



## Wine Industry Interlaboratory Program

### Summary Report #050- Summer 2015

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[Introduction to the Wine Program](#)

[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>
912	<a href="#"><u>Potassium Content</u></a>
915	<a href="#"><u>A420nm (1cm path)</u></a>
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>
952	<a href="#"><u>Research: Ethanol by Dist. / Density Method</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 #050  
Summer 2015

## Analysis 901

### Ethanol (% of volume)

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		13.42	-0.01	-0.11	13.85	0.04	0.54
37EW4R		13.45	0.02	0.30	13.78	-0.03	-0.40
37Y6ZU		13.40	-0.02	-0.31	13.79	-0.02	-0.33
3KVLPT	*	13.24	-0.19	-2.51	13.67	-0.14	-1.91
4GARD8		13.45	0.03	0.36	13.78	-0.03	-0.40
63UNVJ		13.42	0.00	-0.04	13.81	0.00	-0.06
733HL3		13.42	0.00	-0.04	13.80	-0.01	-0.13
7FB2KX		13.41	-0.01	-0.18	13.80	-0.01	-0.13
876JNL		13.45	0.02	0.30	13.84	0.03	0.41
8QNM74		13.43	0.01	0.09	13.83	0.02	0.20
8V3HNL		13.40	-0.02	-0.31	13.80	-0.01	-0.13
8VHG7Q		13.48	0.05	0.70	13.84	0.03	0.41
8WD3XW	X	13.80	0.38	5.07	14.15	0.34	4.55
8ZWECR		13.30	-0.12	-1.65	13.70	-0.11	-1.47
9BAY9T		13.49	0.07	0.90	13.88	0.07	0.94
9KV3FT		13.46	0.03	0.43	13.86	0.05	0.61
A2FH7N	*	13.38	-0.05	-0.65	13.83	0.02	0.20
A3RPKW		13.35	-0.08	-1.05	13.72	-0.09	-1.26
A939RJ		13.29	-0.13	-1.79	13.68	-0.13	-1.80
A9XL4W		13.43	0.01	0.09	13.81	0.00	0.00
AQZQHD		13.49	0.06	0.83	13.88	0.07	0.87
AZQJ6Q		13.35	-0.07	-0.98	13.75	-0.06	-0.80
BJEPQM		13.39	-0.03	-0.44	13.77	-0.04	-0.53
CZHRDE		13.52	0.10	1.30	13.91	0.10	1.27
D69DAE	X	13.15	-0.27	-3.67	13.35	-0.46	-6.14
DEEXVV		13.44	0.02	0.23	13.83	0.02	0.27

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 901****Ethanol (% of volume)**

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WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
E4RJ6X	*	13.25	-0.17	-2.33	13.60	-0.21	-2.80
EPANRM		13.49	0.06	0.83	13.89	0.08	1.07
EVGP2A	X	13.50	0.08	1.03	13.80	-0.01	-0.13
F6ZUYF		13.49	0.06	0.83	13.87	0.06	0.74
FWN3JB		13.50	0.08	1.03	13.88	0.07	0.94
G874EB		13.40	-0.02	-0.31	13.80	-0.01	-0.13
HCQB3G		13.42	0.00	-0.04	13.81	0.00	-0.06
JBRX49		13.31	-0.11	-1.52	13.67	-0.14	-1.87
JJTLWT		13.30	-0.12	-1.65	13.70	-0.11	-1.47
JYHR4M		13.49	0.07	0.90	13.86	0.05	0.67
K6JVH6		13.45	0.03	0.36	13.84	0.03	0.41
KQNET7		13.51	0.08	1.10	13.91	0.10	1.27
L4PR33	*	13.36	-0.06	-0.85	13.69	-0.12	-1.60
LBTEEC	*	13.46	0.04	0.50	13.92	0.11	1.41
LDCXBM	X	13.10	-0.32	-4.34	13.30	-0.51	-6.81
M2G4DJ		13.54	0.11	1.50	13.92	0.11	1.41
MN6Y3G		13.44	0.02	0.23	13.83	0.02	0.27
N4JWW2		13.51	0.09	1.17	13.90	0.09	1.21
NCXBRY		13.47	0.05	0.63	13.86	0.05	0.67
PCRFLX		13.42	0.00	-0.04	13.81	0.00	0.00
PHRXUH		13.40	-0.03	-0.38	13.80	-0.01	-0.13
PN2YFM		13.28	-0.14	-1.92	13.68	-0.13	-1.80
Q4DRK6		13.50	0.07	0.97	13.89	0.08	1.07
QTUF87		13.40	-0.02	-0.31	13.77	-0.04	-0.53
RDD4U4		13.42	0.00	-0.04	13.81	0.00	0.00
T6YEUA		13.45	0.02	0.30	13.84	0.03	0.41

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**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050****Analysis 901****Summer 2015****Ethanol (% of volume)**

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WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T8439Z		13.44	0.01	0.16	13.82	0.01	0.07
TJWQ3E		13.40	-0.02	-0.31	13.80	-0.01	-0.13
TRN64Y		13.44	0.02	0.23	13.83	0.02	0.27
U9E8K3		13.42	-0.01	-0.11	13.81	0.00	0.00
UG8KHG		13.46	0.04	0.50	13.84	0.03	0.41
UMDDCD	X	12.99	-0.44	-5.89	13.36	-0.45	-6.01
UR4KW8		13.53	0.10	1.37	13.91	0.10	1.34
V4CQKE	*	13.62	0.20	2.65	13.99	0.18	2.34
VA27DR		13.40	-0.02	-0.31	13.80	-0.01	-0.13
VG3H84		13.49	0.07	0.90	13.88	0.07	0.87
VGf9XY		13.44	0.01	0.16	13.83	0.02	0.27
VHX3YA		13.51	0.09	1.17	13.85	0.04	0.47
VLVJB3		13.38	-0.04	-0.58	13.75	-0.06	-0.80
VM9DQ4		13.43	0.00	0.03	13.82	0.01	0.07
VTV4BD		13.32	-0.11	-1.45	13.73	-0.08	-1.06
WTTTTV2		13.49	0.06	0.83	13.88	0.07	0.94
WU2DRU		13.40	-0.02	-0.31	13.75	-0.06	-0.80
X2FJ4R		13.42	-0.01	-0.11	13.81	0.00	0.00
X932BU		13.48	0.05	0.70	13.87	0.06	0.74
Y2DBBX		13.47	0.05	0.63	13.82	0.01	0.07
YRTDXU	*	13.23	-0.19	-2.59	13.62	-0.19	-2.53



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

Grand Means	Summary Statistics	
13.423 percent	13.810 percent	
Std Dev Btwn Labs	0.075 percent	
0.074 percent		
<b>Statistics based on 68 of 73 reporting participants</b>		

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

8WD3XW (X) - Data for both samples are high. Also inconsistent in testing within both samples.

D69DAE (X) - Data for both samples are low. Also inconsistent in testing within both samples.

EVGP2A (X) - Inconsistent in testing between samples.

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

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

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

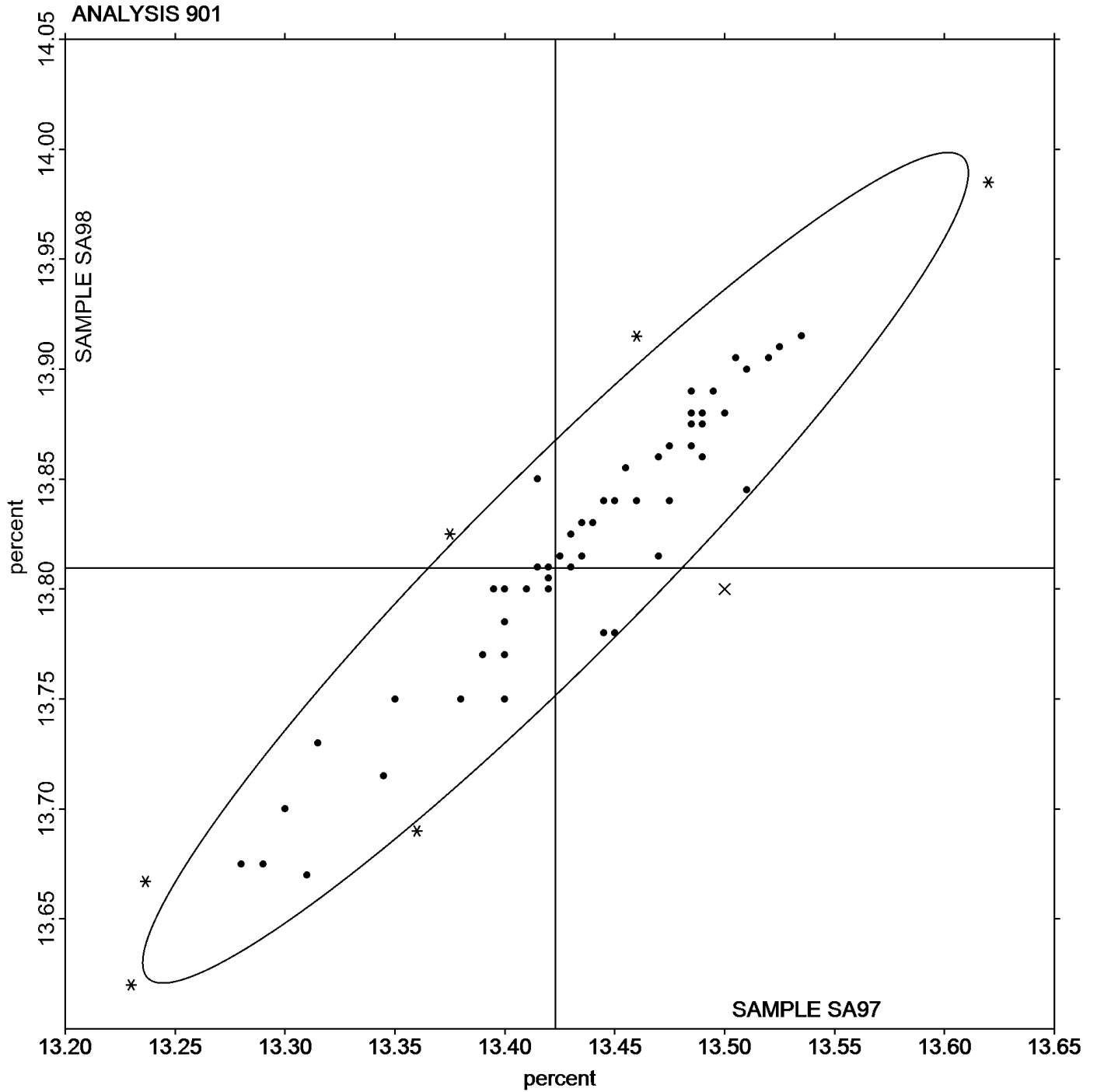
Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Please specify method used	13.42	0.00	0.00	13.81	0.00	0.00	1	1
Ebulliometer Method	13.40	0.00	-0.02	13.80	0.00	-0.01	1	4
Gas Chromatography Method	13.51	0.00	0.09	13.85	0.00	0.04	1	2
Near Infrared Method	13.43	0.06	0.01	13.82	0.06	0.01	44	49
Dist. / Density Method	13.36	0.06	-0.06	13.75	0.07	-0.06	6	8
FTIR	13.46	0.04	0.04	13.85	0.05	0.04	8	9





Analysis 901

Ethanol (% of volume)





Analysis 902  
Total Sulfur Dioxide

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		61.00	10.01	1.47	59.00	8.59	1.25
37EW4R	X	105.00	54.01	7.93	45.00	-5.41	-0.79
37Y6ZU		56.00	5.01	0.74	54.00	3.59	0.52
3KVLPT		49.60	-1.39	-0.20	49.60	-0.81	-0.12
4GARD8		48.00	-2.99	-0.44	44.00	-6.41	-0.94
63UNVJ		47.00	-3.99	-0.59	48.50	-1.91	-0.28
7FB2KX		53.50	2.51	0.37	50.50	0.09	0.01
876JNL		59.00	8.01	1.18	57.50	7.09	1.03
8QNM74		60.00	9.01	1.32	61.50	11.09	1.62
8V3HNL		47.50	-3.49	-0.51	47.50	-2.91	-0.42
8VHG7Q		45.00	-5.99	-0.88	45.00	-5.41	-0.79
8WD3XW		53.60	2.61	0.38	54.40	3.99	0.58
8ZWECR		51.50	0.51	0.08	53.00	2.59	0.38
9BAY9T		64.00	13.01	1.91	62.00	11.59	1.69
9KV3FT		54.00	3.01	0.44	51.50	1.09	0.16
A2FH7N		49.50	-1.49	-0.22	51.50	1.09	0.16
A3RPKW		63.00	12.01	1.76	59.00	8.59	1.25
A939RJ	M	48.00	-2.99	-0.44	No data reported for this sample		
A9XL4W		42.80	-8.19	-1.20	43.87	-6.54	-0.95
AQZQHD		51.00	0.01	0.00	47.50	-2.91	-0.42
AZQJ6Q		57.00	6.01	0.88	56.50	6.09	0.89
BJEPQM		58.00	7.01	1.03	57.00	6.59	0.96
CZHRDE		44.00	-6.99	-1.03	41.00	-9.41	-1.37
D69DAE		51.00	0.01	0.00	49.00	-1.41	-0.21
DEEXVV		62.50	11.51	1.69	62.50	12.09	1.76
E4RJ6X		46.00	-4.99	-0.73	42.50	-7.91	-1.15



## Total Sulfur Dioxide

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EPANRM		45.00	-5.99	-0.88	44.50	-5.91	-0.86
EVGP2A		47.00	-3.99	-0.59	47.00	-3.41	-0.50
F6ZUYF		44.00	-6.99	-1.03	45.00	-5.41	-0.79
FWN3JB		50.00	-0.99	-0.15	48.50	-1.91	-0.28
G874EB		51.00	0.01	0.00	49.50	-0.91	-0.13
HCQB3G		44.00	-6.99	-1.03	41.00	-9.41	-1.37
JBRX49	*	43.50	-7.49	-1.10	50.00	-0.41	-0.06
JJTLWT	*	48.50	-2.49	-0.37	55.00	4.59	0.67
JYHR4M		49.60	-1.39	-0.20	43.20	-7.21	-1.05
K6JVH6		49.00	-1.99	-0.29	48.00	-2.41	-0.35
KQNET7		40.00	-10.99	-1.61	39.50	-10.91	-1.59
L4PR33		50.50	-0.49	-0.07	49.00	-1.41	-0.21
LBTEEC		40.00	-10.99	-1.61	40.00	-10.41	-1.52
LDCXBM		48.00	-2.99	-0.44	48.00	-2.41	-0.35
M2G4DJ		57.50	6.51	0.96	62.00	11.59	1.69
MN6Y3G		55.00	4.01	0.59	55.50	5.09	0.74
N4JWW2		47.50	-3.49	-0.51	45.50	-4.91	-0.72
NCXBRY		44.50	-6.49	-0.95	44.00	-6.41	-0.94
PCRFLX		60.00	9.01	1.32	56.50	6.09	0.89
PHRXUH		47.50	-3.49	-0.51	53.00	2.59	0.38
PN2YFM	X	42.00	-8.99	-1.32	50.50	0.09	0.01
Q4DRK6		49.50	-1.49	-0.22	50.00	-0.41	-0.06
QTUF87		45.00	-5.99	-0.88	46.50	-3.91	-0.57
R64A3W	X	56.00	5.01	0.74	36.50	-13.91	-2.03
RDD4U4		55.00	4.01	0.59	56.00	5.59	0.81
T6YEUA		62.50	11.51	1.69	61.00	10.59	1.54



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 902

### Total Sulfur Dioxide

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T8439Z		60.50	9.51	1.40	61.50	11.09	1.62
TJWQ3E		50.00	-0.99	-0.15	47.00	-3.41	-0.50
TRN64Y		42.50	-8.49	-1.25	41.00	-9.41	-1.37
U9E8K3		45.50	-5.49	-0.81	46.50	-3.91	-0.57
UG8KHG		53.50	2.51	0.37	56.00	5.59	0.81
UMDDCD		47.00	-3.99	-0.59	49.00	-1.41	-0.21
UR4KW8		50.50	-0.49	-0.07	49.00	-1.41	-0.21
V4CQKE	X	19.00	-31.99	-4.70	22.00	-28.41	-4.14
VA27DR		66.50	15.51	2.28	64.00	13.59	1.98
VG3H84		37.00	-13.99	-2.05	35.00	-15.41	-2.25
VGf9XY		44.50	-6.49	-0.95	42.00	-8.41	-1.23
VHX3YA		45.45	-5.54	-0.81	44.01	-6.41	-0.93
VLVJB3		55.00	4.01	0.59	53.50	3.09	0.45
VM9DQ4		61.50	10.51	1.54	62.50	12.09	1.76
VTV4BD		50.50	-0.49	-0.07	49.00	-1.41	-0.21
WTTTTV2		54.70	3.71	0.55	50.15	-0.26	-0.04
WU2DRU		65.00	14.01	2.06	62.00	11.59	1.69
X2FJ4R	X	57.50	6.51	0.96	48.50	-1.91	-0.28
X932BU		49.00	-1.99	-0.29	49.50	-0.91	-0.13
Y2DBBX		43.00	-7.99	-1.17	41.50	-8.91	-1.30
YRTDXU		46.00	-4.99	-0.73	48.00	-2.41	-0.35



**Analysis 902  
Total Sulfur Dioxide**

Grand Means	Summary Statistics	
50.989 mg/L	50.414 mg/L	
Stnd Dev Btwn Labs	6.858 mg/L	
6.808 mg/L		
<b>Statistics based on 67 of 73 reporting participants</b>		

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

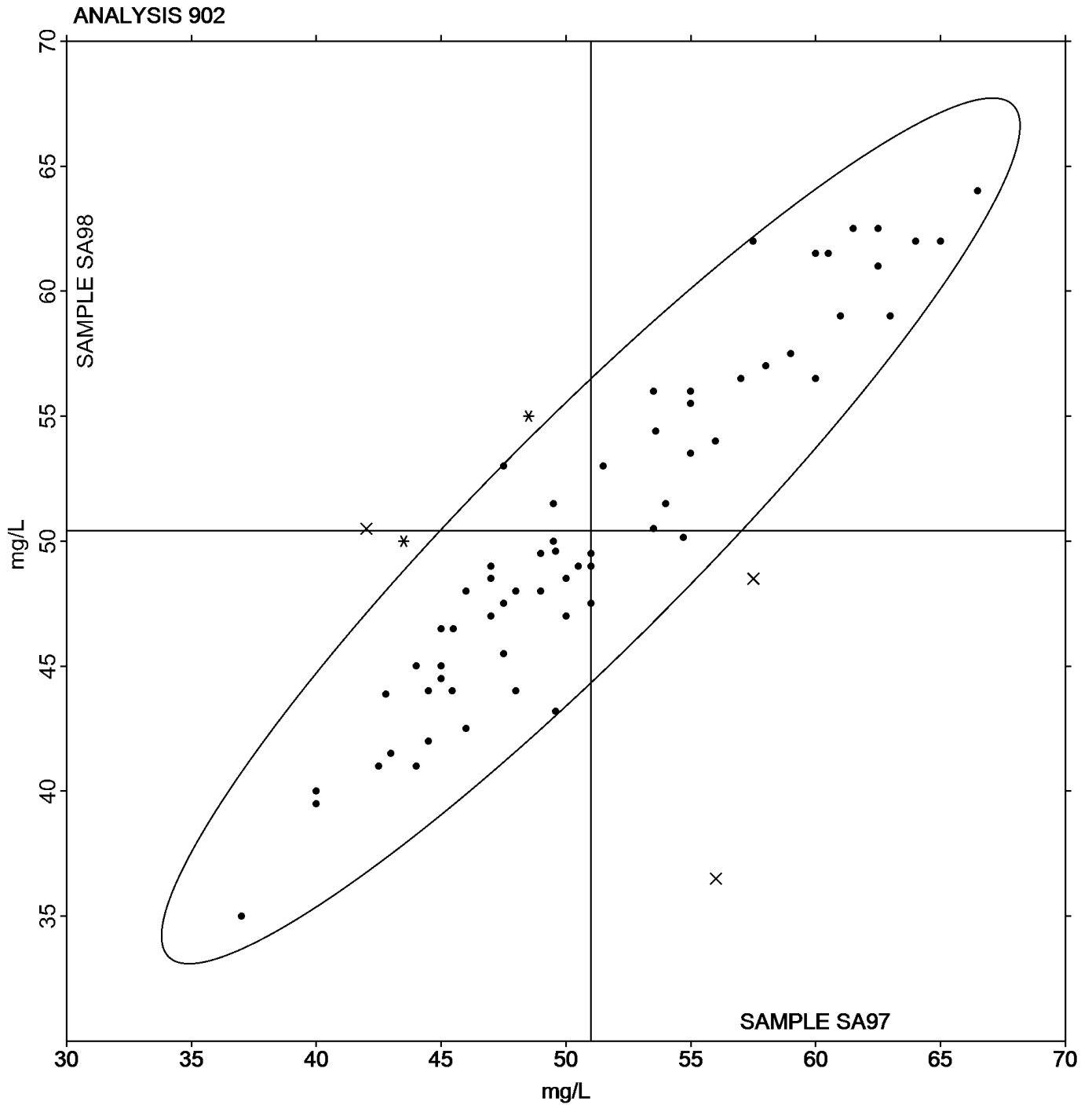
- 37EW4R (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- A939RJ (M) - Laboratory did not submit data for Sample SA98.
- PN2YFM (X) - Inconsistent in testing between samples.
- R64A3W (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA98.
- V4CQKE (X) - Data for both samples are low.
- X2FJ4R (X) - Inconsistent in testing between samples.

