



## Wine Industry Interlaboratory Program

### Summary Report #052- Spring 2016

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

<b>Analysis</b>	<b>Analysis Name</b>
901	<a href="#"><u>Ethanol (% of volume)</u></a>
902	<a href="#"><u>Total Sulfur Dioxide</u></a>
903	<a href="#"><u>Free Sulfur Dioxide</u></a>
904	<a href="#"><u>Titrateable Acidity</u></a>
905	<a href="#"><u>Volatile Acidity</u></a>
906	<a href="#"><u>Specific Gravity</u></a>
907	<a href="#"><u>pH</u></a>
908	<a href="#"><u>Residual Sugar</u></a>
909	<a href="#"><u>L-Malic Acid</u></a>
910	<a href="#"><u>Glucose + Fructose</u></a>
911	<a href="#"><u>Copper Content</u></a>
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916	<a href="#"><u>A520nm (1cm path)</u></a>
950	<a href="#"><u>Research Property: Turbidity</u></a>
951	<a href="#"><u>Research Property: Methanol Content</u></a>
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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 rubber, plastics, fasteners and metals, containerboard, paper, wine and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

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

<b>WebCode</b>	Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Wine Web Summary Report published on the CTS web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.
<b>Lab Mean</b>	The average of the test results obtained by the participant.
<b>Grand Mean</b>	The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.
<b>Difference from Grand Mean</b>	The difference of the LAB MEAN from the GRAND MEAN.
<b>Between-Lab Standard Deviation</b>	An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).
<b>Comparative Performance Value</b>	An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.
<b>Data Flag</b>	DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	INCLUDED	<b>CAUTION</b> - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	<b>STOP</b> - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	<b>PROCEED</b> - lab was unable to report data for one sample.

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

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### Common Problems Highlighted in Footnotes

1. **Extreme data** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.
2. **Systematic bias** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.
3. **Inconsistency in testing between samples/sample sets** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an \* that falls on the edge of the ellipse.
4. **Inconsistency in testing within a sample** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

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



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 901

### Ethanol (% of volume)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		8.610	-0.004	-0.07	8.580	-0.022	-0.41
2ZZEDF		8.635	0.021	0.39	8.615	0.013	0.24
34YP9F		8.700	0.086	1.57	8.690	0.088	1.62
3AP4TG	X	8.425	-0.189	-3.44	8.470	-0.132	-2.43
3HZNWD		8.625	0.011	0.21	8.595	-0.007	-0.13
3JV8XE	X	8.970	0.356	6.49	9.000	0.398	7.32
3UNRXH		8.660	0.046	0.84	8.625	0.023	0.42
4ZUNGH		8.700	0.086	1.57	8.700	0.098	1.80
4ZYZ6E		8.635	0.021	0.39	8.630	0.028	0.51
64RL6F		8.590	-0.024	-0.43	8.590	-0.012	-0.22
6BUTQA	*	8.610	-0.004	-0.07	8.550	-0.052	-0.96
6LTCLJ		8.620	0.006	0.11	8.585	-0.017	-0.32
6PRMGH		8.620	0.006	0.11	8.605	0.003	0.05
76H8BB	*	8.520	-0.094	-1.71	8.480	-0.122	-2.25
7BACB8		8.605	-0.009	-0.16	8.600	-0.002	-0.04
7E9N78		8.590	-0.024	-0.43	8.570	-0.032	-0.59
7PQ6YE		8.615	0.001	0.02	8.600	-0.002	-0.04
7W9HXD		8.630	0.016	0.30	8.620	0.018	0.33
7Z9PJB		8.600	-0.014	-0.25	8.570	-0.032	-0.59
87QH8F		8.595	-0.019	-0.34	8.580	-0.022	-0.41
8FF8NF	X	8.800	0.186	3.39	8.900	0.298	5.48
8FVPME		8.660	0.046	0.84	8.650	0.048	0.88
8MHEAA		8.630	0.016	0.30	8.630	0.028	0.51
9LF7CB	*	8.535	-0.079	-1.43	8.565	-0.037	-0.68
9UQ9XB	X	8.615	0.001	0.02	8.660	0.058	1.06
9VLQYC		8.640	0.026	0.48	8.625	0.023	0.42



# ASEV-CTS Wine Industry Interlaboratory Testing Program

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Spring 2016

## Analysis 901

### Ethanol (% of volume)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AFPW3C		8.695	0.081	1.48	8.685	0.083	1.52
AGKE4D		8.680	0.066	1.21	8.650	0.048	0.88
ALVRLC		8.655	0.041	0.75	8.650	0.048	0.88
AR2G66	X	8.450	-0.164	-2.98	8.400	-0.202	-3.72
AVKDRA	*	8.720	0.106	1.93	8.730	0.128	2.35
AWRVP7	X	9.260	0.646	11.77	9.310	0.708	13.03
B3YLTC		8.605	-0.009	-0.16	8.625	0.023	0.42
BCKQZB		8.500	-0.114	-2.07	8.505	-0.097	-1.79
CXL2J6		8.610	-0.004	-0.07	8.600	-0.002	-0.04
D4NPF4		8.620	0.006	0.11	8.620	0.018	0.33
DXHWL8		8.700	0.086	1.57	8.670	0.068	1.25
E33FZ8		8.590	-0.024	-0.43	8.585	-0.017	-0.32
ECTWV4		8.700	0.086	1.57	8.675	0.073	1.34
EG3EN6		8.605	-0.009	-0.16	8.590	-0.012	-0.22
EUR46		8.600	-0.014	-0.25	8.600	-0.002	-0.04
F32XH3		8.630	0.016	0.30	8.655	0.053	0.97
G9HX9Z		8.640	0.026	0.48	8.590	-0.012	-0.22
GHTZUZ		8.600	-0.014	-0.25	8.595	-0.007	-0.13
HDTBQX		8.570	-0.044	-0.80	8.570	-0.032	-0.59
HGRMLX		8.630	0.016	0.30	8.620	0.018	0.33
HRA4E6		8.610	-0.004	-0.07	8.610	0.008	0.14
JP2DP2	X	8.200	-0.414	-7.53	8.230	-0.372	-6.85
JUF4UW	X	8.850	0.236	4.30	9.150	0.548	10.09
KKKMHW		8.580	-0.034	-0.61	8.600	-0.002	-0.04
L6MTLW		8.645	0.031	0.57	8.640	0.038	0.70
LF924Y		8.545	-0.069	-1.25	8.540	-0.062	-1.14



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 901

### Ethanol (% of volume)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
M667KU	X	8.525	-0.089	-1.62	8.580	-0.022	-0.41
MKHELX	X	8.800	0.186	3.39	8.700	0.098	1.80
MYZ6QR		8.570	-0.044	-0.80	8.550	-0.052	-0.96
N7CLRZ	*	8.470	-0.144	-2.62	8.460	-0.142	-2.62
NAGABV	X	8.760	0.146	2.66	8.685	0.083	1.52
NQ4PER		8.695	0.081	1.48	8.690	0.088	1.62
NZ78PV		8.630	0.016	0.30	8.620	0.018	0.33
PFCVBU		8.670	0.056	1.02	8.670	0.068	1.25
PQYPRX		8.620	0.006	0.11	8.580	-0.022	-0.41
PYPBXV	X	8.785	0.171	3.12	8.800	0.198	3.64
PZKTYW		8.530	-0.084	-1.52	8.530	-0.072	-1.33
Q777DP		8.500	-0.114	-2.07	8.500	-0.102	-1.88
QCC2WP		8.650	0.036	0.66	8.630	0.028	0.51
QRAQDW		8.630	0.016	0.30	8.610	0.008	0.14
R7KWXU		8.590	-0.024	-0.43	8.565	-0.037	-0.68
RRZGUU		8.645	0.031	0.57	8.650	0.048	0.88
RWBP2Q		8.620	0.006	0.11	8.590	-0.012	-0.22
TQNWPR		8.635	0.021	0.39	8.610	0.008	0.14
UDXMFQ		8.500	-0.114	-2.07	8.500	-0.102	-1.88
UHTGDR		8.655	0.041	0.75	8.635	0.033	0.60
UTPKHL		8.595	-0.019	-0.34	8.585	-0.017	-0.32
VCWA9N		8.655	0.041	0.75	8.655	0.053	0.97
VWJZ8K		8.680	0.066	1.21	8.680	0.078	1.43
W42TWP		8.630	0.016	0.30	8.630	0.028	0.51
WN9YLK		8.685	0.071	1.30	8.635	0.033	0.60
X3J47H		8.655	0.041	0.75	8.655	0.053	0.97



**Analysis 901**

**Ethanol (% of volume)**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
X97R2N		8.550	-0.064	-1.16	8.550	-0.052	-0.96
XC7XLL		8.570	-0.044	-0.80	8.560	-0.042	-0.78
XD2GNM	*	8.460	-0.154	-2.80	8.460	-0.142	-2.62
XMR2UK	X	8.560	-0.054	-0.98	8.700	0.098	1.80
XR2ECJ		8.575	-0.039	-0.70	8.550	-0.052	-0.96
YU9XAE		8.570	-0.044	-0.80	8.580	-0.022	-0.41
YYFNDK	X	9.825	1.211	22.05	9.350	0.748	13.77
ZF39QJ		8.600	-0.014	-0.25	8.580	-0.022	-0.41
ZQJ82L		8.585	-0.029	-0.52	8.565	-0.037	-0.68
ZTMNUJ		8.640	0.026	0.48	8.625	0.023	0.42

Grand Means		Summary Statistics	
	8.6137 percent		8.6022 percent
Std Dev Btwn Labs			
	0.0549 percent		0.0543 percent
<b>Statistics based on 74 of 88 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel





**Analysis 901**

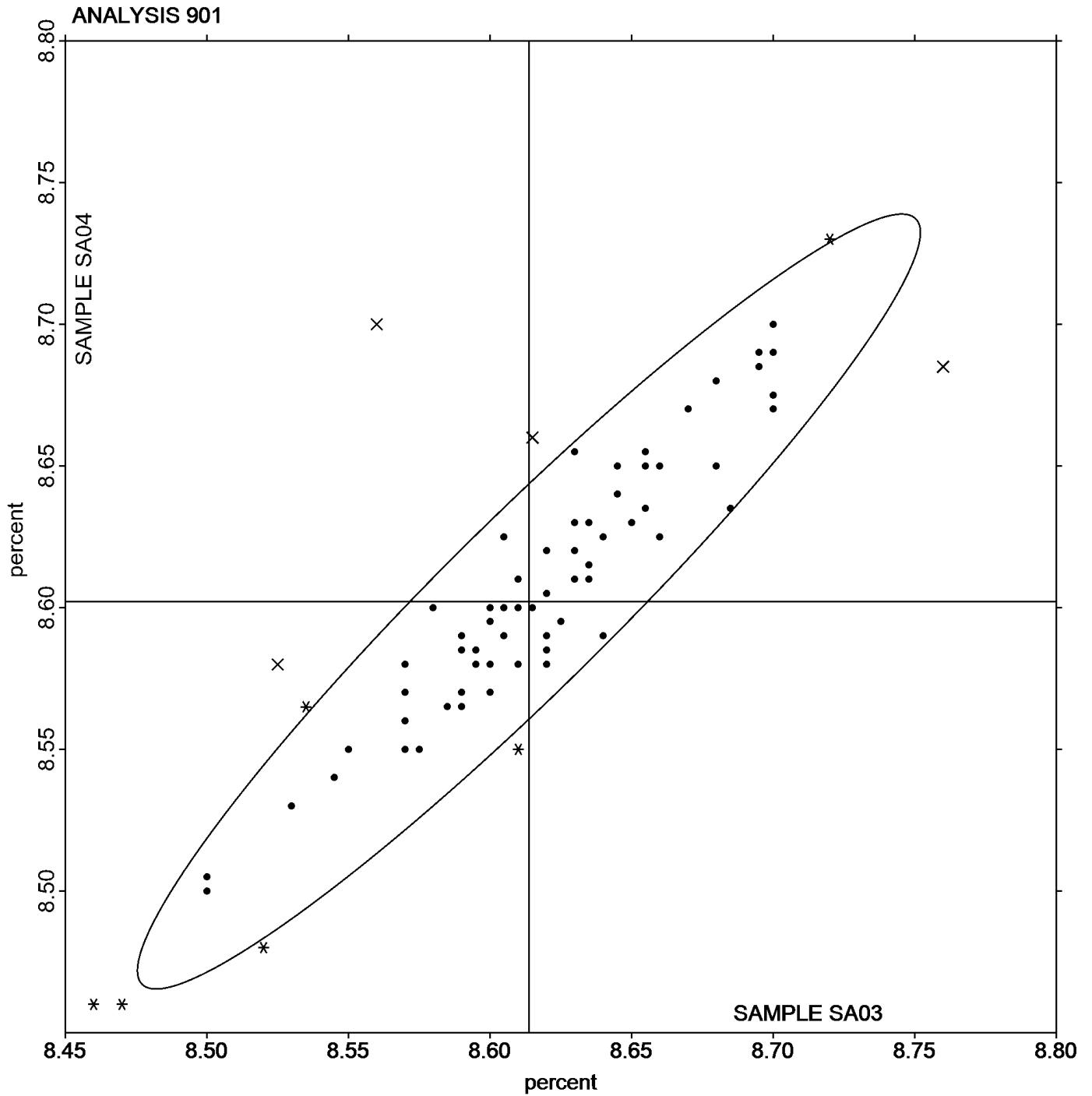
**Ethanol (% of volume)**

**Comments on assigned Data Flags**

- 3AP4TG (X) - Inconsistent in testing between samples, data for Sample SA03 are low.
- 3JV8XE (X) - Data for both samples are high.
- 8FF8NF (X) - Data for both samples are high.
- 9UQ9XB (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA03.
- AR2G66 (X) - Data for both samples are low. Possible Systematic Error.
- AWRVP7 (X) - Data for both samples are high. Also inconsistent in testing within both samples.
- JP2DP2 (X) - Data for both samples are low.
- JUF4UW (X) - Data for both samples are high. Also inconsistent in testing within both samples.
- M667KU (X) - Inconsistent in testing between samples.
- MKHELX (X) - Inconsistent in testing between samples, data for Sample SA03 are low. Also inconsistent in testing within Sample SA03.
- NAGABV (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA03.
- PYPBXV (X) - Data for both samples are high. Possible Systematic Error.
- XMR2UK (X) - Inconsistent in testing between samples.
- YYFNDK (X) - Data for both samples are high. Also inconsistent in testing within both samples.

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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <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	8.670	0.000	0.056	8.670	0.000	0.068	1	1
Gas Chromatography Method	8.700	0.000	0.086	8.678	0.010	0.076	3	6
Near Infrared Method	8.615	0.039	0.001	8.605	0.040	0.003	46	50
Dist. / Density Method	8.584	0.072	-0.030	8.578	0.068	-0.024	7	13
FTIR	8.625	0.048	0.011	8.604	0.036	0.002	7	9
Other _____	8.644	0.024	0.030	8.624	0.031	0.022	4	5





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		147.5	0.7	0.08	148.5	-1.9	-0.20
2ZZEDF		161.5	14.7	1.67	167.5	17.1	1.82
34YP9F		161.5	14.7	1.67	167.5	17.1	1.82
3AP4TG		146.5	-0.3	-0.03	148.0	-2.4	-0.26
3HZNWD		140.0	-6.8	-0.77	144.0	-6.4	-0.68
3JV8XE		149.8	3.0	0.34	150.9	0.5	0.05
3UNRXH		125.0	-21.8	-2.47	130.0	-20.4	-2.17
4ZUNGH		145.5	-1.3	-0.15	148.0	-2.4	-0.26
4ZYZ6E	*	148.0	1.2	0.14	140.0	-10.4	-1.10
64RL6F		147.0	0.2	0.02	152.0	1.6	0.17
6BUTQA		144.0	-2.8	-0.32	149.0	-1.4	-0.15
6LTCLJ	X	177.0	30.2	3.42	179.5	29.1	3.09
6PRMGH		159.0	12.2	1.38	153.5	3.1	0.33
76H8BB		148.0	1.2	0.14	152.0	1.6	0.17
7BACB8		143.5	-3.3	-0.37	148.1	-2.4	-0.25
7E9N78		148.5	1.7	0.19	153.5	3.1	0.33
7PQ6YE		153.0	6.2	0.70	154.5	4.1	0.44
7W9HXD		151.0	4.2	0.48	155.0	4.6	0.49
7Z9PJB		161.0	14.2	1.61	163.0	12.6	1.34
87QH8F		160.5	13.7	1.55	162.0	11.6	1.23
8FF8NF	X	109.0	-37.8	-4.28	100.5	-49.9	-5.30
8FVPM E	X	126.0	-20.8	-2.36	118.5	-31.9	-3.39
8MHEAA		157.0	10.2	1.16	166.0	15.6	1.66
9LF7CB		137.0	-9.8	-1.11	142.0	-8.4	-0.89
9UQ9XB	X	108.5	-38.3	-4.35	133.8	-16.6	-1.77
9VLQYC		146.0	-0.8	-0.09	154.0	3.6	0.38



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

**Report #052**  
**Spring 2016**

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WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AFPW3C		140.5	-6.3	-0.71	148.5	-1.9	-0.20
AGKE4D		137.0	-9.8	-1.11	142.5	-7.9	-0.84
ALVRLC		156.0	9.2	1.04	155.0	4.6	0.49
AR2G66		144.0	-2.8	-0.32	150.5	0.1	0.01
AVKDRA		146.0	-0.8	-0.09	145.0	-5.4	-0.57
B3YLTC		135.5	-11.3	-1.28	142.0	-8.4	-0.89
BCKQZB		127.0	-19.8	-2.24	130.0	-20.4	-2.17
CXL2J6		137.5	-9.3	-1.05	141.5	-8.9	-0.95
D4NPF4		150.0	3.2	0.36	151.0	0.6	0.06
DXHWL8		137.5	-9.3	-1.05	147.0	-3.4	-0.36
E33FZ8		144.0	-2.8	-0.32	151.5	1.1	0.12
ECTWV4		161.1	14.3	1.62	165.6	15.2	1.62
EG3EN6		147.5	0.7	0.08	156.5	6.1	0.65
EUR446		160.0	13.2	1.50	160.0	9.6	1.02
F32XH3		164.0	17.2	1.95	169.0	18.6	1.98
G9HX9Z		150.5	3.7	0.42	156.0	5.6	0.59
GHTZUZ		140.5	-6.3	-0.71	145.5	-4.9	-0.52
HDTBQX		157.0	10.2	1.16	162.0	11.6	1.23
HGRMLX		130.8	-16.0	-1.81	136.2	-14.2	-1.51
HRA4E6		143.0	-3.8	-0.43	141.0	-9.4	-1.00
JUF4UW		149.5	2.7	0.31	155.0	4.6	0.49
KKKMHW		144.5	-2.3	-0.26	144.0	-6.4	-0.68
L6MTLW		160.5	13.7	1.55	161.0	10.6	1.13
LF924Y		141.5	-5.3	-0.60	144.0	-6.4	-0.68
MKHELX		137.0	-9.8	-1.11	140.0	-10.4	-1.10
MYZ6QR		138.5	-8.3	-0.94	149.0	-1.4	-0.15



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N7CLRZ		136.5	-10.3	-1.17	144.0	-6.4	-0.68
NAGABV		153.5	6.7	0.76	159.5	9.1	0.97
NQ4PER	*	140.5	-6.3	-0.71	132.0	-18.4	-1.95
NZ78PV		158.5	11.7	1.33	166.5	16.1	1.71
PFCVBU		137.5	-9.3	-1.05	144.0	-6.4	-0.68
PQYPRX		140.5	-6.3	-0.71	150.5	0.1	0.01
PYPBXV		134.5	-12.3	-1.39	133.0	-17.4	-1.85
PZKTYW		148.5	1.7	0.19	151.0	0.6	0.06
Q777DP		150.5	3.7	0.42	159.5	9.1	0.97
QCC2WP	X	186.5	39.7	4.50	186.5	36.1	3.83
QRAQDW		143.0	-3.8	-0.43	152.0	1.6	0.17
R7KWXU		139.0	-7.8	-0.88	144.5	-5.9	-0.63
RRZGUU		155.5	8.7	0.99	164.0	13.6	1.44
RWBP2Q		148.0	1.2	0.14	159.0	8.6	0.91
TQNWPR		149.5	2.7	0.31	159.5	9.1	0.97
UHTGDR		147.5	0.7	0.08	150.5	0.1	0.01
UTPKHL		135.0	-11.8	-1.34	142.0	-8.4	-0.89
VCWA9N		143.5	-3.3	-0.37	143.0	-7.4	-0.79
VWJZ8K		144.0	-2.8	-0.32	144.0	-6.4	-0.68
W42TWP		156.5	9.7	1.10	161.5	11.1	1.18
WN9YLK		137.0	-9.8	-1.11	137.0	-13.4	-1.42
X97R2N		150.0	3.2	0.36	149.5	-0.9	-0.10
XC7XLL	*	148.5	1.7	0.19	139.0	-11.4	-1.21
XD2GNM		141.0	-5.8	-0.66	150.0	-0.4	-0.04
XMR2UK	*	153.5	6.7	0.76	146.0	-4.4	-0.47
XR2ECJ		144.0	-2.8	-0.32	149.5	-0.9	-0.10



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YU9XAE		140.0	-6.8	-0.77	141.0	-9.4	-1.00
YYFNDK		166.0	19.2	2.18	171.0	20.6	2.19
ZF39QJ		140.8	-6.0	-0.68	143.3	-7.2	-0.76
ZQJ82L		149.5	2.7	0.31	149.5	-0.9	-0.10
ZTMNUJ		156.0	9.2	1.04	157.5	7.1	0.75

Grand Means		Summary Statistics	
	146.79 mg/L		150.40 mg/L
Std Dev Btwn Labs			
	8.82 mg/L		9.42 mg/L
<b>Statistics based on 78 of 83 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

- 6LTCLJ (X) - Data for both samples are high. Possible Systematic Error.
- 8FF8NF (X) - Data for both samples are low.
- 8FVPME (X) - Inconsistent in testing between samples, data for Sample SA04 are low.
- 9UQ9XB (X) - Inconsistent in testing between samples, data for Sample SA03 are low.
- QCC2WP (X) - Data for both samples are high. Possible Systematic Error.

