



## Wine Industry Interlaboratory Program

### Summary Report #063 - Fall 2019

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[Introduction to the Wine Program](#)

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

| <b>063a<br/>Analysis</b>   | <b>063b<br/>Analysis</b>   | <b>Analysis Name</b>  |
|----------------------------|----------------------------|---|
| <a href="#"><u>901</u></a> | <a href="#"><u>901</u></a> | <a href="#"><u>Ethanol (% of volume)</u></a>                  |
| <a href="#"><u>902</u></a> | <a href="#"><u>902</u></a> | <a href="#"><u>Total Sulfur Dioxide</u></a>                   |
| <a href="#"><u>903</u></a> | <a href="#"><u>903</u></a> | <a href="#"><u>Free Sulfur Dioxide</u></a>                    |
| <a href="#"><u>904</u></a> | <a href="#"><u>904</u></a> | <a href="#"><u>Titrateable Acidity</u></a>                    |
| <a href="#"><u>905</u></a> | <a href="#"><u>905</u></a> | <a href="#"><u>Volatile Acidity</u></a>                       |
| <a href="#"><u>906</u></a> | <a href="#"><u>906</u></a> | <a href="#"><u>Specific Gravity</u></a>                       |
| <a href="#"><u>907</u></a> | <a href="#"><u>907</u></a> | <a href="#"><u>pH</u></a>                                     |
| <a href="#"><u>908</u></a> | <a href="#"><u>908</u></a> | <a href="#"><u>Residual Sugar</u></a>                         |
| <a href="#"><u>909</u></a> | <a href="#"><u>909</u></a> | <a href="#"><u>L-Malic Acid</u></a>                           |
| <a href="#"><u>910</u></a> | <a href="#"><u>910</u></a> | <a href="#"><u>Glucose + Fructose</u></a>                     |
| <a href="#"><u>911</u></a> | <a href="#"><u>911</u></a> | <a href="#"><u>Copper Content</u></a>                         |
| <a href="#"><u>912</u></a> | <a href="#"><u>912</u></a> | <a href="#"><u>Potassium Content</u></a>                      |
| <a href="#"><u>915</u></a> | <a href="#"><u>915</u></a> | <a href="#"><u>A420nm (1cm path)</u></a>                      |
| <a href="#"><u>916</u></a> | <a href="#"><u>916</u></a> | <a href="#"><u>A520nm (1cm path)</u></a>                      |
| <a href="#"><u>950</u></a> | <a href="#"><u>950</u></a> | <a href="#"><u>Research Property: Citric Acid Content</u></a> |
| <a href="#"><u>951</u></a> | <a href="#"><u>951</u></a> | <a href="#"><u>Research Property: Iron Content</u></a>        |
| <a href="#"><u>952</u></a> | <a href="#"><u>952</u></a> | <a href="#"><u>Research: Methanol Content</u></a>             |

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**CTS Note:** For Cycle 063, CTS identified a subset of testing data within the sample material labeled as SA26. This subset was found to be statistically different for some properties. As a result the Analyses were run for two separate populations (063a & 063b). Participants in the 063b group should use caution when interpreting results for those tests with low populations.

## **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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**Office Hours: 8:00 a.m. - 4:30 p.m. ET**

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

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

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

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

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### Common Problems Highlighted in Footnotes

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

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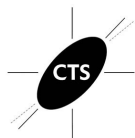
Labs flagged with an \* are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An \* should serve as a caution flag, a "yellow light", to a lab. If this error is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



Analysis 901

Ethanol (% of volume)

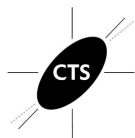
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 13.71       | 0.02                 | 0.37  | 13.71       | 0.03                 | 0.45  |
| 3HRCM4  |           | 13.71       | 0.03                 | 0.44  | 13.72       | 0.04                 | 0.53  |
| 3Q3FRG  |           | 13.71       | 0.02                 | 0.37  | 13.71       | 0.03                 | 0.38  |
| 42W7UZ  |           | 13.72       | 0.03                 | 0.52  | 13.73       | 0.05                 | 0.75  |
| 4DQMJ2  |           | 13.71       | 0.03                 | 0.44  | 13.71       | 0.03                 | 0.45  |
| 4YANW9  |           | 13.74       | 0.05                 | 0.83  | 13.74       | 0.06                 | 0.83  |
| 63NMJ3  |           | 13.79       | 0.11                 | 1.66  | 13.78       | 0.10                 | 1.50  |
| 64V6GX  |           | 13.64       | -0.05                | -0.70 | 13.62       | -0.06                | -0.96 |
| 6BECXG  | X         | 13.70       | 0.02                 | 0.29  | 13.80       | 0.12                 | 1.80  |
| 6YLV9G  |           | 13.69       | 0.01                 | 0.14  | 13.69       | 0.01                 | 0.16  |
| 7PPD8D  |           | 13.75       | 0.07                 | 1.05  | 13.75       | 0.07                 | 1.05  |
| 868B37  |           | 13.73       | 0.04                 | 0.67  | 13.71       | 0.03                 | 0.45  |
| 87U8DD  |           | 13.74       | 0.06                 | 0.90  | 13.74       | 0.06                 | 0.90  |
| 8L8H4K  |           | 13.67       | -0.01                | -0.16 | 13.67       | -0.01                | -0.14 |
| 93WW96  |           | 13.74       | 0.06                 | 0.90  | 13.69       | 0.01                 | 0.08  |
| 96VCA2  |           | 13.69       | 0.01                 | 0.14  | 13.69       | 0.01                 | 0.16  |
| 98KPTJ  |           | 13.66       | -0.02                | -0.32 | 13.67       | -0.01                | -0.14 |
| 98LDFN  |           | 13.65       | -0.03                | -0.47 | 13.65       | -0.03                | -0.44 |
| 9CCWBR  |           | 13.58       | -0.10                | -1.53 | 13.56       | -0.12                | -1.86 |
| 9DDKYX  |           | 13.66       | -0.02                | -0.32 | 13.67       | -0.01                | -0.14 |
| AEJKGA  | X         | 13.63       | -0.05                | -0.75 | 13.71       | 0.03                 | 0.43  |
| AUGGWM  |           | 13.74       | 0.05                 | 0.83  | 13.74       | 0.06                 | 0.83  |
| AXC93X  |           | 13.75       | 0.06                 | 0.98  | 13.74       | 0.06                 | 0.83  |
| BNLB9B  |           | 13.68       | 0.00                 | -0.01 | 13.68       | 0.00                 | 0.01  |
| C9R28Q  |           | 13.57       | -0.11                | -1.68 | 13.60       | -0.08                | -1.19 |
| CCJDXF  |           | 13.72       | 0.03                 | 0.52  | 13.74       | 0.06                 | 0.90  |
| CJ3G6H  | X         | 13.80       | 0.12                 | 1.81  | 13.70       | 0.02                 | 0.31  |
| CUA6A3  | *         | 13.49       | -0.19                | -2.90 | 13.47       | -0.21                | -3.12 |
| CWDZU6  |           | 13.70       | 0.02                 | 0.29  | 13.70       | 0.02                 | 0.31  |
| D27D49  |           | 13.69       | 0.01                 | 0.14  | 13.68       | 0.00                 | -0.07 |
| DB8X4F  |           | 13.73       | 0.05                 | 0.75  | 13.74       | 0.06                 | 0.90  |
| DB9LRK  |           | 13.58       | -0.10                | -1.53 | 13.57       | -0.11                | -1.63 |
| DDL9D7  |           | 13.63       | -0.05                | -0.77 | 13.64       | -0.04                | -0.59 |
| EE8E82  |           | 13.68       | 0.00                 | -0.01 | 13.66       | -0.02                | -0.29 |
| ENHGR3  |           | 13.66       | -0.02                | -0.32 | 13.65       | -0.03                | -0.44 |



## Analysis 901

## Ethanol (% of volume)

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENTMMH  |           | 13.64       | -0.05                | -0.70 | 13.67       | -0.01                | -0.14 |
| EZPFAM  |           | 13.82       | 0.14                 | 2.12  | 13.84       | 0.16                 | 2.39  |
| GWZWA2  | X         | 13.50       | -0.18                | -2.75 | 13.55       | -0.13                | -1.93 |
| H6N2PF  |           | 13.80       | 0.12                 | 1.81  | 13.77       | 0.09                 | 1.27  |
| HKYZHJ  |           | 13.71       | 0.02                 | 0.37  | 13.66       | -0.02                | -0.29 |
| J498EX  |           | 13.76       | 0.08                 | 1.21  | 13.76       | 0.08                 | 1.20  |
| JLA34H  |           | 13.70       | 0.02                 | 0.29  | 13.70       | 0.02                 | 0.23  |
| JWV4KR  | *         | 13.50       | -0.18                | -2.75 | 13.50       | -0.18                | -2.68 |
| KCEGBP  |           | 13.68       | 0.00                 | -0.01 | 13.68       | 0.00                 | -0.07 |
| KREDHU  |           | 13.56       | -0.12                | -1.84 | 13.55       | -0.13                | -1.93 |
| L9ACT2  |           | 13.75       | 0.07                 | 1.05  | 13.77       | 0.09                 | 1.27  |
| LHKEE3  |           | 13.70       | 0.02                 | 0.29  | 13.73       | 0.05                 | 0.68  |
| LTLZML  |           | 13.74       | 0.06                 | 0.90  | 13.75       | 0.07                 | 1.05  |
| M72L2C  |           | 13.70       | 0.02                 | 0.29  | 13.70       | 0.02                 | 0.23  |
| NDGHLD  |           | 13.67       | -0.01                | -0.16 | 13.65       | -0.03                | -0.44 |
| NEC9P7  |           | 13.74       | 0.06                 | 0.90  | 13.74       | 0.06                 | 0.90  |
| NJ6Z6F  |           | 13.74       | 0.06                 | 0.90  | 13.70       | 0.02                 | 0.31  |
| NWQKFB  |           | 13.54       | -0.14                | -2.14 | 13.54       | -0.14                | -2.08 |
| P3X9TD  |           | 13.68       | 0.00                 | -0.01 | 13.68       | 0.00                 | 0.01  |
| P6Z9TA  | X         | 13.18       | -0.51                | -7.69 | 13.10       | -0.58                | -8.64 |
| PBAH4C  |           | 13.70       | 0.01                 | 0.22  | 13.69       | 0.01                 | 0.08  |
| PDGVUQ  | X         | 13.35       | -0.33                | -5.03 | 13.40       | -0.28                | -4.17 |
| PZRZAK  |           | 13.73       | 0.05                 | 0.75  | 13.73       | 0.05                 | 0.75  |
| QCH2JZ  | *         | 13.53       | -0.15                | -2.29 | 13.58       | -0.10                | -1.56 |
| QGRGQ3  |           | 13.65       | -0.04                | -0.54 | 13.65       | -0.03                | -0.44 |
| QHMTVH  |           | 13.71       | 0.02                 | 0.37  | 13.70       | 0.02                 | 0.31  |
| R7TMPR  |           | 13.75       | 0.06                 | 0.98  | 13.75       | 0.07                 | 0.98  |
| RH3CEF  |           | 13.70       | 0.02                 | 0.29  | 13.69       | 0.01                 | 0.16  |
| RQWH9G  |           | 13.71       | 0.03                 | 0.44  | 13.71       | 0.03                 | 0.45  |
| U9MEE2  |           | 13.65       | -0.04                | -0.54 | 13.65       | -0.03                | -0.44 |
| V9PL3F  |           | 13.72       | 0.04                 | 0.60  | 13.72       | 0.04                 | 0.60  |
| VHTPCJ  |           | 13.74       | 0.05                 | 0.83  | 13.74       | 0.06                 | 0.83  |
| VJHAP3  |           | 13.72       | 0.04                 | 0.60  | 13.72       | 0.04                 | 0.53  |
| WQGURX  |           | 13.69       | 0.00                 | 0.06  | 13.68       | 0.00                 | 0.01  |
| X6TRA4  | *         | 13.61       | -0.08                | -1.15 | 13.55       | -0.13                | -1.93 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 901**    **Fall 2019**  
**Ethanol (% of volume)**

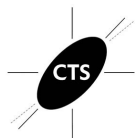
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X6WGEZ  | X         | 14.08       | 0.40                 | 6.07  | 13.97       | 0.29                 | 4.33  |
| X83U7Z  |           | 13.70       | 0.02                 | 0.29  | 13.75       | 0.07                 | 1.05  |
| XGCECG  |           | 13.67       | -0.01                | -0.16 | 13.68       | 0.00                 | 0.01  |
| XHYX99  |           | 13.60       | -0.08                | -1.23 | 13.60       | -0.08                | -1.19 |
| XRPJE8  |           | 13.68       | -0.01                | -0.09 | 13.65       | -0.03                | -0.44 |
| XXAN32  |           | 13.72       | 0.04                 | 0.60  | 13.72       | 0.04                 | 0.60  |
| YYZA9W  |           | 13.58       | -0.11                | -1.61 | 13.59       | -0.09                | -1.41 |
| Z32RTB  |           | 13.72       | 0.04                 | 0.60  | 13.73       | 0.05                 | 0.75  |
| ZC9CAK  |           | 13.66       | -0.02                | -0.32 | 13.64       | -0.04                | -0.59 |
| ZEC62Y  |           | 13.70       | 0.02                 | 0.29  | 13.70       | 0.02                 | 0.31  |
| ZU46VJ  | X         | 14.02       | 0.34                 | 5.16  | 13.67       | -0.01                | -0.22 |
| ZXPH32  | *         | 13.73       | 0.05                 | 0.75  | 13.66       | -0.02                | -0.29 |

| Grand Means  |                | Summary Statistics |                |
|--|----------------|--------------------|----------------|
|  | 13.681 percent |                    | 13.680 percent |
| Std Dev Btwn Labs  |                |                    |                |
|  | 0.066 percent  |                    | 0.067 percent  |
| <b>Statistics based on 74 of 82 reporting participants</b> |                |                    |                |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #901**

- AEJKGA (X) - Inconsistent in testing between samples.
- GWZWA2 (X) - Data for sample SA25 are low. Inconsistent within the determinations of sample SA25.
- PDGVUQ (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA25.
- ZU46VJ (X) - Data for sample SA25 are high.
- 6BECXG (X) - Inconsistent in testing between samples.
- CJ3G6H (X) - Inconsistent in testing between samples.
- P6Z9TA (X) - Data for both samples are low. Inconsistent within the determinations of sample SA26.
- X6WGEZ (X) - Data for both samples are high. Possible Systematic Error.



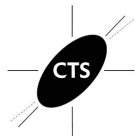
Analysis 901

Ethanol (% of volume)

Results by Methodology (as reported by laboratory)

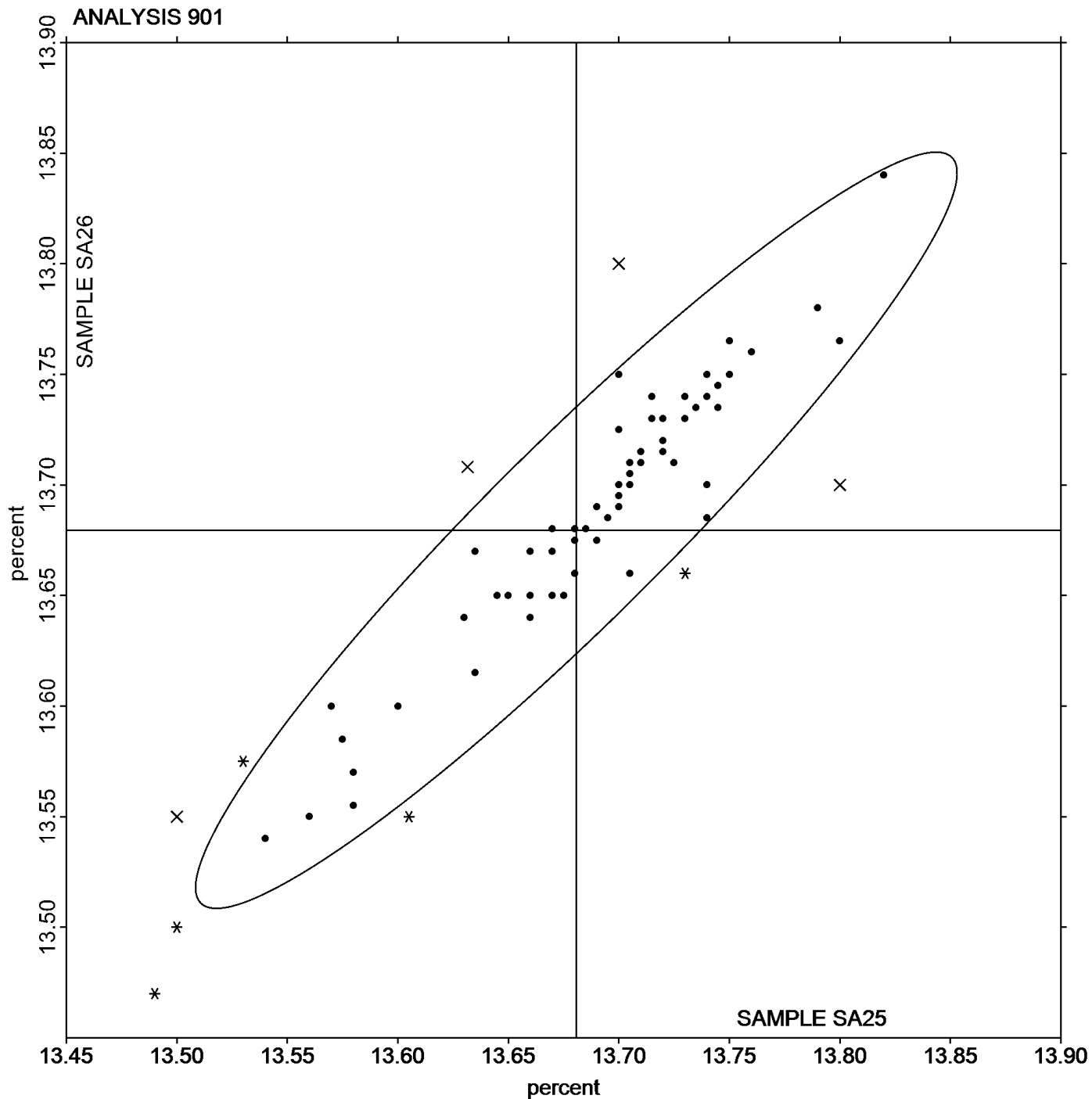
| Test Methodology          | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|---------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                           | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ebulliometer Method       | 13.800                           | 0.000        | 0.12         | 13.765                           | 0.000        | 0.09         | 1/4             |
| Gas Chromatography Method | 13.723                           | 0.018        | 0.04         | 13.723                           | 0.018        | 0.04         | 2/5             |
| Near Infrared Method      | 13.696                           | 0.048        | 0.02         | 13.692                           | 0.049        | 0.01         | 52/52           |
| Dist. / Density Method    | 13.635                           | 0.111        | -0.05        | 13.643                           | 0.122        | -0.04        | 10/12           |
| FTIR                      | 13.643                           | 0.074        | -0.04        | 13.627                           | 0.066        | -0.05        | 6/6             |
| Other _____               | 13.657                           | 0.020        | -0.02        | 13.660                           | 0.017        | -0.02        | 3/3             |

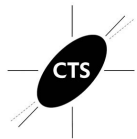




Analysis 901

Ethanol (% of volume)





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 902**  
**Total Sulfur Dioxide**

**Fall 2019**

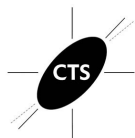
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 102.00      | 10.10                | 1.55  | 107.50      | 13.72                | 1.82  |
| 3HRCM4  |           | 89.50       | -2.40                | -0.37 | 95.50       | 1.72                 | 0.23  |
| 3Q3FRG  |           | 82.50       | -9.40                | -1.45 | 89.00       | -4.78                | -0.63 |
| 42W7UZ  |           | 87.00       | -4.90                | -0.75 | 96.50       | 2.72                 | 0.36  |
| 4DQMJ2  |           | 90.00       | -1.90                | -0.29 | 88.00       | -5.78                | -0.76 |
| 4YANW9  |           | 95.00       | 3.10                 | 0.48  | 86.50       | -7.28                | -0.96 |
| 63NMJ3  |           | 95.50       | 3.60                 | 0.55  | 99.00       | 5.22                 | 0.69  |
| 64V6GX  |           | 91.50       | -0.40                | -0.06 | 107.00      | 13.22                | 1.75  |
| 6BECXG  |           | 91.50       | -0.40                | -0.06 | 83.50       | -10.28               | -1.36 |
| 6YLV9G  |           | 92.50       | 0.60                 | 0.09  | 97.05       | 3.27                 | 0.43  |
| 7PPD8D  |           | 89.50       | -2.40                | -0.37 | 91.00       | -2.78                | -0.37 |
| 868B37  |           | 95.50       | 3.60                 | 0.55  | 92.50       | -1.28                | -0.17 |
| 87U8DD  |           | 98.50       | 6.60                 | 1.01  | 103.00      | 9.22                 | 1.22  |
| 8L8H4K  |           | 95.50       | 3.60                 | 0.55  | 91.00       | -2.78                | -0.37 |
| 93WW96  |           | 84.00       | -7.90                | -1.22 | 88.00       | -5.78                | -0.76 |
| 96VCA2  |           | 88.00       | -3.90                | -0.60 | 90.50       | -3.28                | -0.43 |
| 98KPTJ  |           | 88.00       | -3.90                | -0.60 | 96.00       | 2.22                 | 0.29  |
| 98LDFN  |           | 87.00       | -4.90                | -0.75 | 89.50       | -4.28                | -0.57 |
| 9CCWBR  |           | 86.00       | -5.90                | -0.91 | 88.00       | -5.78                | -0.76 |
| 9DDKYX  |           | 92.50       | 0.60                 | 0.09  | 89.50       | -4.28                | -0.57 |
| AEJKGA  |           | 94.58       | 2.67                 | 0.41  | 97.58       | 3.80                 | 0.50  |
| AUGGWM  |           | 83.50       | -8.40                | -1.29 | 80.00       | -13.78               | -1.82 |
| AXC93X  |           | 98.50       | 6.60                 | 1.01  | 102.00      | 8.22                 | 1.09  |
| BNLB9B  |           | 89.00       | -2.90                | -0.45 | 91.00       | -2.78                | -0.37 |
| C9R28Q  | X         | 84.53       | -7.37                | -1.13 | 107.00      | 13.22                | 1.75  |
| CCJDXF  |           | 100.00      | 8.10                 | 1.25  | 103.50      | 9.72                 | 1.29  |
| CWDZU6  |           | 95.50       | 3.60                 | 0.55  | 109.50      | 15.72                | 2.08  |
| D27D49  |           | 89.00       | -2.90                | -0.45 | 87.50       | -6.28                | -0.83 |
| DB8X4F  |           | 96.00       | 4.10                 | 0.63  | 102.00      | 8.22                 | 1.09  |
| DB9LRK  |           | 91.50       | -0.40                | -0.06 | 105.00      | 11.22                | 1.49  |
| DDL9D7  |           | 77.00       | -14.90               | -2.29 | 86.00       | -7.78                | -1.03 |
| EE8E82  |           | 92.50       | 0.60                 | 0.09  | 86.50       | -7.28                | -0.96 |
| ENHGR3  |           | 89.75       | -2.15                | -0.33 | 92.90       | -0.88                | -0.12 |
| ENTMMH  | *         | 73.50       | -18.40               | -2.83 | 78.00       | -15.78               | -2.09 |
| EZPFAM  |           | 101.50      | 9.60                 | 1.48  | 100.00      | 6.22                 | 0.82  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 902**  
**Total Sulfur Dioxide**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| GWZWA2  |           | 88.00       | -3.90                | -0.60 | 87.20       | -6.58                | -0.87 |
| H6N2PF  |           | 94.30       | 2.40                 | 0.37  | 94.75       | 0.97                 | 0.13  |
| HKYZHJ  |           | 102.00      | 10.10                | 1.55  | 111.50      | 17.72                | 2.35  |
| J498EX  |           | 102.00      | 10.10                | 1.55  | 96.50       | 2.72                 | 0.36  |
| JLA34H  |           | 95.20       | 3.30                 | 0.51  | 97.75       | 3.97                 | 0.53  |
| JWV4KR  |           | 97.50       | 5.60                 | 0.86  | 100.50      | 6.72                 | 0.89  |
| KCEGBP  |           | 96.00       | 4.10                 | 0.63  | 97.50       | 3.72                 | 0.49  |
| KREDHU  | X         | 120.65      | 28.75                | 4.42  | 108.10      | 14.32                | 1.90  |
| L9ACT2  |           | 92.30       | 0.40                 | 0.06  | 103.00      | 9.22                 | 1.22  |
| LHKEE3  | *         | 75.50       | -16.40               | -2.52 | 74.50       | -19.28               | -2.55 |
| LTLZML  |           | 90.00       | -1.90                | -0.29 | 88.50       | -5.28                | -0.70 |
| M72L2C  |           | 87.50       | -4.40                | -0.68 | 87.00       | -6.78                | -0.90 |
| NDGHLD  | X         | 113.50      | 21.60                | 3.32  | 131.50      | 37.72                | 5.00  |
| NEC9P7  |           | 103.09      | 11.19                | 1.72  | 94.28       | 0.50                 | 0.07  |
| NJ6Z6F  |           | 83.00       | -8.90                | -1.37 | 97.00       | 3.22                 | 0.43  |
| NWQKFB  |           | 98.00       | 6.10                 | 0.94  | 94.00       | 0.22                 | 0.03  |
| P22XWA  |           | 88.00       | -3.90                | -0.60 | 80.50       | -13.28               | -1.76 |
| P3X9TD  |           | 88.20       | -3.70                | -0.57 | 85.50       | -8.28                | -1.10 |
| P6Z9TA  |           | 95.00       | 3.10                 | 0.48  | 97.50       | 3.72                 | 0.49  |
| PBAH4C  |           | 97.00       | 5.10                 | 0.78  | 93.50       | -0.28                | -0.04 |
| PDGVUQ  |           | 94.00       | 2.10                 | 0.32  | 89.50       | -4.28                | -0.57 |
| PZRZAK  |           | 85.50       | -6.40                | -0.99 | 87.00       | -6.78                | -0.90 |
| QGRGQ3  |           | 96.00       | 4.10                 | 0.63  | 93.00       | -0.78                | -0.10 |
| QHMTVH  |           | 107.50      | 15.60                | 2.40  | 104.90      | 11.12                | 1.47  |
| R7TMPR  |           | 89.00       | -2.90                | -0.45 | 94.50       | 0.72                 | 0.10  |
| RH3CEF  |           | 92.00       | 0.10                 | 0.01  | 91.50       | -2.28                | -0.30 |
| RQWH9G  |           | 89.00       | -2.90                | -0.45 | 90.00       | -3.78                | -0.50 |
| U9MEE2  |           | 95.00       | 3.10                 | 0.48  | 88.00       | -5.78                | -0.76 |
| V9PL3F  |           | 91.00       | -0.90                | -0.14 | 98.00       | 4.22                 | 0.56  |
| VHTPCJ  |           | 86.00       | -5.90                | -0.91 | 88.50       | -5.28                | -0.70 |
| VJHAP3  | X         | 126.50      | 34.60                | 5.32  | 127.50      | 33.72                | 4.47  |
| WQGURX  |           | 98.00       | 6.10                 | 0.94  | 101.50      | 7.72                 | 1.02  |
| X6TRA4  |           | 99.00       | 7.10                 | 1.09  | 97.00       | 3.22                 | 0.43  |
| X6WGEZ  |           | 99.00       | 7.10                 | 1.09  | 97.50       | 3.72                 | 0.49  |
| X83U7Z  | X         | 53.50       | -38.40               | -5.91 | 80.50       | -13.28               | -1.76 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 902**  
**Total Sulfur Dioxide**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| XGCECG  |           | 89.54       | -2.37                | -0.36 | 91.55       | -2.23                | -0.30 |
| XHYX99  |           | 105.50      | 13.60                | 2.09  | 106.00      | 12.22                | 1.62  |
| XRPJE8  | *         | 86.50       | -5.40                | -0.83 | 106.00      | 12.22                | 1.62  |
| YYZA9W  |           | 91.50       | -0.40                | -0.06 | 89.50       | -4.28                | -0.57 |
| Z32RTB  |           | 86.00       | -5.90                | -0.91 | 87.50       | -6.28                | -0.83 |
| ZC9CAK  |           | 91.00       | -0.90                | -0.14 | 91.00       | -2.78                | -0.37 |
| ZEC62Y  |           | 86.50       | -5.40                | -0.83 | 85.50       | -8.28                | -1.10 |
| ZU46VJ  |           | 92.50       | 0.60                 | 0.09  | 93.50       | -0.28                | -0.04 |
| ZXPH32  |           | 85.00       | -6.90                | -1.06 | 97.00       | 3.22                 | 0.43  |

| Grand Means  |             | Summary Statistics |             |
|--|-------------|--------------------|-------------|
|  | 91.905 mg/L |                    | 93.776 mg/L |
| Std Dev Btwn Labs  |             |                    |             |
|  | 6.502 mg/L  |                    | 7.552 mg/L  |
| <b>Statistics based on 74 of 79 reporting participants</b> |             |                    |             |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #902**

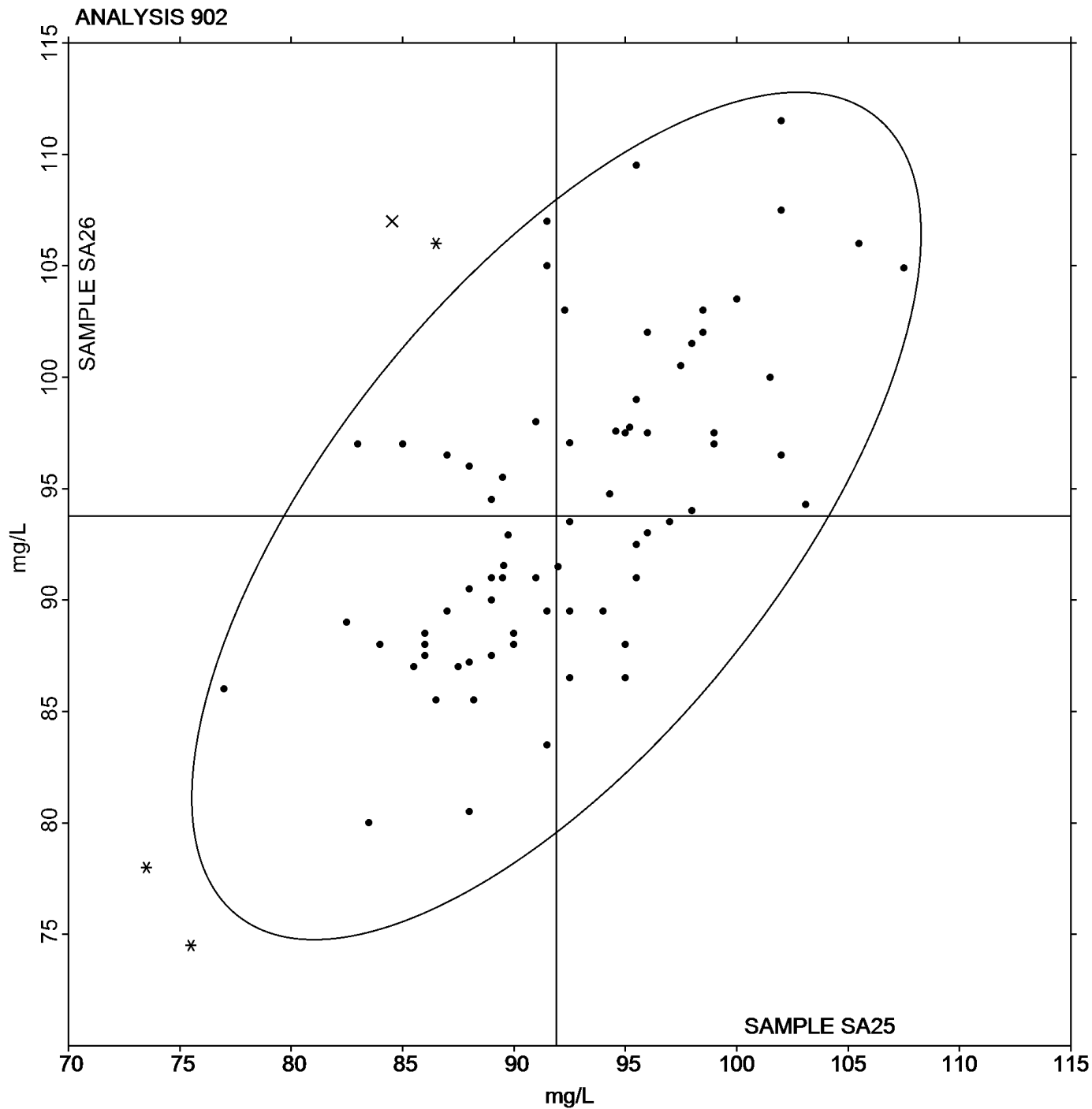
- KREDHU (X) - Data for sample SA25 are high.
- X83U7Z (X) - Data for sample SA25 are low.
- C9R28Q (X) - Inconsistent in testing between samples.
- VJHAP3 (X) - Data for both samples are high.
- NDGHLD (X) - Data for both samples are high.

