



## Wine Industry Interlaboratory Program

### Summary Report #031- Spring 2009

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[Introduction to the Wine Program](#)

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

Analysis	Analysis Name
<u><a href="#">901</a></u>	<u><a href="#">Ethanol (% of volume)</a></u>
<u><a href="#">902</a></u>	<u><a href="#">Total Sulfur Dioxide</a></u>
<u><a href="#">903</a></u>	<u><a href="#">Free Sulfur Dioxide</a></u>
<u><a href="#">904</a></u>	<u><a href="#">Titratable Acidity</a></u>
<u><a href="#">905</a></u>	<u><a href="#">Volatile Acidity</a></u>
<u><a href="#">906</a></u>	<u><a href="#">Specific Gravity</a></u>
<u><a href="#">907</a></u>	<u><a href="#">pH</a></u>
<u><a href="#">908</a></u>	<u><a href="#">Residual Sugar</a></u>
<u><a href="#">909</a></u>	<u><a href="#">L-Malic Acid</a></u>
<u><a href="#">910</a></u>	<u><a href="#">Glucose + Fructose</a></u>
<u><a href="#">915</a></u>	<u><a href="#">A420nm (1cm path)</a></u>
<u><a href="#">916</a></u>	<u><a href="#">A520nm (1cm path)</a></u>
<u><a href="#">950</a></u>	<u><a href="#">Research Property: Iron (Fe) Content</a></u>
<u><a href="#">951</a></u>	<u><a href="#">Research Property: Calcium (Ca) Content</a></u>

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## **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 Testing Guidance Committee (LPTGC) of the Technical Projects Committee (TPC). 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 55 countries, currently participate in the CTS programs.

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## Key for Web Summary Report (Page 1 of 2)

<b>WebCode</b>	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.
<b>Lab Mean</b>	The average of the test results obtained by the participant.
<b>Grand Mean</b>	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.
<b>Difference from Grand Mean</b>	The difference of the LAB MEAN from the GRAND MEAN.
<b>Between-Lab Standard Deviation</b>	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).
<b>Comparative Performance Value</b>	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.
<b>Data Flag</b>	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	<b>CAUTION</b> - 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	<b>STOP</b> - 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	<b>PROCEED</b> - 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.

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### 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.

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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

## Analysis 901

## Ethanol (% of volume)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1DUEJK		8.160	0.012	0.15	9.550	0.013	0.18
1EYKNK		8.140	-0.008	-0.11	9.520	-0.017	-0.23
21UNYR		8.130	-0.018	-0.24	9.525	-0.012	-0.16
269YN7		8.200	0.052	0.67	9.570	0.033	0.45
3DPLYG	X	8.200	0.052	0.67	9.450	-0.087	-1.18
3F2F9U		8.105	-0.043	-0.57	9.505	-0.032	-0.43
3T3EJK	X	3.550	-4.598	-59.99	4.450	-5.087	-69.07
4AZSJS		8.140	-0.008	-0.11	9.520	-0.017	-0.23
4C18LG		8.185	0.037	0.48	9.575	0.038	0.52
57HGMZ		8.105	-0.043	-0.57	9.500	-0.037	-0.50
5F7W6R		8.170	0.022	0.28	9.570	0.033	0.45
5JDSTL		8.205	0.057	0.74	9.581	0.044	0.59
5RA24Z		8.210	0.062	0.80	9.610	0.073	0.99
64JYB8		8.105	-0.043	-0.57	9.480	-0.057	-0.77
6NFWUY	*	8.335	0.187	2.44	9.745	0.208	2.82
762GL4		8.140	-0.008	-0.11	9.530	-0.007	-0.09
77EM45		8.220	0.072	0.93	9.620	0.083	1.13
7PSRBK		8.105	-0.043	-0.57	9.490	-0.047	-0.64
7ZZA4F	X	8.050	-0.098	-1.28	9.613	0.076	1.03
87PEC7	X	8.045	-0.103	-1.35	9.265	-0.272	-3.69
8UALGF		8.110	-0.038	-0.50	9.490	-0.047	-0.64
97HGPP		8.100	-0.048	-0.63	9.485	-0.052	-0.71
9HKZ4Y		8.180	0.032	0.41	9.550	0.013	0.18
9MR4NZ		8.120	-0.028	-0.37	9.520	-0.017	-0.23
B5R494		8.200	0.052	0.67	9.600	0.063	0.86
CDQY8F	*	8.025	-0.123	-1.61	9.460	-0.077	-1.04
CQN2SU		8.245	0.097	1.26	9.625	0.088	1.20
D3373Q		8.200	0.052	0.67	9.590	0.053	0.72
DBT13T		8.160	0.012	0.15	9.560	0.023	0.31
EEHB6S	X	8.240	0.092	1.20	9.270	-0.267	-3.62
FBUEZD	*	7.930	-0.218	-2.85	9.355	-0.182	-2.47
FRKDWE		8.130	-0.018	-0.24	9.525	-0.012	-0.16
FTJWA8	X	8.400	0.252	3.28	10.000	0.463	6.29
FTVU8X		8.120	-0.028	-0.37	9.520	-0.017	-0.23
FV83XQ	X	8.000	-0.148	-1.94	9.500	-0.037	-0.50

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## Analysis 901

## Ethanol (% of volume)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
G257D8		8.145	-0.003	-0.04	9.515	-0.022	-0.30
GHSAD4		8.160	0.012	0.15	9.560	0.023	0.31
GPLVSR	*	8.260	0.112	1.46	9.605	0.068	0.92
GTN56K		8.130	-0.018	-0.24	9.500	-0.037	-0.50
GZ8LWW		8.200	0.052	0.67	9.600	0.063	0.86
HU6ZEZ	X	8.400	0.252	3.28	9.700	0.163	2.21
J1NWBL	X	7.850	-0.298	-3.89	9.350	-0.187	-2.54
JNPU95		8.145	-0.003	-0.04	9.545	0.008	0.11
K5641Y		8.125	-0.023	-0.30	9.520	-0.017	-0.23
K675VW	X	7.800	-0.348	-4.54	9.300	-0.237	-3.22
K7B8EZ		8.155	0.007	0.09	9.550	0.013	0.18
KJY8EV		8.080	-0.068	-0.89	9.475	-0.062	-0.84
KTZ8Z9	X	8.280	0.132	1.72	9.495	-0.042	-0.57
KXC4AC		8.165	0.017	0.22	9.525	-0.012	-0.16
LRZLBH		8.270	0.122	1.59	9.640	0.103	1.40
LS8QYE	*	7.950	-0.198	-2.59	9.350	-0.187	-2.54
NLBUXT		8.100	-0.048	-0.63	9.500	-0.037	-0.50
P1W3LP		8.140	-0.008	-0.11	9.535	-0.002	-0.03
PFNGMX	X	8.200	0.052	0.67	9.500	-0.037	-0.50
QFCRVJ		8.305	0.157	2.04	9.700	0.163	2.21
QNEHFF		8.135	-0.013	-0.17	9.540	0.003	0.04
S3E8Y4		8.250	0.102	1.33	9.655	0.118	1.60
S6VH6G		8.170	0.022	0.28	9.545	0.008	0.11
SHPGUL	X	7.825	-0.323	-4.22	8.950	-0.587	-7.97
TRTCAP	X	8.230	0.082	1.07	9.525	-0.012	-0.16
U7W2R1		8.105	-0.043	-0.57	9.485	-0.052	-0.71
V3G1G8	X	8.330	0.182	2.37	9.755	0.218	2.96
V5SUG2		8.100	-0.048	-0.63	9.500	-0.037	-0.50
VJEHVT	X	7.875	-0.273	-3.57	9.125	-0.412	-5.59
VMDCE9	*	8.110	-0.038	-0.50	9.450	-0.087	-1.18
VW7F24	*	8.260	0.112	1.46	9.600	0.063	0.86
XPGAZ8		8.130	-0.018	-0.24	9.530	-0.007	-0.09
Y7VZX7		8.140	-0.008	-0.11	9.520	-0.017	-0.23
Z6ABP4	*	7.960	-0.188	-2.46	9.340	-0.197	-2.67
ZKFDDS	X	9.480	1.332	17.37	8.100	-1.437	-19.51

# ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 901

### Ethanol (% of volume)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZQ6B1G		8.145	-0.003	-0.04	9.540	0.003	0.04

Grand Means		Summary Statistics	
	8.1483 percent		9.5370 percent
Std Dev Btwn Labs			
	0.0767 percent		0.0736 percent
<b>Statistics based on 54 of 71 reporting participants</b>			

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

#### Comments on assigned Data Flags

- 3DPLYG (X) - Inconsistent in testing between samples.
- 3T3EJK (X) - Data for both samples are low.
- 7ZZA4F (X) - Inconsistent in testing between samples.
- 87PEC7 (X) - Inconsistent in testing between samples.
- EEHB6S (X) - Inconsistent in testing between samples, data for Sample SA60 are low.
- FTJWA8 (X) - Data for both samples are high.
- FV83XQ (X) - Inconsistent in testing between samples.
- HU6ZEZ (X) - Inconsistent in testing between samples, data for Sample SA59 are high.
- J1NWBL (X) - Inconsistent in testing between samples, data for Sample SA59 are low.
- K675VW (X) - Data for both samples are low.
- KTZ8Z9 (X) - Inconsistent in testing between samples.
- PFNGMX (X) - Inconsistent in testing between samples.
- SHPGUL (X) - Data for both samples are low.
- TRTCAP (X) - Inconsistent in testing between samples.
- V3G1G8 (X) - Inconsistent in testing between samples, data for Sample SA60 are high.
- VJEHVT (X) - Data for both samples are low.
- ZKFDDS (X) - Inconsistent in testing between samples. Lab may have switched samples.

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 901

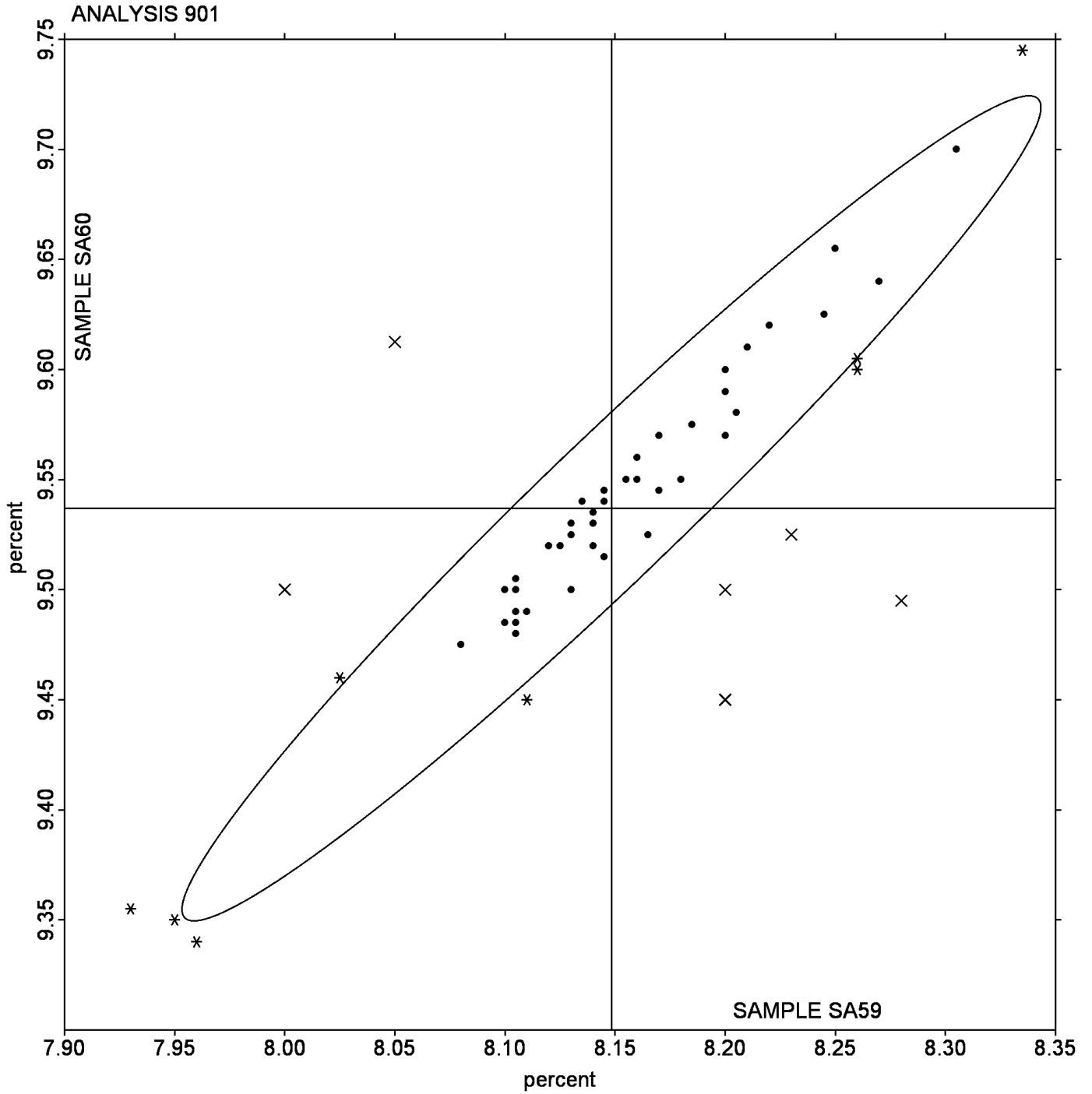
## Ethanol (% of volume)

## Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Ebulliometer Method	8.100	0.000	-0.048	9.500	0.000	-0.037	1	7
Gas Chromatography Method	8.209	0.033	0.060	9.601	0.035	0.064	7	7
Near Infrared Method	8.142	0.038	-0.006	9.529	0.036	-0.008	29	33
Dist. / Density Method	8.145	0.054	-0.003	9.543	0.057	0.006	4	12
FTIR	8.183	0.074	0.035	9.576	0.074	0.039	5	12

Analysis 901

Ethanol (% of volume)



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 902

## Total Sulfur Dioxide

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
13J213		73.00	2.40	0.43	85.50	4.13	0.82
15B6K2		73.50	2.90	0.52	73.50	-7.87	-1.56
3FDFQW	*	56.00	-14.60	-2.64	82.50	1.13	0.22
5UKVTX		75.50	4.90	0.89	83.50	2.13	0.42
64M1BJ		73.50	2.90	0.52	83.00	1.63	0.32
6M5V8Z		72.00	1.40	0.25	87.00	5.63	1.11
6R44FG		61.00	-9.60	-1.73	72.00	-9.37	-1.85
6W8MJU		69.50	-1.10	-0.20	69.00	-12.37	-2.44
784GL2		70.50	-0.10	-0.02	82.50	1.13	0.22
7P8166		65.00	-5.60	-1.01	78.00	-3.37	-0.67
7W1T8Z		66.50	-4.10	-0.74	74.00	-7.37	-1.46
849SWG	X	88.50	17.90	3.23	99.00	17.63	3.48
89AUCW		67.95	-2.65	-0.48	75.97	-5.40	-1.07
9V2HD8	X	90.00	19.40	3.51	99.00	17.63	3.48
AXSUZZ		72.00	1.40	0.25	87.50	6.13	1.21
B5BC7S		79.00	8.40	1.52	90.00	8.63	1.70
CFAJPW		71.00	0.40	0.07	85.50	4.13	0.82
D8ABQN		67.00	-3.60	-0.65	78.50	-2.87	-0.57
DBYKEG		73.50	2.90	0.52	80.00	-1.37	-0.27
DCZG3J		66.50	-4.10	-0.74	82.50	1.13	0.22
DNQZZR	*	84.00	13.40	2.42	89.00	7.63	1.51
E7CC4U		80.00	9.40	1.70	82.50	1.13	0.22
EJ6BTY		67.50	-3.10	-0.56	75.50	-5.87	-1.16
FGV6VG		67.50	-3.10	-0.56	83.00	1.63	0.32
G6SQUX		78.00	7.40	1.34	85.00	3.63	0.72
GAZB5N		74.15	3.55	0.64	75.45	-5.92	-1.17
GM81XY		62.00	-8.60	-1.55	78.00	-3.37	-0.67
GSPJD7		79.00	8.40	1.52	86.00	4.63	0.91
H282N6		67.00	-3.60	-0.65	88.00	6.63	1.31
H57KJC		69.00	-1.60	-0.29	84.50	3.13	0.62
H6ZX3D		70.50	-0.10	-0.02	82.50	1.13	0.22
J17R3N		60.00	-10.60	-1.91	74.00	-7.37	-1.46
J7TJDM		61.00	-9.60	-1.73	74.50	-6.87	-1.36
J99VD5		76.50	5.90	1.07	84.00	2.63	0.52
JNHWMM		77.50	6.90	1.25	85.00	3.63	0.72