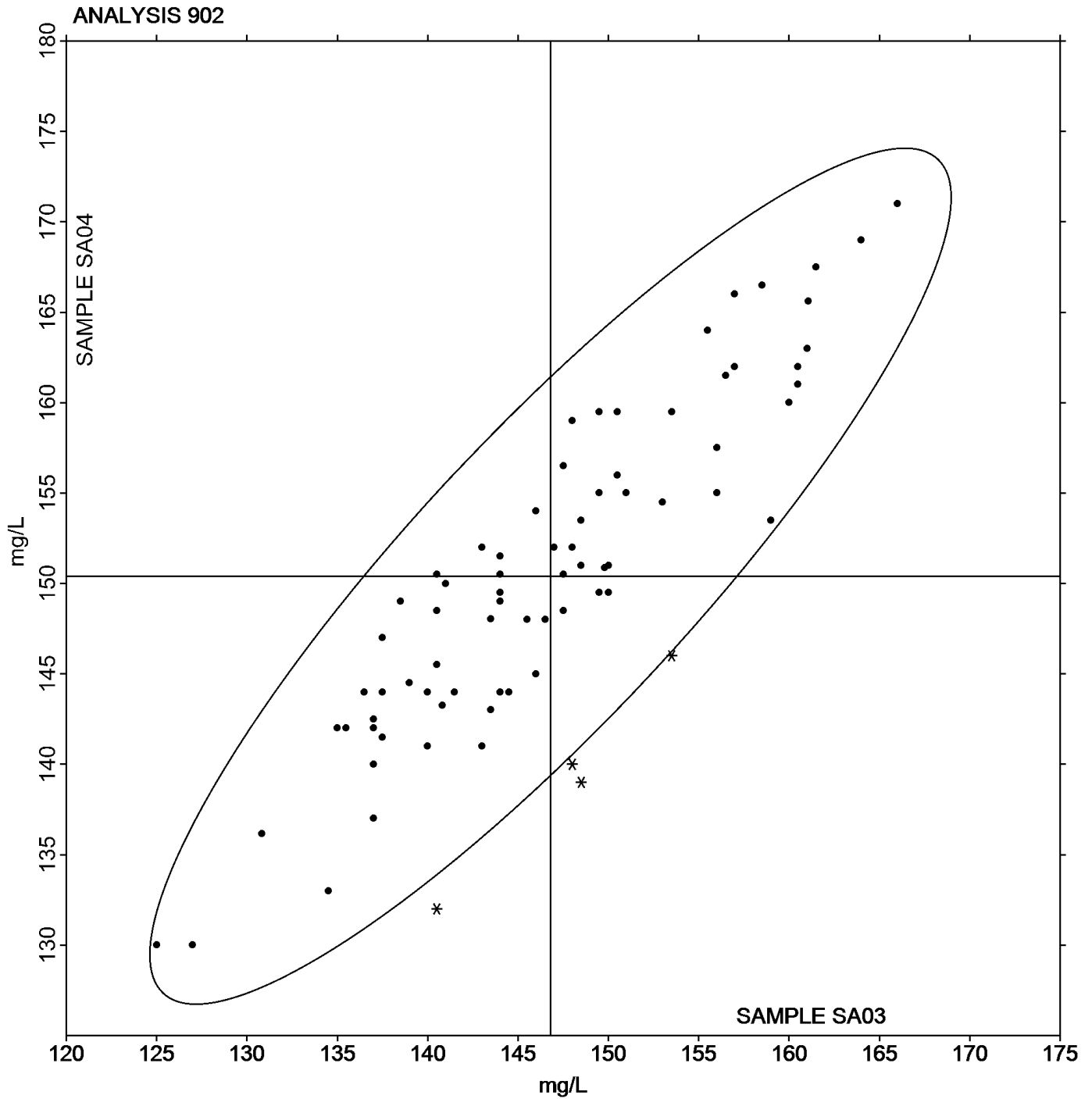


**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <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	140.0	0.0	-6.8	141.0	0.0	-9.4	1	1
Ripper Method	143.7	7.5	-3.1	148.9	7.9	-1.5	29	36
Aeration Oxidation (AO) Method	147.2	6.8	0.4	151.2	7.6	0.8	18	19
Segmented Flow Analyzer	150.7	11.0	3.9	154.9	13.2	4.5	6	6
Enzymatic Method	147.9	14.5	1.1	147.6	12.2	-2.8	4	5
Colormetric Analyzer	154.1	11.2	7.3	158.5	10.9	8.1	5	5
FTIR	142.8	8.1	-4.0	144.0	9.9	-6.4	2	2
Flow Injection Analysis	150.1	10.9	3.3	154.7	9.3	4.3	9	9



Total Sulfur Dioxide







**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 903**  
**Free Sulfur Dioxide**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		21.50	0.40	0.12	22.50	-0.65	-0.18
2ZZEDF		24.00	2.90	0.84	25.50	2.35	0.66
34YP9F	X	39.00	17.90	5.20	43.00	19.85	5.60
3AP4TG		21.00	-0.10	-0.03	20.50	-2.65	-0.75
3HZNWD		19.00	-2.10	-0.61	21.00	-2.15	-0.60
3JV8XE	X	31.03	9.93	2.88	40.66	17.51	4.94
3UNRXH		21.00	-0.10	-0.03	22.50	-0.65	-0.18
4ZUNGH		24.50	3.40	0.99	26.00	2.85	0.80
4ZYZ6E		23.50	2.40	0.70	25.50	2.35	0.66
64RL6F		22.50	1.40	0.41	26.00	2.85	0.80
6BUTQA		21.00	-0.10	-0.03	24.00	0.85	0.24
6LTCLJ		19.50	-1.60	-0.46	20.50	-2.65	-0.75
6PRMGH		20.00	-1.10	-0.32	23.00	-0.15	-0.04
76H8BB		20.00	-1.10	-0.32	23.00	-0.15	-0.04
7BACB8		19.05	-2.05	-0.60	19.65	-3.50	-0.99
7E9N78		20.00	-1.10	-0.32	25.50	2.35	0.66
7PQ6YE	*	27.00	5.90	1.71	26.00	2.85	0.80
7W9HXD		21.50	0.40	0.12	24.00	0.85	0.24
7Z9PJB		16.50	-4.60	-1.34	18.50	-4.65	-1.31
87QH8F		29.00	7.90	2.29	32.00	8.85	2.50
8FF8NF	X	15.00	-6.10	-1.77	12.00	-11.15	-3.14
8FVPM E		21.50	0.40	0.12	24.50	1.35	0.38
8MHEAA		21.50	0.40	0.12	23.50	0.35	0.10
9LF7CB		17.00	-4.10	-1.19	20.50	-2.65	-0.75
9UQ9XB		21.18	0.07	0.02	24.56	1.41	0.40
9VLQYC		19.00	-2.10	-0.61	22.00	-1.15	-0.32



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 903**  
**Free Sulfur Dioxide**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AFPW3C		20.50	-0.60	-0.17	22.50	-0.65	-0.18
AGKE4D		16.50	-4.60	-1.34	21.00	-2.15	-0.60
ALVRLC		24.50	3.40	0.99	24.50	1.35	0.38
AR2G66		20.50	-0.60	-0.17	24.50	1.35	0.38
AVKDRA		24.00	2.90	0.84	23.00	-0.15	-0.04
B3YLTC		21.00	-0.10	-0.03	20.50	-2.65	-0.75
BCKQZB		22.00	0.90	0.26	22.50	-0.65	-0.18
CXL2J6		18.50	-2.60	-0.75	19.00	-4.15	-1.17
DXHWL8		21.00	-0.10	-0.03	22.00	-1.15	-0.32
E33FZ8	X	20.50	-0.60	-0.17	13.50	-9.65	-2.72
ECTWV4		21.29	0.18	0.05	23.76	0.61	0.17
EG3EN6		18.00	-3.10	-0.90	20.00	-3.15	-0.89
EUR446		25.00	3.90	1.13	26.50	3.35	0.95
F32XH3		23.00	1.90	0.55	27.00	3.85	1.09
G9HX9Z		28.50	7.40	2.15	30.50	7.35	2.07
GHTZUZ		18.75	-2.35	-0.68	21.85	-1.30	-0.37
HDTBQX		21.00	-0.10	-0.03	23.00	-0.15	-0.04
HGRMLX		17.91	-3.19	-0.93	20.78	-2.37	-0.67
HRA4E6		21.00	-0.10	-0.03	22.00	-1.15	-0.32
JP2DP2		17.20	-3.90	-1.13	18.40	-4.75	-1.34
JUF4UW	*	20.00	-1.10	-0.32	26.40	3.25	0.92
KKKMHW		26.50	5.40	1.57	29.50	6.35	1.79
L6MTLW		22.00	0.90	0.26	23.00	-0.15	-0.04
LF924Y		23.00	1.90	0.55	26.00	2.85	0.80
MKHELX		18.50	-2.60	-0.75	19.50	-3.65	-1.03
MYZ6QR		27.50	6.40	1.86	30.00	6.85	1.93



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 903**  
**Free Sulfur Dioxide**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N7CLRZ		19.00	-2.10	-0.61	22.00	-1.15	-0.32
NAGABV		16.50	-4.60	-1.34	16.61	-6.54	-1.84
NQ4PER		22.50	1.40	0.41	23.50	0.35	0.10
NZ78PV		22.00	0.90	0.26	24.00	0.85	0.24
PFCVBU		20.00	-1.10	-0.32	23.50	0.35	0.10
PQYPRX		15.00	-6.10	-1.77	17.00	-6.15	-1.73
PYPBXV		24.00	2.90	0.84	26.00	2.85	0.80
PZKTYW	*	30.50	9.40	2.73	32.50	9.35	2.64
QCC2WP		19.00	-2.10	-0.61	20.50	-2.65	-0.75
QRAQDW		22.50	1.40	0.41	25.50	2.35	0.66
R7KWXU		17.00	-4.10	-1.19	19.00	-4.15	-1.17
RRZGUU		26.50	5.40	1.57	30.00	6.85	1.93
RWBP2Q		19.00	-2.10	-0.61	22.50	-0.65	-0.18
TQNWPR		18.00	-3.10	-0.90	21.00	-2.15	-0.60
UHTGDR		21.00	-0.10	-0.03	22.50	-0.65	-0.18
UTPKHL		20.50	-0.60	-0.17	24.50	1.35	0.38
VCWA9N	*	12.50	-8.60	-2.50	16.00	-7.15	-2.01
VWJZ8K		27.20	6.10	1.77	27.20	4.05	1.14
W42TWP		21.00	-0.10	-0.03	23.50	0.35	0.10
WN9YLK	X	33.50	12.40	3.60	36.50	13.35	3.76
X3J47H		17.85	-3.25	-0.94	19.60	-3.55	-1.00
X97R2N		19.50	-1.60	-0.46	21.50	-1.65	-0.46
XC7XLL		21.00	-0.10	-0.03	21.00	-2.15	-0.60
XD2GNM		18.00	-3.10	-0.90	22.00	-1.15	-0.32
XMR2UK		20.50	-0.60	-0.17	21.50	-1.65	-0.46
XR2ECJ	*	12.50	-8.60	-2.50	13.00	-10.15	-2.86



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 903**  
**Free Sulfur Dioxide**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YU9XAE		23.00	1.90	0.55	23.00	-0.15	-0.04
YYFNDK		27.50	6.40	1.86	30.00	6.85	1.93
ZF39QJ		20.40	-0.70	-0.20	21.60	-1.55	-0.44
ZQJ82L		22.00	0.90	0.26	24.00	0.85	0.24
ZTMNUJ		21.50	0.40	0.12	22.50	-0.65	-0.18

Grand Means		Summary Statistics	
	21.100 mg/L		23.146 mg/L
<b>Std Dev Btwn Labs</b>	3.444 mg/L		3.548 mg/L
<b>Statistics based on 78 of 83 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

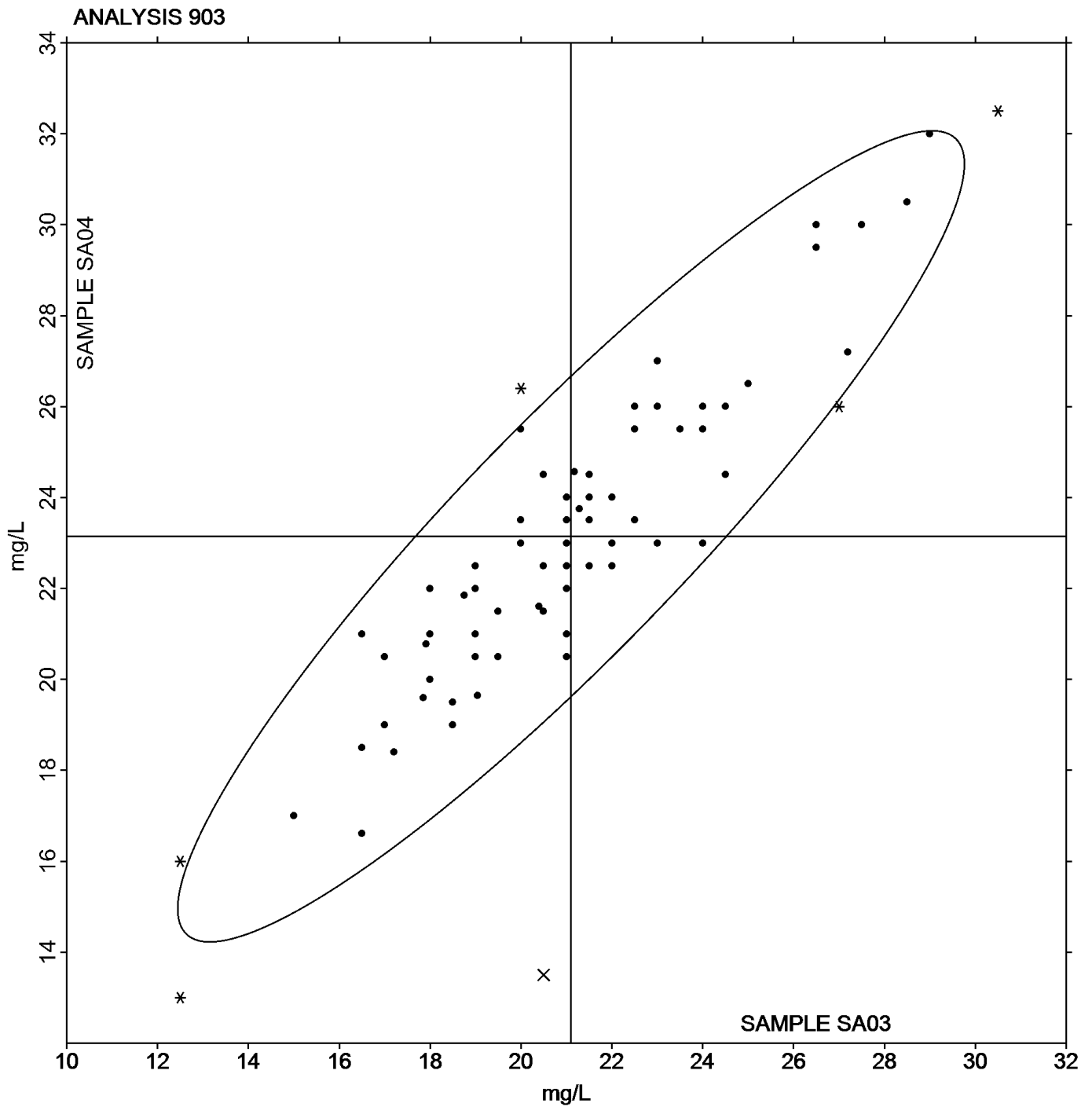
**Comments on assigned Data Flags**

- 34YP9F (X) - Data for both samples are high.
- 3JV8XE (X) - Data for both samples are high.
- 8FF8NF (X) - Inconsistent in testing between samples, data for Sample SA04 are low.
- E33FZ8 (X) - Inconsistent in testing between samples.
- WN9YLK (X) - Data for both samples are high. Possible Systematic Error.