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

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ripper Method                  | 88.797                           | 5.565        | -3.11        | 90.534                           | 7.255        | -3.24        | 31/31           |
| Aeration Oxidation (AO) Method | 91.369                           | 7.088        | -0.54        | 94.458                           | 7.738        | 0.68         | 13/15           |
| Segmented Flow Analyzer        | 91.809                           | 4.614        | -0.10        | 93.883                           | 7.083        | 0.11         | 9/9             |
| Enzymatic Method               | 95.175                           | 2.656        | 3.27         | 97.438                           | 4.701        | 3.66         | 4/5             |
| Colorimetric Analyzer          | 99.938                           | 5.697        | 8.03         | 99.925                           | 6.565        | 6.15         | 8/10            |
| FTIR                           | 91.250                           | 6.718        | -0.65        | 101.750                          | 6.010        | 7.97         | 2/2             |
| Flow Injection Analysis        | 95.924                           | 4.363        | 4.02         | 95.336                           | 6.166        | 1.56         | 7/7             |



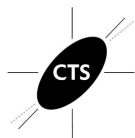
Total Sulfur Dioxide





**ASEV-CTS Wine Industry Interlaboratory Testing Program** Report #063a  
**Analysis 903** Fall 2019  
**Free Sulfur Dioxide**

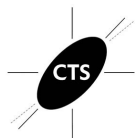
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 24.50       | 0.44                 | 0.15  | 25.50       | 0.05                 | 0.01  |
| 3HRCM4  |           | 30.00       | 5.94                 | 2.00  | 26.50       | 1.05                 | 0.24  |
| 3Q3FRG  |           | 20.50       | -3.56                | -1.20 | 24.50       | -0.95                | -0.22 |
| 42W7UZ  |           | 19.70       | -4.36                | -1.47 | 26.00       | 0.55                 | 0.13  |
| 4DQMJ2  |           | 23.00       | -1.06                | -0.36 | 21.00       | -4.45                | -1.02 |
| 4YANW9  |           | 23.50       | -0.56                | -0.19 | 18.50       | -6.95                | -1.59 |
| 63NMJ3  |           | 25.00       | 0.94                 | 0.32  | 23.00       | -2.45                | -0.56 |
| 64V6GX  |           | 25.00       | 0.94                 | 0.32  | 36.00       | 10.55                | 2.41  |
| 6BECXG  |           | 28.00       | 3.94                 | 1.33  | 34.00       | 8.55                 | 1.96  |
| 6YLV9G  |           | 23.40       | -0.66                | -0.22 | 26.15       | 0.70                 | 0.16  |
| 7PPD8D  |           | 22.50       | -1.56                | -0.53 | 22.50       | -2.95                | -0.67 |
| 868B37  |           | 26.00       | 1.94                 | 0.65  | 25.50       | 0.05                 | 0.01  |
| 87U8DD  |           | 28.00       | 3.94                 | 1.33  | 29.00       | 3.55                 | 0.81  |
| 8L8H4K  |           | 27.00       | 2.94                 | 0.99  | 24.50       | -0.95                | -0.22 |
| 93WW96  |           | 23.50       | -0.56                | -0.19 | 27.00       | 1.55                 | 0.35  |
| 96VCA2  |           | 22.50       | -1.56                | -0.53 | 24.00       | -1.45                | -0.33 |
| 98KPTJ  |           | 25.00       | 0.94                 | 0.32  | 30.00       | 4.55                 | 1.04  |
| 98LDFN  |           | 18.50       | -5.56                | -1.88 | 21.00       | -4.45                | -1.02 |
| 9CCWBR  |           | 20.50       | -3.56                | -1.20 | 23.00       | -2.45                | -0.56 |
| 9DDKYX  |           | 28.50       | 4.44                 | 1.50  | 27.00       | 1.55                 | 0.35  |
| AEJKGA  |           | 19.33       | -4.74                | -1.60 | 18.44       | -7.01                | -1.60 |
| AUGGWM  |           | 23.00       | -1.06                | -0.36 | 25.00       | -0.45                | -0.10 |
| AXC93X  |           | 29.00       | 4.94                 | 1.67  | 30.00       | 4.55                 | 1.04  |
| BNLB9B  |           | 22.00       | -2.06                | -0.70 | 23.50       | -1.95                | -0.45 |
| C9R28Q  | X         | 23.54       | -0.52                | -0.18 | 39.59       | 14.14                | 3.23  |
| CCJDXF  |           | 18.00       | -6.06                | -2.04 | 21.00       | -4.45                | -1.02 |
| CJ3G6H  |           | 22.40       | -1.66                | -0.56 | 22.00       | -3.45                | -0.79 |
| CQLJCK  |           | 23.00       | -1.06                | -0.36 | 29.00       | 3.55                 | 0.81  |
| CWDZU6  |           | 23.50       | -0.56                | -0.19 | 33.00       | 7.55                 | 1.73  |
| D27D49  |           | 24.50       | 0.44                 | 0.15  | 19.00       | -6.45                | -1.47 |
| DB8X4F  |           | 28.00       | 3.94                 | 1.33  | 29.00       | 3.55                 | 0.81  |
| DB9LRK  |           | 25.00       | 0.94                 | 0.32  | 36.50       | 11.05                | 2.53  |
| DDL9D7  |           | 18.50       | -5.56                | -1.88 | 22.50       | -2.95                | -0.67 |
| EE8E82  |           | 29.00       | 4.94                 | 1.67  | 25.50       | 0.05                 | 0.01  |
| ENHGR3  |           | 21.75       | -2.31                | -0.78 | 23.05       | -2.40                | -0.55 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 903**  
**Free Sulfur Dioxide**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENTMMH  |           | 26.00       | 1.94                 | 0.65  | 27.00       | 1.55                 | 0.35  |
| EZPFAM  |           | 29.00       | 4.94                 | 1.67  | 24.50       | -0.95                | -0.22 |
| GWZWA2  |           | 21.60       | -2.46                | -0.83 | 21.20       | -4.25                | -0.97 |
| H6N2PF  |           | 21.50       | -2.56                | -0.86 | 21.40       | -4.05                | -0.93 |
| HKYZHJ  |           | 25.50       | 1.44                 | 0.49  | 31.00       | 5.55                 | 1.27  |
| J498EX  |           | 29.50       | 5.44                 | 1.84  | 25.50       | 0.05                 | 0.01  |
| JLA34H  |           | 26.15       | 2.09                 | 0.71  | 26.15       | 0.70                 | 0.16  |
| JWV4KR  |           | 24.50       | 0.44                 | 0.15  | 30.00       | 4.55                 | 1.04  |
| KCEGBP  |           | 23.70       | -0.36                | -0.12 | 24.60       | -0.85                | -0.19 |
| KREDHU  |           | 28.00       | 3.94                 | 1.33  | 20.50       | -4.95                | -1.13 |
| L9ACT2  |           | 20.50       | -3.56                | -1.20 | 27.30       | 1.85                 | 0.42  |
| LHKEE3  |           | 25.15       | 1.09                 | 0.37  | 26.00       | 0.55                 | 0.13  |
| LTLZML  |           | 21.50       | -2.56                | -0.86 | 20.00       | -5.45                | -1.25 |
| M72L2C  |           | 26.00       | 1.94                 | 0.65  | 24.00       | -1.45                | -0.33 |
| NDGHLD  |           | 24.50       | 0.44                 | 0.15  | 36.00       | 10.55                | 2.41  |
| NEC9P7  |           | 24.38       | 0.31                 | 0.11  | 20.30       | -5.15                | -1.18 |
| NJ6Z6F  | *         | 25.00       | 0.94                 | 0.32  | 37.50       | 12.05                | 2.76  |
| NWQKFB  |           | 26.00       | 1.94                 | 0.65  | 24.00       | -1.45                | -0.33 |
| P22XWA  |           | 23.50       | -0.56                | -0.19 | 19.00       | -6.45                | -1.47 |
| P3X9TD  |           | 23.90       | -0.16                | -0.05 | 22.35       | -3.10                | -0.71 |
| P6Z9TA  |           | 18.60       | -5.46                | -1.84 | 23.00       | -2.45                | -0.56 |
| PBAH4C  |           | 25.50       | 1.44                 | 0.49  | 23.50       | -1.95                | -0.45 |
| PDGVUQ  |           | 23.90       | -0.16                | -0.05 | 20.40       | -5.05                | -1.15 |
| PZRZAK  |           | 24.50       | 0.44                 | 0.15  | 27.00       | 1.55                 | 0.35  |
| QCH2JZ  |           | 25.87       | 1.81                 | 0.61  | 23.16       | -2.29                | -0.52 |
| QGRGQ3  |           | 24.00       | -0.06                | -0.02 | 21.00       | -4.45                | -1.02 |
| QHMTVH  |           | 24.75       | 0.69                 | 0.23  | 24.35       | -1.10                | -0.25 |
| R7TMPR  |           | 21.50       | -2.56                | -0.86 | 25.00       | -0.45                | -0.10 |
| RH3CEF  |           | 21.50       | -2.56                | -0.86 | 22.50       | -2.95                | -0.67 |
| RQWH9G  |           | 27.00       | 2.94                 | 0.99  | 28.00       | 2.55                 | 0.58  |
| U9MEE2  | X         | 34.50       | 10.44                | 3.52  | 24.30       | -1.15                | -0.26 |
| V9PL3F  |           | 23.00       | -1.06                | -0.36 | 27.00       | 1.55                 | 0.35  |
| VHTPCJ  |           | 20.50       | -3.56                | -1.20 | 23.00       | -2.45                | -0.56 |
| VJHAP3  |           | 20.00       | -4.06                | -1.37 | 20.00       | -5.45                | -1.25 |
| WQGURX  |           | 26.00       | 1.94                 | 0.65  | 29.00       | 3.55                 | 0.81  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 903**    **Fall 2019**  
**Free Sulfur Dioxide**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X6TRA4  |           | 26.00       | 1.94                 | 0.65  | 26.00       | 0.55                 | 0.13  |
| X6WGEZ  |           | 29.00       | 4.94                 | 1.67  | 29.50       | 4.05                 | 0.93  |
| X83U7Z  |           | 26.00       | 1.94                 | 0.65  | 31.00       | 5.55                 | 1.27  |
| XGCECG  |           | 21.16       | -2.90                | -0.98 | 22.11       | -3.34                | -0.76 |
| XHYX99  |           | 18.50       | -5.56                | -1.88 | 20.00       | -5.45                | -1.25 |
| XRPJE8  |           | 21.00       | -3.06                | -1.03 | 33.00       | 7.55                 | 1.73  |
| XXAN32  |           | 19.22       | -4.85                | -1.63 | 18.90       | -6.55                | -1.50 |
| YYZA9W  |           | 24.00       | -0.06                | -0.02 | 23.00       | -2.45                | -0.56 |
| Z32RTB  |           | 28.00       | 3.94                 | 1.33  | 29.00       | 3.55                 | 0.81  |
| ZC9CAK  |           | 24.00       | -0.06                | -0.02 | 24.00       | -1.45                | -0.33 |
| ZEC62Y  |           | 24.00       | -0.06                | -0.02 | 23.50       | -1.95                | -0.45 |
| ZU46VJ  |           | 24.00       | -0.06                | -0.02 | 25.50       | 0.05                 | 0.01  |
| ZXPH32  |           | 20.00       | -4.06                | -1.37 | 25.50       | 0.05                 | 0.01  |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 24.060 mg/L  | 25.449 mg/L        |
| <b>Stnd Dev Btwn Labs</b>                                  |                    |
| 2.964 mg/L   | 4.374 mg/L         |
| <b>Statistics based on 81 of 83 reporting participants</b> |                    |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #903**

C9R28Q (X) - Data for sample SA26 are high.

U9MEE2 (X) - Data for sample SA25 are high.

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

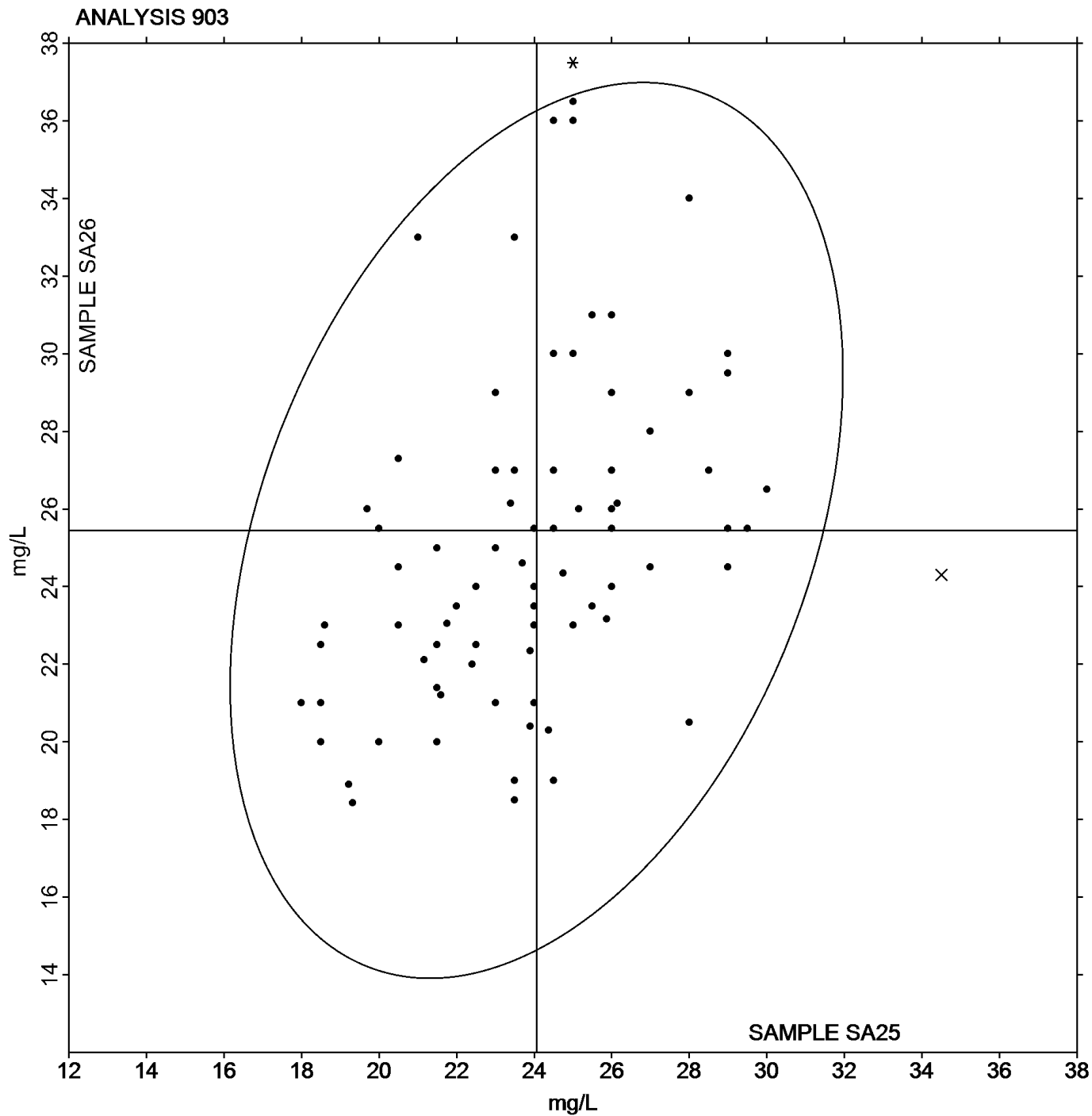
| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ripper Method                  | 24.848                           | 2.703        | 0.79         | 26.033                           | 3.808        | 0.58         | 26/27           |
| Aeration Oxidation (AO) Method | 22.787                           | 3.066        | -1.27        | 25.064                           | 5.252        | -0.38        | 29/30           |
| Segmented Flow Analyzer        | 24.268                           | 3.026        | 0.21         | 25.796                           | 3.499        | 0.35         | 9/9             |
| Colorimetric Analyzer          | 25.821                           | 2.192        | 1.76         | 23.836                           | 1.788        | -1.61        | 7/7             |
| Flow Injection Analysis        | 23.457                           | 3.127        | -0.60        | 23.576                           | 5.161        | -1.87        | 7/7             |
| FTIR                           | 22.900                           | 1.652        | -1.16        | 26.867                           | 5.372        | 1.42         | 3/3             |

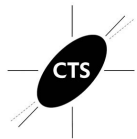




Analysis 903

Free Sulfur Dioxide





Analysis 904

Titrateable Acidity

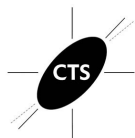
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 4.240       | -0.193               | -0.71 | 4.260       | -0.161               | -0.62 |
| 3HRCM4  |           | 4.390       | -0.043               | -0.16 | 4.385       | -0.036               | -0.14 |
| 3Q3FRG  |           | 4.465       | 0.032                | 0.12  | 4.505       | 0.084                | 0.32  |
| 42W7UZ  |           | 4.700       | 0.267                | 0.98  | 4.650       | 0.229                | 0.88  |
| 4DQMJ2  |           | 4.330       | -0.103               | -0.38 | 4.290       | -0.131               | -0.50 |
| 4YANW9  |           | 4.300       | -0.133               | -0.49 | 4.300       | -0.121               | -0.46 |
| 63NMJ3  |           | 4.300       | -0.133               | -0.49 | 4.290       | -0.131               | -0.50 |
| 6BECXG  | X         | 3.700       | -0.733               | -2.68 | 4.200       | -0.221               | -0.85 |
| 6YLV9G  |           | 4.565       | 0.132                | 0.48  | 4.550       | 0.129                | 0.49  |
| 7PPD8D  |           | 4.470       | 0.037                | 0.14  | 4.580       | 0.159                | 0.61  |
| 868B37  |           | 3.950       | -0.483               | -1.77 | 4.000       | -0.421               | -1.61 |
| 87U8DD  |           | 4.490       | 0.057                | 0.21  | 4.370       | -0.051               | -0.20 |
| 8L8H4K  | X         | 5.600       | 1.167                | 4.27  | 5.600       | 1.179                | 4.52  |
| 93WW96  |           | 4.455       | 0.022                | 0.08  | 4.470       | 0.049                | 0.19  |
| 96VCA2  | *         | 4.390       | -0.043               | -0.16 | 4.645       | 0.224                | 0.86  |
| 98KPTJ  |           | 4.400       | -0.033               | -0.12 | 4.400       | -0.021               | -0.08 |
| 98LDFN  |           | 5.005       | 0.572                | 2.10  | 4.905       | 0.484                | 1.85  |
| 9CCWBR  |           | 4.378       | -0.055               | -0.20 | 4.211       | -0.211               | -0.81 |
| 9DDKYX  |           | 4.850       | 0.417                | 1.53  | 4.700       | 0.279                | 1.07  |
| AEJKGA  |           | 4.785       | 0.352                | 1.29  | 4.620       | 0.199                | 0.76  |
| AUGGWM  |           | 4.200       | -0.233               | -0.85 | 4.200       | -0.221               | -0.85 |
| AXC93X  |           | 4.400       | -0.033               | -0.12 | 4.400       | -0.021               | -0.08 |
| BNLB9B  |           | 4.770       | 0.337                | 1.23  | 4.750       | 0.329                | 1.26  |
| C9R28Q  | *         | 3.750       | -0.683               | -2.50 | 3.750       | -0.671               | -2.57 |
| CCJDXF  |           | 4.590       | 0.157                | 0.58  | 4.550       | 0.129                | 0.49  |
| CJ3G6H  | *         | 3.788       | -0.645               | -2.36 | 4.013       | -0.409               | -1.57 |
| CQLJCK  |           | 4.337       | -0.096               | -0.35 | 4.190       | -0.231               | -0.89 |
| CUA6A3  | *         | 5.094       | 0.661                | 2.42  | 5.105       | 0.684                | 2.62  |
| CWDZU6  |           | 4.500       | 0.067                | 0.25  | 4.450       | 0.029                | 0.11  |
| D27D49  |           | 4.400       | -0.033               | -0.12 | 4.250       | -0.171               | -0.66 |
| DB8X4F  | X         | 5.000       | 0.567                | 2.08  | 4.400       | -0.021               | -0.08 |
| DB9LRK  |           | 4.560       | 0.127                | 0.47  | 4.550       | 0.129                | 0.49  |
| DDL9D7  |           | 4.550       | 0.117                | 0.43  | 4.600       | 0.179                | 0.68  |
| EE8E82  |           | 4.850       | 0.417                | 1.53  | 4.850       | 0.429                | 1.64  |
| ENHGR3  |           | 4.245       | -0.188               | -0.69 | 4.250       | -0.171               | -0.66 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 904**  
**Titrateable Acidity**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENTMMH  |           | 4.300       | -0.133               | -0.49 | 4.300       | -0.121               | -0.46 |
| EZPFAM  |           | 4.450       | 0.017                | 0.06  | 4.500       | 0.079                | 0.30  |
| GWZWA2  |           | 4.320       | -0.113               | -0.41 | 4.320       | -0.101               | -0.39 |
| H6N2PF  |           | 4.760       | 0.327                | 1.20  | 4.720       | 0.299                | 1.14  |
| HKYZHJ  | X         | 4.500       | 0.067                | 0.25  | 4.970       | 0.549                | 2.10  |
| J498EX  | X         | 5.250       | 0.817                | 2.99  | 5.350       | 0.929                | 3.56  |
| JLA34H  |           | 4.265       | -0.168               | -0.61 | 4.265       | -0.156               | -0.60 |
| JWV4KR  |           | 4.070       | -0.363               | -1.33 | 4.070       | -0.351               | -1.35 |
| KCEGBP  |           | 4.200       | -0.233               | -0.85 | 4.200       | -0.221               | -0.85 |
| KREDHU  | X         | 5.590       | 1.157                | 4.24  | 5.590       | 1.169                | 4.48  |
| L9ACT2  |           | 5.097       | 0.664                | 2.43  | 5.009       | 0.588                | 2.25  |
| LHKEE3  | *         | 4.970       | 0.537                | 1.97  | 4.745       | 0.324                | 1.24  |
| LTLZML  |           | 4.550       | 0.117                | 0.43  | 4.650       | 0.229                | 0.88  |
| M72L2C  |           | 4.500       | 0.067                | 0.25  | 4.350       | -0.071               | -0.27 |
| NDGHLD  |           | 4.250       | -0.183               | -0.67 | 4.250       | -0.171               | -0.66 |
| NEC9P7  |           | 4.487       | 0.054                | 0.20  | 4.624       | 0.202                | 0.77  |
| NJ6Z6F  |           | 4.120       | -0.313               | -1.15 | 4.140       | -0.281               | -1.08 |
| NWQKFB  |           | 4.200       | -0.233               | -0.85 | 4.200       | -0.221               | -0.85 |
| P22XWA  |           | 4.400       | -0.033               | -0.12 | 4.450       | 0.029                | 0.11  |
| P3X9TD  | X         | 5.295       | 0.862                | 3.16  | 4.780       | 0.359                | 1.37  |
| P6Z9TA  |           | 4.950       | 0.517                | 1.89  | 4.950       | 0.529                | 2.03  |
| PBAH4C  |           | 4.300       | -0.133               | -0.49 | 4.300       | -0.121               | -0.46 |
| PDGVUQ  |           | 4.260       | -0.173               | -0.63 | 4.260       | -0.161               | -0.62 |
| PZRZAK  |           | 4.185       | -0.248               | -0.91 | 4.195       | -0.226               | -0.87 |
| QCH2JZ  |           | 4.500       | 0.067                | 0.25  | 4.495       | 0.074                | 0.28  |
| QGRGQ3  |           | 4.430       | -0.003               | -0.01 | 4.460       | 0.039                | 0.15  |
| QHMTVH  |           | 4.295       | -0.138               | -0.50 | 4.310       | -0.111               | -0.43 |
| R7TMPR  |           | 4.465       | 0.032                | 0.12  | 4.410       | -0.011               | -0.04 |
| RH3CEF  |           | 4.650       | 0.217                | 0.80  | 4.800       | 0.379                | 1.45  |
| RQWH9G  |           | 4.250       | -0.183               | -0.67 | 4.200       | -0.221               | -0.85 |
| V9PL3F  |           | 4.400       | -0.033               | -0.12 | 4.400       | -0.021               | -0.08 |
| VHTPCJ  |           | 4.150       | -0.283               | -1.04 | 4.160       | -0.261               | -1.00 |
| VJHAP3  |           | 4.350       | -0.083               | -0.30 | 4.300       | -0.121               | -0.46 |
| WQGURX  |           | 4.300       | -0.133               | -0.49 | 4.350       | -0.071               | -0.27 |
| X6TRA4  |           | 4.340       | -0.093               | -0.34 | 4.420       | -0.001               | 0.00  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 904**  
**Titrateable Acidity**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X6WGEZ  | X         | 5.515       | 1.082                | 3.96  | 5.100       | 0.679                | 2.60  |
| X83U7Z  |           | 4.350       | -0.083               | -0.30 | 4.500       | 0.079                | 0.30  |
| XGCECG  |           | 4.170       | -0.263               | -0.96 | 4.140       | -0.281               | -1.08 |
| XHYX99  |           | 4.400       | -0.033               | -0.12 | 4.400       | -0.021               | -0.08 |
| XRPJE8  |           | 3.970       | -0.463               | -1.69 | 3.915       | -0.506               | -1.94 |
| XXAN32  |           | 4.600       | 0.167                | 0.61  | 4.400       | -0.021               | -0.08 |
| YYZA9W  |           | 4.400       | -0.033               | -0.12 | 4.400       | -0.021               | -0.08 |
| Z32RTB  | *         | 4.500       | 0.067                | 0.25  | 4.250       | -0.171               | -0.66 |
| ZC9CAK  |           | 5.000       | 0.567                | 2.08  | 5.050       | 0.629                | 2.41  |
| ZEC62Y  |           | 4.200       | -0.233               | -0.85 | 4.200       | -0.221               | -0.85 |
| ZU46VJ  |           | 4.575       | 0.142                | 0.52  | 4.425       | 0.004                | 0.01  |
| ZXPH32  |           | 4.600       | 0.167                | 0.61  | 4.650       | 0.229                | 0.88  |

| Grand Means  |                             | Summary Statistics |                             |
|--|-----------------------------|--------------------|-----------------------------|
|  | 4.4328 g/L as tartaric acid |                    | 4.4212 g/L as tartaric acid |
| Std Dev Btwn Labs  |                             |                    |                             |
|  | 0.2731 g/L as tartaric acid |                    | 0.2611 g/L as tartaric acid |
| <b>Statistics based on 74 of 82 reporting participants</b> |                             |                    |                             |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #904**

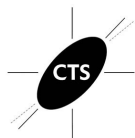
- J498EX (X) - Data for both samples are high. Possible Systematic Error.
- KREDHU (X) - Data for both samples are high. Possible Systematic Error.
- HKYZHJ (X) - Inconsistent in testing between samples.
- 6BECXG (X) - Inconsistent in testing between samples.
- 8L8H4K (X) - Data for both samples are high. Possible Systematic Error.
- DB8X4F (X) - Inconsistent in testing between samples.
- P3X9TD (X) - Data for sample SA25 are high.
- X6WGEZ (X) - Data for sample SA25 are high.



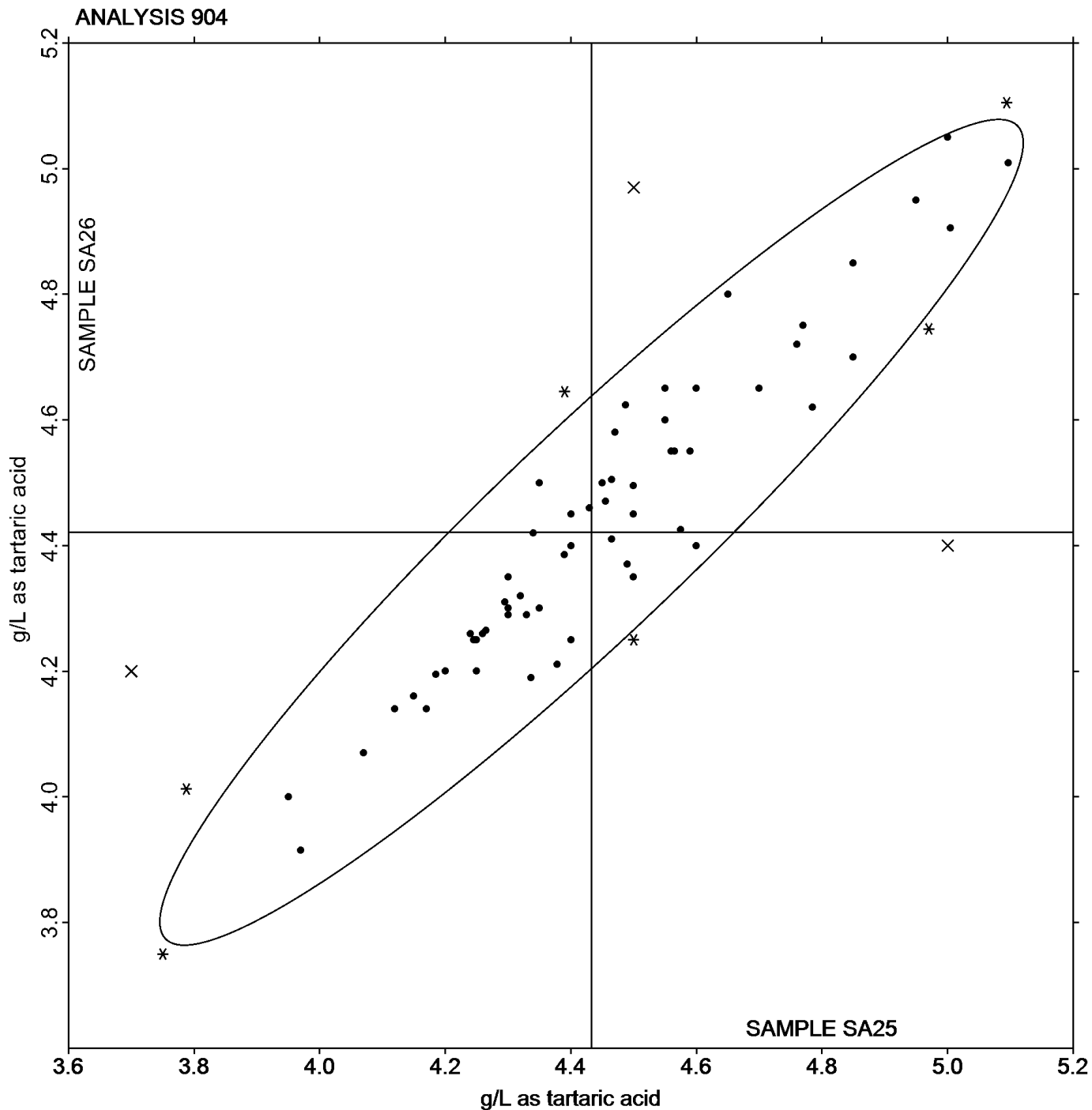
**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 904**    **Fall 2019**  
**Titrateable Acidity**

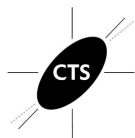
**Results by Methodology (as reported by laboratory)**

| Test Methodology        | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|-------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                         | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Autotitration           | 4.454                            | 0.262        | 0.021        | 4.447                            | 0.257        | 0.025        | 51/55           |
| Manual Titration        | 4.394                            | 0.338        | -0.039       | 4.366                            | 0.300        | -0.055       | 17/21           |
| FTIR                    | 4.403                            | 0.131        | -0.030       | 4.404                            | 0.130        | -0.017       | 5/5             |
| Segmented Flow Analyzer | 4.170                            | 0.000        | -0.263       | 4.140                            | 0.000        | -0.281       | 1/1             |



Analysis 904  
Titratable Acidity





**ASEV-CTS Wine Industry Interlaboratory Testing Program** Report #063a  
**Analysis 905** Fall 2019  
**Volatile Acidity**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 0.4450      | -0.0069              | -0.16 | 0.4400      | -0.0125              | -0.28 |
| 3HRCM4  |           | 0.4300      | -0.0219              | -0.52 | 0.4350      | -0.0175              | -0.40 |
| 3Q3FRG  |           | 0.4750      | 0.0231               | 0.55  | 0.4750      | 0.0225               | 0.51  |
| 42W7UZ  |           | 0.3800      | -0.0719              | -1.70 | 0.3750      | -0.0775              | -1.76 |
| 4YANW9  |           | 0.4650      | 0.0131               | 0.31  | 0.4600      | 0.0075               | 0.17  |
| 63NMJ3  |           | 0.4550      | 0.0031               | 0.07  | 0.4550      | 0.0025               | 0.06  |
| 64V6GX  |           | 0.4600      | 0.0081               | 0.19  | 0.4400      | -0.0125              | -0.28 |
| 6BECXG  |           | 0.3730      | -0.0789              | -1.87 | 0.3500      | -0.1025              | -2.33 |
| 6YLV9G  |           | 0.4875      | 0.0356               | 0.84  | 0.4610      | 0.0085               | 0.19  |
| 7PPD8D  |           | 0.4350      | -0.0169              | -0.40 | 0.4250      | -0.0275              | -0.62 |
| 868B37  |           | 0.4350      | -0.0169              | -0.40 | 0.4300      | -0.0225              | -0.51 |
| 87U8DD  |           | 0.4700      | 0.0181               | 0.43  | 0.4450      | -0.0075              | -0.17 |
| 8L8H4K  |           | 0.3900      | -0.0619              | -1.47 | 0.3700      | -0.0825              | -1.88 |
| 93WW96  | *         | 0.3400      | -0.1119              | -2.65 | 0.3400      | -0.1125              | -2.56 |
| 96VCA2  |           | 0.4700      | 0.0181               | 0.43  | 0.4750      | 0.0225               | 0.51  |
| 98KPTJ  |           | 0.4700      | 0.0181               | 0.43  | 0.4600      | 0.0075               | 0.17  |
| 98LDFN  |           | 0.3950      | -0.0569              | -1.35 | 0.3900      | -0.0625              | -1.42 |
| 9CCWBR  | *         | 0.4785      | 0.0266               | 0.63  | 0.5225      | 0.0700               | 1.59  |
| 9DDKYX  |           | 0.4650      | 0.0131               | 0.31  | 0.4750      | 0.0225               | 0.51  |
| AEJKGA  |           | 0.4550      | 0.0031               | 0.07  | 0.4600      | 0.0075               | 0.17  |
| AUGGWM  |           | 0.4750      | 0.0231               | 0.55  | 0.4700      | 0.0175               | 0.40  |
| AXC93X  |           | 0.4350      | -0.0169              | -0.40 | 0.4450      | -0.0075              | -0.17 |
| BNLB9B  |           | 0.4800      | 0.0281               | 0.66  | 0.4850      | 0.0325               | 0.74  |
| C9R28Q  |           | 0.4500      | -0.0019              | -0.05 | 0.4500      | -0.0025              | -0.06 |
| CCJDXF  |           | 0.4750      | 0.0231               | 0.55  | 0.4600      | 0.0075               | 0.17  |
| CJ3G6H  |           | 0.4600      | 0.0081               | 0.19  | 0.4600      | 0.0075               | 0.17  |
| CQLJCK  |           | 0.5200      | 0.0681               | 1.61  | 0.5300      | 0.0775               | 1.76  |
| CWDZU6  |           | 0.4750      | 0.0231               | 0.55  | 0.4750      | 0.0225               | 0.51  |
| D27D49  |           | 0.4100      | -0.0419              | -0.99 | 0.4000      | -0.0525              | -1.19 |
| DB8X4F  |           | 0.4000      | -0.0519              | -1.23 | 0.4200      | -0.0325              | -0.74 |
| DB9LRK  |           | 0.4600      | 0.0081               | 0.19  | 0.4700      | 0.0175               | 0.40  |
| DDL9D7  | *         | 0.5800      | 0.1281               | 3.03  | 0.5750      | 0.1225               | 2.79  |
| EE8E82  | *         | 0.4200      | -0.0319              | -0.76 | 0.4650      | 0.0125               | 0.29  |
| ENHGR3  |           | 0.5050      | 0.0531               | 1.26  | 0.4900      | 0.0375               | 0.85  |
| ENTMMH  |           | 0.5200      | 0.0681               | 1.61  | 0.5050      | 0.0525               | 1.19  |

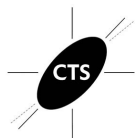


**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 905**  
**Volatile Acidity**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| EZPFAM  |           | 0.4150      | -0.0369              | -0.87 | 0.4250      | -0.0275              | -0.62 |
| GWZWA2  |           | 0.4700      | 0.0181               | 0.43  | 0.4850      | 0.0325               | 0.74  |
| H6N2PF  |           | 0.4350      | -0.0169              | -0.40 | 0.4400      | -0.0125              | -0.28 |
| HKYZHJ  | X         | 0.5900      | 0.1381               | 3.27  | 0.6050      | 0.1525               | 3.47  |
| J498EX  |           | 0.4800      | 0.0281               | 0.66  | 0.4650      | 0.0125               | 0.29  |
| JLA34H  |           | 0.4995      | 0.0476               | 1.13  | 0.5310      | 0.0785               | 1.79  |
| JWV4KR  |           | 0.4350      | -0.0169              | -0.40 | 0.4350      | -0.0175              | -0.40 |
| KCEGBP  |           | 0.4700      | 0.0181               | 0.43  | 0.4600      | 0.0075               | 0.17  |
| KREDHU  |           | 0.5035      | 0.0516               | 1.22  | 0.4955      | 0.0430               | 0.98  |
| L9ACT2  |           | 0.5400      | 0.0881               | 2.09  | 0.5600      | 0.1075               | 2.45  |
| LHKEE3  |           | 0.4150      | -0.0369              | -0.87 | 0.4200      | -0.0325              | -0.74 |
| LTLZML  | *         | 0.5100      | 0.0581               | 1.37  | 0.5500      | 0.0975               | 2.22  |
| M72L2C  | X         | 0.3250      | -0.1269              | -3.01 | 0.3650      | -0.0875              | -1.99 |
| NDGHLD  |           | 0.4250      | -0.0269              | -0.64 | 0.4500      | -0.0025              | -0.06 |
| NEC9P7  |           | 0.4400      | -0.0119              | -0.28 | 0.4700      | 0.0175               | 0.40  |
| NJ6Z6F  |           | 0.4350      | -0.0169              | -0.40 | 0.4700      | 0.0175               | 0.40  |
| NWQKFB  |           | 0.4000      | -0.0519              | -1.23 | 0.4000      | -0.0525              | -1.19 |
| P22XWA  |           | 0.4750      | 0.0231               | 0.55  | 0.4650      | 0.0125               | 0.29  |
| P3X9TD  |           | 0.4200      | -0.0319              | -0.76 | 0.4300      | -0.0225              | -0.51 |
| P6Z9TA  |           | 0.4950      | 0.0431               | 1.02  | 0.4850      | 0.0325               | 0.74  |
| PBAH4C  |           | 0.4700      | 0.0181               | 0.43  | 0.4650      | 0.0125               | 0.29  |
| PDGVUQ  |           | 0.4850      | 0.0331               | 0.78  | 0.4850      | 0.0325               | 0.74  |
| PZRZAK  |           | 0.4200      | -0.0319              | -0.76 | 0.4300      | -0.0225              | -0.51 |
| QCH2JZ  |           | 0.4250      | -0.0269              | -0.64 | 0.4450      | -0.0075              | -0.17 |
| QGRGQ3  |           | 0.4050      | -0.0469              | -1.11 | 0.3950      | -0.0575              | -1.31 |
| QHMTVH  |           | 0.4645      | 0.0126               | 0.30  | 0.4760      | 0.0235               | 0.54  |
| R7TMPR  |           | 0.4650      | 0.0131               | 0.31  | 0.4900      | 0.0375               | 0.85  |
| RH3CEF  |           | 0.4350      | -0.0169              | -0.40 | 0.4000      | -0.0525              | -1.19 |
| RQWH9G  |           | 0.4750      | 0.0231               | 0.55  | 0.4500      | -0.0025              | -0.06 |
| U9MEE2  |           | 0.4800      | 0.0281               | 0.66  | 0.4380      | -0.0145              | -0.33 |
| V9PL3F  |           | 0.5100      | 0.0581               | 1.37  | 0.5000      | 0.0475               | 1.08  |
| VHTPCJ  |           | 0.5000      | 0.0481               | 1.14  | 0.4850      | 0.0325               | 0.74  |
| VJHAP3  |           | 0.4700      | 0.0181               | 0.43  | 0.4700      | 0.0175               | 0.40  |
| WQGURX  |           | 0.3950      | -0.0569              | -1.35 | 0.4000      | -0.0525              | -1.19 |
| X6TRA4  |           | 0.4450      | -0.0069              | -0.16 | 0.4300      | -0.0225              | -0.51 |





