



Wine Industry Interlaboratory Program

Summary Report #062 - Summer 2019

[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 Property: Lactic Acid Content</u>
<u>951</u>	<u>Research Property: 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 sectors: including rubber, plastics, fasteners and metals, containerboard, paper, wine and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

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Key for Web Summary Report (Page 1 of 2)

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 #062
Summer 2019****Analysis 901
Ethanol (% of volume)**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		13.78	0.08	1.32	13.69	0.07	1.41
29V48U	X	14.70	1.00	17.02	14.58	0.96	19.18
2KA4VB		13.62	-0.08	-1.39	13.59	-0.03	-0.60
2PJJ6Y		13.71	0.01	0.13	13.66	0.04	0.81
333NRL		13.70	0.00	0.05	13.62	0.00	0.00
36QVFP		13.72	0.02	0.39	13.66	0.04	0.81
3K3JHR		13.68	-0.02	-0.37	13.59	-0.03	-0.70
3NLN2M		13.75	0.05	0.81	13.64	0.02	0.41
3PBYRF		13.67	-0.03	-0.46	13.61	-0.01	-0.20
3WU3YJ		13.74	0.04	0.64	13.66	0.04	0.81
3Y3DVM		13.67	-0.03	-0.46	13.62	0.00	-0.10
46MWAL		13.76	0.06	1.07	13.67	0.05	0.91
4NKZDH		13.60	-0.10	-1.65	13.60	-0.02	-0.40
6H48FN	X	14.01	0.31	5.31	13.81	0.19	3.72
6JKYXL		13.71	0.01	0.22	13.65	0.03	0.51
6JXXJH		13.73	0.03	0.56	13.66	0.04	0.71
6TLWAM		13.71	0.01	0.13	13.64	0.02	0.41
77DHFH		13.68	-0.02	-0.29	13.60	-0.02	-0.40
7JLJPJ		13.58	-0.12	-1.99	13.52	-0.10	-2.00
7T7RFV		13.77	0.07	1.24	13.68	0.06	1.21
7V9PQN	X	13.52	-0.18	-3.09	13.53	-0.09	-1.80
86B8Z7		13.75	0.05	0.81	13.68	0.06	1.21
8D6DT8		13.70	0.00	0.05	13.62	0.00	0.00
8G4QFW		13.71	0.01	0.22	13.61	-0.01	-0.20
8THQB6	X	13.42	-0.28	-4.70	13.47	-0.15	-3.01
8WZ6E6		13.73	0.03	0.56	13.66	0.04	0.71
9DLTLE		13.72	0.02	0.30	13.63	0.01	0.21
9EAKBP		13.74	0.04	0.73	13.65	0.03	0.61
9EEZSQ		13.66	-0.04	-0.63	13.59	-0.03	-0.70
9WFMFP		13.67	-0.03	-0.46	13.61	-0.01	-0.20
9WFPY3		13.64	-0.06	-1.05	13.55	-0.07	-1.40
AFKLWN		13.66	-0.04	-0.71	13.58	-0.04	-0.80
AZCQKG		13.73	0.03	0.47	13.60	-0.02	-0.40
BNX3ZH		13.77	0.07	1.24	13.69	0.07	1.41
BPM477		13.69	-0.01	-0.20	13.62	0.00	-0.10



Analysis 901

Summer 2019

Ethanol (% of volume)

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C6Y6F2		13.77	0.07	1.24	13.69	0.07	1.31
CBMYXK	X	13.72	0.02	0.39	13.38	-0.24	-4.81
CL3YL2		13.61	-0.09	-1.48	13.55	-0.07	-1.40
D3NLUB		13.75	0.05	0.90	13.67	0.05	1.01
DAN2GX		13.77	0.07	1.24	13.69	0.07	1.41
DG4UEF	X	13.63	-0.07	-1.14	13.46	-0.16	-3.31
DYJ9QH		13.68	-0.02	-0.37	13.61	-0.01	-0.30
E6RRTG		13.66	-0.04	-0.63	13.58	-0.04	-0.80
E8DEJ		13.72	0.02	0.30	13.63	0.01	0.21
E8Y8ZM		13.71	0.01	0.22	13.63	0.01	0.21
EDKZBM	*	13.52	-0.18	-3.09	13.48	-0.14	-2.91
EEFMPC	X	13.60	-0.10	-1.65	13.40	-0.22	-4.41
EK63JP		13.64	-0.06	-0.97	13.57	-0.05	-1.00
ENMKDF		13.61	-0.09	-1.56	13.55	-0.07	-1.40
EQ976H		13.61	-0.09	-1.48	13.53	-0.09	-1.90
F6PGAJ		13.65	-0.05	-0.88	13.58	-0.04	-0.90
FEAXUD		13.67	-0.03	-0.46	13.59	-0.03	-0.60
FZCLNU		13.72	0.02	0.39	13.65	0.03	0.61
GDY7NH		13.67	-0.03	-0.46	13.58	-0.04	-0.80
GJLVAD		13.80	0.10	1.75	13.74	0.12	2.41
H3RVRC		13.72	0.02	0.30	13.58	-0.04	-0.80
H6EETA	X	13.81	0.11	1.83	13.52	-0.10	-2.10
HFE6CW		13.67	-0.03	-0.46	13.59	-0.03	-0.60
JQUA6E		13.80	0.10	1.75	13.70	0.08	1.61
JR6BQD	X	13.66	-0.04	-0.71	13.72	0.10	2.01
JTHMMW		13.75	0.05	0.90	13.67	0.05	1.01
K73PG9		13.78	0.08	1.41	13.68	0.06	1.11
KC6YM2		13.66	-0.04	-0.71	13.63	0.01	0.21
L3Y9MB		13.72	0.02	0.30	13.63	0.01	0.21
LCKH8Y		13.74	0.04	0.64	13.65	0.03	0.61
LDVJTW		13.71	0.01	0.22	13.64	0.02	0.31
LQQN74		13.63	-0.07	-1.22	13.58	-0.04	-0.90
LZDMWA	*	13.59	-0.11	-1.82	13.60	-0.02	-0.40
MPNZHX		13.73	0.03	0.47	13.65	0.03	0.51
MULJMH		13.71	0.01	0.13	13.65	0.03	0.61



Analysis 901

Summer 2019

Ethanol (% of volume)

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MZMTTA		13.73	0.03	0.56	13.64	0.02	0.41
N9FN4D		13.68	-0.02	-0.29	13.65	0.03	0.51
NMZ7Y3		13.75	0.05	0.90	13.67	0.05	1.01
NQZCKZ		13.74	0.04	0.64	13.66	0.04	0.81
PG6QR8		13.74	0.04	0.64	13.65	0.03	0.61
Q6NBFR		13.71	0.01	0.13	13.61	-0.01	-0.20
QCPKMK	*	13.87	0.17	2.94	13.77	0.15	2.92
QR22V8		13.71	0.01	0.22	13.61	-0.01	-0.20
QWD6LA	X	13.50	-0.20	-3.34	13.55	-0.07	-1.40
RECGUB		13.65	-0.05	-0.80	13.57	-0.05	-1.10
RNJ42Q		13.72	0.02	0.39	13.64	0.02	0.41
T9JYT6		13.65	-0.05	-0.88	13.56	-0.06	-1.30
TJHFXN		13.62	-0.08	-1.31	13.56	-0.06	-1.30
TUKZXV		13.72	0.02	0.39	13.62	0.00	0.00
TYC4QY	X	12.54	-1.16	-19.64	12.77	-0.85	-17.06
U82A4X		13.71	0.01	0.13	13.66	0.04	0.71
UFVFWY	X	13.80	0.10	1.75	13.55	-0.07	-1.40
UTL8MU		13.77	0.07	1.15	13.67	0.05	1.01
UZ2TNK		13.71	0.01	0.22	13.63	0.01	0.21
VFCWP7	X	13.45	-0.25	-4.19	13.36	-0.26	-5.22
WXB4M6		13.62	-0.08	-1.31	13.55	-0.07	-1.40
WY7R2U		13.65	-0.05	-0.80	13.57	-0.05	-1.10
X7XLCX		13.69	-0.01	-0.12	13.62	0.00	0.00
XTD7AX	X	13.68	-0.02	-0.29	13.49	-0.13	-2.61
XYJVTQ		13.76	0.06	0.98	13.63	0.01	0.10
XZA7JJ		13.80	0.10	1.75	13.70	0.08	1.61
Y63KTR		13.76	0.06	1.07	13.69	0.07	1.41
Y8N8JT		13.70	0.00	-0.04	13.57	-0.05	-1.10
YRVGJQ		13.78	0.08	1.32	13.69	0.07	1.41
YXXQPJ		13.69	-0.01	-0.20	13.61	-0.01	-0.20
Z2JQPY		13.73	0.03	0.56	13.66	0.04	0.71
Z2ZNYQ		13.80	0.10	1.75	13.65	0.03	0.61



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

Grand Means	Summary Statistics
13.697 percent	13.620 percent
Std Dev Btwn Labs	
0.059 percent	0.050 percent
Statistics based on 88 of 102 reporting participants	

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #901

- DG4UEF (X) - Data for sample SA24 are low.
- CBMYXK (X) - Data for sample SA24 are low.
- JR6BQD (X) - Inconsistent in testing between samples.
- 29V48U (X) - Data for both samples are high. Inconsistent within the determinations of sample SA23.
- QWD6LA (X) - Data for sample SA23 are low. Inconsistent within the determinations of both samples.
- 8THQB6 (X) - Data for both samples are low.
- TYC4QY (X) - Data for both samples are low.
- H6EETA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA23.
- UFVFWY (X) - Inconsistent in testing between samples.
- 6H48FN (X) - Data for both samples are high. Inconsistent within the determinations of sample SA24.
- EEFMPC (X) - Data for sample SA24 are low.
- XTD7AX (X) - Inconsistent in testing between samples.
- 7V9PQN (X) - Data for sample SA23 are low.
- VFCWP7 (X) - Data for both samples are low.

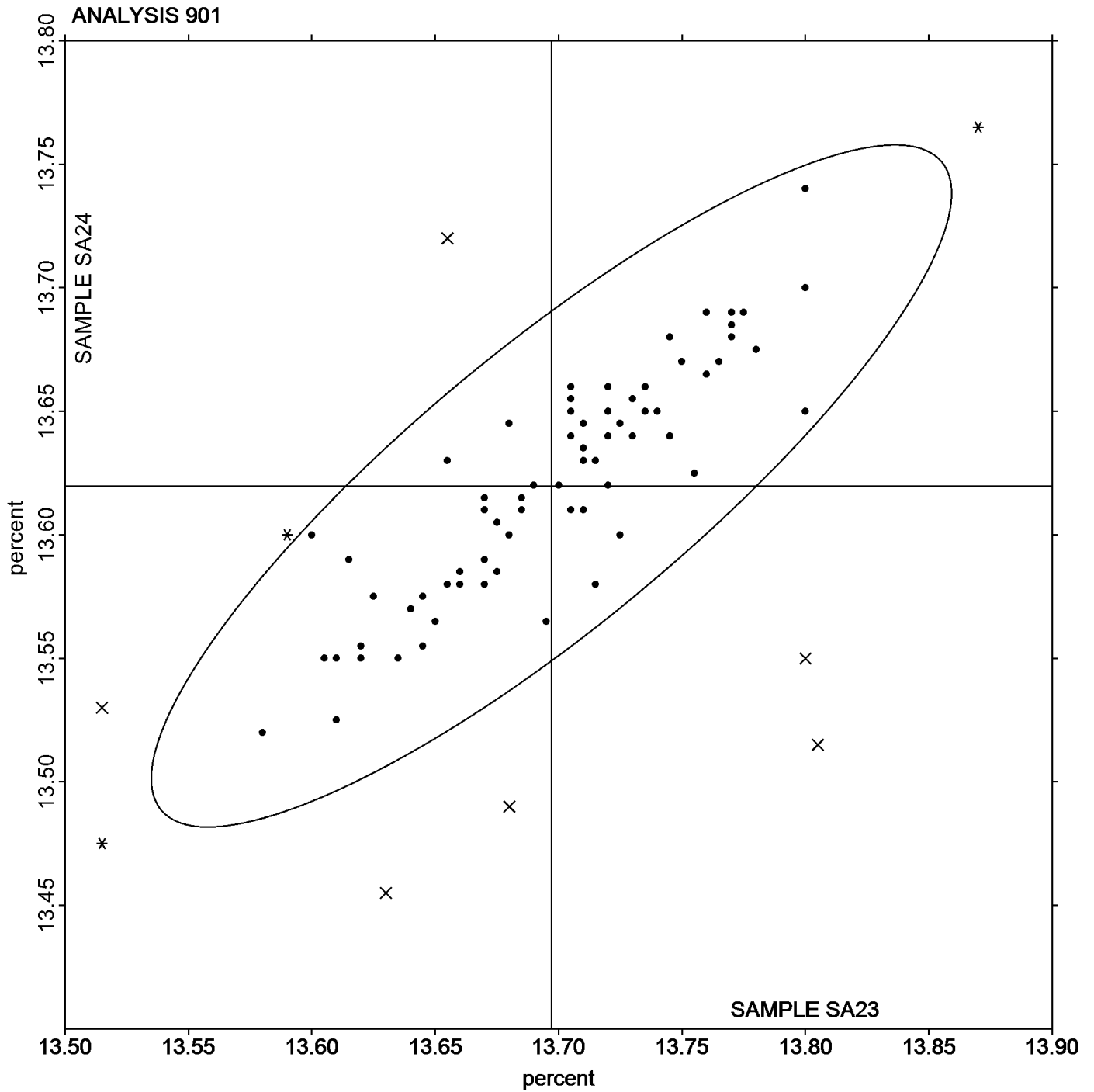
Results by Methodology (as reported by laboratory)

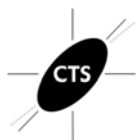
Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Ebulliometer Method	13.662	0.055	-0.04	13.632	0.028	0.01	3/6
Gas Chromatography Method	13.660	0.059	-0.04	13.568	0.028	-0.05	3/5
Near Infrared Method	13.704	0.059	0.01	13.629	0.051	0.01	66/70
Dist. / Density Method	13.693	0.067	0.00	13.618	0.052	0.00	9/13
FTIR	13.729	0.047	0.03	13.615	0.043	0.00	7/8



Analysis 901

Ethanol (% of volume)





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #062
Summer 2019

Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		52.00	-6.36	-0.87	50.50	-5.53	-0.77
29V48U		60.00	1.64	0.23	56.50	0.47	0.07
2KA4VB		67.50	9.14	1.26	59.50	3.47	0.49
2PJJ6Y	X	25.00	-33.36	-4.58	27.00	-29.03	-4.07
333NRL	X	81.00	22.64	3.11	82.00	25.97	3.64
36QVFP		53.00	-5.36	-0.74	52.00	-4.03	-0.56
3K3JHR		54.00	-4.36	-0.60	50.50	-5.53	-0.77
3NLN2M	*	52.50	-5.86	-0.80	44.50	-11.53	-1.61
3PBYRF		49.50	-8.86	-1.22	47.00	-9.03	-1.26
3WU3YJ		71.00	12.64	1.74	65.00	8.97	1.26
3Y3DVM	X	64.00	5.64	0.78	49.00	-7.03	-0.98
46MWAL		63.50	5.14	0.71	60.00	3.97	0.56
4NKZDH		62.00	3.64	0.50	57.00	0.97	0.14
6H48FN		55.50	-2.86	-0.39	53.00	-3.03	-0.42
6JKYXL		58.00	-0.36	-0.05	54.00	-2.03	-0.28
6JXXJH		62.50	4.14	0.57	55.65	-0.38	-0.05
6TLWAM		54.50	-3.86	-0.53	49.00	-7.03	-0.98
77DHFH		45.00	-13.36	-1.83	41.50	-14.53	-2.03
7JLJP		60.00	1.64	0.23	59.00	2.97	0.42
7T7RFV		52.50	-5.86	-0.80	51.00	-5.03	-0.70
7V9PQN		58.00	-0.36	-0.05	54.50	-1.53	-0.21
86B8Z7		57.50	-0.86	-0.12	53.00	-3.03	-0.42
8D6DT8		60.50	2.14	0.29	64.00	7.97	1.12
8G4QFW		58.00	-0.36	-0.05	53.00	-3.03	-0.42
8THQB6		54.57	-3.79	-0.52	50.29	-5.74	-0.80
8WZ6E6		54.00	-4.36	-0.60	53.50	-2.53	-0.35
9DLTLE		72.00	13.64	1.87	71.00	14.97	2.10
9EAKBP		64.00	5.64	0.78	60.00	3.97	0.56
9EEZSQ		62.00	3.64	0.50	61.50	5.47	0.77
9WFMFP	X	86.00	27.64	3.80	72.00	15.97	2.24
9WFPY3		55.00	-3.36	-0.46	49.00	-7.03	-0.98
AFKLWN	*	78.50	20.14	2.77	75.50	19.47	2.73
AZCQKG		53.00	-5.36	-0.74	52.00	-4.03	-0.56
BNX3ZH		61.50	3.14	0.43	56.50	0.47	0.07
BPM477		68.00	9.64	1.32	65.00	8.97	1.26



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #062
Summer 2019

Analysis 902 Total Sulfur Dioxide

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C6Y6F2		57.50	-0.86	-0.12	54.50	-1.53	-0.21
CBMYXK		62.50	4.14	0.57	55.00	-1.03	-0.14
CL3YL2		45.00	-13.36	-1.83	44.00	-12.03	-1.68
D3NLUB		53.00	-5.36	-0.74	50.00	-6.03	-0.84
DAN2GX		54.95	-3.41	-0.47	52.10	-3.93	-0.55
DG4UEF	*	70.50	12.14	1.67	61.50	5.47	0.77
DYJ9QH		66.50	8.14	1.12	65.50	9.47	1.33
E6RRTG		67.20	8.84	1.21	68.80	12.77	1.79
E8DEJJ		67.00	8.64	1.19	69.50	13.47	1.89
E8Y8ZM		76.50	18.14	2.49	73.00	16.97	2.38
EDKZBM		48.50	-9.86	-1.35	44.50	-11.53	-1.61
ENMKDF		71.80	13.44	1.85	68.80	12.77	1.79
EQ976H		54.50	-3.86	-0.53	52.00	-4.03	-0.56
F6PGAJ		51.00	-7.36	-1.01	53.50	-2.53	-0.35
FEAXUD		63.50	5.14	0.71	60.50	4.47	0.63
FZCLNU	X	72.00	13.64	1.87	83.00	26.97	3.78
GDY7NH		55.00	-3.36	-0.46	55.00	-1.03	-0.14
GJLVAD		54.00	-4.36	-0.60	53.00	-3.03	-0.42
H3RVRC		46.00	-12.36	-1.70	47.00	-9.03	-1.26
HFE6CW		72.50	14.14	1.94	68.00	11.97	1.68
JQUA6E		63.00	4.64	0.64	60.00	3.97	0.56
JR6BQD		50.89	-7.47	-1.03	50.36	-5.67	-0.79
JTHMMW		63.00	4.64	0.64	58.00	1.97	0.28
KC6YM2		42.00	-16.36	-2.25	43.50	-12.53	-1.75
L3Y9MB		64.00	5.64	0.78	62.50	6.47	0.91
LCKH8Y		57.50	-0.86	-0.12	58.00	1.97	0.28
LDVJTW		61.00	2.64	0.36	60.00	3.97	0.56
LQL9QH		54.00	-4.36	-0.60	52.50	-3.53	-0.49
LQQN74		62.00	3.64	0.50	58.00	1.97	0.28
LZDMWA		55.50	-2.86	-0.39	54.00	-2.03	-0.28
MPNZHX		55.50	-2.86	-0.39	53.00	-3.03	-0.42
MULJMH		55.50	-2.86	-0.39	54.50	-1.53	-0.21
MZMTTA		63.50	5.14	0.71	58.00	1.97	0.28
N9FN4D		58.10	-0.26	-0.04	61.80	5.77	0.81
NMZ7Y3		54.63	-3.73	-0.51	52.77	-3.26	-0.46



**Analysis 902
Total Sulfur Dioxide**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NQZCKZ		59.00	0.64	0.09	56.00	-0.03	0.00
PG6QR8		55.00	-3.36	-0.46	54.00	-2.03	-0.28
Q6NBFR		53.05	-5.31	-0.73	51.35	-4.68	-0.66
QCPKMK		65.00	6.64	0.91	67.00	10.97	1.54
QR22V8		61.00	2.64	0.36	57.00	0.97	0.14
QWD6LA		56.50	-1.86	-0.26	58.50	2.47	0.35
RECGUB		53.26	-5.10	-0.70	51.22	-4.81	-0.67
RNJ42Q		52.50	-5.86	-0.80	50.50	-5.53	-0.77
T9JYT6		54.50	-3.86	-0.53	53.50	-2.53	-0.35
TJHFXN		58.50	0.14	0.02	57.50	1.47	0.21
TUKZXV		57.50	-0.86	-0.12	54.50	-1.53	-0.21
U82A4X		49.50	-8.86	-1.22	49.00	-7.03	-0.98
UFVFWY	X	145.90	87.54	12.02	54.60	-1.43	-0.20
UTL8MU	X	72.50	14.14	1.94	54.50	-1.53	-0.21
UZ2TNK		64.00	5.64	0.78	58.00	1.97	0.28
VFCWP7		48.00	-10.36	-1.42	46.00	-10.03	-1.40
WXB4M6		51.50	-6.86	-0.94	50.50	-5.53	-0.77
WY7R2U		63.50	5.14	0.71	62.00	5.97	0.84
XTD7AX	X	62.75	4.39	0.60	68.45	12.42	1.74
XYJVTQ		51.50	-6.86	-0.94	47.00	-9.03	-1.26
XZA7JJ		63.50	5.14	0.71	65.00	8.97	1.26
Y63KTR		71.50	13.14	1.81	70.00	13.97	1.96
Y8N8JT		58.50	0.14	0.02	55.50	-0.53	-0.07
YRVGJQ	X	57.00	-1.36	-0.19	66.50	10.47	1.47
YXXQPJ		47.00	-11.36	-1.56	44.50	-11.53	-1.61
Z2JQPY		54.00	-4.36	-0.60	56.50	0.47	0.07
Z2ZNYQ		60.00	1.64	0.23	58.00	1.97	0.28