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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <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	23.00	0.00	1.90	23.00	0.00	-0.15	1	1
Ripper Method	19.62	1.90	-1.48	22.13	2.35	-1.02	18	20
Aeration Oxidation (AO) Method	21.23	3.07	0.13	23.11	3.22	-0.04	32	37
Segmented Flow Analyzer	22.21	3.24	1.11	24.57	3.42	1.43	7	7
Colormetric Analyzer	26.83	2.57	5.73	28.33	4.73	5.19	3	4
Flow Injection Analysis	20.98	2.33	-0.12	22.81	2.43	-0.33	12	12





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		6.400	-0.174	-0.44	6.600	0.013	0.03
2ZZEDF		6.400	-0.174	-0.44	6.400	-0.187	-0.47
34YP9F		6.700	0.126	0.32	6.700	0.113	0.28
3AP4TG		7.050	0.476	1.19	7.040	0.453	1.14
3HZNWD		7.050	0.476	1.19	7.050	0.463	1.16
3JV8XE		6.525	-0.049	-0.12	6.525	-0.062	-0.16
3UNRXH		6.185	-0.389	-0.98	6.135	-0.452	-1.13
4ZUNGH		5.890	-0.684	-1.72	5.890	-0.697	-1.75
4ZYZ6E		6.435	-0.139	-0.35	6.455	-0.132	-0.33
64RL6F		6.325	-0.249	-0.62	6.315	-0.272	-0.68
6BUTQA		6.440	-0.134	-0.34	6.460	-0.127	-0.32
6LTCLJ		6.250	-0.324	-0.81	6.250	-0.337	-0.85
6PRMGH		6.600	0.026	0.07	6.650	0.063	0.16
76H8BB		6.450	-0.124	-0.31	6.550	-0.037	-0.09
7BACB8		6.500	-0.074	-0.19	6.400	-0.187	-0.47
7E9N78		6.750	0.176	0.44	6.700	0.113	0.28
7PQ6YE		7.500	0.926	2.32	7.550	0.963	2.42
7W9HXD		6.300	-0.274	-0.69	6.300	-0.287	-0.72
7Z9PJB		6.450	-0.124	-0.31	6.300	-0.287	-0.72
87QH8F		6.630	0.056	0.14	6.530	-0.057	-0.14
8FF8NF		6.550	-0.024	-0.06	6.500	-0.087	-0.22
8FVPME		6.565	-0.009	-0.02	6.500	-0.087	-0.22
8MHEAA		6.530	-0.044	-0.11	6.525	-0.062	-0.16
9LF7CB		6.550	-0.024	-0.06	6.550	-0.037	-0.09
9UQ9XB	X	6.260	-0.314	-0.79	6.635	0.048	0.12
9VLQYC		6.800	0.226	0.57	6.800	0.213	0.53

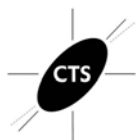


ASEV-CTS Wine Industry Interlaboratory Testing Program  
Analysis 904  
Titratable Acidity

Report #052  
Spring 2016

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AFPW3C	X	5.100	-1.474	-3.70	5.200	-1.387	-3.48
AGKE4D		6.400	-0.174	-0.44	6.350	-0.237	-0.59
AR2G66		6.375	-0.199	-0.50	6.490	-0.097	-0.24
AVKDRA		6.270	-0.304	-0.76	6.280	-0.307	-0.77
AWRVP7		6.285	-0.289	-0.72	6.390	-0.197	-0.49
B3YLTC		6.950	0.376	0.94	6.800	0.213	0.53
BCKQZB	*	7.700	1.126	2.82	7.600	1.013	2.54
CXL2J6		6.400	-0.174	-0.44	6.300	-0.287	-0.72
D4NPF4		6.850	0.276	0.69	6.900	0.313	0.79
DXHWL8		6.300	-0.274	-0.69	6.200	-0.387	-0.97
E33FZ8	X	5.075	-1.499	-3.76	5.370	-1.217	-3.05
ECTWV4		7.450	0.876	2.20	7.350	0.763	1.91
EG3EN6		6.900	0.326	0.82	6.785	0.198	0.50
EUR446		7.040	0.466	1.17	6.890	0.303	0.76
F32XH3	*	7.750	1.176	2.95	7.800	1.213	3.04
G9HX9Z		6.005	-0.569	-1.43	6.005	-0.582	-1.46
GHTZUZ		6.435	-0.139	-0.35	6.425	-0.162	-0.41
HDTBQX		6.645	0.071	0.18	6.830	0.243	0.61
HGRMLX		6.787	0.213	0.53	6.888	0.301	0.75
HRA4E6		7.200	0.626	1.57	7.300	0.713	1.79
JP2DP2		6.455	-0.119	-0.30	6.625	0.038	0.10
JUF4UW		7.200	0.626	1.57	7.350	0.763	1.91
KKKMHW		6.305	-0.269	-0.67	6.425	-0.162	-0.41
L6MTLW		6.200	-0.374	-0.94	6.300	-0.287	-0.72
LF924Y		6.400	-0.174	-0.44	6.400	-0.187	-0.47
M667KU		6.300	-0.274	-0.69	6.250	-0.337	-0.85

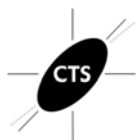




**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 904**  
**Titrateable Acidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MKHELX		6.380	-0.194	-0.49	6.380	-0.207	-0.52
MYZ6QR		6.780	0.206	0.52	6.740	0.153	0.38
N7CLRZ		6.535	-0.039	-0.10	6.535	-0.052	-0.13
NAGABV	*	6.005	-0.569	-1.43	6.265	-0.322	-0.81
NQ4PER		6.450	-0.124	-0.31	6.450	-0.137	-0.34
NZ78PV		6.390	-0.184	-0.46	6.420	-0.167	-0.42
PFCVBU		7.040	0.466	1.17	7.040	0.453	1.14
PQYPRX		6.300	-0.274	-0.69	6.280	-0.307	-0.77
PYPBXV		6.220	-0.354	-0.89	6.280	-0.307	-0.77
PZKTYW		6.590	0.016	0.04	6.600	0.013	0.03
Q777DP		6.700	0.126	0.32	6.750	0.163	0.41
QCC2WP		6.900	0.326	0.82	6.800	0.213	0.53
QRAQDW		6.380	-0.194	-0.49	6.415	-0.172	-0.43
R7KWXU		6.700	0.126	0.32	6.800	0.213	0.53
RRZGUU		5.900	-0.674	-1.69	5.900	-0.687	-1.72
RWBP2Q		6.300	-0.274	-0.69	6.500	-0.087	-0.22
TQNWPR		6.150	-0.424	-1.06	6.200	-0.387	-0.97
UDXMFQ		7.300	0.726	1.82	7.450	0.863	2.17
UHTGDR		6.150	-0.424	-1.06	6.100	-0.487	-1.22
UTPKHL		6.400	-0.174	-0.44	6.300	-0.287	-0.72
VCWA9N		6.695	0.121	0.30	6.555	-0.032	-0.08
VWJZ8K		6.000	-0.574	-1.44	6.200	-0.387	-0.97
W42TWP		6.300	-0.274	-0.69	6.300	-0.287	-0.72
WN9YLK		6.220	-0.354	-0.89	6.175	-0.412	-1.03
X3J47H	*	7.690	1.116	2.80	7.700	1.113	2.79
X97R2N		6.330	-0.244	-0.61	6.285	-0.302	-0.76



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XC7XLL		6.425	-0.149	-0.37	6.675	0.088	0.22
XD2GNM		6.500	-0.074	-0.19	6.500	-0.087	-0.22
XMR2UK		6.500	-0.074	-0.19	6.300	-0.287	-0.72
XR2ECJ		7.000	0.426	1.07	7.050	0.463	1.16
YYFNDK	X	7.840	1.266	3.18	7.200	0.613	1.54
ZF39QJ		6.350	-0.224	-0.56	6.270	-0.317	-0.79
ZQJ82L		6.650	0.076	0.19	6.750	0.163	0.41
ZTMNUJ		6.400	-0.174	-0.44	6.550	-0.037	-0.09

Grand Means	Summary Statistics
6.5739 g/L as tartaric acid	6.5869 g/L as tartaric acid
<b>Stnd Dev Btwn Labs</b>	
0.3987 g/L as tartaric acid	0.3986 g/L as tartaric acid
<b>Statistics based on 82 of 86 reporting participants</b>	

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

- 9UQ9XB (X) - Inconsistent in testing between samples.
- AFPW3C (X) - Data for both samples are low. Possible Systematic Error.
- E33FZ8 (X) - Data for both samples are low. Possible Systematic Error.
- YYFNDK (X) - Inconsistent in testing between samples, data for Sample SA03 are high.



Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Autotitration	6.554	0.336	-0.020	6.563	0.352	-0.024	56	58
Manual Titration	6.410	0.321	-0.164	6.453	0.333	-0.134	16	21
FTIR	6.661	0.215	0.087	6.620	0.179	0.033	5	6
Segmented Flow Analyzer	7.040	0.000	0.466	6.890	0.000	0.303	1	1





**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 905**  
**Volatile Acidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		0.2950	0.0447	0.55	0.3050	0.0534	0.66
2ZZEDF		0.1750	-0.0753	-0.93	0.1800	-0.0716	-0.89
34YP9F		0.1800	-0.0703	-0.87	0.1800	-0.0716	-0.89
3AP4TG		0.2050	-0.0453	-0.56	0.2050	-0.0466	-0.58
3HZNWD		0.3500	0.0997	1.23	0.3550	0.1034	1.28
3JV8XE		0.2520	0.0017	0.02	0.2520	0.0004	0.00
3UNRXH		0.3600	0.1097	1.35	0.3600	0.1084	1.34
4ZUNGH	X	0.3200	0.0697	0.86	0.2450	-0.0066	-0.08
64RL6F		0.2200	-0.0303	-0.37	0.2250	-0.0266	-0.33
6BUTQA		0.1800	-0.0703	-0.87	0.1600	-0.0916	-1.13
6LTCLJ		0.2500	-0.0003	0.00	0.2600	0.0084	0.10
6PRMGH		0.3350	0.0847	1.04	0.3500	0.0984	1.22
76H8BB		0.3500	0.0997	1.23	0.3500	0.0984	1.22
7BACB8		0.1730	-0.0773	-0.95	0.1750	-0.0766	-0.95
7E9N78		0.2700	0.0197	0.24	0.2800	0.0284	0.35
7PQ6YE		0.1900	-0.0603	-0.74	0.1900	-0.0616	-0.76
7W9HXD		0.3900	0.1397	1.72	0.3700	0.1184	1.46
7Z9PJB	*	0.2050	-0.0453	-0.56	0.2400	-0.0116	-0.14
87QH8F		0.2750	0.0247	0.30	0.2650	0.0134	0.17
8FF8NF		0.2700	0.0197	0.24	0.2700	0.0184	0.23
8FVPME		0.1900	-0.0603	-0.74	0.1950	-0.0566	-0.70
8MHEAA		0.1400	-0.1103	-1.36	0.1400	-0.1116	-1.38
9LF7CB		0.3000	0.0497	0.61	0.3050	0.0534	0.66
9VLQYC		0.1600	-0.0903	-1.11	0.1550	-0.0966	-1.20
AFPW3C		0.2900	0.0397	0.49	0.2800	0.0284	0.35
AGKE4D		0.3200	0.0697	0.86	0.3300	0.0784	0.97



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 905**  
**Volatile Acidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AR2G66		0.2500	-0.0003	0.00	0.2650	0.0134	0.17
AVKDRA		0.2000	-0.0503	-0.62	0.2200	-0.0316	-0.39
AWRVP7		0.3450	0.0947	1.17	0.3450	0.0934	1.16
B3YLTC	*	0.3250	0.0747	0.92	0.2900	0.0384	0.47
BCKQZB		0.2900	0.0397	0.49	0.3100	0.0584	0.72
CXL2J6		0.2850	0.0347	0.43	0.2900	0.0384	0.47
DXHWL8		0.1800	-0.0703	-0.87	0.1800	-0.0716	-0.89
E33FZ8		0.2850	0.0347	0.43	0.3000	0.0484	0.60
EG3EN6		0.1520	-0.0983	-1.21	0.1520	-0.0996	-1.23
EUR46		0.3000	0.0497	0.61	0.3060	0.0544	0.67
F32XH3		0.2700	0.0197	0.24	0.2800	0.0284	0.35
G9HX9Z	X	0.3450	0.0947	1.17	0.2950	0.0434	0.54
GHTZUZ		0.1800	-0.0703	-0.87	0.1850	-0.0666	-0.82
HDTBQX	X	0.4600	0.2097	2.58	0.4950	0.2434	3.01
HGRMLX		0.2660	0.0157	0.19	0.2720	0.0204	0.25
HRA4E6		0.1400	-0.1103	-1.36	0.1300	-0.1216	-1.51
JP2DP2		0.2100	-0.0403	-0.50	0.2150	-0.0366	-0.45
JUF4UW	X	0.6300	0.3797	4.68	0.5400	0.2884	3.57
KKKMHW		0.2900	0.0397	0.49	0.2950	0.0434	0.54
L6MTLW		0.2550	0.0047	0.06	0.2500	-0.0016	-0.02
LF924Y		0.2000	-0.0503	-0.62	0.1900	-0.0616	-0.76
M667KU		0.2100	-0.0403	-0.50	0.2250	-0.0266	-0.33
MKHELX		0.2100	-0.0403	-0.50	0.1950	-0.0566	-0.70
MYZ6QR		0.1500	-0.1003	-1.24	0.1500	-0.1016	-1.26
N7CLRZ		0.1935	-0.0568	-0.70	0.1928	-0.0589	-0.73
NAGABV		0.2250	-0.0253	-0.31	0.2250	-0.0266	-0.33



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 905**  
**Volatile Acidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NQ4PER		0.4300	0.1797	2.21	0.4300	0.1784	2.21
NZ78PV	X	0.1350	-0.1153	-1.42	0.2000	-0.0516	-0.64
PFCVBU		0.1500	-0.1003	-1.24	0.1450	-0.1066	-1.32
PQYPRX		0.1750	-0.0753	-0.93	0.1700	-0.0816	-1.01
PYPBXV		0.3950	0.1447	1.78	0.3900	0.1384	1.71
PZKTYW		0.1550	-0.0953	-1.17	0.1550	-0.0966	-1.20
Q777DP	X	0.3500	0.0997	1.23	0.4000	0.1484	1.84
QCC2WP		0.2100	-0.0403	-0.50	0.2400	-0.0116	-0.14
QRAQDW		0.3050	0.0547	0.67	0.2850	0.0334	0.41
R7KWXU		0.3150	0.0647	0.80	0.3400	0.0884	1.09
RRZGUU		0.2650	0.0147	0.18	0.2550	0.0034	0.04
RWBP2Q	*	0.5000	0.2497	3.08	0.5000	0.2484	3.07
TQNWPR		0.3050	0.0547	0.67	0.3000	0.0484	0.60
UHTGDR		0.0850	-0.1653	-2.04	0.0950	-0.1566	-1.94
UTPKHL		0.1550	-0.0953	-1.17	0.1500	-0.1016	-1.26
VCWA9N	X	0.5850	0.3347	4.12	0.6000	0.3484	4.31
VWJZ8K		0.1470	-0.1033	-1.27	0.1520	-0.0996	-1.23
W42TWP		0.3800	0.1297	1.60	0.3700	0.1184	1.46
WN9YLK		0.2500	-0.0003	0.00	0.2400	-0.0116	-0.14
X3J47H		0.2650	0.0147	0.18	0.2750	0.0234	0.29
X97R2N	*	0.1950	-0.0553	-0.68	0.1650	-0.0866	-1.07
XC7XLL		0.3110	0.0607	0.75	0.3165	0.0649	0.80
XD2GNM		0.4400	0.1897	2.34	0.4300	0.1784	2.21
XMR2UK		0.2450	-0.0053	-0.06	0.2450	-0.0066	-0.08
XR2ECJ		0.1600	-0.0903	-1.11	0.1650	-0.0866	-1.07
YU9XAE		0.3100	0.0597	0.74	0.3050	0.0534	0.66



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 905**  
**Volatile Acidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YYFNDK		0.3000	0.0497	0.61	0.3000	0.0484	0.60
ZF39QJ		0.1850	-0.0653	-0.80	0.1900	-0.0616	-0.76
ZQJ82L		0.2200	-0.0303	-0.37	0.2250	-0.0266	-0.33
ZTMNUJ		0.1800	-0.0703	-0.87	0.2000	-0.0516	-0.64

Grand Means	Summary Statistics
0.25026 g/L as acetic acid	0.25164 g/L as acetic acid
<b>Std Dev Btwn Labs</b>	
0.08116 g/L as acetic acid	0.08079 g/L as acetic acid
<b>Statistics based on 75 of 82 reporting participants</b>	

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

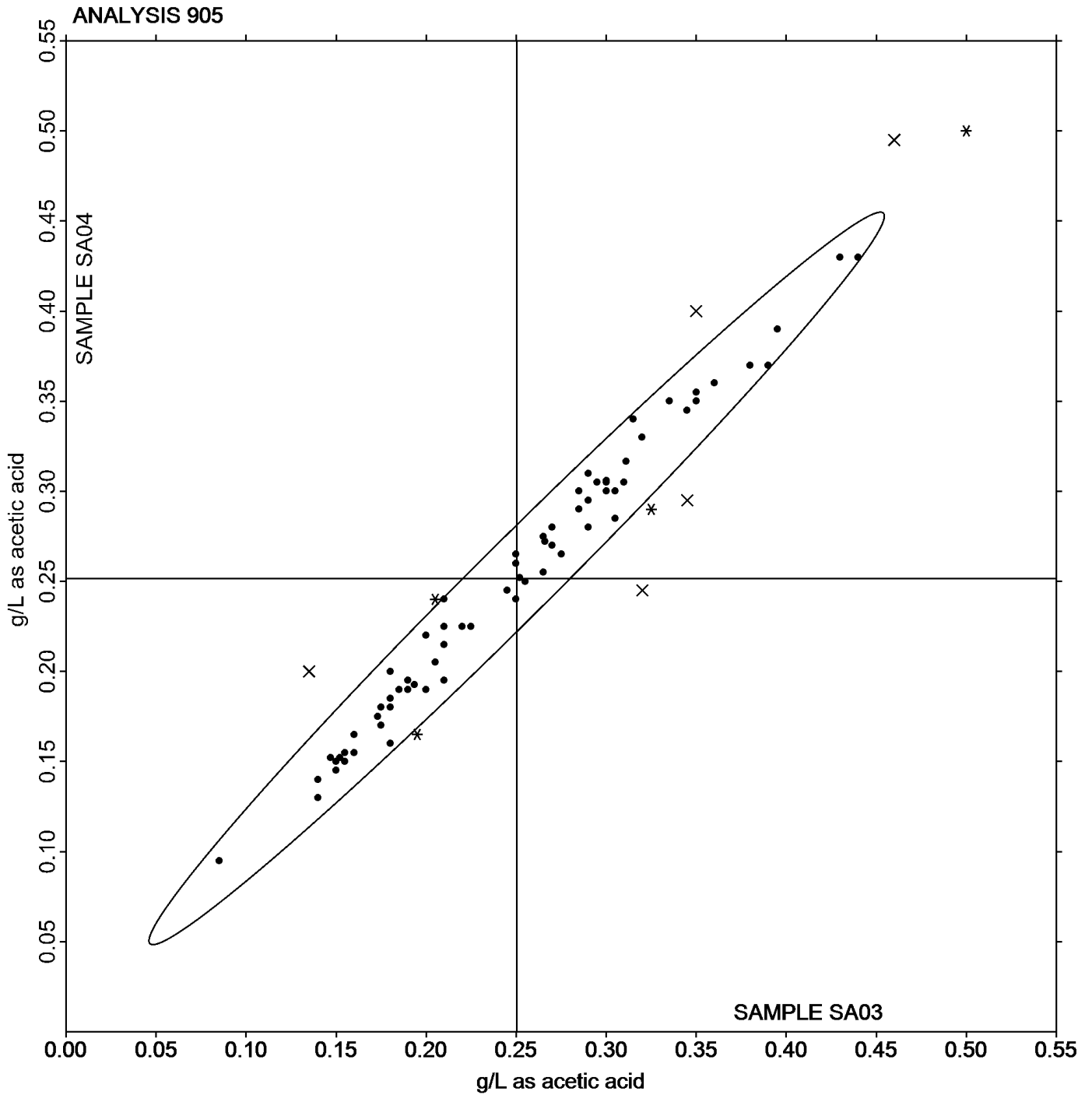
- 4ZUNGH (X) - Inconsistent in testing between samples.
- G9HX9Z (X) - Inconsistent in testing between samples.
- HDTBQX (X) - Data for both samples are high.
- JUF4UW (X) - Data for both samples are high. Also inconsistent in testing within sample SA03.
- NZ78PV (X) - Inconsistent in testing between samples.
- Q777DP (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA03.
- VCWA9N (X) - Data for both samples are high. Also inconsistent in testing within sample SA03.