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 902

## Total Sulfur Dioxide

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
K1Z1GW		65.00	-5.60	-1.01	78.00	-3.37	-0.67
KAFSL8		66.50	-4.10	-0.74	80.00	-1.37	-0.27
LN3VP5		67.50	-3.10	-0.56	81.50	0.13	0.02
NELHM4		71.50	0.90	0.16	82.05	0.68	0.13
NPES4E		69.00	-1.60	-0.29	84.50	3.13	0.62
NZL2ZQ	*	75.50	4.90	0.89	95.50	14.13	2.79
P3ZS76		61.50	-9.10	-1.64	81.00	-0.37	-0.07
PANZ25		73.50	2.90	0.52	80.50	-0.87	-0.17
PPRD68	*	77.50	6.90	1.25	71.00	-10.37	-2.05
Q8R2VH		72.00	1.40	0.25	85.50	4.13	0.82
QJTU9V		74.50	3.90	0.71	85.00	3.63	0.72
R15S4S		73.00	2.40	0.43	79.00	-2.37	-0.47
RDA3AD		74.50	3.90	0.71	78.00	-3.37	-0.67
RELHPU		75.00	4.40	0.80	88.00	6.63	1.31
S2GDEL		66.50	-4.10	-0.74	84.50	3.13	0.62
SPUQ8L		69.50	-1.10	-0.20	86.50	5.13	1.01
TEAL2Z		69.50	-1.10	-0.20	83.00	1.63	0.32
TH6NZ3	X	84.50	13.90	2.51	100.00	18.63	3.68
TJAQXT		67.50	-3.10	-0.56	81.00	-0.37	-0.07
U6JBHJH		66.00	-4.60	-0.83	82.00	0.63	0.12
UA8D94		72.50	1.90	0.34	78.00	-3.37	-0.67
V198E2		70.58	-0.01	0.00	78.34	-3.04	-0.60
V9AKRR		67.50	-3.10	-0.56	83.00	1.63	0.32
VAK1XP		65.00	-5.60	-1.01	88.50	7.13	1.41
VG7ER9		68.50	-2.10	-0.38	78.00	-3.37	-0.67
VYK4K9		75.00	4.40	0.80	79.50	-1.87	-0.37
XLL22Y		80.00	9.40	1.70	83.50	2.13	0.42
Y3KHJG		78.00	7.40	1.34	84.00	2.63	0.52
YJG7YT		72.00	1.40	0.25	83.00	1.63	0.32
YPAZGN		74.00	3.40	0.61	78.50	-2.87	-0.57
YW1A5J		71.50	0.90	0.16	72.50	-8.87	-1.75
ZHU3MM		70.50	-0.10	-0.02	75.50	-5.87	-1.16
ZJ86CC		61.60	-9.00	-1.63	83.00	1.63	0.32

## Analysis 902

## Total Sulfur Dioxide

Grand Means		Summary Statistics	
	70.597 mg/L		81.374 mg/L
Std Dev Btwn Labs			
	5.535 mg/L		5.062 mg/L
Statistics based on 65 of 68 reporting participants			

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

849SWG (X) - Data for both samples are high.

9V2HD8 (X) - Data for both samples are high.

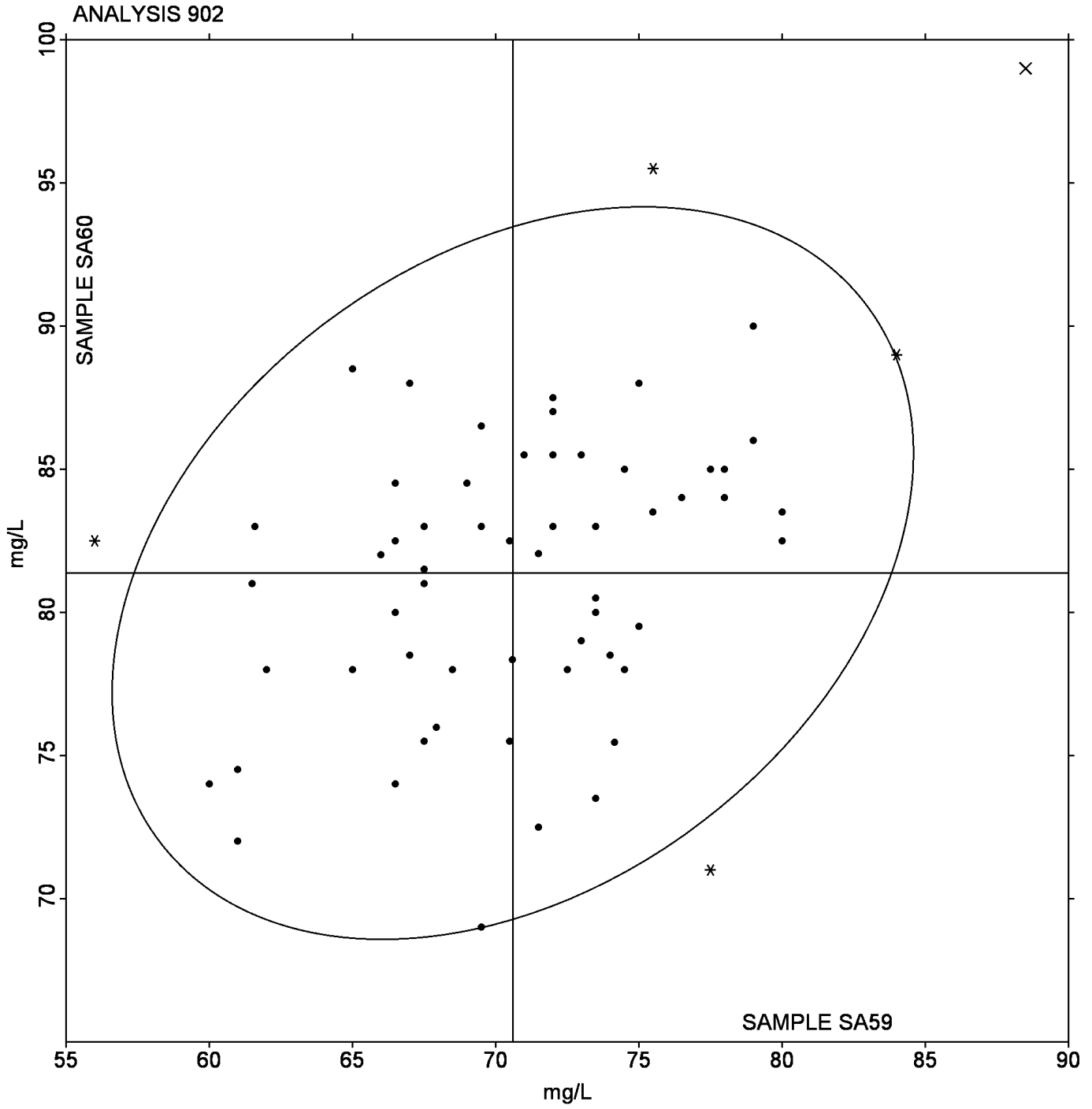
TH6NZ3 (X) - Inconsistent in testing between samples, data for Sample SA60 are high.

**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Please specify method used	71.00	2.12	0.40	73.50	6.36	-7.87	2	2
Ripper Method	73.57	3.76	2.97	80.72	4.12	-0.65	24	29
Aeration Oxidation (AO) Method	66.67	4.86	-3.93	79.81	4.54	-1.56	19	20
Segmented Flow Analyzer	68.88	4.11	-1.72	83.88	3.33	2.50	4	5
Colorimetric Analyzer	70.86	2.44	0.26	84.43	1.77	3.05	7	7
Flow Injection Analysis	70.00	5.83	-0.60	84.80	4.75	3.43	5	5

Analysis 902

Total Sulfur Dioxide



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 903

## Free Sulfur Dioxide

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1WV4S		9.00	-2.35	-1.01	6.000	-2.447	-0.96
38MHD1		12.00	0.65	0.28	8.500	0.053	0.02
5BCXZ8		9.00	-2.35	-1.01	6.000	-2.447	-0.96
5MPF1Q		9.00	-2.35	-1.01	6.500	-1.947	-0.76
5MVEN8		8.00	-3.35	-1.43	4.560	-3.887	-1.52
5T14DT		13.00	1.65	0.71	9.000	0.553	0.22
68YEVY		10.00	-1.35	-0.58	6.000	-2.447	-0.96
6DQGLW		13.50	2.15	0.92	10.000	1.553	0.61
6GVS3J		15.00	3.65	1.56	11.000	2.553	1.00
6T45WY		10.50	-0.85	-0.36	6.500	-1.947	-0.76
6T9PA8		8.50	-2.85	-1.22	5.500	-2.947	-1.15
7CRH13		13.00	1.65	0.71	8.500	0.053	0.02
7GTSJ4		9.00	-2.35	-1.01	6.000	-2.447	-0.96
7PKG7		8.00	-3.35	-1.43	6.000	-2.447	-0.96
89NFW6		10.00	-1.35	-0.58	9.000	0.553	0.22
8NUTLP	*	12.00	0.65	0.28	4.500	-3.947	-1.54
91VCDV		7.00	-4.35	-1.86	6.000	-2.447	-0.96
A3QBPY		10.50	-0.85	-0.36	9.500	1.053	0.41
AA3RBV		13.35	2.00	0.86	8.700	0.253	0.10
ADR2LM		12.56	1.21	0.52	9.360	0.913	0.36
APGM7C	*	10.50	-0.85	-0.36	12.500	4.053	1.59
AQS3JW		13.50	2.15	0.92	9.500	1.053	0.41
BC4SG6	*	15.00	3.65	1.56	8.000	-0.447	-0.17
C97XWF		8.50	-2.85	-1.22	3.000	-5.447	-2.13
CYTRAD		11.50	0.15	0.06	8.500	0.053	0.02
E4ZCE8		9.50	-1.85	-0.79	7.000	-1.447	-0.57
EAM8B6		13.00	1.65	0.71	10.000	1.553	0.61
EH8JZD		10.00	-1.35	-0.58	8.000	-0.447	-0.17
ERPLDE		10.00	-1.35	-0.58	8.500	0.053	0.02
FEJZCF		11.00	-0.35	-0.15	9.000	0.553	0.22
FHAL9H		10.00	-1.35	-0.58	7.500	-0.947	-0.37
FV7CPM		8.00	-3.35	-1.43	8.000	-0.447	-0.17
G9PBGU		12.50	1.15	0.49	7.000	-1.447	-0.57
GFDG59		10.00	-1.35	-0.58	8.500	0.053	0.02
GJSKW6		10.00	-1.35	-0.58	8.500	0.053	0.02

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 903

## Free Sulfur Dioxide

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GQSLVU	*	11.50	0.15	0.06	13.000	4.553	1.78
GTJQV4		14.50	3.15	1.35	12.000	3.553	1.39
H48D4D		11.00	-0.35	-0.15	6.500	-1.947	-0.76
HXSENC		10.00	-1.35	-0.58	8.500	0.053	0.02
J187AY		15.00	3.65	1.56	11.500	3.053	1.19
K8RZER		13.50	2.15	0.92	10.000	1.553	0.61
KEPWV2		13.00	1.65	0.71	11.000	2.553	1.00
KTWJLB	*	18.50	7.15	3.06	15.000	6.553	2.56
KWWBD2		11.00	-0.35	-0.15	6.500	-1.947	-0.76
M9HMEL		10.00	-1.35	-0.58	7.000	-1.447	-0.57
M9M5D9		15.00	3.65	1.56	9.500	1.053	0.41
MBXGFQ		11.50	0.15	0.06	10.000	1.553	0.61
MSZUKF		16.59	5.23	2.24	14.445	5.998	2.35
PLNNX8		13.50	2.15	0.92	8.000	-0.447	-0.17
Q8S973		9.00	-2.35	-1.01	8.000	-0.447	-0.17
R9CMYK		11.00	-0.35	-0.15	8.500	0.053	0.02
SSSBVH		10.50	-0.85	-0.36	8.000	-0.447	-0.17
T4HBZ6		11.50	0.15	0.06	6.500	-1.947	-0.76
T7H28L		12.00	0.65	0.28	7.000	-1.447	-0.57
T8Y7XB		15.00	3.65	1.56	14.500	6.053	2.37
THS9HL		12.00	0.65	0.28	9.000	0.553	0.22
U3G9JV		8.00	-3.35	-1.43	5.600	-2.847	-1.11
U6V7RH		9.50	-1.85	-0.79	5.500	-2.947	-1.15
UC8RAA		14.00	2.65	1.13	13.500	5.053	1.98
VKEXFB		12.50	1.15	0.49	10.000	1.553	0.61
W4HK8P		13.45	2.10	0.90	11.800	3.353	1.31
WCRSM9		8.15	-3.20	-1.37	5.300	-3.147	-1.23
WDXSAH		10.00	-1.35	-0.58	7.500	-0.947	-0.37
WZQU3J		9.00	-2.35	-1.01	7.500	-0.947	-0.37
X7Z8D7		13.50	2.15	0.92	9.500	1.053	0.41
X8E44R		9.00	-2.35	-1.01	6.500	-1.947	-0.76
YDV LK1		13.00	1.65	0.71	10.500	2.053	0.80
YSGAV5		13.00	1.65	0.71	12.500	4.053	1.59
ZBBBJK		10.00	-1.35	-0.58	5.500	-2.947	-1.15
ZCL3NV		10.00	-1.35	-0.58	5.000	-3.447	-1.35