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Ripper Method	55.06	6.48	4.07	54.71	6.41	4.30	27	31
Aeration Oxidation (AO) Method	47.51	3.03	-3.48	47.18	3.97	-3.23	14	17
Segmented Flow Analyzer	46.67	3.27	-4.32	45.17	3.36	-5.25	6	6
Enzymatic Method	52.38	5.31	1.39	50.25	5.61	-0.16	4	4
Colorimetric Analyzer	55.13	7.53	4.14	52.38	6.41	1.96	4	5
FTIR	52.50	12.02	1.51	50.00	12.73	-0.41	2	2
Flow Injection Analysis	44.68	5.38	-6.31	44.19	5.85	-6.23	8	8



Total Sulfur Dioxide



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 903****Free Sulfur Dioxide**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		22.00	1.33	0.57	23.00	2.97	1.44
37EW4R		17.60	-3.07	-1.33	18.40	-1.63	-0.79
37Y6ZU		22.00	1.33	0.57	19.00	-1.03	-0.50
4GARD8		20.00	-0.67	-0.29	21.00	0.97	0.47
63UNVJ		22.00	1.33	0.57	20.50	0.47	0.23
733HL3		20.00	-0.67	-0.29	20.00	-0.03	-0.02
7FB2KX		23.50	2.83	1.22	24.00	3.97	1.93
876JNL	X	29.50	8.83	3.82	24.50	4.47	2.17
8QNM74	*	26.50	5.83	2.52	23.00	2.97	1.44
8V3HNL		21.00	0.33	0.14	20.00	-0.03	-0.02
8VHG7Q		25.00	4.33	1.87	23.00	2.97	1.44
8WD3XW	X	21.60	0.93	0.40	29.60	9.57	4.65
8ZWECR		22.00	1.33	0.57	22.00	1.97	0.96
9BAY9T		21.50	0.83	0.36	19.50	-0.53	-0.26
9KV3FT	X	23.00	2.33	1.01	18.50	-1.53	-0.74
A2FH7N		21.50	0.83	0.36	20.50	0.47	0.23
A3RPKW		18.00	-2.67	-1.16	17.50	-2.53	-1.23
A939RJ	M	17.50	-3.17	-1.37	No data reported for this sample		
A9XL4W		18.19	-2.48	-1.07	19.26	-0.77	-0.38
AQZQHD		22.50	1.83	0.79	22.50	2.47	1.20
AZQJ6Q		22.50	1.83	0.79	21.50	1.47	0.71
BJEQM	X	31.00	10.33	4.47	29.00	8.97	4.36
CZHRDE		22.50	1.83	0.79	21.00	0.97	0.47
D69DAE		19.00	-1.67	-0.72	19.00	-1.03	-0.50
DEEXVV		19.50	-1.17	-0.51	18.00	-2.03	-0.99
E4RJ6X		21.00	0.33	0.14	21.50	1.47	0.71



## Free Sulfur Dioxide

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WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EPANRM		18.00	-2.67	-1.16	17.00	-3.03	-1.47
EVGP2A		19.50	-1.17	-0.51	18.00	-2.03	-0.99
F6ZUYF		16.50	-4.17	-1.81	16.00	-4.03	-1.96
FWN3JB		22.00	1.33	0.57	21.00	0.97	0.47
G874EB		22.00	1.33	0.57	20.00	-0.03	-0.02
HCQB3G		19.00	-1.67	-0.72	18.00	-2.03	-0.99
JBRX49	X	28.00	7.33	3.17	34.50	14.47	7.03
JYHR4M		22.40	1.73	0.75	20.80	0.77	0.37
K6JVH6		20.00	-0.67	-0.29	19.00	-1.03	-0.50
KQNET7		16.00	-4.67	-2.02	16.00	-4.03	-1.96
L4PR33		22.00	1.33	0.57	21.50	1.47	0.71
LBTEEC		16.00	-4.67	-2.02	16.00	-4.03	-1.96
LDCXBM		22.00	1.33	0.57	20.00	-0.03	-0.02
M2G4DJ		24.00	3.33	1.44	22.00	1.97	0.96
MN6Y3G		24.00	3.33	1.44	23.00	2.97	1.44
N4JWW2		23.00	2.33	1.01	21.00	0.97	0.47
NCXBRY		22.00	1.33	0.57	22.00	1.97	0.96
PCRFLX		19.00	-1.67	-0.72	18.50	-1.53	-0.74
PHRXUH	X	21.50	0.83	0.36	24.00	3.97	1.93
PN2YFM	X	17.00	-3.67	-1.59	21.50	1.47	0.71
Q4DRK6		22.50	1.83	0.79	23.00	2.97	1.44
QTUF87		20.50	-0.17	-0.08	20.00	-0.03	-0.02
R64A3W		22.00	1.33	0.57	22.00	1.97	0.96
RDD4U4		17.50	-3.17	-1.37	17.00	-3.03	-1.47
RDVTF6		20.80	0.13	0.05	19.20	-0.83	-0.40
T6YEUA		18.50	-2.17	-0.94	20.00	-0.03	-0.02

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# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 903

### Free Sulfur Dioxide

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T8439Z		19.00	-1.67	-0.72	18.50	-1.53	-0.74
TJWQ3E		23.00	2.33	1.01	21.50	1.47	0.71
TRN64Y		23.00	2.33	1.01	21.00	0.97	0.47
U9E8K3		21.00	0.33	0.14	22.50	2.47	1.20
UG8KHG	*	14.50	-6.17	-2.67	15.00	-5.03	-2.44
UMDDCD		20.50	-0.17	-0.08	19.00	-1.03	-0.50
UR4KW8	X	16.50	-4.17	-1.81	21.50	1.47	0.71
V4CQKE	X	13.00	-7.67	-3.32	12.50	-7.53	-3.66
VA27DR	X	29.50	8.83	3.82	26.50	6.47	3.14
VG3H84		20.00	-0.67	-0.29	19.00	-1.03	-0.50
VGf9XY		21.00	0.33	0.14	21.00	0.97	0.47
VHX3YA		17.56	-3.12	-1.35	17.07	-2.96	-1.44
VLVJB3		22.00	1.33	0.57	20.00	-0.03	-0.02
VM9DQ4		23.50	2.83	1.22	23.50	3.47	1.68
VTV4BD		19.00	-1.67	-0.72	19.00	-1.03	-0.50
WTTTTV2		19.80	-0.87	-0.38	18.80	-1.23	-0.60
WU2DRU		18.00	-2.67	-1.16	18.50	-1.53	-0.74
X2FJ4R		20.50	-0.17	-0.08	20.00	-0.03	-0.02
X932BU		21.00	0.33	0.14	21.50	1.47	0.71
Y2DBBX		20.00	-0.67	-0.29	19.50	-0.53	-0.26
YRTDXU		21.50	0.83	0.36	21.50	1.47	0.71



**Analysis 903  
Free Sulfur Dioxide**

Grand Means	Summary Statistics
20.675 mg/L	20.033 mg/L
<b>Std Dev Btwn Labs</b>	
2.312 mg/L	2.059 mg/L
<b>Statistics based on 62 of 73 reporting participants</b>	

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

876JNL (X) - Inconsistent in testing between samples. Data for Sample SA97 are high.

8WD3XW (X) - Inconsistent in testing between samples, data for Sample SA98 are high.

9KV3FT (X) - Inconsistent in testing between samples.

A939RJ (M) - Laboratory did not submit data for Sample SA98.

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

JBRX49 (X) - Data for both samples are high.

PHRXUH (X) - Inconsistent in testing between samples.

PN2YFM (X) - Inconsistent in testing between samples.

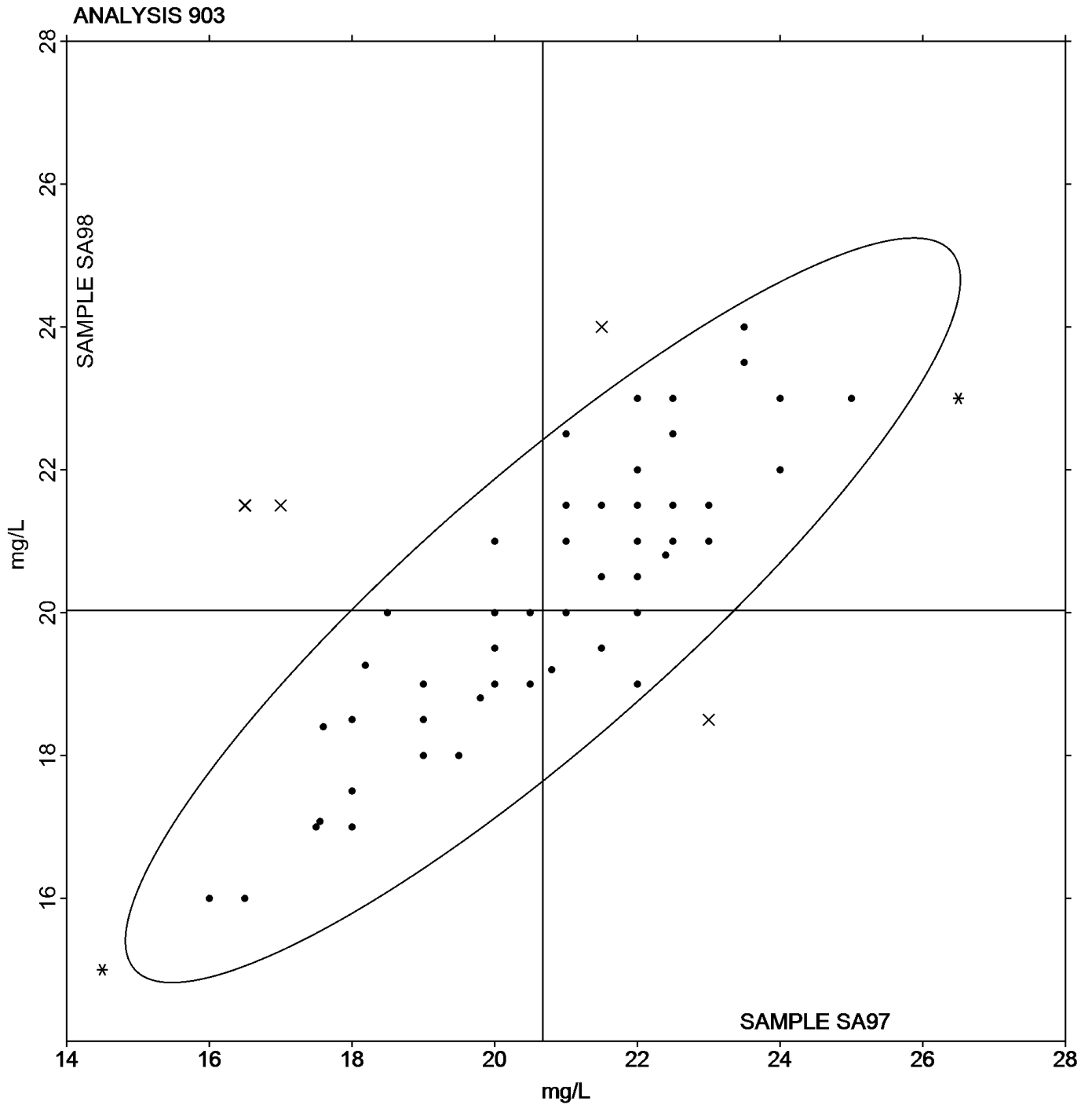
UR4KW8 (X) - Inconsistent in testing between samples.

V4CQKE (X) - Data for both samples are low. Possible Systematic Error.

VA27DR (X) - Data for both samples are high. Possible Systematic Error.

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Ripper Method	22.17	1.60	1.49	21.50	1.60	1.47	9	16
Aeration Oxidation (AO) Method	20.75	1.62	0.08	20.29	1.56	0.26	31	37
Segmented Flow Analyzer	21.17	2.64	0.49	19.92	2.20	-0.12	6	6
Colormetric Analyzer	20.00	2.65	-0.67	19.00	1.80	-1.03	3	3
Flow Injection Analysis	18.51	2.10	-2.17	17.90	1.76	-2.14	9	9
FTIR	22.25	0.35	1.58	22.00	1.41	1.97	2	2





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6	X	5.300	-0.543	-4.39	5.540	-0.564	-4.36
37EW4R	X	6.130	0.287	2.33	6.630	0.526	4.07
37Y6ZU		5.850	0.007	0.06	6.100	-0.004	-0.03
3KVLPT		5.782	-0.061	-0.50	6.060	-0.044	-0.34
4GARD8	X	5.290	-0.553	-4.47	5.470	-0.634	-4.90
63UNVJ		5.840	-0.003	-0.02	6.040	-0.064	-0.49
733HL3		5.815	-0.028	-0.22	5.985	-0.119	-0.92
7FB2KX		5.800	-0.043	-0.35	6.100	-0.004	-0.03
876JNL		5.870	0.027	0.22	6.120	0.016	0.13
8QNM74		5.825	-0.018	-0.14	6.125	0.021	0.17
8V3HNL		5.750	-0.093	-0.75	6.000	-0.104	-0.80
8VHG7Q		6.050	0.207	1.68	6.200	0.096	0.75
8WD3XW		5.925	0.082	0.67	6.225	0.121	0.94
8ZWECR	X	5.310	-0.533	-4.31	5.585	-0.519	-4.01
9BAY9T		5.945	0.102	0.83	6.190	0.086	0.67
9KV3FT		5.700	-0.143	-1.16	6.000	-0.104	-0.80
A2FH7N		5.755	-0.088	-0.71	6.010	-0.094	-0.72
A3RPKW	*	6.100	0.257	2.08	6.430	0.326	2.52
A939RJ		5.750	-0.093	-0.75	6.000	-0.104	-0.80
A9XL4W	X	5.770	-0.073	-0.59	5.770	-0.334	-2.58
AQZQHD		5.750	-0.093	-0.75	6.085	-0.019	-0.14
AZQJ6Q		5.845	0.002	0.02	6.110	0.006	0.05
BJEPQM	X	6.000	0.157	1.27	5.700	-0.404	-3.12
CZHRDE		5.850	0.007	0.06	6.020	-0.084	-0.65
D69DAE		6.000	0.157	1.27	6.200	0.096	0.75
DEEXVV		5.750	-0.093	-0.75	6.000	-0.104	-0.80



## Analysis 904

Summer 2015

## Titratable Acidity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
E4RJ6X	X	6.695	0.852	6.90	6.490	0.386	2.99
EPANRM		5.850	0.007	0.06	6.025	-0.079	-0.61
EVGP2A		5.800	-0.043	-0.35	6.000	-0.104	-0.80
F6ZUYF		5.745	-0.098	-0.79	6.045	-0.059	-0.45
FWN3JB		5.900	0.057	0.46	6.200	0.096	0.75
G874EB		5.800	-0.043	-0.35	6.000	-0.104	-0.80
HCQB3G		5.800	-0.043	-0.35	6.050	-0.054	-0.41
JBRX49	X	5.935	0.092	0.75	6.480	0.376	2.91
JTTLWT		5.900	0.057	0.46	6.200	0.096	0.75
JYHR4M		5.600	-0.243	-1.96	5.900	-0.204	-1.57
K6JVH6		5.650	-0.193	-1.56	5.950	-0.154	-1.19
KQNET7		6.000	0.157	1.27	6.150	0.046	0.36
L4PR33		6.000	0.157	1.27	6.190	0.086	0.67
LBTEEC		5.750	-0.093	-0.75	6.000	-0.104	-0.80
LDCXBM	*	5.740	-0.103	-0.83	6.160	0.056	0.44
M2G4DJ		6.100	0.257	2.08	6.400	0.296	2.29
MN6Y3G		5.970	0.127	1.03	6.230	0.126	0.98
N4JWW2		5.750	-0.093	-0.75	5.970	-0.134	-1.03
NCXBRY		5.850	0.007	0.06	6.000	-0.104	-0.80
PCRFLX		5.905	0.062	0.50	6.150	0.046	0.36
PHRXUH	X	6.590	0.747	6.05	6.975	0.871	6.74
PN2YFM		5.800	-0.043	-0.35	6.050	-0.054	-0.41
Q4DRK6		5.900	0.057	0.46	6.200	0.096	0.75
QTUF87		5.660	-0.183	-1.48	6.030	-0.074	-0.57
R64A3W	X	6.330	0.487	3.95	6.320	0.216	1.67
RDD4U4		5.780	-0.063	-0.51	6.010	-0.094	-0.72