Grand Means		Summary Statistics	
	58.357 mg/L		56.030 mg/L
Std Dev Btwn Labs			
	7.280 mg/L		7.141 mg/L
Statistics based on 88 of 97 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel



**Analysis 902
Total Sulfur Dioxide**

Comments on Assigned Data Flags for Test #902

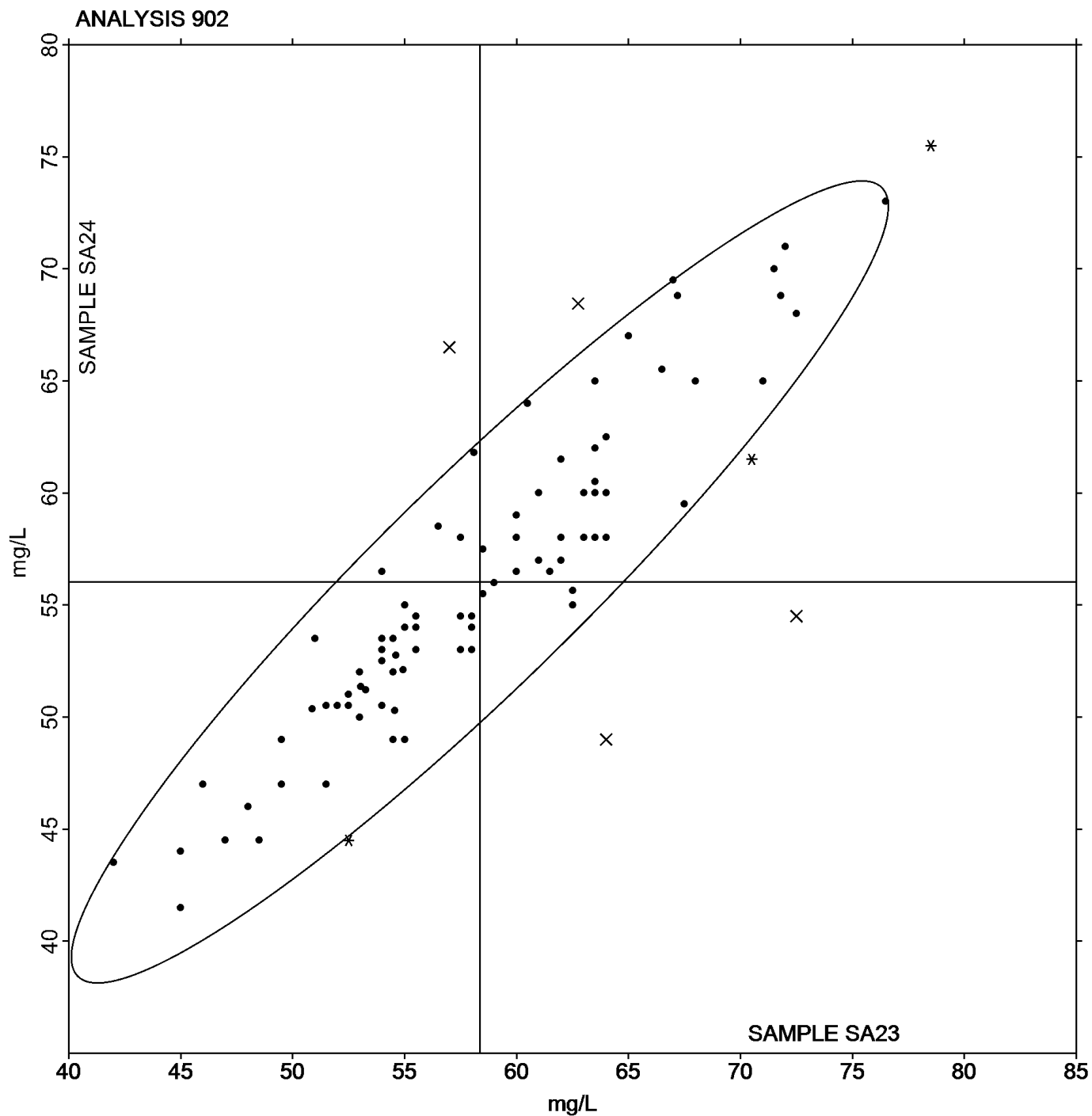
- UTL8MU (X) - Inconsistent in testing between samples.
- 9WFMFP (X) - Inconsistent in testing between samples, data for sample SA23 are high. Inconsistent within the determinations of sample SA24.
- FZCLNU (X) - Inconsistent in testing between samples, data for sample SA24 are high.
- YRVGJQ (X) - Inconsistent in testing between samples.
- UFVFWY (X) - Inconsistent in testing between samples, data for sample SA23 are high.
- 333NRL (X) - Data for both samples are high. Possible Systematic Error.
- 3Y3DVM (X) - Inconsistent in testing between samples.
- XTD7AX (X) - Inconsistent in testing between samples.
- 2PJJ6Y (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	67.500	0.000	9.14	59.500	0.000	3.47	1/1
Ripper Method	61.015	6.885	2.66	57.959	7.033	1.93	33/42
Aeration Oxidation (AO) Method	56.493	6.088	-1.86	55.105	5.720	-0.92	18/18
Segmented Flow Analyzer	56.476	7.659	-1.88	54.172	8.064	-1.86	10/10
Enzymatic Method	54.075	6.673	-4.28	51.433	6.646	-4.60	6/6
Colormetric Analyzer	59.872	8.007	1.51	57.572	7.919	1.54	9/9
FTIR	57.600	9.147	-0.76	56.100	9.568	0.07	5/5
Flow Injection Analysis	53.585	6.026	-4.77	52.938	6.830	-3.09	6/6



Analysis 902
Total Sulfur Dioxide



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #062****Analysis 903****Summer 2019****Free Sulfur Dioxide**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		24.00	0.02	0.01	22.00	-0.44	-0.16
29V48U		26.50	2.52	0.93	25.50	3.06	1.11
2KA4VB		25.50	1.52	0.56	23.50	1.06	0.38
2PJJ6Y	*	25.00	1.02	0.38	27.00	4.56	1.65
333NRL		22.00	-1.98	-0.73	20.00	-2.44	-0.89
36QVFP		22.00	-1.98	-0.73	21.00	-1.44	-0.52
3K3JHR		19.50	-4.48	-1.65	18.50	-3.94	-1.43
3NLN2M		25.50	1.52	0.56	23.50	1.06	0.38
3PBYRF		22.00	-1.98	-0.73	21.50	-0.94	-0.34
3WU3YJ		21.00	-2.98	-1.10	17.50	-4.94	-1.79
3Y3DVM		26.50	2.52	0.93	27.00	4.56	1.65
46MWAL		25.00	1.02	0.38	22.50	0.06	0.02
4NKZDH		24.00	0.02	0.01	21.00	-1.44	-0.52
6H48FN	X	31.00	7.02	2.59	22.50	0.06	0.02
6JKYXL	*	28.00	4.02	1.49	23.00	0.56	0.20
6JXXJH		25.75	1.77	0.65	23.15	0.71	0.26
6TLWAM		21.00	-2.98	-1.10	20.00	-2.44	-0.89
77DHFH		25.00	1.02	0.38	22.00	-0.44	-0.16
7JLJPJ		26.00	2.02	0.75	23.50	1.06	0.38
7T7RFV		22.00	-1.98	-0.73	19.00	-3.44	-1.25
7V9PQN		26.00	2.02	0.75	24.00	1.56	0.56
86B8Z7		20.30	-3.68	-1.36	17.30	-5.14	-1.86
8D6DT8		24.00	0.02	0.01	22.50	0.06	0.02
8G4QFW		23.00	-0.98	-0.36	21.00	-1.44	-0.52
8THQB6		29.96	5.98	2.21	27.82	5.38	1.95
8WZ6E6		25.50	1.52	0.56	25.50	3.06	1.11
9DLTLE		24.50	0.52	0.19	22.50	0.06	0.02
9EAKBP	*	31.00	7.02	2.59	30.00	7.56	2.74
9EEZSQ		25.50	1.52	0.56	22.50	0.06	0.02
9WFMFP		20.00	-3.98	-1.47	21.00	-1.44	-0.52
9WFPY3		19.50	-4.48	-1.65	20.50	-1.94	-0.70
AFKLWN	X	33.00	9.02	3.33	30.00	7.56	2.74
AZCQKG		22.00	-1.98	-0.73	20.00	-2.44	-0.89
BNX3ZH		24.00	0.02	0.01	22.00	-0.44	-0.16
BPM477		23.95	-0.03	-0.01	23.60	1.16	0.42

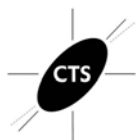


ASEV-CTS Wine Industry Interlaboratory Testing Program

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Summer 2019

Analysis 903 Free Sulfur Dioxide

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C6Y6F2		21.00	-2.98	-1.10	22.00	-0.44	-0.16
CBMYXK		21.00	-2.98	-1.10	18.00	-4.44	-1.61
CL3YL2		17.50	-6.48	-2.39	16.50	-5.94	-2.15
D3NLUB		23.50	-0.48	-0.18	21.00	-1.44	-0.52
DAN2GX		22.50	-1.48	-0.55	20.40	-2.04	-0.74
DYJ9QH		27.50	3.52	1.30	26.50	4.06	1.47
E6RRTG		21.60	-2.38	-0.88	21.60	-0.84	-0.31
E8DEJJ		26.00	2.02	0.75	21.50	-0.94	-0.34
E8Y8ZM		23.00	-0.98	-0.36	22.00	-0.44	-0.16
EDKZBM		23.50	-0.48	-0.18	21.00	-1.44	-0.52
EEFMPC		22.40	-1.58	-0.58	19.20	-3.24	-1.17
EK63JP		24.75	0.77	0.29	22.05	-0.39	-0.14
ENMKDF		27.00	3.02	1.12	25.00	2.56	0.93
EQ976H		21.00	-2.98	-1.10	19.00	-3.44	-1.25
F6PGAJ		23.00	-0.98	-0.36	22.00	-0.44	-0.16
FEAXUD		23.00	-0.98	-0.36	21.00	-1.44	-0.52
FZCLNU		27.00	3.02	1.12	26.50	4.06	1.47
GDY7NH		25.50	1.52	0.56	24.00	1.56	0.56
GJLVAD		24.00	0.02	0.01	23.00	0.56	0.20
H3RVRC	X	12.00	-11.98	-4.43	11.50	-10.94	-3.96
H6EETA		22.05	-1.93	-0.71	21.65	-0.79	-0.29
HFE6CW		30.00	6.02	2.23	28.00	5.56	2.01
JQUA6E		25.00	1.02	0.38	23.50	1.06	0.38
JR6BQD		19.55	-4.43	-1.64	18.62	-3.82	-1.38
JTHMMW		25.50	1.52	0.56	25.00	2.56	0.93
K73PG9		18.50	-5.48	-2.02	16.00	-6.44	-2.33
KC6YM2		26.00	2.02	0.75	26.50	4.06	1.47
L3Y9MB		25.00	1.02	0.38	22.00	-0.44	-0.16
LCKH8Y		22.00	-1.98	-0.73	22.50	0.06	0.02
LDVJTW		25.00	1.02	0.38	23.50	1.06	0.38
LQL9QH		21.50	-2.48	-0.92	19.50	-2.94	-1.07
LQQN74		24.00	0.02	0.01	21.00	-1.44	-0.52
LZDMWA		27.00	3.02	1.12	25.00	2.56	0.93
MPNZHX		23.50	-0.48	-0.18	20.50	-1.94	-0.70
MULJMH		22.00	-1.98	-0.73	18.50	-3.94	-1.43

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #062
Summer 2019****Analysis 903
Free Sulfur Dioxide**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MZMTTA		27.50	3.52	1.30	26.00	3.56	1.29
N9FN4D		23.85	-0.13	-0.05	21.95	-0.49	-0.18
NMZ7Y3		21.25	-2.73	-1.01	19.60	-2.84	-1.03
NQZCKZ		25.50	1.52	0.56	22.50	0.06	0.02
PG6QR8		21.00	-2.98	-1.10	21.50	-0.94	-0.34
Q6NBFR		24.15	0.17	0.06	22.45	0.01	0.00
QCPKMK		23.00	-0.98	-0.36	23.00	0.56	0.20
QR22V8	X	34.00	10.02	3.70	30.50	8.06	2.92
QWD6LA		23.50	-0.48	-0.18	23.00	0.56	0.20
RECGUB		26.37	2.39	0.88	23.65	1.20	0.43
RN42Q		24.50	0.52	0.19	22.50	0.06	0.02
T94KJA	X	18.34	-5.64	-2.08	13.59	-8.85	-3.21
T9JYT6		22.00	-1.98	-0.73	20.00	-2.44	-0.89
TJHFXN		25.50	1.52	0.56	25.50	3.06	1.11
TUKZXV		28.50	4.52	1.67	26.00	3.56	1.29
U82A4X		24.80	0.82	0.30	22.15	-0.29	-0.11
UFVFWY		27.30	3.32	1.23	24.80	2.36	0.85
UTL8MU	X	34.50	10.52	3.89	30.00	7.56	2.74
UZ2TNK		22.50	-1.48	-0.55	23.50	1.06	0.38
VFCWP7		24.00	0.02	0.01	23.00	0.56	0.20
WXB4M6		20.50	-3.48	-1.29	21.50	-0.94	-0.34
WY7R2U		25.50	1.52	0.56	24.50	2.06	0.74
X7XLCX	X	30.00	6.02	2.23	23.00	0.56	0.20
XTD7AX		29.40	5.42	2.00	28.70	6.26	2.27
XYJVTQ		23.50	-0.48	-0.18	21.50	-0.94	-0.34
XZA7JJ		26.00	2.02	0.75	25.00	2.56	0.93
Y63KTR		22.50	-1.48	-0.55	23.00	0.56	0.20
Y8N8JT		22.00	-1.98	-0.73	21.50	-0.94	-0.34
YRVGJQ		22.00	-1.98	-0.73	20.00	-2.44	-0.89
YXXQPJ		19.00	-4.98	-1.84	18.00	-4.44	-1.61
Z2JQPY		25.50	1.52	0.56	24.00	1.56	0.56
Z2ZNYQ		30.00	6.02	2.23	28.00	5.56	2.01



**Analysis 903
Free Sulfur Dioxide**

Grand Means	Summary Statistics
23.978 mg/L	22.444 mg/L
Std Dev Btwn Labs	2.762 mg/L
2.706 mg/L	
Statistics based on 95 of 102 reporting participants	

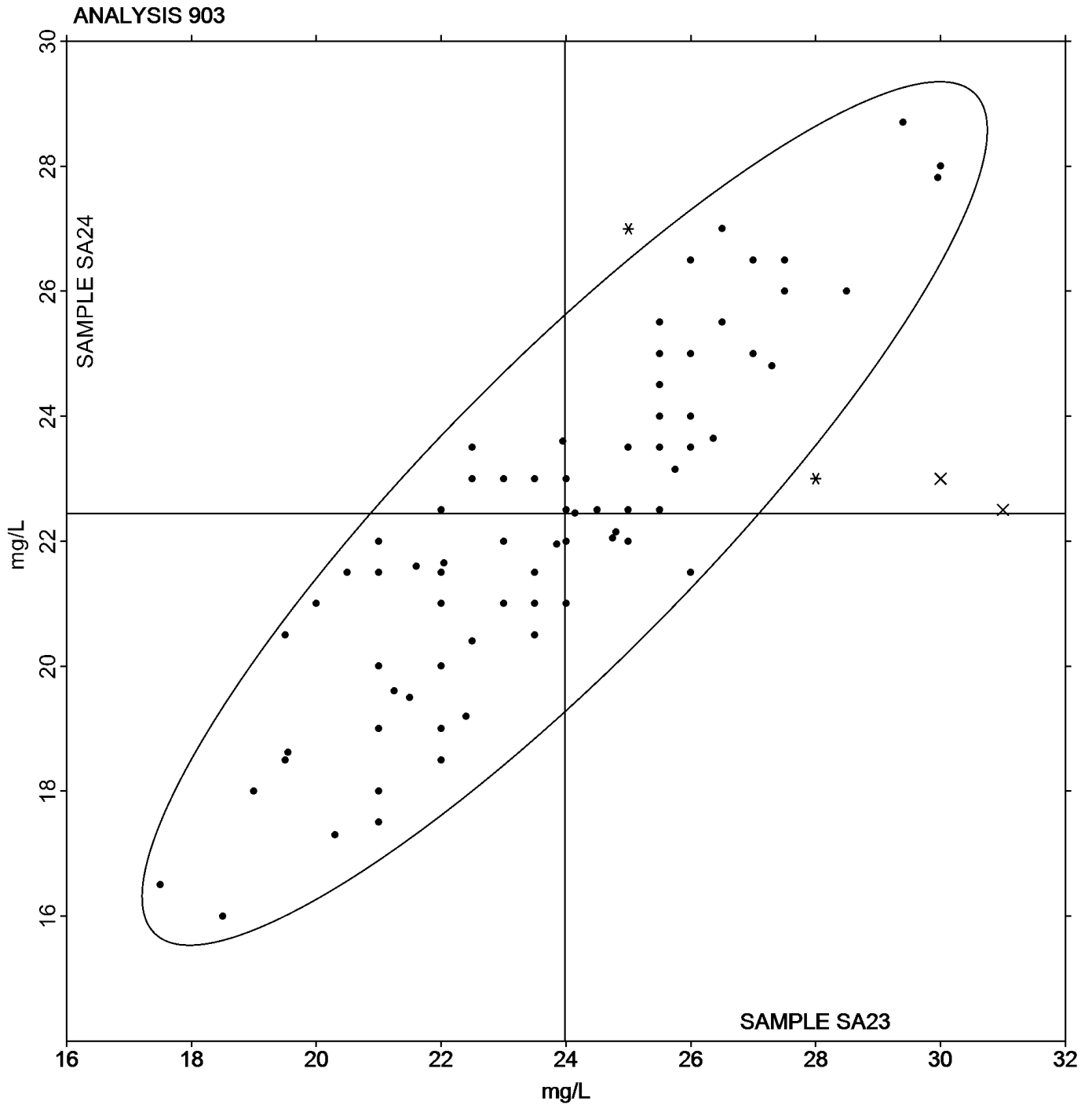
Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #903

- UTL8MU (X) - Inconsistent in testing between samples, data for sample SA23 are high.
- 6H48FN (X) - Inconsistent in testing between samples.
- QR22V8 (X) - Data for both samples are high. Possible Systematic Error.
- AFKLWN (X) - Inconsistent in testing between samples, data for sample SA23 are high.
- H3RVRC (X) - Data for both samples are low.
- X7XLCX (X) - Inconsistent in testing between samples.
- T94KJA (X) - Inconsistent in testing between samples, data for sample SA24 are low.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	27.450	2.758	3.47	26.100	3.677	3.66	2/2
Ripper Method	24.646	2.478	0.67	23.159	2.725	0.71	28/32
Aeration Oxidation (AO) Method	23.541	2.591	-0.44	22.223	2.728	-0.22	34/36
Segmented Flow Analyzer	24.362	2.983	0.38	22.520	2.703	0.08	10/10
Enzymatic Method	25.250	4.596	1.27	22.250	5.303	-0.19	2/2
Colormetric Analyzer	24.664	2.774	0.69	21.564	2.537	-0.88	7/7
Flow Injection Analysis	21.757	2.781	-2.22	20.531	2.809	-1.91	7/7
FTIR	22.690	1.191	-1.29	22.320	0.942	-0.12	5/6



Analysis 904
Titratable Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		6.440	0.047	0.26	6.275	-0.005	-0.03
29V48U	*	6.530	0.137	0.76	6.190	-0.090	-0.51
2PJJ6Y	X	5.765	-0.628	-3.50	5.650	-0.630	-3.60
333NRL		6.600	0.207	1.15	6.500	0.220	1.26
36QVFP		6.500	0.107	0.60	6.300	0.020	0.12
3K3JHR	X	6.250	-0.143	-0.80	6.645	0.365	2.09
3NLN2M		6.800	0.407	2.27	6.675	0.395	2.26
3PBYRF		6.550	0.157	0.87	6.400	0.120	0.69
3WU3YJ		6.620	0.227	1.26	6.480	0.200	1.15
3Y3DVM	X	6.800	0.407	2.27	6.850	0.570	3.27
46MWAL		6.500	0.107	0.60	6.410	0.130	0.75
4NKZDH	*	6.100	-0.293	-1.63	6.200	-0.080	-0.46
6H48FN	X	5.200	-1.193	-6.64	5.350	-0.930	-5.32
6JKYXL		6.400	0.007	0.04	6.250	-0.030	-0.17
6JXXJH		6.400	0.007	0.04	6.280	0.000	0.00
6TLWAM		6.400	0.007	0.04	6.250	-0.030	-0.17
77DHFH		6.400	0.007	0.04	6.300	0.020	0.12
7JJLPJ		6.415	0.022	0.12	6.300	0.020	0.12
7T7RFV		6.250	-0.143	-0.80	6.250	-0.030	-0.17
7V9PQN		6.170	-0.223	-1.24	5.980	-0.300	-1.72
86B8Z7		6.400	0.007	0.04	6.250	-0.030	-0.17
8D6DT8		6.180	-0.213	-1.19	6.040	-0.240	-1.37
8G4QFW		6.200	-0.193	-1.08	6.100	-0.180	-1.03
8THQB6		6.225	-0.168	-0.94	6.000	-0.280	-1.60
8WZ6E6		6.200	-0.193	-1.08	6.100	-0.180	-1.03
9DLTLE		6.450	0.057	0.32	6.430	0.150	0.86
9EAKBP		6.500	0.107	0.60	6.400	0.120	0.69
9EEZNQ		6.020	-0.373	-2.08	5.920	-0.360	-2.06
9WFMFP		6.311	-0.082	-0.46	6.190	-0.090	-0.51
9WFPY3		6.470	0.077	0.43	6.350	0.070	0.40
AFKLWN		6.450	0.057	0.32	6.300	0.020	0.12
AZCQKG		6.170	-0.223	-1.24	6.010	-0.270	-1.54
BNX3ZH		6.355	-0.038	-0.21	6.225	-0.055	-0.31
BPM477		6.710	0.317	1.76	6.605	0.325	1.86
C6Y6F2	X	5.780	-0.613	-3.41	5.655	-0.625	-3.58



