



Wine Industry Interlaboratory Program

Summary Report #051- Fall 2015

[Introduction to the Wine Program](#)

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

| Analysis | Analysis Name |
|-----------------|--|
| 901 | <u>Ethanol (% of volume)</u> |
| 902 | <u>Total Sulfur Dioxide</u> |
| 903 | <u>Free Sulfur Dioxide</u> |
| 904 | <u>Titrateable Acidity</u> |
| 905 | <u>Volatile Acidity</u> |
| 906 | <u>Specific Gravity</u> |
| 907 | <u>pH</u> |
| 908 | <u>Residual Sugar</u> |
| 909 | <u>L-Malic Acid</u> |
| 910 | <u>Glucose + Fructose</u> |
| 911 | <u>Copper Content</u> |
| 912 | <u>Potassium Content</u> |
| 915 | <u>A420nm (1cm path)</u> |
| 916 | <u>A520nm (1cm path)</u> |
| 950 | <u>Research Property: Turbidity</u> |
| 951 | <u>Research Property: Methanol Content</u> |
| 952 | <u>Research: Ethanol by Dist. / Density Method</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 #051

Fall 2015

Analysis 901

Ethanol (% of volume)

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | | 12.63 | 0.06 | 1.04 | 12.64 | 0.07 | 1.00 |
| 2TQQZE | | 12.60 | 0.04 | 0.63 | 12.65 | 0.08 | 1.15 |
| 339UKH | | 12.68 | 0.11 | 1.85 | 12.70 | 0.12 | 1.80 |
| 3EPE6E | | 12.57 | 0.01 | 0.15 | 12.59 | 0.02 | 0.28 |
| 3JFNED | | 12.47 | -0.09 | -1.48 | 12.47 | -0.11 | -1.54 |
| 3K8WEG | | 12.54 | -0.02 | -0.34 | 12.57 | 0.00 | -0.01 |
| 3T3M7H | * | 12.74 | 0.17 | 2.82 | 12.75 | 0.18 | 2.60 |
| 3W7KGB | | 12.61 | 0.04 | 0.71 | 12.59 | 0.02 | 0.28 |
| 3YC3E8 | | 12.63 | 0.07 | 1.12 | 12.63 | 0.05 | 0.79 |
| 4K87UJ | | 12.56 | 0.00 | -0.02 | 12.57 | -0.01 | -0.09 |
| 62RCG4 | | 12.54 | -0.03 | -0.42 | 12.59 | 0.01 | 0.20 |
| 6PFM38 | | 12.58 | 0.02 | 0.31 | 12.58 | 0.01 | 0.13 |
| 73ZNX6 | | 12.64 | 0.08 | 1.28 | 12.64 | 0.06 | 0.93 |
| 8637A7 | | 12.53 | -0.03 | -0.50 | 12.56 | -0.01 | -0.16 |
| 8F8WD3 | | 12.59 | 0.02 | 0.39 | 12.62 | 0.05 | 0.71 |
| 9DWC38 | | 12.60 | 0.04 | 0.63 | 12.61 | 0.03 | 0.50 |
| ABYK9C | | 12.44 | -0.13 | -2.04 | 12.46 | -0.12 | -1.68 |
| AFXV2 | | 12.53 | -0.03 | -0.50 | 12.50 | -0.07 | -1.03 |
| BJCWZ4 | | 12.58 | 0.01 | 0.23 | 12.57 | 0.00 | -0.01 |
| BK8CDZ | | 12.59 | 0.03 | 0.47 | 12.63 | 0.06 | 0.86 |
| BPE3F7 | X | 12.40 | -0.16 | -2.61 | 12.50 | -0.07 | -1.03 |
| C7G34Z | | 12.60 | 0.03 | 0.55 | 12.62 | 0.05 | 0.71 |
| CAGDYZ | | 12.53 | -0.03 | -0.50 | 12.53 | -0.04 | -0.59 |
| CZV7ZB | | 12.54 | -0.02 | -0.34 | 12.59 | 0.02 | 0.28 |
| DQK6EA | | 12.55 | -0.01 | -0.18 | 12.56 | -0.02 | -0.23 |
| E39TPZ | | 12.58 | 0.01 | 0.23 | 12.62 | 0.05 | 0.71 |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #051****Analysis 901****Fall 2015****Ethanol (% of volume)**

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| ECZ4YV | | 12.55 | -0.02 | -0.26 | 12.55 | -0.03 | -0.38 |
| FGBGGU | | 12.54 | -0.02 | -0.34 | 12.58 | 0.00 | 0.06 |
| FL3LBX | X | 12.50 | -0.06 | -0.99 | 12.40 | -0.17 | -2.48 |
| FR6X7V | | 12.46 | -0.10 | -1.64 | 12.48 | -0.09 | -1.32 |
| FR9HUX | | 12.58 | 0.02 | 0.31 | 12.58 | 0.00 | 0.06 |
| FWL336 | | 12.65 | 0.09 | 1.44 | 12.65 | 0.07 | 1.08 |
| FYN2DX | | 12.58 | 0.02 | 0.31 | 12.62 | 0.04 | 0.64 |
| G2A6LV | | 12.58 | 0.02 | 0.31 | 12.61 | 0.03 | 0.50 |
| GC87YY | | 12.52 | -0.05 | -0.75 | 12.53 | -0.04 | -0.59 |
| GG4UF7 | | 12.53 | -0.04 | -0.58 | 12.54 | -0.03 | -0.45 |
| GMPMQ7 | * | 12.40 | -0.16 | -2.61 | 12.40 | -0.17 | -2.48 |
| HGW3ZV | | 12.62 | 0.05 | 0.88 | 12.63 | 0.05 | 0.79 |
| HMMCBT | | 12.45 | -0.12 | -1.88 | 12.44 | -0.13 | -1.90 |
| JJ4G82 | X | 12.48 | -0.08 | -1.31 | 12.59 | 0.02 | 0.28 |
| JZMM9Y | | 12.56 | -0.01 | -0.10 | 12.56 | -0.01 | -0.16 |
| K3C7X4 | | 12.56 | -0.01 | -0.10 | 12.56 | -0.01 | -0.16 |
| KDCUP2 | X | 13.45 | 0.89 | 14.41 | 13.55 | 0.98 | 14.22 |
| KMXXWZ | | 12.61 | 0.05 | 0.79 | 12.61 | 0.03 | 0.50 |
| KXH6WP | | 12.50 | -0.06 | -0.99 | 12.50 | -0.07 | -1.03 |
| L4GDD2 | | 12.63 | 0.06 | 1.04 | 12.64 | 0.07 | 1.00 |
| LD7YJZ | | 12.55 | -0.02 | -0.26 | 12.50 | -0.07 | -1.03 |
| LEMVBY | * | 12.57 | 0.01 | 0.15 | 12.52 | -0.05 | -0.74 |
| MKMUYU | * | 12.45 | -0.11 | -1.80 | 12.41 | -0.16 | -2.30 |
| MTDF6T | | 12.55 | -0.02 | -0.26 | 12.58 | 0.00 | 0.06 |
| N96D8M | | 12.62 | 0.05 | 0.88 | 12.62 | 0.05 | 0.71 |
| NPBWHK | | 12.54 | -0.02 | -0.34 | 12.58 | 0.01 | 0.13 |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #051****Analysis 901****Fall 2015****Ethanol (% of volume)**

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NPUK3Z | | 12.59 | 0.02 | 0.39 | 12.59 | 0.02 | 0.28 |
| NVEPQU | | 12.50 | -0.06 | -0.99 | 12.50 | -0.07 | -1.03 |
| P66LCV | | 12.50 | -0.06 | -0.99 | 12.50 | -0.07 | -1.03 |
| PZBREU | | 12.53 | -0.03 | -0.50 | 12.54 | -0.03 | -0.45 |
| Q8794Q | X | 12.45 | -0.11 | -1.80 | 12.55 | -0.03 | -0.38 |
| QQEB3V | | 12.63 | 0.07 | 1.12 | 12.68 | 0.10 | 1.51 |
| QUEMXV | | 12.58 | 0.02 | 0.31 | 12.59 | 0.01 | 0.20 |
| RV8VJK | | 12.47 | -0.09 | -1.48 | 12.45 | -0.12 | -1.76 |
| TA68RN | | 12.53 | -0.03 | -0.50 | 12.55 | -0.02 | -0.30 |
| TQDXUT | | 12.57 | 0.00 | 0.06 | 12.56 | -0.02 | -0.23 |
| TZELLQ | | 12.54 | -0.03 | -0.42 | 12.50 | -0.07 | -1.03 |
| UPCMDG | | 12.58 | 0.02 | 0.31 | 12.61 | 0.03 | 0.50 |
| UQMM9P | | 12.60 | 0.04 | 0.63 | 12.61 | 0.04 | 0.57 |
| UZ9QFP | X | 12.85 | 0.29 | 4.68 | 13.05 | 0.48 | 6.96 |
| VF73NT | | 12.57 | 0.00 | 0.06 | 12.55 | -0.02 | -0.30 |
| VGf82H | | 12.57 | 0.01 | 0.15 | 12.60 | 0.03 | 0.42 |
| WDWCYP | | 12.56 | 0.00 | -0.02 | 12.58 | 0.01 | 0.13 |
| XFXW2F | | 12.61 | 0.04 | 0.71 | 12.64 | 0.07 | 1.00 |
| XQCU7J | * | 12.40 | -0.17 | -2.69 | 12.41 | -0.17 | -2.41 |
| YHGEUK | | 12.60 | 0.04 | 0.63 | 12.60 | 0.03 | 0.42 |
| YZWK7G | | 12.61 | 0.05 | 0.79 | 12.64 | 0.07 | 1.00 |
| ZGYKUB | | 12.67 | 0.10 | 1.69 | 12.67 | 0.10 | 1.44 |
| ZPVER9 | | 12.59 | 0.03 | 0.47 | 12.61 | 0.03 | 0.50 |



| Grand Means | | Summary Statistics | |
|--|----------------|--------------------|----------------|
| | 12.561 percent | | 12.571 percent |
| Std Dev Btwn Labs | | | |
| | 0.062 percent | | 0.069 percent |
| Statistics based on 69 of 75 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

Comments on assigned Data Flags

BPE3F7 (X) - Inconsistent in testing between samples.

FL3LBX (X) - Inconsistent in testing between samples.

JJ4G82 (X) - Inconsistent in testing between samples.

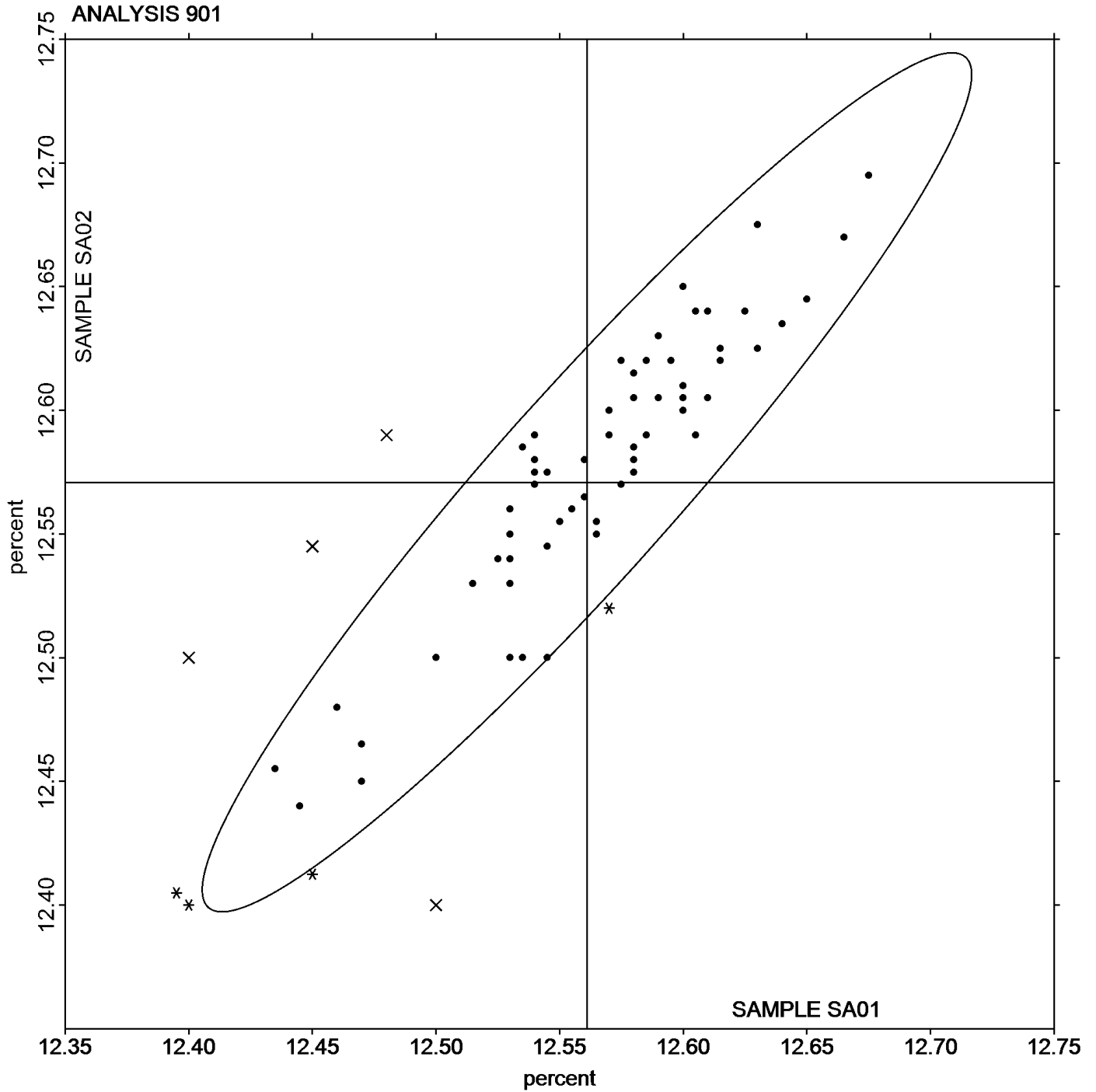
KDCUP2 (X) - Data for both samples are high.

Q8794Q (X) - Inconsistent in testing between samples.

UZ9QFP (X) - Data for both samples are high.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|----------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 12.67 | 0.00 | 0.10 | 12.67 | 0.00 | 0.10 | 1 | 1 |
| Ebulliometer Method | 12.50 | 0.00 | -0.06 | 12.50 | 0.00 | -0.07 | 1 | 3 |
| Gas Chromatography Method | 12.60 | 0.04 | 0.04 | 12.65 | 0.04 | 0.08 | 2 | 2 |
| Near Infrared Method | 12.57 | 0.05 | 0.01 | 12.58 | 0.06 | 0.01 | 47 | 51 |
| Dist. / Density Method | 12.55 | 0.04 | -0.01 | 12.58 | 0.05 | 0.01 | 5 | 9 |
| FTIR | 12.55 | 0.05 | -0.02 | 12.55 | 0.05 | -0.02 | 8 | 9 |





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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | X | 128.50 | 36.53 | 5.13 | 137.50 | 40.07 | 5.38 |
| 2TQQZE | | 96.00 | 4.03 | 0.57 | 96.00 | -1.43 | -0.19 |
| 339UKH | | 91.50 | -0.47 | -0.07 | 92.50 | -4.93 | -0.66 |
| 3EPE6E | | 94.00 | 2.03 | 0.29 | 101.00 | 3.57 | 0.48 |
| 3JFNED | | 101.50 | 9.53 | 1.34 | 108.00 | 10.57 | 1.42 |
| 3K8WEG | | 99.50 | 7.53 | 1.06 | 103.50 | 6.07 | 0.81 |
| 3T3M7H | | 96.50 | 4.53 | 0.64 | 102.00 | 4.57 | 0.61 |
| 3W7KGB | | 89.00 | -2.97 | -0.42 | 101.00 | 3.57 | 0.48 |
| 3YC3E8 | | 94.50 | 2.53 | 0.36 | 94.50 | -2.93 | -0.39 |
| 4K87UJ | | 91.50 | -0.47 | -0.07 | 96.50 | -0.93 | -0.12 |
| 62RCG4 | | 78.88 | -13.09 | -1.84 | 90.61 | -6.82 | -0.92 |
| 6PFM38 | | 88.00 | -3.97 | -0.56 | 93.00 | -4.43 | -0.59 |
| 73ZNX6 | | 99.50 | 7.53 | 1.06 | 104.50 | 7.07 | 0.95 |
| 8637A7 | | 94.00 | 2.03 | 0.29 | 101.00 | 3.57 | 0.48 |
| 8F8WD3 | | 94.00 | 2.03 | 0.29 | 99.00 | 1.57 | 0.21 |
| 9DWC38 | | 99.00 | 7.03 | 0.99 | 96.50 | -0.93 | -0.12 |
| 9KV2KB | * | 73.00 | -18.97 | -2.67 | 83.00 | -14.43 | -1.94 |
| ABYK9C | | 86.50 | -5.47 | -0.77 | 101.00 | 3.57 | 0.48 |
| AFXV2 | | 91.50 | -0.47 | -0.07 | 97.00 | -0.43 | -0.06 |
| BJCWZ4 | | 87.50 | -4.47 | -0.63 | 93.50 | -3.93 | -0.53 |
| BK8CDZ | | 97.50 | 5.53 | 0.78 | 103.50 | 6.07 | 0.81 |
| BPE3F7 | | 99.00 | 7.03 | 0.99 | 96.50 | -0.93 | -0.12 |
| C7G34Z | | 85.50 | -6.47 | -0.91 | 98.50 | 1.07 | 0.14 |
| CAGDYZ | | 88.50 | -3.47 | -0.49 | 96.50 | -0.93 | -0.12 |
| CZV7ZB | | 93.00 | 1.03 | 0.15 | 97.00 | -0.43 | -0.06 |
| DQK6EA | | 101.50 | 9.53 | 1.34 | 100.00 | 2.57 | 0.34 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 902

Fall 2015

Total Sulfur Dioxide

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| E39TPZ | | 101.00 | 9.03 | 1.27 | 109.00 | 11.57 | 1.55 |
| ECZ4YV | | 88.00 | -3.97 | -0.56 | 98.00 | 0.57 | 0.08 |
| FGBGGU | | 80.00 | -11.97 | -1.68 | 88.00 | -9.43 | -1.27 |
| FL3LBX | | 91.00 | -0.97 | -0.14 | 101.50 | 4.07 | 0.55 |
| FR6X7V | | 97.00 | 5.03 | 0.71 | 104.50 | 7.07 | 0.95 |
| FR9HUX | | 90.50 | -1.47 | -0.21 | 90.00 | -7.43 | -1.00 |
| FWL336 | | 98.65 | 6.68 | 0.94 | 106.75 | 9.32 | 1.25 |
| FYN2DX | | 90.00 | -1.97 | -0.28 | 95.50 | -1.93 | -0.26 |
| G2A6LV | | 92.50 | 0.53 | 0.07 | 98.00 | 0.57 | 0.08 |
| GC87YY | | 95.00 | 3.03 | 0.43 | 92.00 | -5.43 | -0.73 |
| GG4UF7 | | 97.00 | 5.03 | 0.71 | 108.00 | 10.57 | 1.42 |
| GMPMQ7 | | 84.00 | -7.97 | -1.12 | 83.00 | -14.43 | -1.94 |
| HGW3ZV | * | 102.50 | 10.53 | 1.48 | 118.00 | 20.57 | 2.76 |
| HMMCBT | | 101.50 | 9.53 | 1.34 | 107.50 | 10.07 | 1.35 |
| J4LX4Y | X | 180.50 | 88.53 | 12.44 | 178.50 | 81.07 | 10.88 |
| JJ4G82 | | 100.50 | 8.53 | 1.20 | 94.50 | -2.93 | -0.39 |
| JZMM9Y | | 81.00 | -10.97 | -1.54 | 82.50 | -14.93 | -2.00 |
| K3C7X4 | | 94.00 | 2.03 | 0.29 | 104.50 | 7.07 | 0.95 |
| KDCUP2 | | 93.50 | 1.53 | 0.22 | 97.00 | -0.43 | -0.06 |
| KXH6WP | X | 67.00 | -24.97 | -3.51 | 69.00 | -28.43 | -3.81 |
| L4GDD2 | | 79.50 | -12.47 | -1.75 | 79.50 | -17.93 | -2.41 |
| LD7YJZ | | 93.00 | 1.03 | 0.15 | 99.00 | 1.57 | 0.21 |
| LEMVBY | | 95.00 | 3.03 | 0.43 | 110.50 | 13.07 | 1.75 |
| MKMUYU | | 89.50 | -2.47 | -0.35 | 100.00 | 2.57 | 0.34 |
| MTDF6T | | 97.50 | 5.53 | 0.78 | 105.00 | 7.57 | 1.02 |
| N96D8M | | 87.50 | -4.47 | -0.63 | 100.50 | 3.07 | 0.41 |



Total Sulfur Dioxide

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NPBWHK | | 84.00 | -7.97 | -1.12 | 88.00 | -9.43 | -1.27 |
| NPUK3Z | * | 103.50 | 11.53 | 1.62 | 96.00 | -1.43 | -0.19 |
| NVEPQU | | 88.00 | -3.97 | -0.56 | 94.50 | -2.93 | -0.39 |
| P66LCV | | 100.00 | 8.03 | 1.13 | 96.50 | -0.93 | -0.12 |
| PZBREU | | 85.00 | -6.97 | -0.98 | 94.00 | -3.43 | -0.46 |
| Q8794Q | | 79.00 | -12.97 | -1.82 | 89.00 | -8.43 | -1.13 |
| QQEB3V | | 92.00 | 0.03 | 0.00 | 96.00 | -1.43 | -0.19 |
| QUEMXV | | 83.00 | -8.97 | -1.26 | 91.00 | -6.43 | -0.86 |
| RV8VJK | | 81.50 | -10.47 | -1.47 | 88.50 | -8.93 | -1.20 |
| TA68RN | | 91.00 | -0.97 | -0.14 | 90.00 | -7.43 | -1.00 |
| TQDXUT | | 91.50 | -0.47 | -0.07 | 95.00 | -2.43 | -0.33 |
| TZELLQ | | 84.80 | -7.17 | -1.01 | 90.30 | -7.13 | -0.96 |
| UPCMDG | | 94.00 | 2.03 | 0.29 | 103.00 | 5.57 | 0.75 |
| UQMM9P | * | 111.50 | 19.53 | 2.74 | 118.00 | 20.57 | 2.76 |
| UZ9QFP | | 81.00 | -10.97 | -1.54 | 91.00 | -6.43 | -0.86 |
| VF73NT | | 93.00 | 1.03 | 0.15 | 100.00 | 2.57 | 0.34 |
| VGf82H | | 92.50 | 0.53 | 0.07 | 99.50 | 2.07 | 0.28 |
| WDWCYP | | 95.50 | 3.53 | 0.50 | 100.50 | 3.07 | 0.41 |
| XFXW2F | | 91.00 | -0.97 | -0.14 | 86.00 | -11.43 | -1.53 |
| XQCU7J | | 93.50 | 1.53 | 0.22 | 97.00 | -0.43 | -0.06 |
| YHGEUK | | 100.00 | 8.03 | 1.13 | 103.00 | 5.57 | 0.75 |
| YZWK7G | | 95.23 | 3.26 | 0.46 | 101.65 | 4.22 | 0.57 |
| ZGYKUB | | 80.50 | -11.47 | -1.61 | 88.50 | -8.93 | -1.20 |
| ZPVER9 | | 92.00 | 0.03 | 0.00 | 96.50 | -0.93 | -0.12 |