**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 905**    **Fall 2019**  
**Volatile Acidity**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X6WGEZ  |           | 0.3740      | -0.0779              | -1.85 | 0.3730      | -0.0795              | -1.81 |
| X83U7Z  |           | 0.4800      | 0.0281               | 0.66  | 0.4850      | 0.0325               | 0.74  |
| XGCECG  |           | 0.4000      | -0.0519              | -1.23 | 0.4300      | -0.0225              | -0.51 |
| XHYX99  |           | 0.4000      | -0.0519              | -1.23 | 0.4000      | -0.0525              | -1.19 |
| XRPJE8  |           | 0.4450      | -0.0069              | -0.16 | 0.4250      | -0.0275              | -0.62 |
| XXAN32  |           | 0.4600      | 0.0081               | 0.19  | 0.4750      | 0.0225               | 0.51  |
| YYZA9W  |           | 0.4550      | 0.0031               | 0.07  | 0.4550      | 0.0025               | 0.06  |
| Z32RTB  |           | 0.4350      | -0.0169              | -0.40 | 0.4400      | -0.0125              | -0.28 |
| ZC9CAK  |           | 0.3600      | -0.0919              | -2.18 | 0.3750      | -0.0775              | -1.76 |
| ZEC62Y  |           | 0.4500      | -0.0019              | -0.05 | 0.4600      | 0.0075               | 0.17  |
| ZU46VJ  | *         | 0.5000      | 0.0481               | 1.14  | 0.4500      | -0.0025              | -0.06 |
| ZXPH32  |           | 0.4500      | -0.0019              | -0.05 | 0.4500      | -0.0025              | -0.06 |

| <b>Grand Means</b>   | <b>Summary Statistics</b>  |
|--|----------------------------|
| 0.45194 g/L as acetic acid                                 | 0.45246 g/L as acetic acid |
| <b>Stnd Dev Btwn Labs</b>                                  |                            |
| 0.04223 g/L as acetic acid                                 | 0.04397 g/L as acetic acid |
| <b>Statistics based on 80 of 82 reporting participants</b> |                            |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #905**

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

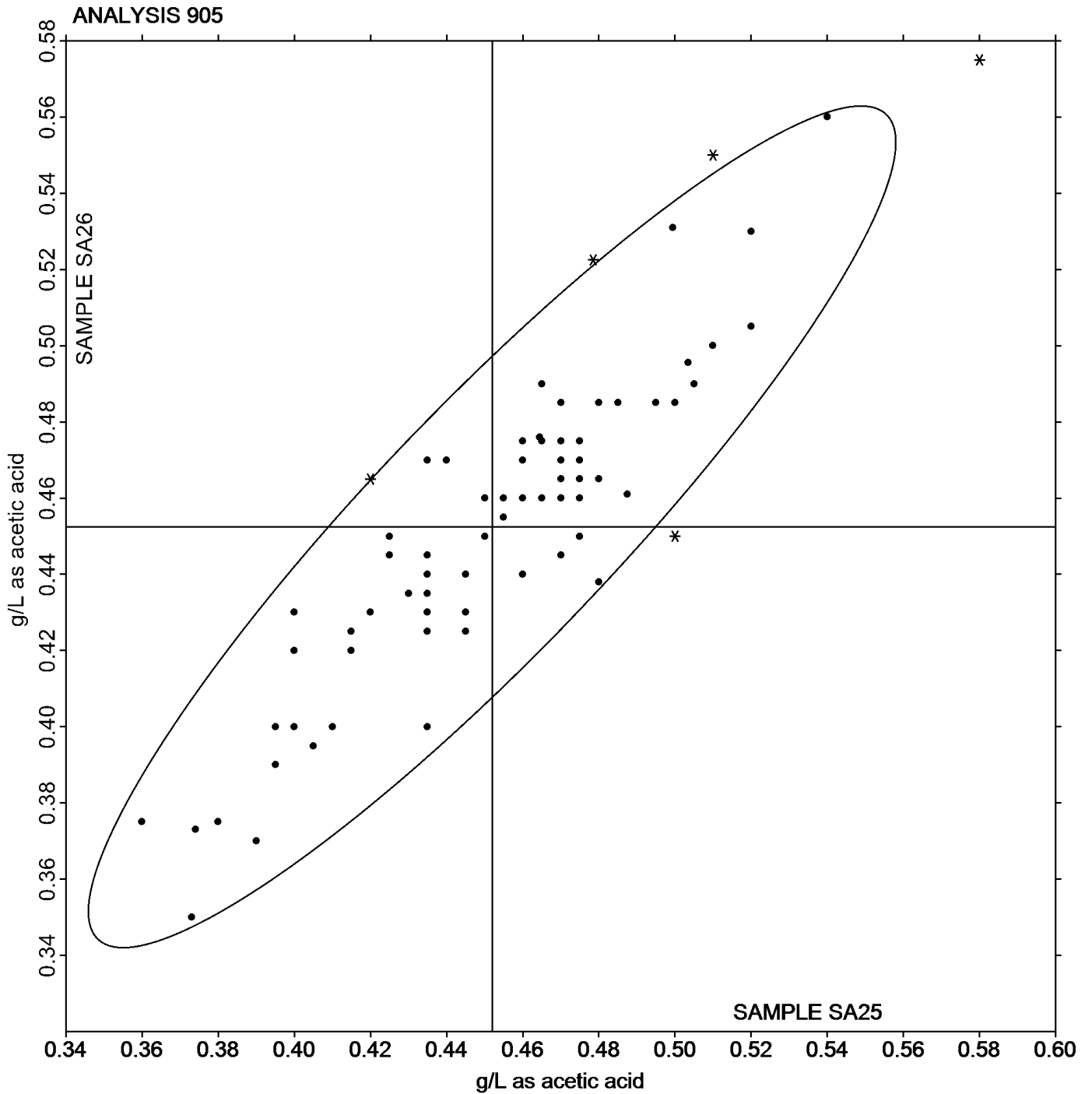
M72L2C (X) - Data for sample SA25 are low.

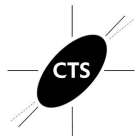
**Results by Methodology (as reported by laboratory)**

| Test Methodology                  | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><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             | 0.410                            | 0.014        | -0.0419      | 0.415                            | 0.021        | -0.0375      | 2/2             |
| Cash Still method                 | 0.475                            | 0.039        | 0.0234       | 0.480                            | 0.043        | 0.0270       | 15/16           |
| Enzymatic method                  | 0.446                            | 0.038        | -0.0062      | 0.444                            | 0.039        | -0.0080      | 45/46           |
| HPLC                              | 0.470                            | 0.000        | 0.0181       | 0.475                            | 0.000        | 0.0225       | 1/1             |
| GC                                | 0.420                            | 0.000        | -0.0319      | 0.465                            | 0.000        | 0.0125       | 1/1             |
| Colorimetric Analysis             | 0.442                            | 0.031        | -0.0103      | 0.438                            | 0.019        | -0.0141      | 3/3             |
| Seg. Flow / Colorimetric Analyzer | 0.456                            | 0.039        | 0.0041       | 0.459                            | 0.023        | 0.0065       | 5/5             |
| FTIR                              | 0.457                            | 0.069        | 0.0047       | 0.453                            | 0.074        | 0.0007       | 8/8             |



Analysis 905  
Volatile Acidity





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 906**  
**Specific Gravity**

**Fall 2019**

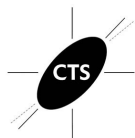
| WebCode | Data Flag | Sample SA25 |                      |           | Sample SA26 |                      |           |
|---------|-----------|-------------|----------------------|-----------|-------------|----------------------|-----------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV       | Lab Mean    | Diff from Grand Mean | CPV       |
| 2YVLTV  |           | 0.9926      | -0.0006              | -1.98     | 0.9926      | -0.0006              | -1.97     |
| 3HRCM4  | X         | 0.9918      | -0.0014              | -4.68     | 0.9916      | -0.0017              | -5.38     |
| 3Q3FRG  | X         | 0.9915      | -0.0017              | -5.69     | 0.9913      | -0.0019              | -6.19     |
| 4DQMJ2  |           | 0.9932      | 0.0000               | 0.01      | 0.9932      | 0.0000               | 0.11      |
| 4YANW9  |           | 0.9932      | 0.0000               | -0.01     | 0.9931      | -0.0001              | -0.20     |
| 64V6GX  |           | 0.9933      | 0.0001               | 0.45      | 0.9934      | 0.0002               | 0.76      |
| 6BECXG  | X         | 0.9916      | -0.0016              | -5.30     | 0.9916      | -0.0016              | -5.33     |
| 6YLV9G  |           | 0.9931      | -0.0001              | -0.46     | 0.9931      | -0.0001              | -0.34     |
| 868B37  | *         | 0.9930      | -0.0002              | -0.63     | 0.9929      | -0.0004              | -1.16     |
| 87U8DD  | X         | 0.9913      | -0.0019              | -6.37     | 0.9912      | -0.0021              | -6.68     |
| 8L8H4K  |           | 0.9934      | 0.0002               | 0.61      | 0.9934      | 0.0002               | 0.57      |
| 93WW96  |           | 0.9934      | 0.0002               | 0.72      | 0.9934      | 0.0002               | 0.63      |
| 96VCA2  |           | 0.9933      | 0.0001               | 0.23      | 0.9932      | 0.0000               | 0.09      |
| 98KPTJ  |           | 0.9933      | 0.0001               | 0.49      | 0.9933      | 0.0001               | 0.40      |
| 98LDFN  |           | 0.9926      | -0.0006              | -1.86     | 0.9926      | -0.0006              | -1.85     |
| 9CCWBR  |           | 0.9932      | 0.0000               | -0.08     | 0.9933      | 0.0001               | 0.27      |
| AUGGWM  |           | 0.9932      | 0.0000               | 0.01      | 0.9932      | 0.0000               | 0.00      |
| AXC93X  |           | 0.9930      | -0.0002              | -0.80     | 0.9930      | -0.0002              | -0.67     |
| BNLB9B  |           | 0.9933      | 0.0001               | 0.28      | 0.9933      | 0.0001               | 0.21      |
| C9R28Q  |           | 0.9930      | -0.0002              | -0.63     | 0.9930      | -0.0002              | -0.67     |
| CCJDXF  | X         | 0.9964      | 0.0032               | 10.80     | 0.9962      | 0.0030               | 9.70      |
| CJ3G6H  | X         | 0.9933      | 0.0001               | 0.34      | 0.9931      | -0.0001              | -0.38     |
| CQLJCK  | X         | 8.2780      | 7.2848               | 24,563.00 | 8.2780      | 7.2848               | 23,668.05 |
| CUA6A3  |           | 0.9933      | 0.0001               | 0.31      | 0.9933      | 0.0001               | 0.31      |
| CWDZU6  |           | 0.9932      | 0.0000               | -0.09     | 0.9932      | 0.0000               | 0.06      |
| D27D49  |           | 0.9929      | -0.0003              | -1.01     | 0.9929      | -0.0003              | -1.03     |
| DB8X4F  |           | 0.9931      | -0.0001              | -0.23     | 0.9931      | -0.0001              | -0.31     |
| DB9LRK  |           | 0.9936      | 0.0004               | 1.39      | 0.9937      | 0.0005               | 1.60      |
| DDL9D7  |           | 0.9932      | 0.0000               | 0.12      | 0.9932      | 0.0000               | 0.06      |
| EE8E82  |           | 0.9933      | 0.0002               | 0.53      | 0.9934      | 0.0001               | 0.47      |
| ENHGR3  | *         | 0.9936      | 0.0004               | 1.22      | 0.9938      | 0.0005               | 1.77      |
| ENTMMH  |           | 0.9933      | 0.0001               | 0.26      | 0.9933      | 0.0001               | 0.18      |
| EZPFAM  |           | 0.9930      | -0.0002              | -0.63     | 0.9931      | -0.0002              | -0.51     |
| GWZWA2  |           | 0.9933      | 0.0001               | 0.21      | 0.9933      | 0.0000               | 0.14      |
| H6N2PF  |           | 0.9930      | -0.0002              | -0.63     | 0.9931      | -0.0002              | -0.51     |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 906**  
**Specific Gravity**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| HKYZHJ  |           | 0.9933      | 0.0001               | 0.38  | 0.9934      | 0.0001               | 0.47  |
| JLA34H  |           | 0.9933      | 0.0001               | 0.26  | 0.9933      | 0.0001               | 0.22  |
| KREDHU  |           | 0.9933      | 0.0001               | 0.26  | 0.9933      | 0.0001               | 0.32  |
| L9ACT2  |           | 0.9932      | 0.0000               | -0.13 | 0.9932      | 0.0000               | -0.05 |
| LHKEE3  |           | 0.9931      | -0.0001              | -0.23 | 0.9933      | 0.0001               | 0.18  |
| LTLZML  | *         | 0.9941      | 0.0009               | 3.04  | 0.9941      | 0.0009               | 2.87  |
| M72L2C  |           | 0.9937      | 0.0005               | 1.63  | 0.9936      | 0.0004               | 1.21  |
| NDGHLD  |           | 0.9932      | 0.0000               | 0.04  | 0.9933      | 0.0001               | 0.31  |
| NEC9P7  |           | 0.9933      | 0.0001               | 0.37  | 0.9933      | 0.0001               | 0.23  |
| NJ6Z6F  |           | 0.9931      | -0.0001              | -0.30 | 0.9932      | 0.0000               | -0.02 |
| NWQKFB  |           | 0.9932      | 0.0000               | 0.04  | 0.9932      | 0.0000               | -0.02 |
| P22XWA  | X         | 0.9918      | -0.0014              | -4.72 | 0.9918      | -0.0014              | -4.61 |
| P6Z9TA  | X         | 1.0034      | 0.0102               | 34.27 | 1.0034      | 0.0102               | 33.12 |
| PBAH4C  | X         | 0.9933      | 0.0001               | 0.33  | 0.9928      | -0.0004              | -1.21 |
| PDGVUQ  |           | 0.9935      | 0.0003               | 1.05  | 0.9935      | 0.0003               | 0.95  |
| PZRZAK  |           | 0.9932      | 0.0000               | -0.13 | 0.9932      | 0.0000               | -0.02 |
| QCH2JZ  | X         | 0.9950      | 0.0018               | 6.11  | 0.9950      | 0.0018               | 5.83  |
| QGRGQ3  | *         | 0.9940      | 0.0008               | 2.57  | 0.9939      | 0.0007               | 2.25  |
| QHMTVH  |           | 0.9933      | 0.0001               | 0.38  | 0.9932      | 0.0000               | -0.02 |
| R7TMPR  |           | 0.9933      | 0.0001               | 0.21  | 0.9932      | 0.0000               | -0.02 |
| RH3CEF  | X         | 0.9913      | -0.0019              | -6.37 | 0.9915      | -0.0017              | -5.54 |
| RQWH9G  | X         | 0.9917      | -0.0015              | -5.02 | 0.9917      | -0.0015              | -4.89 |
| U9MEE2  |           | 0.9928      | -0.0004              | -1.42 | 0.9927      | -0.0005              | -1.78 |
| V9PL3F  |           | 0.9923      | -0.0009              | -2.89 | 0.9923      | -0.0009              | -2.94 |
| VHTPCJ  |           | 0.9932      | 0.0000               | 0.04  | 0.9932      | 0.0000               | -0.02 |
| VJHAP3  |           | 0.9925      | -0.0007              | -2.49 | 0.9925      | -0.0008              | -2.46 |
| WQGURX  |           | 0.9933      | 0.0001               | 0.26  | 0.9934      | 0.0001               | 0.47  |
| X6TRA4  |           | 0.9934      | 0.0002               | 0.58  | 0.9933      | 0.0001               | 0.45  |
| X6WGEZ  |           | 0.9933      | 0.0001               | 0.24  | 0.9934      | 0.0002               | 0.52  |
| X83U7Z  |           | 0.9930      | -0.0002              | -0.63 | 0.9930      | -0.0002              | -0.67 |
| XGCECG  |           | 0.9932      | 0.0000               | 0.16  | 0.9932      | 0.0000               | 0.05  |
| XHYX99  | X         | 0.9922      | -0.0010              | -3.33 | 0.9930      | -0.0002              | -0.67 |
| XRPJE8  |           | 0.9932      | 0.0000               | -0.04 | 0.9932      | 0.0000               | 0.13  |
| XXAN32  |           | 0.9934      | 0.0002               | 0.72  | 0.9934      | 0.0002               | 0.63  |
| Z32RTB  |           | 0.9937      | 0.0005               | 1.56  | 0.9937      | 0.0005               | 1.60  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 906**  
**Specific Gravity**

**Fall 2019**

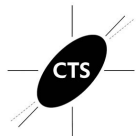
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ZC9CAK  |           | 0.9935      | 0.0003               | 0.88  | 0.9935      | 0.0003               | 0.83  |
| ZEC62Y  |           | 0.9934      | 0.0002               | 0.72  | 0.9934      | 0.0002               | 0.63  |
| ZU46VJ  | X         | 0.9920      | -0.0012              | -4.01 | 0.9930      | -0.0002              | -0.67 |
| ZXPH32  |           | 0.9931      | 0.0000               | -0.16 | 0.9932      | 0.0000               | -0.08 |

| <b>Grand Means</b>   |                       | <b>Summary Statistics</b> |                       |
|--|-----------------------|---------------------------|-----------------------|
|  | 0.99319 sp gr 20/20 C |                           | 0.99321 sp gr 20/20 C |
| <b>Std Dev Btwn Labs</b>                                   |                       |                           |                       |
|  | 0.00030 sp gr 20/20 C |                           | 0.00031 sp gr 20/20 C |
| <b>Statistics based on 59 of 74 reporting participants</b> |                       |                           |                       |

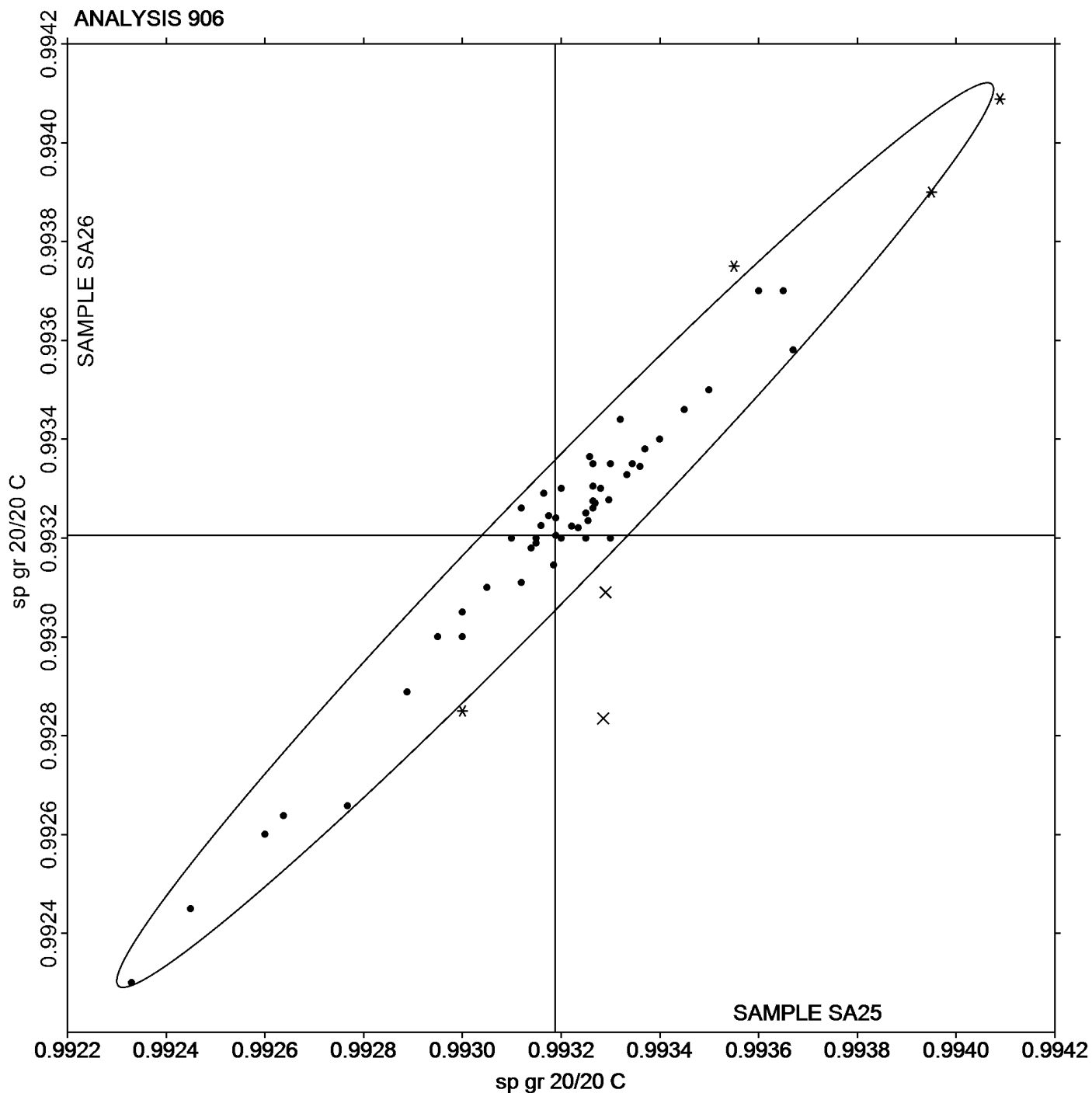
Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #906**

- 3HRCM4 (X) - Data for both samples are low. Possible Systematic Error.
- PBAH4C (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA26.
- RQWH9G (X) - Data for both samples are low. Possible Systematic Error.
- XHYX99 (X) - Data for sample SA25 are low. Inconsistent within the determinations of both samples.
- RH3CEF (X) - Data for both samples are low. Possible Systematic Error.
- 87U8DD (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA26.
- 3Q3FRG (X) - Data for both samples are low. Possible Systematic Error.
- ZU46VJ (X) - Data for sample SA25 are low. Inconsistent within the determinations of sample SA25.
- QCH2JZ (X) - Data for both samples are high. Possible Systematic Error.
- 6BECXG (X) - Data for both samples are low. Possible Systematic Error.
- CQLJCK (X) - Extreme data.
- CJ3G6H (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA26.
- CCJDXF (X) - Data for both samples are high. Inconsistent within the determinations of sample SA26.
- P6Z9TA (X) - Data for both samples are high.
- P22XWA (X) - Data for both samples are low. Possible Systematic Error.



Analysis 906  
Specific Gravity





Analysis 907

pH

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 3.725       | -0.012               | -0.41 | 3.730       | -0.010               | -0.33 |
| 3HRCM4  |           | 3.795       | 0.058                | 1.97  | 3.785       | 0.045                | 1.53  |
| 3Q3FRG  |           | 3.705       | -0.032               | -1.10 | 3.710       | -0.030               | -1.01 |
| 42W7UZ  |           | 3.800       | 0.063                | 2.14  | 3.800       | 0.060                | 2.04  |
| 4DQMJ2  |           | 3.776       | 0.039                | 1.33  | 3.777       | 0.037                | 1.26  |
| 4YANW9  |           | 3.750       | 0.013                | 0.44  | 3.745       | 0.005                | 0.18  |
| 63NMJ3  |           | 3.750       | 0.013                | 0.44  | 3.750       | 0.010                | 0.35  |
| 64V6GX  |           | 3.760       | 0.023                | 0.78  | 3.760       | 0.020                | 0.69  |
| 6BECXG  | X         | 3.900       | 0.163                | 5.55  | 3.900       | 0.160                | 5.42  |
| 6YLV9G  |           | 3.762       | 0.025                | 0.85  | 3.763       | 0.023                | 0.77  |
| 7PPD8D  |           | 3.760       | 0.023                | 0.78  | 3.750       | 0.010                | 0.35  |
| 868B37  |           | 3.760       | 0.023                | 0.78  | 3.750       | 0.010                | 0.35  |
| 87U8DD  |           | 3.735       | -0.002               | -0.07 | 3.740       | 0.000                | 0.01  |
| 8L8H4K  |           | 3.740       | 0.003                | 0.10  | 3.745       | 0.005                | 0.18  |
| 93WW96  |           | 3.745       | 0.008                | 0.27  | 3.740       | 0.000                | 0.01  |
| 96VCA2  |           | 3.710       | -0.027               | -0.92 | 3.705       | -0.035               | -1.17 |
| 98KPTJ  |           | 3.740       | 0.003                | 0.10  | 3.750       | 0.010                | 0.35  |
| 98LDFN  |           | 3.765       | 0.028                | 0.95  | 3.775       | 0.035                | 1.19  |
| 9CCWBR  |           | 3.704       | -0.034               | -1.15 | 3.714       | -0.026               | -0.89 |
| 9DDKYX  |           | 3.735       | -0.002               | -0.07 | 3.740       | 0.000                | 0.01  |
| AEJKGA  |           | 3.794       | 0.057                | 1.94  | 3.808       | 0.068                | 2.29  |
| AUGGWM  |           | 3.735       | -0.002               | -0.07 | 3.740       | 0.000                | 0.01  |
| AXC93X  |           | 3.720       | -0.017               | -0.58 | 3.720       | -0.020               | -0.67 |
| BNLB9B  |           | 3.750       | 0.013                | 0.44  | 3.760       | 0.020                | 0.69  |
| C9R28Q  | *         | 3.750       | 0.013                | 0.44  | 3.780       | 0.040                | 1.36  |
| CCJDXF  | *         | 3.810       | 0.073                | 2.48  | 3.790       | 0.050                | 1.70  |
| CJ3G6H  |           | 3.765       | 0.028                | 0.95  | 3.770       | 0.030                | 1.02  |
| CQLJCK  |           | 3.760       | 0.023                | 0.78  | 3.760       | 0.020                | 0.69  |
| CWDZU6  |           | 3.740       | 0.003                | 0.10  | 3.730       | -0.010               | -0.33 |
| D27D49  |           | 3.720       | -0.017               | -0.58 | 3.720       | -0.020               | -0.67 |
| DB8X4F  |           | 3.720       | -0.017               | -0.58 | 3.720       | -0.020               | -0.67 |
| DB9LRK  | *         | 3.660       | -0.077               | -2.63 | 3.650       | -0.090               | -3.03 |
| DDL9D7  |           | 3.700       | -0.037               | -1.27 | 3.695       | -0.045               | -1.51 |
| EE8E82  |           | 3.745       | 0.008                | 0.27  | 3.750       | 0.010                | 0.35  |
| ENHGR3  |           | 3.760       | 0.023                | 0.78  | 3.760       | 0.020                | 0.69  |

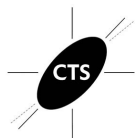


Analysis 907

pH

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENTMMH  |           | 3.720       | -0.017               | -0.58 | 3.720       | -0.020               | -0.67 |
| EZPFAM  |           | 3.685       | -0.052               | -1.78 | 3.685       | -0.055               | -1.85 |
| GWZWA2  |           | 3.735       | -0.002               | -0.07 | 3.730       | -0.010               | -0.33 |
| H6N2PF  |           | 3.755       | 0.018                | 0.61  | 3.765       | 0.025                | 0.85  |
| HKYZHJ  | X         | 3.635       | -0.102               | -3.48 | 3.655       | -0.085               | -2.86 |
| J498EX  |           | 3.725       | -0.012               | -0.41 | 3.735       | -0.005               | -0.16 |
| JLA34H  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| JWV4KR  |           | 3.740       | 0.003                | 0.10  | 3.720       | -0.020               | -0.67 |
| KCEGBP  |           | 3.720       | -0.017               | -0.58 | 3.740       | 0.000                | 0.01  |
| KREDHU  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| L9ACT2  | *         | 3.686       | -0.051               | -1.74 | 3.713       | -0.027               | -0.92 |
| LHKEE3  |           | 3.725       | -0.012               | -0.41 | 3.725       | -0.015               | -0.50 |
| LTLZML  |           | 3.725       | -0.012               | -0.41 | 3.735       | -0.005               | -0.16 |
| M72L2C  |           | 3.785       | 0.048                | 1.63  | 3.775       | 0.035                | 1.19  |
| NDGHLD  | *         | 3.720       | -0.017               | -0.58 | 3.755       | 0.015                | 0.52  |
| NEC9P7  | *         | 3.710       | -0.027               | -0.92 | 3.740       | 0.000                | 0.01  |
| NJ6Z6F  |           | 3.720       | -0.017               | -0.58 | 3.710       | -0.030               | -1.01 |
| NWQKFB  |           | 3.730       | -0.007               | -0.24 | 3.730       | -0.010               | -0.33 |
| P22XWA  |           | 3.705       | -0.032               | -1.10 | 3.710       | -0.030               | -1.01 |
| P3X9TD  | *         | 3.730       | -0.007               | -0.24 | 3.760       | 0.020                | 0.69  |
| P6Z9TA  |           | 3.730       | -0.007               | -0.24 | 3.740       | 0.000                | 0.01  |
| PBAH4C  |           | 3.770       | 0.033                | 1.12  | 3.765       | 0.025                | 0.85  |
| PDGVUQ  |           | 3.750       | 0.013                | 0.44  | 3.760       | 0.020                | 0.69  |
| PZRZAK  |           | 3.765       | 0.028                | 0.95  | 3.760       | 0.020                | 0.69  |
| QCH2JZ  | *         | 3.675       | -0.062               | -2.12 | 3.665       | -0.075               | -2.53 |
| QGRGQ3  |           | 3.735       | -0.002               | -0.07 | 3.730       | -0.010               | -0.33 |
| QHMTVH  |           | 3.730       | -0.007               | -0.24 | 3.731       | -0.009               | -0.29 |
| R7TMPR  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| RH3CEF  |           | 3.720       | -0.017               | -0.58 | 3.710       | -0.030               | -1.01 |
| RQWH9G  |           | 3.715       | -0.022               | -0.75 | 3.715       | -0.025               | -0.84 |
| V9PL3F  |           | 3.730       | -0.007               | -0.24 | 3.730       | -0.010               | -0.33 |
| VHTPCJ  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| VJHAP3  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| WQGURX  |           | 3.745       | 0.008                | 0.27  | 3.750       | 0.010                | 0.35  |
| X6TRA4  |           | 3.680       | -0.057               | -1.95 | 3.700       | -0.040               | -1.34 |





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 907**  
**pH**  
**Fall 2019**

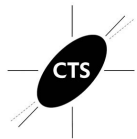
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X6WGEZ  |           | 3.720       | -0.017               | -0.58 | 3.730       | -0.010               | -0.33 |
| X83U7Z  | X         | 3.660       | -0.077               | -2.63 | 3.700       | -0.040               | -1.34 |
| XHYX99  |           | 3.750       | 0.013                | 0.44  | 3.760       | 0.020                | 0.69  |
| XRPJE8  | X         | 3.685       | -0.052               | -1.78 | 3.660       | -0.080               | -2.70 |
| XXAN32  |           | 3.765       | 0.028                | 0.95  | 3.770       | 0.030                | 1.02  |
| YYZA9W  |           | 3.735       | -0.002               | -0.07 | 3.740       | 0.000                | 0.01  |
| Z32RTB  |           | 3.705       | -0.032               | -1.10 | 3.700       | -0.040               | -1.34 |
| ZC9CAK  | X         | 3.535       | -0.202               | -6.89 | 3.530       | -0.210               | -7.09 |
| ZEC62Y  |           | 3.740       | 0.003                | 0.10  | 3.740       | 0.000                | 0.01  |
| ZU46VJ  |           | 3.695       | -0.042               | -1.44 | 3.685       | -0.055               | -1.85 |
| ZXPH32  |           | 3.805       | 0.068                | 2.31  | 3.810       | 0.070                | 2.38  |

| Grand Means  |           | Summary Statistics |           |
|--|-----------|--------------------|-----------|
|  | 3.7371 pH |                    | 3.7397 pH |
| Std Dev Btwn Labs  |           |                    | 0.0296 pH |
|  | 0.0293 pH |                    |           |
| <b>Statistics based on 76 of 81 reporting participants</b> |           |                    |           |

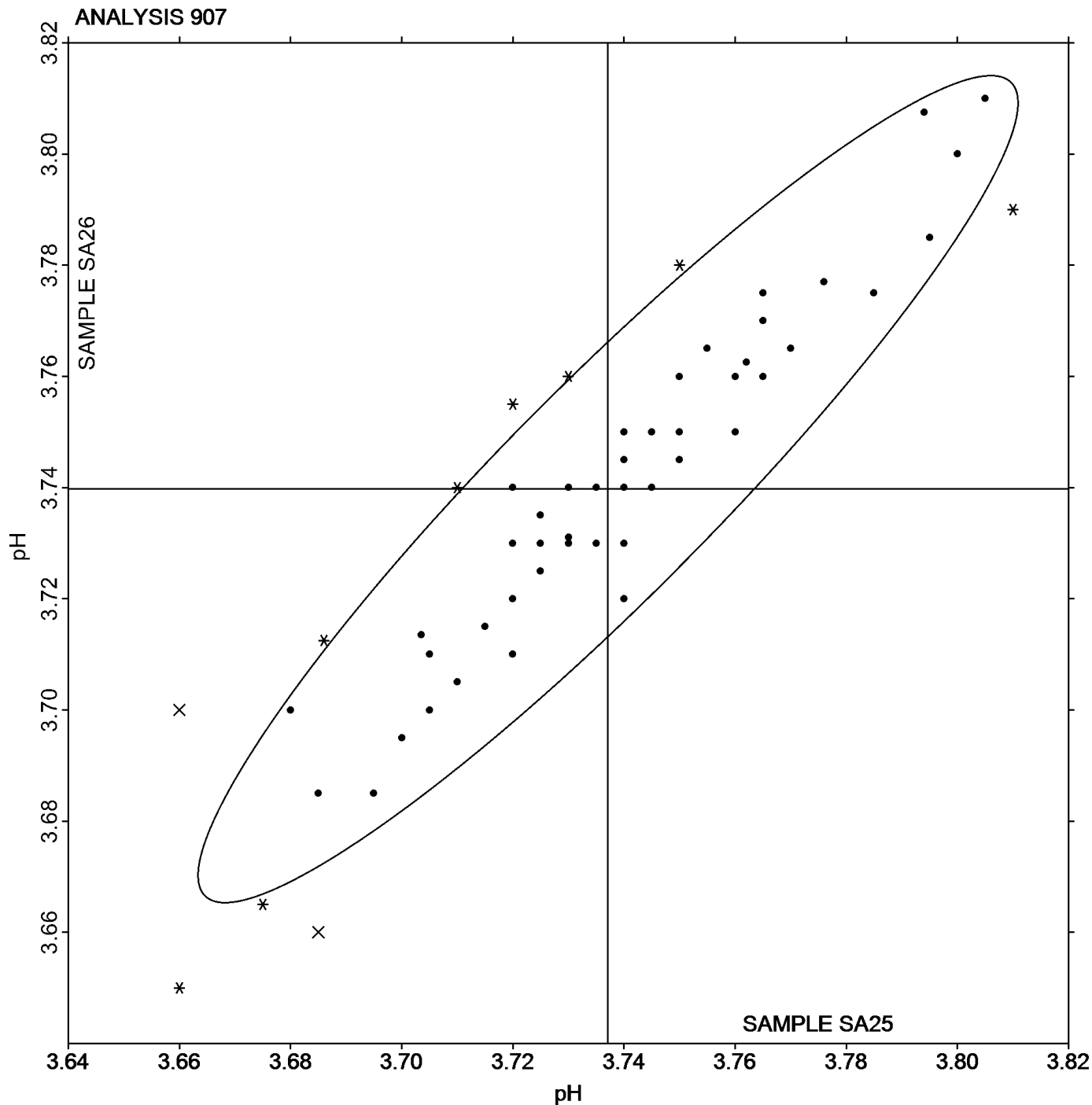
Wines tested: SA25: Chardonnay; SA26: Chardonnay

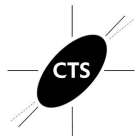
**Comments on Assigned Data Flags for Test #907**

- X83U7Z (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA26.
- XRPJE8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- HKYZHJ (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA25.
- ZC9CAK (X) - Data for both samples are low. Possible Systematic Error.
- 6BECXG (X) - Data for both samples are high. Possible Systematic Error.



pH





**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 908**  
**Residual Sugar**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 3HRCM4  |           | 7.130       | -1.167               | -1.43 | 6.820       | -1.550               | -1.84 |
| 64V6GX  |           | 8.500       | 0.203                | 0.25  | 8.600       | 0.230                | 0.27  |
| 6BECXG  |           | 7.250       | -1.047               | -1.28 | 7.450       | -0.920               | -1.09 |
| 96VCA2  |           | 9.725       | 1.428                | 1.75  | 9.628       | 1.258                | 1.49  |
| 9CCWBR  |           | 8.750       | 0.453                | 0.56  | 8.950       | 0.580                | 0.69  |
| AUGGWM  |           | 8.750       | 0.453                | 0.56  | 8.750       | 0.380                | 0.45  |
| BNLB9B  |           | 7.500       | -0.797               | -0.98 | 7.400       | -0.970               | -1.15 |
| C9R28Q  | *         | 9.000       | 0.703                | 0.86  | 9.600       | 1.230                | 1.46  |
| CQLJCK  | X         | 3.324       | -4.973               | -6.10 | 7.028       | -1.342               | -1.59 |
| CWDZU6  |           | 8.750       | 0.453                | 0.56  | 8.950       | 0.580                | 0.69  |
| DB9LRK  |           | 9.350       | 1.053                | 1.29  | 9.420       | 1.050                | 1.24  |
| EZPFAM  |           | 7.775       | -0.522               | -0.64 | 7.715       | -0.655               | -0.78 |
| HKYZHJ  |           | 7.300       | -0.997               | -1.22 | 7.715       | -0.655               | -0.78 |
| JWV4KR  |           | 8.905       | 0.608                | 0.75  | 8.950       | 0.580                | 0.69  |
| KREDHU  |           | 7.395       | -0.902               | -1.11 | 7.365       | -1.005               | -1.19 |
| NWQKFB  |           | 8.000       | -0.297               | -0.36 | 8.000       | -0.370               | -0.44 |
| P3X9TD  |           | 7.900       | -0.397               | -0.49 | 8.150       | -0.220               | -0.26 |
| V9PL3F  |           | 9.000       | 0.703                | 0.86  | 8.900       | 0.530                | 0.63  |
| X6TRA4  |           | 9.250       | 0.953                | 1.17  | 9.250       | 0.880                | 1.04  |
| X6WGEZ  |           | 7.000       | -1.297               | -1.59 | 7.100       | -1.270               | -1.50 |
| XGCECG  |           | 9.075       | 0.778                | 0.95  | 9.015       | 0.645                | 0.76  |
| XRPJE8  |           | 8.345       | 0.048                | 0.06  | 8.510       | 0.140                | 0.17  |
| ZU46VJ  |           | 7.888       | -0.410               | -0.50 | 7.901       | -0.469               | -0.56 |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 8.2972 g/L   | 8.3699 g/L         |
| Std Dev Btwn Labs  |                    |
| 0.8150 g/L   | 0.8444 g/L         |
| <b>Statistics based on 22 of 23 reporting participants</b> |                    |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #908**

CQLJCK (X) - Data for sample SA25 are low.



