Wine Industry Interlaboratory Program

Summary Report #059 - Summer 2018

Introduction to the Wine Program

Explanation of Tables and Definitions of Terms

About the Wine Industry Interlaboratory Program

This interlaboratory survey was administered by Collaborative Testing Services, Inc. (CTS) through an agreement with The American Society for Enology and Viticulture (ASEV) with technical assistance provided by the Laboratory Proficiency Ad Hoc Committee. The purpose of the survey was to evaluate laboratory performance and assess the performance of the industry with respect to quality assurance testing conducted on commercially produced wine through an on-going interlaboratory testing program. Two bottles of differing wines were supplied to participant laboratories. The samples for each type of wine were chosen consecutively from a single production run, to minimize variation between bottles. Participating laboratories were asked to analyze the samples' ten properties in accordance with their normal laboratory procedures and return the results and methodology information to CTS.

About CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of sectors: including rubber, plastics, fasteners and metals, containerboard, paper, wine and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

For further information concerning this report contact:

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WebCode Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Wine Web Summary Report published on the CTS web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.

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.

**Difference from
Grand Mean** The difference of the LAB MEAN 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** An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

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 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	**STOP** - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	**PROCEED** - lab was unable to report data for one sample.

Graph - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

Common Problems Highlighted in Footnotes

1. *Extreme data* - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.

2. *Systematic bias* - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.

3. *Inconsistency in testing between samples/sample sets* - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.

4. *Inconsistency in testing within a sample* - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		13.46	-0.03	-0.44	13.49	-0.03	-0.43
279A4N		13.54	0.05	0.65	13.57	0.05	0.65
3NMVGJ		13.45	-0.04	-0.57	13.49	-0.03	-0.43
3PXNFR		13.46	-0.03	-0.44	13.50	-0.02	-0.29
3QU23K		13.40	-0.09	-1.25	13.40	-0.12	-1.64
4ZWQC9		13.59	0.10	1.33	13.58	0.06	0.79
648D9B		13.55	0.05	0.72	13.60	0.07	0.99
67XGZW		13.56	0.06	0.85	13.59	0.06	0.86
6NWG7B		13.47	-0.02	-0.30	13.50	-0.02	-0.29
78HT7F		13.51	0.02	0.24	13.55	0.02	0.32
7X3WBA		13.55	0.06	0.78	13.58	0.06	0.79
83AMDF		13.42	-0.07	-0.98	13.45	-0.08	-1.03
8APDTF		13.51	0.02	0.24	13.55	0.03	0.38
8D46K9		13.51	0.02	0.24	13.55	0.03	0.38
8VQNEV		13.55	0.05	0.72	13.58	0.06	0.79
9JA27U		13.40	-0.09	-1.25	13.45	-0.07	-0.97
9XDF9C		13.54	0.05	0.65	13.58	0.06	0.79
A8ARXB		13.65	0.16	2.14	13.69	0.16	2.21
AHC8LV	*	13.25	-0.24	-3.29	13.25	-0.27	-3.67
AWVNVL		13.43	-0.07	-0.91	13.49	-0.04	-0.49
BJ6EM8		13.52	0.02	0.31	13.56	0.03	0.45
BQQANB		13.42	-0.08	-1.05	13.45	-0.07	-0.97
BX7UP2		13.53	0.04	0.51	13.57	0.04	0.59
C39MW3		13.53	0.04	0.51	13.54	0.02	0.25
C9ZRP7		13.50	0.00	0.04	13.53	0.00	0.05
CGRB7Z	X	13.20	-0.29	-3.97	13.30	-0.22	-2.99
CMK7EZ		13.45	-0.04	-0.57	13.49	-0.03	-0.43
CNUBP3		13.48	-0.02	-0.23	13.52	0.00	-0.02
CUJPEA		13.25	-0.24	-3.29	13.30	-0.22	-2.99
D4L8PD		13.57	0.08	1.06	13.60	0.08	1.06
DBJ3MB		13.48	-0.01	-0.17	13.52	-0.01	-0.09
DK8Z8P		13.52	0.02	0.31	13.55	0.03	0.38
DRPBJ6		13.52	0.02	0.31	13.55	0.03	0.38
E8GQXN		13.55	0.06	0.78	13.60	0.08	1.06
E9C224		13.49	-0.01	-0.10	13.54	0.01	0.18
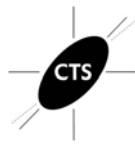
| WebCode | Data Flag | Sample SA17 | | | Sample SA18 | | |
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EEGAXY	X	13.24	-0.25	-3.42	13.11	-0.41	-5.56
EG6GNM		13.53	0.04	0.51	13.58	0.06	0.79
ENZJK8		13.33	-0.17	-2.27	13.33	-0.20	-2.65
ETL4XN		13.32	-0.17	-2.32	13.38	-0.14	-1.85
EZG9KX		13.54	0.05	0.65	13.59	0.07	0.92
FBDPRD		13.51	0.02	0.24	13.53	0.00	0.05
FNLBHX	X	13.73	0.24	3.23	13.63	0.11	1.46
FWDNEC		13.38	-0.11	-1.52	13.49	-0.03	-0.43
G26CDV		13.48	-0.02	-0.23	13.53	0.01	0.11
GBRHY2		13.57	0.08	1.06	13.60	0.07	0.99
GQ9992		13.52	0.03	0.38	13.55	0.03	0.38
GT9GDC		13.49	-0.01	-0.10	13.52	0.00	-0.02
JAQ6UK		13.54	0.05	0.65	13.59	0.06	0.86
JFYJJV		13.49	-0.01	-0.10	13.53	0.00	0.05
JH3GQH		13.52	0.03	0.38	13.56	0.03	0.45
JMX9ZZ		13.56	0.07	0.92	13.59	0.07	0.92
K34YAH		13.51	0.02	0.24	13.51	-0.01	-0.16
KJVPDR		13.51	0.01	0.17	13.55	0.02	0.32
KUALGB		13.51	0.01	0.17	13.48	-0.04	-0.56
L8UNC8		13.38	-0.11	-1.52	13.37	-0.15	-2.05
L9MCU3		13.45	-0.04	-0.57	13.48	-0.05	-0.63
LK4Y44		13.54	0.05	0.65	13.58	0.06	0.79
LLBKBG		13.51	0.01	0.17	13.53	0.01	0.11
LWVQQT		13.50	0.01	0.11	13.54	0.02	0.25
MAXM4R		13.48	-0.01	-0.17	13.51	-0.02	-0.22
MH86J6		13.54	0.04	0.58	13.57	0.05	0.65
MKY4X3		13.53	0.04	0.51	13.56	0.04	0.52
MU2L97	X	13.35	-0.14	-1.93	13.60	0.08	1.06
MVVAR2		13.51	0.02	0.24	13.53	0.01	0.11
N3R9XG		13.49	0.00	-0.03	13.53	0.01	0.11
NU3KZT		13.55	0.06	0.78	13.58	0.06	0.79
NUKPHR		13.51	0.02	0.24	13.55	0.03	0.38
P8LKCD		13.46	-0.04	-0.51	13.47	-0.06	-0.76
QANZZV		13.63	0.13	1.80	13.65	0.13	1.73
QHEL7T		13.55	0.06	0.78	13.45	-0.07	-0.97

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QQVWJU		13.52	0.02	0.31	13.55	0.03	0.38
QUTKRN		13.57	0.08	1.06	13.61	0.08	1.13
R3HLUK		13.52	0.03	0.38	13.55	0.02	0.32
RVGJJR		13.53	0.03	0.44	13.57	0.05	0.65
T48E6T		13.28	-0.21	-2.88	13.28	-0.24	-3.26
TCMVYN	X	13.50	0.01	0.11	13.20	-0.32	-4.34
U7AGLH	*	13.32	-0.18	-2.40	13.45	-0.08	-1.03
UBLHP2		13.46	-0.03	-0.44	13.49	-0.03	-0.43
UCHVCT		13.53	0.04	0.51	13.54	0.01	0.18
UUKKKJ		13.52	0.02	0.31	13.55	0.03	0.38
V3BHVP		13.50	0.01	0.11	13.54	0.02	0.25
V6X2RG		13.38	-0.11	-1.52	13.45	-0.08	-1.03
VE2ENB		13.53	0.04	0.51	13.57	0.04	0.59
VME7E9		13.55	0.06	0.78	13.56	0.03	0.45
VWJBAV		13.52	0.03	0.38	13.57	0.04	0.59
W34Z2J		13.55	0.06	0.78	13.59	0.06	0.86
X2QJQQ		13.47	-0.03	-0.37	13.46	-0.06	-0.83
X32HMK		13.53	0.03	0.44	13.57	0.05	0.65
XDJ7DD		13.47	-0.03	-0.37	13.50	-0.02	-0.29
XJACGF		13.61	0.11	1.53	13.64	0.12	1.60
XVXLV9		13.53	0.03	0.44	13.58	0.05	0.72
XZU64X	X	13.94	0.45	6.08	14.01	0.48	6.53
Y6JYFP		13.49	0.00	-0.03	13.50	-0.02	-0.29
Y7WJGM		13.57	0.07	0.99	13.60	0.08	1.06
ZAXWLR		13.54	0.04	0.58	13.58	0.05	0.72
ZGAZNK		13.41	-0.08	-1.12	13.51	-0.01	-0.16
ZKPTED		13.47	-0.02	-0.30	13.50	-0.02	-0.29
ZNC3WQ		13.51	0.02	0.24	13.56	0.04	0.52
ZTMHVG		13.50	0.01	0.11	13.50	-0.02	-0.29

Summary Statistics

Grand Means

13.492 percent   13.522 percent

Stnd Dev Btwn Labs

0.074 percent   0.074 percent

Statistics based on 93 of 99 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #901

XZU64X (X) - Data for both samples are high. Possible Systematic Error.

MU2L97 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA17.

FNLBHX (X) - Inconsistent in Testing. Data for sample SA17 are high.

TCMVYN (X) - Inconsistent in Testing. Data for sample SA18 are low.

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

CGRB7Z (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec*			Sample SA18 *Merlot*			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	13.548	0.060	0.06	13.555	0.035	0.03	2/2
Ebulliometer Method	13.333	0.144	-0.16	13.350	0.132	-0.17	3/5
Gas Chromatography Method	13.451	0.092	-0.04	13.475	0.113	-0.05	4/4
Near Infrared Method	13.515	0.047	0.02	13.549	0.047	0.03	57/59
Dist. / Density Method	13.441	0.095	-0.05	13.472	0.092	-0.05	14/16
FTIR	13.471	0.057	-0.02	13.508	0.021	-0.01	5/5
Other _____	13.497	0.049	0.00	13.534	0.048	0.01	8/8

ANALYSIS 901
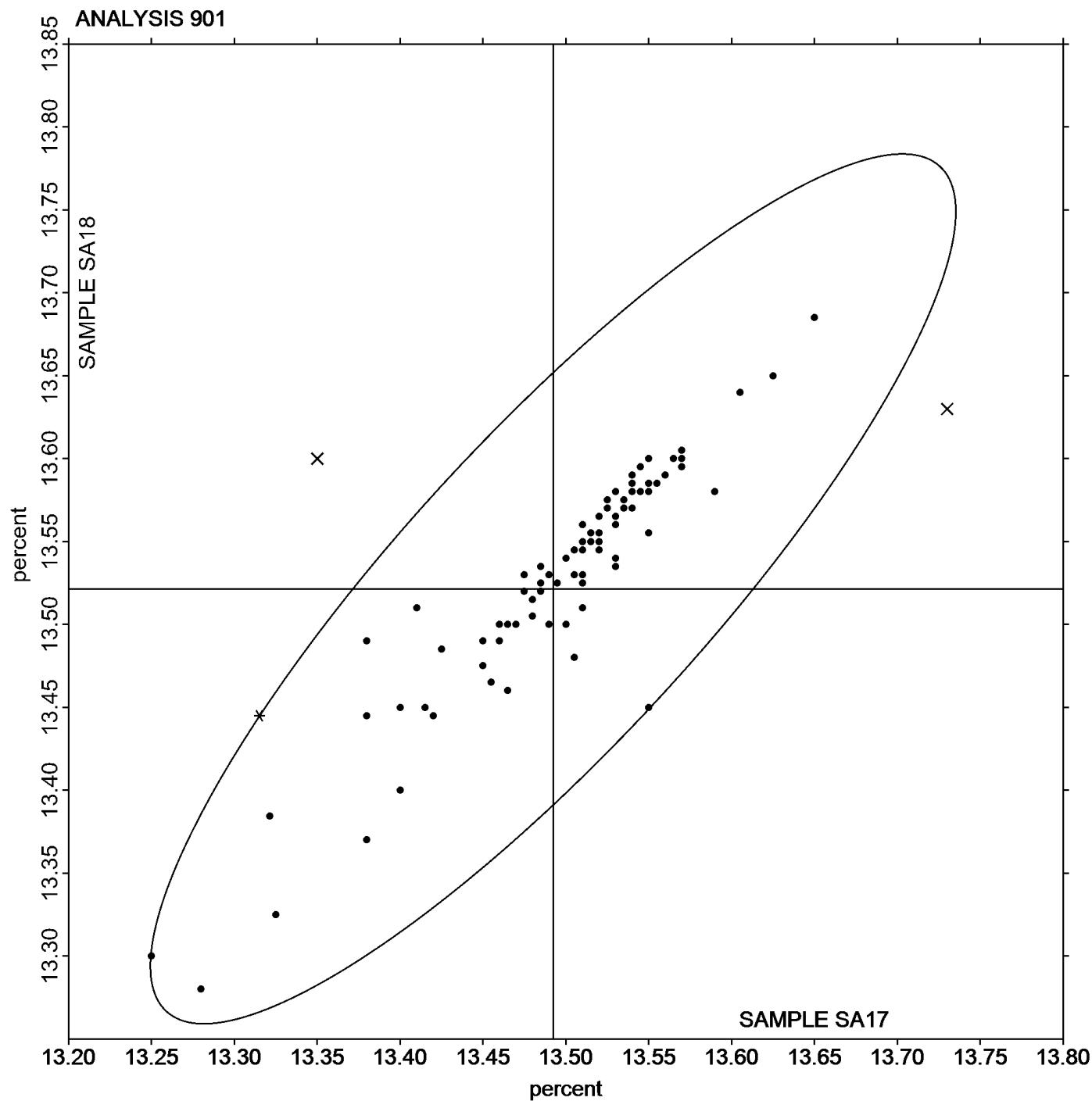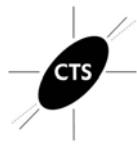
SAMPLE SA18

percent

SAMPLE SA17

percent

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		52.00	-1.91	-0.16	50.50	-0.36	-0.05
279A4N		52.00	-1.91	-0.16	39.00	-11.86	-1.52
3NMVGJ		55.50	1.59	0.14	47.50	-3.36	-0.43
3PXNFR		76.00	22.09	1.89	62.00	11.14	1.43
3QU23K		50.50	-3.41	-0.29	46.00	-4.86	-0.62
4ZWQC9		65.80	11.89	1.02	55.00	4.14	0.53
648D9B		40.00	-13.91	-1.19	46.00	-4.86	-0.62
67XGZW		41.50	-12.41	-1.06	43.50	-7.36	-0.95
6NWG7B	*	58.00	4.09	0.35	67.00	16.14	2.07
78HT7F		48.00	-5.91	-0.50	51.50	0.64	0.08
7X3WBA		58.00	4.09	0.35	50.50	-0.36	-0.05
83AMDF		40.00	-13.91	-1.19	42.00	-8.86	-1.14
8APDTF		45.50	-8.41	-0.72	41.50	-9.36	-1.20
8D46K9		38.00	-15.91	-1.36	44.00	-6.86	-0.88
8VQNEV		58.00	4.09	0.35	43.00	-7.86	-1.01
9JA27U		70.50	16.59	1.42	54.00	3.14	0.40
9XDF9C		44.00	-9.91	-0.85	48.00	-2.86	-0.37
A8ARXB		67.00	13.09	1.12	53.00	2.14	0.27
AWVNVL		49.25	-4.66	-0.40	48.45	-2.41	-0.31
BJ6EM8		55.50	1.59	0.14	50.00	-0.86	-0.11
BQQANB		49.00	-4.91	-0.42	45.00	-5.86	-0.75
BX7UP2	*	64.00	10.09	0.86	69.50	18.64	2.39
C39MW3		42.00	-11.91	-1.02	42.50	-8.36	-1.07
CGRB7Z		54.00	0.09	0.01	43.00	-7.86	-1.01
CMK7EZ		49.50	-4.41	-0.38	45.50	-5.36	-0.69
CNUBP3		71.50	17.59	1.50	59.00	8.14	1.04
CUJPEA		50.00	-3.91	-0.33	53.00	2.14	0.27
DBJ3MB		41.50	-12.41	-1.06	51.50	0.64	0.08
DK8Z8P		68.00	14.09	1.20	58.50	7.64	0.98
DRPBJ6		71.90	17.99	1.54	60.90	10.04	1.29
E8GQXN		59.50	5.59	0.48	54.50	3.64	0.47
E9C224		47.50	-6.41	-0.55	46.50	-4.36	-0.56
EG6GNM		40.00	-13.91	-1.19	45.00	-5.86	-0.75
ETL4XN		56.80	2.89	0.25	52.96	2.10	0.27
EZG9KX		60.00	6.09	0.52	53.00	2.14	0.27

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FBDPRD		45.50	-8.41	-0.72	48.00	-2.86	-0.37
FNLBHX		50.29	-3.62	-0.31	50.29	-0.57	-0.07
FWDNEC		45.00	-8.91	-0.76	45.50	-5.36	-0.69
G26CDV		61.50	7.59	0.65	48.00	-2.86	-0.37
GBRHY2		72.50	18.59	1.59	66.50	15.64	2.01
GQ9992		48.00	-5.91	-0.50	46.50	-4.36	-0.56
GT9GDC		72.50	18.59	1.59	62.50	11.64	1.49
JAQ6UK		50.50	-3.41	-0.29	47.00	-3.86	-0.50
JFYJJV		36.50	-17.41	-1.49	42.00	-8.86	-1.14
JH3GQH		56.50	2.59	0.22	49.50	-1.36	-0.18
JMX9ZZ		37.85	-16.06	-1.37	44.35	-6.51	-0.84
K34YAH		66.00	12.09	1.03	63.00	12.14	1.56
KJVPDR	X	49.00	-4.91	-0.42	68.00	17.14	2.20
KUALGB		43.50	-10.41	-0.89	45.00	-5.86	-0.75
L8UNC8		66.50	12.59	1.08	56.00	5.14	0.66
L9MCU3		69.00	15.09	1.29	57.00	6.14	0.79
LK4Y44		43.00	-10.91	-0.93	46.00	-4.86	-0.62
LLBKBG		78.50	24.59	2.10	61.50	10.64	1.37
LWVQQT		46.40	-7.51	-0.64	44.80	-6.06	-0.78
MAXM4R		68.00	14.09	1.20	54.50	3.64	0.47
MH86J6	X	38.50	-15.41	-1.32	20.50	-30.36	-3.90
MKY4X3		47.50	-6.41	-0.55	47.50	-3.36	-0.43
MU2L97		36.50	-17.41	-1.49	46.50	-4.36	-0.56
MVVAR2	*	65.50	11.59	0.99	46.50	-4.36	-0.56
N3R9XG		71.70	17.79	1.52	66.15	15.29	1.96
NU3KZT		54.15	0.24	0.02	50.40	-0.46	-0.06
NUKPHR		78.50	24.59	2.10	66.00	15.14	1.94
QANZZV		44.00	-9.91	-0.85	44.00	-6.86	-0.88
QHEL7T		56.00	2.09	0.18	55.00	4.14	0.53
QQVWJU		46.50	-7.41	-0.63	44.00	-6.86	-0.88
QUTKRN		59.00	5.09	0.44	56.50	5.64	0.72
R3HLUK		49.85	-4.06	-0.35	45.65	-5.21	-0.67
RVGJJR		61.50	7.59	0.65	53.00	2.14	0.27
T48E6T		48.80	-5.11	-0.44	49.60	-1.26	-0.16
TCMVYN		48.50	-5.41	-0.46	44.00	-6.86	-0.88

WebCode	Data Flag	Sample SA17 Lab Mean	Diff from Grand Mean	CPV	Sample SA18 Lab Mean	Diff from Grand Mean	CPV
U7AGLH		61.50	7.59	0.65	57.50	6.64	0.85
UCHVCT		33.35	-20.56	-1.76	36.83	-14.03	-1.80
UUKKKJ		54.50	0.59	0.05	50.00	-0.86	-0.11
UVTUCG		48.50	-5.41	-0.46	49.50	-1.36	-0.18
V3BHVP		69.00	15.09	1.29	59.00	8.14	1.04
V6X2RG		35.50	-18.41	-1.57	39.00	-11.86	-1.52
VE2ENB		56.00	2.09	0.18	51.00	0.14	0.02
VME7E9		70.50	16.59	1.42	66.50	15.64	2.01
VWJBAV		71.50	17.59	1.50	63.00	12.14	1.56
W34Z2J		36.00	-17.91	-1.53	41.00	-9.86	-1.27
X2QJQQ		77.50	23.59	2.02	63.00	12.14	1.56
X32HMK		43.00	-10.91	-0.93	47.00	-3.86	-0.50
XDJ7DD		38.50	-15.41	-1.32	43.00	-7.86	-1.01
XJACGF		57.50	3.59	0.31	52.00	1.14	0.15
XVXLV9		40.80	-13.11	-1.12	45.95	-4.91	-0.63
XZU64X		43.50	-10.41	-0.89	45.00	-5.86	-0.75
Y6JYFP		39.50	-14.41	-1.23	39.50	-11.36	-1.46
Y7WJGM		42.00	-11.91	-1.02	40.00	-10.86	-1.40
ZAXWLR	*	52.50	-1.41	-0.12	61.50	10.64	1.37
ZKPTED	*	54.00	0.09	0.01	65.00	14.14	1.82
ZNC3WQ		54.00	0.09	0.01	58.00	7.14	0.92
ZTMHVG		56.60	2.69	0.23	48.90	-1.96	-0.25

Summary Statistics

Grand Means	53.906 mg/L		50.864 mg/L
Stnd Dev Btwn Labs	11.698 mg/L		7.787 mg/L

Statistics based on 90 of 92 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #902

MH86J6 (X) - Data for sample SA18 are low.

