



Wine Industry Interlaboratory Program

Summary Report #077 - Summer 2024

[Introduction to the Wine Program](#)

[Explanation of Tables and Definitions of Terms](#)

Analysis	Analysis Name
<u>901</u>	<u>Ethanol (% of volume)</u>
<u>902</u>	<u>Total Sulfur Dioxide</u>
<u>903</u>	<u>Free Sulfur Dioxide</u>
<u>904</u>	<u>Titratable Acidity</u>
<u>905</u>	<u>Volatile Acidity</u>
<u>906</u>	<u>Specific Gravity</u>
<u>907</u>	<u>pH</u>
<u>908</u>	<u>Residual Sugar</u>
<u>909</u>	<u>L-Malic Acid</u>
<u>910</u>	<u>Glucose + Fructose</u>
<u>911</u>	<u>Copper Content</u>
<u>912</u>	<u>Potassium Content</u>
<u>915</u>	<u>A420nm (1cm path)</u>
<u>916</u>	<u>A520nm (1cm path)</u>
<u>950</u>	<u>Research: L-Lactic Acid</u>
<u>951</u>	<u>Research: Iron Content</u>
<u>952</u>	<u>Research: Calories</u>

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 industries including color, rubber, plastics, fasteners and metals, containerboard, paper, agriculture, hemp, and wine, 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 100 countries, currently participate in the CTS programs.

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Key for Web Summary Report (Page 1 of 2)

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:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	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.



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 901 Ethanol (% of volume)

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU	X	13.25	-0.22	-4.11	13.24	-0.22	-3.78
32W96T		13.43	-0.04	-0.68	13.44	-0.02	-0.42
3EM67Q		13.54	0.07	1.36	13.54	0.08	1.39
3JGY4R	*	13.42	-0.05	-0.86	13.34	-0.12	-2.14
3RCYHK		13.40	-0.07	-1.24	13.40	-0.06	-1.02
3Z2Q3R		13.52	0.05	0.99	13.52	0.06	1.05
472RFQ		13.47	0.00	0.06	13.46	0.00	0.01
4G8AFA		13.48	0.01	0.16	13.49	0.03	0.53
4T2Q6B	X	13.15	-0.32	-5.88	13.25	-0.21	-3.60
63JN9L		13.45	-0.02	-0.31	13.45	-0.01	-0.16
66MKUA		13.49	0.02	0.44	13.49	0.03	0.53
69BYJJ		13.49	0.02	0.44	13.48	0.02	0.27
6K4F9K		13.45	-0.02	-0.31	13.48	0.02	0.27
6NH98Q		13.46	-0.01	-0.21	13.46	0.00	-0.07
6TVVWP		13.51	0.04	0.81	13.52	0.06	1.05
7KZCX7		13.49	0.02	0.34	13.49	0.03	0.53
8B32ZG	X	13.35	-0.12	-2.16	13.45	-0.01	-0.16
8CYK3H	X	13.56	0.09	1.74	13.42	-0.04	-0.67
8REKWM		13.44	-0.03	-0.59	13.44	-0.02	-0.33
94NHGG		13.47	0.00	-0.03	13.47	0.01	0.19
9AB7E8		13.47	0.00	-0.03	13.38	-0.08	-1.36
9E7WKJ		13.49	0.02	0.34	13.49	0.03	0.53
9HH3X6	X	13.20	-0.27	-4.95	13.30	-0.16	-2.74
9ZZ4T8		13.45	-0.02	-0.40	13.44	-0.02	-0.33
A3QKQL		13.53	0.06	1.18	13.53	0.07	1.22
A7PWLL		13.49	0.02	0.34	13.49	0.03	0.53
AH2776		13.48	0.01	0.16	13.48	0.02	0.27
AMAMKK		13.50	0.03	0.62	13.44	-0.02	-0.33
B28ZC3		13.48	0.01	0.16	13.47	0.01	0.19
BDLXFK		13.48	0.01	0.25	13.49	0.03	0.53
BGHLXD		13.40	-0.07	-1.24	13.40	-0.06	-1.02
BHULTL		13.51	0.04	0.81	13.52	0.06	0.96
BJMAD3		13.42	-0.05	-0.86	13.41	-0.05	-0.93
BMBN3C		13.57	0.10	1.92	13.56	0.10	1.65
BX9PG3	*	13.31	-0.16	-3.00	13.37	-0.09	-1.62



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WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C62G32		13.48	0.01	0.25	13.48	0.02	0.27
CBQYGC		13.54	0.07	1.27	13.53	0.07	1.13
CPBEJC		13.55	0.08	1.55	13.55	0.09	1.57
CTBPFC		13.50	0.03	0.62	13.50	0.04	0.70
CU79GD		13.44	-0.03	-0.49	13.45	-0.01	-0.24
CWRRMG		13.53	0.06	1.09	13.52	0.06	1.05
D7TPUG		13.51	0.04	0.71	13.43	-0.03	-0.50
D93KR3	X	13.15	-0.32	-5.88	12.55	-0.91	-15.67
DF4RFH		13.45	-0.02	-0.31	13.37	-0.09	-1.62
DLNYV2		13.41	-0.06	-1.05	13.36	-0.10	-1.71
DZL9CF		13.44	-0.03	-0.59	13.45	-0.01	-0.24
E2DN2H		13.45	-0.02	-0.31	13.44	-0.02	-0.33
EAT8LH	X	13.59	0.12	2.29	13.47	0.01	0.19
EBNQMJ		13.49	0.02	0.44	13.48	0.02	0.36
EDU9NZ	*	13.31	-0.16	-2.91	13.38	-0.08	-1.45
F3PL99		13.54	0.07	1.27	13.56	0.10	1.65
F9EZXF	X	13.60	0.13	2.48	13.80	0.34	5.87
FTEJM8		13.47	0.00	-0.03	13.47	0.01	0.19
G4UVEB		13.45	-0.02	-0.40	13.45	-0.01	-0.24
HJKTF7		13.55	0.08	1.55	13.54	0.08	1.31
HJKV6A		13.44	-0.03	-0.59	13.45	-0.01	-0.24
HM2K6D	X	13.20	-0.27	-4.95	13.20	-0.26	-4.47
HMLYWW		13.46	-0.01	-0.12	13.41	-0.05	-0.85
J6Y3U9		13.48	0.01	0.16	13.44	-0.02	-0.33
JCH62B		13.47	0.00	0.06	13.47	0.01	0.19
JVCYNU	X	13.80	0.33	6.19	13.90	0.44	7.60
K4LM3T		13.51	0.04	0.71	13.42	-0.04	-0.67
KEKMCC		13.37	-0.10	-1.79	13.36	-0.10	-1.71
KMB7T6		13.34	-0.13	-2.35	13.36	-0.10	-1.71
KNR3L6		13.49	0.02	0.34	13.49	0.03	0.45
KQCAH8		13.50	0.03	0.62	13.51	0.05	0.88
KQWQYA		13.47	0.00	0.06	13.45	-0.01	-0.24
KV6ECB		13.57	0.10	1.83	13.54	0.08	1.39
L7LHYZ		13.37	-0.09	-1.74	13.36	-0.10	-1.78
LA3K67	*	13.40	-0.07	-1.24	13.30	-0.16	-2.74



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**Analysis 901
Ethanol (% of volume)**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LN2RY2	X	13.36	-0.11	-1.98	13.27	-0.19	-3.26
M6TLCR		13.54	0.07	1.36	13.54	0.08	1.39
M8VPY9		13.58	0.11	2.01	13.51	0.05	0.79
MGHLZA		13.46	-0.01	-0.12	13.47	0.01	0.10
N9M32Q		13.48	0.01	0.16	13.48	0.02	0.36
NBBGP2		13.52	0.05	0.99	13.46	0.00	-0.07
NF84G4		13.45	-0.02	-0.31	13.46	0.00	-0.07
PFFUMQ		13.56	0.09	1.74	13.58	0.12	2.00
PH49BZ		13.43	-0.04	-0.77	13.45	-0.01	-0.16
PYTCUP	X	13.30	-0.17	-3.09	13.50	0.04	0.70
QMG977		13.41	-0.06	-1.05	13.42	-0.04	-0.67
QQGD77		13.33	-0.14	-2.54	13.37	-0.09	-1.62
QUE446		13.50	0.03	0.53	13.50	0.04	0.70
REH4RV		13.51	0.04	0.71	13.56	0.10	1.74
RGNQ6Z		13.47	0.00	-0.03	13.47	0.01	0.19
RHJA72		13.40	-0.07	-1.24	13.40	-0.06	-1.02
RK6TC6		13.48	0.01	0.25	13.48	0.02	0.36
RQW2WY		13.48	0.01	0.25	13.48	0.02	0.36
T8JU64		13.48	0.01	0.25	13.49	0.03	0.45
T9PLN4	*	13.46	-0.01	-0.21	13.34	-0.12	-2.05
TD28YV		13.45	-0.02	-0.31	13.44	-0.02	-0.42
TM7EEV		13.45	-0.02	-0.31	13.45	-0.01	-0.16
U2LYCU	X	13.70	0.23	4.24	13.71	0.25	4.24
UKJZQL		13.48	0.01	0.16	13.51	0.05	0.88
UL9GNZ		13.50	0.03	0.62	13.50	0.04	0.70
UXLQ6Y		13.44	-0.03	-0.59	13.40	-0.06	-1.11
V22HWR		13.39	-0.08	-1.42	13.41	-0.05	-0.85
VYXKMK		13.47	0.00	-0.03	13.47	0.01	0.19
W7AZTY		13.45	-0.02	-0.31	13.45	-0.01	-0.16
W7PKEH		13.49	0.02	0.44	13.49	0.03	0.53
WHJXCT		13.49	0.02	0.44	13.49	0.03	0.45
X2ACPW		13.50	0.03	0.62	13.50	0.04	0.62
X4HN7Y		13.39	-0.08	-1.42	13.41	-0.05	-0.85
XK66AV		13.49	0.02	0.44	13.48	0.02	0.36
XXEHTG	*	13.53	0.06	1.18	13.60	0.14	2.34



Analysis 901
Ethanol (% of volume)

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XYNRJT		13.53	0.06	1.18	13.53	0.07	1.13
YVJJRN		13.50	0.03	0.62	13.50	0.04	0.70
ZBBFRX		13.42	-0.05	-0.96	13.42	-0.04	-0.76
ZGEHRR		13.48	0.01	0.25	13.48	0.02	0.36

Grand Means		Summary Statistics	
	13.467 percent		13.459 percent
Std Dev Btwn Labs			
	0.054 percent		0.058 percent
Statistics based on 96 of 109 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #901

- LN2RY2 (X) - Inconsistent in testing, data for sample SA54 are low.
- 8B32ZG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- U2LYCU (X) - Data for both samples are high. Possible Systematic Error.
- 4T2Q6B (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- PYTCUP (X) - Inconsistent in testing, data for sample SA53 are low.
- D93KR3 (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- 8CYK3H (X) - Inconsistent in testing between samples.
- F9EZXF (X) - Inconsistent in testing, data for sample SA54 are high.
- HM2K6D (X) - Data for both samples are low. Possible Systematic Error.
- EAT8LH (X) - Inconsistent in testing between samples.
- 28KTAU (X) - Data for both samples are low. Possible Systematic Error.
- JVCYNU (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA53.
- 9HH3X6 (X) - Inconsistent in testing, data for sample SA53 are low.

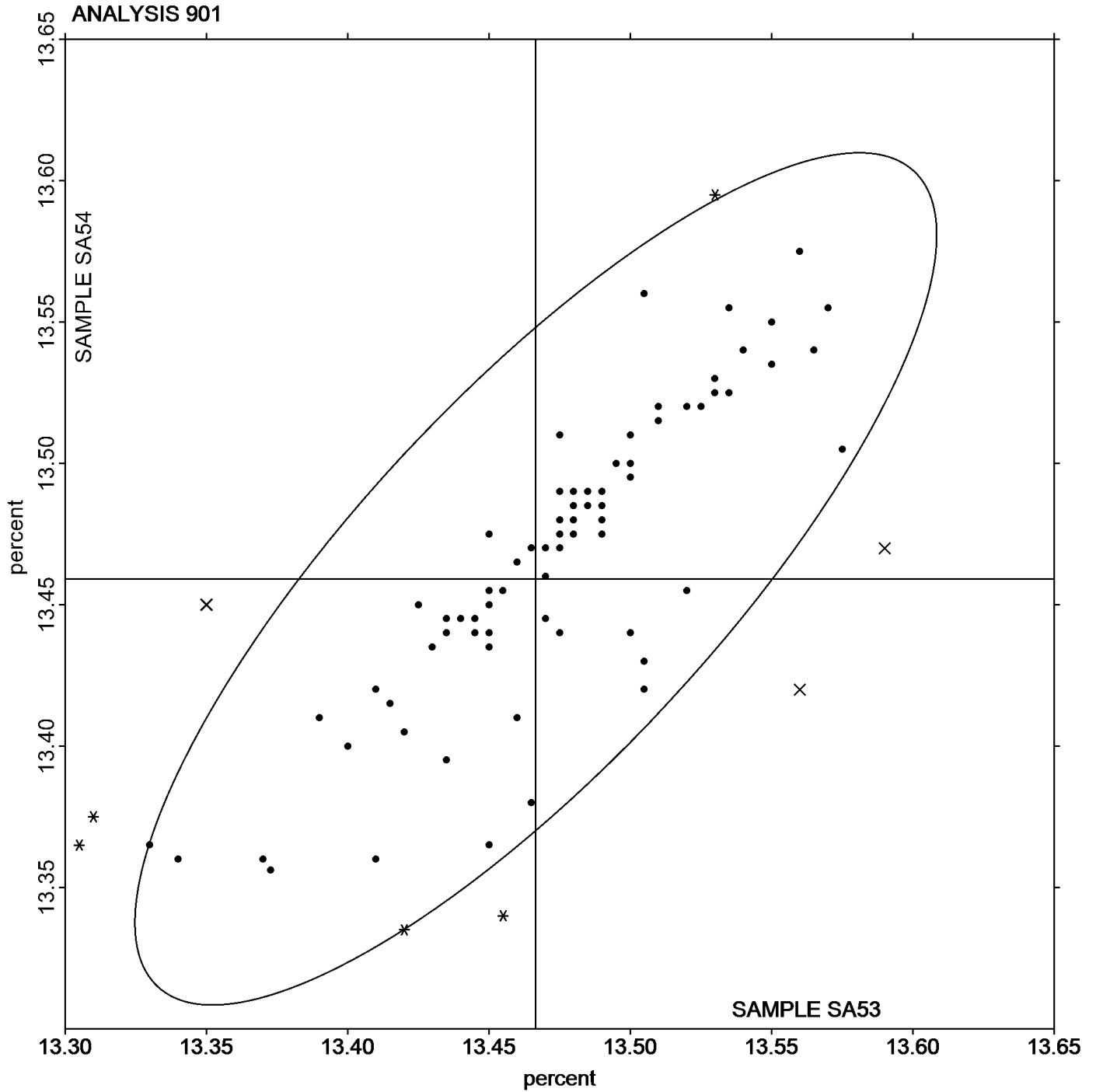


Analysis 901

Ethanol (% of volume)

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	13.450	0.000	-0.02	13.365	0.000	-0.09	1/1
Ebulliometer Method							0/7
Gas Chromatography Method	13.401	0.063	-0.07	13.420	0.073	-0.04	4/5
Near Infrared Method	13.474	0.050	0.01	13.469	0.049	0.01	72/74
Dist. / Density Method	13.434	0.052	-0.03	13.409	0.075	-0.05	9/11
FTIR	13.500	0.045	0.03	13.496	0.057	0.04	8/9
Other	13.393	0.032	-0.07	13.388	0.039	-0.07	2/2





ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		67.50	5.88	0.79	67.00	9.15	1.24
32W96T		57.00	-4.62	-0.62	56.00	-1.85	-0.25
3EM67Q		58.00	-3.62	-0.48	51.00	-6.85	-0.93
3JGY4R		52.00	-9.62	-1.29	46.00	-11.85	-1.61
3RCYHK		76.50	14.88	1.99	72.50	14.65	1.99
3Z2Q3R		56.50	-5.12	-0.68	52.00	-5.85	-0.80
4G8AFA		57.50	-4.12	-0.55	54.00	-3.85	-0.52
4T2Q6B		49.60	-12.02	-1.61	49.60	-8.25	-1.12
63JN9L	X	57.00	-4.62	-0.62	69.00	11.15	1.52
66MKUA		59.00	-2.62	-0.35	55.00	-2.85	-0.39
69BYJJ		55.50	-6.12	-0.82	51.00	-6.85	-0.93
6K4F9K		54.50	-7.12	-0.95	52.00	-5.85	-0.80
6NH98Q		68.00	6.38	0.85	56.50	-1.35	-0.18
6TVVWP		73.50	11.88	1.59	68.00	10.15	1.38
7KZCX7		66.00	4.38	0.59	63.00	5.15	0.70
8B32ZG		46.50	-15.12	-2.02	46.50	-11.35	-1.54
8CYK3H		67.50	5.88	0.79	70.00	12.15	1.65
8REKWM		62.00	0.38	0.05	57.50	-0.35	-0.05
94NHGG		67.50	5.88	0.79	64.50	6.65	0.90
9E7WKJ		55.70	-5.92	-0.79	51.40	-6.45	-0.88
9ZZ4T8	*	71.50	9.88	1.32	73.50	15.65	2.13
A3QKQL		60.85	-0.77	-0.10	58.50	0.65	0.09
A7PWLL		44.00	-17.62	-2.35	41.00	-16.85	-2.29
AH2776		64.00	2.38	0.32	64.00	6.15	0.84
B28ZC3		67.50	5.88	0.79	62.50	4.65	0.63
BDLXFK		59.00	-2.62	-0.35	53.50	-4.35	-0.59
BGHLXD		61.00	-0.62	-0.08	54.00	-3.85	-0.52
BHULTL		70.50	8.88	1.19	67.00	9.15	1.24
BJMAD3		60.00	-1.62	-0.22	54.50	-3.35	-0.46
BMBN3C		54.00	-7.62	-1.02	53.00	-4.85	-0.66
BX9PG3		57.50	-4.12	-0.55	53.50	-4.35	-0.59
C62G32		55.50	-6.12	-0.82	54.00	-3.85	-0.52
CBQYGC		71.30	9.68	1.29	65.00	7.15	0.97
CPBEJC		58.00	-3.62	-0.48	56.50	-1.35	-0.18
CTBPFC		66.50	4.88	0.65	68.50	10.65	1.45



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Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CU79GD		48.00	-13.62	-1.82	44.50	-13.35	-1.82
CWRRMG		68.05	6.43	0.86	62.10	4.25	0.58
D7TPUG		67.50	5.88	0.79	61.50	3.65	0.50
D93KR3		66.15	4.53	0.61	60.20	2.35	0.32
DLNYV2	X	74.00	12.38	1.65	91.00	33.15	4.51
DZL9CF		58.00	-3.62	-0.48	54.50	-3.35	-0.46
E2DN2H		57.00	-4.62	-0.62	58.00	0.15	0.02
EAT8LH		56.00	-5.62	-0.75	48.50	-9.35	-1.27
EBNQMJ		44.50	-17.12	-2.29	45.00	-12.85	-1.75
EDU9NZ		62.50	0.88	0.12	59.50	1.65	0.22
F3PL99		51.00	-10.62	-1.42	51.00	-6.85	-0.93
F9EZXF		60.00	-1.62	-0.22	57.00	-0.85	-0.12
FTEJM8		63.50	1.88	0.25	60.50	2.65	0.36
G4UVEB		57.00	-4.62	-0.62	53.00	-4.85	-0.66
HJKTF7		69.00	7.38	0.99	58.00	0.15	0.02
HM2K6D		69.10	7.48	1.00	61.40	3.55	0.48
HMLYWW		60.00	-1.62	-0.22	52.00	-5.85	-0.80
J6Y3U9		53.00	-8.62	-1.15	51.00	-6.85	-0.93
JCH62B		61.00	-0.62	-0.08	60.00	2.15	0.29
JVCYNU		67.00	5.38	0.72	61.00	3.15	0.43
K4LM3T		61.50	-0.12	-0.02	52.50	-5.35	-0.73
KEKMCC		47.50	-14.12	-1.89	48.50	-9.35	-1.27
KMB7T6		68.00	6.38	0.85	63.00	5.15	0.70
KNR3L6		66.50	4.88	0.65	61.50	3.65	0.50
KQCAH8		55.00	-6.62	-0.88	47.00	-10.85	-1.48
KQWQYA		63.50	1.88	0.25	62.00	4.15	0.56
KV6ECB		57.05	-4.57	-0.61	52.55	-5.30	-0.72
L7LHYZ		47.90	-13.72	-1.83	42.34	-15.51	-2.11
LA3K67	*	81.00	19.38	2.59	74.00	16.15	2.20
LN2RY2		68.00	6.38	0.85	61.50	3.65	0.50
M6TLCR		53.00	-8.62	-1.15	51.00	-6.85	-0.93
M8VPY9	*	68.20	6.58	0.88	54.50	-3.35	-0.46
MGHLZA		65.00	3.38	0.45	57.50	-0.35	-0.05
N9M32Q		63.50	1.88	0.25	64.50	6.65	0.90
NBBGP2		73.00	11.38	1.52	72.50	14.65	1.99