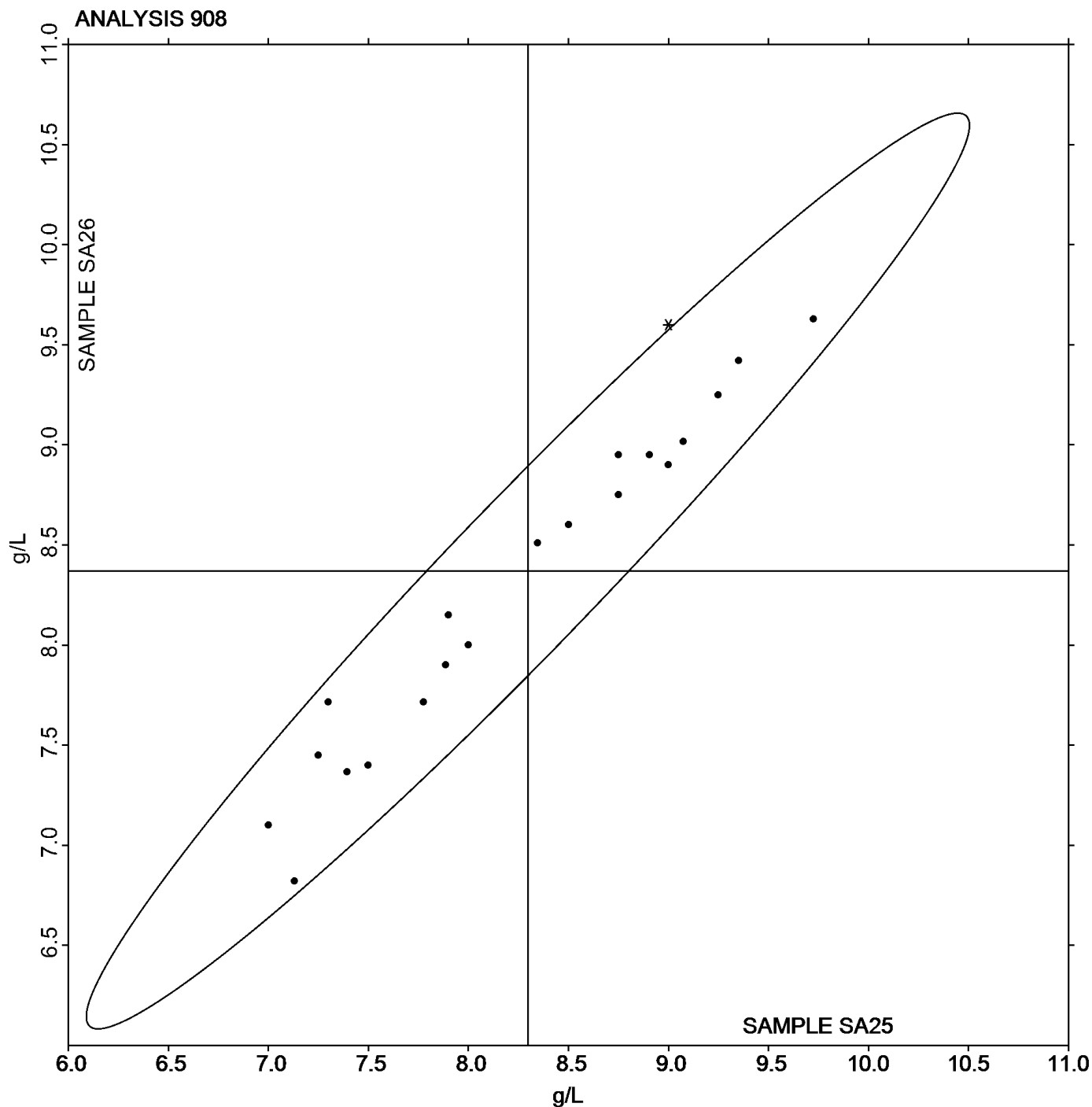
**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 908**  
**Residual Sugar**  
**Fall 2019**

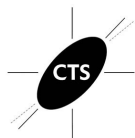
**Results by Methodology (as reported by laboratory)**

| Test Methodology           | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><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 | 7.453                            | 0.456        | -0.845       | 7.268                            | 0.633        | -1.102       | 2/3             |
| Cu Reduction Method        | 8.490                            | 0.977        | 0.193        | 8.656                            | 0.917        | 0.286        | 7/7             |
| Segmented Flow             | 8.913                            | 0.230        | 0.615        | 8.983                            | 0.046        | 0.613        | 2/2             |
| FTIR                       | 8.399                            | 0.783        | 0.102        | 8.454                            | 0.796        | 0.084        | 8/8             |
| Other _____                | 7.728                            | 0.288        | -0.570       | 7.805                            | 0.401        | -0.565       | 3/3             |



Analysis 908  
Residual Sugar

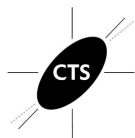




**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 909**  
**L-Malic Acid**

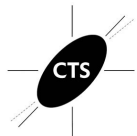
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 0.9460      | -0.0082              | -0.08 | 0.9485      | -0.0111              | -0.11 |
| 3HRCM4  |           | 0.8950      | -0.0592              | -0.57 | 0.8650      | -0.0946              | -0.96 |
| 3Q3FRG  |           | 1.0950      | 0.1408               | 1.35  | 1.0800      | 0.1204               | 1.23  |
| 42W7UZ  |           | 0.7850      | -0.1692              | -1.62 | 0.8050      | -0.1546              | -1.58 |
| 4YANW9  |           | 1.0105      | 0.0563               | 0.54  | 1.0115      | 0.0519               | 0.53  |
| 63NMJ3  |           | 1.1400      | 0.1858               | 1.78  | 1.1310      | 0.1714               | 1.75  |
| 64V6GX  |           | 1.0100      | 0.0558               | 0.53  | 1.0350      | 0.0754               | 0.77  |
| 6BECXG  |           | 1.0600      | 0.1058               | 1.01  | 1.0750      | 0.1154               | 1.18  |
| 6YLV9G  |           | 0.8100      | -0.1442              | -1.38 | 0.8605      | -0.0991              | -1.01 |
| 7PPD8D  |           | 0.9800      | 0.0258               | 0.25  | 0.9700      | 0.0104               | 0.11  |
| 868B37  |           | 0.9430      | -0.0112              | -0.11 | 0.9435      | -0.0161              | -0.16 |
| 87U8DD  | X         | 0.8400      | -0.1142              | -1.09 | 1.0050      | 0.0454               | 0.46  |
| 93WW96  |           | 0.9700      | 0.0158               | 0.15  | 0.9800      | 0.0204               | 0.21  |
| 96VCA2  |           | 0.9285      | -0.0257              | -0.25 | 0.9305      | -0.0291              | -0.30 |
| 98KPTJ  |           | 0.9800      | 0.0258               | 0.25  | 0.9800      | 0.0204               | 0.21  |
| 98LDFN  | *         | 1.0755      | 0.1213               | 1.16  | 1.0215      | 0.0619               | 0.63  |
| 9CCWBR  | *         | 0.7100      | -0.2442              | -2.34 | 0.7700      | -0.1896              | -1.93 |
| 9DDKYX  |           | 1.0110      | 0.0568               | 0.54  | 1.0165      | 0.0569               | 0.58  |
| AUGGWM  | *         | 1.1250      | 0.1708               | 1.63  | 1.1700      | 0.2104               | 2.14  |
| AXC93X  |           | 0.9160      | -0.0382              | -0.37 | 0.9450      | -0.0146              | -0.15 |
| BNLB9B  |           | 1.0400      | 0.0858               | 0.82  | 1.0400      | 0.0804               | 0.82  |
| C9R28Q  |           | 1.0400      | 0.0858               | 0.82  | 1.0200      | 0.0604               | 0.61  |
| CCJDXF  |           | 1.0400      | 0.0858               | 0.82  | 1.0850      | 0.1254               | 1.28  |
| CJ3G6H  |           | 0.7600      | -0.1942              | -1.86 | 0.7600      | -0.1996              | -2.03 |
| CQLJCK  | X         | 1.1700      | 0.2158               | 2.06  | 0.9810      | 0.0214               | 0.22  |
| D27D49  |           | 0.9550      | 0.0008               | 0.01  | 0.9700      | 0.0104               | 0.11  |
| DB8X4F  |           | 0.7500      | -0.2042              | -1.95 | 0.7600      | -0.1996              | -2.03 |
| DDL9D7  |           | 0.9100      | -0.0442              | -0.42 | 0.9000      | -0.0596              | -0.61 |
| EE8E82  |           | 0.9150      | -0.0392              | -0.38 | 0.9100      | -0.0496              | -0.51 |
| ENHGR3  |           | 1.0655      | 0.1113               | 1.06  | 1.0475      | 0.0879               | 0.90  |
| ENTMMH  |           | 0.8590      | -0.0952              | -0.91 | 0.8625      | -0.0971              | -0.99 |
| EZPFAM  |           | 0.9500      | -0.0042              | -0.04 | 0.9500      | -0.0096              | -0.10 |
| GWZWA2  |           | 0.9600      | 0.0058               | 0.06  | 0.9750      | 0.0154               | 0.16  |
| H6N2PF  |           | 0.8500      | -0.1042              | -1.00 | 0.8800      | -0.0796              | -0.81 |
| J498EX  |           | 0.9915      | 0.0373               | 0.36  | 0.9905      | 0.0309               | 0.31  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program** Report #063a  
**Analysis 909** Fall 2019  
**L-Malic Acid**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| JLA34H  |           | 0.9210      | -0.0332              | -0.32 | 0.9215      | -0.0381              | -0.39 |
| KREDHU  |           | 0.8500      | -0.1042              | -1.00 | 0.8550      | -0.1046              | -1.07 |
| L9ACT2  | *         | 0.8850      | -0.0692              | -0.66 | 0.9500      | -0.0096              | -0.10 |
| LHKEE3  |           | 0.9250      | -0.0292              | -0.28 | 0.9300      | -0.0296              | -0.30 |
| LTLZML  |           | 0.9800      | 0.0258               | 0.25  | 0.9500      | -0.0096              | -0.10 |
| M72L2C  |           | 0.7330      | -0.2212              | -2.12 | 0.7415      | -0.2181              | -2.22 |
| NDGHL D |           | 0.8850      | -0.0692              | -0.66 | 0.8800      | -0.0796              | -0.81 |
| NJ6Z6F  |           | 0.9380      | -0.0162              | -0.16 | 0.9590      | -0.0006              | -0.01 |
| NWQKFB  | *         | 1.2550      | 0.3008               | 2.88  | 1.2400      | 0.2804               | 2.86  |
| P22XWA  |           | 1.0500      | 0.0958               | 0.92  | 1.0250      | 0.0654               | 0.67  |
| P6Z9TA  |           | 1.0700      | 0.1158               | 1.11  | 1.0450      | 0.0854               | 0.87  |
| PBAH4C  |           | 0.8800      | -0.0742              | -0.71 | 0.8800      | -0.0796              | -0.81 |
| PDGVUQ  |           | 0.8200      | -0.1342              | -1.28 | 0.8100      | -0.1496              | -1.52 |
| PZRZAK  |           | 0.9500      | -0.0042              | -0.04 | 0.9400      | -0.0196              | -0.20 |
| QCH2JZ  |           | 0.9600      | 0.0058               | 0.06  | 0.9550      | -0.0046              | -0.05 |
| QGRGQ3  |           | 0.9400      | -0.0142              | -0.14 | 0.9250      | -0.0346              | -0.35 |
| QHMTVH  |           | 1.0835      | 0.1293               | 1.24  | 1.0760      | 0.1164               | 1.19  |
| R7TMPR  |           | 0.9975      | 0.0433               | 0.41  | 1.0000      | 0.0404               | 0.41  |
| RH3CEF  |           | 0.9550      | 0.0008               | 0.01  | 1.0000      | 0.0404               | 0.41  |
| RQWH9G  |           | 0.9760      | 0.0218               | 0.21  | 0.9730      | 0.0134               | 0.14  |
| V9PL3F  |           | 1.0500      | 0.0958               | 0.92  | 1.0700      | 0.1104               | 1.12  |
| VHTPCJ  |           | 0.9200      | -0.0342              | -0.33 | 0.9150      | -0.0446              | -0.45 |
| VJHAP3  |           | 1.0400      | 0.0858               | 0.82  | 1.0400      | 0.0804               | 0.82  |
| WQGURX  |           | 0.8650      | -0.0892              | -0.85 | 0.9050      | -0.0546              | -0.56 |
| X6TRA4  |           | 0.8950      | -0.0592              | -0.57 | 0.9100      | -0.0496              | -0.51 |
| X6WGEZ  |           | 1.0425      | 0.0883               | 0.84  | 1.0490      | 0.0894               | 0.91  |
| X83U7Z  |           | 0.8350      | -0.1192              | -1.14 | 0.8600      | -0.0996              | -1.01 |
| XHYX99  |           | 1.1650      | 0.2108               | 2.02  | 1.1600      | 0.2004               | 2.04  |
| XRPJE8  |           | 0.9150      | -0.0392              | -0.38 | 0.9400      | -0.0196              | -0.20 |
| YYZA9W  |           | 1.0100      | 0.0558               | 0.53  | 0.9900      | 0.0304               | 0.31  |
| Z32RTB  |           | 0.9520      | -0.0022              | -0.02 | 0.9235      | -0.0361              | -0.37 |
| ZC9CAK  |           | 0.8000      | -0.1542              | -1.48 | 0.8300      | -0.1296              | -1.32 |
| ZEC62Y  |           | 1.0000      | 0.0458               | 0.44  | 1.0100      | 0.0504               | 0.51  |
| ZU46VJ  |           | 0.9000      | -0.0542              | -0.52 | 0.9400      | -0.0196              | -0.20 |
| ZXPH32  |           | 0.9685      | 0.0143               | 0.14  | 0.9670      | 0.0074               | 0.08  |



| <b>Grand Means</b>        | <b>Summary Statistics</b> |
|---------------------------|---------------------------|
| 0.95424 g/L               | 0.95963 g/L               |
| <b>Stnd Dev Btwn Labs</b> |                           |
| 0.10449 g/L               | 0.09817 g/L               |

**Statistics based on 68 of 70 reporting participants**

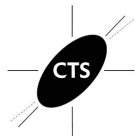
Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #909**

87U8DD (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA26.

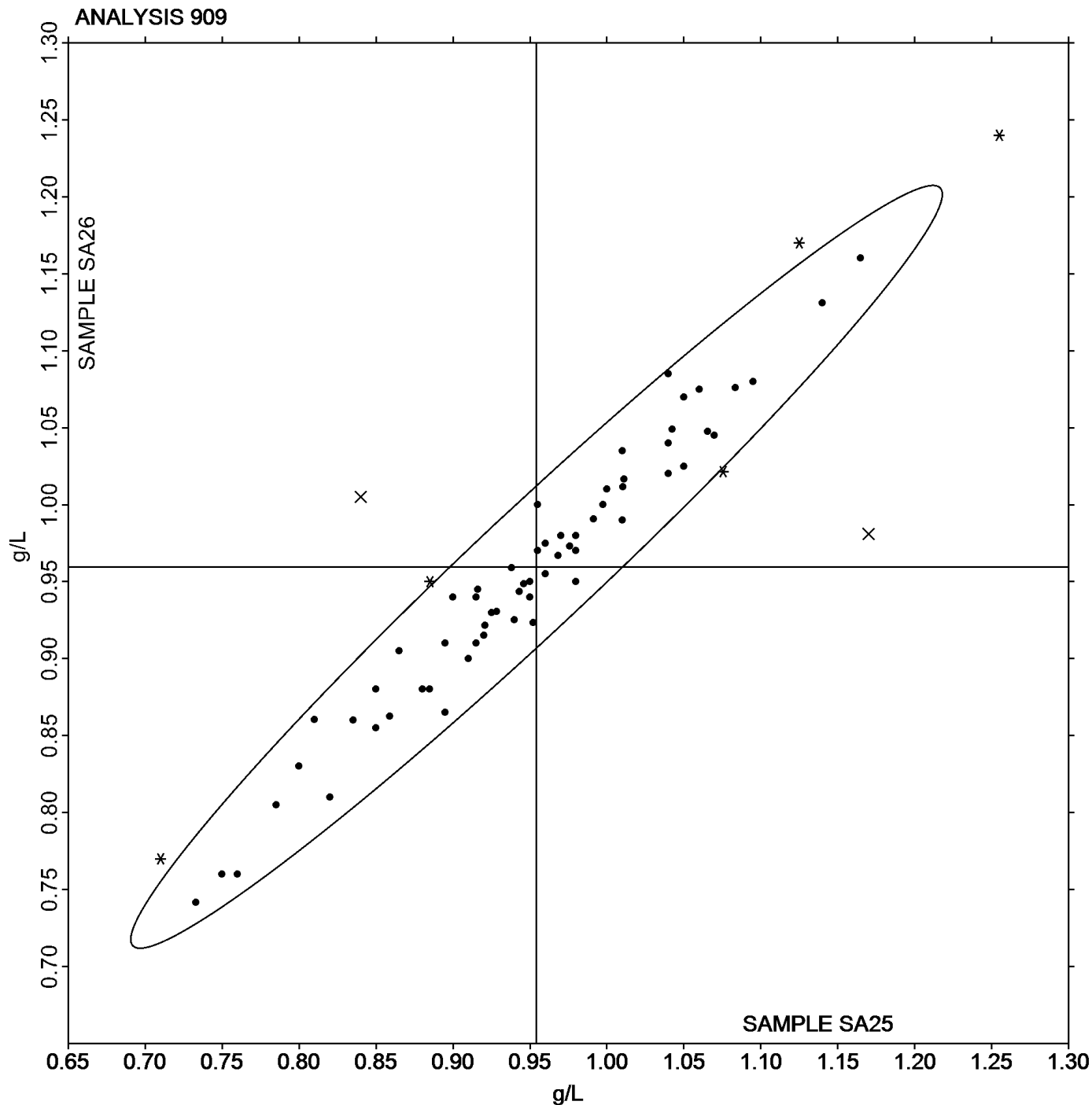
CQLJCK (X) - Inconsistent in testing between samples.

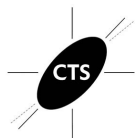




Analysis 909

L-Malic Acid

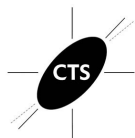




**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 910**  
**Glucose + Fructose**

**Fall 2019**

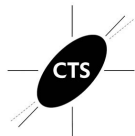
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 7.950       | 0.134                | 0.27  | 7.950       | 0.110                | 0.21  |
| 3Q3FRG  |           | 8.035       | 0.219                | 0.44  | 7.895       | 0.055                | 0.10  |
| 42W7UZ  |           | 7.150       | -0.666               | -1.34 | 7.050       | -0.790               | -1.47 |
| 4DQMJ2  |           | 8.400       | 0.584                | 1.18  | 8.600       | 0.760                | 1.42  |
| 4YANW9  |           | 8.450       | 0.634                | 1.28  | 8.450       | 0.610                | 1.14  |
| 63NMJ3  |           | 8.500       | 0.684                | 1.38  | 8.200       | 0.360                | 0.67  |
| 64V6GX  |           | 8.000       | 0.184                | 0.37  | 8.100       | 0.260                | 0.48  |
| 6BECXG  |           | 8.865       | 1.049                | 2.11  | 8.790       | 0.950                | 1.77  |
| 6YLV9G  |           | 7.480       | -0.336               | -0.68 | 7.230       | -0.610               | -1.14 |
| 7PPD8D  |           | 7.800       | -0.016               | -0.03 | 7.900       | 0.060                | 0.11  |
| 868B37  |           | 7.650       | -0.166               | -0.33 | 7.700       | -0.140               | -0.26 |
| 87U8DD  |           | 8.450       | 0.634                | 1.28  | 8.400       | 0.560                | 1.04  |
| 8L8H4K  |           | 7.200       | -0.616               | -1.24 | 7.100       | -0.740               | -1.38 |
| 93WW96  |           | 7.850       | 0.034                | 0.07  | 7.850       | 0.010                | 0.02  |
| 96VCA2  |           | 9.003       | 1.187                | 2.39  | 9.119       | 1.279                | 2.38  |
| 98KPTJ  |           | 7.810       | -0.006               | -0.01 | 7.880       | 0.040                | 0.07  |
| 98LDFN  |           | 8.500       | 0.684                | 1.38  | 8.850       | 1.010                | 1.88  |
| 9CCWBR  |           | 7.600       | -0.216               | -0.43 | 7.800       | -0.040               | -0.07 |
| 9DDKYX  |           | 8.350       | 0.534                | 1.08  | 8.250       | 0.410                | 0.76  |
| AEJKGA  |           | 8.550       | 0.734                | 1.48  | 8.600       | 0.760                | 1.42  |
| AUGGWM  |           | 7.520       | -0.296               | -0.60 | 7.525       | -0.315               | -0.59 |
| AXC93X  |           | 7.325       | -0.491               | -0.99 | 7.310       | -0.530               | -0.99 |
| BNLB9B  |           | 8.300       | 0.484                | 0.97  | 8.295       | 0.455                | 0.85  |
| CCJDXF  |           | 7.695       | -0.121               | -0.24 | 7.730       | -0.110               | -0.20 |
| CJ3G6H  |           | 8.015       | 0.199                | 0.40  | 8.020       | 0.180                | 0.34  |
| D27D49  |           | 7.975       | 0.159                | 0.32  | 8.140       | 0.300                | 0.56  |
| DB8X4F  |           | 7.420       | -0.396               | -0.80 | 7.470       | -0.370               | -0.69 |
| DB9LRK  |           | 8.890       | 1.074                | 2.16  | 9.000       | 1.160                | 2.16  |
| DDL9D7  |           | 7.880       | 0.064                | 0.13  | 7.715       | -0.125               | -0.23 |
| EE8E82  |           | 6.950       | -0.866               | -1.74 | 7.000       | -0.840               | -1.56 |
| ENHGR3  | *         | 7.785       | -0.031               | -0.06 | 8.320       | 0.480                | 0.89  |
| ENTMMH  |           | 7.120       | -0.696               | -1.40 | 7.150       | -0.690               | -1.29 |
| EZPFAM  |           | 7.775       | -0.041               | -0.08 | 7.715       | -0.125               | -0.23 |
| GWZWA2  |           | 7.555       | -0.261               | -0.53 | 7.585       | -0.255               | -0.47 |
| H6N2PF  | *         | 7.475       | -0.341               | -0.69 | 7.900       | 0.060                | 0.11  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 910**  
**Glucose + Fructose**

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| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| J498EX  |           | 8.300       | 0.484                | 0.97  | 8.300       | 0.460                | 0.86  |
| JLA34H  |           | 7.740       | -0.076               | -0.15 | 7.725       | -0.115               | -0.21 |
| KCEGBP  |           | 7.100       | -0.716               | -1.44 | 7.000       | -0.840               | -1.56 |
| KREDHU  |           | 7.395       | -0.421               | -0.85 | 7.365       | -0.475               | -0.88 |
| L9ACT2  | X         | 4.800       | -3.016               | -6.07 | 4.500       | -3.340               | -6.22 |
| LHKEE3  |           | 7.875       | 0.059                | 0.12  | 8.080       | 0.240                | 0.45  |
| LTLZML  |           | 7.600       | -0.216               | -0.43 | 7.600       | -0.240               | -0.45 |
| M72L2C  | *         | 6.725       | -1.091               | -2.20 | 6.945       | -0.895               | -1.67 |
| NDGHLD  |           | 8.055       | 0.239                | 0.48  | 8.125       | 0.285                | 0.53  |
| NEC9P7  |           | 8.275       | 0.459                | 0.92  | 8.245       | 0.405                | 0.75  |
| NJ6Z6F  |           | 7.580       | -0.236               | -0.47 | 7.701       | -0.139               | -0.26 |
| NWQKFB  |           | 8.000       | 0.184                | 0.37  | 8.000       | 0.160                | 0.30  |
| P22XWA  |           | 7.725       | -0.091               | -0.18 | 7.775       | -0.065               | -0.12 |
| P3X9TD  |           | 7.900       | 0.084                | 0.17  | 8.150       | 0.310                | 0.58  |
| P6Z9TA  |           | 8.630       | 0.814                | 1.64  | 8.695       | 0.855                | 1.59  |
| PBAH4C  | *         | 7.490       | -0.326               | -0.66 | 7.070       | -0.770               | -1.43 |
| PDGVUQ  |           | 7.350       | -0.466               | -0.94 | 7.610       | -0.230               | -0.43 |
| PZRZAK  |           | 8.000       | 0.184                | 0.37  | 8.000       | 0.160                | 0.30  |
| QCH2JZ  |           | 7.635       | -0.181               | -0.36 | 7.685       | -0.155               | -0.29 |
| QGRGQ3  |           | 7.736       | -0.080               | -0.16 | 7.712       | -0.128               | -0.24 |
| QHMTVH  |           | 8.155       | 0.339                | 0.68  | 7.945       | 0.105                | 0.20  |
| R7TMPR  |           | 7.500       | -0.316               | -0.64 | 7.650       | -0.190               | -0.35 |
| RH3CEF  |           | 8.205       | 0.389                | 0.78  | 8.170       | 0.330                | 0.62  |
| RQWH9G  |           | 8.300       | 0.484                | 0.97  | 8.350       | 0.510                | 0.95  |
| U9MEE2  |           | 7.405       | -0.411               | -0.83 | 7.036       | -0.804               | -1.50 |
| V9PL3F  |           | 7.200       | -0.616               | -1.24 | 7.200       | -0.640               | -1.19 |
| VHTPCJ  |           | 7.950       | 0.134                | 0.27  | 7.830       | -0.010               | -0.02 |
| VJHAP3  |           | 8.450       | 0.634                | 1.28  | 8.400       | 0.560                | 1.04  |
| WQGURX  | *         | 7.150       | -0.666               | -1.34 | 6.800       | -1.040               | -1.94 |
| X6TRA4  |           | 7.535       | -0.281               | -0.57 | 7.570       | -0.270               | -0.50 |
| X6WGEZ  |           | 7.190       | -0.626               | -1.26 | 6.940       | -0.900               | -1.68 |
| X83U7Z  |           | 7.675       | -0.141               | -0.28 | 7.895       | 0.055                | 0.10  |
| XGCECG  |           | 8.060       | 0.244                | 0.49  | 8.035       | 0.195                | 0.36  |
| XHYX99  |           | 7.320       | -0.496               | -1.00 | 7.340       | -0.500               | -0.93 |
| XRPJE8  |           | 7.750       | -0.066               | -0.13 | 7.950       | 0.110                | 0.21  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 910**  
**Glucose + Fructose**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| YYZA9W  |           | 7.620       | -0.196               | -0.39 | 7.860       | 0.020                | 0.04  |
| Z32RTB  |           | 8.350       | 0.534                | 1.08  | 8.600       | 0.760                | 1.42  |
| ZC9CAK  |           | 6.650       | -1.166               | -2.35 | 6.650       | -1.190               | -2.22 |
| ZEC62Y  |           | 7.700       | -0.116               | -0.23 | 7.800       | -0.040               | -0.07 |
| ZXPH32  |           | 7.825       | 0.009                | 0.02  | 7.755       | -0.085               | -0.16 |

| Grand Means  |            | Summary Statistics |            |
|--|------------|--------------------|------------|
|  | 7.8158 g/L |                    | 7.8398 g/L |
| Std Dev Btwn Labs  |            |                    | 0.5367 g/L |
|  | 0.4968 g/L |                    |            |
| <b>Statistics based on 74 of 75 reporting participants</b> |            |                    |            |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #910**

L9ACT2 (X) - Data for both samples are low. Possible Systematic Error.

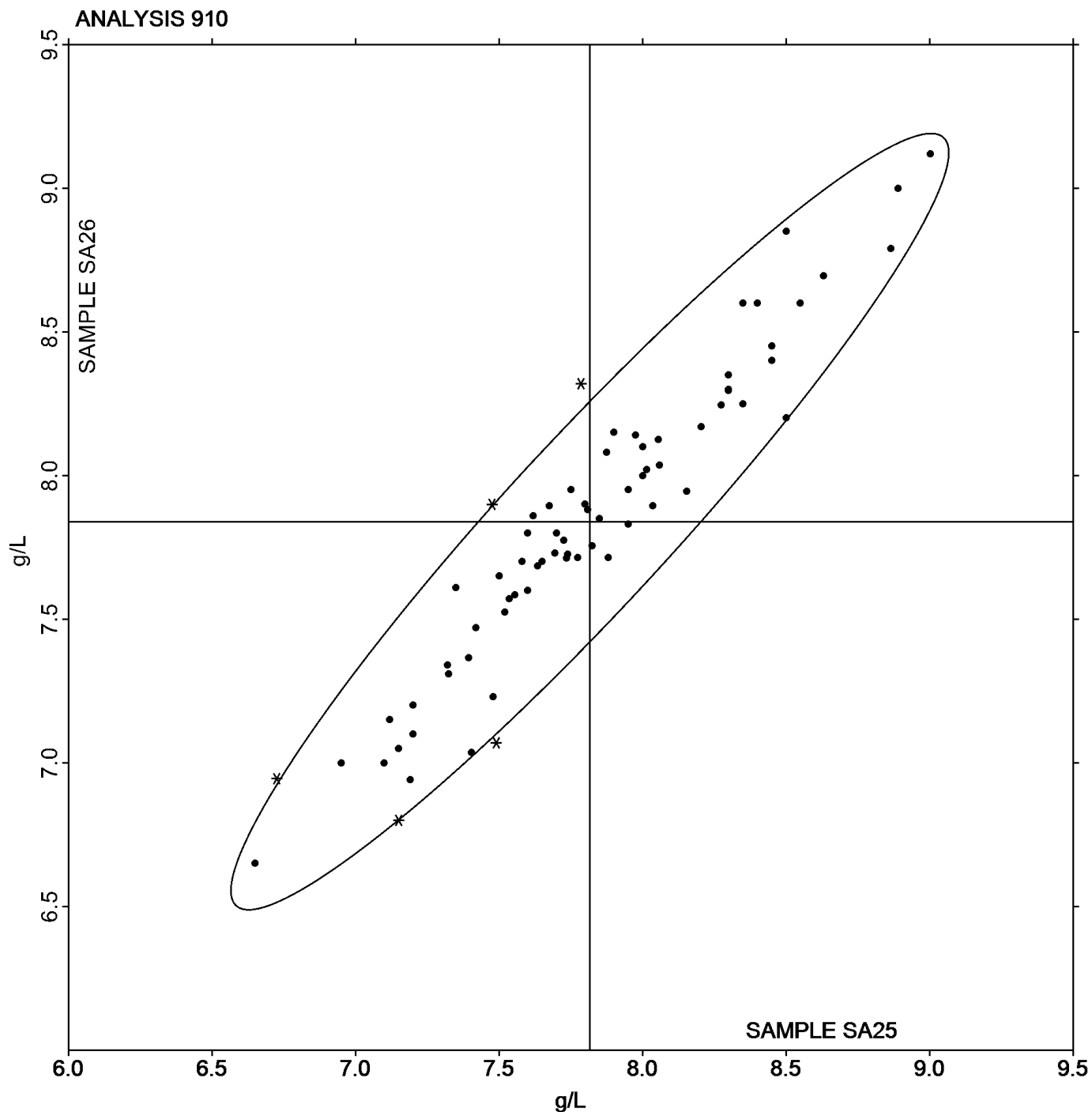
**Results by Methodology (as reported by laboratory)**

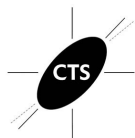
| Test Methodology             | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                              | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| HPLC                         | 8.531                            | 0.666        | 0.715        | 8.577                            | 0.766        | 0.737        | 2/2             |
| Enzymatic/Spectrophotometric | 7.780                            | 0.458        | -0.036       | 7.802                            | 0.498        | -0.038       | 64/65           |
| FTIR                         | 8.051                            | 0.710        | 0.235        | 8.073                            | 0.729        | 0.234        | 6/6             |
| Other _____                  | 7.550                            | 0.495        | -0.266       | 7.625                            | 0.742        | -0.215       | 2/2             |



Analysis 910

Glucose + Fructose





**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 911**    **Fall 2019**  
**Copper Content**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 4YANW9  |           | 0.1000      | -0.0184              | -0.33 | 0.1000      | -0.0194              | -0.38 |
| 64V6GX  |           | 0.1100      | -0.0084              | -0.15 | 0.1100      | -0.0094              | -0.18 |
| 93WW96  |           | 0.1075      | -0.0109              | -0.20 | 0.1065      | -0.0129              | -0.25 |
| 96VCA2  |           | 0.1000      | -0.0184              | -0.33 | 0.1060      | -0.0134              | -0.26 |
| 98KPTJ  |           | 0.0900      | -0.0284              | -0.51 | 0.0900      | -0.0294              | -0.57 |
| 9CCWBR  |           | 0.1185      | 0.0001               | 0.00  | 0.1166      | -0.0028              | -0.05 |
| AEJKGA  |           | 0.1400      | 0.0216               | 0.39  | 0.1350      | 0.0156               | 0.31  |
| BNLB9B  |           | 0.2100      | 0.0916               | 1.64  | 0.2100      | 0.0906               | 1.77  |
| CWDZU6  | *         | 0.0685      | -0.0499              | -0.89 | 0.1090      | -0.0104              | -0.20 |
| EE8E82  |           | 0.0890      | -0.0294              | -0.53 | 0.0875      | -0.0319              | -0.62 |
| NWQKFB  |           | 0.1000      | -0.0184              | -0.33 | 0.1000      | -0.0194              | -0.38 |
| PBAH4C  |           | 0.1250      | 0.0066               | 0.12  | 0.1150      | -0.0044              | -0.09 |
| PZRZAK  |           | 0.0975      | -0.0209              | -0.37 | 0.0975      | -0.0219              | -0.43 |
| R7TMPR  |           | 0.1310      | 0.0126               | 0.22  | 0.1085      | -0.0109              | -0.21 |
| V9PL3F  | *         | 0.3100      | 0.1916               | 3.43  | 0.2900      | 0.1706               | 3.34  |
| VHTPCJ  |           | 0.1300      | 0.0116               | 0.21  | 0.1400      | 0.0206               | 0.40  |
| X6TRA4  |           | 0.1250      | 0.0066               | 0.12  | 0.1400      | 0.0206               | 0.40  |
| X6WGEZ  |           | 0.0175      | -0.1009              | -1.81 | 0.0210      | -0.0984              | -1.92 |
| XGCECG  |           | 0.1100      | -0.0084              | -0.15 | 0.1100      | -0.0094              | -0.18 |
| XRPJE8  |           | 0.1010      | -0.0174              | -0.31 | 0.1040      | -0.0154              | -0.30 |
| ZC9CAK  |           | 0.1065      | -0.0119              | -0.21 | 0.1105      | -0.0089              | -0.17 |

| <b>Grand Means</b>   | <b>Summary Statistics</b> |
|--|---------------------------|
| 0.11843 mg/L   | 0.11939 mg/L              |
| <b>Std Dev Btwn Labs</b>                                   |                           |
| 0.05588 mg/L   | 0.05113 mg/L              |
| <b>Statistics based on 21 of 21 reporting participants</b> |                           |

