



## Wine Industry Interlaboratory Program

### Summary Report #073 - Spring 2023

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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 Ad Hoc Committee. The purpose of the survey was to evaluate laboratory performance and assess the performance of the industry with respect to quality assurance testing conducted on commercially produced wine through an on-going interlaboratory testing program. Two bottles of differing wines were supplied to participant laboratories. The samples for each type of wine were chosen consecutively from a single production run, to minimize variation between bottles. Participating laboratories were asked to analyze the samples' ten properties in accordance with their normal laboratory procedures and return the results and methodology information to CTS.

### **About CTS**

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of sectors: including 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.

For further information concerning this report contact:

**Collaborative Testing Services, Inc.  
21331 Gentry Drive  
Sterling, Virginia 20166 USA**

**+1-571-434-1925  
wine@cts-interlab.com**

**Office Hours: 8:00 a.m. - 4:30 p.m. ET**

## 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

Report #073  
Spring 2023

## Analysis 901 Ethanol (% of volume)

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2	X	7.050	-1.388	-25.76	7.050	-1.473	-27.96
2FLB6T		8.450	0.012	0.22	8.550	0.027	0.52
2KXLV3		8.400	-0.038	-0.71	8.510	-0.013	-0.24
3GQK9A		8.500	0.062	1.15	8.580	0.057	1.09
3L6YD4	X	8.370	-0.068	-1.26	8.330	-0.193	-3.66
46VPUF		8.465	0.027	0.50	8.555	0.032	0.61
4EHQ84	X	8.250	-0.188	-3.49	8.345	-0.178	-3.37
677VNV		8.420	-0.018	-0.34	8.515	-0.008	-0.15
6NPK6H		8.300	-0.138	-2.56	8.400	-0.123	-2.33
6PUH8X		8.455	0.017	0.31	8.540	0.017	0.33
6QC46F		8.515	0.077	1.43	8.625	0.102	1.94
6RJNRU		8.460	0.022	0.41	8.550	0.027	0.52
7DKXRB	*	8.490	0.052	0.96	8.495	-0.028	-0.53
7LCDC9		8.425	-0.013	-0.24	8.475	-0.048	-0.91
7M6BM2		8.470	0.032	0.59	8.565	0.042	0.80
7V24Y2		8.445	0.007	0.13	8.530	0.007	0.14
8FMCD8		8.420	-0.018	-0.34	8.505	-0.018	-0.34
8P7X94	X	8.250	-0.188	-3.49	8.200	-0.323	-6.13
92GGU7		8.510	0.072	1.33	8.605	0.082	1.56
9NQUHJ		8.460	0.022	0.41	8.540	0.017	0.33
9WKYCK		8.395	-0.043	-0.80	8.485	-0.038	-0.72
A6WFJK	X	8.730	0.292	5.42	8.890	0.367	6.97
AG4HLT		8.455	0.017	0.31	8.545	0.022	0.42
AGTG42		8.495	0.057	1.05	8.585	0.062	1.18
APMMX3		8.390	-0.048	-0.89	8.500	-0.023	-0.43
B2AFHU		8.420	-0.018	-0.34	8.510	-0.013	-0.24
B2PLVY		8.455	0.017	0.31	8.550	0.027	0.52
C49VKQ		8.485	0.047	0.87	8.560	0.037	0.71
CYXXYP	X	8.380	-0.058	-1.08	8.380	-0.143	-2.71
DCL8F3		8.375	-0.063	-1.17	8.420	-0.103	-1.95
DGTT6L		8.430	-0.008	-0.15	8.535	0.012	0.23
DMMPUC		8.460	0.022	0.41	8.540	0.017	0.33
DQ4UP2		8.425	-0.013	-0.24	8.505	-0.018	-0.34
DXG98W		8.365	-0.073	-1.36	8.455	-0.068	-1.29
EFGBQL		8.385	-0.053	-0.99	8.495	-0.028	-0.53



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WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EGDTNG		8.430	-0.008	-0.15	8.525	0.002	0.04
FJEAHQ		8.410	-0.028	-0.52	8.510	-0.013	-0.24
FPMFCB		8.390	-0.048	-0.89	8.480	-0.043	-0.81
FY6CWA		8.375	-0.063	-1.17	8.470	-0.053	-1.00
G3MTRY		8.455	0.017	0.31	8.530	0.007	0.14
GD4HQ6		8.400	-0.038	-0.71	8.500	-0.023	-0.43
GFQ2R3		8.290	-0.148	-2.75	8.405	-0.118	-2.24
GPXWQ2	*	8.570	0.132	2.45	8.680	0.157	2.99
HJNZJ7		8.460	0.022	0.41	8.560	0.037	0.71
J7EMXY		8.365	-0.073	-1.36	8.475	-0.048	-0.91
J7WVK9	X	7.900	-0.538	-9.99	7.900	-0.623	-11.82
J8PVHJ	X	8.725	0.287	5.32	8.590	0.067	1.28
JXKG6X	X	8.610	0.172	3.19	8.610	0.087	1.66
K2ZLWR		8.410	-0.028	-0.52	8.505	-0.018	-0.34
K6DFNH		8.415	-0.023	-0.43	8.490	-0.033	-0.62
KE8CZL	X	8.615	0.177	3.28	8.530	0.007	0.14
KJZE4K		8.460	0.022	0.41	8.540	0.017	0.33
KLL68B		8.430	-0.008	-0.15	8.520	-0.003	-0.05
KMXWZR		8.460	0.022	0.41	8.535	0.012	0.23
KQGY3Q		8.445	0.007	0.13	8.530	0.007	0.14
KRVEGR		8.450	0.012	0.22	8.545	0.022	0.42
KVT3TT		8.430	-0.008	-0.15	8.530	0.007	0.14
KZA63J		8.415	-0.023	-0.43	8.500	-0.023	-0.43
LZHYT4		8.425	-0.013	-0.24	8.500	-0.023	-0.43
MLD3A2		8.440	0.002	0.03	8.540	0.017	0.33
N8CNRJ		8.450	0.012	0.22	8.520	-0.003	-0.05
NF8LEL		8.435	-0.003	-0.06	8.525	0.002	0.04
NHU88A		8.405	-0.033	-0.62	8.495	-0.028	-0.53
NJ73QF		8.490	0.052	0.96	8.560	0.037	0.71
NLRTRK	X	8.515	0.077	1.43	8.490	-0.033	-0.62
NNZ2YJ		8.455	0.017	0.31	8.550	0.027	0.52
NWVYTE		8.430	-0.008	-0.15	8.515	-0.008	-0.15
P2Y62P	X	8.600	0.162	3.00	8.600	0.077	1.47
P3DRGJ	X	7.475	-0.963	-17.87	7.500	-1.023	-19.42
PJJV6V		8.445	0.007	0.13	8.525	0.002	0.04



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Report #073  
Spring 2023

## Analysis 901 Ethanol (% of volume)

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PM2DZL		8.400	-0.038	-0.71	8.490	-0.033	-0.62
QBMBHU	*	8.520	0.082	1.52	8.540	0.017	0.33
QE6TDJ		8.420	-0.018	-0.34	8.520	-0.003	-0.05
QPLHCP		8.450	0.012	0.22	8.520	-0.003	-0.05
QXHEYR		8.400	-0.038	-0.71	8.470	-0.053	-1.00
R4F9ND		8.415	-0.023	-0.43	8.510	-0.013	-0.24
R7PBG4		8.500	0.062	1.15	8.595	0.072	1.37
RD8NDG		8.470	0.032	0.59	8.565	0.042	0.80
RF9UTM	*	8.575	0.137	2.54	8.685	0.162	3.08
RN3ZLN		8.505	0.067	1.24	8.590	0.067	1.28
RV8UQH		8.420	-0.018	-0.34	8.510	-0.013	-0.24
RZKFBVH	X	8.504	0.066	1.22	8.287	-0.236	-4.48
T9BKY4		8.500	0.062	1.15	8.590	0.067	1.28
TF6PT6		8.455	0.017	0.31	8.545	0.022	0.42
TMT8BM		8.460	0.022	0.41	8.555	0.032	0.61
TYZ3LC		8.370	-0.068	-1.26	8.440	-0.083	-1.57
U3JGPC		8.460	0.022	0.41	8.550	0.027	0.52
UEUZBD		8.420	-0.018	-0.34	8.515	-0.008	-0.15
UHRLWP		8.430	-0.008	-0.15	8.520	-0.003	-0.05
UVYC2H		8.450	0.012	0.22	8.530	0.007	0.14
VJ7BZ2		8.445	0.007	0.13	8.535	0.012	0.23
VKEH3U		8.460	0.022	0.41	8.530	0.007	0.14
VL7NEE		8.430	-0.008	-0.15	8.520	-0.003	-0.05
VQJGDJ	*	8.280	-0.158	-2.93	8.370	-0.153	-2.90
VX2UCJ		8.460	0.022	0.41	8.560	0.037	0.71
WH7R9K		8.340	-0.098	-1.82	8.465	-0.058	-1.10
WKAK8P		8.415	-0.023	-0.43	8.505	-0.018	-0.34
WT4PZQ		8.400	-0.038	-0.71	8.490	-0.033	-0.62
WTMG8P	X	8.600	0.162	3.00	8.900	0.377	7.16
WW3T47		8.415	-0.023	-0.43	8.530	0.007	0.14
X8G8KD	X	8.900	0.462	8.57	8.850	0.327	6.21
XNNJXN	X	8.600	0.162	3.00	8.550	0.027	0.52
XRPKZ8		8.430	-0.008	-0.15	8.530	0.007	0.14
Y6BC48		8.450	0.012	0.22	8.530	0.007	0.14
YLD423		8.420	-0.018	-0.34	8.510	-0.013	-0.24



Ethanol (% of volume)

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YZXJ62		8.430	-0.008	-0.15	8.510	-0.013	-0.24
Z987TW		8.455	0.017	0.31	8.545	0.022	0.42
ZKGY69	*	8.285	-0.153	-2.84	8.385	-0.138	-2.62
ZLV8BN		8.500	0.062	1.15	8.600	0.077	1.47
ZRXXUD	*	8.595	0.157	2.91	8.665	0.142	2.70

Grand Means		Summary Statistics	
	8.4382 percent		8.5228 percent
Std Dev Btwn Labs			0.0527 percent
	0.0539 percent		
<b>Statistics based on 93 of 110 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel





**Comments on Assigned Data Flags for Test #901**

- CYXXYP (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.
- RZKFBH (X) - Inconsistent in testing, data for sample SA46 are low.
- P3DRGJ (X) - Data for both samples are low.
- 4EHQ84 (X) - Data for both samples are low. Possible Systematic Error.
- KE8CZL (X) - Inconsistent in testing, data for sample SA45 are high. Inconsistent within the determinations of sample SA45.
- 3L6YD4 (X) - Inconsistent in testing, data for sample SA46 are low.
- 27XKH2 (X) - Data for both samples are low.
- P2Y62P (X) - Inconsistent in testing, data for sample SA45 are high.
- JXKG6X (X) - Inconsistent in testing, data for sample SA45 are high.
- XNNJXN (X) - Inconsistent in testing, data for sample SA45 are high. Inconsistent within the determinations of sample SA46.
- WTMG8P (X) - Data for both samples are high. Possible Systematic Error.
- A6WFJK (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- J7WVK9 (X) - Data for both samples are low.
- J8PVHJ (X) - Inconsistent in testing, data for sample SA45 are high. Inconsistent within the determinations of sample SA45.
- 8P7X94 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- X8G8KD (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA46.
- NLRTRK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA46.

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

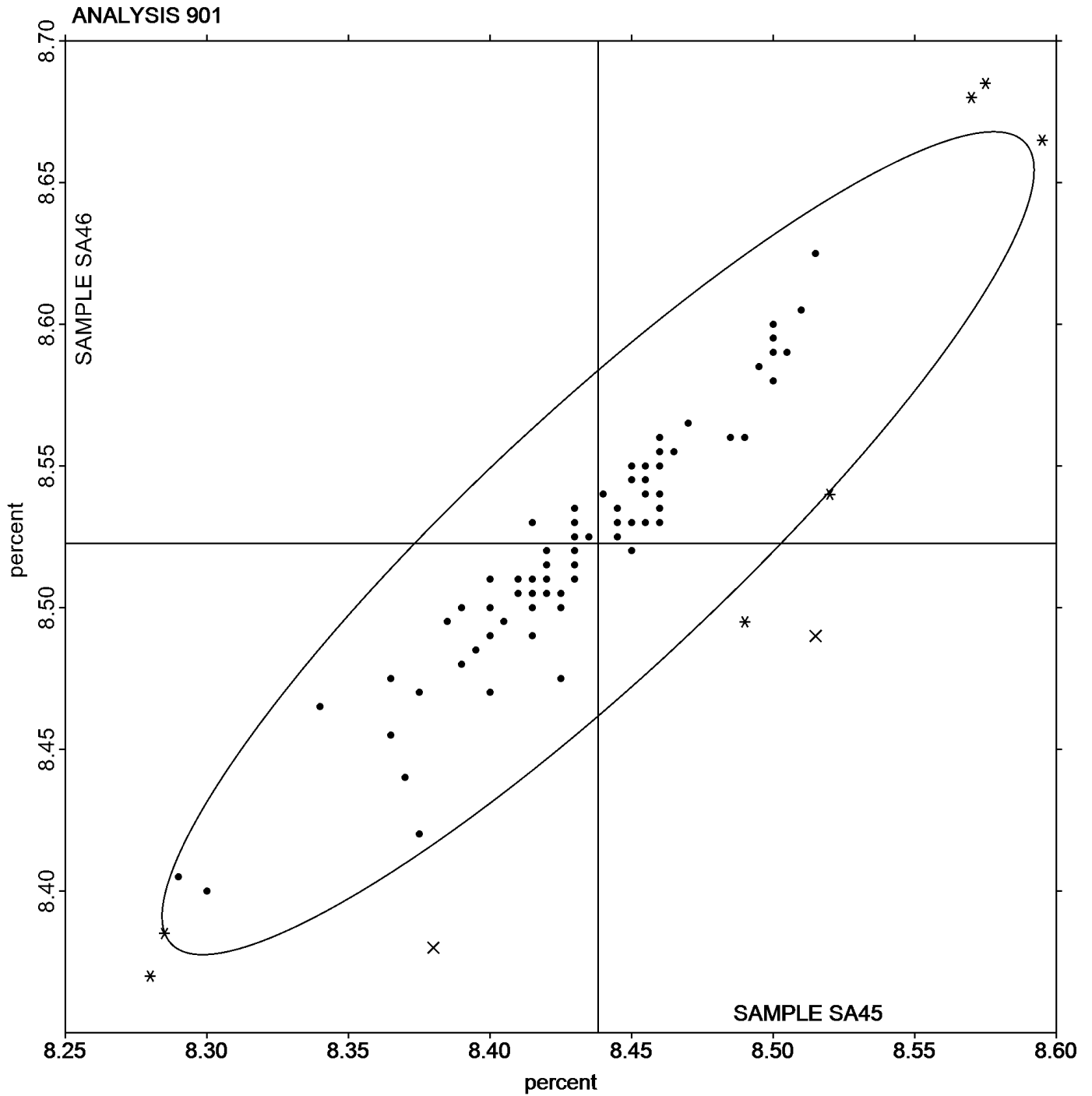
Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <i>White Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	8.455	0.000	0.017	8.550	0.000	0.027	1/1
Ebulliometer Method	8.450	0.000	0.012	8.550	0.000	0.027	1/8
Gas Chromatography Method	8.510	0.000	0.072	8.605	0.000	0.082	1/4
Near Infrared Method	8.432	0.038	-0.006	8.520	0.036	-0.003	68/72
Dist. / Density Method	8.405	0.073	-0.033	8.489	0.058	-0.034	10/11
FTIR	8.481	0.100	0.042	8.576	0.101	0.053	9/11
Other _____	8.468	0.043	0.030	8.563	0.053	0.041	3/3



Analysis 901

Spring 2023

Ethanol (% of volume)





Analysis 902  
Total Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		180.0	-10.1	-0.79	160.0	-8.2	-0.71
2FLB6T		184.0	-6.1	-0.48	171.2	3.0	0.26
2KXLV3		190.5	0.4	0.03	165.0	-3.2	-0.27
3GQK9A		169.5	-20.6	-1.62	145.0	-23.2	-2.01
3L6YD4	X	173.0	-17.1	-1.34	193.0	24.8	2.15
46VPUF		177.0	-13.1	-1.03	156.5	-11.7	-1.01
4EHQ84		206.0	15.9	1.25	188.0	19.8	1.72
677VNV		162.5	-27.6	-2.17	144.0	-24.2	-2.09
6NPK6H		195.0	4.9	0.38	179.0	10.8	0.94
6PUH8X		173.5	-16.6	-1.30	152.0	-16.2	-1.40
6QC46F		188.5	-1.7	-0.13	170.4	2.2	0.19
6RJNRU		201.5	11.4	0.89	176.0	7.8	0.68
7DKXRB	X	189.3	-0.8	-0.06	186.7	18.5	1.60
7LCDC9		194.3	4.2	0.33	170.1	1.9	0.16
7M6BM2		182.1	-8.0	-0.63	160.2	-8.0	-0.69
7V24Y2		202.7	12.6	0.99	176.8	8.6	0.74
8FMCD8		199.0	8.9	0.70	175.0	6.8	0.59
92GGU7		206.5	16.4	1.29	181.0	12.8	1.11
9NQUHJ		191.0	0.9	0.07	166.0	-2.2	-0.19
9WKYCK		185.5	-4.6	-0.36	166.0	-2.2	-0.19
A6WFJK	*	210.5	20.4	1.60	178.0	9.8	0.85
AG4HLT		214.5	24.4	1.91	186.5	18.3	1.59
AGTG42		199.5	9.4	0.74	177.0	8.8	0.76
APMMX3	X	164.0	-26.1	-2.05	162.0	-6.2	-0.53
ATYGPT	X	191.0	0.8	0.07	181.9	13.7	1.18
B2AFHU		193.5	3.4	0.27	173.0	4.8	0.42
B2PLVY		190.5	0.4	0.03	173.0	4.8	0.42
C49VKQ	X	236.5	46.4	3.64	210.5	42.3	3.66
CYXXYP	*	188.0	-2.1	-0.17	177.0	8.8	0.76
DGTT6L		208.0	17.9	1.40	185.0	16.8	1.46
DMMPUC		200.5	10.4	0.81	179.5	11.3	0.98
DQ4UP2		204.8	14.6	1.15	179.6	11.4	0.99
DXG98W		187.5	-2.6	-0.20	166.5	-1.7	-0.14
EE2C9H		186.0	-4.1	-0.32	168.0	-0.2	-0.02
EFGBQL		194.0	3.9	0.30	172.5	4.3	0.37



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073

## Analysis 902

Spring 2023

### Total Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EGDTNG		202.5	12.4	0.97	177.5	9.3	0.81
FJEAHQ		193.0	2.9	0.23	167.0	-1.2	-0.10
FPMFCB		176.5	-13.6	-1.07	151.5	-16.7	-1.44
FY6CWA		175.0	-15.1	-1.19	157.5	-10.7	-0.92
G3MTRY		194.0	3.9	0.30	178.5	10.3	0.89
GD4HQ6	*	224.5	34.4	2.70	196.5	28.3	2.45
GFQ2R3		196.5	6.4	0.50	177.0	8.8	0.76
GPXWQ2	X	236.0	45.9	3.60	209.5	41.3	3.58
HJNZJ7		173.5	-16.6	-1.30	156.5	-11.7	-1.01
J7EMXY		188.0	-2.1	-0.17	167.5	-0.7	-0.06
J7WVK9		182.0	-8.1	-0.64	163.0	-5.2	-0.45
J8PVHJ		185.5	-4.6	-0.36	165.0	-3.2	-0.27
JXKG6X		175.0	-15.1	-1.19	151.0	-17.2	-1.49
K2ZLWR		186.8	-3.3	-0.26	158.8	-9.3	-0.81
K6DFNH		171.5	-18.6	-1.46	155.0	-13.2	-1.14
KE8CZL		169.5	-20.6	-1.62	152.0	-16.2	-1.40
KHK42L		170.0	-20.1	-1.58	148.0	-20.2	-1.75
KJZE4K		190.0	-0.1	-0.01	170.5	2.3	0.20
KLL68B		179.0	-11.1	-0.87	160.0	-8.2	-0.71
KMXWZR	X	175.0	-15.1	-1.19	171.5	3.3	0.29
KQGY3Q		175.5	-14.6	-1.15	158.5	-9.7	-0.84
KRVEGR		198.0	7.9	0.62	175.0	6.8	0.59
KVT3TT		189.0	-1.1	-0.09	165.0	-3.2	-0.27
KZA63J		204.0	13.9	1.09	180.5	12.3	1.07
LZHYT4		174.0	-16.1	-1.26	153.5	-14.7	-1.27
MLD3A2		177.0	-13.1	-1.03	152.0	-16.2	-1.40
N8CNRJ		200.0	9.9	0.78	176.5	8.3	0.72
NF8LEL		178.0	-12.1	-0.95	152.0	-16.2	-1.40
NHU88A	*	216.5	26.3	2.07	196.9	28.7	2.49
NJ73QF		172.5	-17.6	-1.38	155.0	-13.2	-1.14
NLRTRK		192.0	1.9	0.15	166.5	-1.7	-0.14
NNZ2YJ		183.5	-6.6	-0.52	170.5	2.3	0.20
NWVYTE		170.5	-19.6	-1.54	151.5	-16.7	-1.44
P2Y62P	X	186.9	-3.2	-0.25	186.9	18.7	1.62
P3DRGJ	*	228.0	37.9	2.97	203.0	34.8	3.01