KJVPDR (X) - Inconsistent in testing between samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec* Group Mean	Btwn Lab STD	Diff from GM	Sample SA18 *Merlot* Group Mean	Btwn Lab STD	Diff from GM	Labs Incl / Rpt
Please specify method used	71.700	0.000	17.79	66.150	0.000	15.29	1/2
Ripper Method	60.876	10.281	6.97	52.904	7.821	2.04	38/39
Aeration Oxidation (AO) Method	48.831	7.844	-5.07	48.211	5.067	-2.65	22/22
Segemented Flow Analyzer	47.150	2.329	-6.76	45.990	1.888	-4.87	5/5
Enzymatic Method	49.979	15.460	-3.93	50.836	9.817	-0.03	7/7
Colormetric Analyzer	56.583	8.891	2.68	58.500	8.860	7.64	6/6
FTIR	48.500	12.728	-5.41	45.750	8.839	-5.11	2/2
Flow Injection Analysis	41.128	6.383	-12.78	45.809	5.408	-5.05	9/9

ANALYSIS 902
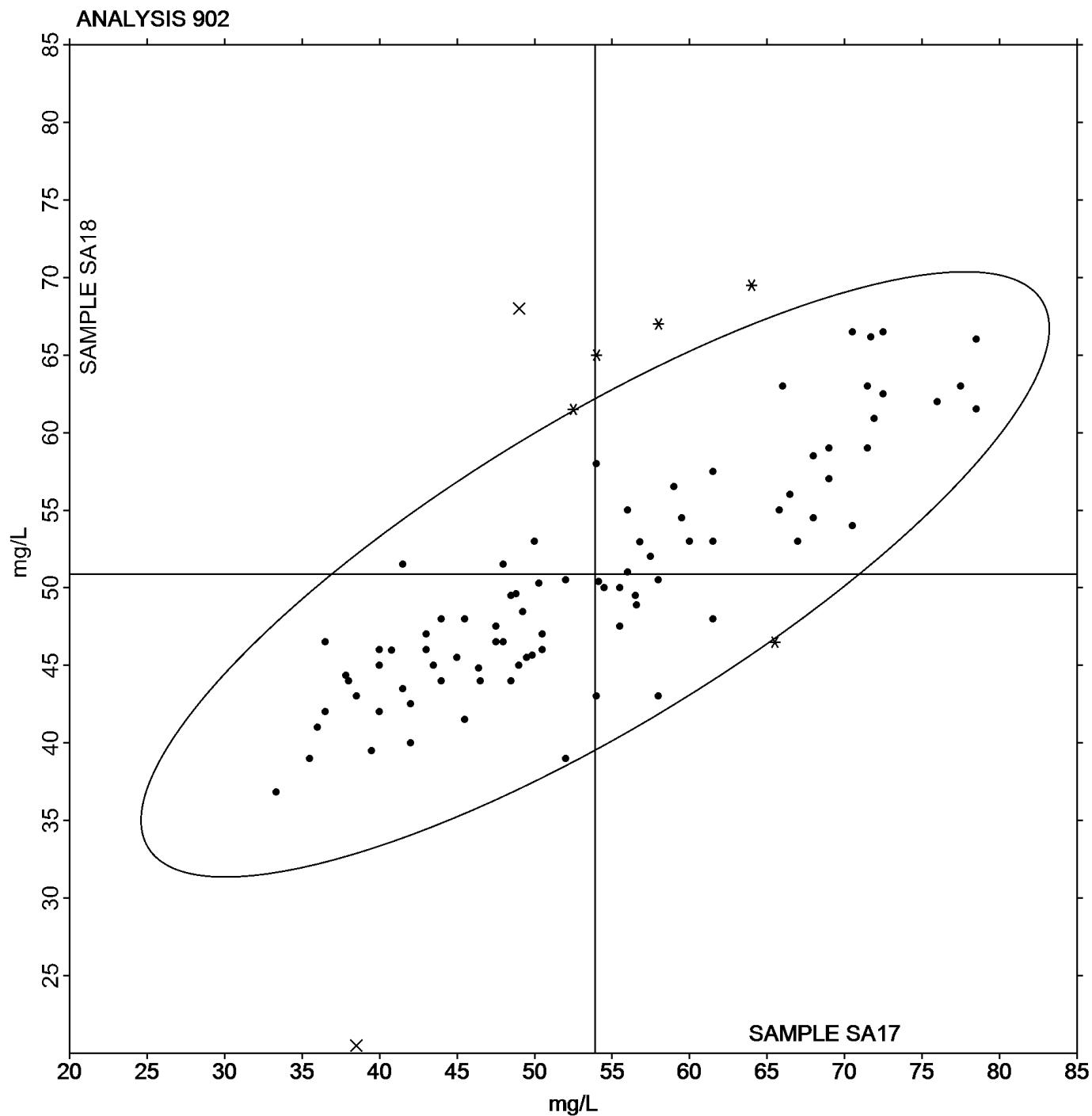
WebCode	Data Flag	Sample SA17 Lab Mean	Sample SA17 Diff from Grand Mean	Sample SA17 CPV	Sample SA18 Lab Mean	Sample SA18 Diff from Grand Mean	Sample SA18 CPV
24Z2U4		10.50	-0.27	-0.11	22.50	-0.64	-0.23
279A4N		12.00	1.23	0.52	25.00	1.86	0.65
3NMVGJ		9.50	-1.27	-0.53	22.00	-1.14	-0.40
3PXNFR		15.00	4.23	1.78	27.50	4.36	1.53
3QU23K		13.50	2.73	1.15	24.00	0.86	0.30
4ZWQC9	X	19.20	8.43	3.55	27.10	3.96	1.39
648D9B		9.00	-1.77	-0.75	21.50	-1.64	-0.58
67XGZW		7.50	-3.27	-1.38	20.00	-3.14	-1.10
6NWG7B		11.00	0.23	0.10	23.00	-0.14	-0.05
78HT7F		10.50	-0.27	-0.11	20.50	-2.64	-0.93
7X3WBA	*	7.50	-3.27	-1.38	25.50	2.36	0.83
83AMDF	*	5.00	-5.77	-2.43	15.00	-8.14	-2.86
8APDTF		9.50	-1.27	-0.53	21.50	-1.64	-0.58
8D46K9		11.50	0.73	0.31	24.00	0.86	0.30
8VQNEV		15.00	4.23	1.78	24.50	1.36	0.48
9JA27U	*	16.50	5.73	2.41	31.50	8.36	2.94
9XDF9C		9.00	-1.77	-0.75	21.00	-2.14	-0.75
A8ARXB		11.00	0.23	0.10	23.50	0.36	0.13
AHC8LV		10.80	0.03	0.01	22.00	-1.14	-0.40
AWVNVL		8.10	-2.67	-1.12	24.15	1.01	0.35
BJ6EM8		12.50	1.73	0.73	23.50	0.36	0.13
BQQANB		9.50	-1.27	-0.53	25.50	2.36	0.83
BX7UP2		8.50	-2.27	-0.96	23.00	-0.14	-0.05
C39MW3		11.00	0.23	0.10	21.00	-2.14	-0.75
C9ZRP7		11.40	0.63	0.27	26.85	3.71	1.30
CGRB7Z		10.00	-0.77	-0.32	22.00	-1.14	-0.40
CMK7EZ	*	10.50	-0.27	-0.11	17.50	-5.64	-1.98
CNUBP3		16.50	5.73	2.41	29.00	5.86	2.06
CUJPEA		11.50	0.73	0.31	26.50	3.36	1.18
DBJ3MB		9.00	-1.77	-0.75	21.00	-2.14	-0.75
DK8Z8P		7.00	-3.77	-1.59	21.00	-2.14	-0.75
DRPBJ6	X	18.93	8.16	3.44	29.10	5.96	2.09
E8GQXN		12.90	2.13	0.90	21.40	-1.74	-0.61
E9C224		11.00	0.23	0.10	23.00	-0.14	-0.05
EEGAXY		6.64	-4.13	-1.74	19.76	-3.38	-1.19
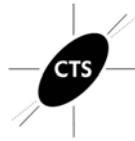
WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EG6GNM		9.00	-1.77	-0.75	21.00	-2.14	-0.75
EZG9KX		13.00	2.23	0.94	25.00	1.86	0.65
FBDPRD		10.50	-0.27	-0.11	23.50	0.36	0.13
FNLBHX		14.98	4.21	1.77	27.82	4.68	1.64
FWDNEC		10.50	-0.27	-0.11	24.00	0.86	0.30
G26CDV		11.00	0.23	0.10	25.00	1.86	0.65
GBRHY2		12.00	1.23	0.52	25.00	1.86	0.65
GQ9992		13.00	2.23	0.94	24.50	1.36	0.48
GT9GDC		15.50	4.73	1.99	27.00	3.86	1.36
JAQ6UK		14.50	3.73	1.57	27.50	4.36	1.53
JFYJJV		9.25	-1.52	-0.64	20.50	-2.64	-0.93
JMX9ZZ		9.60	-1.17	-0.49	22.85	-0.29	-0.10
K34YAH		12.00	1.23	0.52	27.00	3.86	1.36
KJVPDR		12.00	1.23	0.52	27.50	4.36	1.53
KUALGB	X	29.50	18.73	7.89	31.50	8.36	2.94
L9MCU3		12.50	1.73	0.73	26.50	3.36	1.18
LK4Y44		11.00	0.23	0.10	23.00	-0.14	-0.05
LLBKBG	*	16.00	5.23	2.20	24.50	1.36	0.48
LWVQQT		12.80	2.03	0.86	24.00	0.86	0.30
MAXM4R	X	20.00	9.23	3.89	25.00	1.86	0.65
MH86J6		10.00	-0.77	-0.32	21.50	-1.64	-0.58
MKY4X3		9.00	-1.77	-0.75	24.00	0.86	0.30
MU2L97		11.50	0.73	0.31	24.00	0.86	0.30
MVVAR2		10.00	-0.77	-0.32	21.00	-2.14	-0.75
N3R9XG		11.85	1.08	0.46	21.60	-1.54	-0.54
NU3KZT		11.20	0.43	0.18	24.15	1.01	0.35
NUKPHR		11.50	0.73	0.31	25.00	1.86	0.65
QANZZV		12.00	1.23	0.52	21.50	-1.64	-0.58
QHEL7T		12.00	1.23	0.52	23.00	-0.14	-0.05
QQVWJU		8.00	-2.77	-1.17	21.00	-2.14	-0.75
QUTKRN		11.50	0.73	0.31	21.00	-2.14	-0.75
R3HLUK		9.50	-1.27	-0.53	22.00	-1.14	-0.40
RVGJJR		15.00	4.23	1.78	29.00	5.86	2.06
T48E6T		11.20	0.43	0.18	21.60	-1.54	-0.54
TCMVYN		10.00	-0.77	-0.32	20.50	-2.64	-0.93

| | | Sample SA17 | | | Sample SA18 | | |
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
U7AGLH	X	10.00	-0.77	-0.32	16.00	-7.14	-2.51
UBLHP2	*	9.25	-1.52	-0.64	26.60	3.46	1.21
UCHVCT		6.24	-4.53	-1.91	17.52	-5.62	-1.97
UUKKKJ		9.50	-1.27	-0.53	21.50	-1.64	-0.58
UVTUCG		9.50	-1.27	-0.53	24.00	0.86	0.30
V3BHVP		13.50	2.73	1.15	27.50	4.36	1.53
V6X2RG		9.00	-1.77	-0.75	21.00	-2.14	-0.75
VE2ENB		9.25	-1.52	-0.64	23.50	0.36	0.13
VME7E9		9.00	-1.77	-0.75	19.00	-4.14	-1.45
VWJBAV		10.50	-0.27	-0.11	23.00	-0.14	-0.05
W34Z2J	*	5.00	-5.77	-2.43	15.50	-7.64	-2.68
X2QJQQ		7.50	-3.27	-1.38	22.50	-0.64	-0.23
X32HMK		10.40	-0.37	-0.16	22.00	-1.14	-0.40
XDJ7DD		10.50	-0.27	-0.11	24.00	0.86	0.30
XJACGF		11.00	0.23	0.10	23.00	-0.14	-0.05
XVXLV9		9.85	-0.92	-0.39	22.15	-0.99	-0.35
XZU64X	X	16.50	5.73	2.41	23.50	0.36	0.13
Y6JYFP		11.00	0.23	0.10	23.00	-0.14	-0.05
Y7WJGM		10.50	-0.27	-0.11	21.00	-2.14	-0.75
ZAXWLR		11.00	0.23	0.10	23.00	-0.14	-0.05
ZGAZNK		12.10	1.33	0.56	23.31	0.16	0.06
ZKPTED		7.00	-3.77	-1.59	19.00	-4.14	-1.45
ZNC3WQ		9.50	-1.27	-0.53	22.00	-1.14	-0.40
ZTMHVG		12.90	2.13	0.90	25.70	2.56	0.90

Summary Statistics

Grand Means
10.769 mg/L   23.142 mg/L

Stnd Dev Btwn Labs
2.375 mg/L   2.847 mg/L

Statistics based on 88 of 94 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #903

XZU64X (X) - Inconsistent in testing between samples.

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

DRPBJ6 (X) - Data for sample SA17 are high.

MAXM4R (X) - Data for sample SA17 are high.

4ZWQC9 (X) - Data for sample SA17 are high.

U7AGLH (X) - Inconsistent in testing between samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec*			Sample SA18 *Merlot*			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	11.117	1.402	0.35	24.367	2.967	1.23	3/4
Ripper Method	12.565	2.465	1.80	24.838	2.933	1.70	24/26
Aeration Oxidation (AO) Method	10.645	1.933	-0.12	22.371	2.453	-0.77	35/37
Segmented Flow Analyzer	9.208	1.235	-1.56	24.683	2.161	1.54	6/7
Enzymatic Method	12.500	0.000	1.73	26.500	0.000	3.36	1/1
Colormetric Analyzer	8.333	1.538	-2.44	22.083	2.245	-1.06	6/6
Flow Injection Analysis	8.843	2.103	-1.93	20.741	2.654	-2.40	9/9
FTIR	10.725	0.320	-0.04	22.625	0.479	-0.52	4/4

ANALYSIS 903
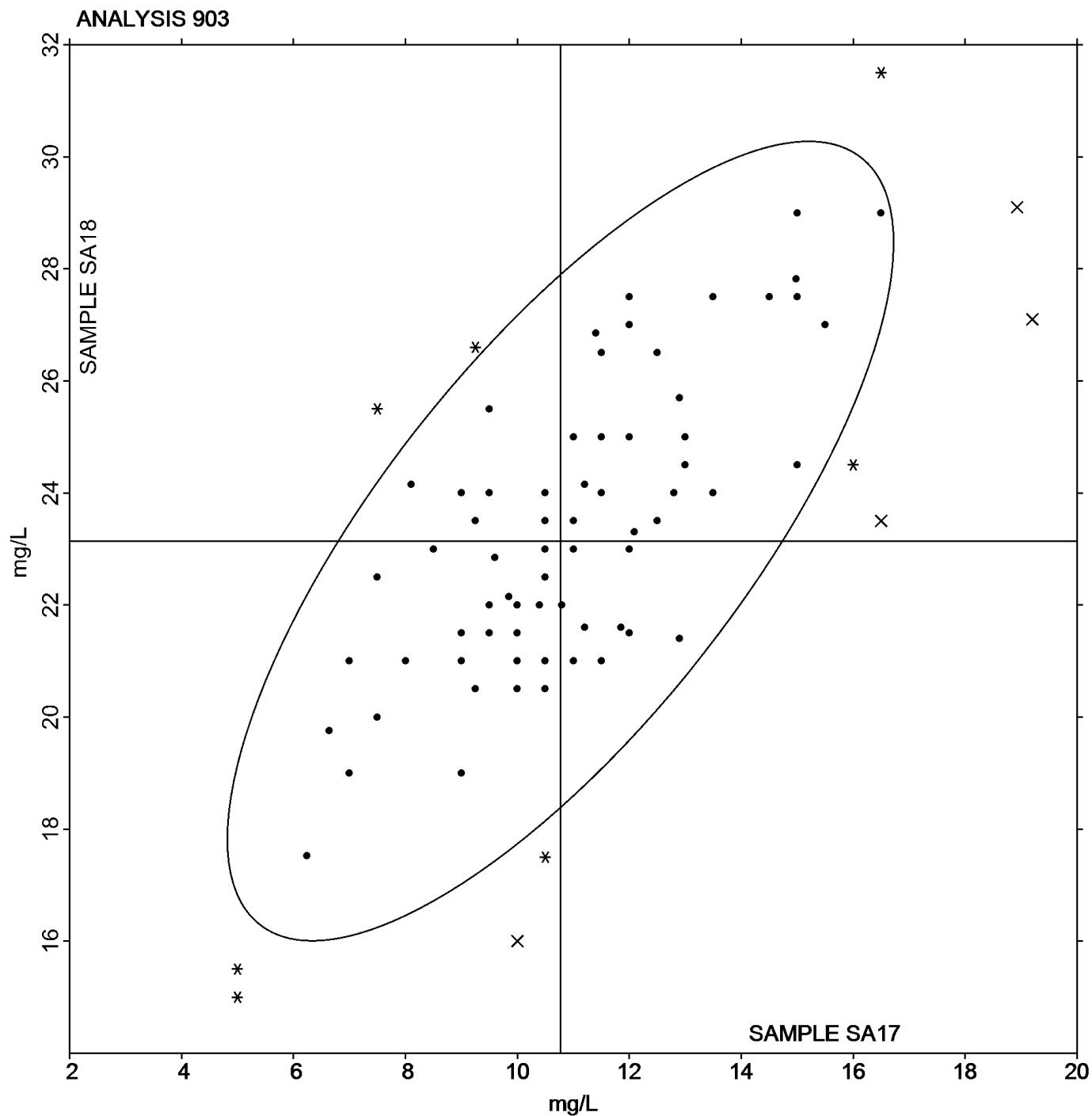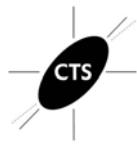
SAMPLE SA18

mg/L

SAMPLE SA17

mg/L

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		5.600	-0.121	-1.03	5.700	-0.171	-1.48
279A4N		5.970	0.249	2.12	6.080	0.209	1.81
3NMVGJ		5.600	-0.121	-1.03	5.800	-0.071	-0.62
3PXNFR		5.770	0.049	0.42	5.915	0.044	0.38
3QU23K		5.695	-0.026	-0.22	5.870	-0.001	-0.01
4ZWQC9	*	6.030	0.309	2.63	6.085	0.214	1.85
648D9B		5.800	0.079	0.67	6.015	0.144	1.25
67XGZW		5.510	-0.211	-1.79	5.620	-0.251	-2.18
6NWG7B		5.645	-0.076	-0.64	5.760	-0.111	-0.96
78HT7F	X	5.265	-0.456	-3.87	5.340	-0.531	-4.60
7X3WBA		5.750	0.029	0.25	5.850	-0.021	-0.18
83AMDF		5.850	0.129	1.10	5.850	-0.021	-0.18
8APDTF		5.825	0.104	0.89	5.940	0.069	0.60
8D46K9		5.815	0.094	0.80	6.040	0.169	1.46
8VQNEV		5.750	0.029	0.25	5.950	0.079	0.68
9JA27U		5.900	0.179	1.52	5.900	0.029	0.25
9XDF9C		5.900	0.179	1.52	6.000	0.129	1.12
A8ARXB		5.675	-0.046	-0.39	5.890	0.019	0.16
AHC8LV		5.550	-0.171	-1.45	5.738	-0.134	-1.16
AWVNVL	X	5.200	-0.521	-4.42	5.300	-0.571	-4.95
BJ6EM8		5.600	-0.121	-1.03	5.800	-0.071	-0.62
BQQANB		5.700	-0.021	-0.18	5.950	0.079	0.68
BX7UP2		5.850	0.129	1.10	6.100	0.229	1.98
C39MW3		5.850	0.129	1.10	5.850	-0.021	-0.18
C9ZRP7		5.700	-0.021	-0.18	5.800	-0.071	-0.62
CGRB7Z		5.800	0.079	0.67	6.000	0.129	1.12
CMK7EZ	X	6.640	0.919	7.81	6.620	0.749	6.49
CNUBP3		5.685	-0.036	-0.30	5.940	0.069	0.60
CUJPEA		5.685	-0.036	-0.30	5.890	0.019	0.16
D4L8PD		5.600	-0.121	-1.03	5.700	-0.171	-1.48
DBJ3MB	X	5.800	0.079	0.67	5.700	-0.171	-1.48
DK8Z8P		5.700	-0.021	-0.18	5.900	0.029	0.25
DRPBJ6		5.695	-0.026	-0.22	5.850	-0.021	-0.18
E8GQXN		5.880	0.159	1.35	6.000	0.129	1.12
E9C224		5.725	0.004	0.04	5.955	0.084	0.73

