR
JQA8HR		0.262	-0.003	-0.40	0.392	-0.011	-1.03	OE
JRSG5D	*	0.263	-0.002	-0.25	0.416	0.013	1.15	IC
JU25SJ		0.260	-0.005	-0.69	0.406	0.003	0.28	GD
KG5JRV		0.268	0.004	0.59	0.405	0.002	0.19	OE
KMB7E1		0.263	-0.001	-0.20	0.401	-0.003	-0.23	OE
KNQU7X	*	0.251	-0.014	-2.02	0.374	-0.029	-2.62	OE
L38VR6		0.262	-0.003	-0.39	0.403	-0.001	-0.05	IC
L7VED5		0.258	-0.007	-0.99	0.390	-0.013	-1.15	OE
L8LRSK		0.265	0.001	0.15	0.404	0.001	0.07	OE
LDLTBA		0.266	0.002	0.30	0.393	-0.011	-0.94	OE
LLD6VJ	*	0.257	-0.008	-1.13	0.407	0.003	0.31	OE
LR29UE		0.269	0.005	0.69	0.406	0.002	0.22	OE
LW5XAE		0.261	-0.003	-0.49	0.399	-0.004	-0.35	OE
M2NJL6		0.267	0.003	0.44	0.402	-0.001	-0.07	OE
M57ZZD		0.262	-0.002	-0.34	0.403	0.000	0.01	OE
M99YKH		0.263	-0.001	-0.15	0.397	-0.006	-0.56	OE
MRDYCS		0.266	0.002	0.26	0.404	0.001	0.09	OE
MVES2H		0.264	-0.001	-0.12	0.409	0.006	0.53	SP
MWWD9		0.262	-0.003	-0.39	0.407	0.004	0.37	OE
NAX8US		0.261	-0.003	-0.49	0.397	-0.007	-0.59	OU
P3W8XA		0.269	0.005	0.69	0.399	-0.005	-0.41	OE
P74ZKP		0.270	0.006	0.89	0.408	0.005	0.46	OE
PFWECK		0.261	-0.004	-0.54	0.398	-0.005	-0.47	OE
PR8WRZ		0.257	-0.007	-1.04	0.390	-0.013	-1.15	OE
PWWK77	*	0.260	-0.004	-0.64	0.380	-0.023	-2.08	DR
Q1LBX5		0.253	-0.011	-1.68	0.386	-0.017	-1.51	OE
QDLSD6		0.259	-0.006	-0.84	0.403	-0.001	-0.05	OE
QFEKJ4		0.260	-0.004	-0.64	0.397	-0.007	-0.59	OE
QNDZKF		0.272	0.007	1.09	0.407	0.003	0.31	OE
QTRV8R		0.260	-0.005	-0.69	0.393	-0.011	-0.94	OE