Total Sulfur Dioxide

| Grand Means | Summary Statistics |
|--|--------------------|
| 91.967 mg/L | 97.429 mg/L |
| Std Dev Btwn Labs | |
| 7.117 mg/L | 7.454 mg/L |
| Statistics based on 73 of 76 reporting participants | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

Comments on assigned Data Flags

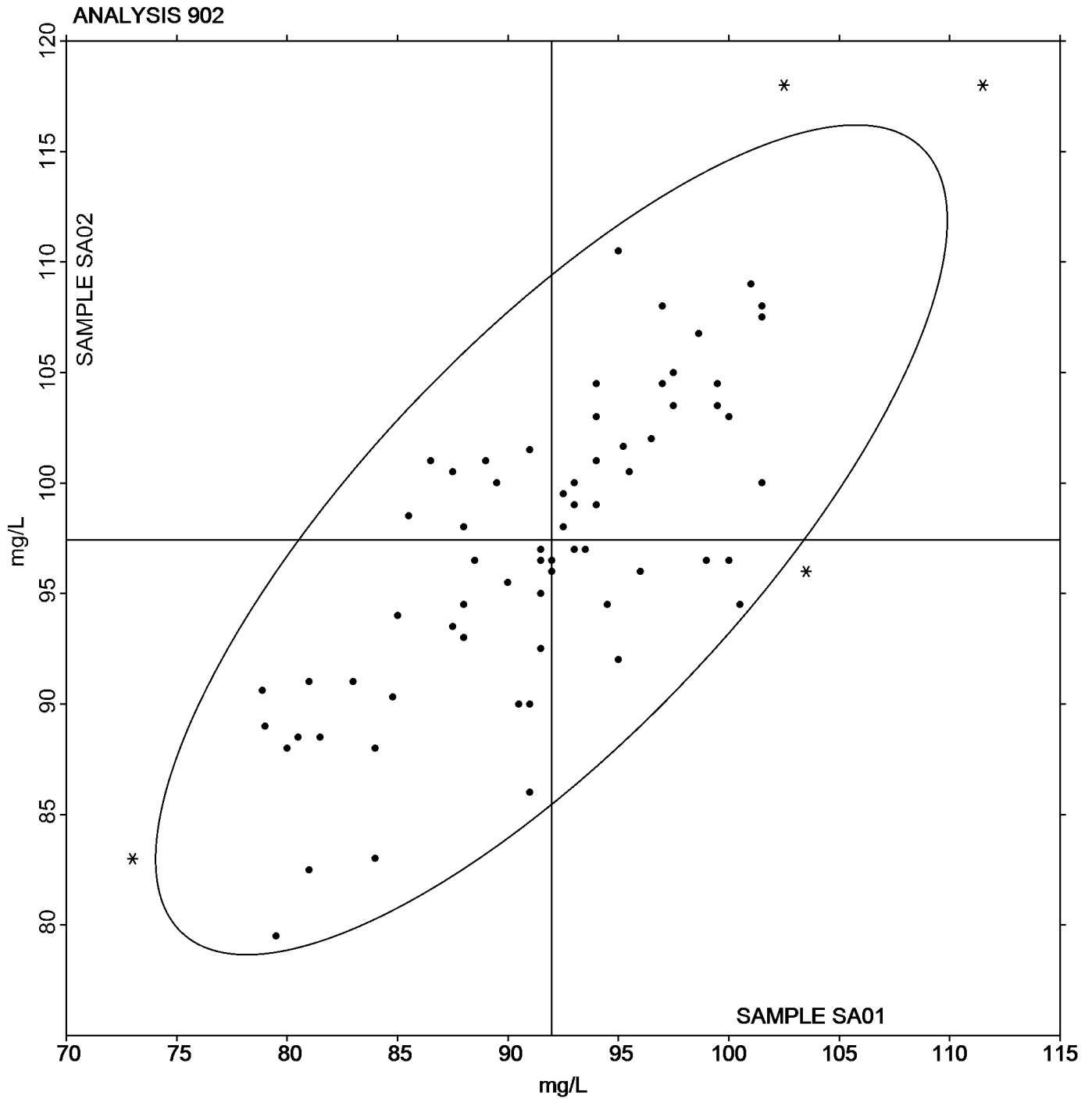
2TC4QC (X) - Data for both samples are high.

J4LX4Y (X) - Data for both samples are high.

KXH6WP (X) - Data for both samples are low. Possible Systematic Error.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 88.00 | 0.00 | -3.97 | 93.00 | 0.00 | -4.43 | 1 | 1 |
| Ripper Method | 90.35 | 6.14 | -1.62 | 95.67 | 5.46 | -1.76 | 32 | 34 |
| Aeration Oxidation (AO) Method | 91.48 | 5.45 | -0.48 | 96.38 | 5.55 | -1.05 | 15 | 15 |
| Segemented Flow Analyzer | 93.00 | 8.45 | 1.03 | 97.88 | 5.33 | 0.45 | 4 | 5 |
| Enzymatic Method | 94.00 | 6.60 | 2.03 | 99.75 | 9.54 | 2.32 | 4 | 6 |
| Colormetric Analyzer | 86.75 | 6.51 | -5.22 | 91.38 | 9.33 | -6.05 | 4 | 5 |
| FTIR | 99.25 | 3.18 | 7.28 | 108.00 | 0.00 | 10.57 | 2 | 2 |
| Flow Injection Analysis | 96.88 | 3.84 | 4.91 | 103.61 | 5.39 | 6.18 | 7 | 8 |





ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 903

Fall 2015

Free Sulfur Dioxide

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | | 33.00 | 3.84 | 1.38 | 34.50 | 1.84 | 0.53 |
| 2TQQZE | | 32.00 | 2.84 | 1.02 | 35.20 | 2.54 | 0.73 |
| 339UKH | | 28.50 | -0.66 | -0.24 | 36.00 | 3.34 | 0.95 |
| 3EPE6E | | 29.00 | -0.16 | -0.06 | 34.00 | 1.34 | 0.38 |
| 3JFNED | | 29.65 | 0.49 | 0.18 | 33.85 | 1.19 | 0.34 |
| 3K8WEG | | 28.50 | -0.66 | -0.24 | 38.50 | 5.84 | 1.67 |
| 3T3M7H | | 23.50 | -5.66 | -2.04 | 31.50 | -1.16 | -0.33 |
| 3W7KGB | | 29.50 | 0.34 | 0.12 | 35.50 | 2.84 | 0.81 |
| 3YC3E8 | | 33.00 | 3.84 | 1.38 | 35.00 | 2.34 | 0.67 |
| 4K87UJ | | 27.00 | -2.16 | -0.78 | 30.50 | -2.16 | -0.62 |
| 62RCG4 | | 30.83 | 1.67 | 0.60 | 33.75 | 1.09 | 0.31 |
| 6PFM38 | | 30.00 | 0.84 | 0.30 | 33.00 | 0.34 | 0.10 |
| 73ZNX6 | * | 31.50 | 2.34 | 0.84 | 26.50 | -6.16 | -1.76 |
| 8637A7 | | 30.00 | 0.84 | 0.30 | 35.50 | 2.84 | 0.81 |
| 8F8WD3 | | 31.00 | 1.84 | 0.66 | 34.50 | 1.84 | 0.53 |
| 8NYC37 | | 27.00 | -2.16 | -0.78 | 27.00 | -5.66 | -1.62 |
| 9DWC38 | | 32.50 | 3.34 | 1.20 | 30.00 | -2.66 | -0.76 |
| 9KV2KB | | 27.50 | -1.66 | -0.60 | 30.50 | -2.16 | -0.62 |
| ABYK9C | | 27.00 | -2.16 | -0.78 | 33.00 | 0.34 | 0.10 |
| AFXV2 | | 28.50 | -0.66 | -0.24 | 35.50 | 2.84 | 0.81 |
| BJCWZ4 | | 29.00 | -0.16 | -0.06 | 33.50 | 0.84 | 0.24 |
| BK8CDZ | | 23.50 | -5.66 | -2.04 | 26.00 | -6.66 | -1.91 |
| C7G34Z | | 25.00 | -4.16 | -1.50 | 30.00 | -2.66 | -0.76 |
| CAGDYZ | | 25.00 | -4.16 | -1.50 | 30.00 | -2.66 | -0.76 |
| CZV7ZB | | 27.00 | -2.16 | -0.78 | 26.00 | -6.66 | -1.91 |
| DQK6EA | | 29.50 | 0.34 | 0.12 | 27.00 | -5.66 | -1.62 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 903

Fall 2015

Free Sulfur Dioxide

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| E39TPZ | | 31.00 | 1.84 | 0.66 | 35.00 | 2.34 | 0.67 |
| ECZ4YV | | 25.00 | -4.16 | -1.50 | 31.50 | -1.16 | -0.33 |
| FGBGGU | | 28.50 | -0.66 | -0.24 | 33.50 | 0.84 | 0.24 |
| FL3LBX | | 28.00 | -1.16 | -0.42 | 32.00 | -0.66 | -0.19 |
| FR6X7V | | 29.50 | 0.34 | 0.12 | 33.00 | 0.34 | 0.10 |
| FR9HUX | | 32.50 | 3.34 | 1.20 | 38.00 | 5.34 | 1.53 |
| FWL336 | | 31.15 | 1.99 | 0.72 | 37.00 | 4.34 | 1.24 |
| FYN2DX | | 28.00 | -1.16 | -0.42 | 33.50 | 0.84 | 0.24 |
| G2A6LV | | 30.50 | 1.34 | 0.48 | 33.50 | 0.84 | 0.24 |
| GC87YY | | 26.90 | -2.26 | -0.81 | 29.35 | -3.31 | -0.95 |
| GG4UF7 | | 30.00 | 0.84 | 0.30 | 35.00 | 2.34 | 0.67 |
| HGW3ZV | | 29.00 | -0.16 | -0.06 | 37.50 | 4.84 | 1.38 |
| HMMCBT | | 27.00 | -2.16 | -0.78 | 28.00 | -4.66 | -1.33 |
| J4LX4Y | * | 35.50 | 6.34 | 2.28 | 33.50 | 0.84 | 0.24 |
| JJ4G82 | | 27.00 | -2.16 | -0.78 | 26.00 | -6.66 | -1.91 |
| JZMM9Y | | 29.00 | -0.16 | -0.06 | 30.50 | -2.16 | -0.62 |
| K3C7X4 | | 30.00 | 0.84 | 0.30 | 35.00 | 2.34 | 0.67 |
| KDCUP2 | | 30.50 | 1.34 | 0.48 | 31.50 | -1.16 | -0.33 |
| KMXXWZ | | 28.50 | -0.66 | -0.24 | 37.00 | 4.34 | 1.24 |
| KXH6WP | * | 22.00 | -7.16 | -2.58 | 27.00 | -5.66 | -1.62 |
| L4GDD2 | | 28.50 | -0.66 | -0.24 | 32.00 | -0.66 | -0.19 |
| LD7YJZ | | 29.50 | 0.34 | 0.12 | 34.00 | 1.34 | 0.38 |
| LEMVBY | | 24.50 | -4.66 | -1.68 | 33.00 | 0.34 | 0.10 |
| MKMUYU | | 32.00 | 2.84 | 1.02 | 37.00 | 4.34 | 1.24 |
| MTDF6T | * | 35.50 | 6.34 | 2.28 | 41.50 | 8.84 | 2.53 |
| N96D8M | X | 17.85 | -11.31 | -4.07 | 34.70 | 2.04 | 0.58 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 903

Fall 2015

Free Sulfur Dioxide

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NMQTAM | | 27.20 | -1.96 | -0.71 | 29.60 | -3.06 | -0.88 |
| NPBWHK | | 28.00 | -1.16 | -0.42 | 33.00 | 0.34 | 0.10 |
| NPUK3Z | | 26.50 | -2.66 | -0.96 | 24.50 | -8.16 | -2.34 |
| NVEPQU | | 30.00 | 0.84 | 0.30 | 35.00 | 2.34 | 0.67 |
| P66LCV | | 33.00 | 3.84 | 1.38 | 29.50 | -3.16 | -0.91 |
| PZBREU | | 28.50 | -0.66 | -0.24 | 31.00 | -1.66 | -0.48 |
| Q8794Q | | 24.00 | -5.16 | -1.86 | 30.50 | -2.16 | -0.62 |
| QQEB3V | | 28.00 | -1.16 | -0.42 | 29.00 | -3.66 | -1.05 |
| QUEMXV | | 27.00 | -2.16 | -0.78 | 32.50 | -0.16 | -0.05 |
| RV8VJK | | 29.50 | 0.34 | 0.12 | 34.00 | 1.34 | 0.38 |
| TA68RN | | 32.00 | 2.84 | 1.02 | 33.00 | 0.34 | 0.10 |
| TQDXUT | | 28.50 | -0.66 | -0.24 | 34.00 | 1.34 | 0.38 |
| TZELLQ | | 30.50 | 1.34 | 0.48 | 37.00 | 4.34 | 1.24 |
| UPCMDG | | 27.50 | -1.66 | -0.60 | 28.50 | -4.16 | -1.19 |
| UQMM9P | | 26.00 | -3.16 | -1.14 | 31.00 | -1.66 | -0.48 |
| UZ9QFP | | 30.50 | 1.34 | 0.48 | 37.00 | 4.34 | 1.24 |
| VF73NT | | 30.00 | 0.84 | 0.30 | 35.00 | 2.34 | 0.67 |
| VGF82H | | 30.50 | 1.34 | 0.48 | 33.00 | 0.34 | 0.10 |
| WDWCYP | | 31.00 | 1.84 | 0.66 | 33.50 | 0.84 | 0.24 |
| XFXW2F | | 28.00 | -1.16 | -0.42 | 27.50 | -5.16 | -1.48 |
| XQCU7J | | 33.00 | 3.84 | 1.38 | 33.00 | 0.34 | 0.10 |
| YHGEUK | | 34.50 | 5.34 | 1.92 | 35.50 | 2.84 | 0.81 |
| YZWK7G | | 34.24 | 5.08 | 1.83 | 39.59 | 6.93 | 1.98 |
| ZGYKUB | X | 19.00 | -10.16 | -3.66 | 24.50 | -8.16 | -2.34 |
| ZPVER9 | | 31.00 | 1.84 | 0.66 | 32.50 | -0.16 | -0.05 |



Free Sulfur Dioxide

| Grand Means | | Summary Statistics | |
|--|-------------|--------------------|-------------|
| | 29.160 mg/L | | 32.665 mg/L |
| Std Dev Btwn Labs | | | |
| | 2.776 mg/L | | 3.496 mg/L |
| Statistics based on 75 of 77 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

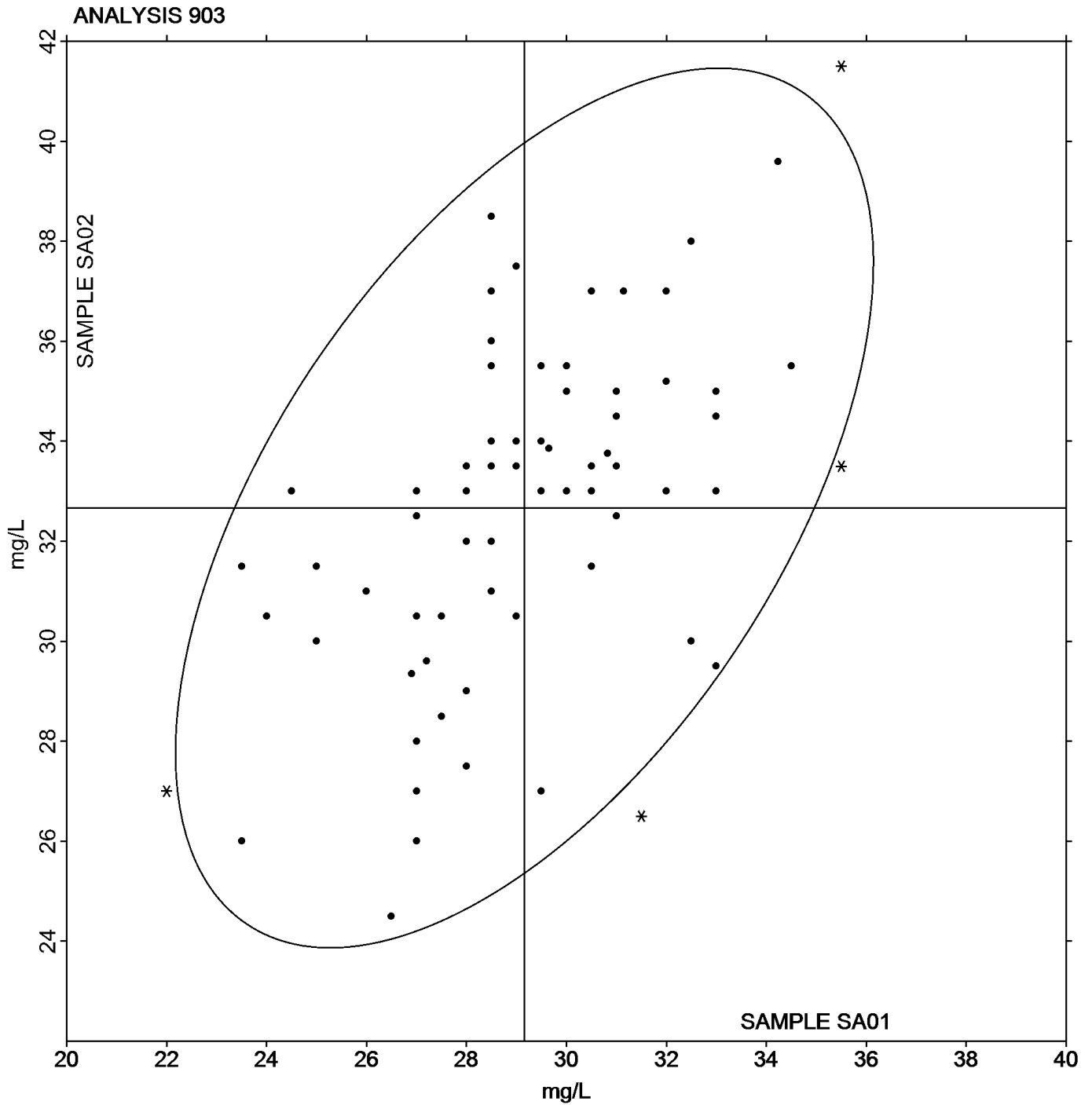
Comments on assigned Data Flags

N96D8M (X) - Low Data for Sample SA01.

ZGYKUB (X) - Low data for Sample SA01.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 30.00 | 0.00 | 0.84 | 33.00 | 0.00 | 0.34 | 1 | 1 |
| Ripper Method | 29.21 | 1.72 | 0.05 | 34.01 | 2.21 | 1.35 | 18 | 21 |
| Aeration Oxidation (AO) Method | 28.77 | 2.83 | -0.39 | 31.52 | 3.49 | -1.14 | 31 | 34 |
| Segmented Flow Analyzer | 30.50 | 3.14 | 1.34 | 34.00 | 3.00 | 1.34 | 5 | 5 |
| Colorimetric Analyzer | 30.25 | 1.55 | 1.09 | 34.38 | 3.09 | 1.71 | 4 | 4 |
| Flow Injection Analysis | 28.17 | 2.69 | -0.99 | 32.25 | 3.95 | -0.41 | 10 | 10 |
| FTIR | 29.83 | 0.25 | 0.67 | 34.43 | 0.81 | 1.76 | 2 | 2 |





Titratable Acidity

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | | 4.850 | -0.055 | -0.40 | 4.800 | -0.108 | -0.69 |
| 2TQQZE | | 4.950 | 0.045 | 0.33 | 4.950 | 0.042 | 0.27 |
| 339UKH | X | 6.035 | 1.130 | 8.29 | 5.845 | 0.937 | 5.99 |
| 3EPE6E | | 4.735 | -0.170 | -1.24 | 4.655 | -0.253 | -1.62 |
| 3JFNED | | 4.680 | -0.225 | -1.65 | 4.630 | -0.278 | -1.78 |
| 3K8WEG | | 5.025 | 0.120 | 0.88 | 5.025 | 0.117 | 0.75 |
| 3T3M7H | | 4.855 | -0.050 | -0.36 | 4.815 | -0.093 | -0.59 |
| 3W7KGB | | 4.950 | 0.045 | 0.33 | 5.000 | 0.092 | 0.59 |
| 3YC3E8 | | 5.000 | 0.095 | 0.70 | 4.950 | 0.042 | 0.27 |
| 4K87UJ | | 4.915 | 0.010 | 0.08 | 4.880 | -0.028 | -0.18 |
| 62RCG4 | | 4.725 | -0.180 | -1.32 | 4.610 | -0.298 | -1.91 |
| 73ZNX6 | * | 4.500 | -0.405 | -2.97 | 4.500 | -0.408 | -2.61 |
| 8637A7 | | 4.950 | 0.045 | 0.33 | 5.020 | 0.112 | 0.72 |
| 8F8WD3 | | 4.850 | -0.055 | -0.40 | 4.900 | -0.008 | -0.05 |
| 8NYC37 | | 4.750 | -0.155 | -1.13 | 4.750 | -0.158 | -1.01 |
| 9DWC38 | | 4.930 | 0.025 | 0.19 | 4.925 | 0.017 | 0.11 |
| 9KV2KB | | 5.035 | 0.130 | 0.96 | 5.135 | 0.227 | 1.45 |
| ABYK9C | | 4.900 | -0.005 | -0.03 | 5.000 | 0.092 | 0.59 |
| AFXV2 | X | 5.865 | 0.960 | 7.04 | 5.430 | 0.522 | 3.34 |
| BJCWZ4 | | 4.800 | -0.105 | -0.77 | 4.900 | -0.008 | -0.05 |
| BK8CDZ | | 4.845 | -0.060 | -0.44 | 4.795 | -0.113 | -0.72 |
| BPE3F7 | | 5.000 | 0.095 | 0.70 | 5.000 | 0.092 | 0.59 |
| C7G34Z | | 4.915 | 0.010 | 0.08 | 4.925 | 0.017 | 0.11 |
| CAGDYZ | | 4.900 | -0.005 | -0.03 | 4.900 | -0.008 | -0.05 |
| CZV7ZB | | 5.005 | 0.100 | 0.74 | 5.010 | 0.102 | 0.65 |
| DQK6EA | | 4.850 | -0.055 | -0.40 | 4.800 | -0.108 | -0.69 |