| WebCode | Data Flag | Sample SA17 | | | Sample SA18 | | |
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EEGAXY	X	5.885	0.164	1.40	5.640	-0.231	-2.00
EG6GNM		5.700	-0.021	-0.18	5.800	-0.071	-0.62
ENZJK8	X	5.600	-0.121	-1.03	5.200	-0.671	-5.81
ETL4XN		5.892	0.171	1.45	6.130	0.259	2.24
EZG9KX	X	5.850	0.129	1.10	6.200	0.329	2.85
FBDPRD		5.600	-0.121	-1.03	5.850	-0.021	-0.18
FNLBHX		5.625	-0.096	-0.81	5.700	-0.171	-1.48
FWDNEC	X	5.520	-0.201	-1.71	5.380	-0.491	-4.26
G26CDV		5.850	0.129	1.10	5.950	0.079	0.68
GBRHY2		5.835	0.114	0.97	6.050	0.179	1.55
GQ9992		5.685	-0.036	-0.30	5.860	-0.011	-0.10
GT9GDC		5.740	0.019	0.16	5.800	-0.071	-0.62
JAQ6UK		5.800	0.079	0.67	5.925	0.054	0.47
JFYJJV		5.600	-0.121	-1.03	5.800	-0.071	-0.62
JH3GQH		5.675	-0.046	-0.39	5.790	-0.081	-0.70
JMX9ZZ		5.760	0.039	0.33	5.930	0.059	0.51
K34YAH	X	6.250	0.529	4.50	6.350	0.479	4.15
KUALGB	*	6.060	0.339	2.88	6.070	0.199	1.72
L8UNC8		5.750	0.029	0.25	5.950	0.079	0.68
L9MCU3		5.550	-0.171	-1.45	5.855	-0.016	-0.14
LK4Y44		5.650	-0.071	-0.60	5.815	-0.056	-0.49
LLBKBG		5.900	0.179	1.52	6.100	0.229	1.98
LWVQQT		5.600	-0.121	-1.03	5.750	-0.121	-1.05
MAXM4R		5.750	0.029	0.25	6.005	0.134	1.16
MH86J6		5.600	-0.121	-1.03	5.800	-0.071	-0.62
MKY4X3		5.650	-0.071	-0.60	5.800	-0.071	-0.62
MU2L97		5.900	0.179	1.52	5.900	0.029	0.25
MVVAR2		5.725	0.004	0.04	5.800	-0.071	-0.62
N3R9XG		5.881	0.160	1.36	6.006	0.135	1.17
NU3KZT		5.680	-0.041	-0.35	5.855	-0.016	-0.14
NUKPHR		5.685	-0.036	-0.30	5.885	0.014	0.12
QANZZV		5.600	-0.121	-1.03	5.900	0.029	0.25
QHEL7T	*	5.550	-0.171	-1.45	5.590	-0.281	-2.44
QQVWJU		5.900	0.179	1.52	6.100	0.229	1.98
QUTKRN	X	5.350	-0.371	-3.15	5.950	0.079	0.68

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R3HLUK		5.600	-0.121	-1.03	5.750	-0.121	-1.05
RVGJJR		5.645	-0.076	-0.64	5.805	-0.066	-0.57
T48E6T		5.580	-0.141	-1.20	5.765	-0.106	-0.92
TCMVYN		5.750	0.029	0.25	5.850	-0.021	-0.18
U7AGLH		5.645	-0.076	-0.64	5.760	-0.111	-0.96
UBLHP2		5.720	-0.001	-0.01	5.860	-0.011	-0.10
UCHVCT		5.750	0.029	0.25	5.850	-0.021	-0.18
UUKKKJ		5.690	-0.031	-0.26	5.800	-0.071	-0.62
UVTUCG		5.700	-0.021	-0.18	5.805	-0.066	-0.57
V3BHVP		5.665	-0.056	-0.47	5.780	-0.091	-0.79
V6X2RG		5.800	0.079	0.67	5.800	-0.071	-0.62
VE2ENB		5.600	-0.121	-1.03	5.850	-0.021	-0.18
VME7E9		5.800	0.079	0.67	5.900	0.029	0.25
VWJBAV		5.600	-0.121	-1.03	5.800	-0.071	-0.62
W34Z2J		5.660	-0.061	-0.52	5.845	-0.026	-0.23
X2QJQQ		5.620	-0.101	-0.86	5.800	-0.071	-0.62
X32HMK		5.550	-0.171	-1.45	5.600	-0.271	-2.35
XDJ7DD		5.670	-0.051	-0.43	5.910	0.039	0.34
XJACGF	X	6.090	0.369	3.14	6.290	0.419	3.63
XVXLV9		5.730	0.009	0.08	6.000	0.129	1.12
XZU64X	X	6.825	1.104	9.38	6.985	1.114	9.65
Y6JYFP		5.880	0.159	1.35	5.940	0.069	0.60
Y7WJGM		5.800	0.079	0.67	5.900	0.029	0.25
ZAXWLR		5.580	-0.141	-1.20	5.800	-0.071	-0.62
ZGAZNK		5.680	-0.041	-0.35	5.865	-0.006	-0.05
ZKPTED		5.550	-0.171	-1.45	5.710	-0.161	-1.40
ZNC3WQ		5.700	-0.021	-0.18	5.800	-0.071	-0.62
ZTMHVG	X	5.440	-0.281	-2.38	6.375	0.504	4.37

Summary Statistics

Grand Means

      5.7207 g/L as tartaric acid   5.8712 g/L as tartaric acid

Stnd Dev Btwn Labs

      0.1177 g/L as tartaric acid   0.1154 g/L as tartaric acid

Statistics based on 85 of 98 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #904

DBJ3MB (X) - Inconsistent in testing between samples.

XZU64X (X) - Data for both samples are high.

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

FWDNEC (X) - Data for sample SA18 are low.

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

CMK7EZ (X) - Data for both samples are high. Possible Systematic Error.

QUTKRN (X) - Inconsistent in Testing. Data for sample SA17 are low.

EEGAXY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA18.

78HT7F (X) - Data for both samples are low. Possible Systematic Error.

ENZJK8 (X) - Inconsistent in Testing. Data for sample SA18 are low.

ZTMHVG (X) - Inconsistent in Testing. Data for sample SA18 are high.

K34YAH (X) - Data for both samples are high. Possible Systematic Error.

EZG9KX (X) - Inconsistent in Testing. Data for sample SA18 are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec*			Sample SA18 *Merlot*			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Autotitration	5.705	0.103	-0.015	5.868	0.108	-0.003	60/63
Manual Titration	5.752	0.146	0.032	5.880	0.134	0.009	20/27
FTIR	5.780	0.146	0.059	5.874	0.144	0.003	5/7
Segmented Flow Analyzer							0/1

ASEV-CTS Wine Industry Interlaboratory Testing Program   **Report #059**
Analysis 904
Titratable Acidity
   Summer 2018

ANALYSIS 904

SAMPLE SA18

g/L as tartaric acid

SAMPLE SA17

g/L as tartaric acid

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		0.5800	0.0231	0.38	0.5100	0.0239	0.47
279A4N	X	0.5250	-0.0319	-0.52	0.3700	-0.1161	-2.28
3NMVGJ		0.5200	-0.0369	-0.60	0.5000	0.0139	0.27
3PXNFR		0.5150	-0.0419	-0.68	0.4400	-0.0461	-0.90
3QU23K	X	0.5900	0.0331	0.54	0.6000	0.1139	2.24
4ZWQC9		0.5700	0.0131	0.21	0.5100	0.0239	0.47
67XGZW		0.5750	0.0181	0.29	0.4850	-0.0011	-0.02
6NWG7B		0.5700	0.0131	0.21	0.4800	-0.0061	-0.12
78HT7F		0.4450	-0.1119	-1.82	0.4200	-0.0661	-1.30
7X3WBA		0.5200	-0.0369	-0.60	0.4500	-0.0361	-0.71
83AMDF		0.6400	0.0831	1.35	0.5100	0.0239	0.47
8APDTF		0.5550	-0.0019	-0.03	0.5050	0.0189	0.37
8D46K9		0.5250	-0.0319	-0.52	0.4600	-0.0261	-0.51
8VQNEV		0.4900	-0.0669	-1.09	0.4300	-0.0561	-1.10
9JA27U		0.4800	-0.0769	-1.25	0.4600	-0.0261	-0.51
9XDF9C		0.6400	0.0831	1.35	0.5800	0.0939	1.84
A8ARXB		0.6200	0.0631	1.03	0.5300	0.0439	0.86
AHC8LV	*	0.4400	-0.1169	-1.90	0.4450	-0.0411	-0.81
AWVNVL		0.5450	-0.0119	-0.19	0.4800	-0.0061	-0.12
BJ6EM8		0.5900	0.0331	0.54	0.5200	0.0339	0.67
BQQANB		0.5600	0.0031	0.05	0.4900	0.0039	0.08
BX7UP2		0.5700	0.0131	0.21	0.5150	0.0289	0.57
C39MW3		0.5250	-0.0319	-0.52	0.4600	-0.0261	-0.51
C9ZRP7		0.6450	0.0881	1.43	0.5900	0.1039	2.04
CGRB7Z		0.4900	-0.0669	-1.09	0.4200	-0.0661	-1.30
CMK7EZ	X	0.6550	0.0981	1.59	0.4900	0.0039	0.08
CNUBP3		0.5100	-0.0469	-0.76	0.4500	-0.0361	-0.71
CUJPEA		0.5700	0.0131	0.21	0.4800	-0.0061	-0.12
D4L8PD		0.6050	0.0481	0.78	0.5000	0.0139	0.27
DBJ3MB		0.5700	0.0131	0.21	0.4900	0.0039	0.08
DK8Z8P		0.5800	0.0231	0.38	0.4750	-0.0111	-0.22
DRPBJ6		0.5700	0.0131	0.21	0.4900	0.0039	0.08
E8GQXN		0.4920	-0.0649	-1.05	0.4380	-0.0481	-0.94
E9C224		0.5705	0.0136	0.22	0.4830	-0.0031	-0.06
EEGAXY		0.5450	-0.0119	-0.19	0.4900	0.0039	0.08
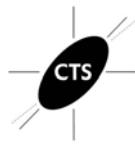
Analysis 905
Volatile Acidity

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EG6GNM		0.5700	0.0131	0.21	0.4900	0.0039	0.08
EZG9KX	*	0.4600	-0.0969	-1.57	0.3650	-0.1211	-2.38
FBDPRD		0.6100	0.0531	0.86	0.5400	0.0539	1.06
FNLBHX		0.5760	0.0191	0.31	0.5040	0.0179	0.35
FWDNEC		0.5800	0.0231	0.38	0.4800	-0.0061	-0.12
G26CDV		0.6450	0.0881	1.43	0.5600	0.0739	1.45
GBRHY2		0.6000	0.0431	0.70	0.5050	0.0189	0.37
GQ9992		0.4750	-0.0819	-1.33	0.4600	-0.0261	-0.51
GT9GDC		0.5300	-0.0269	-0.44	0.4550	-0.0311	-0.61
JAQ6UK		0.4950	-0.0619	-1.01	0.4050	-0.0811	-1.59
JFYJJV		0.4800	-0.0769	-1.25	0.4000	-0.0861	-1.69
JH3GQH		0.5750	0.0181	0.29	0.4900	0.0039	0.08
JMX9ZZ		0.5340	-0.0229	-0.37	0.4610	-0.0251	-0.49
K34YAH		0.4900	-0.0669	-1.09	0.4250	-0.0611	-1.20
KJVPDR		0.5400	-0.0169	-0.27	0.4750	-0.0111	-0.22
KUALGB	X	0.4750	-0.0819	-1.33	0.5050	0.0189	0.37
L9MCU3		0.6300	0.0731	1.19	0.5300	0.0439	0.86
LK4Y44		0.5750	0.0181	0.29	0.4800	-0.0061	-0.12
LLBKBG	X	0.3400	-0.2169	-3.52	0.3700	-0.1161	-2.28
MAXM4R		0.5750	0.0181	0.29	0.4950	0.0089	0.18
MH86J6		0.5600	0.0031	0.05	0.4800	-0.0061	-0.12
MKY4X3		0.6650	0.1081	1.76	0.5800	0.0939	1.84
MU2L97		0.5950	0.0381	0.62	0.5100	0.0239	0.47
MVVAR2		0.6390	0.0821	1.33	0.5435	0.0574	1.13
N3R9XG		0.5600	0.0031	0.05	0.5250	0.0389	0.76
NU3KZT		0.6450	0.0881	1.43	0.5900	0.1039	2.04
NUKPHR		0.5550	-0.0019	-0.03	0.4950	0.0089	0.18
QANZZV		0.5450	-0.0119	-0.19	0.4650	-0.0211	-0.41
QHEL7T	X	0.5950	0.0381	0.62	0.6000	0.1139	2.24
QQVWJU		0.5550	-0.0019	-0.03	0.4950	0.0089	0.18
QUTKRN		0.6700	0.1131	1.84	0.5450	0.0589	1.16
R3HLUK		0.6200	0.0631	1.03	0.5700	0.0839	1.65
RVGJJR		0.4700	-0.0869	-1.41	0.3950	-0.0911	-1.79
T48E6T		0.4980	-0.0589	-0.96	0.4500	-0.0361	-0.71
TCMVYN		0.4750	-0.0819	-1.33	0.4400	-0.0461	-0.90

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
U7AGLH		0.5600	0.0031	0.05	0.4700	-0.0161	-0.32
UBLHP2		0.5300	-0.0269	-0.44	0.5100	0.0239	0.47
UCHVCT	*	0.7350	0.1781	2.89	0.6150	0.1289	2.53
UUKKKJ		0.4450	-0.1119	-1.82	0.4000	-0.0861	-1.69
UVTUCG		0.5350	-0.0219	-0.36	0.4750	-0.0111	-0.22
V3BHVP		0.5400	-0.0169	-0.27	0.4750	-0.0111	-0.22
V6X2RG		0.6400	0.0831	1.35	0.5450	0.0589	1.16
VE2ENB		0.4558	-0.1011	-1.64	0.3992	-0.0869	-1.70
VME7E9		0.5200	-0.0369	-0.60	0.4650	-0.0211	-0.41
VWJBAV		0.4850	-0.0719	-1.17	0.3900	-0.0961	-1.88
W34Z2J		0.4950	-0.0619	-1.01	0.4750	-0.0111	-0.22
X2QJQQ		0.5100	-0.0469	-0.76	0.4480	-0.0381	-0.75
X32HMK	X	0.5350	-0.0219	-0.36	0.5500	0.0639	1.25
XDJ7DD		0.5450	-0.0119	-0.19	0.4800	-0.0061	-0.12
XJACGF		0.6050	0.0481	0.78	0.5200	0.0339	0.67
XVXLV9		0.6100	0.0531	0.86	0.5550	0.0689	1.35
XZU64X	*	0.7125	0.1556	2.53	0.5700	0.0839	1.65
Y6JYFP		0.6050	0.0481	0.78	0.5400	0.0539	1.06
Y7WJGM		0.5000	-0.0569	-0.92	0.4200	-0.0661	-1.30
ZAXWLR		0.5900	0.0331	0.54	0.5250	0.0389	0.76
ZGAZNK		0.4850	-0.0719	-1.17	0.4200	-0.0661	-1.30
ZKPTED		0.6300	0.0731	1.19	0.5500	0.0639	1.25
ZNC3WQ		0.5450	-0.0119	-0.19	0.4650	-0.0211	-0.41

Summary Statistics

Grand Means

0.55689 g/L as acetic acid   0.48607 g/L as acetic acid

Stnd Dev Btwn Labs

0.06156 g/L as acetic acid   0.05097 g/L as acetic acid

Statistics based on 86 of 93 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #905

279A4N (X) - Inconsistent in testing between samples.

3QU23K (X) - Inconsistent in testing between samples.

KUALGB (X) - Inconsistent in testing between samples.

CMK7EZ (X) - Inconsistent in testing between samples.

QHEL7T (X) - Inconsistent in testing between samples.

X32HMK (X) - Inconsistent in testing between samples.

LLBKBG (X) - Data for sample SA17 are low.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec*			Sample SA18 *Merlot*			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	0.570	0.000	0.0131	0.510	0.000	0.0239	1/1
Cash Still method	0.588	0.065	0.0307	0.510	0.048	0.0242	16/20
Enzymatic method	0.535	0.054	-0.0216	0.469	0.046	-0.0175	54/55
HPLC	0.571	0.000	0.0136	0.483	0.000	-0.0031	1/1
GC	0.576	0.000	0.0191	0.504	0.000	0.0179	1/2
Colorimetric Analysis	0.575	0.007	0.0181	0.495	0.028	0.0089	2/2
Seg. Flow / Colorimetric Analyzer	0.581	0.056	0.0244	0.511	0.046	0.0252	4/4
FTIR	0.628	0.054	0.0710	0.543	0.048	0.0568	7/8
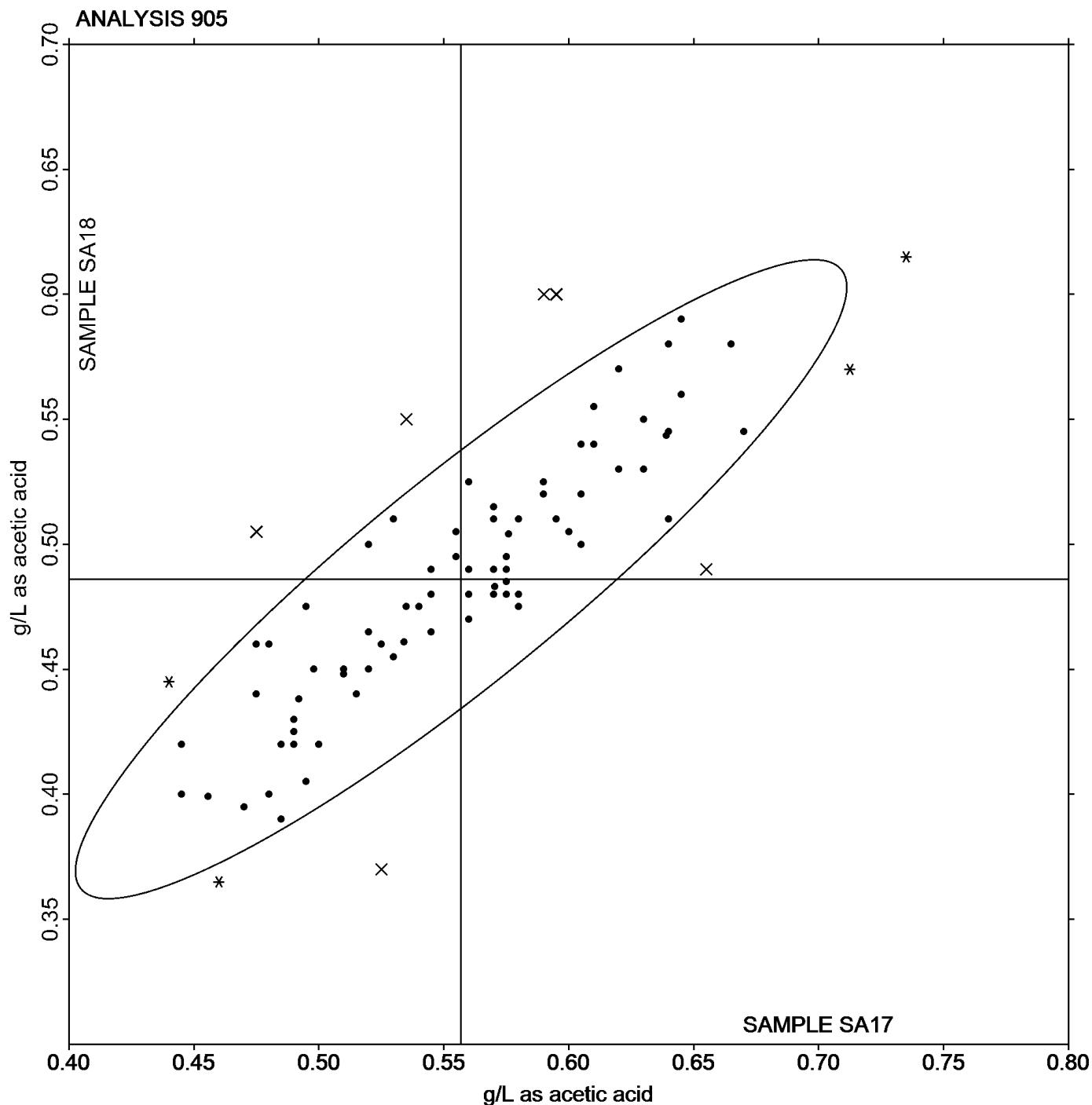
ANALYSIS 905