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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Cash Still method	0.3242	0.0525	0.0740	0.3251	0.0480	0.0734	18	25
Enzymatic method	0.1974	0.0488	-0.0529	0.2009	0.0512	-0.0507	33	34
HPLC	0.1935	0.0000	-0.0568	0.1928	0.0000	-0.0589	1	1
GC	0.2520	0.0000	0.0017	0.2520	0.0000	0.0004	1	2
Seg. Flow / Colorimetric Analyzer	0.3206	0.0472	0.0704	0.3239	0.0463	0.0722	8	8
FTIR	0.2185	0.0596	-0.0318	0.2160	0.0617	-0.0356	10	11





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34YP9F		1.012	0.000	0.28	1.012	0.000	0.23
3AP4TG		1.012	0.001	0.74	1.012	0.000	0.58
3HZNWD		1.012	0.000	0.22	1.012	0.000	0.23
3JV8XE	X	1.012	0.000	0.16	1.012	0.001	0.72
3UNRXH		1.013	0.002	2.11	1.013	0.002	2.30
4ZUNGH		1.010	-0.002	-1.85	1.010	-0.002	-1.84
4ZYZ6E		1.012	0.001	0.76	1.012	0.001	0.84
64RL6F		1.011	0.000	-0.33	1.011	0.000	-0.26
6BUTQA		1.010	-0.001	-1.30	1.011	-0.001	-1.11
6LTCLJ	X	1.011	0.000	-0.58	1.007	-0.005	-5.51
6PRMGH		1.012	0.000	0.52	1.012	0.000	0.60
76H8BB		1.012	0.001	0.64	1.012	0.000	0.60
7BACB8		1.012	0.000	0.44	1.012	0.000	0.40
7E9N78		1.012	0.000	0.20	1.012	0.000	0.18
7W9HXD		1.012	0.001	0.70	1.012	0.001	0.72
7Z9PJB	X	1.008	-0.003	-4.14	1.005	-0.006	-7.25
87QH8F		1.012	0.000	0.16	1.012	0.000	0.23
8FF8NF		1.010	-0.001	-1.73	1.010	-0.002	-2.02
8FVPME		1.012	0.000	0.28	1.012	0.000	0.30
8MHEAA	X	0.012	-0.999	-1,215.73	0.012	-0.999	-1,216.55
9LF7CB		1.011	0.000	-0.05	1.011	0.000	-0.10
9VLQYC		1.012	0.001	0.72	1.012	0.001	0.85
AFPW3C		1.012	0.000	0.55	1.012	0.000	0.55
AGKE4D	X	1.011	0.000	-0.27	1.012	0.000	0.47
ALVRLC	X	1.001	-0.011	-12.84	1.001	-0.010	-12.65
AR2G66		1.012	0.001	0.76	1.012	0.001	0.72



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
B3YLTC		1.012	0.000	0.52	1.012	0.000	0.48
BCKQZB		1.012	0.001	0.95	1.012	0.001	0.96
CXL2J6		1.012	0.001	0.89	1.012	0.000	0.53
DXHWL8		1.012	0.000	0.43	1.012	0.000	0.27
E33FZ8		1.012	0.000	0.40	1.012	0.000	0.53
ECTWV4		1.012	0.000	0.34	1.012	0.000	0.35
EUR446		1.012	0.000	0.28	1.012	0.000	0.35
F32XH3	X	1.011	0.000	0.10	1.011	-0.001	-1.05
G9HX9Z		1.012	0.000	0.28	1.012	0.000	0.23
GHTZUZ		1.012	0.001	1.19	1.012	0.001	1.14
HDTBQX		1.012	0.000	0.28	1.012	0.000	0.35
HGRMLX		1.012	0.000	0.22	1.012	0.000	0.17
HRA4E6		1.010	-0.001	-1.55	1.010	-0.001	-1.59
JUF4UW		1.013	0.001	1.37	1.013	0.001	1.33
KKKMHW		1.012	0.000	0.55	1.012	0.000	0.38
L6MTLW		1.012	0.000	0.28	1.012	0.000	0.23
LF924Y	X	1.012	0.001	0.65	1.013	0.001	1.45
MKHELX		1.013	0.002	1.92	1.013	0.001	1.63
MYZ6QR		1.012	0.000	0.40	1.012	0.000	0.35
N7CLRZ		1.012	0.000	0.58	1.012	0.000	0.57
NAGABV		1.009	-0.003	-3.43	1.008	-0.003	-3.66
NQ4PER		1.012	0.000	0.40	1.012	0.000	0.35
PFCVBU		1.012	0.001	0.76	1.012	0.001	0.72
PQYPRX		1.012	0.000	0.40	1.011	0.000	0.05
PYPBXV		1.012	0.000	0.28	1.012	0.000	0.35
Q777DP		1.012	0.000	0.36	1.012	0.000	0.35



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QRAQDW		1.012	0.000	0.16	1.012	0.000	0.11
R7KWXU		1.012	0.001	0.65	1.012	0.001	0.64
RRZGUU	X	1.009	-0.002	-2.78	1.005	-0.006	-7.49
RWBP2Q		1.009	-0.003	-3.37	1.009	-0.003	-3.18
UDXMFQ		1.012	0.001	0.64	1.012	0.000	0.41
UHTGDR		1.012	0.000	0.44	1.012	0.000	0.42
UTPKHL		1.012	0.000	0.52	1.012	0.000	0.60
VCWA9N		1.012	0.000	0.52	1.012	0.000	0.47
VWJZ8K		1.012	0.001	0.64	1.012	0.000	0.60
W42TWP		1.012	0.000	0.32	1.012	0.000	0.29
WN9YLK		1.011	0.000	0.12	1.012	0.000	0.11
X97R2N		1.012	0.001	0.89	1.012	0.001	0.84
XC7XLL		1.012	0.000	0.34	1.012	0.000	0.43
XD2GNM		1.012	0.000	0.52	1.012	0.001	0.72
XR2ECJ		1.010	-0.002	-2.03	1.010	-0.002	-1.96
YU9XAE		1.012	0.000	0.55	1.012	0.000	0.50
ZQJ82L	X	3.000	1.989	2,419.16	3.000	1.989	2,420.64
ZTMNUJ		1.012	0.000	0.16	1.011	0.000	0.05

Grand Means		Summary Statistics	
	1.0114 sp gr 20/20 C		1.0114 sp gr 20/20 C
Std Dev Btwn Labs			
	0.0008 sp gr 20/20 C		0.0008 sp gr 20/20 C
<b>Statistics based on 60 of 70 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel



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**Comments on assigned Data Flags**

3JV8XE (X) - Inconsistent in testing between samples.

6LTCLJ (X) - Inconsistent in testing between samples, data for Sample SA04 are low. Also inconsistent in testing within both samples.

7Z9PJB (X) - Data for both samples are low. Possible Systematic Error.

8MHEAA (X) - Extreme data.

AGKE4D (X) - Inconsistent in testing between samples.

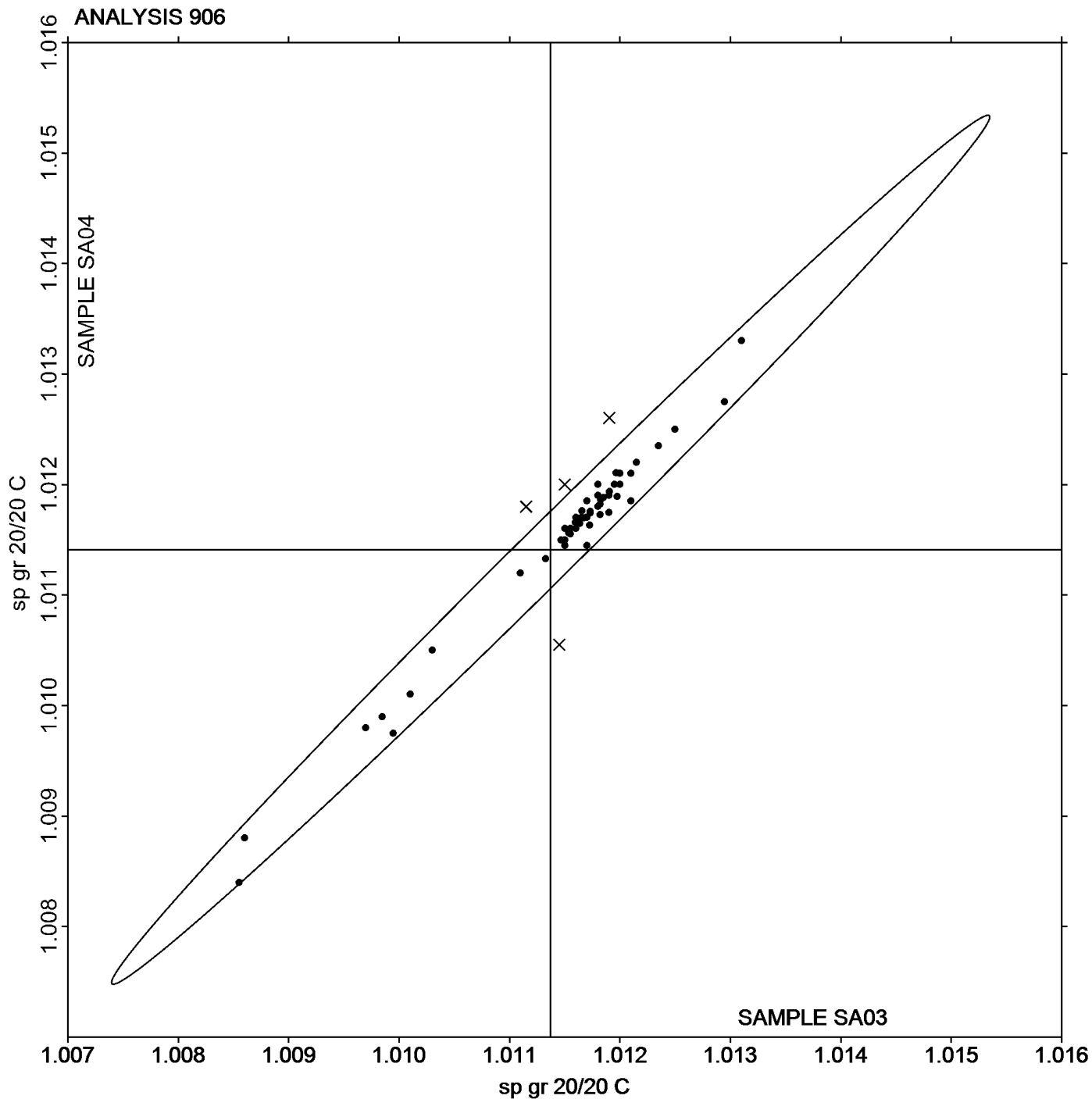
ALVRLC (X) - Data for both samples are low.

F32XH3 (X) - Inconsistent in testing between samples.

LF924Y (X) - Inconsistent in testing between samples.

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

ZQJ82L (X) - Data for both samples are high.





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK		3.230	0.012	0.47	3.235	0.009	0.37
2ZZEDF		3.245	0.027	1.05	3.240	0.014	0.57
34YP9F		3.240	0.022	0.85	3.245	0.019	0.77
3AP4TG		3.230	0.012	0.47	3.225	-0.001	-0.03
3HZNWD		3.230	0.012	0.47	3.235	0.009	0.37
3JV8XE		3.200	-0.018	-0.69	3.200	-0.026	-1.04
3UNRXH		3.185	-0.033	-1.27	3.200	-0.026	-1.04
4ZUNGH	X	3.120	-0.098	-3.77	3.120	-0.106	-4.24
4ZYZ6E		3.255	0.037	1.43	3.270	0.044	1.77
64RL6F		3.215	-0.003	-0.11	3.220	-0.006	-0.23
6BUTQA		3.190	-0.028	-1.07	3.210	-0.016	-0.63
6LTCLJ		3.185	-0.033	-1.27	3.205	-0.021	-0.84
6PRMGH		3.250	0.032	1.24	3.260	0.034	1.37
76H8BB		3.220	0.002	0.08	3.240	0.014	0.57
7BACB8		3.230	0.012	0.47	3.240	0.014	0.57
7E9N78	X	3.180	-0.038	-1.46	3.215	-0.011	-0.43
7PQ6YE		3.205	-0.013	-0.49	3.210	-0.016	-0.63
7W9HXD		3.220	0.002	0.08	3.225	-0.001	-0.03
7Z9PJB		3.250	0.032	1.24	3.260	0.034	1.37
87QH8F		3.200	-0.018	-0.69	3.220	-0.006	-0.23
8FF8NF		3.220	0.002	0.08	3.220	-0.006	-0.23
8FVPME		3.190	-0.028	-1.07	3.205	-0.021	-0.84
8MHEAA		3.230	0.012	0.47	3.250	0.024	0.97
9LF7CB	*	3.285	0.067	2.59	3.290	0.064	2.57
9UQ9XB	X	2.945	-0.273	-10.52	2.895	-0.331	-13.26
9VLQYC	X	3.360	0.142	5.48	3.360	0.134	5.38





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 907

### pH

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
AFPW3C		3.205	-0.013	-0.49	3.220	-0.006	-0.23
AGKE4D		3.175	-0.043	-1.65	3.185	-0.041	-1.64
AR2G66	X	3.260	0.042	1.63	3.295	0.069	2.77
AVKDRA		3.230	0.012	0.47	3.230	0.004	0.17
AWRVP7		3.190	-0.028	-1.07	3.190	-0.036	-1.44
B3YLTC		3.190	-0.028	-1.07	3.200	-0.026	-1.04
BCKQZB		3.250	0.032	1.24	3.255	0.029	1.17
CXL2J6		3.240	0.022	0.85	3.240	0.014	0.57
D4NPF4		3.245	0.027	1.05	3.255	0.029	1.17
DXHWL8		3.200	-0.018	-0.69	3.210	-0.016	-0.63
E33FZ8	X	3.235	0.017	0.66	3.195	-0.031	-1.24
ECTWV4		3.205	-0.013	-0.49	3.230	0.004	0.17
EG3EN6		3.225	0.007	0.28	3.235	0.009	0.37
EUR446	X	3.000	-0.218	-8.40	3.000	-0.226	-9.05
F32XH3		3.240	0.022	0.85	3.250	0.024	0.97
G9HX9Z		3.170	-0.048	-1.84	3.180	-0.046	-1.84
GHTZUZ		3.235	0.017	0.66	3.245	0.019	0.77
HDTBQX		3.200	-0.018	-0.69	3.215	-0.011	-0.43
HGRMLX		3.207	-0.011	-0.42	3.216	-0.010	-0.39
HRA4E6		3.210	-0.008	-0.30	3.220	-0.006	-0.23
JP2DP2		3.230	0.012	0.47	3.240	0.014	0.57
JUF4UW		3.220	0.002	0.08	3.235	0.009	0.37
KKKMHW		3.270	0.052	2.01	3.265	0.039	1.57
L6MTLW		3.170	-0.048	-1.84	3.180	-0.046	-1.84
LF924Y		3.210	-0.008	-0.30	3.210	-0.016	-0.63
M667KU		3.200	-0.018	-0.69	3.210	-0.016	-0.63



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 907

### pH

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MKHELX		3.220	0.002	0.08	3.230	0.004	0.17
MYZ6QR		3.255	0.037	1.43	3.260	0.034	1.37
N7CLRZ	X	3.395	0.177	6.83	3.395	0.169	6.78
NAGABV	X	3.235	0.017	0.66	3.215	-0.011	-0.43
NQ4PER	X	3.195	-0.023	-0.88	3.175	-0.051	-2.04
NZ78PV	X	3.120	-0.098	-3.77	3.140	-0.086	-3.44
PFCVBU		3.245	0.027	1.05	3.255	0.029	1.17
PQYPRX		3.220	0.002	0.08	3.220	-0.006	-0.23
PYPBXV		3.190	-0.028	-1.07	3.210	-0.016	-0.63
PZKTYW		3.225	0.007	0.28	3.240	0.014	0.57
QCC2WP		3.180	-0.038	-1.46	3.190	-0.036	-1.44
QRAQDW		3.240	0.022	0.85	3.255	0.029	1.17
R7KWXU		3.170	-0.048	-1.84	3.170	-0.056	-2.24
RRZGUU		3.200	-0.018	-0.69	3.210	-0.016	-0.63
RWBP2Q		3.220	0.002	0.08	3.215	-0.011	-0.43
TQNWPR		3.250	0.032	1.24	3.260	0.034	1.37
UHTGDR		3.200	-0.018	-0.69	3.210	-0.016	-0.63
UTPKHL		3.205	-0.013	-0.49	3.205	-0.021	-0.84
VCWA9N		3.225	0.007	0.28	3.245	0.019	0.77
VWJZ8K		3.240	0.022	0.85	3.240	0.014	0.57
W42TWP		3.240	0.022	0.85	3.240	0.014	0.57
WN9YLK		3.175	-0.043	-1.65	3.175	-0.051	-2.04
X3J47H		3.250	0.032	1.24	3.240	0.014	0.57
X97R2N		3.210	-0.008	-0.30	3.210	-0.016	-0.63
XC7XLL	X	3.215	-0.003	-0.11	3.190	-0.036	-1.44
XD2GNM		3.190	-0.028	-1.07	3.200	-0.026	-1.04



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XMR2UK		3.200	-0.018	-0.69	3.220	-0.006	-0.23
XR2ECJ		3.210	-0.008	-0.30	3.210	-0.016	-0.63
YU9XAE		3.210	-0.008	-0.30	3.215	-0.011	-0.43
YYFNDK		3.240	0.022	0.85	3.245	0.019	0.77
ZF39QJ		3.265	0.047	1.82	3.265	0.039	1.57
ZQJ82L		3.180	-0.038	-1.46	3.190	-0.036	-1.44
ZTMNUJ		3.225	0.007	0.28	3.240	0.014	0.57

Grand Means		Summary Statistics	
	3.2178 pH		3.2258 pH
Std Dev Btwn Labs			0.0250 pH
	0.0259 pH		
<b>Statistics based on 73 of 85 reporting participants</b>			

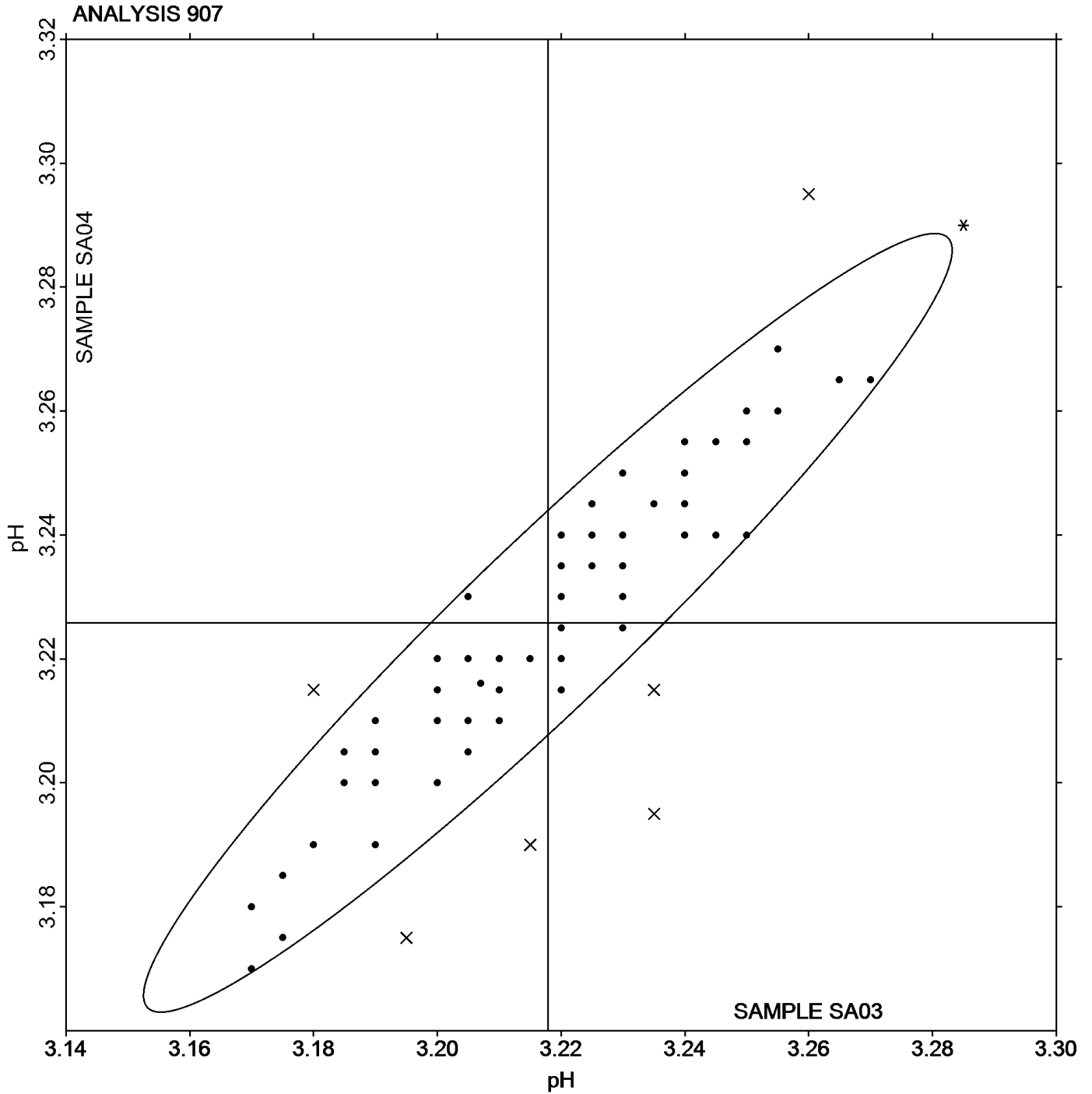
Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