Analysis 904

Fall 2015

Titratable Acidity

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| E39TPZ | | 4.935 | 0.030 | 0.22 | 4.975 | 0.067 | 0.43 |
| ECZ4YV | | 5.000 | 0.095 | 0.70 | 4.950 | 0.042 | 0.27 |
| FGBGGU | | 4.970 | 0.065 | 0.48 | 4.970 | 0.062 | 0.40 |
| FL3LBX | X | 4.830 | -0.075 | -0.55 | 4.640 | -0.268 | -1.71 |
| FR6X7V | | 5.020 | 0.115 | 0.85 | 5.060 | 0.152 | 0.97 |
| FR9HUX | X | 4.700 | -0.205 | -1.50 | 4.890 | -0.018 | -0.12 |
| FWL336 | | 5.100 | 0.195 | 1.43 | 5.100 | 0.192 | 1.23 |
| FYN2DX | | 4.800 | -0.105 | -0.77 | 4.800 | -0.108 | -0.69 |
| GG4UF7 | | 5.110 | 0.205 | 1.51 | 5.110 | 0.202 | 1.29 |
| GMPMQ7 | | 4.850 | -0.055 | -0.40 | 4.900 | -0.008 | -0.05 |
| HGW3ZV | | 5.000 | 0.095 | 0.70 | 5.000 | 0.092 | 0.59 |
| HMMCBT | | 4.850 | -0.055 | -0.40 | 4.850 | -0.058 | -0.37 |
| J4LX4Y | X | 6.930 | 2.025 | 14.85 | 6.985 | 2.077 | 13.28 |
| JJ4G82 | | 4.850 | -0.055 | -0.40 | 4.865 | -0.043 | -0.28 |
| JZMM9Y | | 4.850 | -0.055 | -0.40 | 4.850 | -0.058 | -0.37 |
| K3C7X4 | | 4.870 | -0.035 | -0.25 | 4.875 | -0.033 | -0.21 |
| KDCUP2 | | 4.845 | -0.060 | -0.44 | 4.880 | -0.028 | -0.18 |
| KMXXWZ | | 4.805 | -0.100 | -0.73 | 4.840 | -0.068 | -0.44 |
| KXH6WP | | 5.000 | 0.095 | 0.70 | 5.000 | 0.092 | 0.59 |
| L4GDD2 | | 4.915 | 0.010 | 0.08 | 4.955 | 0.047 | 0.30 |
| LD7YJZ | | 4.860 | -0.045 | -0.33 | 4.885 | -0.023 | -0.15 |
| LEMVBY | | 4.800 | -0.105 | -0.77 | 4.800 | -0.108 | -0.69 |
| MKMUYU | | 5.045 | 0.140 | 1.03 | 4.945 | 0.037 | 0.24 |
| MTDF6T | | 4.950 | 0.045 | 0.33 | 4.850 | -0.058 | -0.37 |
| N96D8M | | 5.180 | 0.275 | 2.02 | 5.250 | 0.342 | 2.19 |
| NMQTAM | | 4.875 | -0.030 | -0.22 | 4.850 | -0.058 | -0.37 |



Titratable Acidity

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NPBWHK | | 5.100 | 0.195 | 1.43 | 5.100 | 0.192 | 1.23 |
| NPUK3Z | | 4.795 | -0.110 | -0.80 | 4.785 | -0.123 | -0.79 |
| NVEPQU | | 4.960 | 0.055 | 0.41 | 5.000 | 0.092 | 0.59 |
| P66LCV | | 4.600 | -0.305 | -2.23 | 4.600 | -0.308 | -1.97 |
| PZBREU | * | 4.950 | 0.045 | 0.33 | 4.800 | -0.108 | -0.69 |
| Q8794Q | * | 5.150 | 0.245 | 1.80 | 5.300 | 0.392 | 2.51 |
| QQEB3V | | 4.900 | -0.005 | -0.03 | 4.900 | -0.008 | -0.05 |
| QUEMXV | | 5.145 | 0.240 | 1.76 | 5.145 | 0.237 | 1.52 |
| RV8VJK | X | 5.650 | 0.745 | 5.46 | 5.535 | 0.627 | 4.01 |
| TA68RN | | 5.040 | 0.135 | 0.99 | 5.050 | 0.142 | 0.91 |
| TQDXUT | | 4.750 | -0.155 | -1.13 | 4.750 | -0.158 | -1.01 |
| TZELLQ | | 5.000 | 0.095 | 0.70 | 5.000 | 0.092 | 0.59 |
| UPCMDG | | 4.940 | 0.035 | 0.26 | 4.950 | 0.042 | 0.27 |
| UQMM9P | | 5.000 | 0.095 | 0.70 | 5.000 | 0.092 | 0.59 |
| UZ9QFP | | 5.130 | 0.225 | 1.65 | 5.140 | 0.232 | 1.48 |
| VF73NT | | 4.800 | -0.105 | -0.77 | 4.800 | -0.108 | -0.69 |
| VGf82H | | 4.890 | -0.015 | -0.11 | 4.895 | -0.013 | -0.08 |
| WDWCYP | X | 4.900 | -0.005 | -0.03 | 34.600 | 29.692 | 189.86 |
| XFXW2F | | 4.900 | -0.005 | -0.03 | 4.800 | -0.108 | -0.69 |
| XQCU7J | | 4.800 | -0.105 | -0.77 | 4.800 | -0.108 | -0.69 |
| YHGEUK | | 4.800 | -0.105 | -0.77 | 4.850 | -0.058 | -0.37 |
| YZWK7G | * | 4.500 | -0.405 | -2.97 | 4.500 | -0.408 | -2.61 |
| ZGYKUB | | 4.840 | -0.065 | -0.47 | 4.860 | -0.048 | -0.31 |
| ZPVER9 | * | 5.040 | 0.135 | 0.99 | 5.195 | 0.287 | 1.83 |



Titrateable Acidity

| Grand Means | Summary Statistics | |
|--|-----------------------------|-----------------------------|
| 4.9047 g/L as tartaric acid | 4.9080 g/L as tartaric acid | 4.9080 g/L as tartaric acid |
| Std Dev Btwn Labs | 0.1364 g/L as tartaric acid | 0.1564 g/L as tartaric acid |
| Statistics based on 69 of 76 reporting participants | | |

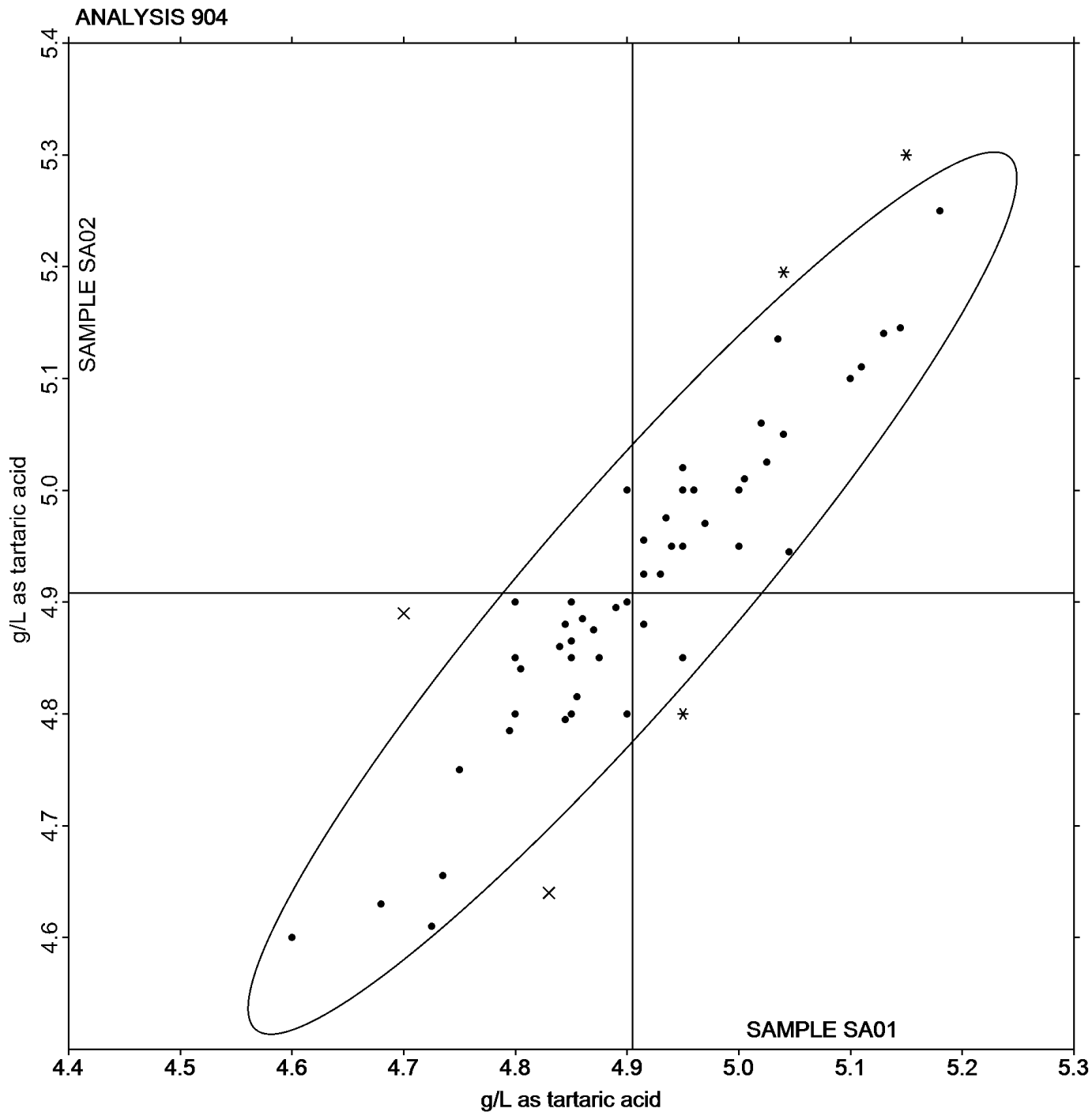
Wines tested: SA01: Chardonnay; SA02: Chardonnay

Comments on assigned Data Flags

- 339UKH (X) - Data for both samples are high.
- AFXV2 (X) - Data for both samples are high.
- FL3LBX (X) - Inconsistent in testing between samples.
- FR9HUX (X) - Inconsistent in testing between samples. Data for Sample SA01 are high.
- J4LX4Y (X) - Data for both samples are high.
- RV8VJK (X) - Data for both samples are high.
- WDWCYP (X) - Inconsistent in testing between samples. Extreme Data for Sample SA02.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|-------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method | 4.900 | 0.085 | -0.005 | 4.930 | 0.099 | 0.022 | 2 | 2 |
| Autotitration | 4.898 | 0.087 | -0.007 | 4.900 | 0.100 | -0.008 | 39 | 45 |
| Manual Titration | 4.940 | 0.146 | 0.035 | 4.942 | 0.172 | 0.034 | 14 | 20 |
| FTIR | 4.963 | 0.143 | 0.058 | 4.951 | 0.161 | 0.043 | 8 | 8 |
| Segmented Flow Analyzer | 4.600 | 0.000 | -0.305 | 4.600 | 0.000 | -0.308 | 1 | 1 |





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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | * | 0.4000 | 0.0177 | 0.43 | 0.4450 | 0.0637 | 1.59 |
| 2TQQZE | * | 0.2775 | -0.1048 | -2.55 | 0.2770 | -0.1043 | -2.60 |
| 339UKH | X | 0.6450 | 0.2627 | 6.39 | 0.6675 | 0.2862 | 7.13 |
| 3EPE6E | | 0.3500 | -0.0323 | -0.78 | 0.3500 | -0.0313 | -0.78 |
| 3JFNED | | 0.3800 | -0.0023 | -0.06 | 0.3850 | 0.0037 | 0.09 |
| 3K8WEG | | 0.4150 | 0.0327 | 0.80 | 0.4250 | 0.0437 | 1.09 |
| 3T3M7H | | 0.3550 | -0.0273 | -0.66 | 0.3550 | -0.0263 | -0.66 |
| 3W7KGB | | 0.4100 | 0.0277 | 0.67 | 0.4000 | 0.0187 | 0.46 |
| 3YC3E8 | * | 0.4450 | 0.0627 | 1.52 | 0.4800 | 0.0987 | 2.46 |
| 4K87UJ | | 0.3800 | -0.0023 | -0.06 | 0.4050 | 0.0237 | 0.59 |
| 6PFM38 | | 0.3700 | -0.0123 | -0.30 | 0.3700 | -0.0113 | -0.28 |
| 73ZNX6 | | 0.4250 | 0.0427 | 1.04 | 0.4350 | 0.0537 | 1.34 |
| 8637A7 | | 0.3800 | -0.0023 | -0.06 | 0.3650 | -0.0163 | -0.41 |
| 8F8WD3 | | 0.4450 | 0.0627 | 1.52 | 0.4300 | 0.0487 | 1.21 |
| 8NYC37 | | 0.3550 | -0.0273 | -0.66 | 0.3450 | -0.0363 | -0.90 |
| 9DWC38 | | 0.3750 | -0.0073 | -0.18 | 0.3650 | -0.0163 | -0.41 |
| ABYK9C | | 0.3350 | -0.0473 | -1.15 | 0.3200 | -0.0613 | -1.53 |
| AFXV2 | * | 0.4300 | 0.0477 | 1.16 | 0.3750 | -0.0063 | -0.16 |
| BJCWZ4 | | 0.3700 | -0.0123 | -0.30 | 0.3700 | -0.0113 | -0.28 |
| BK8CDZ | | 0.3750 | -0.0073 | -0.18 | 0.3500 | -0.0313 | -0.78 |
| BPE3F7 | * | 0.4500 | 0.0677 | 1.65 | 0.4000 | 0.0187 | 0.46 |
| C7G34Z | | 0.3500 | -0.0323 | -0.78 | 0.3550 | -0.0263 | -0.66 |
| CAGDYZ | | 0.4150 | 0.0327 | 0.80 | 0.3750 | -0.0063 | -0.16 |
| CZV7ZB | | 0.4050 | 0.0227 | 0.55 | 0.3910 | 0.0097 | 0.24 |
| DQK6EA | | 0.4450 | 0.0627 | 1.52 | 0.4600 | 0.0787 | 1.96 |
| ECZ4YV | | 0.3350 | -0.0473 | -1.15 | 0.3550 | -0.0263 | -0.66 |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #051****Analysis 905****Fall 2015****Volatile Acidity**

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| FGBGGU | | 0.3900 | 0.0077 | 0.19 | 0.3900 | 0.0087 | 0.22 |
| FL3LBX | | 0.3250 | -0.0573 | -1.39 | 0.3550 | -0.0263 | -0.66 |
| FR6X7V | | 0.3500 | -0.0323 | -0.78 | 0.3450 | -0.0363 | -0.90 |
| FR9HUX | | 0.3550 | -0.0273 | -0.66 | 0.3450 | -0.0363 | -0.90 |
| FWL336 | | 0.3900 | 0.0077 | 0.19 | 0.4000 | 0.0187 | 0.46 |
| FYN2DX | | 0.3700 | -0.0123 | -0.30 | 0.3900 | 0.0087 | 0.22 |
| GC87YY | | 0.3350 | -0.0473 | -1.15 | 0.3300 | -0.0513 | -1.28 |
| GG4UF7 | | 0.3900 | 0.0077 | 0.19 | 0.3900 | 0.0087 | 0.22 |
| HGW3ZV | | 0.4100 | 0.0277 | 0.67 | 0.4100 | 0.0287 | 0.71 |
| HMMCBT | | 0.3600 | -0.0223 | -0.54 | 0.3500 | -0.0313 | -0.78 |
| J4LX4Y | | 0.3950 | 0.0127 | 0.31 | 0.3800 | -0.0013 | -0.03 |
| JJ4G82 | | 0.4500 | 0.0677 | 1.65 | 0.4500 | 0.0687 | 1.71 |
| JZMM9Y | | 0.3200 | -0.0623 | -1.51 | 0.3200 | -0.0613 | -1.53 |
| K3C7X4 | | 0.3500 | -0.0323 | -0.78 | 0.3400 | -0.0413 | -1.03 |
| KDCUP2 | | 0.4350 | 0.0527 | 1.28 | 0.3900 | 0.0087 | 0.22 |
| KMXXWZ | | 0.3750 | -0.0073 | -0.18 | 0.3700 | -0.0113 | -0.28 |
| KXH6WP | | 0.4200 | 0.0377 | 0.92 | 0.4200 | 0.0387 | 0.96 |
| L4GDD2 | | 0.3750 | -0.0073 | -0.18 | 0.3700 | -0.0113 | -0.28 |
| LD7YJZ | | 0.3150 | -0.0673 | -1.64 | 0.3200 | -0.0613 | -1.53 |
| LEMBY | | 0.3550 | -0.0273 | -0.66 | 0.3750 | -0.0063 | -0.16 |
| MKMUYU | | 0.3600 | -0.0223 | -0.54 | 0.3850 | 0.0037 | 0.09 |
| MTDF6T | | 0.3250 | -0.0573 | -1.39 | 0.3500 | -0.0313 | -0.78 |
| N96D8M | | 0.3700 | -0.0123 | -0.30 | 0.3700 | -0.0113 | -0.28 |
| NMQTAM | | 0.3200 | -0.0623 | -1.51 | 0.3300 | -0.0513 | -1.28 |
| NPBWHK | | 0.3900 | 0.0077 | 0.19 | 0.4000 | 0.0187 | 0.46 |
| NPUK3Z | | 0.4350 | 0.0527 | 1.28 | 0.4300 | 0.0487 | 1.21 |



Volatile Acidity

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NVEPQU | | 0.4300 | 0.0477 | 1.16 | 0.3950 | 0.0137 | 0.34 |
| P66LCV | | 0.3900 | 0.0077 | 0.19 | 0.3900 | 0.0087 | 0.22 |
| PZBREU | | 0.3700 | -0.0123 | -0.30 | 0.3700 | -0.0113 | -0.28 |
| Q8794Q | | 0.4400 | 0.0577 | 1.40 | 0.4600 | 0.0787 | 1.96 |
| QQEB3V | | 0.3900 | 0.0077 | 0.19 | 0.3900 | 0.0087 | 0.22 |
| QUEMXV | | 0.4650 | 0.0827 | 2.01 | 0.4550 | 0.0737 | 1.83 |
| RV8VJK | | 0.3400 | -0.0423 | -1.03 | 0.3400 | -0.0413 | -1.03 |
| TA68RN | | 0.3900 | 0.0077 | 0.19 | 0.3900 | 0.0087 | 0.22 |
| TQDXUT | | 0.3600 | -0.0223 | -0.54 | 0.3800 | -0.0013 | -0.03 |
| TZELLQ | | 0.4650 | 0.0827 | 2.01 | 0.4550 | 0.0737 | 1.83 |
| UPCMDG | | 0.3500 | -0.0323 | -0.78 | 0.3700 | -0.0113 | -0.28 |
| UQMM9P | | 0.3500 | -0.0323 | -0.78 | 0.3400 | -0.0413 | -1.03 |
| UZ9QFP | | 0.4500 | 0.0677 | 1.65 | 0.4500 | 0.0687 | 1.71 |
| VGF82H | | 0.4208 | 0.0385 | 0.94 | 0.4074 | 0.0260 | 0.65 |
| WDWCYP | | 0.3850 | 0.0027 | 0.07 | 0.3900 | 0.0087 | 0.22 |
| XFXW2F | | 0.4000 | 0.0177 | 0.43 | 0.4000 | 0.0187 | 0.46 |
| YHGEUK | | 0.3700 | -0.0123 | -0.30 | 0.3850 | 0.0037 | 0.09 |
| YZWK7G | | 0.3780 | -0.0043 | -0.10 | 0.3600 | -0.0213 | -0.53 |
| ZGYKUB | | 0.3350 | -0.0473 | -1.15 | 0.3350 | -0.0463 | -1.15 |
| ZPVER9 | | 0.3255 | -0.0568 | -1.38 | 0.3240 | -0.0573 | -1.43 |

| Grand Means | | Summary Statistics | |
|--|----------------------------|--------------------|----------------------------|
| | 0.38228 g/L as acetic acid | | 0.38133 g/L as acetic acid |
| Std Dev Btwn Labs | | | |
| | 0.04114 g/L as acetic acid | | 0.04015 g/L as acetic acid |
| Statistics based on 71 of 72 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Comments on assigned Data Flags

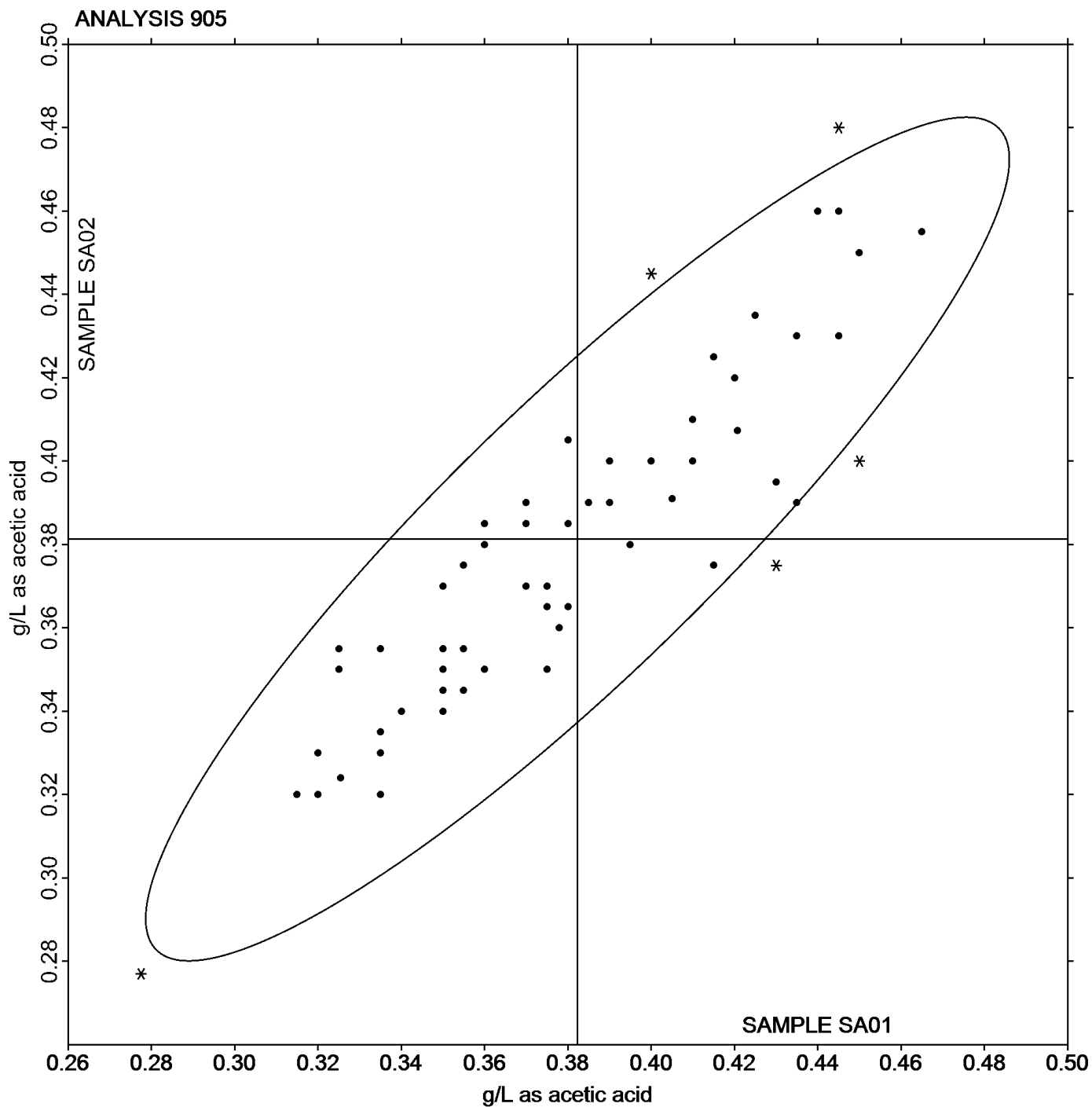
339UKH (X) - Data for both samples are high.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|-----------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Cash Still method | 0.4059 | 0.0347 | 0.0237 | 0.4054 | 0.0327 | 0.0240 | 16 | 20 |
| Enzymatic method | 0.3571 | 0.0287 | -0.0252 | 0.3548 | 0.0258 | -0.0266 | 27 | 29 |
| HPLC | 0.4208 | 0.0000 | 0.0385 | 0.4074 | 0.0000 | 0.0260 | 1 | 1 |
| GC | 0.3665 | 0.0163 | -0.0158 | 0.3675 | 0.0106 | -0.0138 | 2 | 2 |
| Colorimetric Analysis | 0.3250 | 0.0000 | -0.0573 | 0.3550 | 0.0000 | -0.0263 | 1 | 1 |
| Seg. Flow / Colorimetric Analyzer | 0.3975 | 0.0389 | 0.0152 | 0.3975 | 0.0342 | 0.0162 | 8 | 8 |
| FTIR | 0.3950 | 0.0331 | 0.0127 | 0.3959 | 0.0342 | 0.0146 | 11 | 11 |