SAMPLE SA18

g/L as acetic acid

SAMPLE SA17

g/L as acetic acid

| WebCode | Data Flag | Sample SA17 | | | Sample SA18 | | |
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		0.9954	-0.0004	-0.65	0.9957	-0.0004	-0.68
279A4N		0.9957	-0.0001	-0.10	0.9960	-0.0001	-0.12
3NMVGJ		0.9957	-0.0001	-0.23	0.9957	-0.0004	-0.60
3PXNFR		0.9958	0.0000	-0.07	0.9960	-0.0001	-0.10
3QU23K		0.9957	-0.0001	-0.16	0.9962	0.0001	0.17
648D9B		0.9940	-0.0018	-3.06	0.9942	-0.0018	-3.05
67XGZW		0.9957	-0.0001	-0.15	0.9960	-0.0001	-0.10
6NWG7B		0.9970	0.0012	2.02	0.9973	0.0012	2.06
78HT7F		0.9958	0.0000	0.02	0.9961	0.0000	0.07
7X3WBA	*	0.9939	-0.0019	-3.16	0.9943	-0.0018	-3.01
8APDTF		0.9958	0.0000	0.02	0.9961	0.0000	0.07
8D46K9		0.9955	-0.0003	-0.48	0.9954	-0.0007	-1.10
8VQNEV		0.9957	0.0000	-0.07	0.9960	-0.0001	-0.09
9JA27U	X	0.9958	0.0000	-0.04	0.9966	0.0005	0.87
9XDF9C		0.9958	0.0000	-0.07	0.9960	0.0000	-0.05
A8ARXB		0.9954	-0.0004	-0.65	0.9957	-0.0004	-0.60
AHC8LV		0.9954	-0.0004	-0.73	0.9956	-0.0005	-0.77
AWVNVL		0.9957	-0.0001	-0.09	0.9960	-0.0001	-0.13
BJ6EM8	X	0.9946	-0.0012	-2.01	0.9944	-0.0017	-2.78
BQQANB		0.9958	0.0001	0.08	0.9961	0.0000	0.05
BX7UP2	X	0.9970	0.0012	1.94	0.9985	0.0024	4.05
C39MW3		0.9958	0.0000	0.00	0.9959	-0.0002	-0.28
C9ZRP7		0.9960	0.0002	0.27	0.9961	0.0000	-0.02
CGRB7Z		0.9966	0.0008	1.36	0.9968	0.0007	1.23
CMK7EZ	*	0.9958	0.0000	0.04	0.9966	0.0005	0.82
D4L8PD		0.9957	-0.0001	-0.09	0.9960	-0.0001	-0.09
DBJ3MB		0.9958	0.0000	0.02	0.9961	0.0000	-0.02
DK8Z8P	*	0.9972	0.0015	2.43	0.9978	0.0017	2.88
E8GQXN		0.9965	0.0008	1.26	0.9969	0.0009	1.45
E9C224		0.9958	0.0000	0.01	0.9961	0.0000	-0.02
EG6GNM		0.9957	0.0000	-0.08	0.9960	-0.0001	-0.13
ETL4XN		0.9958	0.0000	-0.06	0.9960	0.0000	-0.06
EZG9KX		0.9961	0.0003	0.53	0.9966	0.0005	0.85
FBDPRD		0.9957	0.0000	-0.07	0.9960	-0.0001	-0.10
FNLBHX	*	0.9940	-0.0018	-2.99	0.9945	-0.0016	-2.59

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FWDNEC		0.9956	-0.0002	-0.32	0.9961	0.0000	0.07
G26CDV	X	0.9958	0.0000	0.03	0.9948	-0.0013	-2.09
GBRHY2		0.9941	-0.0017	-2.91	0.9942	-0.0019	-3.09
GQ9992		0.9957	-0.0001	-0.15	0.9959	-0.0002	-0.27
JAQ6UK		0.9958	0.0000	0.02	0.9960	-0.0001	-0.10
JFYJJV		0.9973	0.0015	2.53	0.9976	0.0015	2.56
JH3GQH		0.9960	0.0002	0.27	0.9961	0.0000	0.07
JMX9ZZ	X	0.9570	-0.0388	-64.85	0.9590	-0.0371	-61.56
K34YAH		0.9959	0.0001	0.11	0.9962	0.0001	0.18
KJVPDR		0.9958	0.0000	-0.07	0.9960	-0.0001	-0.08
KUALGB		0.9958	0.0000	0.04	0.9962	0.0001	0.19
L8UNC8		0.9957	-0.0001	-0.10	0.9960	-0.0001	-0.13
L9MCU3		0.9958	0.0000	0.02	0.9962	0.0001	0.15
LK4Y44		0.9959	0.0001	0.12	0.9960	0.0000	-0.04
LLBKBG		0.9957	0.0000	-0.08	0.9960	0.0000	-0.07
LWVQQT		0.9957	-0.0001	-0.15	0.9960	-0.0001	-0.10
MH86J6		0.9957	0.0000	-0.08	0.9960	-0.0001	-0.08
MKY4X3		0.9958	0.0000	-0.02	0.9961	0.0000	-0.02
MU2L97		0.9956	-0.0002	-0.32	0.9958	-0.0003	-0.43
MVVAR2		0.9958	0.0000	-0.05	0.9961	0.0000	0.05
N3R9XG		0.9958	0.0000	0.02	0.9960	0.0000	-0.05
NU3KZT		0.9962	0.0004	0.60	0.9965	0.0004	0.65
NUKPHR		0.9961	0.0003	0.52	0.9964	0.0003	0.56
QQVWJU		0.9959	0.0001	0.18	0.9961	0.0000	0.07
QUTKRN		0.9964	0.0006	1.06	0.9967	0.0007	1.10
R3HLUK		0.9958	0.0000	-0.06	0.9960	0.0000	-0.06
RVGJJR		0.9962	0.0004	0.69	0.9967	0.0006	0.98
T48E6T		0.9959	0.0001	0.18	0.9961	0.0000	0.07
U7AGLH		0.9957	-0.0001	-0.11	0.9963	0.0003	0.42
UBLHP2		0.9957	-0.0001	-0.23	0.9959	-0.0002	-0.35
UUKKKJ		0.9960	0.0002	0.35	0.9960	-0.0001	-0.10
UVTUCG		0.9959	0.0001	0.10	0.9961	0.0000	0.07
V3BHVP		0.9964	0.0006	1.02	0.9966	0.0005	0.90
V6X2RG		0.9959	0.0001	0.10	0.9960	-0.0001	-0.10
VE2ENB		0.9958	0.0000	-0.05	0.9960	0.0000	-0.05

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VME7E9	*	0.9978	0.0020	3.35	0.9978	0.0017	2.88
VWJBAV		0.9958	0.0000	0.00	0.9960	0.0000	-0.06
W34Z2J		0.9957	0.0000	-0.07	0.9960	0.0000	-0.08
X2QJQQ	X	0.9951	-0.0007	-1.15	0.9966	0.0005	0.90
X32HMK		0.9957	-0.0001	-0.10	0.9960	-0.0001	-0.13
XDJ7DD		0.9958	0.0000	-0.05	0.9960	0.0000	-0.03
XJACGF		0.9953	-0.0005	-0.84	0.9958	-0.0003	-0.42
XVXLV9		0.9958	0.0000	0.03	0.9961	0.0000	-0.02
XZU64X		0.9960	0.0002	0.35	0.9963	0.0002	0.40
ZAXWLR		0.9961	0.0003	0.52	0.9961	0.0000	0.07
ZGAZNK		0.9959	0.0001	0.18	0.9962	0.0001	0.23
ZNC3WQ		0.9960	0.0002	0.34	0.9962	0.0001	0.22
ZTMHVG	X	0.9973	0.0015	2.51	0.9963	0.0002	0.38

Summary Statistics

Grand Means
0.99579 sp gr 20/20 C   0.99606 sp gr 20/20 C

Stnd Dev Btwn Labs
0.00060 sp gr 20/20 C   0.00060 sp gr 20/20 C

Statistics based on 76 of 83 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

## Comments on Assigned Data Flags for Test #906

X2QJQQ (X) - Inconsistent in testing between samples.

G26CDV (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA18.

JMX9ZZ (X) - Extreme data.

BJ6EM8 (X) - Inconsistent in Testing. Data for sample SA18 are low.

ZTMHVG (X) - Inconsistent in testing between samples.

9JA27U (X) - Inconsistent in testing between samples.

BX7UP2 (X) - Inconsistent in Testing, Data for sample SA18 are high. Inconsistent within the determinations of sample SA18.
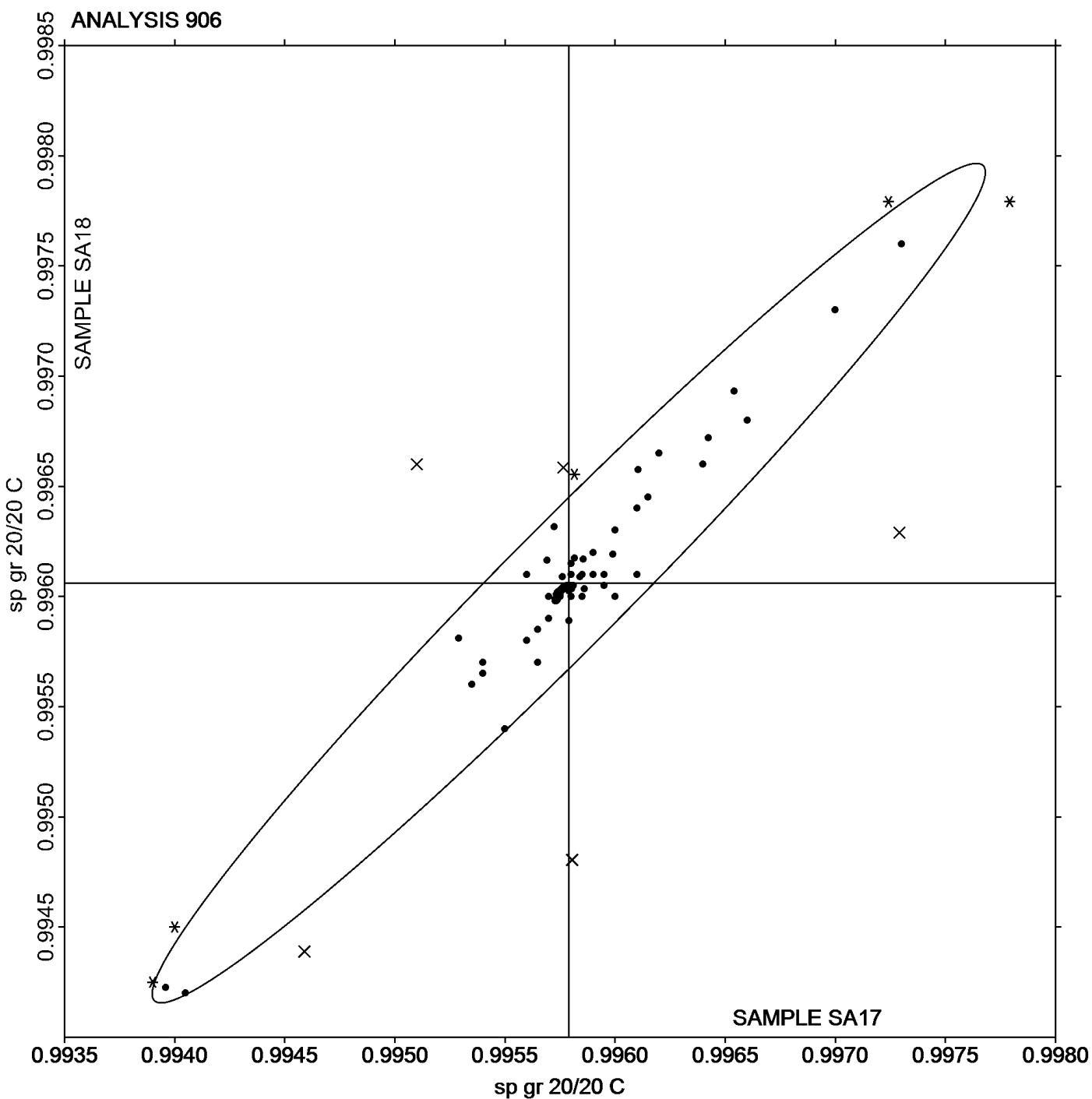
ANALYSIS 906

SAMPLE SA18

sp gr 20/20 C

SAMPLE SA17

sp gr 20/20 C

		Sample SA17			Sample SA18		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		3.445	0.002	0.07	3.540	0.001	0.06
279A4N	X	3.380	-0.063	-2.88	3.535	-0.004	-0.17
3NMVGJ		3.445	0.002	0.07	3.530	-0.009	-0.40
3PXNFR		3.410	-0.033	-1.52	3.500	-0.039	-1.78
3QU23K		3.435	-0.008	-0.38	3.525	-0.014	-0.63
4ZWQC9		3.450	0.007	0.30	3.540	0.001	0.06
648D9B		3.433	-0.010	-0.47	3.531	-0.008	-0.36
67XGZW		3.420	-0.023	-1.06	3.515	-0.024	-1.09
6NWG7B		3.470	0.027	1.21	3.560	0.021	0.98
78HT7F		3.455	0.012	0.53	3.535	-0.004	-0.17
7X3WBA		3.405	-0.038	-1.75	3.505	-0.034	-1.55
83AMDF		3.430	-0.013	-0.61	3.515	-0.024	-1.09
8APDTF		3.450	0.007	0.30	3.540	0.001	0.06
8D46K9		3.435	-0.008	-0.38	3.535	-0.004	-0.17
8VQNEV		3.445	0.002	0.07	3.540	0.001	0.06
9JA27U		3.450	0.007	0.30	3.545	0.006	0.29
9XDF9C		3.440	-0.003	-0.15	3.540	0.001	0.06
A8ARXB		3.450	0.007	0.30	3.540	0.001	0.06
AHC8LV		3.455	0.012	0.53	3.545	0.006	0.29
BJ6EM8		3.425	-0.018	-0.84	3.515	-0.024	-1.09
BQQANB		3.440	-0.003	-0.15	3.535	-0.004	-0.17
BX7UP2		3.440	-0.003	-0.15	3.530	-0.009	-0.40
C39MW3		3.465	0.022	0.98	3.560	0.021	0.98
C9ZRP7		3.470	0.027	1.21	3.570	0.031	1.44
CGRB7Z		3.480	0.037	1.67	3.560	0.021	0.98
CMK7EZ		3.430	-0.013	-0.61	3.510	-0.029	-1.32
CNUBP3		3.455	0.012	0.53	3.550	0.011	0.52
CUJPEA		3.445	0.002	0.07	3.540	0.001	0.06
D4L8PD		3.425	-0.018	-0.84	3.520	-0.019	-0.86
DBJ3MB	X	3.560	0.117	5.30	3.470	-0.069	-3.16
DK8Z8P		3.465	0.022	0.98	3.560	0.021	0.98
DRPBJ6		3.450	0.007	0.30	3.540	0.001	0.06
E8GQXN	X	3.550	0.107	4.85	3.640	0.101	4.66
E9C224		3.405	-0.038	-1.75	3.500	-0.039	-1.78
EEGAXY		3.465	0.022	0.98	3.550	0.011	0.52

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EG6GNM		3.455	0.012	0.53	3.550	0.011	0.52
ENZJK8		3.420	-0.023	-1.06	3.520	-0.019	-0.86
EZG9KX		3.405	-0.038	-1.75	3.515	-0.024	-1.09
FBDPRD		3.450	0.007	0.30	3.540	0.001	0.06
FNLBHX		3.420	-0.023	-1.06	3.530	-0.009	-0.40
FWDNEC	X	3.530	0.087	3.94	3.670	0.131	6.04
G26CDV		3.420	-0.023	-1.06	3.510	-0.029	-1.32
GBRHY2	X	3.375	-0.068	-3.11	3.455	-0.084	-3.85
GQ9992		3.390	-0.053	-2.43	3.485	-0.054	-2.47
GT9GDC		3.435	-0.008	-0.38	3.530	-0.009	-0.40
JAQ6UK		3.425	-0.018	-0.84	3.535	-0.004	-0.17
JFYJJV		3.440	-0.003	-0.15	3.535	-0.004	-0.17
JH3GQH	X	3.460	0.017	0.76	3.525	-0.014	-0.63
JMX9ZZ		3.415	-0.029	-1.31	3.512	-0.027	-1.23
K34YAH		3.430	-0.013	-0.61	3.520	-0.019	-0.86
KJVPDR		3.395	-0.048	-2.20	3.500	-0.039	-1.78
KUALGB		3.475	0.032	1.44	3.580	0.041	1.90
L9MCU3	*	3.500	0.057	2.58	3.595	0.056	2.59
LK4Y44		3.440	-0.003	-0.15	3.540	0.001	0.06
LLBKBG		3.435	-0.008	-0.38	3.540	0.001	0.06
LWVQQT		3.400	-0.043	-1.97	3.500	-0.039	-1.78
MAXM4R		3.440	-0.003	-0.15	3.530	-0.009	-0.40
MH86J6		3.440	-0.003	-0.15	3.530	-0.009	-0.40
MKY4X3		3.470	0.027	1.21	3.560	0.021	0.98
MU2L97		3.455	0.012	0.53	3.565	0.026	1.21
MVVAR2		3.445	0.002	0.07	3.530	-0.009	-0.40
N3R9XG		3.455	0.012	0.53	3.565	0.026	1.21
NU3KZT		3.450	0.007	0.30	3.544	0.005	0.24
NUKPHR		3.425	-0.018	-0.84	3.530	-0.009	-0.40
QANZZV		3.450	0.007	0.30	3.535	-0.004	-0.17
QHEL7T		3.455	0.012	0.53	3.550	0.011	0.52
QQVWJU	*	3.510	0.067	3.03	3.600	0.061	2.82
QUTKRN	*	3.445	0.002	0.07	3.565	0.026	1.21
R3HLUK		3.430	-0.013	-0.61	3.520	-0.019	-0.86
RVGJJR		3.405	-0.038	-1.75	3.500	-0.039	-1.78

| WebCode | Data Flag | Sample SA17 | | | Sample SA18 | | |
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T48E6T		3.450	0.007	0.30	3.540	0.001	0.06
TCMVYN	X	3.380	-0.063	-2.88	3.500	-0.039	-1.78
U7AGLH		3.430	-0.013	-0.61	3.545	0.006	0.29
UBLHP2		3.455	0.012	0.53	3.545	0.006	0.29
UCHVCT	X	3.550	0.107	4.85	3.615	0.076	3.51
UUKKKJ		3.450	0.007	0.30	3.540	0.001	0.06
UVTUCG		3.445	0.002	0.07	3.545	0.006	0.29
V3BHVP		3.460	0.017	0.76	3.550	0.011	0.52
V6X2RG		3.450	0.007	0.30	3.550	0.011	0.52
VE2ENB		3.435	-0.008	-0.38	3.540	0.001	0.06
VME7E9		3.490	0.047	2.12	3.590	0.051	2.36
VWJBAV		3.430	-0.013	-0.61	3.520	-0.019	-0.86
W34Z2J		3.465	0.022	0.98	3.565	0.026	1.21
X2QJQQ		3.460	0.017	0.76	3.550	0.011	0.52
X32HMK		3.450	0.007	0.30	3.565	0.026	1.21
XDJ7DD		3.440	-0.003	-0.15	3.540	0.001	0.06
XJACGF		3.445	0.002	0.07	3.540	0.001	0.06
XVXLV9		3.438	-0.006	-0.27	3.536	-0.003	-0.13
XZU64X		3.470	0.027	1.21	3.560	0.021	0.98
Y6JYFP	X	3.450	0.007	0.30	3.580	0.041	1.90
Y7WJGM		3.430	-0.013	-0.61	3.520	-0.019	-0.86
ZAXWLR		3.485	0.042	1.89	3.570	0.031	1.44
ZGAZNK	*	3.435	-0.008	-0.38	3.555	0.016	0.75
ZKPTED		3.460	0.017	0.76	3.560	0.021	0.98
ZNC3WQ		3.440	-0.003	-0.15	3.525	-0.014	-0.63
ZTMHVG		3.455	0.012	0.53	3.540	0.001	0.06

Summary Statistics

Grand Means

3.4434 pH   3.5388 pH

Stnd Dev Btwn Labs

0.0220 pH   0.0217 pH

Statistics based on 87 of 96 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #907

JH3GQH (X) - Inconsistent in testing between samples.