**Analysis 903**  
**Free Sulfur Dioxide**

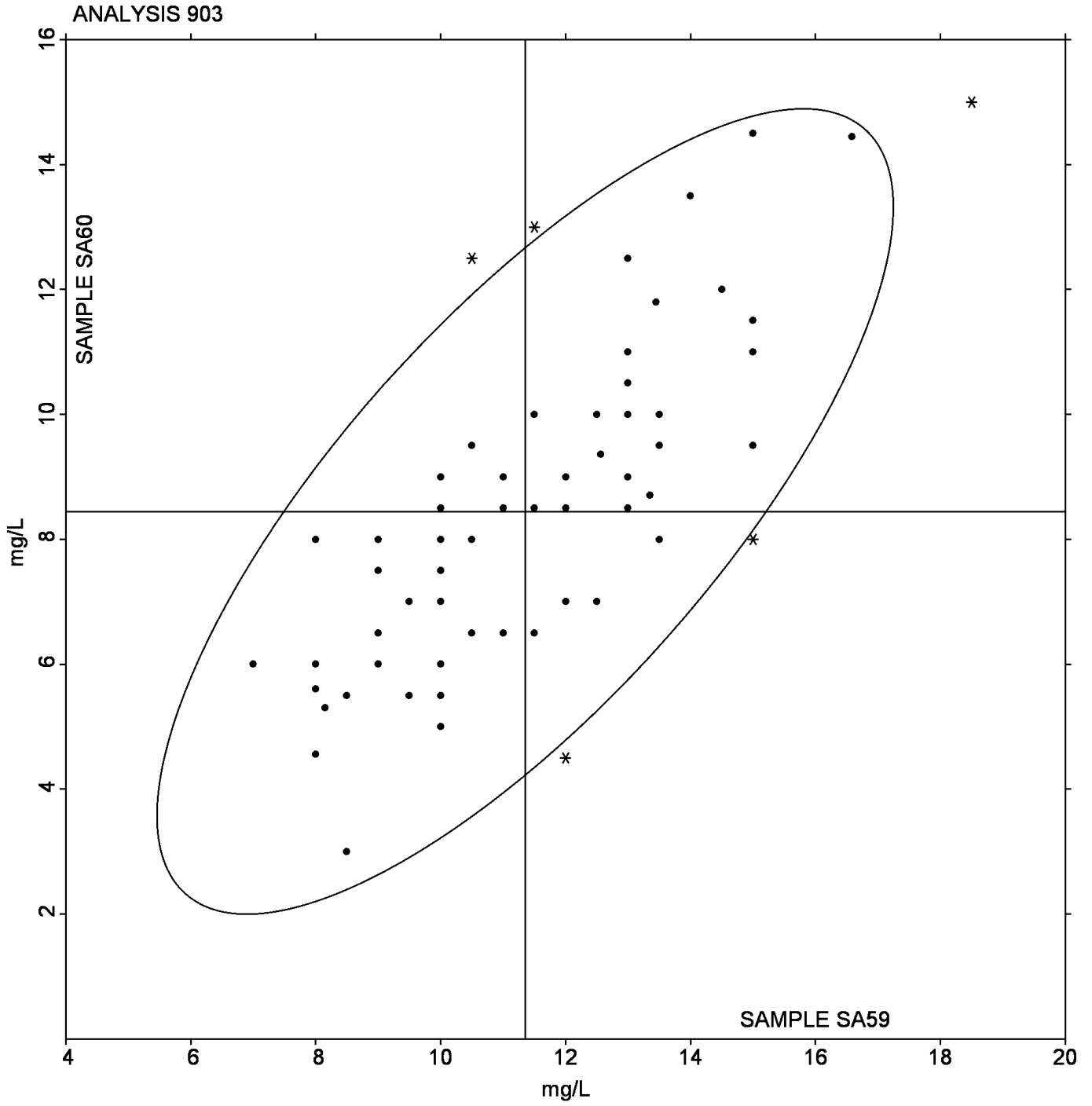
	Summary Statistics	
<b>Grand Means</b>	11.351 mg/L	8.4466 mg/L
<b>Stnd Dev Btwn Labs</b>	2.337 mg/L	2.5566 mg/L
<b>Statistics based on 70 of 70 reporting participants</b>		

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Please specify method used	13.25	0.35	1.90	9.25	1.77	0.80	2	2
Ripper Method	12.78	1.81	1.43	9.16	1.76	0.72	14	17
Aeration Oxidation (AO) Method	10.35	2.06	-1.00	7.41	2.07	-1.04	33	33
Segmented Flow Analyzer	10.50	1.50	-0.85	9.10	1.24	0.65	5	5
Colorimetric Analyzer	12.92	2.01	1.57	11.00	3.58	2.55	6	8
Flow Injection Analysis	10.00	1.27	-1.35	7.10	1.56	-1.35	5	5

Analysis 903  
Free Sulfur Dioxide



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 904

## Titratable Acidity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1GET1K		5.790	0.259	2.04	6.660	0.355	2.45
1HX57A		5.535	0.004	0.03	6.265	-0.040	-0.28
3FBQHT		5.665	0.134	1.05	6.455	0.150	1.03
42XPWP		5.420	-0.111	-0.88	6.155	-0.150	-1.04
47HTHX		5.560	0.029	0.23	6.340	0.035	0.24
4A7ZF1		5.600	0.069	0.54	6.400	0.095	0.65
4ETHWR		5.400	-0.131	-1.04	6.160	-0.145	-1.00
594Y97		5.530	-0.001	-0.01	6.260	-0.045	-0.31
59MT5F		5.250	-0.281	-2.22	6.070	-0.235	-1.62
6RS89G		5.600	0.069	0.54	6.400	0.095	0.65
7HCG83		5.695	0.164	1.29	6.535	0.230	1.58
812T4V		5.510	-0.021	-0.17	6.270	-0.035	-0.24
85W2GX	X	5.500	-0.031	-0.25	6.020	-0.285	-1.97
898ZXX	*	5.700	0.169	1.33	6.350	0.045	0.31
92KAH8		5.600	0.069	0.54	6.300	-0.005	-0.04
937PB5	X	6.300	0.769	6.06	6.300	-0.005	-0.04
9N6KKD		5.600	0.069	0.54	6.350	0.045	0.31
A6HPNG		5.625	0.094	0.74	6.475	0.170	1.17
B8K8J9		5.500	-0.031	-0.25	6.300	-0.005	-0.04
CHELKM		5.445	-0.086	-0.68	6.230	-0.075	-0.52
D4XDFF		5.545	0.014	0.11	6.320	0.015	0.10
DDWUL5	*	5.645	0.114	0.90	6.280	-0.025	-0.17
DMQXXE	X	4.700	-0.831	-6.56	5.550	-0.755	-5.21
EK1RAX		5.400	-0.131	-1.04	6.150	-0.155	-1.07
EMBACK		5.500	-0.031	-0.25	6.250	-0.055	-0.38
EPKV6Z		5.250	-0.281	-2.22	6.000	-0.305	-2.11
EU9Y9G	X	6.100	0.569	4.49	6.900	0.595	4.10
EUTAYW		5.400	-0.131	-1.04	6.200	-0.105	-0.73
FKE69B		5.550	0.019	0.15	6.350	0.045	0.31
FNXF4V		5.515	-0.016	-0.13	6.280	-0.025	-0.17
FRQZVM		5.500	-0.031	-0.25	6.300	-0.005	-0.04
FS3P35		5.530	-0.001	-0.01	6.450	0.145	1.00
FTQWNV		5.600	0.069	0.54	6.400	0.095	0.65
GFY85L		5.600	0.069	0.54	6.300	-0.005	-0.04
HDQTCT		5.600	0.069	0.54	6.400	0.095	0.65

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 904

## Titratable Acidity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
HEZ9JS		5.650	0.119	0.94	6.360	0.055	0.38
HRT98W		5.770	0.239	1.88	6.615	0.310	2.14
J7MLR4	X	5.750	0.219	1.72	7.500	1.195	8.24
K9ATGD		5.555	0.024	0.19	6.260	-0.045	-0.31
KRA7UE		5.400	-0.131	-1.04	6.200	-0.105	-0.73
KYTLZH	X	6.180	0.649	5.12	7.060	0.755	5.21
M43ZYD		5.440	-0.091	-0.72	6.265	-0.040	-0.28
MCTK2R		5.500	-0.031	-0.25	6.200	-0.105	-0.73
MN36V8		5.250	-0.281	-2.22	6.050	-0.255	-1.76
MS7367		5.550	0.019	0.15	6.300	-0.005	-0.04
N8GQ6U		5.400	-0.131	-1.04	6.100	-0.205	-1.42
NW4SY5		5.600	0.069	0.54	6.350	0.045	0.31
PD66DL	X	5.850	0.319	2.51	6.400	0.095	0.65
QJ6U6K		5.400	-0.131	-1.04	6.300	-0.005	-0.04
R93CCE	X	6.150	0.619	4.88	6.850	0.545	3.76
RAH8ZE		5.525	-0.006	-0.05	6.310	0.005	0.03
RPPPE2		5.565	0.034	0.26	6.370	0.065	0.45
RSVXUD		5.600	0.069	0.54	6.500	0.195	1.34
S46PAK		5.500	-0.031	-0.25	6.300	-0.005	-0.04
S7HYMX	X	6.100	0.569	4.49	6.400	0.095	0.65
S9T5FW		5.547	0.016	0.12	6.293	-0.012	-0.08
SNC9MM	X	6.544	1.012	7.99	7.526	1.221	8.42
SPGGGT	*	5.195	-0.336	-2.65	5.870	-0.435	-3.00
T9F9UB		5.440	-0.091	-0.72	6.215	-0.090	-0.62
U19961		5.450	-0.081	-0.64	6.250	-0.055	-0.38
U2F3U3		5.595	0.064	0.50	6.390	0.085	0.58
UPSGQD		5.495	-0.036	-0.29	6.260	-0.045	-0.31
VLRSZJ		5.620	0.089	0.70	6.365	0.060	0.41
VUP9S9		5.600	0.069	0.54	6.400	0.095	0.65
W38L47		5.425	-0.106	-0.84	6.145	-0.160	-1.11
WRUPWH	X	5.450	-0.081	-0.64	6.500	0.195	1.34
X3MT2E		5.600	0.069	0.54	6.400	0.095	0.65
X75KA2	*	5.850	0.319	2.51	6.700	0.395	2.72
XD69YF		5.515	-0.016	-0.13	6.340	0.035	0.24
XHWD6K		5.490	-0.041	-0.33	6.200	-0.105	-0.73

# ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 904

### Titratable Acidity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Y234ZT	X	5.770	0.239	1.88	6.850	0.545	3.76
ZZF3YX	*	5.700	0.169	1.33	6.350	0.045	0.31

Grand Means		Summary Statistics	
	5.5315 g/L as tartaric acid		6.3052 g/L as tartaric acid
Stnd Dev Btwn Labs			0.1450 g/L as tartaric acid
	0.1267 g/L as tartaric acid		
<b>Statistics based on 60 of 72 reporting participants</b>			

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

#### Comments on assigned Data Flags

85W2GX (X) - Inconsistent in testing between samples.

937PB5 (X) - Inconsistent in testing between samples, data for Sample SA59 are high.

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

EU9Y9G (X) - Data for both samples are high.

J7MLR4 (X) - Inconsistent in testing between samples, data for Sample SA60 are high.

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

PD66DL (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA60.

R93CCE (X) - Data for both samples are high.

S7HYMX (X) - Inconsistent in testing between samples, data for Sample SA59 are high.

SNC9MM (X) - Data for both samples are high

WRUPWH (X) - Inconsistent in testing between samples.

Y234ZT (X) - Inconsistent in testing between samples, data for Sample SA60 are high.

## ASEV-CTS Wine Industry Interlaboratory Testing Program

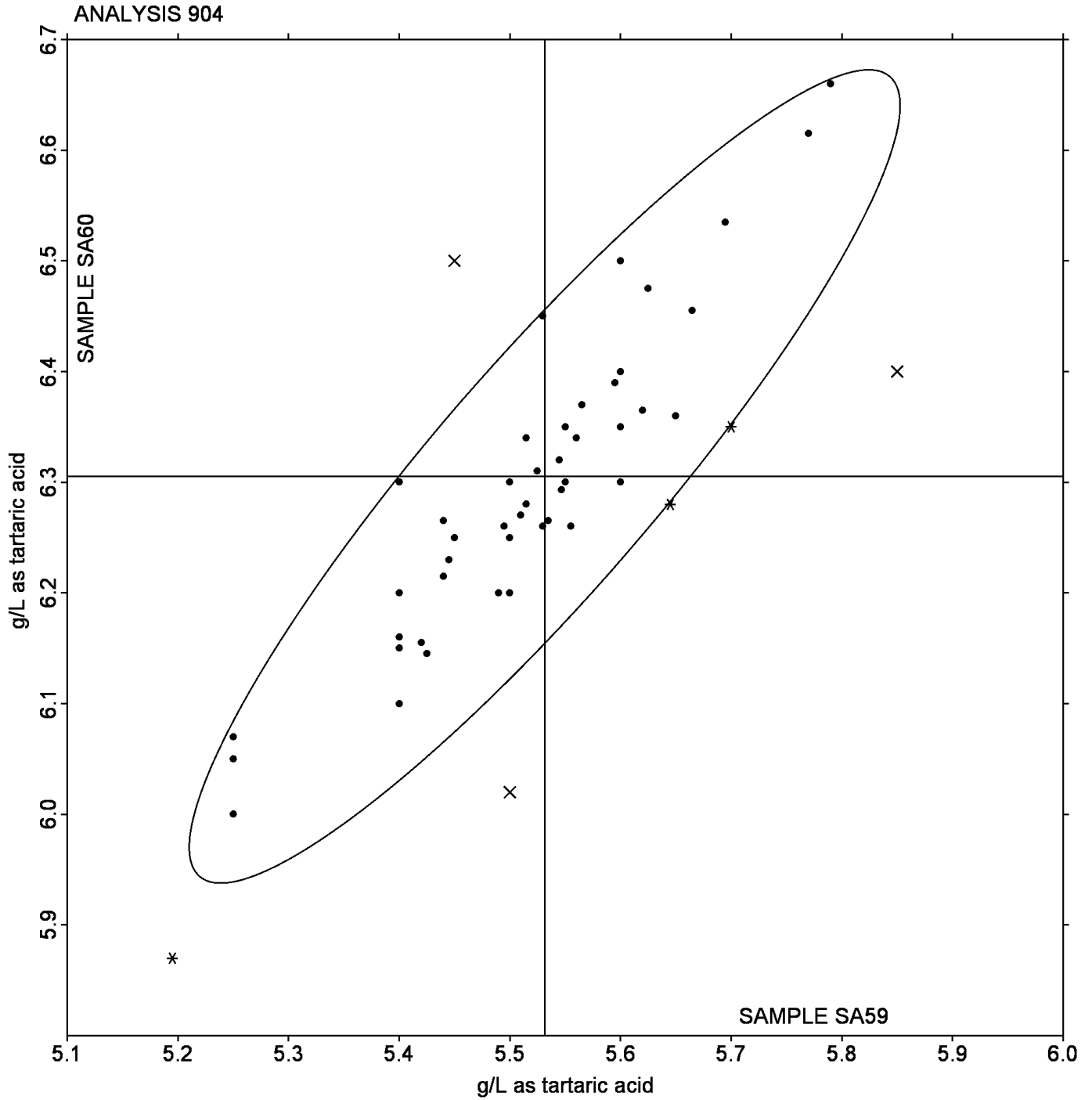
## Analysis 904

## Titratable Acidity

## Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Autotitration	5.512	0.098	-0.019	6.285	0.107	-0.020	33	38
Manual Titration	5.533	0.136	0.002	6.327	0.159	0.021	19	27
FTIR	5.585	0.026	0.054	6.387	0.121	0.081	3	6

Analysis 904  
Titratable Acidity



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 905

## Volatile Acidity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
138AD6		0.0650	-0.1104	-1.66	0.1000	-0.1101	-1.58
1EYMDP		0.1150	-0.0604	-0.91	0.1250	-0.0851	-1.22
1QBA6G	*	0.1800	0.0046	0.07	0.2650	0.0549	0.79
1SM7TZ		0.2350	0.0596	0.89	0.2500	0.0399	0.57
2692CB		0.2850	0.1096	1.64	0.3250	0.1149	1.65
2RXFXS		0.2150	0.0396	0.59	0.2550	0.0449	0.64
2UGW8E		0.1100	-0.0654	-0.98	0.1400	-0.0701	-1.01
31MMAQ		0.1900	0.0146	0.22	0.2600	0.0499	0.72
3F2JYY		0.0700	-0.1054	-1.58	0.1100	-0.1001	-1.44
3JY9YJ		0.2400	0.0646	0.97	0.2700	0.0599	0.86
49C1WD		0.1700	-0.0054	-0.08	0.2000	-0.0101	-0.14
4ENWTA		0.0800	-0.0954	-1.43	0.1100	-0.1001	-1.44
58NMQG		0.0850	-0.0904	-1.36	0.1050	-0.1051	-1.51
5ZJJSY		0.0650	-0.1104	-1.66	0.0900	-0.1201	-1.72
6K16X4	X	2.1000	1.9246	28.86	2.3500	2.1399	30.70
741SMN		0.1750	-0.0004	-0.01	0.2200	0.0099	0.14
74FT94		0.2000	0.0246	0.37	0.2150	0.0049	0.07
784FPH		0.2350	0.0596	0.89	0.2750	0.0649	0.93
7F8MT6		0.1850	0.0096	0.14	0.2150	0.0049	0.07
7J45G5		0.1900	0.0146	0.22	0.2200	0.0099	0.14
87PH2B		0.2550	0.0796	1.19	0.2950	0.0849	1.22
8HGJ8F		0.1800	0.0046	0.07	0.1750	-0.0351	-0.50
8W55SU		0.2550	0.0796	1.19	0.2595	0.0494	0.71
9K12HC		0.1950	0.0196	0.29	0.2250	0.0149	0.21
9URFN4		0.2450	0.0696	1.04	0.2500	0.0399	0.57
ADK3Y4		0.3165	0.1411	2.12	0.3660	0.1559	2.24
CYWB2N		0.1700	-0.0054	-0.08	0.1650	-0.0451	-0.65
D1J9TR		0.1700	-0.0054	-0.08	0.2200	0.0099	0.14
D8D8ML		0.2900	0.1146	1.72	0.2900	0.0799	1.15
DFW2TW	*	0.1800	0.0046	0.07	0.2700	0.0599	0.86
EESVKN		0.1700	-0.0054	-0.08	0.2400	0.0299	0.43
EYWEWV		0.1700	-0.0054	-0.08	0.2100	-0.0001	0.00
EZWS43		0.1000	-0.0754	-1.13	0.1300	-0.0801	-1.15
FLGWR6		0.0900	-0.0854	-1.28	0.1300	-0.0801	-1.15
FLPAMZ		0.2050	0.0296	0.44	0.2475	0.0374	0.54