Analysis 905
Volatile Acidity





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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | | 0.9963 | 0.0000 | -0.01 | 0.9963 | 0.0000 | -0.02 |
| 2TQQZE | | 0.9964 | 0.0001 | 0.15 | 0.9964 | 0.0001 | 0.13 |
| 339UKH | | 0.9965 | 0.0002 | 0.33 | 0.9965 | 0.0002 | 0.26 |
| 3EPE6E | X | 0.9959 | -0.0005 | -0.81 | 0.9964 | 0.0001 | 0.13 |
| 3JFNED | | 0.9965 | 0.0001 | 0.24 | 0.9964 | 0.0001 | 0.17 |
| 3K8WEG | | 0.9962 | -0.0001 | -0.20 | 0.9961 | -0.0002 | -0.38 |
| 3T3M7H | X | 0.9962 | -0.0001 | -0.20 | 0.9891 | -0.0073 | -12.38 |
| 3W7KGB | | 0.9964 | 0.0000 | 0.06 | 0.9964 | 0.0000 | 0.06 |
| 3YC3E8 | | 0.9968 | 0.0005 | 0.83 | 0.9968 | 0.0005 | 0.80 |
| 4K87UJ | | 0.9963 | 0.0000 | -0.02 | 0.9964 | 0.0000 | 0.05 |
| 62RCG4 | | 0.9971 | 0.0008 | 1.34 | 0.9971 | 0.0008 | 1.31 |
| 6PFM38 | | 0.9964 | 0.0001 | 0.13 | 0.9964 | 0.0001 | 0.11 |
| 73ZNX6 | X | 0.9984 | 0.0021 | 3.63 | 0.9985 | 0.0022 | 3.69 |
| 8637A7 | | 0.9953 | -0.0011 | -1.86 | 0.9951 | -0.0012 | -2.08 |
| 8F8WD3 | | 0.9964 | 0.0001 | 0.15 | 0.9966 | 0.0003 | 0.47 |
| 9DWC38 | X | 0.9955 | -0.0008 | -1.42 | 0.9975 | 0.0012 | 2.00 |
| ABYK9C | | 0.9961 | -0.0002 | -0.36 | 0.9961 | -0.0002 | -0.36 |
| AFXV2 | | 0.9963 | -0.0001 | -0.11 | 0.9964 | 0.0000 | 0.05 |
| BJCWZ4 | | 0.9966 | 0.0002 | 0.41 | 0.9966 | 0.0003 | 0.47 |
| BK8CDZ | | 0.9963 | 0.0000 | 0.02 | 0.9963 | 0.0000 | 0.00 |
| BPE3F7 | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.02 |
| C7G34Z | | 0.9963 | 0.0000 | -0.07 | 0.9963 | 0.0000 | -0.03 |
| CAGDYZ | | 0.9964 | 0.0001 | 0.13 | 0.9964 | 0.0000 | 0.08 |
| CZV7ZB | | 0.9965 | 0.0001 | 0.24 | 0.9964 | 0.0000 | 0.05 |
| DQK6EA | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.04 |
| E39TPZ | | 0.9963 | 0.0000 | -0.02 | 0.9964 | 0.0000 | 0.05 |



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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| ECZ4YV | | 0.9964 | 0.0001 | 0.13 | 0.9968 | 0.0005 | 0.80 |
| FL3LBX | * | 0.9947 | -0.0017 | -2.90 | 0.9947 | -0.0017 | -2.85 |
| FR6X7V | | 0.9960 | -0.0003 | -0.55 | 0.9960 | -0.0003 | -0.55 |
| FR9HUX | | 0.9953 | -0.0010 | -1.77 | 0.9951 | -0.0013 | -2.17 |
| FYN2DX | | 0.9961 | -0.0002 | -0.37 | 0.9960 | -0.0003 | -0.55 |
| G2A6LV | | 0.9962 | -0.0001 | -0.14 | 0.9963 | -0.0001 | -0.12 |
| GMPMQ7 | | 0.9963 | 0.0000 | 0.01 | 0.9963 | 0.0000 | 0.00 |
| HGW3ZV | | 0.9963 | 0.0000 | 0.03 | 0.9963 | 0.0000 | 0.04 |
| J4LX4Y | | 0.9965 | 0.0002 | 0.33 | 0.9965 | 0.0001 | 0.22 |
| JJ4G82 | X | 0.9935 | -0.0028 | -4.84 | 0.9934 | -0.0029 | -4.93 |
| JZMM9Y | * | 0.9981 | 0.0018 | 3.12 | 0.9980 | 0.0017 | 2.86 |
| K3C7X4 | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.04 |
| KMXXWZ | | 0.9968 | 0.0005 | 0.85 | 0.9969 | 0.0006 | 0.98 |
| KXH6WP | * | 0.9946 | -0.0017 | -2.99 | 0.9947 | -0.0017 | -2.85 |
| L4GDD2 | | 0.9963 | 0.0000 | 0.01 | 0.9963 | 0.0000 | 0.01 |
| LD7YJZ | X | 0.9931 | -0.0033 | -5.70 | 0.9933 | -0.0030 | -5.15 |
| LEMVBY | | 0.9964 | 0.0001 | 0.10 | 0.9964 | 0.0001 | 0.19 |
| MKMUYU | | 0.9968 | 0.0005 | 0.85 | 0.9969 | 0.0006 | 0.98 |
| N96D8M | X | 0.9840 | -0.0123 | -21.50 | 0.9840 | -0.0123 | -20.98 |
| NPUK3Z | | 0.9963 | 0.0000 | 0.01 | 0.9963 | 0.0000 | 0.00 |
| NVEPQU | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.04 |
| P66LCV | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.04 |
| Q8794Q | | 0.9963 | 0.0000 | 0.00 | 0.9963 | 0.0000 | 0.00 |
| QQEB3V | | 0.9963 | 0.0000 | 0.03 | 0.9963 | 0.0000 | 0.02 |
| QUEMXV | | 0.9963 | 0.0000 | -0.02 | 0.9963 | 0.0000 | -0.04 |
| RV8VJK | X | 0.9969 | 0.0005 | 0.94 | 0.9961 | -0.0003 | -0.46 |



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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| TA68RN | | 0.9963 | 0.0000 | -0.02 | 0.9964 | 0.0001 | 0.13 |
| TQDXUT | | 0.9963 | 0.0000 | -0.06 | 0.9963 | 0.0000 | -0.02 |
| TZELLQ | | 0.9960 | -0.0003 | -0.55 | 0.9962 | -0.0002 | -0.29 |
| UPCMDG | X | 1.0041 | 0.0078 | 13.59 | 1.0041 | 0.0078 | 13.24 |
| UQMM9P | * | 0.9947 | -0.0017 | -2.90 | 0.9947 | -0.0016 | -2.78 |
| UZ9QFP | | 0.9959 | -0.0005 | -0.81 | 0.9960 | -0.0004 | -0.63 |
| VGF82H | | 0.9963 | 0.0000 | 0.05 | 0.9963 | 0.0000 | 0.04 |
| XFXW2F | | 0.9964 | 0.0000 | 0.06 | 0.9962 | -0.0001 | -0.21 |
| XQCU7J | | 0.9977 | 0.0014 | 2.41 | 0.9977 | 0.0014 | 2.42 |
| YHGEUK | | 0.9963 | 0.0000 | -0.01 | 0.9963 | 0.0000 | 0.00 |
| YZWK7G | | 0.9965 | 0.0002 | 0.33 | 0.9965 | 0.0002 | 0.30 |
| ZGYKUB | | 0.9962 | -0.0002 | -0.27 | 0.9961 | -0.0002 | -0.30 |

| Grand Means | | Summary Statistics | |
|-------------------|---------------|--|---------------|
| 0.99631 | sp gr 20/20 C | 0.99632 | sp gr 20/20 C |
| Std Dev Btwn Labs | | 0.00059 | sp gr 20/20 C |
| 0.00057 | sp gr 20/20 C | Statistics based on 55 of 64 reporting participants | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Comments on assigned Data Flags

3EPE6E (X) - Inconsistent in testing between samples. High data for Sample SA01.

3T3M7H (X) - Inconsistent in testing between samples. Low data for Sample SA02.

73ZNX6 (X) - Data for both samples are high. Possible Systematic Error.

9DWC38 (X) - Inconsistent in testing between samples.

JJ4G82 (X) - Data for both samples are low.

LD7YJZ (X) - Data for both samples are low.

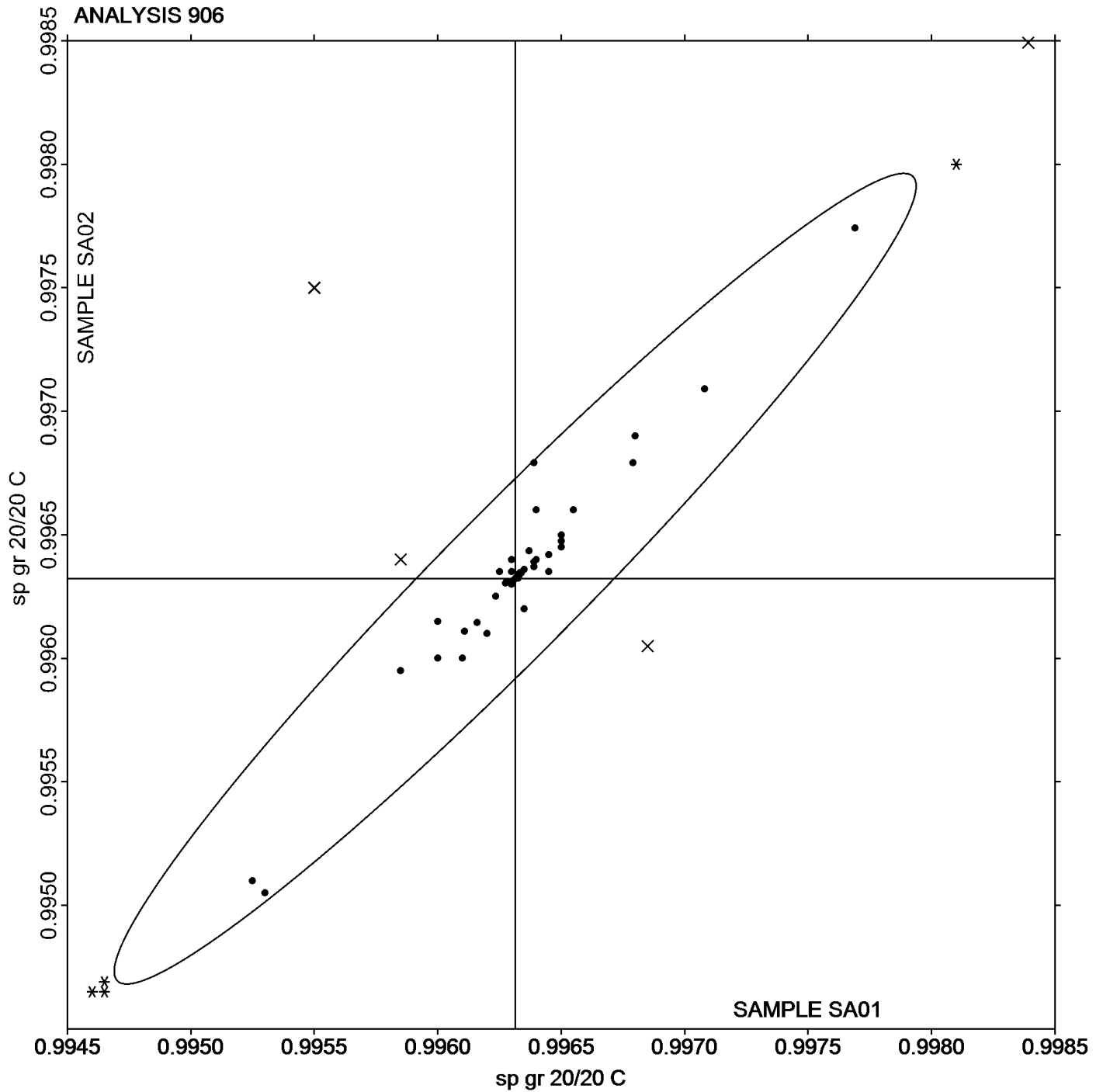
N96D8M (X) - Data for both samples are low.

RV8VJK (X) - Inconsistent in testing between samples.

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



Analysis 906
Specific Gravity





pH

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | | 3.405 | 0.006 | 0.19 | 3.420 | 0.011 | 0.35 |
| 2TQQZE | | 3.400 | 0.001 | 0.03 | 3.400 | -0.009 | -0.28 |
| 339UKH | X | 3.355 | -0.044 | -1.35 | 3.415 | 0.006 | 0.19 |
| 3EPE6E | * | 3.335 | -0.064 | -1.97 | 3.330 | -0.079 | -2.49 |
| 3JFNED | | 3.325 | -0.074 | -2.27 | 3.340 | -0.069 | -2.17 |
| 3K8WEG | X | 3.425 | 0.026 | 0.80 | 3.470 | 0.061 | 1.92 |
| 3T3M7H | * | 3.495 | 0.096 | 2.96 | 3.505 | 0.096 | 3.03 |
| 3W7KGB | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| 3YC3E8 | | 3.395 | -0.004 | -0.12 | 3.405 | -0.004 | -0.12 |
| 4K87UJ | | 3.425 | 0.026 | 0.80 | 3.425 | 0.016 | 0.51 |
| 62RCG4 | X | 3.135 | -0.264 | -8.12 | 3.080 | -0.329 | -10.36 |
| 6PFM38 | | 3.355 | -0.044 | -1.35 | 3.375 | -0.034 | -1.07 |
| 73ZNX6 | | 3.405 | 0.006 | 0.19 | 3.420 | 0.011 | 0.35 |
| 8637A7 | | 3.380 | -0.019 | -0.58 | 3.395 | -0.014 | -0.44 |
| 8F8WD3 | | 3.400 | 0.001 | 0.03 | 3.410 | 0.001 | 0.03 |
| 8NYC37 | | 3.440 | 0.041 | 1.26 | 3.440 | 0.031 | 0.98 |
| 9DWC38 | | 3.450 | 0.051 | 1.57 | 3.460 | 0.051 | 1.61 |
| 9KV2KB | X | 3.289 | -0.110 | -3.40 | 3.292 | -0.117 | -3.70 |
| ABYK9C | | 3.360 | -0.039 | -1.20 | 3.370 | -0.039 | -1.23 |
| AFXV2 | X | 3.430 | 0.031 | 0.96 | 3.470 | 0.061 | 1.92 |
| BJCWZ4 | | 3.380 | -0.019 | -0.58 | 3.390 | -0.019 | -0.60 |
| BK8CDZ | | 3.345 | -0.054 | -1.66 | 3.350 | -0.059 | -1.86 |
| C7G34Z | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| CAGDYZ | | 3.440 | 0.041 | 1.26 | 3.460 | 0.051 | 1.61 |
| CZV7ZB | | 3.370 | -0.029 | -0.89 | 3.370 | -0.039 | -1.23 |
| DQK6EA | | 3.390 | -0.009 | -0.27 | 3.390 | -0.019 | -0.60 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 907

Fall 2015

pH

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| E39TPZ | | 3.352 | -0.047 | -1.44 | 3.381 | -0.028 | -0.89 |
| ECZ4YV | X | 3.400 | 0.001 | 0.03 | 3.445 | 0.036 | 1.14 |
| FGBGGU | | 3.380 | -0.019 | -0.58 | 3.390 | -0.019 | -0.60 |
| FL3LBX | | 3.420 | 0.021 | 0.65 | 3.415 | 0.006 | 0.19 |
| FR6X7V | | 3.355 | -0.044 | -1.35 | 3.370 | -0.039 | -1.23 |
| FR9HUX | | 3.425 | 0.026 | 0.80 | 3.440 | 0.031 | 0.98 |
| FWL336 | | 3.440 | 0.041 | 1.26 | 3.450 | 0.041 | 1.29 |
| FYN2DX | | 3.380 | -0.019 | -0.58 | 3.395 | -0.014 | -0.44 |
| GG4UF7 | | 3.470 | 0.071 | 2.19 | 3.480 | 0.071 | 2.24 |
| HGW3ZV | | 3.380 | -0.019 | -0.58 | 3.390 | -0.019 | -0.60 |
| HMMCBT | | 3.410 | 0.011 | 0.34 | 3.420 | 0.011 | 0.35 |
| J4LX4Y | | 3.410 | 0.011 | 0.34 | 3.410 | 0.001 | 0.03 |
| JJ4G82 | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| JZMM9Y | | 3.405 | 0.006 | 0.19 | 3.400 | -0.009 | -0.28 |
| K3C7X4 | | 3.440 | 0.041 | 1.26 | 3.450 | 0.041 | 1.29 |
| KDCUP2 | | 3.370 | -0.029 | -0.89 | 3.385 | -0.024 | -0.75 |
| KMXXWZ | | 3.390 | -0.009 | -0.27 | 3.410 | 0.001 | 0.03 |
| KXH6WP | | 3.405 | 0.006 | 0.19 | 3.405 | -0.004 | -0.12 |
| L4GDD2 | | 3.400 | 0.001 | 0.03 | 3.405 | -0.004 | -0.12 |
| LD7YJZ | | 3.400 | 0.001 | 0.03 | 3.410 | 0.001 | 0.03 |
| LEMVBY | | 3.380 | -0.019 | -0.58 | 3.390 | -0.019 | -0.60 |
| MKMUYU | X | 3.320 | -0.079 | -2.43 | 3.385 | -0.024 | -0.75 |
| MTDF6T | * | 3.330 | -0.069 | -2.12 | 3.360 | -0.049 | -1.54 |
| N96D8M | X | 3.515 | 0.116 | 3.57 | 3.490 | 0.081 | 2.55 |
| NMQTAM | | 3.400 | 0.001 | 0.03 | 3.415 | 0.006 | 0.19 |
| NPBWHK | | 3.430 | 0.031 | 0.96 | 3.420 | 0.011 | 0.35 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

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pH

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NPUK3Z | | 3.411 | 0.012 | 0.37 | 3.408 | -0.001 | -0.03 |
| NVEPQU | | 3.375 | -0.024 | -0.74 | 3.380 | -0.029 | -0.91 |
| PZBREU | | 3.415 | 0.016 | 0.50 | 3.430 | 0.021 | 0.66 |
| Q8794Q | | 3.405 | 0.006 | 0.19 | 3.420 | 0.011 | 0.35 |
| QQEB3V | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| QUEMXV | | 3.415 | 0.016 | 0.50 | 3.435 | 0.026 | 0.82 |
| RV8VJK | | 3.390 | -0.009 | -0.27 | 3.410 | 0.001 | 0.03 |
| TA68RN | | 3.400 | 0.001 | 0.03 | 3.400 | -0.009 | -0.28 |
| TQDXUT | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| TZELLQ | | 3.365 | -0.034 | -1.04 | 3.370 | -0.039 | -1.23 |
| UPCMDG | | 3.365 | -0.034 | -1.04 | 3.390 | -0.019 | -0.60 |
| UQMM9P | | 3.440 | 0.041 | 1.26 | 3.450 | 0.041 | 1.29 |
| UZ9QFP | | 3.421 | 0.022 | 0.66 | 3.435 | 0.026 | 0.82 |
| VF73NT | | 3.410 | 0.011 | 0.34 | 3.420 | 0.011 | 0.35 |
| VGF82H | X | 3.590 | 0.191 | 5.88 | 3.600 | 0.191 | 6.02 |
| WDWCYP | | 3.455 | 0.056 | 1.73 | 3.465 | 0.056 | 1.77 |
| XFXW2F | | 3.390 | -0.009 | -0.27 | 3.400 | -0.009 | -0.28 |
| XQCU7J | | 3.425 | 0.026 | 0.80 | 3.435 | 0.026 | 0.82 |
| YHGEUK | | 3.395 | -0.004 | -0.12 | 3.415 | 0.006 | 0.19 |
| YZWK7G | | 3.390 | -0.009 | -0.27 | 3.410 | 0.001 | 0.03 |
| ZGYKUB | | 3.440 | 0.041 | 1.26 | 3.450 | 0.041 | 1.29 |
| ZPVER9 | | 3.405 | 0.006 | 0.19 | 3.410 | 0.001 | 0.03 |



| Grand Means | Summary Statistics |
|-------------------|--------------------|
| 3.3989 pH | 3.4089 pH |
| Std Dev Btwn Labs | |
| 0.0325 pH | 0.0317 pH |

Statistics based on 65 of 74 reporting participants

Wines tested: SA01: Chardonnay; SA02: Chardonnay

Comments on assigned Data Flags

339UKH (X) - Inconsistent in testing between samples.

3K8WEG (X) - Inconsistent in testing between samples.

62RCG4 (X) - Data for both samples are low.

9KV2KB (X) - Data for both samples are low. Also inconsistent in testing within Sample SA01.

AFXV2 (X) - Inconsistent in testing between samples.

ECZ4YV (X) - Inconsistent in testing between samples.