279A4N (X) - Inconsistent in Testing. Data for sample SA17 are low.

Y6JYFP (X) - Inconsistent in testing between samples.

DBJ3MB (X) - Data for sample SA17 are high and data for sample SA18 are low. Lab may have transposed data between samples.

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

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

TCMVYN (X) - Inconsistent in Testing. Data for sample SA17 are low.

GBRHY2 (X) - Data for both samples are low. Possible Systematic Error.

E8GQXN (X) - Data for both samples are high. Possible Systematic Error.
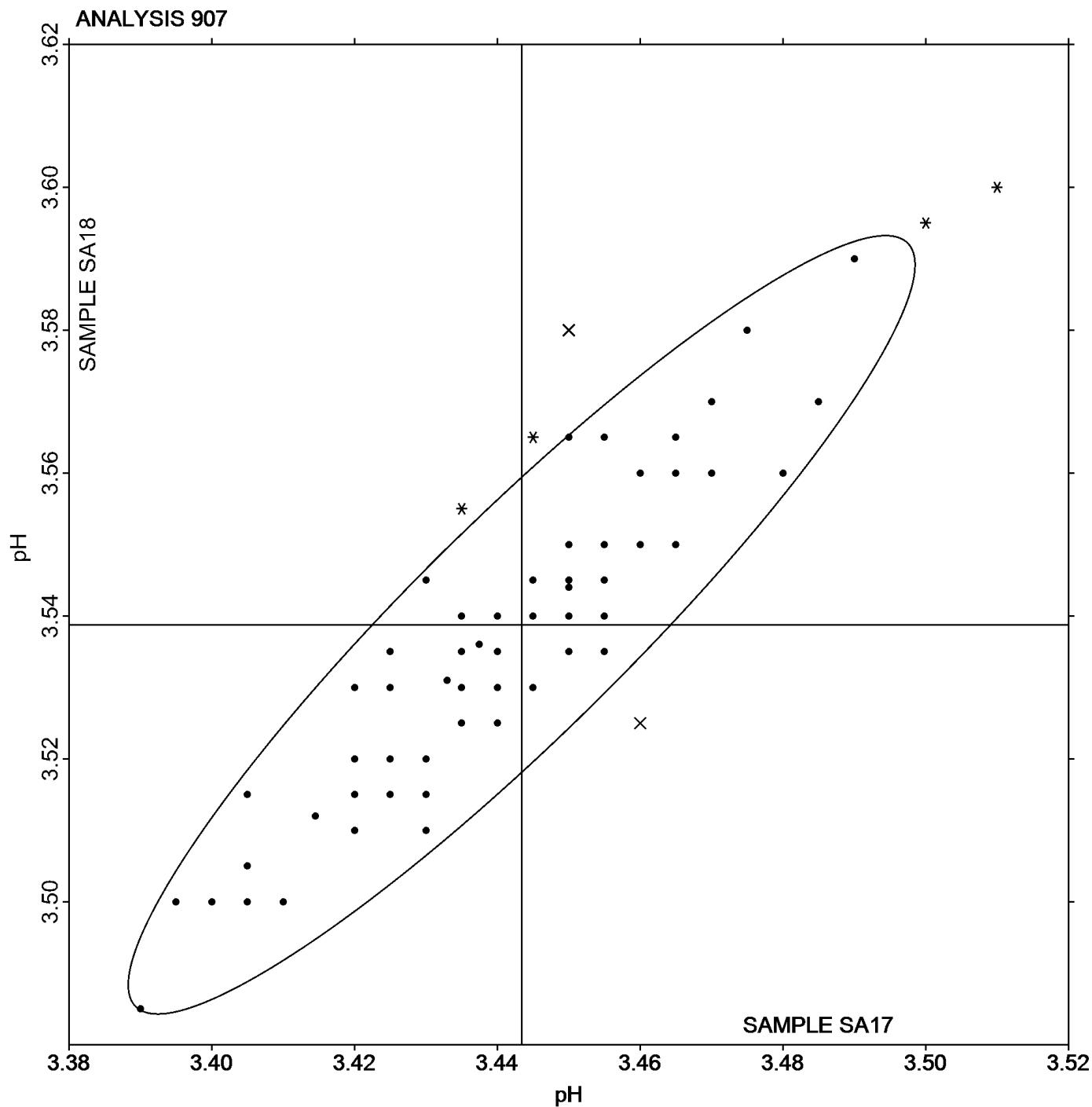
ANALYSIS 907

SAMPLE SA18

pH

SAMPLE SA17

pH

		Sample SA17			Sample SA18		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		8.100	0.436	0.31	8.050	0.614	0.45
3NMVGJ		11.000	3.336	2.38	10.300	2.864	2.12
3PXNFR		6.400	-1.264	-0.90	6.200	-1.236	-0.91
3QU23K		7.600	-0.064	-0.05	7.700	0.264	0.20
4ZWQC9		6.000	-1.664	-1.19	6.200	-1.236	-0.91
78HT7F		6.015	-1.649	-1.17	6.055	-1.381	-1.02
9XDF9C		9.000	1.336	0.95	8.900	1.464	1.08
AWVNVL		7.000	-0.664	-0.47	6.700	-0.736	-0.54
BJ6EM8		7.050	-0.614	-0.44	6.700	-0.736	-0.54
CGRB7Z		6.000	-1.664	-1.19	5.700	-1.736	-1.28
CMK7EZ		8.755	1.091	0.78	8.195	0.759	0.56
CUJPEA		6.000	-1.664	-1.19	6.000	-1.436	-1.06
DRPBJ6		6.700	-0.964	-0.69	6.500	-0.936	-0.69
E9C224	*	10.690	3.026	2.16	10.840	3.404	2.52
FNLBHX		8.000	0.336	0.24	8.000	0.564	0.42
FWDNEC		7.270	-0.394	-0.28	6.740	-0.696	-0.51
KJVPDR		8.100	0.436	0.31	7.600	0.164	0.12
LLBKBG		5.900	-1.764	-1.26	6.050	-1.386	-1.02
LWVQQT		8.000	0.336	0.24	7.800	0.364	0.27
MH86J6		9.100	1.436	1.02	8.950	1.514	1.12
QHEL7T		7.185	-0.479	-0.34	7.190	-0.246	-0.18
RVGJJR		9.300	1.636	1.17	8.700	1.264	0.93
T48E6T		7.900	0.236	0.17	7.350	-0.086	-0.06
U7AGLH		7.550	-0.114	-0.08	7.000	-0.436	-0.32
V6X2RG		7.000	-0.664	-0.47	7.000	-0.436	-0.32
XDJ7DD		9.100	1.436	1.02	8.800	1.364	1.01
XZU64X		6.200	-1.464	-1.04	5.550	-1.886	-1.39

Summary Statistics

Grand Means

7.6635 g/L   7.4359 g/L

Stnd Dev Btwn Labs

1.4032 g/L   1.3529 g/L

Statistics based on 27 of 27 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

## Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 Malbec			Sample SA18 Merlot			
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	Labs Incl / Rpt
Please specify method used	8.500	3.536	0.836	8.250	2.899	0.814	2/2
Cu Reduction Method	8.139	1.278	0.476	7.961	1.242	0.525	11/11
HPLC	6.400	0.000	-1.264	6.200	0.000	-1.236	1/1
Segmented Flow	7.000	0.000	-0.664	6.700	0.000	-0.736	1/1
FTIR	8.024	0.802	0.361	7.706	0.961	0.270	7/7
Other _____	6.163	0.319	-1.501	5.971	0.369	-1.465	5/5

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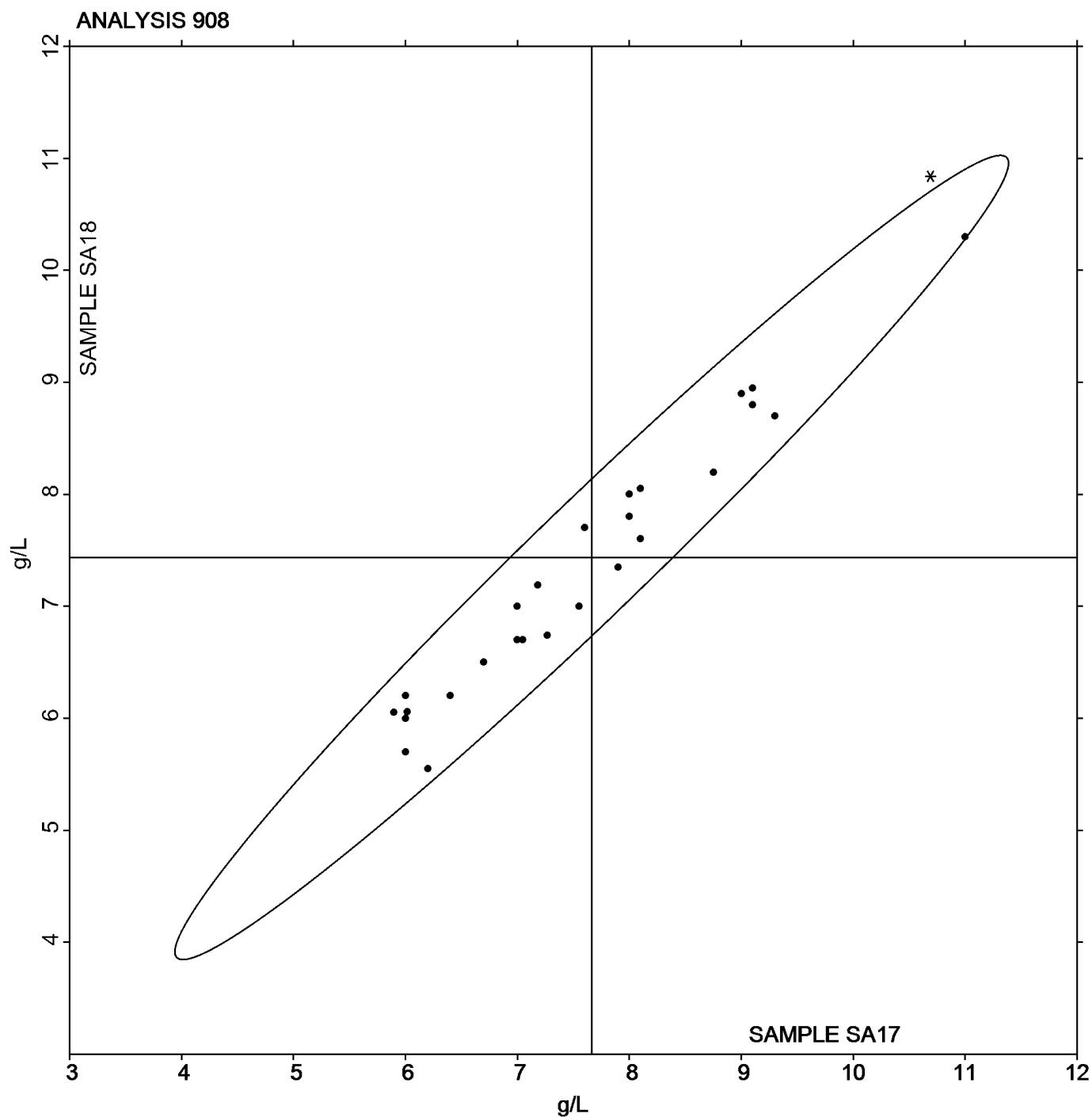
WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		0.0500	-0.0726	-1.71	0.0450	-0.0581	-1.54
279A4N		0.0850	-0.0376	-0.89	0.0650	-0.0381	-1.01
3NMVGJ		0.1200	-0.0026	-0.06	0.1300	0.0269	0.71
3PXNFR		0.1310	0.0084	0.20	0.1205	0.0174	0.46
3QU23K		0.1150	-0.0076	-0.18	0.1200	0.0169	0.45
67XGZW		0.0800	-0.0426	-1.00	0.0550	-0.0481	-1.27
78HT7F		0.1700	0.0474	1.12	0.1450	0.0419	1.11
7X3WBA		0.1800	0.0574	1.35	0.1550	0.0519	1.37
83AMDF		0.1350	0.0124	0.29	0.1400	0.0369	0.97
8APDTF		0.0950	-0.0276	-0.65	0.0900	-0.0131	-0.35
8D46K9		0.1300	0.0074	0.17	0.0900	-0.0131	-0.35
8VQNEV		0.1200	-0.0026	-0.06	0.1150	0.0119	0.31
9JA27U		0.1200	-0.0026	-0.06	0.1000	-0.0031	-0.08
9XDF9C		0.1400	0.0174	0.41	0.1100	0.0069	0.18
A8ARXB	*	0.1450	0.0224	0.53	0.1600	0.0569	1.50
AHC8LV	M				0.0100	-0.0931	-2.46
BJ6EM8	*	0.0100	-0.1126	-2.65	0.0100	-0.0931	-2.46
BX7UP2	*	0.2100	0.0874	2.06	0.1450	0.0419	1.11
C39MW3		0.1100	-0.0126	-0.30	0.0650	-0.0381	-1.01
C9ZRP7		0.1405	0.0179	0.42	0.1260	0.0229	0.60
CNUBP3		0.1420	0.0194	0.46	0.1240	0.0209	0.55
D4L8PD		0.1250	0.0024	0.06	0.1000	-0.0031	-0.08
DBJ3MB		0.1145	-0.0081	-0.19	0.1000	-0.0031	-0.08
DK8Z8P		0.1550	0.0324	0.76	0.1350	0.0319	0.84
DRPBJ6		0.1410	0.0184	0.43	0.1135	0.0104	0.27
E9C224		0.0835	-0.0391	-0.92	0.0695	-0.0336	-0.89
EEGAXY		0.1350	0.0124	0.29	0.1000	-0.0031	-0.08
EG6GNM		0.1405	0.0179	0.42	0.1215	0.0184	0.49
ENZJK8		0.1400	0.0174	0.41	0.1250	0.0219	0.58
EZG9KX		0.1690	0.0464	1.09	0.1420	0.0389	1.03
FBDPRD		0.0900	-0.0326	-0.77	0.0900	-0.0131	-0.35
FNLBHX	X	0.2600	0.1374	3.23	0.1900	0.0869	2.30
G26CDV		0.1620	0.0394	0.93	0.1330	0.0299	0.79
GBRHY2		0.1350	0.0124	0.29	0.1050	0.0019	0.05
GQ9992		0.1335	0.0109	0.26	0.1035	0.0004	0.01
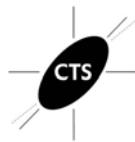
WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GT9GDC		0.1910	0.0684	1.61	0.1695	0.0664	1.75
JAQ6UK		0.1150	-0.0076	-0.18	0.1000	-0.0031	-0.08
JFYJJV		0.1400	0.0174	0.41	0.0850	-0.0181	-0.48
JH3GQH		0.1300	0.0074	0.17	0.1000	-0.0031	-0.08
JMX9ZZ		0.1365	0.0139	0.33	0.1165	0.0134	0.35
K34YAH		0.0450	-0.0776	-1.83	0.0400	-0.0631	-1.67
KJVPDR		0.1000	-0.0226	-0.53	0.0600	-0.0431	-1.14
KUALGB	*	0.0150	-0.1076	-2.53	0.0350	-0.0681	-1.80
L9MCU3		0.0450	-0.0776	-1.83	0.0350	-0.0681	-1.80
LK4Y44		0.0950	-0.0276	-0.65	0.0800	-0.0231	-0.61
LWVQQT		0.0800	-0.0426	-1.00	0.0650	-0.0381	-1.01
MAXM4R		0.1450	0.0224	0.53	0.1100	0.0069	0.18
MH86J6		0.1700	0.0474	1.12	0.1550	0.0519	1.37
MU2L97		0.0650	-0.0576	-1.36	0.0350	-0.0681	-1.80
MVVAR2		0.1760	0.0534	1.26	0.1520	0.0489	1.29
NU3KZT		0.0700	-0.0526	-1.24	0.0895	-0.0136	-0.36
NUKPHR		0.0700	-0.0526	-1.24	0.0650	-0.0381	-1.01
QANZZV		0.1420	0.0194	0.46	0.1170	0.0139	0.37
QQVWJU		0.1080	-0.0146	-0.34	0.0970	-0.0061	-0.16
QUTKRN		0.1450	0.0224	0.53	0.1450	0.0419	1.11
R3HLUK		0.1350	0.0124	0.29	0.1200	0.0169	0.45
RVGJJR		0.1350	0.0124	0.29	0.1195	0.0164	0.43
TCMVYN		0.0600	-0.0626	-1.47	0.0500	-0.0531	-1.40
UBLHP2		0.1330	0.0104	0.24	0.1155	0.0124	0.33
UUKKKJ		0.1200	-0.0026	-0.06	0.1025	-0.0006	-0.02
V3BHVP	*	0.2250	0.1024	2.41	0.1750	0.0719	1.90
VE2ENB	*	0.1450	0.0224	0.53	0.0800	-0.0231	-0.61
VME7E9		0.1300	0.0074	0.17	0.1050	0.0019	0.05
VWJBAV		0.0495	-0.0731	-1.72	0.0415	-0.0616	-1.63
W34Z2J		0.1400	0.0174	0.41	0.1200	0.0169	0.45
X2QJQQ	*	0.2085	0.0859	2.02	0.2070	0.1039	2.75
XDJ7DD		0.0900	-0.0326	-0.77	0.0700	-0.0331	-0.88
XJACGF		0.1500	0.0274	0.64	0.1200	0.0169	0.45
XVXLV9		0.1400	0.0174	0.41	0.1150	0.0119	0.31
XZU64X		0.1700	0.0474	1.12	0.1250	0.0219	0.58

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Y7WJGM		0.0700	-0.0526	-1.24	0.0350	-0.0681	-1.80
ZAXWLR		0.1230	0.0004	0.01	0.1010	-0.0021	-0.06
ZGAZNK		0.1450	0.0224	0.53	0.1200	0.0169	0.45
ZKPTED		0.1100	-0.0126	-0.30	0.1000	-0.0031	-0.08
ZNC3WQ		0.1370	0.0144	0.34	0.1075	0.0044	0.12

Summary Statistics

**Grand Means**
0.12263 g/L   0.10314 g/L

Stnd Dev Btwn Labs
0.04247 g/L   0.03783 g/L

Statistics based on 73 of 75 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #909

FNLBHX (X) - Inconsistent in Testing. Data for sample SA17 are high.