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RDVTF6		5.650	-0.193	-1.56	5.900	-0.204	-1.57
T6YEUA		5.900	0.057	0.46	6.100	-0.004	-0.03
T8439Z		5.880	0.037	0.30	6.220	0.116	0.90
TJWQ3E		5.800	-0.043	-0.35	6.050	-0.054	-0.41
TRN64Y		5.840	-0.003	-0.02	6.110	0.006	0.05
U9E8K3		5.950	0.107	0.87	6.200	0.096	0.75
UG8KHG		5.700	-0.143	-1.16	5.900	-0.204	-1.57
UMDDCD	X	5.960	0.117	0.95	5.900	-0.204	-1.57
UR4KW8		5.910	0.067	0.55	6.170	0.066	0.51
V4CQKE		5.545	-0.298	-2.41	5.800	-0.304	-2.35
VA27DR	*	6.000	0.157	1.27	6.380	0.276	2.14
VG3H84		6.000	0.157	1.27	6.200	0.096	0.75
VGf9XY		5.860	0.017	0.14	6.205	0.101	0.78
VHX3YA		6.055	0.212	1.72	6.370	0.266	2.06
VLVJB3		6.100	0.257	2.08	6.400	0.296	2.29
VTV4BD		5.665	-0.178	-1.44	5.970	-0.134	-1.03
WTTTV2		5.800	-0.043	-0.35	6.055	-0.049	-0.38
WU2DRU		5.742	-0.101	-0.82	6.000	-0.104	-0.80
X2FJ4R		5.905	0.062	0.50	6.175	0.071	0.55
X932BU		5.800	-0.043	-0.35	6.100	-0.004	-0.03
Y2DBBX		5.985	0.142	1.15	6.210	0.106	0.82
YRTDXU		5.800	-0.043	-0.35	6.100	-0.004	-0.03



Analysis 904  
Titratable Acidity

Grand Means	Summary Statistics	
5.8427 g/L as tartaric acid	6.1036 g/L as tartaric acid	
Std Dev Btwn Labs		
0.1235 g/L as tartaric acid	0.1293 g/L as tartaric acid	
<b>Statistics based on 63 of 74 reporting participants</b>		

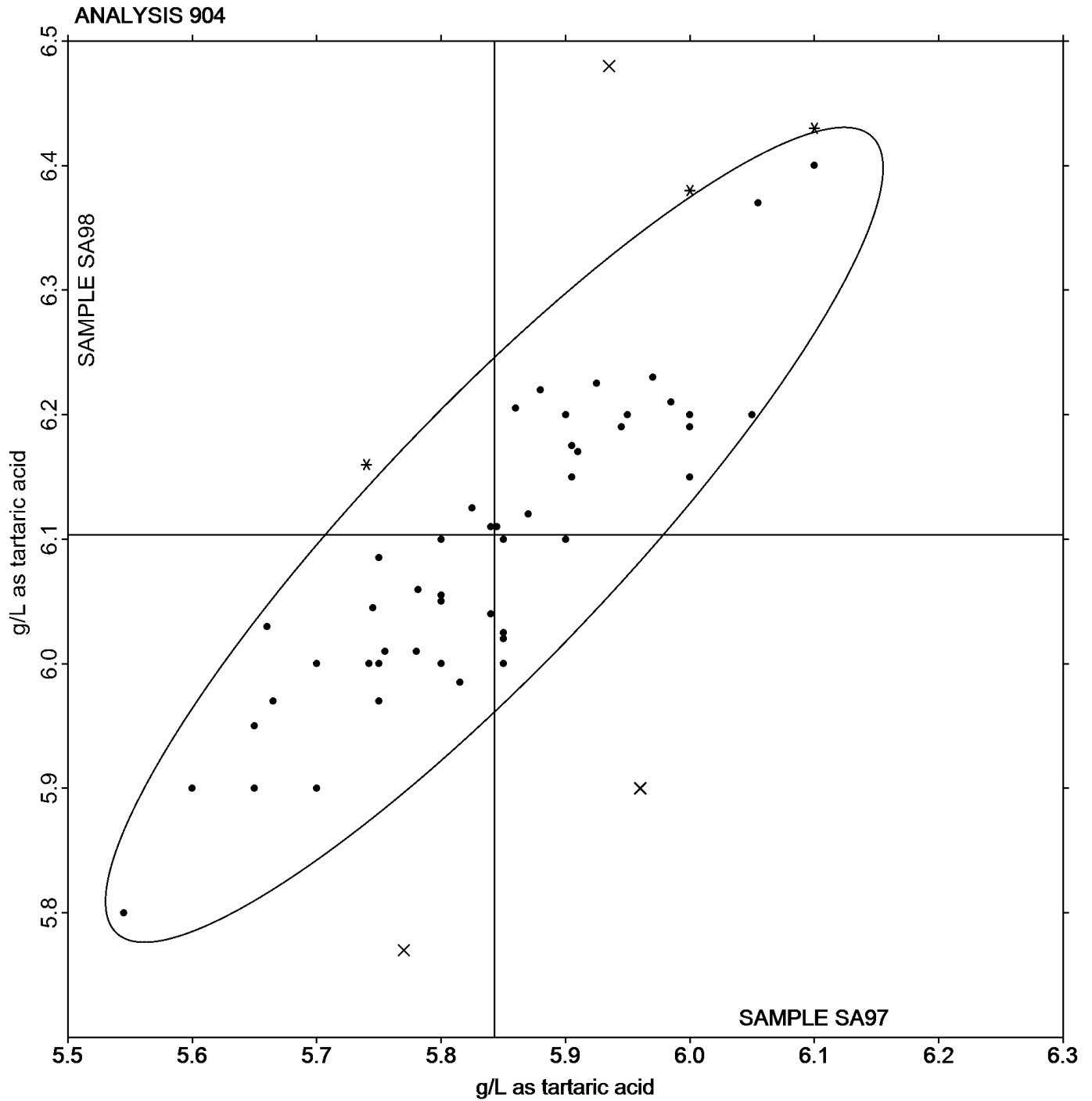
Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

- 2U9LX6 (X) - Data for both samples are low. Possible Systematic Error.
- 37EW4R (X) - Inconsistent in testing between samples, data for Sample SA97 are high. Also inconsistent in testing within Sample SA97.
- 4GARD8 (X) - Data for both samples are low.
- 8ZWECR (X) - Data for both samples are low. Possible Systematic Error.
- A9XL4W (X) - Inconsistent in testing between samples.
- BJEPQM (X) - Inconsistent in testing between samples. Data is low for Sample SA98.
- E4RJ6X (X) - Data for both samples are high.
- JBRX49 (X) - Inconsistent in testing between samples.
- PHRXUH (X) - Data for both samples are high.
- R64A3W (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- UMDDCD (X) - Inconsistent in testing between samples.

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Please specify method	5.840	0.000	-0.003	6.040	0.000	-0.064	1	1
Autotitration	5.847	0.114	0.004	6.105	0.120	0.001	40	46
Manual Titration	5.824	0.135	-0.019	6.085	0.128	-0.018	12	19
FTIR	5.808	0.155	-0.035	6.043	0.126	-0.061	6	7
Segmented Flow Analyzer	5.800	0.000	-0.043	6.050	0.000	-0.054	1	1







# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		0.5100	0.0357	0.64	0.6000	0.0437	0.74
37EW4R		0.5350	0.0607	1.09	0.6250	0.0687	1.16
37Y6ZU		0.4000	-0.0743	-1.33	0.5150	-0.0413	-0.70
4GARD8		0.4900	0.0157	0.28	0.6200	0.0637	1.08
63UNVJ		0.5100	0.0357	0.64	0.6150	0.0587	0.99
733HL3		0.4000	-0.0743	-1.33	0.5100	-0.0463	-0.79
7FB2KX		0.4800	0.0057	0.10	0.5600	0.0037	0.06
876JNL		0.4500	-0.0243	-0.43	0.5400	-0.0163	-0.28
8QNM74		0.4700	-0.0043	-0.08	0.5500	-0.0063	-0.11
8V3HNL		0.5450	0.0707	1.26	0.6050	0.0487	0.83
8VHG7Q		0.4700	-0.0043	-0.08	0.5550	-0.0013	-0.02
8WD3XW		0.4800	0.0057	0.10	0.6000	0.0437	0.74
8ZWECR		0.4600	-0.0143	-0.26	0.5300	-0.0263	-0.45
9BAY9T		0.4750	0.0007	0.01	0.5500	-0.0063	-0.11
9KV3FT		0.4150	-0.0593	-1.06	0.5300	-0.0263	-0.45
A2FH7N		0.4200	-0.0543	-0.97	0.5100	-0.0463	-0.79
A3RPKW		0.4600	-0.0143	-0.26	0.5350	-0.0213	-0.36
A939RJ		0.5100	0.0357	0.64	0.6500	0.0937	1.59
A9XL4W		0.4500	-0.0243	-0.43	0.4800	-0.0763	-1.29
AQZQHD	X	0.3650	-0.1093	-1.95	0.3800	-0.1763	-2.99
AZQJ6Q		0.4350	-0.0393	-0.70	0.5050	-0.0513	-0.87
BJEPQM		0.5650	0.0907	1.62	0.6500	0.0937	1.59
CZHRDE		0.5150	0.0407	0.73	0.6050	0.0487	0.83
D69DAE	*	0.5100	0.0357	0.64	0.5250	-0.0313	-0.53
DEEXVV		0.4750	0.0007	0.01	0.5700	0.0137	0.23
E4RJ6X		0.5050	0.0307	0.55	0.5750	0.0187	0.32



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EPANRM		0.5000	0.0257	0.46	0.5650	0.0087	0.15
EVGP2A		0.5350	0.0607	1.09	0.6300	0.0737	1.25
F6ZUYF		0.4050	-0.0693	-1.24	0.4850	-0.0713	-1.21
FWN3JB		0.4350	-0.0393	-0.70	0.5250	-0.0313	-0.53
G874EB		0.5000	0.0257	0.46	0.5650	0.0087	0.15
HCQB3G		0.4500	-0.0243	-0.43	0.5100	-0.0463	-0.79
JBRX49		0.5100	0.0357	0.64	0.5750	0.0187	0.32
JJTLWT	X	0.7000	0.2257	4.04	0.7500	0.1937	3.28
JYHR4M		0.3700	-0.1043	-1.86	0.4600	-0.0963	-1.63
K6JVH6		0.5550	0.0807	1.44	0.6500	0.0937	1.59
KQNET7		0.5300	0.0557	1.00	0.6200	0.0637	1.08
L4PR33		0.4650	-0.0093	-0.17	0.5150	-0.0413	-0.70
LBTEEC		0.4800	0.0057	0.10	0.5650	0.0087	0.15
LDCXBM		0.4500	-0.0243	-0.43	0.4800	-0.0763	-1.29
M2G4DJ		0.4450	-0.0293	-0.52	0.5500	-0.0063	-0.11
MN6Y3G	*	0.3250	-0.1493	-2.67	0.3900	-0.1663	-2.82
N4JWW2		0.5150	0.0407	0.73	0.5900	0.0337	0.57
NCXBRY		0.4850	0.0107	0.19	0.5550	-0.0013	-0.02
PCRFLX		0.4200	-0.0543	-0.97	0.5000	-0.0563	-0.96
PHRXUH		0.4750	0.0007	0.01	0.5500	-0.0063	-0.11
PN2YFM		0.5000	0.0257	0.46	0.5750	0.0187	0.32
Q4DRK6		0.5950	0.1207	2.16	0.6750	0.1187	2.01
QTUF87		0.4950	0.0207	0.37	0.5550	-0.0013	-0.02
R64A3W		0.4950	0.0207	0.37	0.5750	0.0187	0.32
RDD4U4		0.4350	-0.0393	-0.70	0.5050	-0.0513	-0.87
RDVTF6		0.3983	-0.0760	-1.36	0.4467	-0.1096	-1.86



**Analysis 905  
Volatile Acidity**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T6YEUA		0.5700	0.0957	1.71	0.6900	0.1337	2.27
T8439Z		0.3990	-0.0753	-1.35	0.4940	-0.0623	-1.06
TJWQ3E		0.5300	0.0557	1.00	0.5950	0.0387	0.66
TRN64Y		0.4750	0.0007	0.01	0.5350	-0.0213	-0.36
U9E8K3		0.4400	-0.0343	-0.61	0.5650	0.0087	0.15
UMDDCD	*	0.6225	0.1482	2.65	0.6900	0.1337	2.27
UR4KW8		0.5150	0.0407	0.73	0.5450	-0.0113	-0.19
V4CQKE		0.4400	-0.0343	-0.61	0.5400	-0.0163	-0.28
VA27DR		0.3980	-0.0763	-1.36	0.4940	-0.0623	-1.06
VG3H84	*	0.4250	-0.0493	-0.88	0.5800	0.0237	0.40
VGf9XY		0.4650	-0.0093	-0.17	0.5350	-0.0213	-0.36
VLVJB3	X	0.6150	0.1407	2.52	0.7600	0.2037	3.45
VTV4BD		0.5150	0.0407	0.73	0.6050	0.0487	0.83
WTTTV2		0.4265	-0.0478	-0.85	0.5225	-0.0338	-0.57
WU2DRU		0.3500	-0.1243	-2.22	0.4500	-0.1063	-1.80
X2FJ4R		0.4715	-0.0028	-0.05	0.5530	-0.0033	-0.06
X932BU		0.5400	0.0657	1.18	0.6300	0.0737	1.25
Y2DBBX		0.5150	0.0407	0.73	0.5850	0.0287	0.49
YRTDXU		0.4500	-0.0243	-0.43	0.5000	-0.0563	-0.96

Grand Means		Summary Statistics	
	0.47428 g/L as acetic acid		0.55633 g/L as acetic acid
Std Dev Btwn Labs			
	0.05592 g/L as acetic acid		0.05898 g/L as acetic acid
<b>Statistics based on 68 of 71 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel



**Analysis 905  
Volatile Acidity**

**Comments on assigned Data Flags**

AQZQHD (X) - Inconsistent in testing between samples, data for Sample SA98 are low.

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

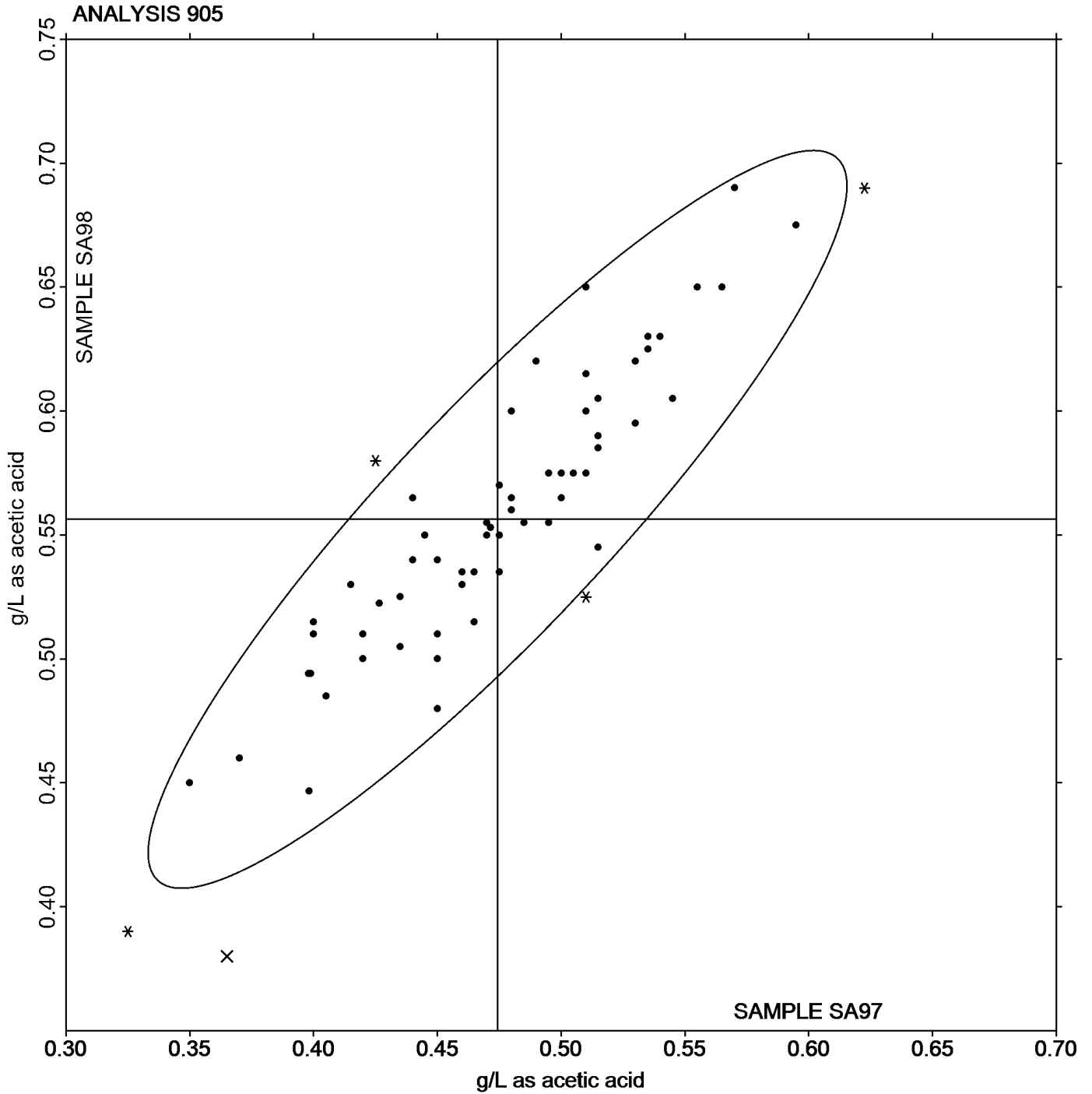
VLVJB3 (X) - Inconsistent in testing between samples. High Data for Sample SA98.