Interlaboratory Testing Program for Metals

Analysis 178

Chemical Analysis Element #9 - Carbon & Low Alloy Steel - Percent

MOLYBDENUM (Mo)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
R15TU6		0.271	0.007	1.04	0.424	0.020	1.84	OE
SA1XY4		0.263	-0.001	-0.15	0.401	-0.002	-0.20	OE
SFG7RG		0.273	0.009	1.29	0.419	0.016	1.42	DC
SSR1WL		0.266	0.002	0.25	0.400	-0.004	-0.32	OE
SYBT96	X	0.242	-0.022	-3.26	0.401	-0.002	-0.17	GD
TCZ6MS	*	0.281	0.017	2.47	0.432	0.029	2.59	OE
TG22D7		0.271	0.007	1.04	0.404	0.001	0.07	OE
TH6M5G		0.264	0.000	0.00	0.406	0.002	0.22	OE
TNFGUA		0.254	-0.010	-1.53	0.395	-0.008	-0.74	IC
TZ6T15		0.259	-0.005	-0.74	0.391	-0.012	-1.06	OE
U5DLST	*	0.280	0.016	2.33	0.435	0.032	2.89	OE
U5UGYD		0.254	-0.011	-1.58	0.394	-0.009	-0.82	OE
UR6Z1B		0.262	-0.003	-0.39	0.398	-0.006	-0.50	OE
UTRBMV		0.263	-0.002	-0.25	0.395	-0.008	-0.72	OE
V5PFLR		0.261	-0.004	-0.54	0.375	-0.028	-2.50	OE
V8UWDF		0.259	-0.005	-0.79	0.391	-0.013	-1.12	OE
VFCKAD		0.273	0.009	1.34	0.420	0.017	1.51	GD
VH6ST6		0.262	-0.002	-0.34	0.397	-0.007	-0.59	OE
VWDAPL		0.275	0.010	1.53	0.415	0.012	1.09	OE
W7YPK3		0.269	0.004	0.63	0.411	0.008	0.68	OE
WCDH9E		0.257	-0.007	-1.09	0.391	-0.012	-1.06	OE
WEVWE4		0.270	0.005	0.79	0.412	0.009	0.79	DR
WNFE9G		0.259	-0.005	-0.74	0.404	0.001	0.07	OE
X4MYHP		0.257	-0.007	-1.03	0.393	-0.011	-0.95	OE
X8SNM8		0.270	0.006	0.89	0.407	0.004	0.34	XX
XK1UNE		0.265	0.000	0.05	0.406	0.002	0.22	OE
XUVHLQ	X	0.260	-0.004	-0.64	0.430	0.027	2.41	OE
YNPSLS		0.275	0.010	1.53	0.411	0.008	0.73	OE
YZ9R3R		0.263	-0.001	-0.15	0.404	0.001	0.07	OE
Z3BN8K		0.249	-0.016	-2.32	0.380	-0.023	-2.08	OE
ZF2MFA		0.256	-0.009	-1.27	0.390	-0.013	-1.15	OE
ZLNN5R	*	0.284	0.019	2.88	0.429	0.026	2.31	OE

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.2643	Percent	0.4030	Percent
Stnd Dev Btwn Labs	0.0067	Percent	0.0111	Percent

Statistics based on 116 of 122 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 178

Chemical Analysis Element #9 - Carbon & Low Alloy Steel - Percent

MOLYBDENUM (Mo)

Comments on assigned Data Flags for Test #178

93A234 (X) - Data for both samples are low.

SYBT96 (X) - Low data for Sample L79. Inconsistent within the determinations for Sample L79.

XUVHLQ (X) - Inconsistent within the determinations for Sample L79.