- 4ZUNGH (X) - Data for both samples are low. Possible Systematic Error.
- 7E9N78 (X) - Inconsistent in testing between samples.
- 9UQ9XB (X) - Data for both samples are low.
- 9VLQYC (X) - Data for both samples are high.
- AR2G66 (X) - Inconsistent in testing between samples, data for Sample SA04 are high.
- E33FZ8 (X) - Inconsistent in testing between samples.
- EURA46 (X) - Data for both samples are low.
- N7CLRZ (X) - Data for both samples are high.
- NAGABV (X) - Inconsistent in testing between samples.
- NQ4PER (X) - Inconsistent in testing between samples.
- NZ78PV (X) - Data for both samples are low. Possible Systematic Error.
- XC7XLL (X) - Inconsistent in testing between samples.



pH





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2ZZEDF		41.00	2.81	0.79	41.05	2.66	0.84
3HZNWD		37.00	-1.19	-0.33	37.05	-1.34	-0.42
3JV8XE		40.20	2.01	0.57	40.00	1.61	0.51
3UNRXH		37.00	-1.19	-0.33	36.00	-2.39	-0.76
4ZUNGH		32.93	-5.26	-1.48	33.54	-4.86	-1.54
6BUTQA		40.77	2.58	0.73	41.02	2.63	0.83
9UQ9XB		42.60	4.41	1.24	41.95	3.56	1.13
AFPW3C		40.00	1.81	0.51	39.25	0.86	0.27
B3YLTC	X	56.40	18.21	5.12	63.50	25.11	7.96
E33FZ8		29.37	-8.82	-2.48	31.06	-7.33	-2.32
EUR46		40.50	2.31	0.65	40.00	1.61	0.51
HGRMLX		35.34	-2.85	-0.80	35.92	-2.47	-0.78
KKKMHW		39.20	1.01	0.28	39.10	0.71	0.22
N7CLRZ		35.52	-2.67	-0.75	35.46	-2.93	-0.93
NAGABV		42.74	4.55	1.28	43.36	4.96	1.57
PQYPRX		38.35	0.16	0.05	38.60	0.21	0.07
VWJZ8K		43.00	4.81	1.35	43.00	4.61	1.46
WN9YLK		38.24	0.05	0.01	38.27	-0.12	-0.04
XD2GNM	*	34.40	-3.79	-1.06	37.50	-0.89	-0.28
XMR2UK		35.43	-2.76	-0.77	35.70	-2.70	-0.85
YU9XAE		40.15	1.96	0.55	40.00	1.61	0.51



**Analysis 908  
Residual Sugar**

Grand Means		Summary Statistics	
	38.186 g/L		38.391 g/L
Stnd Dev Btwn Labs			3.156 g/L
	3.561 g/L		
<b>Statistics based on 20 of 21 reporting participants</b>			

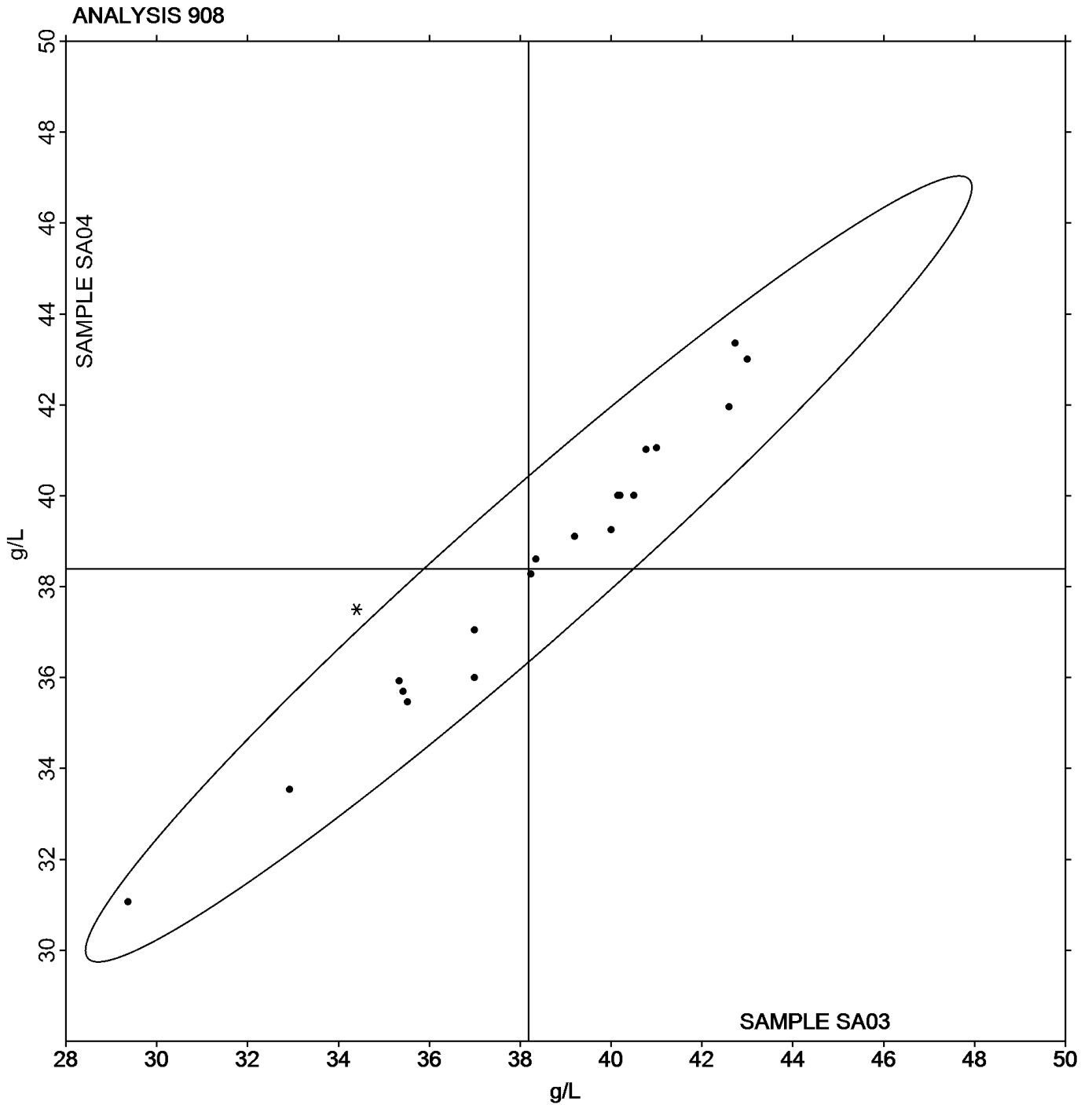
Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

B3YLTC (X) - Data for both samples are high.

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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Cu Reduction Method	37.33	4.45	-0.86	37.55	3.91	-0.84	8	9
Segmented Flow	40.50	0.00	2.31	40.00	0.00	1.61	1	1
FTIR	40.30	2.10	2.11	40.35	2.35	1.95	5	5
Other _____	37.74	2.99	-0.44	37.63	2.69	-0.76	5	6



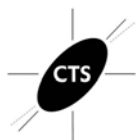


**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 909**  
**L-Malic Acid**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK	*	1.940	-0.586	-2.52	1.940	-0.588	-2.50
34YP9F		2.651	0.124	0.53	2.664	0.136	0.58
3AP4TG	X	4.455	1.929	8.30	4.465	1.937	8.22
3HZNWD		2.200	-0.326	-1.40	2.200	-0.328	-1.39
3JV8XE		2.570	0.044	0.19	2.560	0.032	0.13
4ZUNGH		2.445	-0.081	-0.35	2.300	-0.228	-0.97
4ZYZ6E		2.500	-0.026	-0.11	2.510	-0.018	-0.08
64RL6F		2.680	0.154	0.66	2.765	0.237	1.00
6BUTQA		2.930	0.404	1.74	2.880	0.352	1.49
6PRMGH		2.590	0.064	0.27	2.590	0.062	0.26
76H8BB	*	1.875	-0.652	-2.80	1.925	-0.603	-2.56
7BACB8		2.895	0.369	1.59	2.985	0.457	1.94
7PQ6YE		2.662	0.135	0.58	2.661	0.133	0.56
7W9HXD		2.415	-0.111	-0.48	2.490	-0.038	-0.16
7Z9PJB	*	2.610	0.084	0.36	2.820	0.292	1.24
87QH8F		2.505	-0.021	-0.09	2.400	-0.128	-0.54
8FF8NF		2.880	0.354	1.52	2.855	0.327	1.39
8FVPME		2.895	0.369	1.59	2.885	0.357	1.51
8MHEAA		2.602	0.075	0.32	2.621	0.092	0.39
9VLQYC		2.300	-0.226	-0.97	2.270	-0.258	-1.10
AFPW3C		2.545	0.019	0.08	2.455	-0.073	-0.31
AGKE4D		2.395	-0.131	-0.57	2.431	-0.097	-0.41
AR2G66		2.640	0.114	0.49	2.645	0.117	0.50
AVKDRA		2.780	0.254	1.09	2.650	0.122	0.52
B3YLTC		2.460	-0.066	-0.29	2.460	-0.068	-0.29
BCKQZB		2.284	-0.243	-1.04	2.268	-0.261	-1.11

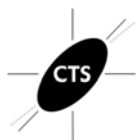




**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 909**  
**L-Malic Acid**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CXL2J6		2.270	-0.256	-1.10	2.325	-0.203	-0.86
D4NPF4		2.390	-0.136	-0.59	2.445	-0.083	-0.35
DXHWL8		2.601	0.075	0.32	2.616	0.087	0.37
EG3EN6		2.498	-0.029	-0.12	2.503	-0.026	-0.11
F32XH3		2.455	-0.071	-0.31	2.455	-0.073	-0.31
G9HX9Z		2.795	0.269	1.16	2.810	0.282	1.20
GHTZUZ		2.815	0.289	1.24	2.795	0.267	1.13
HDTBQX		2.765	0.239	1.03	2.770	0.242	1.03
HGRMLX		2.350	-0.176	-0.76	2.305	-0.223	-0.95
HRA4E6		2.902	0.376	1.62	2.982	0.454	1.93
JP2DP2		2.620	0.094	0.40	2.625	0.097	0.41
KKKMHW		2.615	0.089	0.38	2.595	0.067	0.28
L6MTLW		3.000	0.474	2.04	3.050	0.522	2.21
LF924Y		2.685	0.159	0.68	2.690	0.162	0.69
MKHELX	*	2.225	-0.301	-1.30	2.440	-0.088	-0.38
MYZ6QR		2.565	0.039	0.17	2.480	-0.048	-0.21
N7CLRZ	X	1.713	-0.813	-3.50	1.648	-0.880	-3.74
NAGABV		2.520	-0.006	-0.03	2.695	0.167	0.71
NQ4PER		2.625	0.099	0.42	2.530	0.002	0.01
NZ78PV		2.518	-0.008	-0.04	2.514	-0.014	-0.06
PFCVBU		2.285	-0.241	-1.04	2.275	-0.253	-1.08
PQYPRX		2.015	-0.511	-2.20	2.025	-0.503	-2.14
PYPBXV		2.510	-0.016	-0.07	2.525	-0.003	-0.01
PZKTYW		2.275	-0.251	-1.08	2.300	-0.228	-0.97
QCC2WP		2.655	0.129	0.55	2.490	-0.038	-0.16
QRAQDW		2.380	-0.146	-0.63	2.375	-0.153	-0.65



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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R7KWXU		2.610	0.084	0.36	2.595	0.067	0.28
RRZGUU		2.690	0.164	0.70	2.680	0.152	0.64
RWBP2Q		2.339	-0.187	-0.81	2.303	-0.225	-0.96
TQNWPR		2.245	-0.281	-1.21	2.320	-0.208	-0.88
UHTGDR		2.318	-0.209	-0.90	2.310	-0.218	-0.93
UTPKHL		2.434	-0.092	-0.40	2.462	-0.066	-0.28
VCWA9N	*	2.945	0.419	1.80	2.750	0.222	0.94
VWJZ8K		2.376	-0.151	-0.65	2.475	-0.053	-0.23
W42TWP		2.595	0.069	0.30	2.615	0.087	0.37
WN9YLK		2.285	-0.241	-1.04	2.295	-0.233	-0.99
X3J47H		2.510	-0.016	-0.07	2.530	0.002	0.01
X97R2N	*	2.195	-0.331	-1.43	2.050	-0.478	-2.03
XC7XLL		2.687	0.160	0.69	2.623	0.094	0.40
XMR2UK		2.430	-0.096	-0.41	2.345	-0.183	-0.78
XR2ECJ		2.652	0.126	0.54	2.660	0.131	0.56
YU9XAE		2.700	0.174	0.75	2.800	0.272	1.15
ZF39QJ		2.608	0.081	0.35	2.628	0.100	0.42
ZQJ82L		2.594	0.068	0.29	2.644	0.115	0.49
ZTMNUJ		2.530	0.004	0.02	2.530	0.002	0.01

Grand Means		Summary Statistics	
	2.5264 g/L		2.5284 g/L
Std Dev Btwn Labs			
	0.2324 g/L		0.2355 g/L
<b>Statistics based on 69 of 71 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

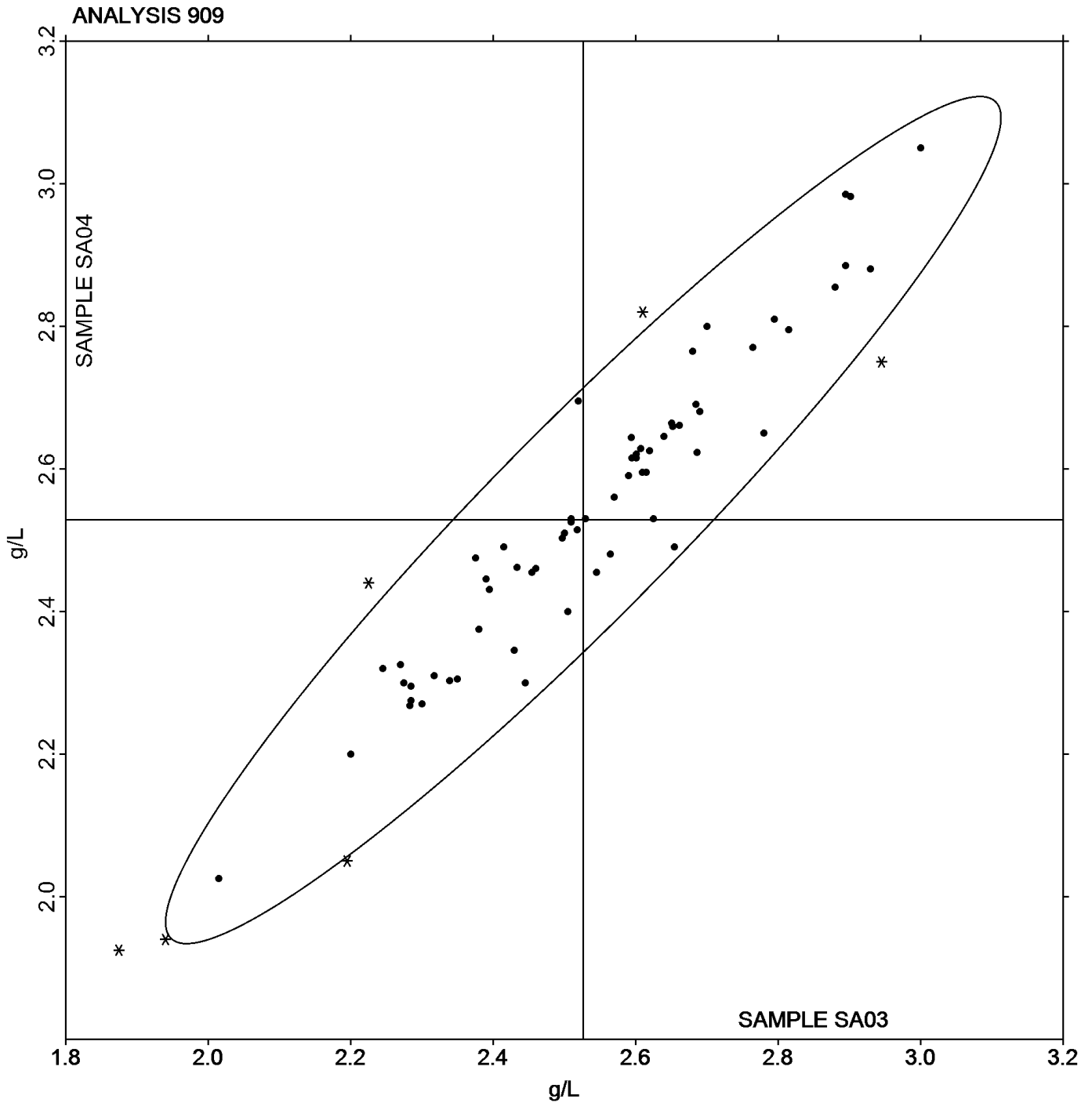


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**Comments on assigned Data Flags**

3AP4TG (X) - Data for both samples are high.

