



Wine Industry Interlaboratory Program

Summary Report #074 - Summer 2023

[Introduction to the Wine Program](#)

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

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

About the Wine Industry Interlaboratory Program

This interlaboratory survey was administered by Collaborative Testing Services, Inc. (CTS) through an agreement with The American Society for Enology and Viticulture (ASEV) with technical assistance provided by the Laboratory Proficiency Ad Hoc Committee. The purpose of the survey was to evaluate laboratory performance and assess the performance of the industry with respect to quality assurance testing conducted on commercially produced wine through an on-going interlaboratory testing program. Two bottles of differing wines were supplied to participant laboratories. The samples for each type of wine were chosen consecutively from a single production run, to minimize variation between bottles. Participating laboratories were asked to analyze the samples' ten properties in accordance with their normal laboratory procedures and return the results and methodology information to CTS.

About CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of industries including color, rubber, plastics, fasteners and metals, containerboard, paper, agriculture, hemp, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 100 countries, currently participate in the CTS programs.

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Key for Web Summary Report (Page 1 of 2)

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

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

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

Common Problems Highlighted in Footnotes

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

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



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 901 Ethanol (% of volume)

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		13.38	0.00	-0.01	13.67	0.02	0.38
3BNAMF		13.36	-0.02	-0.26	13.62	-0.03	-0.43
3DQC9B		13.37	-0.01	-0.09	13.65	0.00	0.05
3H7KWA		13.36	-0.02	-0.35	13.63	-0.02	-0.27
3KTG6Z		13.39	0.01	0.16	13.65	0.00	-0.03
3NRRXF		13.41	0.03	0.50	13.68	0.03	0.46
3VB38A		13.44	0.06	1.10	13.70	0.05	0.87
4A8DVF		13.39	0.01	0.25	13.66	0.01	0.22
4DM89R	*	13.50	0.12	2.12	13.80	0.15	2.49
4FC9G2		13.43	0.05	0.93	13.68	0.03	0.46
4L4KAC		13.33	-0.05	-0.86	13.61	-0.04	-0.68
4MCV7F		13.40	0.02	0.42	13.67	0.02	0.38
4RR4UF		13.39	0.01	0.25	13.66	0.01	0.22
4T2984		13.31	-0.07	-1.20	13.56	-0.09	-1.49
6BZPQ8	X	13.19	-0.19	-3.23	13.53	-0.12	-1.89
6D6D8H		13.42	0.04	0.76	13.69	0.04	0.70
6RPTD3		13.28	-0.10	-1.62	13.55	-0.10	-1.65
6VLKJE		13.47	0.09	1.52	13.75	0.10	1.60
7KHNZA	*	13.30	-0.08	-1.28	13.53	-0.12	-1.97
7Q823X		13.41	0.03	0.50	13.68	0.03	0.54
7X8L38	*	13.57	0.19	3.22	13.83	0.18	2.97
83Z6JW		13.32	-0.06	-0.94	13.59	-0.06	-0.92
8YZTMW		13.30	-0.08	-1.28	13.58	-0.07	-1.16
92K6Y8		13.39	0.01	0.25	13.66	0.01	0.14
94LBA7	X	13.50	0.12	2.12	13.50	-0.15	-2.38
9CELM		13.38	0.00	-0.01	13.66	0.01	0.14
9E6MUV		13.41	0.03	0.59	13.67	0.02	0.38
9MYPW8		13.41	0.03	0.59	13.65	0.00	0.05
9VUVM	X	13.79	0.41	7.04	14.02	0.37	6.06
9XKWVW	X	13.59	0.21	3.64	13.87	0.22	3.54
AA9FM8		13.42	0.04	0.76	13.73	0.08	1.27
AHJH99		13.34	-0.04	-0.60	13.61	-0.04	-0.68
AV9GYB		13.38	0.00	-0.01	13.62	-0.03	-0.51
AZ4BWC	*	13.50	0.12	2.12	13.80	0.15	2.49
B34YQR		13.28	-0.10	-1.71	13.56	-0.09	-1.41



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WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BA3N9W		13.39	0.01	0.25	13.66	0.01	0.22
BXTTBL	*	13.55	0.17	2.96	13.83	0.18	2.89
CEWLFZ		13.31	-0.07	-1.11	13.54	-0.11	-1.73
CF7RVA		13.37	-0.01	-0.09	13.64	-0.01	-0.11
CGGTH9	X	12.80	-0.58	-9.86	12.76	-0.89	-14.38
CZEWGX		13.34	-0.04	-0.60	13.61	-0.04	-0.68
D48DB3		13.45	0.07	1.18	13.75	0.10	1.68
DHQ37Y		13.29	-0.09	-1.45	13.59	-0.06	-1.00
DMMMC4		13.38	0.00	-0.01	13.61	-0.04	-0.59
DRUDEA		13.37	-0.01	-0.09	13.65	0.00	-0.03
DZ83F3	X	13.15	-0.23	-3.83	13.46	-0.19	-3.03
E4QGGH	X	13.20	-0.18	-2.98	13.60	-0.05	-0.76
EARTEZ		13.41	0.03	0.59	13.68	0.03	0.54
EJBT9		13.37	-0.01	-0.09	13.63	-0.02	-0.35
F3P7Z6		13.41	0.03	0.59	13.68	0.03	0.54
F6VNY2		13.37	-0.01	-0.18	13.64	-0.01	-0.19
FE6TCR		13.36	-0.02	-0.26	13.61	-0.04	-0.59
FR7RYN	X	13.30	-0.08	-1.28	13.65	0.00	0.05
GAHXL6		13.46	0.08	1.35	13.72	0.07	1.11
GCAWZ3		13.36	-0.02	-0.35	13.64	-0.01	-0.19
GN4AXE		13.33	-0.05	-0.77	13.62	-0.03	-0.51
GXQ73L		13.39	0.01	0.16	13.67	0.02	0.30
J9MYHQ		13.31	-0.07	-1.20	13.57	-0.08	-1.32
JEN74K		13.37	-0.01	-0.09	13.64	-0.01	-0.11
JJ3NL2		13.37	-0.01	-0.09	13.66	0.01	0.14
JLNRTY		13.43	0.05	0.93	13.68	0.03	0.54
JTTAPE		13.40	0.02	0.42	13.67	0.02	0.38
K4LC4T		13.37	-0.01	-0.09	13.65	0.00	0.05
KE7J63		13.40	0.02	0.33	13.66	0.01	0.22
KWQA43		13.36	-0.02	-0.26	13.63	-0.02	-0.27
LAR7XN	X	13.90	0.52	8.91	14.20	0.55	8.98
LEYW2U		13.40	0.02	0.42	13.67	0.02	0.30
LKRVGB	X	13.26	-0.12	-2.05	13.63	-0.02	-0.35
LMHXPJ		13.44	0.06	1.01	13.69	0.04	0.70
MBFWMY		13.41	0.03	0.59	13.68	0.03	0.54



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Analysis 901 Ethanol (% of volume)

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MUW4YV		13.32	-0.06	-1.03	13.61	-0.04	-0.68
MV7DML	X	14.10	0.72	12.30	14.15	0.50	8.17
N2LBTK		13.30	-0.08	-1.28	13.59	-0.06	-0.92
NM86LR		13.42	0.04	0.76	13.69	0.04	0.70
P4MVXW		13.34	-0.04	-0.60	13.61	-0.04	-0.59
P67F6P		13.42	0.04	0.76	13.68	0.03	0.54
PWRVKP		13.41	0.03	0.59	13.66	0.01	0.22
PYEFLM	X	12.81	-0.57	-9.69	12.98	-0.67	-10.89
PZQ8GP		13.36	-0.02	-0.26	13.63	-0.02	-0.27
Q6ZMPD		13.50	0.12	2.03	13.77	0.12	2.00
QPN7GQ		13.39	0.01	0.25	13.66	0.01	0.22
R7888L		13.29	-0.09	-1.45	13.56	-0.09	-1.49
RELBXL		13.38	0.00	0.08	13.66	0.01	0.14
TECTCR		13.34	-0.04	-0.60	13.60	-0.05	-0.84
TFUMBG		13.38	0.00	0.08	13.66	0.01	0.22
TJTY8G		13.37	-0.01	-0.18	13.63	-0.02	-0.27
TZU2NK	*	13.41	0.03	0.59	13.73	0.08	1.35
UC42XJ		13.34	-0.04	-0.60	13.61	-0.04	-0.59
UEWUT3		13.32	-0.06	-0.94	13.60	-0.05	-0.84
UFQKYG		13.37	-0.01	-0.09	13.64	-0.01	-0.11
UQLTLQ		13.41	0.03	0.59	13.70	0.05	0.78
V8RCXM		13.32	-0.06	-0.94	13.60	-0.05	-0.76
VDHM8L		13.39	0.01	0.25	13.65	0.00	0.05
VUZNZ3		13.43	0.05	0.84	13.70	0.05	0.87
WH44WG	X	13.20	-0.18	-2.98	13.40	-0.25	-4.00
WLRBKJ		13.31	-0.07	-1.20	13.60	-0.05	-0.76
WNV76M		13.30	-0.08	-1.28	13.60	-0.05	-0.76
XA6WVM	X	13.40	0.02	0.42	13.60	-0.05	-0.76
XD3FTE	X	13.08	-0.30	-5.10	13.35	-0.30	-4.81
XK6ME9	*	13.18	-0.20	-3.32	13.46	-0.19	-3.03
XQREJG		13.35	-0.03	-0.52	13.60	-0.05	-0.76
Y3PDD9		13.41	0.03	0.59	13.68	0.03	0.54
Y748QK		13.48	0.10	1.69	13.75	0.10	1.60
YN6VHJ		13.38	0.00	-0.01	13.64	-0.01	-0.19
YZWGNL	X	13.00	-0.38	-6.38	13.50	-0.15	-2.38



Analysis 901
Ethanol (% of volume)

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Z99ZJX		13.40	0.02	0.42	13.66	0.01	0.22
ZC9BEX		13.38	0.00	0.08	13.64	-0.01	-0.11
ZGGRNL		13.40	0.02	0.33	13.67	0.02	0.38
ZGZDM4		13.37	-0.01	-0.09	13.61	-0.04	-0.59
ZLBND		13.37	-0.01	-0.09	13.63	-0.02	-0.27
ZN3K28		13.30	-0.08	-1.37	13.57	-0.08	-1.32
ZV38RL		13.40	0.02	0.42	13.67	0.02	0.30

Grand Means		Summary Statistics	
	13.375 percent		13.647 percent
Std Dev Btwn Labs	0.059 percent		0.062 percent
Statistics based on 96 of 112 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot



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

Comments on Assigned Data Flags for Test #901

- E4QGGH (X) - Inconsistent in testing, data for sample SA47 are low.
- 9VUVM (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA48.
- LKRVGB (X) - Inconsistent in testing between samples.
- YZWGNE (X) - Inconsistent in testing, data for sample SA47 are low. Inconsistent within the determinations of sample SA47.
- DZ83F3 (X) - Data for both samples are low. Possible Systematic Error.
- XA6WVM (X) - Inconsistent in testing between samples.
- CGGTH9 (X) - Data for both samples are low.
- FR7RYN (X) - Inconsistent in testing between samples.
- 9XKVVV (X) - Data for both samples are high. Possible Systematic Error.
- LAR7XN (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- MV7DML (X) - Data for both samples are high. Inconsistent within the determinations of sample SA48.
- PYEFLM (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA48.
- XD3FTE (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA48.
- WH44WG (X) - Data for both samples are low. Possible Systematic Error.
- 6BZPQ8 (X) - Inconsistent in testing, data for sample SA47 are low. Inconsistent within the determinations of sample SA48.
- 94LBA7 (X) - Inconsistent in testing between samples.

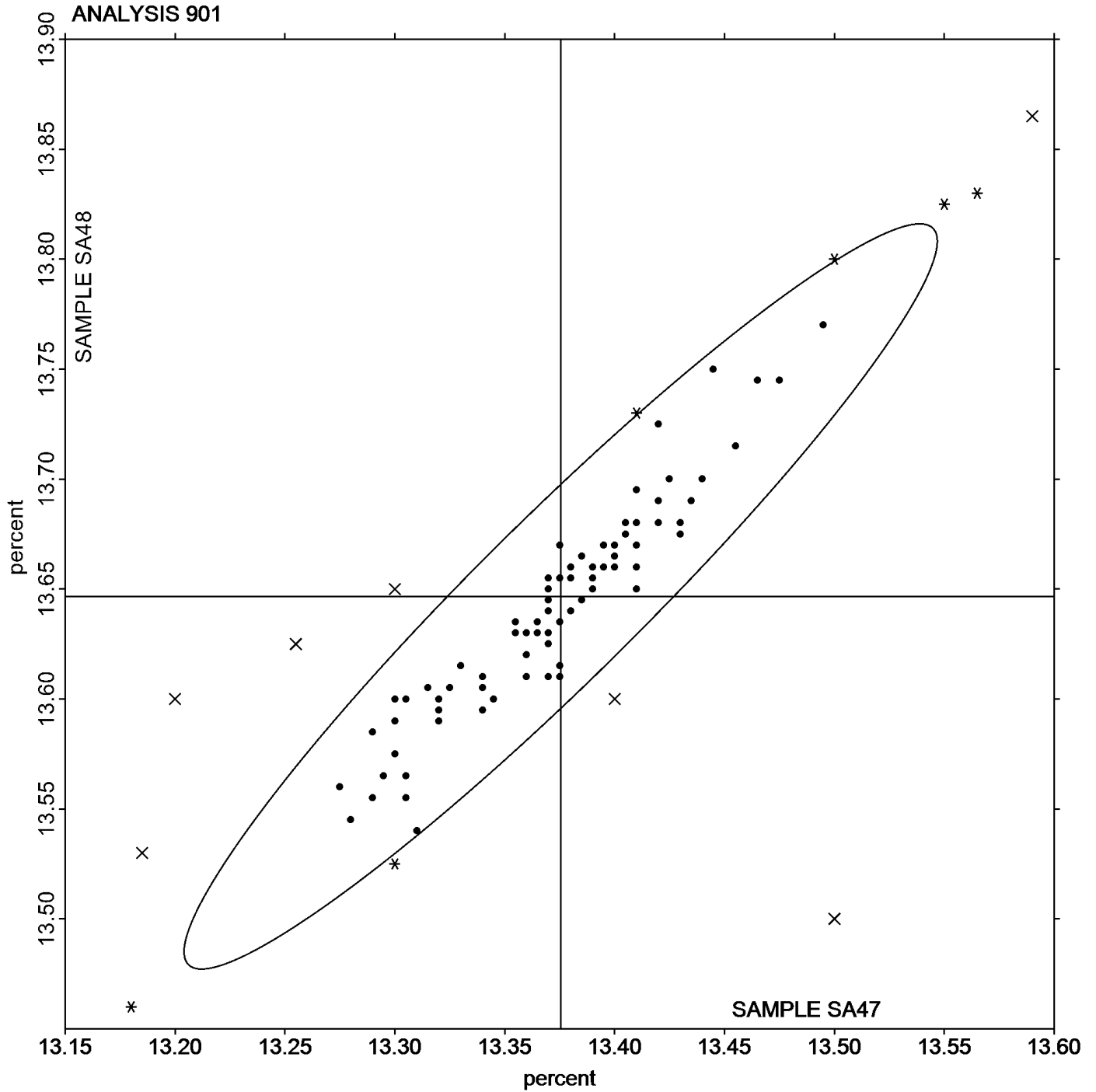
Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Ebulliometer Method	13.500	0.000	0.12	13.800	0.000	0.15	1/6
Gas Chromatography Method	13.370	0.071	-0.01	13.660	0.092	0.01	2/7
Near Infrared Method	13.387	0.052	0.01	13.656	0.055	0.01	74/75
Dist. / Density Method	13.340	0.079	-0.04	13.611	0.086	-0.04	10/14
FTIR	13.341	0.046	-0.03	13.615	0.034	-0.03	7/7
Other _____	13.308	0.018	-0.07	13.578	0.018	-0.07	2/3



Analysis 901

Ethanol (% of volume)





ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		48.00	-7.06	-1.26	54.50	-8.80	-1.33
3BNAMF		56.50	1.44	0.26	66.00	2.70	0.41
3DQC9B		53.50	-1.56	-0.28	64.50	1.20	0.18
3H7KWA		57.50	2.44	0.44	65.00	1.70	0.26
3KTG6Z	X	33.50	-21.56	-3.85	43.50	-19.80	-2.99
3NRRXF		56.00	0.94	0.17	63.00	-0.30	-0.05
3VB38A		53.00	-2.06	-0.37	58.00	-5.30	-0.80
4A8DVF		52.50	-2.56	-0.46	59.50	-3.80	-0.57
4DM89R		52.00	-3.06	-0.55	62.00	-1.30	-0.20
4FC9G2		51.50	-3.56	-0.64	58.50	-4.80	-0.73
4L4KAC		61.00	5.94	1.06	69.90	6.60	1.00
4MCV7F		47.00	-8.06	-1.44	52.00	-11.30	-1.71
4RR4UF		57.00	1.94	0.35	61.00	-2.30	-0.35
4T2984		51.50	-3.56	-0.64	60.50	-2.80	-0.42
6BZPQ8	*	67.00	11.94	2.13	70.50	7.20	1.09
6D6D8H	X	79.50	24.44	4.36	80.00	16.70	2.52
6RPTD3		60.50	5.44	0.97	71.00	7.70	1.16
6VLKJE	X	34.50	-20.56	-3.67	41.50	-21.80	-3.29
7KHNZA		66.50	11.44	2.04	74.95	11.65	1.76
7Q823X		52.00	-3.06	-0.55	58.50	-4.80	-0.73
7X8L38		51.00	-4.06	-0.72	57.50	-5.80	-0.88
83Z6JW		57.00	1.94	0.35	62.50	-0.80	-0.12
8YZTMW		60.50	5.44	0.97	66.00	2.70	0.41
92K6Y8		50.93	-4.13	-0.74	56.85	-6.45	-0.98
94LBA7		54.30	-0.76	-0.14	65.10	1.80	0.27
9CELMM		55.50	0.44	0.08	63.50	0.20	0.03
9E6MUV		68.65	13.59	2.43	79.10	15.80	2.39
9MYPW8		55.00	-0.06	-0.01	62.50	-0.80	-0.12
9VUVMM		51.50	-3.56	-0.64	58.00	-5.30	-0.80
9XKWVW		47.00	-8.06	-1.44	53.00	-10.30	-1.56
AA9FM8		53.00	-2.06	-0.37	60.50	-2.80	-0.42
AHJH99		48.00	-7.06	-1.26	51.50	-11.80	-1.78
AV9GYB		56.00	0.94	0.17	64.00	0.70	0.11
AZ4BWC		53.00	-2.06	-0.37	61.00	-2.30	-0.35
B34YQR		60.00	4.94	0.88	65.50	2.20	0.33



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Report #074
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Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BA3N9W		55.00	-0.06	-0.01	61.50	-1.80	-0.27
BXTTBL		42.50	-12.56	-2.24	50.00	-13.30	-2.01
CEWLFZ	X	62.00	6.94	1.24	83.00	19.70	2.98
CF7RVA	*	50.50	-4.56	-0.81	66.00	2.70	0.41
CGGTH9	X	70.50	15.44	2.76	93.50	30.20	4.56
CZEWGX		55.00	-0.06	-0.01	66.00	2.70	0.41
D48DB3		58.50	3.44	0.61	66.50	3.20	0.48
DHQ37Y		53.00	-2.06	-0.37	61.00	-2.30	-0.35
DMMMC4		46.30	-8.76	-1.56	53.95	-9.35	-1.41
DRUDEA		47.50	-7.56	-1.35	56.50	-6.80	-1.03
DZ83F3	X	43.87	-11.19	-2.00	58.85	-4.45	-0.67
E4QGGH	X	75.50	20.44	3.65	67.50	4.20	0.63
EARTEZ		58.00	2.94	0.52	61.50	-1.80	-0.27
EJBT9		59.50	4.44	0.79	68.50	5.20	0.79
F3P7Z6	*	43.00	-12.06	-2.15	54.00	-9.30	-1.41
F6VNY2		62.00	6.94	1.24	71.00	7.70	1.16
FE6TCR		47.00	-8.06	-1.44	57.00	-6.30	-0.95
FR7RYN		53.80	-1.26	-0.22	66.50	3.20	0.48
GAHXL6		60.50	5.44	0.97	66.00	2.70	0.41
GCAWZ3	*	53.50	-1.56	-0.28	69.00	5.70	0.86
GN4AXE	X	72.50	17.44	3.11	76.50	13.20	2.00
GXQ73L		53.90	-1.16	-0.21	62.91	-0.39	-0.06
J9MYHQ		57.00	1.94	0.35	64.50	1.20	0.18
JJ3NL2		57.00	1.94	0.35	62.50	-0.80	-0.12
JLNRTY		58.00	2.94	0.52	67.67	4.37	0.66
JTTAPE		53.00	-2.06	-0.37	60.00	-3.30	-0.50
JUMZUT		55.95	0.89	0.16	61.85	-1.45	-0.22
K4LC4T		56.00	0.94	0.17	60.00	-3.30	-0.50
KE7J63		52.00	-3.06	-0.55	61.00	-2.30	-0.35
KWQA43		49.00	-6.06	-1.08	52.50	-10.80	-1.63
LAR7XN		57.60	2.54	0.45	69.00	5.70	0.86
LKRVGB		49.50	-5.56	-0.99	58.00	-5.30	-0.80
LMHXPJ		58.50	3.44	0.61	69.00	5.70	0.86
MBFWMY		52.50	-2.56	-0.46	63.50	0.20	0.03
MUW4YV		52.50	-2.56	-0.46	60.50	-2.80	-0.42



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Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NM86LR		56.95	1.89	0.34	66.30	3.00	0.45
P4MVXW		60.35	5.29	0.94	73.60	10.30	1.56
P67F6P		50.50	-4.56	-0.81	62.00	-1.30	-0.20
PWRVKP		44.00	-11.06	-1.97	50.00	-13.30	-2.01
PYEFLM		59.20	4.14	0.74	69.90	6.60	1.00
PZQ8GP		55.15	0.09	0.02	63.00	-0.30	-0.05
Q6ZMPD		60.50	5.44	0.97	71.50	8.20	1.24
QPN7GQ	*	69.00	13.94	2.49	77.00	13.70	2.07
R7888L		54.50	-0.56	-0.10	57.50	-5.80	-0.88
RELBXL		62.00	6.94	1.24	73.50	10.20	1.54
TECTCR		62.00	6.94	1.24	73.00	9.70	1.47
TFUMBG		53.50	-1.56	-0.28	62.50	-0.80	-0.12
TJTY8G		63.00	7.94	1.42	74.00	10.70	1.62
TZU2NK		52.00	-3.06	-0.55	55.50	-7.80	-1.18
UC42XJ		51.50	-3.56	-0.64	57.00	-6.30	-0.95
UEWUT3		53.00	-2.06	-0.37	60.00	-3.30	-0.50
UFQKYG		59.00	3.94	0.70	71.50	8.20	1.24
UQLTLQ		50.25	-4.81	-0.86	56.75	-6.55	-0.99
V8RCXM	X	39.00	-16.06	-2.87	39.50	-23.80	-3.60
VDHM8L		50.00	-5.06	-0.90	62.50	-0.80	-0.12
VUZNZ3		51.05	-4.01	-0.72	60.15	-3.15	-0.48
WH44WG		50.00	-5.06	-0.90	56.00	-7.30	-1.10
WLRBKJ		65.50	10.44	1.86	71.00	7.70	1.16
WNV76M		60.00	4.94	0.88	70.00	6.70	1.01
XA6WVM		63.00	7.94	1.42	67.50	4.20	0.63
XD3FTE	X	53.35	-1.71	-0.30	88.80	25.50	3.85
XK6ME9		52.00	-3.06	-0.55	61.00	-2.30	-0.35
XQREJG		49.50	-5.56	-0.99	62.00	-1.30	-0.20
Y3PDD9		60.00	4.94	0.88	69.00	5.70	0.86
Y748QK		49.00	-6.06	-1.08	55.00	-8.30	-1.25
YN6VHJ		52.50	-2.56	-0.46	58.00	-5.30	-0.80
YZWGNL		54.70	-0.36	-0.06	62.80	-0.50	-0.08
Z99ZJX		46.00	-9.06	-1.62	49.00	-14.30	-2.16
ZC9BEX		54.50	-0.56	-0.10	66.50	3.20	0.48
ZGGRNL		56.00	0.94	0.17	68.50	5.20	0.79



Analysis 902
Total Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZGZDM4		63.10	8.04	1.44	74.85	11.55	1.75
ZLBNDD	*	68.00	12.94	2.31	80.00	16.70	2.52
ZN3K28		57.15	2.09	0.37	65.40	2.10	0.32
ZV38RL		60.00	4.94	0.88	69.00	5.70	0.86

Grand Means		Summary Statistics	
	55.059 mg/L		63.298 mg/L
Std Dev Btwn Labs			6.617 mg/L
	5.603 mg/L		
Statistics based on 99 of 109 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #902

- GN4AXE (X) - Data for sample SA47 are high.
- E4QGGH (X) - Data for sample SA47 are high. Inconsistent within the determinations of sample SA47.
- DZ83F3 (X) - Inconsistent in testing between samples.
- CGGTH9 (X) - Data for sample SA48 are high.
- V8RCXM (X) - Data for both samples are low.
- 6VLKJE (X) - Data for both samples are low.
- 6D6D8H (X) - Data for sample SA47 are high.
- 3KTG6Z (X) - Data for both samples are low.
- XD3FTE (X) - Data for sample SA48 are high.
- CEWLFZ (X) - Data for sample SA48 are high.