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Please specify method	0.5550	0.0000	0.0807	0.6500	0.0000	0.0937	1	1
Cash Still method	0.4936	0.0526	0.0193	0.5675	0.0582	0.0112	17	20
Enzymatic method	0.4470	0.0435	-0.0273	0.5322	0.0424	-0.0241	26	29
HPLC	0.5150	0.0000	0.0407	0.5450	0.0000	-0.0113	1	1
GC	0.4825	0.0460	0.0082	0.5425	0.0884	-0.0138	2	2
Colorimetric Analysis	0.4600	0.0000	-0.0143	0.5300	0.0000	-0.0263	1	1
Seg. Flow / Colorimetric Analyzer	0.4869	0.0359	0.0126	0.5644	0.0376	0.0080	8	8
FTIR	0.4956	0.0531	0.0213	0.6044	0.0573	0.0480	8	9



Analysis 905  
Volatile Acidity





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 906 Specific Gravity

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		0.9955	-0.0003	-0.35	0.9966	-0.0002	-0.27
37EW4R		0.9955	-0.0002	-0.28	0.9966	-0.0002	-0.27
37Y6ZU	X	0.9961	0.0004	0.53	0.9961	-0.0007	-0.93
3KVLPT		0.9959	0.0002	0.24	0.9970	0.0002	0.22
4GARD8		0.9959	0.0002	0.25	0.9967	-0.0001	-0.14
63UNVJ	X	0.9950	-0.0007	-0.92	0.9970	0.0002	0.24
733HL3		0.9961	0.0004	0.52	0.9972	0.0003	0.47
7FB2KX		0.9962	0.0005	0.65	0.9976	0.0007	1.00
8QNM74		0.9960	0.0002	0.32	0.9970	0.0002	0.27
8V3HNL		0.9957	0.0000	0.00	0.9969	0.0001	0.11
8VHG7Q		0.9955	-0.0002	-0.28	0.9965	-0.0003	-0.40
8ZWECR		0.9942	-0.0015	-2.01	0.9953	-0.0016	-2.08
9BAY9T		0.9940	-0.0017	-2.28	0.9950	-0.0018	-2.41
9KV3FT		0.9959	0.0002	0.25	0.9970	0.0002	0.27
A2FH7N	X	0.9954	-0.0003	-0.41	0.9956	-0.0013	-1.68
A9XL4W	X	0.9930	-0.0027	-3.61	0.9930	-0.0038	-5.09
AQZQHD	X	0.9959	0.0002	0.25	0.9933	-0.0035	-4.62
AZQJ6Q		0.9963	0.0006	0.78	0.9973	0.0005	0.67
BJEPQM	X	0.9970	0.0013	1.70	0.9959	-0.0009	-1.18
D69DAE		0.9955	-0.0003	-0.35	0.9970	0.0002	0.27
DEEXVV		0.9959	0.0002	0.26	0.9970	0.0002	0.33
E4RJ6X		0.9958	0.0001	0.12	0.9969	0.0001	0.13
EPANRM		0.9960	0.0003	0.38	0.9972	0.0003	0.47
EVGP2A		0.9959	0.0002	0.30	0.9970	0.0002	0.28
F6ZUYF		0.9959	0.0002	0.23	0.9970	0.0002	0.21
FWN3JB		0.9941	-0.0016	-2.12	0.9952	-0.0016	-2.18



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

**Report #050  
Summer 2015**

**Analysis 906  
Specific Gravity**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
G874EB		0.9959	0.0002	0.25	0.9970	0.0002	0.23
HCQB3G		0.9960	0.0003	0.34	0.9970	0.0002	0.33
JBRX49		0.9959	0.0002	0.26	0.9971	0.0002	0.33
JJTLWT		0.9959	0.0002	0.24	0.9970	0.0002	0.21
JYHR4M		0.9965	0.0008	1.05	0.9974	0.0006	0.80
K6JVH6		0.9959	0.0002	0.25	0.9970	0.0002	0.27
L4PR33		0.9962	0.0004	0.58	0.9972	0.0004	0.53
LBTEEC		0.9959	0.0002	0.23	0.9970	0.0002	0.23
M2G4DJ		0.9937	-0.0020	-2.68	0.9948	-0.0020	-2.68
MN6Y3G	X	0.9927	-0.0030	-4.01	0.9937	-0.0031	-4.15
N4JWW2		0.9962	0.0004	0.58	0.9970	0.0002	0.27
NCXBRY		0.9964	0.0007	0.92	0.9973	0.0005	0.67
PN2YFM		0.9959	0.0002	0.22	0.9972	0.0004	0.56
Q4DRK6		0.9958	0.0001	0.11	0.9965	-0.0003	-0.35
QTUF87		0.9960	0.0002	0.32	0.9970	0.0002	0.27
R64A3W	X	0.9992	0.0034	4.58	1.0001	0.0033	4.42
RDD4U4	X	8.3025	7.3068	9,727.61	8.3110	7.3142	9,793.04
T6YEUA		0.9962	0.0005	0.65	0.9973	0.0004	0.60
TJWQ3E		0.9960	0.0002	0.32	0.9970	0.0002	0.27
U9E8K3		0.9957	0.0000	0.04	0.9968	0.0000	-0.01
UG8KHG		0.9971	0.0014	1.84	0.9981	0.0013	1.73
UMDDCD		0.9963	0.0006	0.78	0.9974	0.0006	0.80
UR4KW8		0.9959	0.0002	0.25	0.9970	0.0002	0.27
V4CQKE		0.9943	-0.0014	-1.88	0.9953	-0.0015	-2.01
VA27DR		0.9968	0.0011	1.45	0.9979	0.0010	1.40
VG3H84		0.9959	0.0002	0.24	0.9970	0.0002	0.24



**Analysis 906  
Specific Gravity**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VGF9XY		0.9955	-0.0002	-0.28	0.9965	-0.0003	-0.40
VHX3YA		0.9959	0.0002	0.25	0.9970	0.0002	0.27
VLVJB3		0.9949	-0.0008	-1.08	0.9960	-0.0008	-1.07
VM9DQ4	X	0.9958	0.0001	0.17	0.9978	0.0010	1.34
VTV4BD		0.9961	0.0004	0.52	0.9971	0.0003	0.45
WTTTV2		0.9959	0.0002	0.22	0.9970	0.0002	0.28
WU2DRU	*	0.9930	-0.0027	-3.57	0.9943	-0.0025	-3.41
X2FJ4R		0.9960	0.0003	0.38	0.9974	0.0006	0.79
X932BU		0.9963	0.0006	0.78	0.9974	0.0006	0.80
Y2DBBX		0.9959	0.0002	0.25	0.9970	0.0002	0.27
YRTDXU		0.9958	0.0001	0.11	0.9968	0.0000	-0.01

Grand Means		Summary Statistics	
0.99571	sp gr 20/20 C	0.99680	sp gr 20/20 C
Std Dev Btwn Labs			
0.00075	sp gr 20/20 C	0.00075	sp gr 20/20 C
<b>Statistics based on 53 of 63 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel





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**Comments on assigned Data Flags**

37Y6ZU (X) - Inconsistent in testing between samples.

63UNVJ (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA97.

A2FH7N (X) - Inconsistent in testing between samples.

A9XL4W (X) - Data for both samples are low.

AQZQHD (X) - Inconsistent in testing between samples, data for Sample SA98 are low. Also inconsistent in testing within Sample SA98.

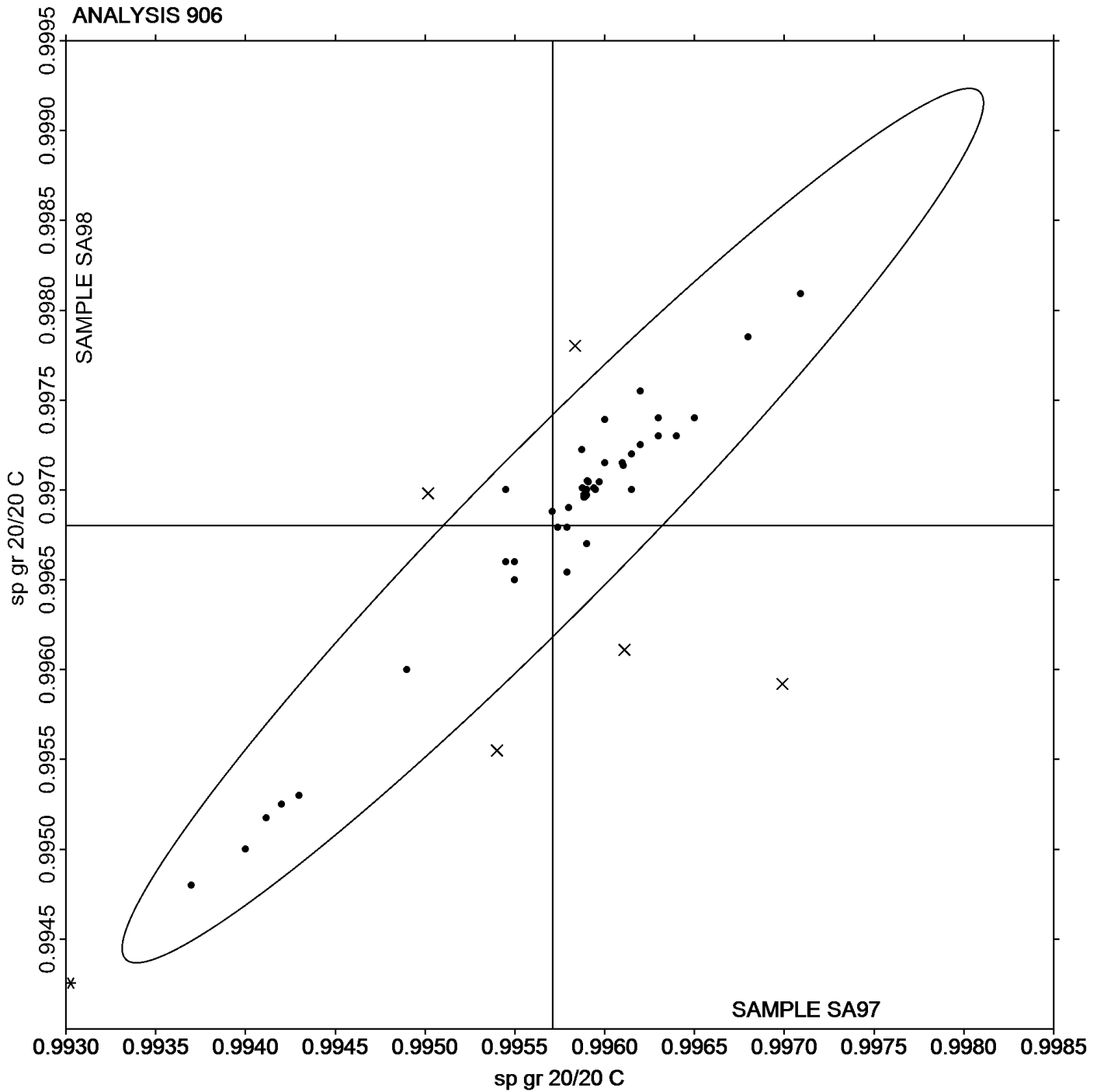
BJEPQM (X) - Inconsistent in testing between samples.

MN6Y3G (X) - Data for both samples are low.

R64A3W (X) - Inconsistent in testing between samples and inconsistent within the determinations for both samples.

RDD4U4 (X) - Extreme data.

VM9DQ4 (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA97.



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 907****pH**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		3.465	-0.010	-0.37	3.515	-0.014	-0.50
37EW4R		3.500	0.025	0.89	3.555	0.026	0.92
37Y6ZU		3.470	-0.005	-0.19	3.525	-0.004	-0.14
4GARD8	X	3.510	0.035	1.25	3.500	-0.029	-1.03
63UNVJ		3.495	0.020	0.71	3.550	0.021	0.74
733HL3		3.490	0.015	0.53	3.545	0.016	0.56
7FB2KX		3.480	0.005	0.17	3.530	0.001	0.03
876JNL		3.480	0.005	0.17	3.535	0.006	0.21
8QNM74		3.455	-0.020	-0.73	3.510	-0.019	-0.68
8V3HNL		3.510	0.035	1.25	3.560	0.031	1.10
8VHG7Q		3.450	-0.025	-0.91	3.505	-0.024	-0.85
8WD3XW		3.465	-0.010	-0.37	3.510	-0.019	-0.68
8ZWECR		3.475	0.000	-0.01	3.520	-0.009	-0.32
9BAY9T		3.495	0.020	0.71	3.545	0.016	0.56
9KV3FT		3.470	-0.005	-0.19	3.525	-0.004	-0.14
A2FH7N		3.490	0.015	0.53	3.540	0.011	0.39
A3RPKW		3.510	0.035	1.25	3.565	0.036	1.27
A939RJ		3.480	0.005	0.17	3.530	0.001	0.03
A9XL4W		3.450	-0.025	-0.91	3.520	-0.009	-0.32
AQZQHD		3.425	-0.050	-1.81	3.490	-0.039	-1.38
AZQJ6Q		3.440	-0.035	-1.27	3.495	-0.034	-1.21
BJEPQM	X	3.510	0.035	1.25	3.450	-0.079	-2.80
CZHRDE	X	3.565	0.090	3.24	3.565	0.036	1.27
D69DAE	X	3.565	0.090	3.24	3.630	0.101	3.57
DEEXVV		3.455	-0.020	-0.73	3.505	-0.024	-0.85
E4RJ6X	X	3.520	0.045	1.61	3.530	0.001	0.03



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 907

### pH

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EPANRM		3.455	-0.020	-0.73	3.500	-0.029	-1.03
EVGP2A		3.450	-0.025	-0.91	3.510	-0.019	-0.68
F6ZUYF		3.500	0.025	0.89	3.555	0.026	0.92
FWN3JB		3.465	-0.010	-0.37	3.520	-0.009	-0.32
G874EB	X	3.515	0.040	1.43	3.480	-0.049	-1.74
HCQB3G		3.425	-0.050	-1.81	3.480	-0.049	-1.74
JBRX49	X	3.405	-0.070	-2.53	3.545	0.016	0.56
JYHR4M		3.460	-0.015	-0.55	3.530	0.001	0.03
K6JVH6		3.475	0.000	-0.01	3.530	0.001	0.03
KQNET7	*	3.510	0.035	1.25	3.580	0.051	1.80
L4PR33		3.495	0.020	0.71	3.555	0.026	0.92
LBTEEC		3.475	0.000	-0.01	3.530	0.001	0.03
LDCXBM	X	3.420	-0.055	-1.99	3.500	-0.029	-1.03
M2G4DJ		3.440	-0.035	-1.27	3.490	-0.039	-1.38
MN6Y3G		3.500	0.025	0.89	3.555	0.026	0.92
N4JWW2		3.510	0.035	1.25	3.560	0.031	1.10
NCXBRY		3.490	0.015	0.53	3.545	0.016	0.56
PCRFLX		3.510	0.035	1.25	3.570	0.041	1.45
PHRXUH	X	3.575	0.100	3.60	3.615	0.086	3.04
PN2YFM		3.500	0.025	0.89	3.550	0.021	0.74
Q4DRK6		3.440	-0.035	-1.27	3.495	-0.034	-1.21
QTUF87	X	3.480	0.005	0.17	3.495	-0.034	-1.21
R64A3W	X	3.555	0.080	2.87	3.575	0.046	1.63
RDD4U4		3.450	-0.025	-0.91	3.500	-0.029	-1.03
RDVTF6		3.470	-0.005	-0.19	3.510	-0.019	-0.68
T6YEUA	X	3.580	0.105	3.78	3.570	0.041	1.45



**Analysis 907**

**pH**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T8439Z		3.480	0.005	0.17	3.540	0.011	0.39
TRN64Y		3.460	-0.015	-0.55	3.510	-0.019	-0.68
U9E8K3		3.490	0.015	0.53	3.540	0.011	0.39
UG8KHG	X	3.625	0.150	5.40	3.680	0.151	5.34
UMDDCD	*	3.405	-0.070	-2.53	3.455	-0.074	-2.62
UR4KW8	*	3.555	0.080	2.87	3.610	0.081	2.87
V4CQKE	X	3.610	0.135	4.86	3.575	0.046	1.63
VA27DR		3.470	-0.005	-0.19	3.520	-0.009	-0.32
VG3H84		3.445	-0.030	-1.09	3.490	-0.039	-1.38
VGf9XY	*	3.525	0.050	1.79	3.565	0.036	1.27
VHX3YA		3.451	-0.024	-0.88	3.492	-0.037	-1.31
VLVJB3		3.510	0.035	1.25	3.560	0.031	1.10
VTV4BD		3.500	0.025	0.89	3.550	0.021	0.74
WTTTV2		3.480	0.005	0.17	3.535	0.006	0.21
WU2DRU		3.460	-0.015	-0.55	3.510	-0.019	-0.68
X2FJ4R	*	3.440	-0.035	-1.27	3.510	-0.019	-0.68
X932BU		3.480	0.005	0.17	3.530	0.001	0.03
Y2DBBX		3.495	0.020	0.71	3.560	0.031	1.10
YRTDXU		3.475	0.000	-0.01	3.540	0.011	0.39

Grand Means		Summary Statistics	
	3.4753 pH		3.5291 pH
Std Dev Btw Labs			
	0.0277 pH		0.0282 pH
<b>Statistics based on 57 of 71 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel



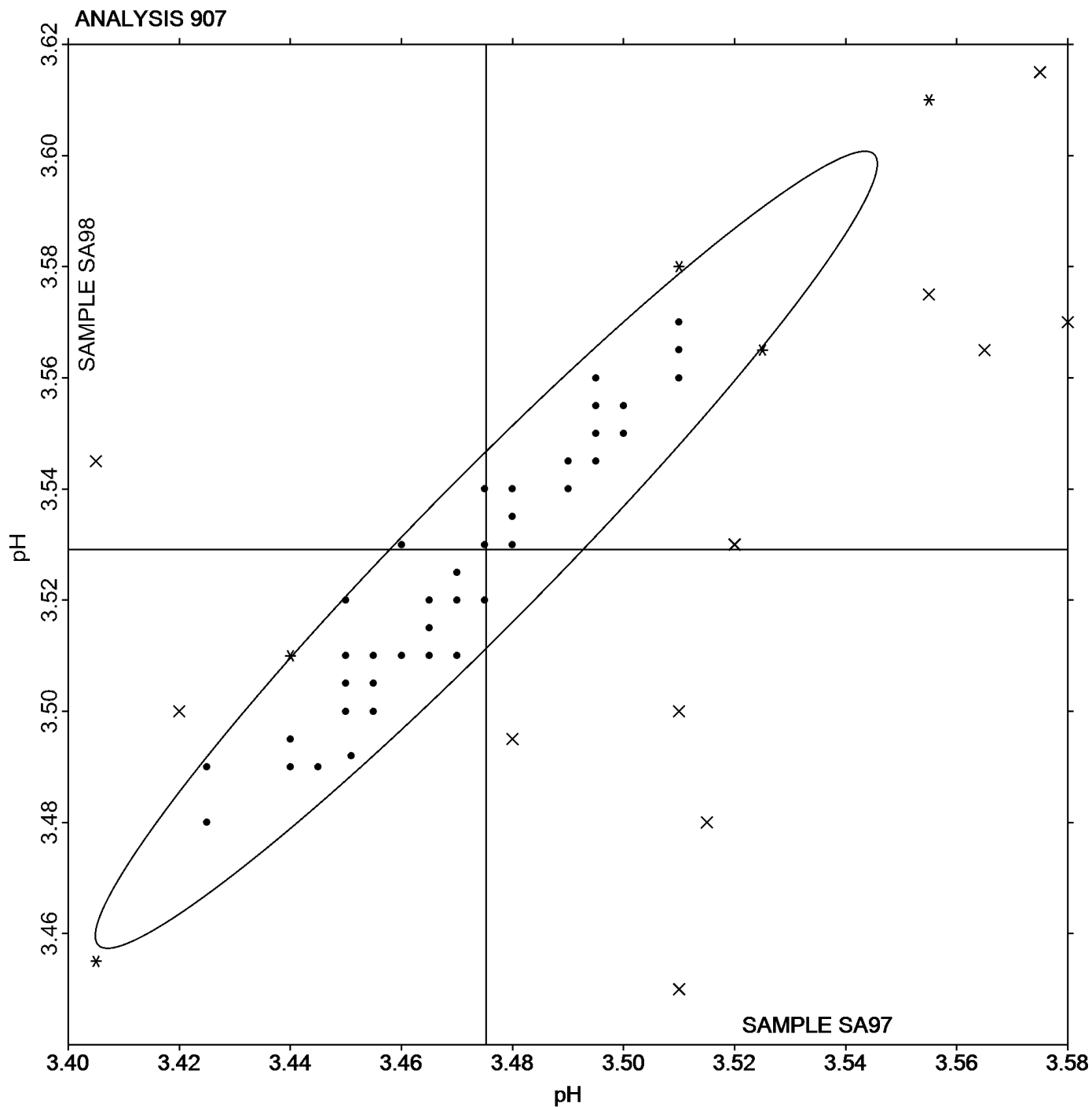
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**Comments on assigned Data Flags**