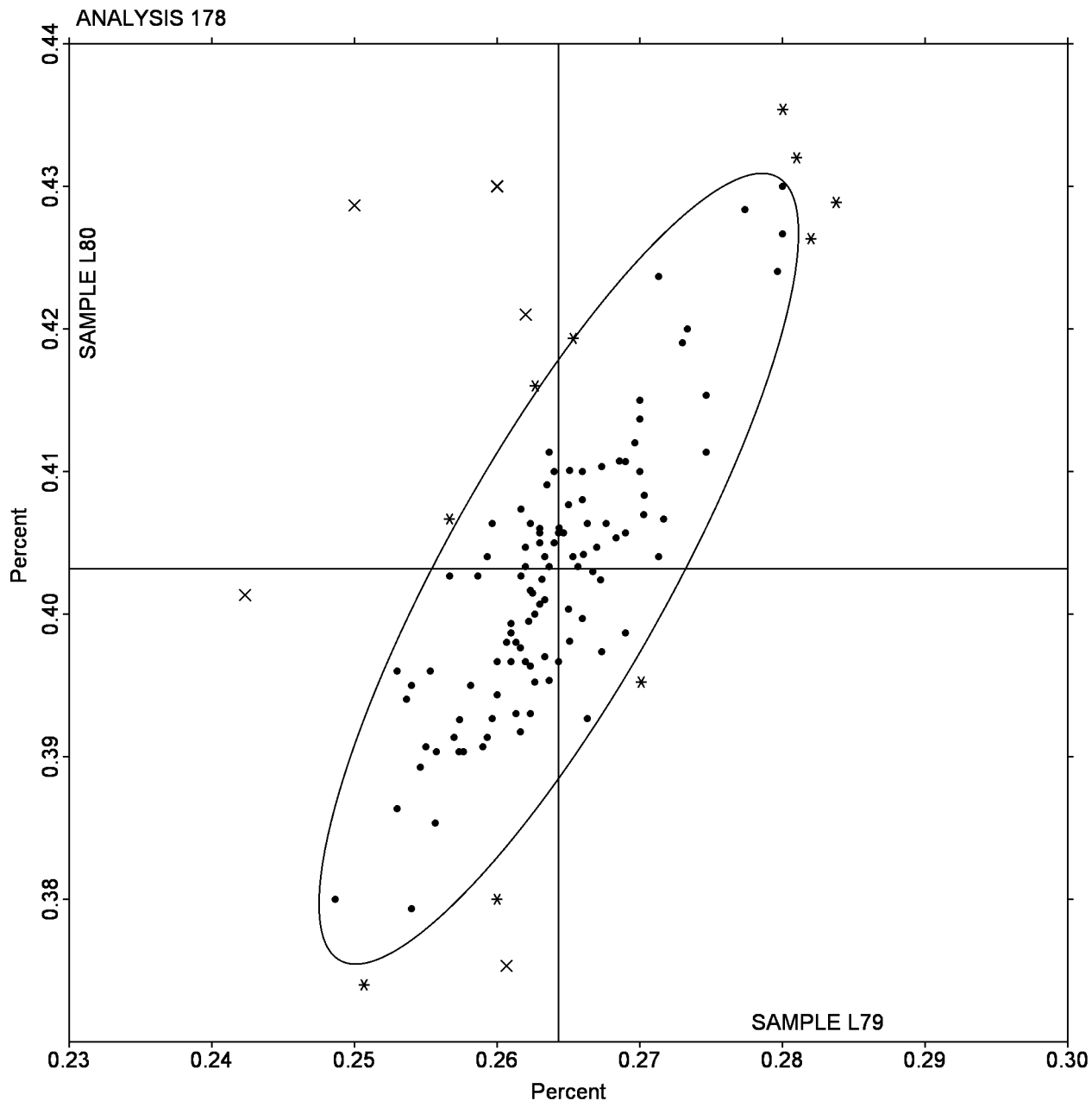
Interlaboratory Testing Program for Metals

Analysis 178

Chemical Analysis Element #9 - Carbon & Low Alloy Steel - Percent

MOLYBDENUM (Mo)