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 904 Titratable Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CBMYXK		6.520	0.127	0.71	6.425	0.145	0.83
CL3YL2		6.400	0.007	0.04	6.300	0.020	0.12
D3NLUB		6.410	0.017	0.09	6.270	-0.010	-0.05
DAN2GX		6.200	-0.193	-1.08	6.100	-0.180	-1.03
DG4UEF		6.679	0.286	1.59	6.624	0.344	1.97
DYJ9QH		6.250	-0.143	-0.80	6.300	0.020	0.12
E6RRTG		6.250	-0.143	-0.80	6.100	-0.180	-1.03
E8DEJJ		6.540	0.147	0.82	6.265	-0.015	-0.08
E8Y8ZM		6.450	0.057	0.32	6.250	-0.030	-0.17
EDKZBM		6.365	-0.028	-0.16	6.240	-0.040	-0.23
EEFMPC		6.100	-0.293	-1.63	6.000	-0.280	-1.60
EK63JP		6.290	-0.103	-0.57	6.165	-0.115	-0.66
ENMKDF	X	6.780	0.387	2.15	7.035	0.755	4.32
EQ976H		6.500	0.107	0.60	6.300	0.020	0.12
F6PGAJ		6.300	-0.093	-0.52	6.100	-0.180	-1.03
FEAXUD		6.345	-0.048	-0.27	6.185	-0.095	-0.54
FZCLNU		6.700	0.307	1.71	6.600	0.320	1.83
GDY7NH	*	6.130	-0.263	-1.46	6.210	-0.070	-0.40
GJLVAD		6.400	0.007	0.04	6.300	0.020	0.12
H3RVRC		6.128	-0.265	-1.48	6.089	-0.190	-1.09
H6EETA		6.400	0.007	0.04	6.320	0.040	0.23
HFE6CW		6.600	0.207	1.15	6.500	0.220	1.26
JQUA6E		6.300	-0.093	-0.52	6.300	0.020	0.12
JR6BQD		6.200	-0.193	-1.08	6.200	-0.080	-0.46
JTHMMW		6.400	0.007	0.04	6.300	0.020	0.12
K73PG9		6.300	-0.093	-0.52	6.200	-0.080	-0.46
KC6YM2		6.600	0.207	1.15	6.400	0.120	0.69
L3Y9MB		6.420	0.027	0.15	6.275	-0.005	-0.03
LCKH8Y		6.160	-0.233	-1.30	6.030	-0.250	-1.43
LDVJTW		6.300	-0.093	-0.52	6.200	-0.080	-0.46
LQL9QH		6.050	-0.343	-1.91	5.950	-0.330	-1.89
LQQN74		6.310	-0.083	-0.46	6.180	-0.100	-0.57
LZDMWA		6.405	0.012	0.07	6.215	-0.065	-0.37
MPNZHX		6.110	-0.283	-1.58	5.910	-0.370	-2.12
MULJMH		6.600	0.207	1.15	6.550	0.270	1.55



Analysis 904
Titratable Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MZMTTA		6.500	0.107	0.60	6.300	0.020	0.12
N9FN4D		6.390	-0.003	-0.02	6.235	-0.045	-0.26
NMZ7Y3	*	6.365	-0.029	-0.16	6.457	0.177	1.02
NQZCKZ		6.395	0.002	0.01	6.260	-0.020	-0.11
PG6QR8		6.350	-0.043	-0.24	6.250	-0.030	-0.17
Q6NBFR		6.465	0.072	0.40	6.315	0.035	0.20
QCPKMK		6.685	0.292	1.63	6.585	0.305	1.75
QR22V8		6.750	0.357	1.99	6.550	0.270	1.55
QWD6LA		6.390	-0.003	-0.02	6.350	0.070	0.40
RECGUB	X	5.170	-1.223	-6.81	5.230	-1.050	-6.01
RNJ42Q		6.310	-0.083	-0.46	6.220	-0.060	-0.34
T94KJA		6.285	-0.108	-0.60	6.125	-0.155	-0.88
T9JYT6		6.400	0.007	0.04	6.300	0.020	0.12
TJHFXN		6.445	0.052	0.29	6.305	0.025	0.15
TUKZXV		6.800	0.407	2.27	6.600	0.320	1.83
TYC4QY	*	6.300	-0.093	-0.52	6.400	0.120	0.69
U82A4X		6.555	0.162	0.90	6.505	0.225	1.29
UFVFWY	X	6.750	0.357	1.99	6.300	0.020	0.12
UTL8MU		6.150	-0.243	-1.35	6.100	-0.180	-1.03
UZ2TNK		6.600	0.207	1.15	6.600	0.320	1.83
VFCWP7		6.380	-0.013	-0.07	6.395	0.115	0.66
WXB4M6		6.430	0.037	0.21	6.235	-0.045	-0.26
WY7R2U	*	6.750	0.357	1.99	6.450	0.170	0.98
X7XLCX		6.400	0.007	0.04	6.150	-0.130	-0.74
XTD7AX		6.735	0.342	1.90	6.590	0.310	1.78
XYJVTQ		6.410	0.017	0.09	6.305	0.025	0.15
XZA7JJ		6.130	-0.263	-1.46	6.090	-0.190	-1.09
Y63KTR		6.300	-0.093	-0.52	6.200	-0.080	-0.46
Y8N8JT		6.100	-0.293	-1.63	6.000	-0.280	-1.60
YRVGJQ		6.315	-0.078	-0.43	6.255	-0.025	-0.14
YXXQPJ		6.600	0.207	1.15	6.500	0.220	1.26
Z2JQPY		6.250	-0.143	-0.80	6.100	-0.180	-1.03
Z2ZNYQ		6.580	0.187	1.04	6.520	0.240	1.38



Analysis 904
Titrateable Acidity

Grand Means		Summary Statistics	
	6.3931 g/L as tartaric acid		6.2796 g/L as tartaric acid
Stnd Dev Btwn Labs			
	0.1796 g/L as tartaric acid		0.1747 g/L as tartaric acid
Statistics based on 95 of 103 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #904

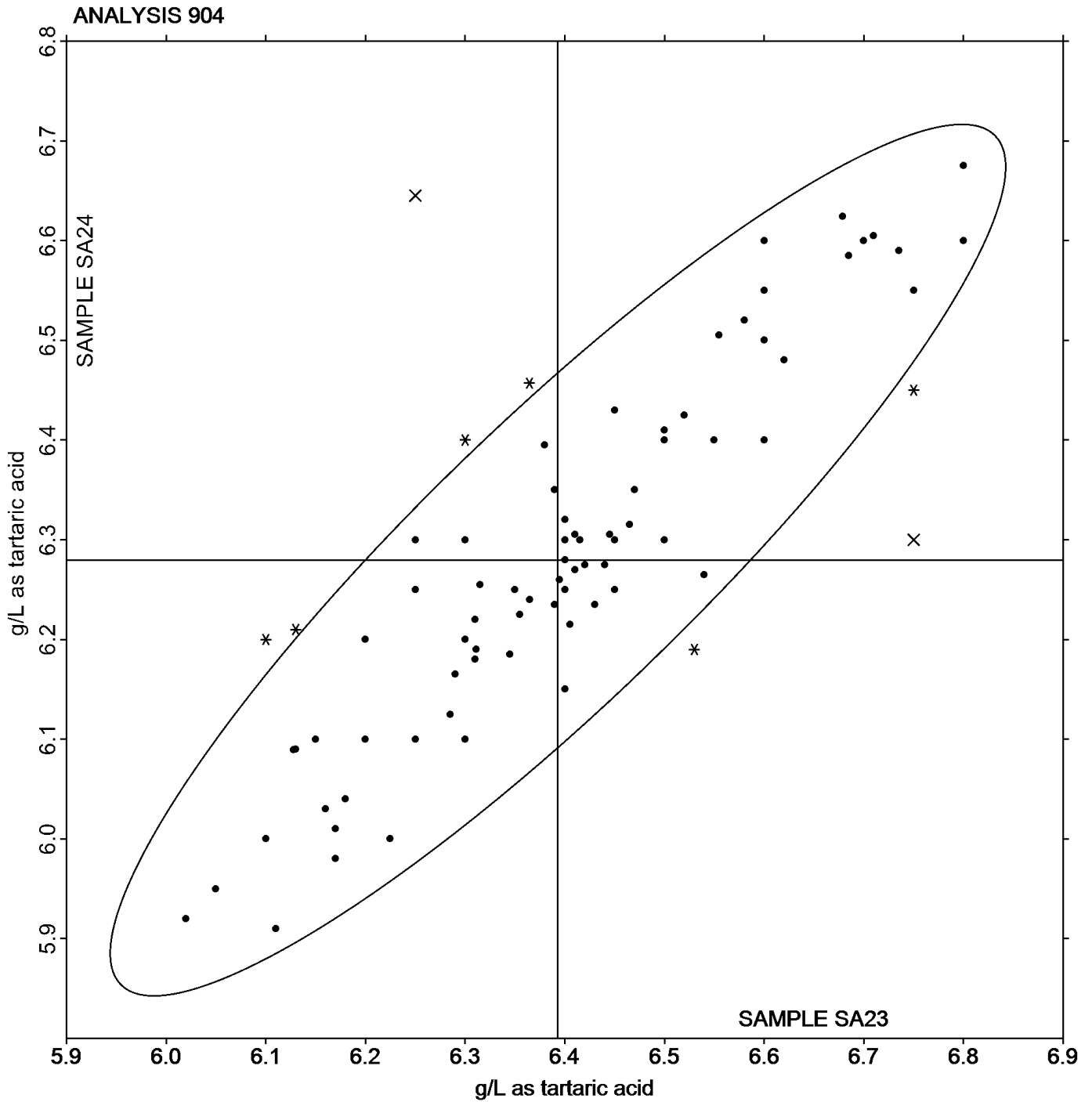
- ENMKDF (X) - Data for sample SA24 are high. Inconsistent within the determinations of sample SA23.
- RECGUB (X) - Data for both samples are low. Possible Systematic Error.
- C6Y6F2 (X) - Data for both samples are low. Possible Systematic Error.
- 3K3JHR (X) - Inconsistent in testing between samples.
- UFVFWY (X) - Inconsistent in testing between samples.
- 6H48FN (X) - Data for both samples are low. Possible Systematic Error.
- 3Y3DVM (X) - Inconsistent in testing between samples, data for sample SA24 are high.
- 2PJJ6Y (X) - Data for both samples are low. Possible Systematic Error.

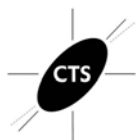
Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Autotitration	6.386	0.161	-0.007	6.270	0.168	-0.010	62/65
Manual Titration	6.399	0.189	0.006	6.276	0.161	-0.003	24/27
FTIR	6.427	0.276	0.034	6.354	0.247	0.075	9/10
Segmented Flow Analyzer							0/1



Analysis 904
Titratable Acidity



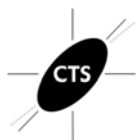


ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #062
Summer 2019

Analysis 905 Volatile Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		0.5150	-0.0176	-0.36	0.5400	-0.0055	-0.13
29V48U		0.5350	0.0024	0.05	0.5700	0.0245	0.56
2KA4VB		0.5250	-0.0076	-0.16	0.5400	-0.0055	-0.13
2PJJ6Y	X	0.3600	-0.1726	-3.53	0.4150	-0.1305	-3.00
333NRL		0.5250	-0.0076	-0.16	0.5600	0.0145	0.33
36QVFP		0.5400	0.0074	0.15	0.5500	0.0045	0.10
3K3JHR		0.5050	-0.0276	-0.56	0.5400	-0.0055	-0.13
3NLN2M	X	0.2400	-0.2926	-5.99	0.3850	-0.1605	-3.69
3PBYRF		0.5650	0.0324	0.66	0.5650	0.0195	0.45
3WU3YJ		0.5950	0.0624	1.28	0.6150	0.0695	1.60
3Y3DVM	*	0.4500	-0.0826	-1.69	0.5160	-0.0295	-0.68
46MWAL		0.5200	-0.0126	-0.26	0.5400	-0.0055	-0.13
4NKZDH	X	0.7400	0.2074	4.25	0.7700	0.2245	5.17
6H48FN	X	0.6205	0.0879	1.80	0.6730	0.1275	2.93
6JKYXL		0.4950	-0.0376	-0.77	0.5100	-0.0355	-0.82
6JXXJH		0.4860	-0.0466	-0.95	0.4835	-0.0620	-1.43
6TLWAM	X	0.5700	0.0374	0.77	0.5000	-0.0455	-1.05
77DHFH		0.5350	0.0024	0.05	0.5600	0.0145	0.33
7JLJPJ	*	0.4250	-0.1076	-2.20	0.4950	-0.0505	-1.16
7T7RFV		0.5600	0.0274	0.56	0.5400	-0.0055	-0.13
7V9PQN		0.5450	0.0124	0.25	0.5450	-0.0005	-0.01
86B8Z7		0.4550	-0.0776	-1.59	0.4700	-0.0755	-1.74
8D6DT8		0.4600	-0.0726	-1.49	0.4600	-0.0855	-1.97
8G4QFW		0.5250	-0.0076	-0.16	0.5500	0.0045	0.10
8THQB6		0.5220	-0.0106	-0.22	0.5580	0.0125	0.29
9DLTLE		0.5350	0.0024	0.05	0.5450	-0.0005	-0.01
9EAKBP		0.4600	-0.0726	-1.49	0.5200	-0.0255	-0.59
9EEZNQ		0.5650	0.0324	0.66	0.5500	0.0045	0.10
9WFMFP		0.5700	0.0374	0.77	0.5470	0.0015	0.03
9WFPY3		0.5950	0.0624	1.28	0.5600	0.0145	0.33
AFKLWN	X	0.4700	-0.0626	-1.28	0.4400	-0.1055	-2.43
AZCQKG		0.5300	-0.0026	-0.05	0.5300	-0.0155	-0.36
BNX3ZH	*	0.6600	0.1274	2.61	0.6350	0.0895	2.06
BPM477		0.6200	0.0874	1.79	0.6200	0.0745	1.71
C6Y6F2	*	0.5950	0.0624	1.28	0.6400	0.0945	2.18

Analysis 905
Volatile Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CBMYXK		0.6000	0.0674	1.38	0.6340	0.0885	2.04
D3NLUB		0.5750	0.0424	0.87	0.5850	0.0395	0.91
DAN2GX		0.6000	0.0674	1.38	0.6000	0.0545	1.25
DYJ9QH		0.4850	-0.0476	-0.97	0.4900	-0.0555	-1.28
E6RRTG		0.4800	-0.0526	-1.08	0.4700	-0.0755	-1.74
E8DEJJ		0.5100	-0.0226	-0.46	0.5300	-0.0155	-0.36
E8Y8ZM		0.5600	0.0274	0.56	0.5700	0.0245	0.56
EDKZBM		0.4850	-0.0476	-0.97	0.5050	-0.0405	-0.93
EEFMPC		0.5200	-0.0126	-0.26	0.5200	-0.0255	-0.59
EK63JP		0.5600	0.0274	0.56	0.5700	0.0245	0.56
ENMKDF		0.4865	-0.0461	-0.94	0.5100	-0.0355	-0.82
EQ976H		0.5400	0.0074	0.15	0.5800	0.0345	0.79
F6PGAJ		0.5350	0.0024	0.05	0.5450	-0.0005	-0.01
FEAXUD		0.5350	0.0024	0.05	0.5500	0.0045	0.10
FZCLNU		0.5750	0.0424	0.87	0.5750	0.0295	0.68
GDY7NH	X	0.6400	0.1074	2.20	0.7100	0.1645	3.79
GJLVAD		0.5150	-0.0176	-0.36	0.5250	-0.0205	-0.47
H3RVRC	*	0.6600	0.1274	2.61	0.6600	0.1145	2.64
H6EETA		0.5700	0.0374	0.77	0.5900	0.0445	1.02
HFE6CW		0.5000	-0.0326	-0.67	0.5200	-0.0255	-0.59
JQUA6E		0.5650	0.0324	0.66	0.5800	0.0345	0.79
JR6BQD		0.5300	-0.0026	-0.05	0.5400	-0.0055	-0.13
JTHMMW		0.5900	0.0574	1.18	0.6000	0.0545	1.25
K73PG9		0.5500	0.0174	0.36	0.5750	0.0295	0.68
KC6YM2		0.5050	-0.0276	-0.56	0.5300	-0.0155	-0.36
L3Y9MB		0.4700	-0.0626	-1.28	0.4850	-0.0605	-1.39
LCKH8Y		0.5500	0.0174	0.36	0.5450	-0.0005	-0.01
LDVJTW		0.6100	0.0774	1.58	0.6100	0.0645	1.48
LQL9QH		0.4700	-0.0626	-1.28	0.4900	-0.0555	-1.28
LQQN74		0.5250	-0.0076	-0.16	0.5200	-0.0255	-0.59
LZDMWA		0.5500	0.0174	0.36	0.5850	0.0395	0.91
MPNZHX		0.5000	-0.0326	-0.67	0.5000	-0.0455	-1.05
MULJMH		0.5400	0.0074	0.15	0.5500	0.0045	0.10
MZMTTA		0.4950	-0.0376	-0.77	0.5150	-0.0305	-0.70
N9FN4D		0.4950	-0.0376	-0.77	0.5150	-0.0305	-0.70

Analysis 905
Volatile Acidity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NMZ7Y3		0.5450	0.0124	0.25	0.5700	0.0245	0.56
NQZCKZ		0.6000	0.0674	1.38	0.5950	0.0495	1.14
PG6QR8		0.5300	-0.0026	-0.05	0.5050	-0.0405	-0.93
Q6NBFR		0.5520	0.0194	0.40	0.5690	0.0235	0.54
QCPKMK		0.5750	0.0424	0.87	0.5850	0.0395	0.91
QR22V8		0.5150	-0.0176	-0.36	0.5400	-0.0055	-0.13
QWD6LA		0.5750	0.0424	0.87	0.5850	0.0395	0.91
RECGUB		0.5050	-0.0276	-0.56	0.5100	-0.0355	-0.82
RNJ42Q		0.5250	-0.0076	-0.16	0.5250	-0.0205	-0.47
T94KJA		0.5350	0.0024	0.05	0.5500	0.0045	0.10
T9JYT6		0.5450	0.0124	0.25	0.5650	0.0195	0.45
TJHFXN		0.5550	0.0224	0.46	0.5500	0.0045	0.10
TUKZXV		0.4950	-0.0376	-0.77	0.4900	-0.0555	-1.28
TYC4QY	X	0.7050	0.1724	3.53	0.7500	0.2045	4.71
U82A4X	*	0.3960	-0.1366	-2.80	0.4505	-0.0950	-2.19
UFVFWY		0.4450	-0.0876	-1.79	0.4640	-0.0815	-1.88
UTL8MU		0.5150	-0.0176	-0.36	0.4950	-0.0505	-1.16
UZ2TNK		0.4900	-0.0426	-0.87	0.5200	-0.0255	-0.59
VFCWP7		0.5480	0.0154	0.32	0.5525	0.0070	0.16
WXB4M6	X	0.6950	0.1624	3.32	0.7050	0.1595	3.67
WY7R2U		0.4900	-0.0426	-0.87	0.5100	-0.0355	-0.82
X7XLCX	X	0.5500	0.0174	0.36	0.4600	-0.0855	-1.97
XTD7AX		0.4300	-0.1026	-2.10	0.4600	-0.0855	-1.97
XYJVTQ		0.6000	0.0674	1.38	0.6000	0.0545	1.25
XZA7JJ		0.5900	0.0574	1.18	0.5850	0.0395	0.91
Y63KTR		0.6000	0.0674	1.38	0.6150	0.0695	1.60
Y8N8JT		0.5650	0.0324	0.66	0.5550	0.0095	0.22
YRVGJQ		0.5250	-0.0076	-0.16	0.5400	-0.0055	-0.13
YXXQPJ		0.5450	0.0124	0.25	0.5500	0.0045	0.10
Z2JQPY		0.5050	-0.0276	-0.56	0.5600	0.0145	0.33
Z2ZNYQ		0.5200	-0.0126	-0.26	0.5200	-0.0255	-0.59



**Analysis 905
Volatile Acidity**

Grand Means		Summary Statistics	
	0.53259 g/L as acetic acid		0.54549 g/L as acetic acid
Std Dev Btwn Labs			
	0.04885 g/L as acetic acid		0.04345 g/L as acetic acid
Statistics based on 91 of 101 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #905