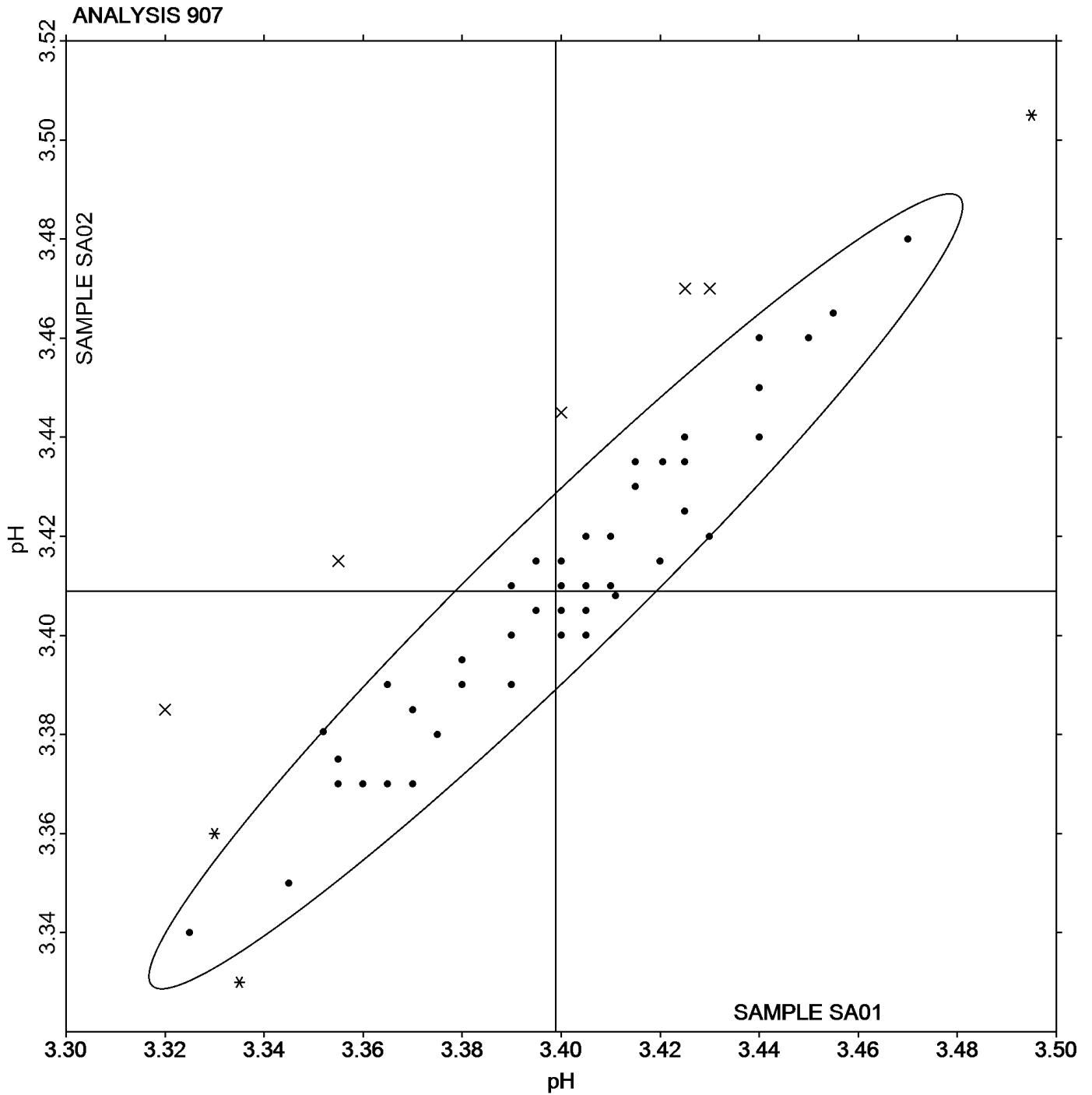
MKMUYU (X) - Inconsistent in testing between samples and inconsistent within the determinations for Sample SA01.

N96D8M (X) - Inconsistent in testing between samples, data for Sample SA01 are high.

VGF82H (X) - Data for both samples are high.



pH





Residual Sugar

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TQQZE | | 14.30 | 0.42 | 0.42 | 14.00 | 0.18 | 0.17 |
| 3JFNED | | 13.61 | -0.27 | -0.27 | 13.42 | -0.40 | -0.38 |
| 3T3M7H | | 14.95 | 1.07 | 1.07 | 14.79 | 0.97 | 0.91 |
| 3YC3E8 | | 13.55 | -0.33 | -0.33 | 13.35 | -0.47 | -0.45 |
| 62RCG4 | X | 13.07 | -0.81 | -0.82 | 15.82 | 2.00 | 1.89 |
| 6PFM38 | | 13.85 | -0.03 | -0.03 | 13.70 | -0.12 | -0.12 |
| AFXV2 | | 12.83 | -1.05 | -1.05 | 12.49 | -1.34 | -1.26 |
| FL3LBX | | 15.64 | 1.76 | 1.77 | 15.47 | 1.64 | 1.55 |
| FWL336 | | 14.30 | 0.42 | 0.42 | 14.25 | 0.43 | 0.40 |
| HGW3ZV | | 14.00 | 0.12 | 0.12 | 13.95 | 0.13 | 0.12 |
| HMMCBT | | 11.22 | -2.66 | -2.67 | 11.13 | -2.70 | -2.55 |
| LD7YJZ | | 12.90 | -0.98 | -0.98 | 12.80 | -1.02 | -0.97 |
| MKMUYU | X | 0.34 | -13.54 | -13.58 | 0.33 | -13.49 | -12.75 |
| N96D8M | X | 6.00 | -7.88 | -7.90 | 6.00 | -7.82 | -7.39 |
| PZBREU | | 13.46 | -0.42 | -0.42 | 13.51 | -0.31 | -0.29 |
| TA68RN | | 14.24 | 0.36 | 0.36 | 14.22 | 0.40 | 0.38 |
| TZELLQ | | 13.75 | -0.13 | -0.13 | 13.75 | -0.07 | -0.07 |
| VGF82H | | 13.99 | 0.11 | 0.11 | 13.96 | 0.13 | 0.13 |
| YHGEUK | * | 14.25 | 0.37 | 0.37 | 15.10 | 1.28 | 1.21 |
| YZWK7G | | 15.10 | 1.22 | 1.23 | 15.10 | 1.28 | 1.21 |

| Grand Means | | Summary Statistics | |
|--|------------|--------------------|------------|
| | 13.879 g/L | | 13.822 g/L |
| Std Dev Btwn Labs | | | |
| | 0.997 g/L | | 1.058 g/L |
| Statistics based on 17 of 20 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Comments on assigned Data Flags

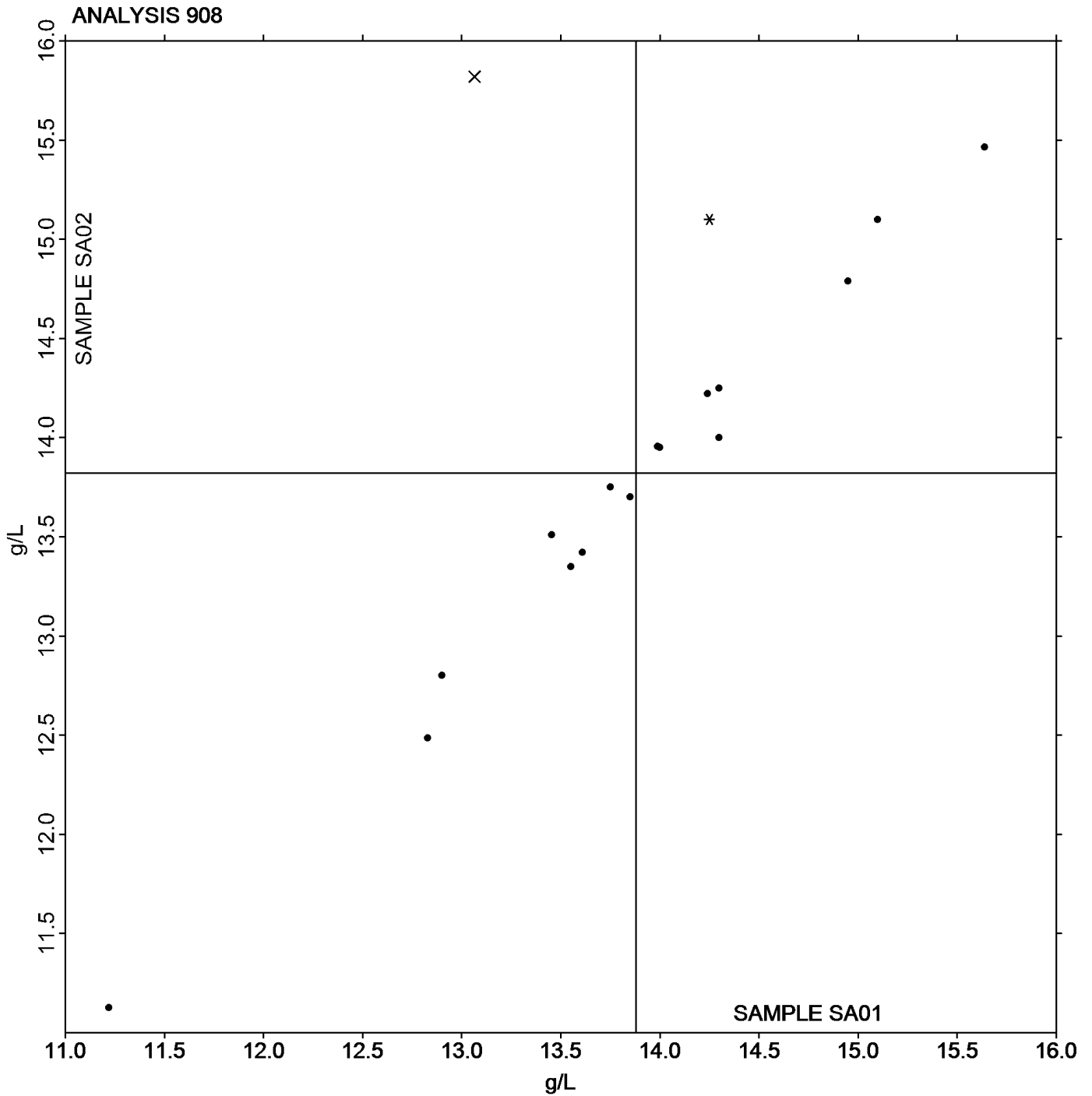
62RCG4 (X) - Inconsistent in testing between samples, data for Sample SA02 are high.

MKMUYU (X) - Extreme data.

N96D8M (X) - Data for both samples are low.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|----------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|---|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 13.46 | 0.00 | -0.42 | 13.51 | 0.00 | -0.31 | 1 | 1 |
| Cu Reduction Method | 14.19 | 0.94 | 0.31 | 14.02 | 1.01 | 0.20 | 7 | 9 |
| FTIR | 13.96 | 0.65 | 0.08 | 13.87 | 0.65 | 0.05 | 7 | 7 |
| Other _____ | 11.22 | 0.00 | -2.66 | 11.13 | 0.00 | -2.70 | 1 | 2 |



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



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Analysis 909
L-Malic Acid

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| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TQQZE | | 0.7040 | -0.0976 | -1.43 | 0.7125 | -0.1171 | -1.52 |
| 339UKH | X | 0.0650 | -0.7366 | -10.81 | 0.1100 | -0.7196 | -9.31 |
| 3EPE6E | | 0.7595 | -0.0421 | -0.62 | 0.7890 | -0.0406 | -0.53 |
| 3JFNED | | 0.7350 | -0.0666 | -0.98 | 0.7650 | -0.0646 | -0.84 |
| 3K8WEG | | 0.8950 | 0.0934 | 1.37 | 0.9250 | 0.0954 | 1.23 |
| 3T3M7H | X | 0.4400 | -0.3616 | -5.30 | 0.4650 | -0.3646 | -4.72 |
| 3W7KGB | | 0.8650 | 0.0634 | 0.93 | 0.8950 | 0.0654 | 0.85 |
| 3YC3E8 | | 0.7050 | -0.0966 | -1.42 | 0.7550 | -0.0746 | -0.97 |
| 4K87UJ | | 0.7850 | -0.0166 | -0.24 | 0.8350 | 0.0054 | 0.07 |
| 6PFM38 | | 0.7000 | -0.1016 | -1.49 | 0.7500 | -0.0796 | -1.03 |
| 8637A7 | | 0.8500 | 0.0484 | 0.71 | 0.8750 | 0.0454 | 0.59 |
| 8F8WD3 | | 0.7550 | -0.0466 | -0.68 | 0.8000 | -0.0296 | -0.38 |
| 8NYC37 | | 0.8050 | 0.0034 | 0.05 | 0.8200 | -0.0096 | -0.12 |
| 9DWC38 | | 0.7890 | -0.0126 | -0.18 | 0.8275 | -0.0021 | -0.03 |
| ABYK9C | | 0.8065 | 0.0049 | 0.07 | 0.8105 | -0.0191 | -0.25 |
| BJCWZ4 | | 0.8100 | 0.0084 | 0.12 | 0.8375 | 0.0079 | 0.10 |
| BK8CDZ | | 0.7750 | -0.0266 | -0.39 | 0.8500 | 0.0204 | 0.26 |
| C7G34Z | | 0.9700 | 0.1684 | 2.47 | 1.0200 | 0.1904 | 2.46 |
| CAGDYZ | | 0.8250 | 0.0234 | 0.34 | 0.8675 | 0.0379 | 0.49 |
| CZV7ZB | | 0.8535 | 0.0519 | 0.76 | 0.8745 | 0.0449 | 0.58 |
| DQK6EA | | 0.7550 | -0.0466 | -0.68 | 0.7200 | -0.1096 | -1.42 |
| ECZ4YV | * | 0.8900 | 0.0884 | 1.30 | 0.8600 | 0.0304 | 0.39 |
| FGBGGU | | 0.8065 | 0.0049 | 0.07 | 0.8455 | 0.0159 | 0.21 |
| FL3LBX | * | 0.8350 | 0.0334 | 0.49 | 0.9500 | 0.1204 | 1.56 |
| FR6X7V | | 0.8750 | 0.0734 | 1.08 | 0.8900 | 0.0604 | 0.78 |
| FR9HUX | | 0.7600 | -0.0416 | -0.61 | 0.7700 | -0.0596 | -0.77 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

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Analysis 909

L-Malic Acid

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| FYN2DX | | 0.8320 | 0.0304 | 0.45 | 0.8455 | 0.0159 | 0.21 |
| GC87YY | | 0.7950 | -0.0066 | -0.10 | 0.8650 | 0.0354 | 0.46 |
| GG4UF7 | | 0.6900 | -0.1116 | -1.64 | 0.7200 | -0.1096 | -1.42 |
| HGW3ZV | | 0.8050 | 0.0034 | 0.05 | 0.8800 | 0.0504 | 0.65 |
| HMMCBT | | 0.8000 | -0.0016 | -0.02 | 0.8075 | -0.0221 | -0.29 |
| J4LX4Y | | 0.8300 | 0.0284 | 0.42 | 0.8450 | 0.0154 | 0.20 |
| JJ4G82 | | 0.7585 | -0.0431 | -0.63 | 0.7830 | -0.0466 | -0.60 |
| JZMM9Y | | 0.8800 | 0.0784 | 1.15 | 0.9100 | 0.0804 | 1.04 |
| K3C7X4 | | 0.7700 | -0.0316 | -0.46 | 0.8050 | -0.0246 | -0.32 |
| KMXXWZ | | 0.7985 | -0.0031 | -0.05 | 0.8080 | -0.0216 | -0.28 |
| KXH6WP | X | 0.8550 | 0.0534 | 0.78 | 0.7850 | -0.0446 | -0.58 |
| L4GDD2 | | 0.6900 | -0.1116 | -1.64 | 0.7000 | -0.1296 | -1.68 |
| LD7YJZ | X | 1.1650 | 0.3634 | 5.33 | 1.1600 | 0.3304 | 4.27 |
| LEMVBY | | 0.8050 | 0.0034 | 0.05 | 0.8300 | 0.0004 | 0.00 |
| MKMUYU | | 0.7630 | -0.0386 | -0.57 | 0.7860 | -0.0436 | -0.56 |
| MTDF6T | | 0.8400 | 0.0384 | 0.56 | 0.9250 | 0.0954 | 1.23 |
| N96D8M | | 0.7640 | -0.0376 | -0.55 | 0.7865 | -0.0431 | -0.56 |
| NMQTAM | | 0.7100 | -0.0916 | -1.34 | 0.7100 | -0.1196 | -1.55 |
| NPBWHK | | 0.8210 | 0.0194 | 0.29 | 0.8150 | -0.0146 | -0.19 |
| NPUK3Z | | 0.8200 | 0.0184 | 0.27 | 0.8350 | 0.0054 | 0.07 |
| NVEPQU | | 0.8700 | 0.0684 | 1.00 | 0.8900 | 0.0604 | 0.78 |
| PZBREU | | 0.8050 | 0.0034 | 0.05 | 0.8300 | 0.0004 | 0.00 |
| Q8794Q | X | 0.9000 | 0.0984 | 1.44 | 1.0400 | 0.2104 | 2.72 |
| QQEB3V | | 0.8185 | 0.0169 | 0.25 | 0.8510 | 0.0214 | 0.28 |
| QUEMXV | | 0.7800 | -0.0216 | -0.32 | 0.8300 | 0.0004 | 0.00 |
| RV8VJK | | 0.7800 | -0.0216 | -0.32 | 0.8200 | -0.0096 | -0.12 |



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L-Malic Acid

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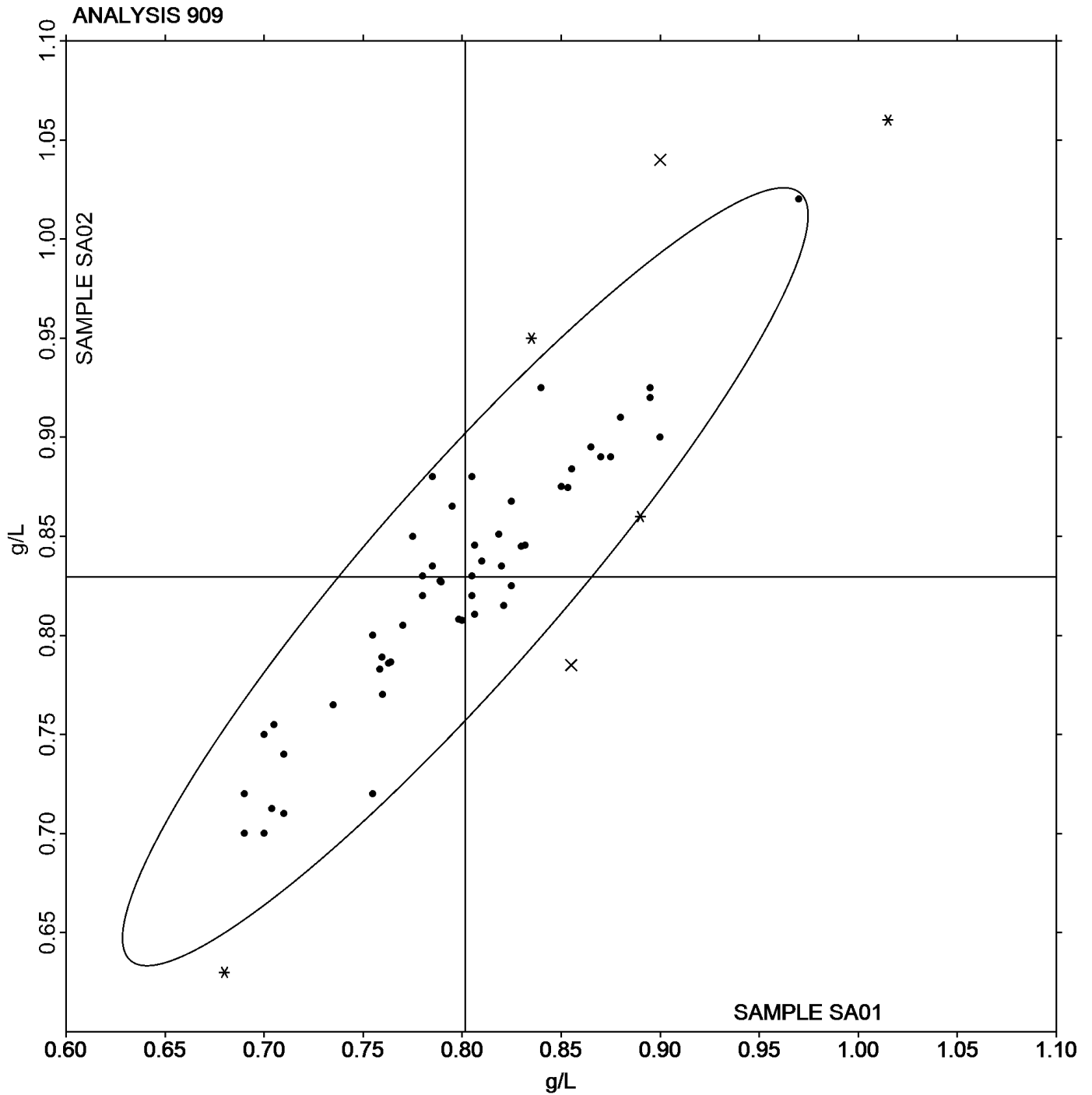
| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| TA68RN | | 0.7000 | -0.1016 | -1.49 | 0.7000 | -0.1296 | -1.68 |
| TQDXUT | | 0.7100 | -0.0916 | -1.34 | 0.7400 | -0.0896 | -1.16 |
| TZELLQ | | 0.9000 | 0.0984 | 1.44 | 0.9000 | 0.0704 | 0.91 |
| UPCMDG | | 0.8250 | 0.0234 | 0.34 | 0.8250 | -0.0046 | -0.06 |
| UQMM9P | * | 1.0150 | 0.2134 | 3.13 | 1.0600 | 0.2304 | 2.98 |
| VGf82H | X | 0.5154 | -0.2862 | -4.20 | 0.5426 | -0.2870 | -3.71 |
| WDWCYP | | 0.8555 | 0.0539 | 0.79 | 0.8840 | 0.0544 | 0.70 |
| XFXW2F | | 0.8950 | 0.0934 | 1.37 | 0.9200 | 0.0904 | 1.17 |
| YZWK7G | * | 0.6800 | -0.1216 | -1.78 | 0.6300 | -0.1996 | -2.58 |
| ZGYKUB | | 0.7850 | -0.0166 | -0.24 | 0.8800 | 0.0504 | 0.65 |
| ZPVER9 | | 0.7895 | -0.0121 | -0.18 | 0.8270 | -0.0026 | -0.03 |

| Grand Means | | Summary Statistics | |
|--|-------------|---------------------------|-------------|
| | 0.80157 g/L | | 0.82961 g/L |
| Std Dev Btwn Labs | | | |
| | 0.06816 g/L | | 0.07730 g/L |
| Statistics based on 57 of 63 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

Comments on assigned Data Flags

- 339UKH (X) - Data for both samples are low.
- 3T3M7H (X) - Data for both samples are low.
- KXH6WP (X) - Inconsistent in testing between samples.
- LD7YJZ (X) - Data for both samples are high.
- Q8794Q (X) - Inconsistent in testing between samples, data for Sample SA02 are high.
- VGf82H (X) - Data for both samples are low. Possible Systematic Error.