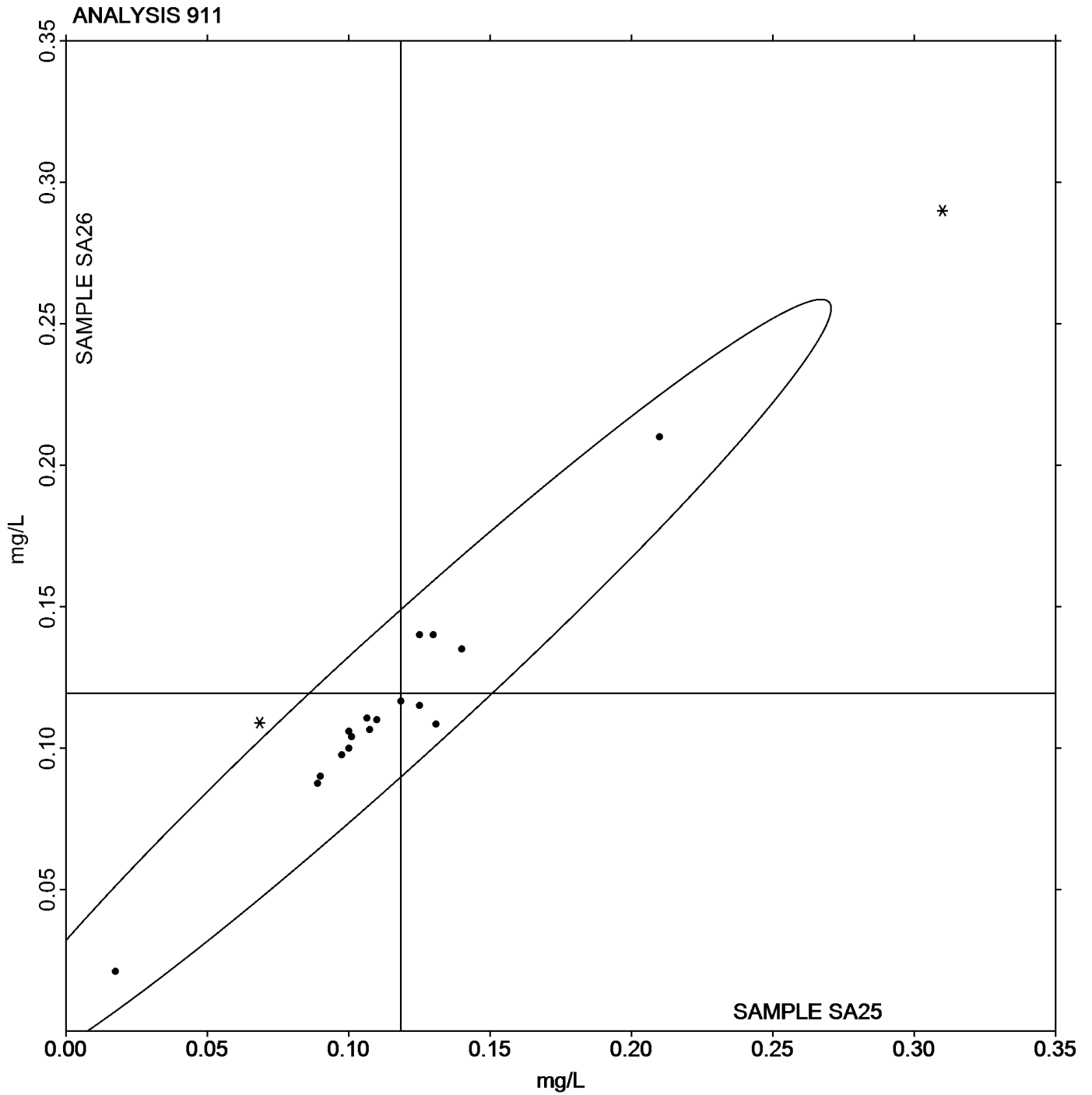
Wines tested: SA25: Chardonnay; SA26: Chardonnay



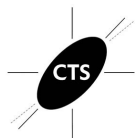
**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 911**    **Fall 2019**  
**Copper Content**

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

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Atomic Absorption Spectroscopy | 0.132                            | 0.079        | 0.0140       | 0.129                            | 0.074        | 0.0099       | 10/10           |
| ICP                            | 0.104                            | 0.015        | -0.0146      | 0.107                            | 0.006        | -0.0119      | 10/10           |
| FTIR                           | 0.125                            | 0.000        | 0.0066       | 0.140                            | 0.000        | 0.0206       | 1/1             |







**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 912**  
**Potassium (K) Content**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 4YANW9  |           | 869.0       | -97.9                | -0.71 | 856.0       | -96.2                | -0.75 |
| 64V6GX  |           | 861.0       | -105.9               | -0.77 | 861.0       | -91.2                | -0.71 |
| 93WW96  |           | 1,166.3     | 199.4                | 1.44  | 1,130.6     | 178.4                | 1.39  |
| 96VCA2  |           | 861.2       | -105.7               | -0.77 | 857.4       | -94.8                | -0.74 |
| 9CCWBR  |           | 841.0       | -125.9               | -0.91 | 834.0       | -118.2               | -0.92 |
| BNLB9B  |           | 997.5       | 30.6                 | 0.22  | 1,010.5     | 58.3                 | 0.46  |
| ENHGR3  |           | 1,241.5     | 274.6                | 1.99  | 1,221.0     | 268.8                | 2.10  |
| ENTMMH  | *         | 1,129.0     | 162.1                | 1.17  | 984.0       | 31.8                 | 0.25  |
| NWQKFB  |           | 868.5       | -98.4                | -0.71 | 833.5       | -118.7               | -0.93 |
| PBAH4C  | X         | 2,343.0     | 1,376.1              | 9.96  | 2,323.0     | 1,370.8              | 10.72 |
| PZRZAK  |           | 913.5       | -53.4                | -0.39 | 889.0       | -63.2                | -0.49 |
| V9PL3F  |           | 857.0       | -109.9               | -0.80 | 879.0       | -73.2                | -0.57 |
| VHTPCJ  |           | 997.5       | 30.6                 | 0.22  | 1,002.0     | 49.8                 | 0.39  |
| X83U7Z  |           | 1,135.0     | 168.1                | 1.22  | 1,150.0     | 197.8                | 1.55  |
| XGCECG  |           | 815.5       | -151.4               | -1.10 | 830.0       | -122.2               | -0.96 |
| XRPJE8  |           | 950.0       | -16.9                | -0.12 | 945.0       | -7.2                 | -0.06 |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 966.90 mg/L  | 952.20 mg/L        |
| Std Dev Btwn Labs  |                    |
| 138.16 mg/L  | 127.91 mg/L        |
| <b>Statistics based on 15 of 16 reporting participants</b> |                    |

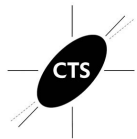
Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #912**

PBAH4C (X) - Data for both samples are high.

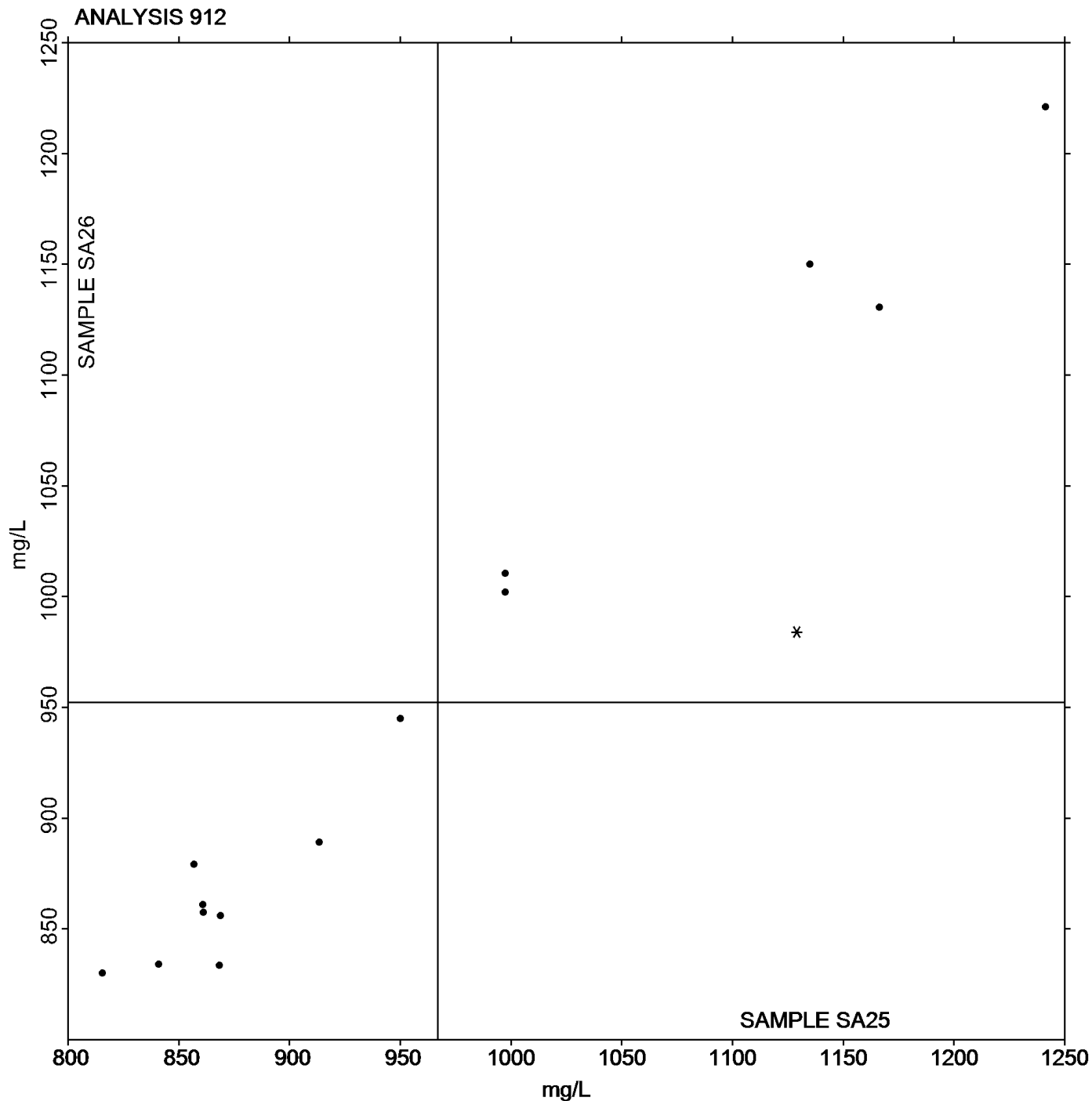
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Atomic Absorption Spectroscopy | 998.125                          | 106.351      | 31.2         | 957.500                          | 83.402       | 5.3          | 4/4             |
| ICP                            | 903.932                          | 119.451      | -63.0        | 894.000                          | 106.123      | -58.2        | 7/7             |
| FTIR                           | 950.000                          | 0.000        | -16.9        | 945.000                          | 0.000        | -7.2         | 1/1             |
| Other _____                    | 1,135.000                        | 0.000        | 168.1        | 1,150.000                        | 0.000        | 197.8        | 1/2             |
| Colorimetric Analysis          | 1,049.250                        | 271.883      | 82.3         | 1,050.000                        | 241.831      | 97.8         | 2/2             |



Analysis 912

Potassium (K) Content

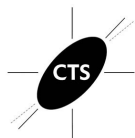


If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 915**  
**A420nm (1cm path)**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 0.0915      | -0.0010              | -0.19 | 0.0890      | -0.0036              | -0.67 |
| 42W7UZ  |           | 0.0960      | 0.0035               | 0.70  | 0.0960      | 0.0034               | 0.64  |
| 4YANW9  |           | 0.0910      | -0.0015              | -0.29 | 0.0910      | -0.0016              | -0.29 |
| 6BECXG  | X         | 0.0425      | -0.0500              | -9.92 | 0.0410      | -0.0516              | -9.60 |
| 7PPD8D  |           | 0.0920      | -0.0005              | -0.09 | 0.0920      | -0.0006              | -0.11 |
| 8L8H4K  |           | 0.0910      | -0.0015              | -0.29 | 0.0910      | -0.0016              | -0.29 |
| 93WW96  | X         | 0.1095      | 0.0170               | 3.38  | 0.1205      | 0.0279               | 5.19  |
| 96VCA2  |           | 0.1027      | 0.0102               | 2.03  | 0.1009      | 0.0083               | 1.55  |
| 98KPTJ  |           | 0.0975      | 0.0050               | 1.00  | 0.0955      | 0.0029               | 0.54  |
| 9CCWBR  |           | 0.0945      | 0.0020               | 0.41  | 0.0945      | 0.0019               | 0.36  |
| AEJKA   |           | 0.0989      | 0.0064               | 1.27  | 0.1007      | 0.0082               | 1.52  |
| BNLB9B  |           | 0.0915      | -0.0010              | -0.19 | 0.0915      | -0.0011              | -0.20 |
| C9R28Q  |           | 0.0960      | 0.0035               | 0.70  | 0.0980      | 0.0054               | 1.01  |
| D27D49  |           | 0.0875      | -0.0050              | -0.98 | 0.0895      | -0.0031              | -0.57 |
| DB8X4F  |           | 0.0910      | -0.0015              | -0.29 | 0.0920      | -0.0006              | -0.11 |
| DB9LRK  | X         | 0.0860      | -0.0065              | -1.28 | 0.0720      | -0.0206              | -3.83 |
| DDL9D7  |           | 0.0925      | 0.0000               | 0.01  | 0.0870      | -0.0056              | -1.04 |
| EE8E82  |           | 0.0985      | 0.0060               | 1.20  | 0.1020      | 0.0094               | 1.75  |
| ENHGR3  | X         | 0.1205      | 0.0280               | 5.57  | 0.1190      | 0.0264               | 4.91  |
| ENTMMH  |           | 0.0990      | 0.0065               | 1.30  | 0.0990      | 0.0064               | 1.19  |
| GWZWA2  |           | 0.0980      | 0.0055               | 1.10  | 0.0935      | 0.0009               | 0.17  |
| H6N2PF  |           | 0.0990      | 0.0065               | 1.30  | 0.0985      | 0.0059               | 1.10  |
| HKYZHJ  |           | 0.0860      | -0.0065              | -1.28 | 0.0870      | -0.0056              | -1.04 |
| KREDHU  |           | 0.0835      | -0.0090              | -1.78 | 0.0850      | -0.0076              | -1.41 |
| L9ACT2  |           | 0.0930      | 0.0005               | 0.11  | 0.0910      | -0.0016              | -0.29 |
| LHKEE3  |           | 0.0845      | -0.0080              | -1.58 | 0.0830      | -0.0096              | -1.78 |
| M72L2C  |           | 0.0900      | -0.0025              | -0.49 | 0.0950      | 0.0024               | 0.45  |
| NWQKFB  |           | 0.0960      | 0.0035               | 0.70  | 0.0960      | 0.0034               | 0.64  |
| PBAH4C  |           | 0.0908      | -0.0017              | -0.34 | 0.0932      | 0.0006               | 0.11  |
| PDGVUQ  | X         | 0.1285      | 0.0360               | 7.16  | 0.1300      | 0.0374               | 6.96  |
| PZRZAK  |           | 0.0850      | -0.0075              | -1.48 | 0.0845      | -0.0081              | -1.50 |
| QGRGQ3  |           | 0.0890      | -0.0035              | -0.69 | 0.0870      | -0.0056              | -1.04 |
| QHMTVH  |           | 0.0931      | 0.0006               | 0.13  | 0.0985      | 0.0059               | 1.10  |
| RH3CEF  |           | 0.0930      | 0.0005               | 0.11  | 0.0930      | 0.0004               | 0.08  |
| U9MEE2  |           | 0.0870      | -0.0055              | -1.08 | 0.0880      | -0.0046              | -0.85 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 915**  
**A420nm (1cm path)**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| V9PL3F  |           | 0.0950      | 0.0025               | 0.50  | 0.0940      | 0.0014               | 0.26  |
| VHTPCJ  |           | 0.0900      | -0.0025              | -0.49 | 0.0925      | -0.0001              | -0.02 |
| WQGURX  |           | 0.0970      | 0.0045               | 0.90  | 0.0970      | 0.0044               | 0.82  |
| X6TRA4  |           | 0.0835      | -0.0090              | -1.78 | 0.0860      | -0.0066              | -1.22 |
| X6WGEZ  |           | 0.0970      | 0.0045               | 0.90  | 0.0980      | 0.0054               | 1.01  |
| X83U7Z  |           | 0.1000      | 0.0075               | 1.50  | 0.0955      | 0.0029               | 0.54  |
| XRPJE8  | *         | 0.0905      | -0.0020              | -0.39 | 0.0820      | -0.0106              | -1.97 |
| Z32RTB  | *         | 0.0900      | -0.0025              | -0.49 | 0.0990      | 0.0064               | 1.19  |
| ZC9CAK  | X         | 0.1260      | 0.0335               | 6.66  | 0.1170      | 0.0244               | 4.54  |
| ZEC62Y  |           | 0.0840      | -0.0085              | -1.68 | 0.0840      | -0.0086              | -1.60 |

| Grand Means  |                  | Summary Statistics |                  |
|--|------------------|--------------------|------------------|
| 0.09246  | Absorbance Units | 0.09258            | Absorbance Units |
| Std Dev Btwn Labs  |                  | 0.00538            | Absorbance Units |
| 0.00504  | Absorbance Units |                    |                  |
| <b>Statistics based on 39 of 45 reporting participants</b> |                  |                    |                  |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

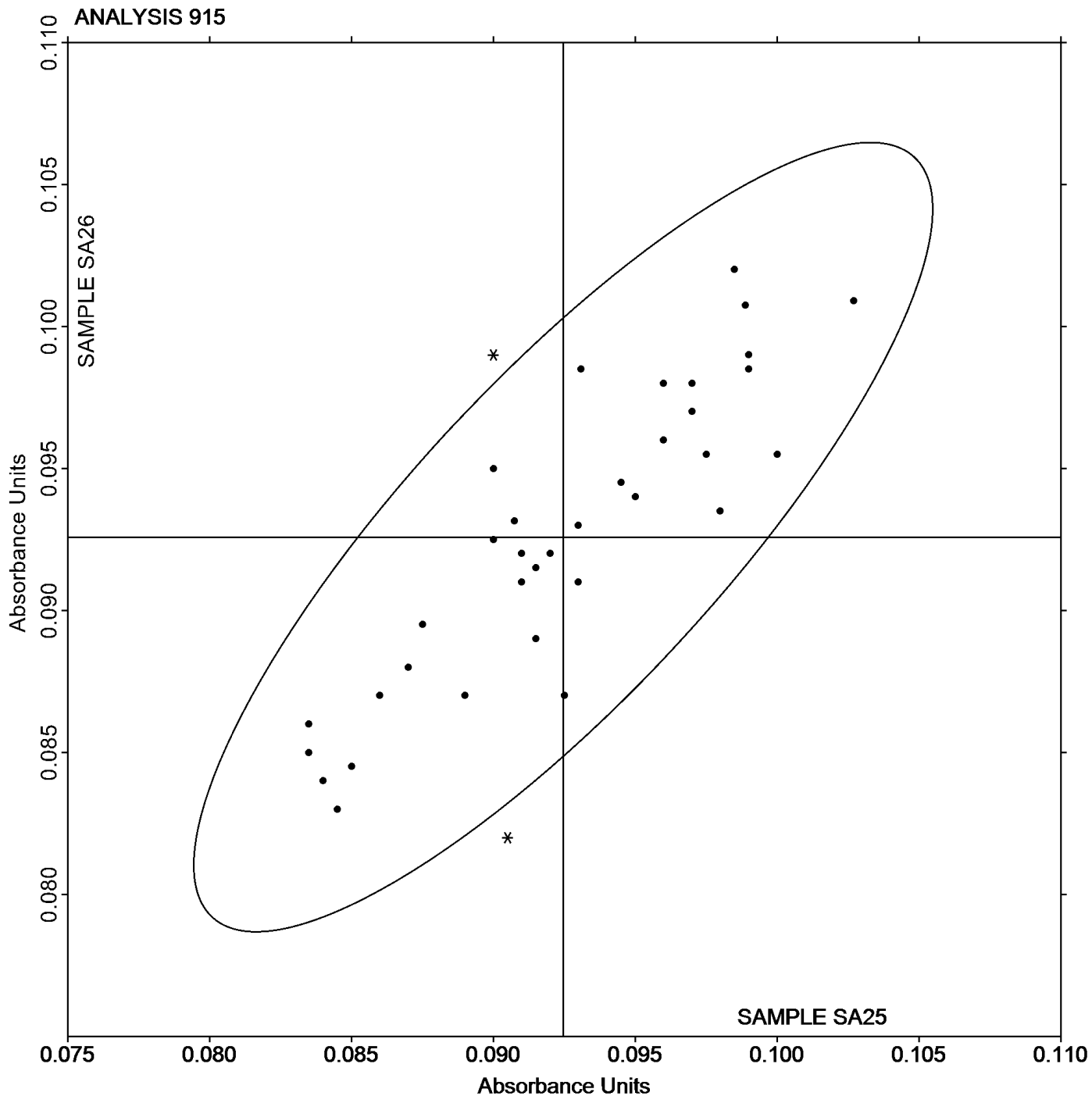
**Comments on Assigned Data Flags for Test #915**

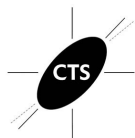
- 93WW96 (X) - Data for both samples are high.
- PDGVUQ (X) - Data for both samples are high.
- ENHGR3 (X) - Data for both samples are high. Possible Systematic Error.
- DB9LRK (X) - Data for sample SA26 are low.
- ZC9CAK (X) - Data for both samples are high. Possible Systematic Error.
- 6BECXG (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample SA26.



Analysis 915

A420nm (1cm path)

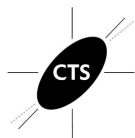




**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063a**  
**Analysis 916**  
**A520nm (1cm path)**

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| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2YVLTV  |           | 0.0175      | 0.0012               | 0.27  | 0.0135      | -0.0027              | -0.51 |
| 42W7UZ  |           | 0.0200      | 0.0037               | 0.82  | 0.0170      | 0.0008               | 0.15  |
| 4YANW9  |           | 0.0125      | -0.0038              | -0.83 | 0.0140      | -0.0022              | -0.42 |
| 6BECXG  |           | 0.0245      | 0.0082               | 1.81  | 0.0285      | 0.0123               | 2.34  |
| 7PPD8D  |           | 0.0150      | -0.0013              | -0.28 | 0.0140      | -0.0022              | -0.42 |
| 8L8H4K  |           | 0.0140      | -0.0023              | -0.50 | 0.0170      | 0.0008               | 0.15  |
| 93WW96  | X         | 0.0320      | 0.0157               | 3.46  | 0.0395      | 0.0233               | 4.42  |
| 96VCA2  |           | 0.0209      | 0.0046               | 1.00  | 0.0201      | 0.0039               | 0.74  |
| 98KPTJ  |           | 0.0229      | 0.0066               | 1.45  | 0.0214      | 0.0052               | 0.99  |
| 9CCWBR  |           | 0.0195      | 0.0032               | 0.71  | 0.0165      | 0.0003               | 0.06  |
| AEJKGA  |           | 0.0185      | 0.0022               | 0.48  | 0.0201      | 0.0039               | 0.74  |
| BNLB9B  |           | 0.0165      | 0.0002               | 0.05  | 0.0165      | 0.0003               | 0.06  |
| C9R28Q  |           | 0.0241      | 0.0078               | 1.72  | 0.0266      | 0.0104               | 1.97  |
| D27D49  |           | 0.0075      | -0.0088              | -1.93 | 0.0070      | -0.0092              | -1.75 |
| DB8X4F  |           | 0.0180      | 0.0017               | 0.38  | 0.0140      | -0.0022              | -0.42 |
| DB9LRK  |           | 0.0130      | -0.0033              | -0.72 | 0.0060      | -0.0102              | -1.94 |
| DDL9D7  |           | 0.0165      | 0.0002               | 0.05  | 0.0120      | -0.0042              | -0.80 |
| EE8E82  |           | 0.0240      | 0.0077               | 1.70  | 0.0255      | 0.0093               | 1.77  |
| ENHGR3  | X         | 0.0440      | 0.0277               | 6.10  | 0.0450      | 0.0288               | 5.47  |
| ENTMMH  |           | 0.0210      | 0.0047               | 1.04  | 0.0195      | 0.0033               | 0.63  |
| GWZWA2  | *         | 0.0185      | 0.0022               | 0.49  | 0.0105      | -0.0057              | -1.08 |
| H6N2PF  |           | 0.0205      | 0.0042               | 0.93  | 0.0200      | 0.0038               | 0.72  |
| HKYZHJ  |           | 0.0160      | -0.0003              | -0.06 | 0.0170      | 0.0008               | 0.15  |
| KREDHU  |           | 0.0120      | -0.0043              | -0.94 | 0.0170      | 0.0008               | 0.15  |
| L9ACT2  |           | 0.0175      | 0.0012               | 0.27  | 0.0130      | -0.0032              | -0.61 |
| LHKEE3  |           | 0.0085      | -0.0078              | -1.71 | 0.0075      | -0.0087              | -1.65 |
| M72L2C  |           | 0.0150      | -0.0013              | -0.28 | 0.0190      | 0.0028               | 0.53  |
| NWQKFB  |           | 0.0190      | 0.0027               | 0.60  | 0.0190      | 0.0028               | 0.53  |
| PBAH4C  |           | 0.0179      | 0.0016               | 0.34  | 0.0203      | 0.0041               | 0.77  |
| PDGVUQ  | X         | 0.0510      | 0.0347               | 7.64  | 0.0560      | 0.0398               | 7.56  |
| PZRZAK  |           | 0.0110      | -0.0053              | -1.16 | 0.0090      | -0.0072              | -1.37 |
| QGRGQ3  |           | 0.0050      | -0.0113              | -2.48 | 0.0060      | -0.0102              | -1.94 |
| QHMTVH  | X         | 0.0199      | 0.0036               | 0.79  | 0.0311      | 0.0149               | 2.83  |
| RH3CEF  |           | 0.0175      | 0.0012               | 0.27  | 0.0180      | 0.0018               | 0.34  |
| U9MEE2  |           | 0.0135      | -0.0028              | -0.61 | 0.0165      | 0.0003               | 0.06  |



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063a**  
**Analysis 916**  
**A520nm (1cm path)**  
**Fall 2019**

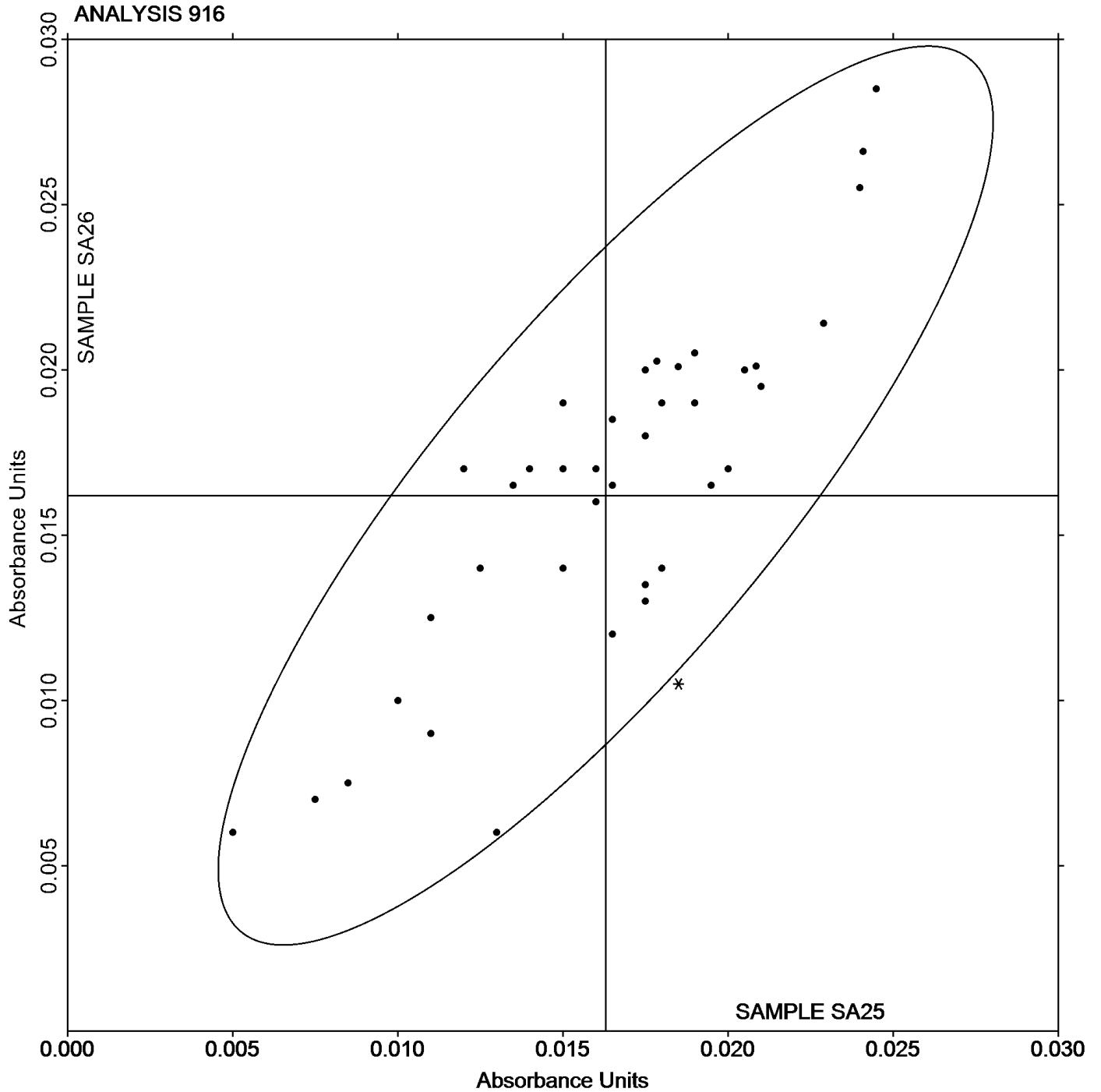
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| V9PL3F  |           | 0.0150      | -0.0013              | -0.28 | 0.0170      | 0.0008               | 0.15  |
| VHTPCJ  |           | 0.0160      | -0.0003              | -0.06 | 0.0160      | -0.0002              | -0.04 |
| WQGURX  |           | 0.0165      | 0.0002               | 0.05  | 0.0185      | 0.0023               | 0.44  |
| X6TRA4  |           | 0.0110      | -0.0053              | -1.16 | 0.0125      | -0.0037              | -0.70 |
| X6WGEZ  |           | 0.0180      | 0.0017               | 0.38  | 0.0190      | 0.0028               | 0.53  |
| X83U7Z  |           | 0.0175      | 0.0012               | 0.27  | 0.0200      | 0.0038               | 0.72  |
| XRPJE8  |           | 0.0190      | 0.0027               | 0.60  | 0.0205      | 0.0043               | 0.82  |
| Z32RTB  |           | 0.0100      | -0.0063              | -1.38 | 0.0100      | -0.0062              | -1.18 |
| ZC9CAK  | X         | 0.0490      | 0.0327               | 7.20  | 0.0400      | 0.0238               | 4.52  |
| ZEC62Y  |           | 0.0110      | -0.0053              | -1.16 | 0.0125      | -0.0037              | -0.70 |

| Grand Means       |                  | Summary Statistics   |                  |
|-------------------|------------------|--|------------------|
| 0.01629           | Absorbance Units | 0.01620  | Absorbance Units |
| Std Dev Btwn Labs |                  | 0.00527  | Absorbance Units |
| 0.00455           | Absorbance Units | <b>Statistics based on 40 of 45 reporting participants</b> |                  |

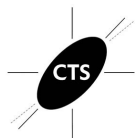
Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #916**

- 93WW96 (X) - Data for both samples are high. Inconsistent within the determinations of sample SA26.
- PDGVUQ (X) - Data for both samples are high.
- ENHGR3 (X) - Data for both samples are high.
- QHMTVH (X) - Data for sample SA26 are high. Inconsistent within the determinations of sample SA26.
- ZC9CAK (X) - Data for both samples are high.