SAMPLE L79 = 0.2643 Percent SAMPLE L80 = 0.4030 Percent



Interlaboratory Testing Program for Metals

Analysis 179

Chemical Analysis Element #10 - Carbon & Low Alloy Steel - Percent

ALUMINUM (Al)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
11XXG8		0.0308	0.0007	0.44	0.0444	-0.0005	-0.28	GD
1K944Y		0.0300	-0.0001	-0.06	0.0460	0.0010	0.54	DR
1MJZNH		0.0287	-0.0014	-0.92	0.0433	-0.0016	-0.85	OE
1TULYB		0.0314	0.0013	0.88	0.0480	0.0030	1.57	OE
2248NX		0.0320	0.0019	1.24	0.0473	0.0024	1.23	OE
2DR3JR		0.0312	0.0011	0.70	0.0472	0.0022	1.16	OE
2L2AVP		0.0297	-0.0004	-0.27	0.0447	-0.0003	-0.15	OE
2LUL2U		0.0300	-0.0001	-0.06	0.0430	-0.0020	-1.02	DR
3LAB6D		0.0297	-0.0004	-0.23	0.0455	0.0005	0.28	DR
3VLTJ1		0.0326	0.0025	1.61	0.0481	0.0032	1.64	SP
46KL1R		0.0310	0.0009	0.59	0.0460	0.0010	0.54	OE
4C1WTZ		0.0288	-0.0013	-0.86	0.0418	-0.0031	-1.62	AA
4CYLTW	X	0.0230	-0.0071	-4.61	0.0410	-0.0040	-2.05	OE
4EBXDS		0.0298	-0.0003	-0.16	0.0454	0.0005	0.24	OE
4LFU54		0.0281	-0.0020	-1.29	0.0430	-0.0019	-1.00	OE
4NR8LL		0.0306	0.0005	0.31	0.0415	-0.0035	-1.79	OE
4PPHS9		0.0304	0.0003	0.20	0.0463	0.0013	0.69	OE
4RYFGV		0.0279	-0.0022	-1.43	0.0412	-0.0037	-1.93	OE
4VHSMH		0.0300	-0.0001	-0.03	0.0436	-0.0013	-0.69	GD
4W36HN		0.0299	-0.0002	-0.10	0.0452	0.0003	0.14	IC
4YQJYE		0.0313	0.0012	0.81	0.0453	0.0004	0.19	OE
4Z96UH		0.0289	-0.0012	-0.77	0.0442	-0.0007	-0.38	OE
565EQD	X	0.0333	0.0032	2.11	0.0533	0.0084	4.33	IC
5QRQDS		0.0301	0.0000	-0.01	0.0460	0.0011	0.55	OE
5URK2V		0.0309	0.0008	0.51	0.0464	0.0014	0.74	OE
5WLZ4P		0.0290	-0.0011	-0.73	0.0455	0.0005	0.28	IC
6D1A44		0.0300	-0.0001	-0.06	0.0439	-0.0011	-0.57	OE
6GANCC		0.0298	-0.0003	-0.19	0.0448	-0.0002	-0.10	DR
6RTK41		0.0300	-0.0001	-0.06	0.0440	-0.0010	-0.50	OE
81BWCJ		0.0300	-0.0001	-0.06	0.0400	-0.0050	-2.57	OE
9EN97Z	*	0.0287	-0.0014	-0.92	0.0463	0.0014	0.71	DC
9J6SKW	X	0.0667	0.0366	23.79	0.0490	0.0040	2.09	OE
9RUZK6		0.0296	-0.0005	-0.29	0.0458	0.0008	0.43	OE
9YMQSH		0.0271	-0.0030	-1.92	0.0418	-0.0032	-1.64	OE
A11AW8	*	0.0344	0.0043	2.78	0.0486	0.0037	1.90	GD
BBXWB2	X	0.0347	0.0046	2.98	0.0447	-0.0003	-0.15	IC
BE2XLN		0.0306	0.0005	0.31	0.0436	-0.0014	-0.71	XR
BLCTUJ		0.0290	-0.0011	-0.71	0.0439	-0.0011	-0.55	OE
BNP9S2		0.0290	-0.0011	-0.71	0.0437	-0.0013	-0.67	OE
BRNEUX		0.0307	0.0006	0.38	0.0457	0.0007	0.38	OE
BTFQ4B		0.0316	0.0015	0.98	0.0479	0.0029	1.52	OE
BW522S		0.0313	0.0012	0.79	0.0463	0.0013	0.69	XX
C9Q6XB		0.0276	-0.0025	-1.64	0.0413	-0.0036	-1.88	OE
CAYU72		0.0311	0.0010	0.64	0.0464	0.0014	0.73	OE
CJQ8B7		0.0296	-0.0005	-0.34	0.0401	-0.0049	-2.52	OE