Analysis 902

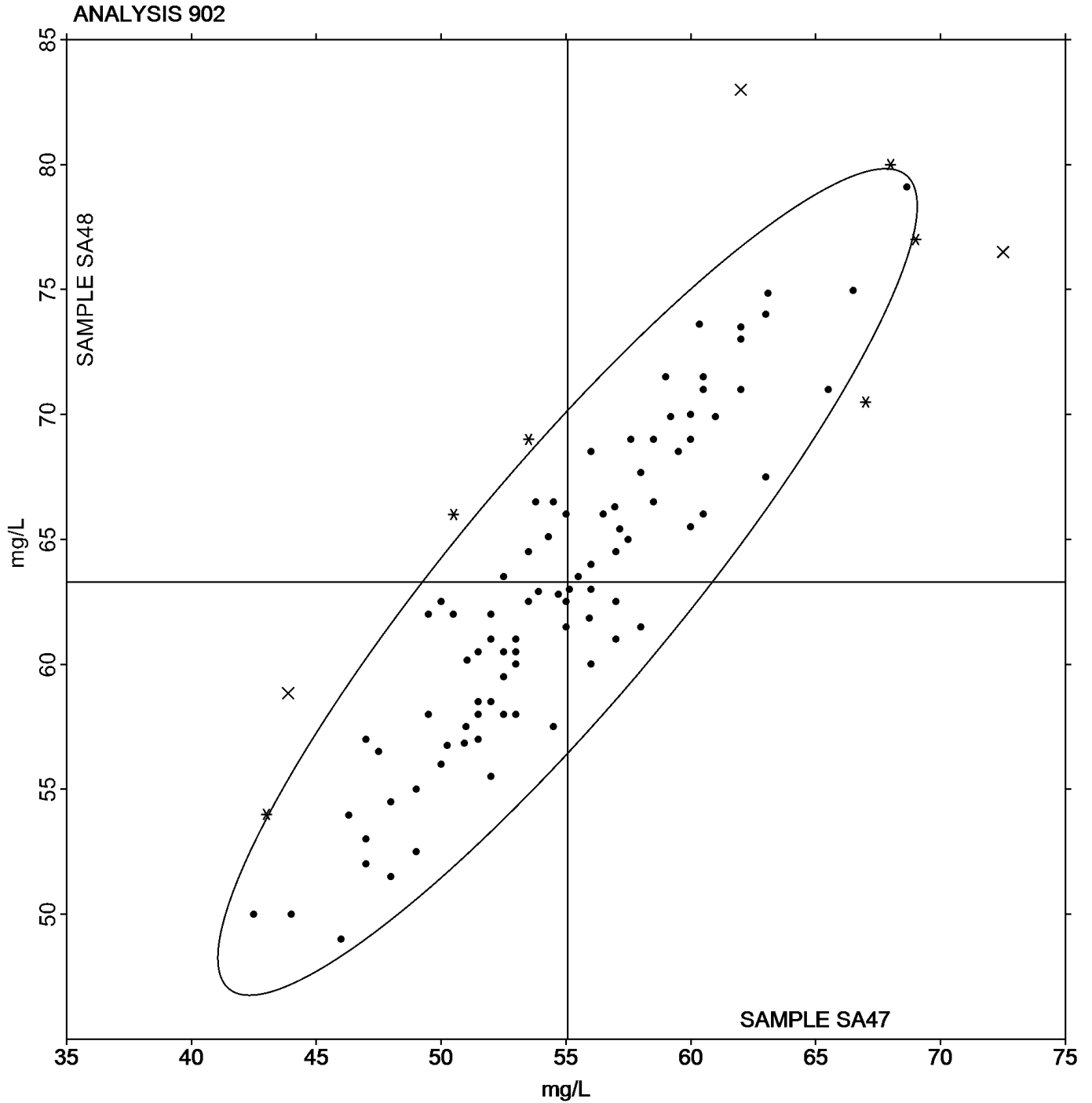
Total Sulfur Dioxide

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	56.433	8.211	1.37	66.033	4.572	2.74	3/3
Ripper Method	56.597	5.752	1.54	65.541	6.856	2.24	33/39
Aeration Oxidation (AO) Method	51.570	5.136	-3.49	58.280	4.953	-5.02	10/12
Segmented Flow Analyzer	51.135	4.278	-3.92	58.043	5.339	-5.26	8/8
Enzymatic Method	55.973	5.165	0.91	64.967	6.744	1.67	13/14
Colormetric Analyzer	55.575	5.906	0.52	63.998	6.680	0.70	20/21
FTIR	55.800	2.080	0.74	63.200	2.049	-0.10	5/5
Flow Injection Analysis	52.985	4.818	-2.07	59.701	4.412	-3.60	7/7



Analysis 902
Total Sulfur Dioxide





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Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		26.00	0.41	0.15	28.00	0.41	0.15
3BNAMF		24.50	-1.09	-0.39	27.00	-0.59	-0.22
3DQC9B	*	25.50	-0.09	-0.03	24.50	-3.09	-1.13
3H7KWA		31.00	5.41	1.93	32.50	4.91	1.80
3KTG6Z		23.50	-2.09	-0.75	27.00	-0.59	-0.22
3NRRXF		27.00	1.41	0.50	30.50	2.91	1.07
3VB38A		25.60	0.01	0.00	29.25	1.66	0.61
4A8DVF		29.00	3.41	1.22	32.05	4.46	1.64
4DM89R		24.00	-1.59	-0.57	27.00	-0.59	-0.22
4FC9G2		23.00	-2.59	-0.92	25.50	-2.09	-0.77
4L4KAC		26.85	1.26	0.45	28.10	0.51	0.19
4MCV7F		23.00	-2.59	-0.92	25.00	-2.59	-0.95
4RR4UF		24.00	-1.59	-0.57	26.00	-1.59	-0.58
4T2984		23.00	-2.59	-0.92	26.00	-1.59	-0.58
6BZPQ8		32.50	6.91	2.47	33.50	5.91	2.17
6D6D8H		25.00	-0.59	-0.21	27.00	-0.59	-0.22
6RPTD3	*	30.50	4.91	1.75	30.00	2.41	0.88
6VLKJE		27.60	2.01	0.72	28.90	1.31	0.48
7KHNZA		26.50	0.91	0.33	28.50	0.91	0.33
7Q823X		25.10	-0.49	-0.17	25.90	-1.69	-0.62
7X8L38	*	21.50	-4.09	-1.46	26.50	-1.09	-0.40
83Z6JW		32.50	6.91	2.47	33.50	5.91	2.17
8YZTMW		29.00	3.41	1.22	30.50	2.91	1.07
92K6Y8		21.29	-4.30	-1.53	24.35	-3.24	-1.19
94LBA7		25.05	-0.54	-0.19	25.65	-1.94	-0.71
9CELMM		26.00	0.41	0.15	26.90	-0.69	-0.25
9E6MUV		31.80	6.21	2.22	32.55	4.96	1.82
9MYPW8		21.50	-4.09	-1.46	24.00	-3.59	-1.32
9VUVMM		21.00	-4.59	-1.64	23.00	-4.59	-1.68
9XKWVW		22.80	-2.79	-0.99	23.65	-3.94	-1.44
AA9FM8		21.50	-4.09	-1.46	23.00	-4.59	-1.68
AHJH99		23.50	-2.09	-0.75	25.50	-2.09	-0.77
AV9GYB	*	29.00	3.41	1.22	33.00	5.41	1.98
AZ4BWC		26.00	0.41	0.15	27.00	-0.59	-0.22
B34YQR		23.50	-2.09	-0.75	23.50	-4.09	-1.50



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Analysis 903

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Free Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BA3N9W		28.00	2.41	0.86	30.00	2.41	0.88
BXTTBL		24.00	-1.59	-0.57	25.00	-2.59	-0.95
CEWLFZ		21.00	-4.59	-1.64	23.50	-4.09	-1.50
CF7RVA		28.50	2.91	1.04	31.00	3.41	1.25
CGGTH9		25.00	-0.59	-0.21	26.50	-1.09	-0.40
CZEWGX		25.00	-0.59	-0.21	28.50	0.91	0.33
D48DB3	*	17.50	-8.09	-2.89	19.50	-8.09	-2.96
DHQ37Y		24.50	-1.09	-0.39	26.50	-1.09	-0.40
DMMMC4		25.00	-0.59	-0.21	27.00	-0.59	-0.22
DRUDEA		26.50	0.91	0.33	28.00	0.41	0.15
DZ83F3		28.89	3.30	1.18	31.03	3.44	1.26
E4QGGH		23.50	-2.09	-0.75	26.00	-1.59	-0.58
EARTEZ		26.50	0.91	0.33	29.00	1.41	0.52
EJBT9		24.00	-1.59	-0.57	26.00	-1.59	-0.58
F3P7Z6		20.00	-5.59	-1.99	23.00	-4.59	-1.68
F6VNY2		28.00	2.41	0.86	30.50	2.91	1.07
FE6TCR		27.00	1.41	0.50	28.00	0.41	0.15
FR7RYN	X	25.60	0.01	0.00	32.00	4.41	1.62
GAHXL6		23.50	-2.09	-0.75	24.50	-3.09	-1.13
GCAWZ3		26.00	0.41	0.15	29.00	1.41	0.52
GN4AXE		27.50	1.91	0.68	28.00	0.41	0.15
GXQ73L		24.64	-0.95	-0.34	27.40	-0.19	-0.07
J9MYHQ		26.00	0.41	0.15	27.00	-0.59	-0.22
JEN74K		27.00	1.41	0.50	29.00	1.41	0.52
JJ3NL2		26.05	0.46	0.16	27.25	-0.34	-0.12
JLNRTY		23.67	-1.92	-0.69	24.50	-3.09	-1.13
JTTAPE		26.00	0.41	0.15	27.00	-0.59	-0.22
JUMZUT		30.20	4.61	1.65	32.24	4.65	1.70
K4LC4T		27.00	1.41	0.50	29.00	1.41	0.52
KE7J63		23.50	-2.09	-0.75	24.00	-3.59	-1.32
KWQA43		30.00	4.41	1.57	32.00	4.41	1.62
LAR7XN		24.75	-0.84	-0.30	26.35	-1.24	-0.45
LEYW2U		24.09	-1.50	-0.54	26.36	-1.23	-0.45
LKRVGB		21.50	-4.09	-1.46	26.00	-1.59	-0.58
LMHXPJ		25.10	-0.49	-0.17	28.70	1.11	0.41



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Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MBFWMY		25.50	-0.09	-0.03	27.00	-0.59	-0.22
MUW4YV		25.50	-0.09	-0.03	25.10	-2.49	-0.91
MV7DML		25.20	-0.39	-0.14	26.80	-0.79	-0.29
N2LBTK		25.00	-0.59	-0.21	26.00	-1.59	-0.58
NM86LR		24.15	-1.44	-0.51	28.05	0.46	0.17
P4MVXW		24.65	-0.94	-0.33	28.60	1.01	0.37
PWRVKP		29.50	3.91	1.40	30.50	2.91	1.07
PYEFLM		25.70	0.11	0.04	26.40	-1.19	-0.44
PZQ8GP		25.40	-0.19	-0.07	28.10	0.51	0.19
Q6ZMPD		25.00	-0.59	-0.21	26.00	-1.59	-0.58
QPN7GQ		26.00	0.41	0.15	28.00	0.41	0.15
R7888L		23.00	-2.59	-0.92	26.00	-1.59	-0.58
RELBXL		31.00	5.41	1.93	33.00	5.41	1.98
TECTCR		28.00	2.41	0.86	31.00	3.41	1.25
TFUMBG		24.00	-1.59	-0.57	26.00	-1.59	-0.58
TJTY8G		26.50	0.91	0.33	28.50	0.91	0.33
TZU2NK		24.50	-1.09	-0.39	27.00	-0.59	-0.22
UC42XJ		26.50	0.91	0.33	27.00	-0.59	-0.22
UFQKYG		27.50	1.91	0.68	31.00	3.41	1.25
UQLTLQ		26.45	0.86	0.31	28.45	0.86	0.32
V8RCXM	X	19.50	-6.09	-2.17	18.50	-9.09	-3.33
VDHM8L		24.50	-1.09	-0.39	26.50	-1.09	-0.40
VUZNZ3		26.00	0.41	0.15	27.50	-0.09	-0.03
WH44WG		20.00	-5.59	-1.99	24.00	-3.59	-1.32
WLRBKJ		26.00	0.41	0.15	27.00	-0.59	-0.22
WNV76M		21.00	-4.59	-1.64	24.50	-3.09	-1.13
XA6WVM	*	29.00	3.41	1.22	33.00	5.41	1.98
XD3FTE	X	40.55	14.96	5.34	50.35	22.76	8.34
XK6ME9		23.00	-2.59	-0.92	26.00	-1.59	-0.58
XQREJG		25.50	-0.09	-0.03	28.00	0.41	0.15
Y3PDD9		27.00	1.41	0.50	27.00	-0.59	-0.22
Y748QK		28.00	2.41	0.86	30.00	2.41	0.88
YN6VHJ		25.00	-0.59	-0.21	27.00	-0.59	-0.22
YZWGNE	X	25.15	-0.44	-0.16	31.65	4.06	1.49
Z99ZJX		26.50	0.91	0.33	30.00	2.41	0.88



**Analysis 903
Free Sulfur Dioxide**

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZC9BEX	X	26.00	0.41	0.15	21.00	-6.59	-2.42
ZGGRNL		25.00	-0.59	-0.21	27.50	-0.09	-0.03
ZGZDM4	X	27.25	1.66	0.59	32.75	5.16	1.89
ZLBNDD	X	34.50	8.91	3.18	39.00	11.41	4.18
ZN3K28		25.15	-0.44	-0.16	27.10	-0.49	-0.18
ZV38RL		32.00	6.41	2.29	33.50	5.91	2.17

Grand Means		Summary Statistics	
	25.588 mg/L		27.589 mg/L
Std Dev Btwn Labs			
	2.803 mg/L		2.728 mg/L
Statistics based on 104 of 111 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #903

- ZC9BEX (X) - Inconsistent in testing between samples.
- YZWGNE (X) - Inconsistent in testing between samples.
- ZLBNDD (X) - Data for both samples are high. Possible Systematic Error.
- V8RCXM (X) - Inconsistent in testing, data for sample SA48 are low.
- FR7RYN (X) - Inconsistent in testing between samples.
- ZGZDM4 (X) - Inconsistent in testing between samples.
- XD3FTE (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA47.



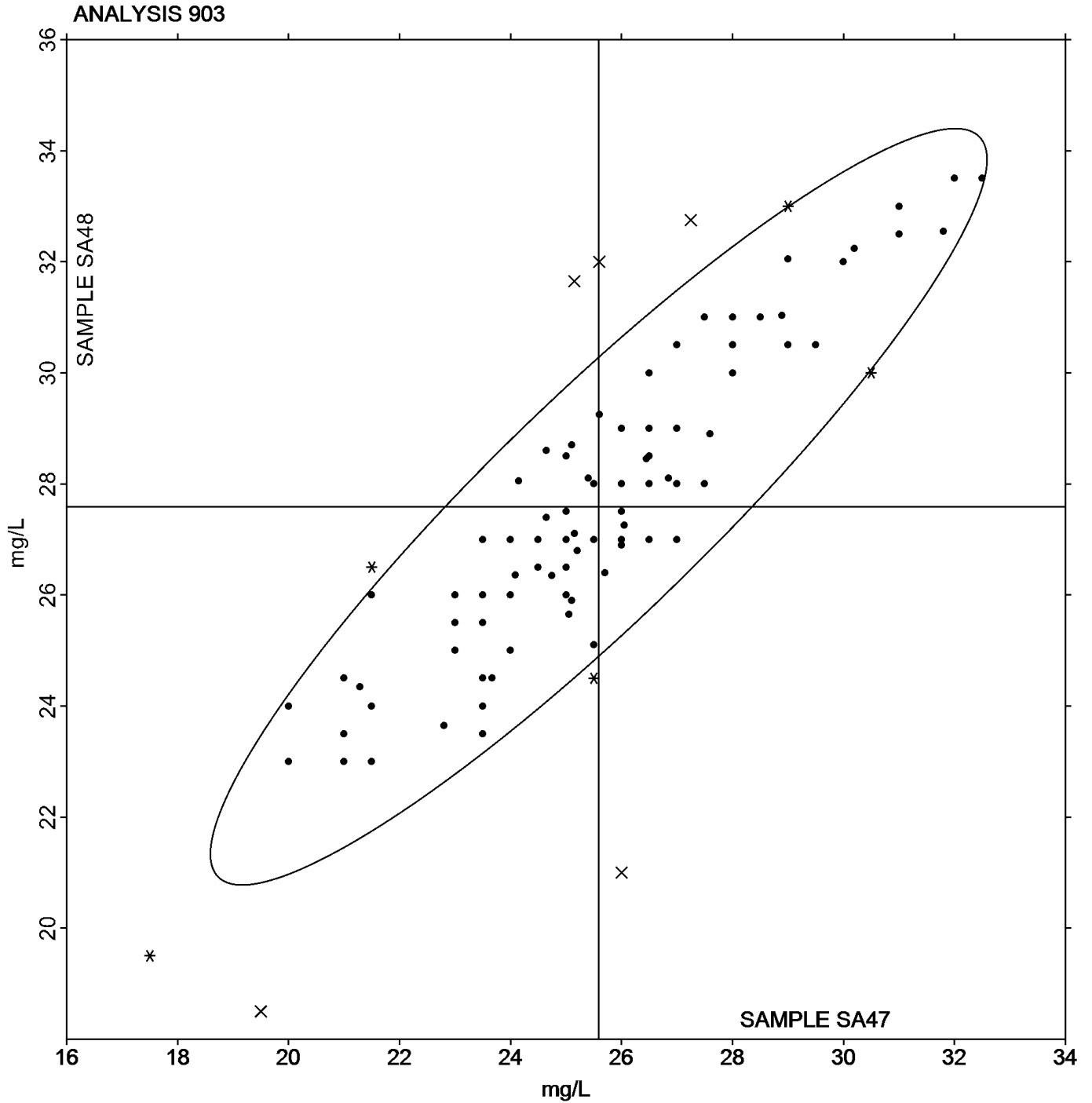
Analysis 903
Free Sulfur Dioxide

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	24.910	0.963	-0.68	26.530	1.027	-1.06	5/5
Ripper Method	27.327	3.185	1.74	29.247	2.975	1.66	27/32
Aeration Oxidation (AO) Method	24.806	1.995	-0.78	26.774	1.726	-0.81	24/26
Segmented Flow Analyzer	26.132	2.864	0.54	28.549	2.759	0.96	9/9
Enzymatic Method	25.522	0.911	-0.07	26.810	1.250	-0.78	10/10
Colormetric Analyzer	25.522	2.583	-0.07	28.015	2.432	0.43	16/16
Flow Injection Analysis	23.592	3.175	-2.00	26.271	3.575	-1.32	7/7
FTIR	23.258	3.306	-2.33	24.525	2.892	-3.06	6/6