Analysis 902
Total Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NF84G4	X	60.00	-1.62	-0.22	45.00	-12.85	-1.75
PFFUMQ		68.50	6.88	0.92	62.00	4.15	0.56
PH49BZ		61.00	-0.62	-0.08	54.50	-3.35	-0.46
PYTCUP		52.00	-9.62	-1.29	48.00	-9.85	-1.34
QMG977		69.50	7.88	1.05	69.50	11.65	1.58
QQGD77		59.50	-2.12	-0.28	55.50	-2.35	-0.32
QUE446		57.00	-4.62	-0.62	58.00	0.15	0.02
REH4RV		56.00	-5.62	-0.75	52.00	-5.85	-0.80
RGNQ6Z		63.50	1.88	0.25	61.50	3.65	0.50
RHJA72		75.00	13.38	1.79	67.50	9.65	1.31
RK6TC6		59.50	-2.12	-0.28	53.00	-4.85	-0.66
RQW2WY		57.00	-4.62	-0.62	55.50	-2.35	-0.32
T8JU64		60.50	-1.12	-0.15	53.50	-4.35	-0.59
T9PLN4		68.50	6.88	0.92	57.50	-0.35	-0.05
TD28YV		64.00	2.38	0.32	55.50	-2.35	-0.32
TM7EEV		72.00	10.38	1.39	68.00	10.15	1.38
U2LYCU		67.50	5.88	0.79	64.00	6.15	0.84
UKJZQL		56.00	-5.62	-0.75	52.50	-5.35	-0.73
UL9GNZ		61.00	-0.62	-0.08	58.00	0.15	0.02
UXLQ6Y		63.50	1.88	0.25	61.00	3.15	0.43
V22HWR		62.00	0.38	0.05	64.00	6.15	0.84
VYXKMK		71.50	9.88	1.32	71.00	13.15	1.79
W7AZTY		63.50	1.88	0.25	65.00	7.15	0.97
W7PKEH		52.50	-9.12	-1.22	47.50	-10.35	-1.41
WHJXCT		60.50	-1.12	-0.15	55.00	-2.85	-0.39
X2ACPW		69.00	7.38	0.99	64.50	6.65	0.90
X4HN7Y		61.00	-0.62	-0.08	61.50	3.65	0.50
XK66AV		64.00	2.38	0.32	64.50	6.65	0.90
XXEHTG		69.50	7.88	1.05	68.50	10.65	1.45
XYNRJT		59.55	-2.07	-0.28	54.55	-3.30	-0.45
YFQGKW	*	78.00	16.38	2.19	68.50	10.65	1.45
YVJJRN		57.50	-4.12	-0.55	55.50	-2.35	-0.32
ZBBFRX		53.50	-8.12	-1.09	51.50	-6.35	-0.86
ZGEHRR	X	21.50	-40.12	-5.36	22.50	-35.35	-4.81



Analysis 902
Total Sulfur Dioxide

Grand Means		Summary Statistics	
	61.620 mg/L		57.846 mg/L
Std Dev Btwn Labs			7.353 mg/L
	7.482 mg/L		
Statistics based on 100 of 104 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #902

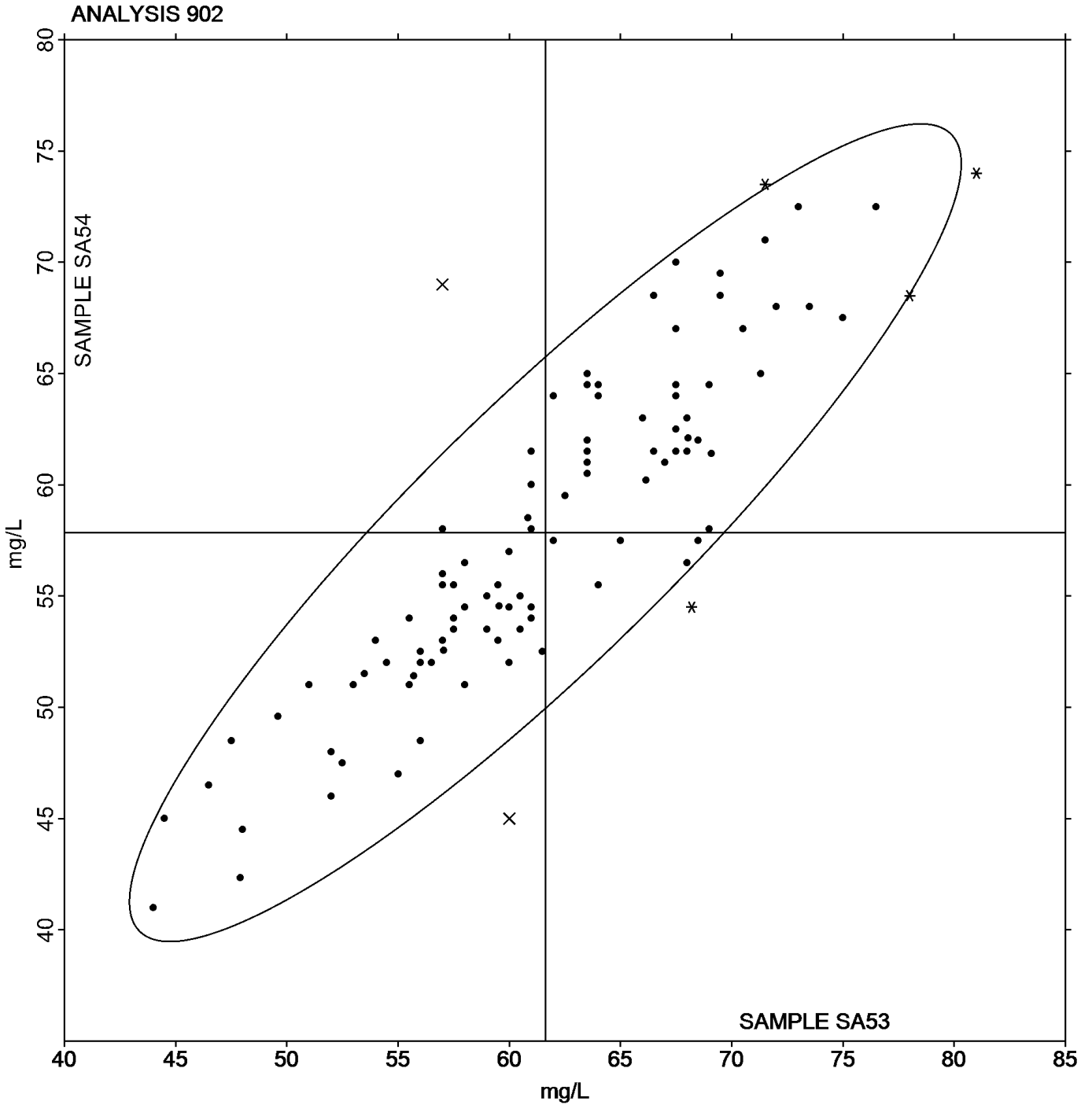
- 63JN9L (X) - Inconsistent in testing between samples. Lab may have transposed data between samples.
- ZGEHRR (X) - Data for both samples are low. Possible Systematic Error.
- NF84G4 (X) - Inconsistent in testing between samples.
- DLNYY2 (X) - Inconsistent in testing between samples, data for sample SA54 are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	61.000	0.000	-0.62	60.000	0.000	2.15	1/2
Ripper Method	61.153	8.128	-0.47	58.579	8.284	0.73	39/41
Aeration Oxidation (AO) Method	60.889	9.037	-0.73	56.556	5.897	-1.29	9/10
Segmented Flow Analyzer	57.221	1.933	-4.40	52.364	2.735	-5.48	7/7
Enzymatic Method	64.009	5.646	2.39	60.469	5.337	2.62	16/16
Colorimetric Analyzer	61.963	6.823	0.34	56.978	6.867	-0.87	16/16
FTIR	67.300	4.102	5.68	61.700	6.058	3.85	5/5
Flow Injection Analysis	59.343	10.580	-2.28	53.834	9.832	-4.01	7/7



Analysis 902
Total Sulfur Dioxide





ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		23.00	-0.57	-0.25	22.50	-1.05	-0.39
32W96T		22.00	-1.57	-0.67	23.00	-0.55	-0.21
3EM67Q		24.00	0.43	0.18	24.00	0.45	0.17
3JGY4R		23.00	-0.57	-0.25	21.00	-2.55	-0.95
3RCYHK		23.50	-0.07	-0.03	24.00	0.45	0.17
3Z2Q3R		24.00	0.43	0.18	25.00	1.45	0.54
472RFQ		24.55	0.98	0.42	23.80	0.25	0.09
4G8AFA		19.00	-4.57	-1.96	19.00	-4.55	-1.70
4T2Q6B		25.60	2.03	0.87	25.60	2.05	0.77
63JN9L		25.50	1.93	0.83	25.00	1.45	0.54
66MKUA		22.50	-1.07	-0.46	22.50	-1.05	-0.39
69BYJJ		25.00	1.43	0.61	26.50	2.95	1.10
6K4F9K		23.50	-0.07	-0.03	23.50	-0.05	-0.02
6NH98Q		24.00	0.43	0.18	22.50	-1.05	-0.39
6TVVWP	X	25.50	1.93	0.83	21.00	-2.55	-0.95
7KZCX7		23.50	-0.07	-0.03	23.50	-0.05	-0.02
8B32ZG		25.00	1.43	0.61	24.00	0.45	0.17
8CYK3H		28.50	4.93	2.12	27.50	3.95	1.48
8REKWM		24.00	0.43	0.18	23.00	-0.55	-0.21
94NHGG		23.00	-0.57	-0.25	25.50	1.95	0.73
9AB7E8		21.75	-1.82	-0.78	19.46	-4.09	-1.53
9E7WKJ		23.55	-0.02	-0.01	24.35	0.80	0.30
9HH3X6		21.60	-1.97	-0.85	22.40	-1.15	-0.43
9ZZ4T8		22.00	-1.57	-0.67	22.50	-1.05	-0.39
A3QKQL		24.00	0.43	0.18	23.50	-0.05	-0.02
A7PWLL		24.00	0.43	0.18	26.00	2.45	0.92
AH2776		23.50	-0.07	-0.03	24.50	0.95	0.36
AMAMKK	X	24.50	0.93	0.40	14.50	-9.05	-3.39
B28ZC3	X	14.50	-9.07	-3.90	18.00	-5.55	-2.08
BDLXFK		26.00	2.43	1.04	27.50	3.95	1.48
BGHLXD		25.00	1.43	0.61	24.00	0.45	0.17
BHULTL		26.00	2.43	1.04	26.00	2.45	0.92
BJMAD3		21.50	-2.07	-0.89	22.00	-1.55	-0.58
BMBN3C		23.50	-0.07	-0.03	24.50	0.95	0.36
BX9PG3		23.50	-0.07	-0.03	24.00	0.45	0.17



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C62G32		22.00	-1.57	-0.67	21.50	-2.05	-0.77
CBQYGC		24.00	0.43	0.18	23.00	-0.55	-0.21
CPBEJC		22.00	-1.57	-0.67	25.00	1.45	0.54
CTBPFC		26.50	2.93	1.26	26.00	2.45	0.92
CU79GD		22.00	-1.57	-0.67	22.00	-1.55	-0.58
CWRRMG		24.95	1.38	0.59	24.80	1.25	0.47
D7TPUG		22.22	-1.35	-0.58	21.83	-1.72	-0.65
D93KR3		28.35	4.78	2.05	28.65	5.10	1.91
DF4RFH		22.04	-1.53	-0.66	19.64	-3.91	-1.46
DLNYV2		20.00	-3.57	-1.53	19.00	-4.55	-1.70
DZL9CF		25.00	1.43	0.61	25.00	1.45	0.54
E2DN2H		26.50	2.93	1.26	26.50	2.95	1.10
EAT8LH	*	18.60	-4.97	-2.14	16.25	-7.30	-2.73
EBNQMJ		20.00	-3.57	-1.53	20.00	-3.55	-1.33
EDU9NZ		21.00	-2.57	-1.10	22.00	-1.55	-0.58
F3PL99		21.00	-2.57	-1.10	22.00	-1.55	-0.58
F9EZXF		25.00	1.43	0.61	23.00	-0.55	-0.21
FTEJM8		26.50	2.93	1.26	27.00	3.45	1.29
G4UVEB		27.00	3.43	1.47	27.00	3.45	1.29
HJKTF7		21.50	-2.07	-0.89	20.00	-3.55	-1.33
HJKV6A		22.50	-1.07	-0.46	23.50	-0.05	-0.02
HM2K6D	X	33.30	9.73	4.18	28.20	4.65	1.74
HMLYWW		19.00	-4.57	-1.96	17.00	-6.55	-2.45
J6Y3U9		22.00	-1.57	-0.67	23.50	-0.05	-0.02
JCH62B		21.50	-2.07	-0.89	23.00	-0.55	-0.21
JVCYNU		22.50	-1.07	-0.46	20.00	-3.55	-1.33
K4LM3T		23.00	-0.57	-0.25	20.00	-3.55	-1.33
KEKMCC	X	16.50	-7.07	-3.04	18.50	-5.05	-1.89
KMB7T6		21.00	-2.57	-1.10	21.00	-2.55	-0.95
KNR3L6	X	33.00	9.43	4.05	29.00	5.45	2.04
KQCAH8		22.00	-1.57	-0.67	20.00	-3.55	-1.33
KQWQYA		24.50	0.93	0.40	23.50	-0.05	-0.02
KV6ECB		25.20	1.63	0.70	24.20	0.65	0.24
L7LHYZ	X	14.24	-9.33	-4.01	14.15	-9.40	-3.52
LA3K67	X	33.00	9.43	4.05	25.00	1.45	0.54



ASEV-CTS Wine Industry Interlaboratory Testing Program

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**Analysis 903
Free Sulfur Dioxide**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LN2RY2	*	29.00	5.43	2.33	27.00	3.45	1.29
M6TLCR		22.00	-1.57	-0.67	23.00	-0.55	-0.21
M8VPY9		23.85	0.28	0.12	21.15	-2.40	-0.90
MGHLZA		23.50	-0.07	-0.03	25.00	1.45	0.54
N9M32Q	X	31.50	7.93	3.41	30.50	6.95	2.60
NBBGP2	*	29.50	5.93	2.55	29.50	5.95	2.23
NF84G4		24.00	0.43	0.18	24.50	0.95	0.36
PFFUMQ		23.50	-0.07	-0.03	22.50	-1.05	-0.39
PH49BZ		24.00	0.43	0.18	22.00	-1.55	-0.58
PYTCUP		22.00	-1.57	-0.67	22.00	-1.55	-0.58
QMG977		28.50	4.93	2.12	29.00	5.45	2.04
QUE446		24.00	0.43	0.18	25.00	1.45	0.54
REH4RV		23.00	-0.57	-0.25	23.00	-0.55	-0.21
RGNQ6Z		25.00	1.43	0.61	25.00	1.45	0.54
RHJA72		22.00	-1.57	-0.67	22.50	-1.05	-0.39
RK6TC6		22.75	-0.82	-0.35	21.65	-1.90	-0.71
RQW2WY		23.50	-0.07	-0.03	26.00	2.45	0.92
T8JU64		25.00	1.43	0.61	25.00	1.45	0.54
T9PLN4		23.50	-0.07	-0.03	24.50	0.95	0.36
TD28YV		25.00	1.43	0.61	25.00	1.45	0.54
TM7EEV		27.50	3.93	1.69	28.00	4.45	1.67
U2LYCU		22.00	-1.57	-0.67	23.00	-0.55	-0.21
UKJZQL		27.50	3.93	1.69	27.50	3.95	1.48
UL9GNZ		22.50	-1.07	-0.46	22.50	-1.05	-0.39
UXLQ6Y		19.00	-4.57	-1.96	19.00	-4.55	-1.70
V22HWR		23.50	-0.07	-0.03	23.50	-0.05	-0.02
VYXKMK		21.00	-2.57	-1.10	22.00	-1.55	-0.58
W7AZTY		23.00	-0.57	-0.25	26.00	2.45	0.92
W7PKEH		21.95	-1.62	-0.70	20.20	-3.35	-1.25
WHJXCT		18.00	-5.57	-2.39	18.00	-5.55	-2.08
X2ACPW		26.00	2.43	1.04	25.00	1.45	0.54
X4HN7Y	*	27.00	3.43	1.47	30.00	6.45	2.42
XK66AV		28.00	4.43	1.90	27.00	3.45	1.29
XXEHTG		23.00	-0.57	-0.25	23.50	-0.05	-0.02
XYNRJT		21.95	-1.62	-0.70	22.40	-1.15	-0.43



Analysis 903
Free Sulfur Dioxide

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YVJJRN		21.50	-2.07	-0.89	23.00	-0.55	-0.21
ZBBFRX		24.50	0.93	0.40	26.00	2.45	0.92
ZGEHRR	X	53.00	29.43	12.64	49.00	25.45	9.53

Grand Means	Summary Statistics
23.571 mg/L	23.550 mg/L
Std Dev Btwn Labs	
2.328 mg/L	2.670 mg/L
Statistics based on 98 of 108 reporting participants	

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #903

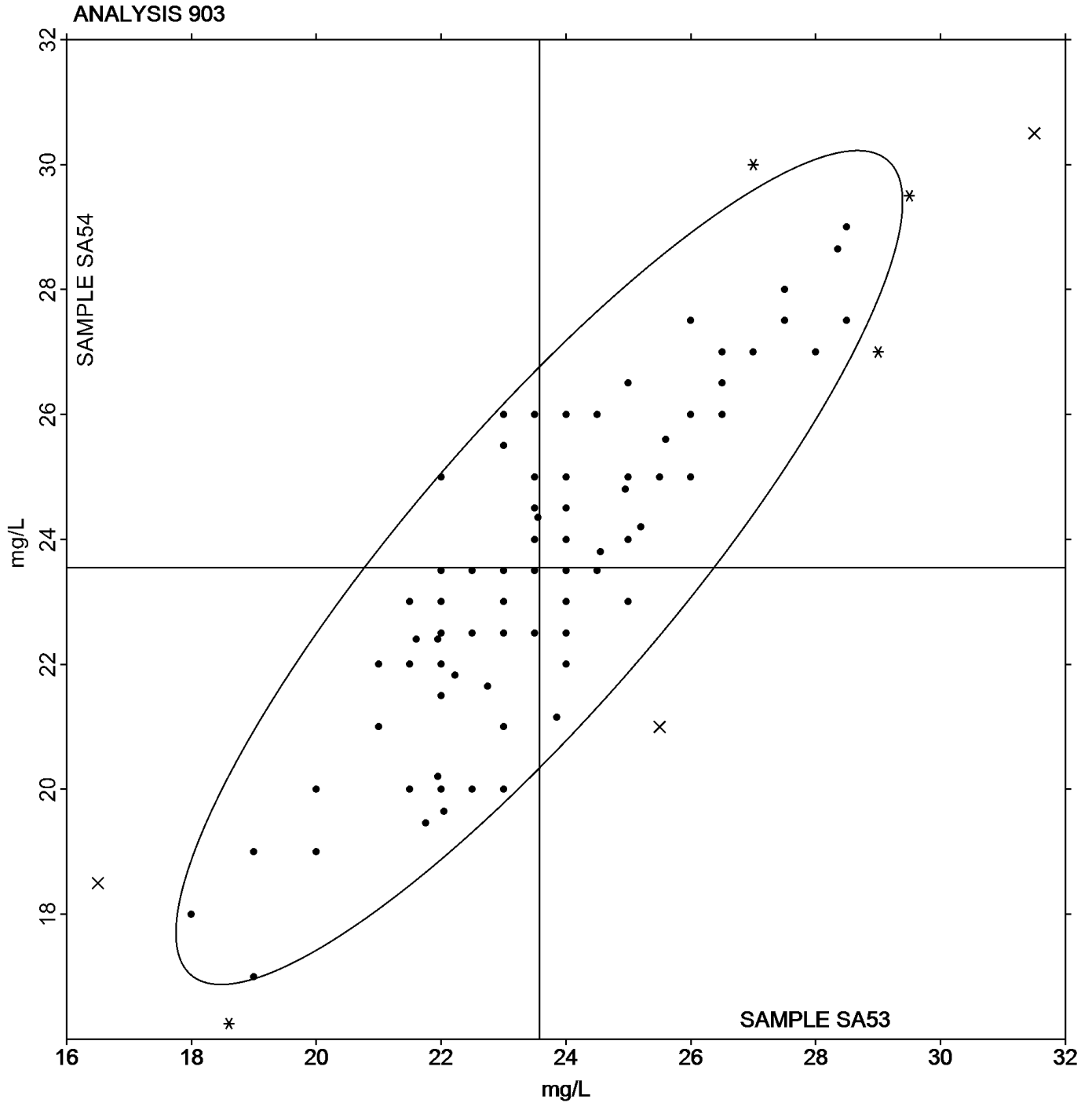
- AMAMKK (X) - Inconsistent in testing between samples, data for sample SA54 are low.
- L7LHYZ (X) - Data for both samples are low. Possible Systematic Error.
- KNR3L6 (X) - Data for sample SA53 are high. Inconsistent within the determinations of sample SA53.
- ZGEHRR (X) - Data for both samples are high.
- LA3K67 (X) - Inconsistent in testing between samples, data for sample SA53 are high.
- 6TVWVP (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA54.
- HM2K6D (X) - Inconsistent in testing between samples, data for sample SA53 are high.
- KEKMCC (X) - Inconsistent in testing between samples, data for sample SA53 are low.
- B28ZC3 (X) - Inconsistent in testing between samples, data for sample SA53 are low.
- N9M32Q (X) - Inconsistent in testing between samples, data for sample SA53 are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	22.886	1.790	-0.68	22.536	2.210	-1.01	4/4
Ripper Method	24.786	2.628	1.22	24.774	3.262	1.22	29/34
Aeration Oxidation (AO) Method	23.045	1.528	-0.53	23.571	1.653	0.02	27/28
Segmented Flow Analyzer	24.079	1.904	0.51	24.043	2.319	0.49	7/7
Enzymatic Method	23.050	1.624	-0.52	22.700	1.358	-0.85	10/11
Colormetric Analyzer	24.310	2.454	0.74	23.735	2.949	0.19	10/11
Flow Injection Analysis	22.033	2.578	-1.54	21.200	2.683	-2.35	6/8
FTIR	20.600	1.475	-2.97	20.600	1.673	-2.95	5/5



Analysis 903
Free Sulfur Dioxide





Analysis 904
Titratable Acidity

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		5.930	0.159	0.86	5.890	0.082	0.49
32W96T		5.800	0.029	0.16	5.850	0.042	0.25
3EM67Q		5.726	-0.045	-0.24	5.700	-0.108	-0.65
3JGY4R		5.845	0.074	0.40	5.905	0.097	0.58
3RCYHK		5.800	0.029	0.16	5.800	-0.008	-0.05
3Z2Q3R	*	5.200	-0.571	-3.09	5.300	-0.508	-3.04
472RFQ		5.900	0.129	0.70	5.800	-0.008	-0.05
4G8AFA		5.700	-0.071	-0.38	5.750	-0.058	-0.35
4T2Q6B	*	6.200	0.429	2.33	6.100	0.292	1.75
66MKUA		5.800	0.029	0.16	5.800	-0.008	-0.05
69BYJJ		5.600	-0.171	-0.93	5.600	-0.208	-1.24
6K4F9K		5.850	0.079	0.43	5.850	0.042	0.25
6NH98Q		5.735	-0.036	-0.19	5.745	-0.063	-0.38
6TVVWP		6.000	0.229	1.24	6.100	0.292	1.75
7KZCX7	*	6.100	0.329	1.78	6.200	0.392	2.34
8B32ZG		5.700	-0.071	-0.38	5.650	-0.158	-0.94
8CYK3H		5.956	0.185	1.00	5.910	0.102	0.61
8REKWM		5.805	0.034	0.19	5.840	0.032	0.19
94NHGG		6.125	0.354	1.92	6.080	0.272	1.63
9AB7E8		5.860	0.089	0.48	5.845	0.037	0.22
9E7WKJ		5.615	-0.156	-0.84	5.665	-0.143	-0.85
9HH3X6		5.630	-0.141	-0.76	5.700	-0.108	-0.65
9ZZ4T8		5.770	-0.001	0.00	5.740	-0.068	-0.41
A3QKQL		6.000	0.229	1.24	5.990	0.182	1.09
A7PWLL		5.750	-0.021	-0.11	5.700	-0.108	-0.65
AH2776		5.800	0.029	0.16	5.750	-0.058	-0.35
AMAMKK		5.800	0.029	0.16	5.800	-0.008	-0.05
B28ZC3		5.425	-0.346	-1.87	5.560	-0.248	-1.48
BDLXFK		5.710	-0.061	-0.33	5.740	-0.068	-0.41
BGHLXD		5.800	0.029	0.16	5.800	-0.008	-0.05
BHULTL		5.980	0.209	1.13	6.060	0.252	1.51
BJMAD3		5.500	-0.271	-1.47	5.600	-0.208	-1.24
BMBN3C		5.710	-0.061	-0.33	5.765	-0.043	-0.26
BX9PG3		5.940	0.169	0.92	6.045	0.237	1.42
C62G32		5.600	-0.171	-0.93	5.650	-0.158	-0.94