Interlaboratory Testing Program for Metals

Analysis 179

Chemical Analysis Element #10 - Carbon & Low Alloy Steel - Percent

ALUMINUM (Al)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
CM7BHW		0.0309	0.0008	0.55	0.0470	0.0021	1.07	IC
CZNA9Q		0.0302	0.0001	0.05	0.0436	-0.0013	-0.69	OE
D4W5BU		0.0280	-0.0021	-1.36	0.0420	-0.0030	-1.54	GD
D5TXDY		0.0320	0.0019	1.24	0.0460	0.0010	0.54	OE
DJ1QA5		0.0310	0.0009	0.59	0.0450	0.0000	0.02	GD
DYQBHY		0.0310	0.0009	0.57	0.0469	0.0019	0.98	OE
E2A57N		0.0290	-0.0011	-0.71	0.0433	-0.0017	-0.88	OE
E46DQ8		0.0273	-0.0028	-1.79	0.0410	-0.0040	-2.05	OE
EL3E7Y		0.0277	-0.0024	-1.57	0.0443	-0.0006	-0.33	OE
EMLWPK		0.0313	0.0012	0.77	0.0468	0.0019	0.97	OE
EPH3HC		0.0287	-0.0014	-0.90	0.0448	-0.0001	-0.07	OE
ETYH5U	*	0.0343	0.0042	2.76	0.0500	0.0050	2.61	OE
EU3JP8		0.0270	-0.0031	-2.01	0.0423	-0.0026	-1.36	OE
F7X1LE		0.0289	-0.0012	-0.77	0.0440	-0.0009	-0.48	OE
G1XZYK	X	0.0317	0.0016	1.03	0.0520	0.0070	3.64	OE
GMUMMF	X	0.0175	-0.0126	-8.21	0.0326	-0.0124	-6.42	OE
GWGJSN	X	0.0343	0.0042	2.76	0.0516	0.0066	3.44	OE
GWRVP7		0.0298	-0.0003	-0.21	0.0434	-0.0016	-0.81	OE
H3M3MQ		0.0280	-0.0021	-1.36	0.0423	-0.0026	-1.36	OE
HPYLQP		0.0289	-0.0012	-0.80	0.0433	-0.0017	-0.88	OE
JD3MK2		0.0271	-0.0030	-1.94	0.0409	-0.0041	-2.11	OE
JSKQ23		0.0285	-0.0016	-1.01	0.0433	-0.0017	-0.88	OE
JXW17X	X	0.0320	0.0019	1.24	0.0507	0.0057	2.95	OE
K1MAH9		0.0283	-0.0018	-1.16	0.0429	-0.0021	-1.09	OE
K1SME6	X	0.0310	0.0009	0.57	0.0520	0.0070	3.63	DR
KTPQ5A		0.0300	-0.0001	-0.06	0.0440	-0.0010	-0.50	OE
L6CWAB		0.0300	-0.0001	-0.06	0.0427	-0.0023	-1.19	OE
LB1Q2N		0.0310	0.0009	0.59	0.0440	-0.0010	-0.50	DR
LS94CD		0.0299	-0.0002	-0.12	0.0455	0.0006	0.29	OE
M69NPH		0.0300	-0.0001	-0.06	0.0454	0.0004	0.23	OE
M9PWEB		0.0300	-0.0001	-0.06	0.0447	-0.0003	-0.15	OE
MFLS2N		0.0307	0.0006	0.38	0.0493	0.0044	2.26	IC
MGJWQH		0.0300	-0.0001	-0.03	0.0446	-0.0004	-0.21	OE
MYN8Q6		0.0307	0.0006	0.42	0.0443	-0.0007	-0.36	OE
N338NA		0.0323	0.0022	1.46	0.0487	0.0037	1.92	OE
N81NE1		0.0289	-0.0012	-0.77	0.0431	-0.0019	-0.98	OE
NMEVB2		0.0314	0.0013	0.88	0.0456	0.0006	0.33	OE
PDZJE5		0.0300	-0.0001	-0.06	0.0440	-0.0010	-0.50	OE
PRYLJ5		0.0310	0.0009	0.59	0.0480	0.0030	1.57	OE
Q1XAKL		0.0288	-0.0013	-0.81	0.0434	-0.0016	-0.81	OE
Q5S3L3		0.0310	0.0009	0.62	0.0478	0.0028	1.45	IC
Q6KKLF		0.0317	0.0016	1.03	0.0460	0.0010	0.52	OE
Q7631G		0.0313	0.0012	0.81	0.0450	0.0000	0.02	OE
Q7R8JQ		0.0280	-0.0021	-1.36	0.0430	-0.0020	-1.02	OE
QNMW49		0.0320	0.0019	1.24	0.0470	0.0020	1.05	OE