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PJJV6V		199.5	9.4	0.74	176.0	7.8	0.68
PM2DZL		197.5	7.4	0.58	172.5	4.3	0.37
QBMBHU		186.2	-3.9	-0.31	165.9	-2.3	-0.20
QE6TDJ		191.0	0.9	0.07	164.5	-3.7	-0.32
QPLHCP		189.9	-0.3	-0.02	172.5	4.3	0.37
QXHEYR		175.0	-15.1	-1.19	148.0	-20.2	-1.75
R4F9ND		187.5	-2.6	-0.20	159.5	-8.7	-0.75
R7PBG4		198.5	8.4	0.66	177.0	8.8	0.76
RD8NDG		193.5	3.4	0.27	172.0	3.8	0.33
RF9UTM		190.0	-0.1	-0.01	164.0	-4.2	-0.36
RN3ZLN		205.0	14.9	1.17	178.5	10.3	0.89
RV8UQH		187.5	-2.6	-0.20	164.0	-4.2	-0.36
RZKFBVH		191.0	0.9	0.07	163.1	-5.1	-0.44
T9BKY4		188.5	-1.6	-0.13	171.5	3.3	0.29
TF6PT6		193.0	2.9	0.23	170.0	1.8	0.16
TMT8BM		198.0	7.9	0.62	173.5	5.3	0.46
TYZ3LC		191.0	0.9	0.07	166.0	-2.2	-0.19
U3JGPC		190.0	-0.1	-0.01	167.5	-0.7	-0.06
UEUZBD		184.5	-5.6	-0.44	157.5	-10.7	-0.92
UHRLWP		193.0	2.9	0.23	172.0	3.8	0.33
UVYC2H		167.5	-22.6	-1.77	153.0	-15.2	-1.31
VJ7BZ2		182.5	-7.6	-0.60	164.0	-4.2	-0.36
VKEH3U		183.0	-7.1	-0.56	161.0	-7.2	-0.62
VL7NEE		168.5	-21.6	-1.70	149.0	-19.2	-1.66
VQJGDJ		197.5	7.4	0.58	174.0	5.8	0.50
VX2UCJ		195.0	4.9	0.38	171.5	3.3	0.29
WH7R9K		193.5	3.4	0.27	170.5	2.3	0.20
WKAK8P		189.0	-1.1	-0.09	169.5	1.3	0.11
WT4PZQ		208.0	17.8	1.40	184.8	16.6	1.43
WW3T47		175.5	-14.6	-1.15	161.5	-6.7	-0.58
XNNJXN		192.0	1.9	0.15	164.0	-4.2	-0.36
XRPKZ8		191.4	1.3	0.10	168.3	0.1	0.01
Y6BC48		203.5	13.4	1.05	178.5	10.3	0.89
YLD423		217.0	26.9	2.11	190.0	21.8	1.89
YZXJ62		179.7	-10.5	-0.82	160.0	-8.2	-0.71



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 902**  
**Total Sulfur Dioxide**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Z987TW		197.0	6.9	0.54	173.0	4.8	0.42
ZKGY69	X	188.0	-2.1	-0.17	179.5	11.3	0.98
ZRJXUD		193.0	2.9	0.23	174.5	6.3	0.55

Grand Means	Summary Statistics
190.11 mg/L	168.18 mg/L
Std Dev Btwn Labs	
12.75 mg/L	11.56 mg/L
<b>Statistics based on 99 of 108 reporting participants</b>	

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #902**

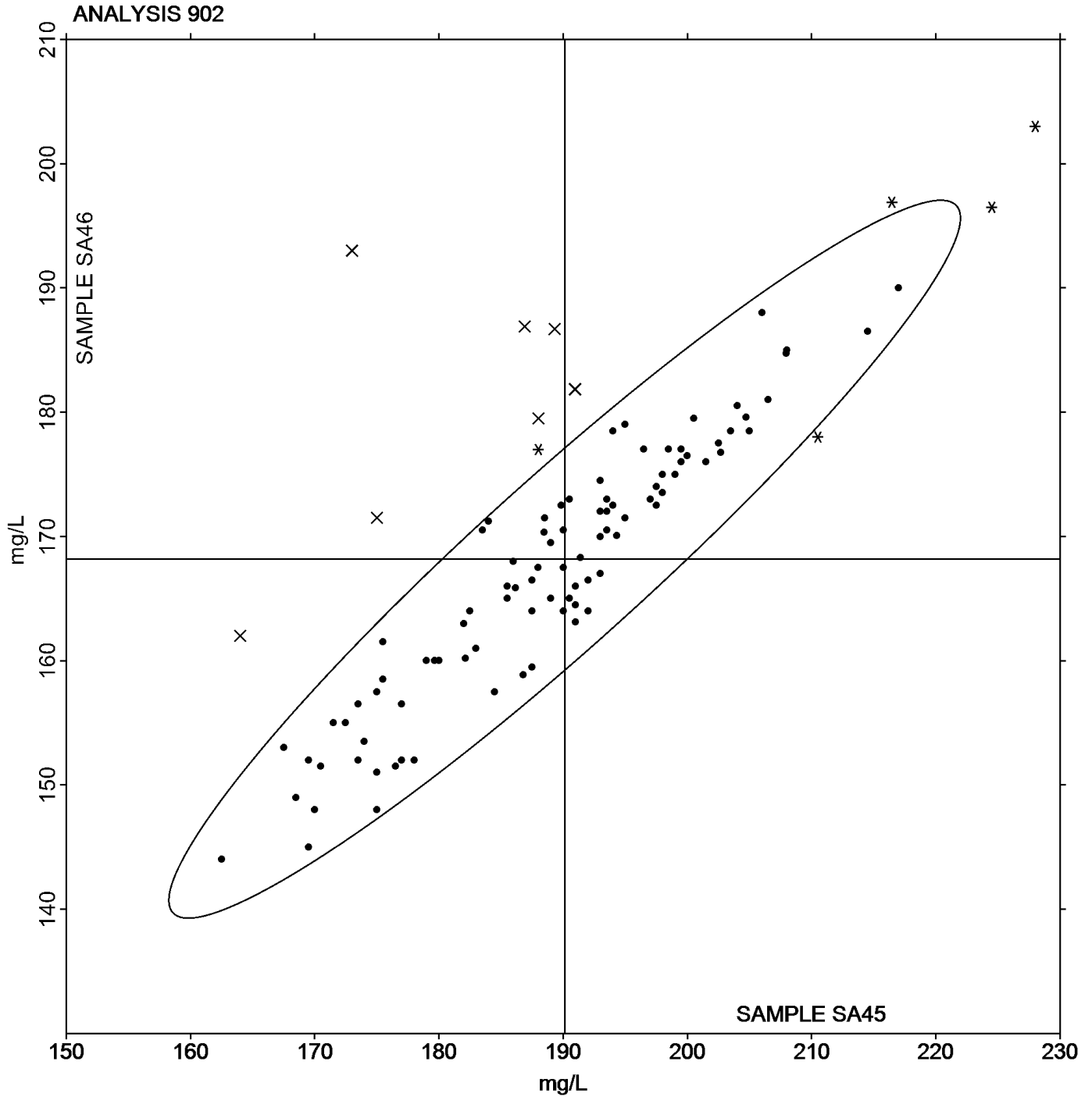
- ZKGY69 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.
- APMMX3 (X) - Inconsistent in testing between samples.
- GPXWQ2 (X) - Data for both samples are high. Possible Systematic Error.
- 7DKXRB (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 3L6YD4 (X) - Inconsistent in testing between samples.
- P2Y62P (X) - Inconsistent in testing between samples.
- KMXWZR (X) - Inconsistent in testing between samples.
- ATYGPT (X) - Inconsistent in testing between samples.
- C49VKQ (X) - Data for both samples are high. Possible Systematic Error.

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

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	180.833	8.431	-9.3	159.167	12.712	-9.0	3/3
Ripper Method	181.963	10.313	-8.1	160.976	9.783	-7.2	39/43
Aeration Oxidation (AO) Method	193.640	11.745	3.5	172.154	11.257	4.0	12/12
Segemented Flow Analyzer	190.033	10.228	-0.1	169.375	8.809	1.2	6/7
Enzymatic Method	196.054	7.945	5.9	172.521	5.996	4.3	14/15
Colormetric Analyzer	200.064	9.681	10.0	177.261	9.295	9.1	14/15
FTIR	209.667	17.751	19.6	182.333	16.646	14.2	3/5
Flow Injection Analysis	192.949	11.610	2.8	170.970	9.689	2.8	8/8



Analysis 902  
Total Sulfur Dioxide





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		34.00	4.63	1.35	22.00	2.36	0.82
2FLB6T	X	30.70	1.33	0.39	25.60	5.96	2.06
2KXLV3		25.00	-4.37	-1.27	18.00	-1.64	-0.57
3GQK9A		26.70	-2.67	-0.78	17.60	-2.04	-0.71
3L6YD4	X	21.50	-7.87	-2.29	25.00	5.36	1.86
46VPUF		29.50	0.13	0.04	20.50	0.86	0.30
4EHQ84		30.00	0.63	0.18	17.50	-2.14	-0.74
677VNV		26.50	-2.87	-0.83	16.00	-3.64	-1.26
6NPK6H	X	33.00	3.63	1.05	27.00	7.36	2.55
6PUH8X		26.00	-3.37	-0.98	17.50	-2.14	-0.74
6QC46F		33.65	4.28	1.24	25.00	5.36	1.86
6RJNRU		29.00	-0.37	-0.11	19.00	-0.64	-0.22
7DKXRB	X	27.00	-2.37	-0.69	24.50	4.86	1.68
7LCDC9		27.65	-1.72	-0.50	17.94	-1.70	-0.59
7M6BM2		27.52	-1.85	-0.54	18.12	-1.52	-0.53
7V24Y2		27.85	-1.52	-0.44	17.65	-1.99	-0.69
8FMCD8		28.00	-1.37	-0.40	19.00	-0.64	-0.22
8P7X94		31.65	2.28	0.66	22.95	3.31	1.15
92GGU7		29.00	-0.37	-0.11	17.50	-2.14	-0.74
9NQUHJ		31.00	1.63	0.47	21.00	1.36	0.47
9WKYCK		33.00	3.63	1.05	23.00	3.36	1.16
A6WFJK		37.00	7.63	2.22	24.15	4.51	1.56
AG4HLT	*	30.50	1.13	0.33	24.00	4.36	1.51
AGTG42		34.15	4.78	1.39	22.10	2.46	0.85
APMMX3		29.00	-0.37	-0.11	20.50	0.86	0.30
ATYGPT	*	30.59	1.22	0.35	17.31	-2.33	-0.81
B2AFHU		28.50	-0.87	-0.25	19.50	-0.14	-0.05
B2PLVY		25.50	-3.87	-1.13	17.50	-2.14	-0.74
C49VKQ	X	37.50	8.13	2.36	29.00	9.36	3.24
CYXXYP		33.50	4.13	1.20	22.50	2.86	0.99
CZTJNA		24.32	-5.06	-1.47	16.05	-3.59	-1.24
DCL8F3		33.50	4.13	1.20	22.00	2.36	0.82
DGTT6L		29.00	-0.37	-0.11	16.50	-3.14	-1.09
DMMPUC		32.00	2.63	0.76	19.50	-0.14	-0.05
DQ4UP2		27.85	-1.52	-0.44	17.90	-1.74	-0.60





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DXG98W		27.50	-1.87	-0.54	18.00	-1.64	-0.57
EFGBQL	X	31.50	2.13	0.62	17.00	-2.64	-0.91
EGDTNG		29.90	0.53	0.15	19.00	-0.64	-0.22
FJEAHQ		28.00	-1.37	-0.40	18.00	-1.64	-0.57
FPMFCB		24.30	-5.07	-1.47	15.75	-3.89	-1.35
FY6CWA		30.00	0.63	0.18	19.00	-0.64	-0.22
G3MTRY		33.00	3.63	1.05	23.00	3.36	1.16
GD4HQ6	X	43.85	14.48	4.21	34.85	15.21	5.27
GFQ2R3		28.00	-1.37	-0.40	18.00	-1.64	-0.57
GPXWQ2	X	47.00	17.63	5.12	35.00	15.36	5.32
HJNZJ7		34.00	4.63	1.35	25.00	5.36	1.86
J7EMXY		26.00	-3.37	-0.98	17.00	-2.64	-0.91
J7WVK9	X	35.00	5.63	1.64	30.00	10.36	3.59
J8PVHJ		29.00	-0.37	-0.11	20.50	0.86	0.30
JXKG6X		23.00	-6.37	-1.85	13.00	-6.64	-2.30
K2ZLWR		28.00	-1.37	-0.40	19.00	-0.64	-0.22
K6DFNH		29.00	-0.37	-0.11	19.50	-0.14	-0.05
KE8CZL		29.00	-0.37	-0.11	20.00	0.36	0.12
KHK42L		25.50	-3.87	-1.13	15.00	-4.64	-1.61
KJZE4K		34.50	5.13	1.49	25.00	5.36	1.86
KLL68B		27.50	-1.87	-0.54	18.00	-1.64	-0.57
KMXWZR		26.00	-3.37	-0.98	19.00	-0.64	-0.22
KQGY3Q		29.50	0.13	0.04	20.50	0.86	0.30
KRVEGR		32.00	2.63	0.76	20.50	0.86	0.30
KVT3TT		31.00	1.63	0.47	20.50	0.86	0.30
KZA63J		29.50	0.13	0.04	20.00	0.36	0.12
LZHYT4		22.50	-6.87	-2.00	13.50	-6.14	-2.13
MLD3A2		22.50	-6.87	-2.00	14.00	-5.64	-1.95
N8CNRJ		37.50	8.13	2.36	26.00	6.36	2.20
NF8LEL		25.50	-3.87	-1.13	18.50	-1.14	-0.39
NHU88A	*	37.30	7.93	2.30	27.75	8.11	2.81
NJ73QF		29.00	-0.37	-0.11	18.50	-1.14	-0.39
NLRTRK		36.70	7.33	2.13	24.20	4.56	1.58
NNZ2YJ	*	34.00	4.63	1.35	20.00	0.36	0.12
NWVYTE		25.50	-3.87	-1.13	19.00	-0.64	-0.22



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P2Y62P	X	26.90	-2.47	-0.72	26.90	7.26	2.51
P3DRGJ	X	41.00	11.63	3.38	32.00	12.36	4.28
PJJV6V	*	37.00	7.63	2.22	27.00	7.36	2.55
PM2DZL		34.00	4.63	1.35	23.00	3.36	1.16
QBMBHU	X	44.94	15.57	4.52	37.45	17.81	6.17
QE6TDJ		30.00	0.63	0.18	19.00	-0.64	-0.22
QPLHCP		26.10	-3.27	-0.95	16.65	-2.99	-1.04
QXHEYR		29.00	-0.37	-0.11	18.00	-1.64	-0.57
R4F9ND		30.00	0.63	0.18	19.00	-0.64	-0.22
R7PBG4		26.00	-3.37	-0.98	17.00	-2.64	-0.91
RD8NDG		29.50	0.13	0.04	19.50	-0.14	-0.05
RF9UTM	X	43.85	14.48	4.21	32.00	12.36	4.28
RN3ZLN		23.50	-5.87	-1.71	16.00	-3.64	-1.26
RV8UQH		29.50	0.13	0.04	19.00	-0.64	-0.22
RZKFBVH		29.28	-0.10	-0.03	18.29	-1.35	-0.47
T9BKY4		29.00	-0.37	-0.11	19.50	-0.14	-0.05
TF6PT6		30.35	0.98	0.28	19.65	0.01	0.00
TMT8BM		29.50	0.13	0.04	18.00	-1.64	-0.57
TYZ3LC		24.50	-4.87	-1.42	16.50	-3.14	-1.09
U3JGPC		27.50	-1.87	-0.54	20.00	0.36	0.12
UEUZBD	X	44.50	15.13	4.40	31.50	11.86	4.11
UHRLWP	*	20.00	-9.37	-2.72	14.00	-5.64	-1.95
UVYC2H		29.00	-0.37	-0.11	19.50	-0.14	-0.05
VJ7BZ2		28.00	-1.37	-0.40	18.00	-1.64	-0.57
VKEH3U		33.00	3.63	1.05	24.00	4.36	1.51
VL7NEE		28.00	-1.37	-0.40	18.00	-1.64	-0.57
VQJGDJ		28.00	-1.37	-0.40	19.50	-0.14	-0.05
VX2UCJ		32.00	2.63	0.76	22.00	2.36	0.82
WH7R9K		29.50	0.13	0.04	19.00	-0.64	-0.22
WKAK8P		28.50	-0.87	-0.25	21.00	1.36	0.47
WT4PZQ		31.25	1.88	0.55	20.85	1.21	0.42
WTMG8P		29.60	0.23	0.07	20.40	0.76	0.26
WW3T47		26.00	-3.37	-0.98	17.50	-2.14	-0.74
X8G8KD		30.15	0.78	0.23	20.55	0.91	0.32
XNNJXN		30.45	1.08	0.31	20.60	0.96	0.33



Analysis 903  
Free Sulfur Dioxide

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XRPKZ8		33.00	3.63	1.05	21.00	1.36	0.47
Y6BC48		24.50	-4.87	-1.42	15.50	-4.14	-1.43
YLD423		32.00	2.63	0.76	22.00	2.36	0.82
YZXJ62		29.00	-0.37	-0.11	20.33	0.69	0.24
Z987TW		32.50	3.13	0.91	24.00	4.36	1.51
ZKGY69		31.00	1.63	0.47	21.50	1.86	0.64
ZLV8BN		31.00	1.63	0.47	22.00	2.36	0.82
ZRXXUD		30.50	1.13	0.33	22.50	2.86	0.99

Grand Means	Summary Statistics
29.372 mg/L	19.639 mg/L
Stnd Dev Btwn Labs 3.441 mg/L	2.888 mg/L
<b>Statistics based on 99 of 113 reporting participants</b>	

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #903**

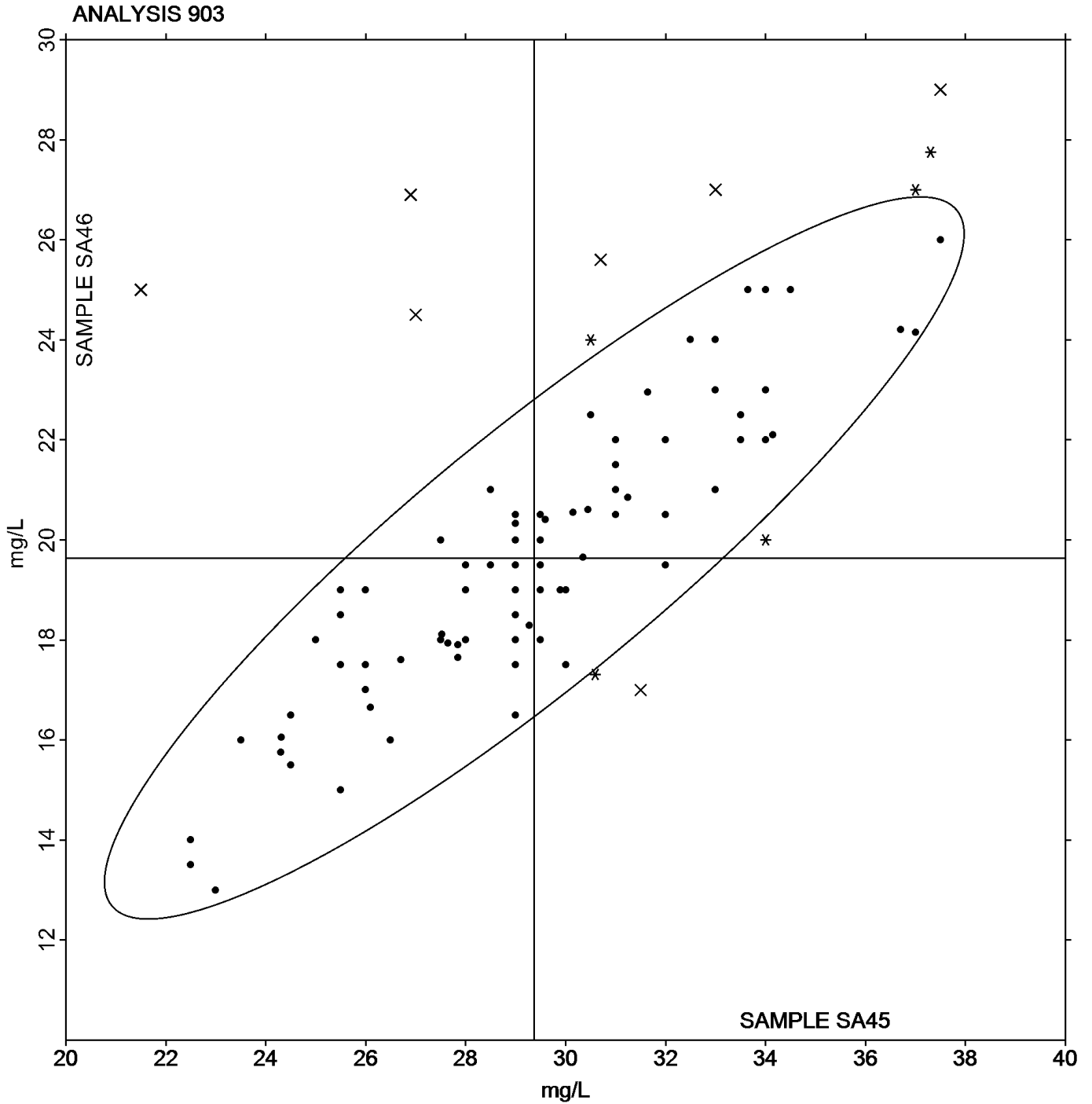
- EFGBQL (X) - Inconsistent in testing between samples.
- P3DRGJ (X) - Data for both samples are high. Possible Systematic Error.
- UEUZBD (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- QBMBHU (X) - Data for both samples are high. Possible Systematic Error.
- GPXWQ2 (X) - Data for both samples are high. Possible Systematic Error.
- 7DKXRB (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 6NPK6H (X) - Inconsistent in testing between samples.
- GD4HQ6 (X) - Data for both samples are high. Possible Systematic Error.
- 3L6YD4 (X) - Inconsistent in testing between samples.
- P2Y62P (X) - Inconsistent in testing between samples.
- RF9UTM (X) - Data for both samples are high. Possible Systematic Error.
- 2FLB6T (X) - Inconsistent in testing between samples.
- J7WVK9 (X) - Inconsistent in testing, data for sample SA46 are high.
- C49VKQ (X) - Data for sample SA46 are high.