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 905

## Volatile Acidity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FLSSMK		0.2557	0.0803	1.20	0.3049	0.0948	1.36
G1ZNPC	X	0.1100	-0.0654	-0.98	0.0300	-0.1801	-2.58
GDGSJM	X	0.6600	0.4846	7.27	0.1950	-0.0151	-0.22
GRCKLK		0.2250	0.0496	0.74	0.2750	0.0649	0.93
GYGC3U		0.2850	0.1096	1.64	0.3350	0.1249	1.79
HV99DG		0.1000	-0.0754	-1.13	0.1400	-0.0701	-1.01
HZAH3L		0.2650	0.0896	1.34	0.3100	0.0999	1.43
J265VS		0.1550	-0.0204	-0.31	0.2000	-0.0101	-0.14
J4C97A		0.1050	-0.0704	-1.06	0.1400	-0.0701	-1.01
JTC5A8		0.1450	-0.0304	-0.46	0.1850	-0.0251	-0.36
JXA3QM		0.0500	-0.1254	-1.88	0.0800	-0.1301	-1.87
K9C49G		0.2000	0.0246	0.37	0.2200	0.0099	0.14
KG728C	X	0.2550	0.0796	1.19	0.1850	-0.0251	-0.36
L8ME9E		0.2050	0.0296	0.44	0.2500	0.0399	0.57
LBKTW5	X	0.2400	0.0646	0.97	0.1950	-0.0151	-0.22
LFA1QS	X	0.4350	0.2596	3.89	0.3250	0.1149	1.65
LTKGVB		0.1400	-0.0354	-0.53	0.1450	-0.0651	-0.93
MSNK11		0.1800	0.0046	0.07	0.2200	0.0099	0.14
MUQT3K		0.2000	0.0246	0.37	0.2300	0.0199	0.29
QTM9RT		0.0850	-0.0904	-1.36	0.1100	-0.1001	-1.44
R7G9W2	X	0.1050	-0.0704	-1.06	0.0700	-0.1401	-2.01
RRPE64		0.1250	-0.0504	-0.76	0.1700	-0.0401	-0.57
TGXM6G		0.1850	0.0096	0.14	0.2160	0.0059	0.09
TM45EH		0.1700	-0.0054	-0.08	0.2150	0.0049	0.07
TR4QMT		0.1700	-0.0054	-0.08	0.2100	-0.0001	0.00
TZQ1A1		0.1950	0.0196	0.29	0.2550	0.0449	0.64
VJFE1H		0.2200	0.0446	0.67	0.2550	0.0449	0.64
VLUCTD		0.2850	0.1096	1.64	0.2850	0.0749	1.07
W8Z9ZJ		0.0550	-0.1204	-1.81	0.0750	-0.1351	-1.94
WK8NTY		0.2000	0.0246	0.37	0.2100	-0.0001	0.00
WRAU9M		0.0700	-0.1054	-1.58	0.1000	-0.1101	-1.58
X3JZW9		0.2150	0.0396	0.59	0.2600	0.0499	0.72
ZNRM4A		0.1300	-0.0454	-0.68	0.1950	-0.0151	-0.22

**Analysis 905**  
**Volatile Acidity**

Grand Means	Summary Statistics	
0.17536 g/L as acetic acid	0.21006 g/L as acetic acid	
Std Dev Btwn Labs	0.06668 g/L as acetic acid	0.06971 g/L as acetic acid
<b>Statistics based on 61 of 68 reporting participants</b>		

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

6K16X4 (X) - Data for both samples are high. Lab indicated reporting in g/100mL, but data appear to be in g/L

G1ZNPC (X) - Inconsistent in testing between samples.

GDGSJM (X) - Inconsistent in testing between samples, data for Sample SA59 are high.

KG728C (X) - Inconsistent in testing between samples.

LBKTW5 (X) - Inconsistent in testing between samples.

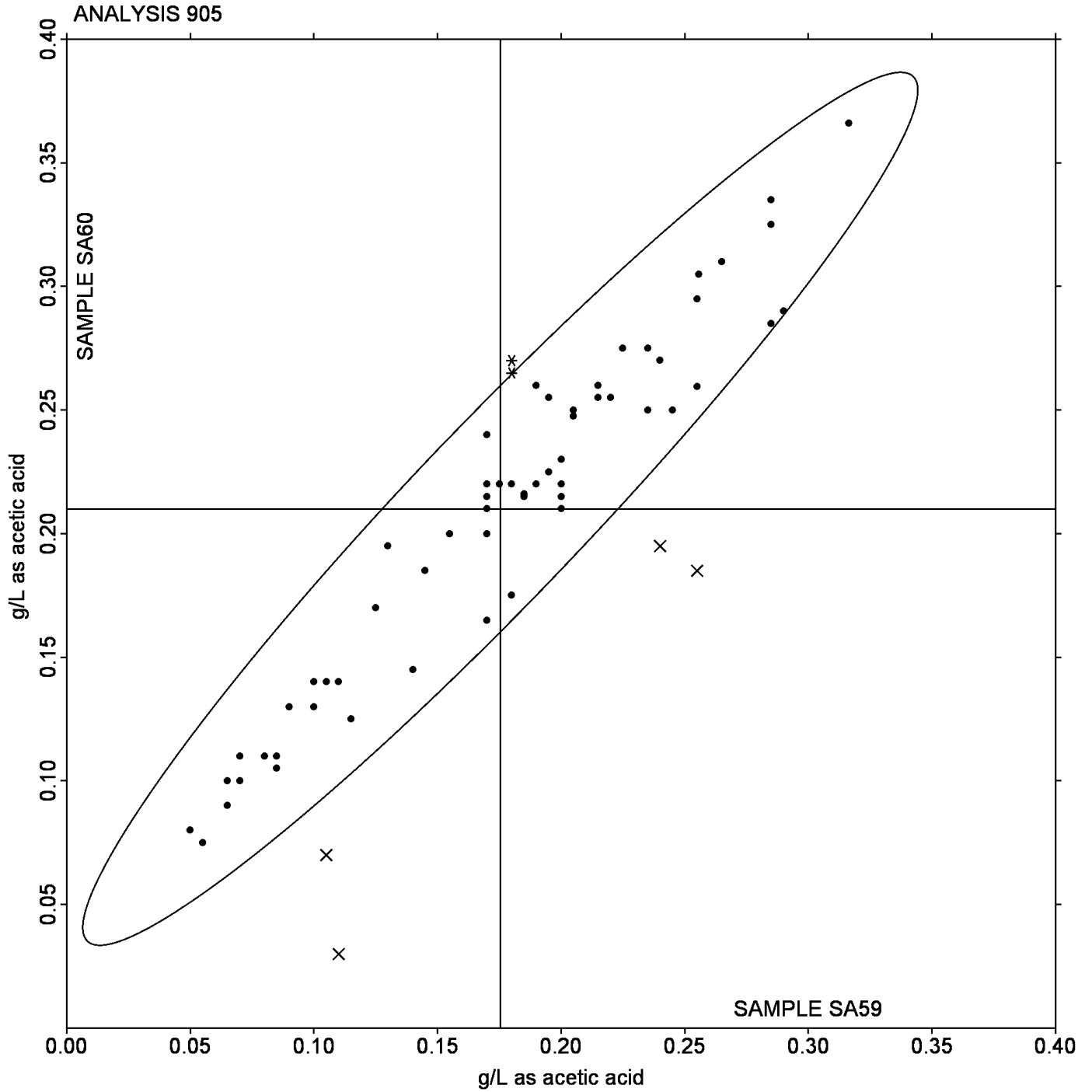
LFA1QS (X) - Inconsistent in testing between samples, data for Sample SA59 are high.

R7G9W2 (X) - Inconsistent in testing between samples.

**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Cash Still method	0.2126	0.0402	0.0372	0.2447	0.0442	0.0347	29	34
Enzymatic method	0.1071	0.0619	-0.0683	0.1391	0.0664	-0.0710	15	16
GC	0.1200	0.0919	-0.0554	0.1455	0.0997	-0.0646	2	2
Seg. Flow / Colorimetric Analyzer	0.1763	0.0218	0.0009	0.2250	0.0217	0.0149	8	9
FTIR	0.1830	0.0993	0.0076	0.2009	0.0924	-0.0092	5	7

Analysis 905  
Volatile Acidity



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 906

## Specific Gravity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
13DX2S		1.012	0.000	0.14	1.008	0.000	0.12
1K2721		1.010	-0.002	-1.65	1.006	-0.002	-1.69
2VSW59	X	1,009.400	1,008.3881,059,180.85		1,005.600	1,004.592,054,880.08	
3X569Y	X	1.007	-0.004	-4.67	1.004	-0.004	-3.92
3Y8JKZ		1.012	0.000	0.22	1.008	0.000	0.18
482ZAE		1.012	0.000	0.13	1.008	0.000	0.11
4CDU7B		1.011	-0.001	-0.83	1.007	-0.001	-0.80
4QK2M8	*	1.010	-0.002	-1.88	1.006	-0.002	-1.76
64T56N		1.010	-0.002	-1.94	1.006	-0.002	-1.87
6FDFU7		1.012	0.000	0.28	1.008	0.000	0.28
6STY2J		1.012	0.000	0.11	1.008	0.000	0.18
6Z5RYM		1.012	0.000	0.24	1.008	0.000	0.33
735TNV	X	1.014	0.002	2.27	1.010	0.002	2.02
7MGEBP		1.012	0.000	0.13	1.008	0.000	0.19
7WTZX5		1.010	-0.002	-1.79	1.006	-0.002	-1.76
849ULL		1.012	0.000	0.20	1.008	0.000	0.28
84ZRHN		1.013	0.001	1.27	1.009	0.001	1.23
8C2PVH		1.012	0.000	0.11	1.008	0.000	0.07
951SJQ		1.012	0.000	0.10	1.008	0.000	0.09
9DD96C	X	1.012	0.000	0.32	1.007	-0.001	-1.34
AEM3MQ		1.012	0.000	0.11	1.008	0.000	0.07
AQZEN1		1.012	0.000	0.13	1.008	0.000	0.14
BG7EWE	*	1.010	-0.002	-2.20	1.006	-0.002	-2.34
C977X6		1.012	0.000	0.11	1.008	0.000	0.10
CVG8FX	X	1.011	-0.001	-0.76	1.008	0.000	0.18
CZL82U		1.013	0.001	1.06	1.009	0.001	1.02
D61VC5		1.012	0.000	0.13	1.008	0.000	0.12
D7ZS5D		1.012	0.000	-0.10	1.008	0.000	-0.03
E3H26W	X	1.012	0.001	0.54	1.008	0.000	-0.03
E9MYWN		1.012	0.000	0.11	1.008	0.000	0.07
EQPZQ2	X	1.012	0.000	0.13	1.008	0.000	0.36
EQTGRM		1.012	0.000	0.32	1.008	0.000	0.39
ETWR3W	X	1.012	0.000	0.06	1.008	0.001	0.55
F17V8E		1.012	0.000	0.17	1.008	0.000	0.18
G6LNI6		1.012	0.000	0.14	1.008	0.000	0.16

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 906

## Specific Gravity

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GD1K7C		1.012	0.000	0.23	1.008	0.000	0.13
GR6MX2		1.012	0.000	0.11	1.008	0.000	0.07
HLQ967	X	1.014	0.002	2.53	1.010	0.002	2.07
HY4HDC		1.012	0.000	-0.10	1.008	0.000	-0.03
JFWZMD		1.013	0.001	0.75	1.009	0.001	0.79
JYDWAK	X	1.012	0.000	0.01	1.008	0.000	0.41
K2JN7S	*	1.010	-0.001	-1.45	1.007	-0.001	-1.29
K823NH		1.013	0.001	1.27	1.009	0.001	1.23
KKAQUU	X	1.013	0.001	0.74	1.008	0.000	0.39
L92AXF	X	1.014	0.002	1.95	1.011	0.003	2.96
M6FUBE	X	1.008	-0.004	-3.98	1.004	-0.004	-4.02
M89HWV		1.012	0.000	0.01	1.008	0.000	0.07
N91W2K		1.012	0.000	0.11	1.008	0.000	0.07
NSGMCH	*	1.014	0.003	2.64	1.010	0.003	2.70
P3GMB7		1.012	0.001	0.53	1.008	0.000	0.39
PMCDTD		1.014	0.002	2.32	1.010	0.002	2.28
RBX241		1.013	0.001	0.95	1.009	0.001	0.91
SXWPH2		1.012	0.000	0.22	1.008	0.000	0.18
TKHWAU		1.012	0.000	0.06	1.008	0.000	0.02
TV8HVK	X	1.014	0.002	2.53	1.010	0.002	2.02
U87P6G	X	0.998	-0.013	-14.01	1.006	-0.001	-1.52
UQV1XF		1.010	-0.002	-1.78	1.006	-0.002	-1.87
VMVJH5		1.012	0.000	0.13	1.008	0.000	0.12
VYYPXR		1.013	0.001	0.80	1.009	0.001	0.91
W51WEE		1.012	0.000	0.16	1.008	0.000	0.17
WJ2N4R		1.010	-0.002	-2.09	1.006	-0.002	-2.13
WRNAJU		1.011	-0.001	-0.62	1.007	-0.001	-0.66
YMW7WE		1.012	0.000	0.14	1.008	0.000	0.12
Z16T1K		1.012	0.001	0.64	1.008	0.001	0.60
ZDA3GE		1.012	0.000	0.14	1.008	0.000	0.12

**Analysis 906**  
**Specific Gravity**

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Grand Means	Summary Statistics	
1.0118 sp gr 20/20 C	1.0078	sp gr 20/20 C
Std Dev Btwn Labs	0.0010	sp gr 20/20 C
0.0010 sp gr 20/20 C	0.0010	sp gr 20/20 C
<b>Statistics based on 50 of 65 reporting participants</b>		

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

2VSW59 (X) - Extreme data.

3X569Y (X) - Data for both samples are low.

735TNV (X) - Inconsistent in testing between samples.

9DD96C (X) - Inconsistent in testing between samples.

CVG8FX (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA59.

E3H26W (X) - Inconsistent in testing between samples.

EQPZQ2 (X) - Inconsistent in testing between samples.

ETWR3W (X) - Inconsistent in testing between samples.

HLQ967 (X) - Inconsistent in testing between samples.

JYDWAK (X) - Inconsistent in testing between samples.

KKAQUU (X) - Inconsistent in testing between samples.