AHC8LV (M) - Participant did not submit data for sample SA17.
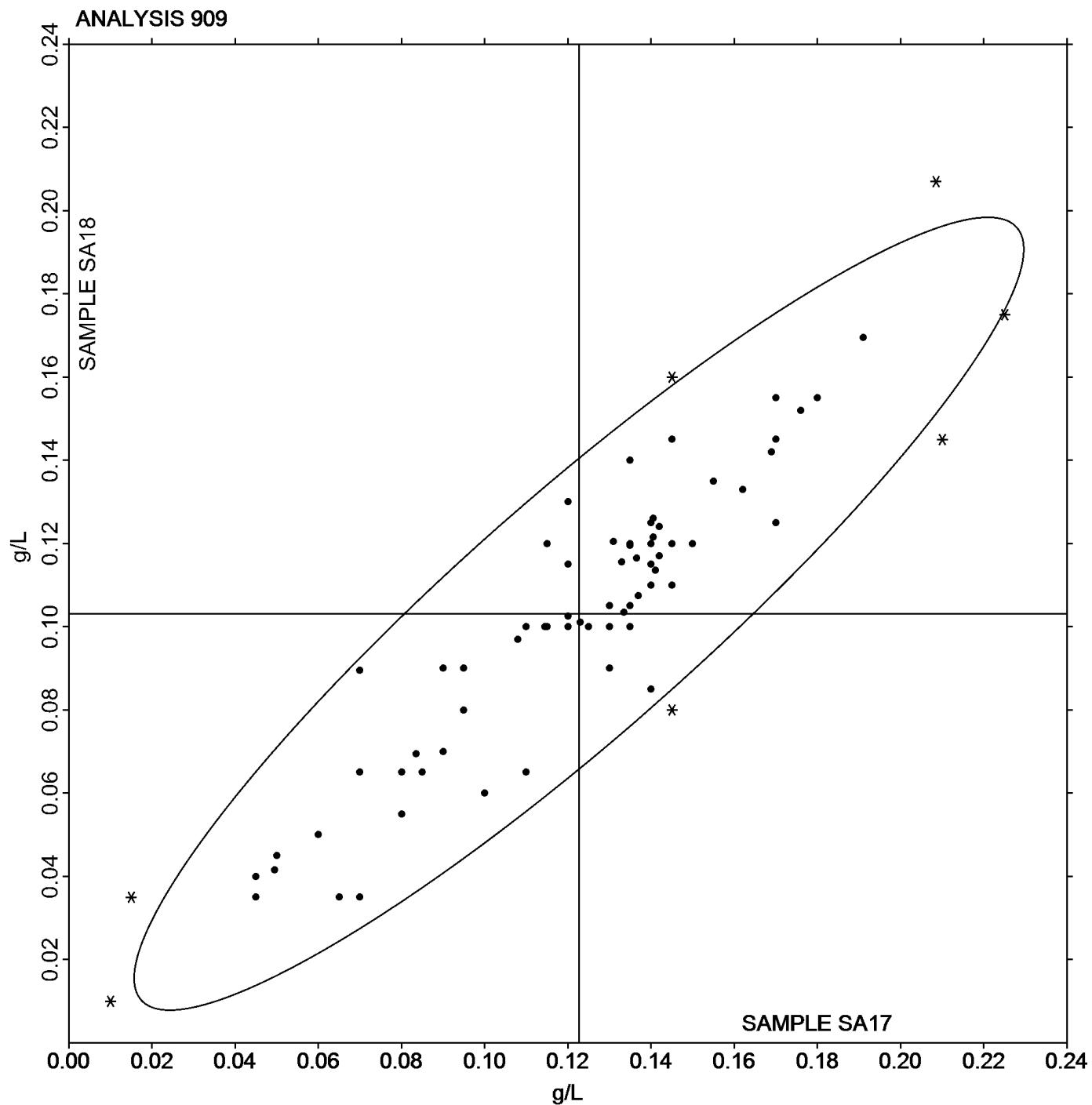
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SAMPLE SA18

g/L

SAMPLE SA17

g/L

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24Z2U4		6.295	0.139	0.29	6.065	0.112	0.29
279A4N		5.750	-0.406	-0.85	5.500	-0.453	-1.19
3NMVGJ	X	11.000	4.844	10.12	10.300	4.347	11.39
3PXNFR		6.400	0.244	0.51	6.200	0.247	0.65
3QU23K		6.935	0.779	1.63	6.690	0.737	1.93
648D9B		6.800	0.644	1.34	6.450	0.497	1.30
67XGZW		5.950	-0.206	-0.43	5.670	-0.283	-0.74
6NWG7B		6.200	0.044	0.09	6.000	0.047	0.12
78HT7F		6.075	-0.081	-0.17	5.880	-0.073	-0.19
7X3WBA	*	7.325	1.169	2.44	6.910	0.957	2.51
83AMDF		6.090	-0.066	-0.14	5.950	-0.003	-0.01
8APDTF		6.410	0.254	0.53	6.115	0.162	0.42
8D46K9		6.125	-0.031	-0.07	5.815	-0.138	-0.36
8VQNEV		5.850	-0.306	-0.64	5.850	-0.103	-0.27
9JA27U		6.050	-0.106	-0.22	6.050	0.097	0.25
9XDF9C		6.100	-0.056	-0.12	6.200	0.247	0.65
A8ARXB		5.465	-0.691	-1.44	5.380	-0.573	-1.50
AHC8LV		6.495	0.339	0.71	6.420	0.467	1.22
AWVNVL		6.250	0.094	0.20	5.820	-0.133	-0.35
BJ6EM8		6.000	-0.156	-0.33	5.900	-0.053	-0.14
BQQANB		6.060	-0.096	-0.20	5.820	-0.133	-0.35
BX7UP2		6.400	0.244	0.51	6.100	0.147	0.38
C39MW3		6.095	-0.061	-0.13	5.885	-0.068	-0.18
C9ZRP7		6.265	0.109	0.23	6.070	0.117	0.31
CGRB7Z		6.000	-0.156	-0.33	5.700	-0.253	-0.66
CMK7EZ	*	5.010	-1.146	-2.40	5.325	-0.628	-1.65
CNUBP3		6.750	0.594	1.24	6.400	0.447	1.17
D4L8PD		6.350	0.194	0.40	6.000	0.047	0.12
DBJ3MB		6.700	0.544	1.14	6.500	0.547	1.43
DK8Z8P		6.000	-0.156	-0.33	5.800	-0.153	-0.40
E9C224		5.952	-0.204	-0.43	5.853	-0.100	-0.26
EEGAXY		6.380	0.224	0.47	6.150	0.197	0.52
EG6GNM		6.600	0.444	0.93	6.300	0.347	0.91
ENZJK8		5.635	-0.521	-1.09	5.580	-0.373	-0.98
EZG9KX	*	4.900	-1.256	-2.62	4.950	-1.003	-2.63

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FBDPRD		6.350	0.194	0.40	6.385	0.432	1.13
FWDNEC		6.640	0.484	1.01	6.200	0.247	0.65
G26CDV		5.990	-0.166	-0.35	5.840	-0.113	-0.30
GBRHY2		6.265	0.109	0.23	5.980	0.027	0.07
GQ9992		6.110	-0.046	-0.10	5.980	0.027	0.07
GT9GDC		6.095	-0.061	-0.13	5.885	-0.068	-0.18
JAQ6UK		5.425	-0.731	-1.53	5.300	-0.653	-1.71
JFYJJV		5.450	-0.706	-1.48	5.650	-0.303	-0.79
JH3GQH		6.250	0.094	0.20	5.950	-0.003	-0.01
JMX9ZZ		6.030	-0.126	-0.26	5.950	-0.003	-0.01
K34YAH		6.000	-0.156	-0.33	5.650	-0.303	-0.79
KJVPDR		6.150	-0.006	-0.01	6.000	0.047	0.12
KUALGB	*	5.475	-0.681	-1.42	5.740	-0.213	-0.56
L8UNC8		6.900	0.744	1.55	6.350	0.397	1.04
L9MCU3		5.920	-0.236	-0.49	5.645	-0.308	-0.81
LK4Y44		6.400	0.244	0.51	6.150	0.197	0.52
MAXM4R		6.530	0.374	0.78	6.195	0.242	0.63
MH86J6		6.405	0.249	0.52	6.155	0.202	0.53
MKY4X3		6.300	0.144	0.30	6.200	0.247	0.65
MU2L97	X	5.490	-0.666	-1.39	6.025	0.072	0.19
MVVAR2		5.920	-0.236	-0.49	5.670	-0.283	-0.74
N3R9XG		7.140	0.984	2.06	6.740	0.787	2.06
NU3KZT		5.715	-0.441	-0.92	5.705	-0.248	-0.65
NUKPHR		5.470	-0.686	-1.43	5.345	-0.608	-1.59
QANZZV		6.550	0.394	0.82	6.350	0.397	1.04
QQVWJU		6.400	0.244	0.51	6.000	0.047	0.12
QUTKRN		5.450	-0.706	-1.48	5.650	-0.303	-0.79
R3HLUK		6.100	-0.056	-0.12	5.835	-0.118	-0.31
RVGJJR		6.750	0.594	1.24	6.500	0.547	1.43
TCMVYN	*	6.665	0.509	1.06	6.630	0.677	1.77
UBLHP2		6.250	0.094	0.20	5.980	0.027	0.07
UCHVCT	*	6.850	0.694	1.45	6.150	0.197	0.52
UUKKKJ	X	0.465	-5.691	-11.89	0.455	-5.498	-14.40
UVTUCG	*	5.680	-0.476	-1.00	5.265	-0.688	-1.80
V3BHVP		6.250	0.094	0.20	6.000	0.047	0.12

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
V6X2RG	X	6.000	-0.156	-0.33	7.000	1.047	2.74
VE2ENB		5.820	-0.336	-0.70	5.620	-0.333	-0.87
VME7E9		5.800	-0.356	-0.74	5.550	-0.403	-1.06
VWJBAV		5.440	-0.716	-1.50	5.225	-0.728	-1.91
W34Z2J		6.570	0.414	0.86	6.200	0.247	0.65
X2QJQQ		5.643	-0.513	-1.07	5.481	-0.473	-1.24
X32HMK		6.015	-0.141	-0.30	5.855	-0.098	-0.26
XDJ7DD		6.085	-0.071	-0.15	5.965	0.012	0.03
XJACGF		6.000	-0.156	-0.33	5.900	-0.053	-0.14
XVXLV9		6.150	-0.006	-0.01	6.000	0.047	0.12
XZU64X	X	0.480	-5.676	-11.86	0.260	-5.693	-14.91
Y6JYFP	*	7.400	1.244	2.60	6.700	0.747	1.96
Y7WJGM		6.450	0.294	0.61	6.120	0.167	0.44
ZAXWLR		6.700	0.544	1.14	6.400	0.447	1.17
ZGAZNK		6.060	-0.096	-0.20	5.910	-0.043	-0.11
ZKPTED		5.100	-1.056	-2.21	5.100	-0.853	-2.23
ZNC3WQ		6.050	-0.106	-0.22	5.800	-0.153	-0.40

Summary Statistics	
Grand Means	
6.1563 g/L	5.9530 g/L
Stnd Dev Btwn Labs	
0.4786 g/L	0.3818 g/L
	Statistics based on 82 of 87 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #910

XZU64X (X) - Extreme data.

MU2L97 (X) - Inconsistent in testing between samples.

UUKKKJ (X) - Extreme data.

3NMVGJ (X) - Data for both samples are high.

V6X2RG (X) - Inconsistent in testing between samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 Malbec			Sample SA18 Merlot			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	6.000	0.000	-0.156	5.800	0.000	-0.153	1/1
HPLC	6.250	0.000	0.094	5.820	0.000	-0.133	1/1
Enzymatic/Spectrophotometric	6.130	0.453	-0.027	5.950	0.376	-0.003	74/78
FTIR	6.660	0.686	0.504	6.138	0.492	0.184	4/5
Other _____	6.163	1.043	0.006	5.825	0.742	-0.128	2/2

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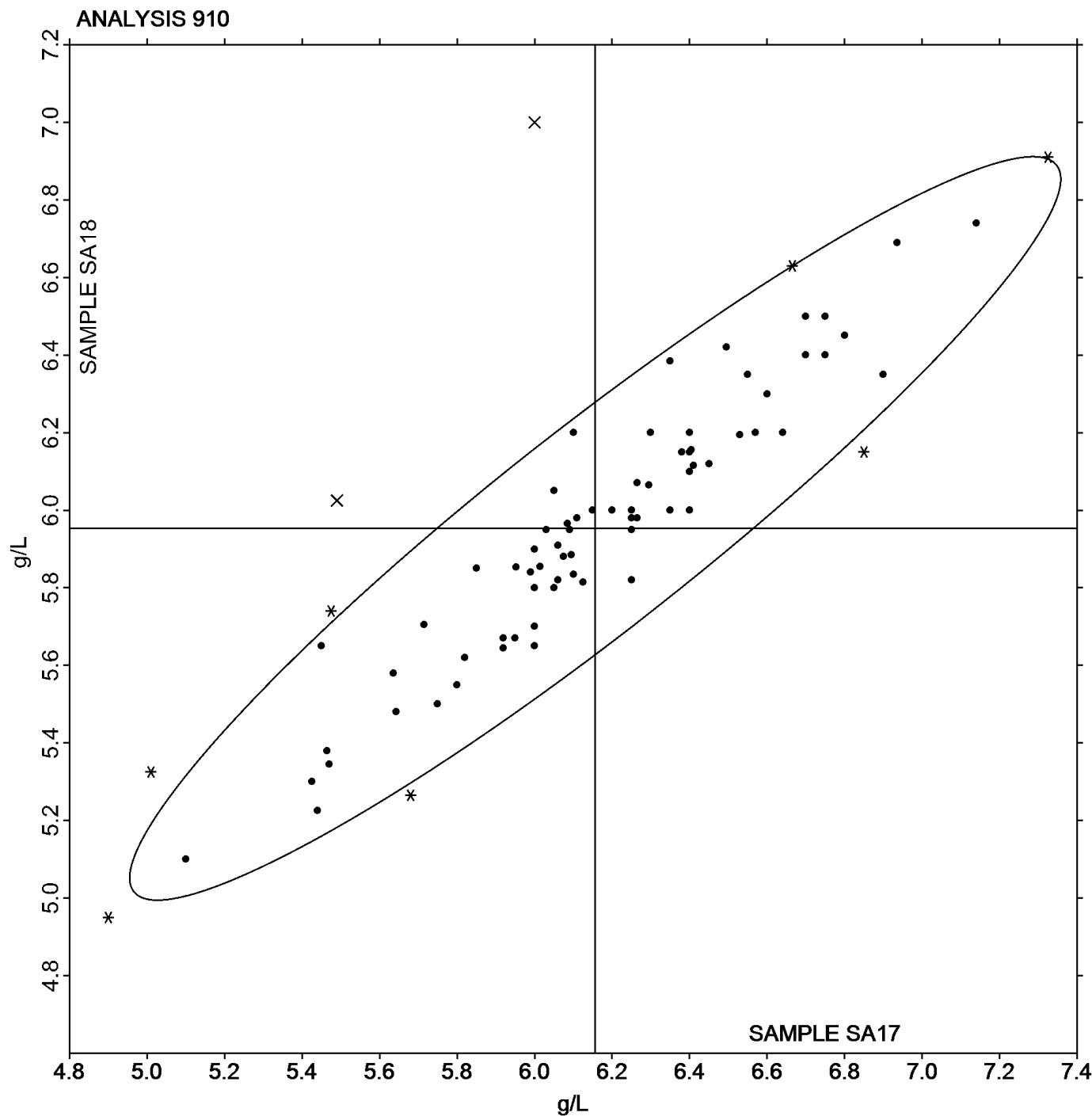
WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3PXNFR		0.0790	0.0035	0.10	0.0645	0.0053	0.17
3QU23K		0.0200	-0.0555	-1.63	0.0300	-0.0292	-0.95
67XGZW		0.0900	0.0145	0.43	0.0700	0.0108	0.35
78HT7F		0.0100	-0.0655	-1.93	0.0100	-0.0492	-1.60
8VQNEV		0.1200	0.0445	1.31	0.0900	0.0308	1.00
9XDF9C		0.0800	0.0045	0.13	0.0600	0.0008	0.03
AWVNVL		0.0600	-0.0155	-0.45	0.0400	-0.0192	-0.62
D4L8PD		0.0600	-0.0155	-0.45	0.0400	-0.0192	-0.62
DBJ3MB		0.0900	0.0145	0.43	0.0630	0.0038	0.12
E9C224		0.0540	-0.0215	-0.63	0.0450	-0.0142	-0.46
EG6GNM		0.1000	0.0245	0.72	0.1000	0.0408	1.33
KJVPDR		0.0600	-0.0155	-0.45	0.0500	-0.0092	-0.30
KUALGB		0.0600	-0.0155	-0.45	0.0600	0.0008	0.03
LK4Y44		0.1020	0.0265	0.78	0.0750	0.0158	0.51
MVVAR2		0.0650	-0.0105	-0.31	0.0200	-0.0392	-1.28
U7AGLH		0.0875	0.0120	0.35	0.0660	0.0068	0.22
UCHVCT		0.0750	-0.0005	-0.01	0.0300	-0.0292	-0.95
V3BHVP		0.0475	-0.0280	-0.82	0.0335	-0.0257	-0.84
V6X2RG		0.0750	-0.0005	-0.01	0.0700	0.0108	0.35
W34Z2J		0.0550	-0.0205	-0.60	0.0600	0.0008	0.03
XDJ7DD	*	0.1750	0.0995	2.93	0.1550	0.0958	3.12
XJACGF		0.0950	0.0195	0.57	0.0700	0.0108	0.35

Summary Statistics		
Grand Means		
0.07545 mg/L		0.05918 mg/L
Stnd Dev Btwn Labs		
0.03400 mg/L		0.03073 mg/L
		Statistics based on 22 of 22 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec* Group Mean	Btwn Lab STD	Diff from GM	Sample SA18 *Merlot* Group Mean	Btwn Lab STD	Diff from GM	Labs Incl / Rpt
Please specify method used	0.060	0.000	-0.0155	0.040	0.000	-0.0192	1/1
Atomic Absorption Spectroscopy	0.082	0.018	0.0067	0.061	0.019	0.0019	12/12
ICP-OES	0.070	0.023	-0.0057	0.059	0.026	-0.0003	5/5
Other _____	0.066	0.076	-0.0092	0.059	0.065	-0.0004	4/4
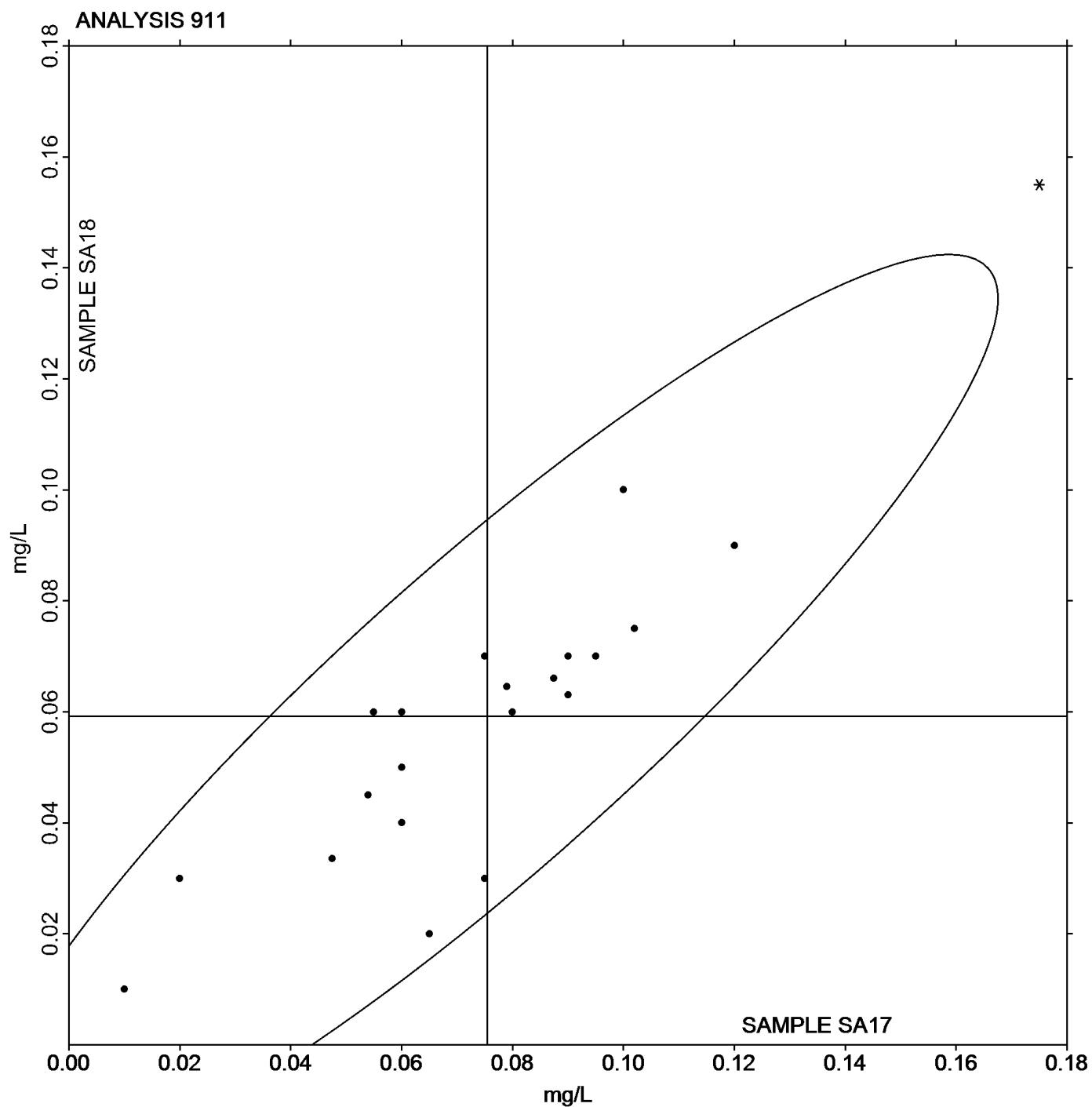
		Sample SA17			Sample SA18		
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
67XGZW		1,135.5	-45.2	-0.19	988.0	-31.9	-0.19
8VQNEV	X	1,035.0	-145.7	-0.62	1,220.0	200.1	1.17
9XDF9C		1,570.0	389.3	1.67	1,375.0	355.1	2.08
AWVNVL		961.5	-219.2	-0.94	847.5	-172.4	-1.01
D4L8PD		1,081.0	-99.7	-0.43	952.0	-67.9	-0.40
E9C224		1,083.5	-97.2	-0.42	1,024.5	4.6	0.03
EG6GNM		1,040.0	-140.7	-0.60	906.5	-113.4	-0.67
ETL4XN		1,029.0	-151.7	-0.65	904.6	-115.3	-0.68
KJVPDR		1,102.5	-78.2	-0.33	951.0	-68.9	-0.40
KUALGB		1,671.0	490.3	2.10	1,387.0	367.1	2.15
MH86J6	*	1,761.5	580.8	2.49	1,337.0	317.1	1.86
MKY4X3		1,067.0	-113.7	-0.49	942.5	-77.4	-0.45
MU2L97		931.0	-249.7	-1.07	863.0	-156.9	-0.92
MVVAR2		1,055.0	-125.7	-0.54	860.0	-159.9	-0.94
U7AGLH		1,070.5	-110.2	-0.47	940.0	-79.9	-0.47
UBLHP2		1,303.0	122.3	0.52	1,167.5	147.6	0.87
V3BHVP		1,130.0	-50.7	-0.22	1,015.0	-4.9	-0.03
V6X2RG		1,148.5	-32.2	-0.14	967.0	-52.9	-0.31
VWJBAV		1,220.0	39.3	0.17	1,020.0	0.1	0.00
W34Z2J		1,073.2	-107.5	-0.46	930.8	-89.1	-0.52