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CBQYGC		5.950	0.179	0.97	5.950	0.142	0.85
CPBEJC		5.800	0.029	0.16	5.850	0.042	0.25
CTBPFC		5.680	-0.091	-0.49	5.875	0.067	0.40
CU79GD		5.700	-0.071	-0.38	5.700	-0.108	-0.65
CWRRMG		5.795	0.024	0.13	5.815	0.007	0.04
D7TPUG		5.510	-0.261	-1.41	5.525	-0.283	-1.69
D93KR3	X	4.975	-0.796	-4.31	5.030	-0.778	-4.65
DF4RFH		5.870	0.099	0.54	5.915	0.107	0.64
DLNYV2		5.530	-0.241	-1.30	5.730	-0.078	-0.47
DZL9CF		6.050	0.279	1.51	6.050	0.242	1.45
E2DN2H		6.050	0.279	1.51	6.050	0.242	1.45
EAT8LH		5.969	0.198	1.07	6.020	0.212	1.26
EBNQMJ		5.727	-0.044	-0.24	5.798	-0.010	-0.06
EDU9NZ		5.775	0.004	0.02	5.875	0.067	0.40
F3PL99		5.600	-0.171	-0.93	5.650	-0.158	-0.94
F9EZXF	X	5.400	-0.371	-2.01	5.800	-0.008	-0.05
FTEJM8		5.750	-0.021	-0.11	5.900	0.092	0.55
G4UVEB		6.150	0.379	2.06	6.150	0.342	2.04
HJKTF7		5.745	-0.026	-0.14	5.855	0.047	0.28
HJKV6A		5.815	0.044	0.24	5.795	-0.013	-0.08
HM2K6D	X	6.300	0.529	2.87	6.000	0.192	1.15
HMLYWW		5.800	0.029	0.16	5.800	-0.008	-0.05
J6Y3U9		5.680	-0.091	-0.49	5.670	-0.138	-0.82
JCH62B		5.930	0.159	0.86	6.000	0.192	1.15
JVCYNU		6.004	0.233	1.26	6.014	0.206	1.23
K4LM3T		5.600	-0.171	-0.93	5.600	-0.208	-1.24
KEKMCC		5.850	0.079	0.43	5.760	-0.048	-0.29
KMB7T6	X	5.160	-0.611	-3.31	5.255	-0.553	-3.31
KNR3L6		5.495	-0.276	-1.49	5.575	-0.233	-1.39
KQCAH8		5.600	-0.171	-0.93	5.700	-0.108	-0.65
KQWQYA		5.805	0.034	0.19	5.860	0.052	0.31
KV6ECB	X	6.100	0.329	1.78	6.350	0.542	3.24
L7LHYZ		5.705	-0.066	-0.36	5.740	-0.068	-0.41
LA3K67	*	5.230	-0.541	-2.93	5.350	-0.458	-2.74
LN2RY2		5.770	-0.001	0.00	5.875	0.067	0.40



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WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
M6TLCR		5.700	-0.071	-0.38	5.800	-0.008	-0.05
M8VPY9		5.945	0.174	0.94	5.820	0.012	0.07
MGHLZA		5.500	-0.271	-1.47	5.600	-0.208	-1.24
N9M32Q		5.950	0.179	0.97	6.000	0.192	1.15
NBBGP2	X	4.920	-0.851	-4.61	4.980	-0.828	-4.95
NF84G4		5.600	-0.171	-0.93	5.650	-0.158	-0.94
PFFUMQ		6.065	0.294	1.59	6.140	0.332	1.99
PYTCUP	X	5.400	-0.371	-2.01	5.150	-0.658	-3.93
QMG977	*	5.750	-0.021	-0.11	5.950	0.142	0.85
QQGD77		5.700	-0.071	-0.38	5.850	0.042	0.25
QUE446		5.930	0.159	0.86	5.920	0.112	0.67
REH4RV		5.600	-0.171	-0.93	5.700	-0.108	-0.65
RGNQ6Z		5.585	-0.186	-1.01	5.655	-0.153	-0.91
RHJA72		6.000	0.229	1.24	5.950	0.142	0.85
RK6TC6		5.750	-0.021	-0.11	5.780	-0.028	-0.17
RQW2WY		5.665	-0.106	-0.57	5.710	-0.098	-0.59
T8JU64		5.605	-0.166	-0.90	5.680	-0.128	-0.76
T9PLN4		5.660	-0.111	-0.60	5.667	-0.141	-0.85
TD28YV		5.600	-0.171	-0.93	5.665	-0.143	-0.85
TM7EEV		5.700	-0.071	-0.38	5.685	-0.123	-0.73
U2LYCU		5.700	-0.071	-0.38	5.800	-0.008	-0.05
UKJZQL		5.750	-0.021	-0.11	5.850	0.042	0.25
UL9GNZ		5.600	-0.171	-0.93	5.550	-0.258	-1.54
UXLQ6Y	X	5.480	-0.291	-1.58	5.995	0.187	1.12
V22HWR		5.805	0.034	0.19	5.885	0.077	0.46
VYXKMK		5.535	-0.236	-1.28	5.635	-0.173	-1.03
W7AZTY		5.600	-0.171	-0.93	5.650	-0.158	-0.94
W7PKEH		5.640	-0.131	-0.71	5.710	-0.098	-0.59
WHJXCT	X	5.265	-0.506	-2.74	6.300	0.492	2.94
X2ACPW		5.820	0.049	0.27	5.840	0.032	0.19
X4HN7Y	*	6.200	0.429	2.33	6.050	0.242	1.45
XK66AV		5.900	0.129	0.70	6.050	0.242	1.45
XXEHTG		5.860	0.089	0.48	5.830	0.022	0.13
XYNRJT		5.795	0.024	0.13	5.905	0.097	0.58
YFQGKW		5.807	0.036	0.20	5.715	-0.093	-0.56



**Analysis 904
Titratable Acidity**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZBBFRX		5.850	0.079	0.43	5.950	0.142	0.85

Grand Means	Summary Statistics
5.7708 g/L as tartaric acid	5.8079 g/L as tartaric acid
Stnd Dev Btwn Labs	
0.1845 g/L as tartaric acid	0.1673 g/L as tartaric acid
Statistics based on 97 of 106 reporting participants	

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #904

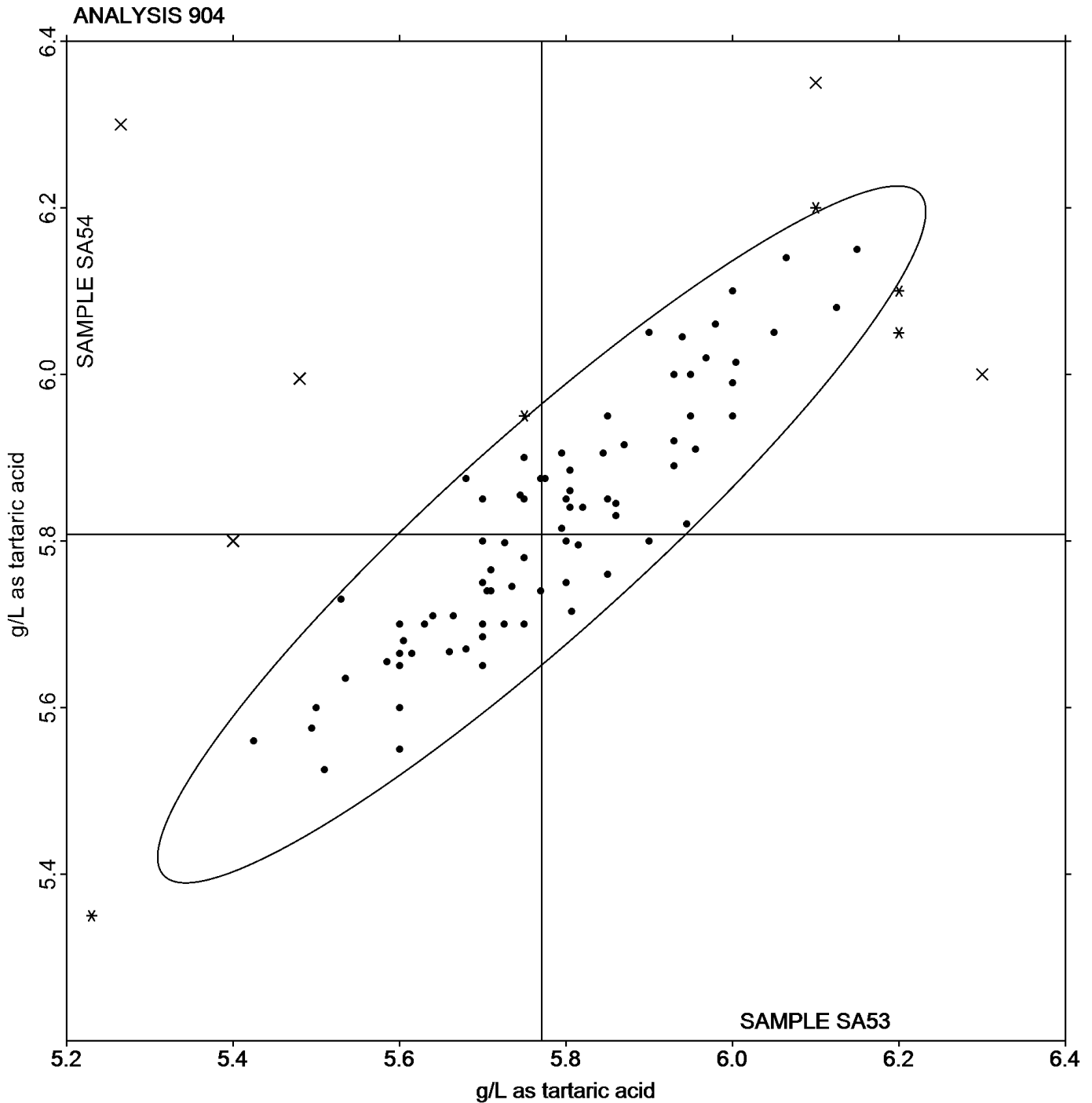
- NBBGP2 (X) - Data for both samples are low. Possible Systematic Error.
- KMB7T6 (X) - Data for both samples are low. Possible Systematic Error.
- WHJXCT (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- UXLQ6Y (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA54.
- F9EZXF (X) - Inconsistent in testing between samples.
- HM2K6D (X) - Inconsistent in testing between samples, data for sample SA53 are high.
- KV6ECB (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- PYTCUP (X) - Inconsistent in testing between samples, data for sample SA54 are low.
- D93KR3 (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	5.870	0.000	0.099	5.915	0.000	0.107	1/1
Autotitration	5.769	0.159	-0.002	5.806	0.153	-0.002	71/73
Manual Titration	5.843	0.256	0.072	5.856	0.220	0.048	15/18
FTIR	5.652	0.211	-0.119	5.732	0.181	-0.076	9/13
Segmented Flow Analyzer	5.800	0.000	0.029	5.800	0.000	-0.008	1/1



Analysis 904
Titratable Acidity





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**Analysis 905
Volatile Acidity**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		0.4850	-0.0072	-0.19	0.4400	0.0138	0.44
32W96T		0.4600	-0.0322	-0.85	0.3950	-0.0312	-0.98
3EM67Q		0.4700	-0.0222	-0.59	0.4050	-0.0212	-0.67
3JGY4R		0.5100	0.0178	0.47	0.4400	0.0138	0.44
3RCYHK		0.4500	-0.0422	-1.12	0.3800	-0.0462	-1.45
3Z2Q3R		0.4850	-0.0072	-0.19	0.4150	-0.0112	-0.35
472RFQ	X	0.4150	-0.0772	-2.05	0.4700	0.0438	1.38
4G8AFA	X	0.5800	0.0878	2.33	0.5350	0.1088	3.43
63JN9L		0.5100	0.0178	0.47	0.4450	0.0188	0.59
66MKUA		0.4650	-0.0272	-0.72	0.4000	-0.0262	-0.82
69BYJJ		0.4800	-0.0122	-0.32	0.4150	-0.0112	-0.35
6K4F9K		0.4950	0.0028	0.08	0.4500	0.0238	0.75
6NH98Q		0.4850	-0.0072	-0.19	0.4200	-0.0062	-0.19
6TVVWP		0.5000	0.0078	0.21	0.4350	0.0088	0.28
7KZCX7		0.4750	-0.0172	-0.45	0.3950	-0.0312	-0.98
8B32ZG	X	0.5950	0.1028	2.73	0.5650	0.1388	4.37
8CYK3H		0.4750	-0.0172	-0.45	0.4050	-0.0212	-0.67
8REKWM		0.4600	-0.0322	-0.85	0.4200	-0.0062	-0.19
94NHGG		0.4800	-0.0122	-0.32	0.4250	-0.0012	-0.04
9AB7E8		0.4800	-0.0122	-0.32	0.4150	-0.0112	-0.35
9E7WKJ		0.5165	0.0243	0.65	0.4535	0.0273	0.86
9HH3X6	*	0.3950	-0.0972	-2.58	0.3650	-0.0612	-1.93
9ZZ4T8	X	0.4800	-0.0122	-0.32	0.5050	0.0788	2.48
A3QKQL		0.4950	0.0028	0.08	0.4250	-0.0012	-0.04
A7PWLL	*	0.4800	-0.0122	-0.32	0.3800	-0.0462	-1.45
AH2776		0.4400	-0.0522	-1.38	0.3900	-0.0362	-1.14
AMAMKK		0.4150	-0.0772	-2.05	0.3650	-0.0612	-1.93
B28ZC3		0.5100	0.0178	0.47	0.4450	0.0188	0.59
BDLXFK		0.4700	-0.0222	-0.59	0.4000	-0.0262	-0.82
BGHLXD		0.5250	0.0328	0.87	0.4600	0.0338	1.06
BHULTL		0.4450	-0.0472	-1.25	0.3900	-0.0362	-1.14
BJMAD3		0.5050	0.0128	0.34	0.4150	-0.0112	-0.35
BMBN3C		0.4900	-0.0022	-0.06	0.4300	0.0038	0.12
BX9PG3	*	0.5200	0.0278	0.74	0.4850	0.0588	1.85
C62G32		0.4800	-0.0122	-0.32	0.4150	-0.0112	-0.35



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WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CBQYGC		0.5350	0.0428	1.14	0.4600	0.0338	1.06
CPBEJC		0.4650	-0.0272	-0.72	0.4050	-0.0212	-0.67
CTBPFC		0.4600	-0.0322	-0.85	0.3910	-0.0352	-1.11
CU79GD		0.4900	-0.0022	-0.06	0.4100	-0.0162	-0.51
CWRRMG		0.4530	-0.0392	-1.04	0.3825	-0.0437	-1.37
D7TPUG		0.4700	-0.0222	-0.59	0.4000	-0.0262	-0.82
DF4RFH		0.4800	-0.0122	-0.32	0.4050	-0.0212	-0.67
DLNYV2		0.5700	0.0778	2.06	0.5100	0.0838	2.64
DZL9CF		0.4850	-0.0072	-0.19	0.4350	0.0088	0.28
E2DN2H		0.4200	-0.0722	-1.91	0.3450	-0.0812	-2.56
EAT8LH		0.5230	0.0308	0.82	0.4495	0.0233	0.73
EBNQMJ		0.5200	0.0278	0.74	0.4600	0.0338	1.06
EDU9NZ		0.4800	-0.0122	-0.32	0.4300	0.0038	0.12
F3PL99	X	0.5150	0.0228	0.61	0.4900	0.0638	2.01
F9EZXF		0.4300	-0.0622	-1.65	0.3800	-0.0462	-1.45
FTEJM8		0.4800	-0.0122	-0.32	0.4200	-0.0062	-0.19
G4UVEB		0.5400	0.0478	1.27	0.4500	0.0238	0.75
HJKTF7	*	0.5950	0.1028	2.73	0.5050	0.0788	2.48
HJKV6A		0.4700	-0.0222	-0.59	0.4300	0.0038	0.12
HMLYWW		0.5040	0.0118	0.31	0.4360	0.0098	0.31
J6Y3U9		0.4250	-0.0672	-1.78	0.3700	-0.0562	-1.77
JCH62B		0.4400	-0.0522	-1.38	0.3700	-0.0562	-1.77
JVCYNU		0.4700	-0.0222	-0.59	0.4050	-0.0212	-0.67
K4LM3T		0.4500	-0.0422	-1.12	0.3950	-0.0312	-0.98
KMB7T6		0.5250	0.0328	0.87	0.4550	0.0288	0.91
KNR3L6		0.5150	0.0228	0.61	0.4450	0.0188	0.59
KQCAH8	*	0.5900	0.0978	2.59	0.4900	0.0638	2.01
KQWQYA		0.5000	0.0078	0.21	0.4350	0.0088	0.28
KV6ECB	*	0.5750	0.0828	2.20	0.4650	0.0388	1.22
L7LHYZ		0.5130	0.0208	0.55	0.4420	0.0158	0.50
LA3K67	X	0.5300	0.0378	1.00	0.5250	0.0988	3.11
LN2RY2		0.4820	-0.0102	-0.27	0.4195	-0.0067	-0.21
M6TLCR		0.4600	-0.0322	-0.85	0.4000	-0.0262	-0.82
M8VPY9		0.4900	-0.0022	-0.06	0.4300	0.0038	0.12
MGHLZA		0.5100	0.0178	0.47	0.4150	-0.0112	-0.35



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WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N9M32Q		0.4600	-0.0322	-0.85	0.4150	-0.0112	-0.35
NBBGP2	X	0.5600	0.0678	1.80	0.5350	0.1088	3.43
NF84G4		0.4850	-0.0072	-0.19	0.4200	-0.0062	-0.19
PFFUMQ		0.5075	0.0153	0.41	0.4150	-0.0112	-0.35
PYTCUP	X	0.5400	0.0478	1.27	0.4100	-0.0162	-0.51
QMG977	*	0.6100	0.1178	3.12	0.5150	0.0888	2.80
QQGD77		0.5200	0.0278	0.74	0.4500	0.0238	0.75
QUE446		0.4800	-0.0122	-0.32	0.4100	-0.0162	-0.51
REH4RV		0.5250	0.0328	0.87	0.4400	0.0138	0.44
RGNQ6Z		0.5150	0.0228	0.61	0.4250	-0.0012	-0.04
RHJA72		0.4550	-0.0372	-0.98	0.3850	-0.0412	-1.30
RK6TC6		0.4875	-0.0047	-0.12	0.4230	-0.0032	-0.10
RQW2WY		0.4900	-0.0022	-0.06	0.4200	-0.0062	-0.19
T8JU64		0.4650	-0.0272	-0.72	0.3950	-0.0312	-0.98
T9PLN4		0.4800	-0.0122	-0.32	0.4050	-0.0212	-0.67
TD28YV		0.4800	-0.0122	-0.32	0.4250	-0.0012	-0.04
TM7EEV		0.5300	0.0378	1.00	0.4600	0.0338	1.06
U2LYCU		0.5000	0.0078	0.21	0.4400	0.0138	0.44
UKJZQL	*	0.4300	-0.0622	-1.65	0.4050	-0.0212	-0.67
UL9GNZ		0.4750	-0.0172	-0.45	0.3900	-0.0362	-1.14
UXLQ6Y		0.4350	-0.0572	-1.52	0.3800	-0.0462	-1.45
V22HWR		0.5065	0.0143	0.38	0.4395	0.0133	0.42
VYXKMK		0.4700	-0.0222	-0.59	0.4100	-0.0162	-0.51
W7AZTY		0.5450	0.0528	1.40	0.4600	0.0338	1.06
W7PKEH		0.5180	0.0258	0.68	0.4525	0.0263	0.83
WHJXCT		0.5150	0.0228	0.61	0.4450	0.0188	0.59
X2ACPW		0.5000	0.0078	0.21	0.4300	0.0038	0.12
X4HN7Y		0.4900	-0.0022	-0.06	0.4100	-0.0162	-0.51
XK66AV		0.5100	0.0178	0.47	0.4400	0.0138	0.44
XXEHTG		0.5000	0.0078	0.21	0.4500	0.0238	0.75
XYNRJT		0.5260	0.0338	0.90	0.4510	0.0248	0.78
YVJJRN	X	0.5900	0.0978	2.59	0.5400	0.1138	3.58
ZBBFRX		0.4550	-0.0372	-0.98	0.3950	-0.0312	-0.98
ZGEHRR		0.5150	0.0228	0.61	0.4400	0.0138	0.44



**Analysis 905
Volatile Acidity**

Grand Means	Summary Statistics	
0.49216 g/L as acetic acid	0.42617 g/L as acetic acid	0.42617 g/L as acetic acid
Stnd Dev Btwn Labs	0.03773 g/L as acetic acid	0.03176 g/L as acetic acid
Statistics based on 95 of 104 reporting participants		