Analysis 903
Free Sulfur Dioxide





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		5.700	-0.035	-0.18	5.900	-0.051	-0.27
3BNAMF		5.940	0.205	1.04	6.090	0.139	0.73
3DQC9B		6.050	0.315	1.59	6.200	0.249	1.30
3H7KWA		5.710	-0.025	-0.13	5.985	0.034	0.18
3KTG6Z		5.704	-0.032	-0.16	5.974	0.023	0.12
3NRRXF		5.700	-0.035	-0.18	5.900	-0.051	-0.27
3VB38A		5.655	-0.080	-0.41	5.900	-0.051	-0.27
4A8DVF		5.780	0.045	0.23	5.990	0.039	0.20
4DM89R		5.800	0.065	0.33	6.100	0.149	0.78
4FC9G2		5.905	0.170	0.86	6.135	0.184	0.96
4L4KAC		5.563	-0.173	-0.88	5.675	-0.276	-1.45
4MCV7F		5.500	-0.235	-1.19	5.800	-0.151	-0.79
4RR4UF		5.700	-0.035	-0.18	5.900	-0.051	-0.27
4T2984		5.900	0.165	0.83	6.000	0.049	0.26
6BZPQ8		5.600	-0.135	-0.69	5.900	-0.051	-0.27
6D6D8H	X	6.250	0.515	2.61	6.800	0.849	4.44
6RPTD3		5.895	0.160	0.81	6.120	0.169	0.88
6VLKJE		5.900	0.165	0.83	6.000	0.049	0.26
7KHNZA		5.750	0.015	0.07	5.965	0.014	0.07
7Q823X		5.660	-0.075	-0.38	5.965	0.014	0.07
7X8L38		5.750	0.015	0.07	6.000	0.049	0.26
83Z6JW		6.000	0.265	1.34	6.100	0.149	0.78
8YZTMW		6.116	0.380	1.93	6.252	0.301	1.58
92K6Y8		5.910	0.175	0.88	6.140	0.189	0.99
94LBA7	X	5.345	-0.390	-1.98	5.795	-0.156	-0.82
9CELM		5.700	-0.035	-0.18	5.950	-0.001	-0.01
9E6MUV		5.830	0.095	0.48	6.040	0.089	0.47
9MYPW8		5.700	-0.035	-0.18	5.950	-0.001	-0.01
9VUVM		5.850	0.115	0.58	6.050	0.099	0.52
9XKWVW	*	5.200	-0.535	-2.71	5.400	-0.551	-2.88
AHJH99		5.850	0.115	0.58	6.050	0.099	0.52
AV9GYB		5.950	0.215	1.09	6.050	0.099	0.52
AZ4BWC		5.900	0.165	0.83	6.200	0.249	1.30
B34YQR		5.500	-0.235	-1.19	5.800	-0.151	-0.79
BA3N9W	*	6.154	0.419	2.12	6.431	0.479	2.51



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BXTTBL		5.695	-0.040	-0.20	5.840	-0.111	-0.58
CEWLFZ		5.760	0.025	0.12	6.060	0.109	0.57
CF7RVA		5.690	-0.045	-0.23	5.915	-0.036	-0.19
CGGTH9		5.950	0.215	1.09	6.000	0.049	0.26
CZEWGX		5.700	-0.035	-0.18	5.950	-0.001	-0.01
D48DB3	*	5.225	-0.510	-2.59	5.375	-0.576	-3.02
DHQ37Y		5.590	-0.145	-0.74	5.825	-0.126	-0.66
DMMMC4	X	6.400	0.665	3.37	6.450	0.499	2.61
DRUDEA		6.000	0.265	1.34	6.200	0.249	1.30
DZ83F3		5.625	-0.110	-0.56	5.925	-0.026	-0.14
E4QGGH		5.550	-0.185	-0.94	5.800	-0.151	-0.79
EARTEZ		6.100	0.365	1.85	6.300	0.349	1.83
EJBT9		5.685	-0.050	-0.26	6.040	0.089	0.47
F3P7Z6		5.640	-0.095	-0.48	5.860	-0.091	-0.48
F6VNY2		5.837	0.101	0.51	5.971	0.019	0.10
FE6TCR		5.950	0.215	1.09	6.150	0.199	1.04
FR7RYN	X	6.120	0.385	1.95	6.530	0.579	3.03
GAHXL6		5.650	-0.085	-0.43	5.900	-0.051	-0.27
GCAWZ3		5.525	-0.210	-1.07	5.765	-0.186	-0.97
GN4AXE		5.755	0.020	0.10	6.115	0.164	0.86
GXQ73L		5.785	0.050	0.25	6.050	0.099	0.52
HJN3AE		5.646	-0.090	-0.46	5.885	-0.067	-0.35
J9MYHQ		5.610	-0.125	-0.64	5.835	-0.116	-0.61
JEN74K	*	5.200	-0.535	-2.71	5.550	-0.401	-2.10
JJ3NL2		5.890	0.155	0.78	6.140	0.189	0.99
JLNRTY	X	5.000	-0.735	-3.73	5.200	-0.751	-3.93
JTTAPE		5.640	-0.095	-0.48	5.885	-0.066	-0.35
JUMZUT	X	4.550	-1.185	-6.01	4.780	-1.171	-6.13
K4LC4T		5.700	-0.035	-0.18	6.000	0.049	0.26
KE7J63		5.655	-0.080	-0.41	5.810	-0.141	-0.74
KWQA43		5.700	-0.035	-0.18	5.900	-0.051	-0.27
LAR7XN	X	5.821	0.085	0.43	6.270	0.318	1.67
LEYW2U		5.935	0.200	1.01	6.190	0.239	1.25
LKRVGB		5.685	-0.050	-0.26	5.925	-0.026	-0.14
LMHXPJ		5.620	-0.115	-0.59	5.875	-0.076	-0.40



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MBFWMY		5.895	0.160	0.81	6.050	0.099	0.52
MUW4YV		5.900	0.165	0.83	6.150	0.199	1.04
MV7DML		5.325	-0.410	-2.08	5.588	-0.364	-1.90
N2LBTK		5.500	-0.235	-1.19	5.700	-0.251	-1.31
NM86LR		5.655	-0.080	-0.41	5.900	-0.051	-0.27
P4MVXW		6.000	0.265	1.34	6.215	0.264	1.38
P67F6P		5.600	-0.135	-0.69	5.900	-0.051	-0.27
PWRVKP		6.140	0.405	2.05	6.270	0.319	1.67
PYEFLM		5.755	0.020	0.10	5.925	-0.026	-0.14
PZQ8GP	X	7.440	1.705	8.64	7.770	1.819	9.52
Q6ZMPD	X	6.565	0.830	4.21	6.820	0.869	4.55
QPN7GQ		5.625	-0.110	-0.56	5.930	-0.021	-0.11
R7888L		5.770	0.035	0.18	6.000	0.049	0.26
RELBXL		5.690	-0.045	-0.23	5.950	-0.001	-0.01
TECTCR		5.600	-0.135	-0.69	5.800	-0.151	-0.79
TFUMBG		5.700	-0.035	-0.18	5.900	-0.051	-0.27
TJTY8G	X	5.200	-0.535	-2.71	5.600	-0.351	-1.84
TZU2NK		5.950	0.215	1.09	6.100	0.149	0.78
UC42XJ		5.480	-0.255	-1.29	5.580	-0.371	-1.94
UEWUT3		5.750	0.015	0.07	6.000	0.049	0.26
UFQKYG		5.960	0.225	1.14	6.240	0.289	1.51
UQLTLQ		5.765	0.030	0.15	6.030	0.079	0.41
V8RCXM		5.910	0.175	0.88	6.010	0.059	0.31
VDHM8L		6.015	0.280	1.42	6.100	0.149	0.78
VUZNZ3		5.850	0.115	0.58	6.000	0.049	0.26
WH44WG	X	4.760	-0.975	-4.94	5.250	-0.701	-3.67
WNV76M		5.600	-0.135	-0.69	5.850	-0.101	-0.53
XA6WVM	*	5.185	-0.550	-2.79	5.365	-0.586	-3.07
XD3FTE		5.700	-0.035	-0.18	5.950	-0.001	-0.01
XK6ME9	X	3.440	-2.295	-11.64	3.630	-2.321	-12.15
XQREJG	X	6.450	0.715	3.62	6.700	0.749	3.92
Y3PDD9		5.540	-0.195	-0.99	5.830	-0.121	-0.63
Y748QK		5.900	0.165	0.83	6.100	0.149	0.78
YN6VHJ		5.635	-0.100	-0.51	5.895	-0.056	-0.29
YZWGNE		5.710	-0.025	-0.13	5.770	-0.181	-0.95



**Analysis 904
Titratable Acidity**

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Z99ZJX		5.650	-0.085	-0.43	5.850	-0.101	-0.53
ZC9BEX		5.615	-0.120	-0.61	5.830	-0.121	-0.63
ZGGRNL		6.000	0.265	1.34	6.250	0.299	1.57
ZGZDM4	*	5.415	-0.320	-1.62	5.535	-0.416	-2.18
ZLBNDD		5.770	0.035	0.18	5.845	-0.106	-0.56
ZN3K28		5.735	0.000	0.00	5.865	-0.086	-0.45
ZV38RL		5.705	-0.030	-0.15	5.935	-0.016	-0.08

Grand Means		Summary Statistics	
	5.7354 g/L as tartaric acid		5.9511 g/L as tartaric acid
Std Dev Btwn Labs	0.1973 g/L as tartaric acid		0.1910 g/L as tartaric acid
Statistics based on 99 of 112 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #904

- PZQ8GP (X) - Data for both samples are high. Possible Systematic Error.
- DMMMC4 (X) - Inconsistent in testing, data for sample SA47 are high. Inconsistent within the determinations of sample SA47.
- JLNRTY (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA47.
- 6D6D8H (X) - Inconsistent in testing, data for sample SA48 are high. Inconsistent within the determinations of sample SA48.
- Q6ZMPD (X) - Data for both samples are high. Possible Systematic Error.
- FR7RYN (X) - Inconsistent in testing, data for sample SA48 are high.
- XK6ME9 (X) - Data for both samples are low.
- TJTY8G (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- LAR7XN (X) - Inconsistent in testing between samples.
- WH44WG (X) - Data for both samples are low. Possible Systematic Error.
- JUMZUT (X) - Data for both samples are low. Possible Systematic Error.
- 94LBA7 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- XQREJG (X) - Data for both samples are high. Possible Systematic Error.



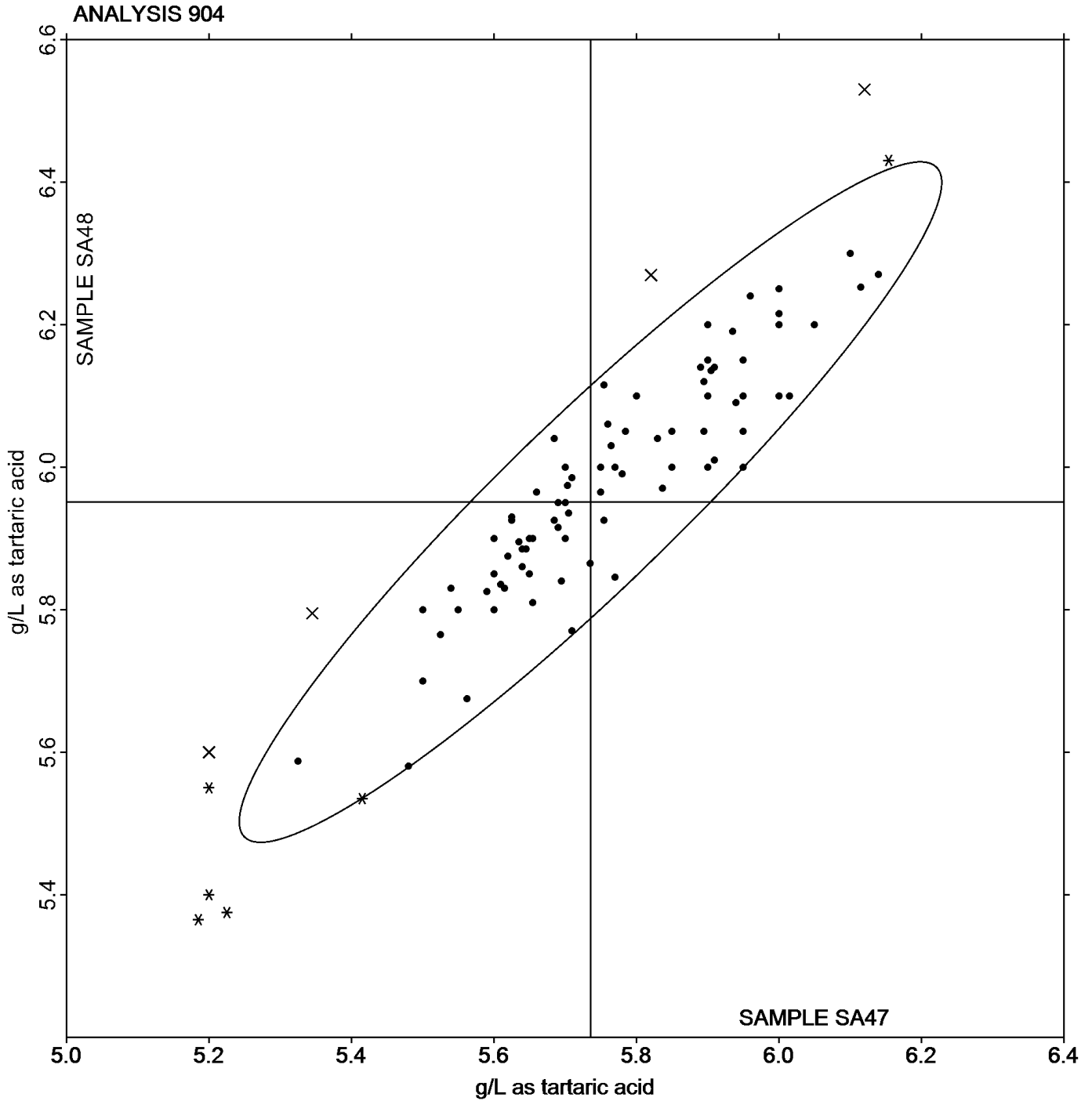
**Analysis 904
Titratable Acidity**

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	5.950	0.000	0.215	6.000	0.000	0.049	1/4
Autotitration	5.755	0.174	0.019	5.972	0.167	0.021	68/72
Manual Titration	5.737	0.247	0.002	5.944	0.248	-0.007	19/23
FTIR	5.562	0.181	-0.173	5.797	0.182	-0.154	10/12
Segmented Flow Analyzer	5.910	0.000	0.175	6.140	0.000	0.189	1/1



Analysis 904
Titratable Acidity





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Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		0.4100	-0.0401	-0.96	0.3850	-0.0601	-1.57
3BNAMF		0.3950	-0.0551	-1.32	0.3950	-0.0501	-1.31
3DQC9B		0.4450	-0.0051	-0.12	0.4500	0.0049	0.13
3H7KWA		0.3750	-0.0751	-1.79	0.3750	-0.0701	-1.84
3KTG6Z		0.4700	0.0199	0.48	0.4700	0.0249	0.65
3NRRXF		0.4500	-0.0001	0.00	0.4500	0.0049	0.13
3VB38A		0.4420	-0.0081	-0.19	0.4510	0.0059	0.15
4A8DVF		0.3785	-0.0716	-1.71	0.3990	-0.0461	-1.21
4DM89R	X	0.5700	0.1199	2.87	0.5900	0.1449	3.79
4FC9G2		0.4850	0.0349	0.83	0.4650	0.0199	0.52
4L4KAC	X	0.5200	0.0699	1.67	0.4700	0.0249	0.65
4MCV7F		0.5000	0.0499	1.19	0.4800	0.0349	0.91
4RR4UF		0.3950	-0.0551	-1.32	0.4050	-0.0401	-1.05
4T2984	X	0.5500	0.0999	2.39	0.5700	0.1249	3.27
6BZPQ8		0.4250	-0.0251	-0.60	0.4000	-0.0451	-1.18
6D6D8H	X	0.4250	-0.0251	-0.60	0.2300	-0.2151	-5.63
6RPTD3		0.4050	-0.0451	-1.08	0.4000	-0.0451	-1.18
6VLKJE		0.4450	-0.0051	-0.12	0.4400	-0.0051	-0.13
7KHNZA		0.4135	-0.0366	-0.87	0.4040	-0.0411	-1.08
7Q823X		0.4445	-0.0056	-0.13	0.4520	0.0069	0.18
7X8L38		0.4500	-0.0001	0.00	0.4450	-0.0001	0.00
83Z6JW		0.4000	-0.0501	-1.20	0.4200	-0.0251	-0.66
8YZTMW		0.4500	-0.0001	0.00	0.4550	0.0099	0.26
92K6Y8		0.4750	0.0249	0.59	0.4850	0.0399	1.04
94LBA7		0.4600	0.0099	0.24	0.4450	-0.0001	0.00
9CELMM		0.5250	0.0749	1.79	0.5050	0.0599	1.57
9E6MUV		0.4200	-0.0301	-0.72	0.4250	-0.0201	-0.53
9MYPW8		0.5500	0.0999	2.39	0.5250	0.0799	2.09
9VUVMM	*	0.5600	0.1099	2.63	0.5500	0.1049	2.74
9XKWVW		0.4705	0.0204	0.49	0.4640	0.0189	0.49
AHJH99	X	0.4800	0.0299	0.71	0.5900	0.1449	3.79
AV9GYB		0.4410	-0.0091	-0.22	0.4385	-0.0066	-0.17
AZ4BWC		0.4300	-0.0201	-0.48	0.4100	-0.0351	-0.92
B34YQR		0.4500	-0.0001	0.00	0.4350	-0.0101	-0.27
BA3N9W		0.4900	0.0399	0.95	0.4950	0.0499	1.31



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Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BXTTBL		0.4300	-0.0201	-0.48	0.4500	0.0049	0.13
CEWLFZ	X	0.4800	0.0299	0.71	0.5700	0.1249	3.27
CF7RVA		0.4650	0.0149	0.36	0.4550	0.0099	0.26
CGGTH9		0.4350	-0.0151	-0.36	0.4300	-0.0151	-0.40
CZEWGX		0.3950	-0.0551	-1.32	0.3950	-0.0501	-1.31
D48DB3		0.4550	0.0049	0.12	0.4650	0.0199	0.52
DHQ37Y	*	0.5550	0.1049	2.51	0.5350	0.0899	2.35
DMMMC4		0.4400	-0.0101	-0.24	0.4500	0.0049	0.13
DRUDEA		0.4350	-0.0151	-0.36	0.4300	-0.0151	-0.40
DZ83F3		0.4680	0.0179	0.43	0.4680	0.0229	0.60
E4QGGH		0.4600	0.0099	0.24	0.4500	0.0049	0.13
EARTEZ		0.4550	0.0049	0.12	0.4400	-0.0051	-0.13
EJBT9		0.4600	0.0099	0.24	0.4550	0.0099	0.26
F3P7Z6		0.4750	0.0249	0.59	0.4700	0.0249	0.65
F6VNY2	X	0.3600	-0.0901	-2.15	0.4150	-0.0301	-0.79
FE6TCR		0.4400	-0.0101	-0.24	0.4300	-0.0151	-0.40
FR7RYN		0.4480	-0.0021	-0.05	0.4690	0.0239	0.62
GAHXL6		0.4650	0.0149	0.36	0.4600	0.0149	0.39
GCAWZ3		0.4150	-0.0351	-0.84	0.4050	-0.0401	-1.05
GN4AXE		0.4395	-0.0106	-0.25	0.4400	-0.0051	-0.13
GXQ73L	X	0.4500	-0.0001	0.00	0.5000	0.0549	1.44
J9MYHQ		0.4200	-0.0301	-0.72	0.4150	-0.0301	-0.79
JEN74K		0.4650	0.0149	0.36	0.4500	0.0049	0.13
JJ3NL2		0.5350	0.0849	2.03	0.5100	0.0649	1.70
JLNRTY		0.4000	-0.0501	-1.20	0.4000	-0.0451	-1.18
JTTAPE		0.4950	0.0449	1.07	0.4850	0.0399	1.04
JUMZUT		0.4300	-0.0201	-0.48	0.4050	-0.0401	-1.05
K4LC4T		0.4200	-0.0301	-0.72	0.4200	-0.0251	-0.66
KE7J63		0.4100	-0.0401	-0.96	0.4050	-0.0401	-1.05
KWQA43		0.4150	-0.0351	-0.84	0.4050	-0.0401	-1.05
LAR7XN		0.3865	-0.0636	-1.52	0.3855	-0.0596	-1.56
LEYW2U		0.4050	-0.0451	-1.08	0.4200	-0.0251	-0.66
LKRVGB		0.4600	0.0099	0.24	0.4600	0.0149	0.39
LMHXPJ		0.4600	0.0099	0.24	0.4400	-0.0051	-0.13
MBFWMY		0.4080	-0.0421	-1.01	0.4195	-0.0256	-0.67



Analysis 905
Volatile Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MUW4YV		0.4350	-0.0151	-0.36	0.4400	-0.0051	-0.13
MV7DML		0.4000	-0.0501	-1.20	0.4000	-0.0451	-1.18
N2LBTK		0.4400	-0.0101	-0.24	0.4200	-0.0251	-0.66
NM86LR		0.4665	0.0164	0.39	0.4625	0.0174	0.45
P4MVXW		0.4420	-0.0081	-0.19	0.4455	0.0004	0.01
P67F6P		0.4700	0.0199	0.48	0.4600	0.0149	0.39
PWRVKP		0.4600	0.0099	0.24	0.4250	-0.0201	-0.53
PYEFLM	X	0.4450	-0.0051	-0.12	0.5100	0.0649	1.70
PZQ8GP		0.4600	0.0099	0.24	0.4550	0.0099	0.26
Q6ZMPD		0.4250	-0.0251	-0.60	0.4300	-0.0151	-0.40
QPN7GQ		0.5050	0.0549	1.31	0.4950	0.0499	1.31
R7888L		0.4000	-0.0501	-1.20	0.4000	-0.0451	-1.18
RELBXL	X	0.4205	-0.0296	-0.71	0.4575	0.0124	0.32
TECTCR		0.5250	0.0749	1.79	0.5300	0.0849	2.22
TFUMBG		0.4250	-0.0251	-0.60	0.4150	-0.0301	-0.79
TJTY8G		0.3700	-0.0801	-1.91	0.3650	-0.0801	-2.10
TZU2NK	X	0.4450	-0.0051	-0.12	0.4950	0.0499	1.31
UC42XJ	X	0.4250	-0.0251	-0.60	0.3350	-0.1101	-2.88
UEWUT3		0.4600	0.0099	0.24	0.4600	0.0149	0.39
UFQKYG		0.4215	-0.0286	-0.68	0.4205	-0.0246	-0.64
UQLTLQ		0.4355	-0.0146	-0.35	0.4295	-0.0156	-0.41
V8RCXM	X	0.5450	0.0949	2.27	0.4900	0.0449	1.17
VDHM8L	*	0.5550	0.1049	2.51	0.5200	0.0749	1.96
VUZNZ3		0.5200	0.0699	1.67	0.4850	0.0399	1.04
WH44WG		0.5000	0.0499	1.19	0.5000	0.0549	1.44
WLRBKJ	*	0.4600	0.0099	0.24	0.4850	0.0399	1.04
WNV76M		0.4400	-0.0101	-0.24	0.4300	-0.0151	-0.40
XA6WVM	*	0.5550	0.1049	2.51	0.5450	0.0999	2.61
XK6ME9		0.4500	-0.0001	0.00	0.4500	0.0049	0.13
XQREJG		0.4650	0.0149	0.36	0.4450	-0.0001	0.00
Y3PDD9		0.4000	-0.0501	-1.20	0.4000	-0.0451	-1.18
Y748QK		0.4650	0.0149	0.36	0.4650	0.0199	0.52
YN6VHJ		0.4800	0.0299	0.71	0.4700	0.0249	0.65
YZWGNE	X	0.4895	0.0394	0.94	0.5715	0.1264	3.31
Z99ZJX		0.4300	-0.0201	-0.48	0.4100	-0.0351	-0.92



Analysis 905
Volatile Acidity

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZC9BEX		0.4700	0.0199	0.48	0.4700	0.0249	0.65
ZGGRNL		0.4400	-0.0101	-0.24	0.4400	-0.0051	-0.13
ZGZDM4		0.4750	0.0249	0.59	0.4400	-0.0051	-0.13
ZLBNDL		0.4900	0.0399	0.95	0.4900	0.0449	1.17
ZN3K28		0.3900	-0.0601	-1.44	0.4100	-0.0351	-0.92
ZV38RL		0.4400	-0.0101	-0.24	0.4350	-0.0101	-0.27

Grand Means		Summary Statistics	
	0.45011 g/L as acetic acid		0.44514 g/L as acetic acid
Std Dev Btwn Labs			
	0.04185 g/L as acetic acid		0.03820 g/L as acetic acid
Statistics based on 97 of 111 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #905

- 4DM89R (X) - Data for both samples are high. Possible Systematic Error.
- TZU2NK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA47.
- RELBLX (X) - Inconsistent in testing between samples.
- YZWGNE (X) - Inconsistent in testing, data for sample SA48 are high.
- UC42XJ (X) - Inconsistent in testing, data for sample SA48 are low.
- AHJH99 (X) - Data for sample SA48 are high. Inconsistent within the determinations of sample SA47.
- F6VNY2 (X) - Inconsistent in testing between samples.
- V8RCXM (X) - Inconsistent in testing between samples.
- 6D6D8H (X) - Inconsistent in testing, data for sample SA48 are low.
- GXQ73L (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA47.
- 4T2984 (X) - Inconsistent in testing, data for sample SA48 are high.
- PYEFLM (X) - Inconsistent in testing between samples.
- CEWLFZ (X) - Inconsistent in testing, data for sample SA48 are high.
- 4L4KAC (X) - Inconsistent in testing between samples.