- 4GARD8 (X) - Inconsistent in testing between samples.
- BJEPQM (X) - Inconsistent in testing between samples, data for Sample SA98 are low.
- CZHRDE (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- D69DAE (X) - Data for both samples are high. Possible Systematic Error.
- E4RJ6X (X) - Inconsistent in testing between samples.
- G874EB (X) - Inconsistent in testing between samples.
- JBRX49 (X) - Inconsistent in testing between samples.
- LDCXBM (X) - Inconsistent in testing between samples.
- PHRXUH (X) - Data for both samples are high. Possible Systematic Error.
- QTUF87 (X) - Inconsistent in testing between samples.
- R64A3W (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- T6YEUA (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- UG8KHG (X) - Data for both samples are high.
- V4CQKE (X) - Inconsistent in testing between samples, data for Sample SA97 are high.



pH



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050****Analysis 908****Summer 2015****Residual Sugar**

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WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		7.530	0.254	0.17	9.570	0.228	0.13
37EW4R	*	6.000	-1.276	-0.85	6.000	-3.342	-1.86
4GARD8		6.680	-0.596	-0.40	8.710	-0.632	-0.35
8ZWECR		9.130	1.854	1.23	11.700	2.358	1.31
A939RJ		5.860	-1.416	-0.94	7.810	-1.532	-0.85
A9XL4W		7.900	0.624	0.42	10.600	1.258	0.70
AZQJ6Q		5.250	-2.026	-1.35	6.950	-2.392	-1.33
G874EB		10.400	3.124	2.08	12.900	3.558	1.98
JBRX49		10.120	2.844	1.89	12.005	2.663	1.48
JYHR4M		8.300	1.024	0.68	10.650	1.308	0.73
KQNET7		6.300	-0.976	-0.65	8.700	-0.642	-0.36
QTUF87		7.985	0.709	0.47	9.140	-0.202	-0.11
R64A3W		6.015	-1.261	-0.84	7.940	-1.402	-0.78
T6YEUA		8.800	1.524	1.01	10.700	1.358	0.76
TJWQ3E		7.550	0.274	0.18	9.950	0.608	0.34
UR4KW8		7.900	0.624	0.42	10.255	0.913	0.51
V4CQKE		6.085	-1.191	-0.79	9.210	-0.132	-0.07
VA27DR		5.875	-1.401	-0.93	7.880	-1.462	-0.81
VG3H84		7.650	0.374	0.25	10.500	1.158	0.65
VLVJB3		5.460	-1.816	-1.21	7.065	-2.277	-1.27
YRTDXU		6.000	-1.276	-0.85	7.950	-1.392	-0.78





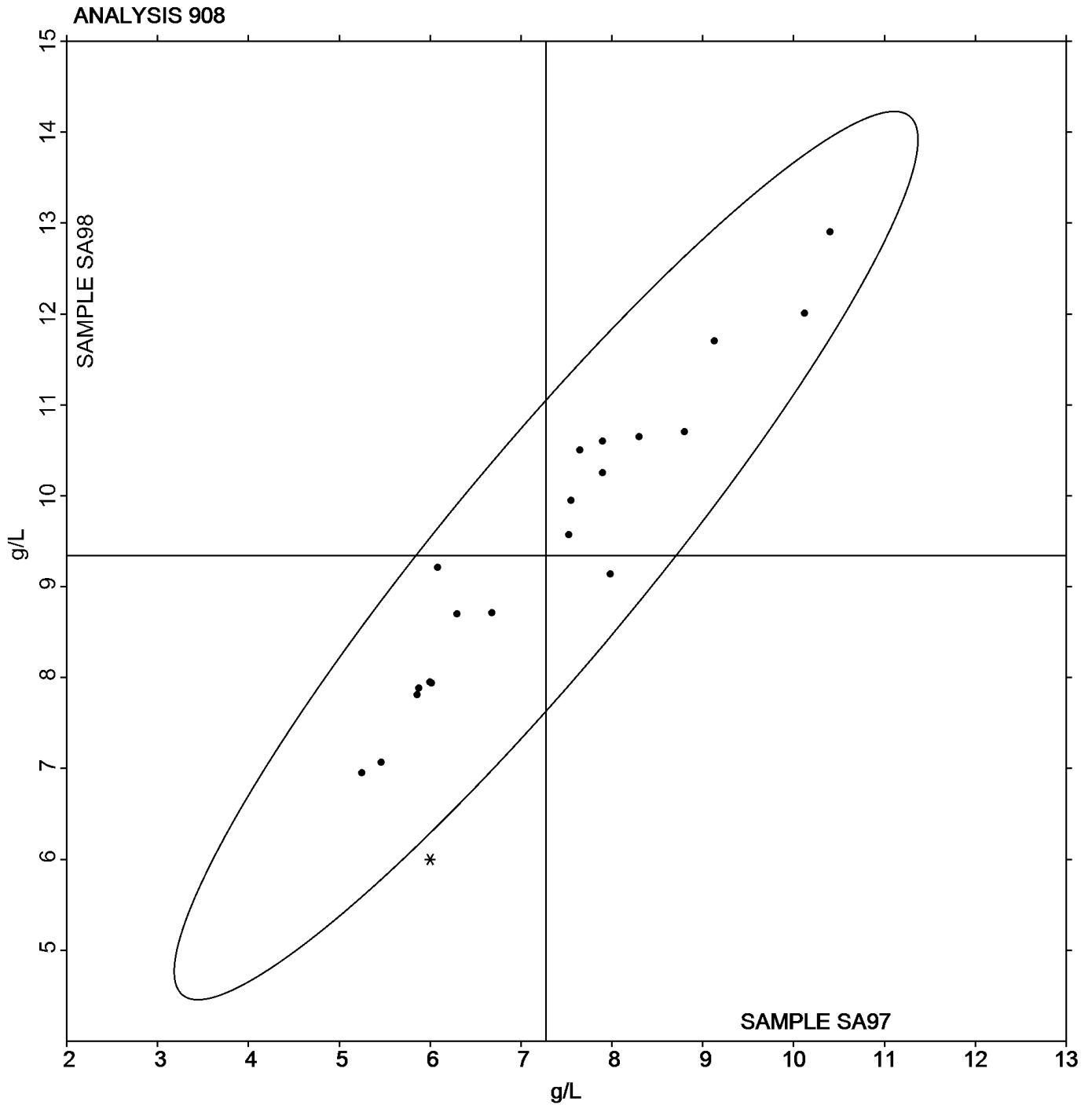
**Analysis 908  
Residual Sugar**

<b>Grand Means</b>		<b>Summary Statistics</b>	
	7.2757 g/L		9.3421 g/L
<b>Std Dev Btwn Labs</b>			
	1.5027 g/L		1.7941 g/L
<b>Statistics based on 21 of 21 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>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	5.938	0.110	-1.338	7.875	0.092	-1.467	2	2
Cu Reduction Method	8.409	0.906	1.134	10.560	1.040	1.218	7	8
Segmented Flow	8.975	2.015	1.699	11.425	2.086	2.083	2	2
FTIR	6.919	1.100	-0.357	9.295	1.090	-0.047	6	6
Other _____	5.528	0.318	-1.747	7.298	0.507	-2.044	3	3



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 909****L-Malic Acid**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		0.0900	-0.0752	-1.30	0.0400	-0.1055	-1.97
37EW4R		0.1490	-0.0162	-0.28	0.1320	-0.0135	-0.25
37Y6ZU		0.2205	0.0553	0.96	0.2125	0.0670	1.25
4GARD8	X	0.1200	-0.0452	-0.78	0.0100	-0.1355	-2.53
63UNVJ		0.1850	0.0198	0.34	0.1650	0.0195	0.36
733HL3		0.1440	-0.0212	-0.37	0.1330	-0.0125	-0.23
7FB2KX		0.1695	0.0043	0.07	0.1525	0.0070	0.13
876JNL		0.1715	0.0063	0.11	0.1560	0.0105	0.20
8QNM74		0.1710	0.0058	0.10	0.1560	0.0105	0.20
8VHG7Q	*	0.2800	0.1148	1.98	0.2000	0.0545	1.02
8ZWECR		0.1350	-0.0302	-0.52	0.1350	-0.0105	-0.20
9BAY9T		0.0950	-0.0702	-1.21	0.0900	-0.0555	-1.04
A2FH7N	X	0.4050	0.2398	4.14	0.1850	0.0395	0.74
A3RPKW		0.1850	0.0198	0.34	0.1850	0.0395	0.74
A939RJ		0.2250	0.0598	1.03	0.1550	0.0095	0.18
A9XL4W	X	0.3400	0.1748	3.02	0.8300	0.6845	12.77
AQZQHD	*	0.2600	0.0948	1.64	0.1900	0.0445	0.83
AZQJ6Q		0.2100	0.0448	0.77	0.1800	0.0345	0.64
CZHRDE		0.0600	-0.1052	-1.82	0.0550	-0.0905	-1.69
D69DAE		0.2150	0.0498	0.86	0.2200	0.0745	1.39
DEEXVV		0.1450	-0.0202	-0.35	0.1350	-0.0105	-0.20
E4RJ6X		0.1325	-0.0327	-0.57	0.1105	-0.0350	-0.65
EPANRM		0.2700	0.1048	1.81	0.2250	0.0795	1.48
F6ZUYF		0.1300	-0.0352	-0.61	0.1150	-0.0305	-0.57
FWN3JB		0.2300	0.0648	1.12	0.2000	0.0545	1.02
HCQB3G		0.1700	0.0048	0.08	0.1650	0.0195	0.36



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 909

### L-Malic Acid

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
JYHR4M		0.1100	-0.0552	-0.95	0.1000	-0.0455	-0.85
K6JVH6		0.1900	0.0248	0.43	0.1850	0.0395	0.74
KQNET7		0.1580	-0.0072	-0.12	0.1440	-0.0015	-0.03
L4PR33		0.2200	0.0548	0.95	0.2050	0.0595	1.11
LBTEEC		0.1640	-0.0012	-0.02	0.1515	0.0060	0.11
M2G4DJ		0.2000	0.0348	0.60	0.1950	0.0495	0.92
MN6Y3G	*	0.0200	-0.1452	-2.51	0.0100	-0.1355	-2.53
N4JWW2		0.1700	0.0048	0.08	0.1350	-0.0105	-0.20
NCXBRY		0.1550	-0.0102	-0.18	0.1650	0.0195	0.36
PCRFLX		0.0900	-0.0752	-1.30	0.0800	-0.0655	-1.22
PHRXUH		0.1590	-0.0062	-0.11	0.1415	-0.0040	-0.08
PN2YFM	X	0.3800	0.2148	3.71	0.3300	0.1845	3.44
R64A3W		0.1550	-0.0102	-0.18	0.1200	-0.0255	-0.48
RDD4U4		0.1750	0.0098	0.17	0.1100	-0.0355	-0.66
RDVTF6		0.0750	-0.0902	-1.56	0.0630	-0.0825	-1.54
T6YEUA	X	0.2350	0.0698	1.21	0.1050	-0.0405	-0.76
T8439Z		0.1440	-0.0212	-0.37	0.1340	-0.0115	-0.22
TRN64Y		0.1730	0.0078	0.13	0.1530	0.0075	0.14
U9E8K3		0.1500	-0.0152	-0.26	0.1300	-0.0155	-0.29
UR4KW8	X	0.2250	0.0598	1.03	0.1150	-0.0305	-0.57
VA27DR		0.1450	-0.0202	-0.35	0.1200	-0.0255	-0.48
VG3H84		0.1900	0.0248	0.43	0.1900	0.0445	0.83
VGf9XY		0.1600	-0.0052	-0.09	0.1500	0.0045	0.08
VLVJB3		0.2675	0.1023	1.77	0.2630	0.1175	2.19
VTV4BD		0.1800	0.0148	0.26	0.1400	-0.0055	-0.10
WTTTTV2		0.2005	0.0353	0.61	0.1925	0.0470	0.88



Analysis 909

L-Malic Acid

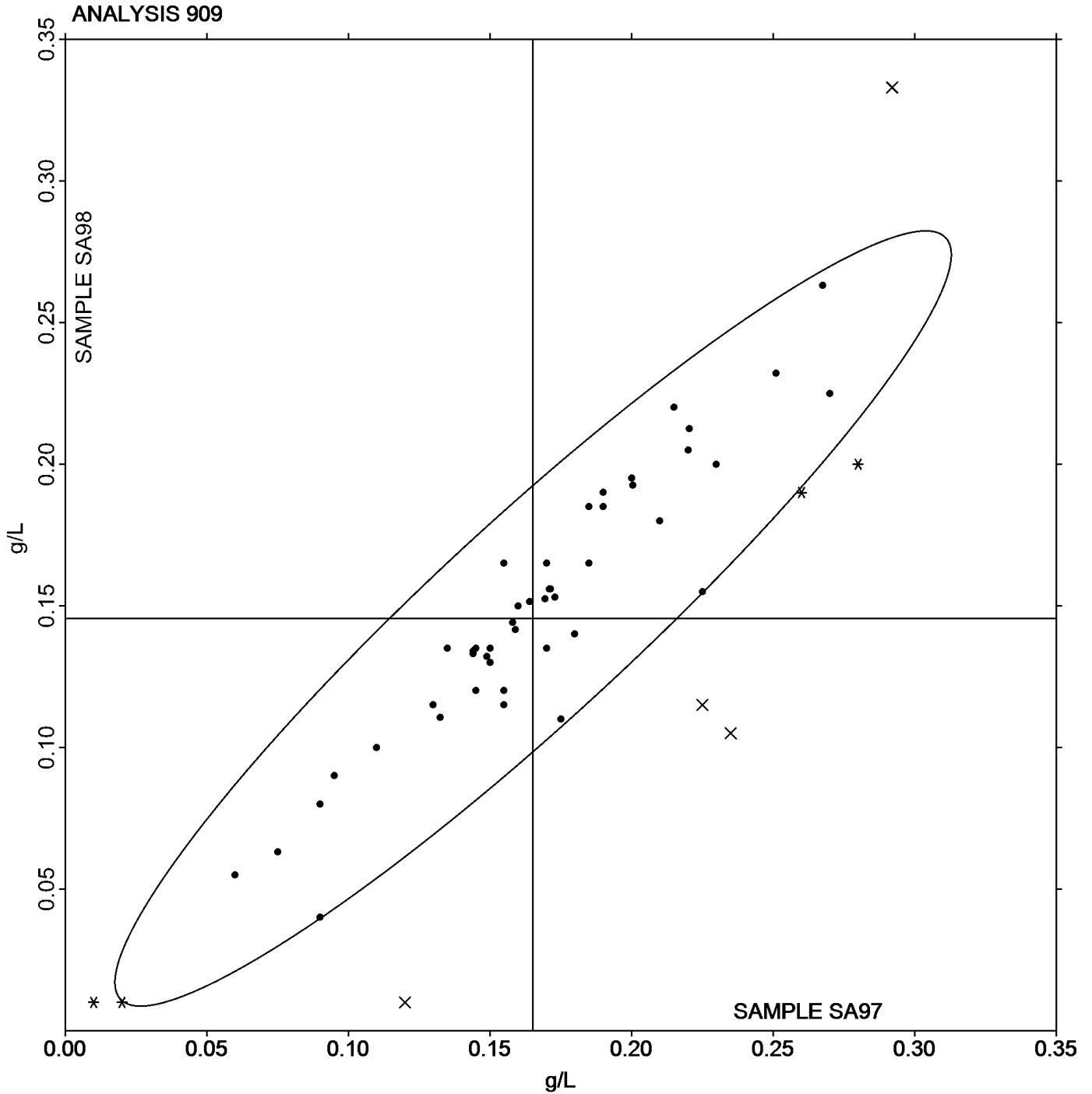
WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
WU2DRU		0.2510	0.0858	1.48	0.2320	0.0865	1.61
X2FJ4R	X	0.2920	0.1268	2.19	0.3330	0.1875	3.50
X932BU		0.1550	-0.0102	-0.18	0.1150	-0.0305	-0.57
Y2DBBX		0.1500	-0.0152	-0.26	0.1350	-0.0105	-0.20
YRTDXU	*	0.0100	-0.1552	-2.68	0.0100	-0.1355	-2.53

Grand Means		Summary Statistics	
	0.16520 g/L		0.14554 g/L
Std Dev Btwn Labs			
	0.05786 g/L		0.05361 g/L
<b>Statistics based on 50 of 57 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

- 4GARD8 (X) - Inconsistent in testing between samples.
- A2FH7N (X) - Inconsistent in testing between samples, data for Sample SA97 are high.
- A9XL4W (X) - Data for both samples are high.
- PN2YFM (X) - Data for both samples are high.
- T6YEUA (X) - Inconsistent in testing between samples.
- UR4KW8 (X) - Inconsistent in testing between samples.
- X2FJ4R (X) - Inconsistent in testing between samples, data for Sample SA98 are high.