Interlaboratory Testing Program for Metals

Analysis 179

Chemical Analysis Element #10 - Carbon & Low Alloy Steel - Percent

ALUMINUM (Al)

WebCode	Data Flag	Sample L79			Sample L80			Instr Code
		Lab Mean	Diff. from Grand Mean	CPV	Lab Mean	Diff. from Grand Mean	CPV	
QPVFYS		0.0307	0.0006	0.42	0.0457	0.0008	0.40	OE
RFLQ4J		0.0301	0.0000	0.03	0.0445	-0.0005	-0.26	OE
S4Y4CJ	*	0.0275	-0.0026	-1.68	0.0451	0.0001	0.05	IC
S7V31Z		0.0330	0.0029	1.90	0.0480	0.0030	1.57	OE
SD53XP		0.0292	-0.0009	-0.60	0.0431	-0.0019	-0.97	OE
SE9YRV	X	0.0177	-0.0124	-8.08	0.0363	-0.0086	-4.47	OE
SX6WZX	X	0.0246	-0.0055	-3.55	0.0390	-0.0059	-3.07	OE
T58ULW		0.0263	-0.0038	-2.46	0.0496	0.0046	2.38	OE
T666S8		0.0284	-0.0017	-1.10	0.0448	-0.0002	-0.09	GD
TKG6YA		0.0307	0.0006	0.38	0.0450	0.0000	0.02	IC
TWM87G		0.0323	0.0022	1.46	0.0487	0.0037	1.92	OE
U18QGK		0.0305	0.0004	0.27	0.0452	0.0003	0.14	OU
U2F936		0.0297	-0.0004	-0.27	0.0447	-0.0003	-0.15	OE
UG9X1X		0.0307	0.0006	0.38	0.0433	-0.0016	-0.85	OE
ULTS9Y		0.0330	0.0029	1.92	0.0486	0.0036	1.88	OE
UMYAW8		0.0293	-0.0008	-0.49	0.0433	-0.0016	-0.85	OE
UQB5F5		0.0320	0.0019	1.24	0.0474	0.0025	1.28	OE
URANKE		0.0288	-0.0013	-0.84	0.0437	-0.0012	-0.64	OE
UYV7BZ		0.0293	-0.0008	-0.49	0.0447	-0.0003	-0.15	OE
W24SW1		0.0313	0.0012	0.81	0.0457	0.0007	0.36	OE
W3HCNM		0.0297	-0.0004	-0.27	0.0447	-0.0003	-0.15	OE
WM7Q2J		0.0331	0.0030	1.96	0.0470	0.0021	1.07	OE
XT4JKY		0.0303	0.0002	0.16	0.0453	0.0004	0.19	GD
XZK1T1		0.0302	0.0001	0.07	0.0465	0.0016	0.81	DR

Summary Statistics

	Sample L79		Sample L80	
Grand Means	0.03009	Percent	0.04500	Percent
Std Dev Btwn Labs	0.00154	Percent	0.00193	Percent

Statistics based on 98 of 114 reporting participants

Samples L79 , L80 : AISI 4340, 4330

Interlaboratory Testing Program for Metals

Analysis 179

Chemical Analysis Element #10 - Carbon & Low Alloy Steel - Percent

ALUMINUM (Al)

Comments on assigned Data Flags for Test #179

4CYLTW (X) - Low data for Sample L79.

565EQD (X) - High data for Sample L80.

9J6SKW (X) - High data for Sample L79. Inconsistent within the determinations for both samples.

BBXWB2 (X) - High data for Sample L79.

G1XZYK (X) - High data for Sample L80.

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

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

JXW17X (X) - High data for Sample L80. Inconsistent within the determinations for Sample L80.

K1SME6 (X) - High data for Sample L80. Inconsistent within the determinations for Sample L80.

SE9YRV (X) - Data for both samples are low.

SX6WZX (X) - Data for both samples are low.