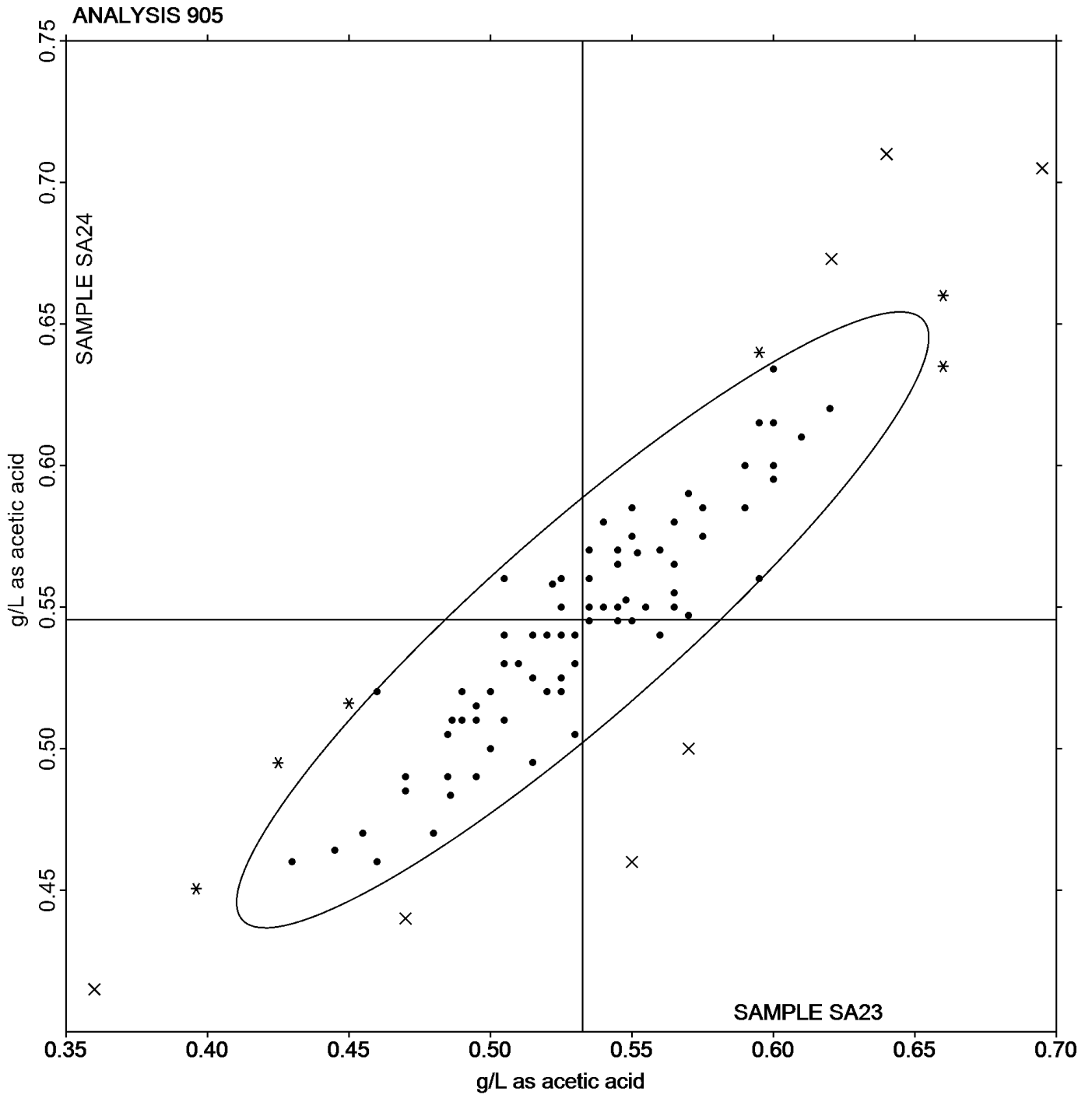
- 3NLN2M (X) - Data for both samples are low. Possible Systematic Error.
- WXB4M6 (X) - Data for both samples are high. Possible Systematic Error.
- GDY7NH (X) - Inconsistent in testing between samples, data for sample SA24 are high.
- 4NKZDH (X) - Data for both samples are high. Possible Systematic Error.
- TYC4QY (X) - Data for both samples are high. Possible Systematic Error.
- 6TLWAM (X) - Inconsistent in testing between samples.
- 6H48FN (X) - Inconsistent in testing between samples, data for sample SA24 are high.
- AFKLWN (X) - Inconsistent in testing between samples.
- X7XLCX (X) - Inconsistent in testing between samples.
- 2PJJ6Y (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method	0.430	0.000	-0.1026	0.460	0.000	-0.0855	1/1
Cash Still method	0.547	0.047	0.0142	0.557	0.044	0.0114	14/16
Enzymatic method	0.522	0.045	-0.0103	0.537	0.038	-0.0085	55/60
HPLC	0.555	0.000	0.0224	0.550	0.000	0.0045	1/1
GC	0.504	0.026	-0.0291	0.532	0.037	-0.0140	2/2
Colorimetric Analysis	0.492	0.020	-0.0409	0.508	0.023	-0.0372	3/3
Seg. Flow / Colorimetric Analyzer	0.552	0.033	0.0191	0.558	0.037	0.0128	6/6
FTIR	0.589	0.040	0.0569	0.596	0.043	0.0501	9/12



Analysis 905
Volatile Acidity





Analysis 906
Specific Gravity

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KA4VB		0.9990	0.0001	0.10	0.9972	0.0001	0.12
2PJJ6Y	*	0.9966	-0.0023	-2.79	0.9948	-0.0023	-2.89
333NRL		0.9998	0.0009	1.12	0.9978	0.0007	0.86
36QVFP		0.9989	0.0001	0.07	0.9972	0.0001	0.10
3K3JHR		0.9990	0.0001	0.16	0.9973	0.0002	0.25
3NLN2M		0.9990	0.0001	0.12	0.9972	0.0001	0.16
3PBYRF		0.9989	0.0000	0.03	0.9972	0.0001	0.12
3Y3DVM		0.9997	0.0008	1.00	0.9977	0.0006	0.73
46MWAL		0.9974	-0.0015	-1.83	0.9957	-0.0014	-1.72
4NKZDH		0.9996	0.0007	0.88	0.9979	0.0008	0.99
6H48FN		0.9972	-0.0017	-2.07	0.9955	-0.0016	-1.99
6JKYXL		0.9982	-0.0007	-0.87	0.9964	-0.0007	-0.86
6JXXJH	X	0.9976	-0.0013	-1.53	0.9997	0.0026	3.14
6TLWAM		0.9994	0.0005	0.64	0.9976	0.0005	0.62
77DHFH		0.9971	-0.0018	-2.13	0.9954	-0.0017	-2.09
7JLPLJ		1.0000	0.0011	1.30	0.9980	0.0009	1.11
7T7RFV		0.9984	-0.0005	-0.56	0.9967	-0.0004	-0.49
7V9PQN		0.9989	0.0000	0.05	0.9971	0.0000	0.02
8D6DT8	X	0.9952	-0.0037	-4.48	0.9969	-0.0002	-0.24
8G4QFW		0.9989	0.0000	0.04	0.9972	0.0001	0.13
8THQB6	X	0.9965	-0.0024	-2.86	0.9955	-0.0016	-1.97
8WZ6E6		0.9986	-0.0003	-0.32	0.9970	-0.0001	-0.12
9DLTLE		0.9988	-0.0001	-0.08	0.9972	0.0001	0.13
9EAKBP		0.9989	0.0001	0.07	0.9972	0.0001	0.11
9EEZSQ		0.9979	-0.0010	-1.17	0.9963	-0.0008	-1.04
9WFMFP		0.9990	0.0001	0.10	0.9974	0.0003	0.38
9WFPY3		0.9989	0.0000	0.04	0.9972	0.0001	0.13
AFKLWN		0.9989	0.0001	0.07	0.9972	0.0001	0.12
AZCQKG		0.9989	0.0000	0.04	0.9972	0.0001	0.13
BNX3ZH		0.9986	-0.0003	-0.32	0.9970	-0.0001	-0.18
BPM477		0.9989	0.0000	0.06	0.9972	0.0001	0.11
C6Y6F2		0.9988	-0.0001	-0.08	0.9970	-0.0001	-0.12
CBMYXK		0.9990	0.0001	0.15	0.9974	0.0003	0.34
CL3YL2		0.9971	-0.0017	-2.11	0.9954	-0.0017	-2.11
D3NLUB		0.9989	0.0001	0.09	0.9972	0.0001	0.09



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WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DAN2GX		0.9989	0.0001	0.07	0.9972	0.0001	0.12
DG4UEF	X	0.9989	0.0001	0.07	0.9989	0.0018	2.26
DYJ9QH		0.9992	0.0003	0.35	0.9975	0.0004	0.49
E6RRTG		0.9991	0.0002	0.28	0.9974	0.0003	0.37
E8DEJJ	X	0.9923	-0.0066	-7.98	0.9921	-0.0050	-6.22
E8Y8ZM		0.9989	0.0000	0.04	0.9972	0.0001	0.13
EDKZBM		0.9992	0.0004	0.44	0.9974	0.0003	0.42
EEFMPC		0.9986	-0.0003	-0.32	0.9968	-0.0003	-0.37
EK63JP	X	0.9996	0.0007	0.88	0.9973	0.0002	0.19
ENMKDF		0.9990	0.0001	0.14	0.9972	0.0001	0.13
EQ976H		0.9989	0.0000	0.04	0.9973	0.0002	0.25
F6PGAJ		0.9990	0.0001	0.13	0.9972	0.0001	0.15
FEAXUD		0.9989	0.0000	0.04	0.9970	-0.0001	-0.12
FZCLNU		0.9989	0.0000	0.04	0.9972	0.0001	0.07
GDY7NH		0.9984	-0.0005	-0.56	0.9970	-0.0001	-0.12
H3RVRC		0.9995	0.0006	0.76	0.9976	0.0005	0.57
H6EETA		1.0008	0.0020	2.38	0.9989	0.0018	2.21
JQUA6E		0.9989	0.0000	0.04	0.9972	0.0001	0.07
JTHMMW		0.9988	-0.0001	-0.08	0.9970	-0.0001	-0.12
KC6YM2	X	1.0003	0.0014	1.72	0.9966	-0.0005	-0.62
L3Y9MB	X	0.9952	-0.0037	-4.44	0.9930	-0.0041	-5.06
LCKH8Y	X	0.9950	-0.0039	-4.66	0.9973	0.0002	0.19
LDVJTW		0.9990	0.0001	0.16	0.9972	0.0001	0.13
LQL9QH	*	0.9966	-0.0023	-2.75	0.9949	-0.0022	-2.66
LQQN74		0.9989	0.0000	0.04	0.9971	0.0000	-0.06
LZDMWA	X	0.9989	0.0000	-0.02	0.9982	0.0011	1.40
MPNZHX	*	0.9970	-0.0019	-2.25	0.9950	-0.0021	-2.58
MZMTTA		0.9990	0.0001	0.14	0.9972	0.0001	0.16
N9FN4D		1.0009	0.0020	2.45	0.9990	0.0019	2.34
NMZ7Y3		0.9989	0.0001	0.07	0.9972	0.0001	0.10
NQZCKZ		0.9991	0.0002	0.28	0.9973	0.0002	0.25
PG6QR8	X	0.9987	-0.0002	-0.21	0.9987	0.0016	2.03
Q6NBFR		0.9989	0.0000	0.04	0.9971	0.0000	0.00
QCPKMK		0.9985	-0.0004	-0.44	0.9966	-0.0005	-0.61
QR22V8	X	0.9911	-0.0078	-9.43	0.9973	0.0002	0.25



**Analysis 906
Specific Gravity**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QWD6LA		0.9987	-0.0002	-0.20	0.9969	-0.0002	-0.24
RECGUB		0.9989	0.0001	0.09	0.9972	0.0001	0.13
T94KJA		0.9985	-0.0004	-0.44	0.9964	-0.0007	-0.92
T9JYT6		0.9972	-0.0017	-2.01	0.9953	-0.0018	-2.18
TJHFXN		0.9990	0.0001	0.17	0.9973	0.0002	0.20
TUKZXV	X	0.9986	-0.0003	-0.32	0.9962	-0.0009	-1.10
U82A4X		0.9989	0.0000	0.00	0.9972	0.0001	0.11
UFVFWY		0.9998	0.0009	1.12	0.9983	0.0012	1.47
UTL8MU		0.9989	0.0001	0.07	0.9972	0.0001	0.10
UZ2TNK		0.9998	0.0009	1.12	0.9978	0.0007	0.86
VFCWP7	X	1.0011	0.0022	2.69	0.9997	0.0026	3.15
WXB4M6		1.0010	0.0021	2.56	0.9992	0.0021	2.58
WY7R2U		0.9989	0.0000	0.06	0.9972	0.0001	0.12
X7XLCX		0.9993	0.0004	0.52	0.9975	0.0004	0.50
XTD7AX	X	1.0017	0.0028	3.41	0.9985	0.0014	1.73
Y63KTR		0.9989	0.0001	0.08	0.9972	0.0001	0.13
YXXQPJ		0.9991	0.0002	0.28	0.9974	0.0003	0.37
Z2JQPY		0.9989	0.0000	0.06	0.9972	0.0001	0.08
Z2ZNYQ	X	0.9996	0.0007	0.88	0.9997	0.0026	3.21

Grand Means		Summary Statistics	
0.99887	sp gr 20/20 C	0.99710	sp gr 20/20 C
Std Dev Btwn Labs			
0.00083	sp gr 20/20 C	0.00081	sp gr 20/20 C
Statistics based on 73 of 89 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel

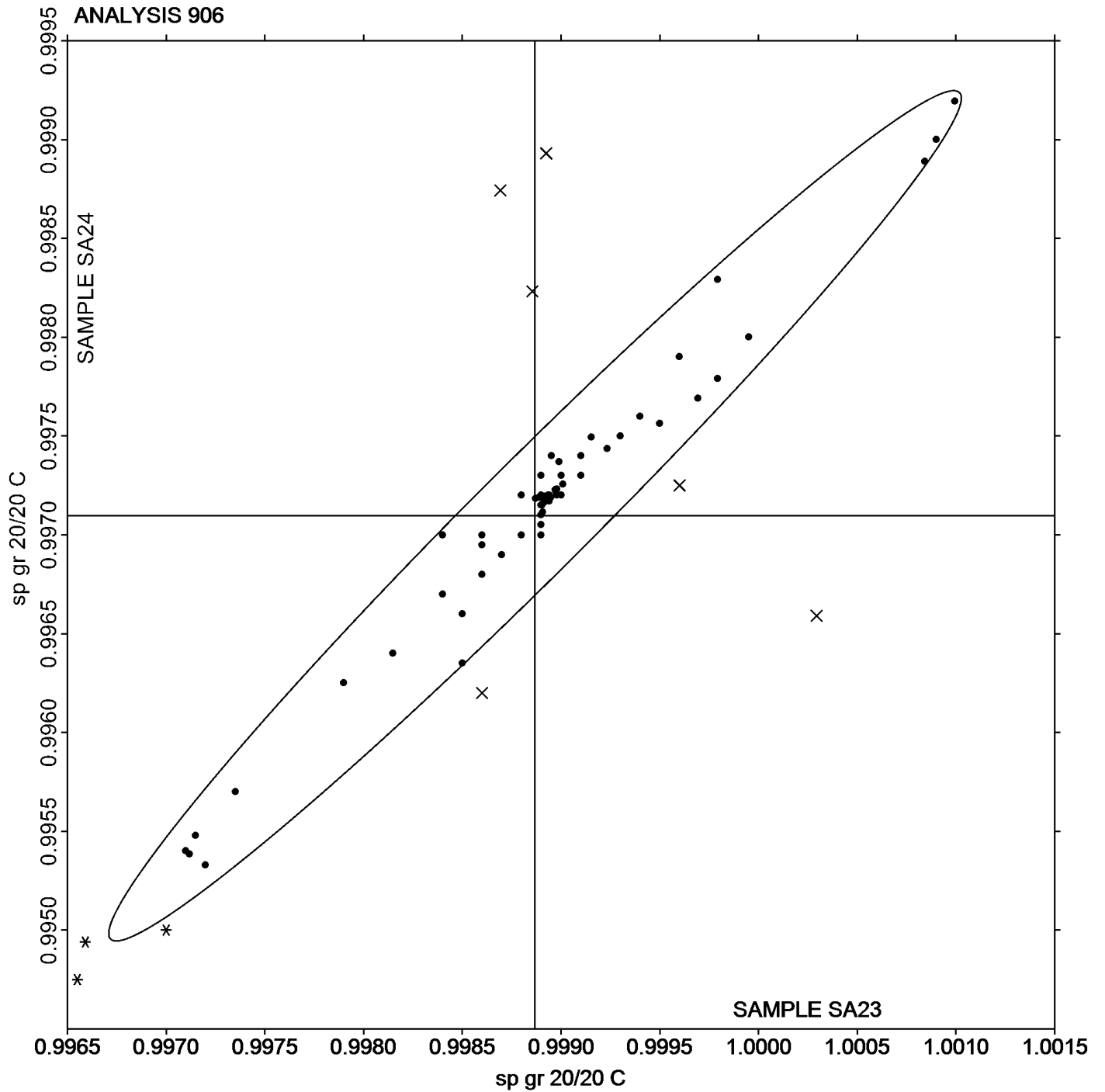


Comments on Assigned Data Flags for Test #906

- DG4UEF (X) - Inconsistent in testing between samples.
- PG6QR8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- LZDMWA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA24.
- EK63JP (X) - Inconsistent in testing between samples.
- 8D6DT8 (X) - Inconsistent in testing between samples, data for sample SA23 are low.
- 8THQB6 (X) - Inconsistent in testing between samples, data for sample SA23 are low.
- LCKH8Y (X) - Inconsistent in testing between samples, data for sample SA23 are low. Inconsistent within the determinations of sample SA23.
- TUKZXV (X) - Inconsistent in testing between samples.
- 6JXXJH (X) - Inconsistent in testing between samples, data for sample SA24 are high. Inconsistent within the determinations of both samples.
- KC6YM2 (X) - Inconsistent in testing between samples.
- Z2ZNYQ (X) - Inconsistent in testing between samples, data for sample SA24 are high.
- QR22V8 (X) - Inconsistent in testing between samples, data for sample SA23 are low.
- L3Y9MB (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA23.
- E8DEJJ (X) - Data for both samples are low. Possible Systematic Error.
- XTD7AX (X) - Inconsistent in testing between samples, data for sample SA23 are high.
- VFCWP7 (X) - Inconsistent in testing between samples, data for sample SA24 are high.



Analysis 906
Specific Gravity





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Analysis 907

pH

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		3.505	0.003	0.10	3.560	-0.002	-0.07
29V48U	*	3.505	0.003	0.10	3.540	-0.022	-0.82
2KA4VB		3.480	-0.022	-0.88	3.535	-0.027	-1.01
2PJJ6Y		3.490	-0.012	-0.49	3.550	-0.012	-0.45
333NRL		3.500	-0.002	-0.09	3.560	-0.002	-0.07
36QVFP		3.510	0.008	0.30	3.560	-0.002	-0.07
3K3JHR	X	3.555	0.053	2.07	3.580	0.018	0.69
3NLN2M		3.450	-0.052	-2.06	3.505	-0.057	-2.15
3PBYRF		3.490	-0.012	-0.49	3.550	-0.012	-0.45
3WU3YJ		3.490	-0.012	-0.49	3.550	-0.012	-0.45
3Y3DVM	X	3.430	-0.072	-2.84	3.370	-0.192	-7.26
46MWAL		3.495	-0.007	-0.29	3.550	-0.012	-0.45
4NKZDH		3.510	0.008	0.30	3.550	-0.012	-0.45
6H48FN	X	3.675	0.173	6.78	3.685	0.123	4.66
6JKYXL		3.500	-0.002	-0.09	3.560	-0.002	-0.07
6JXXJH		3.561	0.058	2.28	3.618	0.056	2.13
6TLWAM		3.520	0.018	0.69	3.570	0.008	0.31
77DHFH	X	3.540	0.038	1.48	3.560	-0.002	-0.07
7JLJPJ		3.535	0.033	1.28	3.590	0.028	1.07
7T7RFV		3.540	0.038	1.48	3.590	0.028	1.07
7V9PQN		3.510	0.008	0.30	3.570	0.008	0.31
86B8Z7		3.510	0.008	0.30	3.570	0.008	0.31
8D6DT8		3.530	0.028	1.09	3.590	0.028	1.07
8G4QFW		3.490	-0.012	-0.49	3.550	-0.012	-0.45
8THQB6	*	3.540	0.038	1.48	3.620	0.058	2.20
8WZ6E6		3.490	-0.012	-0.49	3.560	-0.002	-0.07
9DLTLE		3.515	0.013	0.50	3.575	0.013	0.50
9EAKBP		3.540	0.038	1.48	3.610	0.048	1.83
9EEZSQ		3.470	-0.032	-1.27	3.530	-0.032	-1.20
9WFMFP		3.530	0.028	1.09	3.580	0.018	0.69
9WFPY3	X	3.635	0.133	5.21	3.640	0.078	2.96
AFKLWN		3.485	-0.017	-0.68	3.545	-0.017	-0.63
AZCQKG		3.515	0.013	0.50	3.580	0.018	0.69
BNX3ZH		3.490	-0.012	-0.49	3.550	-0.012	-0.45
BPM477	X	3.645	0.143	5.60	3.650	0.088	3.34



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Analysis 907

pH

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
C6Y6F2		3.515	0.013	0.50	3.555	-0.007	-0.26
CBMYXK	*	3.480	-0.022	-0.88	3.565	0.003	0.12
CL3YL2		3.530	0.028	1.09	3.600	0.038	1.45
D3NLUB		3.505	0.003	0.10	3.570	0.008	0.31
DAN2GX		3.510	0.008	0.30	3.570	0.008	0.31
DYJ9QH		3.485	-0.017	-0.68	3.545	-0.017	-0.63
E6RRTG		3.505	0.003	0.10	3.565	0.003	0.12
E8DEJJ	*	3.455	-0.047	-1.86	3.535	-0.027	-1.01
E8Y8ZM		3.475	-0.027	-1.07	3.540	-0.022	-0.82
EDKZBM	X	3.545	0.043	1.67	3.575	0.013	0.50
EEFMPC		3.470	-0.032	-1.27	3.520	-0.042	-1.58
EK63JP		3.505	0.003	0.10	3.570	0.008	0.31
ENMKDF	*	3.580	0.078	3.05	3.640	0.078	2.96
EQ976H		3.490	-0.012	-0.49	3.560	-0.002	-0.07
F6PGAJ		3.480	-0.022	-0.88	3.540	-0.022	-0.82
FEAXUD		3.510	0.008	0.30	3.570	0.008	0.31
FZCLNU	X	3.630	0.128	5.01	3.620	0.058	2.20
GDY7NH	X	3.550	0.048	1.87	3.580	0.018	0.69
GJLVAD	*	3.475	-0.027	-1.07	3.515	-0.047	-1.77
H3RVRC	X	3.670	0.168	6.58	3.680	0.118	4.48
H6EETA		3.530	0.028	1.09	3.590	0.028	1.07
HFE6CW		3.510	0.008	0.30	3.570	0.008	0.31
JQUA6E		3.530	0.028	1.09	3.580	0.018	0.69
JR6BQD		3.520	0.018	0.69	3.580	0.018	0.69
JTHMMW		3.560	0.058	2.26	3.620	0.058	2.20
K73PG9		3.550	0.048	1.87	3.600	0.038	1.45
KC6YM2		3.530	0.028	1.09	3.590	0.028	1.07
L3Y9MB		3.515	0.013	0.50	3.570	0.008	0.31
LCKH8Y		3.515	0.013	0.50	3.580	0.018	0.69
LDVJTW		3.490	-0.012	-0.49	3.550	-0.012	-0.45
LQL9QH		3.480	-0.022	-0.88	3.540	-0.022	-0.82
LQQN74		3.480	-0.022	-0.88	3.550	-0.012	-0.45
LZDMWA		3.495	-0.007	-0.29	3.555	-0.007	-0.26
MPNZHX		3.515	0.013	0.50	3.580	0.018	0.69
MULJMH		3.495	-0.007	-0.29	3.555	-0.007	-0.26