**Analysis 903  
Free Sulfur Dioxide**

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

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	28.000	2.179	-1.37	18.667	1.607	-0.97	3/3
Ripper Method	28.596	3.193	-0.78	18.983	2.851	-0.66	33/35
Aeration Oxidation (AO) Method	28.283	4.085	-1.09	19.282	3.141	-0.36	22/27
Segmented Flow Analyzer	30.517	3.249	1.14	20.822	3.062	1.18	9/9
Enzymatic Method	32.300	3.723	2.93	21.200	2.742	1.56	10/11
Colormetric Analyzer	30.714	2.318	1.34	20.294	2.710	0.65	14/14
Flow Injection Analysis	28.129	1.239	-1.24	18.021	0.848	-1.62	6/8
FTIR	30.750	0.354	1.38	23.000	1.414	3.36	2/6





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		6.450	0.021	0.07	6.450	-0.044	-0.17
2FLB6T		6.050	-0.379	-1.26	6.100	-0.394	-1.50
2KXLV3		6.550	0.121	0.40	6.500	0.006	0.02
3GQK9A	*	7.165	0.736	2.46	7.205	0.711	2.70
3L6YD4	*	7.250	0.821	2.74	7.100	0.606	2.30
46VPUF		6.410	-0.019	-0.06	6.425	-0.069	-0.26
4EHQ84		6.660	0.231	0.77	6.640	0.146	0.56
677VNV		6.000	-0.429	-1.43	6.200	-0.294	-1.12
6NPK6H		5.920	-0.509	-1.70	6.085	-0.409	-1.55
6PUH8X		6.555	0.126	0.42	6.635	0.141	0.54
6QC46F	X	6.595	0.166	0.55	6.190	-0.304	-1.15
6RJNRU	X	5.600	-0.829	-2.76	6.050	-0.444	-1.69
7DKXRB	X	5.800	-0.629	-2.10	5.700	-0.794	-3.02
7LCDC9		6.235	-0.194	-0.65	6.375	-0.119	-0.45
7M6BM2		6.615	0.186	0.62	6.770	0.276	1.05
7V24Y2		6.095	-0.334	-1.11	6.180	-0.314	-1.19
8FMCD8		6.355	-0.074	-0.25	6.470	-0.024	-0.09
8P7X94		6.090	-0.339	-1.13	6.185	-0.309	-1.17
9NQUHJ		6.200	-0.229	-0.76	6.300	-0.194	-0.74
9WKYCK		6.500	0.071	0.24	6.650	0.156	0.59
A6WFJK	X	6.355	-0.074	-0.25	6.180	-0.314	-1.19
AG4HLT		6.470	0.041	0.14	6.590	0.096	0.37
AGTG42		6.700	0.271	0.90	6.750	0.256	0.97
APMMX3	*	6.815	0.386	1.29	6.645	0.151	0.57
ATYGPT		7.020	0.591	1.97	6.965	0.471	1.79
B2AFHU		6.825	0.396	1.32	6.800	0.306	1.16
B2PLVY		6.350	-0.079	-0.26	6.500	0.006	0.02
C49VKQ		6.085	-0.344	-1.15	6.245	-0.249	-0.95
CYXXYP		6.160	-0.269	-0.90	6.160	-0.334	-1.27
CZTJNA		6.585	0.156	0.52	6.740	0.246	0.94
DCL8F3		6.300	-0.129	-0.43	6.450	-0.044	-0.17
DGTT6L		6.100	-0.329	-1.10	6.150	-0.344	-1.31
DMMPUC		6.850	0.421	1.41	6.900	0.406	1.54
DQ4UP2	*	6.985	0.556	1.86	7.090	0.596	2.27
DXG98W		6.285	-0.144	-0.48	6.385	-0.109	-0.41



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 904**  
**Titrateable Acidity**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EE2C9H		6.650	0.221	0.74	6.750	0.256	0.97
EFGBQL		6.450	0.021	0.07	6.650	0.156	0.59
EGDTNG		6.190	-0.239	-0.80	6.245	-0.249	-0.95
FJEAHQ		6.740	0.311	1.04	6.765	0.271	1.03
FPMFCB		6.150	-0.279	-0.93	6.205	-0.289	-1.10
FY6CWA		6.095	-0.334	-1.11	6.225	-0.269	-1.02
G3MTRY		6.350	-0.079	-0.26	6.450	-0.044	-0.17
GD4HQ6		6.800	0.371	1.24	6.940	0.446	1.70
GFQ2R3		6.250	-0.179	-0.60	6.300	-0.194	-0.74
GPXWQ2		6.300	-0.129	-0.43	6.400	-0.094	-0.36
HJNZJ7		6.600	0.171	0.57	6.700	0.206	0.78
J7EMXY		6.575	0.146	0.49	6.670	0.176	0.67
J7WVK9	X	6.000	-0.429	-1.43	6.750	0.256	0.97
J8PVHJ		6.350	-0.079	-0.26	6.400	-0.094	-0.36
JXKG6X		6.181	-0.248	-0.83	6.304	-0.190	-0.72
K2ZLWR		6.200	-0.229	-0.76	6.300	-0.194	-0.74
K6DFNH		6.300	-0.129	-0.43	6.400	-0.094	-0.36
KE8CZL		6.300	-0.129	-0.43	6.350	-0.144	-0.55
KHK42L	X	6.495	0.066	0.22	12.000	5.506	20.93
KJZE4K		6.545	0.116	0.39	6.460	-0.034	-0.13
KLL68B		6.470	0.041	0.14	6.545	0.051	0.19
KMXWZR		6.950	0.521	1.74	6.900	0.406	1.54
KQGY3Q		6.150	-0.279	-0.93	6.150	-0.344	-1.31
KRVEGR		6.990	0.561	1.87	6.910	0.416	1.58
KVT3TT	X	3.650	-2.779	-9.27	4.020	-2.474	-9.40
KZA63J		6.100	-0.329	-1.10	6.175	-0.319	-1.21
LZHYT4		6.300	-0.129	-0.43	6.400	-0.094	-0.36
MLD3A2	X	6.750	0.321	1.07	6.550	0.056	0.21
N8CNRJ		6.300	-0.129	-0.43	6.450	-0.044	-0.17
NF8LEL		6.350	-0.079	-0.26	6.450	-0.044	-0.17
NHU88A		6.225	-0.204	-0.68	6.270	-0.224	-0.85
NJ73QF		6.275	-0.154	-0.51	6.325	-0.169	-0.64
NLRTRK	X	7.250	0.821	2.74	7.570	1.076	4.09
NNZ2YJ		6.565	0.136	0.45	6.580	0.086	0.33
NWVYTE		6.565	0.136	0.45	6.555	0.061	0.23



Analysis 904  
Titratable Acidity

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P2Y62P		6.870	0.441	1.47	6.870	0.376	1.43
P3DRGJ		7.050	0.621	2.07	6.980	0.486	1.85
PJJV6V	X	7.540	1.111	3.71	7.590	1.096	4.17
PM2DZL	X	7.050	0.621	2.07	6.800	0.306	1.16
QBMBHU		6.075	-0.354	-1.18	6.150	-0.344	-1.31
QE6TDJ		6.065	-0.364	-1.21	6.150	-0.344	-1.31
QPLHCP		6.450	0.021	0.07	6.365	-0.129	-0.49
R4F9ND		6.515	0.086	0.29	6.665	0.171	0.65
R7PBG4		6.100	-0.329	-1.10	6.250	-0.244	-0.93
RD8NDG		6.450	0.021	0.07	6.500	0.006	0.02
RF9UTM		5.800	-0.629	-2.10	5.900	-0.594	-2.26
RN3ZLN	X	7.625	1.196	3.99	7.480	0.986	3.75
RV8UQH		6.400	-0.029	-0.10	6.555	0.061	0.23
RZKFBVH		6.315	-0.114	-0.38	6.395	-0.099	-0.38
T9BKY4		6.200	-0.229	-0.76	6.300	-0.194	-0.74
TF6PT6		6.215	-0.214	-0.71	6.405	-0.089	-0.34
TMT8BM		6.350	-0.079	-0.26	6.500	0.006	0.02
TYZ3LC	X	6.545	0.116	0.39	6.870	0.376	1.43
U3JGPC		6.250	-0.179	-0.60	6.300	-0.194	-0.74
UEUZBD		6.900	0.471	1.57	6.800	0.306	1.16
UHRLWP		6.530	0.101	0.34	6.620	0.126	0.48
UVYC2H		6.410	-0.019	-0.06	6.515	0.021	0.08
VJ7BZ2		6.185	-0.244	-0.81	6.255	-0.239	-0.91
VKEH3U	*	6.100	-0.329	-1.10	6.400	-0.094	-0.36
VL7NEE		6.575	0.146	0.49	6.615	0.121	0.46
VQJGDJ		7.005	0.576	1.92	6.905	0.411	1.56
VX2UCJ		6.640	0.211	0.70	6.695	0.201	0.76
WH7R9K		6.040	-0.389	-1.30	6.180	-0.314	-1.19
WKAK8P		6.135	-0.294	-0.98	6.210	-0.284	-1.08
WT4PZQ		6.225	-0.204	-0.68	6.325	-0.169	-0.64
WTMG8P		6.335	-0.094	-0.31	6.300	-0.194	-0.74
WW3T47		6.415	-0.014	-0.05	6.515	0.021	0.08
X8G8KD		6.695	0.266	0.89	6.805	0.311	1.18
XNNJXN		6.561	0.132	0.44	6.667	0.173	0.66
XRPKZ8		6.650	0.221	0.74	6.550	0.056	0.21





**Analysis 904  
Titratable Acidity**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Y6BC48		6.400	-0.029	-0.10	6.500	0.006	0.02
YLD423		6.220	-0.209	-0.70	6.340	-0.154	-0.58
YZXJ62		6.200	-0.229	-0.76	6.200	-0.294	-1.12
Z987TW		7.050	0.621	2.07	7.000	0.506	1.92
ZKGY69		6.570	0.141	0.47	6.535	0.041	0.16
ZLV8BN		6.300	-0.129	-0.43	6.400	-0.094	-0.36
ZRXXUD		6.300	-0.129	-0.43	6.400	-0.094	-0.36

Grand Means	Summary Statistics
6.4287 g/L as tartaric acid	6.4937 g/L as tartaric acid
<b>Std Dev Btwn Labs</b>	
0.2998 g/L as tartaric acid	0.2631 g/L as tartaric acid
<b>Statistics based on 99 of 112 reporting participants</b>	

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #904**

- 7DKXRB (X) - Inconsistent in testing, data for sample SA46 are low.
- 6RJNRU (X) - Inconsistent in testing, data for sample SA45 are low.
- RN3ZLN (X) - Data for both samples are high. Possible Systematic Error.
- KVT3TT (X) - Data for both samples are low.
- PM2DZL (X) - Inconsistent in testing between samples.
- PJJV6V (X) - Data for both samples are high. Possible Systematic Error.
- 6QC46F (X) - Inconsistent in testing between samples.
- MLD3A2 (X) - Inconsistent in testing between samples.
- A6WFJK (X) - Inconsistent in testing between samples.
- J7WVK9 (X) - Inconsistent in testing between samples.
- KHK42L (X) - Inconsistent in testing, data for sample SA46 are high.
- TYZ3LC (X) - Inconsistent in testing between samples.
- NLRTRK (X) - Inconsistent in testing, data for sample SA46 are high.



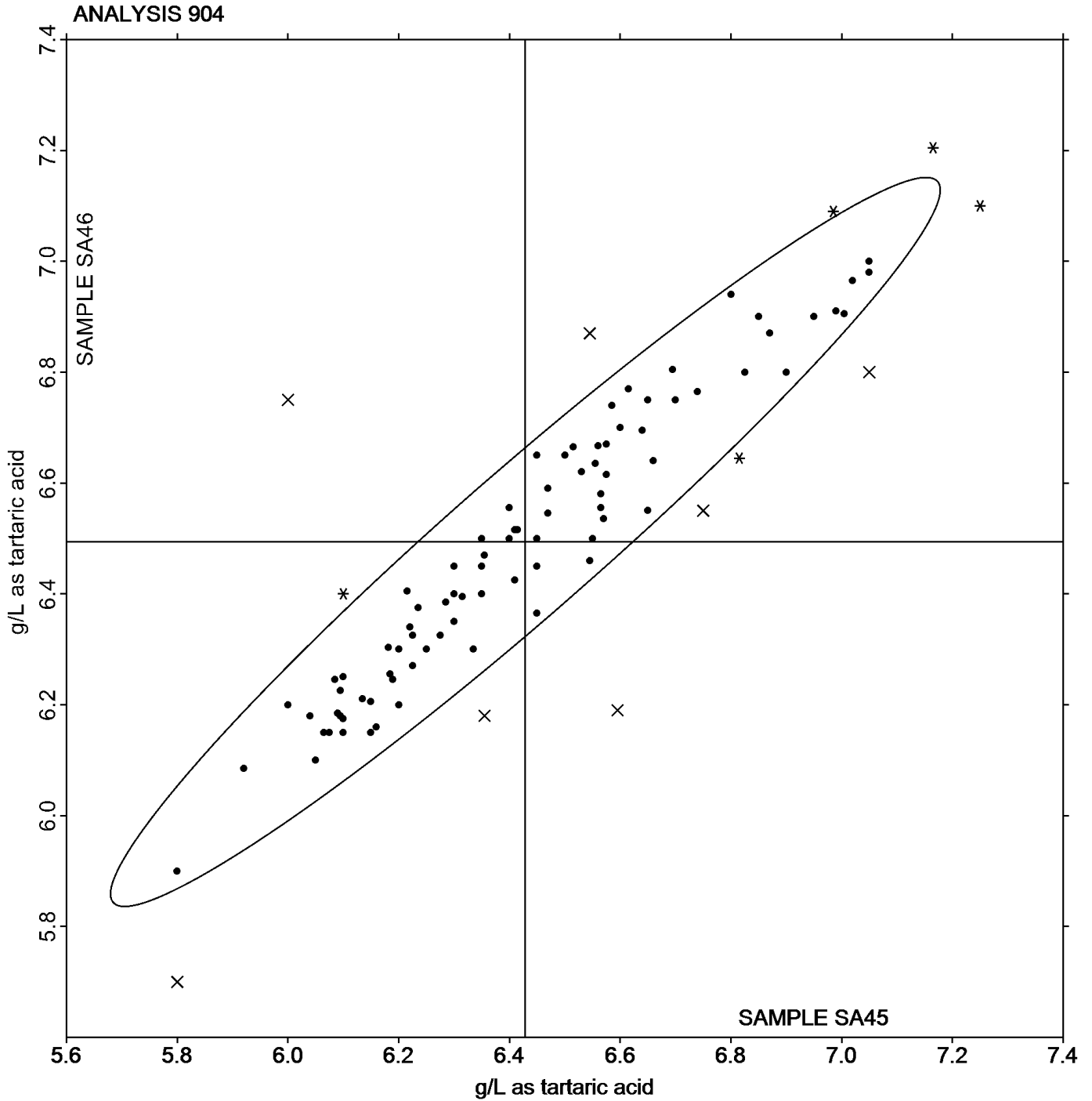
Analysis 904  
Titratable Acidity

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	6.220	0.184	-0.209	6.343	0.223	-0.151	2/2
Autotitration	6.416	0.247	-0.013	6.486	0.220	-0.008	61/67
Manual Titration	6.491	0.394	0.062	6.526	0.348	0.032	24/29
FTIR	6.302	0.273	-0.127	6.419	0.259	-0.075	10/12
Segmented Flow Analyzer	6.923	0.138	0.494	6.883	0.117	0.389	2/2



Analysis 904  
Titratable Acidity





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		0.1500	-0.0509	-1.13	0.1600	-0.0356	-0.77
2KXLV3		0.1600	-0.0409	-0.91	0.1500	-0.0456	-0.99
3GQK9A		0.1550	-0.0459	-1.02	0.1550	-0.0406	-0.88
3L6YD4		0.1450	-0.0559	-1.25	0.1600	-0.0356	-0.77
46VPUF		0.1950	-0.0059	-0.13	0.1950	-0.0006	-0.01
4EHQ84		0.2600	0.0591	1.32	0.2580	0.0624	1.35
677VNV		0.1800	-0.0209	-0.47	0.1600	-0.0356	-0.77
6NPK6H	*	0.2800	0.0791	1.77	0.3000	0.1044	2.25
6PUH8X		0.1700	-0.0309	-0.69	0.1450	-0.0506	-1.09
6QC46F	X	0.1400	-0.0609	-1.36	0.0950	-0.1006	-2.17
6RJNRU	X	0.2000	-0.0009	-0.02	0.7000	0.5044	10.89
7DKXRB		0.2000	-0.0009	-0.02	0.1950	-0.0006	-0.01
7LCDC9	X	0.4000	0.1991	4.44	0.4000	0.2044	4.41
7M6BM2		0.1800	-0.0209	-0.47	0.1750	-0.0206	-0.45
7V24Y2		0.1900	-0.0109	-0.24	0.1800	-0.0156	-0.34
8FMCD8		0.2500	0.0491	1.10	0.2450	0.0494	1.07
8P7X94	*	0.1445	-0.0564	-1.26	0.1705	-0.0251	-0.54
9NQUHJ		0.1900	-0.0109	-0.24	0.1900	-0.0056	-0.12
9WKYCK		0.1600	-0.0409	-0.91	0.1650	-0.0306	-0.66
A6WFJK		0.1775	-0.0234	-0.52	0.1690	-0.0266	-0.58
AG4HLT		0.1550	-0.0459	-1.02	0.1600	-0.0356	-0.77
AGTG42		0.1900	-0.0109	-0.24	0.1850	-0.0106	-0.23
APMMX3	X	0.1750	-0.0259	-0.58	0.1250	-0.0706	-1.53
B2AFHU		0.2900	0.0891	1.99	0.2800	0.0844	1.82
B2PLVY		0.2350	0.0341	0.76	0.2200	0.0244	0.53
C49VKQ		0.2150	0.0141	0.32	0.2200	0.0244	0.53
CYXXYP	*	0.1800	-0.0209	-0.47	0.1450	-0.0506	-1.09
CZTJNA		0.1850	-0.0159	-0.35	0.1700	-0.0256	-0.55
DCL8F3		0.1850	-0.0159	-0.35	0.1700	-0.0256	-0.55
DGTT6L		0.1800	-0.0209	-0.47	0.1700	-0.0256	-0.55
DMMPUC		0.2050	0.0041	0.09	0.1950	-0.0006	-0.01
DQ4UP2		0.1550	-0.0459	-1.02	0.1550	-0.0406	-0.88
DXG98W		0.2150	0.0141	0.32	0.1950	-0.0006	-0.01
EFGBQL		0.2100	0.0091	0.20	0.2200	0.0244	0.53
EGDTNG		0.1865	-0.0144	-0.32	0.1765	-0.0191	-0.41



**ASEV-CTS Wine Industry Interlaboratory Testing Program**

**Report #073**

**Analysis 905  
Volatile Acidity**

**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FJEAHQ		0.2550	0.0541	1.21	0.2400	0.0444	0.96
FPMFCB		0.1100	-0.0909	-2.03	0.1000	-0.0956	-2.07
FY6CWA		0.1950	-0.0059	-0.13	0.1900	-0.0056	-0.12
G3MTRY		0.2800	0.0791	1.77	0.2700	0.0744	1.61
GD4HQ6		0.1600	-0.0409	-0.91	0.1500	-0.0456	-0.99
GFQ2R3	*	0.2850	0.0841	1.88	0.3000	0.1044	2.25
GPXWQ2		0.2450	0.0441	0.98	0.2550	0.0594	1.28
HJNZJ7		0.1600	-0.0409	-0.91	0.1450	-0.0506	-1.09
J7EMXY		0.1700	-0.0309	-0.69	0.1600	-0.0356	-0.77
J7WVK9		0.2300	0.0291	0.65	0.2500	0.0544	1.17
J8PVHJ		0.2150	0.0141	0.32	0.2150	0.0194	0.42
JXKG6X	X	0.4400	0.2391	5.34	0.2300	0.0344	0.74
K2ZLWR	*	0.2650	0.0641	1.43	0.2300	0.0344	0.74
K6DFNH		0.1700	-0.0309	-0.69	0.1750	-0.0206	-0.45
KE8CZL		0.1850	-0.0159	-0.35	0.1650	-0.0306	-0.66
KHK42L		0.1750	-0.0259	-0.58	0.1700	-0.0256	-0.55
KJZE4K		0.2700	0.0691	1.54	0.2800	0.0844	1.82
KLL68B		0.1750	-0.0259	-0.58	0.1650	-0.0306	-0.66
KMXWZR		0.1650	-0.0359	-0.80	0.1600	-0.0356	-0.77
KQGY3Q	*	0.3100	0.1091	2.43	0.2950	0.0994	2.15
KRVEGR		0.1900	-0.0109	-0.24	0.1750	-0.0206	-0.45
KVT3TT		0.2500	0.0491	1.10	0.2600	0.0644	1.39
KZA63J	*	0.3300	0.1291	2.88	0.3250	0.1294	2.79
LZHYT4	X	0.1700	-0.0309	-0.69	0.1250	-0.0706	-1.53
MLD3A2		0.1900	-0.0109	-0.24	0.1850	-0.0106	-0.23
N8CNRJ		0.2950	0.0941	2.10	0.2800	0.0844	1.82
NF8LEL		0.1800	-0.0209	-0.47	0.1750	-0.0206	-0.45
NHU88A		0.2112	0.0103	0.23	0.2010	0.0054	0.12
NJ73QF		0.1800	-0.0209	-0.47	0.1650	-0.0306	-0.66
NLRTRK	X	0.1750	-0.0259	-0.58	0.0550	-0.1406	-3.04
NNZ2YJ	X	0.3690	0.1681	3.75	0.3570	0.1614	3.48
NWVYTE		0.1850	-0.0159	-0.35	0.1745	-0.0211	-0.46
P2Y62P		0.1580	-0.0429	-0.96	0.1580	-0.0376	-0.81
P3DRGJ	X	0.5250	0.3241	7.23	0.4500	0.2544	5.49
PJJV6V	X	0.1800	-0.0209	-0.47	0.0400	-0.1556	-3.36