Interlaboratory Testing Program for Metals

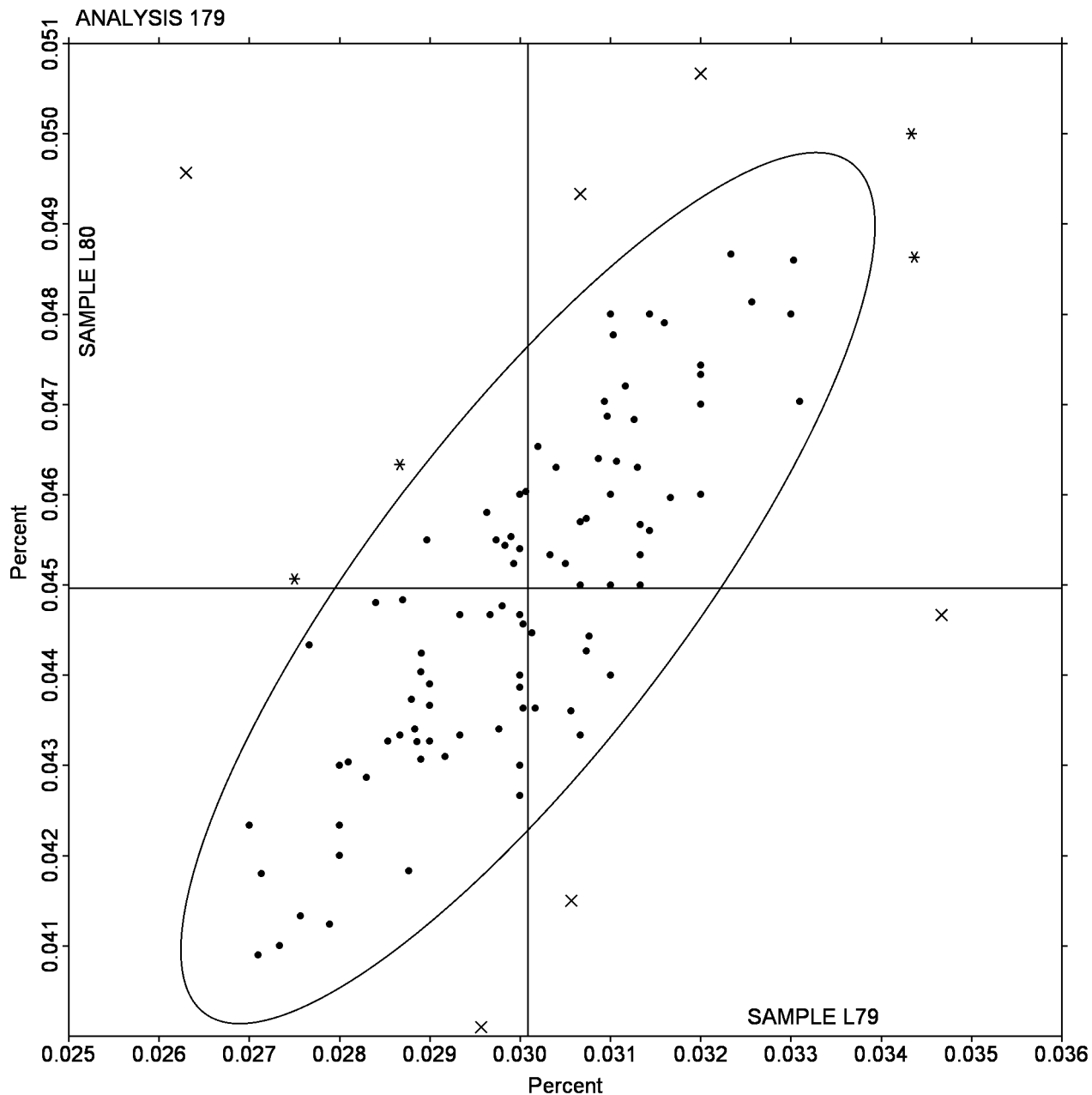
Analysis 179

Chemical Analysis Element #10 - Carbon & Low Alloy Steel - Percent

ALUMINUM (Al)