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Analysis 907

pH

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MZMTTA		3.480	-0.022	-0.88	3.540	-0.022	-0.82
N9FN4D		3.535	0.033	1.28	3.600	0.038	1.45
NMZ7Y3		3.500	-0.002	-0.09	3.575	0.013	0.50
NQZCKZ		3.510	0.008	0.30	3.570	0.008	0.31
PG6QR8		3.495	-0.007	-0.29	3.545	-0.017	-0.63
Q6NBFR		3.485	-0.017	-0.68	3.548	-0.014	-0.54
QCPKMK	X	3.655	0.153	5.99	3.670	0.108	4.10
QR22V8		3.515	0.013	0.50	3.585	0.023	0.88
QWD6LA	X	3.440	-0.062	-2.45	3.555	-0.007	-0.26
RNJ42Q		3.445	-0.057	-2.25	3.500	-0.062	-2.34
T94KJA		3.460	-0.042	-1.66	3.515	-0.047	-1.77
T9JYT6		3.520	0.018	0.69	3.580	0.018	0.69
TJHFXN		3.490	-0.012	-0.49	3.545	-0.017	-0.63
TUKZXV		3.490	-0.012	-0.49	3.540	-0.022	-0.82
TYC4QY		3.500	-0.002	-0.09	3.540	-0.022	-0.82
U82A4X	X	3.445	-0.057	-2.25	3.545	-0.017	-0.63
UFVFWY		3.490	-0.012	-0.49	3.560	-0.002	-0.07
UTL8MU		3.480	-0.022	-0.88	3.540	-0.022	-0.82
UZ2TNK		3.480	-0.022	-0.88	3.540	-0.022	-0.82
VFCWP7		3.465	-0.037	-1.47	3.525	-0.037	-1.39
WXB4M6	X	3.495	-0.007	-0.29	3.585	0.023	0.88
WY7R2U		3.525	0.023	0.89	3.580	0.018	0.69
X7XLCX	X	3.575	0.073	2.85	3.595	0.033	1.26
XTD7AX		3.490	-0.012	-0.49	3.550	-0.012	-0.45
XYJVTQ	X	3.555	0.053	2.07	3.570	0.008	0.31
Y63KTR		3.510	0.008	0.30	3.570	0.008	0.31
Y8N8JT		3.505	0.003	0.10	3.575	0.013	0.50
YRVGJQ		3.480	-0.022	-0.88	3.540	-0.022	-0.82
YXXQPJ		3.470	-0.032	-1.27	3.530	-0.032	-1.20
Z2JQPY		3.530	0.028	1.09	3.590	0.028	1.07
Z2ZNYQ		3.470	-0.032	-1.27	3.530	-0.032	-1.20

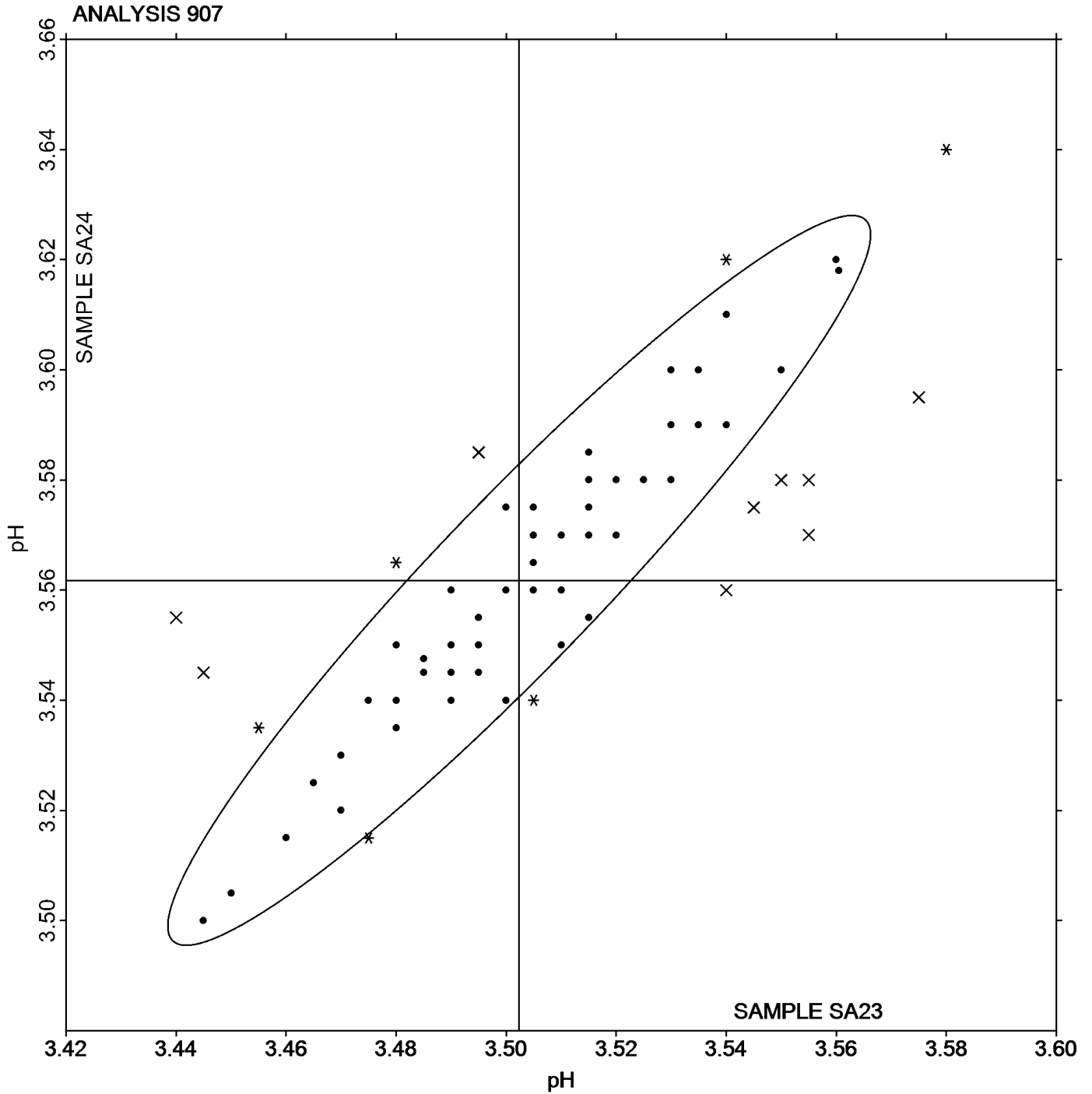


Grand Means	Summary Statistics
3.5024 pH	3.5618 pH
Stnd Dev Btwn Labs	
0.0255 pH	0.0264 pH
Statistics based on 85 of 101 reporting participants	

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #907

- XYJVTQ (X) - Inconsistent in testing between samples.
- EDKZBM (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA23.
- QWD6LA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA24.
- WXB4M6 (X) - Inconsistent in testing between samples.
- GDY7NH (X) - Inconsistent in testing between samples.
- QCCKMK (X) - Data for both samples are high. Possible Systematic Error.
- FZCLNU (X) - Inconsistent in testing between samples, data for sample SA23 are high.
- 9WFPY3 (X) - Data for both samples are high. Possible Systematic Error.
- BPM477 (X) - Data for both samples are high. Possible Systematic Error.
- 77DHFH (X) - Inconsistent in testing between samples.
- 3K3JHR (X) - Inconsistent in testing between samples.
- 6H48FN (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- U82A4X (X) - Inconsistent in testing between samples.
- 3Y3DVM (X) - Data for both samples are low.
- H3RVRC (X) - Data for both samples are high. Possible Systematic Error.
- X7XLCX (X) - Inconsistent in testing between samples, data for sample SA23 are high. Inconsistent within the determinations of sample SA24.





**Analysis 908
Residual Sugar**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KA4VB		12.50	0.08	0.05	8.800	0.094	0.07
6H48FN	X	11.30	-1.12	-0.68	9.800	1.094	0.77
7V9PQN		13.30	0.88	0.53	9.050	0.344	0.24
8THQB6		13.90	1.48	0.89	9.700	0.994	0.70
8WZ6E6		13.50	1.08	0.65	9.750	1.044	0.73
9WFPY3		12.86	0.44	0.26	9.265	0.559	0.39
C6Y6F2		12.55	0.12	0.07	8.995	0.289	0.20
E6RRTG		12.65	0.23	0.14	9.200	0.494	0.35
E8DEJJ		10.69	-1.73	-1.05	6.905	-1.801	-1.26
ENMKDF		10.51	-1.92	-1.16	6.800	-1.906	-1.34
EQ976H	*	15.00	2.58	1.56	10.000	1.294	0.91
GDY7NH		11.30	-1.12	-0.68	7.760	-0.946	-0.66
H3RVRC		13.90	1.48	0.89	9.950	1.244	0.87
JQUA6E		13.00	0.58	0.35	9.400	0.694	0.49
L3Y9MB		10.69	-1.73	-1.05	7.045	-1.661	-1.17
LDVJTW		14.30	1.88	1.13	10.200	1.494	1.05
LZDMWA		12.90	0.48	0.29	9.100	0.394	0.28
RECGUB		10.67	-1.75	-1.06	7.505	-1.201	-0.84
TJHFXN	*	15.89	3.47	2.09	12.230	3.524	2.47
UZ2TNK		11.40	-1.02	-0.62	8.300	-0.406	-0.29
VFCWP7		9.70	-2.72	-1.64	6.530	-2.176	-1.53
XTD7AX		11.10	-1.32	-0.80	7.100	-1.606	-1.13
XZA7JJ		10.38	-2.04	-1.23	7.355	-1.351	-0.95
Z2JQPY		14.35	1.93	1.16	10.400	1.694	1.19
Z2ZNYQ		11.12	-1.30	-0.79	7.610	-1.096	-0.77

Grand Means		Summary Statistics	
	12.423 g/L		8.7063 g/L
Std Dev Btwn Labs			1.4250 g/L
	1.657 g/L		
Statistics based on 24 of 25 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #908

6H48FN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA24.



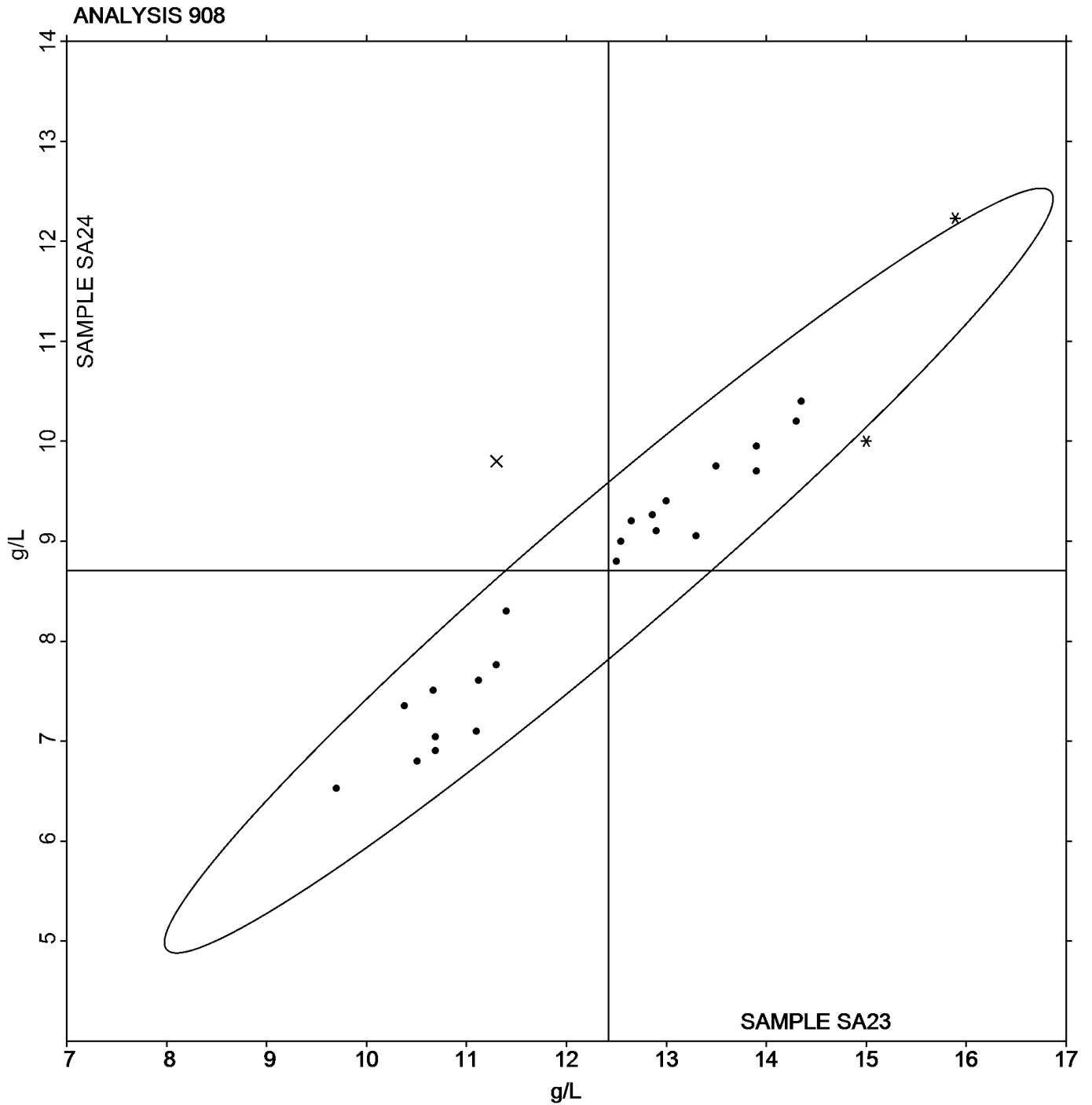
Analysis 908
Residual Sugar

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Please specify method used	10.690	0.000	-1.73	6.975	0.099	-1.73	2/2
Cu Reduction Method	13.111	1.532	0.69	9.310	1.257	0.60	11/11
HPLC	9.700	0.000	-2.72	6.530	0.000	-2.18	1/1
Segmented Flow	11.835	1.648	-0.59	8.453	1.340	-0.25	2/2
FTIR	12.928	1.458	0.51	9.210	1.140	0.50	6/7
Other _____	10.803	0.421	-1.62	6.950	0.212	-1.76	2/2



Analysis 908
Residual Sugar





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #062
Summer 2019

Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		0.2650	0.0373	1.07	0.2000	0.0117	0.33
2KA4VB		0.2200	-0.0077	-0.22	0.1950	0.0067	0.19
2PJJ6Y		0.2650	0.0373	1.07	0.2300	0.0417	1.19
333NRL		0.2300	0.0023	0.07	0.1900	0.0017	0.05
36QVFP		0.2500	0.0223	0.64	0.2180	0.0297	0.85
3K3JHR		0.2200	-0.0077	-0.22	0.1950	0.0067	0.19
3NLN2M		0.2000	-0.0277	-0.80	0.1700	-0.0183	-0.52
3PBYRF	X	0.1350	-0.0927	-2.67	0.0700	-0.1183	-3.37
3WU3YJ		0.2400	0.0123	0.35	0.2000	0.0117	0.33
46MWAL		0.2800	0.0523	1.51	0.2350	0.0467	1.33
4NKZDH	*	0.1500	-0.0777	-2.23	0.1000	-0.0883	-2.52
6H48FN		0.2250	-0.0027	-0.08	0.1900	0.0017	0.05
6JKYXL		0.2185	-0.0092	-0.26	0.1775	-0.0108	-0.31
6JXXJH		0.2275	-0.0002	0.00	0.1735	-0.0148	-0.42
6TLWAM		0.2300	0.0023	0.07	0.1850	-0.0033	-0.09
7JJLPJ		0.1850	-0.0427	-1.23	0.1300	-0.0583	-1.66
7T7RFV		0.2450	0.0173	0.50	0.2000	0.0117	0.33
7V9PQN		0.2300	0.0023	0.07	0.1800	-0.0083	-0.24
86B8Z7		0.2050	-0.0227	-0.65	0.1750	-0.0133	-0.38
8D6DT8		0.2000	-0.0277	-0.80	0.1450	-0.0433	-1.23
8G4QFW		0.2250	-0.0027	-0.08	0.1750	-0.0133	-0.38
8THQB6	*	0.3300	0.1023	2.94	0.2800	0.0918	2.62
8WZ6E6		0.1615	-0.0662	-1.90	0.1440	-0.0443	-1.26
9DLTLE		0.2000	-0.0277	-0.80	0.1600	-0.0283	-0.81
9EAKBP		0.2100	-0.0177	-0.51	0.1800	-0.0083	-0.24
9EEZSQ		0.2215	-0.0062	-0.18	0.2065	0.0182	0.52
9WFMFP	*	0.2765	0.0488	1.40	0.2665	0.0783	2.23
AZCQKG	X	0.1800	-0.0477	-1.37	0.1950	0.0067	0.19
BNX3ZH	X	0.4400	0.2123	6.11	0.1900	0.0017	0.05
C6Y6F2	X	0.0200	-0.2077	-5.97	0.0300	-0.1583	-4.51
CBMYXK	X	0.2450	0.0173	0.50	0.2545	0.0662	1.89
D3NLUB		0.1750	-0.0527	-1.51	0.1350	-0.0533	-1.52
DAN2GX		0.2565	0.0288	0.83	0.2155	0.0272	0.78
E8DEJJ		0.2500	0.0223	0.64	0.2250	0.0367	1.05
E8Y8ZM		0.2320	0.0043	0.12	0.1925	0.0042	0.12

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #062
Summer 2019****Analysis 909****L-Malic Acid**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EDKZBM		0.1750	-0.0527	-1.51	0.1400	-0.0483	-1.38
EEFMPC	*	0.1300	-0.0977	-2.81	0.0900	-0.0983	-2.80
EK63JP		0.2465	0.0188	0.54	0.2105	0.0222	0.63
ENMKDF		0.2200	-0.0077	-0.22	0.1950	0.0067	0.19
EQ976H	M				0.0650	-0.1233	-3.51
F6PGAJ		0.2200	-0.0077	-0.22	0.1545	-0.0338	-0.96
FEAXUD		0.2000	-0.0277	-0.80	0.1750	-0.0133	-0.38
FZCLNU		0.2565	0.0288	0.83	0.2120	0.0237	0.68
GDY7NH	X	0.5000	0.2723	7.83	0.4000	0.2118	6.04
GJLVAD		0.2505	0.0228	0.66	0.2110	0.0228	0.65
H3RVRC	X	0.1350	-0.0927	-2.67	0.0010	-0.1873	-5.34
H6EETA		0.2650	0.0373	1.07	0.2050	0.0167	0.48
HFE6CW		0.2510	0.0233	0.67	0.2070	0.0187	0.53
JTHMMW		0.2510	0.0233	0.67	0.2060	0.0177	0.51
K73PG9		0.2600	0.0323	0.93	0.2200	0.0317	0.90
KC6YM2	*	0.1500	-0.0777	-2.23	0.1350	-0.0533	-1.52
L3Y9MB		0.2800	0.0523	1.51	0.2350	0.0467	1.33
LCKH8Y		0.2500	0.0223	0.64	0.2150	0.0268	0.76
LDVJTW		0.2800	0.0523	1.51	0.2200	0.0317	0.90
LQL9QH		0.2250	-0.0027	-0.08	0.1500	-0.0383	-1.09
LQQN74		0.2300	0.0023	0.07	0.1750	-0.0133	-0.38
LZDMWA		0.2300	0.0023	0.07	0.2000	0.0117	0.33
MPNZHX		0.2500	0.0223	0.64	0.2200	0.0317	0.90
MULJMH		0.2200	-0.0077	-0.22	0.2050	0.0167	0.48
MZMTTA		0.1750	-0.0527	-1.51	0.1600	-0.0283	-0.81
N9FN4D		0.1750	-0.0527	-1.51	0.1400	-0.0483	-1.38
NQZCKZ		0.2200	-0.0077	-0.22	0.1800	-0.0083	-0.24
PG6QR8		0.2650	0.0373	1.07	0.2350	0.0467	1.33
Q6NBFR		0.2290	0.0013	0.04	0.1885	0.0002	0.01
QCPKMK		0.2150	-0.0127	-0.36	0.1850	-0.0033	-0.09
QR22V8		0.2150	-0.0127	-0.36	0.1850	-0.0033	-0.09
QWD6LA		0.1950	-0.0327	-0.94	0.1250	-0.0633	-1.80
RNJ42Q		0.2425	0.0148	0.43	0.1745	-0.0138	-0.39
T94KJA		0.2350	0.0073	0.21	0.2300	0.0417	1.19
T9JYT6		0.2515	0.0238	0.69	0.1980	0.0097	0.28



Analysis 909

L-Malic Acid

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
TJHFXN		0.1950	-0.0327	-0.94	0.1500	-0.0383	-1.09
TUKZXV		0.2150	-0.0127	-0.36	0.1750	-0.0133	-0.38
TYC4QY	X	0.5200	0.2923	8.41	0.5050	0.3168	9.03
U82A4X		0.2450	0.0173	0.50	0.1950	0.0067	0.19
UTL8MU	X	0.0835	-0.1442	-4.15	0.1045	-0.0838	-2.39
UZ2TNK	X	0.0100	-0.2177	-6.26	0.0100	-0.1783	-5.08
VFCWP7		0.2250	-0.0027	-0.08	0.2200	0.0317	0.90
WXB4M6	X	0.1970	-0.0307	-0.88	0.2455	0.0572	1.63
WY7R2U		0.2150	-0.0127	-0.36	0.1700	-0.0183	-0.52
XYJVTQ	X	0.0100	-0.2177	-6.26	0.0100	-0.1783	-5.08
Y63KTR		0.1960	-0.0317	-0.91	0.1505	-0.0378	-1.08
Y8N8JT		0.2600	0.0323	0.93	0.2100	0.0217	0.62
YRVGJQ		0.2585	0.0308	0.89	0.2160	0.0277	0.79
YXXQPJ		0.2700	0.0423	1.22	0.2265	0.0382	1.09
Z2JQPY		0.2300	0.0023	0.07	0.1900	0.0017	0.05
Z2ZNYQ	X	0.1950	-0.0327	-0.94	0.0760	-0.1123	-3.20

Grand Means		Summary Statistics	
	0.22767 g/L		0.18825 g/L
Std Dev Btwn Labs			0.03508 g/L
	0.03477 g/L		
Statistics based on 72 of 86 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel



Comments on Assigned Data Flags for Test #909

AZCQKG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA24.