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PM2DZL	*	0.2300	0.0291	0.65	0.2600	0.0644	1.39
QBMBHU		0.2880	0.0871	1.94	0.2880	0.0924	1.99
QE6TDJ		0.2450	0.0441	0.98	0.2200	0.0244	0.53
QPLHCP		0.2015	0.0006	0.01	0.1895	-0.0061	-0.13
QXHEYR		0.1800	-0.0209	-0.47	0.1900	-0.0056	-0.12
R4F9ND		0.1700	-0.0309	-0.69	0.1700	-0.0256	-0.55
R7PBG4		0.2150	0.0141	0.32	0.2150	0.0194	0.42
RD8NDG		0.2050	0.0041	0.09	0.2000	0.0044	0.09
RF9UTM		0.1995	-0.0014	-0.03	0.1960	0.0004	0.01
RN3ZLN		0.2150	0.0141	0.32	0.2150	0.0194	0.42
RV8UQH	*	0.2770	0.0761	1.70	0.2455	0.0499	1.08
RZKFBVH		0.1915	-0.0094	-0.21	0.1825	-0.0131	-0.28
T9BKY4		0.1900	-0.0109	-0.24	0.1800	-0.0156	-0.34
TF6PT6		0.1850	-0.0159	-0.35	0.1750	-0.0206	-0.45
TYZ3LC	X	0.4000	0.1991	4.44	0.4900	0.2944	6.36
U3JGPC		0.1825	-0.0184	-0.41	0.1740	-0.0216	-0.47
UEUZBD		0.1750	-0.0259	-0.58	0.1700	-0.0256	-0.55
UHRLWP		0.1900	-0.0109	-0.24	0.1800	-0.0156	-0.34
UVYC2H	X	0.1150	-0.0859	-1.92	0.0450	-0.1506	-3.25
VJ7BZ2		0.2100	0.0091	0.20	0.2050	0.0094	0.20
VKEH3U	X	0.1400	-0.0609	-1.36	0.1900	-0.0056	-0.12
VL7NEE		0.1550	-0.0459	-1.02	0.1450	-0.0506	-1.09
VQJGDJ		0.2350	0.0341	0.76	0.2350	0.0394	0.85
VX2UCJ		0.1900	-0.0109	-0.24	0.1750	-0.0206	-0.45
WH7R9K	X	0.4150	0.2141	4.78	0.3950	0.1994	4.31
WKAK8P		0.1950	-0.0059	-0.13	0.1750	-0.0206	-0.45
WT4PZQ		0.1835	-0.0174	-0.39	0.1770	-0.0186	-0.40
WW3T47		0.1850	-0.0159	-0.35	0.1900	-0.0056	-0.12
X8G8KD		0.1725	-0.0284	-0.63	0.1615	-0.0341	-0.74
XNNJXN		0.1815	-0.0194	-0.43	0.1690	-0.0266	-0.58
XRPKZ8		0.2000	-0.0009	-0.02	0.2050	0.0094	0.20
Y6BC48		0.1865	-0.0144	-0.32	0.1845	-0.0111	-0.24
YLD423		0.1700	-0.0309	-0.69	0.1700	-0.0256	-0.55
YZXJ62		0.2800	0.0791	1.77	0.2800	0.0844	1.82
Z987TW		0.1800	-0.0209	-0.47	0.1750	-0.0206	-0.45



**Analysis 905  
Volatile Acidity**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZKGY69		0.2500	0.0491	1.10	0.2500	0.0544	1.17
ZLV8BN	*	0.1000	-0.1009	-2.25	0.1100	-0.0856	-1.85
ZRJXUD		0.1050	-0.0959	-2.14	0.0850	-0.1106	-2.39

Grand Means	Summary Statistics
0.20087 g/L as acetic acid	0.19564 g/L as acetic acid
<b>Std Dev Btwn Labs</b>	
0.04482 g/L as acetic acid	0.04630 g/L as acetic acid
<b>Statistics based on 94 of 108 reporting participants</b>	

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #905**

- P3DRGJ (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA46.
- APMMX3 (X) - Inconsistent in testing between samples.
- VKEH3U (X) - Inconsistent in testing between samples.
- 6RJNRU (X) - Inconsistent in testing, data for sample SA46 are high.
- NNZ2YJ (X) - Data for both samples are high. Possible Systematic Error.
- 7LCDC9 (X) - Data for both samples are high. Possible Systematic Error.
- UVYC2H (X) - Inconsistent in testing, data for sample SA46 are low. Inconsistent within the determinations of sample SA46.
- PJJV6V (X) - Inconsistent in testing, data for sample SA46 are low.
- 6QC46F (X) - Inconsistent in testing between samples.
- JXKG6X (X) - Inconsistent in testing, data for sample SA45 are high.
- WH7R9K (X) - Data for both samples are high. Possible Systematic Error.
- LZH4T4 (X) - Inconsistent in testing between samples.
- TYZ3LC (X) - Data for both samples are high. Possible Systematic Error.
- NLRTRK (X) - Inconsistent in testing, data for sample SA46 are low.



**Analysis 905  
Volatile Acidity**

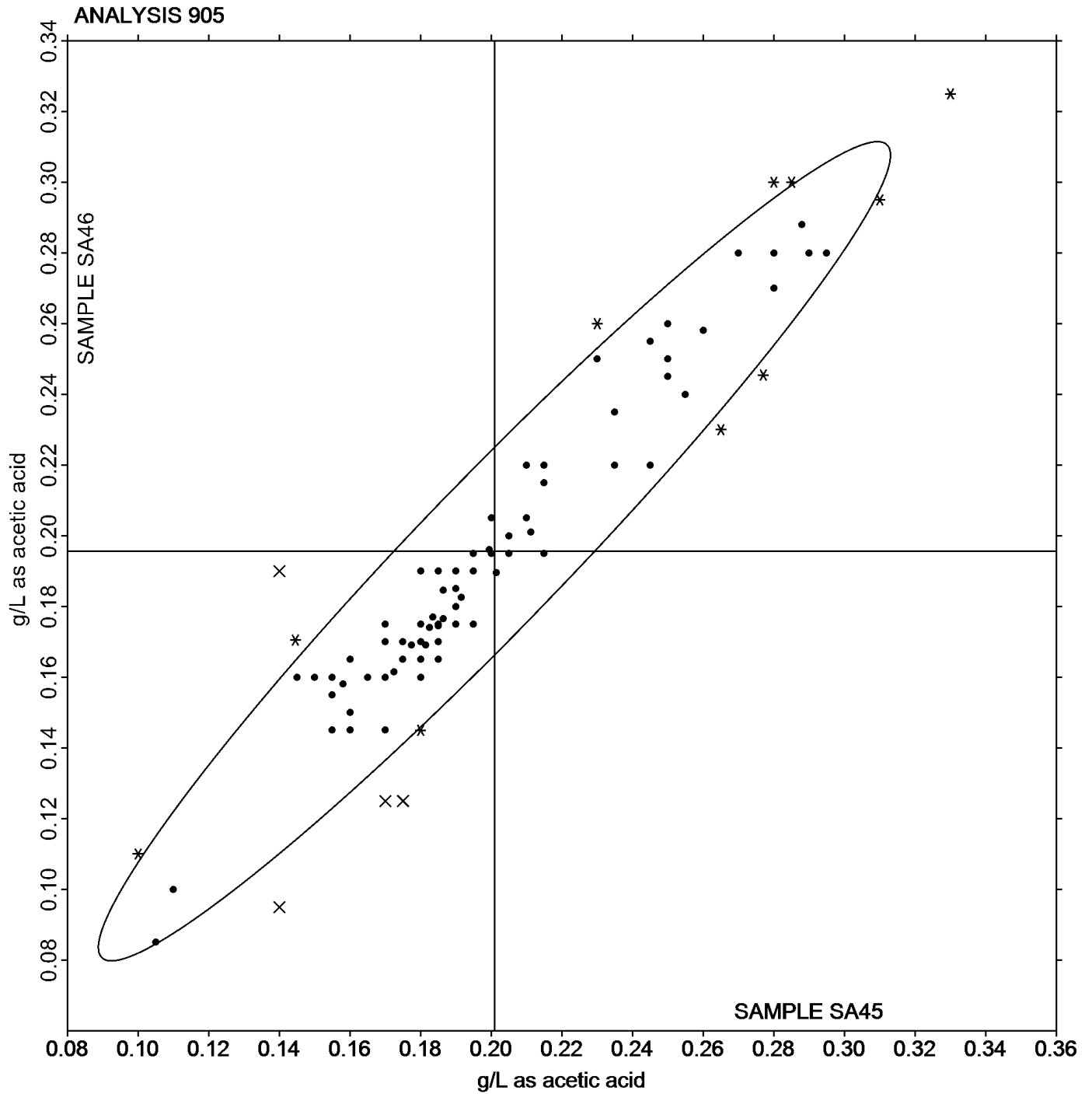
**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	0.235	0.000	0.0341	0.220	0.000	0.0244	1/2
Cash Still method	0.269	0.051	0.0677	0.272	0.054	0.0760	5/8
Enzymatic method	0.196	0.039	-0.0054	0.190	0.038	-0.0061	68/77
GC	0.250	0.000	0.0491	0.250	0.000	0.0544	1/1
Colorimetric Analysis	0.190	0.000	-0.0109	0.180	0.000	-0.0156	2/3
Seg. Flow / Colorimetric Analyzer	0.240	0.059	0.0391	0.236	0.062	0.0406	4/4
FTIR	0.186	0.049	-0.0148	0.182	0.054	-0.0133	13/13





Analysis 905  
Volatile Acidity





Analysis 906  
Specific Gravity

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		1.011	0.000	0.38	1.011	0.000	0.28
2FLB6T	X	1.016	0.005	7.40	1.012	0.001	1.78
2KXLV3		1.011	0.000	0.24	1.011	0.000	0.07
3GQK9A		1.011	0.000	0.26	1.011	0.000	0.22
3L6YD4		1.012	0.001	1.77	1.012	0.001	1.66
46VPUF		1.010	0.000	0.03	1.010	0.000	-0.07
4EHQ84		1.011	0.000	0.38	1.011	0.000	0.40
677VNV		1.011	0.001	0.79	1.011	0.001	0.69
6PUH8X	X	1.008	-0.002	-3.34	1.008	-0.002	-3.41
6RJNRU		1.010	0.000	-0.59	1.010	0.000	-0.68
7DKXRB		1.011	0.000	0.35	1.011	0.000	0.11
7LCDC9	X	1.010	0.000	-0.18	1.007	-0.003	-4.49
7M6BM2		1.012	0.001	1.55	1.012	0.001	1.44
7V24Y2		1.011	0.000	0.24	1.011	0.001	0.69
8FMCD8		1.010	0.000	-0.11	1.010	0.000	-0.07
A6WFJK	X	1.011	0.001	0.93	1.010	0.000	-0.34
APMMX3	X	1.016	0.006	7.88	1.011	0.000	0.00
B2AFHU		1.011	0.000	0.26	1.011	0.000	0.22
B2PLVY		1.011	0.000	0.17	1.011	0.000	0.14
C49VKQ		1.010	0.000	-0.06	1.010	0.000	-0.06
CYXXYP		1.011	0.000	0.38	1.011	0.000	0.34
CZTJNA		1.010	0.000	-0.31	1.010	0.000	-0.34
DCL8F3		1.011	0.000	0.10	1.011	0.000	0.28
DGTT6L		1.009	-0.001	-1.69	1.009	-0.001	-1.98
DMMPUC		1.011	0.000	0.65	1.011	0.000	0.62
DQ4UP2		1.011	0.000	0.11	1.011	0.000	0.10
DXG98W		1.010	0.000	-0.31	1.011	0.000	0.14
EE2C9H		1.011	0.000	0.36	1.011	0.000	0.32
EFGBQL		1.011	0.000	0.35	1.011	0.000	0.24
EGDTNG		1.009	-0.002	-2.65	1.009	-0.002	-2.59
FJEAHQ		1.010	0.000	-0.04	1.011	0.000	0.14
FPMFCB		1.011	0.001	0.79	1.011	0.001	0.69
FY6CWA		1.010	0.000	-0.11	1.011	0.000	0.14
G3MTRY	X	1.011	0.000	0.21	1.014	0.003	4.13
GD4HQ6	X	1.001	-0.010	-13.54	1.004	-0.007	-9.50



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073

## Analysis 906 Specific Gravity

Spring 2023

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GFQ2R3		1.011	0.000	0.31	1.011	0.000	0.28
GPXWQ2		1.010	0.000	-0.68	1.010	-0.001	-0.70
HJNZJ7		1.011	0.001	1.20	1.011	0.001	1.10
J7EMXY		1.011	0.000	0.46	1.011	0.000	0.43
J7WVK9	X	1.012	0.001	1.48	1.010	0.000	-0.68
J8PVHJ	X	1.010	0.000	-0.48	1.006	-0.004	-5.95
JXKG6X	X	1.017	0.006	8.87	1.011	0.000	0.48
K2ZLWR		1.010	0.000	-0.04	1.010	0.000	-0.13
K6DFNH		1.011	0.000	0.48	1.011	0.000	0.48
KE8CZL		1.011	0.000	0.14	1.011	0.000	0.19
KJZE4K		1.010	0.000	-0.04	1.010	0.000	-0.13
KLL68B		1.009	-0.001	-1.96	1.009	-0.002	-2.12
KMXWZR		1.011	0.001	1.20	1.011	0.001	1.17
KQGY3Q		1.011	0.000	0.44	1.011	0.000	0.34
KRVEGR		1.011	0.000	0.10	1.011	0.001	0.69
KVT3TT		1.012	0.001	1.88	1.012	0.001	1.86
KZA63J		1.009	-0.002	-2.38	1.009	-0.002	-2.39
LZHYT4		1.011	0.000	0.10	1.011	0.000	0.41
MLD3A2		1.009	-0.001	-1.41	1.009	-0.001	-1.43
NF8LEL		1.010	0.000	-0.04	1.010	0.000	-0.13
NHU88A		1.011	0.000	0.31	1.011	0.000	0.21
NJ73QF		1.011	0.000	0.28	1.011	0.000	0.27
NLRTRK	*	1.009	-0.002	-2.45	1.009	-0.001	-1.89
NWVYTE		1.011	0.000	0.33	1.011	0.000	0.26
P2Y62P	X	1.013	0.003	3.96	1.013	0.003	3.84
PJJV6V		1.011	0.000	0.37	1.011	0.000	0.35
PM2DZL		1.011	0.000	0.38	1.011	0.000	0.39
QBMBHU		1.011	0.001	0.79	1.011	0.001	0.69
QPLHCP		1.011	0.000	0.33	1.011	0.000	0.30
QXHEYR		1.011	0.000	0.40	1.011	0.000	0.34
R7PBG4		1.011	0.000	0.19	1.011	0.000	0.21
RF9UTM	*	1.009	-0.002	-2.65	1.009	-0.002	-2.66
RN3ZLN		1.009	-0.001	-1.35	1.009	-0.001	-1.57
RV8UQH	X	1.015	0.005	6.29	1.015	0.005	6.43
RZKFBH		1.011	0.000	0.33	1.011	0.000	0.25



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 906**  
**Specific Gravity**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T9BKY4		1.011	0.001	1.18	1.011	0.001	1.29
TF6PT6		1.010	-0.001	-1.00	1.010	-0.001	-1.16
TMT8BM		1.012	0.001	1.89	1.012	0.001	1.78
TYZ3LC	*	1.009	-0.002	-2.65	1.009	-0.002	-2.73
U3JGPC		1.011	0.000	0.24	1.011	0.000	0.22
UEUZBD		1.009	-0.002	-2.17	1.009	-0.002	-2.19
UHRLWP		1.011	0.001	1.07	1.011	0.001	1.24
UVYC2H		1.011	0.000	0.32	1.011	0.000	0.30
VJ7BZ2		1.011	0.001	0.79	1.011	0.001	1.03
VKEH3U		1.011	0.000	0.35	1.011	0.000	0.34
VL7NEE		1.010	0.000	-0.18	1.010	0.000	-0.07
VQJGDJ		1.011	0.000	0.40	1.011	0.000	0.20
VX2UCJ	X	1.009	-0.001	-1.41	1.011	0.000	0.12
WH7R9K		1.011	0.000	0.35	1.011	0.000	0.48
WT4PZQ		1.011	0.001	0.79	1.011	0.000	0.62
WW3T47		1.011	0.001	0.72	1.011	0.001	0.82
XNNJXN		1.011	0.000	0.51	1.011	0.000	0.34
XRPKZ8		1.011	0.000	0.24	1.011	0.000	0.22
Y6BC48	X	1.008	-0.002	-2.83	1.011	0.000	0.48
YZXJ62		1.011	0.000	0.51	1.011	0.000	0.41
Z987TW		1.011	0.000	0.14	1.011	0.000	0.28
ZKGY69	X	1.005	-0.006	-8.00	1.006	-0.005	-6.20

Grand Means		Summary Statistics	
1.0104	sp gr 20/20 C	1.0105	sp gr 20/20 C
Std Dev Btwn Labs			
0.0007	sp gr 20/20 C	0.0007	sp gr 20/20 C
<b>Statistics based on 77 of 92 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel



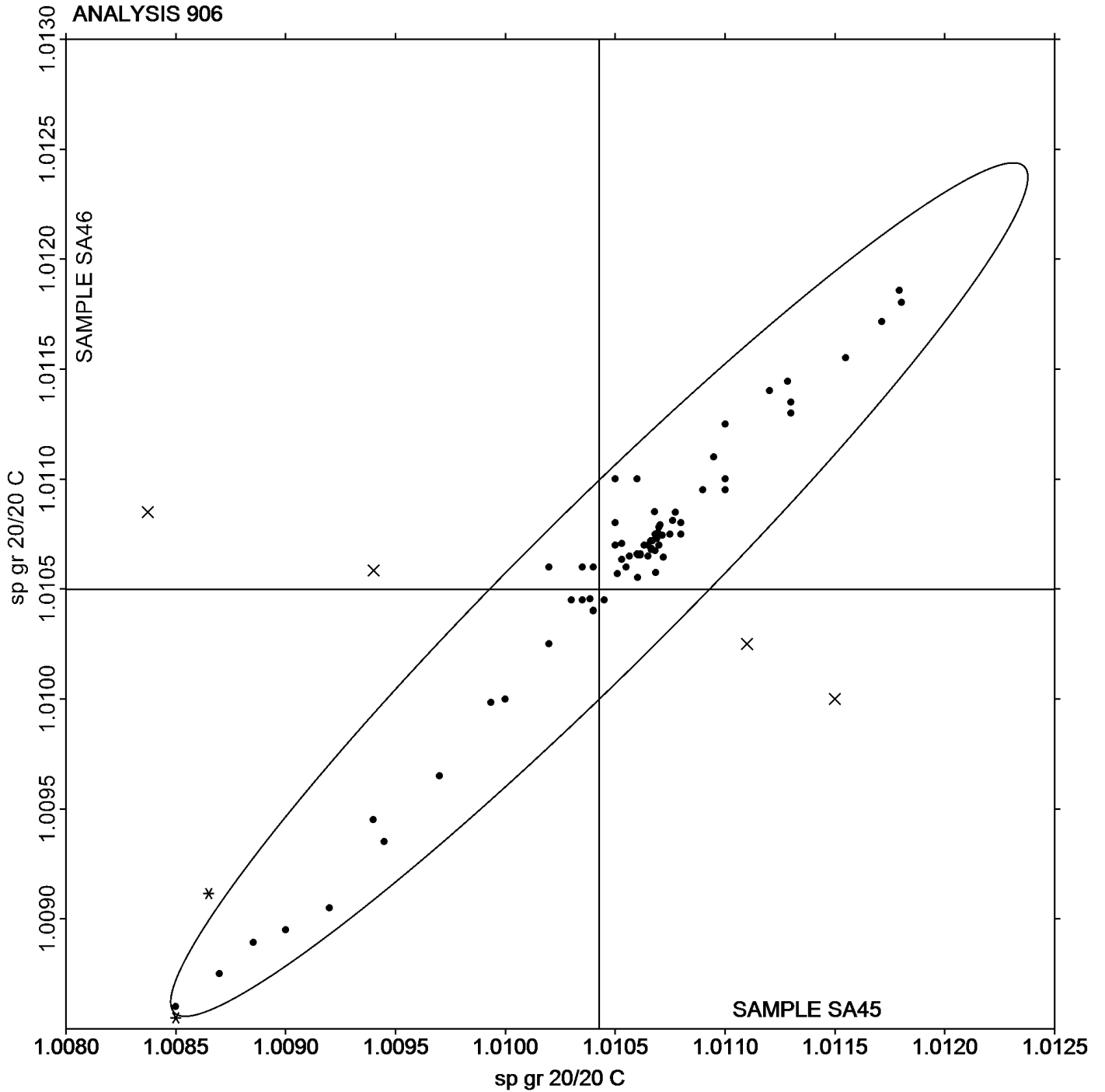
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**Comments on Assigned Data Flags for Test #906**

- ZKGY69 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- RV8UQH (X) - Data for both samples are high. Possible Systematic Error.
- Y6BC48 (X) - Data for sample SA45 are low. Inconsistent within the determinations of both samples.
- APMMX3 (X) - Data for sample SA45 are high.
- G3MTRY (X) - Data for sample SA46 are high. Inconsistent within the determinations of sample SA46.
- GD4HQ6 (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- 6PUH8X (X) - Data for both samples are low. Possible Systematic Error.
- P2Y62P (X) - Data for both samples are high. Possible Systematic Error.
- 7LCDC9 (X) - Data for sample SA46 are low. Inconsistent within the determinations of both samples.
- VX2UCJ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- JXKG6X (X) - Data for sample SA45 are high.
- A6WFJK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 2FLB6T (X) - Data for sample SA45 are high. Inconsistent within the determinations of both samples.
- J7WVK9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.
- J8PVHJ (X) - Data for sample SA46 are low. Inconsistent within the determinations of both samples.