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #050  
Summer 2015

## Analysis 910

### Glucose + Fructose

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		5.875	0.035	0.11	7.745	-0.057	-0.12
37EW4R		5.839	-0.002	-0.01	8.072	0.270	0.55
37Y6ZU		6.100	0.260	0.81	8.100	0.298	0.60
63UNVJ		5.800	-0.040	-0.13	7.350	-0.452	-0.92
733HL3		5.750	-0.090	-0.28	8.050	0.248	0.50
7FB2KX		6.050	0.210	0.65	7.950	0.148	0.30
876JNL		6.200	0.360	1.12	8.500	0.698	1.41
8QNM74		6.200	0.360	1.12	8.050	0.248	0.50
8VHG7Q	*	5.870	0.030	0.09	7.210	-0.592	-1.20
8WD3XW	X	4.370	-1.470	-4.57	5.905	-1.897	-3.84
8ZWECR	M	No data reported for this sample			1.470	-6.332	-12.83
9BAY9T		6.450	0.610	1.90	8.650	0.848	1.72
9KV3FT		6.295	0.455	1.41	8.315	0.513	1.04
A2FH7N		5.650	-0.190	-0.59	7.450	-0.352	-0.71
A3RPKW		5.700	-0.140	-0.44	7.750	-0.052	-0.11
A939RJ		5.860	0.020	0.06	7.810	0.008	0.02
AQZQHD		5.600	-0.240	-0.75	7.650	-0.152	-0.31
AZQJ6Q		5.250	-0.590	-1.84	6.950	-0.852	-1.73
BJEPQM		5.950	0.110	0.34	8.100	0.298	0.60
CZHRDE	X	6.150	0.310	0.96	9.300	1.498	3.03
D69DAE	X	5.275	-0.565	-1.76	6.280	-1.522	-3.08
DEEXVV		5.470	-0.370	-1.15	7.360	-0.442	-0.90
E4RJ6X		6.202	0.362	1.13	8.631	0.828	1.68
EPANRM		5.790	-0.050	-0.16	7.635	-0.167	-0.34
EVGP2A		5.700	-0.140	-0.44	7.450	-0.352	-0.71
F6ZUYF		5.945	0.105	0.33	8.150	0.348	0.70

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 910****Glucose + Fructose**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FWN3JB		5.945	0.105	0.33	7.550	-0.252	-0.51
HCQB3G		5.950	0.110	0.34	7.550	-0.252	-0.51
JJTLWT		5.900	0.060	0.19	8.350	0.548	1.11
K6JVH6		5.750	-0.090	-0.28	7.700	-0.102	-0.21
L4PR33		6.620	0.780	2.43	8.850	1.048	2.12
LBTEEC		6.300	0.460	1.43	8.450	0.648	1.31
M2G4DJ		5.800	-0.040	-0.13	8.250	0.448	0.91
MN6Y3G		5.080	-0.760	-2.37	6.740	-1.062	-2.15
N4JWW2		6.000	0.160	0.50	8.000	0.198	0.40
NCXBRY		5.955	0.115	0.36	8.095	0.293	0.59
PCRFLX		5.900	0.060	0.19	8.000	0.198	0.40
PHRXUH		6.100	0.260	0.81	8.000	0.198	0.40
PN2YFM		5.330	-0.510	-1.59	7.060	-0.742	-1.50
Q4DRK6		5.500	-0.340	-1.06	7.350	-0.452	-0.92
QTUF87	X	9.340	3.500	10.89	10.725	2.923	5.92
R64A3W		6.005	0.165	0.51	7.910	0.108	0.22
RDD4U4	X	6.350	0.510	1.59	7.700	-0.102	-0.21
RDVTF6		5.290	-0.550	-1.71	7.290	-0.512	-1.04
T6YEUA		5.750	-0.090	-0.28	7.950	0.148	0.30
T8439Z		5.900	0.060	0.19	7.930	0.128	0.26
TJWQ3E		5.150	-0.690	-2.15	6.700	-1.102	-2.23
TRN64Y		6.070	0.230	0.71	8.255	0.453	0.92
U9E8K3		5.800	-0.040	-0.13	7.595	-0.207	-0.42
UMDDCD		5.400	-0.440	-1.37	7.050	-0.752	-1.52
UR4KW8	X	5.460	-0.380	-1.18	8.250	0.448	0.91
VA27DR		5.875	0.035	0.11	7.880	0.078	0.16





**Analysis 910**

**Glucose + Fructose**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VG3H84	X	5.100	-0.740	-2.30	7.950	0.148	0.30
VGf9XY	*	6.005	0.165	0.51	7.330	-0.472	-0.96
VHX3YA		6.400	0.560	1.74	8.550	0.748	1.51
VLVJB3		5.460	-0.380	-1.18	7.065	-0.737	-1.49
VTV4BD		5.595	-0.245	-0.76	7.545	-0.257	-0.52
WTTTV2		5.760	-0.080	-0.25	7.870	0.068	0.14
WU2DRU		5.835	-0.005	-0.02	8.075	0.273	0.55
X2FJ4R		5.935	0.095	0.29	7.980	0.178	0.36
X932BU		5.400	-0.440	-1.37	7.200	-0.602	-1.22
Y2DBBX		5.760	-0.080	-0.25	7.775	-0.027	-0.06
YRTDXU		6.150	0.310	0.96	8.300	0.498	1.01

Grand Means		Summary Statistics	
	5.8403 g/L		7.8022 g/L
Std Dev Btwn Labs			0.4936 g/L
	0.3215 g/L	<b>Statistics based on 55 of 63 reporting participants</b>	

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

- 8WD3XW (X) - Data for both samples are low.
- 8ZWECR (M) - Laboratory did not submit data for Sample SA97. Low data for Sample SA98.
- CZHRDE (X) - Inconsistent in testing between samples, data for Sample SA98 are high.
- D69DAE (X) - Inconsistent in testing between samples, data for Sample SA98 are low.
- QTUF87 (X) - Data for both samples are high.
- RDD4U4 (X) - Inconsistent in testing between samples.
- UR4KW8 (X) - Inconsistent in testing between samples.
- VG3H84 (X) - Inconsistent in testing between samples.

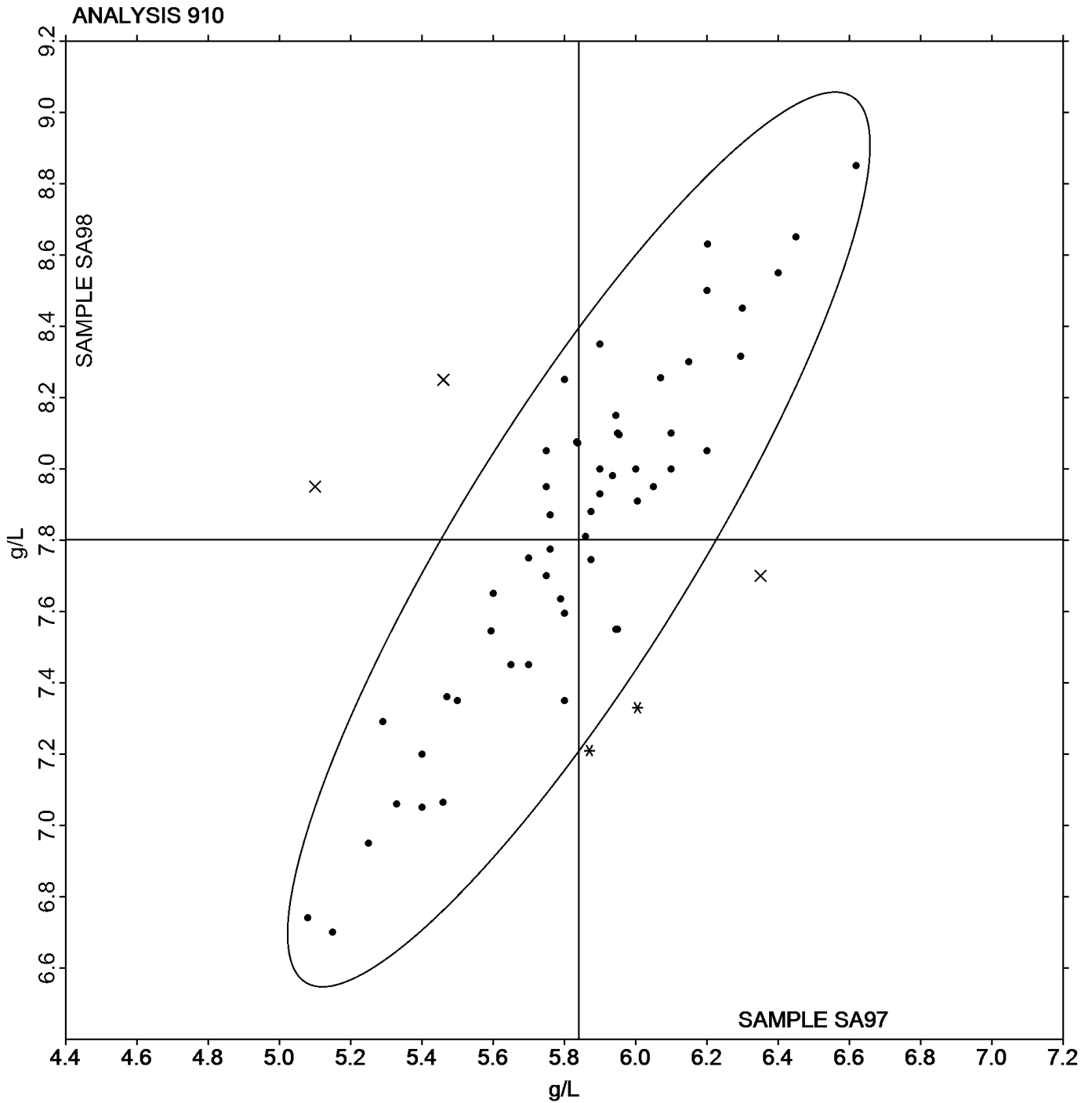


Analysis 910

Glucose + Fructose

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>Zinfandel</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
HPLC	5.525	0.530	-0.315	7.525	1.167	-0.277	2	3
Enzymatic/Spectrophotometric	5.856	0.326	0.015	7.837	0.483	0.035	48	55
FTIR	5.742	0.138	-0.099	7.782	0.153	-0.021	3	5





**Analysis 911  
Copper Content**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		0.0550	-0.0007	-0.03	0.0350	-0.0093	-0.36
3KVLPT		0.0425	-0.0132	-0.63	0.0305	-0.0138	-0.54
4GARD8		0.0550	-0.0007	-0.03	0.0300	-0.0143	-0.56
8QNM74		0.0665	0.0108	0.52	0.0445	0.0002	0.01
8VHG7Q		0.0330	-0.0227	-1.08	0.0160	-0.0283	-1.11
A3RPKW		0.0200	-0.0357	-1.70	0.0200	-0.0243	-0.95
AZQJ6Q		0.0455	-0.0102	-0.48	0.0295	-0.0148	-0.58
G874EB		0.0470	-0.0087	-0.41	0.0315	-0.0128	-0.50
KQNET7		0.0500	-0.0057	-0.27	0.0600	0.0157	0.62
LBTEEC		0.1000	0.0443	2.11	0.1000	0.0557	2.18
N4JWW2		0.0375	-0.0182	-0.87	0.0270	-0.0173	-0.68
T6YEUA	X	0.3500	0.2943	14.03	1.1600	1.1157	43.73
UR4KW8		0.0865	0.0308	1.47	0.0745	0.0302	1.18
VG3H84		0.0550	-0.0007	-0.03	0.0300	-0.0143	-0.56
VTV4BD		0.0615	0.0058	0.28	0.0460	0.0017	0.07
X2FJ4R		0.0800	0.0243	1.16	0.0900	0.0457	1.79

Grand Means		Summary Statistics	
	0.05567 mg/L		0.04430 mg/L
Std Dev Btwn Labs			0.02551 mg/L
	0.02098 mg/L		
<b>Statistics based on 15 of 16 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

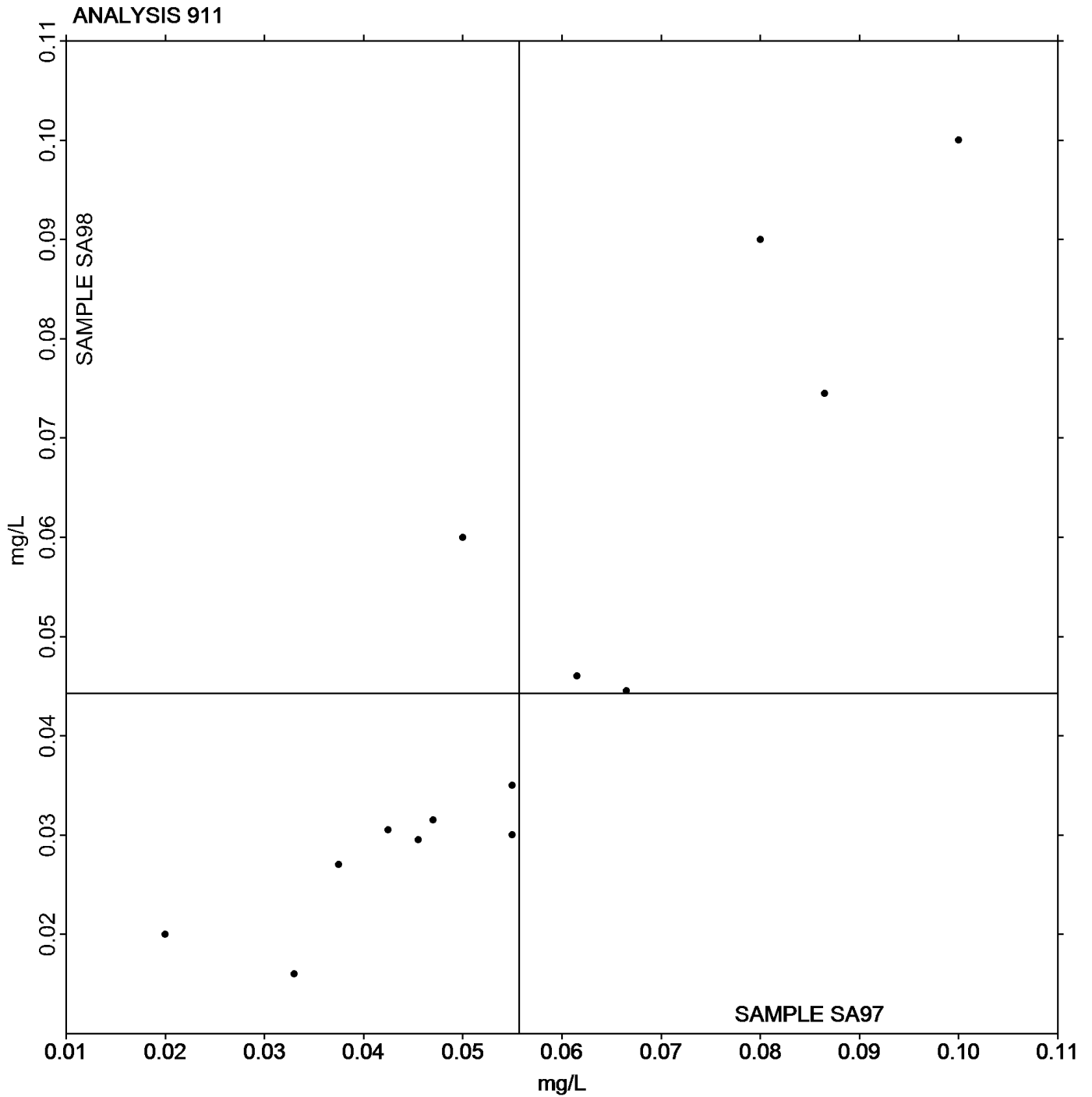
T6YEUA (X) - Data for both samples are high.



**Analysis 911  
Copper Content**

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>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	0.0425	0.0000	-0.0132	0.0305	0.0000	-0.0138	1	1
Atomic Absorption Spectroscopy	0.0532	0.0182	-0.0025	0.0434	0.0228	-0.0009	8	8
ICP-OES	0.0718	0.0257	0.0161	0.0598	0.0335	0.0155	4	4
Other _____	0.0400	0.0099	-0.0157	0.0238	0.0110	-0.0206	2	3



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



**Analysis 912**

**Potassium (K) Content**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		1,020.0	55.0	0.38	1,010.0	-11.7	-0.07
3KVLPT		896.3	-68.7	-0.47	972.6	-49.2	-0.31
8VHG7Q		908.0	-57.0	-0.39	940.5	-81.2	-0.52
A3RPKW		976.0	11.0	0.07	1,027.5	5.8	0.04
AZQJ6Q		996.5	31.5	0.22	1,105.0	83.3	0.53
EVGP2A		872.0	-93.0	-0.64	932.0	-89.7	-0.57
JJTLWT		889.5	-75.5	-0.52	957.0	-64.7	-0.41
NCXBRY		1,025.0	60.0	0.41	1,149.0	127.3	0.81
R64A3W		997.0	32.0	0.22	1,101.0	79.3	0.50
RDVTF6		1,370.0	405.0	2.77	1,460.0	438.3	2.78
T6YEUA		1,107.0	142.0	0.97	1,111.5	89.8	0.57
TJWQ3E		780.0	-185.0	-1.26	835.0	-186.7	-1.19
UR4KW8		804.7	-160.3	-1.10	853.7	-168.1	-1.07
VG3H84		1,100.0	135.0	0.92	1,125.0	103.3	0.66
VTV4BD		754.0	-211.0	-1.44	760.5	-261.2	-1.66
X2FJ4R		1,002.5	37.5	0.26	1,057.5	35.8	0.23
Y2DBBX		907.0	-58.0	-0.40	971.5	-50.2	-0.32

Grand Means		Summary Statistics	
	965.03 mg/L		1,021.72 mg/L
Std Dev Btwn Labs			157.48 mg/L
	146.35 mg/L		
<b>Statistics based on 17 of 17 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel



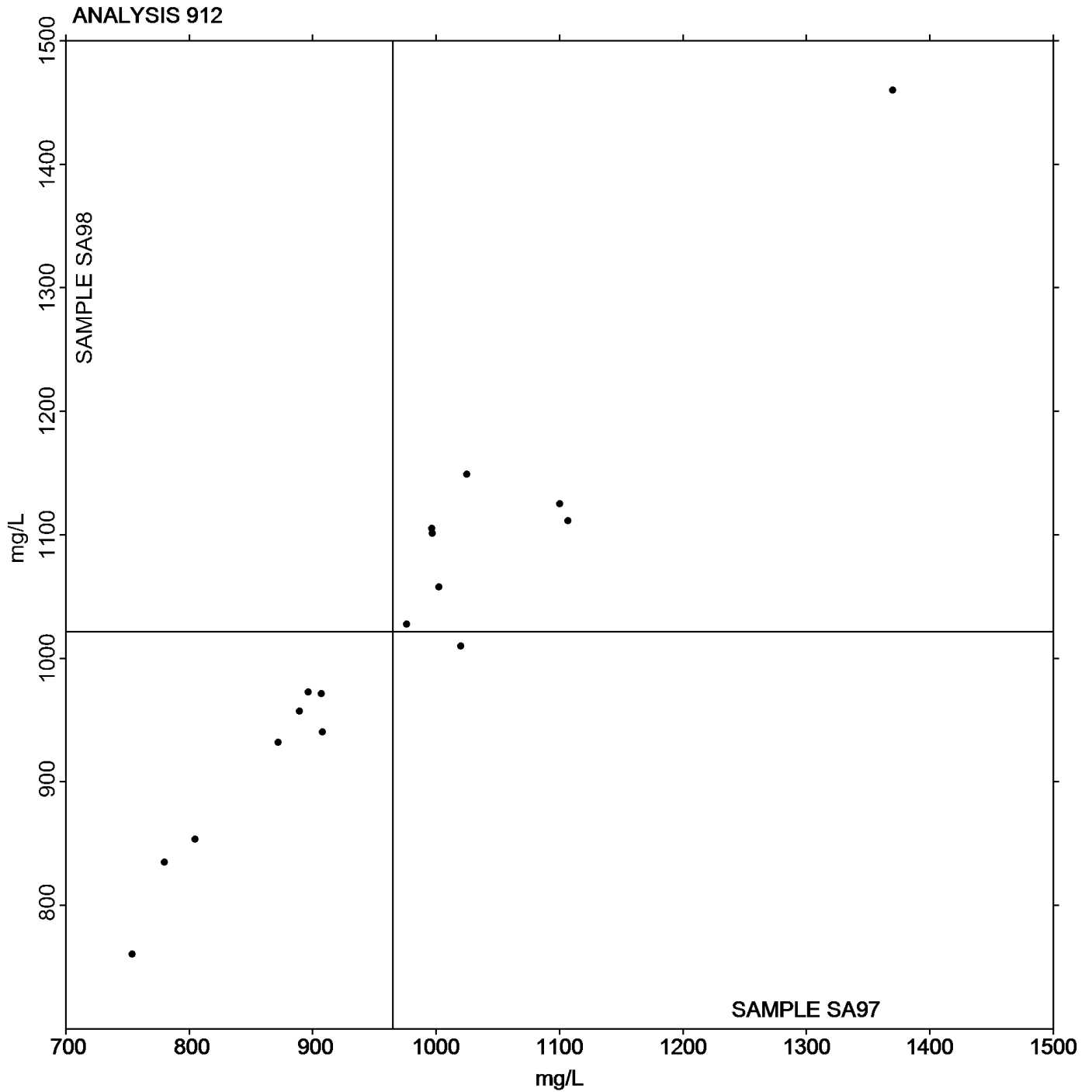
**Analysis 912**

**Potassium (K) Content**

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

Test Methodology	Sample SA97 <i>Merlot</i>			Sample SA98 <i>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	997.0	0.0	32.0	1,101.0	0.0	79.3	1	1
Atomic Absorption Spectroscopy	904.2	86.8	-60.8	957.8	104.0	-64.0	6	6
ICP-OES	891.1	97.3	-74.0	963.6	128.6	-58.2	3	3
FTIR	1,075.7	48.3	110.6	1,082.2	62.9	60.4	3	3
Other _____	1,020.8	253.4	55.7	1,096.1	275.4	74.4	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 #050  
Summer 2015****Analysis 915  
A420nm (1cm path)**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		2.745	-0.075	-0.52	2.400	-0.060	-0.48
8VHG7Q		2.950	0.130	0.90	2.595	0.135	1.08
8ZWECR	X	3.035	0.215	1.49	2.790	0.330	2.64
A2FH7N	X	3.025	0.205	1.42	2.495	0.035	0.28
A3RPKW		2.550	-0.270	-1.87	2.210	-0.250	-2.00
A9XL4W		2.892	0.072	0.50	2.534	0.074	0.59
AQZQHD	*	2.925	0.105	0.73	2.475	0.015	0.12
AZQJ6Q		2.900	0.080	0.55	2.505	0.045	0.36
BJEPQM		2.868	0.048	0.33	2.495	0.035	0.28
D69DAE	X	0.337	-2.483	-17.22	0.372	-2.088	-16.70
DEEXVV		2.749	-0.071	-0.49	2.418	-0.042	-0.33
E4RJ6X		2.801	-0.019	-0.13	2.445	-0.015	-0.12
EPANRM		2.833	0.013	0.09	2.466	0.006	0.05
EVGP2A	*	2.385	-0.435	-3.02	2.120	-0.340	-2.72
FWN3JB		2.800	-0.020	-0.14	2.470	0.010	0.08
HCQB3G		2.810	-0.010	-0.07	2.460	0.000	0.00
JBRX49		2.772	-0.048	-0.33	2.400	-0.060	-0.48
JYHR4M		2.710	-0.110	-0.76	2.380	-0.080	-0.64
K6JVH6		2.777	-0.043	-0.30	2.438	-0.022	-0.17
KQNET7	*	3.268	0.448	3.11	2.848	0.388	3.10
L4PR33		2.815	-0.005	-0.03	2.430	-0.030	-0.24
LBTEEC		2.847	0.027	0.19	2.475	0.015	0.12
N4JWW2		2.740	-0.080	-0.55	2.375	-0.085	-0.68
PCRFLX		2.840	0.020	0.14	2.475	0.015	0.12
PN2YFM		2.856	0.036	0.25	2.461	0.001	0.01
R64A3W	X	0.500	-2.320	-16.08	0.557	-1.903	-15.22



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

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RDVTF6		2.784	-0.036	-0.25	2.427	-0.033	-0.27
T6YEUA	X	5.735	2.915	20.21	5.480	3.020	24.16
T8439Z	*	3.070	0.250	1.73	2.725	0.265	2.12
U9E8K3		2.818	-0.002	-0.01	2.451	-0.009	-0.07
UMDDCD		2.775	-0.045	-0.31	2.440	-0.020	-0.16
UR4KW8		2.800	-0.020	-0.14	2.453	-0.007	-0.05
V4CQKE		2.737	-0.083	-0.58	2.388	-0.072	-0.58
VG3H84	X	1.940	-0.880	-6.10	1.872	-0.588	-4.71
VLVJB3	X	3.385	0.565	3.92	3.065	0.605	4.84
WTTTV2		2.910	0.090	0.62	2.565	0.105	0.84
WU2DRU		2.844	0.024	0.17	2.453	-0.007	-0.05
X2FJ4R	X	2.862	0.042	0.29	2.317	-0.143	-1.15
Y2DBBX		2.850	0.030	0.21	2.480	0.020	0.16
YRTDXU	X	0.649	-2.171	-15.05	0.579	-1.881	-15.04

Grand Means		Summary Statistics	
2.8200	Absorbance Units	2.4598	Absorbance Units
0.1443	Absorbance Units	0.1250	Absorbance Units
<b>Statistics based on 31 of 40 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel



**Comments on assigned Data Flags**

8ZWEER (X) - Inconsistent in testing between samples.

A2FH7N (X) - Inconsistent in testing between samples.

D69DAE (X) - Data for both samples are low.

R64A3W (X) - Data for both samples are low.

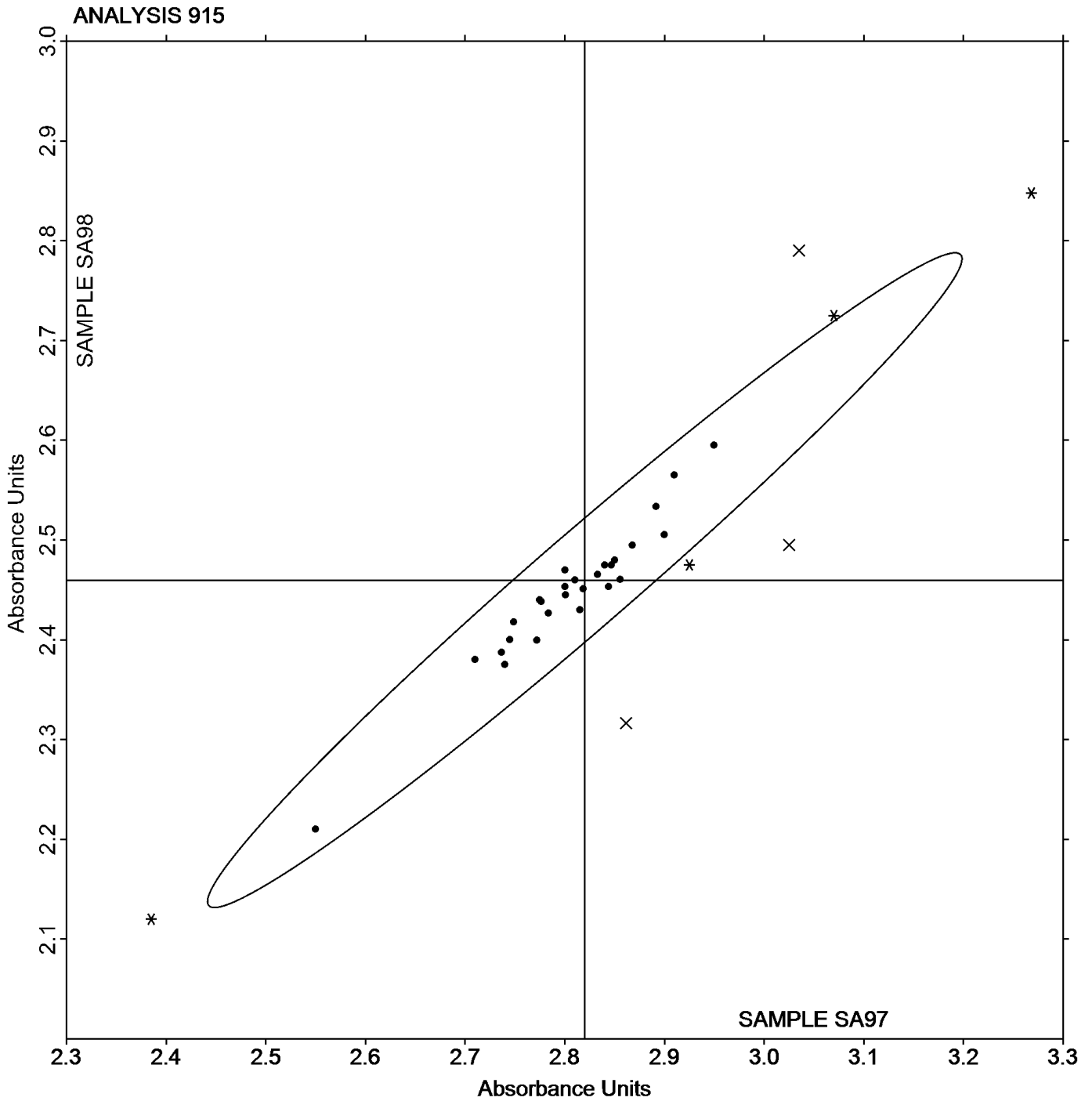
T6YEUA (X) - Data for both samples are high.

VG3H84 (X) - Data for both samples are low.

VLVJB3 (X) - Data for both samples are high.

X2FJ4R (X) - Inconsistent in testing between samples.

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



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #050  
Summer 2015****Analysis 916****A520nm (1cm path)**

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WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		3.730	0.020	0.05	3.115	-0.046	-0.19
8VHG7Q		4.040	0.330	0.80	3.340	0.179	0.72
8ZWECR	*	4.150	0.440	1.07	3.655	0.494	1.99
A2FH7N		4.200	0.490	1.19	3.240	0.079	0.32
A3RPKW		3.410	-0.300	-0.73	2.890	-0.271	-1.09
A9XL4W		3.676	-0.034	-0.08	3.229	0.068	0.27
AQZQHD		4.045	0.335	0.81	3.285	0.124	0.50
AZQJ6Q		3.950	0.240	0.58	3.250	0.089	0.36
BJEPQM		4.030	0.320	0.78	3.403	0.241	0.97
DEEXVV		3.077	-0.633	-1.54	2.866	-0.296	-1.19
E4RJ6X		3.790	0.080	0.19	3.176	0.015	0.06
EPANRM		3.841	0.131	0.32	3.224	0.062	0.25
EVGP2A		3.280	-0.430	-1.04	2.835	-0.326	-1.31
FWN3JB		3.240	-0.470	-1.14	2.995	-0.166	-0.67
HCQB3G		3.780	0.070	0.17	3.210	0.049	0.20
JBRX49		3.842	0.132	0.32	3.197	0.035	0.14
K6JVH6		3.612	-0.099	-0.24	3.092	-0.069	-0.28
KQNET7	*	4.634	0.924	2.24	3.880	0.719	2.89
L4PR33		3.780	0.070	0.17	3.198	0.036	0.15
LBTEEC		3.861	0.150	0.37	3.205	0.044	0.18
N4JWW2		3.690	-0.020	-0.05	3.010	-0.151	-0.61
PCRFLX		3.780	0.070	0.17	3.200	0.039	0.16
PN2YFM		3.836	0.126	0.31	3.190	0.029	0.12
RDVTF6		3.643	-0.068	-0.16	3.126	-0.035	-0.14
T6YEUA	X	6.970	3.260	7.91	6.470	3.309	13.31
T8439Z		4.055	0.345	0.84	3.405	0.244	0.98

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

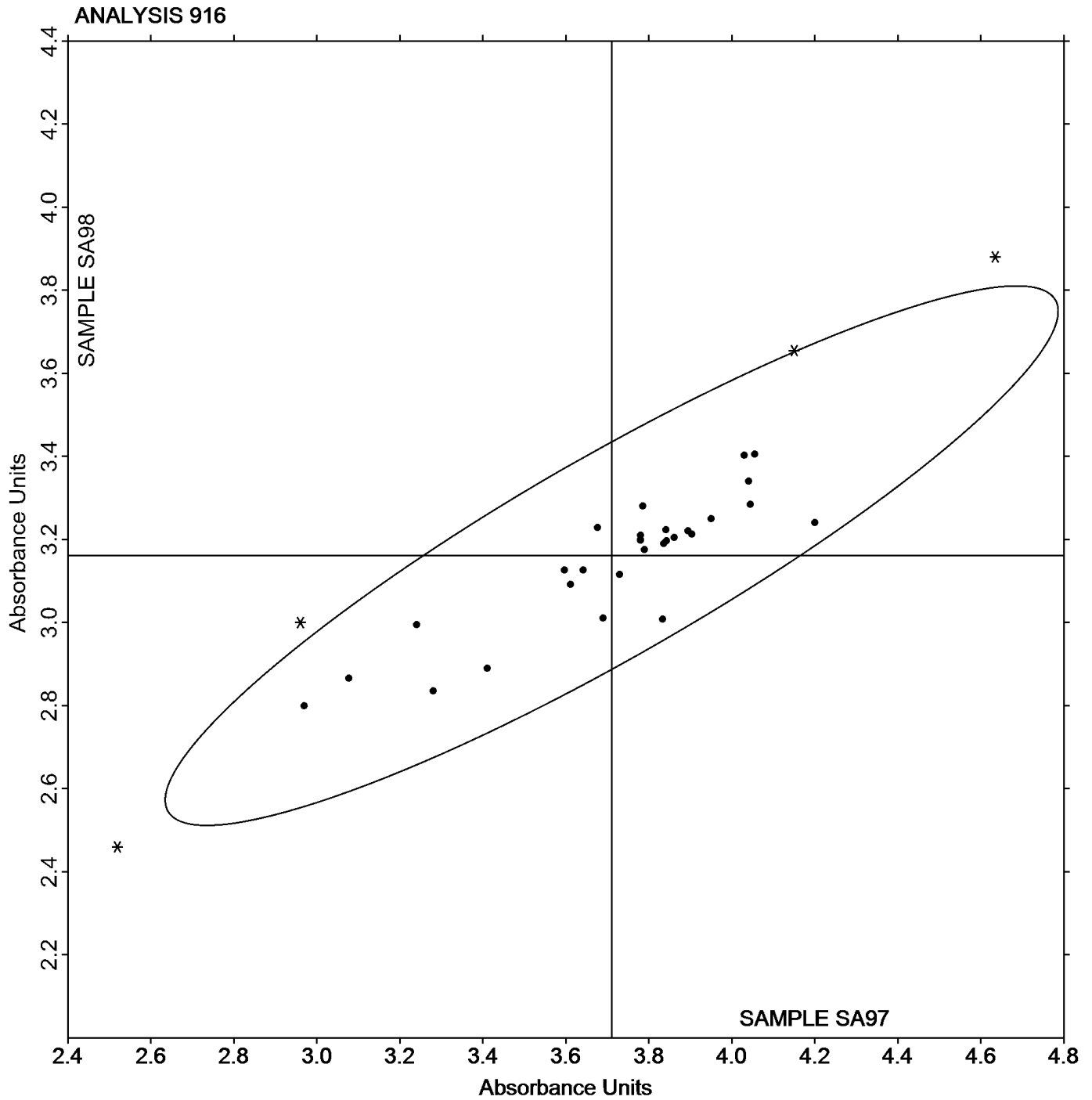
WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
U9E8K3	M	No data reported for this sample			3.177	0.016	0.07
UMDDCD		2.970	-0.740	-1.80	2.800	-0.361	-1.45
UR4KW8		3.596	-0.114	-0.28	3.127	-0.035	-0.14
V4CQKE	X	2.029	-1.682	-4.08	2.008	-1.153	-4.64
VG3H84	*	2.519	-1.191	-2.89	2.460	-0.701	-2.82
VLVJB3	*	2.960	-0.750	-1.82	3.000	-0.161	-0.65
WTTTV2		3.785	0.075	0.18	3.280	0.119	0.48
WU2DRU		3.904	0.194	0.47	3.212	0.051	0.20
X2FJ4R		3.833	0.123	0.30	3.008	-0.154	-0.62
Y2DBBX		3.895	0.185	0.45	3.220	0.059	0.24
YRTDXU	X	0.907	-2.803	-6.81	0.790	-2.372	-9.54

Grand Means		Summary Statistics	
	3.7101 Absorbance Units		3.1612 Absorbance Units
Std Dev Btwn Labs			0.2486 Absorbance Units
	0.4119 Absorbance Units		
<b>Statistics based on 33 of 37 reporting participants</b>			

Wines tested: SA97: Merlot; SA98: Zinfandel

**Comments on assigned Data Flags**

- T6YEUA (X) - Data for both samples are high.
- U9E8K3 (M) - Laboratory did not submit data for Sample SA97.
- V4CQKE (X) - Data for both samples are low.
- YRTDXU (X) - Data for both samples are low.