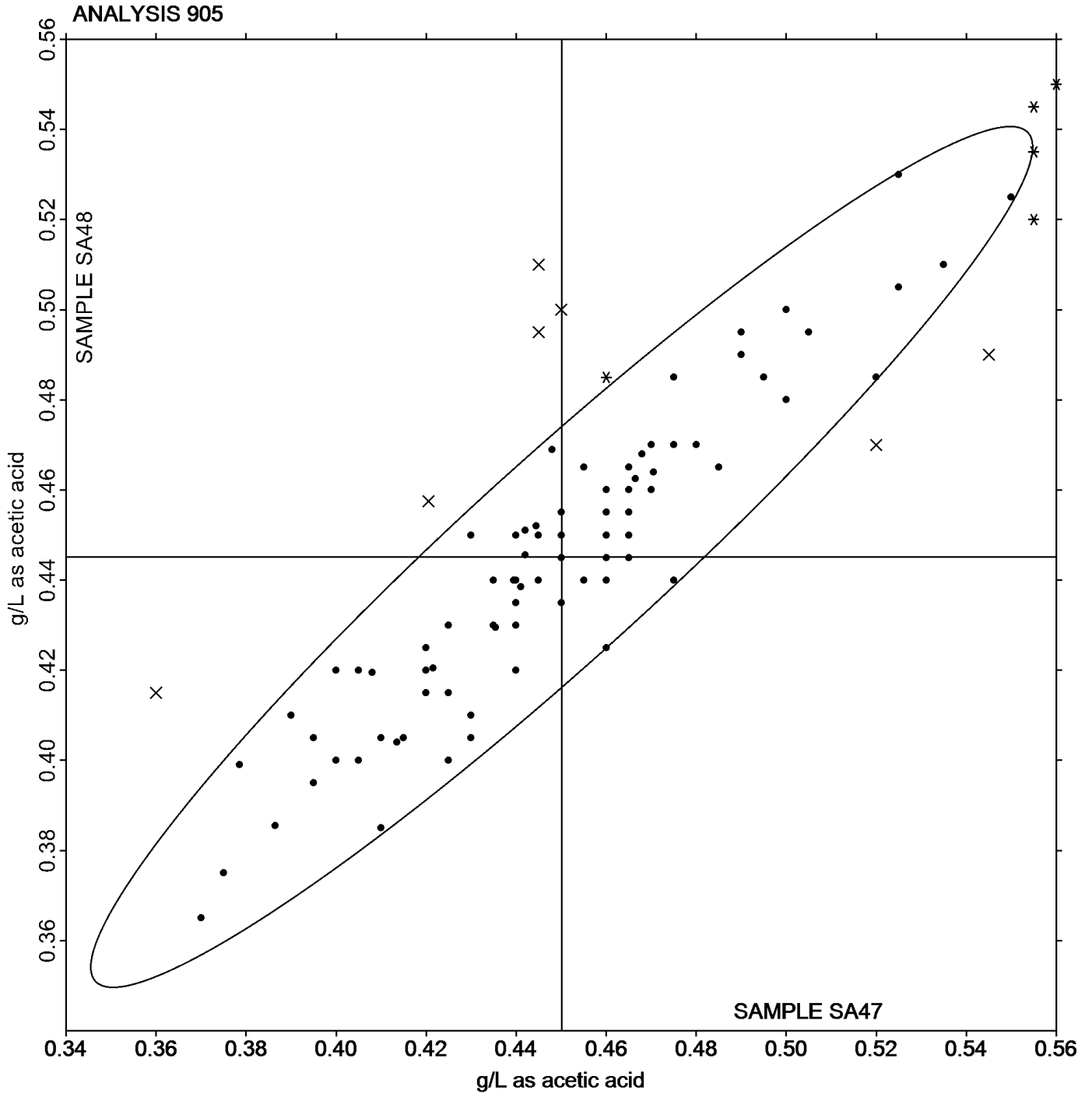
**Analysis 905
Volatile Acidity**

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	0.438	0.042	-0.0118	0.433	0.020	-0.0118	3/3
Cash Still method	0.510	0.038	0.0594	0.510	0.035	0.0644	4/9
Enzymatic method	0.440	0.037	-0.0100	0.437	0.034	-0.0086	68/75
GC	0.460	0.000	0.0099	0.425	0.000	-0.0201	1/1
Colorimetric Analysis	0.440	0.035	-0.0101	0.438	0.033	-0.0068	3/3
Seg. Flow / Colorimetric Analyzer	0.460	0.017	0.0102	0.463	0.023	0.0177	3/4
FTIR	0.481	0.046	0.0313	0.468	0.041	0.0231	15/16



Analysis 905
Volatile Acidity





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074

Analysis 906 Specific Gravity

Summer 2023

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		0.9945	-0.0016	-2.23	0.9947	-0.0016	-2.24
3BNAMF		0.9966	0.0005	0.68	0.9965	0.0002	0.32
3DQC9B		0.9962	0.0001	0.13	0.9962	-0.0001	-0.10
3H7KWA		0.9959	-0.0002	-0.28	0.9960	-0.0003	-0.44
3KTG6Z		0.9963	0.0002	0.27	0.9965	0.0002	0.29
3NRRXF		0.9965	0.0004	0.54	0.9967	0.0004	0.60
3VB38A		0.9954	-0.0007	-0.97	0.9957	-0.0006	-0.86
4A8DVF		0.9960	-0.0002	-0.21	0.9962	-0.0001	-0.10
4DM89R		0.9962	0.0001	0.19	0.9964	0.0002	0.24
4FC9G2		0.9963	0.0002	0.23	0.9965	0.0002	0.29
4L4KAC		0.9973	0.0012	1.61	0.9972	0.0009	1.28
4MCV7F		0.9959	-0.0002	-0.34	0.9960	-0.0002	-0.34
4RR4UF		0.9960	-0.0001	-0.14	0.9960	-0.0003	-0.37
4T2984		0.9964	0.0003	0.41	0.9966	0.0003	0.46
6BZPQ8		0.9962	0.0001	0.19	0.9965	0.0002	0.25
6D6D8H		0.9964	0.0003	0.38	0.9966	0.0003	0.41
6RPTD3		0.9965	0.0004	0.54	0.9967	0.0004	0.60
6VLKJE		0.9967	0.0005	0.75	0.9969	0.0006	0.88
7KHNZA		0.9945	-0.0016	-2.17	0.9948	-0.0015	-2.08
7Q823X		0.9969	0.0008	1.08	0.9971	0.0008	1.15
7X8L38		0.9945	-0.0016	-2.18	0.9947	-0.0016	-2.19
83Z6JW		0.9966	0.0004	0.61	0.9967	0.0004	0.53
8YZTMW		0.9963	0.0002	0.29	0.9965	0.0002	0.32
92K6Y8		0.9962	0.0001	0.19	0.9964	0.0002	0.23
9E6MUV	*	0.9975	0.0014	1.91	0.9978	0.0015	2.13
9MYPW8		0.9962	0.0001	0.08	0.9962	-0.0001	-0.10
9VUVMM		0.9965	0.0004	0.50	0.9966	0.0004	0.52
9XKWVW	*	0.9948	-0.0013	-1.79	0.9948	-0.0015	-2.05
AA9FM8		0.9963	0.0002	0.27	0.9965	0.0002	0.31
AHJH99		0.9960	-0.0002	-0.21	0.9960	-0.0003	-0.44
AV9GYB		0.9963	0.0002	0.28	0.9965	0.0002	0.34
AZ4BWC	X	0.9962	0.0001	0.13	0.9968	0.0005	0.74
BA3N9W		0.9959	-0.0002	-0.34	0.9958	-0.0004	-0.61
BXTTBL		0.9962	0.0000	0.06	0.9963	0.0000	-0.03
CF7RVA		0.9961	0.0000	-0.01	0.9963	0.0000	0.04



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 906 Specific Gravity

Summer 2023

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CGGTH9	X	0.9964	0.0002	0.34	0.9970	0.0007	0.95
CZEWGX		0.9953	-0.0009	-1.17	0.9956	-0.0007	-1.00
D48DB3		0.9962	0.0000	0.06	0.9962	-0.0001	-0.17
DHQ37Y		0.9962	0.0001	0.08	0.9963	0.0001	0.09
DMMMC4		0.9963	0.0002	0.28	0.9965	0.0003	0.37
DRUDEA		0.9973	0.0012	1.70	0.9974	0.0012	1.63
DZ83F3	*	0.9950	-0.0011	-1.51	0.9955	-0.0008	-1.07
E4QGGH		0.9961	0.0000	-0.01	0.9964	0.0001	0.11
F6VNY2	X	0.9937	-0.0024	-3.30	0.9933	-0.0030	-4.21
FE6TCR		0.9963	0.0001	0.20	0.9964	0.0001	0.18
FR7RYN	X	0.9968	0.0007	0.94	0.9978	0.0015	2.12
GCAWZ3		0.9964	0.0002	0.34	0.9966	0.0003	0.39
GN4AXE		0.9963	0.0002	0.32	0.9965	0.0003	0.35
GXQ73L		0.9963	0.0002	0.31	0.9965	0.0002	0.33
HJN3AE		0.9963	0.0002	0.25	0.9965	0.0002	0.30
J9MYHQ		0.9946	-0.0015	-2.06	0.9948	-0.0015	-2.05
JEN74K		0.9966	0.0005	0.68	0.9967	0.0004	0.60
JJ3NL2		0.9963	0.0002	0.30	0.9965	0.0002	0.33
JLNRTY	X	1.0000	0.0039	5.34	1.0000	0.0037	5.20
JTTAPE		0.9944	-0.0017	-2.34	0.9946	-0.0017	-2.33
KE7J63	X	0.9940	-0.0021	-2.89	0.9940	-0.0023	-3.16
KWQA43		0.9964	0.0003	0.34	0.9966	0.0003	0.46
LAR7XN	*	0.9940	-0.0021	-2.89	0.9941	-0.0022	-3.02
LKRVGB	X	0.9963	0.0002	0.24	0.9955	-0.0008	-1.07
LMHXPJ		0.9964	0.0003	0.36	0.9965	0.0003	0.36
MBFWMY		0.9974	0.0013	1.78	0.9976	0.0013	1.86
MV7DML		0.9968	0.0007	0.95	0.9970	0.0007	1.02
NM86LR		0.9963	0.0002	0.27	0.9965	0.0002	0.32
P4MVXW		0.9965	0.0004	0.60	0.9968	0.0005	0.73
P67F6P		0.9963	0.0002	0.27	0.9965	0.0002	0.30
PWRVKP	X	0.9964	0.0003	0.36	0.9956	-0.0006	-0.87
PYEFLM		0.9966	0.0005	0.68	0.9965	0.0002	0.31
PZQ8GP		0.9964	0.0002	0.34	0.9965	0.0002	0.32
Q6ZMPD		0.9947	-0.0014	-1.93	0.9949	-0.0014	-1.98
QPN7GQ		0.9961	0.0000	-0.01	0.9962	-0.0001	-0.10



**Analysis 906
Specific Gravity**

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R7888L		0.9960	-0.0001	-0.14	0.9960	-0.0003	-0.37
RELBXL		0.9966	0.0005	0.68	0.9967	0.0004	0.60
TECTCR		0.9960	-0.0001	-0.14	0.9963	0.0000	-0.03
TFUMBG		0.9965	0.0004	0.54	0.9966	0.0003	0.46
TJTY8G		0.9963	0.0002	0.27	0.9965	0.0002	0.32
UC42XJ		0.9969	0.0008	1.09	0.9969	0.0006	0.88
UEWUT3		0.9963	0.0002	0.26	0.9965	0.0002	0.29
UFQKYG		0.9963	0.0002	0.23	0.9965	0.0002	0.27
UQLTLQ	*	0.9962	0.0000	0.06	0.9967	0.0004	0.53
VDHM8L		0.9963	0.0002	0.29	0.9965	0.0002	0.34
VUZNZ3		0.9963	0.0002	0.25	0.9965	0.0002	0.27
WH44WG	X	0.9940	-0.0021	-2.89	0.9950	-0.0013	-1.77
WLRBKJ		0.9964	0.0002	0.34	0.9965	0.0003	0.37
WNV76M	*	0.9942	-0.0019	-2.61	0.9945	-0.0018	-2.54
XD3FTE	X	0.9943	-0.0018	-2.49	0.9953	-0.0010	-1.37
XK6ME9	X	0.9945	-0.0016	-2.19	0.9950	-0.0013	-1.77
XQREJG		0.9964	0.0002	0.34	0.9966	0.0003	0.39
Y3PDD9		0.9971	0.0010	1.35	0.9973	0.0010	1.42
Y748QK		0.9972	0.0011	1.50	0.9974	0.0011	1.58
YZWGNE	X	0.9964	0.0002	0.34	0.9962	-0.0001	-0.17
Z99ZJX		0.9963	0.0002	0.33	0.9965	0.0003	0.38
ZC9BEX		0.9965	0.0004	0.54	0.9966	0.0003	0.46
ZGGRNL		0.9963	0.0002	0.24	0.9964	0.0001	0.12
ZGZDM4		0.9963	0.0002	0.33	0.9966	0.0003	0.39
ZLBNDD		0.9960	-0.0001	-0.14	0.9962	-0.0001	-0.10
ZN3K28	*	0.9944	-0.0018	-2.41	0.9947	-0.0016	-2.19
ZV38RL		0.9962	0.0001	0.13	0.9964	0.0001	0.18

Grand Means		Summary Statistics	
0.99610	sp gr 20/20 C	0.99627	sp gr 20/20 C
Std Dev Btwn Labs			
0.00073	sp gr 20/20 C	0.00072	sp gr 20/20 C
Statistics based on 85 of 97 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

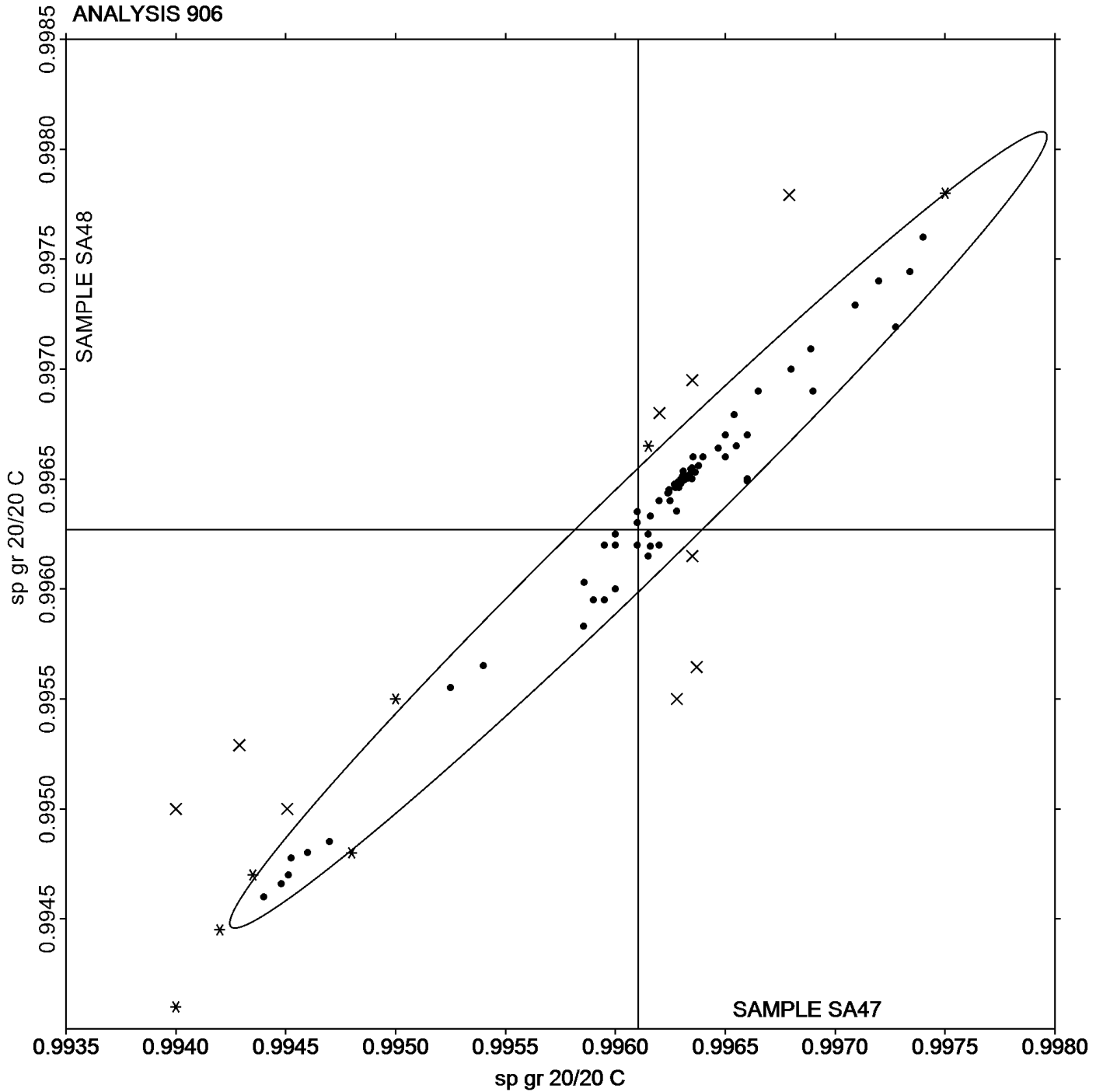


Comments on Assigned Data Flags for Test #906

- LKRVGB (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA48.
- PWRVKP (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA48.
- YZWGNE (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA47.
- F6VNY2 (X) - Data for both samples are low. Inconsistent within the determinations of sample SA48.
- CGGTH9 (X) - Inconsistent in testing between samples.
- JLNRTY (X) - Data for both samples are high.
- KE7J63 (X) - Data for both samples are low.
- AZ4BWC (X) - Inconsistent in testing between samples.
- FR7RYN (X) - Inconsistent in testing between samples.
- XK6ME9 (X) - Inconsistent in testing between samples.
- XD3FTE (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- WH44WG (X) - Data for sample SA47 are low.