UTL8MU (X) - Inconsistent in testing between samples, data for sample SA23 are low.

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

CBMYXK (X) - Inconsistent in testing between samples.

WXB4M6 (X) - Inconsistent in testing between samples.

GDY7NH (X) - Data for both samples are high. Possible Systematic Error.

C6Y6F2 (X) - Data for both samples are low. Possible Systematic Error.

3PBRYF (X) - Inconsistent in testing between samples, data for sample SA24 are low.

UZ2TNK (X) - Data for both samples are low. Possible Systematic Error.

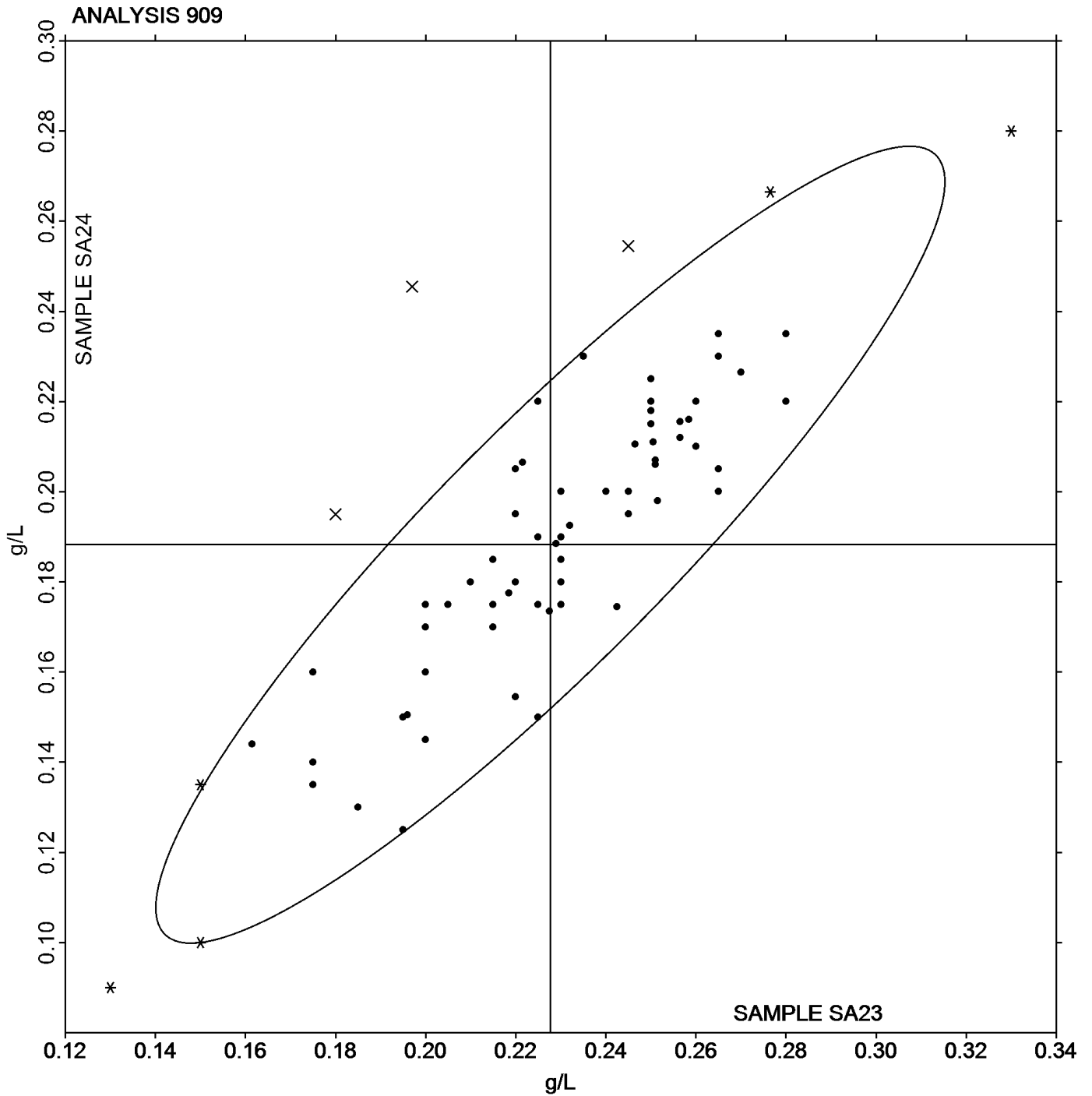
TYC4QY (X) - Data for both samples are high. Possible Systematic Error.

BNX3ZH (X) - Inconsistent in testing between samples, data for sample SA23 are high. Inconsistent within the determinations of sample SA23.

Z2ZNYQ (X) - Inconsistent in testing between samples, data for sample SA24 are low.

EQ976H (M) - Participant did not submit data for sample SA23. Data for Sample SA24 are low.

H3RVRC (X) - Inconsistent in testing between samples, data for sample SA24 are low.



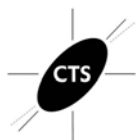


ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #062
Summer 2019

Analysis 910 Glucose + Fructose

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27QLZL		11.20	0.50	0.86	7.015	0.098	0.23
2KA4VB		10.80	0.11	0.18	7.100	0.183	0.43
2PJJ6Y		10.17	-0.53	-0.90	6.380	-0.537	-1.26
333NRL		10.90	0.21	0.35	6.900	-0.017	-0.04
36QVFP		11.60	0.91	1.54	7.300	0.383	0.90
3K3JHR		10.08	-0.62	-1.05	6.650	-0.267	-0.63
3NLN2M	*	9.95	-0.74	-1.26	5.800	-1.117	-2.62
3PBYRF		10.25	-0.44	-0.75	6.815	-0.102	-0.24
3WU3YJ		10.60	-0.09	-0.16	6.700	-0.217	-0.51
46MWAL		10.70	0.01	0.01	6.785	-0.132	-0.31
4NKZDH		11.40	0.71	1.20	7.500	0.583	1.37
6H48FN	X	13.10	2.41	4.10	9.045	2.128	5.00
6JKYXL		10.50	-0.19	-0.33	6.900	-0.017	-0.04
6JXXJH		9.36	-1.33	-2.26	6.265	-0.652	-1.53
6TLWAM	*	9.15	-1.54	-2.62	6.100	-0.817	-1.92
77DHFH		10.60	-0.09	-0.16	7.450	0.533	1.25
7JLJP	X	12.58	1.88	3.20	7.070	0.153	0.36
7V9PQN		10.75	0.05	0.09	6.325	-0.592	-1.39
86B8Z7		10.20	-0.49	-0.84	6.650	-0.267	-0.63
8D6DT8		10.38	-0.31	-0.53	6.325	-0.592	-1.39
8G4QFW		10.45	-0.24	-0.41	7.100	0.183	0.43
9DLTLE		10.74	0.05	0.08	7.020	0.103	0.24
9EAKBP		10.80	0.11	0.18	7.000	0.083	0.20
9EEZNQ		11.35	0.66	1.12	7.600	0.683	1.60
9WFMFP		10.90	0.20	0.35	6.750	-0.167	-0.39
9WFPY3	*	10.82	0.13	0.22	7.700	0.783	1.84
AFKLWN		10.55	-0.14	-0.24	6.600	-0.317	-0.74
AZCQKG		10.84	0.14	0.24	6.995	0.078	0.18
BNX3ZH		10.32	-0.38	-0.64	6.890	-0.027	-0.06
BPM477		11.10	0.41	0.69	7.250	0.333	0.78
C6Y6F2		10.57	-0.12	-0.21	6.705	-0.212	-0.50
CBMYXK		10.30	-0.40	-0.67	6.250	-0.667	-1.57
CL3YL2		11.80	1.11	1.88	7.500	0.583	1.37
D3NLUB		11.81	1.12	1.90	7.295	0.378	0.89
DAN2GX		11.12	0.43	0.73	6.780	-0.137	-0.32

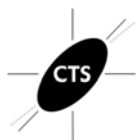


ASEV-CTS Wine Industry Interlaboratory Testing Program

**Report #062
Summer 2019**

**Analysis 910
Glucose + Fructose**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DYJ9QH		9.64	-1.05	-1.79	6.325	-0.592	-1.39
E8DEJJ		10.69	0.00	0.00	6.905	-0.012	-0.03
E8Y8ZM		11.75	1.06	1.80	7.150	0.233	0.55
EDKZBM		9.87	-0.82	-1.40	5.965	-0.952	-2.24
EEFMPC	X	5.59	-5.10	-8.68	3.910	-3.007	-7.06
EK63JP		11.20	0.51	0.86	7.180	0.263	0.62
ENMKDF		10.51	-0.19	-0.32	6.800	-0.117	-0.27
EQ976H	X	13.00	2.31	3.93	9.000	2.083	4.89
F6PGAJ	X	18.60	7.91	13.45	6.660	-0.257	-0.60
FEAXUD		10.90	0.20	0.35	7.045	0.128	0.30
FZCLNU		10.81	0.11	0.19	7.055	0.138	0.32
GDY7NH	X	13.51	2.82	4.79	9.440	2.523	5.93
GJLVAD		11.35	0.66	1.12	7.250	0.333	0.78
H3RVRC		11.60	0.91	1.54	7.750	0.833	1.96
H6EETA	M	11.04	0.34	0.58	No data reported for this sample		
HFE6CW		11.50	0.81	1.37	7.300	0.383	0.90
JR6BQD		11.80	1.11	1.88	7.400	0.483	1.14
JTHMMW		11.60	0.91	1.54	7.600	0.683	1.60
K73PG9		10.75	0.06	0.10	7.155	0.238	0.56
KC6YM2		10.00	-0.69	-1.18	6.560	-0.357	-0.84
L3Y9MB		10.69	0.00	0.00	7.045	0.128	0.30
LCKH8Y		10.65	-0.04	-0.07	6.950	0.033	0.08
LDVJTW		10.15	-0.54	-0.92	6.900	-0.017	-0.04
LQL9QH		10.46	-0.24	-0.40	7.045	0.128	0.30
LQQN74		10.25	-0.44	-0.75	6.950	0.033	0.08
LZDMWA		11.10	0.41	0.69	7.170	0.253	0.59
MPNZHX		10.15	-0.55	-0.93	6.820	-0.097	-0.23
MULJMH		10.90	0.21	0.35	7.300	0.383	0.90
MZMTTA		10.95	0.26	0.44	6.700	-0.217	-0.51
N9FN4D		10.19	-0.50	-0.85	6.980	0.063	0.15
NMZ7Y3		11.49	0.79	1.35	7.450	0.533	1.25
NQZCKZ		10.60	-0.09	-0.16	6.950	0.033	0.08
PG6QR8		10.84	0.14	0.24	7.220	0.303	0.71
Q6NBFR		11.14	0.44	0.75	7.245	0.328	0.77
QCPKMK		10.60	-0.09	-0.16	7.100	0.183	0.43



Analysis 910
Glucose + Fructose

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QR22V8		10.57	-0.13	-0.22	6.845	-0.072	-0.17
QWD6LA		9.79	-0.91	-1.54	6.225	-0.692	-1.62
RECGUB	*	9.59	-1.11	-1.88	5.780	-1.137	-2.67
RNJ42Q		10.84	0.15	0.25	6.845	-0.072	-0.17
T94KJA		10.89	0.19	0.33	6.795	-0.122	-0.29
T9JYT6		12.05	1.36	2.31	7.700	0.783	1.84
TJHFXN		10.42	-0.28	-0.47	6.760	-0.157	-0.37
TUKZXV		10.60	-0.10	-0.16	7.065	0.148	0.35
TYC4QY		9.75	-0.94	-1.60	6.350	-0.567	-1.33
U82A4X		10.44	-0.26	-0.44	6.790	-0.127	-0.30
UTL8MU		10.35	-0.34	-0.58	6.350	-0.567	-1.33
UZ2TNK	X	13.15	2.46	4.18	8.000	1.083	2.54
VFCWP7		10.22	-0.47	-0.80	6.557	-0.360	-0.84
WXB4M6		10.25	-0.44	-0.75	6.850	-0.067	-0.16
WY7R2U		10.30	-0.39	-0.67	6.550	-0.367	-0.86
XYJVTQ		10.50	-0.19	-0.33	7.350	0.433	1.02
Y63KTR		11.30	0.61	1.03	7.200	0.283	0.67
Y8N8JT		10.55	-0.14	-0.24	6.800	-0.117	-0.27
YRVGJQ		11.65	0.96	1.63	7.500	0.583	1.37
YXXQPJ		10.80	0.11	0.18	7.100	0.183	0.43
Z2JQPY		10.48	-0.22	-0.37	7.015	0.098	0.23
Z2ZNYQ	X	8.17	-2.52	-4.29	6.000	-0.917	-2.15

Grand Means		Summary Statistics	
	10.692 g/L		6.9167 g/L
Std Dev Btwn Labs			
	0.588 g/L		0.4258 g/L
Statistics based on 83 of 92 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel



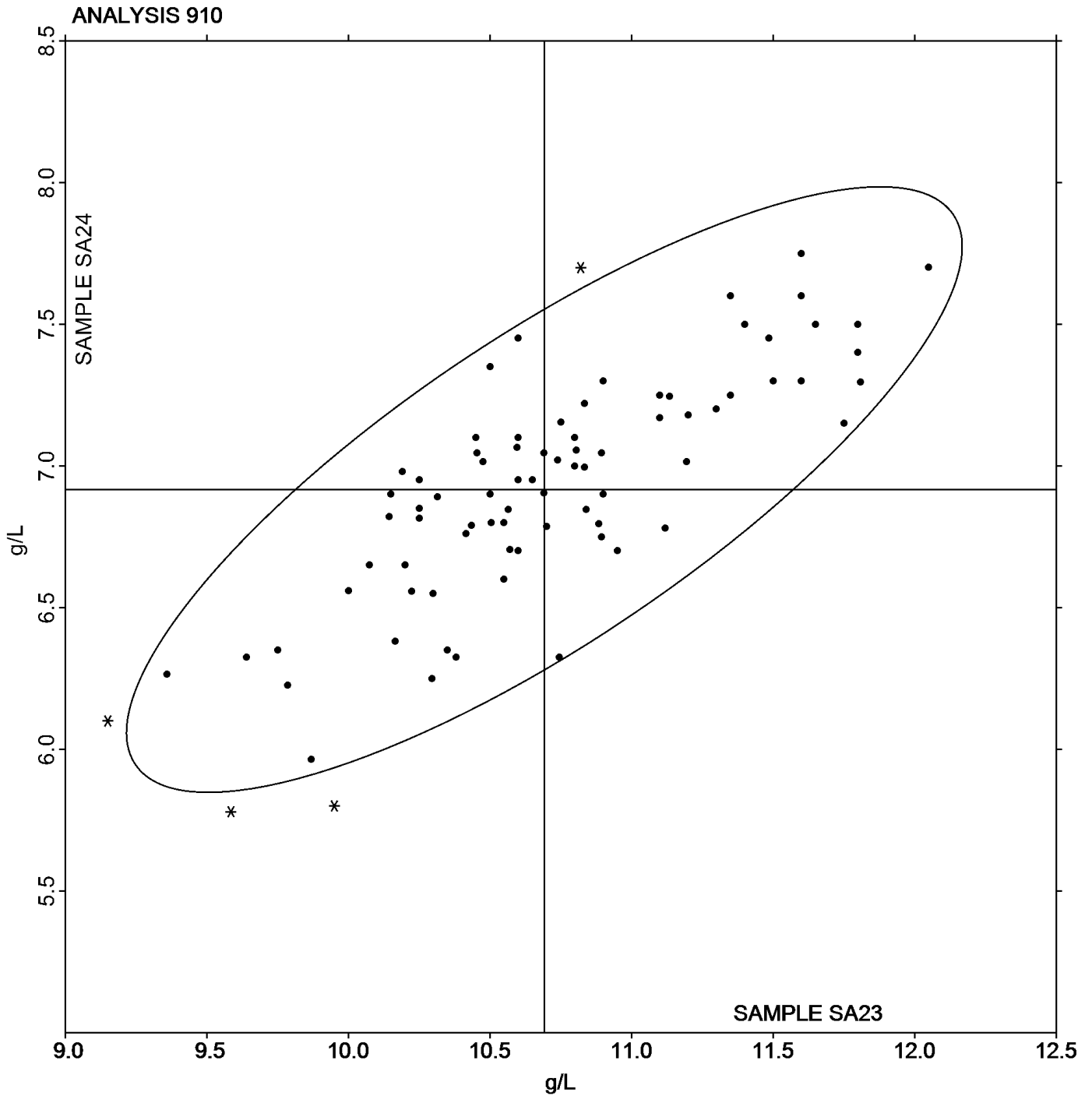
**Analysis 910
Glucose + Fructose**

Comments on Assigned Data Flags for Test #910

- 7JLJPJ (X) - Data for sample SA23 are high. Inconsistent within the determinations of sample SA23.
- GDY7NH (X) - Data for both samples are high.
- F6PGAJ (X) - Data for sample SA23 are high. Inconsistent within the determinations of sample SA23.
- UZ2TNK (X) - Data for sample SA23 are high. Inconsistent within the determinations of sample SA24.
- H6EETA (M) - Participant did not submit data for sample SA24.
- Z2ZNYQ (X) - Data for sample SA23 are low.
- 6H48FN (X) - Data for both samples are high.
- EEFMPC (X) - Data for both samples are low.
- EQ976H (X) - Data for both samples are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
HPLC	10.000	0.587	-0.69	6.270	0.693	-0.65	2/2
Enzymatic/Spectrophotometric	10.716	0.587	0.02	6.929	0.392	0.01	74/80
FTIR	10.720	0.565	0.03	6.993	0.676	0.08	6/8
Other _____	10.145	0.000	-0.55	6.820	0.000	-0.10	1/2





**Analysis 911
Copper Content**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KA4VB		0.0400	-0.0042	-0.16	0.0300	-0.0124	-0.44
36QVFP		0.1000	0.0558	2.12	0.1000	0.0576	2.04
3PBYRF		0.0400	-0.0042	-0.16	0.0300	-0.0124	-0.44
7V9PQN		0.0850	0.0408	1.55	0.0850	0.0426	1.51
9EAKBP	*	0.0210	-0.0232	-0.88	0.0400	-0.0024	-0.09
AZCQKG		0.0300	-0.0142	-0.54	0.0300	-0.0124	-0.44
C6Y6F2	X	0.1580	0.1138	4.32	0.0320	-0.0104	-0.37
CBMYXK		0.0100	-0.0342	-1.29	0.0100	-0.0324	-1.15
E8Y8ZM	X	0.1235	0.0793	3.01	0.1185	0.0761	2.69
EDKZBM		0.0640	0.0198	0.75	0.0600	0.0176	0.62
EQ976H		0.0500	0.0058	0.22	0.0450	0.0026	0.09
GDY7NH		0.0750	0.0308	1.17	0.0830	0.0406	1.44
H3RVRC		0.0350	-0.0092	-0.35	0.0280	-0.0144	-0.51
JQUA6E		0.0310	-0.0132	-0.50	0.0265	-0.0159	-0.56
JR6BQD	X	0.1350	0.0908	3.44	0.0700	0.0276	0.98
LCKH8Y		0.0245	-0.0197	-0.75	0.0185	-0.0239	-0.85
LDVJTW		0.0400	-0.0042	-0.16	0.0400	-0.0024	-0.09
LQQN74		0.0328	-0.0114	-0.43	0.0275	-0.0149	-0.53
NQZCKZ	X	0.3300	0.2858	10.84	0.2800	0.2376	8.40
RECGUB		0.0315	-0.0127	-0.48	0.0260	-0.0164	-0.58
T9JYT6		0.1050	0.0608	2.31	0.1100	0.0676	2.39
TJHFXN		0.0300	-0.0142	-0.54	0.0255	-0.0169	-0.60
UTL8MU		0.0300	-0.0142	-0.54	0.0300	-0.0124	-0.44
VFCWP7		0.0340	-0.0102	-0.39	0.0290	-0.0134	-0.47
Y63KTR		0.0185	-0.0257	-0.97	0.0165	-0.0259	-0.92

Grand Means		Summary Statistics	
	0.04416 mg/L		0.04240 mg/L
Std Dev Btw Labs			0.02829 mg/L
	0.02638 mg/L		
Statistics based on 21 of 25 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel



Analysis 911
Copper Content

Comments on Assigned Data Flags for Test #911

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

JR6BQD (X) - Data for sample SA23 are high. Inconsistent within the determinations of sample SA23.

E8Y8ZM (X) - Data for both samples are high.