Summary Statistics

Grand Means
1,180.72 mg/L   1,019.94 mg/L

Stnd Dev Btwn Labs
233.64 mg/L   170.42 mg/L

Statistics based on 19 of 20 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

## Comments on Assigned Data Flags for Test #912

8VQNEV (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA18.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA17 *Malbec*			Sample SA18 *Merlot*			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	1,075.750	7.425	-105.0	946.000	8.485	-73.9	2/2
Atomic Absorption Spectroscopy	1,190.313	221.639	9.6	1,008.202	175.318	-11.7	7/8
ICP-OES	1,084.600	34.211	-96.1	967.900	50.306	-52.0	5/5
FTIR	1,570.000	0.000	389.3	1,375.000	0.000	355.1	1/1
Other _____	1,239.250	386.856	58.5	1,053.750	239.509	33.8	4/4
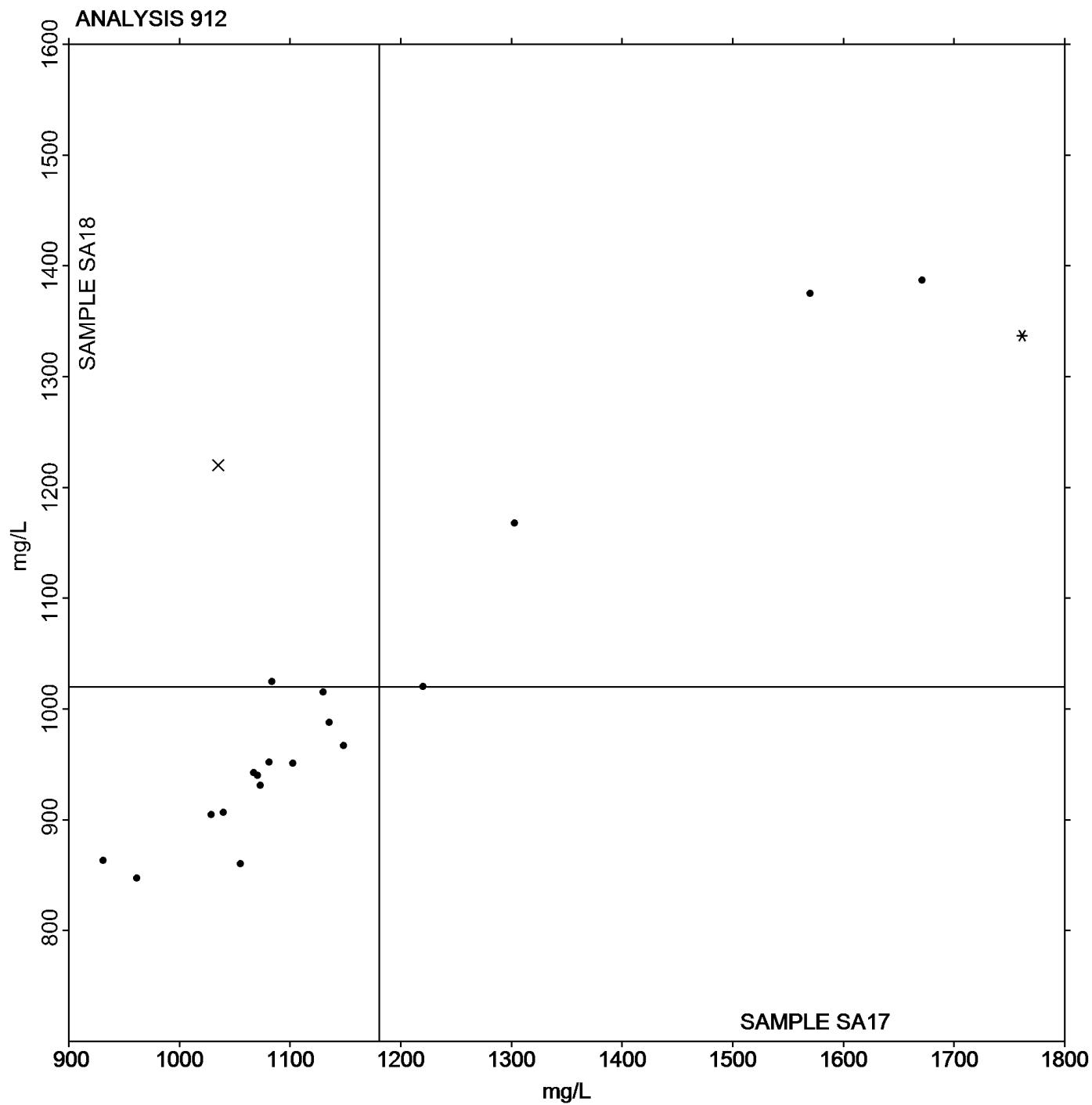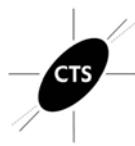
If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
279A4N		3.275	0.109	0.54	2.845	0.057	0.40
3QU23K	X	0.616	-2.550	-12.66	0.559	-2.229	-15.59
4ZWQC9	*	2.636	-0.530	-2.63	2.512	-0.276	-1.93
67XGZW		3.060	-0.106	-0.52	2.670	-0.118	-0.82
6NWG7B	X	2.422	-0.744	-3.69	2.339	-0.449	-3.14
78HT7F		2.886	-0.279	-1.39	2.547	-0.241	-1.69
7X3WBA		3.216	0.050	0.25	2.774	-0.014	-0.10
83AMDF		3.130	-0.036	-0.18	2.750	-0.038	-0.26
8VQNEV		2.680	-0.486	-2.41	2.507	-0.281	-1.97
9JA27U		3.008	-0.158	-0.78	2.736	-0.052	-0.36
9XDF9C	X	3.750	0.584	2.90	3.670	0.882	6.17
AWVNVL	X	3.750	0.584	2.90	4.104	1.316	9.21
BQQANB		3.230	0.064	0.32	2.815	0.027	0.19
C39MW3		3.100	-0.066	-0.33	2.820	0.032	0.23
CMK7EZ		2.740	-0.426	-2.11	2.490	-0.298	-2.08
E9C224		3.228	0.062	0.31	2.834	0.046	0.32
EEGAXY	*	3.112	-0.054	-0.27	2.922	0.134	0.94
EG6GNM		3.275	0.109	0.54	2.864	0.076	0.53
EZG9KX	X	2.603	-0.563	-2.79	2.764	-0.024	-0.17
FBDPRD		3.157	-0.009	-0.04	2.729	-0.059	-0.41
FNLBHX		3.422	0.256	1.27	2.899	0.112	0.78
FWDNEC	X	3.430	0.264	1.31	3.570	0.782	5.47
JAQ6UK		3.316	0.150	0.75	2.928	0.140	0.98
JH3GQH		3.320	0.154	0.77	2.935	0.147	1.03
JMX9ZZ		3.180	0.014	0.07	2.747	-0.041	-0.28
K34YAH		3.192	0.026	0.13	2.801	0.013	0.09
L9MCU3		3.158	-0.008	-0.04	2.770	-0.018	-0.13
LK4Y44		3.440	0.274	1.36	2.995	0.207	1.45
LLBKBG		3.075	-0.091	-0.45	2.683	-0.105	-0.73
LWVQQT	X	5.100	1.934	9.60	3.400	0.612	4.28
MH86J6		3.405	0.239	1.19	2.970	0.182	1.27
MKY4X3		2.960	-0.206	-1.02	2.570	-0.218	-1.52
MU2L97		3.315	0.149	0.74	2.940	0.152	1.07
MVVAR2		3.188	0.022	0.11	2.753	-0.035	-0.24
QHEL7T		3.409	0.243	1.21	2.825	0.037	0.26

WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QQVWJU		3.079	-0.087	-0.43	2.727	-0.061	-0.42
QUTKRN		3.220	0.054	0.27	2.770	-0.018	-0.12
R3HLUK		3.470	0.304	1.51	3.005	0.217	1.52
T48E6T		3.395	0.229	1.14	2.882	0.094	0.66
U7AGLH		3.267	0.101	0.50	2.731	-0.057	-0.40
UBLHP2		3.396	0.230	1.14	3.003	0.215	1.51
UCHVCT		3.319	0.153	0.76	2.911	0.123	0.86
UVTUCG		3.253	0.087	0.43	2.857	0.069	0.48
V3BHVP	X	2.770	-0.396	-1.96	2.330	-0.458	-3.20
V6X2RG		3.270	0.104	0.52	2.875	0.087	0.61
VE2ENB		3.371	0.205	1.02	2.989	0.201	1.41
VME7E9		3.120	-0.046	-0.23	2.730	-0.058	-0.40
W34Z2J		3.020	-0.146	-0.72	2.800	0.012	0.09
X2QJQQ		3.115	-0.051	-0.25	2.775	-0.013	-0.09
XDJ7DD		2.740	-0.426	-2.11	2.590	-0.198	-1.38
XJACGF		2.845	-0.321	-1.59	2.485	-0.303	-2.12
XVXLV9	X	0.111	-3.055	-15.16	0.101	-2.687	-18.79
Y6JYFP		3.215	0.049	0.24	2.830	0.042	0.30
ZAXWLR		3.300	0.134	0.67	3.000	0.212	1.48
ZKPTED		3.150	-0.016	-0.08	2.740	-0.048	-0.33
ZNC3WQ		3.132	-0.034	-0.17	2.695	-0.093	-0.65

Summary Statistics

Grand Means
3.1657 Absorbance Units   2.7877 Absorbance Units

Stnd Dev Btwn Labs
0.2015 Absorbance Units   0.1430 Absorbance Units

Statistics based on 47 of 56 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #915

3QU23K (X) - Extreme data.

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

FWDNEC (X) - Data for sample SA18 are high.

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

9XDF9C (X) - Data for both samples are high.

V3BHVP (X) - Data for sample SA18 are low.

6NWG7B (X) - Data for both samples are low.

XVXLV9 (X) - Extreme data.

EZG9KX (X) - Data for sample SA17 are low.

ANALYSIS 915
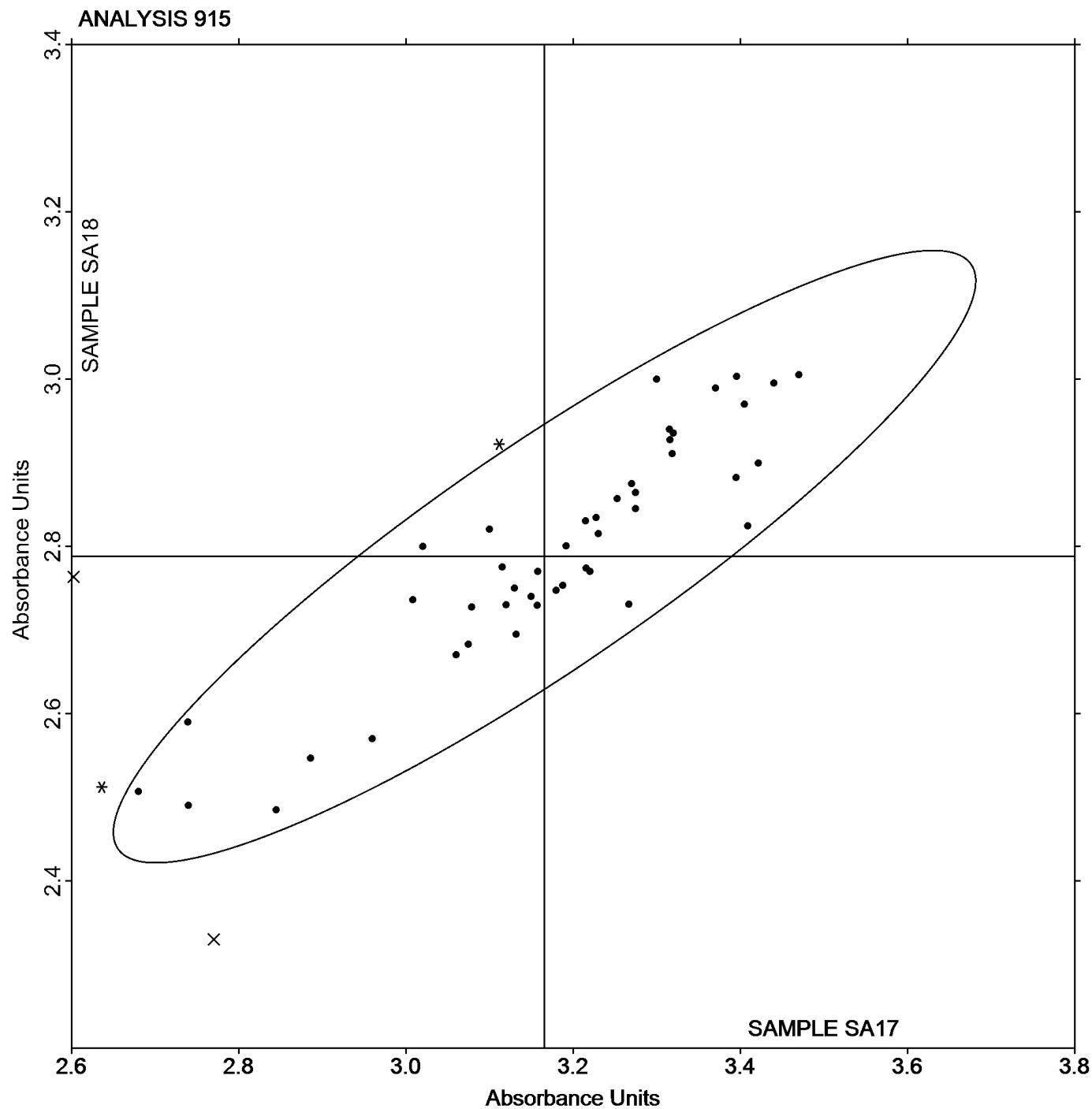
WebCode	Data Flag	Sample SA17			Sample SA18		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
279A4N		3.675	0.199	0.76	3.865	0.218	0.68
3QU23K	X	0.761	-2.715	-10.36	0.757	-2.890	-8.99
4ZWQC9		3.185	-0.291	-1.11	3.282	-0.365	-1.14
67XGZW		3.445	-0.031	-0.12	3.665	0.018	0.06
6NWG7B	*	2.658	-0.818	-3.12	2.696	-0.951	-2.96
78HT7F		3.168	-0.308	-1.17	3.415	-0.232	-0.72
7X3WBA		3.674	0.198	0.75	3.817	0.170	0.53
83AMDF		2.960	-0.516	-1.97	2.990	-0.657	-2.04
8VQNEV		3.265	-0.211	-0.81	3.265	-0.382	-1.19
9JA27U	*	3.371	-0.105	-0.40	3.743	0.096	0.30
9XDF9C	X	4.140	0.664	2.53	4.920	1.273	3.96
AWVNVL	X	3.748	0.272	1.04	3.314	-0.333	-1.04
BQQANB		3.610	0.134	0.51	3.810	0.163	0.51
C39MW3		3.400	-0.076	-0.29	3.720	0.073	0.23
CMK7EZ		2.880	-0.596	-2.27	2.860	-0.787	-2.45
E9C224		3.625	0.149	0.57	3.888	0.241	0.75
EEGAXY		3.445	-0.031	-0.12	3.508	-0.140	-0.43
EG6GNM		3.664	0.188	0.72	3.889	0.241	0.75
EZG9KX	*	3.379	-0.097	-0.37	3.312	-0.336	-1.04
FBDPRD		3.538	0.062	0.23	3.689	0.042	0.13
FNLBHX		3.291	-0.185	-0.70	3.493	-0.154	-0.48
FWDNEC	X	3.810	0.334	1.27	4.620	0.973	3.03
JAQ6UK		3.575	0.099	0.38	3.765	0.118	0.37
JH3GQH		3.765	0.289	1.10	4.090	0.443	1.38
JMX9ZZ		3.571	0.095	0.36	3.737	0.089	0.28
K34YAH		3.275	-0.201	-0.77	3.378	-0.270	-0.84
L9MCU3		3.559	0.083	0.32	3.750	0.103	0.32
LK4Y44		3.885	0.409	1.56	4.105	0.458	1.42
LLBKBG		3.464	-0.012	-0.05	3.554	-0.093	-0.29
LWVQQT	X	4.850	1.374	5.24	3.950	0.303	0.94
MH86J6		3.805	0.329	1.26	3.990	0.343	1.07
MKY4X3		3.280	-0.196	-0.75	3.525	-0.122	-0.38
MU2L97		3.740	0.264	1.01	4.000	0.353	1.10
MVVAR2		3.579	0.103	0.39	3.735	0.088	0.27
QQVWJU		3.365	-0.111	-0.42	3.607	-0.040	-0.12

| | | Sample SA17 | | | | Sample SA18 | | |
WebCode	Data Flag	Lab Mean	Diff from Grand Mean	CPV		Lab Mean	Diff from Grand Mean	CPV
QUTKRN		3.617	0.141	0.54		3.740	0.093	0.29
R3HLUK		3.750	0.274	1.05		3.900	0.253	0.79
T48E6T		3.795	0.319	1.22		3.965	0.318	0.99
U7AGLH		3.597	0.121	0.46		3.761	0.114	0.35
UBLHP2		3.772	0.296	1.13		4.045	0.397	1.24
UCHVCT		3.685	0.209	0.80		3.928	0.281	0.87
UVTUCG		3.631	0.155	0.59		3.882	0.234	0.73
V3BHVP		3.195	-0.281	-1.07		3.370	-0.277	-0.86
V6X2RG		3.555	0.079	0.30		3.720	0.073	0.23
VE2ENB		3.871	0.395	1.50		4.228	0.581	1.81
VME7E9		3.145	-0.331	-1.26		3.195	-0.452	-1.41
W34Z2J	X	3.635	0.159	0.61		3.405	-0.242	-0.75
X2QJQQ		3.425	-0.051	-0.19		3.400	-0.247	-0.77
XDJ7DD	X	3.411	-0.065	-0.25		3.244	-0.403	-1.25
XJACGF		3.150	-0.326	-1.24		3.365	-0.282	-0.88
XVXLV9	X	0.115	-3.361	-12.82		0.118	-3.529	-10.98
Y6JYFP		3.670	0.194	0.74		3.850	0.203	0.63
ZAXWLR		3.400	-0.076	-0.29		3.600	-0.047	-0.15
ZKPTED		3.520	0.044	0.17		3.690	0.043	0.13
ZNC3WQ		3.496	0.020	0.08		3.631	-0.017	-0.05

Summary Statistics

Grand Means
3.4759 Absorbance Units   3.6470 Absorbance Units

Stnd Dev Btwn Labs
0.2622 Absorbance Units   0.3215 Absorbance Units

Statistics based on 47 of 55 reporting participants

Wines tested: SA17: Malbec; SA18: Merlot

Comments on Assigned Data Flags for Test #916

3QU23K (X) - Extreme data.

AWVNVL (X) - Inconsistent in testing between samples.

FWDNEC (X) - Data for sample SA18 are high.

LWVQQT (X) - Data for sample SA17 are high.

9XDF9C (X) - Data for sample SA18 are high.

W34Z2J (X) - Inconsistent in testing between samples.

XVXLV9 (X) - Extreme data.

XDJ7DD (X) - Inconsistent in testing between samples.