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #905

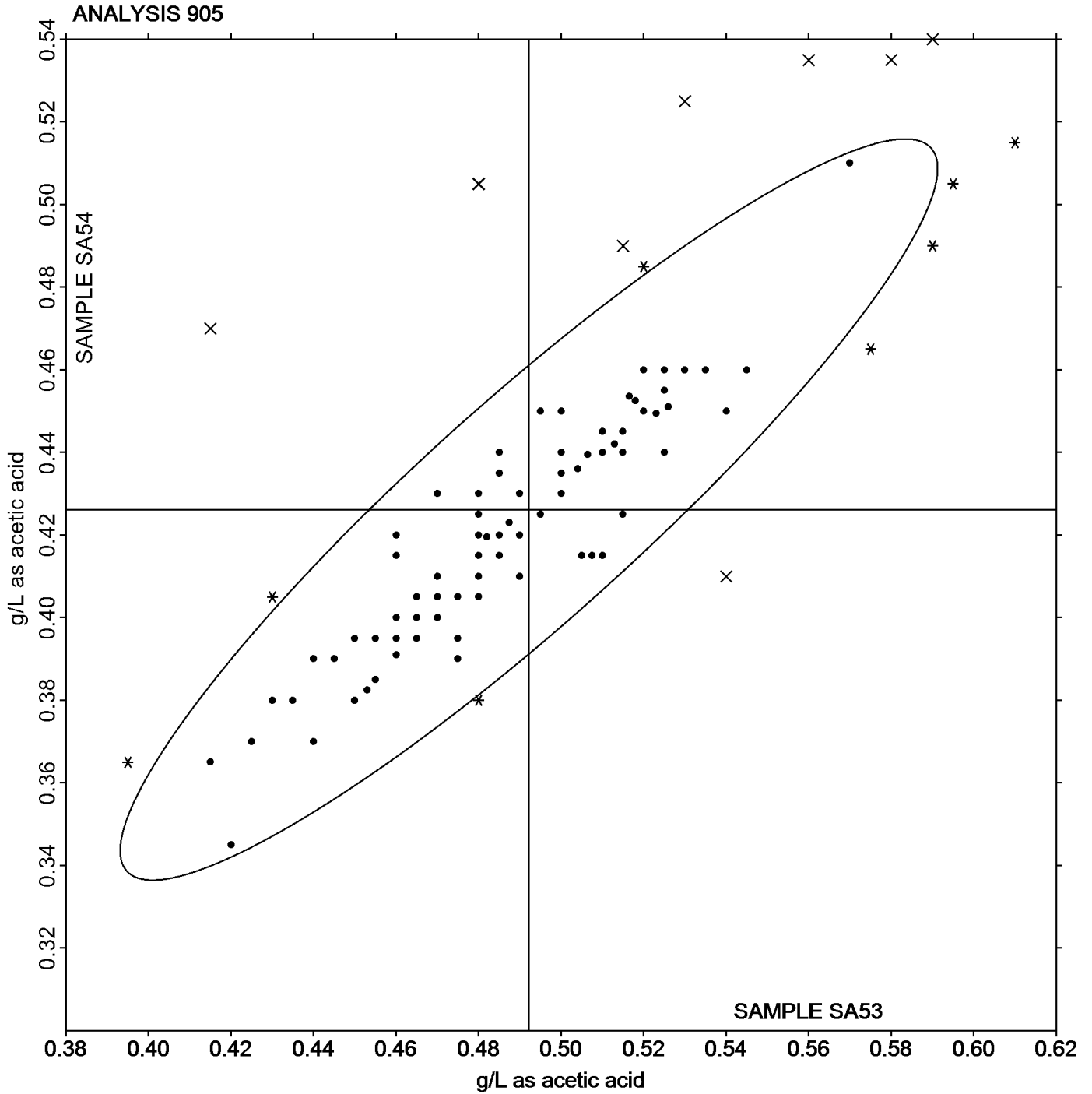
- YVJJRN (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- F3PL99 (X) - Inconsistent in testing between samples.
- 8B32ZG (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- NBBGP2 (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- LA3K67 (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- 472RFQ (X) - Inconsistent in testing between samples.
- 4G8AFA (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- PYTCUP (X) - Inconsistent in testing between samples.
- 9ZZ4T8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA54.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	0.468	0.018	-0.0247	0.400	0.007	-0.0262	2/3
Cash Still method	0.545	0.025	0.0528	0.485	0.025	0.0588	3/6
Enzymatic method	0.482	0.033	-0.0105	0.417	0.028	-0.0087	74/77
GC	0.480	0.000	-0.0122	0.415	0.000	-0.0112	1/1
Colorimetric Analysis	0.497	0.023	0.0043	0.434	0.012	0.0073	2/2
Seg. Flow / Colorimetric Analyzer	0.533	0.011	0.0403	0.455	0.007	0.0288	2/3
FTIR	0.527	0.042	0.0349	0.442	0.036	0.0156	11/12



Analysis 905
Volatile Acidity





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 906 Specific Gravity

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		0.9968	0.0001	0.23	0.9964	0.0002	0.26
32W96T		0.9976	0.0009	1.52	0.9973	0.0010	1.69
3EM67Q		0.9960	-0.0006	-1.00	0.9960	-0.0003	-0.44
3RCYHK	X	0.9953	-0.0013	-2.15	0.9966	0.0004	0.58
3Z2Q3R		0.9967	0.0000	0.06	0.9963	0.0001	0.12
472RFQ	*	0.9951	-0.0015	-2.46	0.9954	-0.0009	-1.41
4G8AFA		0.9967	0.0001	0.14	0.9963	0.0000	0.05
4T2Q6B	X	0.9948	-0.0018	-2.97	0.9928	-0.0035	-5.68
63JN9L		0.9970	0.0004	0.61	0.9964	0.0001	0.15
66MKUA	*	0.9970	0.0004	0.62	0.9960	-0.0003	-0.44
69BYJJ	X	0.9967	0.0001	0.19	0.9946	-0.0017	-2.70
6NH98Q		0.9970	0.0004	0.62	0.9964	0.0001	0.22
6TVVWP		0.9967	0.0000	0.07	0.9963	0.0001	0.09
7KZCX7		0.9966	0.0000	-0.03	0.9962	-0.0001	-0.11
8B32ZG	*	0.9943	-0.0024	-3.85	0.9939	-0.0024	-3.94
8CYK3H		0.9975	0.0009	1.44	0.9970	0.0007	1.20
8REKWM	X	0.9940	-0.0026	-4.25	0.9940	-0.0023	-3.70
94NHGG		0.9971	0.0005	0.79	0.9968	0.0005	0.87
9E7WKJ		0.9961	-0.0005	-0.84	0.9959	-0.0004	-0.68
9HH3X6		0.9972	0.0006	0.95	0.9967	0.0004	0.71
A3QKQL		0.9967	0.0001	0.09	0.9963	0.0001	0.10
A7PWLL		0.9968	0.0002	0.34	0.9964	0.0001	0.14
AH2776		0.9965	-0.0002	-0.27	0.9961	-0.0002	-0.35
B28ZC3		0.9972	0.0006	0.98	0.9966	0.0003	0.51
BDLXFK		0.9966	0.0000	-0.03	0.9963	0.0000	0.05
BGHLXD		0.9967	0.0000	0.06	0.9963	0.0000	-0.03
BHULTL		0.9976	0.0010	1.59	0.9972	0.0009	1.51
BJMAD3	X	0.9997	0.0030	4.93	0.9991	0.0028	4.62
BMBN3C		0.9966	-0.0001	-0.11	0.9963	0.0000	-0.03
BX9PG3		0.9969	0.0003	0.41	0.9965	0.0002	0.36
C62G32		0.9962	-0.0004	-0.68	0.9962	-0.0001	-0.11
CBQYGC		0.9967	0.0001	0.10	0.9964	0.0001	0.14
CPBEJC		0.9949	-0.0017	-2.84	0.9945	-0.0017	-2.84
CTBPFC		0.9967	0.0001	0.14	0.9964	0.0001	0.22
CU79GD		0.9969	0.0003	0.46	0.9966	0.0003	0.54



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Summer 2024**

**Analysis 906
Specific Gravity**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CWRRMG		0.9967	0.0000	0.06	0.9962	-0.0001	-0.11
D7TPUG		0.9975	0.0009	1.44	0.9973	0.0010	1.60
DZL9CF		0.9968	0.0002	0.28	0.9965	0.0002	0.37
E2DN2H		0.9966	0.0000	-0.03	0.9963	0.0000	0.05
EAT8LH	*	0.9947	-0.0019	-3.11	0.9942	-0.0021	-3.37
EBNQMJ		0.9967	0.0000	0.07	0.9964	0.0001	0.14
EDU9NZ		0.9950	-0.0016	-2.63	0.9945	-0.0018	-2.88
F9EZXF		0.9964	-0.0002	-0.35	0.9960	-0.0003	-0.44
G4UVEB		0.9969	0.0003	0.46	0.9965	0.0002	0.38
HJKTF7		0.9970	0.0003	0.54	0.9964	0.0001	0.22
HM2K6D		0.9973	0.0007	1.10	0.9973	0.0010	1.67
HMLYWW		0.9967	0.0001	0.11	0.9964	0.0001	0.14
J6Y3U9		0.9967	0.0001	0.10	0.9964	0.0001	0.18
JCH62B	X	1.0030	0.0064	10.45	1.0025	0.0063	10.25
JVCYNU		0.9965	-0.0001	-0.19	0.9962	-0.0001	-0.19
K4LM3T		0.9971	0.0005	0.79	0.9964	0.0001	0.14
KEKMCC		0.9967	0.0001	0.09	0.9963	0.0001	0.12
KMB7T6		0.9966	-0.0001	-0.11	0.9963	0.0000	-0.03
KNR3L6		0.9965	-0.0001	-0.19	0.9962	-0.0001	-0.11
KQCAH8		0.9967	0.0001	0.10	0.9963	0.0001	0.11
KV6ECB		0.9966	-0.0001	-0.11	0.9963	0.0000	0.05
L7LHYZ		0.9967	0.0000	0.08	0.9963	0.0001	0.12
LN2RY2		0.9968	0.0002	0.26	0.9965	0.0002	0.40
M8VPY9		0.9950	-0.0017	-2.71	0.9946	-0.0017	-2.80
N9M32Q	X	1.0065	0.0099	16.07	1.0063	0.0100	16.29
NBBGP2	*	0.9979	0.0012	2.01	0.9979	0.0016	2.58
NF84G4		0.9965	-0.0001	-0.19	0.9960	-0.0003	-0.44
PFFUMQ	*	0.9963	-0.0003	-0.56	0.9965	0.0002	0.37
PH49BZ		0.9967	0.0000	0.07	0.9963	0.0001	0.09
PYTCUP	X	0.9950	-0.0016	-2.63	0.9930	-0.0033	-5.33
QMG977		0.9967	0.0001	0.09	0.9963	0.0001	0.12
QQGD77	X	0.9976	0.0010	1.58	0.9965	0.0002	0.34
QUE446		0.9967	0.0001	0.14	0.9964	0.0001	0.14
RGNQ6Z		0.9969	0.0003	0.46	0.9965	0.0002	0.30
RHJA72	X	0.9940	-0.0026	-4.25	0.9936	-0.0027	-4.35



**Analysis 906
Specific Gravity**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RK6TC6		0.9972	0.0006	1.02	0.9967	0.0004	0.69
T8JU64		0.9975	0.0008	1.36	0.9969	0.0006	0.95
T9PLN4		0.9969	0.0003	0.46	0.9966	0.0003	0.55
TD28YV		0.9970	0.0003	0.54	0.9966	0.0003	0.54
TM7EEV		0.9965	-0.0001	-0.19	0.9965	0.0002	0.38
U2LYCU		0.9966	0.0000	-0.01	0.9963	0.0000	0.01
UKJZQL		0.9966	0.0000	-0.02	0.9963	0.0000	0.00
UL9GNZ		0.9965	-0.0001	-0.19	0.9963	0.0000	0.05
UXLQ6Y		0.9965	-0.0001	-0.24	0.9963	0.0001	0.14
V22HWR		0.9967	0.0000	0.07	0.9963	0.0001	0.10
VYXKMK		0.9967	0.0001	0.11	0.9964	0.0001	0.19
W7AZTY		0.9968	0.0002	0.30	0.9964	0.0001	0.22
W7PKEH		0.9959	-0.0007	-1.16	0.9956	-0.0007	-1.09
WHJXCT	*	0.9970	0.0004	0.62	0.9960	-0.0003	-0.44
X2ACPW		0.9966	-0.0001	-0.11	0.9964	0.0001	0.22
X4HN7Y		0.9970	0.0004	0.61	0.9964	0.0001	0.15
XK66AV		0.9968	0.0002	0.30	0.9967	0.0004	0.71
XXEHTG		0.9967	0.0000	0.08	0.9963	0.0001	0.13
XYNRJT		0.9967	0.0001	0.14	0.9963	0.0000	0.05
YFQGKW		0.9968	0.0002	0.27	0.9969	0.0006	1.05
YVJJRN		0.9967	0.0000	0.08	0.9963	0.0001	0.10
ZBBFRX		0.9970	0.0004	0.62	0.9967	0.0004	0.71
ZGEHRR		0.9967	0.0001	0.16	0.9964	0.0001	0.19

Grand Means	Summary Statistics
0.99662 sp gr 20/20 C	0.99627 sp gr 20/20 C
Std Dev Btwn Labs	
0.00062 sp gr 20/20 C	0.00061 sp gr 20/20 C
Statistics based on 83 of 93 reporting participants	

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

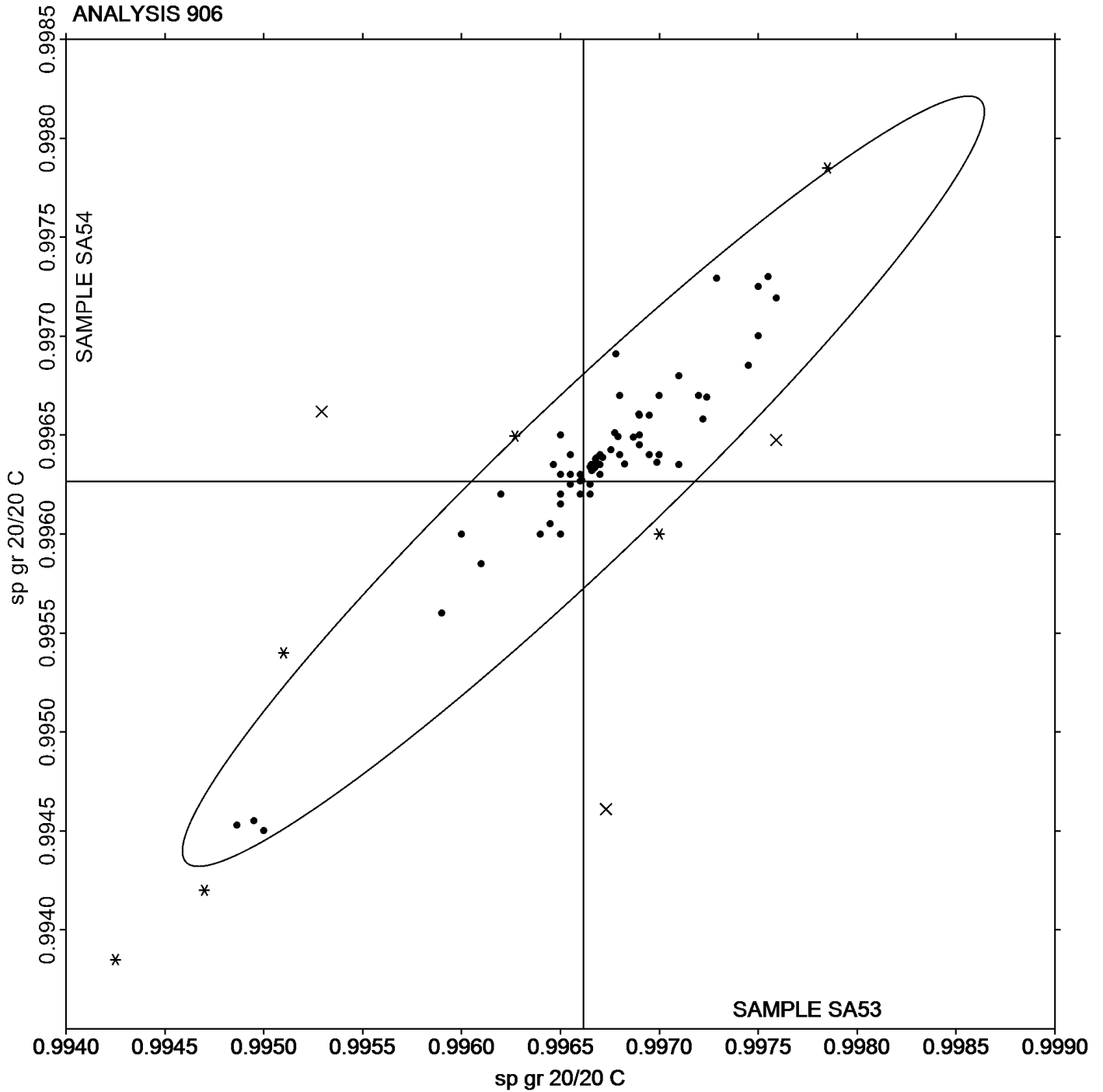


Comments on Assigned Data Flags for Test #906

- QQGD77 (X) - Inconsistent in testing between samples.
- 3RCYHK (X) - Inconsistent in testing between samples.
- 69BYJJ (X) - Inconsistent in testing between samples.
- RHJA72 (X) - Data for both samples are low. Possible Systematic Error.
- JCH62B (X) - Data for both samples are high.
- 8REKWM (X) - Data for both samples are low. Possible Systematic Error.
- BJMAD3 (X) - Data for both samples are high. Possible Systematic Error.
- 4T2Q6B (X) - Data for both samples are low. Possible Systematic Error.
- PYTCUP (X) - Inconsistent in testing between samples, data for sample SA54 are low.
- N9M32Q (X) - Data for both samples are high.



Analysis 906
Specific Gravity





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 907

pH

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU	*	3.675	0.015	0.48	3.495	-0.024	-0.84
32W96T		3.650	-0.010	-0.34	3.515	-0.004	-0.15
3EM67Q		3.640	-0.020	-0.67	3.500	-0.019	-0.66
3JGY4R		3.660	0.000	-0.02	3.515	-0.004	-0.15
3RCYHK		3.645	-0.015	-0.51	3.485	-0.034	-1.18
3Z2Q3R		3.635	-0.025	-0.84	3.480	-0.039	-1.35
472RFQ	X	3.510	-0.150	-4.95	3.660	0.141	4.82
4G8AFA		3.610	-0.050	-1.66	3.460	-0.059	-2.04
4T2Q6B	X	3.735	0.075	2.45	3.620	0.101	3.45
63JN9L		3.610	-0.050	-1.66	3.485	-0.034	-1.18
66MKUA		3.660	0.000	-0.02	3.500	-0.019	-0.66
69BYJJ		3.640	-0.020	-0.67	3.485	-0.034	-1.18
6K4F9K		3.650	-0.010	-0.34	3.515	-0.004	-0.15
6NH98Q		3.675	0.015	0.48	3.540	0.021	0.71
6TVVWP		3.650	-0.010	-0.34	3.505	-0.014	-0.49
7KZCX7		3.670	0.010	0.31	3.530	0.011	0.36
8B32ZG		3.655	-0.005	-0.18	3.515	-0.004	-0.15
8CYK3H		3.690	0.030	0.97	3.520	0.001	0.02
8REKWM		3.605	-0.055	-1.82	3.490	-0.029	-1.01
94NHGG		3.700	0.040	1.30	3.570	0.051	1.74
9AB7E8		3.700	0.040	1.30	3.540	0.021	0.71
9E7WKJ		3.644	-0.017	-0.56	3.505	-0.015	-0.51
9HH3X6		3.650	-0.010	-0.34	3.520	0.001	0.02
9ZZ4T8		3.665	0.005	0.15	3.535	0.016	0.54
A3QKQL		3.660	0.000	-0.02	3.523	0.004	0.12
A7PWLL		3.615	-0.045	-1.50	3.505	-0.014	-0.49
AH2776		3.645	-0.015	-0.51	3.475	-0.044	-1.52
AMAMKK		3.650	-0.010	-0.34	3.510	-0.009	-0.32
B28ZC3		3.710	0.050	1.63	3.570	0.051	1.74
BDLXFK		3.660	0.000	-0.02	3.515	-0.004	-0.15
BHULTL		3.700	0.040	1.30	3.550	0.031	1.05
BJMAD3		3.655	-0.005	-0.18	3.520	0.001	0.02
BMBN3C		3.650	-0.010	-0.34	3.510	-0.009	-0.32
BX9PG3		3.680	0.020	0.64	3.540	0.021	0.71
C62G32		3.665	0.005	0.15	3.525	0.006	0.19



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 907

pH

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CBQYGC		3.675	0.015	0.48	3.530	0.011	0.36
CPBEJC		3.670	0.010	0.31	3.535	0.016	0.54
CTBPFC		3.660	0.000	-0.02	3.520	0.001	0.02
CU79GD		3.620	-0.040	-1.33	3.475	-0.044	-1.52
CWRRMG		3.674	0.014	0.44	3.535	0.015	0.52
D7TPUG		3.590	-0.070	-2.32	3.460	-0.059	-2.04
D93KR3		3.650	-0.010	-0.34	3.500	-0.019	-0.66
DF4RFH		3.670	0.010	0.31	3.540	0.021	0.71
DLNYV2		3.670	0.010	0.31	3.520	0.001	0.02
DZL9CF		3.680	0.020	0.64	3.540	0.021	0.71
E2DN2H		3.635	-0.025	-0.84	3.485	-0.034	-1.18
EAT8LH	X	3.760	0.100	3.27	3.620	0.101	3.45
EBNQMJ		3.631	-0.030	-0.99	3.485	-0.035	-1.20
EDU9NZ		3.660	0.000	-0.02	3.545	0.026	0.88
F3PL99		3.685	0.025	0.81	3.555	0.036	1.22
F9EZXF		3.650	-0.010	-0.34	3.510	-0.009	-0.32
FTEJM8		3.685	0.025	0.81	3.545	0.026	0.88
G4UVEB		3.630	-0.030	-1.00	3.490	-0.029	-1.01
HJKTF7		3.660	0.000	-0.02	3.530	0.011	0.36
HJKV6A		3.625	-0.035	-1.17	3.500	-0.019	-0.66
HM2K6D		3.660	0.000	-0.02	3.520	0.001	0.02
HMLYWW		3.710	0.050	1.63	3.560	0.041	1.39
J6Y3U9	*	3.745	0.085	2.78	3.610	0.091	3.11
JCH62B		3.715	0.055	1.79	3.560	0.041	1.39
JVCYNU		3.687	0.026	0.86	3.544	0.024	0.83
K4LM3T		3.720	0.060	1.96	3.575	0.056	1.91
KEKMCC		3.680	0.020	0.64	3.510	-0.009	-0.32
KMB7T6		3.595	-0.065	-2.15	3.475	-0.044	-1.52
KNR3L6		3.680	0.020	0.64	3.540	0.021	0.71
KQCAH8		3.670	0.010	0.31	3.520	0.001	0.02
KQWQYA		3.650	-0.010	-0.34	3.505	-0.014	-0.49
KV6ECB	*	3.720	0.060	1.96	3.595	0.076	2.59
L7LHYZ		3.722	0.062	2.02	3.565	0.045	1.55
LA3K67	X	3.735	0.075	2.45	3.550	0.031	1.05
LN2RY2		3.625	-0.035	-1.17	3.480	-0.039	-1.35