Analysis 906
Specific Gravity





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074

Analysis 907

Summer 2023

pH

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		3.665	0.022	0.69	3.590	0.036	1.07
3BNAMF		3.645	0.002	0.06	3.555	0.001	0.02
3DQC9B		3.660	0.017	0.53	3.560	0.006	0.17
3H7KWA		3.655	0.012	0.37	3.560	0.006	0.17
3KTG6Z		3.622	-0.021	-0.67	3.533	-0.022	-0.66
3NRRXF		3.590	-0.053	-1.68	3.500	-0.054	-1.63
3VB38A		3.665	0.022	0.69	3.590	0.036	1.07
4A8DVF		3.646	0.002	0.07	3.551	-0.004	-0.12
4DM89R		3.650	0.007	0.22	3.550	-0.004	-0.13
4FC9G2		3.640	-0.003	-0.10	3.550	-0.004	-0.13
4L4KAC		3.645	0.002	0.06	3.565	0.011	0.32
4MCV7F		3.630	-0.013	-0.42	3.540	-0.014	-0.43
4RR4UF		3.685	0.042	1.32	3.595	0.041	1.22
4T2984		3.600	-0.043	-1.36	3.520	-0.034	-1.03
6BZPQ8		3.605	-0.038	-1.21	3.520	-0.034	-1.03
6D6D8H	X	3.680	0.037	1.16	3.535	-0.019	-0.58
6RPTD3		3.610	-0.033	-1.05	3.525	-0.029	-0.88
6VLKJE		3.680	0.037	1.16	3.610	0.056	1.67
7KHNZA	*	3.560	-0.083	-2.63	3.460	-0.094	-2.84
7Q823X		3.625	-0.018	-0.57	3.540	-0.014	-0.43
7X8L38		3.650	0.007	0.22	3.565	0.011	0.32
83Z6JW	X	3.620	-0.023	-0.73	3.580	0.026	0.77
8YZTMW		3.630	-0.013	-0.42	3.540	-0.014	-0.43
94LBA7		3.635	-0.008	-0.26	3.535	-0.019	-0.58
9CELM		3.640	-0.003	-0.10	3.560	0.006	0.17
9E6MUV		3.626	-0.017	-0.54	3.525	-0.030	-0.90
9MYPW8		3.690	0.047	1.48	3.615	0.061	1.82
9VUVMM		3.660	0.017	0.53	3.570	0.016	0.47
9XKWVW	X	3.870	0.227	7.17	3.780	0.226	6.78
AHJH99		3.590	-0.053	-1.68	3.500	-0.054	-1.63
AV9GYB		3.640	-0.003	-0.10	3.555	0.001	0.02
AZ4BWC		3.680	0.037	1.16	3.580	0.026	0.77
B34YQR		3.655	0.012	0.37	3.555	0.001	0.02
BA3N9W		3.651	0.007	0.23	3.548	-0.007	-0.21
BXTTBL		3.650	0.007	0.22	3.555	0.001	0.02



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 907

pH

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CEWLFZ		3.660	0.017	0.53	3.560	0.006	0.17
CF7RVA		3.650	0.007	0.22	3.560	0.006	0.17
CGGTH9		3.630	-0.013	-0.42	3.525	-0.029	-0.88
CZEWGX		3.615	-0.028	-0.89	3.525	-0.029	-0.88
D48DB3		3.625	-0.018	-0.57	3.545	-0.009	-0.28
DHQ37Y	*	3.730	0.087	2.74	3.650	0.096	2.88
DMMMC4		3.615	-0.028	-0.89	3.520	-0.034	-1.03
DRUDEA		3.700	0.057	1.80	3.610	0.056	1.67
DZ83F3		3.660	0.017	0.53	3.580	0.026	0.77
E4QGGH		3.645	0.002	0.06	3.550	-0.004	-0.13
EARTEZ		3.620	-0.023	-0.73	3.530	-0.024	-0.73
EJBT9		3.660	0.017	0.53	3.570	0.016	0.47
F3P7Z6		3.660	0.017	0.53	3.570	0.016	0.47
F6VNY2	X	3.685	0.042	1.32	3.487	-0.067	-2.02
FE6TCR		3.620	-0.023	-0.73	3.530	-0.024	-0.73
FR7RYN		3.590	-0.053	-1.68	3.510	-0.044	-1.33
GAHXL6		3.605	-0.038	-1.21	3.520	-0.034	-1.03
GCAWZ3		3.640	-0.003	-0.10	3.555	0.001	0.02
GN4AXE		3.630	-0.013	-0.42	3.520	-0.034	-1.03
GXQ73L		3.667	0.024	0.75	3.577	0.023	0.68
J9MYHQ		3.660	0.017	0.53	3.570	0.016	0.47
JEN74K		3.650	0.007	0.22	3.560	0.006	0.17
JJ3NL2	*	3.730	0.087	2.74	3.650	0.096	2.88
JLNRTY		3.615	-0.028	-0.89	3.505	-0.049	-1.48
JTTAPE		3.640	-0.003	-0.10	3.560	0.006	0.17
JUMZUT		3.625	-0.018	-0.57	3.530	-0.024	-0.73
K4LC4T		3.660	0.017	0.53	3.560	0.006	0.17
KE7J63	X	3.615	-0.028	-0.89	3.580	0.026	0.77
KWQA43		3.610	-0.033	-1.05	3.520	-0.034	-1.03
LAR7XN		3.634	-0.010	-0.30	3.552	-0.002	-0.07
LEYW2U		3.670	0.027	0.85	3.595	0.041	1.22
LKRVGB		3.690	0.047	1.48	3.600	0.046	1.37
LMHXPJ		3.625	-0.018	-0.57	3.530	-0.024	-0.73
MBFWMY		3.645	0.002	0.06	3.550	-0.004	-0.13
MUW4YV		3.655	0.012	0.37	3.580	0.026	0.77



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 907

pH

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MV7DML		3.655	0.012	0.37	3.565	0.011	0.32
N2LBTK		3.660	0.017	0.53	3.550	-0.004	-0.13
NM86LR		3.620	-0.023	-0.73	3.530	-0.024	-0.73
P4MVXW		3.605	-0.038	-1.21	3.525	-0.029	-0.88
P67F6P		3.670	0.027	0.85	3.580	0.026	0.77
PWRVKP	*	3.660	0.017	0.53	3.600	0.046	1.37
PYEFLM		3.635	-0.008	-0.26	3.535	-0.019	-0.58
PZQ8GP		3.630	-0.013	-0.42	3.545	-0.009	-0.28
Q6ZMPD		3.660	0.017	0.53	3.570	0.016	0.47
QPN7GQ		3.640	-0.003	-0.10	3.550	-0.004	-0.13
R7888L		3.605	-0.038	-1.21	3.520	-0.034	-1.03
RELBXL		3.600	-0.043	-1.36	3.525	-0.029	-0.88
TECTCR		3.640	-0.003	-0.10	3.530	-0.024	-0.73
TFUMBG	*	3.725	0.082	2.59	3.630	0.076	2.27
TJTY8G		3.720	0.077	2.43	3.630	0.076	2.27
TZU2NK		3.635	-0.008	-0.26	3.540	-0.014	-0.43
UC42XJ		3.600	-0.043	-1.36	3.520	-0.034	-1.03
UEWUT3		3.620	-0.023	-0.73	3.530	-0.024	-0.73
UFQKYG		3.640	-0.003	-0.10	3.550	-0.004	-0.13
UQLTLQ		3.635	-0.009	-0.27	3.544	-0.010	-0.31
V8RCXM	X	3.600	-0.043	-1.36	3.540	-0.014	-0.43
VDHM8L		3.605	-0.038	-1.21	3.530	-0.024	-0.73
VUZNZ3		3.630	-0.013	-0.42	3.540	-0.014	-0.43
WH44WG	X	3.640	-0.003	-0.10	3.590	0.036	1.07
WLRBKJ		3.615	-0.028	-0.89	3.540	-0.014	-0.43
WNV76M		3.630	-0.013	-0.42	3.535	-0.019	-0.58
XA6WVM		3.675	0.032	1.01	3.575	0.021	0.62
XD3FTE	X	3.485	-0.158	-5.00	3.450	-0.104	-3.14
XK6ME9		3.660	0.017	0.53	3.580	0.026	0.77
XQREJG		3.610	-0.033	-1.05	3.515	-0.039	-1.18
Y3PDD9	*	3.740	0.097	3.06	3.650	0.096	2.88
Y748QK		3.645	0.002	0.06	3.560	0.006	0.17
YN6VHJ		3.640	-0.003	-0.10	3.545	-0.009	-0.28
YZWGNE		3.655	0.012	0.37	3.575	0.021	0.62
Z99ZJX	*	3.625	-0.018	-0.57	3.565	0.011	0.32



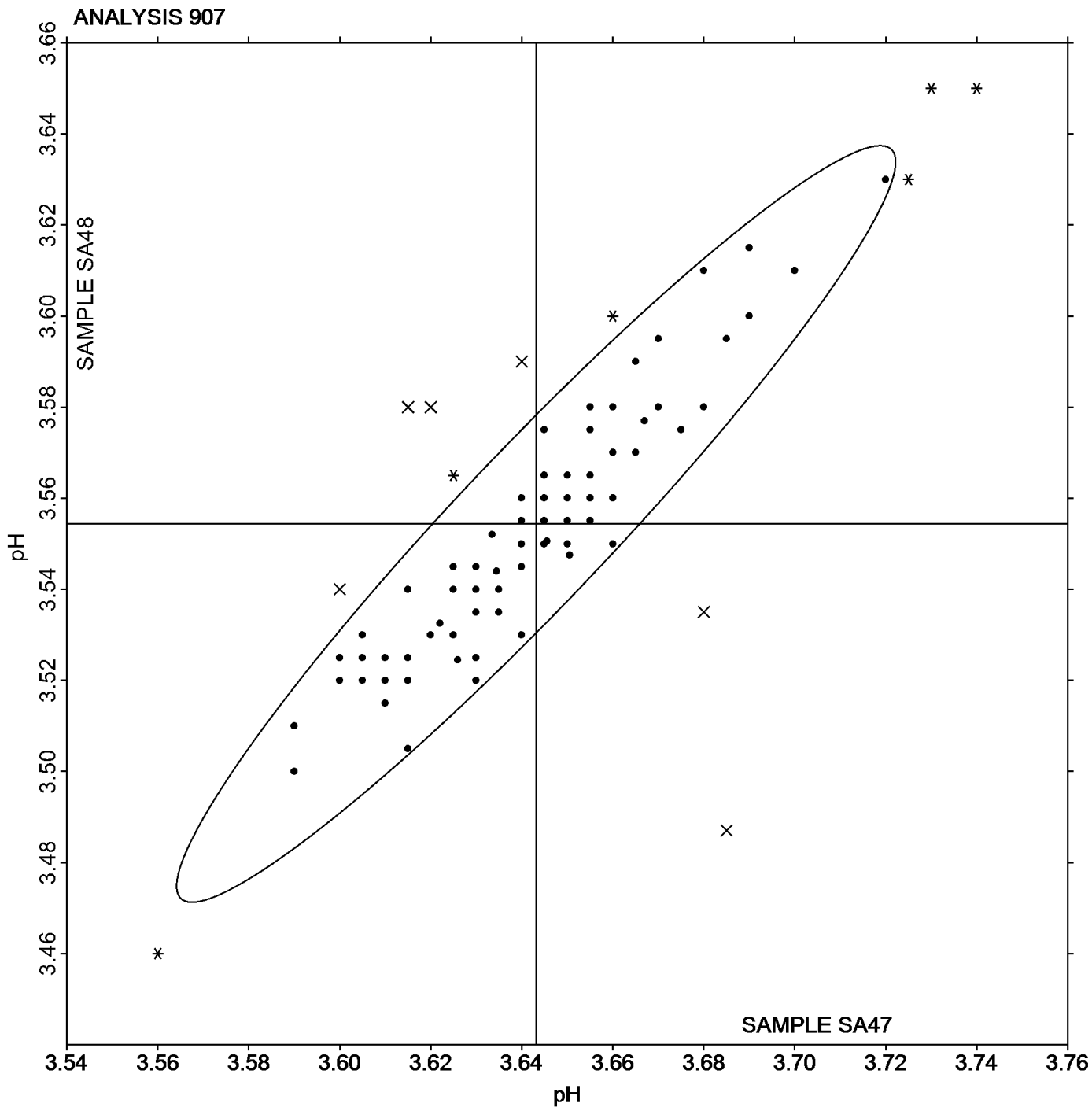
WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZC9BEX		3.660	0.017	0.53	3.570	0.016	0.47
ZGGRNL		3.645	0.002	0.06	3.560	0.006	0.17
ZGZDM4		3.665	0.022	0.69	3.570	0.016	0.47
ZLBND		3.590	-0.053	-1.68	3.500	-0.054	-1.63
ZN3K28		3.645	0.002	0.06	3.575	0.021	0.62
ZV38RL		3.650	0.007	0.22	3.560	0.006	0.17

Grand Means		Summary Statistics	
	3.6431 pH		3.5543 pH
Std Dev Btwn Labs			0.0333 pH
	0.0316 pH		
Statistics based on 103 of 111 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #907

- F6VNY2 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA48.
- V8RCXM (X) - Inconsistent in testing between samples.
- 6D6D8H (X) - Inconsistent in testing between samples.
- KE7J63 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA48.
- 9XKWWV (X) - Data for both samples are high. Possible Systematic Error.
- 83Z6JW (X) - Inconsistent in testing between samples.
- XD3FTE (X) - Data for both samples are low. Possible Systematic Error.
- WH44WG (X) - Inconsistent in testing between samples.





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 908 Residual Sugar

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3KTG6Z		5.100	-0.520	-0.39	6.150	-0.578	-0.45
4DM89R		5.900	0.280	0.21	7.200	0.472	0.37
4L4KAC		4.468	-1.153	-0.87	5.638	-1.091	-0.85
4MCV7F		7.400	1.780	1.34	8.500	1.772	1.38
4RR4UF		5.400	-0.220	-0.17	6.200	-0.528	-0.41
4T2984		7.000	1.380	1.04	8.000	1.272	0.99
6D6D8H		4.300	-1.320	-1.00	5.350	-1.378	-1.07
7KHNZA		4.460	-1.160	-0.88	5.580	-1.148	-0.90
92K6Y8		5.945	0.325	0.24	7.060	0.332	0.26
9MYPW8	*	5.695	0.075	0.06	5.940	-0.788	-0.61
9XKWVW		8.300	2.680	2.02	9.500	2.772	2.16
AV9GYB		5.280	-0.340	-0.26	6.300	-0.428	-0.33
AZ4BWC		4.700	-0.920	-0.69	5.800	-0.928	-0.72
BA3N9W		6.250	0.630	0.48	7.700	0.972	0.76
BXTTBL		4.615	-1.005	-0.76	5.720	-1.008	-0.79
CEWLFZ	X	1.960	-3.660	-2.76	2.080	-4.648	-3.62
D48DB3		6.525	0.905	0.68	7.700	0.972	0.76
DZ83F3	*	8.900	3.280	2.47	9.300	2.572	2.01
GXQ73L		5.240	-0.380	-0.29	6.405	-0.323	-0.25
JJ3NL2		4.650	-0.970	-0.73	5.650	-1.078	-0.84
KE7J63		3.675	-1.945	-1.47	4.740	-1.988	-1.55
PYEFLM	*	3.600	-2.020	-1.52	5.600	-1.128	-0.88
UC42XJ		6.075	0.455	0.34	7.245	0.517	0.40
VDHM8L		7.040	1.420	1.07	8.455	1.727	1.35
WH44WG		5.860	0.240	0.18	7.540	0.812	0.63
WLRBKJ		6.050	0.430	0.32	6.950	0.222	0.17
XA6WVM		6.310	0.690	0.52	7.400	0.672	0.52
XK6ME9		7.600	1.980	1.49	8.700	1.972	1.54
XQREJG		4.390	-1.230	-0.93	5.460	-1.268	-0.99
Y3PDD9		4.500	-1.120	-0.85	5.510	-1.218	-0.95
ZGGRNL		5.000	-0.620	-0.47	5.900	-0.828	-0.65
ZN3K28		4.005	-1.615	-1.22	5.385	-1.343	-1.05



**Analysis 908
Residual Sugar**

Grand Means	Summary Statistics	
5.6204 g/L	6.7283 g/L	
Stnd Dev Btwn Labs	1.2826 g/L	
1.3254 g/L		
Statistics based on 31 of 32 reporting participants		

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #908

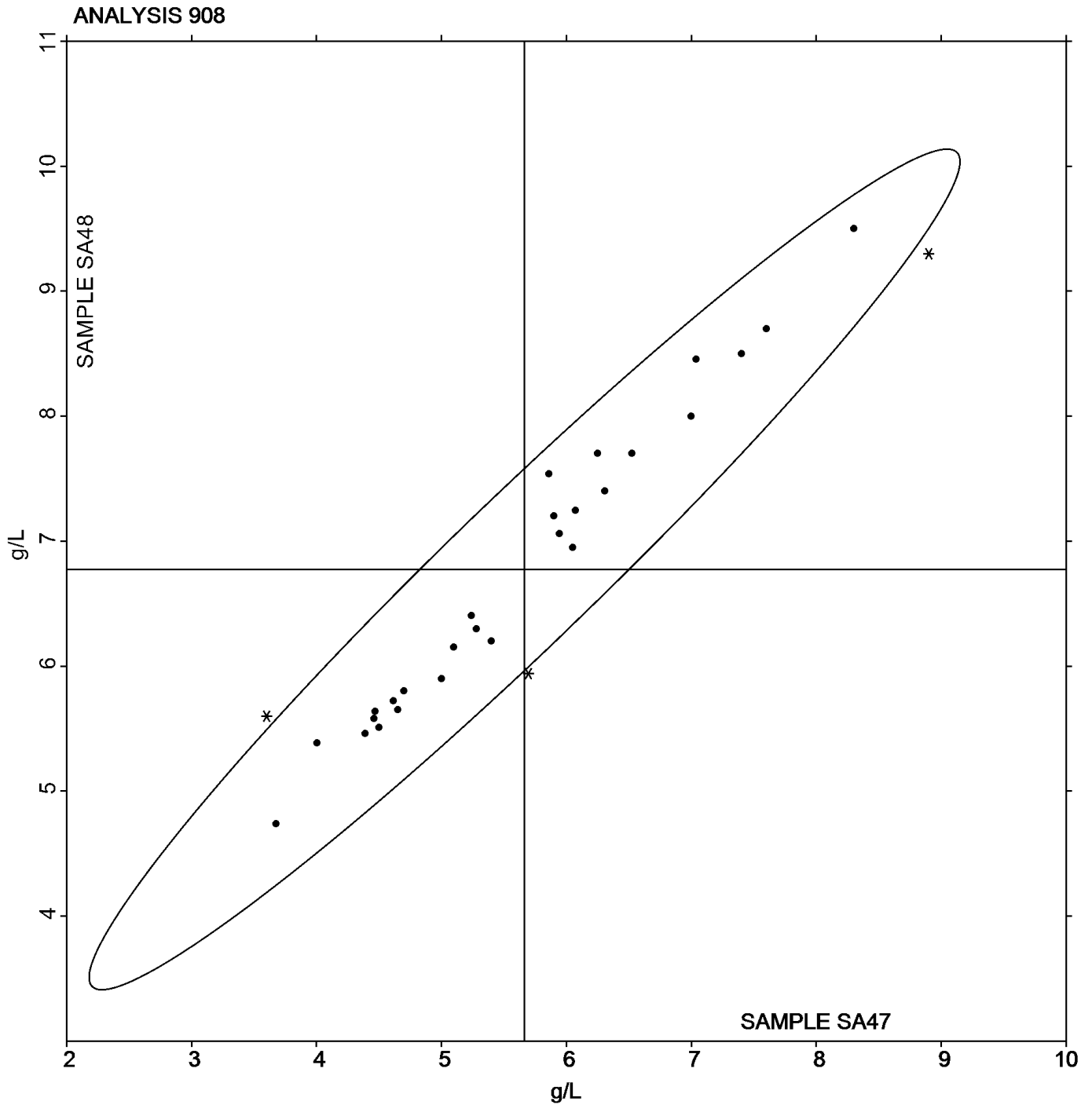
CEWLFZ (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	4.643	0.519	-0.977	5.738	0.580	-0.990	3/3
Cu Reduction Method	6.967	1.101	1.346	8.143	0.863	1.414	8/9
Segmented Flow	5.923	0.032	0.302	7.130	0.099	0.402	2/2
FTIR	5.590	1.230	-0.031	6.630	1.160	-0.099	11/11
Other _____	4.462	0.513	-1.158	5.576	0.472	-1.152	7/7



Analysis 908
Residual Sugar





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA	*	0.2050	0.0879	2.07	0.2065	0.0664	1.52
3BNAMF	*	0.0110	-0.1061	-2.50	0.0500	-0.0901	-2.06
3DQC9B		0.1250	0.0079	0.19	0.1200	-0.0201	-0.46
3H7KWA		0.1300	0.0129	0.30	0.1600	0.0199	0.45
3KTG6Z		0.0900	-0.0271	-0.64	0.1000	-0.0401	-0.92
3NRRXF		0.1280	0.0109	0.26	0.1570	0.0169	0.39
3VB38A		0.1037	-0.0134	-0.32	0.1299	-0.0102	-0.23
4A8DVF		0.1095	-0.0076	-0.18	0.1390	-0.0011	-0.03
4FC9G2		0.1200	0.0029	0.07	0.1500	0.0099	0.23
4L4KAC		0.1000	-0.0171	-0.40	0.1300	-0.0101	-0.23
4MCV7F		0.1300	0.0129	0.30	0.1500	0.0099	0.23
4RR4UF		0.0900	-0.0271	-0.64	0.1100	-0.0301	-0.69
6D6D8H	X	0.1750	0.0579	1.36	0.6150	0.4749	10.86
6RPTD3		0.1350	0.0179	0.42	0.1500	0.0099	0.23
6VLKJE		0.1550	0.0379	0.89	0.1850	0.0449	1.03
7KHNZA		0.1150	-0.0021	-0.05	0.1350	-0.0051	-0.12
7Q823X		0.0882	-0.0289	-0.68	0.1257	-0.0144	-0.33
7X8L38		0.1100	-0.0071	-0.17	0.1300	-0.0101	-0.23
94LBA7		0.1300	0.0129	0.30	0.1550	0.0149	0.34
9CELM	M	No data reported for this sample			0.0600	-0.0801	-1.83
9E6MUV		0.1350	0.0179	0.42	0.1700	0.0299	0.68
9MYPW8	X	0.0100	-0.1071	-2.52	0.0600	-0.0801	-1.83
9VUVMM		0.1270	0.0099	0.23	0.1525	0.0124	0.28
9XKWVW	*	0.2000	0.0829	1.95	0.1910	0.0509	1.16
AHJH99		0.0505	-0.0666	-1.57	0.0555	-0.0846	-1.93
AV9GYB		0.1000	-0.0171	-0.40	0.1300	-0.0101	-0.23
AZ4BWC		0.1400	0.0229	0.54	0.1600	0.0199	0.45
B34YQR		0.1250	0.0079	0.19	0.1600	0.0199	0.45
BA3N9W		0.0750	-0.0421	-0.99	0.1150	-0.0251	-0.57
BXTTBL	M	0.0450	-0.0721	-1.70	No data reported for this sample		
CF7RVA		0.0950	-0.0221	-0.52	0.1100	-0.0301	-0.69
CGGTH9		0.0900	-0.0271	-0.64	0.1050	-0.0351	-0.80
CZEWG		0.1400	0.0229	0.54	0.1550	0.0149	0.34
D48DB3		0.1100	-0.0071	-0.17	0.1300	-0.0101	-0.23
DHQ37Y		0.1100	-0.0071	-0.17	0.1400	-0.0001	0.00



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DMMMC4		0.0840	-0.0331	-0.78	0.1185	-0.0216	-0.49
DRUDEA		0.1000	-0.0171	-0.40	0.1200	-0.0201	-0.46
DZ83F3	*	0.0320	-0.0851	-2.00	0.0307	-0.1094	-2.50
E4QGGH		0.1220	0.0049	0.12	0.1340	-0.0061	-0.14
EARTEZ		0.1290	0.0119	0.28	0.1550	0.0149	0.34
EJBT9		0.0300	-0.0871	-2.05	0.0650	-0.0751	-1.72
F3P7Z6		0.0400	-0.0771	-1.82	0.0700	-0.0701	-1.60
F6VNY2		0.1150	-0.0021	-0.05	0.1700	0.0299	0.68
FE6TCR		0.1400	0.0229	0.54	0.1600	0.0199	0.45
GAHXL6		0.1550	0.0379	0.89	0.1750	0.0349	0.80
GCAWZ3		0.1500	0.0329	0.78	0.1700	0.0299	0.68
GN4AXE		0.1115	-0.0056	-0.13	0.1370	-0.0031	-0.07
J9MYHQ		0.0550	-0.0621	-1.46	0.1000	-0.0401	-0.92
JEN74K		0.1290	0.0119	0.28	0.1600	0.0199	0.45
JJ3NL2		0.1650	0.0479	1.13	0.1950	0.0549	1.25
JLNRTY		0.1000	-0.0171	-0.40	0.1000	-0.0401	-0.92
JTTAPE		0.1400	0.0229	0.54	0.1700	0.0299	0.68
JUMZUT	X	0.3300	0.2129	5.02	0.2700	0.1299	2.97
K4LC4T		0.1300	0.0129	0.30	0.1600	0.0199	0.45
KE7J63		0.0950	-0.0221	-0.52	0.1200	-0.0201	-0.46
KWQA43		0.0550	-0.0621	-1.46	0.0750	-0.0651	-1.49
LAR7XN		0.1100	-0.0071	-0.17	0.1100	-0.0301	-0.69
LEYW2U		0.1025	-0.0146	-0.34	0.1190	-0.0211	-0.48
LKRVGB		0.1020	-0.0151	-0.36	0.1250	-0.0151	-0.35
LMHXPJ		0.1700	0.0529	1.25	0.2050	0.0649	1.48
MBFWMY		0.1325	0.0154	0.36	0.1605	0.0204	0.47
MUW4YV	*	0.1150	-0.0021	-0.05	0.1000	-0.0401	-0.92
N2LBTK		0.1000	-0.0171	-0.40	0.1000	-0.0401	-0.92
NM86LR		0.1400	0.0229	0.54	0.1680	0.0279	0.64
P4MVXW		0.1005	-0.0166	-0.39	0.1375	-0.0026	-0.06
PWRVKP		0.0450	-0.0721	-1.70	0.0500	-0.0901	-2.06
PYEFLM		0.1380	0.0209	0.49	0.1645	0.0244	0.56
PZQ8GP		0.1660	0.0489	1.15	0.1920	0.0519	1.19
Q6ZMPD	X	0.0700	-0.0471	-1.11	0.0250	-0.1151	-2.63
QPN7GQ		0.0810	-0.0361	-0.85	0.1060	-0.0341	-0.78



Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R7888L	*	0.2234	0.1063	2.50	0.2591	0.1189	2.72
RELBXL		0.1170	-0.0001	0.00	0.1510	0.0109	0.25
TECTCR		0.1350	0.0179	0.42	0.1450	0.0049	0.11
TFUMBG		0.0950	-0.0221	-0.52	0.1150	-0.0251	-0.57
TJTY8G		0.1775	0.0604	1.42	0.1910	0.0509	1.16
TZU2NK	*	0.2200	0.1029	2.42	0.2250	0.0849	1.94
UEWUT3		0.1335	0.0164	0.39	0.1620	0.0219	0.50
UFQKYG		0.1400	0.0229	0.54	0.1650	0.0249	0.57
UQLTLQ		0.1090	-0.0081	-0.19	0.1340	-0.0061	-0.14
V8RCXM		0.1340	0.0169	0.40	0.1605	0.0204	0.47
VUZNZ3		0.0770	-0.0401	-0.94	0.0900	-0.0501	-1.15
WH44WG		0.1200	0.0029	0.07	0.1400	-0.0001	0.00
WLRBKJ		0.1000	-0.0171	-0.40	0.1500	0.0099	0.23
WNV76M		0.1800	0.0629	1.48	0.2250	0.0849	1.94
XA6WVM	X	0.2900	0.1729	4.07	0.3000	0.1599	3.66
XK6ME9	*	0.2400	0.1229	2.90	0.2700	0.1299	2.97
XQREJG		0.0300	-0.0871	-2.05	0.0650	-0.0751	-1.72
Y3PDD9	X	0.1000	-0.0171	-0.40	0.0700	-0.0701	-1.60
Y748QK		0.1080	-0.0091	-0.21	0.1435	0.0034	0.08
YN6VHJ		0.0850	-0.0321	-0.76	0.0950	-0.0451	-1.03
YZWGNE		0.1250	0.0079	0.19	0.1590	0.0189	0.43
Z99ZJX		0.1400	0.0229	0.54	0.1850	0.0449	1.03
ZC9BEX		0.1900	0.0729	1.72	0.2000	0.0599	1.37
ZGGRNL		0.0900	-0.0271	-0.64	0.1000	-0.0401	-0.92
ZGZDM4	X	0.7000	0.5829	13.73	0.8500	0.7099	16.23
ZLBNDD		0.0975	-0.0196	-0.46	0.1175	-0.0226	-0.52
ZV38RL		0.0840	-0.0331	-0.78	0.1035	-0.0366	-0.84

Grand Means	Summary Statistics
0.11709 g/L	0.14012 g/L
Std Dev Btwn Labs	
0.04245 g/L	0.04374 g/L
Statistics based on 88 of 97 reporting participants	

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot



Comments on Assigned Data Flags for Test #909

9CELMM (M) - Participant did not submit data for sample SA47.

BXTTBL (M) - Participant did not submit data for sample SA48.

9MYPW8 (X) - Inconsistent in testing between samples.

XA6WVM (X) - Data for both samples are high. Possible Systematic Error.

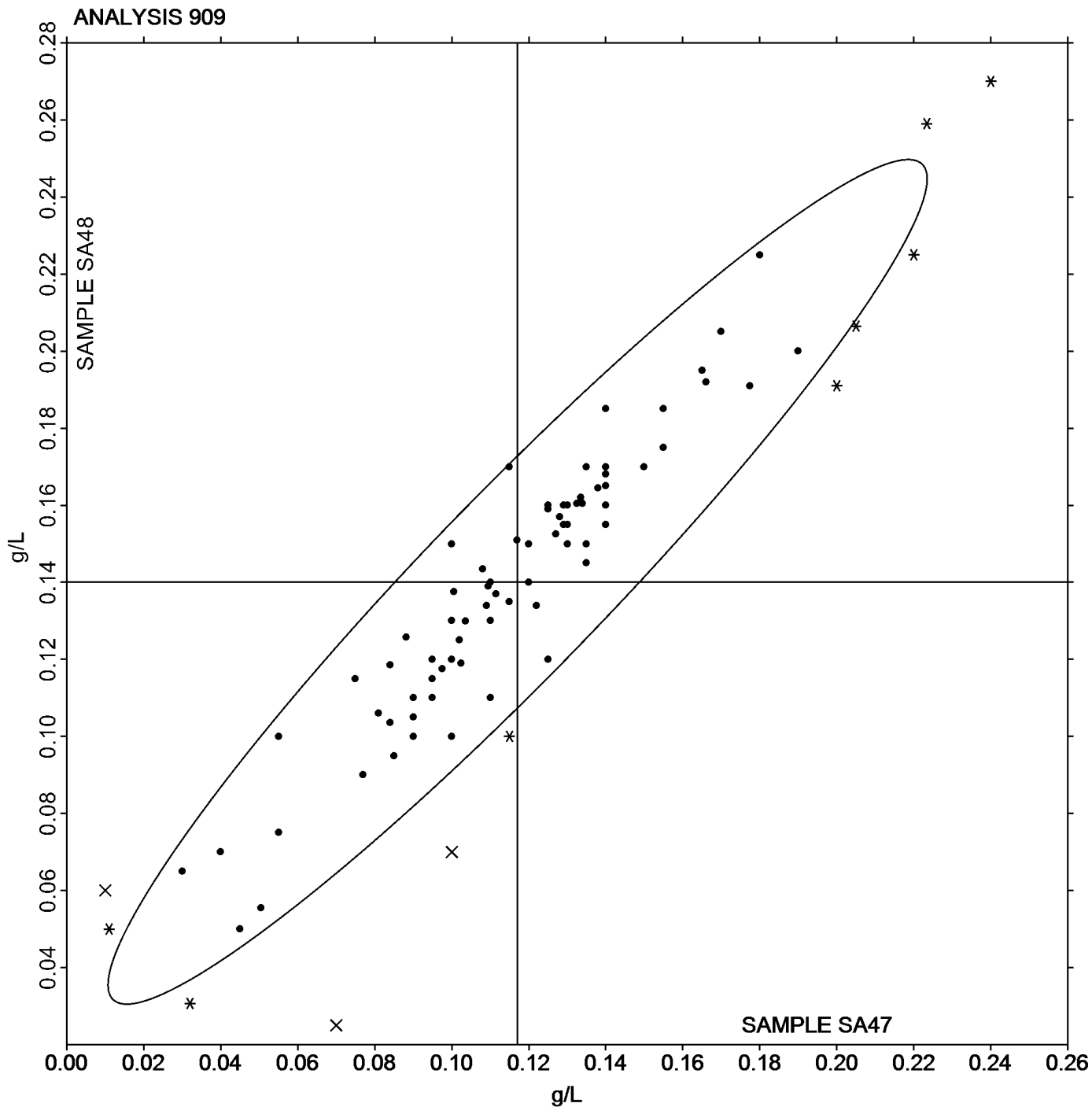
6D6D8H (X) - Inconsistent in testing, data for sample SA48 are high. Inconsistent within the determinations of sample SA48.

Q6ZMPD (X) - Inconsistent in testing between samples.

ZGZDM4 (X) - Data for both samples are high. Inconsistent within the determinations of both samples.

Y3PDD9 (X) - Inconsistent in testing between samples.

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





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		3.900	-0.606	-2.44	4.850	-0.731	-2.35
3BNAMF	X	4.300	-0.206	-0.83	4.650	-0.931	-2.99
3DQC9B		4.200	-0.306	-1.23	5.215	-0.366	-1.17
3H7KWA		4.370	-0.136	-0.55	5.445	-0.136	-0.44
3KTG6Z		4.528	0.022	0.09	5.646	0.065	0.21
3NRRXF		4.700	0.194	0.78	5.800	0.219	0.70
3VB38A		4.793	0.287	1.16	5.984	0.403	1.29
4A8DVF		4.180	-0.326	-1.32	5.110	-0.471	-1.51
4FC9G2	*	3.900	-0.606	-2.44	4.800	-0.781	-2.51
4L4KAC		4.650	0.144	0.58	5.820	0.239	0.77
4MCV7F		4.500	-0.006	-0.02	5.500	-0.081	-0.26
4RR4UF		4.350	-0.156	-0.63	5.300	-0.281	-0.90
4T2984	X	4.700	0.194	0.78	5.400	-0.181	-0.58
6BZPQ8		4.400	-0.106	-0.43	5.400	-0.181	-0.58
6RPTD3		4.470	-0.036	-0.15	5.560	-0.021	-0.07
6VLKJE		4.425	-0.081	-0.33	5.525	-0.056	-0.18
7Q823X		4.466	-0.040	-0.16	5.582	0.001	0.00
7X8L38		4.400	-0.106	-0.43	5.470	-0.111	-0.36
83Z6JW		4.800	0.294	1.19	5.800	0.219	0.70
8YZTMW		4.360	-0.146	-0.59	5.510	-0.071	-0.23
92K6Y8		4.440	-0.066	-0.27	5.500	-0.081	-0.26
94LBA7		4.505	-0.001	0.00	5.670	0.089	0.29
9CELM	*	4.800	0.294	1.19	5.700	0.119	0.38
9E6MUV	*	4.360	-0.146	-0.59	5.640	0.059	0.19
9MYPW8		4.560	0.054	0.22	5.680	0.099	0.32
9VUVMM		4.850	0.344	1.39	6.150	0.569	1.83
9XKWVW	X	5.950	1.444	5.83	6.950	1.369	4.40
AHJH99		4.040	-0.466	-1.88	4.980	-0.601	-1.93
AV9GYB		4.470	-0.036	-0.15	5.520	-0.061	-0.19
AZ4BWC		4.700	0.194	0.78	5.800	0.219	0.70
B34YQR		4.190	-0.316	-1.27	5.225	-0.356	-1.14
BA3N9W		3.960	-0.546	-2.20	4.840	-0.741	-2.38
BXTTBL		4.615	0.109	0.44	5.720	0.139	0.45
CEWLFZ	X	4.750	0.244	0.98	5.290	-0.291	-0.93
CF7RVA		4.355	-0.151	-0.61	5.315	-0.266	-0.85



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CGGTH9		4.635	0.129	0.52	5.795	0.214	0.69
CZEWGX		4.495	-0.011	-0.04	5.545	-0.036	-0.11
D48DB3		4.650	0.144	0.58	5.725	0.144	0.46
DHQ37Y		4.701	0.195	0.78	5.769	0.188	0.60
DMMMC4		4.620	0.114	0.46	5.745	0.164	0.53
DRUDEA		4.470	-0.036	-0.15	5.455	-0.126	-0.40
E4QGGH	X	4.620	0.114	0.46	4.800	-0.781	-2.51
EARTEZ		4.750	0.244	0.98	5.900	0.319	1.03
EJBT9		4.710	0.204	0.82	5.825	0.244	0.78
F3P7Z6		4.750	0.244	0.98	5.850	0.269	0.86
F6VNY2		4.275	-0.231	-0.93	5.325	-0.256	-0.82
FE6TCR		4.530	0.024	0.10	5.470	-0.111	-0.36
GAHXL6		4.750	0.244	0.98	5.800	0.219	0.70
GCAWZ3		4.550	0.044	0.18	5.700	0.119	0.38
GN4AXE		4.005	-0.501	-2.02	4.880	-0.701	-2.25
J9MYHQ		4.375	-0.131	-0.53	5.430	-0.151	-0.48
JEN74K	X	3.635	-0.871	-3.51	4.965	-0.616	-1.98
JLNRTY		4.700	0.194	0.78	5.850	0.269	0.86
JTTAPE		4.450	-0.056	-0.23	5.550	-0.031	-0.10
JUMZUT	*	4.050	-0.456	-1.84	5.250	-0.331	-1.06
K4LC4T		4.400	-0.106	-0.43	5.500	-0.081	-0.26
KE7J63	X	3.675	-0.831	-3.35	4.740	-0.841	-2.70
KWQA43		4.600	0.094	0.38	5.700	0.119	0.38
LAR7XN	X	2.820	-1.686	-6.80	3.340	-2.241	-7.19
LEYW2U		4.540	0.034	0.14	5.530	-0.051	-0.16
LKRVGB		4.900	0.394	1.59	6.200	0.619	1.99
MBFWMY		4.780	0.274	1.11	5.870	0.289	0.93
MUW4YV		4.200	-0.306	-1.23	5.200	-0.381	-1.22
MV7DML		4.470	-0.036	-0.15	5.585	0.004	0.01
N2LBTK	X	4.200	-0.306	-1.23	6.300	0.719	2.31
NM86LR		4.365	-0.141	-0.57	5.470	-0.111	-0.36
P4MVXW		4.535	0.029	0.12	5.505	-0.076	-0.24
P67F6P		4.630	0.124	0.50	5.750	0.169	0.54
PWRVKP	X	4.385	-0.121	-0.49	4.945	-0.636	-2.04
PYEFLM		4.585	0.079	0.32	5.680	0.099	0.32



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PZQ8GP	X	2.380	-2.126	-8.58	2.890	-2.691	-8.64
Q6ZMPD		4.545	0.039	0.16	5.485	-0.096	-0.31
QPN7GQ		5.000	0.494	1.99	6.100	0.519	1.67
R7888L		4.846	0.340	1.37	6.084	0.503	1.62
RELBXL		4.800	0.294	1.19	5.840	0.259	0.83
TECTCR	*	4.150	-0.356	-1.44	5.350	-0.231	-0.74
TFUMBG		4.850	0.344	1.39	6.000	0.419	1.35
TJTY8G		4.550	0.044	0.18	5.750	0.169	0.54
TZU2NK	X	5.355	0.849	3.43	4.365	-1.216	-3.90
UC42XJ	X	5.350	0.844	3.41	6.550	0.969	3.11
UEWUT3		4.800	0.294	1.19	6.000	0.419	1.35
UFQKYG		4.365	-0.141	-0.57	5.460	-0.121	-0.39
UQLTLQ		4.740	0.234	0.94	5.855	0.274	0.88
V8RCXM	X	3.755	-0.751	-3.03	5.010	-0.571	-1.83
VDHM8L		4.550	0.044	0.18	5.750	0.169	0.54
VUZNZ3		4.715	0.209	0.84	5.825	0.244	0.78
WH44WG		4.540	0.034	0.14	5.510	-0.071	-0.23
WLRBKJ		4.325	-0.181	-0.73	5.325	-0.256	-0.82
WNV76M	X	5.015	0.509	2.05	5.940	0.359	1.15
XK6ME9		5.000	0.494	1.99	6.200	0.619	1.99
Y748QK		4.350	-0.156	-0.63	5.350	-0.231	-0.74
YN6VHJ		4.610	0.104	0.42	5.500	-0.081	-0.26
YZWGNE		4.451	-0.055	-0.22	5.618	0.037	0.12
Z99ZJX	X	4.850	0.344	1.39	5.650	0.069	0.22
ZC9BEX	X	4.950	0.444	1.79	6.450	0.869	2.79
ZGGRNL		4.745	0.239	0.96	5.855	0.274	0.88
ZGZDM4	*	4.050	-0.456	-1.84	4.850	-0.731	-2.35
ZLBND D		4.300	-0.206	-0.83	5.300	-0.281	-0.90
ZN3K28	X	4.005	-0.501	-2.02	5.480	-0.101	-0.32
ZV38RL		4.500	-0.006	-0.02	5.700	0.119	0.38



**Analysis 910
Glucose + Fructose**

Grand Means	Summary Statistics
4.5060 g/L	5.5807 g/L
Std Dev Btwn Labs	
0.2479 g/L	0.3114 g/L
Statistics based on 82 of 100 reporting participants	

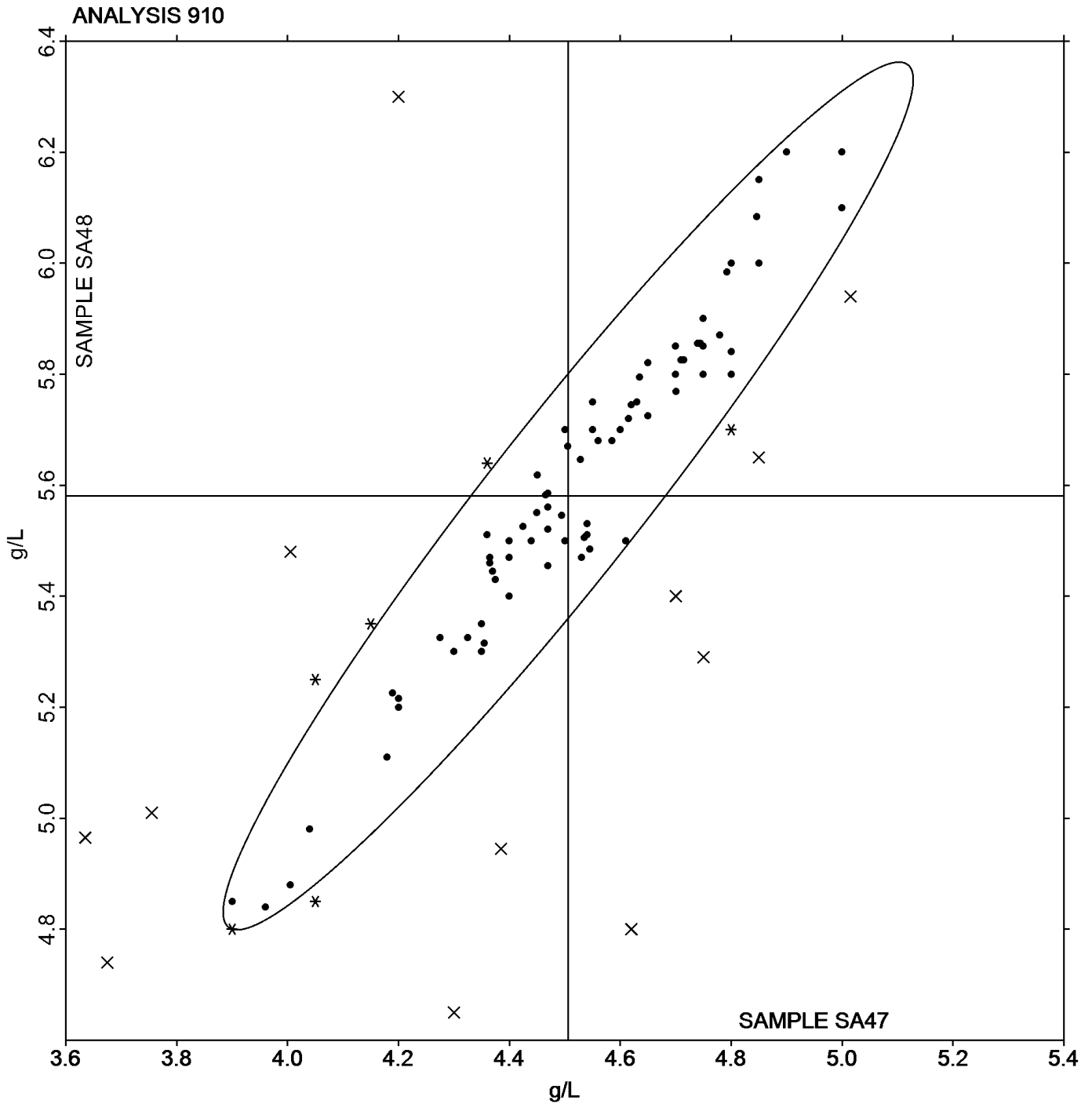
Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #910

- ZC9BEX (X) - Data for sample SA48 are high.
- Z99ZJX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA47.
- E4QGGH (X) - Inconsistent in testing between samples.
- TZU2NK (X) - Data for sample SA47 are high and data for sample SA48 are low. Lab have transposed data between sample sets.
- PZQ8GP (X) - Data for both samples are low.
- PWRVKP (X) - Inconsistent in testing between samples.
- UC42XJ (X) - Data for both samples are high. Inconsistent within the determinations of sample SA47.
- 3BNAMF (X) - Data for sample SA48 are low. Inconsistent within the determinations of sample SA48.
- V8RCXM (X) - Data for sample SA47 are low.
- WNV76M (X) - Inconsistent in testing between samples.
- KE7J63 (X) - Data for sample SA47 are low.
- JEN74K (X) - Data for sample SA47 are low. Inconsistent within the determinations of sample SA47.
- 9XKWWV (X) - Data for both samples are high.
- ZN3K28 (X) - Inconsistent in testing between samples.
- 4T2984 (X) - Inconsistent in testing between samples.
- N2LBTK (X) - Inconsistent in testing between samples.
- LAR7XN (X) - Data for both samples are low.
- CEWLFZ (X) - Inconsistent in testing between samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	4.603	0.138	0.097	5.720	0.070	0.139	2/2
HPLC	4.440	0.000	-0.066	5.500	0.000	-0.081	1/1
Enzymatic/Spectrophotometric	4.492	0.250	-0.014	5.566	0.317	-0.015	74/87
FTIR	4.738	0.214	0.232	5.805	0.295	0.224	4/8
Other _____	4.470	0.000	-0.036	5.585	0.000	0.004	1/2





Analysis 911
Copper Content

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2WQZZA		0.0260	-0.0198	-1.17	0.0285	-0.0170	-0.92
3KTG6Z		0.0440	-0.0018	-0.10	0.0355	-0.0100	-0.54
4DM89R		0.0300	-0.0158	-0.94	0.0330	-0.0125	-0.68
4MCV7F		0.0500	0.0042	0.25	0.0600	0.0145	0.79
4T2984		0.0300	-0.0158	-0.94	0.0300	-0.0155	-0.84
9VUVMM		0.0420	-0.0038	-0.22	0.0305	-0.0150	-0.81
BA3N9W	X	0.1500	0.1042	6.18	0.1450	0.0995	5.40
GCAWZ3		0.0340	-0.0118	-0.70	0.0370	-0.0085	-0.46
GN4AXE		0.0300	-0.0158	-0.94	0.0300	-0.0155	-0.84
HJN3AE		0.0265	-0.0193	-1.14	0.0300	-0.0155	-0.84
JTTAPE		0.0415	-0.0043	-0.25	0.0430	-0.0025	-0.13
LKRVGB	*	0.0900	0.0442	2.62	0.0600	0.0145	0.79
P67F6P		0.0600	0.0142	0.84	0.0650	0.0195	1.06
PWRVKP		0.0475	0.0017	0.10	0.0455	0.0000	0.00
PYEFLM	*	0.0620	0.0162	0.96	0.0950	0.0495	2.69
PZQ8GP		0.0500	0.0042	0.25	0.0600	0.0145	0.79
UC42XJ		0.0410	-0.0048	-0.28	0.0200	-0.0255	-1.38
VUZNZ3		0.0355	-0.0103	-0.61	0.0310	-0.0145	-0.78
WLRBKJ		0.0700	0.0242	1.44	0.0600	0.0145	0.79
XK6ME9		0.0500	0.0042	0.25	0.0600	0.0145	0.79
ZC9BEX		0.0310	-0.0148	-0.88	0.0355	-0.0100	-0.54
ZGGRNL		0.0700	0.0242	1.44	0.0650	0.0195	1.06

Grand Means	Summary Statistics
0.04576 mg/L	0.04545 mg/L
Stnd Dev Btwn Labs	
0.01685 mg/L	0.01843 mg/L
Statistics based on 21 of 22 reporting participants	

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #911

BA3N9W (X) - Data for both samples are high.