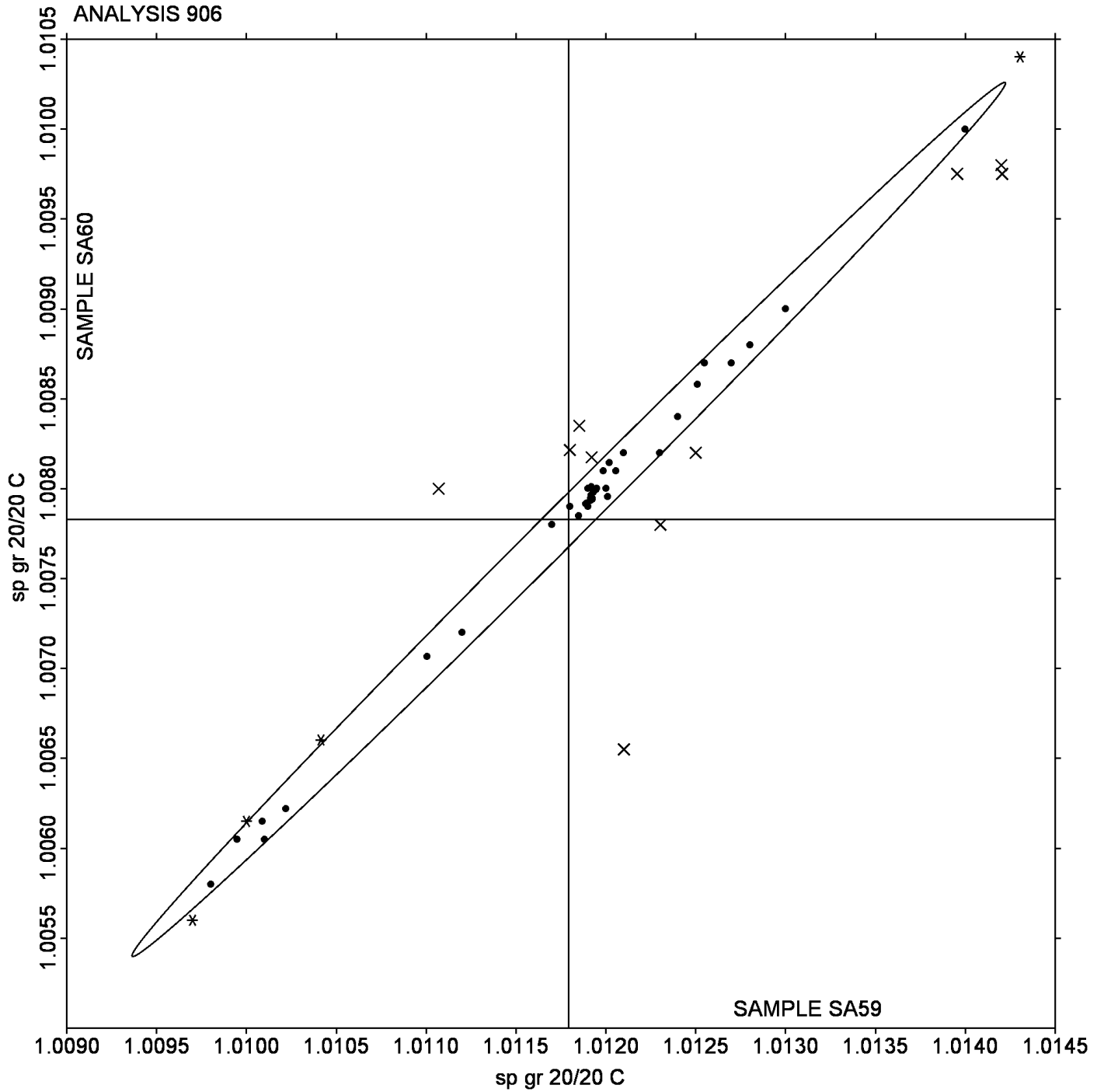
L92AXF (X) - Inconsistent in testing between samples, data for Sample SA60 are high.

M6FUBE (X) - Data for both samples are low.

TV8HVK (X) - Inconsistent in testing between samples.

U87P6G (X) - Inconsistent in testing between samples, data for Sample SA59 are low.

Analysis 906  
Specific Gravity



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 907

## pH

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3MLQBX		3.170	-0.036	-0.72	3.195	-0.020	-0.43
4BRV58		3.135	-0.071	-1.42	3.140	-0.075	-1.63
54QSPN		3.260	0.054	1.07	3.265	0.050	1.10
5TZ63X		3.265	0.059	1.17	3.260	0.045	0.99
5V6CDH	*	3.355	0.149	2.96	3.335	0.120	2.63
5X3GGS		3.210	0.004	0.07	3.220	0.005	0.12
62QBBQ	*	3.255	0.049	0.97	3.290	0.075	1.65
686HLW		3.220	0.014	0.27	3.225	0.010	0.23
69AL3D		3.235	0.029	0.57	3.220	0.005	0.12
6CLEN6		3.185	-0.021	-0.43	3.180	-0.035	-0.75
6FSAA1		3.320	0.114	2.26	3.310	0.095	2.08
6J19BM		3.240	0.034	0.67	3.250	0.035	0.77
7LMAUF		3.210	0.004	0.07	3.220	0.005	0.12
88PC2V		3.210	0.004	0.07	3.225	0.010	0.23
8BP7MA		3.200	-0.006	-0.13	3.200	-0.015	-0.32
8DSDVK		3.230	0.024	0.47	3.260	0.045	0.99
8GZ3H8		3.145	-0.061	-1.22	3.160	-0.055	-1.19
8WPEQ8		3.205	-0.001	-0.03	3.210	-0.005	-0.10
9W9PM3		3.210	0.004	0.07	3.240	0.025	0.56
9ZS18L	X	3.465	0.259	5.15	3.275	0.060	1.32
DKUXNB		3.185	-0.021	-0.43	3.190	-0.025	-0.54
EKQSNT		3.200	-0.006	-0.13	3.200	-0.015	-0.32
F347HE		3.150	-0.056	-1.12	3.160	-0.055	-1.19
FQ5H6T		3.200	-0.006	-0.13	3.210	-0.005	-0.10
G8VS7F		3.175	-0.031	-0.63	3.195	-0.020	-0.43
GFXR6A		3.230	0.024	0.47	3.235	0.020	0.45
H9M3P1		3.300	0.094	1.87	3.310	0.095	2.08
HH87HT		3.155	-0.051	-1.02	3.155	-0.060	-1.30
HHYSDD		3.180	-0.026	-0.53	3.201	-0.014	-0.31
HYMYSY		3.160	-0.046	-0.92	3.175	-0.040	-0.86
JNGYBS		3.185	-0.021	-0.43	3.220	0.005	0.12
JT4T64		3.230	0.024	0.47	3.230	0.015	0.34
KTPRAG	*	3.220	0.014	0.27	3.195	-0.020	-0.43
LBB6PZ		3.090	-0.116	-2.32	3.115	-0.100	-2.17
LHEC6N		3.200	-0.006	-0.13	3.210	-0.005	-0.10

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 907

## pH

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MP6ZBZ	X	3.265	0.059	1.17	3.210	-0.005	-0.10
MUMGS9		3.150	-0.056	-1.12	3.150	-0.065	-1.41
NG8RLR		3.210	0.004	0.07	3.210	-0.005	-0.10
PW2FE3		3.105	-0.101	-2.02	3.125	-0.090	-1.95
Q625AQ		3.190	-0.016	-0.33	3.190	-0.025	-0.54
QXGRUS		3.240	0.034	0.67	3.260	0.045	0.99
RGGED9		3.210	0.004	0.07	3.205	-0.010	-0.21
S221T9		3.245	0.039	0.77	3.240	0.025	0.56
S4RBX9		3.230	0.024	0.47	3.240	0.025	0.56
S761VZ		3.125	-0.081	-1.62	3.120	-0.095	-2.06
SA4JR6		3.210	0.004	0.07	3.210	-0.005	-0.10
SF9BR3		3.230	0.024	0.47	3.240	0.025	0.56
SPCGDZ		3.200	-0.006	-0.13	3.205	-0.010	-0.21
SXKUZF		3.170	-0.036	-0.72	3.185	-0.030	-0.64
SYR9E9		3.200	-0.006	-0.13	3.195	-0.020	-0.43
T1BEAQ		3.130	-0.076	-1.52	3.170	-0.045	-0.97
U1FJTD		3.195	-0.011	-0.23	3.215	0.000	0.01
U3GB8Z		3.200	-0.006	-0.13	3.205	-0.010	-0.21
UE8KU2	X	3.265	0.059	1.17	3.160	-0.055	-1.19
UJHT2Y	X	3.325	0.119	2.36	3.210	-0.005	-0.10
UKNVE9		3.235	0.029	0.57	3.245	0.030	0.67
V4QQKZ		3.285	0.079	1.57	3.275	0.060	1.32
VVMJXC		3.240	0.034	0.67	3.255	0.040	0.88
WD5P6F	X	3.005	-0.201	-4.01	3.015	-0.200	-4.36
WEJGF3		3.190	-0.016	-0.33	3.200	-0.015	-0.32
WPFB4E		3.210	0.004	0.07	3.220	0.005	0.12
WYSR98		3.225	0.019	0.37	3.240	0.025	0.56
XHQKB5		3.130	-0.076	-1.52	3.170	-0.045	-0.97
XYT1YC		3.210	0.004	0.07	3.225	0.010	0.23
Y6JYS5	*	3.330	0.124	2.46	3.315	0.100	2.19
YDUP95		3.180	-0.026	-0.53	3.180	-0.035	-0.75
YQVLJ5		3.200	-0.006	-0.13	3.205	-0.010	-0.21
YSWD8Q	X	3.240	0.034	0.67	3.310	0.095	2.08

## Analysis 907

## pH

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Grand Means		Summary Statistics	
	3.2064 pH		3.2145 pH
Std Dev Btwn Labs			0.0458 pH
	0.0502 pH		

**Statistics based on 62 of 68 reporting participants**

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

9ZS18L (X) - Inconsistent in testing between samples, data for Sample SA59 are high.

MP6ZBZ (X) - Inconsistent in testing between samples.

UE8KU2 (X) - Inconsistent in testing between samples.

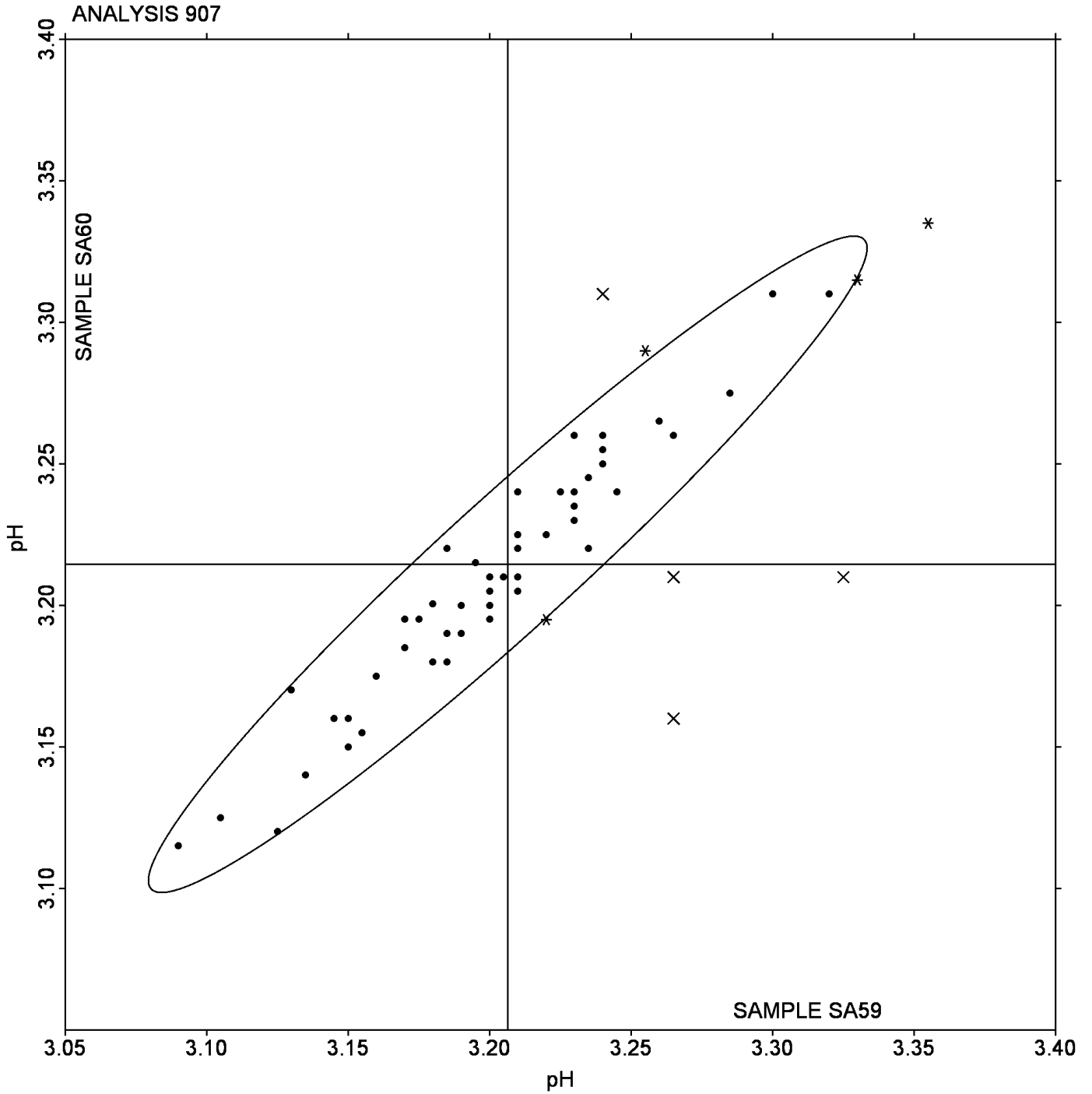
UJHT2Y (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA60.

WD5P6F (X) - Data for both samples are low. Possible Systematic Error.

YSWD8Q (X) - Inconsistent in testing between samples.

Analysis 907

pH



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 908**  
**Residual Sugar**

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1C58U1	X	5.78	-33.73	-9.33	3.30	-29.40	-11.49
2BK8XP		43.83	4.32	1.20	36.26	3.56	1.39
3D27HR		41.65	2.15	0.59	34.62	1.92	0.75
3Y4A2D		40.95	1.45	0.40	33.35	0.65	0.25
5A4YME		40.30	0.80	0.22	32.60	-0.10	-0.04
71Q4UA		39.53	0.02	0.01	33.91	1.21	0.47
742Y9W		39.74	0.24	0.07	32.88	0.18	0.07
8HAL7R		40.10	0.60	0.16	32.60	-0.10	-0.04
9CPRHY		41.50	2.00	0.55	34.00	1.30	0.51
AN1JJC		44.08	4.58	1.27	36.48	3.78	1.48
DTMV35		40.35	0.85	0.23	32.60	-0.10	-0.04
E5MZQH		40.00	0.50	0.14	32.80	0.10	0.04
ED4ZCU	X	0.04	-39.46	-10.92	0.03	-32.66	-12.76
HSHNET	*	30.00	-9.51	-2.63	30.00	-2.70	-1.05
NYS6LU		39.75	0.25	0.07	31.50	-1.20	-0.47
PMTBP5		39.00	-0.51	-0.14	32.50	-0.20	-0.08
QD3RRC		33.40	-6.11	-1.69	30.06	-2.64	-1.03
TK7KW4		38.24	-1.27	-0.35	31.10	-1.60	-0.63
UBP4JE	*	33.60	-5.91	-1.63	25.15	-7.55	-2.95
UKTPFA		41.09	1.58	0.44	33.40	0.70	0.27
V8P47P		43.50	4.00	1.11	35.50	2.80	1.09

Grand Means		Summary Statistics	
	39.505 g/L		32.700 g/L
Stnd Dev Btwn Labs			
	3.614 g/L		2.560 g/L
<b>Statistics based on 19 of 21 reporting participants</b>			

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

1C58U1 (X) - Data for both samples are low.