SAMPLE L79 = 0.03009 Percent

SAMPLE L80 = 0.04500 Percent



Instrument and Method Code List - Report# 87

Instrument information as provided by laboratories

Analysis Analysis Name

105 Tensile Strength: Lab-Machined Flat Aluminum

Instrument code and description

ZZ Instruments No Longer Tracked

110 Tensile Strength: Pre-Machined Round Steel

Instrument code and description

ZZ Instruments No Longer Tracked

118 Rockwell Hardness: C & B Scales

Instrument code and description

AV Avery
BU Buehler
CL Clark
IN Indentec
LE Leco
MA Matsuzawa
MI Mitutoyo
MS Misawaseiki
NA New Age Industries
OG Officine Galileo
UN United Testing Systems
WI Wilson / Instron Instruments
XX Instrument manufacturer not specified by lab

119 Rockwell Hardness: B Scale

Instrument code and description

AK Akashi
AN Antonik
AV Avery
BU Buehler
CL Clark
DE Detroit Testing
EM EMCO
FU Future-Tech
IN Indentec
LE Leco
MA Matsuzawa
MI Mitutoyo
NA New Age Industries
UN United Testing Systems
WI Wilson / Instron Instruments
XX Instrument manufacturer not specified by lab

121 Microhardness: Knoop Indenters (500 gf)

Instrument code and description

121 **Microhardness: Knoop Indenters (500 gf)**

Instrument code and description

AN	Antonik
AT	ATS
BU	Buehler, Ltd.
CL	Clark
CM	Clemex
FU	Future-Tech
LE	Leco
LI	Leitz
MI	Mitutoyo
SH	Shimadzu
ST	Struers
WI	Wilson-Wolpert/Instron
WT	Wilson-Wolpert-Tukon
XX	Instrument manufacturer not specified by lab

122 **Microhardness: Knoop Indenters (200 gf)**

Instrument code and description

AN	Antonik
BU	Buehler, Ltd.
CL	Clark
CM	Clemex
FU	Future-Tech
LE	Leco
LI	Leitz
MI	Mitutoyo
SH	Shimadzu
ST	Struers
WI	Wilson-Wolpert/Instron
WT	Wilson-Wolpert-Tukon
XX	Instrument manufacturer not specified by lab

123 **Microhardness: Vickers Indenters (500 gf)**

Instrument code and description

AK	Akashi	XX	Instrument manufacturer not specified by lab
AN	Antonik		
AW	ACCO Wilson		
BU	Buehler, Ltd.		
CL	Clark		
CM	Clemex		
EM	EMCO TEST M1C-100		
FU	Future-Tech		
LC	Leica		
LE	Leco		
LI	Leitz		
MA	Matsuzawa		
MI	Mitutoyo		
SH	Shimadzu		
ST	Struers		
WI	Wilson-Wolpert/Instron		
WT	Wilson-Wolpert-Tukon		
WZ	Zwick		

135**Brinell Hardness**

Instrument code and description

AL	Amsler
AM	Ametek
AN	Antonik
AV	Avery
DE	Detroit Testing
EM	EMCO
ER	Ernst
KI	King Tester
LS	Louis Small
MA	Matsuzawa
NA	New Age Industries
NS	Nakai Seiki Works
PI	Pittsburgh
RI	Riehle
SA	Satec HVL 60
SD	Service Diamond
SP	Service Physical Tester
ST	Steel City
TI	Tinius Olsen
WI	Wilson / Instron Instruments
XX	Instrument manufacturer not specified by lab

140**Tensile Strength: Lab-Machined Round Steel**

Instrument code and description

ZZ	Instruments No Longer Tracked
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170**Carbon & Low Alloy Steel, Element #1**

Method code and description

AA	Atomic Absorption Spectrophotometry
CI	Combustion/IR
CO	Combustion
DR	Direct Reading Optical Emission Spectrometr
GD	Glow Discharge Spectroscopy
IR	IR (Absorption/Detection)
OE	Optical Emission Spectrometry
XX	Method not specified by lab