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

**Report #050**  
**Summer 2015**

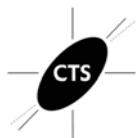
WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2U9LX6		0.2985	0.0360	13.7%	0.3145	0.0507	19.2%
37EW4R		0.2000	-0.0625	-23.8%	0.2500	-0.0138	-5.2%
37Y6ZU		0.2090	-0.0535	-20.4%	0.1900	-0.0738	-28.0%
4GARD8		0.2000	-0.0625	-23.8%	0.2000	-0.0638	-24.2%
63UNVJ		0.2300	-0.0325	-12.4%	0.3300	0.0662	25.1%
7FB2KX		0.2900	0.0275	10.5%	0.2750	0.0112	4.2%
876JNL		0.2900	0.0275	10.5%	0.2900	0.0262	9.9%
8QNM74	X	0.6080	0.3455	131.6%	0.3980	0.1342	50.9%
8VHG7Q		0.3950	0.1325	50.5%	0.3800	0.1162	44.0%
8ZWECR	X	0.4700	0.2075	79.0%	0.6450	0.3812	144.5%
9BAY9T		0.2600	-0.0025	-1.0%	0.2180	-0.0458	-17.4%
9KV3FT		0.2335	-0.0290	-11.1%	0.2220	-0.0418	-15.9%
A2FH7N		0.1955	-0.0670	-25.5%	0.1935	-0.0703	-26.7%
A939RJ	*	0.3650	0.1025	39.0%	0.2185	-0.0453	-17.2%
AQZQHD		0.2750	0.0125	4.8%	0.2300	-0.0338	-12.8%
AZQJ6Q		0.2580	-0.0045	-1.7%	0.2065	-0.0573	-21.7%
D69DAE	X	0.6000	0.3375	128.6%	1.5100	1.2462	472.4%
DEEXVV	*	0.0300	-0.2325	-88.6%	0.0350	-0.2288	-86.7%
E4RJ6X		0.2650	0.0025	0.9%	0.3250	0.0612	23.2%
EPANRM		0.2120	-0.0505	-19.2%	0.2130	-0.0508	-19.3%
FWN3JB	*	0.4800	0.2175	82.8%	0.4850	0.2212	83.8%
HCQB3G		0.2600	-0.0025	-1.0%	0.2650	0.0012	0.4%
JYHR4M	*	0.0400	-0.2225	-84.8%	0.0800	-0.1838	-69.7%



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

**Report #050**  
**Summer 2015**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
K6JVH6		0.1800	-0.0825	-31.4%	0.1950	-0.0688	-26.1%
KQNET7		0.2285	-0.0340	-13.0%	0.2285	-0.0353	-13.4%
M2G4DJ		0.3000	0.0375	14.3%	0.3000	0.0362	13.7%
MN6Y3G		0.3250	0.0625	23.8%	0.3150	0.0512	19.4%
N4JWW2	X	0.2570	-0.0055	-2.1%	0.5190	0.2552	96.7%
NCXBRY		0.3500	0.0875	33.3%	0.4150	0.1512	57.3%
PCRFLX		0.2300	-0.0325	-12.4%	0.2100	-0.0538	-20.4%
PHRXUH		0.3650	0.1025	39.0%	0.3400	0.0762	28.9%
PN2YFM		0.2180	-0.0445	-17.0%	0.2255	-0.0383	-14.5%
Q4DRK6	*	0.3800	0.1175	44.8%	0.2400	-0.0238	-9.0%
R64A3W		0.3700	0.1075	40.9%	0.3150	0.0512	19.4%
RDD4U4		0.2285	-0.0340	-13.0%	0.2090	-0.0548	-20.8%
T6YEUA		0.2145	-0.0480	-18.3%	0.1845	-0.0793	-30.1%
T8439Z		0.2005	-0.0620	-23.6%	0.1885	-0.0753	-28.5%
U9E8K3		0.2570	-0.0055	-2.1%	0.2735	0.0097	3.7%
UG8KHG		0.3000	0.0375	14.3%	0.3400	0.0762	28.9%
UMDDCD		0.4200	0.1575	60.0%	0.4250	0.1612	61.1%
UR4KW8	X	0.3050	0.0425	16.2%	0.6400	0.3762	142.6%
VA27DR		0.3400	0.0775	29.5%	0.4500	0.1862	70.6%
VG3H84	*	0.2750	0.0125	4.8%	0.4350	0.1712	64.9%
VGf9XY	X	0.2000	-0.0625	-23.8%	0.5325	0.2687	101.8%
VHX3YA		0.2230	-0.0395	-15.1%	0.2150	-0.0488	-18.5%
VM9DQ4		0.1880	-0.0745	-28.4%	0.1835	-0.0803	-30.4%



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

**Report #050**  
**Summer 2015**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
VTV4BD		0.2065	-0.0560	-21.3%	0.2180	-0.0458	-17.4%
WTTTV2		0.2005	-0.0620	-23.6%	0.1960	-0.0678	-25.7%
WU2DRU		0.3295	0.0670	25.5%	0.2175	-0.0463	-17.6%
X2FJ4R	X	0.9400	0.6775	258.1%	0.1700	-0.0938	-35.6%
X932BU		0.2500	-0.0125	-4.8%	0.3550	0.0912	34.6%
Y2DBBX		0.3100	0.0475	18.1%	0.3400	0.0762	28.9%
YRTDXU		0.2000	-0.0625	-23.8%	0.2000	-0.0638	-24.2%

Research Property Target Value			
Target Value	0.26252	NTU	0.26382 NTU
<p align="center"><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: SA97: Merlot; SA98: Zinfandel

<b>Consensus Average</b> (may differ from target value)	0.26252	NTU	0.26382	NTU
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*This consensus average is based on 46 reporting participants.*

**Comments on assigned Data Flags**

8QNM74 (X) - Inconsistent in testing between samples, data for Sample SA97 are high. Also inconsistent in testing within Sample SA97.

8ZWEER (X) - Inconsistent in testing between samples, data for Sample SA98 are high. Also inconsistent in testing within Sample SA97.

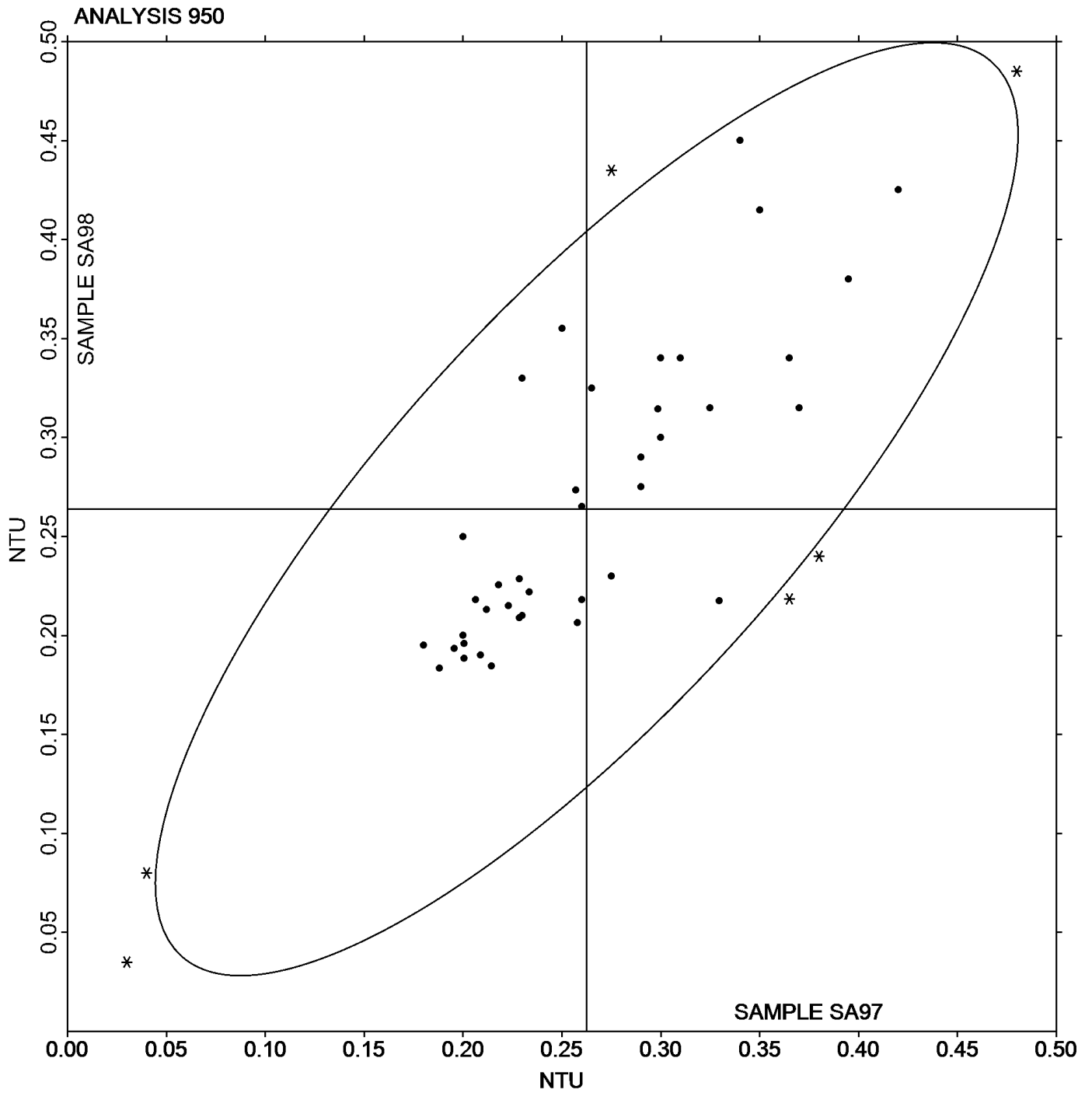
D69DAE (X) - Data for both samples are high.

N4JWW2 (X) - Inconsistent in testing between samples, data for Sample SA98 are high.

UR4KW8 (X) - Inconsistent in testing between samples, data for Sample SA98 are high.

VGF9XY (X) - Inconsistent in testing between samples, data for Sample SA98 are high.

X2FJ4R (X) - Inconsistent in testing between samples, data for Sample SA97 are high.





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

**Report #050**  
**Summer 2015**

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2U9LX6		220.5	5.6	2.6%	241.0	8.9	3.8%
3KVLPT		230.9	15.9	7.4%	256.5	24.4	10.5%
8VHG7Q		264.0	49.1	22.8%	261.5	29.4	12.7%
8ZWECR		210.0	-4.9	-2.3%	200.0	-32.1	-13.8%
AZQJ6Q		196.5	-18.4	-8.6%	216.0	-16.1	-6.9%
G874EB		192.0	-22.9	-10.7%	210.5	-21.6	-9.3%
JJTLWT		250.0	35.1	16.3%	300.0	67.9	29.3%
TJWQ3E		200.0	-14.9	-6.9%	225.0	-7.1	-3.0%
UR4KW8		197.0	-18.0	-8.4%	206.7	-25.3	-10.9%
Y2DBBX		188.5	-26.4	-12.3%	203.5	-28.6	-12.3%

**Research Property Target Value**

Target Value

**214.93** mg/L

**232.07** mg/L

*For Test 951, CTS has chosen not to designate a target value for this property instead of using an average value.*

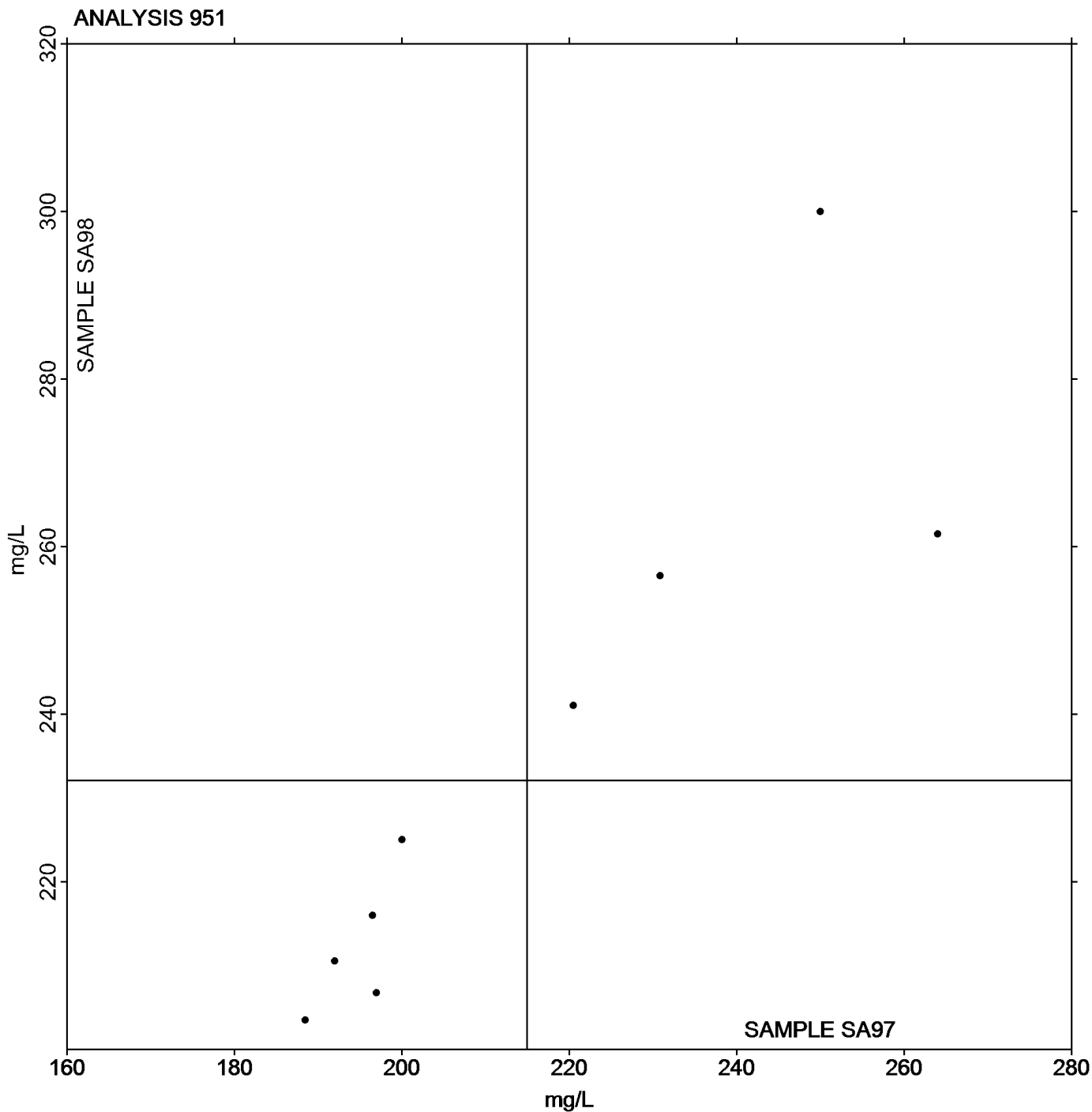
**Wines tested:** SA97: Merlot; SA98: Zinfandel

**Consensus Average**  
(may differ from target value)

**214.93** mg/L

**232.07** mg/L

*This consensus average is based on 10 reporting participants.*



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



Research Property: Ethanol (% of Volume) using Dist. / Density Method

WebCode	Data Flag	Sample SA97			Sample SA98		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2U9LX6		13.40	0.08	0.84	13.83	0.10	0.92
3KVLPT		13.24	-0.09	-0.93	13.67	-0.06	-0.54
8ZWECR		13.30	-0.02	-0.24	13.70	-0.03	-0.24
E4RJ6X		13.25	-0.07	-0.78	13.60	-0.13	-1.14
JJTLWT		13.30	-0.02	-0.24	13.70	-0.03	-0.24
TJWQ3E		13.50	0.18	1.92	13.80	0.07	0.65
UR4KW8		13.24	-0.09	-0.94	13.92	0.19	1.68
WU2DRU		13.36	0.03	0.36	13.61	-0.12	-1.09

Research Property Target Value

Target Value

13.322 Percent of volume

13.727 Percent of volume

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

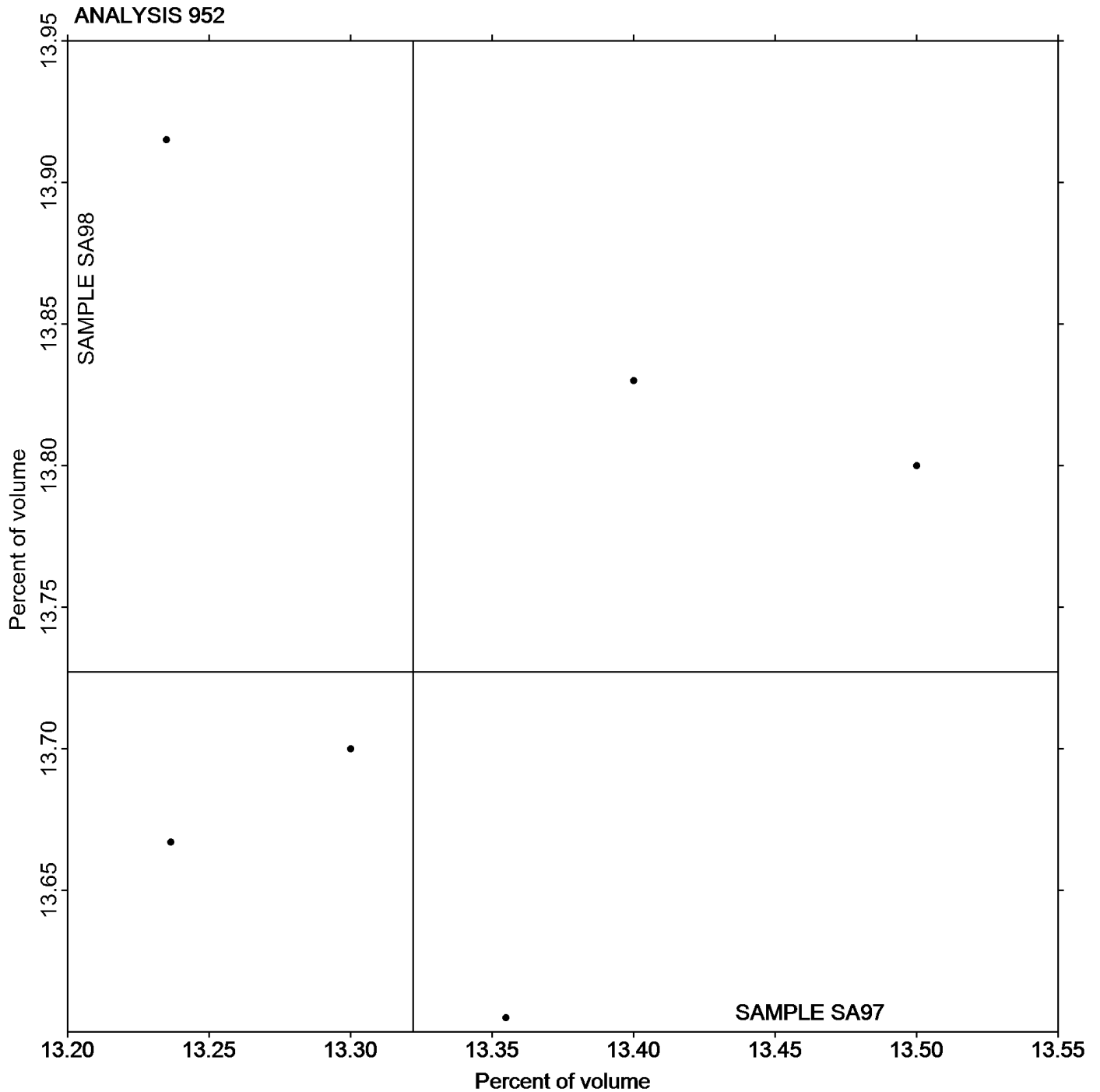
Wines tested: SA97: Merlot; SA98: Zinfandel

Consensus Average (may differ from target value)

13.322 Percent of volume

13.727 Percent of volume

This consensus average is based on 8 reporting participants.



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