Analysis 906  
Specific Gravity





**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 907**  
**pH**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		3.150	-0.013	-0.34	3.140	-0.011	-0.29
2FLB6T		3.155	-0.008	-0.21	3.150	-0.001	-0.02
2KXLV3		3.175	0.012	0.30	3.180	0.029	0.77
3GQK9A		3.085	-0.078	-1.98	3.065	-0.086	-2.28
3L6YD4	X	3.115	-0.048	-1.22	3.140	-0.011	-0.29
46VPUF	*	3.115	-0.048	-1.22	3.135	-0.016	-0.42
4EHQ84	*	3.270	0.106	2.68	3.253	0.102	2.71
677VNV		3.180	0.017	0.42	3.160	0.009	0.24
6NPK6H	X	3.345	0.182	4.59	3.335	0.184	4.89
6PUH8X	X	2.920	-0.243	-6.14	3.115	-0.036	-0.96
6QC46F	*	3.135	-0.028	-0.71	3.095	-0.056	-1.49
6RJNRU		3.115	-0.048	-1.22	3.090	-0.061	-1.62
7DKXRB		3.140	-0.023	-0.59	3.145	-0.006	-0.16
7LCDC9		3.229	0.065	1.65	3.209	0.058	1.53
7M6BM2	*	3.282	0.118	2.98	3.252	0.101	2.69
7V24Y2	*	3.150	-0.013	-0.34	3.170	0.019	0.51
8FMCD8		3.165	0.002	0.04	3.140	-0.011	-0.29
8P7X94		3.145	-0.018	-0.46	3.125	-0.026	-0.69
9NQUHJ		3.180	0.017	0.42	3.160	0.009	0.24
9WKYCK		3.140	-0.023	-0.59	3.140	-0.011	-0.29
A6WFJK		3.180	0.017	0.42	3.160	0.009	0.24
AG4HLT		3.140	-0.023	-0.59	3.130	-0.021	-0.56
AGTG42		3.175	0.012	0.30	3.170	0.019	0.51
APMMX3	X	3.215	0.052	1.31	3.095	-0.056	-1.49
ATYGPT		3.150	-0.013	-0.34	3.130	-0.021	-0.56
B2PLVY		3.150	-0.013	-0.34	3.140	-0.011	-0.29
C49VKQ		3.155	-0.008	-0.21	3.130	-0.021	-0.56
CYXXYP		3.150	-0.013	-0.34	3.150	-0.001	-0.02
CZTJNA		3.160	-0.003	-0.08	3.140	-0.011	-0.29
DCL8F3		3.180	0.017	0.42	3.165	0.014	0.37
DGTT6L		3.145	-0.018	-0.46	3.130	-0.021	-0.56
DMMPUC		3.085	-0.078	-1.98	3.070	-0.081	-2.15
DQ4UP2		3.145	-0.019	-0.47	3.130	-0.021	-0.57
DXG98W		3.170	0.007	0.17	3.160	0.009	0.24
EFGBQL	X	3.140	-0.023	-0.59	3.180	0.029	0.77



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 907**  
**pH**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EGDTNG		3.200	0.037	0.93	3.170	0.019	0.51
FJEAHQ		3.140	-0.023	-0.59	3.120	-0.031	-0.82
FPMFCB		3.150	-0.013	-0.34	3.140	-0.011	-0.29
FY6CWA		3.180	0.017	0.42	3.170	0.019	0.51
G3MTRY		3.160	-0.003	-0.08	3.145	-0.006	-0.16
GD4HQ6		3.230	0.067	1.68	3.220	0.069	1.84
GFQ2R3		3.075	-0.088	-2.23	3.060	-0.091	-2.42
GPXWQ2	*	3.265	0.102	2.57	3.250	0.099	2.63
HJNZJ7		3.160	-0.003	-0.08	3.150	-0.001	-0.02
J7EMXY		3.163	-0.001	-0.02	3.140	-0.011	-0.30
J7WVK9	X	3.270	0.107	2.69	3.090	-0.061	-1.62
J8PVHJ	X	3.275	0.112	2.82	3.345	0.194	5.16
JXKG6X	X	3.860	0.697	17.59	3.145	-0.006	-0.16
K2ZLWR		3.250	0.087	2.19	3.230	0.079	2.10
K6DFNH		3.205	0.042	1.05	3.195	0.044	1.17
KE8CZL		3.185	0.022	0.55	3.170	0.019	0.51
KHK42L	X	2.800	-0.363	-9.17	3.100	-0.051	-1.35
KJZE4K	*	3.100	-0.063	-1.60	3.120	-0.031	-0.82
KLL68B		3.200	0.037	0.93	3.180	0.029	0.77
KMXWZR		3.150	-0.013	-0.34	3.120	-0.031	-0.82
KQGY3Q		3.175	0.012	0.30	3.165	0.014	0.37
KRVEGR		3.145	-0.018	-0.46	3.135	-0.016	-0.42
KVT3TT	X	3.050	-0.113	-2.86	3.030	-0.121	-3.22
KZA63J		3.170	0.007	0.17	3.170	0.019	0.51
LZHYT4		3.210	0.047	1.18	3.190	0.039	1.04
MLD3A2		3.215	0.052	1.31	3.185	0.034	0.91
N8CNRJ		3.140	-0.023	-0.59	3.125	-0.026	-0.69
NF8LEL		3.155	-0.008	-0.21	3.140	-0.011	-0.29
NHU88A		3.215	0.051	1.29	3.197	0.046	1.23
NJ73QF		3.165	0.002	0.04	3.140	-0.011	-0.29
NLRTRK		3.120	-0.043	-1.09	3.120	-0.031	-0.82
NNZ2YJ		3.175	0.012	0.30	3.175	0.024	0.64
NWVYTE	X	3.100	-0.063	-1.60	3.160	0.009	0.24
P2Y62P		3.110	-0.053	-1.35	3.110	-0.041	-1.09
P3DRGJ		3.140	-0.023	-0.59	3.115	-0.036	-0.96





**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 907**  
**pH**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PJJV6V		3.100	-0.063	-1.60	3.080	-0.071	-1.89
PM2DZL		3.120	-0.043	-1.09	3.110	-0.041	-1.09
QBMBHU		3.170	0.007	0.17	3.160	0.009	0.24
QE6TDJ		3.170	0.007	0.17	3.165	0.014	0.37
QPLHCP		3.170	0.007	0.17	3.150	-0.001	-0.02
QXHEYR		3.130	-0.033	-0.84	3.120	-0.031	-0.82
R4F9ND		3.175	0.012	0.30	3.155	0.004	0.11
R7PBG4		3.150	-0.013	-0.34	3.150	-0.001	-0.02
RD8NDG		3.170	0.007	0.17	3.150	-0.001	-0.02
RF9UTM	X	3.300	0.137	3.45	3.285	0.134	3.57
RN3ZLN		3.160	-0.003	-0.08	3.150	-0.001	-0.02
RV8UQH		3.155	-0.008	-0.21	3.145	-0.006	-0.16
RZKFBH	*	3.264	0.100	2.53	3.235	0.084	2.24
T9BKY4		3.120	-0.043	-1.09	3.125	-0.026	-0.69
TF6PT6		3.195	0.032	0.80	3.185	0.034	0.91
TMT8BM		3.150	-0.013	-0.34	3.140	-0.011	-0.29
TYZ3LC		3.155	-0.008	-0.21	3.150	-0.001	-0.02
U3JGPC		3.145	-0.018	-0.46	3.135	-0.016	-0.42
UEUZBD		3.155	-0.008	-0.21	3.130	-0.021	-0.56
UHRLWP		3.220	0.057	1.43	3.200	0.049	1.30
UVYC2H		3.160	-0.003	-0.08	3.140	-0.011	-0.29
VJ7BZ2		3.160	-0.003	-0.08	3.150	-0.001	-0.02
VKEH3U		3.140	-0.023	-0.59	3.120	-0.031	-0.82
VL7NEE		3.170	0.007	0.17	3.160	0.009	0.24
VQJGDJ		3.115	-0.048	-1.22	3.110	-0.041	-1.09
VX2UCJ		3.220	0.057	1.43	3.185	0.034	0.91
WH7R9K		3.190	0.027	0.67	3.170	0.019	0.51
WKAK8P		3.120	-0.043	-1.09	3.120	-0.031	-0.82
WT4PZQ		3.147	-0.017	-0.42	3.132	-0.019	-0.52
WTMG8P		3.150	-0.013	-0.34	3.140	-0.011	-0.29
WW3T47		3.175	0.012	0.30	3.170	0.019	0.51
X8G8KD	*	3.180	0.017	0.42	3.195	0.044	1.17
XNNJXN		3.101	-0.063	-1.59	3.106	-0.045	-1.19
XRPKZ8		3.170	0.007	0.17	3.155	0.004	0.11
Y6BC48		3.230	0.067	1.68	3.220	0.069	1.84



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 907**  
**pH**

**Report #073**  
**Spring 2023**

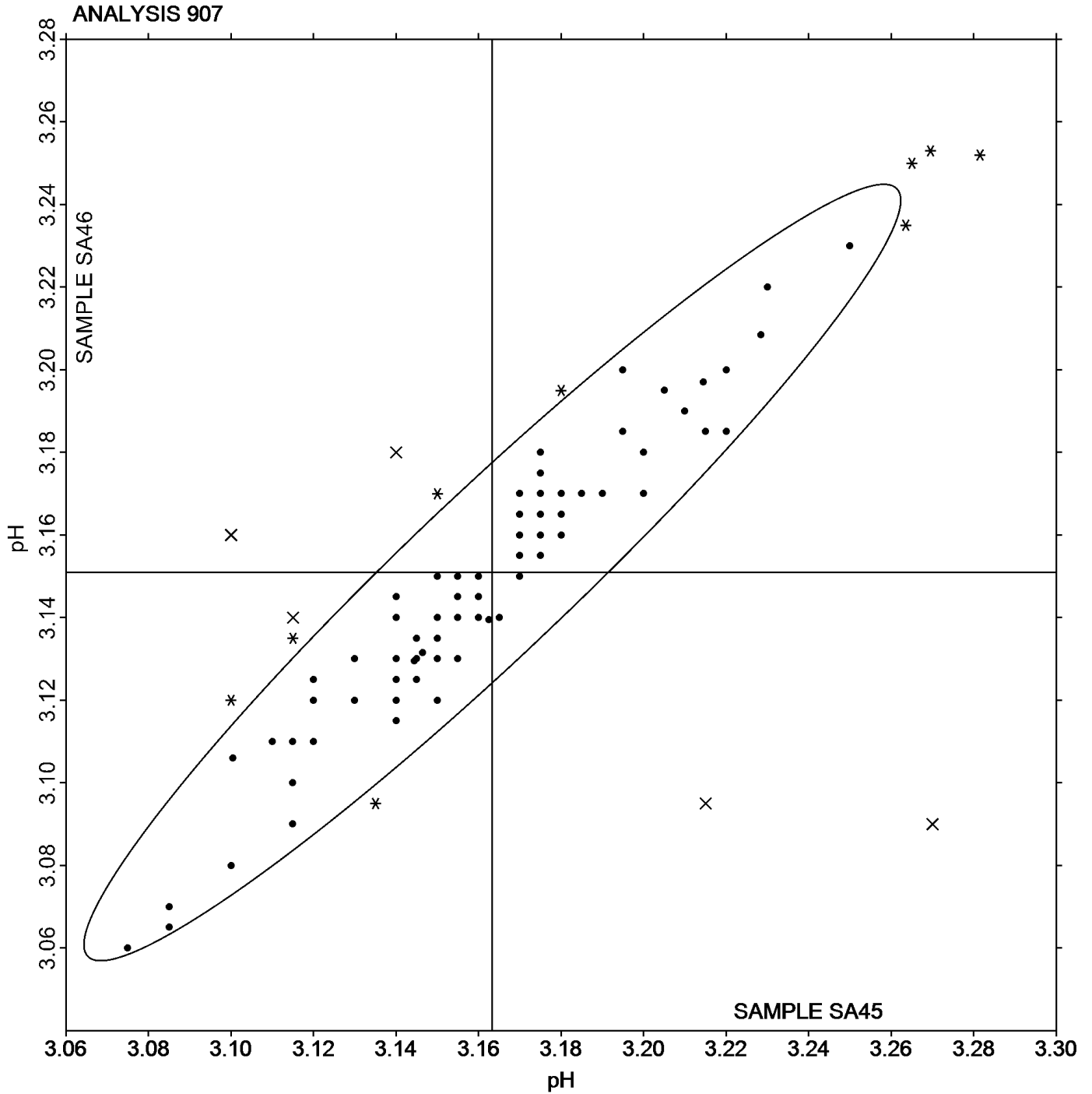
WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YLD423		3.160	-0.003	-0.08	3.150	-0.001	-0.02
YZXJ62		3.115	-0.048	-1.22	3.100	-0.051	-1.35
Z987TW		3.175	0.012	0.30	3.160	0.009	0.24
ZKGY69		3.195	0.032	0.80	3.200	0.049	1.30
ZLV8BN		3.130	-0.033	-0.84	3.130	-0.021	-0.56
ZRXJUD		3.150	-0.013	-0.34	3.135	-0.016	-0.42

<b>Grand Means</b>		<b>Summary Statistics</b>	
	3.1633 pH		3.1509 pH
<b>Stnd Dev Btwn Labs</b>	0.0396 pH		0.0376 pH
<b>Statistics based on 99 of 111 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #907**

- NWVYTE (X) - Inconsistent in testing between samples.
- EFGBQL (X) - Inconsistent in testing between samples.
- APMMX3 (X) - Inconsistent in testing between samples.
- 6NPK6H (X) - Data for both samples are high. Possible Systematic Error.
- 3L6YD4 (X) - Inconsistent in testing between samples.
- 6PUH8X (X) - Inconsistent in testing, data for sample SA45 are low. Inconsistent within the determinations of sample SA45.
- RF9UTM (X) - Data for both samples are high. Possible Systematic Error.
- KVT3TT (X) - Data for both samples are low. Possible Systematic Error.
- JXKG6X (X) - Inconsistent in testing, data for sample SA45 are high.
- J7VVK9 (X) - Inconsistent in testing between samples.
- KHK42L (X) - Inconsistent in testing, data for sample SA45 are low. Inconsistent within the determinations of sample SA45.
- J8PVHJ (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 908 Residual Sugar

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		36.50	-0.27	-0.09	36.00	-0.90	-0.31
3L6YD4		34.50	-2.27	-0.77	33.50	-3.40	-1.15
46VPUF		37.65	0.88	0.30	38.10	1.20	0.40
4EHQ84		32.13	-4.64	-1.57	32.75	-4.16	-1.41
677VNV	X	60.90	24.13	8.18	60.30	23.40	7.91
6NPK6H		40.49	3.72	1.26	40.19	3.29	1.11
6PUH8X		40.43	3.66	1.24	39.75	2.85	0.96
6QC46F		29.65	-7.12	-2.41	29.80	-7.10	-2.40
6RJNRU	X	34.25	-2.52	-0.85	31.85	-5.05	-1.71
7LCDC9		39.09	2.32	0.79	39.11	2.20	0.74
7M6BM2		36.65	-0.12	-0.04	36.90	0.00	0.00
A6WFJK		37.35	0.58	0.20	37.45	0.55	0.18
B2AFHU		40.00	3.23	1.10	39.65	2.75	0.93
B2PLVY		38.52	1.75	0.59	39.75	2.85	0.96
CYXXYP		36.09	-0.68	-0.23	36.80	-0.11	-0.04
GD4HQ6		38.10	1.33	0.45	38.35	1.45	0.49
GFQ2R3		37.15	0.38	0.13	37.60	0.70	0.24
GPXWQ2		35.67	-1.10	-0.37	36.03	-0.88	-0.30
J7WVK9	X	36.44	-0.33	-0.11	41.37	4.47	1.51
JXKG6X		36.50	-0.27	-0.09	36.60	-0.30	-0.10
KJZE4K		37.57	0.80	0.27	38.02	1.11	0.38
NF8LEL	X	62.50	25.73	8.72	64.00	27.10	9.17
NLRTRK		41.72	4.95	1.68	42.46	5.56	1.88
P3DRGJ		30.00	-6.77	-2.29	30.00	-6.90	-2.34
QBMBHU		38.00	1.23	0.42	38.00	1.10	0.37
QXHEYR		36.00	-0.77	-0.26	35.60	-1.30	-0.44
RF9UTM	X	26.75	-10.02	-3.40	35.15	-1.75	-0.59
TYZ3LC		39.00	2.23	0.76	38.90	2.00	0.68
UHRLWP	X	49.05	12.28	4.16	47.25	10.35	3.50
UVYC2H		36.10	-0.67	-0.23	36.35	-0.55	-0.19
VKEH3U		38.00	1.23	0.42	38.60	1.70	0.57
VQJGDJ		31.88	-4.89	-1.66	32.46	-4.45	-1.50
WH7R9K		38.40	1.63	0.55	38.10	1.20	0.40
Z987TW		36.40	-0.37	-0.12	36.50	-0.40	-0.14



Analysis 908  
Residual Sugar

Grand Means		Summary Statistics	
	36.768 g/L		36.903 g/L
Std Dev Btwn Labs			
	2.951 g/L		2.956 g/L
<b>Statistics based on 28 of 34 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #908**

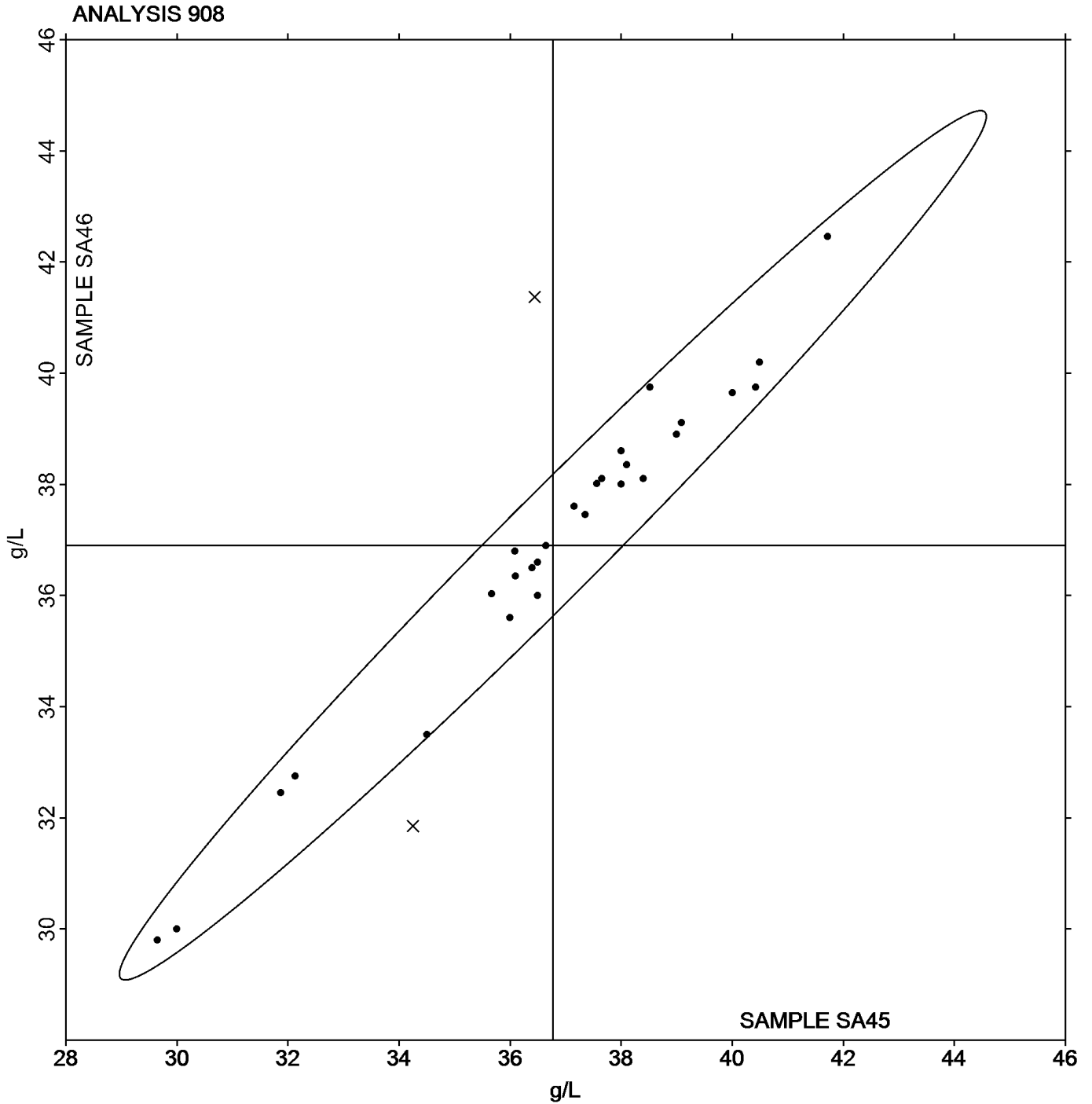
- NF8LEL (X) - Data for both samples are high.
- 677VNV (X) - Data for both samples are high.
- 6RJNRU (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA46.
- RF9UTM (X) - Inconsistent in testing, data for sample SA45 are low. Inconsistent within the determinations of sample SA45.
- UHRLWP (X) - Data for both samples are high. Possible Systematic Error.
- J7WVK9 (X) - Inconsistent in testing between samples.