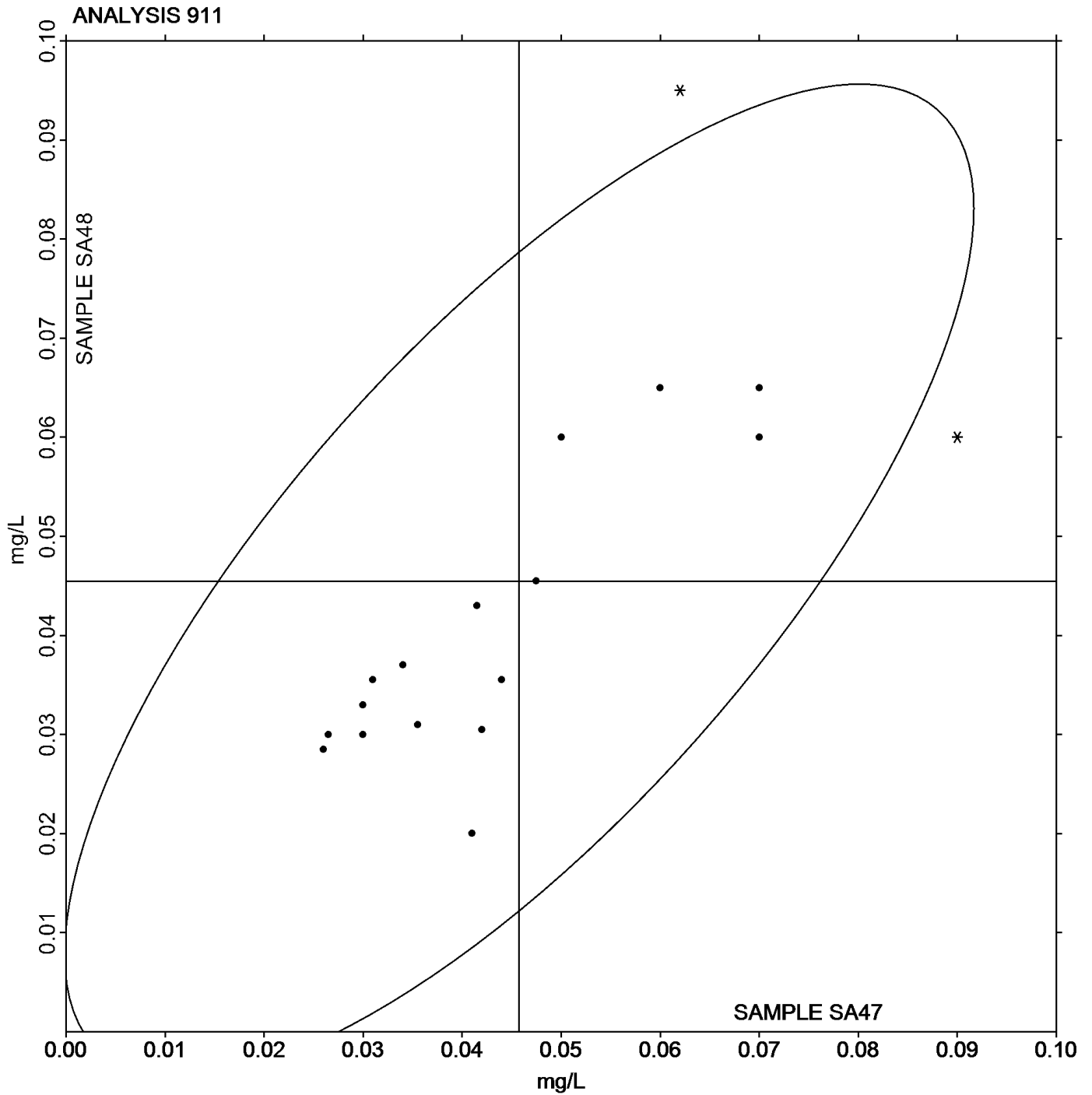
**Analysis 911
Copper Content**

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Atomic Absorption Spectroscopy	0.048	0.019	0.0019	0.044	0.022	-0.0015	11/11
ICP	0.040	0.015	-0.0062	0.041	0.013	-0.0045	7/7
FTIR							0/1
Other _____	0.055	0.007	0.0092	0.063	0.004	0.0170	2/2
Colorimetric Analysis	0.050	0.000	0.0042	0.060	0.000	0.0145	1/1



Analysis 911
Copper Content





Analysis 912
Potassium (K) Content

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4MVCV7F		1,388.0	120.7	0.67	1,351.0	141.7	0.81
4RR4UF		1,362.0	94.7	0.53	1,194.0	-15.3	-0.09
4T2984		1,130.0	-137.3	-0.76	1,061.5	-147.8	-0.85
6BZPQ8	*	1,750.0	482.7	2.68	1,600.0	390.7	2.24
7KHNZ A		1,453.0	185.7	1.03	1,410.0	200.7	1.15
92K6Y8		1,149.0	-118.3	-0.66	1,099.5	-109.8	-0.63
94LBA7		1,215.0	-52.3	-0.29	1,152.0	-57.3	-0.33
D48DB3		1,215.0	-52.3	-0.29	1,025.0	-184.3	-1.06
GCAWZ3		1,350.0	82.7	0.46	1,340.0	130.7	0.75
HJN3AE		1,164.0	-103.3	-0.57	1,106.0	-103.3	-0.59
JUMZUT		1,503.5	236.2	1.31	1,488.0	278.7	1.60
P4MVXW	X	431.0	-836.3	-4.64	426.5	-782.8	-4.49
P67F6P		1,163.0	-104.3	-0.58	1,126.5	-82.8	-0.47
PWRVKP		1,056.0	-211.3	-1.17	979.0	-230.3	-1.32
PYEFLM		1,422.9	155.6	0.86	1,377.7	168.4	0.96
PZQ8GP		1,389.5	122.2	0.68	1,376.5	167.2	0.96
UQLTLQ		1,324.5	57.2	0.32	1,291.0	81.7	0.47
VUZNZ3		1,203.5	-63.8	-0.35	1,160.5	-48.8	-0.28
WLRBKJ		1,134.0	-133.3	-0.74	1,074.0	-135.3	-0.78
XK6ME9	*	1,004.3	-262.9	-1.46	1,107.3	-102.0	-0.58
ZC9BEX		1,036.9	-230.4	-1.28	979.4	-229.9	-1.32
ZGGRNL		1,198.7	-68.6	-0.38	1,097.0	-112.3	-0.64

Grand Means	Summary Statistics
1,267.28 mg/L	1,209.33 mg/L
Stnd Dev Btwn Labs	
180.19 mg/L	174.53 mg/L
Statistics based on 21 of 22 reporting participants	

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #912

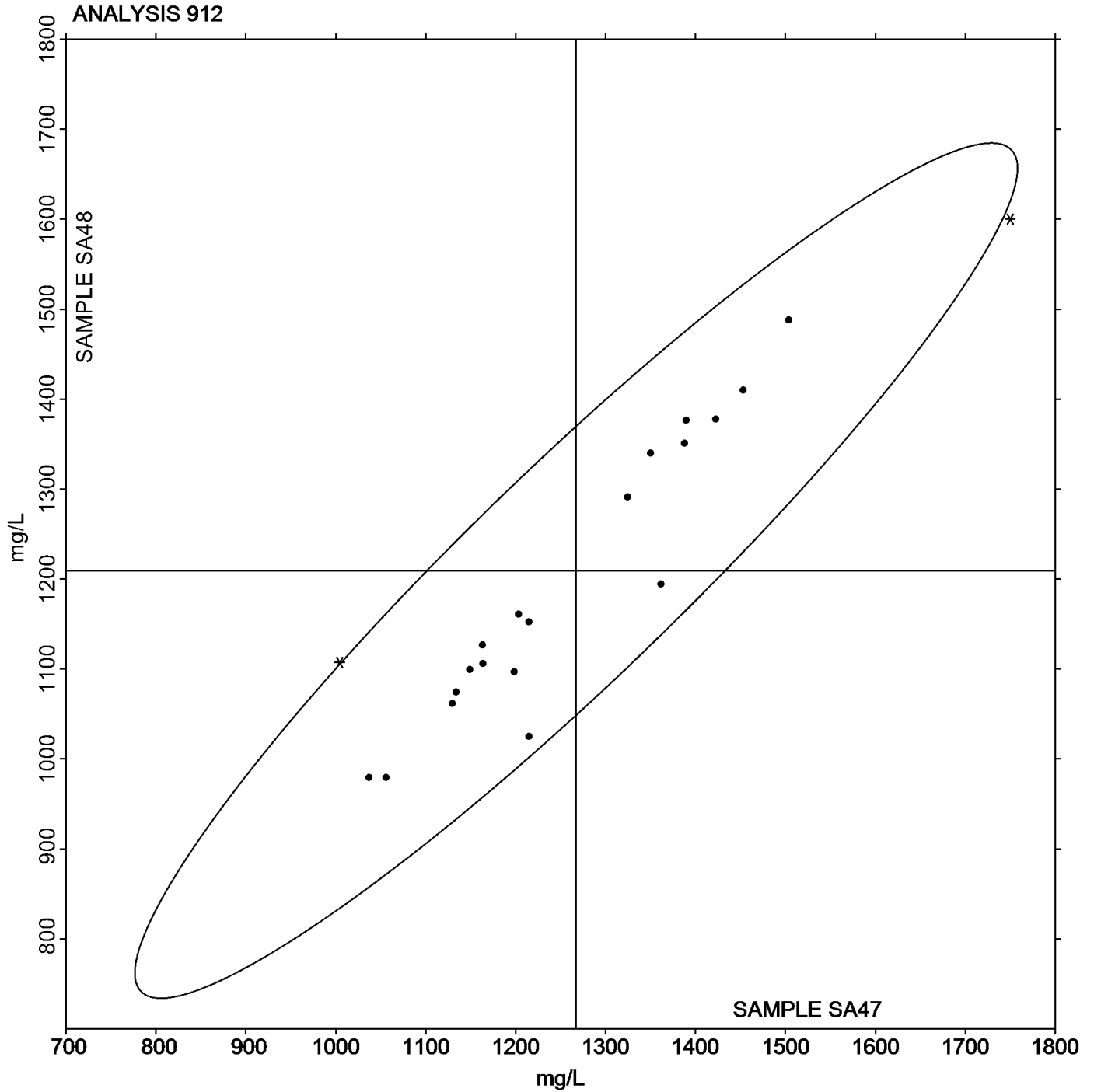
P4MVXW (X) - Data for both samples are low.



**Analysis 912
Potassium (K) Content**

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA47 <i>Cabernet Sauvignon</i>			Sample SA48 <i>Merlot</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	1,334.000	168.291	66.7	1,281.000	182.434	71.7	2/2
Atomic Absorption Spectroscopy	1,194.325	138.254	-73.0	1,124.236	150.290	-85.1	5/5
ICP	1,146.283	124.141	-121.0	1,126.790	120.182	-82.5	6/6
FTIR	1,215.000	0.000	-52.3	1,025.000	0.000	-184.3	1/1
Other _____	1,444.625	246.887	177.3	1,352.125	227.899	142.8	4/5
Colorimetric Analysis	1,367.333	37.102	100.1	1,339.500	43.895	130.2	3/3





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 915 A420nm (1cm path)

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3KTG6Z		3.156	-0.015	-0.10	3.056	-0.031	-0.24
4FC9G2		2.985	-0.186	-1.24	2.940	-0.147	-1.15
4L4KAC		3.202	0.031	0.21	3.140	0.053	0.42
4MCV7F		3.383	0.213	1.42	3.261	0.174	1.37
4RR4UF		3.250	0.079	0.53	3.150	0.063	0.50
4T2984		3.200	0.029	0.20	3.155	0.068	0.54
6BZPQ8		3.330	0.159	1.06	3.245	0.158	1.24
6D6D8H	*	3.557	0.386	2.57	3.346	0.259	2.04
6RPTD3		3.153	-0.018	-0.12	3.095	0.008	0.06
7KHNZA		2.918	-0.253	-1.68	2.837	-0.250	-1.96
7X8L38		3.170	-0.001	-0.01	3.053	-0.034	-0.27
83Z6JW		3.250	0.079	0.53	3.190	0.103	0.81
8YZTMW		3.183	0.012	0.08	3.100	0.013	0.10
9CELM		2.990	-0.181	-1.20	2.970	-0.117	-0.92
9MYPW8		3.405	0.234	1.56	3.330	0.243	1.91
AHJH99	X	2.529	-0.642	-4.27	2.446	-0.641	-5.04
AV9GYB		3.330	0.159	1.06	3.160	0.073	0.58
BA3N9W		3.008	-0.163	-1.09	2.948	-0.139	-1.09
CEWLFZ		3.200	0.029	0.20	3.030	-0.057	-0.45
D48DB3		3.155	-0.016	-0.10	3.085	-0.002	-0.01
DZ83F3	X	3.916	0.745	4.96	3.629	0.542	4.26
E4QGGH		3.180	0.009	0.06	3.140	0.053	0.42
F3P7Z6		3.140	-0.031	-0.20	3.065	-0.022	-0.17
FE6TCR		3.318	0.147	0.98	3.221	0.134	1.05
GCAWZ3		3.180	0.009	0.06	3.080	-0.007	-0.05
GN4AXE		3.169	-0.002	-0.01	3.086	-0.001	-0.01
JEN74K		3.165	-0.006	-0.04	3.111	0.024	0.19
JJ3NL2		3.515	0.344	2.29	3.390	0.303	2.38
JLNRTY		3.150	-0.021	-0.14	3.090	0.003	0.03
JTAPPE		3.165	-0.006	-0.04	3.095	0.008	0.06
JUMZUT		3.000	-0.171	-1.14	2.955	-0.132	-1.04
LAR7XN	X	0.058	-3.113	-20.72	0.072	-3.015	-23.69
LKRVGB		3.200	0.029	0.19	3.095	0.008	0.06
LMHXPJ		3.022	-0.149	-0.99	2.933	-0.154	-1.21
P4MVXW		3.130	-0.041	-0.27	2.985	-0.102	-0.80



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

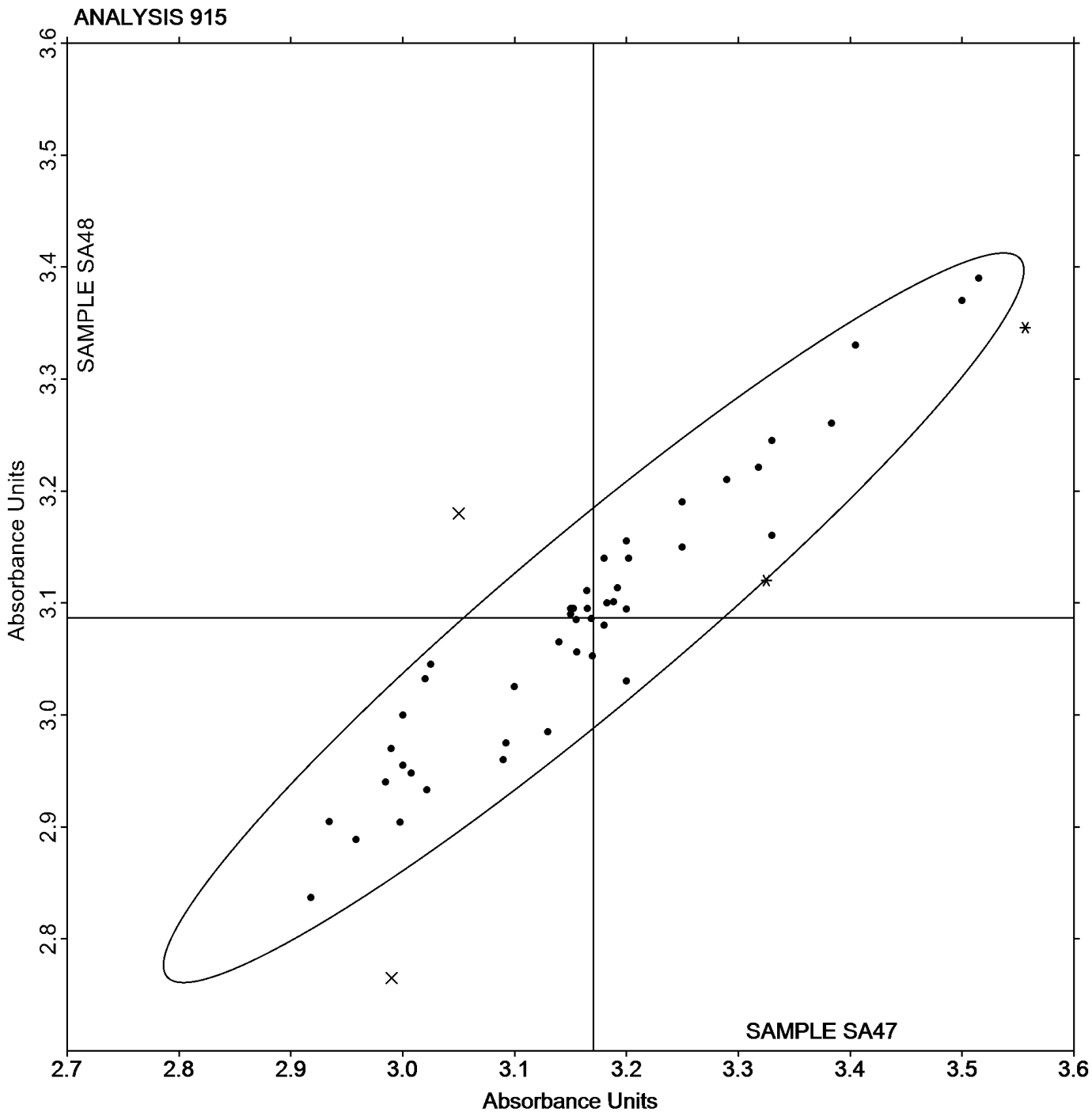
WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P67F6P	X	3.505	0.334	2.23	3.670	0.583	4.58
PWRVKP		3.020	-0.151	-1.00	3.032	-0.055	-0.43
PYEFLM	X	3.306	0.135	0.90	3.673	0.586	4.60
PZQ8GP	*	3.325	0.154	1.03	3.120	0.033	0.26
QPN7GQ		3.500	0.329	2.19	3.370	0.283	2.23
TECTCR		3.025	-0.146	-0.97	3.045	-0.042	-0.33
TFUMBG		3.189	0.018	0.12	3.101	0.014	0.11
UC42XJ		3.150	-0.021	-0.14	3.095	0.008	0.06
UEWUT3		3.192	0.021	0.14	3.114	0.027	0.21
UQLTLQ		3.093	-0.078	-0.52	2.975	-0.112	-0.88
VDHM8L		3.100	-0.071	-0.47	3.025	-0.062	-0.49
WH44WG		3.000	-0.171	-1.14	3.000	-0.087	-0.68
XA6WVM	X	3.050	-0.121	-0.80	3.180	0.093	0.73
XD3FTE		2.935	-0.236	-1.57	2.905	-0.182	-1.43
XK6ME9		2.998	-0.173	-1.15	2.904	-0.183	-1.44
Z99ZJX		3.290	0.119	0.79	3.210	0.123	0.97
ZC9BEX	X	2.990	-0.181	-1.20	2.765	-0.322	-2.53
ZGGRNL		3.090	-0.081	-0.54	2.960	-0.127	-1.00
ZGZDM4		2.959	-0.212	-1.41	2.889	-0.198	-1.56

Grand Means		Summary Statistics	
3.1706	Absorbance Units	3.0868	Absorbance Units
Std Dev Btwn Labs			
0.1502	Absorbance Units	0.1273	Absorbance Units
Statistics based on 47 of 54 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

Comments on Assigned Data Flags for Test #915

- ZC9BEX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA48.
- P67F6P (X) - Data for sample SA48 are high.
- AHJH99 (X) - Data for both samples are low. Possible Systematic Error.
- DZ83F3 (X) - Data for both samples are high. Possible Systematic Error.
- XA6WVM (X) - Inconsistent in testing between samples.
- LAR7XN (X) - Extreme data.
- PYEFLM (X) - Data for sample SA48 are high.