Glucose + Fructose

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TC4QC | X | 14.24 | 1.09 | 1.29 | 12.90 | -0.19 | -0.23 |
| 339UKH | X | 11.15 | -2.00 | -2.35 | 12.40 | -0.69 | -0.83 |
| 3EPE6E | | 13.50 | 0.35 | 0.42 | 13.05 | -0.04 | -0.05 |
| 3JFNED | | 11.55 | -1.60 | -1.88 | 11.51 | -1.58 | -1.90 |
| 3K8WEG | | 13.43 | 0.28 | 0.33 | 13.25 | 0.16 | 0.19 |
| 3W7KGB | | 15.25 | 2.10 | 2.48 | 15.10 | 2.01 | 2.41 |
| 3YC3E8 | X | 7.98 | -5.17 | -6.09 | 7.77 | -5.32 | -6.38 |
| 4K87UJ | | 13.30 | 0.15 | 0.18 | 13.60 | 0.51 | 0.61 |
| 73ZNX6 | | 11.70 | -1.45 | -1.70 | 11.60 | -1.49 | -1.79 |
| 8637A7 | | 13.60 | 0.45 | 0.53 | 13.50 | 0.41 | 0.49 |
| 8F8WD3 | | 11.50 | -1.65 | -1.94 | 11.60 | -1.49 | -1.79 |
| 8NYC37 | | 12.91 | -0.24 | -0.28 | 12.68 | -0.42 | -0.50 |
| 9DWC38 | | 13.50 | 0.35 | 0.42 | 13.70 | 0.61 | 0.73 |
| ABYK9C | | 13.00 | -0.15 | -0.17 | 13.00 | -0.09 | -0.11 |
| AFXV2 | | 12.83 | -0.32 | -0.37 | 12.63 | -0.47 | -0.56 |
| BJCWZ4 | | 14.00 | 0.85 | 1.01 | 13.80 | 0.71 | 0.85 |
| BK8CDZ | | 12.73 | -0.42 | -0.50 | 13.15 | 0.06 | 0.07 |
| BPE3F7 | | 13.50 | 0.35 | 0.42 | 13.20 | 0.11 | 0.13 |
| C7G34Z | | 13.96 | 0.81 | 0.95 | 13.91 | 0.81 | 0.97 |
| CAGDYZ | | 12.60 | -0.55 | -0.64 | 12.55 | -0.54 | -0.65 |
| CZV7ZB | X | 14.75 | 1.60 | 1.89 | 13.68 | 0.58 | 0.70 |
| DQK6EA | | 13.40 | 0.25 | 0.30 | 13.55 | 0.46 | 0.55 |
| E39TPZ | | 13.80 | 0.65 | 0.77 | 13.85 | 0.76 | 0.91 |
| ECZ4YV | | 12.55 | -0.60 | -0.70 | 12.66 | -0.43 | -0.52 |
| FGBGGU | | 14.10 | 0.95 | 1.12 | 14.20 | 1.11 | 1.33 |
| FL3LBX | | 13.79 | 0.64 | 0.75 | 13.91 | 0.82 | 0.98 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 910

Fall 2015

Glucose + Fructose

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| FR6X7V | | 12.76 | -0.39 | -0.46 | 12.97 | -0.12 | -0.15 |
| FR9HUX | | 11.64 | -1.51 | -1.78 | 11.43 | -1.67 | -2.00 |
| FYN2DX | | 12.93 | -0.22 | -0.26 | 12.88 | -0.21 | -0.26 |
| GC87YY | | 13.00 | -0.15 | -0.17 | 13.00 | -0.09 | -0.11 |
| GG4UF7 | | 13.90 | 0.75 | 0.89 | 13.70 | 0.61 | 0.73 |
| HGW3ZV | | 13.90 | 0.75 | 0.89 | 13.95 | 0.86 | 1.03 |
| HMMCBT | | 11.22 | -1.93 | -2.27 | 11.13 | -1.97 | -2.36 |
| J4LX4Y | | 12.01 | -1.14 | -1.34 | 11.96 | -1.14 | -1.36 |
| JJ4G82 | X | 12.60 | -0.55 | -0.65 | 13.53 | 0.44 | 0.52 |
| JZMM9Y | | 13.25 | 0.10 | 0.12 | 13.50 | 0.41 | 0.49 |
| K3C7X4 | | 13.60 | 0.45 | 0.53 | 13.40 | 0.31 | 0.37 |
| KMXXWZ | X | 13.45 | 0.30 | 0.36 | 12.55 | -0.54 | -0.65 |
| KXH6WP | | 13.82 | 0.67 | 0.79 | 13.81 | 0.71 | 0.85 |
| L4GDD2 | | 12.75 | -0.40 | -0.47 | 12.55 | -0.54 | -0.65 |
| LD7YJZ | | 13.70 | 0.55 | 0.65 | 13.60 | 0.51 | 0.61 |
| LEMVBY | | 13.14 | -0.01 | -0.01 | 12.70 | -0.39 | -0.47 |
| MKMUYU | | 13.01 | -0.14 | -0.16 | 12.85 | -0.24 | -0.29 |
| MTDF6T | | 13.70 | 0.55 | 0.65 | 13.40 | 0.31 | 0.37 |
| N96D8M | | 12.86 | -0.28 | -0.33 | 12.64 | -0.45 | -0.54 |
| NMQTAM | | 12.83 | -0.32 | -0.37 | 12.86 | -0.23 | -0.28 |
| NPUK3Z | | 13.45 | 0.30 | 0.36 | 13.25 | 0.16 | 0.19 |
| NVEPQU | | 12.55 | -0.60 | -0.70 | 12.35 | -0.74 | -0.89 |
| P66LCV | | 13.80 | 0.65 | 0.77 | 13.90 | 0.81 | 0.97 |
| PZBREU | | 13.46 | 0.31 | 0.36 | 13.51 | 0.42 | 0.50 |
| QQEB3V | | 13.65 | 0.50 | 0.59 | 13.70 | 0.61 | 0.73 |
| QUEMXV | | 12.98 | -0.17 | -0.20 | 12.81 | -0.28 | -0.34 |



| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| RV8VJK | | 12.90 | -0.25 | -0.29 | 12.95 | -0.14 | -0.17 |
| TA68RN | | 13.76 | 0.61 | 0.72 | 13.77 | 0.68 | 0.81 |
| TQDXUT | * | 14.75 | 1.60 | 1.89 | 14.20 | 1.11 | 1.33 |
| TZELLQ | | 12.75 | -0.40 | -0.47 | 12.75 | -0.34 | -0.41 |
| UPCMDG | | 13.30 | 0.15 | 0.18 | 12.95 | -0.14 | -0.17 |
| UQMM9P | X | 10.49 | -2.66 | -3.13 | 11.30 | -1.79 | -2.15 |
| VGF82H | | 11.83 | -1.31 | -1.55 | 11.82 | -1.27 | -1.53 |
| WDWCYP | | 14.95 | 1.80 | 2.13 | 14.85 | 1.76 | 2.11 |
| XFXW2F | | 12.79 | -0.36 | -0.42 | 12.90 | -0.19 | -0.23 |
| ZGYKUB | | 11.40 | -1.75 | -2.06 | 11.65 | -1.44 | -1.73 |
| ZPVER9 | | 13.41 | 0.26 | 0.30 | 13.54 | 0.45 | 0.54 |

| Grand Means | | Summary Statistics | |
|--|------------|--------------------|------------|
| | 13.147 g/L | | 13.093 g/L |
| Std Dev Btwn Labs | | | 0.834 g/L |
| | 0.849 g/L | | |
| Statistics based on 56 of 63 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

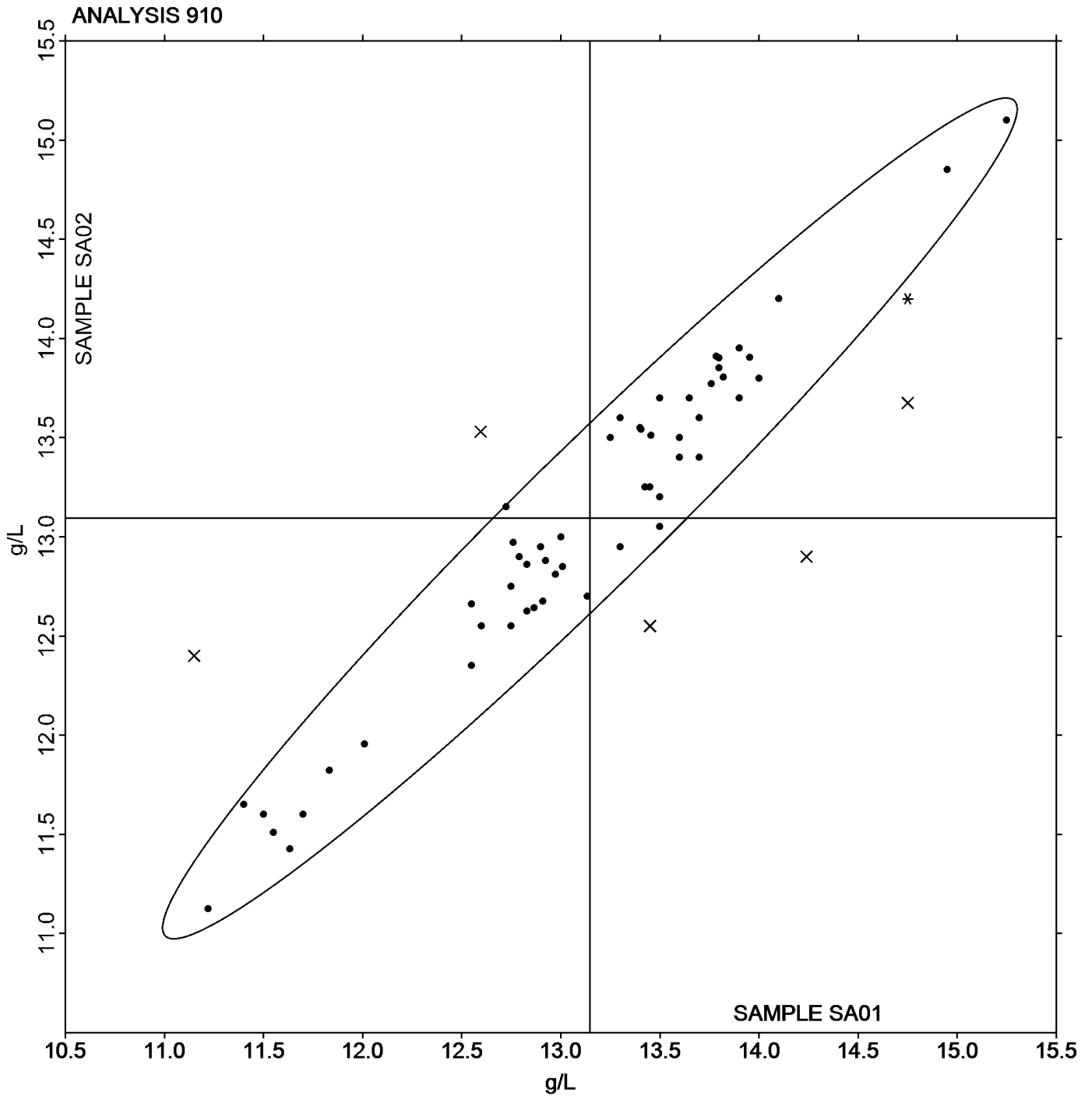
Comments on assigned Data Flags

- 2TC4QC (X) - Inconsistent in testing between samples.
- 339UKH (X) - Data for both samples are low.
- 3YC3E8 (X) - Data for both samples are low.
- CZV7ZB (X) - Inconsistent in testing between samples.
- JJ4G82 (X) - Inconsistent in testing between samples.
- KMXXWZ (X) - Inconsistent in testing between samples.
- UQMM9P (X) - Inconsistent in testing between samples, data for Sample SA01 are low.



Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| HPLC | 13.04 | 1.06 | -0.10 | 12.97 | 1.06 | -0.12 | 3 | 3 |
| Enzymatic/Spectrophotometric | 13.14 | 0.83 | -0.01 | 13.10 | 0.82 | 0.01 | 45 | 53 |
| Segmented Flow | 12.55 | 0.00 | -0.60 | 12.35 | 0.00 | -0.74 | 1 | 1 |
| FTIR | 13.08 | 0.92 | -0.06 | 13.03 | 0.94 | -0.06 | 6 | 6 |





Copper Content

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 3EPE6E | | 0.1825 | 0.0291 | 1.23 | 0.1290 | 0.0202 | 1.23 |
| 3JFNED | | 0.1390 | -0.0144 | -0.61 | 0.0940 | -0.0148 | -0.90 |
| 6PFM38 | | 0.1350 | -0.0184 | -0.78 | 0.1000 | -0.0088 | -0.53 |
| 8637A7 | | 0.1690 | 0.0156 | 0.66 | 0.1105 | 0.0017 | 0.10 |
| CZV7ZB | * | 0.0800 | -0.0734 | -3.12 | 0.0800 | -0.0288 | -1.75 |
| FWL336 | | 0.1500 | -0.0034 | -0.15 | 0.1100 | 0.0012 | 0.07 |
| HGW3ZV | | 0.1650 | 0.0116 | 0.49 | 0.1150 | 0.0062 | 0.38 |
| K3C7X4 | | 0.1560 | 0.0026 | 0.11 | 0.1015 | -0.0073 | -0.44 |
| L4GDD2 | | 0.1850 | 0.0316 | 1.34 | 0.1250 | 0.0162 | 0.99 |
| LD7YJZ | | 0.1655 | 0.0121 | 0.51 | 0.1075 | -0.0013 | -0.08 |
| LEMVBY | | 0.1830 | 0.0296 | 1.26 | 0.1245 | 0.0157 | 0.96 |
| MKMUYU | X | 0.3400 | 0.1866 | 7.92 | 0.3300 | 0.2212 | 13.45 |
| NPUK3Z | * | 0.1500 | -0.0034 | -0.15 | 0.1500 | 0.0412 | 2.51 |
| P66LCV | | 0.1550 | 0.0016 | 0.07 | 0.1050 | -0.0038 | -0.23 |
| QQEB3V | | 0.1500 | -0.0034 | -0.15 | 0.1000 | -0.0088 | -0.53 |
| QUEMXV | | 0.1600 | 0.0066 | 0.28 | 0.1200 | 0.0112 | 0.68 |
| RV8VJK | | 0.1450 | -0.0084 | -0.36 | 0.0900 | -0.0188 | -1.14 |
| TA68RN | | 0.1600 | 0.0066 | 0.28 | 0.1100 | 0.0012 | 0.07 |
| VGF82H | | 0.1290 | -0.0244 | -1.04 | 0.0875 | -0.0213 | -1.29 |
| YHGEUK | | 0.1560 | 0.0026 | 0.11 | 0.1075 | -0.0013 | -0.08 |

| Grand Means | | Summary Statistics | |
|--|--------------|--------------------|--------------|
| | 0.15342 mg/L | | 0.10879 mg/L |
| Std Dev Btwn Labs | | | |
| | 0.02355 mg/L | | 0.01644 mg/L |
| Statistics based on 19 of 20 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Comments on assigned Data Flags

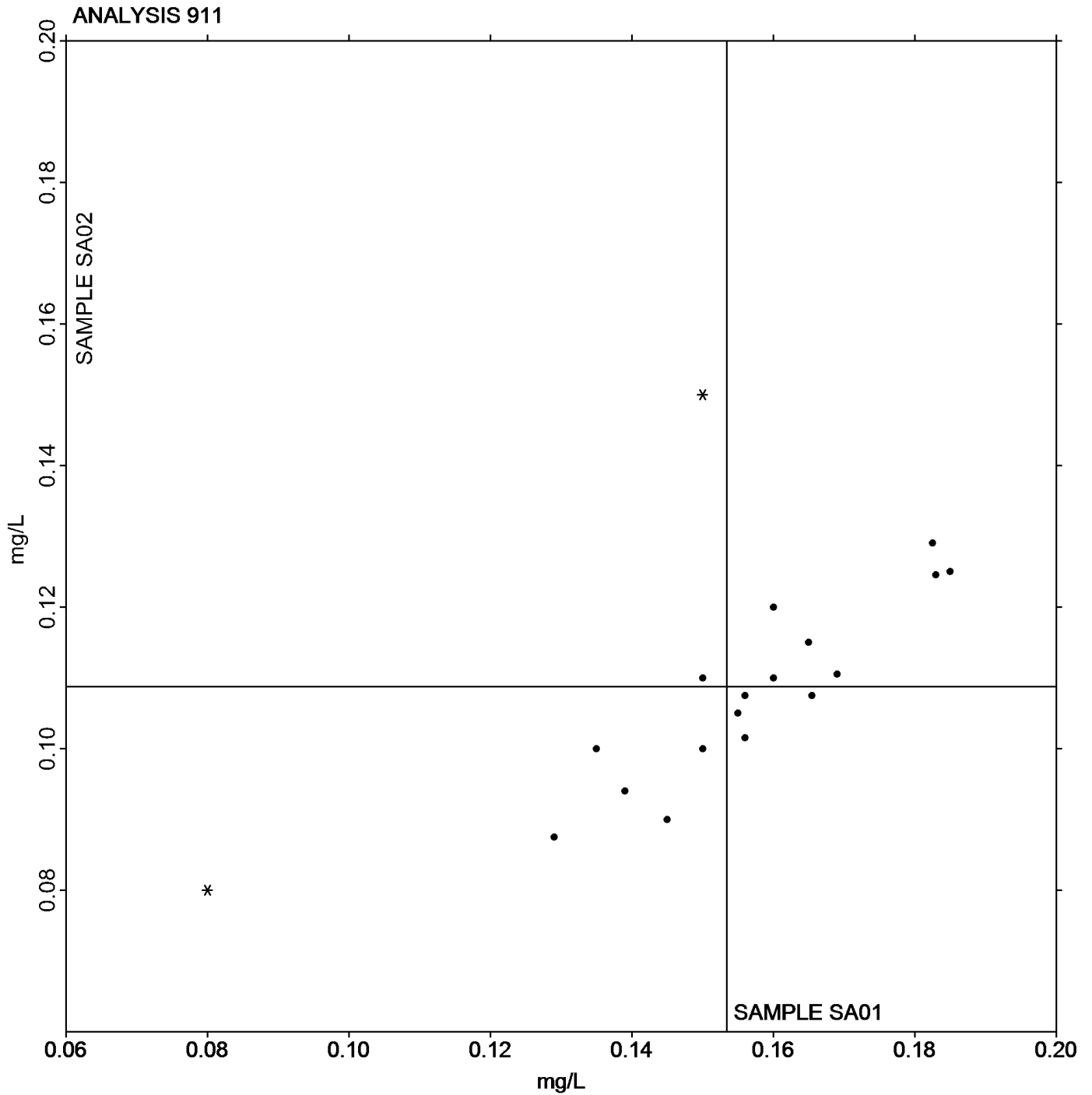
MKMUYU (X) - Data for both samples are high.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|----|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 0.1550 | 0.0000 | 0.0016 | 0.1050 | 0.0000 | -0.0038 | 1 | 2 |
| Atomic Absorption Spectroscopy | 0.1589 | 0.0171 | 0.0055 | 0.1097 | 0.0145 | 0.0009 | 9 | 10 |
| ICP-OES | 0.1517 | 0.0153 | -0.0017 | 0.1024 | 0.0066 | -0.0064 | 5 | 6 |
| Other _____ | 0.1705 | 0.0205 | 0.0171 | 0.1163 | 0.0124 | 0.0075 | 2 | 2 |



Analysis 911
Copper Content



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



Potassium (K) Content

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 3JFNED | | 735.0 | 132.9 | 0.96 | 745.0 | 144.9 | 0.98 |
| 6PFM38 | | 610.0 | 7.9 | 0.06 | 612.5 | 12.4 | 0.08 |
| 8637A7 | | 512.0 | -90.1 | -0.65 | 497.0 | -103.1 | -0.70 |
| BPE3F7 | | 563.0 | -39.1 | -0.28 | 552.0 | -48.1 | -0.32 |
| CZV7ZB | | 479.5 | -122.6 | -0.89 | 373.5 | -226.6 | -1.53 |
| GMPMQ7 | | 488.0 | -114.1 | -0.83 | 518.0 | -82.1 | -0.55 |
| HGW3ZV | | 640.0 | 37.9 | 0.28 | 565.0 | -35.1 | -0.24 |
| J4LX4Y | | 806.5 | 204.4 | 1.48 | 869.0 | 268.9 | 1.82 |
| LD7YJZ | | 628.1 | 26.0 | 0.19 | 627.0 | 26.9 | 0.18 |
| LEMVBY | | 757.0 | 154.9 | 1.12 | 749.5 | 149.4 | 1.01 |
| MKMUYU | | 478.0 | -124.1 | -0.90 | 540.0 | -60.1 | -0.41 |
| NPUK3Z | | 550.5 | -51.6 | -0.37 | 549.5 | -50.6 | -0.34 |
| P66LCV | | 555.0 | -47.1 | -0.34 | 555.0 | -45.1 | -0.30 |
| QQEB3V | | 540.0 | -62.1 | -0.45 | 548.0 | -52.1 | -0.35 |
| QUEMXV | | 515.0 | -87.1 | -0.63 | 525.5 | -74.6 | -0.50 |
| RV8VJK | | 534.5 | -67.6 | -0.49 | 527.0 | -73.1 | -0.49 |
| TZELLQ | | 981.5 | 379.4 | 2.75 | 979.5 | 379.4 | 2.57 |
| VGf82H | | 464.2 | -137.9 | -1.00 | 468.3 | -131.8 | -0.89 |