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

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	37.368	2.501	0.60	37.452	3.437	0.55	3/3
Cu Reduction Method	36.294	4.276	-0.47	36.274	4.062	-0.63	6/8
Segmented Flow	40.000	0.000	3.23	39.650	0.000	2.75	1/1
FTIR	37.368	1.675	0.60	37.641	1.894	0.74	11/14
Other _____	35.513	3.541	-1.26	35.656	3.323	-1.25	7/8



Analysis 908  
Residual Sugar





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

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		2.300	0.050	0.38	2.300	0.030	0.23
2KXLV3		2.190	-0.060	-0.45	2.185	-0.084	-0.63
3GQK9A		2.005	-0.245	-1.85	2.070	-0.199	-1.48
3L6YD4		2.175	-0.075	-0.56	2.150	-0.119	-0.89
46VPUF		2.395	0.145	1.10	2.345	0.075	0.56
4EHQ84		1.955	-0.295	-2.22	1.990	-0.279	-2.08
677VNV		2.020	-0.230	-1.73	2.020	-0.249	-1.85
6PUH8X		2.340	0.090	0.68	2.345	0.075	0.56
6RJNRU		2.100	-0.150	-1.13	2.100	-0.169	-1.26
7DKXRB		2.355	0.105	0.80	2.333	0.064	0.47
7M6BM2		2.280	0.030	0.23	2.330	0.061	0.45
7V24Y2		2.145	-0.105	-0.79	2.146	-0.124	-0.92
8FMCD8		2.202	-0.048	-0.36	2.229	-0.040	-0.30
8P7X94		2.280	0.030	0.23	2.330	0.061	0.45
9NQUHJ		2.160	-0.090	-0.68	2.180	-0.089	-0.66
9WKYCK		2.150	-0.100	-0.75	2.145	-0.124	-0.92
A6WFKJ		2.415	0.165	1.25	2.470	0.200	1.49
AG4HLT		2.075	-0.175	-1.32	2.125	-0.144	-1.07
AGTG42		2.385	0.135	1.02	2.375	0.106	0.78
APMMX3		2.345	0.095	0.72	2.390	0.120	0.90
ATYGPT	X	4.390	2.140	16.16	4.540	2.271	16.86
B2PLVY		2.340	0.090	0.68	2.345	0.075	0.56
C49VKQ		2.145	-0.105	-0.79	2.200	-0.069	-0.52
CYXXYP		2.195	-0.055	-0.41	2.225	-0.044	-0.33
CZTJNA		2.155	-0.095	-0.71	2.185	-0.084	-0.63
DCL8F3	*	2.515	0.265	2.00	2.598	0.329	2.44
DGTT6L		2.400	0.150	1.14	2.410	0.141	1.04
DMMPUC		2.173	-0.077	-0.58	2.224	-0.045	-0.34
DQ4UP2	X	1.040	-1.210	-9.13	1.070	-1.200	-8.91
DXG98W	X	2.100	-0.150	-1.13	1.930	-0.339	-2.52
EFGBQL		2.268	0.018	0.14	2.290	0.021	0.15
EGDTNG		2.335	0.085	0.64	2.355	0.086	0.64
FJEAHQ		2.217	-0.033	-0.25	2.246	-0.023	-0.17
FPMFCB		2.250	0.000	0.00	2.240	-0.029	-0.22
FY6CWA	*	2.475	0.225	1.70	2.420	0.151	1.12



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

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
G3MTRY		2.325	0.075	0.57	2.370	0.101	0.75
GD4HQ6		2.250	0.000	0.00	2.210	-0.059	-0.44
GFQ2R3		2.360	0.110	0.83	2.400	0.131	0.97
GPXWQ2		2.090	-0.160	-1.20	2.140	-0.130	-0.96
HJNZJ7		2.241	-0.009	-0.07	2.298	0.029	0.21
J7EMXY		2.455	0.205	1.55	2.445	0.176	1.30
J7WVK9		2.290	0.040	0.30	2.300	0.030	0.23
JXKG6X	X	2.270	0.020	0.15	2.540	0.271	2.01
K2ZLWR	*	1.851	-0.399	-3.01	1.857	-0.413	-3.07
K6DFNH		2.246	-0.004	-0.03	2.210	-0.060	-0.45
KE8CZL	*	1.930	-0.320	-2.41	1.930	-0.339	-2.52
KHK42L	X	2.200	-0.050	-0.37	3.100	0.831	6.17
KLL68B		2.185	-0.065	-0.49	2.185	-0.084	-0.63
KQGY3Q		2.055	-0.195	-1.47	2.065	-0.204	-1.52
KRVEGR		2.293	0.043	0.32	2.373	0.104	0.77
KZA63J		2.275	0.025	0.19	2.335	0.066	0.49
LZHYT4		2.235	-0.015	-0.11	2.270	0.001	0.00
MLD3A2		2.305	0.055	0.42	2.300	0.030	0.23
N8CNRJ		2.425	0.175	1.32	2.432	0.163	1.21
NF8LEL	X	1.815	-0.435	-3.28	1.810	-0.459	-3.41
NHU88A		2.190	-0.060	-0.45	2.190	-0.079	-0.59
NJ73QF	*	2.500	0.250	1.89	2.575	0.306	2.27
NLRTRK		2.355	0.105	0.80	2.320	0.051	0.38
NNZ2YJ		2.060	-0.190	-1.43	2.077	-0.193	-1.43
NWVYTE		2.260	0.010	0.08	2.215	-0.055	-0.40
PJJV6V	X	2.170	-0.080	-0.60	2.450	0.181	1.34
QBMBHU		2.050	-0.200	-1.51	2.100	-0.169	-1.26
QE6TDJ		2.150	-0.100	-0.75	2.210	-0.059	-0.44
QPLHCP		2.183	-0.067	-0.50	2.209	-0.061	-0.45
QXHEYR		2.190	-0.060	-0.45	2.195	-0.074	-0.55
R4F9ND		2.380	0.130	0.98	2.370	0.101	0.75
R7PBG4		2.393	0.143	1.08	2.417	0.147	1.09
RD8NDG		2.245	-0.005	-0.03	2.265	-0.005	-0.03
RF9UTM		2.400	0.150	1.14	2.400	0.131	0.97
RN3ZLN		2.300	0.050	0.38	2.385	0.115	0.86





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

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RV8UQH		2.347	0.097	0.74	2.389	0.119	0.88
RZKFBVH		2.332	0.082	0.62	2.353	0.083	0.62
T9BKY4	X	2.315	0.065	0.49	2.475	0.206	1.53
TF6PT6		2.215	-0.035	-0.26	2.175	-0.095	-0.70
TMT8BM		2.375	0.125	0.95	2.420	0.151	1.12
U3JGPC		2.325	0.075	0.57	2.340	0.071	0.52
UEUZBD	*	2.335	0.085	0.64	2.270	0.000	0.00
UHRLWP	*	2.350	0.100	0.76	2.450	0.181	1.34
UVYC2H	X	2.040	-0.210	-1.58	1.930	-0.339	-2.52
VJ7BZ2		2.350	0.100	0.76	2.335	0.066	0.49
VKEH3U		2.030	-0.220	-1.66	2.070	-0.200	-1.48
VL7NEE		2.135	-0.115	-0.87	2.145	-0.124	-0.92
VX2UCJ		2.090	-0.160	-1.20	2.100	-0.170	-1.26
WH7R9K	X	1.705	-0.545	-4.11	1.570	-0.699	-5.20
WKAK8P		2.213	-0.037	-0.28	2.265	-0.004	-0.03
WT4PZQ		2.379	0.129	0.98	2.390	0.120	0.89
WW3T47		2.155	-0.095	-0.71	2.225	-0.044	-0.33
X8G8KD		2.335	0.085	0.64	2.335	0.066	0.49
XNNJXN		2.240	-0.010	-0.07	2.280	0.010	0.08
XRPKZ8		2.355	0.105	0.80	2.370	0.101	0.75
Y6BC48		2.373	0.123	0.93	2.388	0.119	0.88
YLD423		2.130	-0.120	-0.90	2.140	-0.129	-0.96
YZXJ62		2.359	0.109	0.83	2.381	0.112	0.83
Z987TW		2.285	0.035	0.27	2.320	0.051	0.38
ZKGY69		2.150	-0.100	-0.75	2.190	-0.079	-0.59
ZLV8BN		2.370	0.120	0.91	2.400	0.131	0.97
ZRXXUD		2.285	0.035	0.27	2.375	0.106	0.78

Grand Means	Summary Statistics
2.2496 g/L	2.2695 g/L
<b>Std Dev Btwn Labs</b>	
0.1325 g/L	0.1346 g/L
<b>Statistics based on 87 of 97 reporting participants</b>	

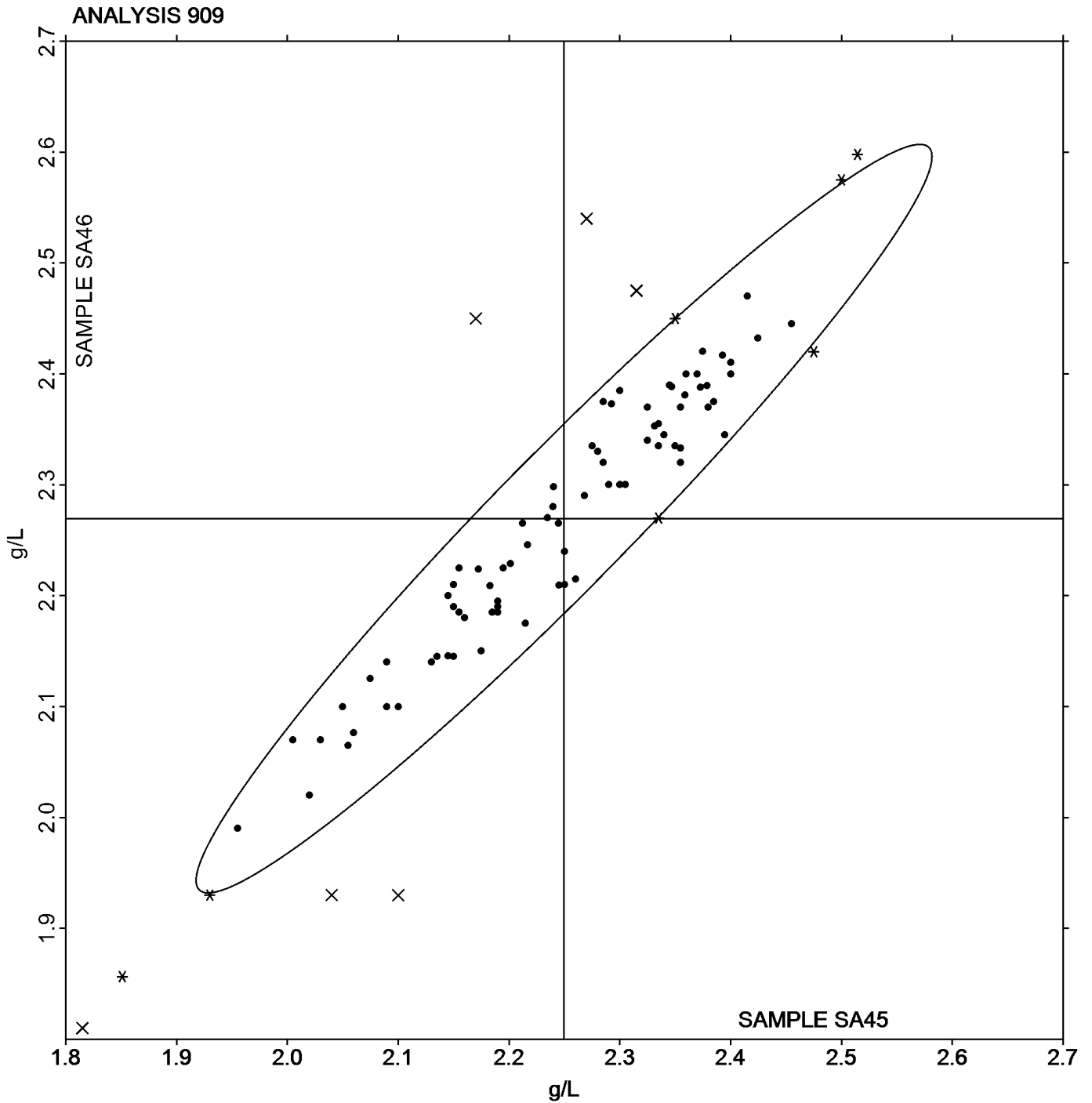
Wines tested: SA45: White Zinfandel; SA46: White Zinfandel



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**Comments on Assigned Data Flags for Test #909**

- NF8LEL (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- T9BK4 (X) - Inconsistent in testing between samples.
- DXG98W (X) - Inconsistent in testing between samples.
- DQ4UP2 (X) - Data for both samples are low.
- UVYC2H (X) - Inconsistent in testing between samples.
- PJJV6V (X) - Inconsistent in testing between samples.
- JXKG6X (X) - Inconsistent in testing between samples.
- WH7R9K (X) - Data for both samples are low. Possible Systematic Error.
- KHK42L (X) - Inconsistent in testing, data for sample SA46 are high.
- ATYGPT (X) - Data for both samples are high. Inconsistent within the determinations of sample SA46.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27XKH2		36.50	0.05	0.02	36.00	-0.85	-0.37
2KXLV3	X	43.75	7.30	3.19	44.80	7.95	3.45
3GQK9A		38.75	2.30	1.01	37.55	0.70	0.30
46VPUF		35.90	-0.55	-0.24	36.50	-0.35	-0.15
677VNV		33.30	-3.15	-1.38	33.40	-3.45	-1.50
6PUH8X		40.43	3.98	1.74	39.75	2.90	1.26
6QC46F	*	29.65	-6.80	-2.97	30.00	-6.85	-2.97
6RJNRU	X	34.25	-2.20	-0.96	31.85	-5.00	-2.17
7DKXRB		37.05	0.60	0.26	37.33	0.48	0.21
7M6BM2		36.65	0.20	0.09	36.90	0.05	0.02
7V24Y2	*	33.65	-2.80	-1.22	35.95	-0.90	-0.39
8FMCD8		36.00	-0.45	-0.20	36.80	-0.05	-0.02
8P7X94		33.05	-3.40	-1.49	33.25	-3.60	-1.56
9NQUHJ		34.20	-2.25	-0.98	34.80	-2.05	-0.89
9WKYCK		37.90	1.45	0.64	39.20	2.35	1.02
A6WFJK		35.05	-1.40	-0.61	34.95	-1.90	-0.83
AG4HLT		36.40	-0.05	-0.02	36.75	-0.10	-0.04
AGTG42		33.50	-2.95	-1.29	33.50	-3.35	-1.45
APMMX3	X	32.25	-4.20	-1.84	36.35	-0.50	-0.22
ATYGPT		39.95	3.50	1.53	40.40	3.55	1.54
B2AFHU		36.90	0.45	0.20	37.40	0.55	0.24
C49VKQ		33.93	-2.51	-1.10	35.19	-1.66	-0.72
CYXXYP		36.09	-0.36	-0.16	36.80	-0.06	-0.02
CZTJNA	X	7.17	-29.28	-12.81	7.38	-29.47	-12.79
DCL8F3		37.44	0.99	0.43	38.58	1.73	0.75
DGTT6L		37.68	1.23	0.54	38.15	1.30	0.56
DMMPUC		34.05	-2.40	-1.05	35.90	-0.95	-0.41
DQ4UP2	X	20.60	-15.85	-6.93	27.70	-9.15	-3.97
DXG98W		36.05	-0.40	-0.17	36.15	-0.70	-0.30
EFGBQL		34.99	-1.46	-0.64	36.40	-0.46	-0.20
EGDTNG		35.45	-1.00	-0.44	36.00	-0.85	-0.37
FJEAHQ		35.55	-0.90	-0.39	36.20	-0.65	-0.28
FPMFCB		34.87	-1.58	-0.69	35.35	-1.50	-0.65
FY6CWA		37.00	0.55	0.24	36.55	-0.30	-0.13
G3MTRY		35.75	-0.70	-0.30	35.95	-0.90	-0.39



**ASEV-CTS Wine Industry Interlaboratory Testing Program**

**Report #073  
Spring 2023**

**Analysis 910  
Glucose + Fructose**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GD4HQ6		38.57	2.12	0.93	39.79	2.94	1.28
GFQ2R3		35.65	-0.80	-0.35	36.00	-0.85	-0.37
GPXWQ2		38.45	2.00	0.88	38.10	1.25	0.54
HJNZJ7		36.10	-0.35	-0.15	36.55	-0.30	-0.13
J7EMXY		38.00	1.55	0.68	38.40	1.55	0.67
J8PVHJ		37.00	0.55	0.24	39.00	2.15	0.93
JXKG6X		40.90	4.45	1.95	40.30	3.45	1.50
K2ZLWR		32.50	-3.95	-1.73	32.95	-3.90	-1.69
K6DFNH	*	37.55	1.10	0.48	36.20	-0.65	-0.28
KE8CZL		34.72	-1.73	-0.76	34.18	-2.68	-1.16
KHK42L		39.55	3.10	1.36	39.90	3.05	1.32
KJZE4K		35.14	-1.31	-0.57	35.84	-1.02	-0.44
KLL68B		37.03	0.58	0.26	37.55	0.69	0.30
KMXWZR		36.92	0.47	0.21	36.94	0.08	0.04
KQGY3Q		36.25	-0.20	-0.09	36.25	-0.60	-0.26
KRVEGR		34.40	-2.05	-0.90	36.00	-0.85	-0.37
KZA63J		39.10	2.65	1.16	39.60	2.75	1.19
LZHYT4		37.70	1.25	0.55	37.05	0.20	0.09
MLD3A2		38.99	2.54	1.11	38.87	2.01	0.87
N8CNRJ		38.35	1.90	0.83	38.75	1.90	0.82
NF8LEL	*	42.10	5.65	2.47	43.50	6.65	2.89
NHU88A		35.00	-1.45	-0.63	36.00	-0.85	-0.37
NJ73QF	*	34.50	-1.95	-0.85	37.00	0.15	0.06
NLRTRK		40.96	4.51	1.97	41.49	4.64	2.01
NN2YJ		37.50	1.05	0.46	36.80	-0.05	-0.02
NWVYTE		37.41	0.96	0.42	37.97	1.11	0.48
P3DRGJ	X	3.00	-33.45	-14.63	3.00	-33.85	-14.70
PJJV6V		35.10	-1.35	-0.59	34.79	-2.06	-0.89
QE6TDJ		38.75	2.30	1.01	39.90	3.05	1.32
QPLHCP		35.45	-1.00	-0.44	36.20	-0.65	-0.28
QXHEYR		35.20	-1.25	-0.55	34.90	-1.95	-0.85
R4F9ND		35.40	-1.05	-0.46	35.44	-1.41	-0.61
R7PBG4		38.90	2.45	1.07	39.70	2.85	1.24
RD8NDG		34.05	-2.40	-1.05	34.72	-2.13	-0.93
RF9UTM		41.00	4.55	1.99	41.40	4.55	1.97



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RN3ZLN		37.75	1.30	0.57	37.80	0.95	0.41
RV8UQH		38.35	1.90	0.83	39.40	2.55	1.11
RZKFBVH		38.07	1.62	0.71	39.09	2.24	0.97
T9BKY4		33.74	-2.71	-1.18	34.77	-2.08	-0.90
TF6PT6		33.20	-3.25	-1.42	32.77	-4.08	-1.77
TMT8BM		38.40	1.95	0.85	38.75	1.90	0.82
U3JGPC		34.89	-1.56	-0.68	35.49	-1.37	-0.59
UEUZBD		35.11	-1.34	-0.58	36.07	-0.79	-0.34
UVYC2H		33.75	-2.70	-1.18	34.44	-2.42	-1.05
VJ7BZ2		34.54	-1.91	-0.83	35.30	-1.55	-0.67
VKEH3U		34.90	-1.55	-0.68	36.00	-0.85	-0.37
VL7NEE		35.70	-0.75	-0.33	36.13	-0.72	-0.31
VQJGDJ	X	33.46	-2.99	-1.31	36.31	-0.55	-0.24
VX2UCJ	*	31.00	-5.45	-2.38	30.30	-6.55	-2.84
WH7R9K		33.65	-2.80	-1.22	33.15	-3.70	-1.61
WKAK8P		36.79	0.34	0.15	37.46	0.60	0.26
WT4PZQ		38.39	1.94	0.85	38.76	1.91	0.83
WW3T47		37.63	1.18	0.52	37.82	0.96	0.42
X8G8KD		38.30	1.85	0.81	38.80	1.95	0.85
XNNJXN		33.70	-2.75	-1.20	33.85	-3.00	-1.30
XRPKZ8		34.80	-1.65	-0.72	35.30	-1.55	-0.67
Y6BC48		38.65	2.20	0.96	38.55	1.70	0.74
YLD423		39.30	2.85	1.25	39.70	2.85	1.24
YZXJ62		39.50	3.05	1.34	39.30	2.45	1.06
Z987TW		38.31	1.86	0.81	37.25	0.39	0.17
ZKGY69		37.16	0.71	0.31	37.42	0.57	0.25
ZLV8BN		36.70	0.25	0.11	37.20	0.35	0.15
ZRJXUD		36.60	0.15	0.07	37.00	0.15	0.06



**Analysis 910  
Glucose + Fructose**

Grand Means	Summary Statistics
36.447 g/L	36.851 g/L
<b>Stnd Dev Btwn Labs</b>	
2.286 g/L	2.303 g/L
<b>Statistics based on 91 of 98 reporting participants</b>	

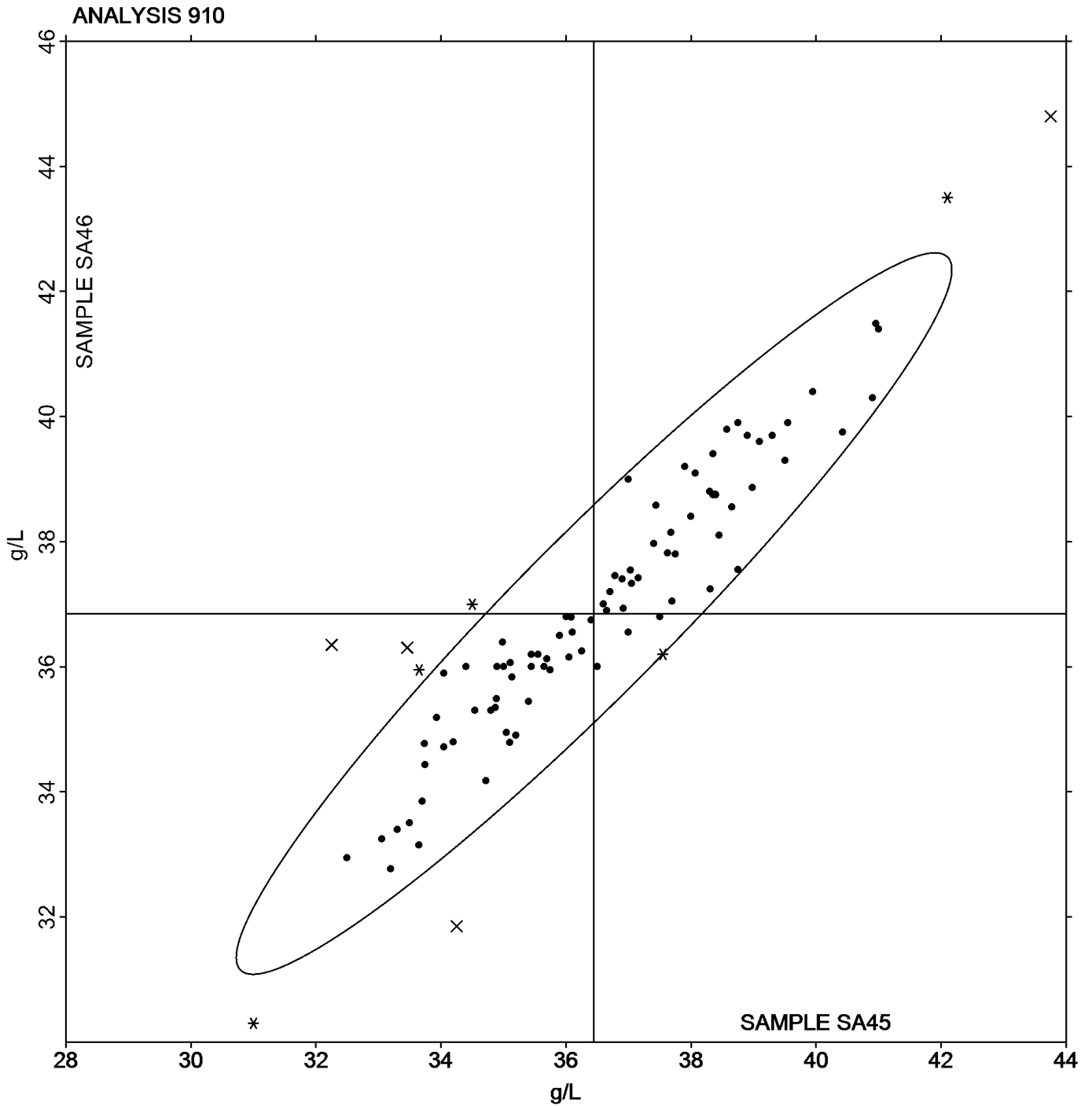
Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #910**

- P3DRGJ (X) - Data for both samples are low. Data may be off by a factor of 10.
- APMMX3 (X) - Inconsistent in testing between samples.
- VQJGDJ (X) - Inconsistent in testing between samples.
- 6RJNRU (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA46.
- 2KXLV3 (X) - Data for both samples are high. Possible Systematic Error.
- DQ4UP2 (X) - Data for both samples are low. Possible Systematic Error.
- CZTJNA (X) - Data for both samples are low.