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 907

pH

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
M6TLCR		3.670	0.010	0.31	3.540	0.021	0.71
M8VPY9		3.725	0.065	2.12	3.559	0.039	1.34
MGHLZA		3.650	-0.010	-0.34	3.515	-0.004	-0.15
N9M32Q	X	3.750	0.090	2.94	3.625	0.106	3.62
NBBGP2	X	3.560	-0.100	-3.30	3.445	-0.074	-2.55
NF84G4		3.675	0.015	0.48	3.535	0.016	0.54
PFFUMQ	*	3.625	-0.035	-1.17	3.525	0.006	0.19
PYTCUP	*	3.620	-0.040	-1.33	3.520	0.001	0.02
QMG977		3.665	0.005	0.15	3.515	-0.004	-0.15
QQGD77		3.665	0.005	0.15	3.515	-0.004	-0.15
QUE446		3.660	0.000	-0.02	3.510	-0.009	-0.32
REH4RV	*	3.575	-0.085	-2.81	3.450	-0.069	-2.38
RGNQ6Z		3.660	0.000	-0.02	3.515	-0.004	-0.15
RHJA72		3.680	0.020	0.64	3.545	0.026	0.88
RK6TC6		3.660	0.000	-0.02	3.510	-0.009	-0.32
RQW2WY		3.650	-0.010	-0.34	3.510	-0.009	-0.32
T8JU64		3.680	0.020	0.64	3.530	0.011	0.36
T9PLN4		3.692	0.031	1.02	3.545	0.025	0.86
TD28YV		3.670	0.010	0.31	3.530	0.011	0.36
TM7EEV		3.650	-0.010	-0.34	3.510	-0.009	-0.32
U2LYCU		3.640	-0.020	-0.67	3.500	-0.019	-0.66
UKJZQL		3.650	-0.010	-0.34	3.485	-0.034	-1.18
UL9GNZ		3.630	-0.030	-1.00	3.480	-0.039	-1.35
UXLQ6Y		3.625	-0.035	-1.17	3.470	-0.049	-1.69
V22HWR		3.645	-0.015	-0.51	3.505	-0.014	-0.49
VYXKMK	*	3.690	0.030	0.97	3.580	0.061	2.08
W7AZTY		3.660	0.000	-0.02	3.515	-0.004	-0.15
W7PKEH		3.650	-0.010	-0.34	3.510	-0.009	-0.32
WHJXCT		3.720	0.060	1.96	3.560	0.041	1.39
X2ACPW		3.660	0.000	-0.02	3.515	-0.004	-0.15
X4HN7Y		3.660	0.000	-0.02	3.530	0.011	0.36
XK66AV		3.635	-0.025	-0.84	3.500	-0.019	-0.66
XXEHTG		3.670	0.010	0.31	3.525	0.006	0.19
XYNRJT		3.660	0.000	-0.02	3.530	0.011	0.36
ZBBFRX		3.655	-0.005	-0.18	3.530	0.011	0.36



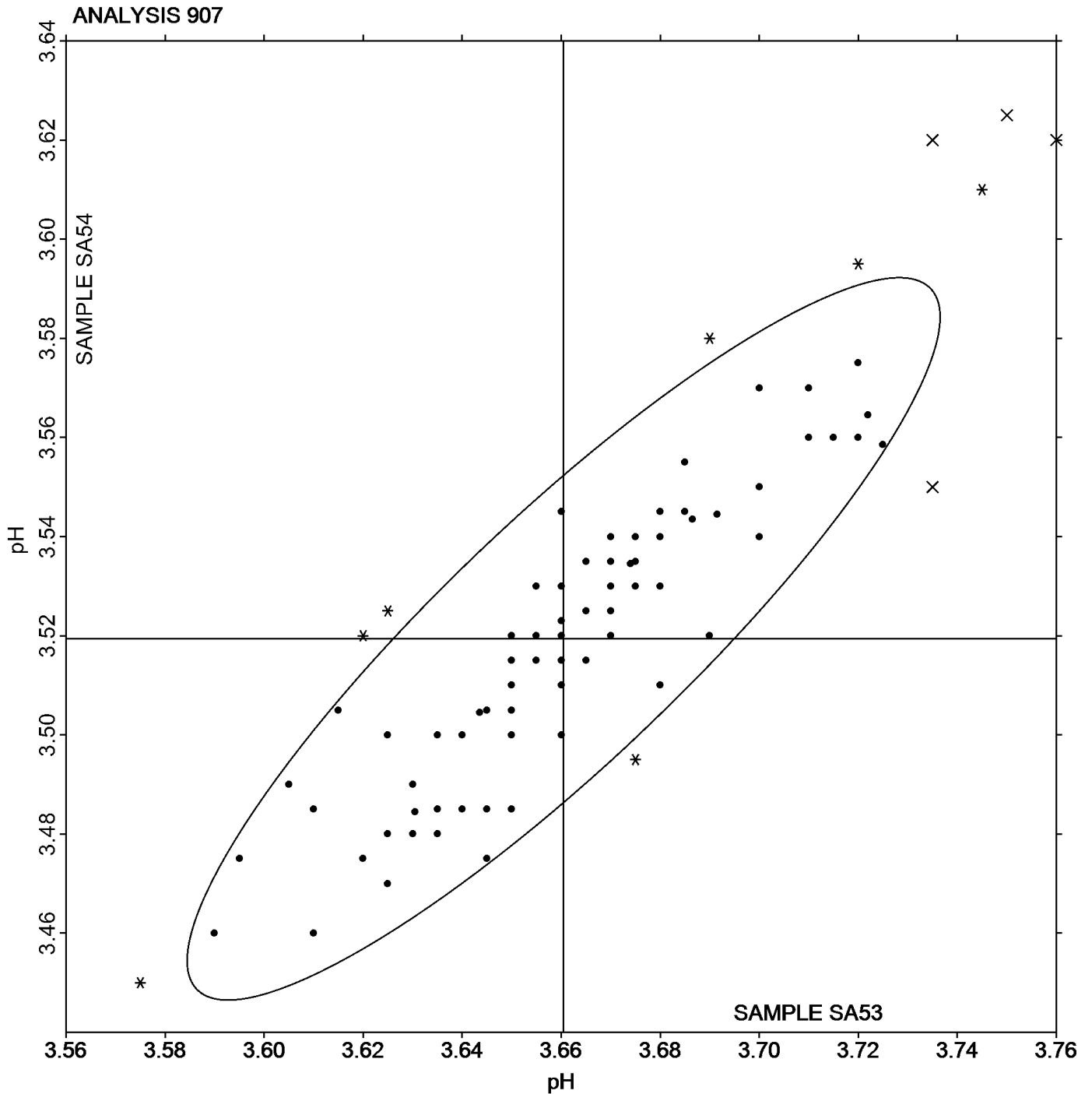
WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZGEHRR	X	3.610	-0.050	-1.66	3.395	-0.124	-4.27

Grand Means	Summary Statistics
3.6605 pH	3.5194 pH
Stnd Dev Btwn Labs 0.0304 pH	0.0292 pH
Statistics based on 99 of 106 reporting participants	

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #907

- NBBGP2 (X) - Inconsistent in testing between samples, data for sample SA53 are low.
- ZGEHRR (X) - Inconsistent in testing between samples, data for sample SA54 are low.
- LA3K67 (X) - Inconsistent in testing between samples.
- 472RFQ (X) - Inconsistent in testing between samples, data for sample SA53 are low and data for sample SA54 are high. Lab may have transposed data between samples.
- EAT8LH (X) - Data for both samples are high. Possible Systematic Error.
- 4T2Q6B (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- N9M32Q (X) - Data for both samples are high. Possible Systematic Error.





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 908 Residual Sugar

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4G8AFA	X	7.000	1.384	1.02	9.000	2.278	1.74
63JN9L		6.650	1.034	0.76	7.700	0.978	0.75
66MKUA		4.750	-0.866	-0.64	5.850	-0.872	-0.67
6TVVWP		5.000	-0.616	-0.45	6.300	-0.422	-0.32
8REKWM		4.895	-0.721	-0.53	6.105	-0.617	-0.47
B28ZC3		8.200	2.584	1.90	9.050	2.328	1.78
BGHLXD		6.600	0.984	0.72	7.800	1.078	0.82
BHULTL		4.885	-0.731	-0.54	6.230	-0.492	-0.38
BX9PG3		7.600	1.984	1.46	8.600	1.878	1.44
CU79GD		4.140	-1.476	-1.08	5.215	-1.507	-1.15
EAT8LH		8.700	3.084	2.26	9.650	2.928	2.24
EBNQMJ		5.100	-0.516	-0.38	6.100	-0.622	-0.48
F3PL99		4.225	-1.391	-1.02	5.290	-1.432	-1.09
F9EZXF		5.210	-0.406	-0.30	6.520	-0.202	-0.15
KMB7T6		6.500	0.884	0.65	7.650	0.928	0.71
KQCAH8		7.200	1.584	1.16	8.200	1.478	1.13
LA3K67		6.765	1.149	0.84	7.505	0.783	0.60
LN2RY2		4.325	-1.291	-0.95	5.375	-1.347	-1.03
M8VPY9		4.570	-1.046	-0.77	5.695	-1.027	-0.78
NBBGP2		7.325	1.709	1.25	8.450	1.728	1.32
NF84G4		5.300	-0.316	-0.23	6.300	-0.422	-0.32
PFFUMQ		4.555	-1.061	-0.78	5.720	-1.002	-0.77
PYTCUP	X	7.220	1.604	1.18	6.700	-0.022	-0.02
RK6TC6		4.664	-0.952	-0.70	5.808	-0.914	-0.70
UL9GNZ		4.700	-0.916	-0.67	5.950	-0.772	-0.59
UXLQ6Y		5.300	-0.316	-0.23	6.800	0.078	0.06
WHJXCT		5.250	-0.366	-0.27	6.300	-0.422	-0.32
XXEHTG		3.600	-2.016	-1.48	4.600	-2.122	-1.62



Analysis 908
Residual Sugar

Grand Means		Summary Statistics	
	5.6157 g/L		6.7217 g/L
Std Dev Btwn Labs			1.3079 g/L
	1.3631 g/L		
Statistics based on 26 of 28 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #908

4G8AFA (X) - Inconsistent in testing between samples.

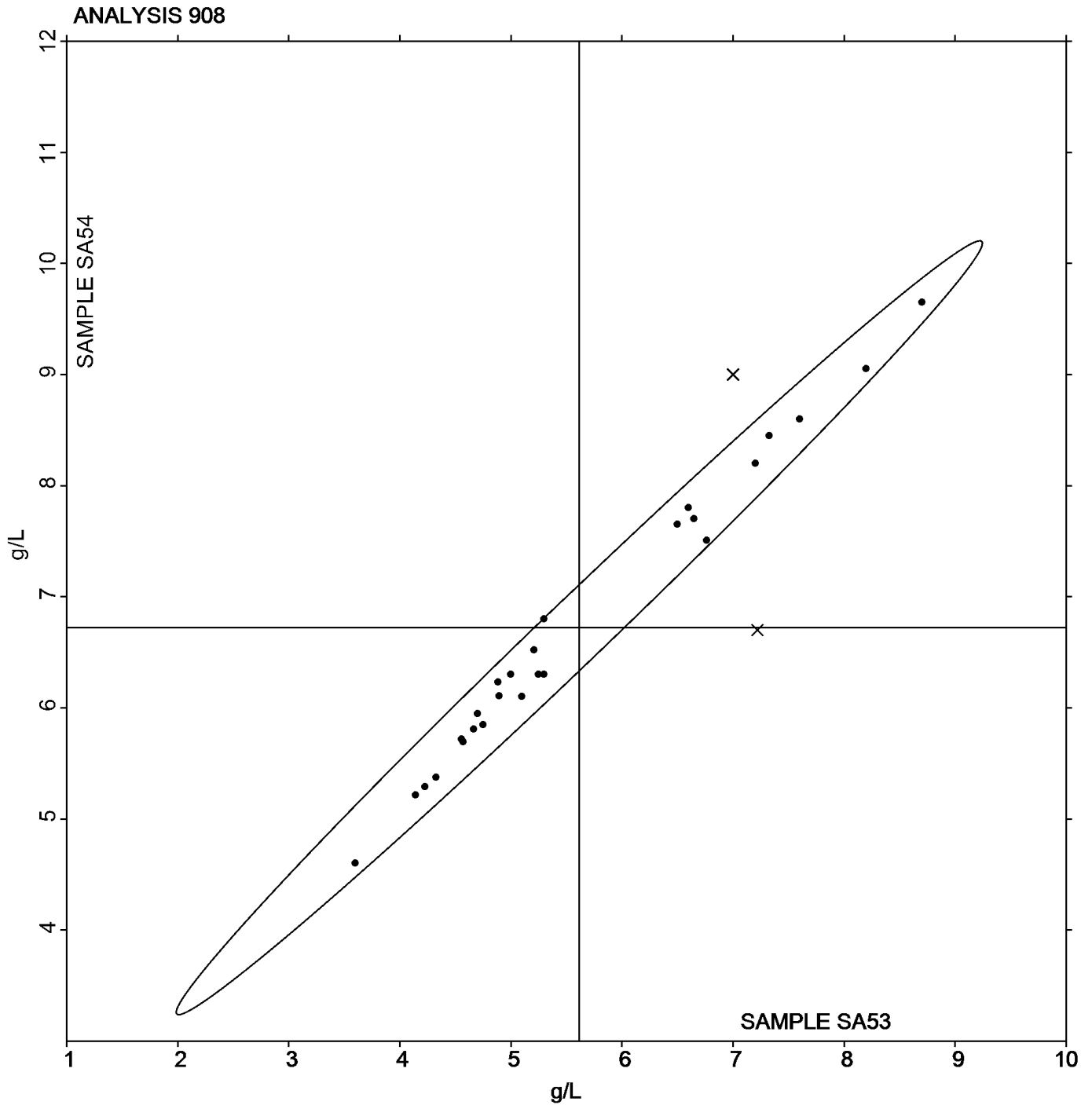
PYTCUP (X) - Inconsistent in testing between samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	4.750	0.000	-0.866	5.850	0.000	-0.872	1/1
Cu Reduction Method	7.183	0.590	1.567	8.053	0.774	1.331	2/4
Segmented Flow	6.600	0.000	0.984	7.800	0.000	1.078	1/1
FTIR	5.832	1.334	0.216	6.931	1.290	0.209	12/12
Other	5.031	1.331	-0.584	6.184	1.289	-0.538	10/10



Analysis 908
Residual Sugar





ASEV-CTS Wine Industry Interlaboratory Testing Program

**Report #077
Summer 2024**

Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		0.1700	0.0465	1.68	0.1600	0.0359	1.31
32W96T		0.1300	0.0065	0.24	0.1200	-0.0041	-0.15
3EM67Q		0.0900	-0.0335	-1.21	0.0900	-0.0341	-1.25
3JGY4R		0.1450	0.0215	0.78	0.1500	0.0259	0.95
3RCYHK	*	0.0895	-0.0339	-1.23	0.1213	-0.0028	-0.10
3Z2Q3R		0.1200	-0.0035	-0.13	0.1100	-0.0141	-0.52
472RFQ		0.0890	-0.0345	-1.25	0.0940	-0.0301	-1.10
4G8AFA	X	0.1650	0.0415	1.50	0.0650	-0.0591	-2.16
63JN9L	X	0.6000	0.4765	17.24	0.6000	0.4759	17.41
66MKUA		0.1900	0.0665	2.41	0.1800	0.0559	2.04
69BYJJ	X	0.3400	0.2165	7.83	0.3300	0.2059	7.53
6K4F9K		0.1400	0.0165	0.60	0.1250	0.0009	0.03
6NH98Q		0.1600	0.0365	1.32	0.1650	0.0409	1.50
6TVVWP		0.0800	-0.0435	-1.57	0.0700	-0.0541	-1.98
7KZCX7		0.1470	0.0235	0.85	0.1700	0.0459	1.68
8B32ZG	*	0.0600	-0.0635	-2.30	0.0825	-0.0416	-1.52
8CYK3H		0.1550	0.0315	1.14	0.1450	0.0209	0.76
8REKWM		0.1450	0.0215	0.78	0.1450	0.0209	0.76
94NHGG		0.1550	0.0315	1.14	0.1400	0.0159	0.58
9AB7E8		0.1450	0.0215	0.78	0.1450	0.0209	0.76
9E7WKJ		0.1060	-0.0175	-0.63	0.1065	-0.0176	-0.64
9ZZ4T8		0.1100	-0.0135	-0.49	0.1200	-0.0041	-0.15
A3QKQL		0.0915	-0.0320	-1.16	0.0895	-0.0346	-1.27
A7PWLL		0.1050	-0.0185	-0.67	0.1250	0.0009	0.03
AH2776		0.1200	-0.0035	-0.13	0.1200	-0.0041	-0.15
AMAMKK	X	0.0400	-0.0835	-3.02	0.0940	-0.0301	-1.10
B28ZC3	X	0.2450	0.1215	4.40	0.2400	0.1159	4.24
BDLXFK		0.1290	0.0055	0.20	0.1325	0.0084	0.31
BHULTL		0.1750	0.0515	1.86	0.1750	0.0509	1.86
BJMAD3		0.1000	-0.0235	-0.85	0.1000	-0.0241	-0.88
BMBN3C		0.1200	-0.0035	-0.13	0.1150	-0.0091	-0.33
BX9PG3		0.0700	-0.0535	-1.93	0.0700	-0.0541	-1.98
C62G32		0.1300	0.0065	0.24	0.1150	-0.0091	-0.33
CBQYGC		0.0955	-0.0280	-1.01	0.0945	-0.0296	-1.08
CPBEJC		0.0900	-0.0335	-1.21	0.0950	-0.0291	-1.07



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CTBPFC		0.1260	0.0025	0.09	0.1235	-0.0006	-0.02
CU79GD	X	0.0295	-0.0940	-3.40	0.0290	-0.0951	-3.48
CWRRMG		0.1130	-0.0105	-0.38	0.1110	-0.0131	-0.48
D7TPUG		0.1150	-0.0085	-0.31	0.1150	-0.0091	-0.33
DF4RFH		0.1100	-0.0135	-0.49	0.1000	-0.0241	-0.88
DZL9CF		0.1650	0.0415	1.50	0.1550	0.0309	1.13
EBNQMJ		0.1200	-0.0035	-0.13	0.1450	0.0209	0.76
EDU9NZ	*	0.1100	-0.0135	-0.49	0.1450	0.0209	0.76
F3PL99		0.0900	-0.0335	-1.21	0.0700	-0.0541	-1.98
F9EZXF		0.1400	0.0165	0.60	0.1600	0.0359	1.31
FTEJM8		0.1310	0.0075	0.27	0.1350	0.0109	0.40
G4UVEB		0.1430	0.0195	0.71	0.1410	0.0169	0.62
HJKTF7	X	0.0100	-0.1135	-4.10	0.0100	-0.1141	-4.17
HJKV6A	*	0.1095	-0.0140	-0.51	0.1460	0.0219	0.80
HMLYWW		0.1200	-0.0035	-0.13	0.1320	0.0079	0.29
J6Y3U9		0.1400	0.0165	0.60	0.1500	0.0259	0.95
JCH62B		0.1600	0.0365	1.32	0.1500	0.0259	0.95
JVCYNU		0.1550	0.0315	1.14	0.1550	0.0309	1.13
K4LM3T		0.1250	0.0015	0.06	0.1200	-0.0041	-0.15
KMB7T6		0.1350	0.0115	0.42	0.1250	0.0009	0.03
KNR3L6		0.0840	-0.0395	-1.43	0.0860	-0.0381	-1.39
KQCAH8		0.1400	0.0165	0.60	0.1400	0.0159	0.58
KQWQYA		0.0750	-0.0485	-1.75	0.0850	-0.0391	-1.43
KV6ECB		0.0950	-0.0285	-1.03	0.1100	-0.0141	-0.52
L7LHYZ		0.1390	0.0155	0.56	0.1350	0.0109	0.40
LN2RY2		0.1150	-0.0085	-0.31	0.1200	-0.0041	-0.15
M6TLCR		0.1600	0.0365	1.32	0.1500	0.0259	0.95
M8VPY9		0.1200	-0.0035	-0.13	0.1050	-0.0191	-0.70
MGHLZA		0.0850	-0.0385	-1.39	0.0900	-0.0341	-1.25
N9M32Q		0.1500	0.0265	0.96	0.1500	0.0259	0.95
NF84G4		0.0850	-0.0385	-1.39	0.0700	-0.0541	-1.98
PFFUMQ	X	0.1200	-0.0035	-0.13	0.6300	0.5059	18.50
PYTCUP	M	No data reported for this sample			0.3100	0.1859	6.80
QMG977		0.0900	-0.0335	-1.21	0.0950	-0.0291	-1.07
QQGD77		0.1360	0.0125	0.45	0.1375	0.0134	0.49



Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QUE446		0.1300	0.0065	0.24	0.1250	0.0009	0.03
REH4RV		0.1400	0.0165	0.60	0.1350	0.0109	0.40
RGNQ6Z		0.1150	-0.0085	-0.31	0.1250	0.0009	0.03
RHJA72		0.1800	0.0565	2.05	0.1800	0.0559	2.04
RK6TC6	X	0.0694	-0.0541	-1.96	0.1367	0.0125	0.46
RQW2WY		0.1600	0.0365	1.32	0.1350	0.0109	0.40
T8JU64		0.1300	0.0065	0.24	0.1300	0.0059	0.22
T9PLN4		0.1450	0.0215	0.78	0.1300	0.0059	0.22
TD28YV	X	26.0000	25.8765	936.12	24.5000	24.3759	891.55
TM7EEV		0.1055	-0.0180	-0.65	0.1075	-0.0166	-0.61
U2LYCU		0.1100	-0.0135	-0.49	0.1200	-0.0041	-0.15
UL9GNZ		0.1000	-0.0235	-0.85	0.1000	-0.0241	-0.88
UXLQ6Y		0.1000	-0.0235	-0.85	0.1000	-0.0241	-0.88
V22HWR	*	0.0920	-0.0315	-1.14	0.0680	-0.0561	-2.05
VYXKMK		0.1400	0.0165	0.60	0.1450	0.0209	0.76
W7AZTY		0.1300	0.0065	0.24	0.1300	0.0059	0.22
W7PKEH		0.1070	-0.0165	-0.60	0.1074	-0.0167	-0.61
WHJXCT		0.1400	0.0165	0.60	0.1600	0.0359	1.31
X2ACPW		0.1050	-0.0185	-0.67	0.1000	-0.0241	-0.88
XK66AV		0.1320	0.0085	0.31	0.1280	0.0039	0.14
XXEHTG		0.1550	0.0315	1.14	0.1550	0.0309	1.13
XYNRJT		0.1500	0.0265	0.96	0.1500	0.0259	0.95

Grand Means		Summary Statistics	
	0.12346 g/L		0.12412 g/L
Std Dev Btwn Labs			
	0.02764 g/L		0.02734 g/L
Statistics based on 81 of 92 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



Comments on Assigned Data Flags for Test #909

AMAMKK (X) - Inconsistent in testing between samples, data for sample SA53 are low.