N7CLRZ (X) - Data for both samples are low. Possible Systematic Error.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 910

### Glucose + Fructose

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28JLUK	X	18.69	-19.99	-9.60	18.69	-19.93	-9.58
34YP9F		41.40	2.72	1.31	41.10	2.49	1.19
3AP4TG		41.17	2.49	1.20	41.25	2.63	1.26
3HZNWD		37.90	-0.78	-0.37	37.95	-0.66	-0.32
4ZUNGH	X	32.92	-5.76	-2.76	31.87	-6.74	-3.24
4ZYZ6E	X	32.50	-6.18	-2.97	31.30	-7.31	-3.52
64RL6F		37.40	-1.28	-0.61	37.35	-1.26	-0.61
6BUTQA		39.44	0.76	0.37	39.90	1.29	0.62
6LTCLJ		38.03	-0.65	-0.31	37.40	-1.22	-0.59
6PRMGH		36.45	-2.23	-1.07	36.35	-2.26	-1.09
76H8BB		42.60	3.92	1.88	41.70	3.09	1.48
7BACB8		38.73	0.05	0.02	38.56	-0.06	-0.03
7E9N78		36.60	-2.08	-1.00	37.50	-1.11	-0.54
7PQ6YE		39.80	1.12	0.54	39.75	1.14	0.55
7W9HXD		35.25	-3.43	-1.65	35.75	-2.86	-1.38
7Z9PJB		39.35	0.67	0.32	39.58	0.96	0.46
87QH8F		39.00	0.32	0.16	38.80	0.19	0.09
8FF8NF		38.82	0.14	0.07	38.64	0.03	0.01
8FVPME		39.60	0.92	0.44	39.45	0.84	0.40
8MHEAA		38.90	0.22	0.11	38.60	-0.01	-0.01
9VLQYC		42.70	4.02	1.93	42.70	4.09	1.96
AFPW3C		36.25	-2.43	-1.17	35.50	-3.11	-1.50
AGKE4D		37.20	-1.48	-0.71	37.80	-0.81	-0.39
AR2G66		37.59	-1.09	-0.52	36.69	-1.93	-0.93
AVKDRA		38.10	-0.58	-0.28	39.20	0.59	0.28
B3YLTC	X	52.50	13.82	6.64	49.25	10.64	5.11



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 910**  
**Glucose + Fructose**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BCKQZB		39.41	0.73	0.35	40.32	1.71	0.82
CXL2J6		40.75	2.07	1.00	41.00	2.39	1.15
D4NPF4	*	33.00	-5.68	-2.73	33.00	-5.61	-2.70
DXHWL8		40.80	2.12	1.02	40.90	2.29	1.10
ECTWV4		41.05	2.37	1.14	41.05	2.44	1.17
EG3EN6		39.16	0.48	0.23	39.43	0.81	0.39
EUR446		39.90	1.22	0.59	39.80	1.19	0.57
F32XH3		38.07	-0.61	-0.29	39.02	0.41	0.19
G9HX9Z		39.95	1.27	0.61	38.85	0.24	0.11
GHTZUZ		38.60	-0.08	-0.04	38.90	0.29	0.14
HDTBQX		40.20	1.52	0.73	40.40	1.79	0.86
HGRMLX		34.84	-3.84	-1.84	33.99	-4.63	-2.23
HRA4E6	X	16.00	-22.68	-10.89	14.30	-24.31	-11.69
JP2DP2	X	27.85	-10.83	-5.20	29.15	-9.46	-4.55
KKKMHW		41.49	2.81	1.35	42.01	3.39	1.63
L6MTLW		40.95	2.27	1.09	39.70	1.09	0.52
LF924Y		36.85	-1.83	-0.88	37.10	-1.52	-0.73
M667KU		39.08	0.40	0.19	37.83	-0.78	-0.38
MKHELX		37.55	-1.13	-0.54	37.90	-0.71	-0.34
MYZ6QR		38.10	-0.58	-0.28	38.30	-0.31	-0.15
N7CLRZ		34.36	-4.32	-2.07	34.15	-4.47	-2.15
NQ4PER		40.75	2.07	1.00	40.20	1.59	0.76
NZ78PV		40.25	1.57	0.76	40.40	1.79	0.86
PFCVBU	X	33.10	-5.58	-2.68	36.90	-1.71	-0.82
PQYPRX		38.35	-0.33	-0.16	38.60	-0.01	-0.01
PYPBXV		35.31	-3.37	-1.62	35.19	-3.42	-1.65



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

**Report #052  
Spring 2016**

**Analysis 910**

**Glucose + Fructose**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PZKTYW		39.25	0.57	0.28	39.35	0.74	0.35
Q777DP		36.75	-1.93	-0.93	36.95	-1.66	-0.80
QCC2WP		40.40	1.72	0.83	40.45	1.84	0.88
QRAQDW		39.55	0.87	0.42	38.55	-0.06	-0.03
R7KWXU		36.55	-2.13	-1.02	35.95	-2.66	-1.28
RRZGUU		41.93	3.25	1.56	41.16	2.54	1.22
RWBP2Q	*	37.51	-1.17	-0.56	36.09	-2.53	-1.22
TQNWPR		40.30	1.62	0.78	40.05	1.44	0.69
UHTGDR		39.50	0.82	0.40	39.80	1.19	0.57
UTPKHL		38.20	-0.48	-0.23	38.45	-0.16	-0.08
W42TWP		38.20	-0.48	-0.23	38.60	-0.01	-0.01
WN9YLK		37.29	-1.39	-0.67	37.37	-1.25	-0.60
X3J47H		36.51	-2.17	-1.04	36.58	-2.04	-0.98
X97R2N		39.15	0.47	0.23	38.90	0.29	0.14
XC7XLL	X	40.11	1.43	0.69	37.70	-0.91	-0.44
XMR2UK		35.43	-3.25	-1.56	35.70	-2.92	-1.40
XR2ECJ		41.30	2.62	1.26	41.00	2.39	1.15
ZF39QJ		41.30	2.62	1.26	41.30	2.69	1.29
ZQJ82L		36.50	-2.18	-1.05	37.00	-1.61	-0.78

Grand Means		Summary Statistics	
	38.677 g/L		38.615 g/L
Std Dev Btwn Labs			
	2.082 g/L		2.080 g/L
<b>Statistics based on 63 of 71 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel



**Analysis 910**

**Glucose + Fructose**

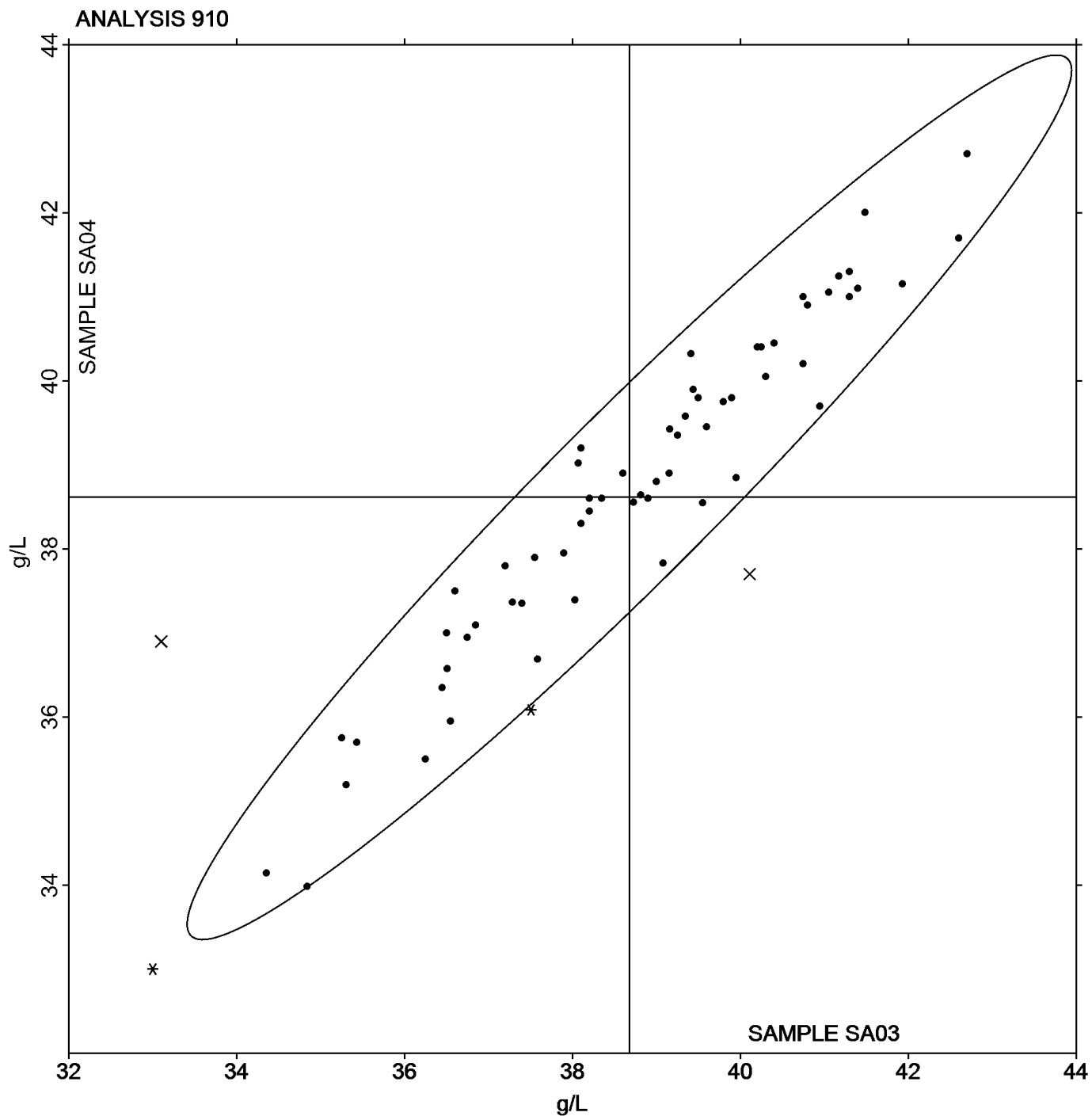
**Comments on assigned Data Flags**

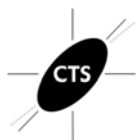
- 28JLUK (X) - Data for both samples are low.
- 4ZUNGH (X) - Data for both samples are low. Possible Systematic Error.
- 4ZYZ6E (X) - Data for both samples are low. Possible Systematic Error.
- B3YLTC (X) - Data for both samples are high.
- HRA4E6 (X) - Data for both samples are low.
- JP2DP2 (X) - Data for both samples are low.
- PFCVBU (X) - Inconsistent in testing between samples.
- XC7XLL (X) - Inconsistent in testing between samples.

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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <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	37.52	3.79	-1.16	37.19	4.54	-1.42	2	2
HPLC	37.00	2.78	-1.67	36.97	2.83	-1.65	3	3
Enzymatic/Spectrophotometric	38.88	1.87	0.20	38.83	1.79	0.22	50	58
FTIR	39.36	1.88	0.69	39.45	1.86	0.84	6	8







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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2ZZEDF		0.1300	0.0213	0.57	0.1300	0.0175	0.50
34YP9F		0.1200	0.0113	0.30	0.1400	0.0275	0.78
6BUTQA		0.1100	0.0013	0.03	0.1200	0.0075	0.21
7Z9PJB		0.1215	0.0128	0.34	0.1210	0.0085	0.24
87QH8F		0.1090	0.0003	0.01	0.1090	-0.0035	-0.10
9VLQYC		0.0500	-0.0588	-1.57	0.0460	-0.0665	-1.89
AFPW3C		0.0945	-0.0143	-0.38	0.1241	0.0116	0.33
DXHWL8		0.1000	-0.0088	-0.23	0.1050	-0.0075	-0.21
EUR46		0.1050	-0.0038	-0.10	0.1100	-0.0025	-0.07
KKKMHW		0.2100	0.1013	2.70	0.2000	0.0875	2.49
MYZ6QR		0.0550	-0.0538	-1.44	0.0550	-0.0575	-1.63
N7CLRZ		0.1625	0.0538	1.44	0.1510	0.0385	1.10
PQYPRX		0.1035	-0.0053	-0.14	0.1030	-0.0095	-0.27
PYPBXV		0.1300	0.0213	0.57	0.1300	0.0175	0.50
RRZGUU		0.1100	0.0013	0.03	0.1000	-0.0125	-0.35
UTPKHL		0.0555	-0.0533	-1.42	0.0555	-0.0570	-1.62
WN9YLK		0.0850	-0.0238	-0.63	0.0805	-0.0320	-0.91
X97R2N		0.1335	0.0248	0.66	0.1195	0.0070	0.20
XC7XLL	*	0.0700	-0.0388	-1.03	0.1300	0.0175	0.50
YU9XAE		0.1200	0.0113	0.30	0.1200	0.0075	0.21

<b>Grand Means</b>		<b>Summary Statistics</b>	
	0.10875 mg/L		0.11248 mg/L
<b>Std Dev Btwn Labs</b>			
	0.03744 mg/L		0.03517 mg/L
<b>Statistics based on 20 of 20 reporting participants</b>			

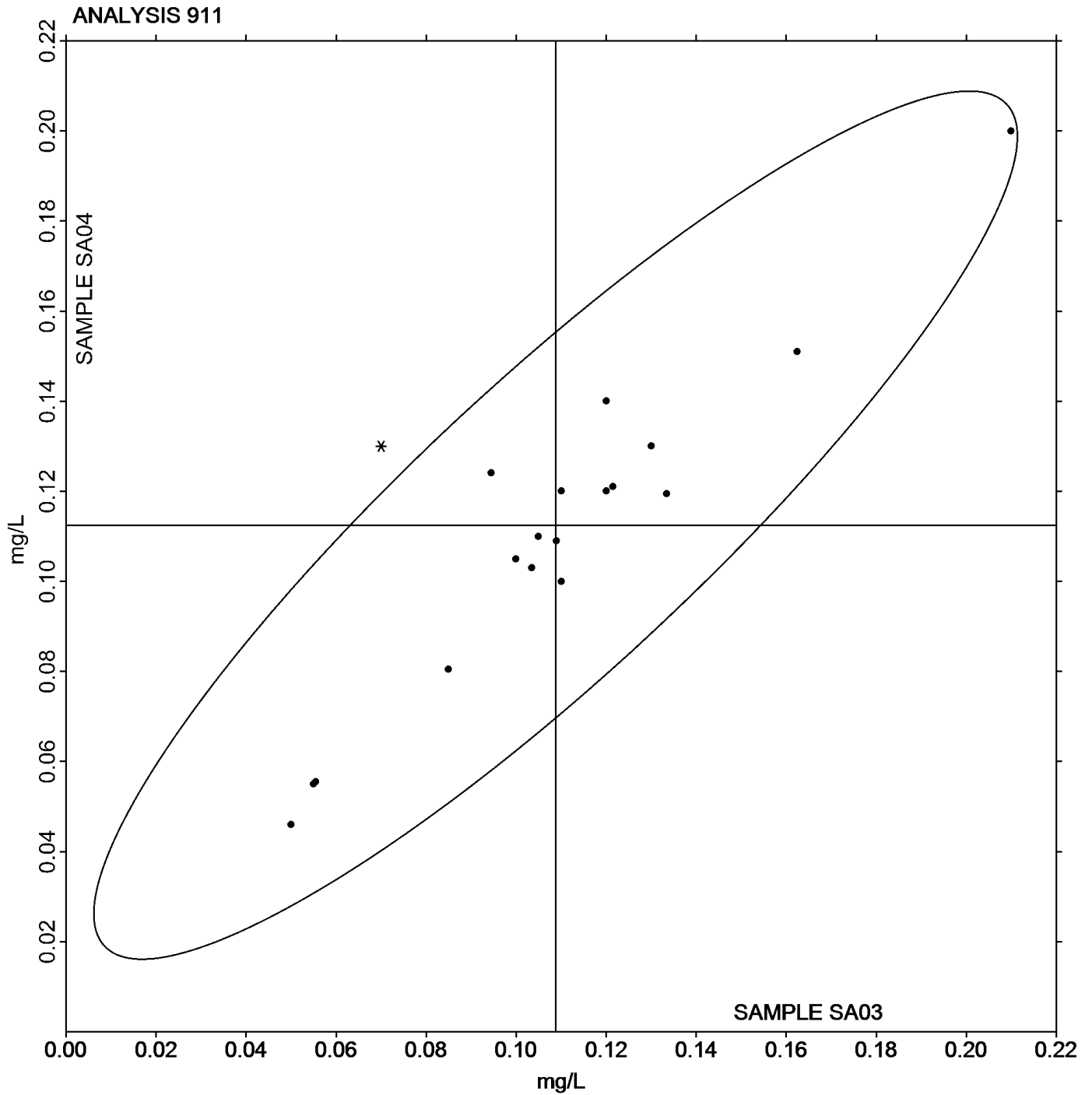
Wines tested: SA03: White Zinfandel; SA04: White Zinfandel



Analysis 911  
Copper Content

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <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	0.1575	0.0742	0.0488	0.1550	0.0636	0.0425	2	2
Atomic Absorption Spectroscopy	0.0976	0.0322	-0.0112	0.1031	0.0361	-0.0094	10	11
ICP-OES	0.1164	0.0255	0.0076	0.1113	0.0220	-0.0012	7	7





Analysis 912

Potassium (K) Content

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3HZNWD		590.0	-245.5	-1.14	591.5	-257.0	-1.13
6PRMGH		1,090.0	254.5	1.18	1,178.0	329.5	1.45
AFPW3C	X	100.0	-735.5	-3.41	93.5	-755.0	-3.32
DXHWL8		865.5	30.0	0.14	870.0	21.5	0.09
EUR446		740.0	-95.5	-0.44	760.0	-88.5	-0.39
GHTZUZ		727.5	-108.0	-0.50	727.5	-121.0	-0.53
KKKMHW		1,105.5	270.0	1.25	1,105.5	257.0	1.13
MYZ6QR		788.5	-47.0	-0.22	777.5	-71.0	-0.31
N7CLRZ		848.4	12.9	0.06	856.7	8.2	0.04
PQYPRX		982.9	147.3	0.68	989.0	140.5	0.62
PYPBXV		889.5	54.0	0.25	893.0	44.5	0.20
Q777DP		906.5	71.0	0.33	895.0	46.5	0.20
RRZGUU		1,000.5	165.0	0.77	1,090.5	242.0	1.06
UDXMFQ	*	173.5	-662.0	-3.07	174.5	-674.0	-2.96
W42TWP		772.0	-63.5	-0.29	776.5	-72.0	-0.32
WN9YLK		900.0	64.5	0.30	890.0	41.5	0.18
X97R2N		964.0	128.5	0.60	975.5	127.0	0.56
XC7XLL	X	832.5	-3.0	-0.01	554.0	-294.5	-1.29
YU9XAE		860.0	24.5	0.11	873.0	24.5	0.11

Grand Means		Summary Statistics	
	835.55 mg/L		848.45 mg/L
Std Dev Btw Labs			
	215.41 mg/L		227.63 mg/L
<b>Statistics based on 17 of 19 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel



**Potassium (K) Content**

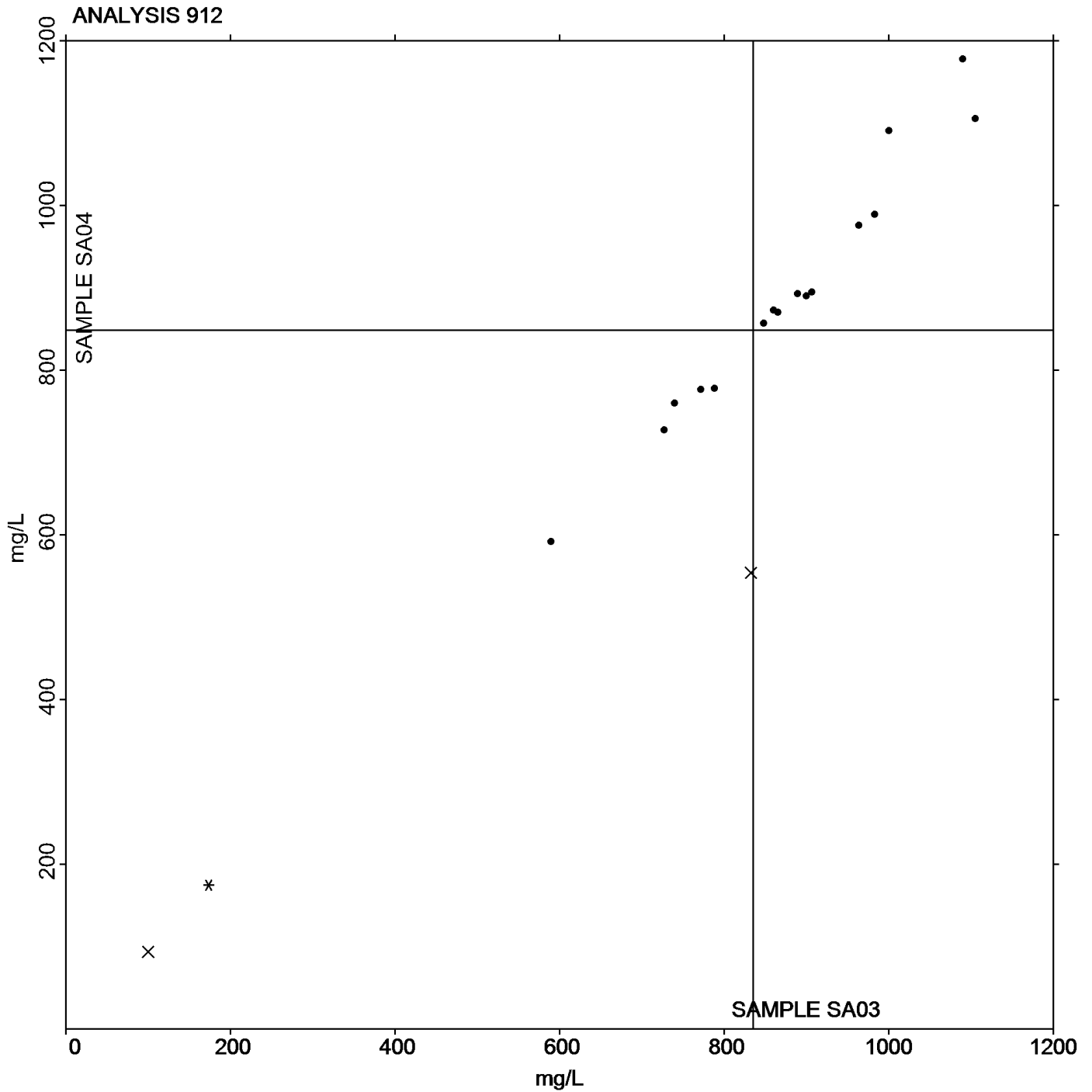
**Comments on assigned Data Flags**

AFPW3C (X) - Data for both samples are low.