ED4ZCU (X) - Extreme data. Lab indicated reporting in mg/100mL, but data appear to be reported in g/100mL

## ASEV-CTS Wine Industry Interlaboratory Testing Program

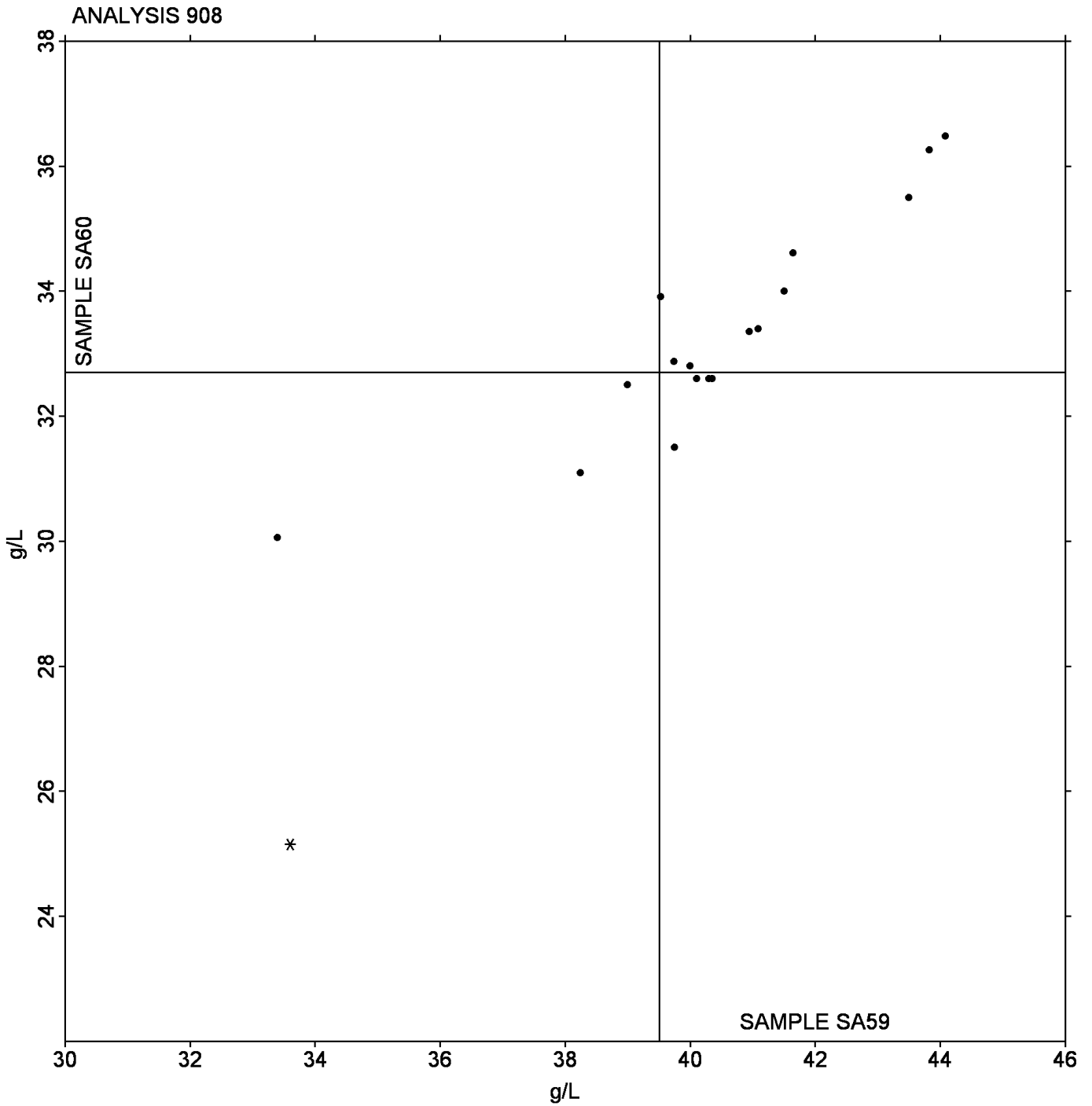
## Analysis 908

## Residual Sugar

## Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Cu Reduction Method	40.30	2.66	0.80	33.17	1.86	0.47	13	16
Segmented Flow	41.90	2.26	2.40	34.05	2.05	1.35	2	2
FTIR	39.74	0.00	0.24	32.88	0.00	0.18	1	1
Other _____	39.53	0.00	0.02	33.91	0.00	1.21	1	2

Analysis 908  
Residual Sugar



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

## Analysis 909

## L-Malic Acid

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
17WHGZ		1.840	0.068	0.54	2.550	0.109	0.70
1DN7AW	X	0.052	-1.720	-13.72	0.041	-2.401	-15.37
2VGSAG		1.825	0.053	0.42	2.510	0.069	0.44
42F6U9	X	1.624	-0.148	-1.18	1.763	-0.679	-4.34
4U8RNM		1.660	-0.112	-0.89	2.320	-0.121	-0.78
5DA5JD		1.825	0.053	0.42	2.355	-0.086	-0.55
6H1BLZ		1.795	0.023	0.18	2.510	0.069	0.44
6SF3AQ		1.525	-0.247	-1.97	2.245	-0.196	-1.26
75PC3R		1.609	-0.163	-1.30	2.431	-0.010	-0.06
77293A	*	1.775	0.003	0.02	2.725	0.284	1.82
7J4879	*	1.985	0.213	1.70	2.435	-0.006	-0.04
9K8B34	X	2.752	0.980	7.81	2.004	-0.438	-2.80
9W2ZQR	X	2.815	1.043	8.32	3.535	1.094	7.00
B2T6WB	X	1.310	-0.462	-3.68	2.825	0.384	2.46
BT9PPP		1.684	-0.088	-0.70	2.249	-0.192	-1.23
CQ4R53		1.889	0.117	0.93	2.663	0.221	1.42
E6GAEC	X	3.435	1.663	13.26	4.101	1.659	10.62
EESY9S		1.660	-0.112	-0.89	2.386	-0.056	-0.36
F5RPWT		1.765	-0.007	-0.06	2.450	0.008	0.05
F948L8		1.825	0.053	0.42	2.515	0.074	0.47
FCCJ8H		1.956	0.184	1.47	2.575	0.134	0.86
FCVNCA		1.730	-0.042	-0.33	2.370	-0.071	-0.46
G7WLU2	X	2.665	0.893	7.12	3.315	0.874	5.59
GFGY9Z		1.800	0.028	0.22	2.425	-0.016	-0.10
GXSGWK		1.860	0.088	0.70	2.540	0.099	0.63
H346BS		1.790	0.018	0.14	2.720	0.279	1.79
JY8A9S		1.925	0.153	1.22	2.645	0.204	1.31
K1N5AW		1.680	-0.092	-0.73	2.300	-0.141	-0.90
K3YGBD		1.755	-0.017	-0.13	2.450	0.009	0.06
KG64XG		2.000	0.228	1.82	2.550	0.109	0.70
KRY2VN	*	2.100	0.328	2.62	2.600	0.159	1.02
L1FMFR		1.615	-0.157	-1.25	2.120	-0.321	-2.06
LJ9XV8		1.745	-0.027	-0.21	2.375	-0.066	-0.42
M3C7AV		1.790	0.018	0.14	2.405	-0.036	-0.23
M52CXM		1.800	0.028	0.22	2.655	0.214	1.37

**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 909**  
**L-Malic Acid**

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NNKJ5R		1.720	-0.052	-0.41	2.235	-0.206	-1.32
NUK37M		1.785	0.013	0.10	2.470	0.029	0.18
PHCTL3		1.696	-0.076	-0.61	2.446	0.005	0.03
QMS8UZ		1.859	0.087	0.69	2.552	0.111	0.71
RC1UP8		1.610	-0.162	-1.29	2.230	-0.211	-1.35
RLHYN7	X	2.760	0.988	7.88	3.415	0.974	6.23
RVTD68		1.793	0.021	0.17	2.437	-0.004	-0.03
TG1N99		1.780	0.008	0.06	2.490	0.049	0.31
TPFHXQ		1.531	-0.241	-1.93	2.100	-0.342	-2.19
UF7NTU		1.860	0.088	0.70	2.625	0.184	1.18
UL74UB		1.876	0.104	0.83	2.563	0.121	0.78
V42KRZ		1.695	-0.077	-0.62	2.328	-0.113	-0.72
VJTK36		1.775	0.003	0.02	2.480	0.039	0.25
W88QER		1.530	-0.242	-1.93	2.140	-0.301	-1.93
WK7QH3		1.705	-0.067	-0.53	2.360	-0.081	-0.52
WZW1QD	X	0.145	-1.627	-12.98	0.215	-2.226	-14.25
XQA5QR	X	2.470	0.698	5.57	3.585	1.144	7.32

Grand Means		Summary Statistics	
	1.7719 g/L		2.4411 g/L
Stnd Dev Btwn Labs			0.1562 g/L
	0.1254 g/L		
<b>Statistics based on 42 of 52 reporting participants</b>			

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

## Analysis 909

## L-Malic Acid

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**Comments on assigned Data Flags**

1DN7AW (X) - Extreme data.

42F6U9 (X) - Inconsistent in testing between samples, data for Sample SA60 are low.

9K8B34 (X) - Inconsistent in testing between samples. Data for Sample SA59 are high, and data for Sample SA60 are low.

9W2ZQR (X) - Data for both samples are high.

B2T6WB (X) - Inconsistent in testing between samples, data for Sample SA59 are low.

E6GAEC (X) - Data for both samples are high.

G7WLU2 (X) - Data for both samples are high.

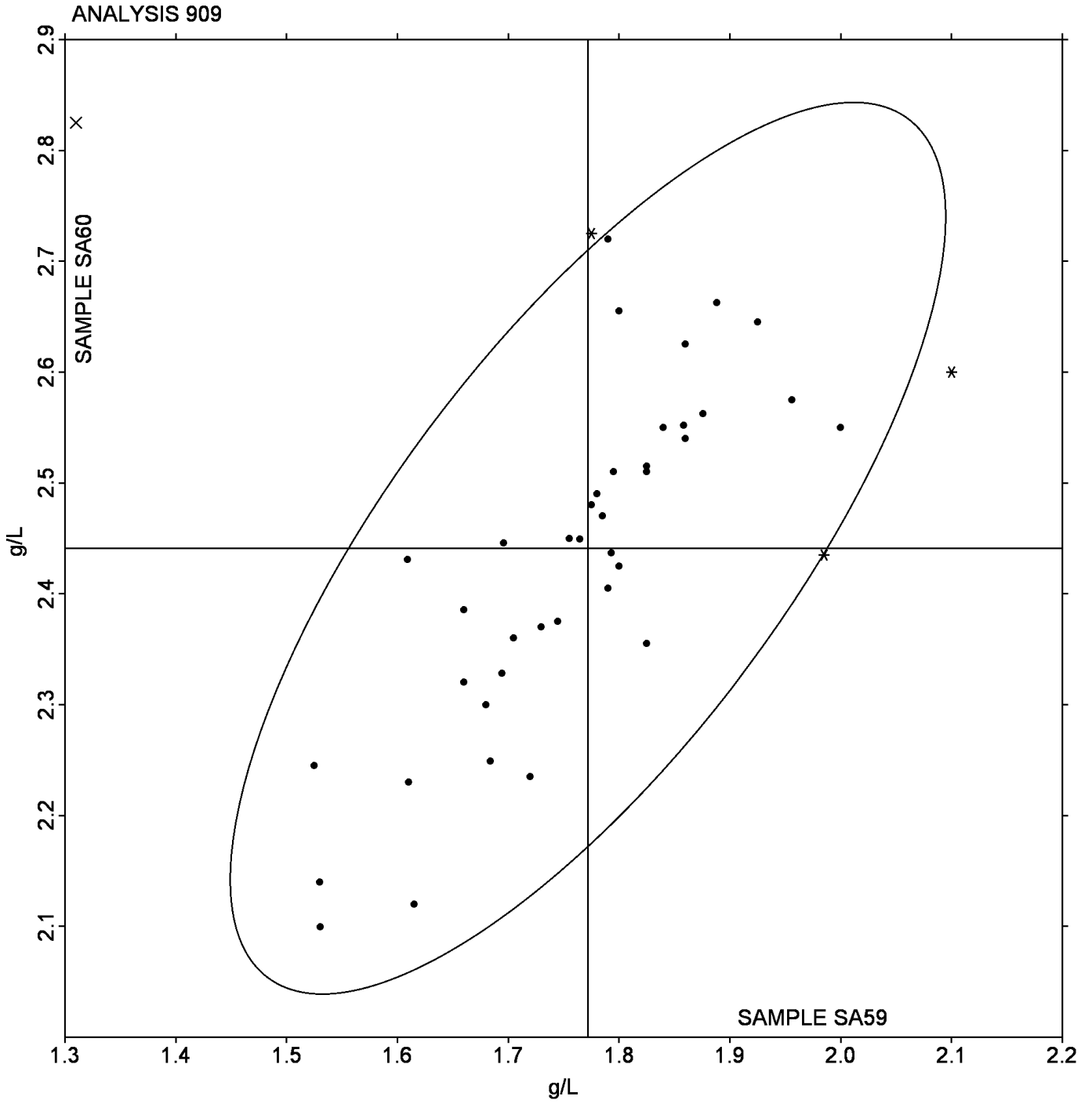
RLHYN7 (X) - Data for both samples are high.

WZW1QD (X) - Data for both samples are low. Lab previously reported in g/L, but data appear to be in g/100mL.

XQA5QR (X) - Data for both samples are high. Also inconsistent in testing within Sample SA60.

Analysis 909

L-Malic Acid



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 910

## Glucose + Fructose

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
14DXYEY		41.20	2.35	0.59	33.00	1.35	0.40
2E9T85		38.67	-0.18	-0.05	31.99	0.34	0.10
48JNGV		42.55	3.70	0.92	34.63	2.98	0.89
4C56XL		41.35	2.50	0.63	34.00	2.35	0.70
66FMA2	X	19.85	-19.00	-4.75	16.54	-15.11	-4.52
6N4WAB		39.30	0.45	0.11	32.72	1.07	0.32
6ZP585		44.00	5.15	1.29	36.05	4.40	1.32
7BRZ4M		40.45	1.60	0.40	31.70	0.05	0.02
7GJMU6		38.51	-0.34	-0.09	32.34	0.69	0.21
9YYSZN		43.25	4.40	1.10	35.47	3.82	1.14
B6WWK4		38.30	-0.55	-0.14	31.10	-0.55	-0.16
BRJ5KY		37.10	-1.75	-0.44	29.60	-2.05	-0.61
BSK5CR		39.98	1.13	0.28	32.36	0.71	0.21
BSYN3Q	X	35.33	-3.52	-0.88	22.61	-9.04	-2.70
C5TJAN		32.65	-6.20	-1.55	25.00	-6.65	-1.99
D5JXR7	X	41.00	2.15	0.54	41.50	9.85	2.95
DJ2ML3		41.40	2.55	0.64	33.50	1.85	0.55
DWMLAY		39.85	1.00	0.25	30.95	-0.70	-0.21
ELUNS4		36.91	-1.94	-0.48	32.28	0.63	0.19
FKHND2		38.70	-0.15	-0.04	30.85	-0.80	-0.24
FPXCW4	X	22.70	-16.15	-4.04	15.80	-15.85	-4.74
FYM2TR		42.30	3.45	0.86	33.85	2.20	0.66
G2T4QT		42.50	3.65	0.91	35.80	4.15	1.24
GSKV62	X	17.85	-21.00	-5.25	17.40	-14.25	-4.26
HBDS27	X	36.45	-2.40	-0.60	25.05	-6.60	-1.97
HD9W5F		40.60	1.75	0.44	32.20	0.55	0.17
J4LHYG		41.01	2.16	0.54	32.25	0.60	0.18
JZDWRN	*	28.02	-10.83	-2.71	23.68	-7.97	-2.38
KCPN4Y		42.57	3.72	0.93	37.10	5.45	1.63
KLSUED	X	33.09	-5.76	-1.44	40.76	9.11	2.72
N29DYV		39.53	0.68	0.17	33.91	2.26	0.68
PZW1WK		42.00	3.15	0.79	35.00	3.35	1.00
Q4T43X		39.65	0.80	0.20	32.30	0.65	0.20
Q6C422	*	31.97	-6.88	-1.72	29.05	-2.60	-0.78
QLG681		39.50	0.65	0.16	31.90	0.25	0.08

## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 910

## Glucose + Fructose

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QZEEQF		41.30	2.45	0.61	33.20	1.55	0.46
R6E2C8		34.00	-4.85	-1.21	26.00	-5.65	-1.69
RGNRUZ		37.80	-1.05	-0.26	30.75	-0.90	-0.27
S1V3QZ		29.44	-9.41	-2.36	23.46	-8.19	-2.45
SE25FN		40.50	1.65	0.41	31.50	-0.15	-0.04
SQ8LZS		39.56	0.71	0.18	32.59	0.94	0.28
TQ8TXD		38.75	-0.10	-0.02	30.45	-1.20	-0.36
TUJ5B6		39.59	0.74	0.19	31.74	0.09	0.03
VA1X53	X	38.00	-0.85	-0.21	37.00	5.35	1.60
WJ1QUV	X	29.61	-9.24	-2.31	31.24	-0.41	-0.12
WZQ32V		40.26	1.41	0.35	32.88	1.23	0.37
X2YDQB	*	26.57	-12.28	-3.07	22.31	-9.34	-2.79
X7MZMC		40.94	2.09	0.52	33.66	2.01	0.60
Y8LSKQ		41.55	2.70	0.68	33.60	1.95	0.58
YFB5V4		38.75	-0.10	-0.02	30.85	-0.80	-0.24

## Grand Means

38.848 g/L

## Summary Statistics

31.647 g/L

## Std Dev Btwn Labs

3.997 g/L

3.344 g/L

Statistics based on 41 of 50 reporting participants

Wines tested: SA59: Blush Noir; SA60: White Zinfandel

# ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 910

### Glucose + Fructose

#### Comments on assigned Data Flags

66FMA2 (X) - Data for both samples are low.