HJKTF7 (X) - Data for both samples are low. Data may be off by a factor of 10.

TD28YV (X) - Extreme data.

69BYJJ (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA54.

CU79GD (X) - Data for both samples are low. Possible Systematic Error.

63JN9L (X) - Data for both samples are high.

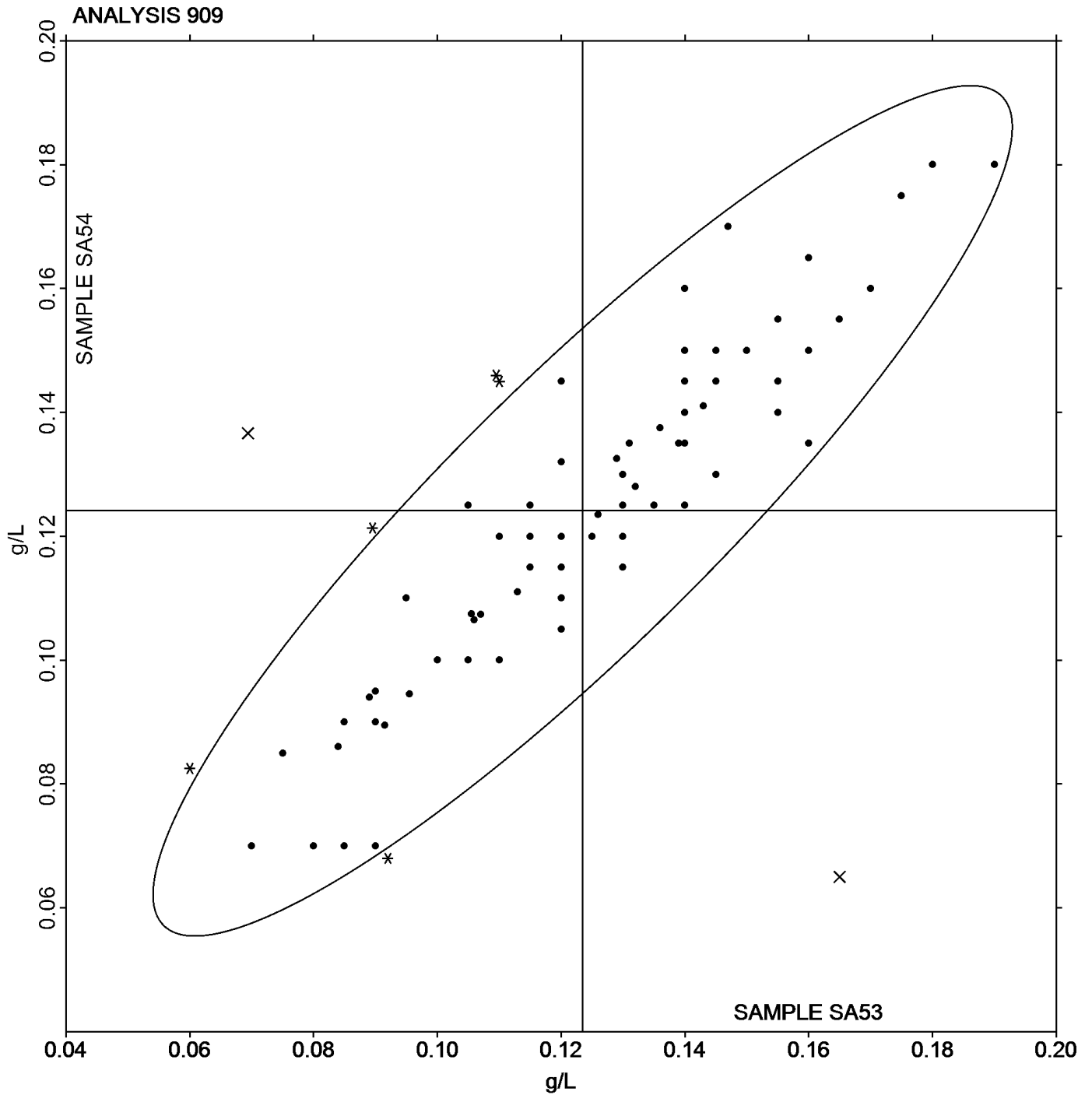
RK6TC6 (X) - Inconsistent in testing between samples.

4G8AFA (X) - Inconsistent in testing between samples.

B28ZC3 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

PYTCUP (M) - High data for Sample SA54. Participant did not submit data for sample SA53.

PFFUMQ (X) - Inconsistent in testing between samples, data for sample SA54 are high.





ASEV-CTS Wine Industry Interlaboratory Testing Program

**Report #077
Summer 2024**

**Analysis 910
Glucose + Fructose**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		5.010	0.318	1.08	6.345	0.470	1.30
32W96T		4.465	-0.227	-0.77	5.550	-0.325	-0.90
3EM67Q		4.700	0.008	0.03	5.950	0.075	0.21
3JGY4R		4.300	-0.392	-1.33	5.550	-0.325	-0.90
3RCYHK		4.660	-0.032	-0.11	5.780	-0.095	-0.26
3Z2Q3R		4.850	0.158	0.54	6.000	0.125	0.35
472RFQ	X	5.945	1.253	4.25	4.720	-1.155	-3.20
4G8AFA	X	8.000	3.308	11.23	8.000	2.125	5.89
63JN9L		4.500	-0.192	-0.65	5.650	-0.225	-0.62
69BYJJ	X	4.825	0.133	0.45	5.535	-0.340	-0.94
6K4F9K		4.800	0.108	0.37	5.950	0.075	0.21
6NH98Q		5.350	0.658	2.23	6.600	0.725	2.01
6TVVWP		4.960	0.268	0.91	6.155	0.280	0.78
7KZCX7		4.600	-0.092	-0.31	5.800	-0.075	-0.21
8B32ZG	*	5.075	0.383	1.30	6.525	0.650	1.80
8CYK3H		4.635	-0.057	-0.19	5.855	-0.020	-0.06
8REKWM		4.895	0.203	0.69	6.105	0.230	0.64
94NHGG		4.715	0.023	0.08	5.900	0.025	0.07
9AB7E8		4.800	0.108	0.37	6.055	0.180	0.50
9E7WKJ		4.905	0.213	0.72	6.155	0.280	0.78
9HH3X6		4.480	-0.212	-0.72	5.475	-0.400	-1.11
9ZZ4T8		4.860	0.168	0.57	6.080	0.205	0.57
A3QKQL		4.845	0.153	0.52	5.940	0.065	0.18
A7PWLL	X	5.200	0.508	1.72	5.800	-0.075	-0.21
AH2776		4.140	-0.552	-1.87	5.150	-0.725	-2.01
AMAMKK		4.470	-0.222	-0.75	5.705	-0.170	-0.47
B28ZC3		5.100	0.408	1.38	6.350	0.475	1.32
BDLXFK		4.550	-0.142	-0.48	5.700	-0.175	-0.48
BGHLXD		4.300	-0.392	-1.33	5.450	-0.425	-1.18
BJMAD3	X	4.450	-0.242	-0.82	6.100	0.225	0.62
BMBN3C		4.685	-0.007	-0.02	5.845	-0.030	-0.08
BX9PG3		4.320	-0.372	-1.26	5.465	-0.410	-1.14
C62G32		5.270	0.578	1.96	6.595	0.720	1.99
CBQYGC		5.080	0.388	1.32	6.395	0.520	1.44
CPBEJC		4.810	0.118	0.40	5.995	0.120	0.33



ASEV-CTS Wine Industry Interlaboratory Testing Program

**Report #077
Summer 2024**

**Analysis 910
Glucose + Fructose**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CTBPFC		4.900	0.208	0.71	6.000	0.125	0.35
CU79GD		4.140	-0.552	-1.87	5.215	-0.660	-1.83
CWRRMG		4.855	0.163	0.55	5.995	0.120	0.33
D7TPUG		4.347	-0.346	-1.17	5.441	-0.434	-1.20
D93KR3	M	4.400	-0.292	-0.99	No data reported for this sample		
DF4RFH		4.430	-0.262	-0.89	5.520	-0.355	-0.98
DLNYV2	X	5.520	0.828	2.81	6.090	0.215	0.60
DZL9CF		4.430	-0.262	-0.89	5.450	-0.425	-1.18
E2DN2H		4.575	-0.117	-0.40	5.700	-0.175	-0.48
EAT8LH		5.000	0.308	1.04	6.100	0.225	0.62
EBNQMJ		4.440	-0.252	-0.86	5.720	-0.155	-0.43
EDU9NZ		4.485	-0.207	-0.70	5.555	-0.320	-0.89
F3PL99		4.225	-0.467	-1.59	5.290	-0.585	-1.62
F9EZXF		5.210	0.518	1.76	6.520	0.645	1.79
FTEJM8		5.000	0.308	1.04	6.200	0.325	0.90
G4UVEB		4.800	0.108	0.37	6.050	0.175	0.48
HJKTF7		4.850	0.158	0.54	5.900	0.025	0.07
HJKV6A	*	4.570	-0.122	-0.41	5.975	0.100	0.28
HMLYWW		4.990	0.298	1.01	6.240	0.365	1.01
J6Y3U9		4.555	-0.137	-0.47	5.695	-0.180	-0.50
JCH62B		4.220	-0.472	-1.60	5.235	-0.640	-1.77
JVCYNU		4.825	0.133	0.45	6.070	0.195	0.54
K4LM3T		4.850	0.158	0.54	6.100	0.225	0.62
KMB7T6	X	4.850	0.158	0.54	5.550	-0.325	-0.90
KNR3L6		5.100	0.408	1.38	6.350	0.475	1.32
KQCAH8		4.800	0.108	0.37	6.000	0.125	0.35
KQWQYA		4.785	0.093	0.32	6.090	0.215	0.60
KV6ECB	*	3.900	-0.792	-2.69	5.000	-0.875	-2.42
L7LHYZ		4.945	0.253	0.86	6.120	0.245	0.68
M6TLCR		4.500	-0.192	-0.65	5.700	-0.175	-0.48
M8VPY9		4.570	-0.122	-0.41	5.695	-0.180	-0.50
MGHLZA		4.350	-0.342	-1.16	5.530	-0.345	-0.96
N9M32Q	X	2.495	-2.197	-7.46	3.165	-2.710	-7.51
NBBGP2	X	5.140	0.448	1.52	7.265	1.390	3.85
NF84G4	X	4.550	-0.142	-0.48	5.050	-0.825	-2.29



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
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Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PFFUMQ		4.360	-0.332	-1.13	5.510	-0.365	-1.01
QMG977		4.350	-0.342	-1.16	5.650	-0.225	-0.62
QQGD77		5.050	0.358	1.21	6.300	0.425	1.18
QUE446		4.895	0.203	0.69	6.135	0.260	0.72
REH4RV		5.200	0.508	1.72	6.600	0.725	2.01
RGNQ6Z		4.800	0.108	0.37	6.000	0.125	0.35
RHJA72		4.375	-0.317	-1.08	5.450	-0.425	-1.18
RQW2WY		4.645	-0.047	-0.16	5.750	-0.125	-0.35
T8JU64		4.550	-0.142	-0.48	5.650	-0.225	-0.62
T9PLN4		4.800	0.108	0.37	5.810	-0.065	-0.18
TD28YV		4.870	0.178	0.60	5.975	0.100	0.28
TM7EEV		4.500	-0.192	-0.65	5.600	-0.275	-0.76
U2LYCU		4.565	-0.127	-0.43	5.615	-0.260	-0.72
UKJZQL		4.250	-0.442	-1.50	5.300	-0.575	-1.59
UL9GNZ		4.700	0.008	0.03	5.950	0.075	0.21
UXLQ6Y	*	5.300	0.608	2.06	6.800	0.925	2.56
V22HWR		4.400	-0.292	-0.99	5.580	-0.295	-0.82
VYXKMK		4.715	0.023	0.08	5.935	0.060	0.17
W7AZTY		4.200	-0.492	-1.67	5.300	-0.575	-1.59
W7PKEH		4.915	0.222	0.75	6.103	0.228	0.63
WHJXCT		4.700	0.008	0.03	5.900	0.025	0.07
X2ACPW		4.655	-0.037	-0.13	5.735	-0.140	-0.39
X4HN7Y		4.625	-0.067	-0.23	5.725	-0.150	-0.42
XK66AV		5.100	0.408	1.38	6.300	0.425	1.18
XXEHTG		4.885	0.193	0.65	6.215	0.340	0.94
XYNRJT		4.565	-0.127	-0.43	5.810	-0.065	-0.18
YVJJRN		4.850	0.158	0.54	5.900	0.025	0.07
ZBBFRX		4.690	-0.002	-0.01	5.825	-0.050	-0.14
ZGEHRR	*	4.625	-0.067	-0.23	6.049	0.174	0.48



**Analysis 910
Glucose + Fructose**

Grand Means	Summary Statistics	
4.6922 g/L		5.8750 g/L
Std Dev Btwn Labs	0.2946 g/L	0.3610 g/L
Statistics based on 88 of 99 reporting participants		

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #910

- A7PWLL (X) - Inconsistent in testing between samples.
- 69BYJJ (X) - Inconsistent in testing between samples.
- NBBGP2 (X) - Inconsistent in testing between samples, data for sample SA54 are high.
- KMB7T6 (X) - Inconsistent in testing between samples.
- NF84G4 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 472RFQ (X) - Inconsistent in testing between samples, data for sample SA53 are high and data for sample SA54 are low. Lab may have transposed data between samples.
- 4G8AFA (X) - Data for both samples are high.
- BJMAD3 (X) - Inconsistent in testing between samples.
- DLNYV2 (X) - Inconsistent in testing between samples, data for sample SA53 are high.
- D93KR3 (M) - Participant did not submit data for sample SA54.
- N9M32Q (X) - Data for both samples are low.

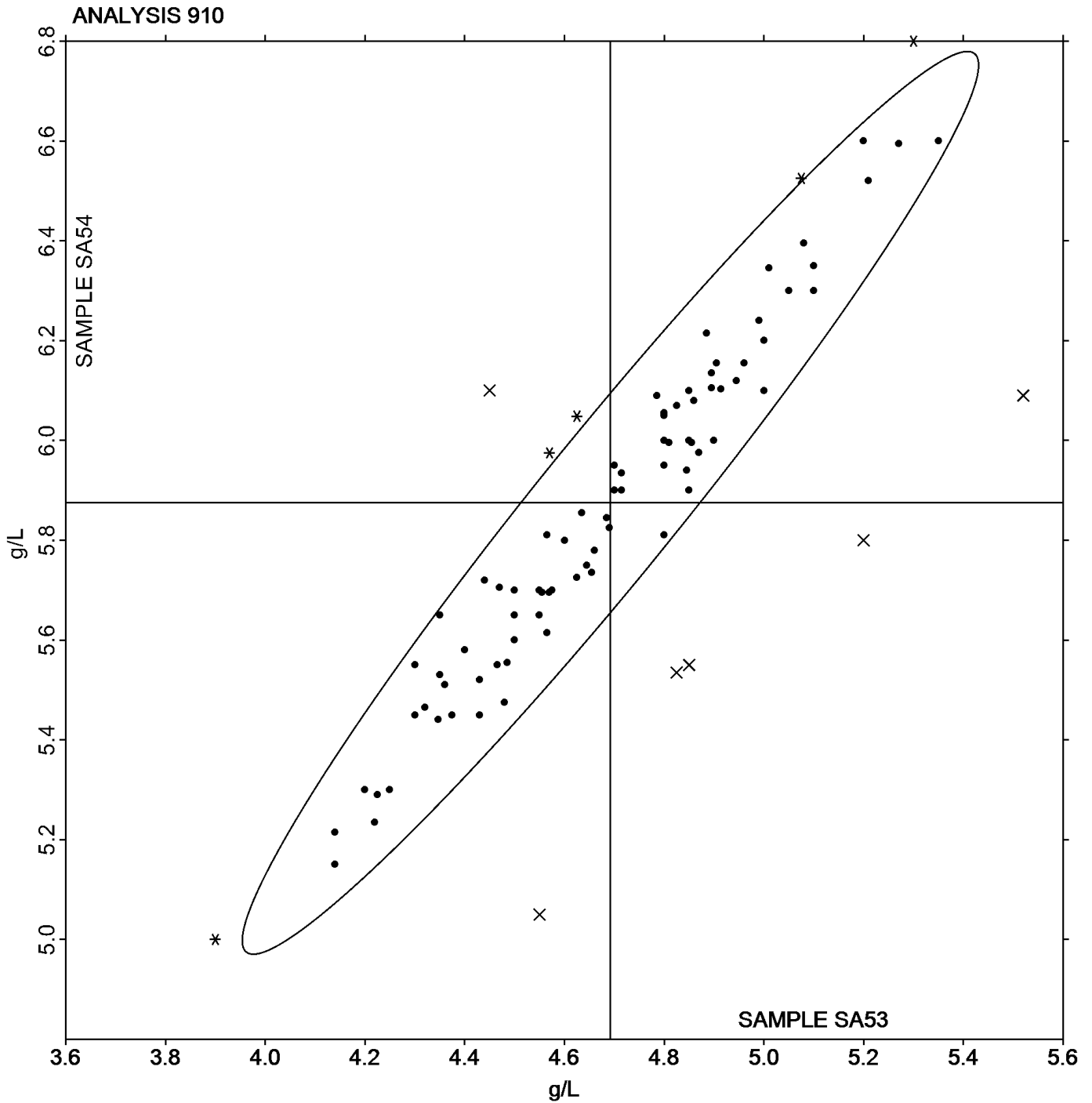
Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
HPLC	4.300	0.000	-0.392	5.450	0.000	-0.425	1/1
Enzymatic/Spectrophotometric	4.681	0.293	-0.012	5.865	0.362	-0.010	79/88
Segmented Flow	4.850	0.000	0.158	5.900	0.000	0.025	1/1
FTIR	4.862	0.327	0.170	6.072	0.420	0.197	5/7
Other	4.845	0.219	0.153	5.963	0.194	0.088	2/2



Analysis 910

Glucose + Fructose





Analysis 911
Copper Content

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3RCYHK	X	2.9000	2.8414	71.03	2.4500	2.3843	64.36
4G8AFA		0.0400	-0.0187	-0.47	0.0450	-0.0207	-0.56
63JN9L		0.0100	-0.0487	-1.22	0.0350	-0.0307	-0.83
69BYJJ		0.0350	-0.0237	-0.59	0.0530	-0.0127	-0.34
6NH98Q		0.0280	-0.0307	-0.77	0.0450	-0.0207	-0.56
6TVVWP	X	0.6450	0.5864	14.66	0.6900	0.6243	16.85
A3QKQL		0.0485	-0.0102	-0.25	0.0555	-0.0102	-0.28
BGHLXD		0.0400	-0.0187	-0.47	0.0500	-0.0157	-0.42
BX9PG3	X	0.1850	0.1264	3.16	0.1150	0.0493	1.33
HMLYWW		0.0790	0.0204	0.51	0.0870	0.0213	0.58
KMB7T6		0.0255	-0.0332	-0.83	0.0360	-0.0297	-0.80
KQCAH8		0.1100	0.0514	1.28	0.1000	0.0343	0.93
L7LHYZ		0.0250	-0.0337	-0.84	0.0300	-0.0357	-0.96
QQGD77		0.1000	0.0414	1.03	0.1000	0.0343	0.93
REH4RV		0.0800	0.0214	0.53	0.0800	0.0143	0.39
RGNQ6Z		0.0370	-0.0217	-0.54	0.0460	-0.0197	-0.53
T8JU64		0.0400	-0.0187	-0.47	0.0520	-0.0137	-0.37
TD28YV	*	0.1500	0.0914	2.28	0.1700	0.1043	2.82
U2LYCU		0.1350	0.0764	1.91	0.1250	0.0593	1.60
UKJZQL		0.0600	0.0013	0.03	0.0625	-0.0032	-0.09
UXLQ6Y	X	1.6500	1.5914	39.78	0.2000	0.1343	3.63
V22HWR		0.0100	-0.0487	-1.22	0.0100	-0.0557	-1.50
XXEHTG		0.0815	0.0229	0.57	0.0820	0.0163	0.44
YVJJRN		0.0385	-0.0202	-0.50	0.0500	-0.0157	-0.42

Grand Means	Summary Statistics
0.05865 mg/L	0.06570 mg/L
Std Dev Btwn Labs	
0.04000 mg/L	0.03705 mg/L
Statistics based on 20 of 24 reporting participants	