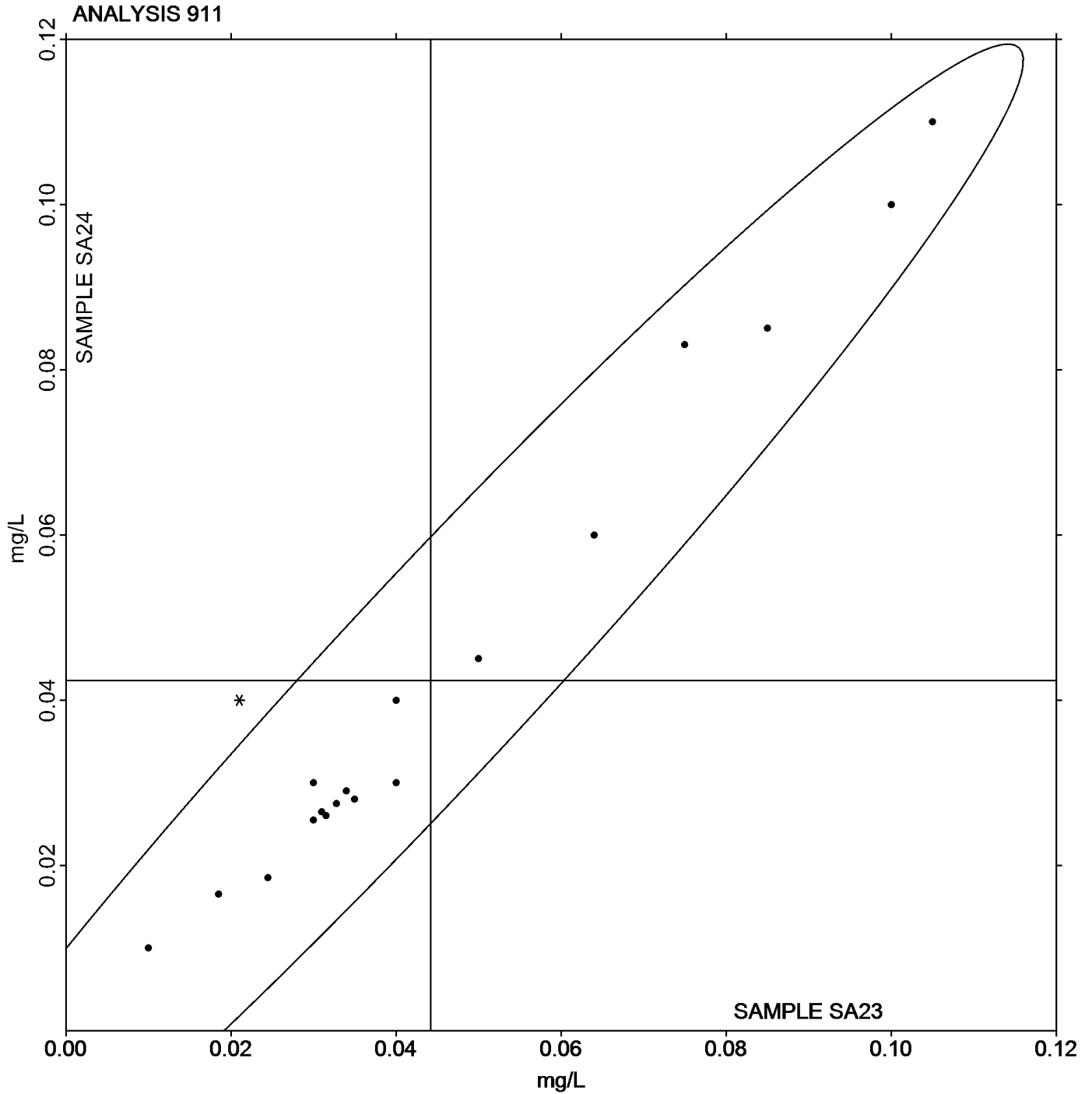
C6Y6F2 (X) - Data for sample SA23 are high.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</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	0.030	0.0035	0.050	0.031	0.0073	9/12
ICP	0.038	0.022	-0.0066	0.033	0.023	-0.0098	11/12
FTIR	0.085	0.000	0.0408	0.085	0.000	0.0426	1/1



Analysis 911
Copper Content





**Analysis 912
Potassium (K) Content**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KA4VB		888.5	-150.1	-1.02	917.5	-173.4	-1.10
36QVFP		967.0	-71.6	-0.49	1,010.0	-80.9	-0.51
3PBXRF		1,242.0	203.4	1.39	1,372.0	281.1	1.78
AZCQKG		1,032.5	-6.1	-0.04	1,097.5	6.6	0.04
C6Y6F2		1,120.0	81.4	0.56	1,160.0	69.1	0.44
CBMYXK	X	1,255.5	216.9	1.48	1,025.0	-65.9	-0.42
DG4UEF		951.0	-87.6	-0.60	1,022.0	-68.9	-0.44
EDKZBM		1,082.5	43.9	0.30	1,211.0	120.1	0.76
EK63JP		1,193.0	154.4	1.05	1,234.5	143.6	0.91
EQ976H		737.0	-301.6	-2.06	739.0	-351.9	-2.23
F6PGAJ		1,194.0	155.4	1.06	1,193.5	102.6	0.65
FEAXUD		1,133.5	94.9	0.65	1,194.0	103.1	0.65
H3RVRC		868.0	-170.6	-1.16	923.5	-167.4	-1.06
LCKH8Y		977.5	-61.1	-0.42	1,020.0	-70.9	-0.45
LDVJTW		1,260.0	221.4	1.51	1,275.0	184.1	1.17
LQQN74		1,091.9	53.3	0.36	1,139.3	48.4	0.31
RECGUB		966.5	-72.1	-0.49	1,017.5	-73.4	-0.47
TJHFXN		906.4	-132.2	-0.90	970.3	-120.6	-0.76
UTL8MU		894.0	-144.6	-0.99	940.0	-150.9	-0.96
VFCWP7		1,231.0	192.4	1.31	1,322.0	231.1	1.46
Y63KTR		910.5	-128.1	-0.87	960.0	-130.9	-0.83
Z2JQPY		1,163.0	124.4	0.85	1,190.5	99.6	0.63

Grand Means	Summary Statistics
1,038.56 mg/L	1,090.91 mg/L
Stnd Dev Btwn Labs	
146.70 mg/L	157.75 mg/L
Statistics based on 21 of 22 reporting participants	

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #912

CBMYXK (X) - Inconsistent in testing between samples.



**Analysis 912
Potassium (K) Content**

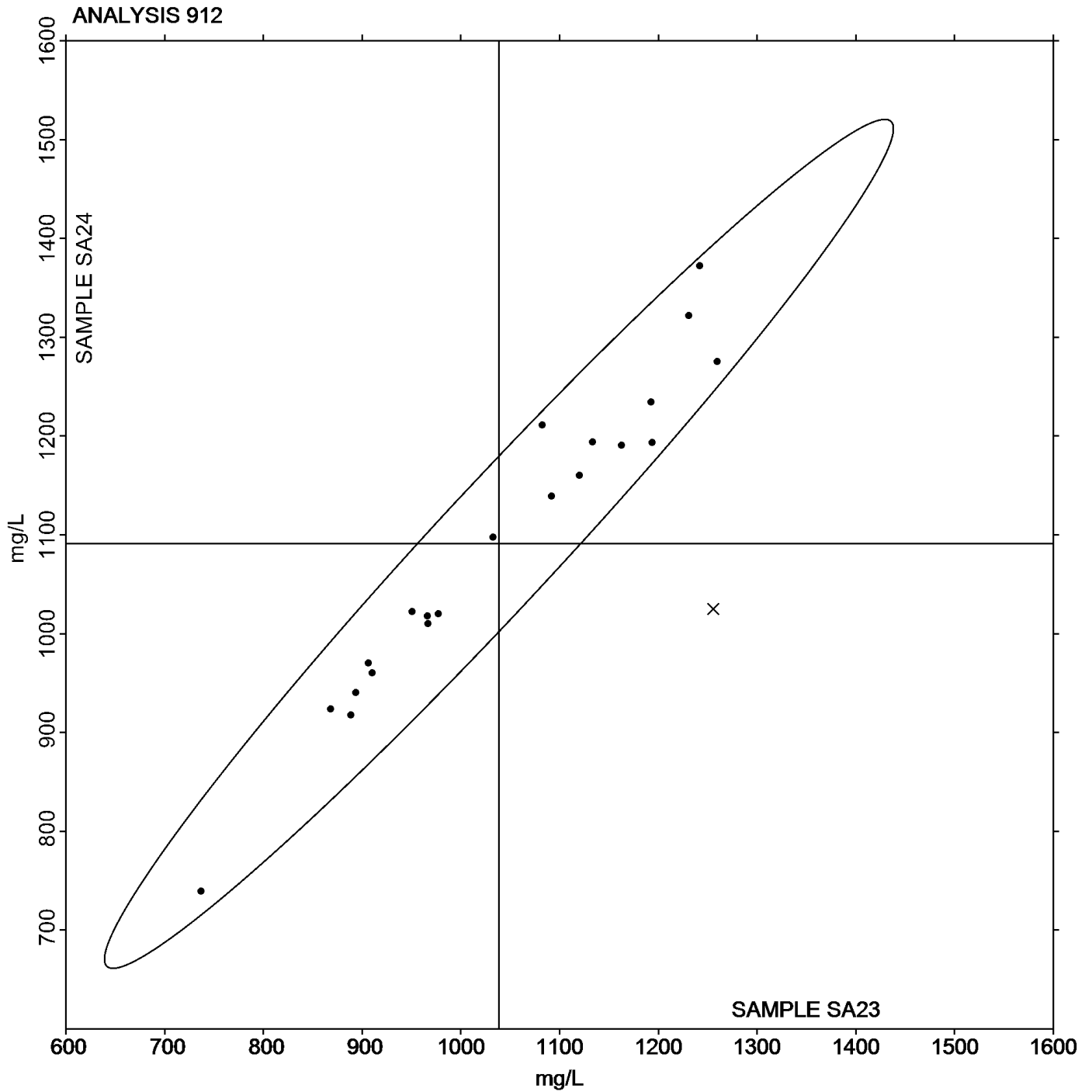
Results by Methodology (as reported by laboratory)

Test Methodology	Sample SA23 <i>Red Blend</i>			Sample SA24 <i>Zinfandel</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Atomic Absorption Spectroscopy	1,038.000	179.870	-0.6	1,097.500	203.333	6.6	6/7
ICP	941.140	68.777	-97.4	988.678	68.733	-102.2	9/9
FTIR	1,190.000	98.995	151.4	1,217.500	81.317	126.6	2/2
Other _____	1,179.500	56.100	140.9	1,252.167	103.793	161.3	3/3
Colorimetric Analysis	1,193.000	0.000	154.4	1,234.500	0.000	143.6	1/1



Analysis 912

Potassium (K) Content



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #062
Summer 2019****Analysis 915
A420nm (1cm path)**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
36QVFP		2.950	0.103	0.65	2.450	0.064	0.57
3K3JHR		2.646	-0.202	-1.28	2.195	-0.192	-1.73
3NLN2M		2.965	0.118	0.75	2.445	0.059	0.53
3PBYRF		3.090	0.243	1.54	2.545	0.159	1.43
3WU3YJ		2.846	-0.001	-0.01	2.370	-0.016	-0.15
6H48FN	X	0.602	-2.246	-14.26	0.501	-1.886	-16.99
6TLWAM		2.775	-0.072	-0.46	2.360	-0.026	-0.24
7V9PQN	X	3.230	0.383	2.43	2.985	0.599	5.40
86B8Z7		2.870	0.023	0.14	2.400	0.014	0.12
8G4QFW		2.791	-0.056	-0.36	2.344	-0.042	-0.38
8THQB6	*	3.083	0.236	1.50	2.649	0.263	2.37
8WZ6E6	*	2.670	-0.177	-1.13	2.400	0.014	0.12
9EAKBP	*	2.430	-0.417	-2.65	2.177	-0.210	-1.89
9EEZLNQ	X	3.010	0.163	1.03	3.578	1.192	10.74
9WFPY3		2.620	-0.227	-1.44	2.288	-0.099	-0.89
AZCQKG		2.805	-0.042	-0.27	2.340	-0.046	-0.42
C6Y6F2		3.135	0.288	1.83	2.605	0.219	1.97
CBMYXK		2.697	-0.150	-0.95	2.343	-0.044	-0.39
DAN2GX		2.935	0.088	0.56	2.440	0.054	0.48
DYJ9QH		2.574	-0.274	-1.74	2.291	-0.096	-0.86
E6RRTG		2.980	0.133	0.84	2.447	0.061	0.55
EDKZBM		2.960	0.113	0.72	2.450	0.064	0.57
EK63JP	X	0.608	-2.240	-14.23	0.501	-1.885	-16.99
ENMKDF		2.774	-0.074	-0.47	2.429	0.043	0.39
EQ976H		3.000	0.153	0.97	2.480	0.094	0.84
F6PGAJ	X	2.575	-0.272	-1.73	3.100	0.714	6.43
FEAXUD		2.961	0.113	0.72	2.462	0.075	0.68
GDY7NH		2.829	-0.018	-0.12	2.393	0.007	0.06
H3RVRC		2.755	-0.092	-0.59	2.283	-0.103	-0.93
JR6BQD		2.909	0.061	0.39	2.394	0.007	0.07
KC6YM2		2.880	0.033	0.21	2.440	0.054	0.48
LCKH8Y		2.804	-0.043	-0.28	2.312	-0.074	-0.67
LDVJTW		2.900	0.053	0.33	2.415	0.029	0.26
LQQN74		2.740	-0.107	-0.68	2.365	-0.021	-0.19
LZDMWA	X	0.580	-2.267	-14.40	0.474	-1.913	-17.23



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

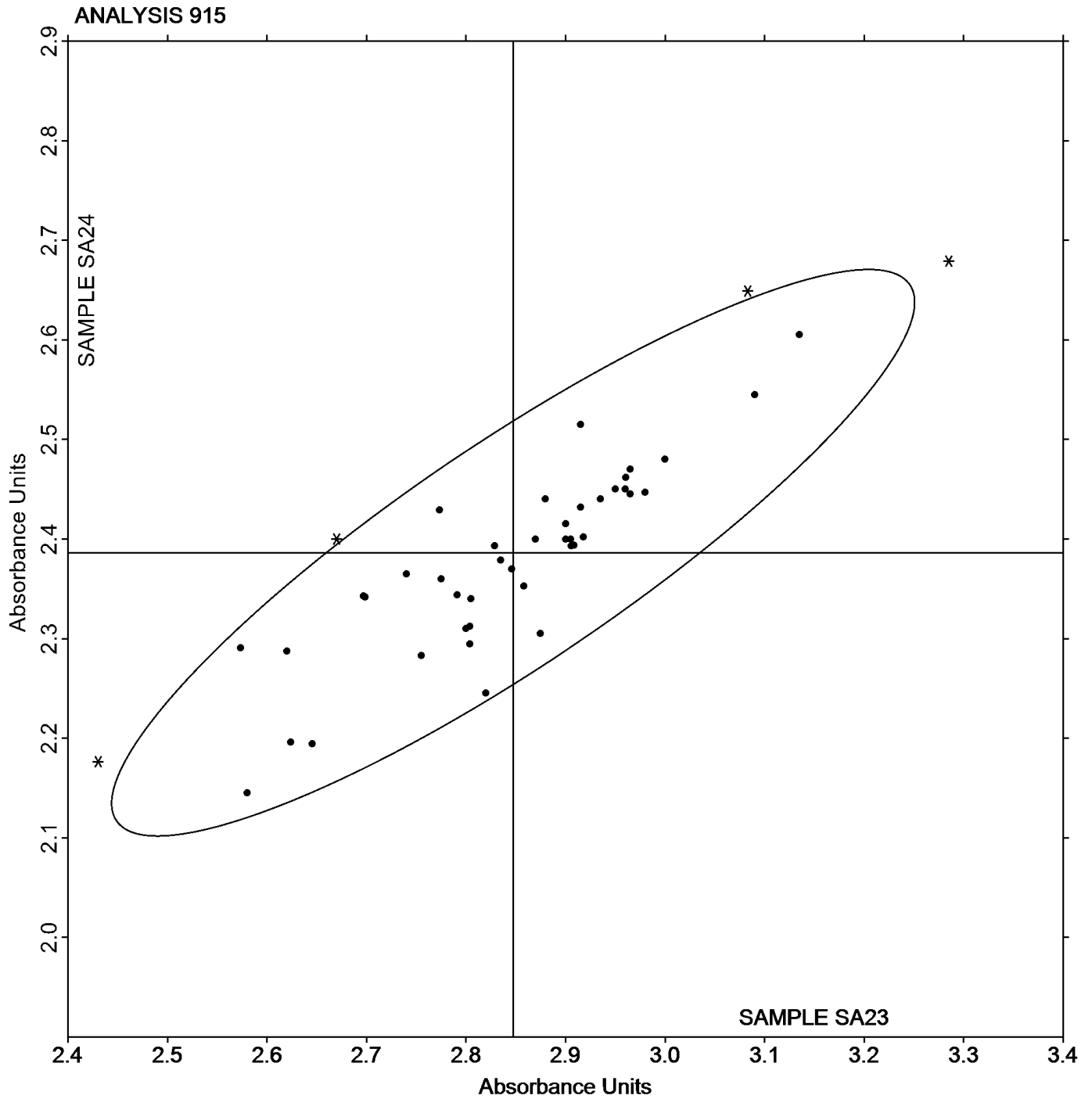
WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MZMTTA		2.906	0.059	0.37	2.393	0.007	0.06
N9FN4D		2.965	0.118	0.75	2.470	0.084	0.75
NQZCKZ		2.915	0.068	0.43	2.515	0.129	1.16
PG6QR8		2.915	0.068	0.43	2.432	0.046	0.41
Q6NBFR		2.858	0.011	0.07	2.353	-0.034	-0.30
QCPKMK		2.580	-0.267	-1.70	2.145	-0.241	-2.17
QR22V8		2.699	-0.149	-0.95	2.342	-0.045	-0.40
QWD6LA		2.820	-0.027	-0.17	2.245	-0.141	-1.27
T94KJA		2.900	0.053	0.33	2.400	0.014	0.12
TJHFXN	*	3.285	0.438	2.78	2.679	0.293	2.64
TUKZXV		2.804	-0.043	-0.28	2.295	-0.092	-0.83
U82A4X		2.835	-0.012	-0.08	2.379	-0.008	-0.07
VFCWP7		2.918	0.071	0.45	2.402	0.016	0.14
WY7R2U		2.905	0.058	0.37	2.400	0.014	0.12
XTD7AX		2.624	-0.223	-1.42	2.196	-0.190	-1.71
YXXQPJ		2.800	-0.047	-0.30	2.310	-0.076	-0.69
Z2JQPY		2.875	0.028	0.18	2.305	-0.081	-0.73

Grand Means		Summary Statistics	
2.8473	Absorbance Units	2.3863	Absorbance Units
Std Dev Btwn Labs			
0.1574	Absorbance Units	0.1110	Absorbance Units
Statistics based on 46 of 52 reporting participants			

Wines tested: SA23: Red Blend; SA24: Zinfandel

Comments on Assigned Data Flags for Test #915

- LZDMWA (X) - Data for both samples are low.
- EK63JP (X) - Data for both samples are low.
- 9EEZSQ (X) - Data for sample SA24 are high. Inconsistent within the determinations of sample SA24.
- F6PGAJ (X) - Data for sample SA24 are high. Inconsistent within the determinations of sample SA24.
- 6H48FN (X) - Data for both samples are low.
- 7V9PQN (X) - Data for sample SA24 are high.