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

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <i>White Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
HPLC	36.900	0.000	0.45	37.400	0.000	0.55	1/1
Enzymatic/Spectrophotometric	36.366	2.112	-0.08	36.750	2.143	-0.10	78/84
FTIR	37.596	2.555	1.15	38.142	2.397	1.29	11/11
Other _____	29.650	0.000	-6.80	30.000	0.000	-6.85	1/2







**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 911**  
**Copper Content**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
46VPUF		0.0745	-0.0510	-1.01	0.0770	-0.0516	-1.00
6RJNRU		0.2150	0.0895	1.77	0.2300	0.1014	1.96
A6WFJK		0.1260	0.0005	0.01	0.1185	-0.0101	-0.19
B2AFHU		0.1090	-0.0165	-0.33	0.1100	-0.0186	-0.36
FY6CWA		0.1395	0.0140	0.28	0.1390	0.0104	0.20
GFQ2R3		0.1100	-0.0155	-0.31	0.1100	-0.0186	-0.36
GPXWQ2		0.0300	-0.0955	-1.89	0.0400	-0.0886	-1.71
JXKG6X		0.1200	-0.0055	-0.11	0.1300	0.0014	0.03
K6DFNH		0.1035	-0.0220	-0.44	0.1040	-0.0246	-0.47
KE8CZL		0.2100	0.0845	1.67	0.2250	0.0964	1.86
KJZE4K		0.0550	-0.0705	-1.40	0.0590	-0.0696	-1.34
KZA63J		0.1165	-0.0090	-0.18	0.1185	-0.0101	-0.19
NWVYTE		0.0700	-0.0555	-1.10	0.0800	-0.0486	-0.94
QXHEYR		0.1300	0.0045	0.09	0.1350	0.0064	0.12
R7PBG4		0.1250	-0.0005	-0.01	0.1250	-0.0036	-0.07
RZKFBVH	X	0.1950	0.0695	1.38	0.1600	0.0314	0.61
VJ7BZ2		0.1150	-0.0105	-0.21	0.1155	-0.0131	-0.25
VKEH3U		0.2200	0.0945	1.87	0.2200	0.0914	1.77
WH7R9K	X	0.1500	0.0245	0.48	0.0900	-0.0386	-0.75
XRPKZ8		0.1150	-0.0105	-0.21	0.1050	-0.0236	-0.46
Z987TW		0.1750	0.0495	0.98	0.1750	0.0464	0.90
ZKGY69		0.1510	0.0255	0.50	0.1550	0.0264	0.51

Grand Means	Summary Statistics
0.12550 mg/L	0.12858 mg/L
Std Dev Btwn Labs	
0.05052 mg/L	0.05175 mg/L
<b>Statistics based on 20 of 22 reporting participants</b>	

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #911**

- RZKFBVH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.
- WH7R9K (X) - Inconsistent in testing between samples.



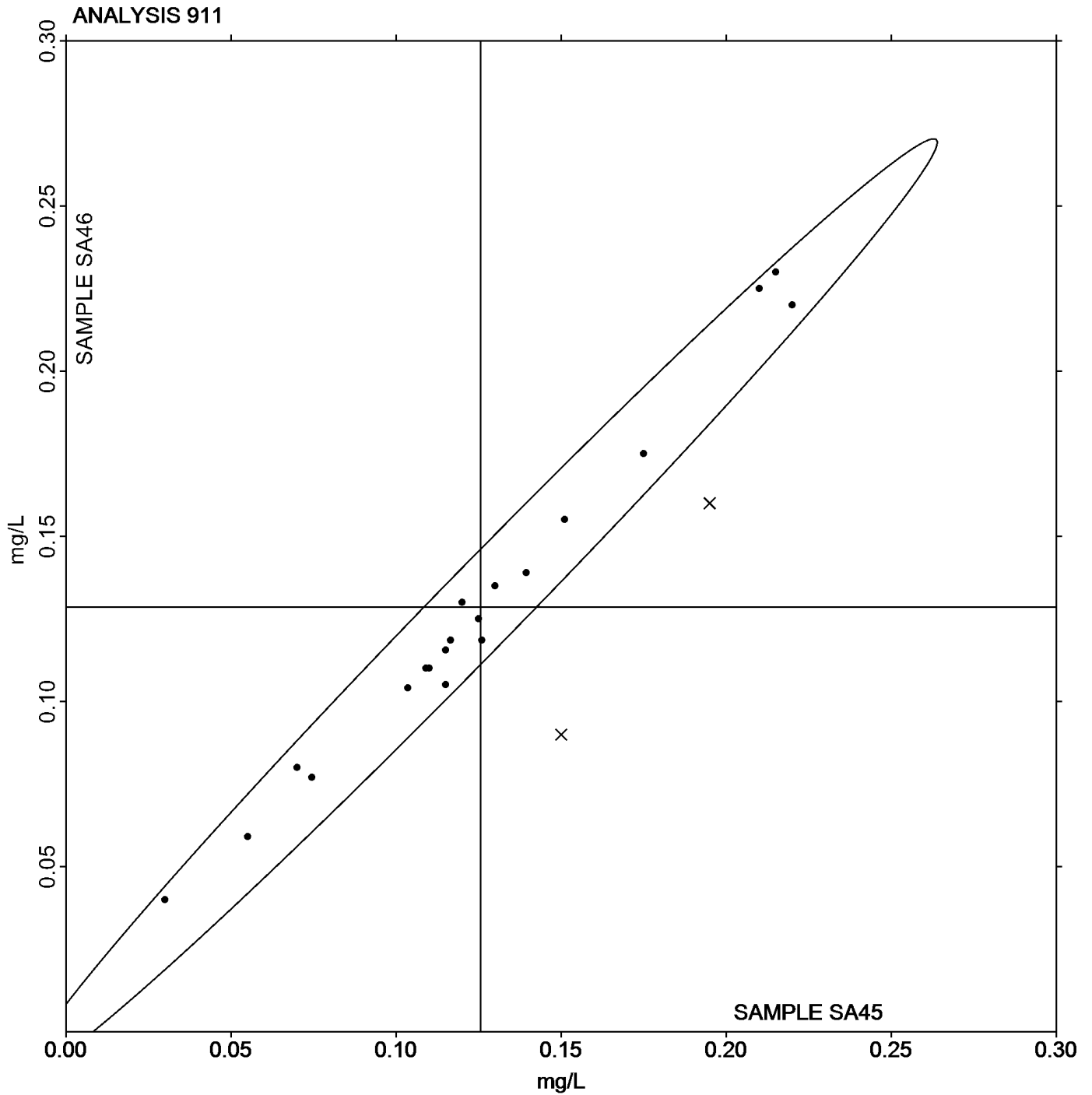
**Analysis 911  
Copper Content**

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

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	0.215	0.000	0.0895	0.230	0.000	0.1014	1/1
Atomic Absorption Spectroscopy	0.104	0.046	-0.0214	0.107	0.043	-0.0219	9/10
ICP	0.116	0.019	-0.0095	0.117	0.020	-0.0115	8/8
FTIR							0/1
Other _____	0.210	0.000	0.0845	0.225	0.000	0.0964	1/1
Colorimetric Analysis	0.220	0.000	0.0945	0.220	0.000	0.0914	1/1



Analysis 911  
Copper Content





**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 912**  
**Potassium (K) Content**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
46VPUF		739.5	-30.5	-0.34	750.0	2.1	0.02
4EHQ84		884.5	114.5	1.28	829.5	81.6	0.86
677VNV		830.0	60.0	0.67	798.0	50.1	0.53
7V24Y2		891.0	121.0	1.35	884.5	136.6	1.43
8P7X94		716.0	-54.0	-0.60	720.0	-27.9	-0.29
A6WFJK		834.5	64.5	0.72	843.1	95.2	1.00
ATYGPT		881.5	111.5	1.24	872.0	124.1	1.30
B2AFHU		730.0	-40.0	-0.45	714.0	-33.9	-0.36
EE2C9H		740.0	-30.0	-0.33	716.5	-31.4	-0.33
FY6CWA		895.0	125.0	1.39	851.5	103.6	1.09
GFQ2R3		822.5	52.5	0.59	836.0	88.1	0.92
GPXWQ2		590.5	-179.5	-2.00	531.0	-216.9	-2.27
JXKG6X		776.0	6.0	0.07	748.0	0.1	0.00
KE8CZL		688.5	-81.5	-0.91	663.5	-84.4	-0.89
QXHEYR		749.0	-21.0	-0.23	747.5	-0.4	0.00
R7PBG4		743.5	-26.5	-0.30	711.0	-36.9	-0.39
VJ7BZ2		683.9	-86.1	-0.96	670.2	-77.8	-0.82
VKEH3U		835.0	65.0	0.72	819.0	71.1	0.75
WT4PZQ		761.0	-9.0	-0.10	716.5	-31.5	-0.33
XNNJXN		877.0	107.0	1.19	834.0	86.1	0.90
XRPKZ8		719.6	-50.4	-0.56	687.7	-60.2	-0.63
Z987TW		746.7	-23.3	-0.26	728.1	-19.8	-0.21
ZKGY69		574.5	-195.5	-2.18	530.5	-217.4	-2.28

<b>Grand Means</b>		<b>Summary Statistics</b>	
	769.99 mg/L		747.91 mg/L
<b>Std Dev Btwn Labs</b>			95.35 mg/L
	89.74 mg/L		
<b>Statistics based on 23 of 23 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel



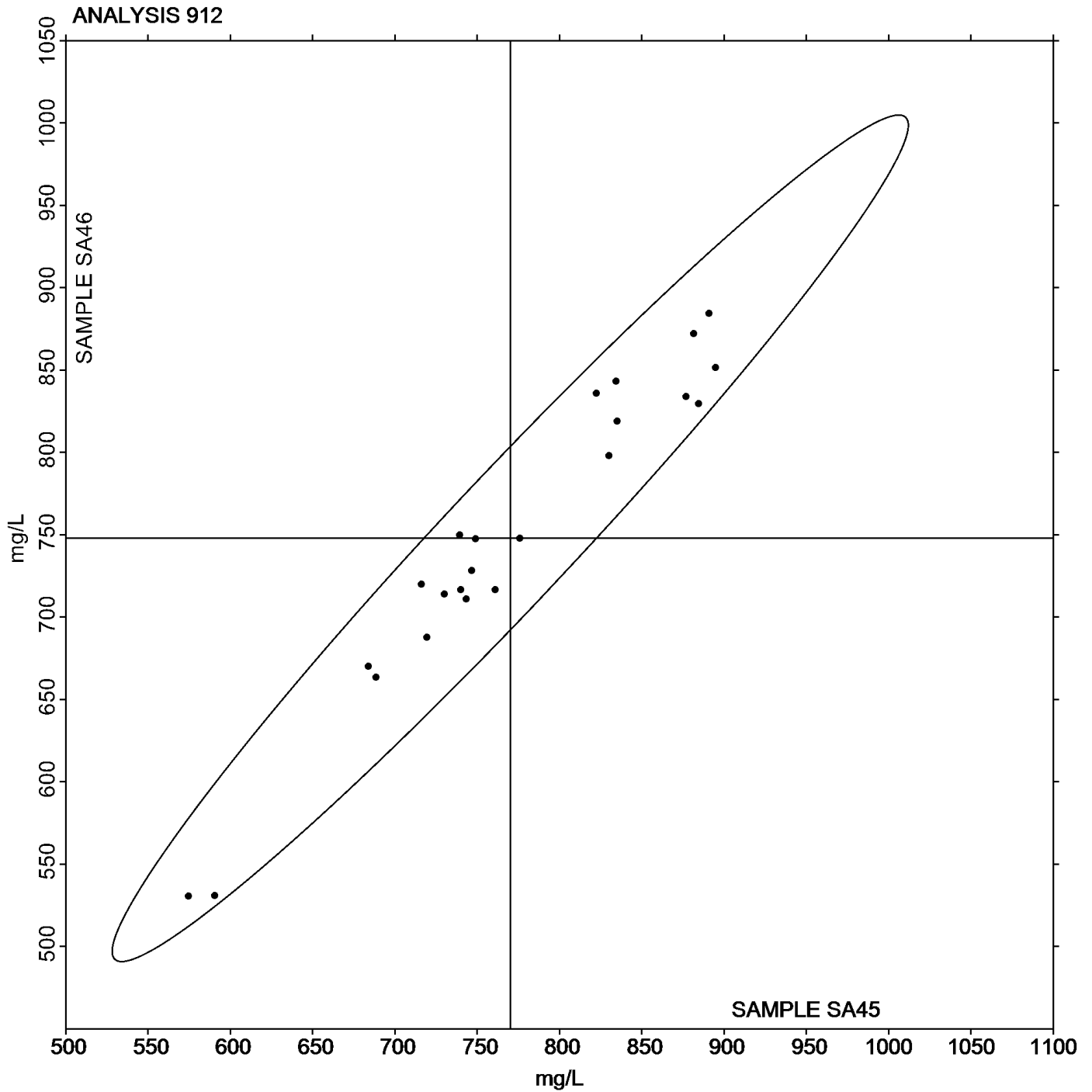
**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA45 <i>White Zinfandel</i>			Sample SA46 <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	884.500	0.000	114.5	829.500	0.000	81.6	1/1
Atomic Absorption Spectroscopy	718.117	111.936	-51.9	697.529	139.491	-50.4	6/6
ICP	754.563	62.543	-15.4	734.981	55.526	-12.9	8/8
FTIR	830.000	0.000	60.0	798.000	0.000	50.1	1/1
Other _____	762.000	104.399	-8.0	751.833	107.834	3.9	3/3
Colorimetric Analysis	841.000	58.401	71.0	813.488	70.499	65.6	4/4



Analysis 912

Potassium (K) Content





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 915 A420nm (1cm path)

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FLB6T		0.1835	0.0030	0.32	0.1975	0.0016	0.15
3GQK9A		0.1800	-0.0005	-0.05	0.1960	0.0001	0.01
3L6YD4	X	0.1865	0.0060	0.63	0.1815	-0.0144	-1.38
46VPUF		0.1735	-0.0070	-0.73	0.1895	-0.0064	-0.61
4EHQ84		0.1630	-0.0175	-1.83	0.1810	-0.0149	-1.42
677VNV	X	0.1500	-0.0305	-3.19	0.2000	0.0041	0.39
6RJNRU		0.1809	0.0004	0.05	0.2017	0.0058	0.55
7V24Y2	X	0.2110	0.0305	3.20	0.2410	0.0451	4.31
8FMCD8		0.1680	-0.0125	-1.31	0.1910	-0.0049	-0.47
A6WFJK		0.1680	-0.0125	-1.31	0.1855	-0.0104	-0.99
AG4HLT		0.1625	-0.0180	-1.88	0.1775	-0.0184	-1.76
ATYGPT	X	0.0160	-0.1645	-17.23	0.0195	-0.1764	-16.87
DCL8F3	X	0.2530	0.0725	7.60	0.2640	0.0681	6.51
DQ4UP2	*	0.1525	-0.0280	-2.93	0.1680	-0.0279	-2.67
EFGBQL		0.1745	-0.0060	-0.63	0.1920	-0.0039	-0.37
FY6CWA		0.1780	-0.0025	-0.26	0.1940	-0.0019	-0.18
G3MTRY		0.1805	0.0000	0.00	0.1980	0.0021	0.20
GFQ2R3		0.1890	0.0085	0.89	0.2055	0.0096	0.92
GPXWQ2	X	0.5500	0.3695	38.71	0.5700	0.3741	35.78
J7EMXY		0.1880	0.0075	0.79	0.2000	0.0041	0.39
J7WVK9	*	0.1890	0.0085	0.89	0.1900	-0.0059	-0.56
J8PVHJ		0.1830	0.0025	0.27	0.1985	0.0026	0.25
JXKG6X	*	0.2080	0.0275	2.88	0.2190	0.0231	2.21
K2ZLWR		0.1850	0.0045	0.47	0.2020	0.0061	0.58
KE8CZL		0.1745	-0.0060	-0.63	0.1870	-0.0089	-0.85
KJZE4K		0.1870	0.0065	0.68	0.1990	0.0031	0.30
KMXWZR		0.1875	0.0070	0.74	0.1995	0.0036	0.35
KQGY3Q		0.1705	-0.0100	-1.04	0.1790	-0.0169	-1.61
KVT3TT	X	2.2733	2.0928	219.22	2.4511	2.2552	215.67
KZA63J		0.1835	0.0030	0.32	0.2000	0.0041	0.39
LZHYT4		0.1850	0.0045	0.47	0.2020	0.0061	0.58
NJ73QF		0.1850	0.0045	0.47	0.2000	0.0041	0.39
NLRTRK		0.1803	-0.0002	-0.02	0.2064	0.0105	1.01
NWVYTE		0.1840	0.0035	0.37	0.1970	0.0011	0.11
P2Y62P	*	0.1770	-0.0035	-0.36	0.1770	-0.0189	-1.81



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

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PJJV6V		0.1840	0.0035	0.37	0.2000	0.0041	0.39
QBMBHU		0.1613	-0.0192	-2.01	0.1769	-0.0190	-1.82
R7PBG4		0.1835	0.0030	0.32	0.1980	0.0021	0.20
RF9UTM	X	0.0044	-0.1761	-18.45	0.0049	-0.1910	-18.26
RZKFBVH		0.1785	-0.0020	-0.21	0.1928	-0.0031	-0.30
TYZ3LC		0.1770	-0.0035	-0.36	0.1910	-0.0049	-0.47
UEUZBD		0.1855	0.0050	0.53	0.1880	-0.0079	-0.75
UVYC2H		0.1846	0.0041	0.43	0.2008	0.0049	0.46
VJ7BZ2		0.1910	0.0105	1.10	0.2100	0.0141	1.35
VKEH3U		0.1896	0.0091	0.96	0.2101	0.0142	1.36
VQJGDJ		0.1825	0.0020	0.21	0.2035	0.0076	0.73
VX2UCJ		0.1890	0.0085	0.89	0.2050	0.0091	0.87
WH7R9K		0.1850	0.0045	0.47	0.2045	0.0086	0.82
WT4PZQ		0.1760	-0.0045	-0.47	0.1935	-0.0024	-0.23
XNNJXN		0.1865	0.0060	0.63	0.2145	0.0186	1.78
YLD423		0.1815	0.0010	0.11	0.1980	0.0021	0.20
Z987TW		0.1840	0.0035	0.37	0.1990	0.0031	0.30
ZKGY69	X	0.0480	-0.1325	-13.88	0.0535	-0.1424	-13.62

Grand Means		Summary Statistics	
0.18047	Absorbance Units	0.19589	Absorbance Units
<b>Stnd Dev Btwn Labs</b>			
0.00955	Absorbance Units	0.01046	Absorbance Units
<b>Statistics based on 44 of 53 reporting participants</b>			

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel



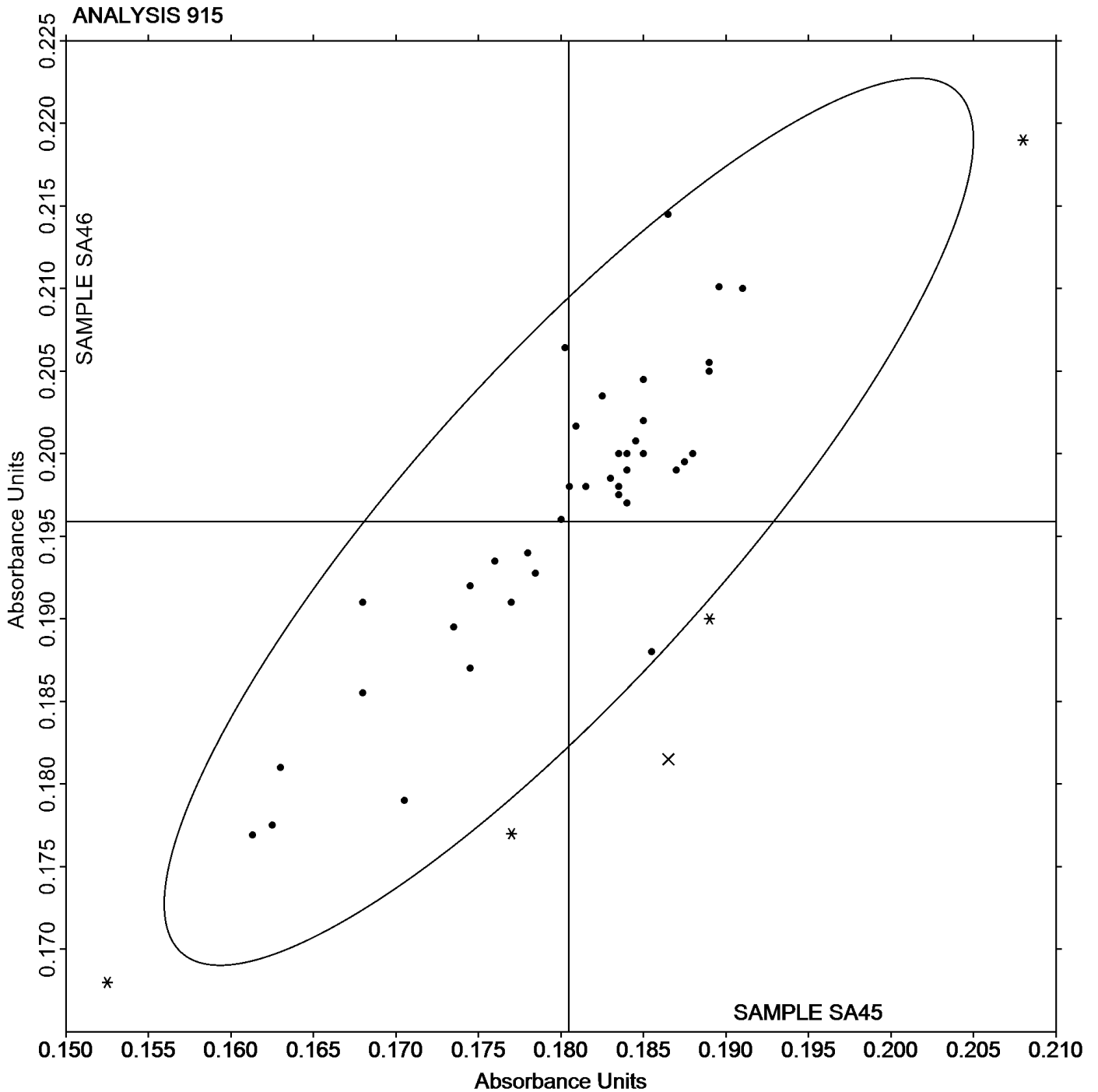


**Analysis 915**  
**A420nm (1cm path)**

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**Comments on Assigned Data Flags for Test #915**