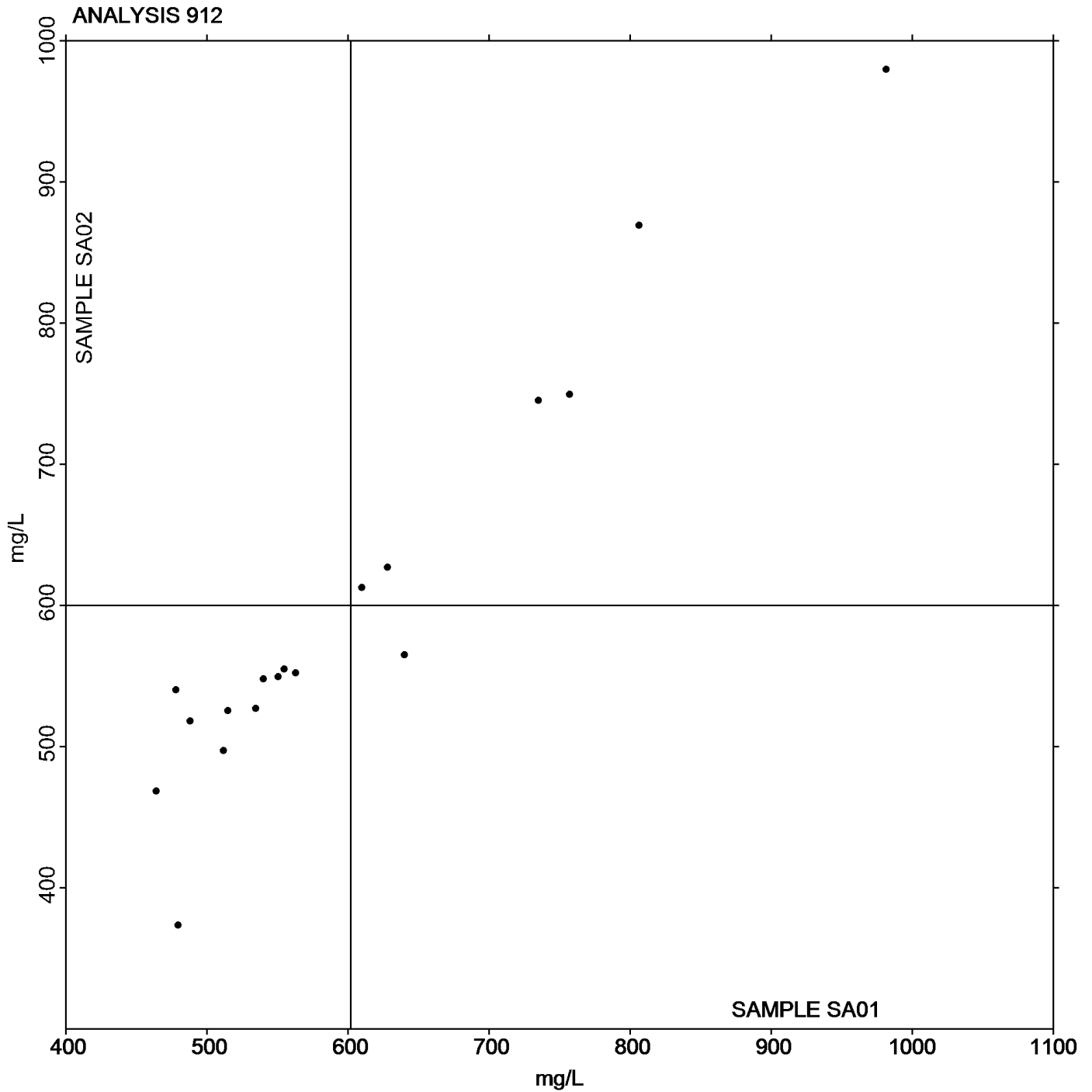
| Grand Means | | Summary Statistics | |
|--|-------------|--------------------|-------------|
| | 602.10 mg/L | | 600.07 mg/L |
| Std Dev Btwn Labs | | | |
| | 137.74 mg/L | | 147.91 mg/L |
| Statistics based on 18 of 18 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA01 <i>Chardonnay</i> | | | Sample SA02 <i>Chardonnay</i> | | | Labs Incl / Rpt | |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|---|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | | |
| Please specify method used | 478.0 | 0.0 | -124.1 | 540.0 | 0.0 | -60.1 | 1 | 1 |
| Atomic Absorption Spectroscopy | 576.0 | 131.5 | -26.1 | 572.8 | 159.2 | -27.2 | 8 | 8 |
| ICP-OES | 568.1 | 49.0 | -34.0 | 566.8 | 53.0 | -33.3 | 5 | 5 |
| FTIR | 858.3 | 174.3 | 256.2 | 862.3 | 165.8 | 262.2 | 2 | 2 |
| Other _____ | 597.5 | 60.1 | -4.6 | 560.0 | 7.1 | -40.1 | 2 | 2 |



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



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Fall 2015

Analysis 915

A420nm (1cm path)

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TQQZE | | 0.0840 | -0.0001 | -0.01 | 0.0800 | -0.0013 | -0.21 |
| 339UKH | * | 0.0950 | 0.0109 | 1.74 | 0.0975 | 0.0162 | 2.67 |
| 3JFNED | | 0.0810 | -0.0031 | -0.49 | 0.0740 | -0.0073 | -1.20 |
| 3T3M7H | | 0.0715 | -0.0126 | -2.00 | 0.0695 | -0.0118 | -1.94 |
| 3W7KGB | | 0.0865 | 0.0024 | 0.39 | 0.0815 | 0.0002 | 0.03 |
| 4K87UJ | | 0.0875 | 0.0034 | 0.55 | 0.0830 | 0.0017 | 0.28 |
| 62RCG4 | | 0.0890 | 0.0049 | 0.79 | 0.0825 | 0.0012 | 0.20 |
| 8637A7 | | 0.0860 | 0.0019 | 0.31 | 0.0815 | 0.0002 | 0.03 |
| 8F8WD3 | | 0.0810 | -0.0031 | -0.49 | 0.0780 | -0.0033 | -0.54 |
| 9DWC38 | | 0.0940 | 0.0099 | 1.58 | 0.0850 | 0.0037 | 0.61 |
| 9KV2KB | | 0.0830 | -0.0011 | -0.17 | 0.0790 | -0.0023 | -0.38 |
| ABYK9C | X | 0.2935 | 0.2094 | 33.38 | 0.2700 | 0.1887 | 31.05 |
| BK8CDZ | | 0.0810 | -0.0031 | -0.49 | 0.0810 | -0.0003 | -0.05 |
| C7G34Z | | 0.0900 | 0.0059 | 0.95 | 0.0885 | 0.0072 | 1.19 |
| CAGDYZ | | 0.0790 | -0.0051 | -0.81 | 0.0770 | -0.0043 | -0.71 |
| CZV7ZB | X | 0.0830 | -0.0011 | -0.17 | 0.0690 | -0.0123 | -2.02 |
| DQK6EA | | 0.0805 | -0.0036 | -0.57 | 0.0810 | -0.0003 | -0.05 |
| ECZ4YV | X | 0.0717 | -0.0124 | -1.97 | 0.0836 | 0.0023 | 0.37 |
| FL3LBX | X | 0.0250 | -0.0591 | -9.41 | 0.0300 | -0.0513 | -8.44 |
| FWL336 | | 0.0905 | 0.0064 | 1.03 | 0.0851 | 0.0038 | 0.63 |
| G2A6LV | | 0.0760 | -0.0081 | -1.28 | 0.0770 | -0.0043 | -0.71 |
| HGW3ZV | | 0.0805 | -0.0036 | -0.57 | 0.0805 | -0.0008 | -0.13 |
| JJ4G82 | | 0.0790 | -0.0051 | -0.81 | 0.0770 | -0.0043 | -0.71 |
| JZMM9Y | | 0.0900 | 0.0059 | 0.95 | 0.0900 | 0.0087 | 1.43 |
| K3C7X4 | | 0.0855 | 0.0014 | 0.23 | 0.0840 | 0.0027 | 0.45 |
| L4GDD2 | * | 0.0985 | 0.0144 | 2.30 | 0.0890 | 0.0077 | 1.27 |



ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #051

Analysis 915

Fall 2015

A420nm (1cm path)

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| LD7YJZ | | 0.0855 | 0.0014 | 0.23 | 0.0825 | 0.0012 | 0.20 |
| MKMUYU | X | 0.1630 | 0.0789 | 12.58 | 0.1600 | 0.0787 | 12.95 |
| N96D8M | X | 0.1460 | 0.0619 | 9.87 | 0.1415 | 0.0602 | 9.91 |
| NPUK3Z | | 0.0850 | 0.0009 | 0.15 | 0.0850 | 0.0037 | 0.61 |
| NVEPQU | | 0.0700 | -0.0141 | -2.24 | 0.0700 | -0.0113 | -1.86 |
| Q8794Q | | 0.0780 | -0.0061 | -0.97 | 0.0735 | -0.0078 | -1.28 |
| QQEB3V | | 0.0870 | 0.0029 | 0.47 | 0.0865 | 0.0052 | 0.86 |
| QUEMXV | | 0.0835 | -0.0006 | -0.09 | 0.0790 | -0.0023 | -0.38 |
| RV8VJK | | 0.0800 | -0.0041 | -0.65 | 0.0800 | -0.0013 | -0.21 |
| TA68RN | | 0.0890 | 0.0049 | 0.79 | 0.0860 | 0.0047 | 0.77 |
| TQDXUT | | 0.0890 | 0.0049 | 0.79 | 0.0865 | 0.0052 | 0.86 |
| TZELLQ | | 0.0845 | 0.0004 | 0.07 | 0.0795 | -0.0018 | -0.29 |
| UQMM9P | | 0.0780 | -0.0061 | -0.97 | 0.0750 | -0.0063 | -1.03 |
| UZ9QFP | | 0.0730 | -0.0111 | -1.76 | 0.0680 | -0.0133 | -2.19 |
| VGF82H | | 0.0872 | 0.0031 | 0.50 | 0.0892 | 0.0079 | 1.30 |
| XFXW2F | | 0.0830 | -0.0011 | -0.17 | 0.0820 | 0.0007 | 0.12 |
| YZWK7G | | 0.0886 | 0.0045 | 0.72 | 0.0834 | 0.0021 | 0.35 |

| Grand Means | | Summary Statistics | |
|--|------------------|--------------------|------------------|
| 0.08406 | Absorbance Units | 0.08129 | Absorbance Units |
| Std Dev Btwn Labs | | 0.00608 | Absorbance Units |
| 0.00627 | Absorbance Units | | |
| Statistics based on 37 of 43 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Analysis 915

A420nm (1cm path)

Comments on assigned Data Flags

ABYK9C (X) - Data for both samples are high.

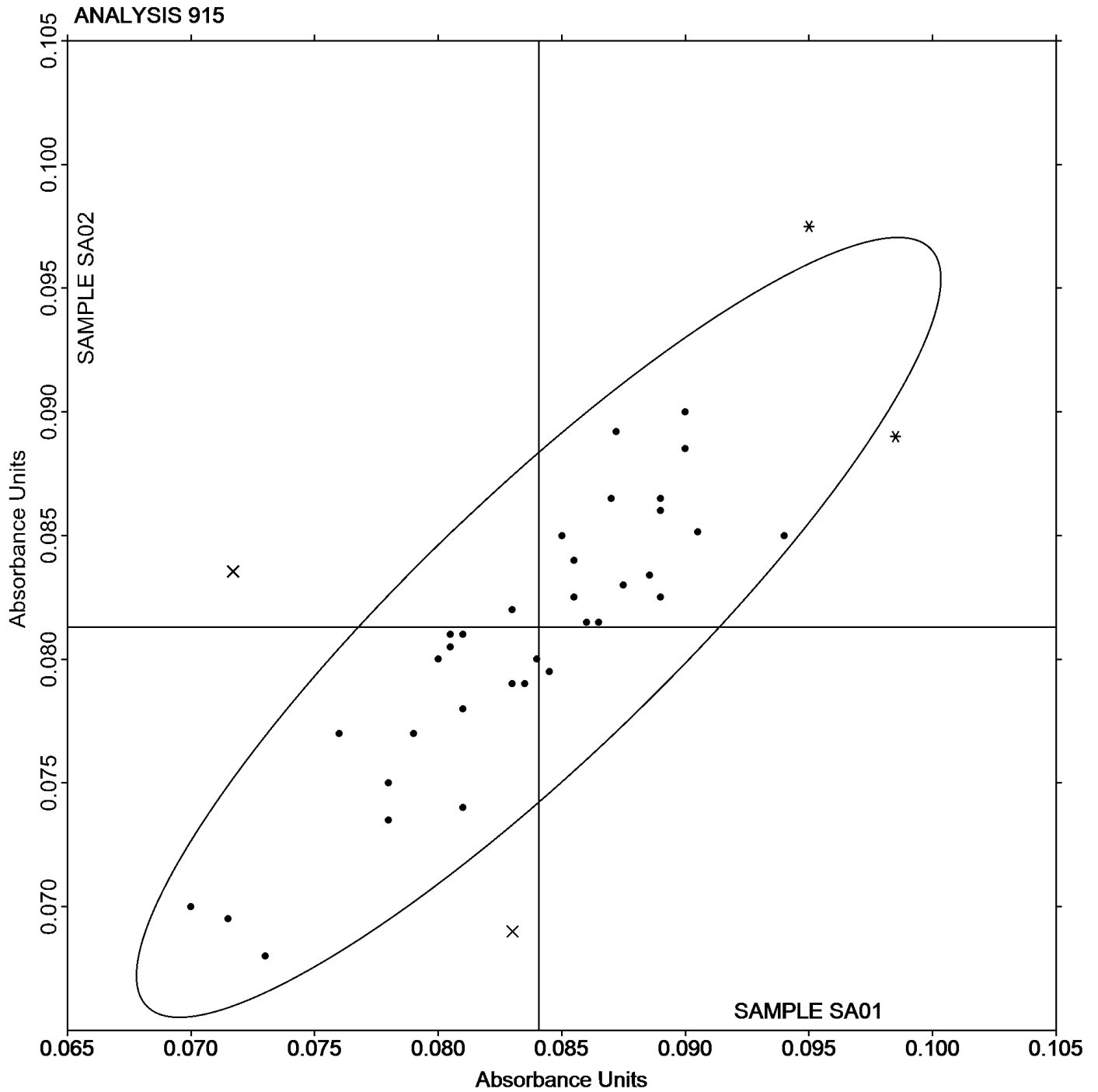
CZV7ZB (X) - Inconsistent in testing between samples.

ECZ4YV (X) - Inconsistent in testing between samples.

FL3LBX (X) - Data for both samples are low.

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

N96D8M (X) - Data for both samples are high.



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #051****Analysis 916****Fall 2015****A520nm (1cm path)**

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2TQQZE | | 0.0120 | -0.0009 | -0.28 | 0.0115 | -0.0012 | -0.39 |
| 339UKH | X | 0.0205 | 0.0076 | 2.54 | 0.0250 | 0.0123 | 4.03 |
| 3JFNED | | 0.0095 | -0.0034 | -1.11 | 0.0085 | -0.0042 | -1.37 |
| 3T3M7H | | 0.0070 | -0.0059 | -1.94 | 0.0075 | -0.0052 | -1.70 |
| 3W7KGB | | 0.0135 | 0.0006 | 0.21 | 0.0125 | -0.0002 | -0.06 |
| 4K87UJ | | 0.0135 | 0.0006 | 0.21 | 0.0130 | 0.0003 | 0.10 |
| 62RCG4 | | 0.0145 | 0.0016 | 0.55 | 0.0120 | -0.0007 | -0.23 |
| 8637A7 | | 0.0130 | 0.0001 | 0.05 | 0.0115 | -0.0012 | -0.39 |
| 8F8WD3 | | 0.0100 | -0.0029 | -0.95 | 0.0115 | -0.0012 | -0.39 |
| 9DWC38 | | 0.0160 | 0.0031 | 1.04 | 0.0160 | 0.0033 | 1.08 |
| 9KV2KB | | 0.0130 | 0.0001 | 0.05 | 0.0115 | -0.0012 | -0.39 |
| BK8CDZ | | 0.0100 | -0.0029 | -0.95 | 0.0130 | 0.0003 | 0.10 |
| C7G34Z | | 0.0175 | 0.0046 | 1.54 | 0.0185 | 0.0058 | 1.90 |
| CAGDYZ | | 0.0165 | 0.0036 | 1.21 | 0.0155 | 0.0028 | 0.92 |
| CZV7ZB | | 0.0125 | -0.0004 | -0.12 | 0.0100 | -0.0027 | -0.88 |
| DQK6EA | | 0.0105 | -0.0024 | -0.78 | 0.0110 | -0.0017 | -0.55 |
| ECZ4YV | X | 0.0056 | -0.0073 | -2.40 | 0.0144 | 0.0017 | 0.56 |
| FWL336 | | 0.0176 | 0.0047 | 1.56 | 0.0168 | 0.0041 | 1.34 |
| G2A6LV | | 0.0120 | -0.0009 | -0.28 | 0.0115 | -0.0012 | -0.39 |
| HGW3ZV | | 0.0100 | -0.0029 | -0.95 | 0.0120 | -0.0007 | -0.23 |
| JJ4G82 | | 0.0110 | -0.0019 | -0.61 | 0.0120 | -0.0007 | -0.23 |
| JZMM9Y | | 0.0110 | -0.0019 | -0.61 | 0.0120 | -0.0007 | -0.23 |
| K3C7X4 | | 0.0130 | 0.0001 | 0.05 | 0.0120 | -0.0007 | -0.23 |
| L4GDD2 | X | 0.0240 | 0.0111 | 3.70 | 0.0185 | 0.0058 | 1.90 |
| LD7YJZ | | 0.0125 | -0.0004 | -0.12 | 0.0130 | 0.0003 | 0.10 |
| MKMUYU | X | 0.0855 | 0.0726 | 24.09 | 0.0860 | 0.0733 | 23.99 |



| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| N96D8M | X | 0.0640 | 0.0511 | 16.96 | 0.0635 | 0.0508 | 16.63 |
| NMQTAM | X | 0.0020 | -0.0109 | -3.60 | -0.0020 | -0.0147 | -4.81 |
| NPUK3Z | | 0.0200 | 0.0071 | 2.37 | 0.0200 | 0.0073 | 2.39 |
| Q8794Q | | 0.0070 | -0.0059 | -1.94 | 0.0055 | -0.0072 | -2.35 |
| QQEB3V | | 0.0160 | 0.0031 | 1.04 | 0.0160 | 0.0033 | 1.08 |
| QUEMXV | | 0.0140 | 0.0011 | 0.38 | 0.0130 | 0.0003 | 0.10 |
| RV8VJK | | 0.0100 | -0.0029 | -0.95 | 0.0100 | -0.0027 | -0.88 |
| TA68RN | | 0.0160 | 0.0031 | 1.04 | 0.0150 | 0.0023 | 0.76 |
| TQDXUT | | 0.0160 | 0.0031 | 1.04 | 0.0160 | 0.0033 | 1.08 |
| TZELLQ | | 0.0135 | 0.0006 | 0.21 | 0.0135 | 0.0008 | 0.27 |
| UQMM9P | | 0.0100 | -0.0029 | -0.95 | 0.0090 | -0.0037 | -1.21 |
| UZ9QFP | | 0.0095 | -0.0034 | -1.11 | 0.0090 | -0.0037 | -1.21 |
| VGf82H | | 0.0157 | 0.0028 | 0.94 | 0.0155 | 0.0028 | 0.92 |
| XFXW2F | * | 0.0120 | -0.0009 | -0.28 | 0.0155 | 0.0028 | 0.92 |
| YZWK7G | | 0.0141 | 0.0012 | 0.41 | 0.0133 | 0.0006 | 0.20 |

| Grand Means | | Summary Statistics | |
|--|------------------|--------------------|------------------|
| 0.01285 | Absorbance Units | 0.01269 | Absorbance Units |
| Stnd Dev Btwn Labs | | | |
| 0.00302 | Absorbance Units | 0.00306 | Absorbance Units |
| Statistics based on 35 of 41 reporting participants | | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay



Analysis 916

A520nm (1cm path)

Comments on assigned Data Flags

339UKH (X) - Inconsistent in testing between samples, data for Sample SA02 are high.

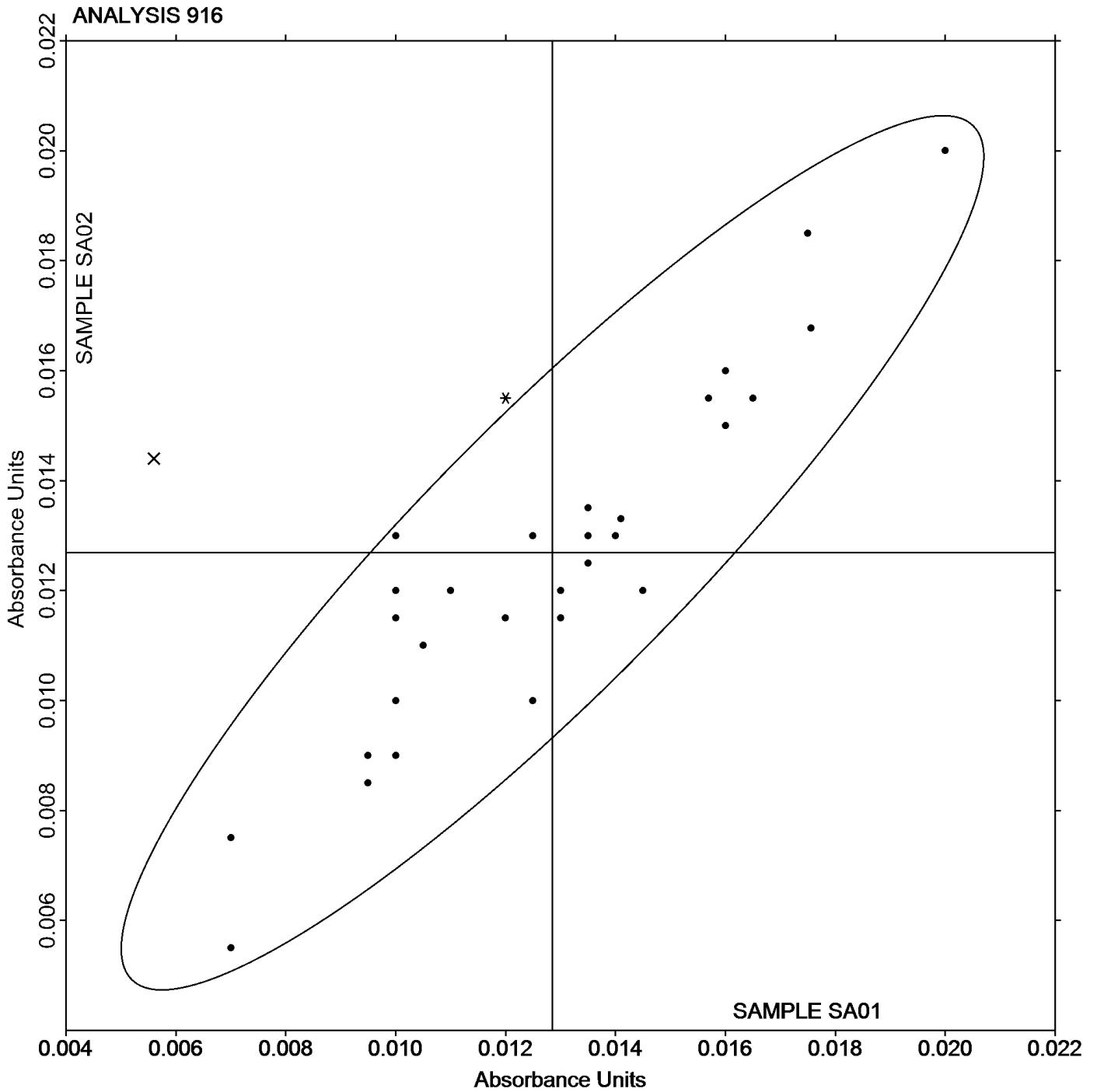
ECZ4YV (X) - Inconsistent in testing between samples, data for Sample SA01 are low.

L4GDD2 (X) - Inconsistent in testing between samples, data for Sample SA01 are high.

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

N96D8M (X) - Data for both samples are high.