BSYN3Q (X) - Inconsistent in testing between samples, data for Sample SA60 are low.

D5JXR7 (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA60.

FPXCW4 (X) - Data for both samples are low.

GSKV62 (X) - Data for both samples are low.

HBDS27 (X) - Inconsistent in testing between samples.

KLSUED (X) - Inconsistent in testing between samples, data for Sample SA60 are high.

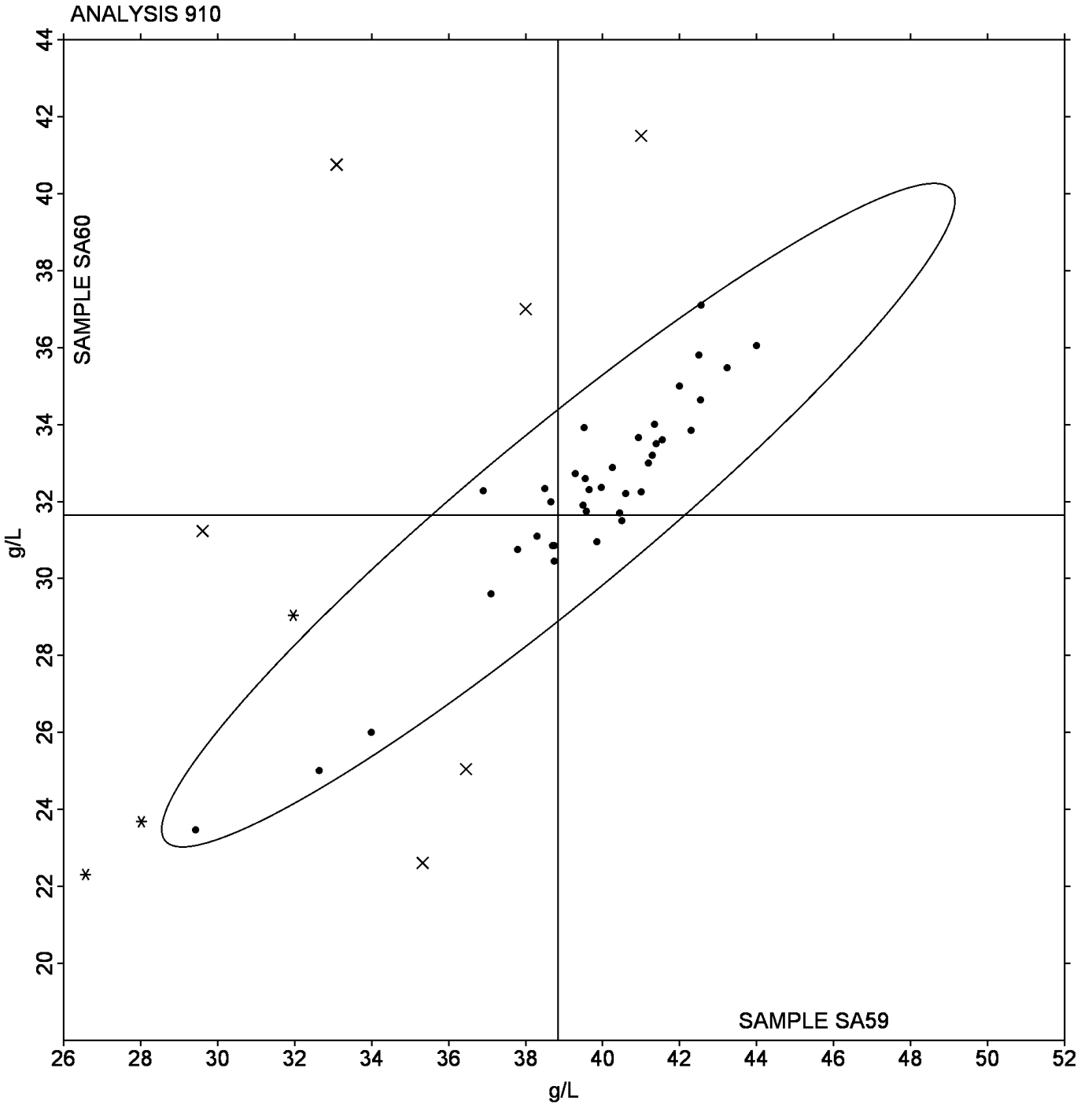
VA1X53 (X) - Inconsistent in testing between samples.

WJ1QUV (X) - Inconsistent in testing between samples.

#### Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA59 <i>Blush Noir</i>			Sample SA60 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
HPLC	40.95	0.64	2.10	32.50	1.41	0.85	2	2
Enzymatic/Spectrophotometric	39.22	3.05	0.38	31.91	3.00	0.26	30	40
FTIR	41.44	0.44	2.59	33.46	1.16	1.82	4	4
Other _____	40.93	1.94	2.08	33.22	0.89	1.57	2	4

Analysis 910  
Glucose + Fructose



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 915

## A420nm (1cm path)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1ZRVZ7		0.6090	-0.0073	-0.28	0.2080	0.0004	0.03
24CXWV		0.6100	-0.0063	-0.24	0.2075	-0.0001	-0.01
3R3MX7		0.6080	-0.0083	-0.31	0.2035	-0.0041	-0.31
3VFCGG		0.5990	-0.0173	-0.65	0.2045	-0.0031	-0.23
46WF6S	*	0.6575	0.0412	1.54	0.2030	-0.0046	-0.35
4XZ5S5	X	0.0770	-0.5393	-20.22	0.0250	-0.1826	-13.61
5DCWLF	*	0.5450	-0.0713	-2.67	0.1700	-0.0376	-2.80
5SHDTN		0.5770	-0.0393	-1.47	0.1915	-0.0161	-1.20
5U5K1K		0.6225	0.0062	0.23	0.2075	-0.0001	-0.01
5WV7ST	*	0.6476	0.0313	1.17	0.2410	0.0334	2.49
679LAL		0.6150	-0.0013	-0.05	0.2110	0.0034	0.25
6HHZN9	X	0.0245	-0.5918	-22.19	0.0150	-0.1926	-14.35
6KH9L4		0.6205	0.0042	0.16	0.2180	0.0104	0.77
A4ZSTJ		0.6390	0.0227	0.85	0.2140	0.0064	0.47
AVDP3X		0.6080	-0.0083	-0.31	0.2100	0.0024	0.18
AX2WB8	X	0.7000	0.0837	3.14	0.2800	0.0724	5.39
B9DFS8		0.6150	-0.0013	-0.05	0.2110	0.0034	0.25
CEU4E2		0.6165	0.0002	0.01	0.2210	0.0134	1.00
DCR2A5		0.6525	0.0362	1.36	0.2170	0.0094	0.70
DRH3FX		0.6585	0.0422	1.58	0.2175	0.0099	0.73
F45CL8		0.5995	-0.0168	-0.63	0.2025	-0.0051	-0.38
FRKA7A		0.6005	-0.0158	-0.59	0.1805	-0.0271	-2.02
GJTKSZ	X	0.0515	-0.5648	-21.18	0.0150	-0.1926	-14.35
H4YR1C		0.6000	-0.0163	-0.61	0.2060	-0.0016	-0.12
HBUA12		0.6190	0.0027	0.10	0.2135	0.0059	0.44
JNNX3F		0.6110	-0.0053	-0.20	0.2085	0.0009	0.06
JPMZ46		0.5855	-0.0308	-1.16	0.1955	-0.0121	-0.90
KJ65DZ		0.6095	-0.0068	-0.26	0.2075	-0.0001	-0.01
KMNGZH		0.6100	-0.0063	-0.24	0.2170	0.0094	0.70
MWMCA4		0.6160	-0.0003	-0.01	0.2145	0.0069	0.51
NJHANE		0.6085	-0.0078	-0.29	0.2060	-0.0016	-0.12
PP9D1X	X	0.5500	-0.0663	-2.49	0.1500	-0.0576	-4.29
QW15UJ	X	6.0200	5.4037	202.58	2.0500	1.8424	137.26
S67W1Y		0.6705	0.0542	2.03	0.2230	0.0154	1.14
SERC7L	X	0.3450	-0.2713	-10.17	0.0950	-0.1126	-8.39

**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 915**  
**A420nm (1cm path)**

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T66NYB		0.6040	-0.0123	-0.46	0.2190	0.0114	0.85
TCV9YA		0.6250	0.0087	0.32	0.2000	-0.0076	-0.57
U3FFW8		0.6325	0.0162	0.61	0.2120	0.0044	0.32
U3FHLC		0.5960	-0.0203	-0.76	0.2095	0.0019	0.14
V1JF32		0.5975	-0.0188	-0.71	0.2080	0.0004	0.03
VN2EXX	X	0.0640	-0.5523	-20.71	0.0200	-0.1876	-13.98
W4F1CY		0.6262	0.0098	0.37	0.1985	-0.0092	-0.68
X6VHMH		0.6605	0.0442	1.66	0.2160	0.0084	0.62
XPG8A4		0.6065	-0.0098	-0.37	0.1985	-0.0091	-0.68
Y53A4D	*	0.5735	-0.0428	-1.61	0.1730	-0.0346	-2.58
Y6J1G9		0.6685	0.0522	1.96	0.2255	0.0179	1.33

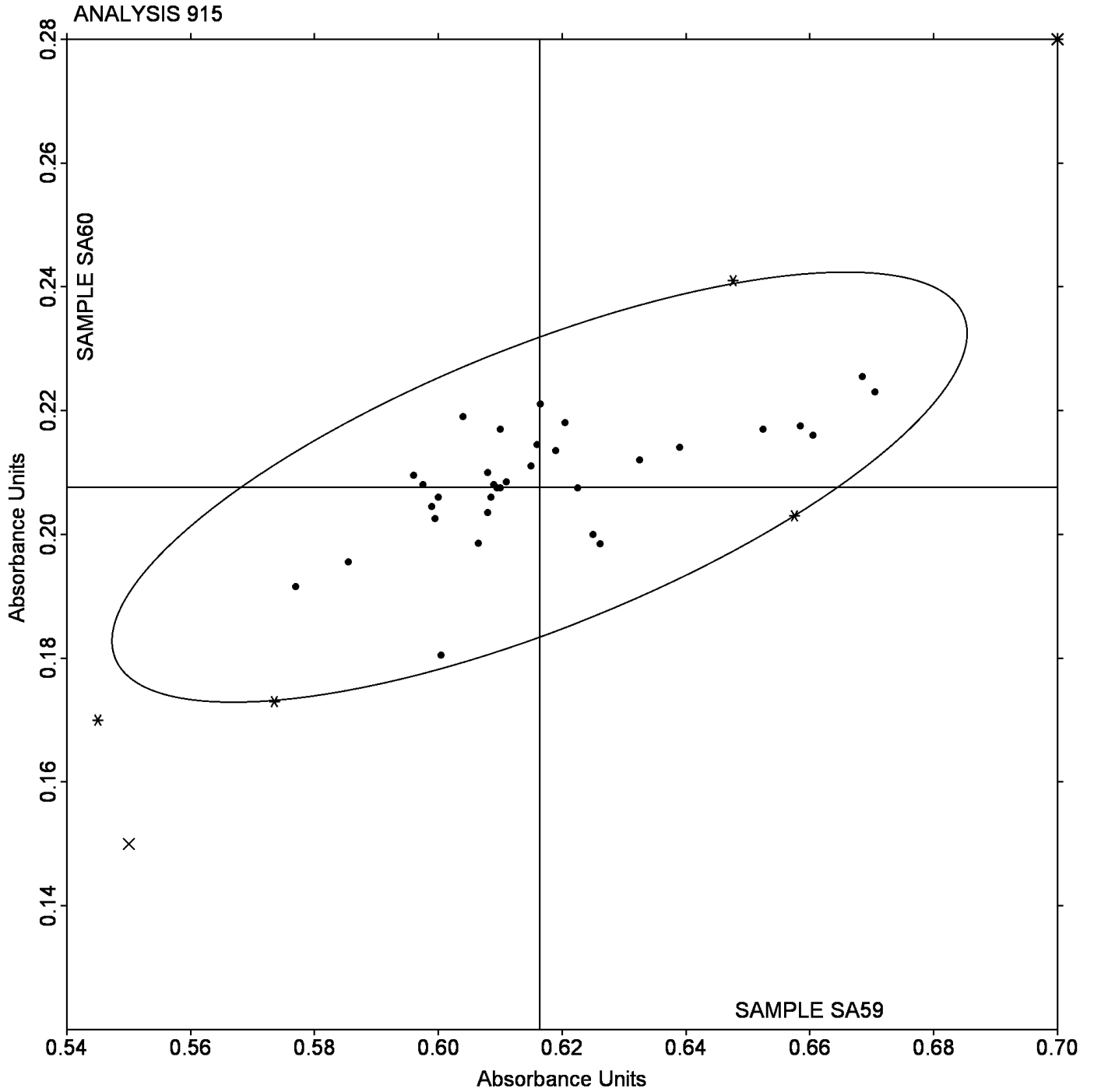
Grand Means		Summary Statistics	
0.61634	Absorbance Units	0.20764	Absorbance Units
Std Dev Btwn Labs		0.01342	Absorbance Units
0.02667	Absorbance Units	Statistics based on 38 of 46 reporting participants	

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

**Comments on assigned Data Flags**

- 4XZ5S5 (X) - Data for both samples are low.
- 6HHZN9 (X) - Data for both samples are low.
- AX2WB8 (X) - Data for both samples are high.
- GJTKSZ (X) - Data for both samples are low.
- PP9D1X (X) - Inconsistent in testing between samples, data for Sample SA60 are low.
- QW15UJ (X) - Extreme data. Data may be off by a factor of 10.
- SERC7L (X) - Data for both samples are low.
- VN2EXX (X) - Data for both samples are low. Data may be off by a factor of 10.