ANALYSIS 916
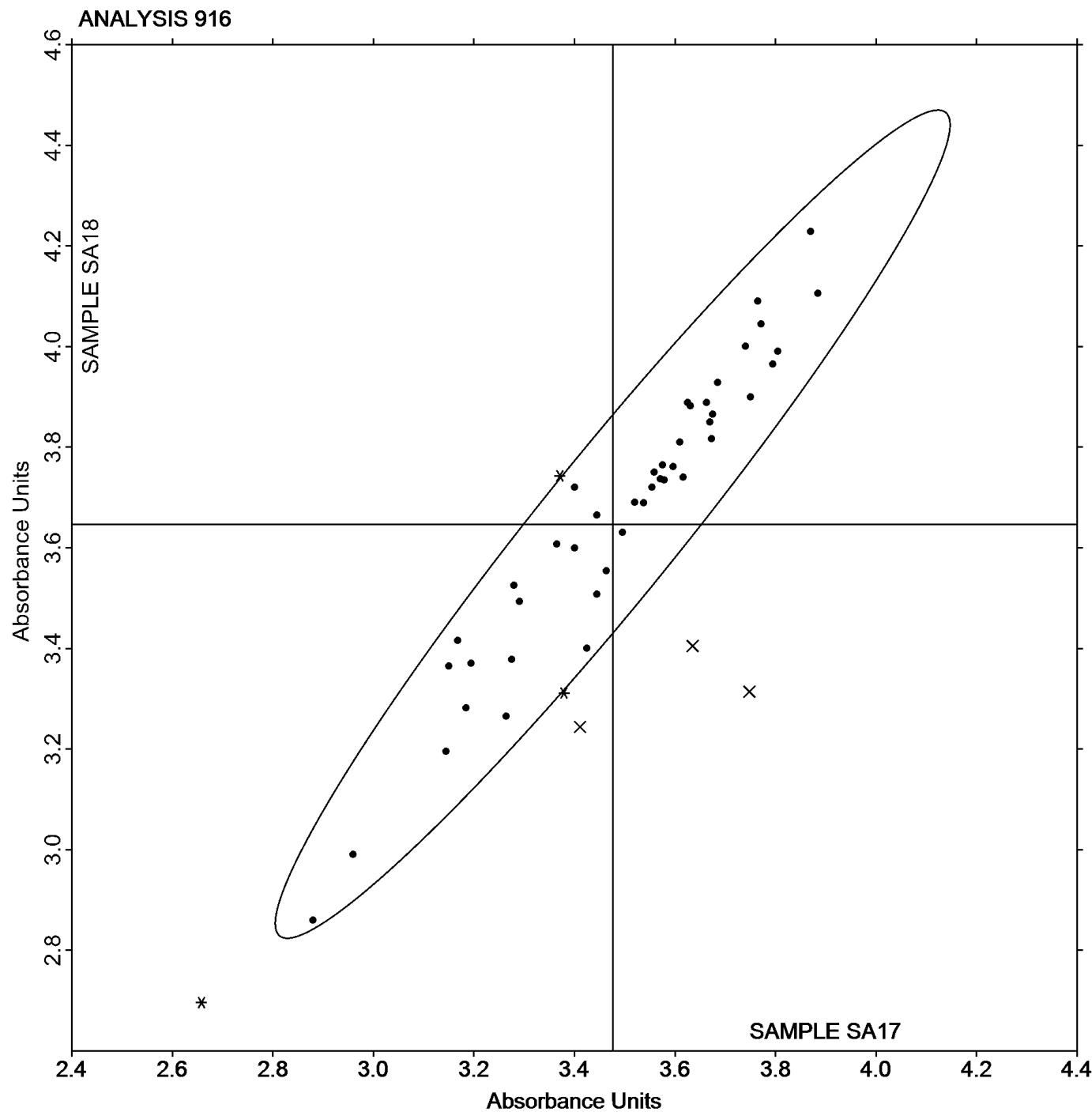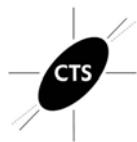
SAMPLE SA18

Absorbance Units

SAMPLE SA17

Absorbance Units

ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 950
Research Property - Methanol Content

Report #059
Summer 2018

		Sample SA17			Sample SA18		
WebCode	Data Flag	Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
67XGZW		151.5	-35.3	-1.40	174.0	-38.1	-1.34
78HT7F		224.4	37.7	1.50	257.2	45.1	1.59
8VQNEV		165.5	-21.3	-0.85	193.0	-19.1	-0.67
9JA27U		158.0	-28.8	-1.14	176.0	-36.1	-1.27
9XDF9C	**X**	50.0	-136.8	-5.44	70.0	-142.1	-5.00
AWVNVL		186.8	0.0	0.00	208.7	-3.4	-0.12
BQQANB		230.0	43.2	1.72	260.0	47.9	1.69
E9C224		187.9	1.1	0.04	207.3	-4.8	-0.17
JH3GQH		189.0	2.2	0.09	205.5	-6.6	-0.23
K34YAH		170.5	-16.3	-0.65	203.0	-9.1	-0.32
KJVPDR		202.5	15.7	0.62	233.5	21.4	0.75
V3BHVP		188.5	1.7	0.07	215.0	2.9	0.10

| **Research Property Consensus Value**		
Consensus Average	186.78 mg/L	212.11 mg/L

Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

Wines tested: SA17: Malbec; SA18: Merlot

This consensus average is based on 11 reporting participants.

Comments on Assigned Data Flags for Test #950

9XDF9C (X) - Data for both samples are low.
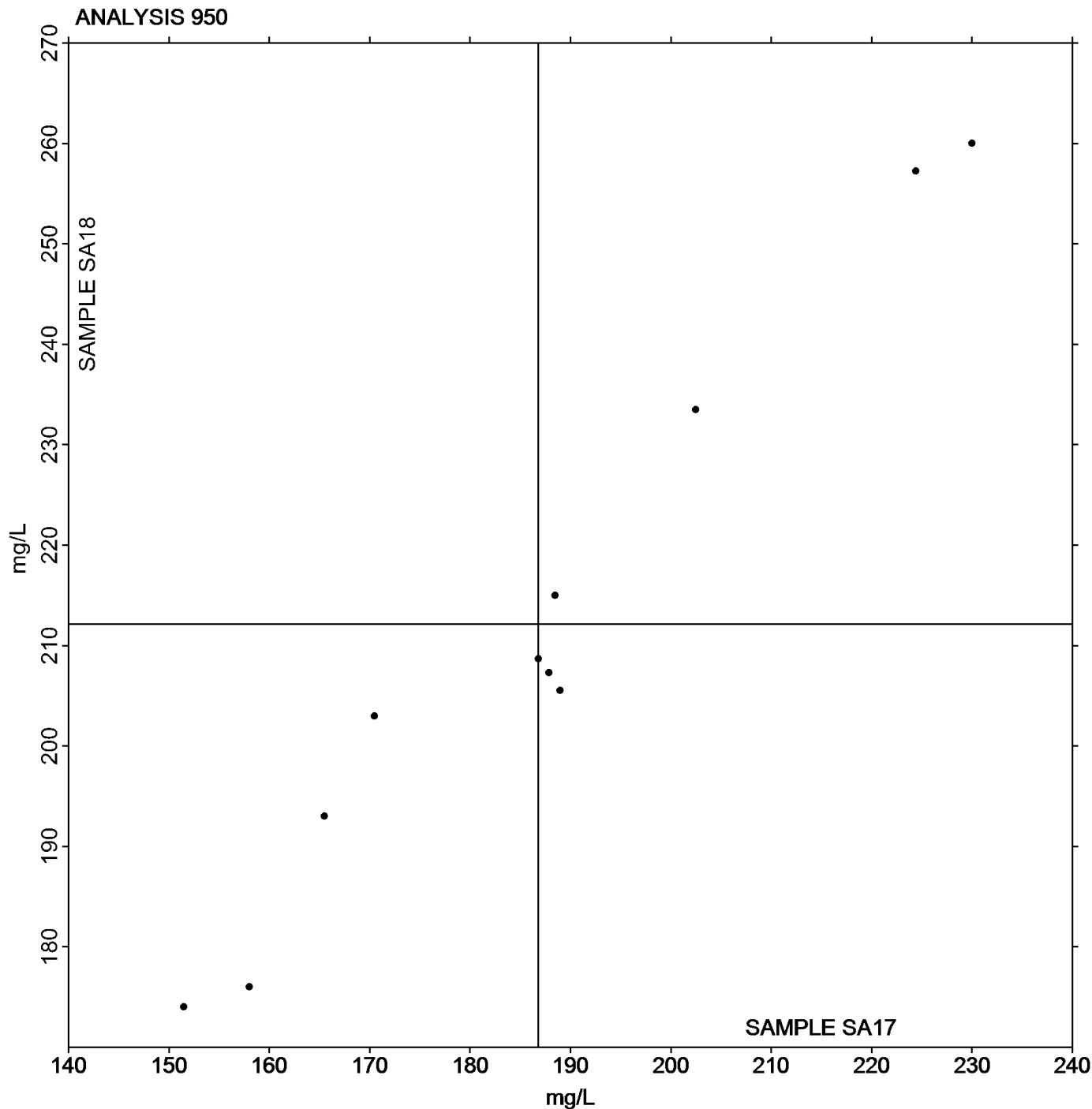
ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 950
Research Property - Methanol Content

Report #059
Summer 2018

ANALYSIS 950

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 951
Research Property: Iron Content

Report #059
Summer 2018

| | Data | Sample SA17 | | | Sample SA18 | | |
WebCode	Flag	Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
67XGZW		2.555	0.429	1.62	3.335	0.524	1.57
8VQNEV		1.973	-0.153	-0.58	2.579	-0.232	-0.70
9XDF9C		2.000	-0.126	-0.47	3.000	0.189	0.57
AWVNVL		1.930	-0.196	-0.74	2.540	-0.271	-0.82
D4L8PD		1.985	-0.141	-0.53	2.615	-0.196	-0.59
E9C224		2.307	0.181	0.68	2.608	-0.203	-0.61
EG6GNM		2.125	-0.001	0.00	2.755	-0.056	-0.17
KJVPDR		2.075	-0.051	-0.19	2.800	-0.011	-0.03
KUALGB		2.065	-0.061	-0.23	2.510	-0.301	-0.91
MH86J6		2.300	0.174	0.66	3.400	0.589	1.77
MKY4X3		1.825	-0.301	-1.13	2.445	-0.366	-1.10
MVVAR2	*	2.900	0.774	2.92	3.300	0.489	1.47
U7AGLH		2.000	-0.126	-0.47	2.400	-0.411	-1.24
V3BHVP		2.075	-0.051	-0.19	2.920	0.109	0.33
V6X2RG		2.000	-0.126	-0.47	3.000	0.189	0.57
W34Z2J		2.125	-0.001	0.00	3.125	0.314	0.94
XDJ7DD		1.900	-0.226	-0.85	2.460	-0.351	-1.06

Research Property Consensus Value

Consensus Average	2.1259 mg/L	2.8113 mg/L

Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

Wines tested: SA17: Malbec; SA18: Merlot

This consensus average is based on 17 reporting participants.
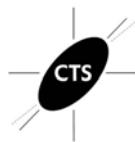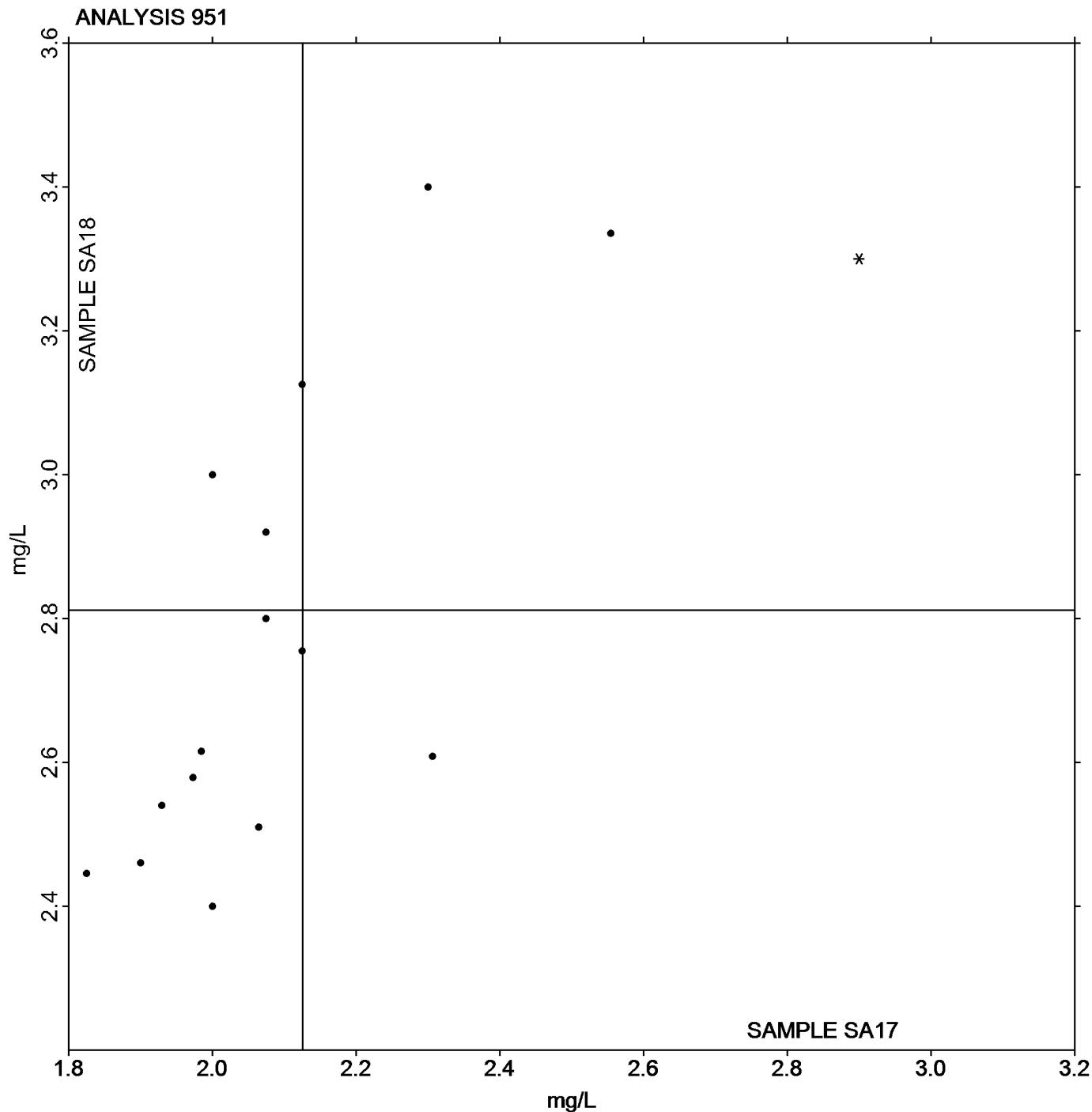
ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 951
Research Property: Iron Content

Report #059
Summer 2018

ANALYSIS 951

If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

WebCode	Data Flag	Sample SA17 Lab Mean	Sample SA17 Diff from Target Value	Sample SA17 % Diff from Target Value	Sample SA18 Lab Mean	Sample SA18 Diff from Target Value	Sample SA18 % Diff from Target Value
24Z2U4		0.2200	-0.0821	-0.67	0.2000	-0.0756	-0.65
279A4N		0.3250	0.0230	0.19	0.3300	0.0544	0.47
3NMVGJ		0.4850	0.1830	1.49	0.3050	0.0294	0.25
3PXNFR		0.3265	0.0245	0.20	0.2205	-0.0551	-0.48
3QU23K		0.4250	0.1230	1.00	0.3550	0.0794	0.69
4ZWQC9		0.1730	-0.1291	-1.05	0.2060	-0.0696	-0.60
67XGZW		0.3450	0.0430	0.35	0.2650	-0.0106	-0.09
6NWG7B		0.5150	0.2130	1.74	0.4150	0.1394	1.21
78HT7F		0.3100	0.0080	0.06	0.3700	0.0944	0.82
7X3WBA	X	1.5900	1.2880	10.51	1.5600	1.2844	11.11
83AMDF		0.3485	0.0465	0.38	0.2875	0.0119	0.10
8VQNEV		0.5155	0.2135	1.74	0.3090	0.0334	0.29
9JA27U	*	0.2600	-0.0421	-0.34	0.4900	0.2144	1.85
9XDF9C		0.2800	-0.0221	-0.18	0.4200	0.1444	1.25
A8ARXB		0.2800	-0.0221	-0.18	0.3000	0.0244	0.21
BJ6EM8		0.3300	0.0280	0.23	0.2800	0.0044	0.04
BQQANB		0.4700	0.1680	1.37	0.4450	0.1694	1.47
BX7UP2	*	0.4450	0.1430	1.17	0.6150	0.3394	2.94
C39MW3		0.1955	-0.1066	-0.87	0.1800	-0.0956	-0.83
CGRB7Z		0.2800	-0.0221	-0.18	0.4300	0.1544	1.34
DBJ3MB		0.2645	-0.0376	-0.31	0.3455	0.0699	0.60
DK8Z8P		0.5450	0.2430	1.98	0.3650	0.0894	0.77
DRPBJ6		0.3950	0.0930	0.76	0.3550	0.0794	0.69
E9C224		0.5200	0.2180	1.78	0.3185	0.0429	0.37
EEGAXY		0.4800	0.1780	1.45	0.2325	-0.0431	-0.37
EG6GNM		0.2000	-0.1021	-0.83	0.2000	-0.0756	-0.65
EZG9KX	*	0.3550	0.0530	0.43	0.5550	0.2794	2.42
FBDPRD		0.2405	-0.0616	-0.50	0.2510	-0.0246	-0.21
FWDNEC		0.3000	-0.0021	-0.02	0.2000	-0.0756	-0.65
G26CDV		0.4560	0.1540	1.26	0.2180	-0.0576	-0.50
GBRHY2		0.1000	-0.2021	-1.65	0.0850	-0.1906	-1.65
GQ9992		0.4650	0.1630	1.33	0.3800	0.1044	0.90
GT9GDC	X	0.5250	0.2230	1.82	0.8000	0.5244	4.54
JAQ6UK	X	0.9500	0.6480	5.29	0.7000	0.4244	3.67
JFYJJV		0.2500	-0.0521	-0.42	0.2350	-0.0406	-0.35
JH3GQH		0.1935	-0.1086	-0.89	0.2070	-0.0686	-0.59

WebCode	Data Flag	Sample SA17 Lab Mean	Sample SA17 Diff from Target Value	Sample SA17 % Diff from Target Value	Sample SA18 Lab Mean	Sample SA18 Diff from Target Value	Sample SA18 % Diff from Target Value
JMX9ZZ		0.2290	-0.0731	-0.60	0.2095	-0.0661	-0.57
K34YAH		0.0750	-0.2271	-1.85	0.0950	-0.1806	-1.56
KJVPDR		0.2100	-0.0921	-0.75	0.2500	-0.0256	-0.22
KUALGB		0.2440	-0.0581	-0.47	0.2315	-0.0441	-0.38
LK4Y44		0.2900	-0.0121	-0.10	0.3700	0.0944	0.82
LLBKBG		0.1020	-0.2001	-1.63	0.1320	-0.1436	-1.24
LWVQQT	M	0.0200	-0.2821	-2.30	No data reported for this sample		
MAXM4R		0.2290	-0.0731	-0.60	0.2115	-0.0641	-0.55
MU2L97		0.0650	-0.2371	-1.93	0.2650	-0.0106	-0.09
MVVAR2		0.2900	-0.0121	-0.10	0.2250	-0.0506	-0.44
NU3KZT		0.2900	-0.0121	-0.10	0.2150	-0.0606	-0.52
NUKPHR		0.3100	0.0080	0.06	0.0450	-0.2306	-2.00
QANZZV		0.2305	-0.0716	-0.58	0.2035	-0.0721	-0.62
QHEL7T		0.5450	0.2430	1.98	0.5200	0.2444	2.11
QQVWJU		0.4250	0.1230	1.00	0.3000	0.0244	0.21
QUTKRN		0.1300	-0.1721	-1.40	0.1250	-0.1506	-1.30
RVGJJR		0.1100	-0.1921	-1.57	0.1650	-0.1106	-0.96
T48E6T		0.3400	0.0380	0.31	0.2750	-0.0006	-0.01
UBLHP2		0.4240	0.1220	0.99	0.4865	0.2109	1.82
UCHVCT		0.2500	-0.0521	-0.42	0.2895	0.0139	0.12
UUKKKJ		0.4350	0.1330	1.08	0.5000	0.2244	1.94
UVTUCG		0.1850	-0.1171	-0.95	0.1850	-0.0906	-0.78
V3BHVP		0.3295	0.0275	0.22	0.2480	-0.0276	-0.24
V6X2RG		0.3800	0.0780	0.64	0.2400	-0.0356	-0.31
VE2ENB		0.2350	-0.0671	-0.55	0.2400	-0.0356	-0.31
VME7E9		0.2200	-0.0821	-0.67	0.2500	-0.0256	-0.22
W34Z2J		0.4064	0.1043	0.85	0.1200	-0.1556	-1.35
X2QJQQ		0.2400	-0.0621	-0.51	0.2750	-0.0006	-0.01
X32HMK		0.1730	-0.1291	-1.05	0.1740	-0.1016	-0.88
XDJ7DD		0.2180	-0.0841	-0.69	0.2260	-0.0496	-0.43
XJACGF		0.1950	-0.1071	-0.87	0.1350	-0.1406	-1.22
XZU64X		0.4800	0.1780	1.45	0.2600	-0.0156	-0.14
ZAXWLR		0.2485	-0.0536	-0.44	0.2445	-0.0311	-0.27
ZGAZNK	X	0.2695	-0.0326	-0.27	0.5855	0.3099	2.68
ZNC3WQ		0.2200	-0.0821	-0.67	0.2250	-0.0506	-0.44
ZTMHVG		0.1900	-0.1121	-0.91	0.1600	-0.1156	-1.00

Research Property Consensus Value		
Consensus Average	0.30205 NTU	0.27563 NTU

Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

Wines tested: SA17: Malbec; SA18: Merlot

This consensus average is based on 67 reporting participants.

## Comments on Assigned Data Flags for Test #952

GT9GDC (X) - Data for sample SA18 are high.

LWVQQT (M) - Participant did not submit data for sample SA18.

7X3WBA (X) - Data for both samples are high. Inconsistent within the determinations of sample SA17.

ZGAZNK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA18.

JAQ6UK (X) - Data for both samples are high.

ANALYSIS 952

SAMPLE SA18

NTU

SAMPLE SA17

NTU

-End of Report-