**Research Property - Citric Acid Content**

| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 4YANW9  |           | 0.2830      | -0.0088                | -0.16                    | 0.2830      | -0.0162                | -0.28                    |
| 6BECXG  |           | 0.4005      | 0.1087                 | 1.92                     | 0.3975      | 0.0983                 | 1.70                     |
| 93WW96  |           | 0.2650      | -0.0268                | -0.47                    | 0.2900      | -0.0092                | -0.16                    |
| 96VCA2  |           | 0.4100      | 0.1182                 | 2.09                     | 0.4150      | 0.1158                 | 2.01                     |
| 98KPTJ  |           | 0.2750      | -0.0168                | -0.30                    | 0.2730      | -0.0262                | -0.45                    |
| 9CCWBR  |           | 0.3275      | 0.0357                 | 0.63                     | 0.3235      | 0.0243                 | 0.42                     |
| BNLB9B  |           | 0.2935      | 0.0017                 | 0.03                     | 0.2925      | -0.0067                | -0.12                    |
| DB8X4F  | *         | 0.3000      | 0.0082                 | 0.14                     | 0.3800      | 0.0808                 | 1.40                     |
| EE8E82  |           | 0.3000      | 0.0082                 | 0.14                     | 0.3000      | 0.0008                 | 0.01                     |
| L9ACT2  |           | 0.2150      | -0.0768                | -1.36                    | 0.2300      | -0.0692                | -1.20                    |
| NWQKFB  |           | 0.2000      | -0.0918                | -1.62                    | 0.2000      | -0.0992                | -1.72                    |
| PBAH4C  |           | 0.3450      | 0.0532                 | 0.94                     | 0.3150      | 0.0158                 | 0.27                     |
| PZRZAK  |           | 0.3100      | 0.0182                 | 0.32                     | 0.3100      | 0.0108                 | 0.19                     |
| V9PL3F  |           | 0.2900      | -0.0018                | -0.03                    | 0.3000      | 0.0008                 | 0.01                     |
| VHTPCJ  |           | 0.2800      | -0.0118                | -0.21                    | 0.3050      | 0.0058                 | 0.10                     |
| X6TRA4  |           | 0.3250      | 0.0332                 | 0.59                     | 0.3300      | 0.0308                 | 0.53                     |
| X6WGEZ  |           | 0.2000      | -0.0918                | -1.62                    | 0.2000      | -0.0992                | -1.72                    |
| XRPJE8  |           | 0.2750      | -0.0168                | -0.30                    | 0.2950      | -0.0042                | -0.07                    |
| Z32RTB  |           | 0.2500      | -0.0418                | -0.74                    | 0.2450      | -0.0542                | -0.94                    |

**Research Property Consensus Value**

Consensus Average

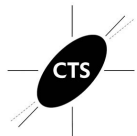
0.29182 g/L

0.29918 g/L

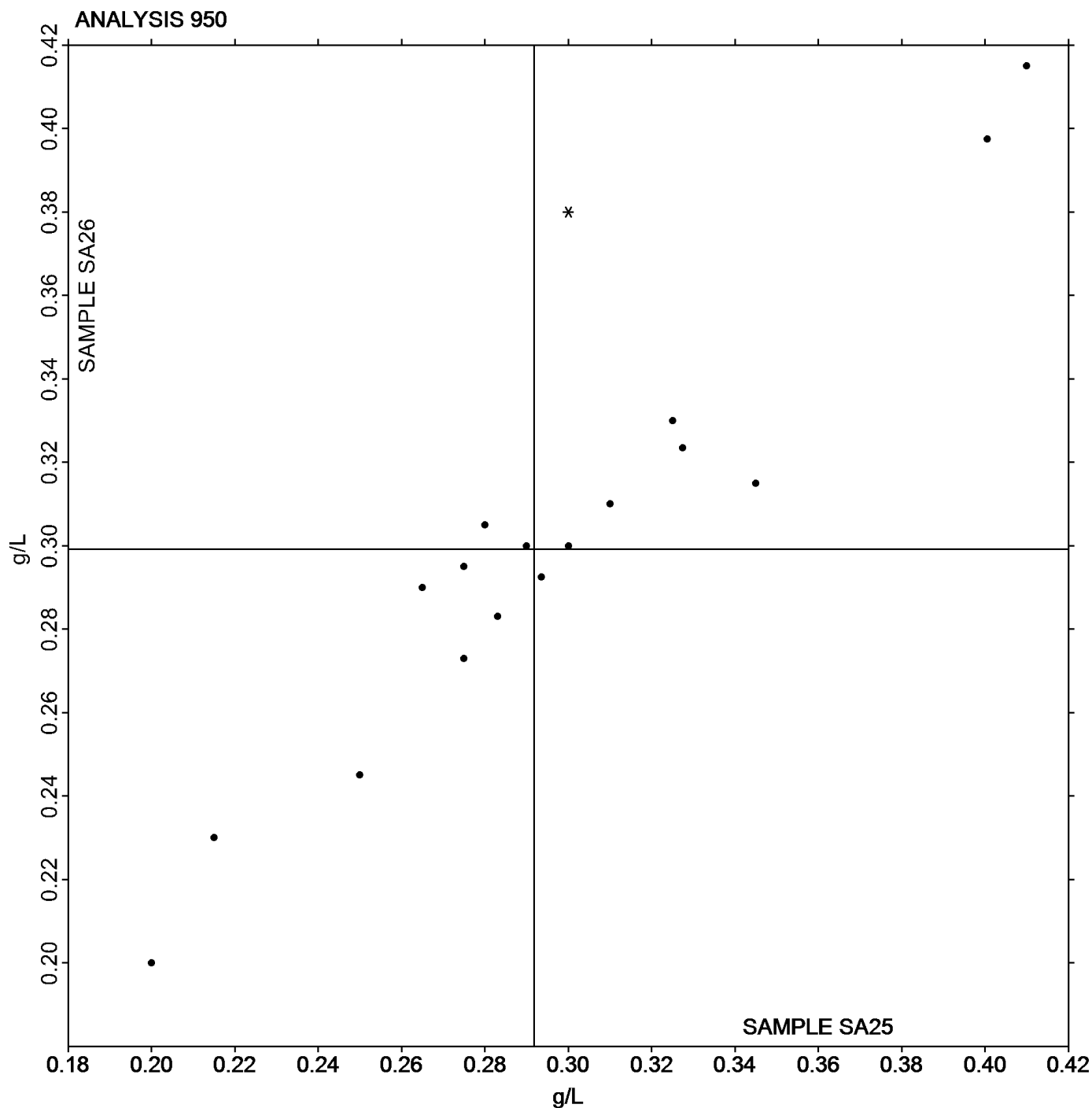
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 19 reporting participants.*

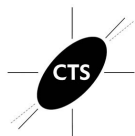
Wines tested: SA25: Chardonnay; SA26: Chardonnay



Research Property - Citric Acid Content



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



**Research Property: Iron Content**

| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 4YANW9  |           | 1.055       | -0.003                 | -0.01                    | 1.050       | -0.002                 | -0.01                    |
| 64V6GX  |           | 1.000       | -0.058                 | -0.25                    | 1.050       | -0.002                 | -0.01                    |
| 93WW96  |           | 1.088       | 0.030                  | 0.13                     | 1.050       | -0.002                 | -0.01                    |
| 96VCA2  |           | 0.914       | -0.144                 | -0.63                    | 0.934       | -0.119                 | -0.59                    |
| 9CCWBR  |           | 1.013       | -0.045                 | -0.20                    | 0.999       | -0.053                 | -0.26                    |
| BNLB9B  |           | 0.975       | -0.083                 | -0.36                    | 0.960       | -0.092                 | -0.46                    |
| DB9LRK  |           | 1.029       | -0.029                 | -0.13                    | 1.020       | -0.032                 | -0.16                    |
| EE8E82  |           | 1.081       | 0.023                  | 0.10                     | 1.060       | 0.007                  | 0.04                     |
| NWQKFB  |           | 1.000       | -0.058                 | -0.25                    | 1.000       | -0.052                 | -0.26                    |
| PBAH4C  | *         | 1.850       | 0.792                  | 3.47                     | 1.700       | 0.648                  | 3.22                     |
| PZRZAK  |           | 1.011       | -0.047                 | -0.21                    | 0.999       | -0.053                 | -0.26                    |
| V9PL3F  |           | 1.000       | -0.058                 | -0.25                    | 1.000       | -0.052                 | -0.26                    |
| VHTPCJ  |           | 1.185       | 0.127                  | 0.56                     | 1.270       | 0.218                  | 1.08                     |
| X6TRA4  |           | 0.775       | -0.283                 | -1.24                    | 0.740       | -0.312                 | -1.55                    |
| XGCECG  |           | 0.960       | -0.098                 | -0.43                    | 0.955       | -0.097                 | -0.48                    |
| XRPJE8  |           | 0.987       | -0.071                 | -0.31                    | 1.049       | -0.004                 | -0.02                    |

**Research Property Consensus Value**

Consensus Average

1.0576 mg/L

1.0522 mg/L

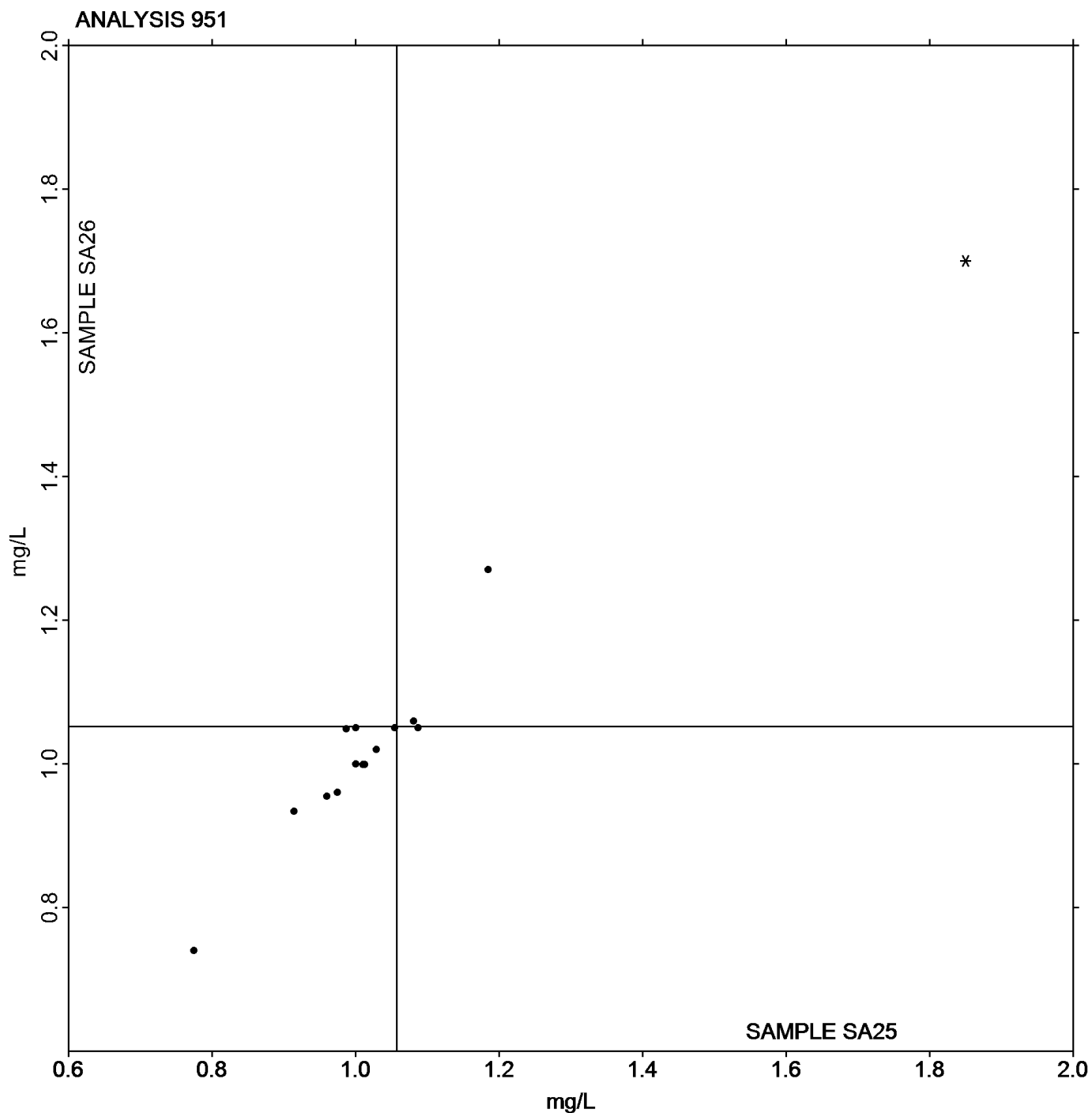
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 16 reporting participants.*

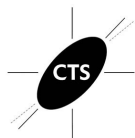
Wines tested: SA25: Chardonnay; SA26: Chardonnay



Research Property: Iron Content



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



**Research Property: Methanol Content**

| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 4YANW9  |           | 56.10       | -8.87                  | -0.44                    | 55.75       | -7.23                  | -0.39                    |
| 64V6GX  |           | 66.00       | 1.03                   | 0.05                     | 64.00       | 1.02                   | 0.06                     |
| 93WW96  |           | 57.00       | -7.97                  | -0.39                    | 57.50       | -5.48                  | -0.30                    |
| 96VCA2  |           | 51.00       | -13.97                 | -0.69                    | 51.00       | -11.98                 | -0.65                    |
| CWDZU6  |           | 59.50       | -5.47                  | -0.27                    | 53.50       | -9.48                  | -0.52                    |
| EE8E82  |           | 37.00       | -27.97                 | -1.38                    | 39.00       | -23.98                 | -1.31                    |
| PBAH4C  |           | 103.50      | 38.53                  | 1.90                     | 91.50       | 28.52                  | 1.56                     |
| PZRZAK  |           | 58.50       | -6.47                  | -0.32                    | 57.00       | -5.98                  | -0.33                    |
| V9PL3F  |           | 58.00       | -6.97                  | -0.34                    | 55.00       | -7.98                  | -0.44                    |
| X6WGEZ  |           | 100.00      | 35.03                  | 1.73                     | 100.00      | 37.02                  | 2.02                     |
| XGCECG  |           | 49.50       | -15.47                 | -0.76                    | 50.00       | -12.98                 | -0.71                    |
| XRPJE8  |           | 83.50       | 18.53                  | 0.91                     | 81.50       | 18.52                  | 1.01                     |

**Research Property Consensus Value**

Consensus Average

64.967 mg/L

62.979 mg/L

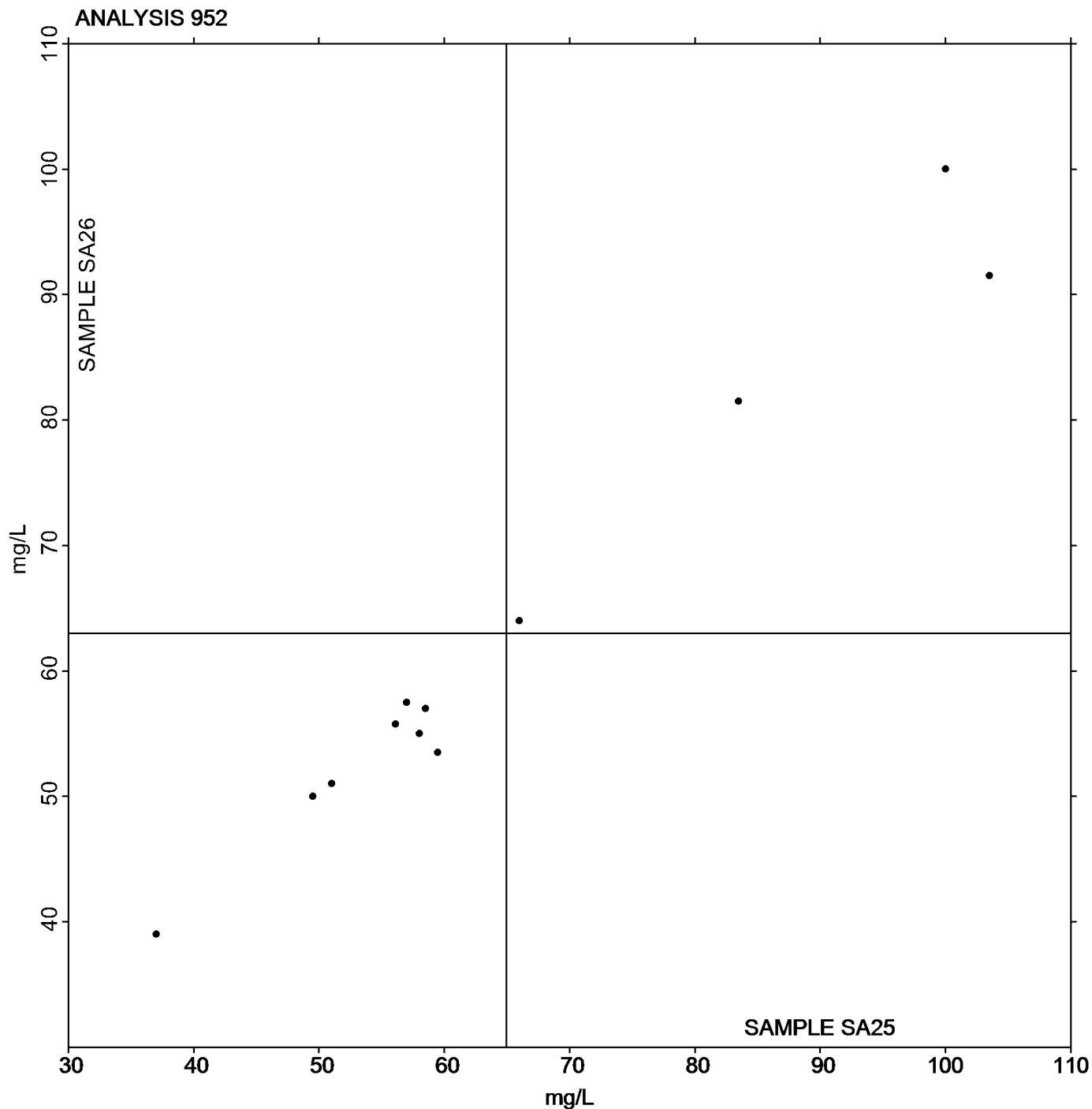
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 12 reporting participants.*

Wines tested: SA25: Chardonnay; SA26: Chardonnay



Research Property: Methanol Content



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 #063b**  
**Analysis 901**  
**Ethanol (% of volume)**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 13.70       | 0.01                 | 0.16  | 13.30       | 0.11                 | 1.51  |
| 2NGKFA  |           | 13.73       | 0.04                 | 0.62  | 13.22       | 0.03                 | 0.36  |
| 3Z6ZRN  |           | 13.63       | -0.06                | -0.91 | 13.04       | -0.15                | -2.21 |
| 4XVB3K  |           | 13.71       | 0.02                 | 0.31  | 13.20       | 0.00                 | 0.01  |
| 6K8EQE  |           | 13.65       | -0.04                | -0.68 | 13.20       | 0.00                 | 0.01  |
| 7RN8G4  |           | 13.75       | 0.06                 | 0.93  | 13.25       | 0.05                 | 0.72  |
| 8KY3WE  |           | 13.79       | 0.10                 | 1.54  | 13.30       | 0.11                 | 1.51  |
| 9RDG63  |           | 13.73       | 0.04                 | 0.54  | 13.25       | 0.05                 | 0.72  |
| 9UG7GJ  |           | 13.76       | 0.07                 | 1.01  | 13.25       | 0.06                 | 0.79  |
| AB9AQZ  |           | 13.74       | 0.05                 | 0.77  | 13.23       | 0.04                 | 0.51  |
| BHHVCA  |           | 13.66       | -0.03                | -0.45 | 13.14       | -0.05                | -0.78 |
| DVE7JE  |           | 13.72       | 0.03                 | 0.47  | 13.23       | 0.04                 | 0.51  |
| ECXJAB  |           | 13.67       | -0.02                | -0.30 | 13.17       | -0.03                | -0.42 |
| JATK4Y  |           | 13.68       | -0.01                | -0.22 | 13.18       | -0.02                | -0.28 |
| JULANT  |           | 13.76       | 0.07                 | 1.08  | 13.25       | 0.06                 | 0.79  |
| KYB397  |           | 13.61       | -0.08                | -1.30 | 13.11       | -0.09                | -1.28 |
| LQFJ84  |           | 13.65       | -0.04                | -0.61 | 13.10       | -0.09                | -1.35 |
| QXC6ZX  |           | 13.74       | 0.05                 | 0.70  | 13.24       | 0.04                 | 0.58  |
| RXGT7H  |           | 13.66       | -0.03                | -0.45 | 13.13       | -0.06                | -0.92 |
| TQYM8Q  |           | 13.67       | -0.02                | -0.30 | 13.24       | 0.04                 | 0.58  |
| W4RDFK  | *         | 13.50       | -0.19                | -2.91 | 13.10       | -0.09                | -1.35 |

| Grand Means  |                | Summary Statistics |                |
|--|----------------|--------------------|----------------|
|  | 13.690 percent |                    | 13.195 percent |
| <b>Std Dev Btwn Labs</b>                                   | 0.065 percent  |                    | 0.070 percent  |
| <b>Statistics based on 21 of 21 reporting participants</b> |                |                    |                |

Wines tested: SA25: Chardonnay; SA26: Chardonnay



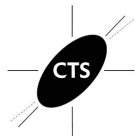
Analysis 901

Ethanol (% of volume)

Results by Methodology (as reported by laboratory)

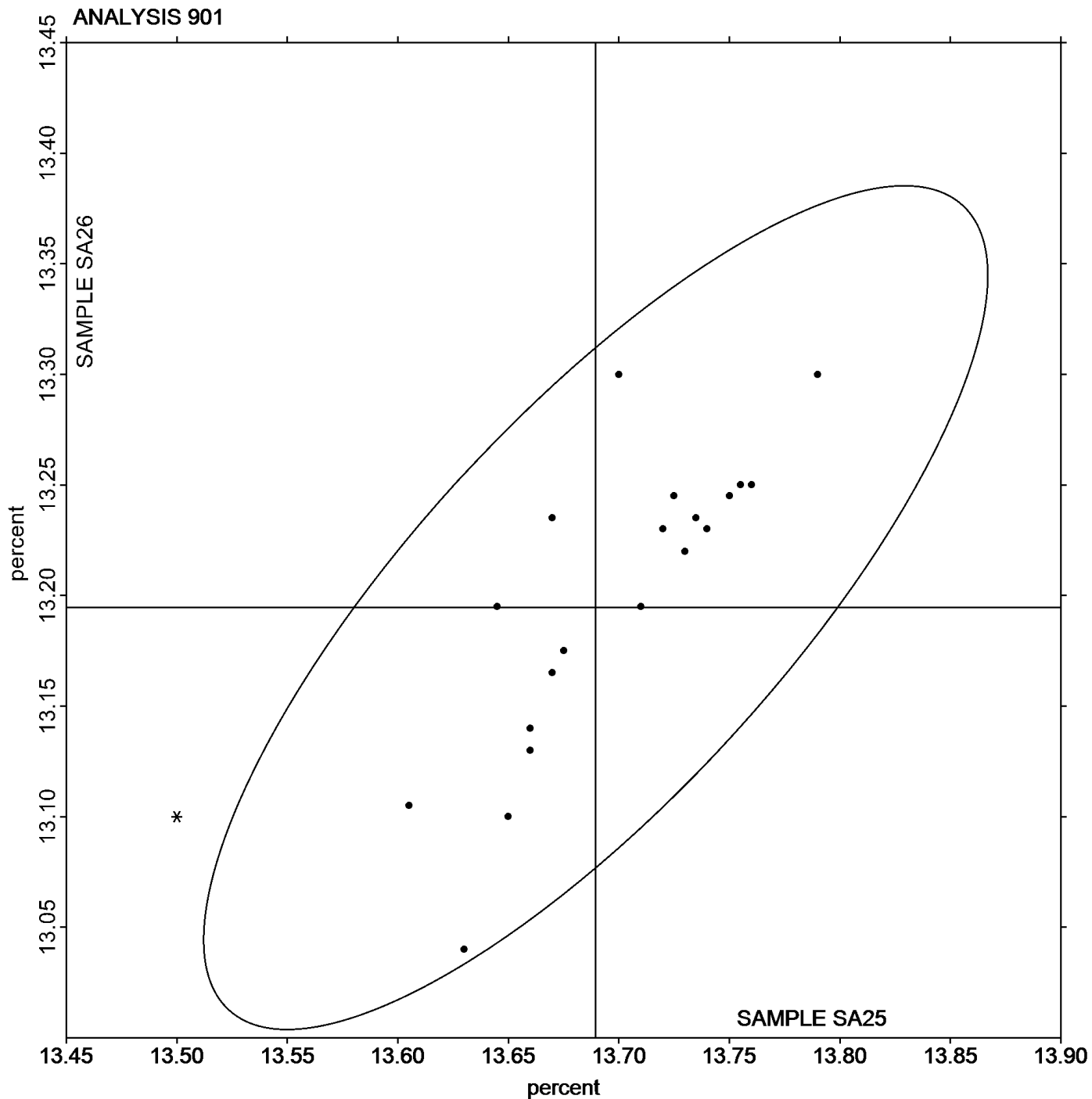
| Test Methodology          | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|---------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                           | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ebulliometer Method       | 13.617                           | 0.104        | -0.07        | 13.167                           | 0.115        | -0.03        | 3/3             |
| Gas Chromatography Method | 13.645                           | 0.021        | -0.04        | 13.090                           | 0.071        | -0.10        | 2/2             |
| Near Infrared Method      | 13.706                           | 0.050        | 0.02         | 13.211                           | 0.051        | 0.02         | 15/15           |
| FTIR                      | 13.750                           | 0.000        | 0.06         | 13.245                           | 0.000        | 0.05         | 1/1             |

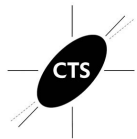




Analysis 901

Ethanol (% of volume)





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 902**  
**Total Sulfur Dioxide**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 75.00       | -15.67               | -1.79 | 74.00       | -20.94               | -2.20 |
| 2NGKFA  |           | 95.00       | 4.33                 | 0.49  | 92.50       | -2.44                | -0.26 |
| 4XVB3K  |           | 108.45      | 17.78                | 2.03  | 109.70      | 14.76                | 1.55  |
| 6K8EQE  |           | 92.00       | 1.33                 | 0.15  | 100.00      | 5.06                 | 0.53  |
| 7RN8G4  |           | 72.50       | -18.17               | -2.07 | 93.50       | -1.44                | -0.15 |
| 8KY3WE  |           | 93.50       | 2.83                 | 0.32  | 101.00      | 6.06                 | 0.64  |
| 9RDG63  |           | 79.00       | -11.67               | -1.33 | 78.00       | -16.94               | -1.78 |
| AB9AQZ  |           | 93.50       | 2.83                 | 0.32  | 107.00      | 12.06                | 1.27  |
| BHHVCA  |           | 86.00       | -4.67                | -0.53 | 100.00      | 5.06                 | 0.53  |
| DVE7JE  |           | 84.00       | -6.67                | -0.76 | 90.50       | -4.44                | -0.47 |
| ECXJAB  |           | 90.50       | -0.17                | -0.02 | 91.50       | -3.44                | -0.36 |
| JATK4Y  |           | 95.00       | 4.33                 | 0.49  | 96.50       | 1.56                 | 0.16  |
| JULANT  |           | 99.50       | 8.83                 | 1.01  | 103.50      | 8.56                 | 0.90  |
| KYB397  |           | 86.00       | -4.67                | -0.53 | 87.00       | -7.94                | -0.83 |
| LQFJ84  |           | 88.70       | -1.97                | -0.22 | 88.70       | -6.24                | -0.66 |
| QXC6ZX  |           | 97.50       | 6.83                 | 0.78  | 101.50      | 6.56                 | 0.69  |
| RXGT7H  |           | 96.50       | 5.83                 | 0.67  | 96.50       | 1.56                 | 0.16  |
| TQYM8Q  |           | 97.50       | 6.83                 | 0.78  | 86.50       | -8.44                | -0.89 |
| W4RDFK  |           | 92.50       | 1.83                 | 0.21  | 106.00      | 11.06                | 1.16  |

| <b>Grand Means</b>   | <b>Summary Statistics</b> |
|--|---------------------------|
| 90.666 mg/L  | 94.942 mg/L               |
| <b>Stnd Dev Btwn Labs</b>                                  |                           |
| 8.768 mg/L   | 9.525 mg/L                |
| <b>Statistics based on 19 of 19 reporting participants</b> |                           |

Wines tested: SA25: Chardonnay; SA26: Chardonnay



Total Sulfur Dioxide

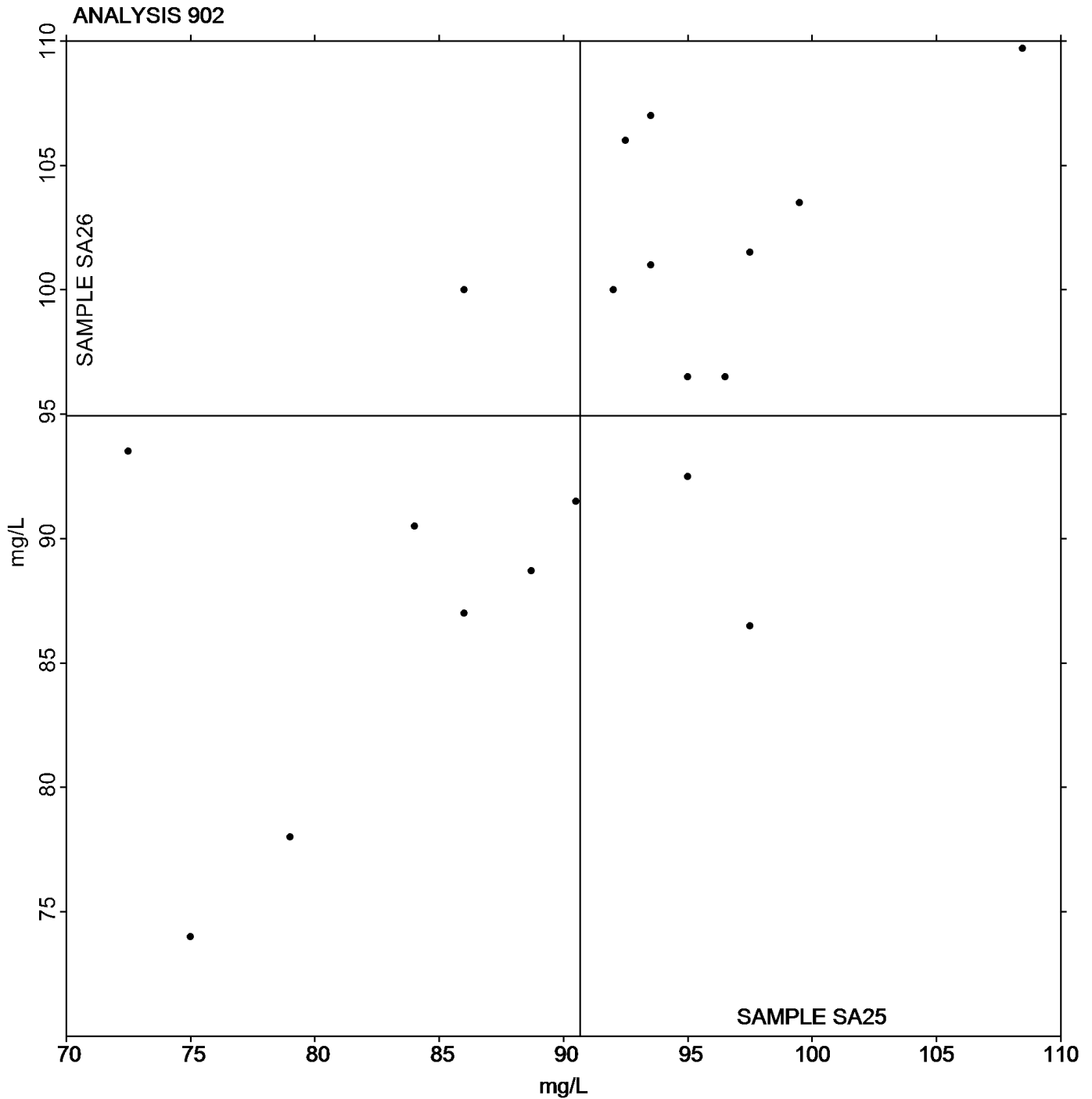
Results by Methodology (as reported by laboratory)

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ripper Method                  | 88.270                           | 7.305        | -2.40        | 88.520                           | 7.832        | -6.42        | 10/10           |
| Aeration Oxidation (AO) Method | 94.500                           | 2.828        | 3.83         | 101.250                          | 6.718        | 6.31         | 2/2             |
| Segmented Flow Analyzer        | 103.975                          | 6.329        | 13.31        | 106.600                          | 4.384        | 11.66        | 2/2             |
| Enzymatic Method               | 97.500                           | 0.000        | 6.83         | 101.500                          | 0.000        | 6.56         | 1/1             |
| Colorimetric Analyzer          | 93.500                           | 0.000        | 2.83         | 104.000                          | 4.243        | 9.06         | 2/2             |
| FTIR                           | 72.500                           | 0.000        | -18.17       | 93.500                           | 0.000        | -1.44        | 1/1             |
| Flow Injection Analysis        | 86.000                           | 0.000        | -4.67        | 100.000                          | 0.000        | 5.06         | 1/1             |

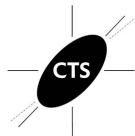


Analysis 902

Total Sulfur Dioxide



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 #063b**  
**Analysis 903**  
**Free Sulfur Dioxide**

Fall 2019

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 24.00       | 0.33                 | 0.11  | 23.00       | -1.07                | -0.43 |
| 2NGKFA  |           | 28.50       | 4.83                 | 1.56  | 22.50       | -1.57                | -0.63 |
| 4XVB3K  |           | 25.08       | 1.41                 | 0.45  | 25.60       | 1.53                 | 0.61  |
| 6K8EQE  |           | 19.00       | -4.67                | -1.50 | 21.00       | -3.07                | -1.22 |
| 7RN8G4  |           | 20.00       | -3.67                | -1.18 | 26.00       | 1.93                 | 0.77  |
| 8KY3WE  |           | 19.00       | -4.67                | -1.50 | 20.00       | -4.07                | -1.62 |
| 9RDG63  |           | 23.00       | -0.67                | -0.22 | 24.00       | -0.07                | -0.03 |
| 9UG7GJ  |           | 24.50       | 0.83                 | 0.27  | 25.50       | 1.43                 | 0.57  |
| AB9AQZ  |           | 23.50       | -0.17                | -0.05 | 29.00       | 4.93                 | 1.97  |
| BHHVCA  |           | 18.00       | -5.67                | -1.83 | 23.50       | -0.57                | -0.23 |
| DVE7JE  |           | 21.00       | -2.67                | -0.86 | 23.00       | -1.07                | -0.43 |
| ECXJAB  |           | 26.50       | 2.83                 | 0.91  | 24.00       | -0.07                | -0.03 |
| JATK4Y  |           | 26.00       | 2.33                 | 0.75  | 24.00       | -0.07                | -0.03 |
| JULANT  |           | 28.50       | 4.83                 | 1.56  | 29.00       | 4.93                 | 1.97  |
| KYB397  |           | 27.50       | 3.83                 | 1.23  | 24.50       | 0.43                 | 0.17  |
| LQFJ84  |           | 25.30       | 1.63                 | 0.53  | 22.80       | -1.27                | -0.51 |
| QXC6ZX  |           | 22.50       | -1.17                | -0.38 | 22.50       | -1.57                | -0.63 |
| RXGT7H  |           | 23.50       | -0.17                | -0.05 | 22.50       | -1.57                | -0.63 |
| TQYM8Q  |           | 25.50       | 1.83                 | 0.59  | 21.00       | -3.07                | -1.22 |
| W4RDFK  |           | 22.50       | -1.17                | -0.38 | 28.00       | 3.93                 | 1.57  |

| Grand Means  |             | Summary Statistics |             |
|--|-------------|--------------------|-------------|
|  | 23.669 mg/L |                    | 24.070 mg/L |
| <b>Stnd Dev Btwn Labs</b>                                  | 3.105 mg/L  |                    | 2.507 mg/L  |
| <b>Statistics based on 20 of 20 reporting participants</b> |             |                    |             |

Wines tested: SA25: Chardonnay; SA26: Chardonnay



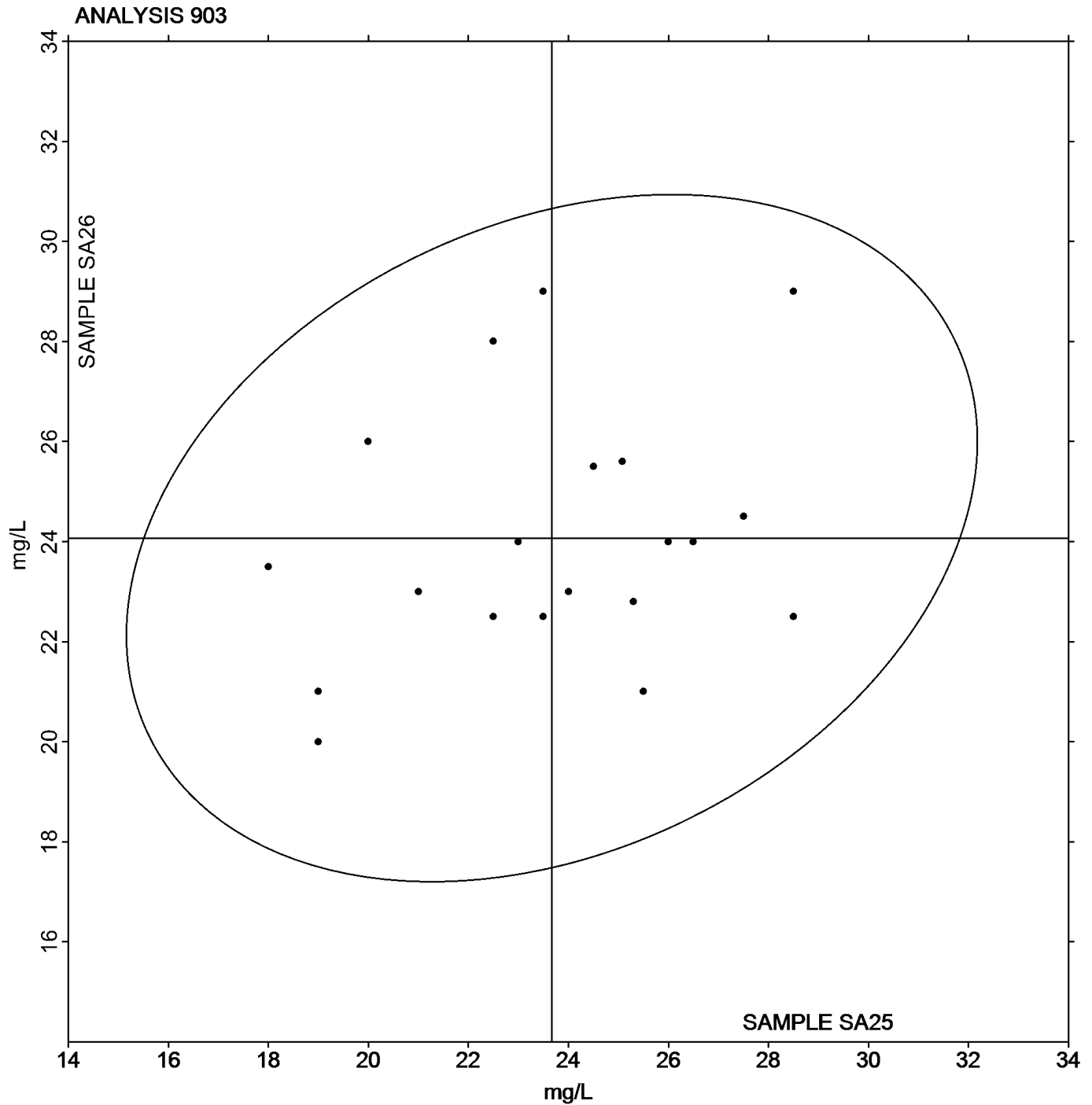
**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063b**  
**Analysis 903**    **Fall 2019**  
**Free Sulfur Dioxide**

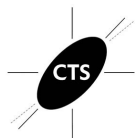
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Ripper Method                  | 25.225                           | 2.462        | 1.56         | 23.475                           | 0.730        | -0.60        | 8/8             |
| Aeration Oxidation (AO) Method | 22.357                           | 2.528        | -1.31        | 22.929                           | 2.849        | -1.14        | 7/7             |
| Segmented Flow Analyzer        | 26.788                           | 2.422        | 3.12         | 27.300                           | 2.404        | 3.23         | 2/2             |
| Colormetric Analyzer           | 23.500                           | 0.000        | -0.17        | 29.000                           | 0.000        | 4.93         | 1/1             |
| Flow Injection Analysis        | 18.000                           | 0.000        | -5.67        | 23.500                           | 0.000        | -0.57        | 1/1             |
| FTIR                           | 20.000                           | 0.000        | -3.67        | 26.000                           | 0.000        | 1.93         | 1/1             |



Free Sulfur Dioxide





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 904**  
**Titrateable Acidity**