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



**Analysis 911
Copper Content**

Comments on Assigned Data Flags for Test #911

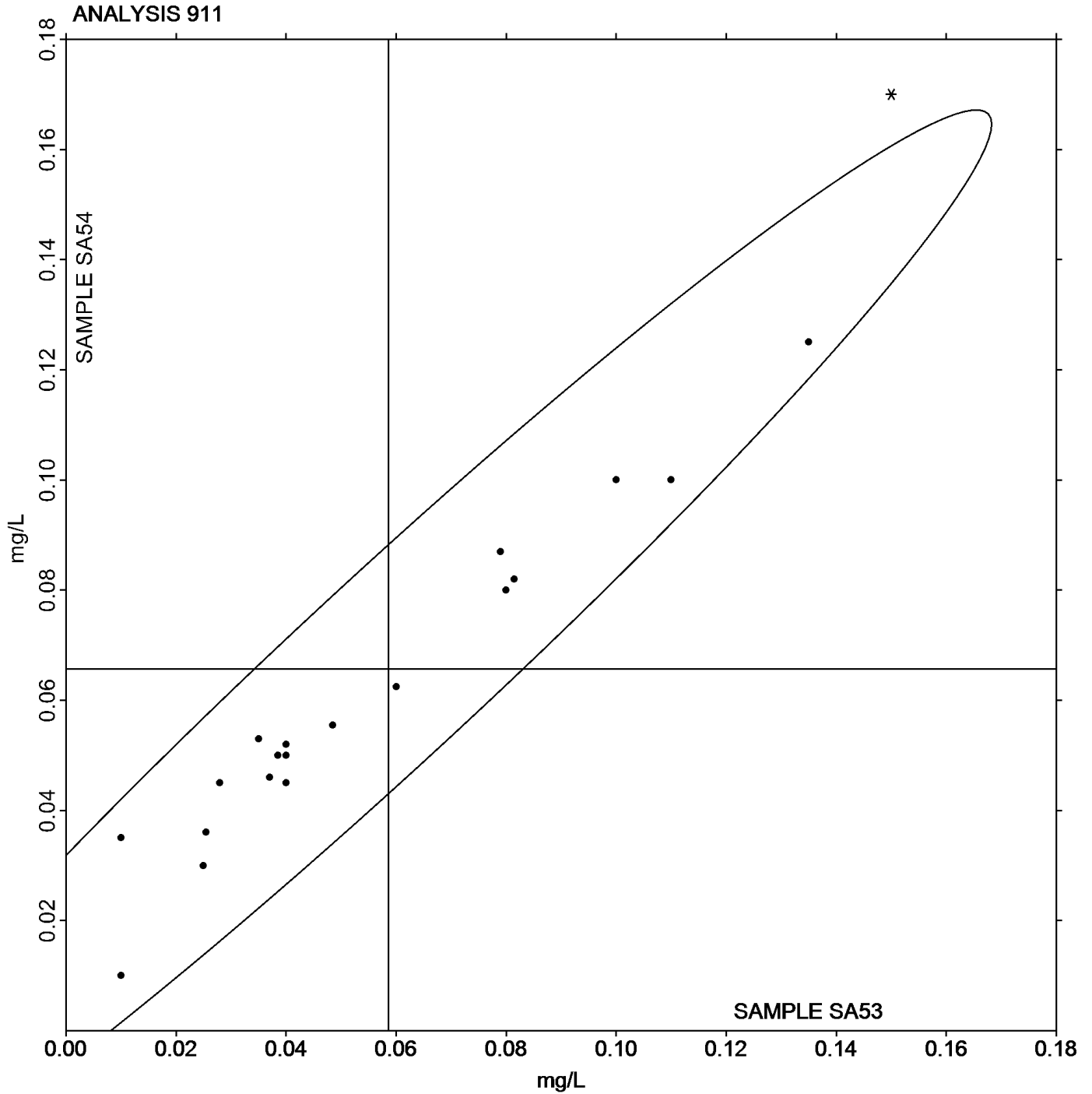
- 3RCYHK (X) - Extreme data. Data may be off by a factor of 10.
- UXLQ6Y (X) - Data for both samples are high. Inconsistent within the determinations of sample SA53.
- 6TVVWP (X) - Data for both samples are high. Inconsistent within the determinations of sample SA53.
- BX9PG3 (X) - Data for sample SA53 are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used							0/2
Atomic Absorption Spectroscopy	0.049	0.027	-0.0099	0.055	0.026	-0.0108	9/10
ICP	0.042	0.026	-0.0162	0.053	0.020	-0.0126	8/8
FTIR							0/1
Other	0.135	0.000	0.0764	0.125	0.000	0.0593	1/1
Colorimetric Analysis	0.130	0.028	0.0714	0.135	0.049	0.0693	2/2



Analysis 911
Copper Content





**Analysis 912
Potassium (K) Content**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		1,212.5	-54.7	-0.40	1,075.5	-7.1	-0.06
32W96T		1,370.0	102.8	0.75	1,226.0	143.4	1.24
4G8AFA		1,045.0	-222.2	-1.61	889.5	-193.1	-1.67
63JN9L		1,180.0	-87.2	-0.63	985.0	-97.6	-0.85
69BYJJ		1,092.0	-175.2	-1.27	993.0	-89.6	-0.78
6NH98Q		1,141.0	-126.2	-0.92	968.5	-114.1	-0.99
6TVVWP		1,501.8	234.6	1.70	1,281.5	198.9	1.72
8CYK3H		1,298.5	31.3	0.23	1,122.5	39.9	0.35
9E7WKJ		1,298.8	31.6	0.23	1,061.6	-21.0	-0.18
A3QKQL		1,215.5	-51.7	-0.37	1,053.0	-29.6	-0.26
BGHLXD		1,200.0	-67.2	-0.49	1,000.0	-82.6	-0.72
CWRRMG		1,447.0	179.8	1.30	1,248.0	165.4	1.43
EBNQMJ		1,233.0	-34.2	-0.25	1,015.0	-67.6	-0.59
KMB7T6		1,315.0	47.8	0.35	1,135.0	52.4	0.45
KQCAH8		1,157.0	-110.2	-0.80	1,027.0	-55.6	-0.48
LN2RY2		1,614.0	346.8	2.52	1,351.0	268.4	2.32
QQGD77		1,140.0	-127.2	-0.92	976.0	-106.6	-0.92
RGNQ6Z		1,295.0	27.8	0.20	1,045.0	-37.6	-0.33
T8JU64		1,165.5	-101.7	-0.74	996.2	-86.4	-0.75
TD28YV		1,414.5	147.3	1.07	1,196.0	113.4	0.98
U2LYCU		1,233.5	-33.7	-0.24	1,046.5	-36.1	-0.31
UKJZQL	X	1,750.0	482.8	3.50	1,300.0	217.4	1.88
UXLQ6Y		1,194.0	-73.2	-0.53	1,032.0	-50.6	-0.44
XXEHTG		1,381.1	113.9	0.83	1,176.0	93.4	0.81
YFQGKW	X	1,074.0	-193.2	-1.40	1,286.5	203.9	1.77

Grand Means		Summary Statistics	
	1,267.16 mg/L		1,082.60 mg/L
Std Dev Btwn Labs			115.45 mg/L
	137.84 mg/L		
Statistics based on 23 of 25 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



Comments on Assigned Data Flags for Test #912

YFQGKW (X) - Inconsistent in testing between samples. Data may be transposed between samples.

UKJZQL (X) - Data for sample SA53 are high. Inconsistent within the determinations of both samples.

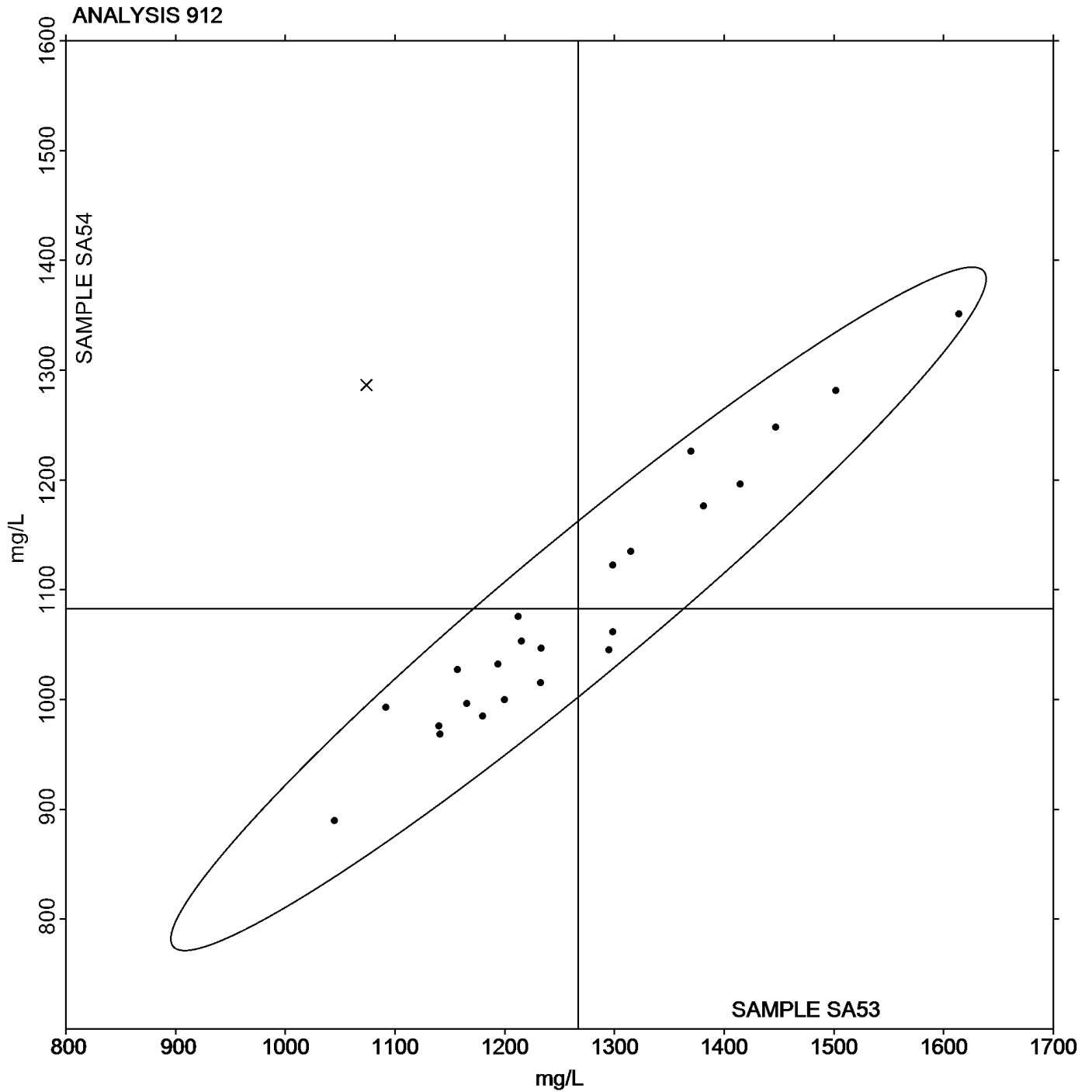
Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA53 <i>Cabernet Sauvignon</i>			Sample SA54 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	1,282.000	124.451	14.8	1,129.000	137.179	46.4	2/2
Atomic Absorption Spectroscopy	1,250.578	192.264	-16.6	1,070.993	156.111	-11.6	5/6
ICP	1,215.855	65.729	-51.3	1,027.168	55.839	-55.4	7/7
Other	1,382.000	203.529	114.8	1,173.333	158.487	90.7	3/4
Colorimetric Analysis	1,278.458	130.631	11.3	1,096.100	105.570	13.5	6/6



Analysis 912

Potassium (K) Content





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 915
A420nm (1cm path)

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU		2.769	-0.103	-0.83	2.419	-0.082	-0.70
3JGY4R		2.830	-0.042	-0.34	2.449	-0.052	-0.44
3RCYHK		2.900	0.028	0.23	2.450	-0.051	-0.43
472RFQ	X	2.183	-0.689	-5.56	2.551	0.050	0.42
4G8AFA		2.937	0.065	0.53	2.530	0.028	0.24
4T2Q6B		3.000	0.128	1.03	2.615	0.114	0.97
69BYJJ		2.900	0.028	0.23	2.530	0.029	0.25
6NH98Q		2.897	0.025	0.20	2.551	0.050	0.42
6TVVWP		2.885	0.013	0.11	2.522	0.020	0.17
8B32ZG	X	5.710	2.838	22.91	5.020	2.519	21.39
9AB7E8		2.911	0.039	0.31	2.526	0.024	0.21
9E7WKJ		2.846	-0.026	-0.21	2.451	-0.050	-0.42
9HH3X6	X	2.183	-0.689	-5.56	2.072	-0.429	-3.64
A7PWLL		2.950	0.078	0.63	2.540	0.039	0.33
B28ZC3		2.773	-0.099	-0.80	2.374	-0.128	-1.08
BX9PG3		2.763	-0.109	-0.88	2.472	-0.030	-0.25
CPBEJC		2.837	-0.035	-0.29	2.418	-0.084	-0.71
CU79GD		3.051	0.179	1.44	2.616	0.114	0.97
D7TPUG		2.822	-0.050	-0.40	2.455	-0.046	-0.39
DF4RFH		2.854	-0.018	-0.14	2.532	0.031	0.26
DLNYV2		2.960	0.088	0.71	2.580	0.079	0.67
E2DN2H		2.870	-0.002	-0.02	2.455	-0.046	-0.39
EBNQMJ	X	0.621	-2.251	-18.17	0.540	-1.962	-16.65
J6Y3U9		3.096	0.224	1.80	2.670	0.169	1.43
JCH62B		2.763	-0.109	-0.88	2.321	-0.180	-1.53
K4LM3T		2.894	0.022	0.17	2.557	0.055	0.47
KEKMCC		2.806	-0.066	-0.53	2.563	0.062	0.53
KMB7T6		3.005	0.133	1.07	2.545	0.044	0.37
KNR3L6		2.810	-0.062	-0.50	2.595	0.094	0.80
KQCAH8		3.019	0.147	1.19	2.669	0.168	1.43
KV6ECB	X	2.450	-0.422	-3.41	2.304	-0.197	-1.67
L7LHYZ		3.030	0.158	1.28	2.672	0.171	1.45
LN2RY2	*	2.641	-0.231	-1.86	2.436	-0.065	-0.55
NBBGP2	X	3.865	0.993	8.02	3.130	0.629	5.34
NF84G4		2.900	0.028	0.23	2.500	-0.001	-0.01



**Analysis 915
A420nm (1cm path)**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PFFUMQ		3.155	0.283	2.28	2.718	0.217	1.84
PYTCUP	M	No data reported for this sample			0.206	-2.295	-19.49
QMG977		2.720	-0.152	-1.23	2.391	-0.110	-0.93
QQGD77		2.752	-0.120	-0.97	2.436	-0.065	-0.55
QUE446		2.801	-0.071	-0.57	2.371	-0.130	-1.10
RGNQ6Z		2.855	-0.017	-0.14	2.490	-0.011	-0.09
T8JU64	*	2.835	-0.037	-0.30	2.660	0.159	1.35
T9PLN4		2.890	0.018	0.15	2.578	0.076	0.65
TD28YV	X	0.659	-2.213	-17.86	0.570	-1.931	-16.40
U2LYCU		2.915	0.043	0.35	2.510	0.009	0.08
UL9GNZ		3.153	0.281	2.26	2.712	0.210	1.79
UXLQ6Y		2.970	0.098	0.79	2.575	0.074	0.63
V22HWR		2.699	-0.173	-1.40	2.263	-0.238	-2.02
W7AZTY		2.775	-0.097	-0.78	2.375	-0.126	-1.07
W7PKEH		2.800	-0.072	-0.58	2.400	-0.101	-0.86
WHJXCT		2.580	-0.292	-2.36	2.255	-0.246	-2.09
X4HN7Y		2.780	-0.092	-0.74	2.370	-0.131	-1.11
XXEHTG		2.875	0.003	0.02	2.527	0.025	0.22
ZBBFRX		2.690	-0.182	-1.47	2.245	-0.256	-2.17
ZGEHRR		3.020	0.148	1.20	2.665	0.164	1.39

Grand Means		Summary Statistics	
	2.8719 Absorbance Units		2.5010 Absorbance Units
Stnd Dev Btwn Labs	0.1239 Absorbance Units		0.1178 Absorbance Units
Statistics based on 47 of 55 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



Comments on Assigned Data Flags for Test #915

TD28YV (X) - Data for both samples are low. Possible Systematic Error.

8B32ZG (X) - Data for both samples are high.

NBBGP2 (X) - Data for both samples are high.

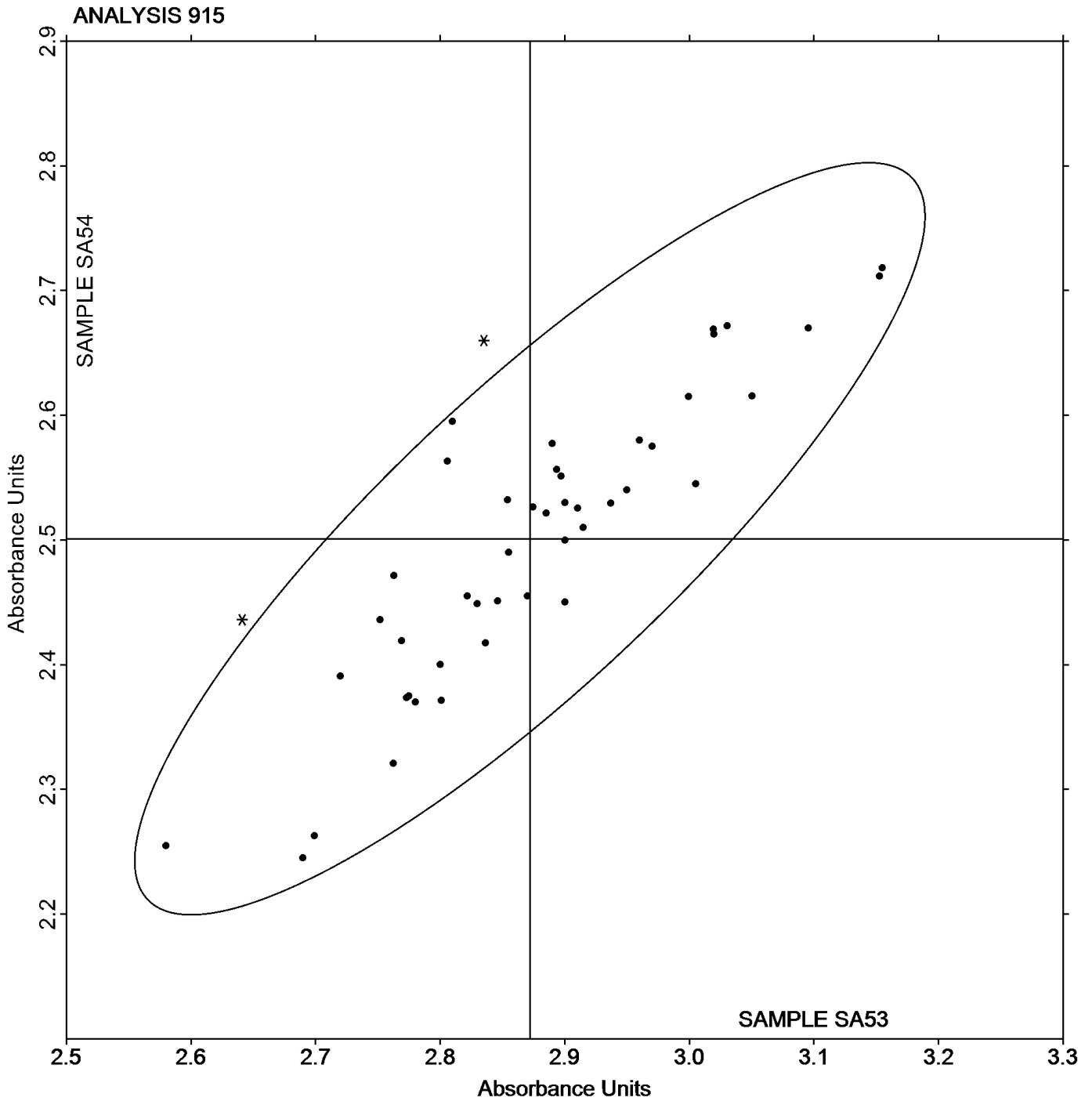
472RFQ (X) - Inconsistent in testing between samples, data for sample SA53 are low.

KV6ECB (X) - Inconsistent in testing between samples, data for sample SA53 are low.

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

9HH3X6 (X) - Data for both samples are low. Possible Systematic Error.

PYTCUP (M) - Data low for Sample SA54, data may be off by a factor of 10. Participant did not submit data for sample SA53.