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

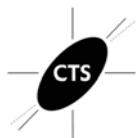




ASEV-CTS Wine Industry Interlaboratory Testing Program
Research Property 950
Research Property - Turbidity

Report #051
Fall 2015

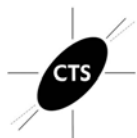
| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|------------------------|--------------------------|----------------------------------|------------------------|--------------------------|
| | | Lab Mean | Diff from Target Value | % Diff from Target Value | Lab Mean | Diff from Target Value | % Diff from Target Value |
| 2TC4QC | | 0.1710 | -0.1348 | -44.1% | 0.1660 | -0.1213 | -42.2% |
| 2TQQZE | | 0.1200 | -0.1858 | -60.8% | 0.0700 | -0.2173 | -75.6% |
| 339UKH | X | 0.9800 | 0.6742 | 220.5% | 0.8100 | 0.5227 | 181.9% |
| 3EPE6E | | 0.4560 | 0.1502 | 49.1% | 0.3395 | 0.0522 | 18.2% |
| 3JFNED | | 0.2260 | -0.0798 | -26.1% | 0.2500 | -0.0373 | -13.0% |
| 3K8WEG | | 0.3850 | 0.0792 | 25.9% | 0.3250 | 0.0377 | 13.1% |
| 3T3M7H | M | 0.0100 | -0.2958 | -96.7% | No data reported for this sample | | |
| 3W7KGB | | 0.4250 | 0.1192 | 39.0% | 0.3800 | 0.0927 | 32.3% |
| 62RCG4 | | 0.3450 | 0.0392 | 12.8% | 0.3060 | 0.0187 | 6.5% |
| 6PFM38 | | 0.1450 | -0.1608 | -52.6% | 0.1400 | -0.1473 | -51.3% |
| 8637A7 | | 0.2770 | -0.0288 | -9.4% | 0.1885 | -0.0988 | -34.4% |
| 8F8WD3 | | 0.3180 | 0.0122 | 4.0% | 0.3275 | 0.0402 | 14.0% |
| 9DWC38 | | 0.3460 | 0.0402 | 13.1% | 0.3405 | 0.0532 | 18.5% |
| BJCWZ4 | | 0.4350 | 0.1292 | 42.2% | 0.3050 | 0.0177 | 6.2% |
| BK8CDZ | | 0.3545 | 0.0487 | 15.9% | 0.3485 | 0.0612 | 21.3% |
| C7G34Z | | 0.4180 | 0.1122 | 36.7% | 0.4890 | 0.2017 | 70.2% |
| CAGDYZ | | 0.2830 | -0.0228 | -7.5% | 0.2555 | -0.0318 | -11.1% |
| CZV7ZB | X | 0.8050 | 0.4992 | 163.2% | 0.3400 | 0.0527 | 18.3% |
| DQK6EA | | 0.3320 | 0.0262 | 8.6% | 0.2930 | 0.0057 | 2.0% |
| E39TPZ | | 0.3795 | 0.0737 | 24.1% | 0.4350 | 0.1477 | 51.4% |
| ECZ4YV | | 0.3230 | 0.0172 | 5.6% | 0.2820 | -0.0053 | -1.8% |
| FGBGGU | | 0.3200 | 0.0142 | 4.6% | 0.2650 | -0.0223 | -7.8% |
| FL3LBX | X | 0.8450 | 0.5392 | 176.3% | 0.5300 | 0.2427 | 84.5% |



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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
| | | Lab Mean | Diff from Target Value | % Diff from Target Value | Lab Mean | Diff from Target Value | % Diff from Target Value |
| FR6X7V | | 0.1585 | -0.1473 | -48.2% | 0.1310 | -0.1563 | -54.4% |
| FR9HUX | | 0.3800 | 0.0742 | 24.3% | 0.2750 | -0.0123 | -4.3% |
| FWL336 | | 0.4040 | 0.0982 | 32.1% | 0.3885 | 0.1012 | 35.2% |
| FYN2DX | | 0.2400 | -0.0658 | -21.5% | 0.2400 | -0.0473 | -16.5% |
| G2A6LV | | 0.3310 | 0.0252 | 8.2% | 0.3440 | 0.0567 | 19.7% |
| HGW3ZV | | 0.2350 | -0.0708 | -23.2% | 0.2400 | -0.0473 | -16.5% |
| J4LX4Y | X | 1.2600 | 0.9542 | 312.0% | 1.2900 | 1.0027 | 349.0% |
| JJ4G82 | | 0.2440 | -0.0618 | -20.2% | 0.2730 | -0.0143 | -5.0% |
| JZMM9Y | | 0.3200 | 0.0142 | 4.6% | 0.3550 | 0.0677 | 23.6% |
| K3C7X4 | * | 0.5950 | 0.2892 | 94.6% | 0.5200 | 0.2327 | 81.0% |
| KXH6WP | | 0.4100 | 0.1042 | 34.1% | 0.4950 | 0.2077 | 72.3% |
| L4GDD2 | X | 0.3385 | 0.0327 | 10.7% | 0.6560 | 0.3687 | 128.3% |
| LD7YJZ | | 0.2190 | -0.0868 | -28.4% | 0.2415 | -0.0458 | -15.9% |
| LEMVBY | | 0.3200 | 0.0142 | 4.6% | 0.3050 | 0.0177 | 6.2% |
| MKMUYU | | 0.4700 | 0.1642 | 53.7% | 0.4600 | 0.1727 | 60.1% |
| MTDF6T | | 0.3000 | -0.0058 | -1.9% | 0.2000 | -0.0873 | -30.4% |
| N96D8M | | 0.3000 | -0.0058 | -1.9% | 0.2000 | -0.0873 | -30.4% |
| NVEPQU | X | 0.6650 | 0.3592 | 117.5% | 0.5950 | 0.3077 | 107.1% |
| PZBREU | | 0.2780 | -0.0278 | -9.1% | 0.3505 | 0.0632 | 22.0% |
| Q8794Q | | 0.3810 | 0.0752 | 24.6% | 0.3365 | 0.0492 | 17.1% |
| QQEB3V | | 0.2000 | -0.1058 | -34.6% | 0.2000 | -0.0873 | -30.4% |
| QUEMXV | | 0.2320 | -0.0738 | -24.1% | 0.2270 | -0.0603 | -21.0% |
| RV8VJK | | 0.2000 | -0.1058 | -34.6% | 0.3000 | 0.0127 | 4.4% |



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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
| | | Lab Mean | Diff from Target Value | % Diff from Target Value | Lab Mean | Diff from Target Value | % Diff from Target Value |
| TA68RN | X | 0.5000 | 0.1942 | 63.5% | 0.7000 | 0.4127 | 143.6% |
| TQDXUT | | 0.1150 | -0.1908 | -62.4% | 0.0850 | -0.2023 | -70.4% |
| TZELLQ | | 0.2410 | -0.0648 | -21.2% | 0.1440 | -0.1433 | -49.9% |
| UPCMDG | | 0.3335 | 0.0277 | 9.1% | 0.3280 | 0.0407 | 14.2% |
| UQMM9P | | 0.3500 | 0.0442 | 14.5% | 0.2700 | -0.0173 | -6.0% |
| UZ9QFP | | 0.2560 | -0.0498 | -16.3% | 0.2540 | -0.0333 | -11.6% |
| VGf82H | | 0.2900 | -0.0158 | -5.2% | 0.2800 | -0.0073 | -2.5% |
| WDWCYP | X | 0.5350 | 0.2292 | 75.0% | 0.6750 | 0.3877 | 134.9% |
| XFXW2F | | 0.2225 | -0.0833 | -27.2% | 0.2710 | -0.0163 | -5.7% |
| ZGYKUB | | 0.2700 | -0.0358 | -11.7% | 0.2000 | -0.0873 | -30.4% |
| ZPVER9 | | 0.3230 | 0.0172 | 5.6% | 0.3720 | 0.0847 | 29.5% |

| Research Property Target Value | | |
|--|-------------|-------------|
| Target Value | 0.30580 NTU | 0.28730 NTU |
| <p align="center"><i>For Test 950, CTS has chosen not to designate a target value for this property instead of using an average value.</i></p> | | |

Wines tested: SA01: Chardonnay; SA02: Chardonnay

| | | |
|--|-------------|-------------|
| Consensus Average (may differ from target value) | 0.30578 NTU | 0.28733 NTU |
|--|-------------|-------------|

This consensus average is based on 48 reporting participants.



Comments on assigned Data Flags

339UKH (X) - Data for both samples are high.

3T3M7H (M) - Laboratory did not submit data for Sample SA02. Low data for Sample SA01.

CZV7ZB (X) - High data for Sample SA01.

FL3LBX (X) - High data for Sample SA01.

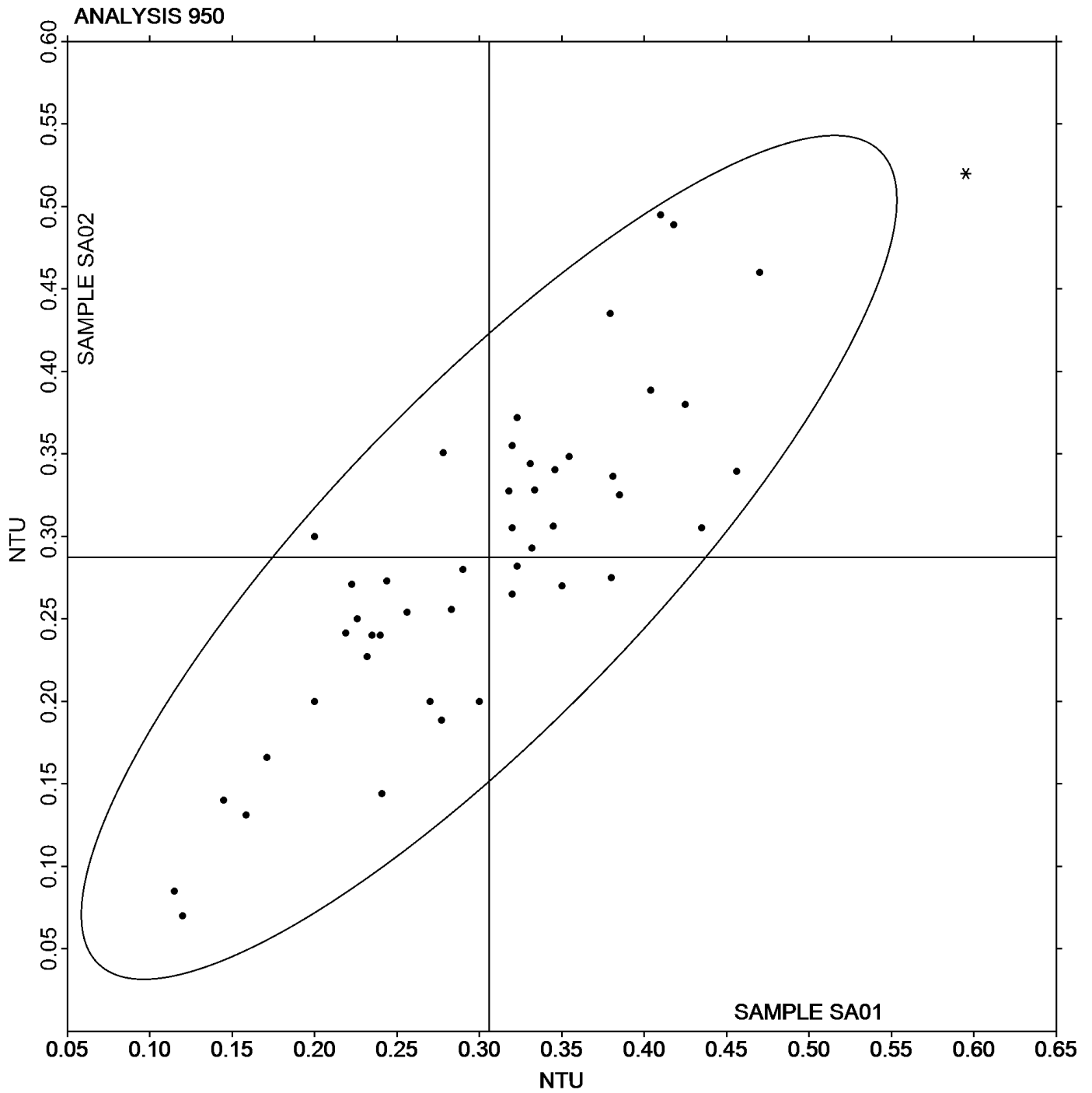
J4LX4Y (X) - Data for both samples are high.

L4GDD2 (X) - High data for Sample SA02.

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

TA68RN (X) - High data for Sample SA02.

WDWCYP (X) - High data for Sample SA02.





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

Report #051
Fall 2015

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
| | | Lab Mean | Diff from Target Value | % Diff from Target Value | Lab Mean | Diff from Target Value | % Diff from Target Value |
| 3JFNED | | 57.87 | 7.49 | 14.9% | 58.85 | 19.09 | 48.0% |
| 6PFM38 | | 49.50 | -0.88 | -1.7% | 50.50 | 10.74 | 27.0% |
| 8637A7 | | 47.50 | -2.88 | -5.7% | 40.50 | 0.74 | 1.9% |
| C7G34Z | | 60.93 | 10.54 | 20.9% | 62.83 | 23.07 | 58.0% |
| FL3LBX | X | 160.00 | 109.62 | 217.6% | 155.00 | 115.24 | 289.9% |
| LD7YJZ | | 48.13 | -2.25 | -4.5% | 47.65 | 7.89 | 19.8% |
| P66LCV | | 50.00 | -0.38 | -0.8% | 50.50 | 10.74 | 27.0% |
| QQEB3V | | 44.00 | -6.38 | -12.7% | 45.00 | 5.24 | 13.2% |
| QUEMXV | | 49.50 | -0.88 | -1.7% | 50.00 | 10.24 | 25.8% |
| YHGEUK | | 46.00 | -4.38 | -8.7% | 42.00 | 2.24 | 5.6% |

Research Property Target Value

Target Value

50.380 mg/L

39.759 mg/L

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

Wines tested: SA01: Chardonnay; SA02: Chardonnay

Consensus Average
(may differ from target value)

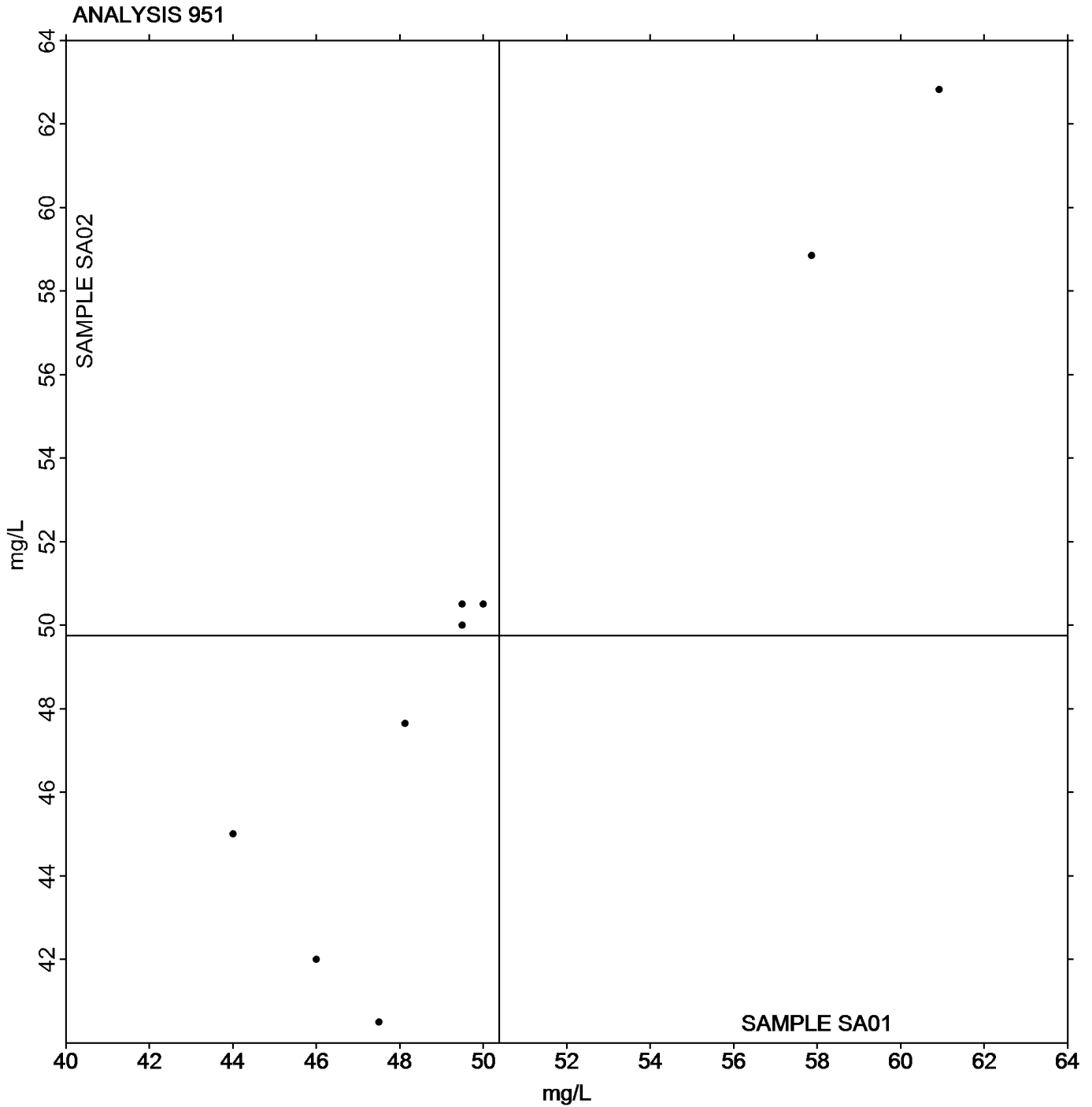
50.380 mg/L

49.759 mg/L

This consensus average is based on 9 reporting participants.

Comments on assigned Data Flags

FL3LBX (X) - Data for both samples are high.



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



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

| WebCode | Data Flag | Sample SA01 | | | Sample SA02 | | |
|---------|-----------|-------------|----------------------|-------|----------------------------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 3JFNED | | 12.53 | 0.05 | 0.75 | 12.51 | 0.03 | 0.45 |
| 6PFM38 | | 12.52 | 0.04 | 0.53 | 12.52 | 0.04 | 0.61 |
| BPE3F7 | | 12.40 | -0.08 | -1.16 | 12.50 | 0.02 | 0.30 |
| FL3LBX | | 12.50 | 0.02 | 0.31 | 12.40 | -0.08 | -1.28 |
| GMPMQ7 | | 12.40 | -0.08 | -1.16 | 12.40 | -0.08 | -1.28 |
| JJ4G82 | M | 12.47 | -0.01 | -0.13 | No data reported for this sample | | |
| MKMUYU | | 12.45 | -0.03 | -0.43 | 12.45 | -0.03 | -0.49 |
| P66LCV | | 12.60 | 0.12 | 1.78 | 12.60 | 0.12 | 1.87 |
| VGF82H | | 12.42 | -0.06 | -0.94 | 12.45 | -0.03 | -0.49 |
| YHGEUK | | 12.50 | 0.02 | 0.31 | 12.50 | 0.02 | 0.30 |

| Research Property Target Value | | | |
|--|---------------|-------------------|---------------------------------|
| Target Value | 12.479 | Percent of volume | 12.481 Percent of volume |
| <i>For Test 952, CTS has chosen not to designate a target value for this property instead of using an average value.</i> | | | |

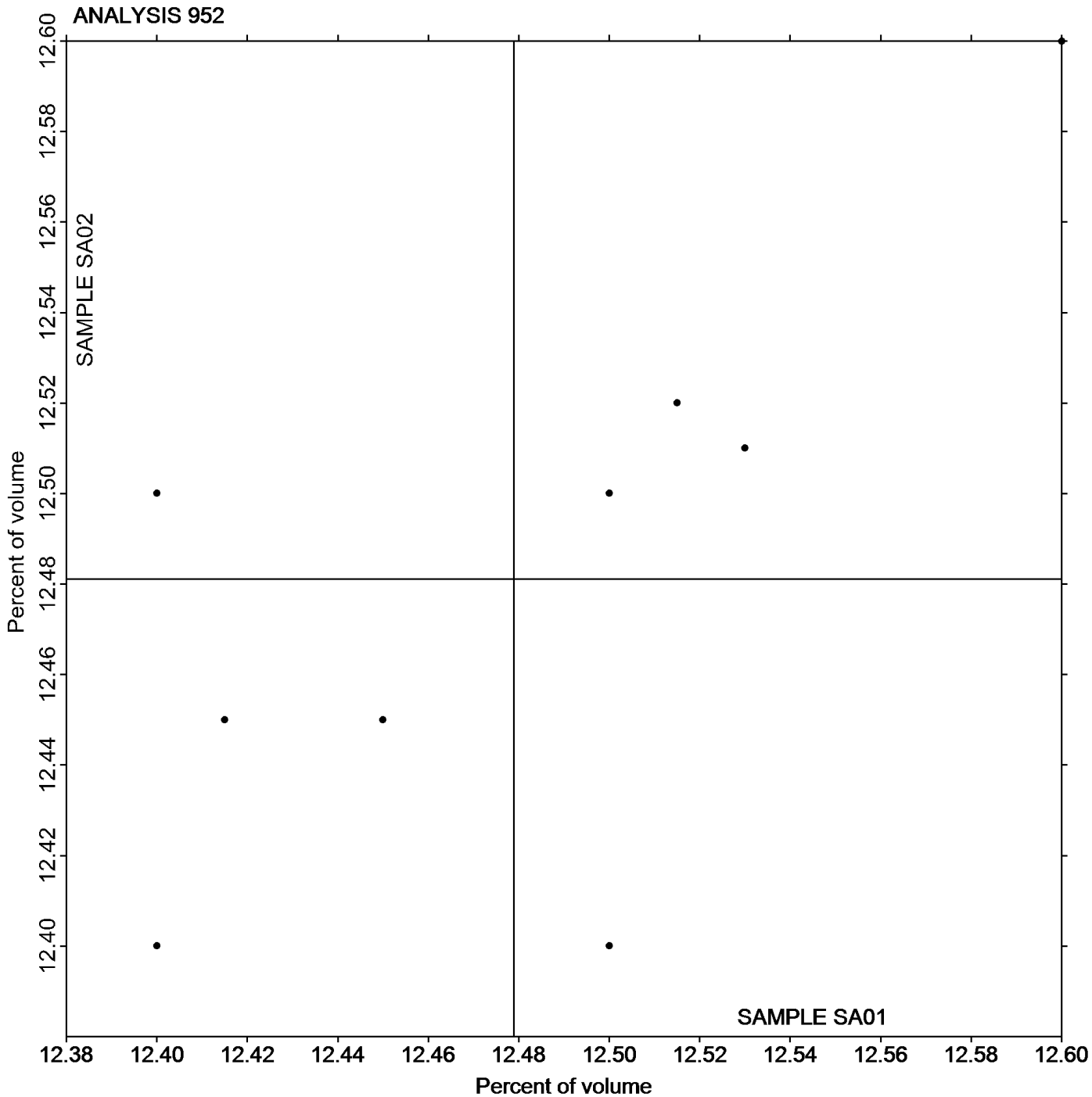
Wines tested: SA01: Chardonnay; SA02: Chardonnay

| | | | | |
|--|--------|-------------------|--------|-------------------|
| Consensus Average (may differ from target value) | 12.479 | Percent of volume | 12.481 | Percent of volume |
|--|--------|-------------------|--------|-------------------|

This consensus average is based on 9 reporting participants.

Comments on assigned Data Flags

JJ4G82 (M) - Laboratory did not submit data for Sample SA02.



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