- 7V24Y2 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA46.
- ZKGY69 (X) - Data for both samples are low.
- GPXWQ2 (X) - Data for both samples are high.
- 677VNV (X) - Inconsistent in testing, data for sample SA45 are low.
- 3L6YD4 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.
- DCL8F3 (X) - Data for both samples are high. Possible Systematic Error.
- RF9UTM (X) - Data for both samples are low.
- KVT3TT (X) - Data for both samples are high. Data may be off by a factor of 10.
- ATYGPT (X) - Data for both samples are low. Data may be off by a factor of 10.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #073  
Spring 2023

## Analysis 916 A520nm (1cm path)

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FLB6T		0.1080	0.0018	0.25	0.1245	0.0026	0.28
3GQK9A		0.1040	-0.0022	-0.29	0.1200	-0.0019	-0.21
3L6YD4	X	0.1135	0.0073	0.97	0.1060	-0.0159	-1.72
46VPUF		0.1025	-0.0037	-0.48	0.1165	-0.0054	-0.58
4EHQ84		0.0995	-0.0067	-0.88	0.1180	-0.0039	-0.42
677VNV	*	0.1000	-0.0062	-0.82	0.1000	-0.0219	-2.37
6RJNRU		0.1042	-0.0020	-0.26	0.1253	0.0033	0.36
7V24Y2	*	0.1265	0.0203	2.70	0.1495	0.0276	2.98
8FMCD8		0.0975	-0.0087	-1.15	0.1205	-0.0014	-0.15
A6WFJK	X	0.1145	0.0083	1.11	0.0970	-0.0249	-2.69
AG4HLT		0.0915	-0.0147	-1.94	0.1070	-0.0149	-1.61
ATYGPT	X	0.0105	-0.0957	-12.68	0.0115	-0.1104	-11.93
DCL8F3	X	0.1720	0.0658	8.73	0.1860	0.0641	6.92
DQ4UP2	*	0.0820	-0.0242	-3.20	0.0985	-0.0234	-2.53
EFGBQL		0.1030	-0.0032	-0.42	0.1220	0.0001	0.01
FY6CWA		0.1040	-0.0022	-0.29	0.1210	-0.0009	-0.10
G3MTRY		0.1050	-0.0012	-0.15	0.1230	0.0011	0.12
GFQ2R3		0.1100	0.0038	0.51	0.1270	0.0051	0.55
GPXWQ2	X	0.0100	-0.0962	-12.74	0.0100	-0.1119	-12.09
J7EMXY		0.1100	0.0038	0.51	0.1255	0.0036	0.39
J7WVK9		0.1090	0.0028	0.38	0.1140	-0.0079	-0.85
J8PVHJ		0.1060	-0.0002	-0.02	0.1230	0.0011	0.12
JXKG6X	*	0.1300	0.0238	3.16	0.1430	0.0211	2.28
K2ZLWR		0.1080	0.0018	0.25	0.1270	0.0051	0.55
KE8CZL		0.1040	-0.0022	-0.29	0.1180	-0.0039	-0.42
KJZE4K		0.1100	0.0038	0.51	0.1240	0.0021	0.23
KMXWZR		0.1100	0.0038	0.51	0.1250	0.0031	0.33
KQGY3Q		0.1020	-0.0042	-0.55	0.1125	-0.0094	-1.02
KVT3TT	X	1.3208	1.2146	161.00	1.5367	1.4148	152.85
KZA63J		0.1095	0.0033	0.44	0.1260	0.0041	0.44
LZHYT4		0.1055	-0.0007	-0.09	0.1240	0.0021	0.23
NJ73QF		0.1060	-0.0002	-0.02	0.1210	-0.0009	-0.10
NLRTRK		0.1052	-0.0010	-0.13	0.1216	-0.0003	-0.03
NWVYTE		0.1080	0.0018	0.25	0.1220	0.0001	0.01
P2Y62P	*	0.1090	0.0028	0.38	0.1090	-0.0129	-1.39



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 916**  
**A520nm (1cm path)**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PJJV6V		0.1070	0.0008	0.11	0.1250	0.0031	0.33
QBMBHU		0.0982	-0.0080	-1.05	0.1120	-0.0099	-1.07
R7PBG4		0.1070	0.0008	0.11	0.1230	0.0011	0.12
RF9UTM	X	0.0046	-0.1016	-13.46	0.0041	-0.1178	-12.73
RZKFBVH		0.1019	-0.0043	-0.56	0.1173	-0.0046	-0.50
TYZ3LC		0.0980	-0.0082	-1.08	0.1140	-0.0079	-0.85
UEUZBD		0.1085	0.0023	0.31	0.1165	-0.0054	-0.58
UVYC2H		0.1100	0.0038	0.50	0.1334	0.0115	1.24
VJ7BZ2		0.1130	0.0068	0.91	0.1290	0.0071	0.77
VKEH3U		0.1164	0.0102	1.36	0.1259	0.0040	0.43
VQJGDJ		0.1055	-0.0007	-0.09	0.1265	0.0046	0.50
VX2UCJ		0.1135	0.0073	0.97	0.1270	0.0051	0.55
WH7R9K		0.1060	-0.0002	-0.02	0.1260	0.0041	0.44
WT4PZQ		0.1020	-0.0042	-0.55	0.1190	-0.0029	-0.31
XNNJXN	*	0.1095	0.0033	0.44	0.1395	0.0176	1.90
YLD423		0.1040	-0.0022	-0.29	0.1200	-0.0019	-0.21
Z987TW		0.1065	0.0003	0.05	0.1235	0.0016	0.17
ZKGY69	X	0.0170	-0.0892	-11.82	0.0225	-0.0994	-10.74

Grand Means		Summary Statistics	
0.10615	Absorbance Units	0.12191	Absorbance Units
0.00754	Absorbance Units	0.00926	Absorbance Units

**Statistics based on 45 of 53 reporting participants**

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel



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**Comments on Assigned Data Flags for Test #916**

ZKGY69 (X) - Data for both samples are low.

GPXWQ2 (X) - Data for both samples are low. Data may be off by a factor of 10.

3L6YD4 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA45.

DCL8F3 (X) - Data for both samples are high.

RF9UTM (X) - Data for both samples are low.

KVT3TT (X) - Data for both samples are high. Data may be off by a factor of 10.

A6WFJK (X) - Inconsistent in testing between samples.

ATYGPT (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: Citric Acid**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
A6WFJK	X	163.0000	162.2125	119.25	164.5000	163.6976	115.89
DQ4UP2		0.4900	-0.2975	-0.22	0.5100	-0.2924	-0.21
FY6CWA		0.3100	-0.4775	-0.35	0.2900	-0.5124	-0.36
G3MTRY		0.3700	-0.4175	-0.31	0.3650	-0.4374	-0.31
GFQ2R3		0.5000	-0.2875	-0.21	0.5000	-0.3024	-0.21
NLRTRK		0.2885	-0.4990	-0.37	0.2800	-0.5224	-0.37
NWVYTE		0.3200	-0.4675	-0.34	0.3200	-0.4824	-0.34
PJJV6V		0.1980	-0.5895	-0.43	0.1980	-0.6044	-0.43
QXHEYR		0.3550	-0.4325	-0.32	0.3400	-0.4624	-0.33
R7PBG4		0.3175	-0.4700	-0.35	0.3220	-0.4804	-0.34
RF9UTM	*	5.3750	4.5875	3.37	5.5500	4.7476	3.36
VJ7BZ2		0.3600	-0.4275	-0.31	0.3000	-0.5024	-0.36
VKEH3U		0.3000	-0.4875	-0.36	0.3000	-0.5024	-0.36
WH7R9K		1.5350	0.7475	0.55	1.6450	0.8426	0.60
XRPKZ8		0.3055	-0.4820	-0.35	0.3140	-0.4884	-0.35

**Research Property Consensus Value**

Consensus Average

0.78746 g/L

0.80243 g/L

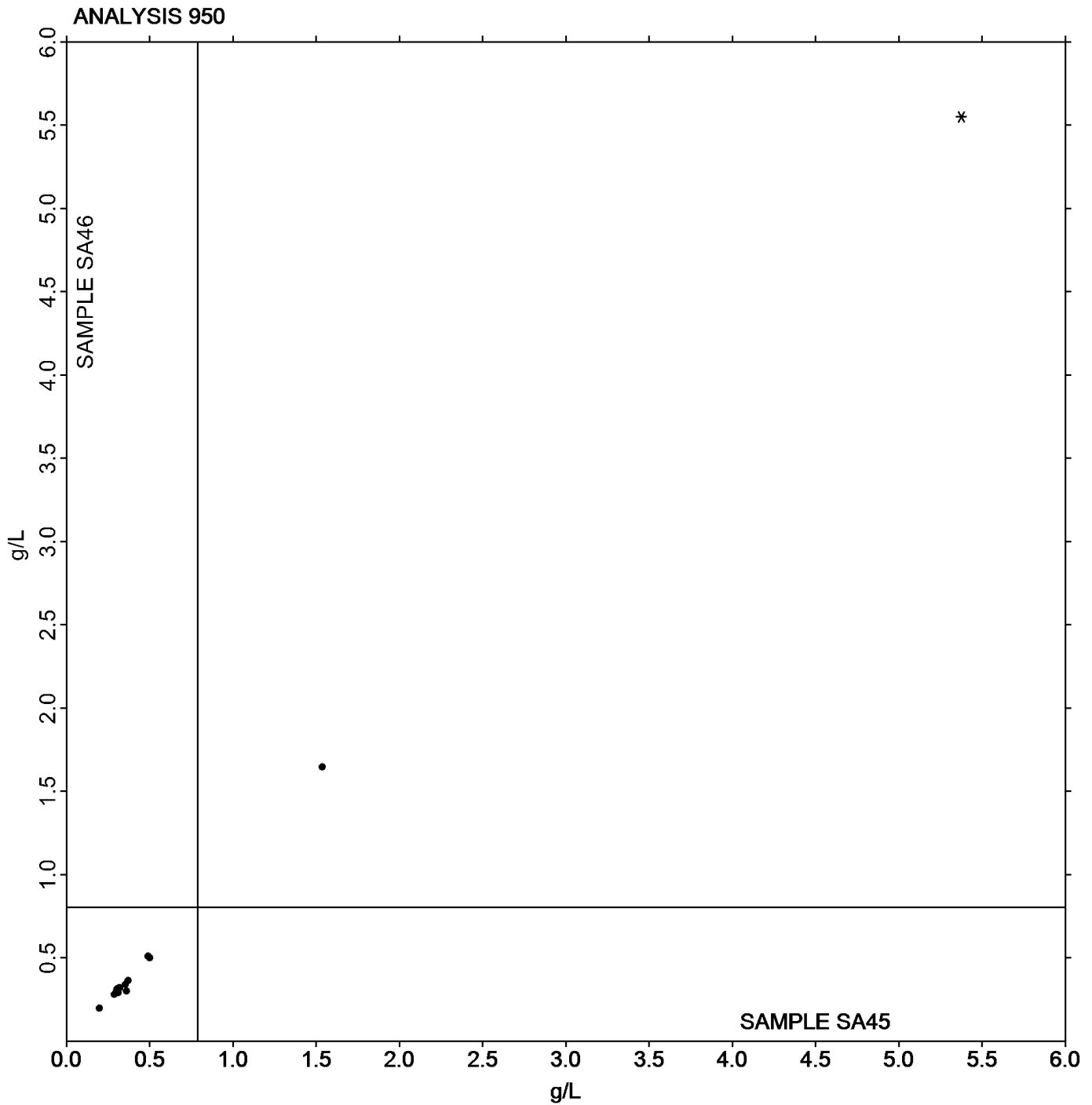
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 14 reporting participants.*

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #950**

A6WFJK (X) - Extreme data.



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: Dissolved CO2**

**Report #073**  
**Spring 2023**

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2KXLV3		1.233	0.172	1.78	1.195	0.095	1.36
46VPUF		1.065	0.005	0.05	1.125	0.025	0.36
8FMCD8		1.165	0.105	1.08	1.228	0.127	1.83
92GGU7		1.050	-0.010	-0.11	1.085	-0.015	-0.22
EFGBQL	M	No data reported for this sample			0.915	-0.186	-2.67
FY6CWA		0.990	-0.070	-0.73	1.040	-0.060	-0.86
GFQ2R3		1.126	0.065	0.67	1.156	0.055	0.79
GPXWQ2		0.992	-0.068	-0.71	1.020	-0.081	-1.16
K6DFNH		0.974	-0.086	-0.89	1.026	-0.074	-1.07
KLL68B		1.130	0.070	0.72	1.115	0.015	0.21
NHU88A	*	0.830	-0.230	-2.38	0.980	-0.120	-1.73
NJ73QF		1.036	-0.024	-0.25	1.075	-0.026	-0.37
NNZ2YJ		1.037	-0.023	-0.24	1.091	-0.009	-0.13
QXHEYR		1.070	0.010	0.10	1.110	0.010	0.14
RF9UTM		0.985	-0.076	-0.78	1.038	-0.063	-0.90
UVYC2H		1.011	-0.049	-0.51	1.055	-0.045	-0.65
VKEH3U		1.039	-0.021	-0.22	1.103	0.003	0.04
WW3T47		1.264	0.203	2.10	1.234	0.134	1.92
XNNJXN		1.138	0.077	0.80	1.183	0.082	1.18
YZXJ62		1.038	-0.022	-0.23	1.079	-0.021	-0.30
ZKGY69		1.035	-0.025	-0.26	1.070	-0.030	-0.43

**Research Property Consensus Value**

Consensus Average

1.0603 g/L

1.1003 g/L

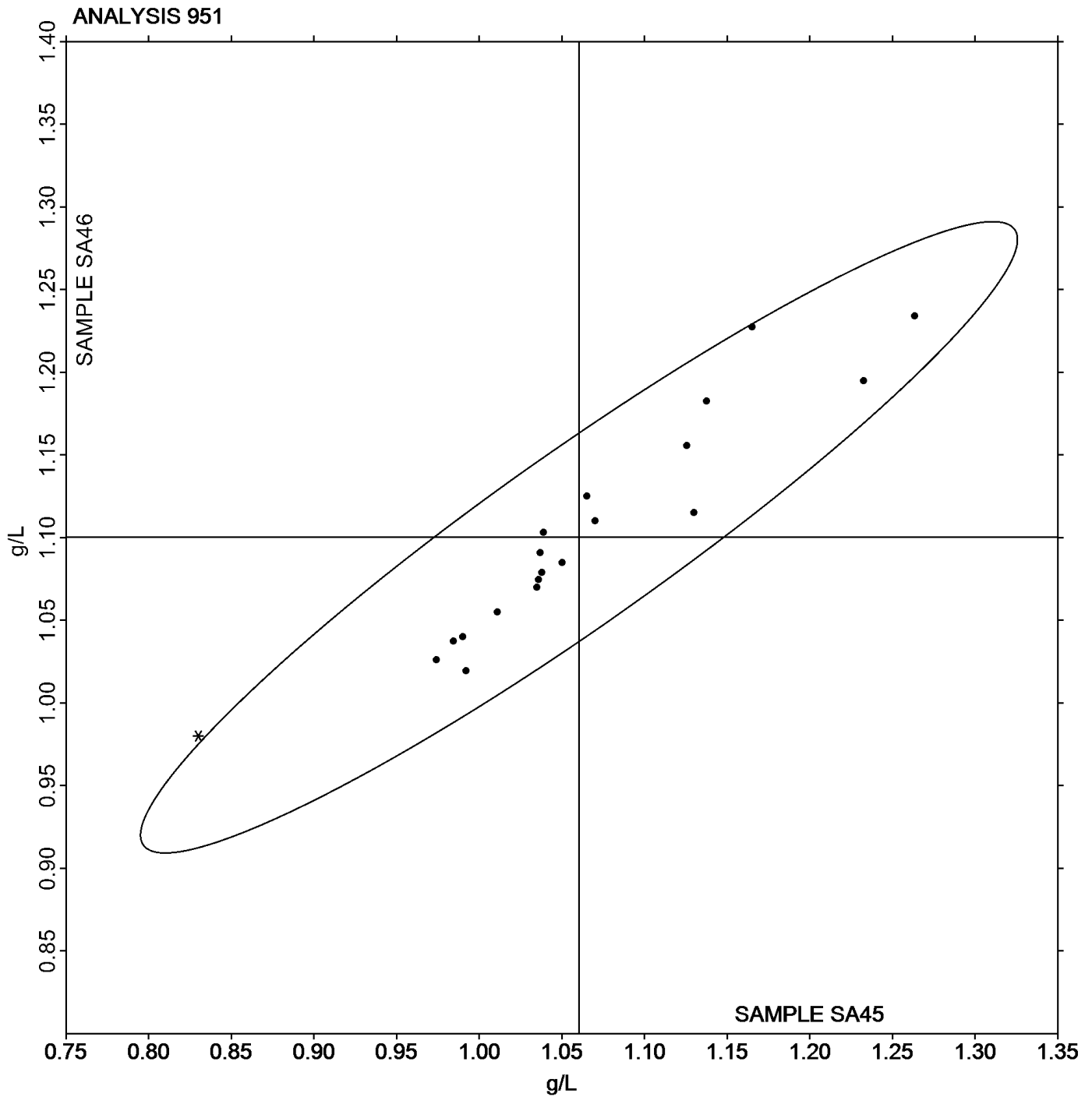
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 20 reporting participants.*

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

**Comments on Assigned Data Flags for Test #951**

EFGBQL (M) - Participant did not submit data for sample SA45.





Research Property: Methanol Content

WebCode	Data Flag	Sample SA45			Sample SA46		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
677VNV		115.00	17.05	2.18	115.00	17.18	2.02
A6WFJK	X	0.00	-97.95	-12.50	0.00	-97.82	-11.50
B2AFHU		98.50	0.55	0.07	101.00	3.18	0.37
FY6CWA		91.50	-6.45	-0.82	93.50	-4.32	-0.51
G3MTRY		97.00	-0.95	-0.12	92.00	-5.82	-0.68
NLRTRK		86.84	-11.11	-1.42	85.72	-12.11	-1.42
R7PBG4		95.90	-2.05	-0.26	96.90	-0.92	-0.11
VJ7BZ2		98.00	0.05	0.01	100.00	2.18	0.26
WW3T47		95.85	-2.10	-0.27	92.30	-5.52	-0.65
ZKGY69		103.00	5.05	0.64	104.00	6.18	0.73

Research Property Consensus Value

Consensus Average

97.954 mg/L

97.824 mg/L

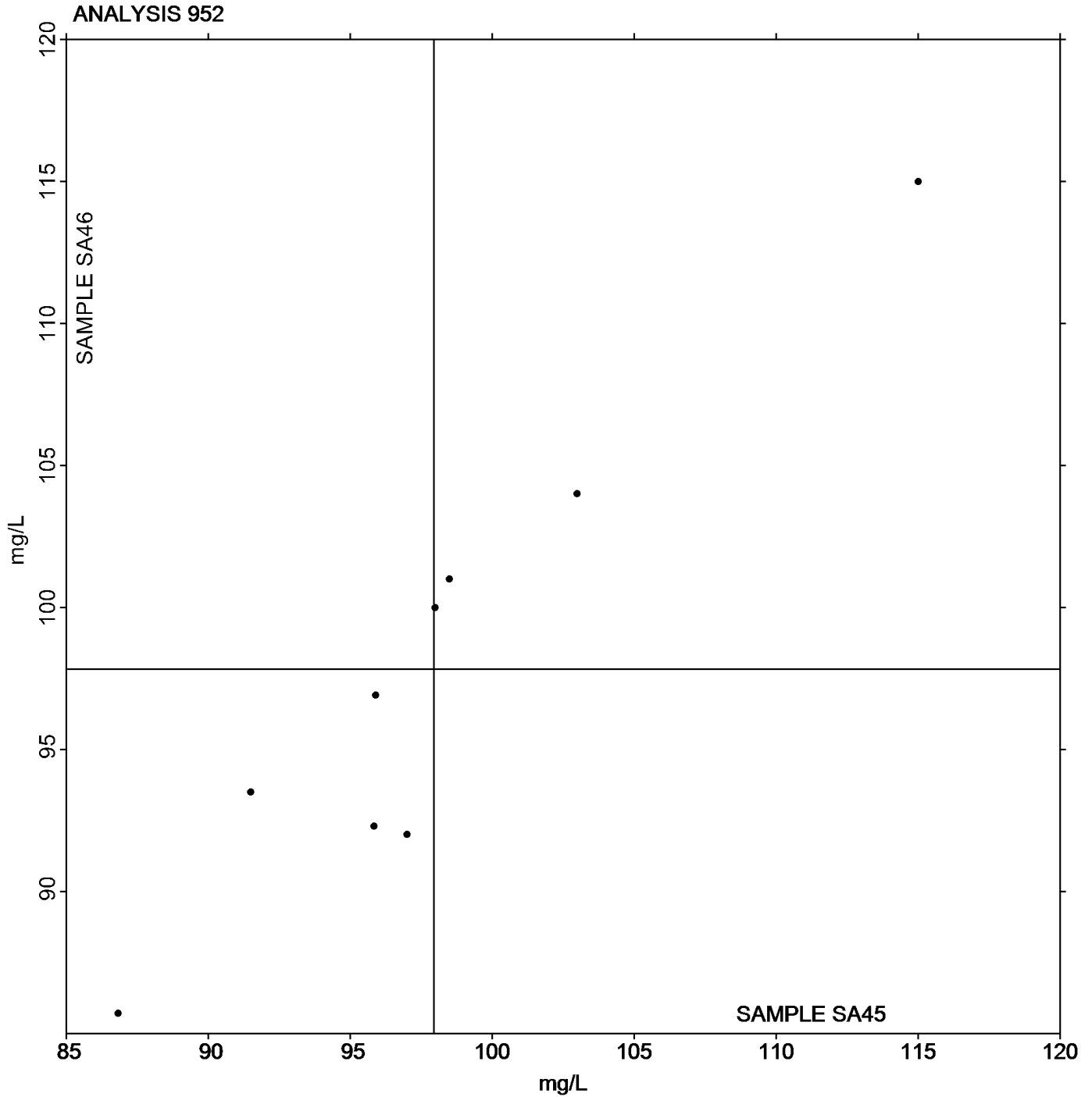
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

This consensus average is based on 9 reporting participants.

Wines tested: SA45: White Zinfandel; SA46: White Zinfandel

Comments on Assigned Data Flags for Test #952

A6WFJK (X) - Extreme data.



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-