**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 4.100       | -0.453               | -1.32 | 4.400       | -0.307               | -1.01 |
| 2NGKFA  |           | 4.100       | -0.453               | -1.32 | 4.400       | -0.307               | -1.01 |
| 3Z6ZRN  |           | 4.400       | -0.153               | -0.45 | 4.600       | -0.107               | -0.35 |
| 4XVB3K  |           | 4.950       | 0.397                | 1.15  | 5.100       | 0.393                | 1.29  |
| 6K8EQE  |           | 4.256       | -0.298               | -0.87 | 4.421       | -0.287               | -0.94 |
| 7RN8G4  |           | 4.590       | 0.037                | 0.11  | 4.785       | 0.078                | 0.26  |
| 8KY3WE  |           | 4.425       | -0.128               | -0.37 | 4.560       | -0.147               | -0.48 |
| 9RDG63  |           | 5.200       | 0.647                | 1.88  | 5.325       | 0.618                | 2.03  |
| 9UG7GJ  |           | 4.400       | -0.153               | -0.45 | 4.550       | -0.157               | -0.52 |
| AB9AQZ  |           | 4.410       | -0.143               | -0.42 | 4.520       | -0.187               | -0.62 |
| BHHVCA  |           | 4.400       | -0.153               | -0.45 | 4.600       | -0.107               | -0.35 |
| DVE7JE  | *         | 4.625       | 0.072                | 0.21  | 5.055       | 0.348                | 1.14  |
| ECXJAB  |           | 4.450       | -0.103               | -0.30 | 4.620       | -0.087               | -0.29 |
| JATK4Y  |           | 4.355       | -0.198               | -0.58 | 4.475       | -0.232               | -0.76 |
| JULANT  |           | 4.500       | -0.053               | -0.16 | 4.600       | -0.107               | -0.35 |
| KYB397  |           | 4.200       | -0.353               | -1.03 | 4.350       | -0.357               | -1.18 |
| LQFJ84  |           | 4.880       | 0.327                | 0.95  | 4.880       | 0.173                | 0.57  |
| QXC6ZX  |           | 5.415       | 0.862                | 2.50  | 5.460       | 0.753                | 2.47  |
| RXGT7H  |           | 4.575       | 0.022                | 0.06  | 4.725       | 0.018                | 0.06  |
| TQYM8Q  |           | 4.460       | -0.093               | -0.27 | 4.630       | -0.077               | -0.25 |
| W4RDFK  |           | 4.930       | 0.377                | 1.09  | 4.800       | 0.093                | 0.30  |

| <b>Grand Means</b>   |                             | <b>Summary Statistics</b> |                             |
|--|-----------------------------|---------------------------|-----------------------------|
|  | 4.5534 g/L as tartaric acid |                           | 4.7074 g/L as tartaric acid |
| <b>Std Dev Btwn Labs</b>                                   |                             |                           |                             |
|  | 0.3440 g/L as tartaric acid |                           | 0.3042 g/L as tartaric acid |
| <b>Statistics based on 21 of 21 reporting participants</b> |                             |                           |                             |

Wines tested: SA25: Chardonnay; SA26: Chardonnay



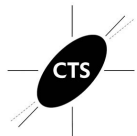


Analysis 904

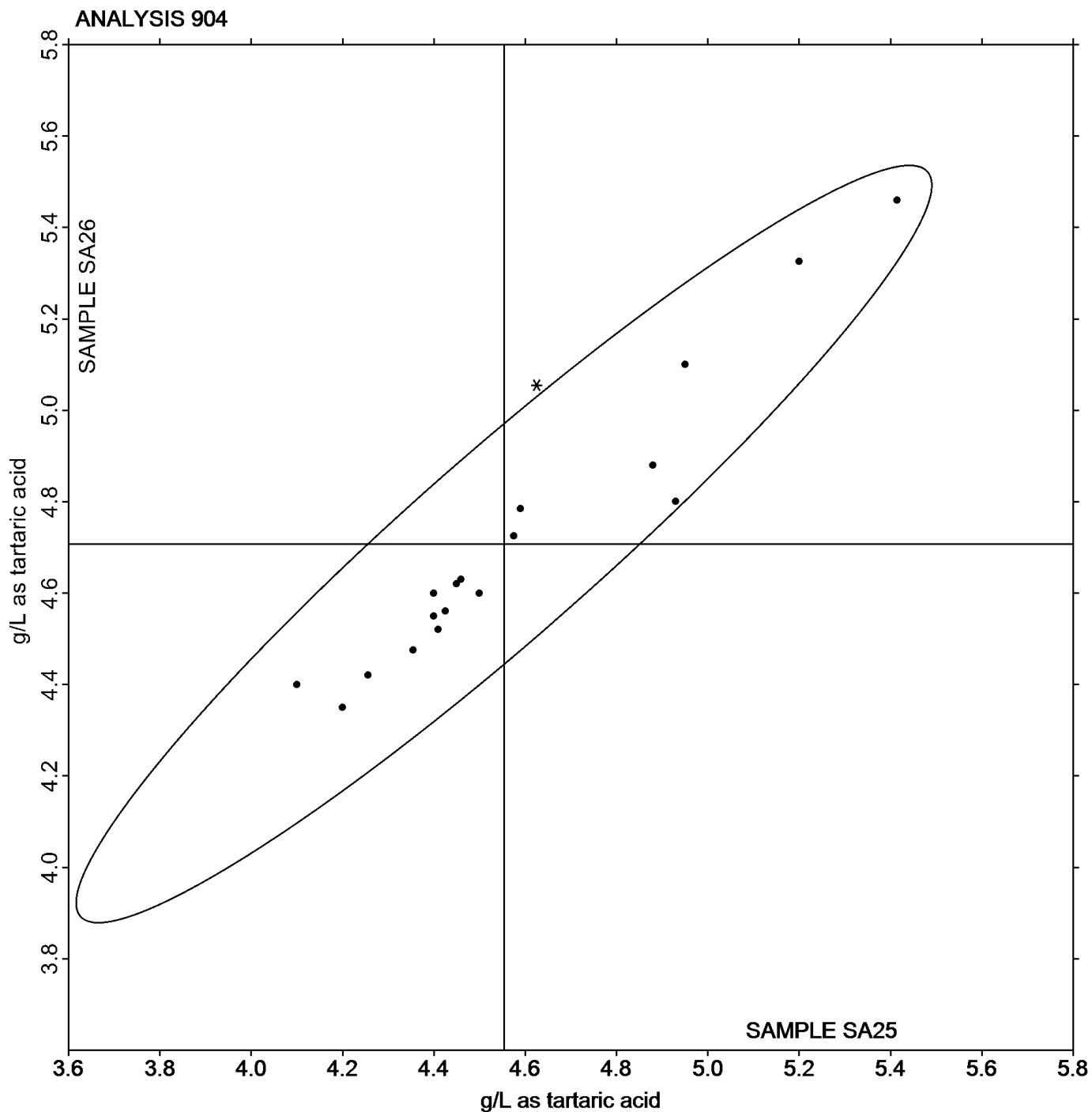
Titrateable Acidity

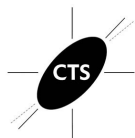
Results by Methodology (as reported by laboratory)

| Test Methodology | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                  | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Autotitration    | 4.377                            | 0.138        | -0.177       | 4.563                            | 0.179        | -0.145       | 12/12           |
| Manual Titration | 4.794                            | 0.450        | 0.241        | 4.889                            | 0.378        | 0.181        | 7/7             |
| FTIR             | 4.770                            | 0.255        | 0.217        | 4.943                            | 0.223        | 0.235        | 2/2             |



Analysis 904  
Titratable Acidity





**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063b**  
**Analysis 905**    **Fall 2019**  
**Volatile Acidity**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 0.4800      | 0.0116               | 0.22  | 0.5400      | 0.0441               | 0.83  |
| 2NGKFA  |           | 0.5050      | 0.0366               | 0.68  | 0.5500      | 0.0541               | 1.02  |
| 4XVB3K  |           | 0.3850      | -0.0834              | -1.55 | 0.4200      | -0.0759              | -1.43 |
| 6K8EQE  |           | 0.4350      | -0.0334              | -0.62 | 0.5000      | 0.0041               | 0.08  |
| 7RN8G4  |           | 0.4500      | -0.0184              | -0.34 | 0.4900      | -0.0059              | -0.11 |
| 8KY3WE  |           | 0.4250      | -0.0434              | -0.80 | 0.4500      | -0.0459              | -0.86 |
| 9RDG63  |           | 0.4600      | -0.0084              | -0.16 | 0.4500      | -0.0459              | -0.86 |
| 9UG7GJ  |           | 0.4200      | -0.0484              | -0.90 | 0.4500      | -0.0459              | -0.86 |
| AB9AQZ  |           | 0.4750      | 0.0066               | 0.12  | 0.5100      | 0.0141               | 0.27  |
| BHHVCA  |           | 0.4650      | -0.0034              | -0.06 | 0.4850      | -0.0109              | -0.21 |
| DVE7JE  |           | 0.4000      | -0.0684              | -1.27 | 0.4800      | -0.0159              | -0.30 |
| ECXJAB  |           | 0.4300      | -0.0384              | -0.71 | 0.4300      | -0.0659              | -1.24 |
| JATK4Y  |           | 0.4850      | 0.0166               | 0.31  | 0.4700      | -0.0259              | -0.49 |
| JULANT  |           | 0.6050      | 0.1366               | 2.53  | 0.6350      | 0.1391               | 2.62  |
| KYB397  |           | 0.4650      | -0.0034              | -0.06 | 0.5000      | 0.0041               | 0.08  |
| LQFJ84  |           | 0.4100      | -0.0584              | -1.08 | 0.4400      | -0.0559              | -1.05 |
| QXC6ZX  |           | 0.5300      | 0.0616               | 1.14  | 0.5550      | 0.0591               | 1.11  |
| RXGT7H  |           | 0.5500      | 0.0816               | 1.51  | 0.5250      | 0.0291               | 0.55  |
| TQYM8Q  |           | 0.5125      | 0.0441               | 0.82  | 0.5575      | 0.0616               | 1.16  |
| W4RDFK  |           | 0.4800      | 0.0116               | 0.22  | 0.4800      | -0.0159              | -0.30 |

|  | Summary Statistics         |
|--|----------------------------|
| <b>Grand Means</b>   |                            |
| 0.46838 g/L as acetic acid                                 | 0.49588 g/L as acetic acid |
| <b>Stnd Dev Btwn Labs</b>                                  |                            |
| 0.05394 g/L as acetic acid                                 | 0.05305 g/L as acetic acid |
| <b>Statistics based on 20 of 20 reporting participants</b> |                            |

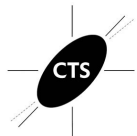
Wines tested: SA25: Chardonnay; SA26: Chardonnay



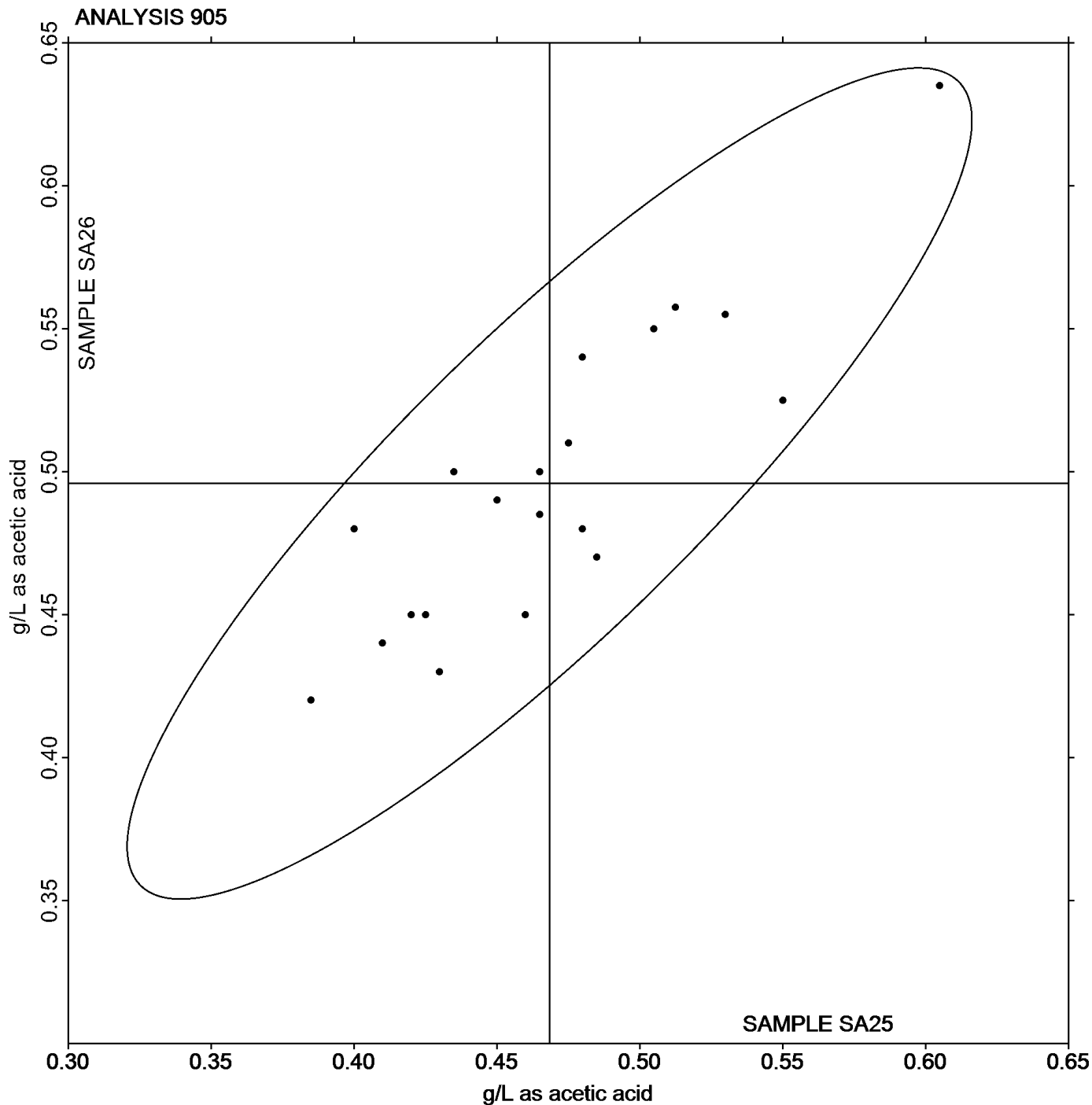
**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 905**  
**Volatile Acidity**  
**Fall 2019**

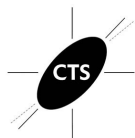
**Results by Methodology (as reported by laboratory)**

| Test Methodology                  | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><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                 | 0.473                            | 0.032        | 0.0047       | 0.509                            | 0.033        | 0.0135       | 4/4             |
| Enzymatic method                  | 0.465                            | 0.048        | -0.0038      | 0.490                            | 0.044        | -0.0055      | 12/12           |
| Seg. Flow / Colorimetric Analyzer | 0.605                            | 0.000        | 0.1366       | 0.635                            | 0.000        | 0.1391       | 1/1             |
| FTIR                              | 0.432                            | 0.041        | -0.0367      | 0.453                            | 0.035        | -0.0425      | 3/3             |



Analysis 905  
Volatile Acidity





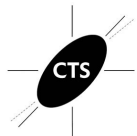
**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 906**  
**Specific Gravity**

**Fall 2019**

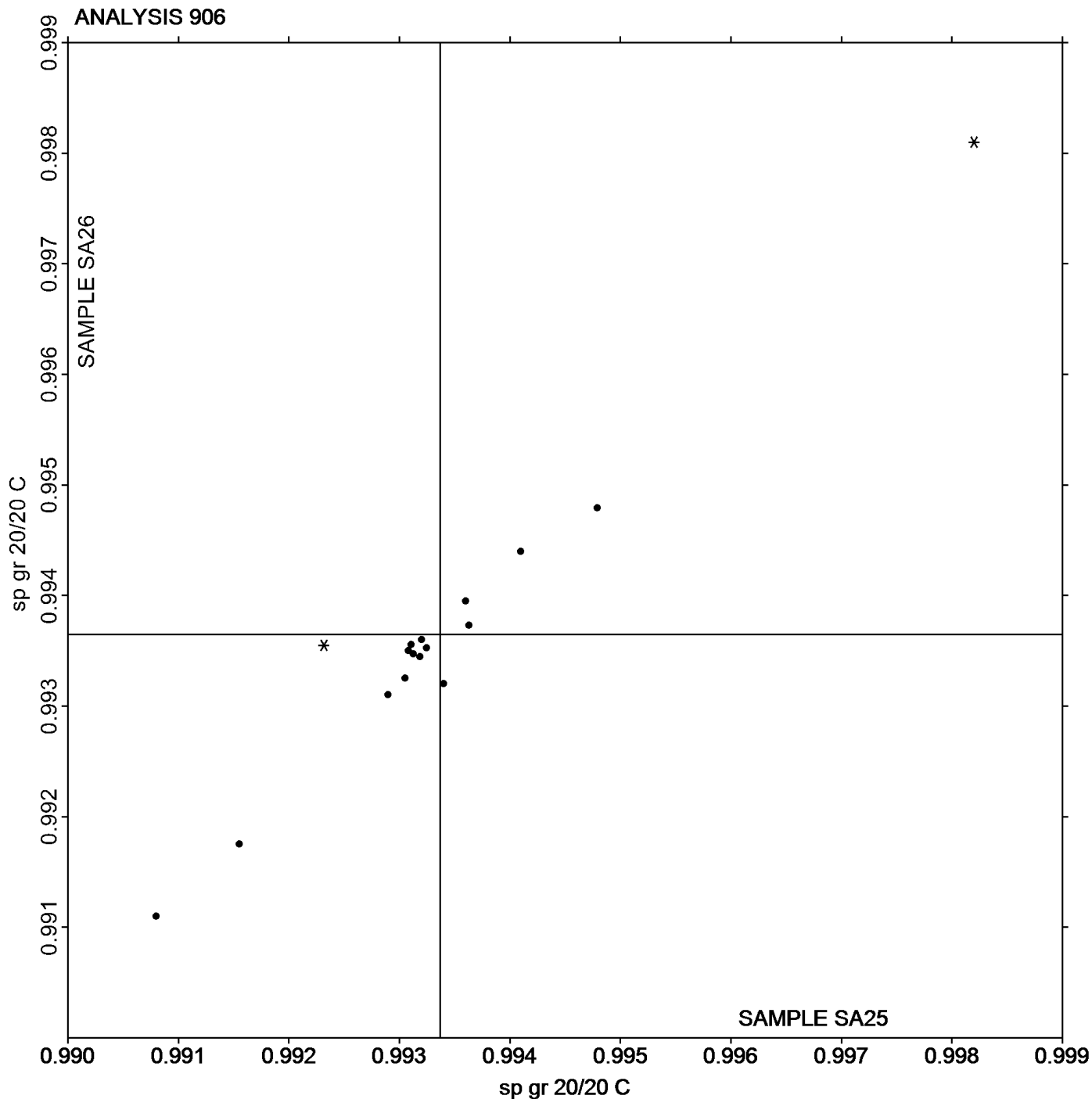
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 0.9941      | 0.0007               | 0.48  | 0.9944      | 0.0008               | 0.53  |
| 2NGKFA  | *         | 0.9923      | -0.0011              | -0.69 | 0.9936      | -0.0001              | -0.07 |
| 4XVB3K  | *         | 0.9982      | 0.0048               | 3.15  | 0.9981      | 0.0045               | 3.12  |
| 6K8EQE  |           | 0.9936      | 0.0003               | 0.17  | 0.9937      | 0.0001               | 0.06  |
| 8KY3WE  |           | 0.9934      | 0.0000               | 0.02  | 0.9932      | -0.0004              | -0.31 |
| 9RDG63  |           | 0.9932      | -0.0001              | -0.08 | 0.9935      | -0.0001              | -0.08 |
| AB9AQZ  |           | 0.9931      | -0.0003              | -0.19 | 0.9935      | -0.0001              | -0.10 |
| BHHVCA  |           | 0.9931      | -0.0002              | -0.16 | 0.9935      | -0.0002              | -0.12 |
| DVE7JE  |           | 0.9932      | -0.0002              | -0.11 | 0.9936      | 0.0000               | -0.03 |
| ECXJAB  |           | 0.9908      | -0.0026              | -1.68 | 0.9911      | -0.0025              | -1.78 |
| JATK4Y  |           | 0.9929      | -0.0005              | -0.31 | 0.9931      | -0.0005              | -0.38 |
| JULANT  |           | 0.9932      | -0.0002              | -0.12 | 0.9934      | -0.0002              | -0.14 |
| KYB397  |           | 0.9931      | -0.0003              | -0.21 | 0.9933      | -0.0004              | -0.28 |
| LQFJ84  |           | 0.9948      | 0.0014               | 0.93  | 0.9948      | 0.0011               | 0.80  |
| QXC6ZX  |           | 0.9916      | -0.0018              | -1.19 | 0.9918      | -0.0019              | -1.33 |
| RXGT7H  |           | 0.9936      | 0.0002               | 0.15  | 0.9940      | 0.0003               | 0.21  |
| TQYM8Q  |           | 0.9931      | -0.0003              | -0.17 | 0.9936      | -0.0001              | -0.07 |

| <b>Grand Means</b>   | <b>Summary Statistics</b> |
|--|---------------------------|
| 0.99337 sp gr 20/20 C                                      | 0.99365 sp gr 20/20 C     |
| <b>Std Dev Btwn Labs</b>                                   |                           |
| 0.00153 sp gr 20/20 C                                      | 0.00143 sp gr 20/20 C     |
| <b>Statistics based on 17 of 17 reporting participants</b> |                           |

Wines tested: SA25: Chardonnay; SA26: Chardonnay



Analysis 906  
Specific Gravity



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



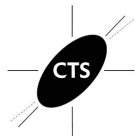
**ASEV-CTS Wine Industry Interlaboratory Testing Program**    **Report #063b**  
**Analysis 907**    **Fall 2019**  
**pH**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 3.750       | 0.018                | 0.48  | 3.640       | 0.016                | 0.51  |
| 2NGKFA  |           | 3.750       | 0.018                | 0.48  | 3.640       | 0.016                | 0.51  |
| 3Z6ZRN  |           | 3.765       | 0.033                | 0.89  | 3.650       | 0.026                | 0.83  |
| 4XVB3K  |           | 3.675       | -0.057               | -1.54 | 3.600       | -0.024               | -0.79 |
| 6K8EQE  |           | 3.735       | 0.003                | 0.08  | 3.640       | 0.016                | 0.51  |
| 7RN8G4  |           | 3.670       | -0.062               | -1.67 | 3.595       | -0.029               | -0.95 |
| 8KY3WE  |           | 3.740       | 0.008                | 0.21  | 3.620       | -0.004               | -0.14 |
| 9RDG63  | *         | 3.625       | -0.107               | -2.89 | 3.535       | -0.089               | -2.89 |
| 9UG7GJ  |           | 3.740       | 0.008                | 0.21  | 3.630       | 0.006                | 0.19  |
| AB9AQZ  |           | 3.750       | 0.018                | 0.48  | 3.640       | 0.016                | 0.51  |
| BHHVCA  |           | 3.740       | 0.008                | 0.21  | 3.630       | 0.006                | 0.19  |
| DVE7JE  |           | 3.750       | 0.018                | 0.48  | 3.640       | 0.016                | 0.51  |
| ECXJAB  |           | 3.760       | 0.028                | 0.75  | 3.655       | 0.031                | 0.99  |
| JATK4Y  |           | 3.730       | -0.002               | -0.06 | 3.630       | 0.006                | 0.19  |
| JULANT  |           | 3.770       | 0.038                | 1.02  | 3.660       | 0.036                | 1.16  |
| KYB397  |           | 3.725       | -0.007               | -0.19 | 3.615       | -0.009               | -0.30 |
| LQFJ84  |           | 3.770       | 0.038                | 1.02  | 3.660       | 0.036                | 1.16  |
| QXC6ZX  |           | 3.720       | -0.012               | -0.33 | 3.590       | -0.034               | -1.11 |
| RXGT7H  |           | 3.700       | -0.032               | -0.87 | 3.575       | -0.049               | -1.60 |
| TQYM8Q  |           | 3.770       | 0.038                | 1.02  | 3.620       | -0.004               | -0.14 |
| W4RDFK  |           | 3.740       | 0.008                | 0.21  | 3.645       | 0.021                | 0.67  |

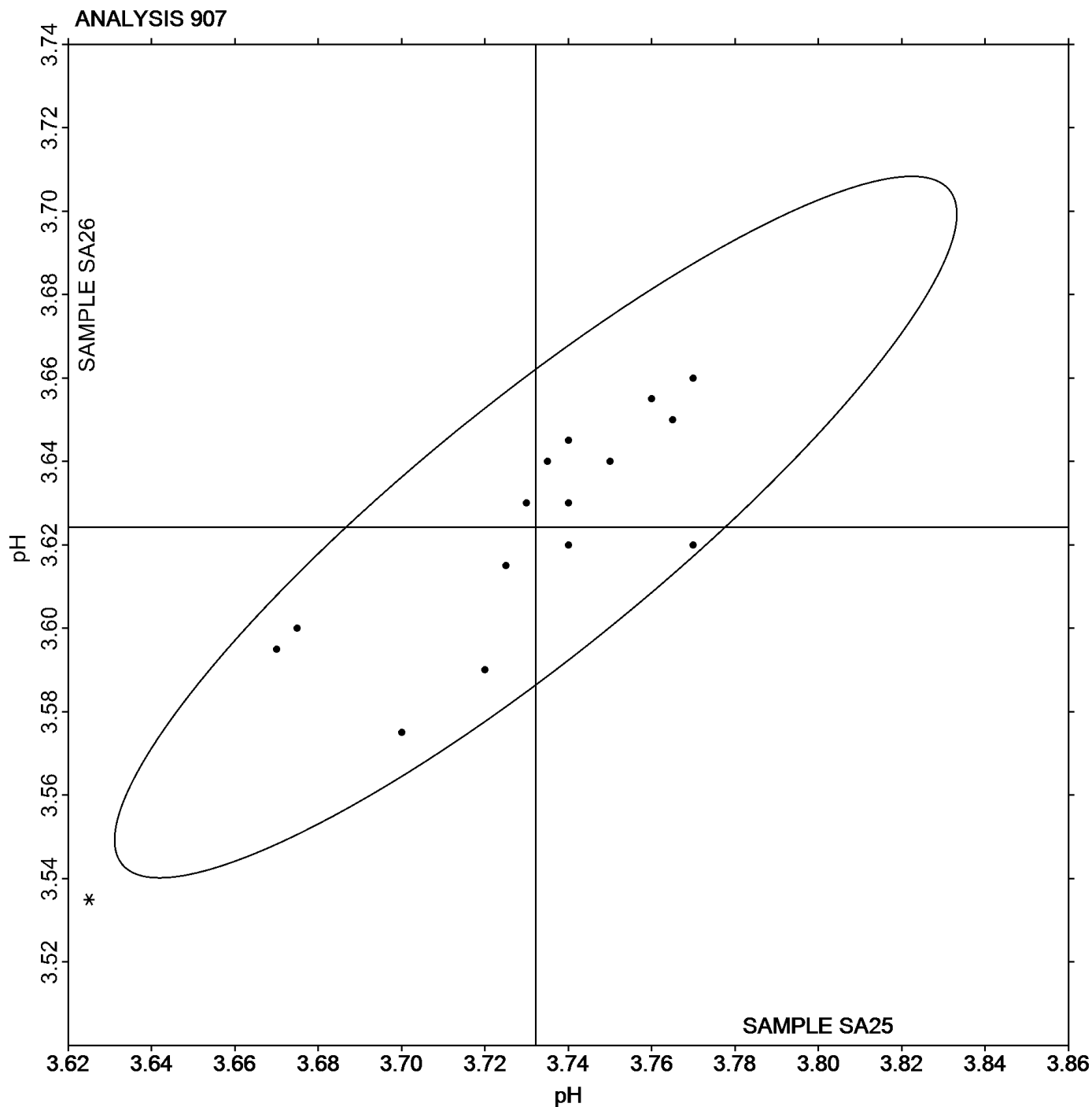
| Grand Means  | Summary Statistics |
|--|--------------------|
| 3.7321 pH  | 3.6243 pH          |
| <b>Std Dev Btwn Labs</b>                                   |                    |
| 0.0371 pH  | 0.0309 pH          |
| <b>Statistics based on 21 of 21 reporting participants</b> |                    |

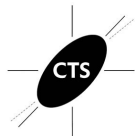
Wines tested: SA25: Chardonnay; SA26: Chardonnay





pH





**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 908**  
**Residual Sugar**

Fall 2019

| WebCode | Data Flag | Sample SA25 |                      |        | Sample SA26 |                      |        |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV    | Lab Mean    | Diff from Grand Mean | CPV    |
| 3Z6ZRN  | X         | 1.570       | -5.928               | -30.15 | 1.680       | -5.115               | -27.35 |
| 4XVB3K  |           | 7.430       | -0.068               | -0.35  | 6.705       | -0.090               | -0.48  |
| 6K8EQE  |           | 7.720       | 0.222                | 1.13   | 7.010       | 0.215                | 1.15   |
| 8KY3WE  |           | 7.345       | -0.153               | -0.78  | 6.670       | -0.125               | -0.67  |

| Grand Means  |            | Summary Statistics |            |
|--|------------|--------------------|------------|
|  | 7.4983 g/L |                    | 6.7950 g/L |
| Std Dev Btwn Labs  |            |                    | 0.1870 g/L |
|  | 0.1966 g/L |                    |            |
| <b>Statistics based on 3 of 4 reporting participants</b> |            |                    |            |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #908**

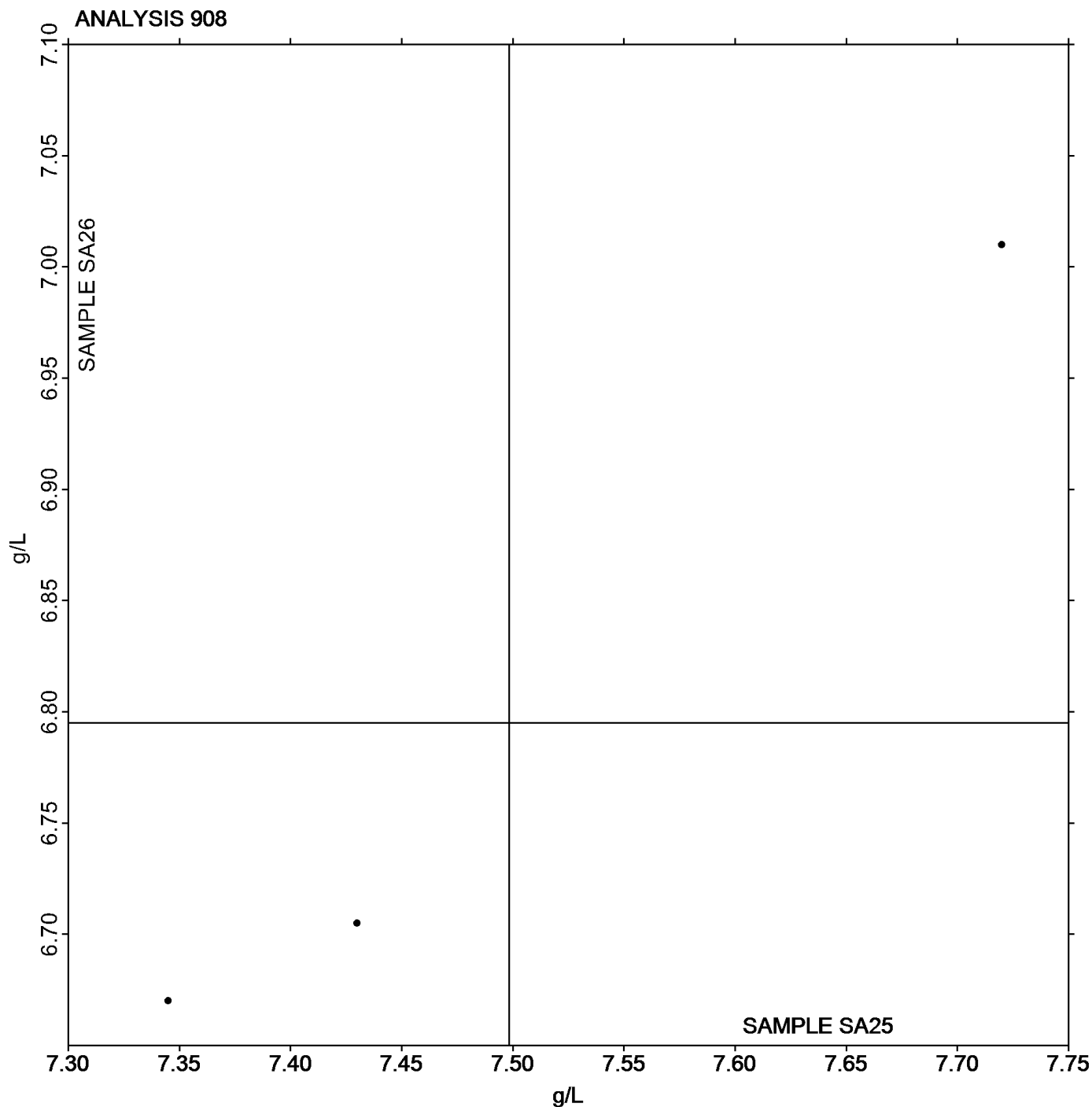
3Z6ZRN (X) - Data for both samples are low.

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

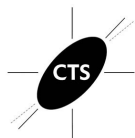
| Test Methodology           | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|----------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                            | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Please specify method used | 7.533                            | 0.265        | 0.034        | 6.840                            | 0.240        | 0.045        | 2/3             |
| FTIR                       | 7.430                            | 0.000        | -0.068       | 6.705                            | 0.000        | -0.090       | 1/1             |



Residual Sugar



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 #063b**  
**Analysis 909**  
**L-Malic Acid**

**Fall 2019**

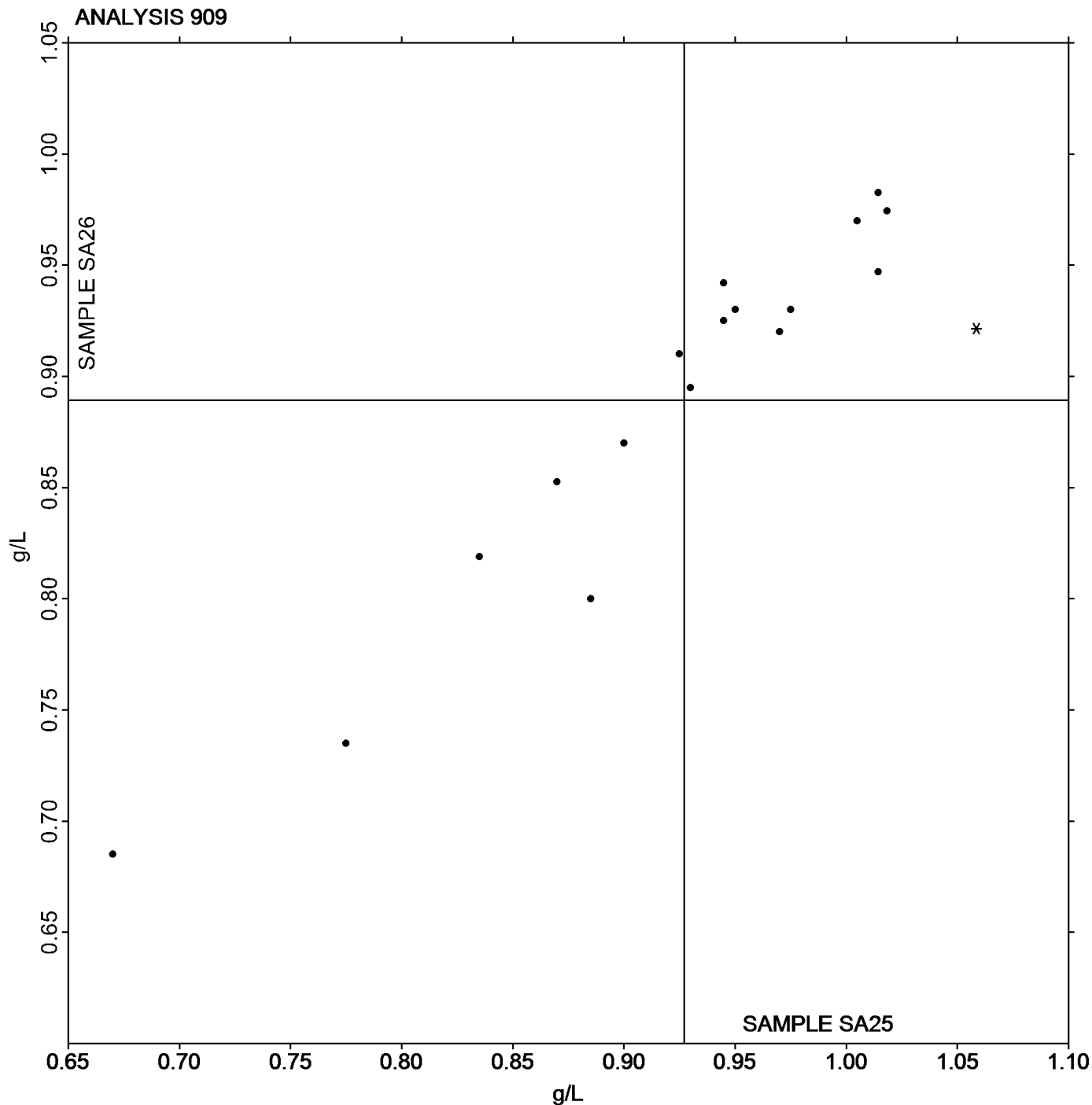
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 0.9700      | 0.0430               | 0.45  | 0.9200      | 0.0306               | 0.37  |
| 2NGKFA  |           | 0.8700      | -0.0570              | -0.60 | 0.8525      | -0.0369              | -0.45 |
| 3Z6ZRN  | X         | 0.3130      | -0.6140              | -6.41 | 0.3114      | -0.5780              | -7.00 |
| 4XVB3K  |           | 0.8350      | -0.0920              | -0.96 | 0.8190      | -0.0704              | -0.85 |
| 6K8EQE  |           | 0.9450      | 0.0180               | 0.19  | 0.9420      | 0.0526               | 0.64  |
| 7RN8G4  |           | 0.8850      | -0.0420              | -0.44 | 0.8000      | -0.0894              | -1.08 |
| 8KY3WE  |           | 0.9300      | 0.0030               | 0.03  | 0.8950      | 0.0056               | 0.07  |
| 9RDG63  |           | 0.6700      | -0.2570              | -2.68 | 0.6850      | -0.2044              | -2.48 |
| 9UG7GJ  |           | 1.0050      | 0.0780               | 0.81  | 0.9700      | 0.0806               | 0.98  |
| AB9AQZ  |           | 0.9750      | 0.0480               | 0.50  | 0.9300      | 0.0406               | 0.49  |
| BHHVCA  |           | 1.0145      | 0.0875               | 0.91  | 0.9825      | 0.0931               | 1.13  |
| DVE7JE  |           | 0.7750      | -0.1520              | -1.59 | 0.7350      | -0.1544              | -1.87 |
| ECXJAB  |           | 1.0145      | 0.0875               | 0.91  | 0.9470      | 0.0576               | 0.70  |
| JATK4Y  |           | 0.9450      | 0.0180               | 0.19  | 0.9250      | 0.0356               | 0.43  |
| JULANT  |           | 1.0185      | 0.0915               | 0.96  | 0.9745      | 0.0851               | 1.03  |
| KYB397  |           | 0.9000      | -0.0270              | -0.28 | 0.8700      | -0.0194              | -0.23 |
| QXC6ZX  |           | 0.9500      | 0.0230               | 0.24  | 0.9300      | 0.0406               | 0.49  |
| RXGT7H  |           | 0.9250      | -0.0020              | -0.02 | 0.9100      | 0.0206               | 0.25  |
| TQYM8Q  | *         | 1.0585      | 0.1315               | 1.37  | 0.9215      | 0.0321               | 0.39  |

| <b>Grand Means</b>   | <b>Summary Statistics</b> |
|--|---------------------------|
| 0.92700 g/L  | 0.88939 g/L               |
| <b>Std Dev Btwn Labs</b>                                   |                           |
| 0.09572 g/L  | 0.08253 g/L               |
| <b>Statistics based on 18 of 19 reporting participants</b> |                           |

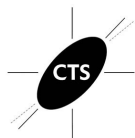
Wines tested: SA25: Chardonnay; SA26: Chardonnay

**Comments on Assigned Data Flags for Test #909**

3Z6ZRN (X) - Data for both samples are low.