Analysis 915  
A420nm (1cm path)



## ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 916

## A520nm (1cm path)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1J35ZQ		0.6600	0.0755	2.53	0.1895	0.0190	1.66
1J8CN5		0.5735	-0.0110	-0.37	0.1660	-0.0045	-0.39
1LJMPV		0.6135	0.0290	0.97	0.1780	0.0075	0.65
2ZF1LJ		0.5620	-0.0225	-0.75	0.1660	-0.0045	-0.39
3HFZEB		0.5740	-0.0105	-0.35	0.1740	0.0035	0.30
3Q27GV		0.5370	-0.0475	-1.59	0.1655	-0.0050	-0.44
42EVZL		0.6010	0.0165	0.55	0.1660	-0.0045	-0.39
4ARCPR		0.5615	-0.0230	-0.77	0.1695	-0.0010	-0.09
4HFWHK		0.5830	-0.0015	-0.05	0.1730	0.0025	0.22
6G7X2A	X	0.0260	-0.5585	-18.71	0.0150	-0.1555	-13.55
7DP4V2		0.5700	-0.0145	-0.49	0.1690	-0.0015	-0.13
7KT3CJ		0.5540	-0.0305	-1.02	0.1590	-0.0115	-1.00
9P7QN8	X	0.0505	-0.5340	-17.88	0.0135	-0.1570	-13.68
A3Q8ZU		0.6270	0.0425	1.42	0.1830	0.0125	1.09
AP6J85		0.5770	-0.0075	-0.25	0.1830	0.0125	1.09
BYQYBT		0.6005	0.0160	0.54	0.1745	0.0040	0.35
C5H4DN	X	0.0435	-0.5410	-18.12	0.0060	-0.1645	-14.34
C6LQEL		0.5840	-0.0005	-0.02	0.1725	0.0020	0.17
CHCAT3		0.6510	0.0665	2.23	0.1835	0.0130	1.13
D3BJDZ	X	0.6755	0.0910	3.05	0.2445	0.0740	6.45
DKJYWZ	X	0.3100	-0.2745	-9.19	0.0650	-0.1055	-9.20
DPD9WK		0.5815	-0.0030	-0.10	0.1785	0.0080	0.70
EKVLQT		0.5555	-0.0290	-0.97	0.1710	0.0005	0.04
EN1NRW		0.5785	-0.0060	-0.20	0.1675	-0.0030	-0.26
EPZMCQ		0.5850	0.0005	0.02	0.1650	-0.0055	-0.48
EQA8KB		0.5590	-0.0255	-0.85	0.1445	-0.0260	-2.27
F6XMWH	*	0.5345	-0.0500	-1.68	0.1340	-0.0365	-3.18
FSKUAH		0.5760	-0.0085	-0.29	0.1695	-0.0010	-0.09
GPCF3X		0.6375	0.0530	1.77	0.1800	0.0095	0.83
GWHCLG	X	0.0595	-0.5250	-17.58	0.0175	-0.1530	-13.33
KHMDVP		0.6280	0.0435	1.46	0.1830	0.0125	1.09
LDJGNN		0.5650	-0.0195	-0.65	0.1690	-0.0015	-0.13
MYRHJC	*	0.6064	0.0219	0.73	0.1973	0.0268	2.34
N96SMW		0.5865	0.0020	0.07	0.1725	0.0020	0.17
QCQVUZ		0.5650	-0.0195	-0.65	0.1685	-0.0020	-0.17

# ASEV-CTS Wine Industry Interlaboratory Testing Program

## Analysis 916

### A520nm (1cm path)

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QPECHK	X	5.4600	4.8755	163.28	1.6400	1.4695	128.07
SK5HAU	X	0.4700	-0.1145	-3.84	0.1150	-0.0555	-4.84
SXL8MU		0.5760	-0.0085	-0.29	0.1770	0.0065	0.57
TMRG64		0.6080	0.0234	0.78	0.1570	-0.0136	-1.18
TPLJAC		0.5825	-0.0020	-0.07	0.1775	0.0070	0.61
TQBN9X		0.5830	-0.0015	-0.05	0.1680	-0.0025	-0.22
U44DU8		0.5775	-0.0070	-0.24	0.1630	-0.0075	-0.65
UVZTXC		0.6240	0.0395	1.32	0.1750	0.0045	0.39
V7Q1DD	X	0.0660	-0.5185	-17.37	0.0195	-0.1510	-13.16
W379EW		0.5390	-0.0455	-1.52	0.1555	-0.0150	-1.31
X7ACAH		0.5695	-0.0150	-0.50	0.1640	-0.0065	-0.57
ZRH6KN		0.5650	-0.0195	-0.65	0.1700	-0.0005	-0.04

Grand Means		Summary Statistics	
0.58452	Absorbance Units	0.17051	Absorbance Units
Std Dev Btwn Labs		0.01147	Absorbance Units
0.02986	Absorbance Units	<b>Statistics based on 38 of 47 reporting participants</b>	

**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

#### Comments on assigned Data Flags

- 6G7X2A (X) - Data for both samples are low.
- 9P7QN8 (X) - Data for both samples are low. Data may be off by a factor of 10.
- C5H4DN (X) - Data for both samples are low.
- D3BJDZ (X) - Data for both samples are high.
- DKJYWZ (X) - Data for both samples are low.
- GWHCLG (X) - Data for both samples are low. Data may be off by a factor of 10.
- QPECHK (X) - Data for both samples are high. Data may be off by a factor of 10.
- SK5HAU (X) - Data for both samples are low.
- V7Q1DD (X) - Data for both samples are low. Data may be off by a factor of 10.



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Iron (Fe) Content**

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
1N9ERD		1.465	-0.337	-18.7%	1.090	-0.202	-15.6%
38KL7B		2.075	0.273	15.2%	1.400	0.108	8.4%
5MQDAL		1.568	-0.234	-13.0%	1.050	-0.242	-18.7%
AY2T4G		1.650	-0.152	-8.4%	1.155	-0.137	-10.6%
DJYLJW		2.000	0.198	11.0%	1.275	-0.017	-1.3%
HL3NEP		1.750	-0.052	-2.9%	1.250	-0.042	-3.2%
K3ZDH3		1.800	-0.002	-0.1%	1.250	-0.042	-3.2%
KAAR8K		1.600	-0.202	-11.2%	1.100	-0.192	-14.8%
MMXFGQ		2.450	0.648	36.0%	1.700	0.408	31.6%
Q913NH		2.031	0.229	12.7%	1.408	0.116	9.0%
SDLZRX		1.500	-0.302	-16.7%	0.975	-0.317	-24.5%
TDSSV6		1.295	-0.507	-28.1%	0.845	-0.447	-34.6%
VQUX39		1.700	-0.102	-5.6%	1.100	-0.192	-14.8%
WPVYHF		2.020	0.218	12.1%	2.190	0.898	69.5%
YQ7RTG		2.325	0.523	29.0%	1.780	0.488	37.8%
ZSZM6N		1.600	-0.202	-11.2%	1.100	-0.192	-14.8%

<b>Research Property Target Value</b>		
Target Value	<b>1.8018</b> mg/L	<b>1.2918</b> mg/L
CTS has chosen to use the Grand Mean as the target value for this round.		

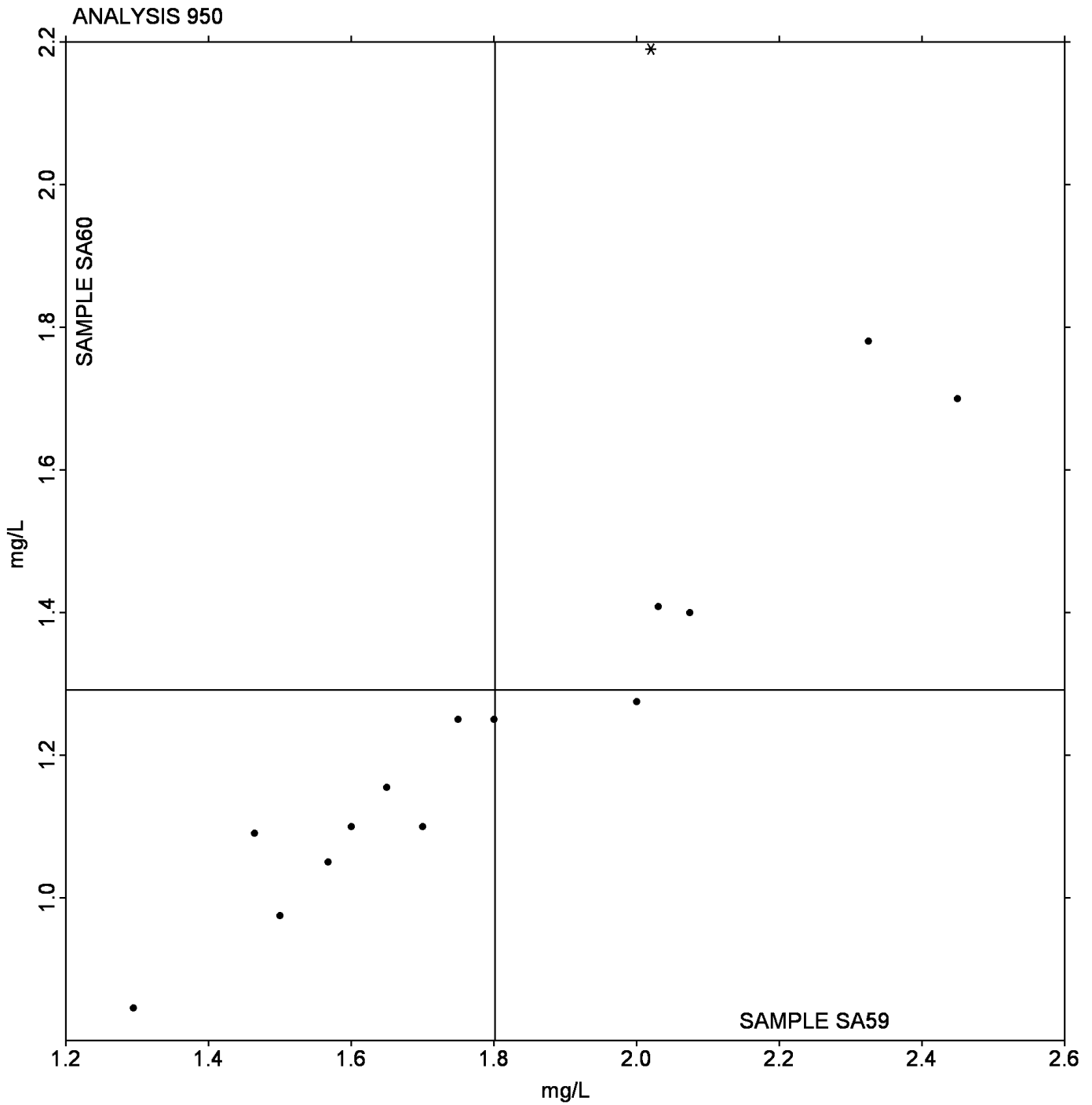
**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

Consensus Average (may differ from target value)	1.8018 mg/L	1.2918 mg/L
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*This consensus average is based on 16 reporting participants.*

Research Property 950

Research Property - Iron (Fe) Content



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: Calcium (Ca) Content**

WebCod	Data Flag	Sample SA59			Sample SA60		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
53R8G7		149.5	10.1	7.3%	138.0	20.9	17.8%
5GDRGB		144.0	4.6	3.3%	113.0	-4.1	-3.5%
6Q3XU9		119.0	-20.4	-14.6%	112.0	-5.1	-4.4%
7Y1SV5		111.0	-28.4	-20.4%	78.0	-39.1	-33.4%
9H9K5A		146.0	6.6	4.7%	124.5	7.4	6.3%
Q8L8UF		142.0	2.6	1.9%	119.0	1.9	1.6%
TN689Z		162.0	22.6	16.2%	142.3	25.1	21.5%
UMRAMU		130.0	-9.4	-6.7%	100.0	-17.1	-14.6%
V5862S		129.0	-10.4	-7.4%	110.5	-6.6	-5.7%
VGN33Q		116.5	-22.9	-16.4%	97.5	-19.6	-16.8%
VPJVGB		133.0	-6.4	-4.6%	112.0	-5.1	-4.4%
VSUQHV		142.5	3.1	2.2%	121.0	3.9	3.3%
ZDGUI2		187.5	48.1	34.5%	155.0	37.9	32.3%

Research Property Target Value		
Target Value	<b>139.38</b> mg/L	<b>117.14</b> mg/L
<i>CTS has chosen to use the Grand Mean as the target value for this round.</i>		

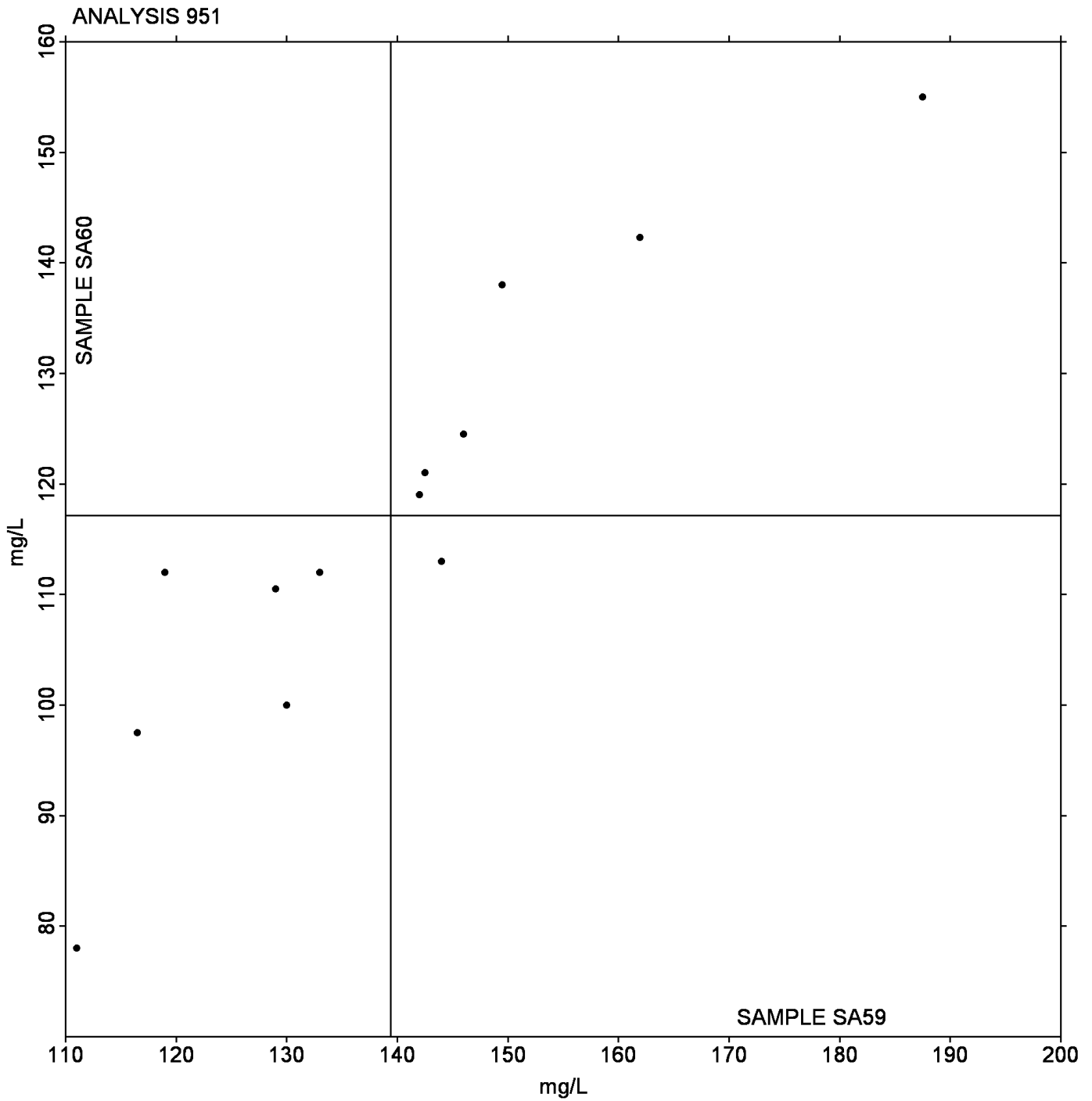
**Wines tested:** SA59: Blush Noir; SA60: White Zinfandel

Consensus Average (may differ from target value)      139.38 mg/L      117.14 mg/L

*This consensus average is based on 13 reporting participants.*

Research Property 951

Research Property: Calcium (Ca) Content



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