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #074
Summer 2023

Analysis 916 A520nm (1cm path)

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3KTG6Z		4.166	0.034	0.14	4.107	0.045	0.20
4FC9G2		3.835	-0.297	-1.21	3.840	-0.222	-0.98
4L4KAC		4.203	0.070	0.29	4.182	0.120	0.53
4MCV7F		4.407	0.275	1.12	4.269	0.207	0.92
4RR4UF		4.300	0.168	0.69	4.200	0.138	0.61
4T2984		4.060	-0.072	-0.29	4.100	0.038	0.17
6BZPQ8		4.360	0.228	0.93	4.333	0.271	1.20
6D6D8H	*	4.801	0.668	2.73	4.568	0.506	2.24
6RPTD3		4.190	0.058	0.24	4.155	0.093	0.41
7KHNZA		3.806	-0.326	-1.33	3.746	-0.316	-1.40
7X8L38		4.126	-0.007	-0.03	4.033	-0.029	-0.13
83Z6JW		4.330	0.198	0.81	4.290	0.228	1.01
8YZTMW		4.190	0.058	0.24	4.123	0.061	0.27
9CELM		4.330	0.198	0.81	4.230	0.168	0.74
9MYPW8		3.900	-0.232	-0.95	3.800	-0.262	-1.16
AHJH99		4.080	-0.053	-0.21	4.043	-0.019	-0.09
AV9GYB		4.280	0.148	0.60	4.140	0.078	0.35
BA3N9W	X	2.806	-1.327	-5.41	2.773	-1.289	-5.70
CEWLFZ		4.170	0.038	0.15	4.010	-0.052	-0.23
D48DB3		4.155	0.023	0.09	4.100	0.038	0.17
DZ83F3	X	5.290	1.158	4.73	4.949	0.887	3.92
E4QGGH		3.980	-0.152	-0.62	3.980	-0.082	-0.36
F3P7Z6		4.095	-0.037	-0.15	4.060	-0.002	-0.01
FE6TCR		4.420	0.288	1.18	4.282	0.220	0.97
GCAWZ3		4.220	0.088	0.36	4.120	0.058	0.26
GN4AXE	*	4.200	0.067	0.28	4.318	0.256	1.13
JEN74K		4.010	-0.123	-0.50	3.820	-0.242	-1.07
JJ3NL2	X	5.650	1.518	6.20	5.550	1.488	6.58
JTAPE		4.220	0.088	0.36	4.165	0.103	0.46
JUMZUT		3.925	-0.207	-0.85	3.855	-0.207	-0.92
LAR7XN	X	0.031	-4.102	-16.74	0.045	-4.017	-17.77
LKRVGB		4.239	0.107	0.44	4.163	0.101	0.45
LMHXPJ		3.713	-0.420	-1.71	3.645	-0.417	-1.84
P4MVXW		4.540	0.408	1.67	4.325	0.263	1.16
P67F6P	X	4.650	0.518	2.11	4.925	0.863	3.82



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

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PWRVKP	*	3.462	-0.670	-2.73	3.471	-0.591	-2.62
PYEFLM		3.757	-0.376	-1.53	3.673	-0.389	-1.72
PZQ8GP		4.320	0.188	0.77	4.155	0.093	0.41
QPN7GQ		4.430	0.298	1.22	4.380	0.318	1.41
TECTCR		4.075	-0.057	-0.23	4.090	0.028	0.12
TFUMBG		4.262	0.129	0.53	4.169	0.107	0.47
UC42XJ		3.965	-0.167	-0.68	4.015	-0.047	-0.21
UEWUT3		4.233	0.101	0.41	4.172	0.110	0.48
UQLTLQ		4.042	-0.090	-0.37	3.983	-0.079	-0.35
VDHM8L		4.000	-0.132	-0.54	4.000	-0.062	-0.27
WH44WG	X	3.000	-1.132	-4.62	3.000	-1.062	-4.70
XA6WVM	X	4.095	-0.037	-0.15	4.400	0.338	1.50
XD3FTE		4.162	0.030	0.12	4.010	-0.052	-0.23
XK6ME9	X	5.603	1.471	6.00	5.601	1.539	6.81
Z99ZJX		4.290	0.158	0.64	4.240	0.178	0.79
ZC9BEX		3.775	-0.357	-1.46	3.610	-0.452	-2.00
ZGGRNL		3.790	-0.342	-1.40	3.760	-0.302	-1.34
ZGZDM4	X	3.221	-0.912	-3.72	3.192	-0.870	-3.85

Grand Means		Summary Statistics	
	4.1320 Absorbance Units		4.0619 Absorbance Units
Std Dev Btwn Labs			0.2261 Absorbance Units
	0.2450 Absorbance Units		
Statistics based on 44 of 53 reporting participants			

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot

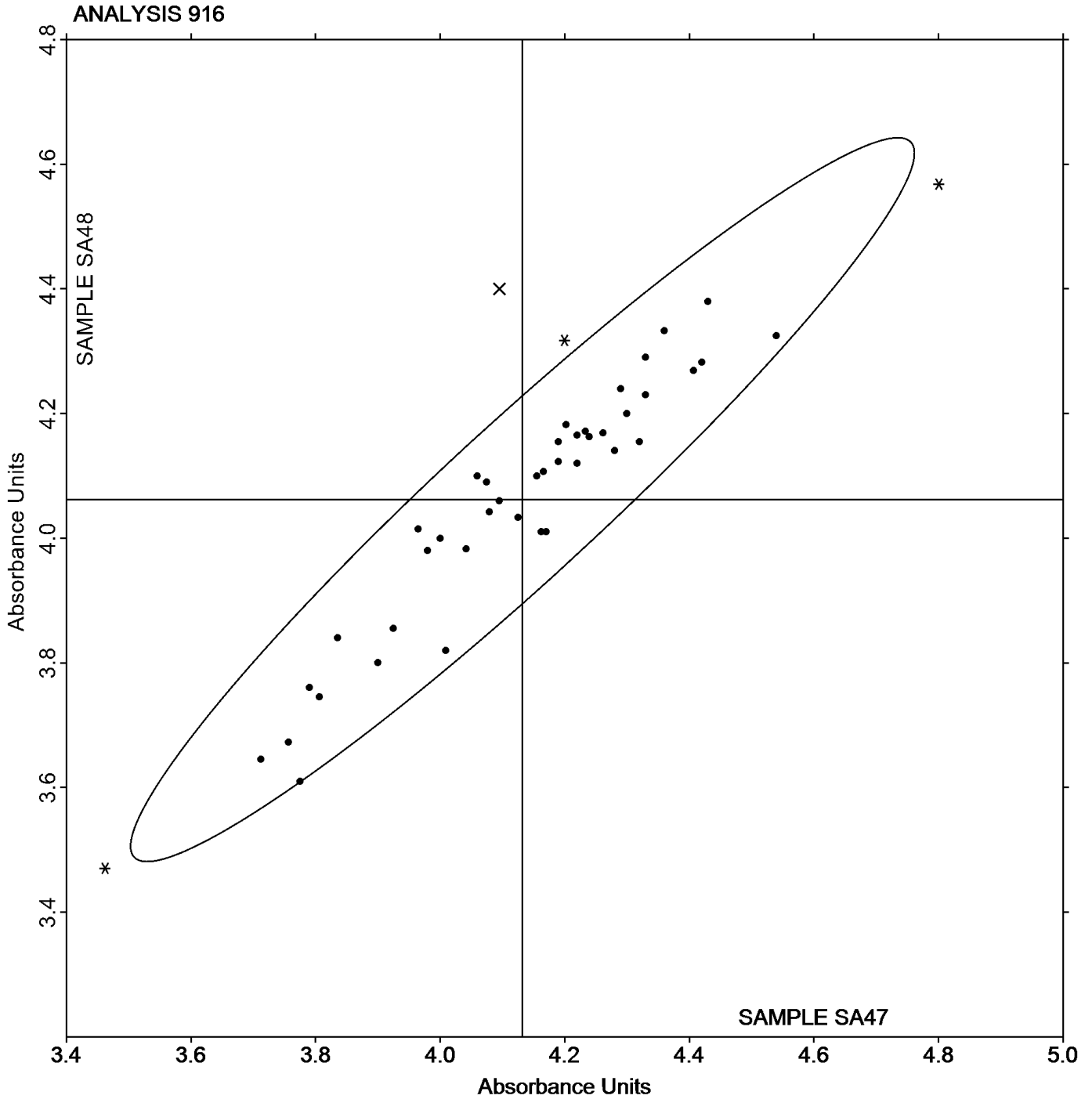


Comments on Assigned Data Flags for Test #916

- P67F6P (X) - Data for sample SA48 are high.
- DZ83F3 (X) - Data for both samples are high. Possible Systematic Error.
- XA6WVM (X) - Inconsistent in testing between samples.
- JJ3NL2 (X) - Data for both samples are high. Possible Systematic Error.
- ZGZDM4 (X) - Data for both samples are low. Possible Systematic Error.
- XK6ME9 (X) - Data for both samples are high. Possible Systematic Error.
- BA3N9W (X) - Data for both samples are low. Possible Systematic Error.
- LAR7XN (X) - Extreme data.
- WH44WG (X) - Data for both samples are low. Possible Systematic Error.



Analysis 916
A520nm (1cm path)





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

Report #074
Summer 2023

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
4L4KAC		1.115	0.017	0.12	0.9500	0.0551	0.28
4MCV7F		0.930	-0.168	-1.13	0.6200	-0.2749	-1.40
4T2984		1.100	0.002	0.02	0.8000	-0.0949	-0.48
9XKWVW		1.200	0.102	0.69	0.9000	0.0051	0.03
AV9GYB		0.900	-0.198	-1.34	0.7500	-0.1449	-0.74
D48DB3		0.995	-0.103	-0.69	0.8500	-0.0449	-0.23
GCAWZ3		1.110	0.012	0.08	0.9500	0.0551	0.28
GN4AXE		1.128	0.030	0.20	1.0470	0.1521	0.77
LEYW2U		1.135	0.037	0.25	1.0265	0.1316	0.67
LKRVGB		1.270	0.172	1.16	1.0650	0.1701	0.86
PYEFLM		1.080	-0.018	-0.12	0.9275	0.0326	0.17
QPN7GQ		1.122	0.024	0.17	0.9530	0.0581	0.29
TFUMBG		1.075	-0.023	-0.15	0.8900	-0.0049	-0.03
UEWUT3		1.240	0.142	0.96	1.0400	0.1451	0.74
WLRBKJ		1.390	0.292	1.98	1.2000	0.3051	1.55
XK6ME9	*	0.750	-0.348	-2.35	0.3300	-0.5649	-2.87
ZC9BEX		1.120	0.022	0.15	0.9150	0.0201	0.10

Research Property Consensus Value

Consensus Average

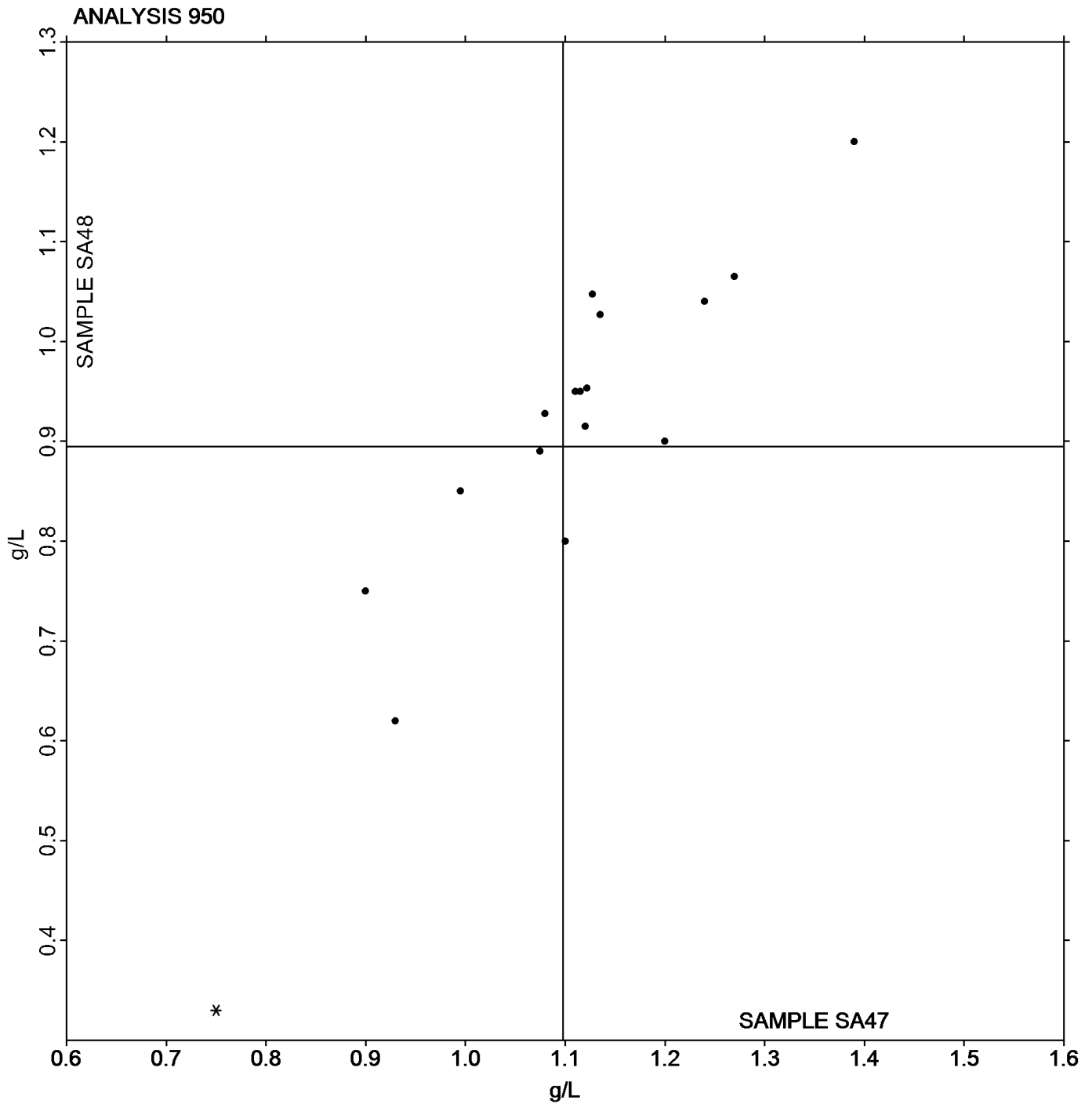
1.0976 g/L

0.89494 g/L

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

This consensus average is based on 17 reporting participants.

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot



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



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

Report #074
Summer 2023

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
4DM89R		0.0070	0.0006	0.26	0.0060	0.0012	0.44
92K6Y8		0.0070	0.0006	0.26	0.0060	0.0012	0.44
GCAWZ3		0.0030	-0.0034	-1.45	0.0010	-0.0038	-1.36
UEWUT3		0.0063	-0.0001	-0.04	0.0056	0.0008	0.30
VUZNZ3		0.0064	0.0000	0.00	0.0054	0.0006	0.21
WLRBKJ		0.0105	0.0041	1.76	0.0085	0.0037	1.34
ZC9BEX		0.0045	-0.0019	-0.81	0.0010	-0.0038	-1.36

Research Property Consensus Value

Consensus Average

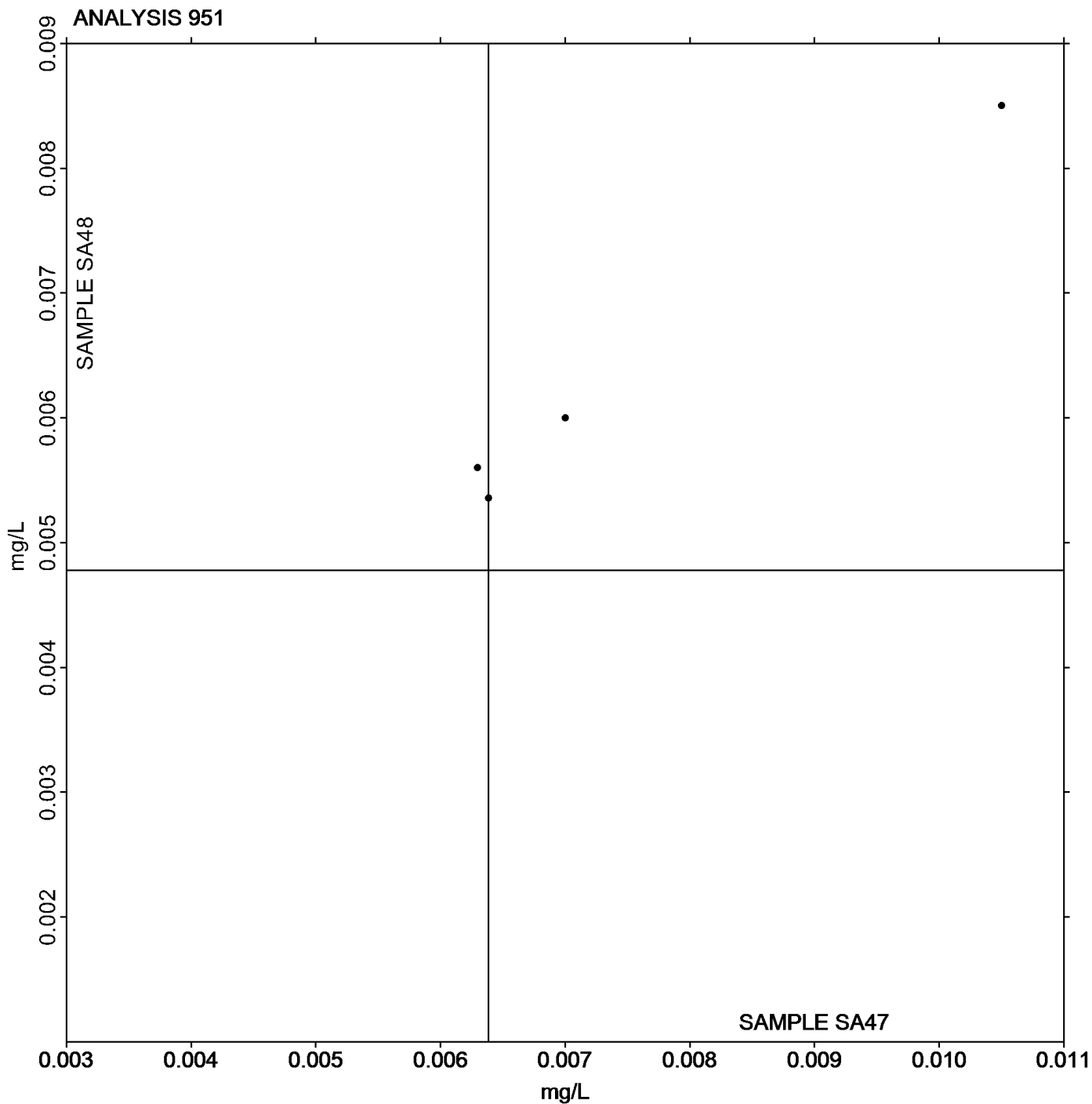
0.00638 mg/L

0.00478 mg/L

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

This consensus average is based on 7 reporting participants.

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot



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



Research Property: Methanol Content

WebCode	Data Flag	Sample SA47			Sample SA48		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
3H7KWA		176.0	12.0	0.28	220.3	22.3	0.46
4DM89R		181.0	17.0	0.40	220.0	22.0	0.46
4L4KAC		179.4	15.4	0.36	211.5	13.5	0.28
4MCV7F		81.9	-82.1	-1.91	99.3	-98.7	-2.04
4RR4UF		211.0	47.0	1.09	252.5	54.5	1.13
92K6Y8		171.5	7.5	0.17	201.5	3.5	0.07
AV9GYB		184.0	20.0	0.47	238.0	40.0	0.83
GCAWZ3		171.0	7.0	0.16	215.5	17.5	0.36
LKRVBG		196.0	32.0	0.75	223.5	25.5	0.53
UEWUT3		156.5	-7.5	-0.17	184.5	-13.5	-0.28
WLRBKJ		182.5	18.5	0.43	196.5	-1.5	-0.03
ZC9BEX		179.0	15.0	0.35	217.5	19.5	0.40
ZGZDM4		62.3	-101.8	-2.37	92.9	-105.1	-2.17

Research Property Consensus Value

Consensus Average

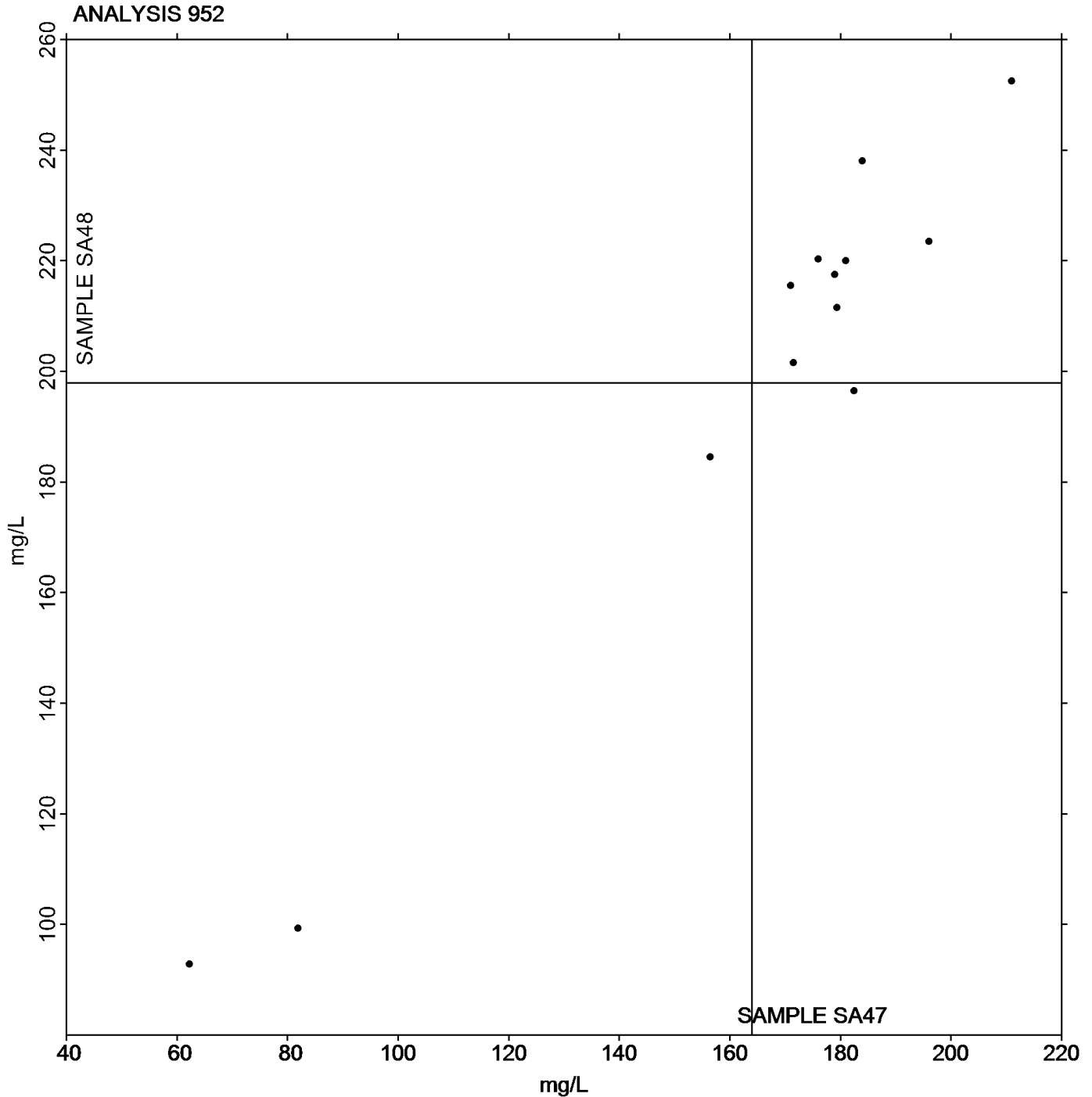
164.00 mg/L

197.96 mg/L

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

This consensus average is based on 13 reporting participants.

Wines tested: SA47: Cabernet Sauvignon; SA48: Merlot



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

-End of Report-