XC7XLL (X) - Inconsistent in testing between samples.

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

Test Methodology	Sample SA03 <i>White Zinfandel</i>			Sample SA04 <i>White Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Atomic Absorption Spectroscopy	861.5	63.8	26.0	855.2	67.3	6.7	3	5
ICP-OES	899.0	84.6	63.5	918.7	105.0	70.3	7	7
FTIR	745.0	219.2	-90.5	740.8	211.1	-107.7	2	3
Other _____	915.8	210.3	80.2	942.8	232.1	94.3	4	4



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



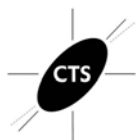
# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 915 A420nm (1cm path)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2ZZEDF		0.2656	0.0187	1.85	0.2630	0.0097	1.01
3AP4TG	*	0.2385	-0.0084	-0.83	0.2360	-0.0173	-1.81
3HZNWD		0.2495	0.0026	0.26	0.2550	0.0017	0.18
3JV8XE		0.2621	0.0152	1.50	0.2623	0.0090	0.95
4ZUNGH	X	0.2600	0.0131	1.29	0.2950	0.0417	4.37
4ZYZ6E		0.2315	-0.0154	-1.52	0.2395	-0.0138	-1.44
6BUTQA	X	0.2580	0.0111	1.09	0.2420	-0.0113	-1.18
6PRMGH		0.2470	0.0001	0.01	0.2555	0.0022	0.23
76H8BB		0.2235	-0.0234	-2.31	0.2360	-0.0173	-1.81
7BACB8		0.2475	0.0006	0.06	0.2575	0.0042	0.44
7E9N78		0.2500	0.0031	0.31	0.2520	-0.0013	-0.13
7W9HXD		0.2450	-0.0019	-0.19	0.2540	0.0007	0.08
87QH8F		0.2505	0.0036	0.35	0.2535	0.0002	0.02
8FVPME		0.2590	0.0121	1.19	0.2645	0.0112	1.18
8MHEAA		0.2445	-0.0024	-0.24	0.2480	-0.0053	-0.55
9UQ9XB	X	0.2665	0.0196	1.93	0.2310	-0.0223	-2.33
9VLQYC		0.2410	-0.0059	-0.58	0.2500	-0.0033	-0.34
AFPW3C		0.2430	-0.0039	-0.39	0.2510	-0.0023	-0.24
ALVRLC		0.2395	-0.0074	-0.73	0.2565	0.0032	0.34
AR2G66		0.2630	0.0161	1.59	0.2655	0.0122	1.28
AVKDRA		0.2440	-0.0029	-0.29	0.2510	-0.0023	-0.24
DXHWL8		0.2490	0.0021	0.21	0.2565	0.0032	0.34
EG3EN6		0.2550	0.0081	0.80	0.2600	0.0067	0.70
EUR446		0.2630	0.0161	1.59	0.2710	0.0177	1.86
F32XH3		0.2630	0.0161	1.59	0.2695	0.0162	1.70
G9HX9Z		0.2390	-0.0079	-0.78	0.2435	-0.0098	-1.02





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

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
HDTBQX		0.2470	0.0001	0.01	0.2555	0.0022	0.23
HGRMLX		0.2545	0.0076	0.75	0.2570	0.0037	0.39
JP2DP2	X	0.2860	0.0391	3.86	0.2860	0.0327	3.43
JUF4UW		0.2420	-0.0049	-0.48	0.2465	-0.0068	-0.71
KKKMHW		0.2500	0.0031	0.31	0.2580	0.0047	0.49
L6MTLW		0.2415	-0.0054	-0.53	0.2485	-0.0048	-0.50
LF924Y		0.2615	0.0145	1.43	0.2698	0.0165	1.73
MYZ6QR	*	0.2200	-0.0269	-2.65	0.2300	-0.0233	-2.44
N7CLRZ		0.2343	-0.0126	-1.24	0.2408	-0.0125	-1.31
NAGABV	*	0.2495	0.0026	0.26	0.2670	0.0137	1.44
NQ4PER		0.2410	-0.0059	-0.58	0.2505	-0.0028	-0.29
PQYPRX		0.2570	0.0101	1.00	0.2685	0.0152	1.59
PYPBXV		0.2465	-0.0004	-0.04	0.2555	0.0022	0.23
QRAQDW		0.2535	0.0066	0.65	0.2520	-0.0013	-0.13
R7KWXU		0.2510	0.0041	0.40	0.2545	0.0012	0.13
RRZGUU		0.2445	-0.0024	-0.24	0.2485	-0.0048	-0.50
RWBP2Q		0.2420	-0.0049	-0.48	0.2465	-0.0068	-0.71
VCWA9N	X	0.2270	-0.0199	-1.96	0.2560	0.0027	0.29
VWJZ8K		0.2410	-0.0059	-0.58	0.2480	-0.0053	-0.55
W42TWP	X	0.1850	-0.0619	-6.11	0.1950	-0.0583	-6.10
WN9YLK		0.2365	-0.0104	-1.03	0.2435	-0.0098	-1.02
X97R2N		0.2390	-0.0079	-0.78	0.2450	-0.0083	-0.87
XC7XLL		0.2510	0.0041	0.40	0.2540	0.0007	0.08



<b>Grand Means</b>		<b>Summary Statistics</b>	
0.24691	Absorbance Units	0.25327	Absorbance Units
<b>Stnd Dev Btwn Labs</b>		0.00955	Absorbance Units
0.01014	Absorbance Units		

**Statistics based on 43 of 49 reporting participants**

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

**Comments on assigned Data Flags**

4ZUNGH (X) - Inconsistent in testing between samples, data for Sample SA04 are high.

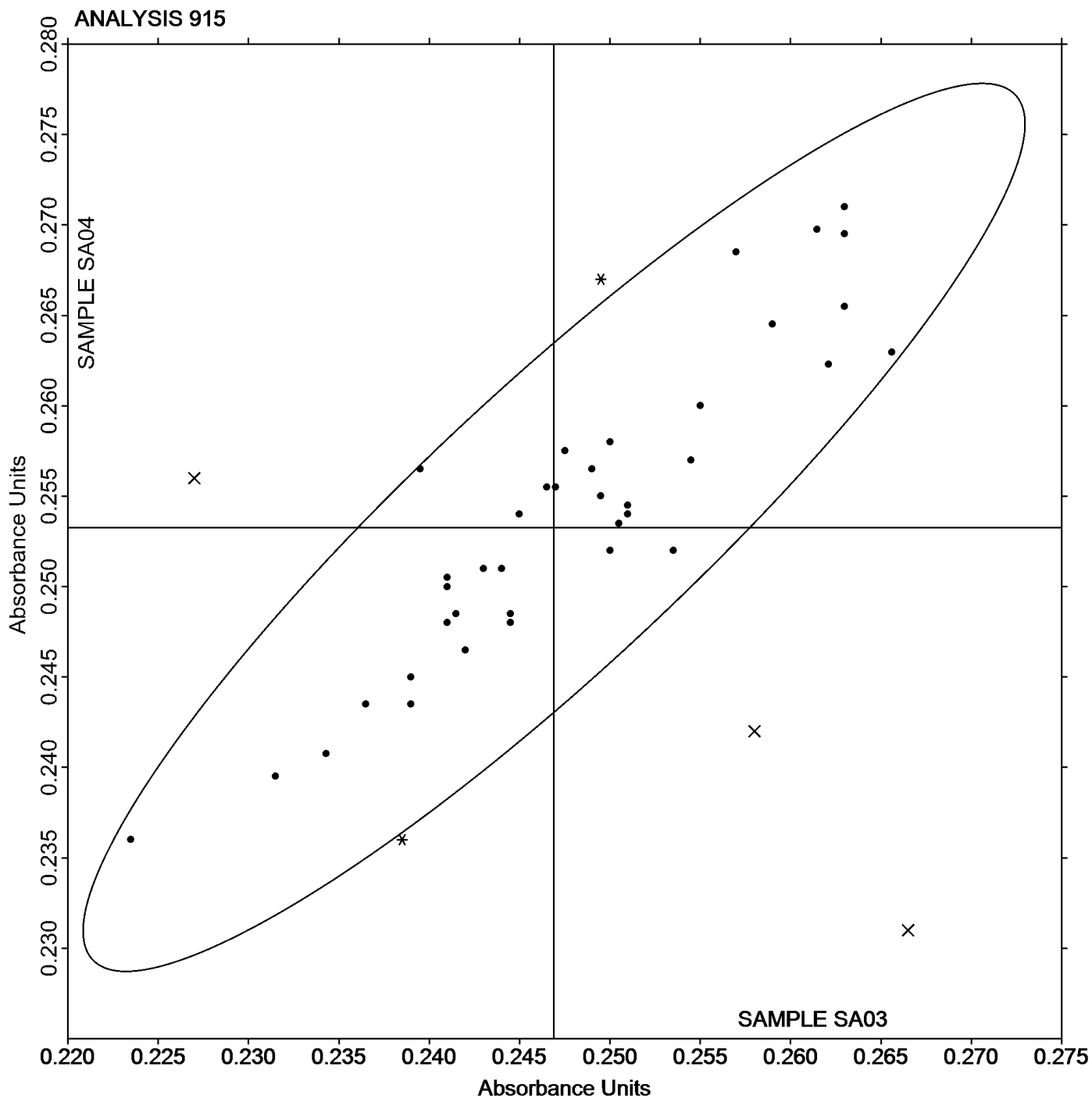
6BUTQA (X) - Inconsistent in testing between samples.

9UQ9XB (X) - Inconsistent in testing between samples.

JP2DP2 (X) - Data for both samples are high. Possible Systematic Error.

VCWA9N (X) - Inconsistent in testing between samples.

W42TWP (X) - Data for both samples are low.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 916 A520nm (1cm path)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2ZZEDF	*	0.2137	0.0214	2.50	0.2081	0.0086	1.03
3AP4TG		0.1820	-0.0103	-1.21	0.1820	-0.0175	-2.09
3HZNWD		0.1970	0.0047	0.55	0.2045	0.0050	0.60
3JV8XE		0.2039	0.0116	1.35	0.2075	0.0080	0.95
4ZUNGH	X	0.1950	0.0027	0.31	0.2300	0.0305	3.64
4ZYZ6E		0.1780	-0.0143	-1.67	0.1960	-0.0035	-0.42
6BUTQA		0.2010	0.0087	1.01	0.1990	-0.0005	-0.06
6PRMGH		0.1900	-0.0023	-0.27	0.1990	-0.0005	-0.06
76H8BB	*	0.1660	-0.0263	-3.08	0.1800	-0.0195	-2.32
7BACB8		0.1905	-0.0018	-0.21	0.2030	0.0035	0.42
7E9N78	*	0.2000	0.0077	0.90	0.2200	0.0205	2.44
7W9HXD		0.1885	-0.0038	-0.45	0.1995	0.0000	0.00
87QH8F		0.1940	0.0017	0.20	0.1965	-0.0030	-0.36
8FVPME		0.2000	0.0077	0.90	0.2025	0.0030	0.36
8MHEAA		0.1900	-0.0023	-0.27	0.1970	-0.0025	-0.30
9UQ9XB	X	0.2005	0.0082	0.96	0.1780	-0.0215	-2.56
9VLQYC		0.1850	-0.0073	-0.86	0.1930	-0.0065	-0.77
AFPW3C		0.1925	0.0002	0.02	0.1980	-0.0015	-0.18
ALVRLC		0.1855	-0.0068	-0.80	0.2040	0.0045	0.54
AR2G66		0.1860	-0.0063	-0.74	0.1885	-0.0110	-1.31
AVKDRA		0.1870	-0.0053	-0.62	0.1970	-0.0025	-0.30
DXHWL8		0.1910	-0.0013	-0.15	0.2035	0.0040	0.48
EG3EN6		0.2000	0.0077	0.90	0.2000	0.0005	0.06
EUR446		0.2060	0.0137	1.60	0.2150	0.0155	1.85
F32XH3		0.2080	0.0157	1.83	0.2170	0.0175	2.09
G9HX9Z		0.1895	-0.0028	-0.33	0.1960	-0.0035	-0.42



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #052  
Spring 2016

## Analysis 916

### A520nm (1cm path)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
HDTBQX		0.1895	-0.0028	-0.33	0.1995	0.0000	0.00
HGRMLX		0.1980	0.0057	0.66	0.2000	0.0005	0.06
JP2DP2		0.1930	0.0007	0.08	0.1950	-0.0045	-0.54
JUF4UW		0.1855	-0.0068	-0.80	0.1910	-0.0085	-1.01
KKKMHV		0.1950	0.0027	0.31	0.2045	0.0050	0.60
L6MTLW		0.1855	-0.0068	-0.80	0.1960	-0.0035	-0.42
LF924Y		0.2038	0.0115	1.34	0.2174	0.0179	2.13
MYZ6QR		0.1850	-0.0073	-0.86	0.2000	0.0005	0.06
N7CLRZ		0.1830	-0.0093	-1.09	0.1906	-0.0090	-1.07
NAGABV	X	0.1905	-0.0018	-0.21	0.2215	0.0220	2.62
NQ4PER	*	0.1980	0.0057	0.66	0.1860	-0.0135	-1.61
PQYPRX		0.2000	0.0077	0.90	0.2000	0.0005	0.06
PYPBXV		0.1920	-0.0003	-0.04	0.2025	0.0030	0.36
QRAQDW		0.1985	0.0062	0.72	0.2020	0.0025	0.30
R7KWXU		0.1940	0.0017	0.20	0.1980	-0.0015	-0.18
RRZGUU		0.1900	-0.0023	-0.27	0.1965	-0.0030	-0.36
RWBP2Q		0.1930	0.0007	0.08	0.1970	-0.0025	-0.30
VCWA9N		0.1920	-0.0003	-0.04	0.1995	0.0000	0.00
VWJZ8K		0.1900	-0.0023	-0.27	0.1990	-0.0005	-0.06
W42TWP	X	0.1400	-0.0523	-6.11	0.1550	-0.0445	-5.30
WN9YLK		0.1855	-0.0068	-0.80	0.1935	-0.0060	-0.72
X97R2N		0.1825	-0.0098	-1.15	0.1910	-0.0085	-1.01
XC7XLL		0.1955	0.0032	0.37	0.2120	0.0125	1.49



		Summary Statistics	
<b>Grand Means</b>	0.19232 Absorbance Units	0.19950 Absorbance Units	
<b>Std Dev Btwn Labs</b>	0.00856 Absorbance Units	0.00839 Absorbance Units	
<b>Statistics based on 45 of 49 reporting participants</b>			

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

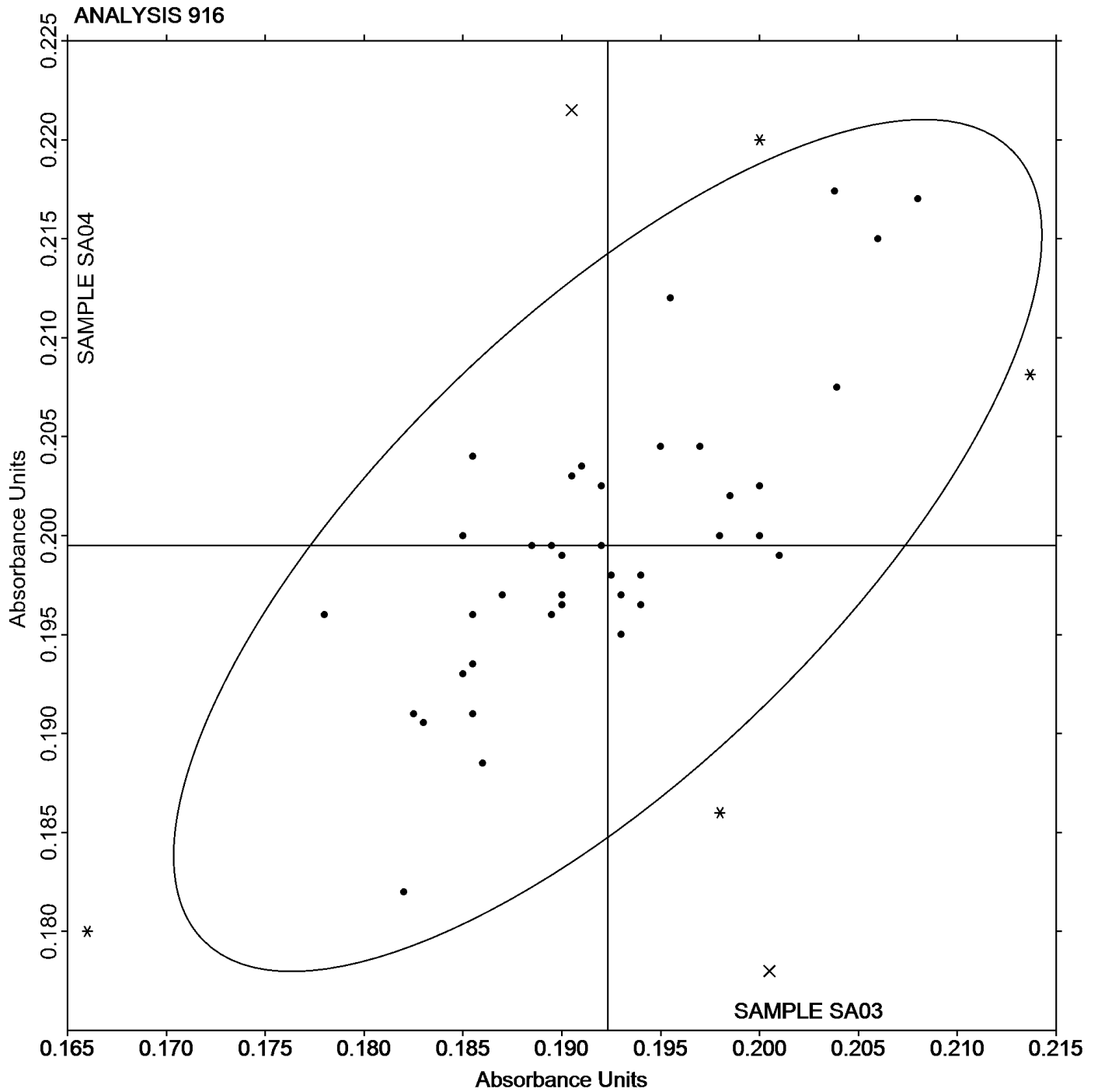
**Comments on assigned Data Flags**

4ZUNGH (X) - Inconsistent in testing between samples, data for Sample SA04 are high.

9UQ9XB (X) - Inconsistent in testing between samples.

NAGABV (X) - Inconsistent in testing between samples and inconsistent within the determinations for both samples.

W42TWP (X) - Data for both samples are low.