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #077
Summer 2024

Analysis 916
A520nm (1cm path)

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28KTAU	X	3.018	-0.573	-3.22	3.373	0.209	1.40
3JGY4R		3.516	-0.075	-0.42	3.097	-0.066	-0.44
3RCYHK		3.460	-0.131	-0.73	3.180	0.017	0.11
472RFQ	X	2.772	-0.819	-4.60	3.195	0.032	0.21
4G8AFA		3.691	0.100	0.56	3.209	0.046	0.30
4T2Q6B		3.606	0.015	0.08	3.253	0.089	0.60
69BYJJ		3.590	-0.001	0.00	3.150	-0.013	-0.09
6NH98Q		3.612	0.021	0.12	3.236	0.072	0.48
6TVVWP		3.610	0.019	0.11	3.192	0.029	0.19
8B32ZG	X	7.095	3.504	19.69	6.490	3.327	22.18
9AB7E8		3.775	0.184	1.04	3.262	0.099	0.66
9E7WKJ		3.584	-0.007	-0.04	3.096	-0.068	-0.45
9HH3X6	X	2.391	-1.200	-6.74	2.357	-0.806	-5.38
A7PWLL		3.615	0.024	0.14	3.165	0.002	0.01
B28ZC3		3.384	-0.207	-1.16	2.900	-0.263	-1.76
BX9PG3	X	2.673	-0.918	-5.16	2.538	-0.625	-4.17
CPBEJC		3.585	-0.006	-0.03	3.067	-0.097	-0.65
CU79GD		3.782	0.191	1.07	3.288	0.124	0.83
D7TPUG		3.602	0.011	0.06	3.140	-0.024	-0.16
DF4RFH		3.558	-0.033	-0.18	3.222	0.058	0.39
DLNYV2		3.680	0.089	0.50	3.220	0.057	0.38
E2DN2H		3.620	0.029	0.17	3.160	-0.003	-0.02
EBNQMJ	X	0.776	-2.815	-15.82	0.686	-2.477	-16.52
J6Y3U9	X	5.000	1.409	7.92	3.245	0.082	0.55
JCH62B		3.890	0.300	1.68	3.252	0.089	0.59
K4LM3T		3.676	0.085	0.48	3.296	0.133	0.89
KEKMCC	X	3.334	-0.257	-1.44	3.334	0.171	1.14
KMB7T6		3.775	0.184	1.04	3.205	0.042	0.28
KNR3L6		3.535	-0.056	-0.31	3.275	0.112	0.75
KQCAH8		3.757	0.167	0.94	3.375	0.211	1.41
KV6ECB	X	2.860	-0.731	-4.10	2.806	-0.357	-2.38
L7LHYZ		3.819	0.229	1.29	3.446	0.283	1.89
LN2RY2		3.301	-0.290	-1.63	2.886	-0.277	-1.85
NBBGP2	X	4.715	1.124	6.32	3.925	0.762	5.08
NF84G4		3.700	0.109	0.62	3.200	0.037	0.24



**Analysis 916
A520nm (1cm path)**

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PFFUMQ		3.810	0.219	1.23	3.378	0.214	1.43
PYTCUP	M	No data reported for this sample			0.333	-2.830	-18.87
QMG977	*	3.061	-0.530	-2.98	2.853	-0.311	-2.07
QQGD77		3.502	-0.089	-0.50	3.099	-0.065	-0.43
QUE446		3.943	0.352	1.98	3.286	0.122	0.82
RGNQ6Z		3.595	0.004	0.03	3.150	-0.013	-0.09
T8JU64		3.505	-0.086	-0.48	3.290	0.127	0.85
T9PLN4		3.653	0.062	0.35	3.303	0.139	0.93
TD28YV	X	0.812	-2.779	-15.61	0.731	-2.432	-16.22
U2LYCU		3.675	0.084	0.47	3.210	0.047	0.31
UL9GNZ	*	3.164	-0.427	-2.40	2.766	-0.398	-2.65
UXLQ6Y		3.508	-0.083	-0.47	3.240	0.077	0.51
V22HWR		3.487	-0.104	-0.58	2.974	-0.189	-1.26
W7AZTY		3.530	-0.061	-0.34	3.060	-0.103	-0.69
W7PKEH		3.500	-0.091	-0.51	3.100	-0.063	-0.42
WHJXCT		3.235	-0.356	-2.00	2.820	-0.343	-2.29
X4HN7Y		3.635	0.044	0.25	3.145	-0.018	-0.12
XXEHTG		3.471	-0.120	-0.67	3.123	-0.040	-0.27
ZBBFRX		3.650	0.059	0.33	3.123	-0.041	-0.27
ZGEHRR		3.750	0.159	0.90	3.335	0.172	1.15

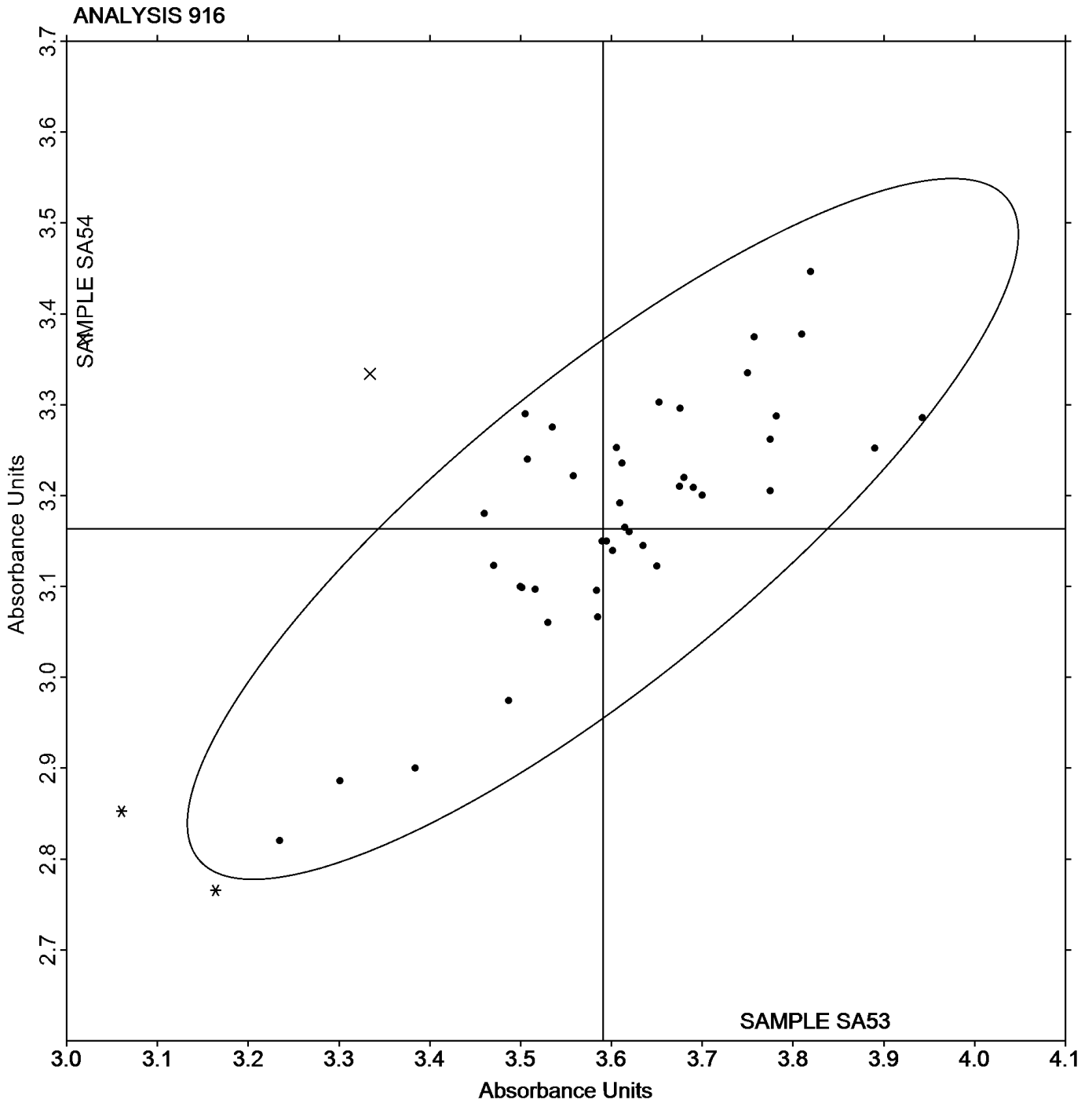
Grand Means		Summary Statistics	
	3.5905 Absorbance Units		3.1633 Absorbance Units
Std Dev Btwn Labs			
	0.1780 Absorbance Units		0.1500 Absorbance Units
Statistics based on 43 of 55 reporting participants			

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



Comments on Assigned Data Flags for Test #916

- TD28YV (X) - Data for both samples are low.
- 8B32ZG (X) - Data for both samples are high.
- NBBGP2 (X) - Data for both samples are high.
- J6Y3U9 (X) - Data for sample SA53 are high.
- 472RFQ (X) - Data for sample SA53 are low.
- 28KTAU (X) - Data for sample SA53 are low.
- KV6ECB (X) - Data for sample SA53 are low.
- KEKMCC (X) - Inconsistent in testing between samples.
- EBNQMJ (X) - Data for both samples are low.
- BX9PG3 (X) - Data for both samples are low.
- 9HH3X6 (X) - Data for both samples are low.
- PYTCUP (M) - Low data for Sample SA54, data may be off by a factor of 10. Participant did not submit data for sample SA53.





ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 950
Research Property: L-Lactic Acid

Report #077
Summer 2024

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
28KTAU		1.205	-0.024	-0.13	0.8700	-0.0336	-0.20
4G8AFA		1.400	0.171	0.91	1.0000	0.0964	0.57
63JN9L		1.310	0.081	0.43	0.9700	0.0664	0.39
8B32ZG		1.745	0.516	2.75	1.3650	0.4614	2.74
9ZZ4T8		1.010	-0.219	-1.17	0.7150	-0.1886	-1.12
E2DN2H		1.100	-0.129	-0.69	0.9000	-0.0036	-0.02
EAT8LH		1.200	-0.029	-0.16	0.8000	-0.1036	-0.62
K4LM3T		1.135	-0.094	-0.50	0.8350	-0.0686	-0.41
KMB7T6		1.260	0.031	0.16	0.8850	-0.0186	-0.11
KNR3L6		1.210	-0.019	-0.10	0.9035	-0.0001	0.00
KQCAH8		0.980	-0.249	-1.33	0.6100	-0.2936	-1.75
L7LHYZ		1.265	0.036	0.19	0.9270	0.0234	0.14
PFFUMQ	X	1.160	-0.069	-0.37	2.0000	1.0964	6.52
QQGD77		1.275	0.046	0.24	0.9190	0.0154	0.09
RGNQ6Z		1.065	-0.164	-0.88	0.8100	-0.0936	-0.56
T8JU64		1.125	-0.104	-0.56	0.8300	-0.0736	-0.44
V22HWR		1.493	0.263	1.40	1.1675	0.2639	1.57
XXEHTG		1.120	-0.109	-0.58	0.8550	-0.0486	-0.29

Research Property Consensus Value

Consensus Average

1.2293 g/L

0.90365 g/L

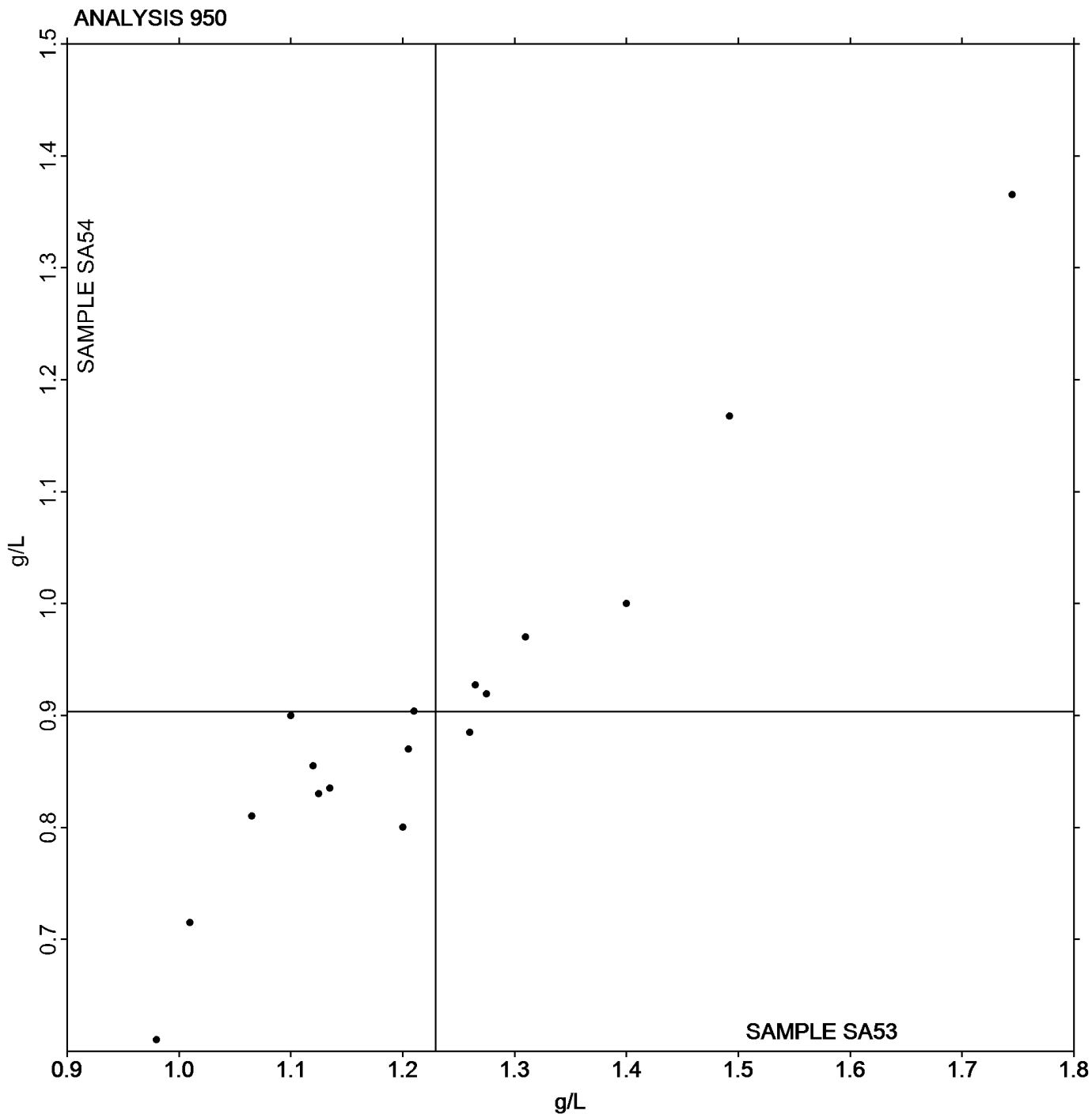
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

This consensus average is based on 17 reporting participants.

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot

Comments on Assigned Data Flags for Test #950

PFFUMQ (X) - Data for sample SA54 are high. Inconsistent within the determinations of both samples.



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: Iron Content

Report #077
Summer 2024

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
4G8AFA		2.000	-0.722	-2.04	3.000	-0.361	-0.99
63JN9L		2.475	-0.247	-0.70	3.005	-0.356	-0.97
69BYJJ		3.080	0.358	1.01	3.315	-0.046	-0.13
A3QKQL		2.730	0.008	0.02	3.280	-0.081	-0.22
BGHLXD		2.600	-0.122	-0.35	3.100	-0.261	-0.71
BX9PG3		2.585	-0.137	-0.39	3.315	-0.046	-0.13
EBNQMJ		2.718	-0.004	-0.01	3.280	-0.082	-0.22
KMB7T6		2.675	-0.047	-0.13	3.300	-0.061	-0.17
KQCAH8		3.000	0.278	0.79	4.000	0.639	1.75
QQGD77		2.645	-0.077	-0.22	3.215	-0.146	-0.40
RGNQ6Z		2.910	0.188	0.53	3.430	0.069	0.19
T8JU64		3.038	0.316	0.89	3.572	0.211	0.58
U2LYCU		2.265	-0.457	-1.29	3.000	-0.361	-0.99
XXEHTG		3.393	0.671	1.90	4.244	0.883	2.42

Research Property Consensus Value

Consensus Average

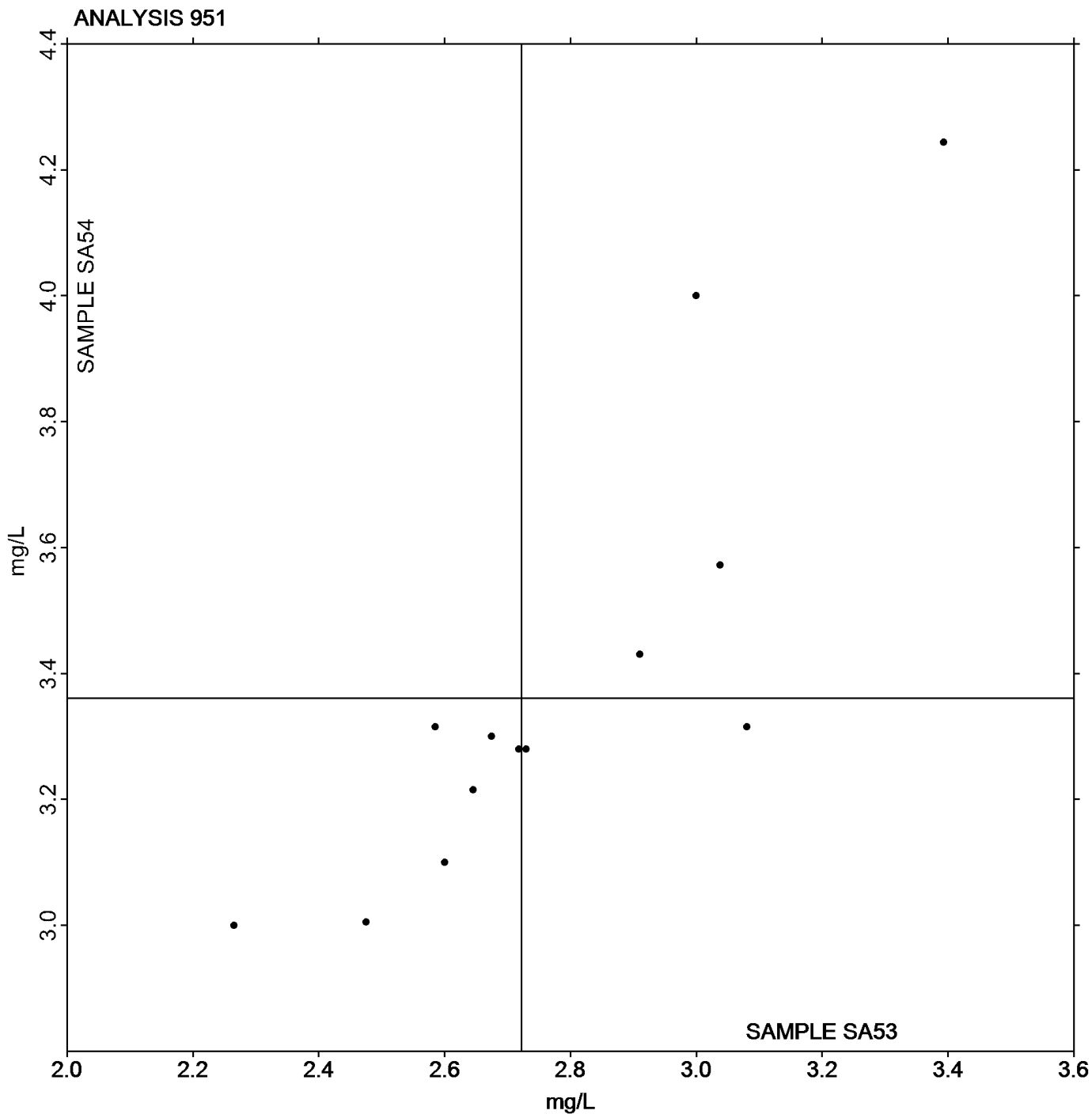
2.7224 mg/L

3.3611 mg/L

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

This consensus average is based on 14 reporting participants.

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



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



Research Property: Calories

WebCode	Data Flag	Sample SA53			Sample SA54		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
28KTAU		84.31	-1.68	-0.25	84.55	-1.38	-0.21
4G8AFA		91.85	5.86	0.87	91.61	5.68	0.85
69BYJJ		79.12	-6.87	-1.02	79.12	-6.80	-1.01
A3QKQL		83.80	-2.19	-0.33	83.80	-2.13	-0.32
CBQYGC		83.90	-2.09	-0.31	83.80	-2.13	-0.32
KMB7T6		81.50	-4.49	-0.67	81.50	-4.43	-0.66
KQCAH8		104.04	18.05	2.68	104.00	18.07	2.69
PFFUMQ		84.76	-1.23	-0.18	85.11	-0.82	-0.12
QQGD77		83.20	-2.79	-0.41	82.65	-3.28	-0.49
RGNQ6Z		84.54	-1.45	-0.22	84.54	-1.39	-0.21
T8JU64		84.87	-1.12	-0.17	84.54	-1.39	-0.21

Research Property Consensus Value

Consensus Average

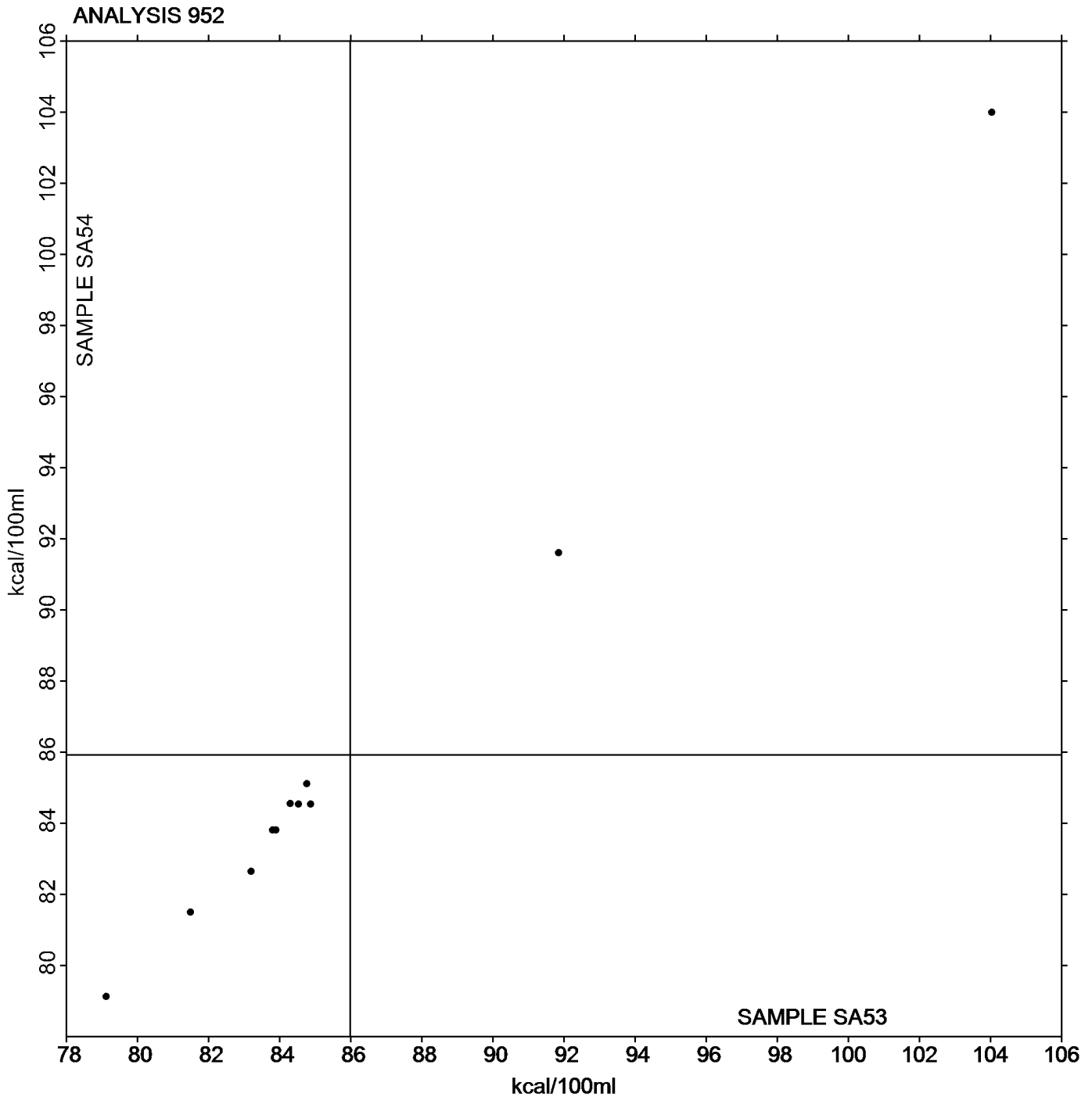
85.990 kcal/100ml

85.928 kcal/100ml

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

This consensus average is based on 11 reporting participants.

Wines tested: SA53: Cabernet Sauvignon; SA54: Merlot



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

-End of Report-