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #062
Summer 2019****Analysis 916
A520nm (1cm path)**

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
36QVFP		3.792	0.202	0.57	3.068	0.106	0.46
3K3JHR		3.387	-0.203	-0.57	2.750	-0.213	-0.93
3NLN2M	*	2.475	-1.115	-3.14	2.275	-0.687	-3.01
3PBYRF		3.950	0.360	1.01	3.160	0.198	0.87
3WU3YJ		3.600	0.010	0.03	2.950	-0.012	-0.05
6H48FN	X	0.879	-2.711	-7.63	0.719	-2.244	-9.84
6TLWAM		3.637	0.047	0.13	3.013	0.051	0.22
7V9PQN		4.364	0.774	2.18	3.418	0.456	2.00
86B8Z7		3.100	-0.490	-1.38	2.800	-0.162	-0.71
8G4QFW	M				2.961	-0.002	-0.01
8THQB6	*	4.105	0.515	1.45	3.463	0.501	2.20
8WZ6E6	*	3.320	-0.270	-0.76	3.030	0.068	0.30
9EAKBP		3.171	-0.419	-1.18	2.791	-0.171	-0.75
9EEZNQ	X	2.755	-0.835	-2.35	3.350	0.388	1.70
9WFPY3	M				2.965	0.002	0.01
AZCQKG		3.625	0.035	0.10	2.935	-0.027	-0.12
C6Y6F2		4.095	0.505	1.42	3.295	0.333	1.46
CBMYXK		3.498	-0.092	-0.26	2.938	-0.025	-0.11
DYJ9QH		3.279	-0.311	-0.87	2.911	-0.051	-0.22
E6RRTG		3.893	0.303	0.85	3.129	0.167	0.73
EDKZBM	X	0.380	-3.210	-9.03	0.308	-2.654	-11.64
EK63JP	X	0.785	-2.805	-7.89	0.633	-2.329	-10.21
ENMKDF		3.453	-0.137	-0.39	2.779	-0.184	-0.81
EQ976H		3.830	0.240	0.68	3.100	0.138	0.60
F6PGAJ	X	3.200	-0.390	-1.10	3.975	1.013	4.44
FEAXUD		3.710	0.120	0.34	3.060	0.097	0.43
GDY7NH		3.510	-0.080	-0.22	2.821	-0.141	-0.62
H3RVRC	*	2.885	-0.705	-1.98	2.350	-0.613	-2.69
JR6BQD		3.708	0.118	0.33	2.980	0.018	0.08
KC6YM2		3.720	0.130	0.37	3.060	0.098	0.43
LCKH8Y		3.652	0.062	0.17	2.909	-0.054	-0.24
LDVJTW		3.710	0.120	0.34	3.000	0.038	0.17
LQQN74		3.555	-0.035	-0.10	2.975	0.013	0.06
LZDMWA	X	0.746	-2.844	-8.00	0.597	-2.365	-10.37
MZMTTA		3.740	0.150	0.42	3.000	0.038	0.17



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

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N9FN4D		3.780	0.190	0.53	3.090	0.128	0.56
NQZCKZ		3.750	0.160	0.45	3.115	0.153	0.67
PG6QR8	*	2.930	-0.660	-1.86	2.810	-0.152	-0.67
Q6NBFR		3.660	0.070	0.20	2.946	-0.016	-0.07
QCPKMK		3.330	-0.260	-0.73	2.700	-0.262	-1.15
QR22V8		3.696	0.106	0.30	3.060	0.098	0.43
QWD6LA		3.540	-0.050	-0.14	2.825	-0.137	-0.60
T94KJA		3.725	0.135	0.38	3.000	0.038	0.17
TJHFXN		4.376	0.786	2.21	3.493	0.531	2.33
TUKZXV		3.625	0.035	0.10	2.904	-0.058	-0.26
U82A4X		3.494	-0.096	-0.27	2.952	-0.011	-0.05
VFCWP7		3.565	-0.025	-0.07	2.923	-0.039	-0.17
WY7R2U		3.475	-0.115	-0.32	2.910	-0.052	-0.23
XTD7AX		3.273	-0.317	-0.89	2.796	-0.166	-0.73
YXXQPJ		3.615	0.025	0.07	2.940	-0.022	-0.10
Z2JQPY		3.770	0.180	0.51	2.955	-0.007	-0.03

Grand Means		Summary Statistics	
	3.5899 Absorbance Units		2.9622 Absorbance Units
Stnd Dev Btwn Labs	0.3555 Absorbance Units		0.2281 Absorbance Units
Statistics based on 43 of 51 reporting participants			

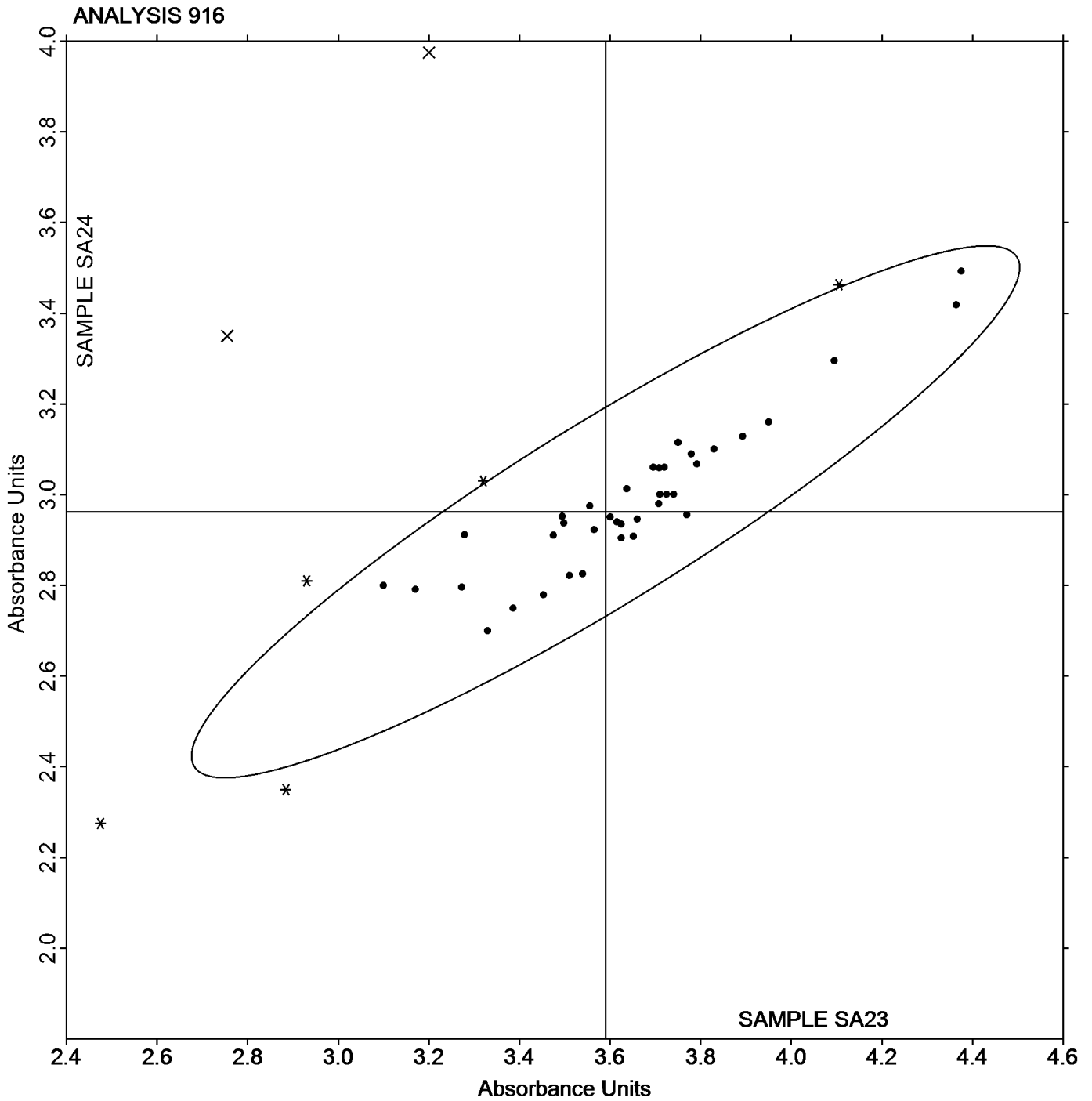
Wines tested: SA23: Red Blend; SA24: Zinfandel

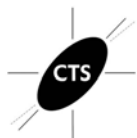
Comments on Assigned Data Flags for Test #916

- LZDMWA (X) - Data for both samples are low.
- EK63JP (X) - Data for both samples are low.
- EDKZBM (X) - Data for both samples are low.
- 9EEZLNQ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- F6PGAJ (X) - Data for sample SA24 are high. Inconsistent within the determinations of sample SA23.
- 9WFPY3 (M) - Participant did not submit data for sample SA23.
- 6H48FN (X) - Data for both samples are low.
- 8G4QFW (M) - Participant did not submit data for sample SA23.



Analysis 916
A520nm (1cm path)





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

Report #062
Summer 2019

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2KA4VB		0.950	-0.164	-0.64	1.400	-0.076	-0.38
36QVFP		1.040	-0.074	-0.29	1.400	-0.076	-0.38
3K3JHR		1.185	0.071	0.28	1.580	0.104	0.53
3PBYRF	*	1.800	0.686	2.67	1.660	0.184	0.94
8G4QFW		0.900	-0.214	-0.83	1.280	-0.196	-0.99
9EEZNQ		0.950	-0.164	-0.64	1.379	-0.097	-0.49
AZCQKG		1.220	0.106	0.41	1.335	-0.141	-0.71
C6Y6F2		0.985	-0.129	-0.50	1.285	-0.191	-0.97
CBMYXK		0.876	-0.238	-0.93	1.277	-0.199	-1.01
EQ976H		1.000	-0.114	-0.44	1.400	-0.076	-0.38
H3RVRC		0.950	-0.164	-0.64	1.400	-0.076	-0.38
LCKH8Y		0.975	-0.139	-0.54	1.405	-0.071	-0.36
LDVJTW		0.905	-0.209	-0.81	1.470	-0.006	-0.03
LQQN74		0.920	-0.194	-0.76	1.300	-0.176	-0.89
MZMTTA		1.125	0.011	0.04	1.470	-0.006	-0.03
N9FN4D		1.540	0.426	1.66	1.775	0.299	1.52
T9JYT6		1.020	-0.094	-0.37	1.450	-0.026	-0.13
TJHFXN		1.340	0.226	0.88	1.770	0.294	1.49
VFCWP7	*	1.490	0.376	1.46	2.000	0.524	2.66

Research Property Consensus Value

Consensus Average

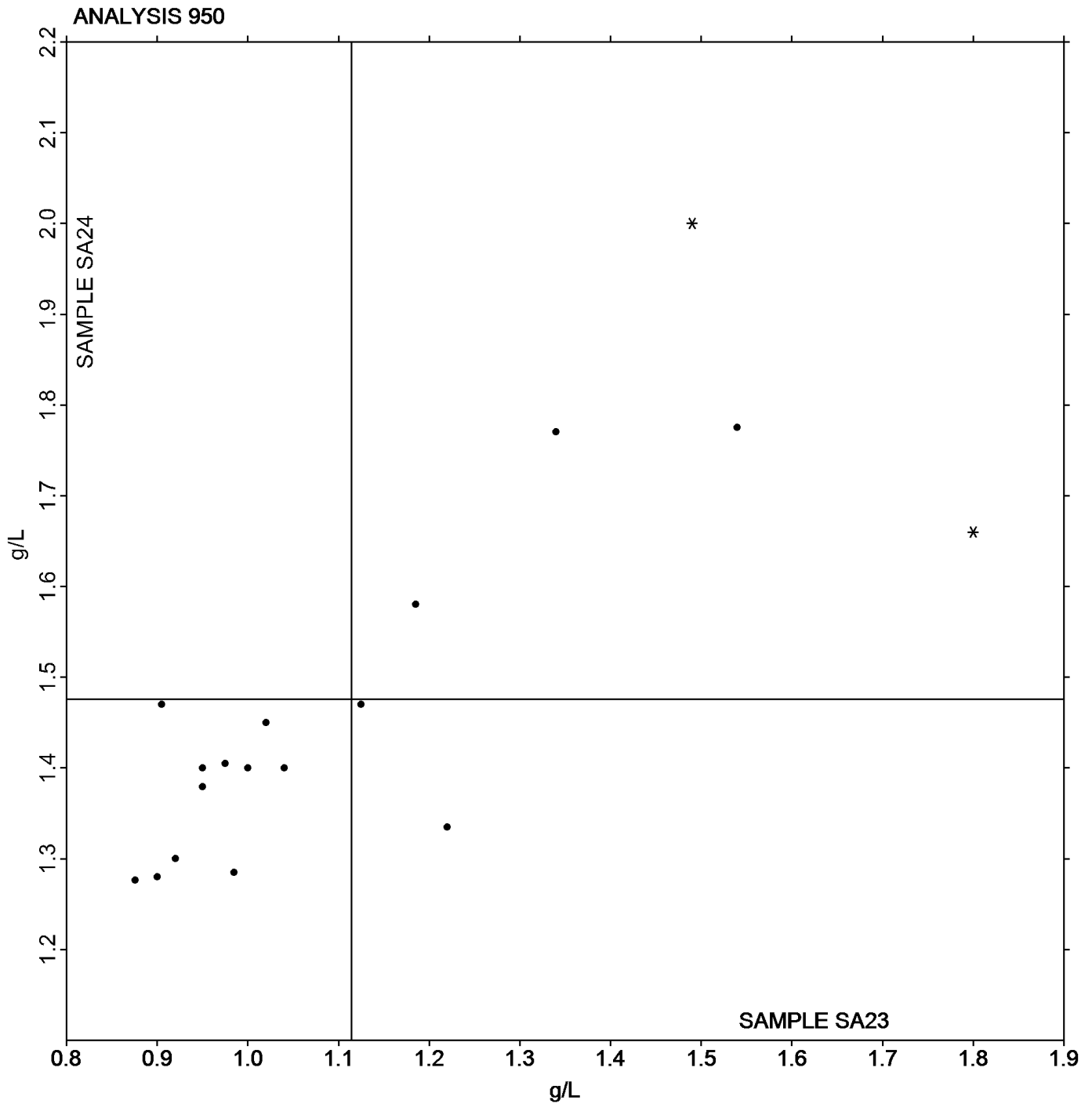
1.1143 g/L

1.4756 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 19 reporting participants.

Wines tested: SA23: Red Blend; SA24: Zinfandel



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



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

Report #062
Summer 2019

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2KA4VB		0.0205	0.0016	0.13	0.0100	-0.0055	-0.39
36QVFP		0.0078	-0.0111	-0.94	0.0050	-0.0105	-0.74
3PBYRF		0.0200	0.0011	0.09	0.0200	0.0045	0.32
C6Y6F2		0.0195	0.0006	0.05	0.0175	0.0020	0.14
JQUA6E		0.0075	-0.0114	-0.96	0.0050	-0.0105	-0.74
LCKH8Y		0.0155	-0.0034	-0.29	0.0095	-0.0060	-0.42
RECGUB		0.0080	-0.0109	-0.92	0.0050	-0.0105	-0.74
TJHFXN		0.0265	0.0076	0.64	0.0175	0.0020	0.14
UTL8MU		0.0450	0.0261	2.20	0.0500	0.0345	2.43

Research Property Consensus Value

Consensus Average

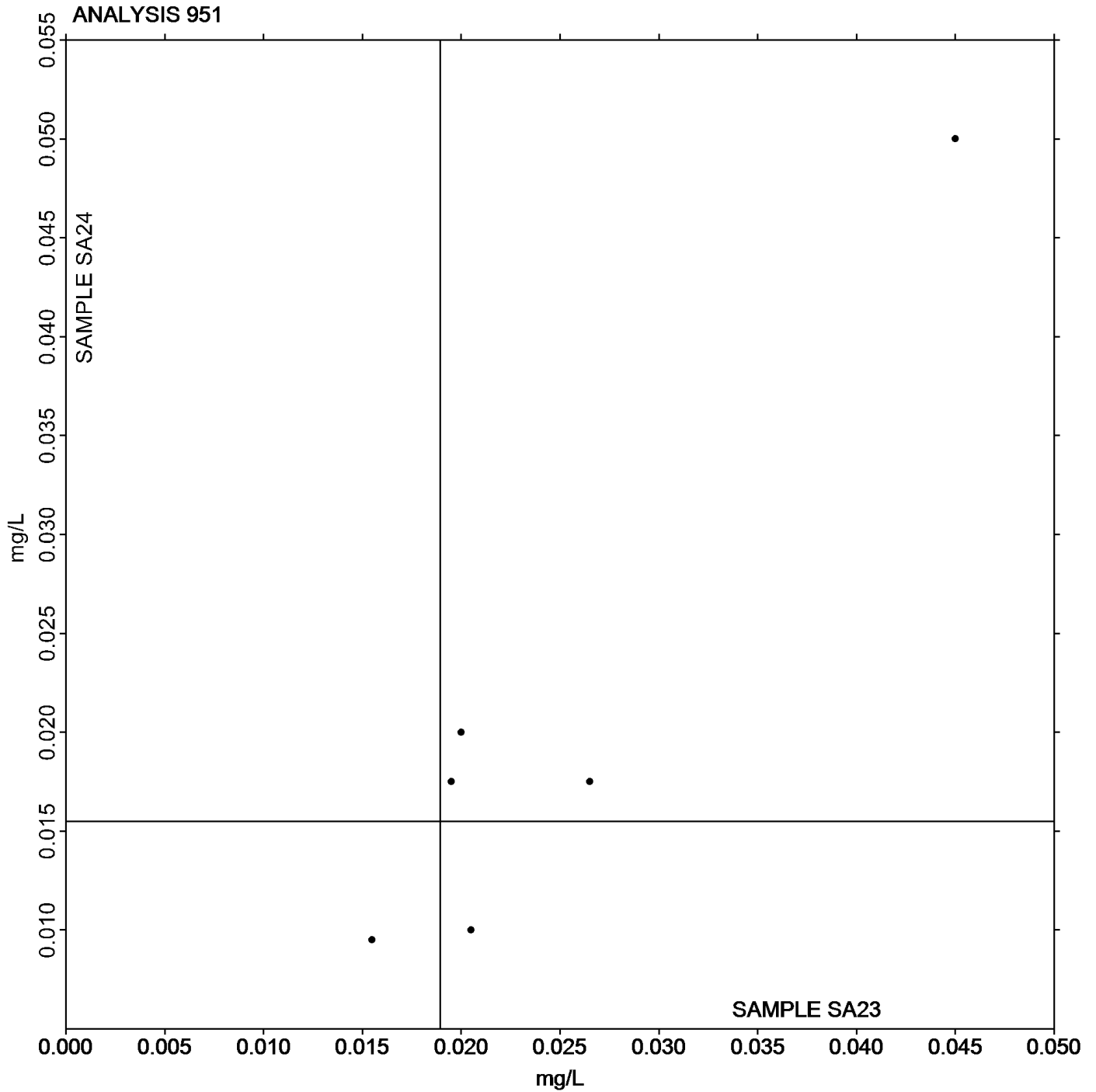
0.01892 mg/L

0.01550 mg/L

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

This consensus average is based on 9 reporting participants.

Wines tested: SA23: Red Blend; SA24: Zinfandel



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



Analysis 952

Research Property: Methanol Content

WebCode	Data Flag	Sample SA23			Sample SA24		
		Lab Mean	Diff from Target Value	% Diff from Target Value	Lab Mean	Diff from Target Value	% Diff from Target Value
2KA4VB		245.0	11.2	0.28	234.0	1.3	0.03
3K3JHR		210.6	-23.1	-0.58	195.6	-37.1	-0.99
3PBYRF		290.5	56.7	1.41	323.5	90.8	2.42
9EAKBP		213.0	-20.8	-0.52	239.0	6.3	0.17
AZCQKG		194.5	-39.3	-0.98	198.0	-34.7	-0.93
C6Y6F2		284.0	50.2	1.25	251.5	18.8	0.50
DG4UEF		264.0	30.2	0.75	279.0	46.3	1.23
FEAXUD	*	320.0	86.2	2.15	201.5	-31.2	-0.83
JQUA6E		225.0	-8.8	-0.22	235.0	2.3	0.06
LCKH8Y		228.5	-5.3	-0.13	238.5	5.8	0.15
LDVJTW		180.0	-53.8	-1.34	180.0	-52.7	-1.40
LQQN74		226.5	-7.3	-0.18	248.0	15.3	0.41
RECGUB		193.0	-40.8	-1.02	208.5	-24.2	-0.65
TJHFXN		232.0	-1.8	-0.04	258.5	25.8	0.69
VFCWP7		200.0	-33.8	-0.84	200.0	-32.7	-0.87

Research Property Consensus Value

Consensus Average

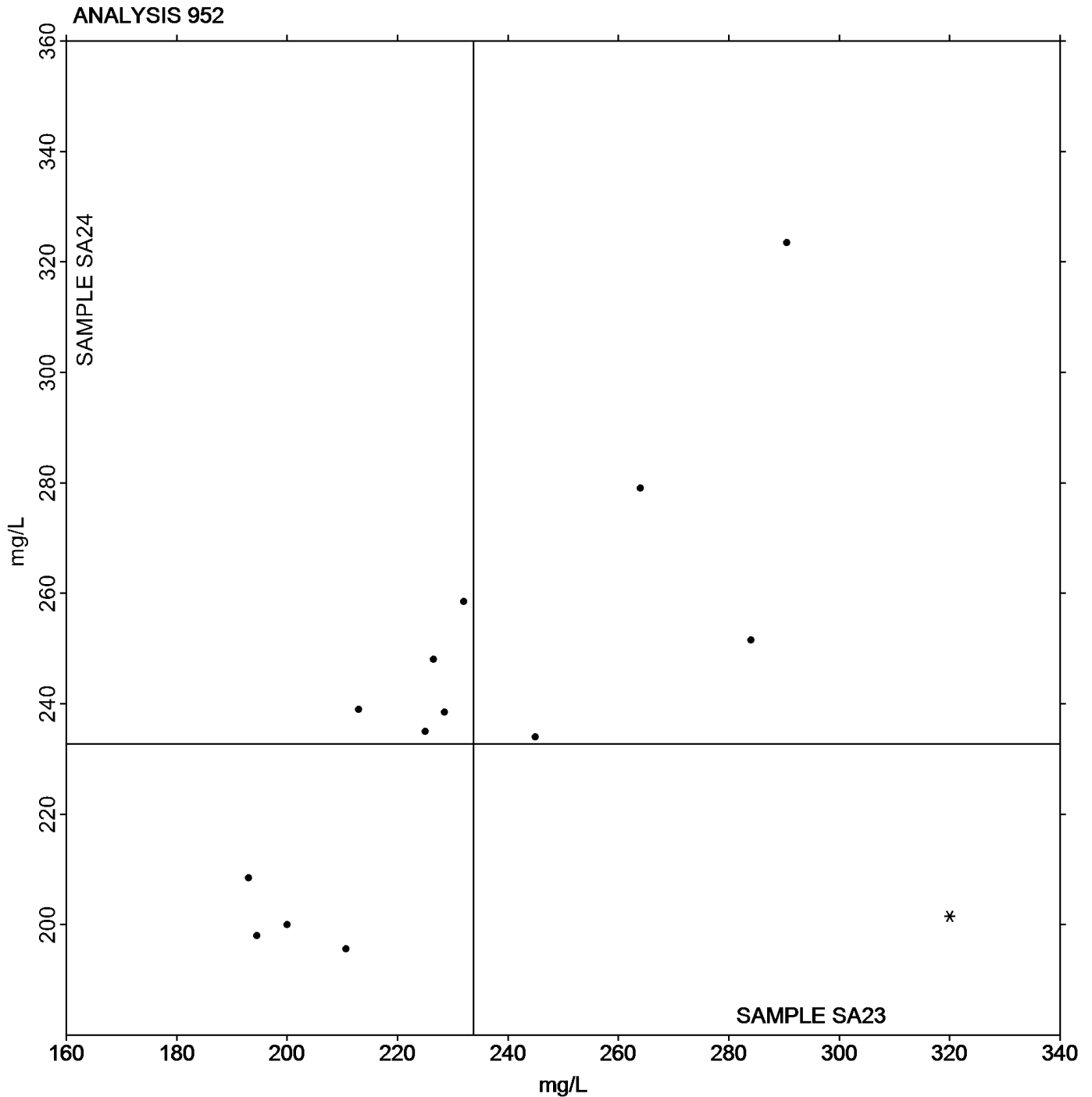
233.78 mg/L

232.71 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 15 reporting participants.

Wines tested: SA23: Red Blend; SA24: Zinfandel



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-