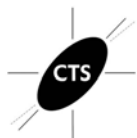


**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2ZZEDF		0.2985	0.0303	11.3%	0.2615	-0.0026	-1.0%
34YP9F		0.2140	-0.0542	-20.2%	0.1780	-0.0861	-32.6%
3AP4TG		0.2590	-0.0092	-3.4%	0.4120	0.1479	56.0%
3HZNWD		0.2570	-0.0112	-4.2%	0.2710	0.0069	2.6%
3JV8XE		0.1570	-0.1112	-41.5%	0.1620	-0.1021	-38.7%
3UNRXH		0.3800	0.1118	41.7%	0.3600	0.0959	36.3%
4ZUNGH	*	0.3550	0.0868	32.4%	0.4850	0.2209	83.6%
4ZYZ6E		0.4400	0.1718	64.1%	0.4700	0.2059	77.9%
64RL6F		0.1885	-0.0797	-29.7%	0.1830	-0.0811	-30.7%
6BUTQA		0.2000	-0.0682	-25.4%	0.2000	-0.0641	-24.3%
6LTCLJ		0.1700	-0.0982	-36.6%	0.1590	-0.1051	-39.8%
6PRMGH		0.3735	0.1053	39.3%	0.3445	0.0804	30.4%
76H8BB		0.4100	0.1418	52.9%	0.3750	0.1109	42.0%
7BACB8		0.3130	0.0448	16.7%	0.3040	0.0399	15.1%
7E9N78	X	0.7400	0.4718	175.9%	0.2400	-0.0241	-9.1%
7PQ6YE		0.2710	0.0028	1.0%	0.2530	-0.0111	-4.2%
7W9HXD		0.2440	-0.0242	-9.0%	0.1875	-0.0766	-29.0%
7Z9PJB		0.2185	-0.0497	-18.5%	0.2600	-0.0041	-1.6%
87QH8F		0.2580	-0.0102	-3.8%	0.3085	0.0444	16.8%
8FVPME		0.4650	0.1968	73.4%	0.3350	0.0709	26.8%
8MHEAA		0.3320	0.0638	23.8%	0.3930	0.1289	48.8%
9VLQYC		0.1900	-0.0782	-29.2%	0.1900	-0.0741	-28.1%
AFPW3C		0.1800	-0.0882	-32.9%	0.2000	-0.0641	-24.3%

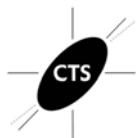




**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
AGKE4D		0.1950	-0.0732	-27.3%	0.2000	-0.0641	-24.3%
ALVRLC		0.2470	-0.0212	-7.9%	0.2030	-0.0611	-23.1%
AR2G66	X	0.9150	0.6468	241.2%	0.4700	0.2059	77.9%
B3YLTC		0.2700	0.0018	0.7%	0.2500	-0.0141	-5.4%
BCKQZB		0.1000	-0.1682	-62.7%	0.1500	-0.1141	-43.2%
CXL2J6		0.3550	0.0868	32.4%	0.3700	0.1059	40.1%
DXHWL8		0.3000	0.0318	11.9%	0.2000	-0.0641	-24.3%
ECTWV4		0.3035	0.0353	13.2%	0.3045	0.0404	15.3%
EG3EN6		0.2175	-0.0507	-18.9%	0.2415	-0.0226	-8.6%
F32XH3		0.4550	0.1868	69.6%	0.2800	0.0159	6.0%
G9HX9Z		0.3100	0.0418	15.6%	0.3700	0.1059	40.1%
GHTZUZ		0.4250	0.1568	58.5%	0.4000	0.1359	51.4%
HGRMLX		0.4450	0.1768	65.9%	0.3700	0.1059	40.1%
HRA4E6		0.2200	-0.0482	-18.0%	0.1900	-0.0741	-28.1%
KKKMHW		0.3400	0.0718	26.8%	0.3400	0.0759	28.7%
L6MTLW		0.2260	-0.0422	-15.7%	0.1835	-0.0806	-30.5%
LF924Y		0.1815	-0.0867	-32.3%	0.2410	-0.0231	-8.8%
MKHELX		0.4100	0.1418	52.9%	0.4400	0.1759	66.6%
MYZ6QR		0.1400	-0.1282	-47.8%	0.1450	-0.1191	-45.1%
N7CLRZ		0.2000	-0.0682	-25.4%	0.1950	-0.0691	-26.2%
NQ4PER		0.2480	-0.0202	-7.5%	0.2635	-0.0006	-0.2%
PFCVBU		0.2250	-0.0432	-16.1%	0.1950	-0.0691	-26.2%
PQYPRX		0.1160	-0.1522	-56.7%	0.1350	-0.1291	-48.9%



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #052**  
**Spring 2016**

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WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
PYPBXV		0.1800	-0.0882	-32.9%	0.3450	0.0809	30.6%
QCC2WP		0.1900	-0.0782	-29.2%	0.2050	-0.0591	-22.4%
R7KWXU		0.3350	0.0668	24.9%	0.2200	-0.0441	-16.7%
RRZGUU		0.3350	0.0668	24.9%	0.3550	0.0909	34.4%
RWBP2Q		0.1600	-0.1082	-40.3%	0.3400	0.0759	28.7%
UTPKHL		0.1905	-0.0777	-29.0%	0.1450	-0.1191	-45.1%
VCWA9N		0.4200	0.1518	56.6%	0.3700	0.1059	40.1%
VWJZ8K		0.2400	-0.0282	-10.5%	0.3700	0.1059	40.1%
WN9YLK		0.1695	-0.0987	-36.8%	0.1580	-0.1061	-40.2%
X3J47H		0.1600	-0.1082	-40.3%	0.2250	-0.0391	-14.8%
X97R2N		0.2150	-0.0532	-19.8%	0.2440	-0.0201	-7.6%
XC7XLL	X	0.4250	0.1568	58.5%	0.6400	0.3759	142.3%
XMR2UK	*	0.3820	0.1138	42.4%	0.1420	-0.1221	-46.2%
XR2ECJ	*	0.5450	0.2768	103.2%	0.3400	0.0759	28.7%
YU9XAE		0.1200	-0.1482	-55.3%	0.1150	-0.1491	-56.5%
ZF39QJ		0.3000	0.0318	11.9%	0.3100	0.0459	17.4%
ZQJ82L		0.2225	-0.0457	-17.0%	0.1760	-0.0881	-33.4%
ZTMNUJ		0.0925	-0.1757	-65.5%	0.0935	-0.1706	-64.6%



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #052**  
**Spring 2016**

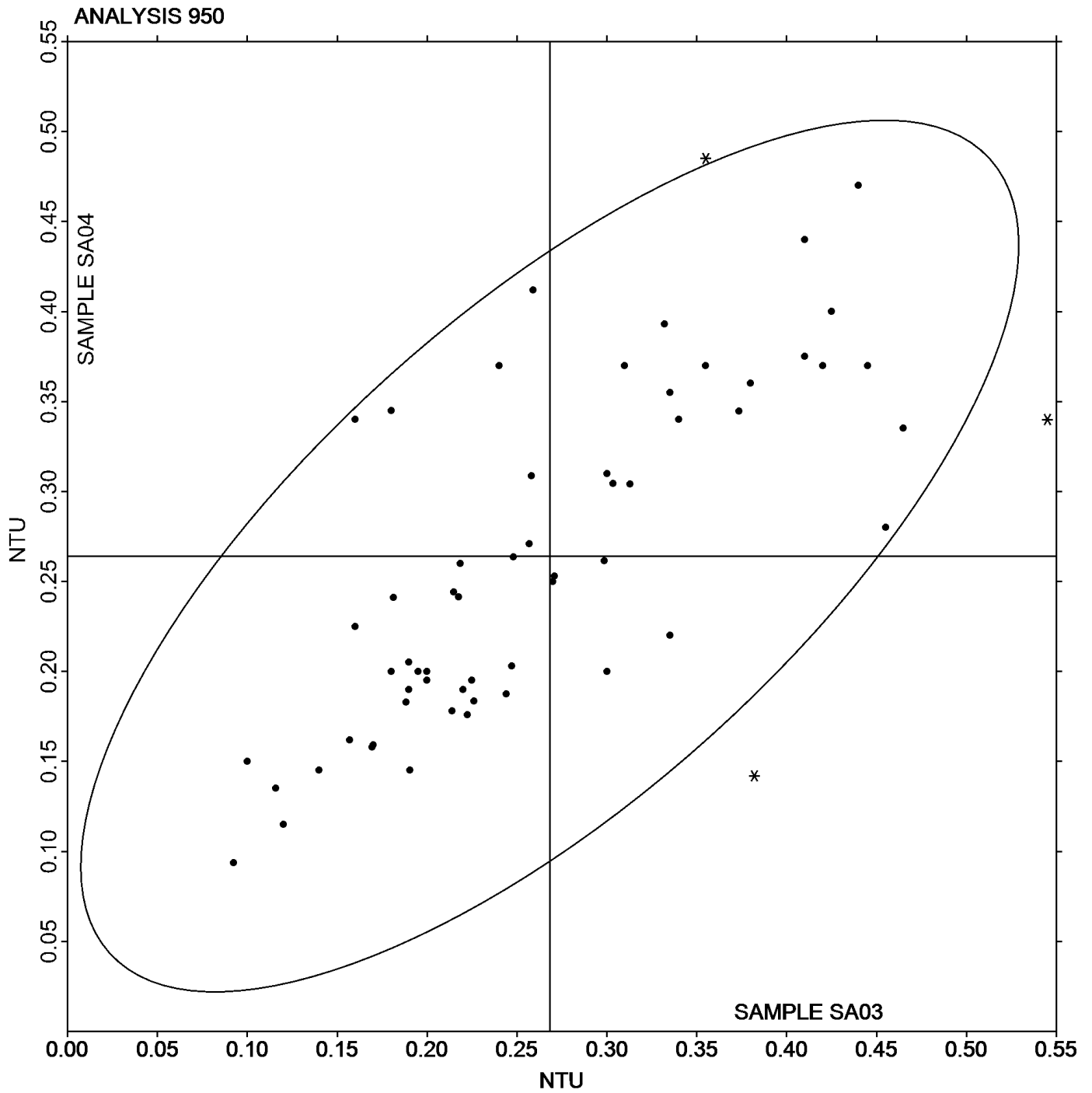
Research Property Target Value			
Target Value	0.26820	NTU	0.26414 NTU
<p><i>For Test 950, CTS has chosen not to designate a target value for this property instead of using an average value.</i></p>			

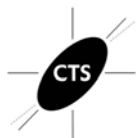
**Wines tested:** SA03: White Zinfandel; SA04: White Zinfandel

<b>Consensus Average</b> (may differ from target value)	0.26820	NTU	0.26414 NTU
<p><i>This consensus average is based on 61 reporting participants.</i></p>			

**Comments on assigned Data Flags**

- 7E9N78 (X) - High data for Sample SA03.
- AR2G66 (X) - High data for Sample SA03.
- XC7XLL (X) - High data for Sample SA04





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

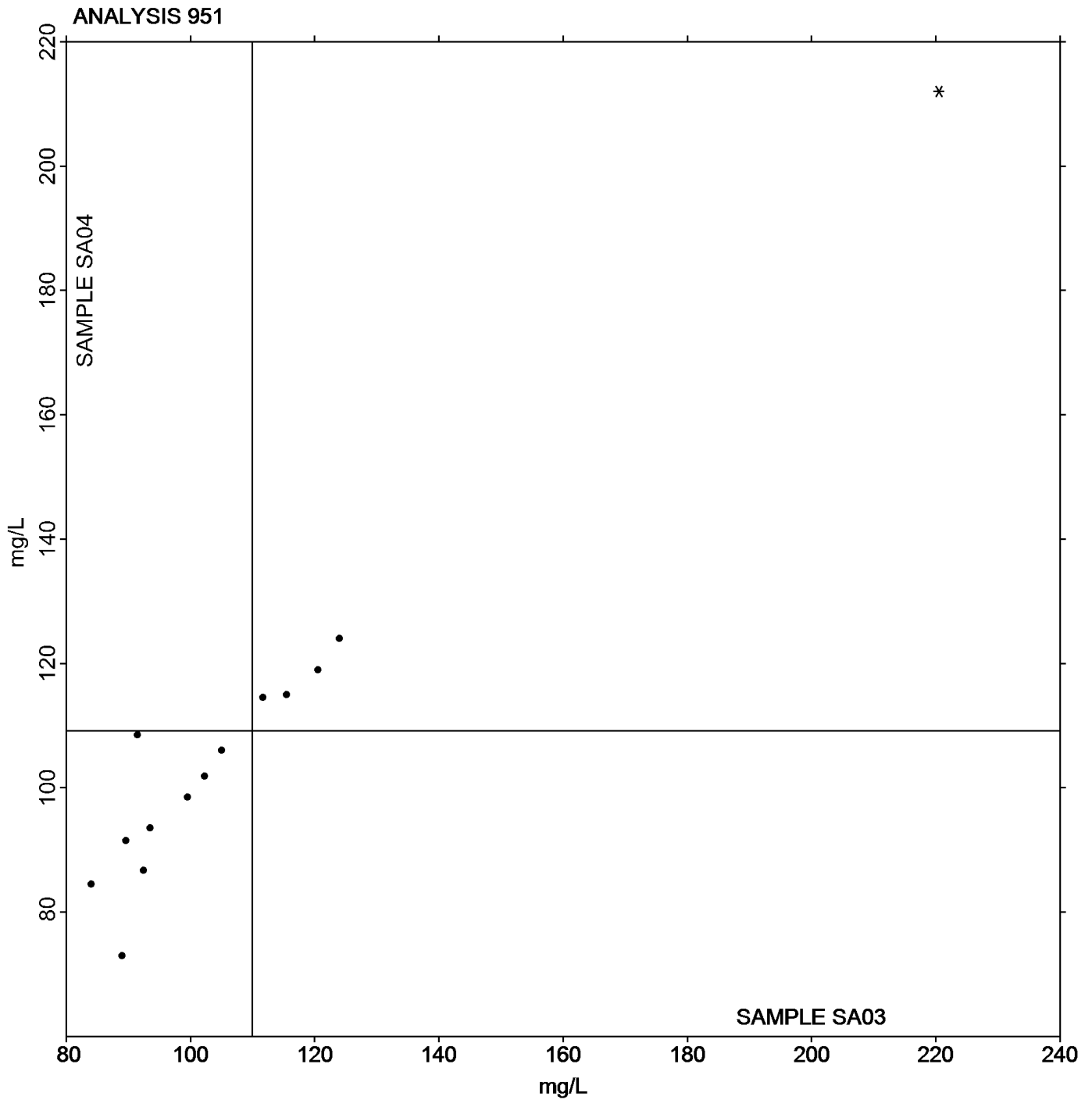
**Report #052**  
**Spring 2016**

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
4ZUNGH		89.0	-20.9	-19.0%	73.0	-36.2	-33.1%
7BACB8		111.7	1.7	1.6%	114.5	5.3	4.9%
AR2G66		84.0	-25.9	-23.6%	84.5	-24.7	-22.6%
DXHWL8		105.0	-4.9	-4.5%	106.0	-3.2	-2.9%
EUR446		99.5	-10.4	-9.5%	98.5	-10.7	-9.8%
N7CLRZ		92.5	-17.5	-15.9%	86.7	-22.5	-20.6%
PQYPRX		102.3	-7.6	-6.9%	101.8	-7.4	-6.7%
PYPBXV		93.5	-16.4	-14.9%	93.5	-15.7	-14.4%
Q777DP	*	220.5	110.6	100.6%	212.0	102.8	94.2%
RRZGUU		120.5	10.6	9.6%	119.0	9.8	9.0%
UDXMFQ		124.0	14.1	12.8%	124.0	14.8	13.6%
WN9YLK		89.7	-20.3	-18.4%	91.5	-17.7	-16.2%
X97R2N		91.5	-18.4	-16.8%	108.5	-0.7	-0.6%
YU9XAE		115.5	5.6	5.1%	115.0	5.8	5.3%

Research Property Target Value		
Target Value	109.93 mg/L	109.18 mg/L
<p align="center"><i>For Test 951, CTS has chosen not to designate a target value for this property instead of using an average value.</i></p>		

Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

Consensus Average (may differ from target value)      109.93 mg/L      109.18 mg/L  
*This consensus average is based on 14 reporting participants.*



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



Analysis 952

Research Property: Sodium (mg/L)

WebCode	Data Flag	Sample SA03			Sample SA04		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DXHWL8		69.00	1.57	0.14	68.00	5.58	0.83
EUR46		57.50	-9.93	-0.87	58.50	-3.92	-0.59
N7CLRZ		66.70	-0.73	-0.06	65.20	2.78	0.42
RRZGUU		55.00	-12.43	-1.09	53.00	-9.42	-1.41
W42TWP		58.00	-9.43	-0.83	58.00	-4.42	-0.66
WN9YLK		66.90	-0.53	-0.05	61.65	-0.77	-0.12
X97R2N		73.75	6.32	0.55	73.45	11.03	1.65
XC7XLL		93.00	25.57	2.24	56.00	-6.42	-0.96
YU9XAE		67.00	-0.43	-0.04	68.00	5.58	0.83

Research Property Target Value

Target Value

67.428 mg/L

62.422 mg/L

*For Test 952, CTS has chosen not to designate a target value for this property instead of using an average value.*

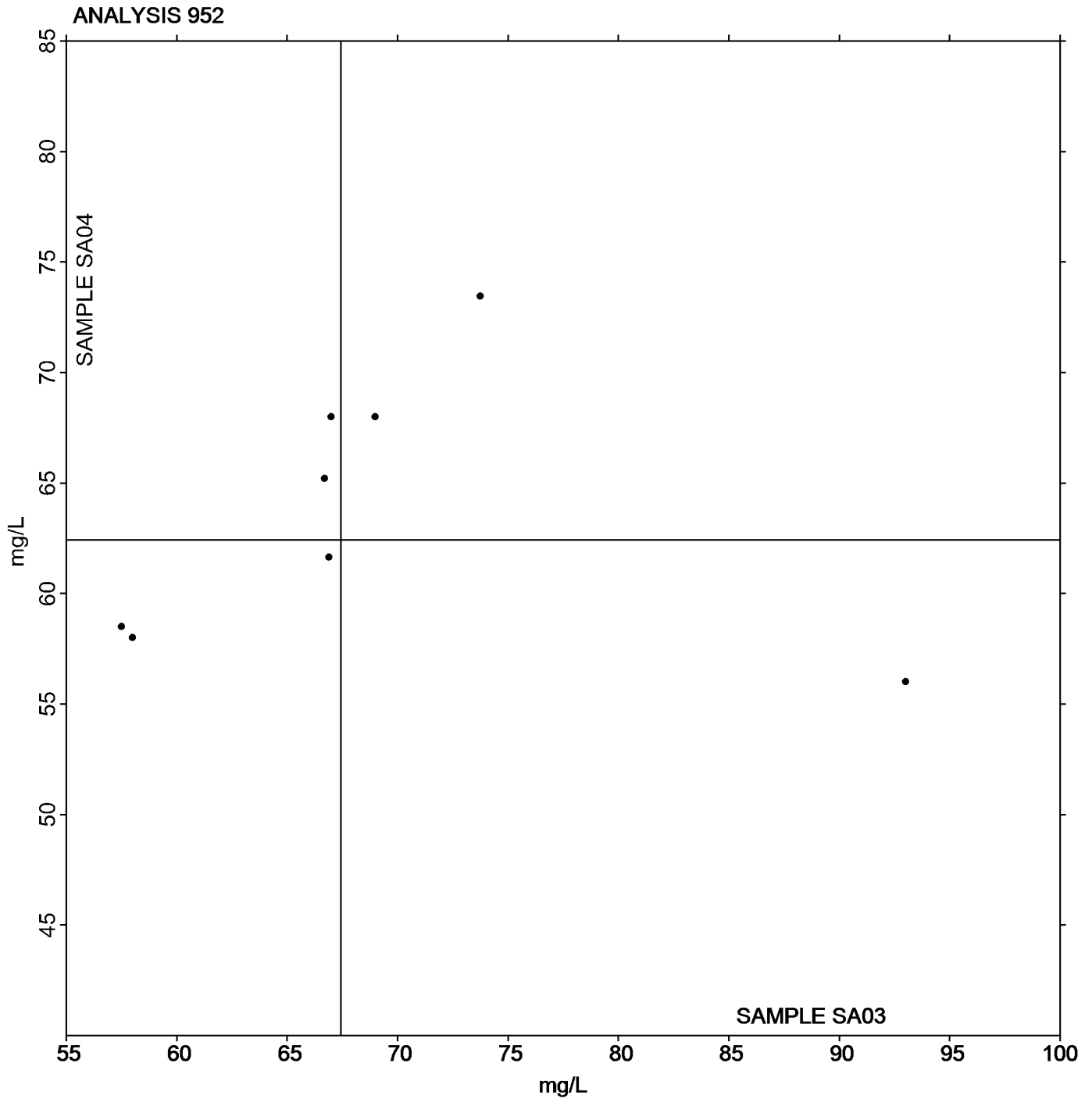
Wines tested: SA03: White Zinfandel; SA04: White Zinfandel

Consensus Average  
(may differ from target value)

67.428 mg/L

62.422 mg/L

*This consensus average is based on 9 reporting participants.*



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