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 #063b**  
**Analysis 910**  
**Glucose + Fructose**

Fall 2019

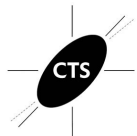
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2E9Y3F  |           | 7.800       | 0.069                | 0.12  | 6.900       | -0.176               | -0.41 |
| 2NGKFA  |           | 8.050       | 0.319                | 0.56  | 7.350       | 0.274                | 0.64  |
| 4XVB3K  |           | 7.735       | 0.004                | 0.01  | 7.305       | 0.229                | 0.53  |
| 7RN8G4  |           | 7.100       | -0.631               | -1.11 | 6.450       | -0.626               | -1.46 |
| 9RDG63  |           | 6.450       | -1.281               | -2.26 | 6.200       | -0.876               | -2.04 |
| 9UG7GJ  |           | 8.175       | 0.444                | 0.78  | 7.400       | 0.324                | 0.76  |
| AB9AQZ  |           | 7.450       | -0.281               | -0.50 | 6.700       | -0.376               | -0.88 |
| BHHVCA  |           | 8.650       | 0.919                | 1.62  | 7.800       | 0.724                | 1.69  |
| DVE7JE  |           | 6.940       | -0.791               | -1.39 | 6.990       | -0.086               | -0.20 |
| ECXJAB  |           | 8.250       | 0.519                | 0.92  | 7.200       | 0.124                | 0.29  |
| JATK4Y  |           | 7.525       | -0.206               | -0.36 | 6.785       | -0.291               | -0.68 |
| JULANT  |           | 8.110       | 0.379                | 0.67  | 7.700       | 0.624                | 1.46  |
| KYB397  |           | 7.650       | -0.081               | -0.14 | 6.950       | -0.126               | -0.29 |
| QXC6ZX  |           | 8.410       | 0.679                | 1.20  | 7.460       | 0.384                | 0.90  |
| RXGT7H  |           | 7.765       | 0.034                | 0.06  | 7.030       | -0.046               | -0.11 |
| TQYM8Q  |           | 7.635       | -0.096               | -0.17 | 6.995       | -0.081               | -0.19 |

| <b>Grand Means</b>   |            | <b>Summary Statistics</b> |            |
|--|------------|---------------------------|------------|
|  | 7.7309 g/L |                           | 7.0759 g/L |
| <b>Std Dev Btwn Labs</b>                                   |            |                           |            |
|  | 0.5672 g/L |                           | 0.4287 g/L |
| <b>Statistics based on 16 of 16 reporting participants</b> |            |                           |            |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

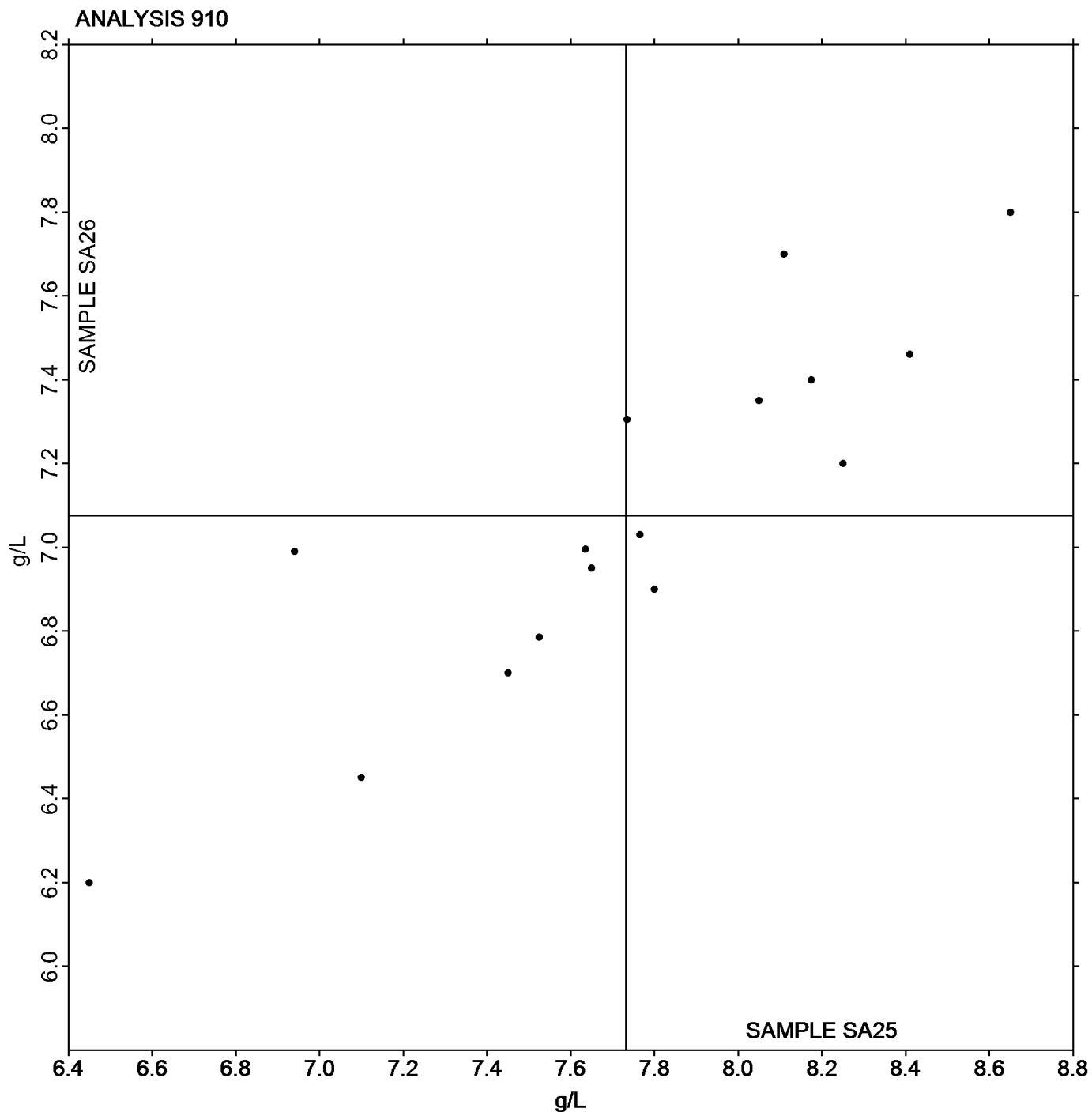
**Results by Methodology (as reported by laboratory)**

| Test Methodology             | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                              | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Enzymatic/Spectrophotometric | 7.773                            | 0.561        | 0.042        | 7.118                            | 0.409        | 0.042        | 15/15           |
| FTIR                         | 7.100                            | 0.000        | -0.631       | 6.450                            | 0.000        | -0.626       | 1/1             |

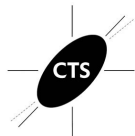


Analysis 910

Glucose + Fructose



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 #063b**  
**Analysis 911**  
**Copper Content**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| AB9AQZ  |           | 0.1180      | -0.0089              | -0.37 | 0.1150      | 0.0130               | 0.52  |
| BHHVCA  |           | 0.1350      | 0.0081               | 0.34  | 0.1300      | 0.0280               | 1.12  |
| JULANT  |           | 0.0995      | -0.0274              | -1.16 | 0.0880      | -0.0140              | -0.56 |
| TQYM8Q  |           | 0.1550      | 0.0281               | 1.19  | 0.0750      | -0.0270              | -1.08 |

| <b>Grand Means</b>                                       | <b>Summary Statistics</b> |
|--|---------------------------|
| 0.12688 mg/L   | 0.10200 mg/L              |
| <b>Stnd Dev Btwn Labs</b>                                |                           |
| 0.02370 mg/L   | 0.02502 mg/L              |
| <b>Statistics based on 4 of 4 reporting participants</b> |                           |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

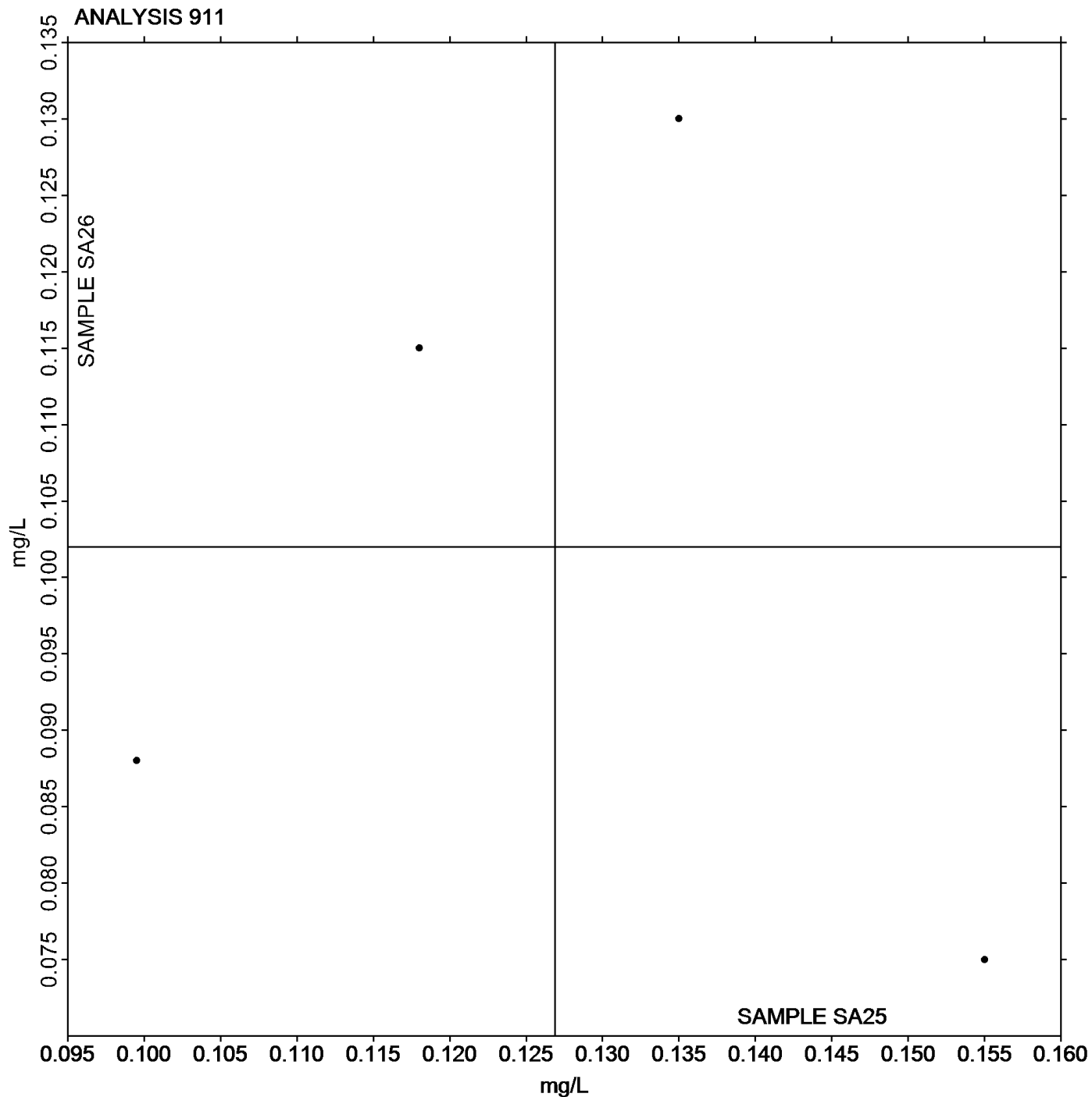
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Atomic Absorption Spectroscopy | 0.136                            | 0.019        | 0.0091       | 0.107                            | 0.028        | 0.0047       | 3/3             |
| ICP                            | 0.100                            | 0.000        | -0.0274      | 0.088                            | 0.000        | -0.0140      | 1/1             |

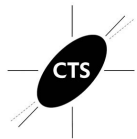




Analysis 911  
Copper Content



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



**ASEV-CTS Wine Industry Interlaboratory Testing Program    Report #063b**  
**Analysis 912**  
**Potassium (K) Content**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |     | Sample SA26 |                      |     |
|---------|-----------|-------------|----------------------|-----|-------------|----------------------|-----|
|         |           | Lab Mean    | Diff from Grand Mean | CPV | Lab Mean    | Diff from Grand Mean | CPV |
| JULANT  |           | 894.0       |                      |     | 754.5       |                      |     |
| TQYM8Q  |           | 902.5       |                      |     | 807.5       |                      |     |

| Grand Means  |             | Summary Statistics |             |
|--|-------------|--------------------|-------------|
|  | 966.90 mg/L |                    | 952.20 mg/L |
| Std Dev Btwn Labs  |             |                    | 127.91 mg/L |
|  | 138.16 mg/L |                    |             |
| <b>Statistics based on 15 of 16 reporting participants</b> |             |                    |             |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

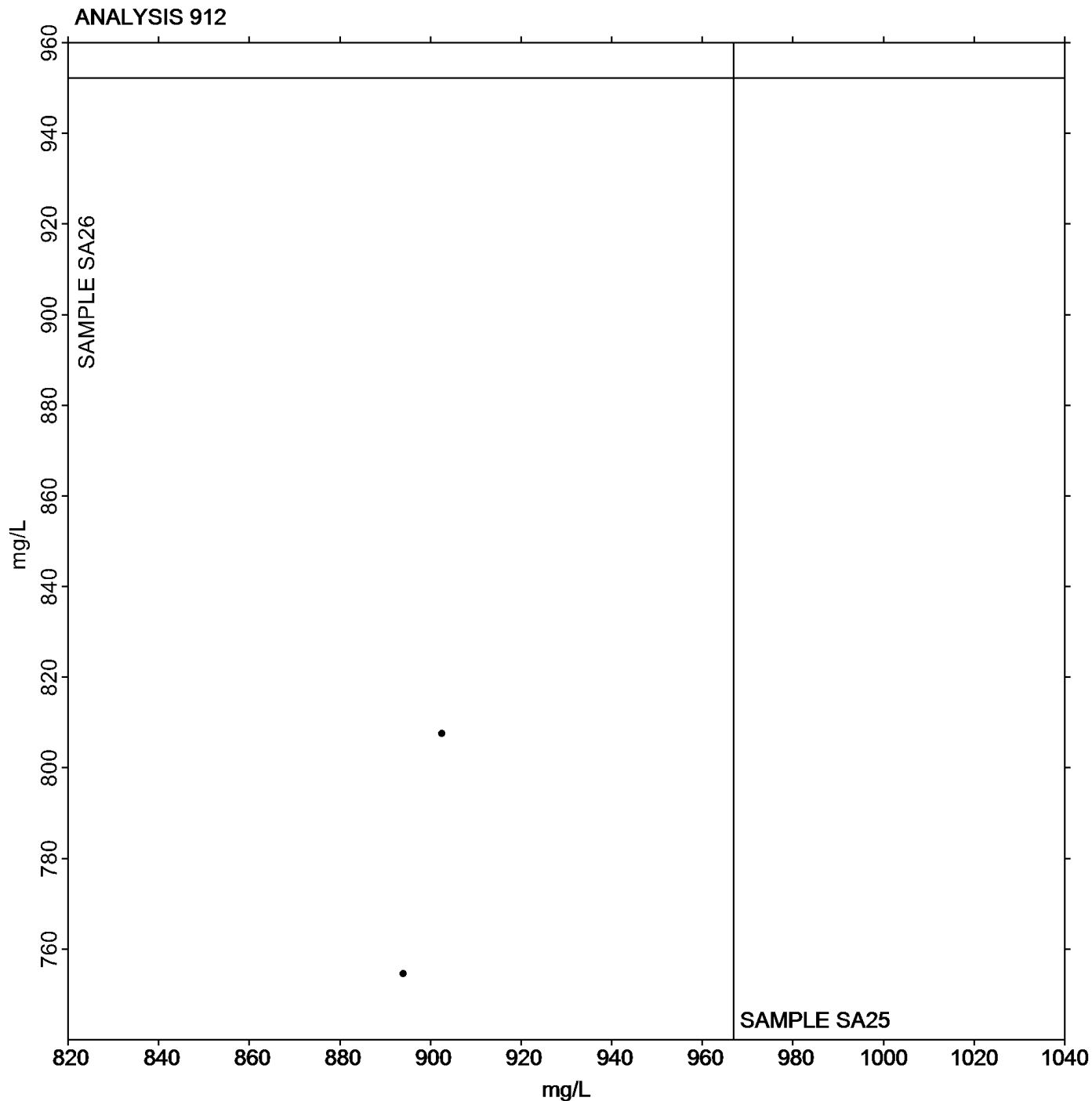
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA25<br><i>Chardonnay</i> |              |              | Sample SA26<br><i>Chardonnay</i> |              |              | Labs Incl / Rpt |
|--------------------------------|----------------------------------|--------------|--------------|----------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                       | Btwn Lab STD | Diff from GM | Group Mean                       | Btwn Lab STD | Diff from GM |                 |
| Atomic Absorption Spectroscopy | 902.500                          | 0.000        | -64.4        | 807.500                          | 0.000        | -144.7       | 1/1             |
| ICP                            | 894.000                          | 0.000        | -72.9        | 754.500                          | 0.000        | -197.7       | 1/1             |

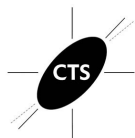


Analysis 912

Potassium (K) Content



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 #063b**  
**Analysis 915**  
**A420nm (1cm path)**  
**Fall 2019**

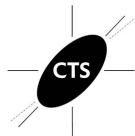
| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 4XVB3K  | X         | 0.0350      | -0.0576              | -7.70 | 0.0790      | -0.0221              | -3.40 |
| 6K8EQE  |           | 0.0915      | -0.0011              | -0.15 | 0.0980      | -0.0031              | -0.48 |
| 9RDG63  |           | 0.1060      | 0.0134               | 1.78  | 0.1155      | 0.0144               | 2.20  |
| AB9AQZ  |           | 0.0930      | 0.0004               | 0.05  | 0.1005      | -0.0006              | -0.10 |
| JATK4Y  |           | 0.0820      | -0.0106              | -1.42 | 0.0985      | -0.0026              | -0.41 |
| KYB397  |           | 0.0930      | 0.0004               | 0.05  | 0.0990      | -0.0021              | -0.33 |
| LQFJ84  |           | 0.0870      | -0.0056              | -0.75 | 0.0960      | -0.0051              | -0.79 |
| TQYM8Q  |           | 0.0960      | 0.0034               | 0.45  | 0.1005      | -0.0006              | -0.10 |

| Grand Means       |                  | Summary Statistics                                       |                  |
|-------------------|------------------|--|------------------|
| 0.09264           | Absorbance Units | 0.10114  | Absorbance Units |
| Std Dev Btwn Labs |                  | 0.00652  | Absorbance Units |
| 0.00749           | Absorbance Units | <b>Statistics based on 7 of 8 reporting participants</b> |                  |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

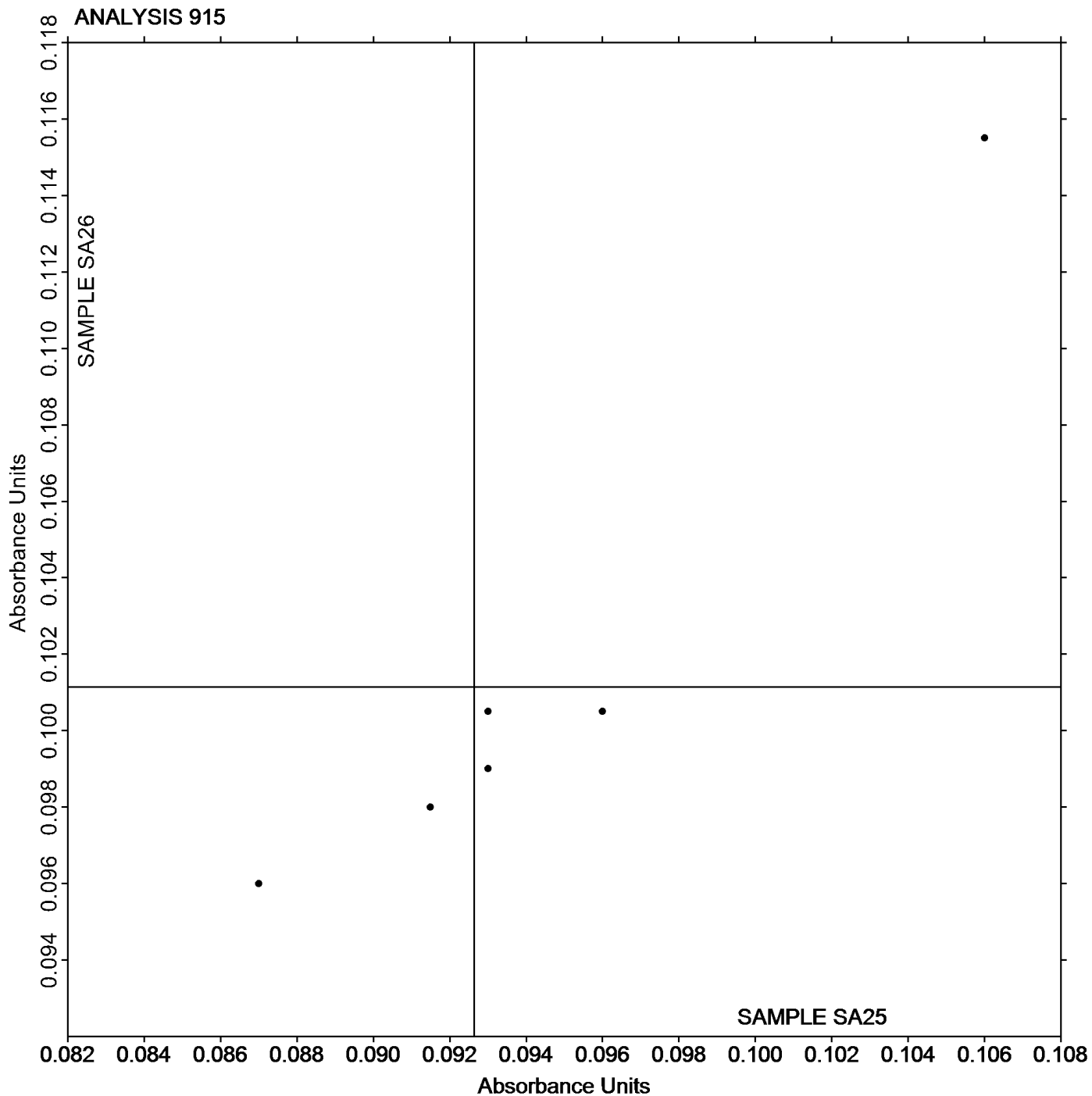
**Comments on Assigned Data Flags for Test #915**

4XVB3K (X) - Data for both samples are low. SA26 data was initially reported as negative.

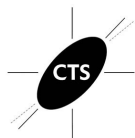


Analysis 915

A420nm (1cm path)



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 #063b**  
**Analysis 916**  
**A520nm (1cm path)**  
**Fall 2019**

| WebCode | Data Flag | Sample SA25 |                      |       | Sample SA26 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 4XVB3K  | X         | 0.0460      | 0.0288               | 7.13  | 0.0770      | 0.0590               | 20.65 |
| 6K8EQE  |           | 0.0185      | 0.0013               | 0.32  | 0.0145      | -0.0035              | -1.22 |
| 9RDG63  |           | 0.0205      | 0.0033               | 0.81  | 0.0230      | 0.0050               | 1.75  |
| AB9AQZ  |           | 0.0180      | 0.0008               | 0.19  | 0.0180      | 0.0000               | 0.00  |
| JATK4Y  |           | 0.0085      | -0.0087              | -2.16 | 0.0155      | -0.0025              | -0.87 |
| KYB397  |           | 0.0195      | 0.0023               | 0.57  | 0.0195      | 0.0015               | 0.52  |
| LQFJ84  |           | 0.0190      | 0.0018               | 0.44  | 0.0190      | 0.0010               | 0.35  |
| TQYM8Q  |           | 0.0165      | -0.0007              | -0.18 | 0.0165      | -0.0015              | -0.52 |

| <b>Grand Means</b>                                       | <b>Summary Statistics</b> |
|--|---------------------------|
| 0.01721 Absorbance Units                                 | 0.01800 Absorbance Units  |
| <b>Std Dev Btwn Labs</b>                                 |                           |
| 0.00404 Absorbance Units                                 | 0.00286 Absorbance Units  |
| <b>Statistics based on 7 of 8 reporting participants</b> |                           |

Wines tested: SA25: Chardonnay; SA26: Chardonnay

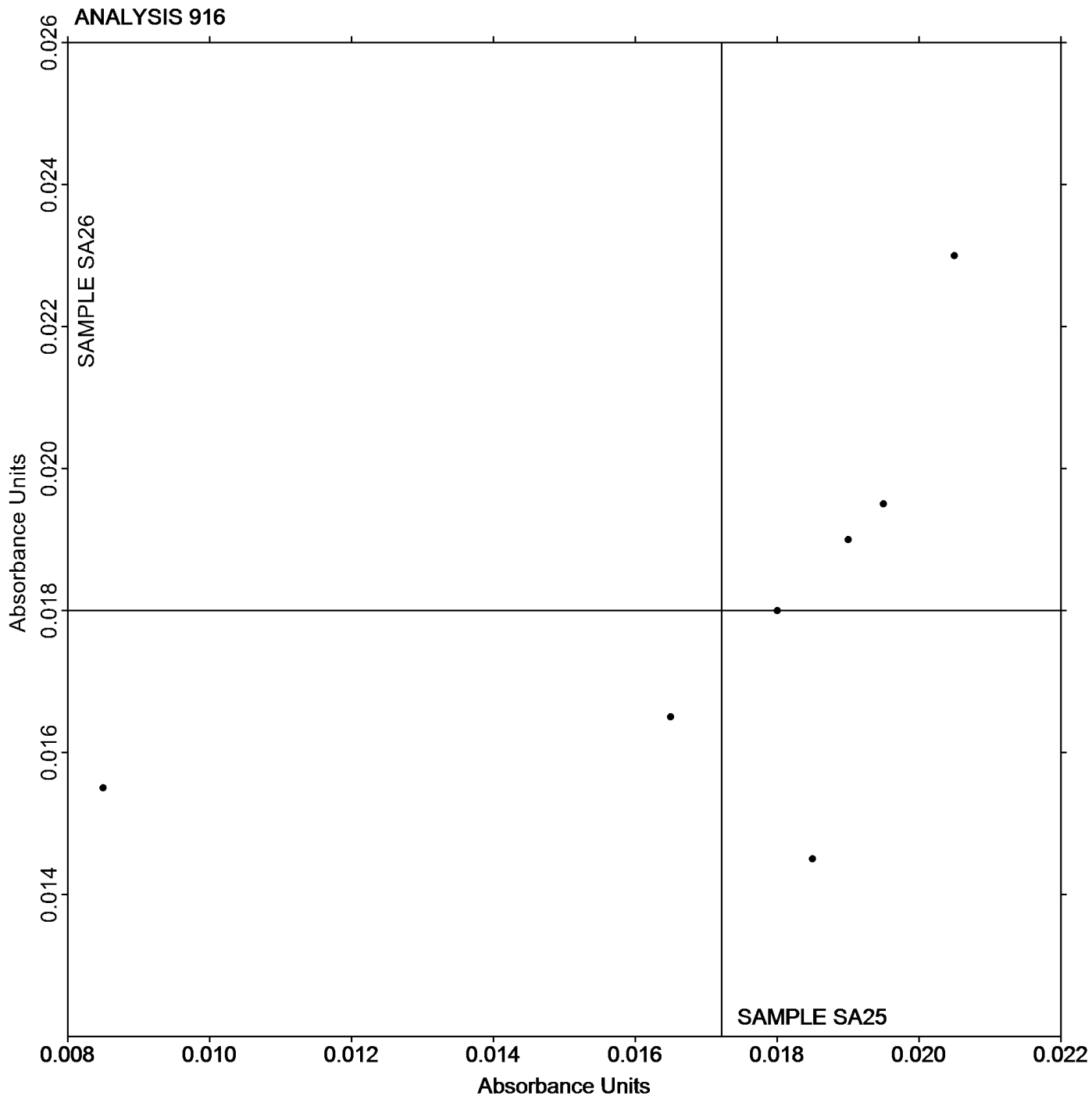
**Comments on Assigned Data Flags for Test #916**

4XVB3K (X) - Data for both samples are high. SA26 data was initially reported as negative.



Analysis 916

A520nm (1cm path)



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



**Research Property - Citric Acid Content**

| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| AB9AQZ  |           | 0.2700      | 0.0321                 | 0.58                     | 0.1600      | 0.0299                 | 0.78                     |
| JATK4Y  |           | 0.2700      | 0.0321                 | 0.58                     | 0.1500      | 0.0199                 | 0.52                     |
| JULANT  |           | 0.2565      | 0.0186                 | 0.33                     | 0.1355      | 0.0054                 | 0.14                     |
| TQYM8Q  |           | 0.1550      | -0.0829                | -1.49                    | 0.0750      | -0.0551                | -1.45                    |

**Research Property Consensus Value**

Consensus Average

0.23788 g/L

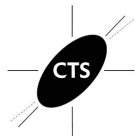
0.13013 g/L

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

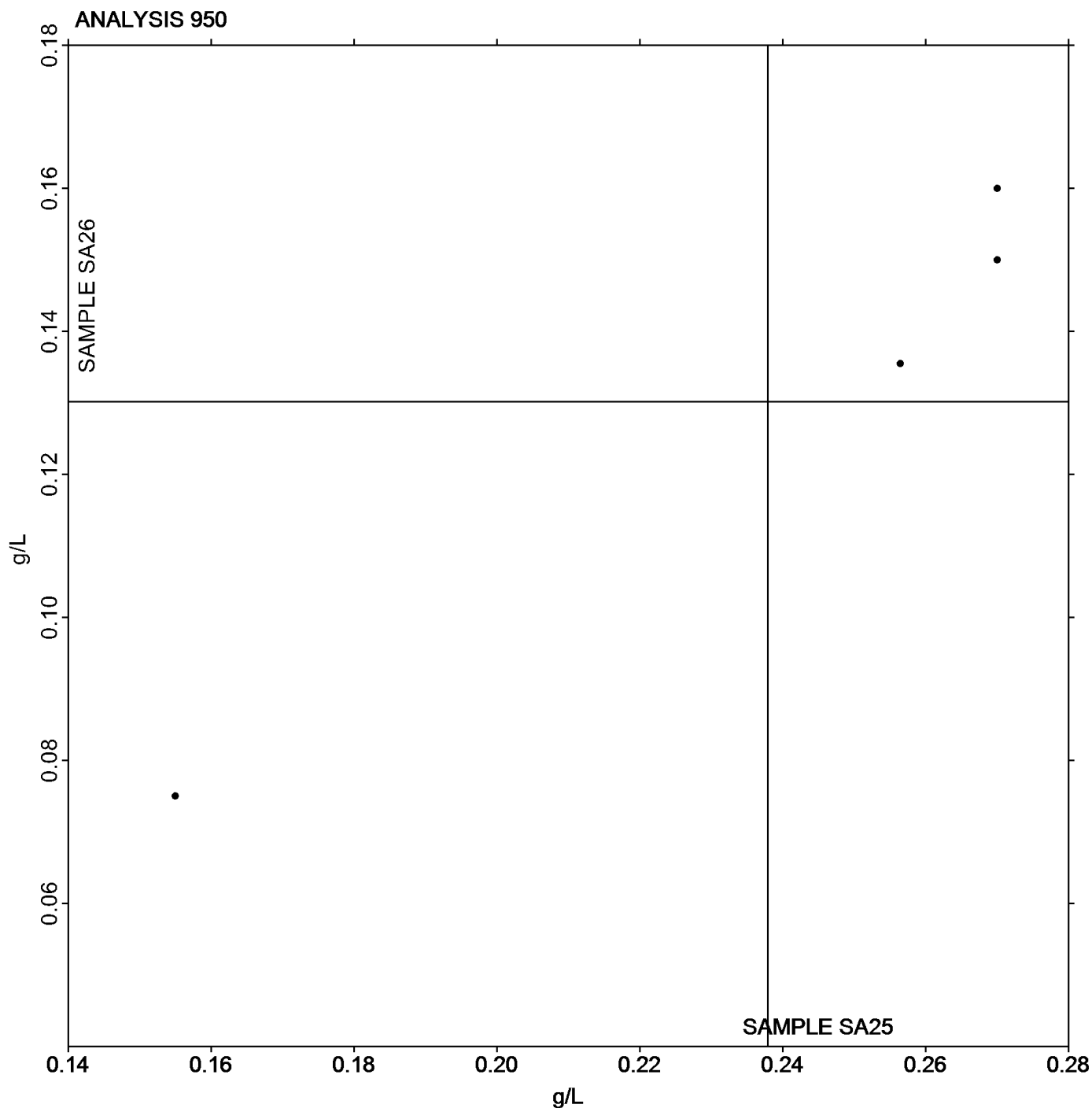
*This consensus average is based on 4 reporting participants.*

Wines tested: SA25: Chardonnay; SA26: Chardonnay

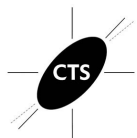




Research Property - Citric Acid Content



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



**Research Property: Iron Content**

| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| JULANT  |           | 0.985       |                        |                          | 1.110       |                        |                          |
| TQYM8Q  |           | 1.100       |                        |                          | 1.200       |                        |                          |

**Research Property Consensus Value**

**Consensus Average**

1.0576 mg/L

1.0522 mg/L

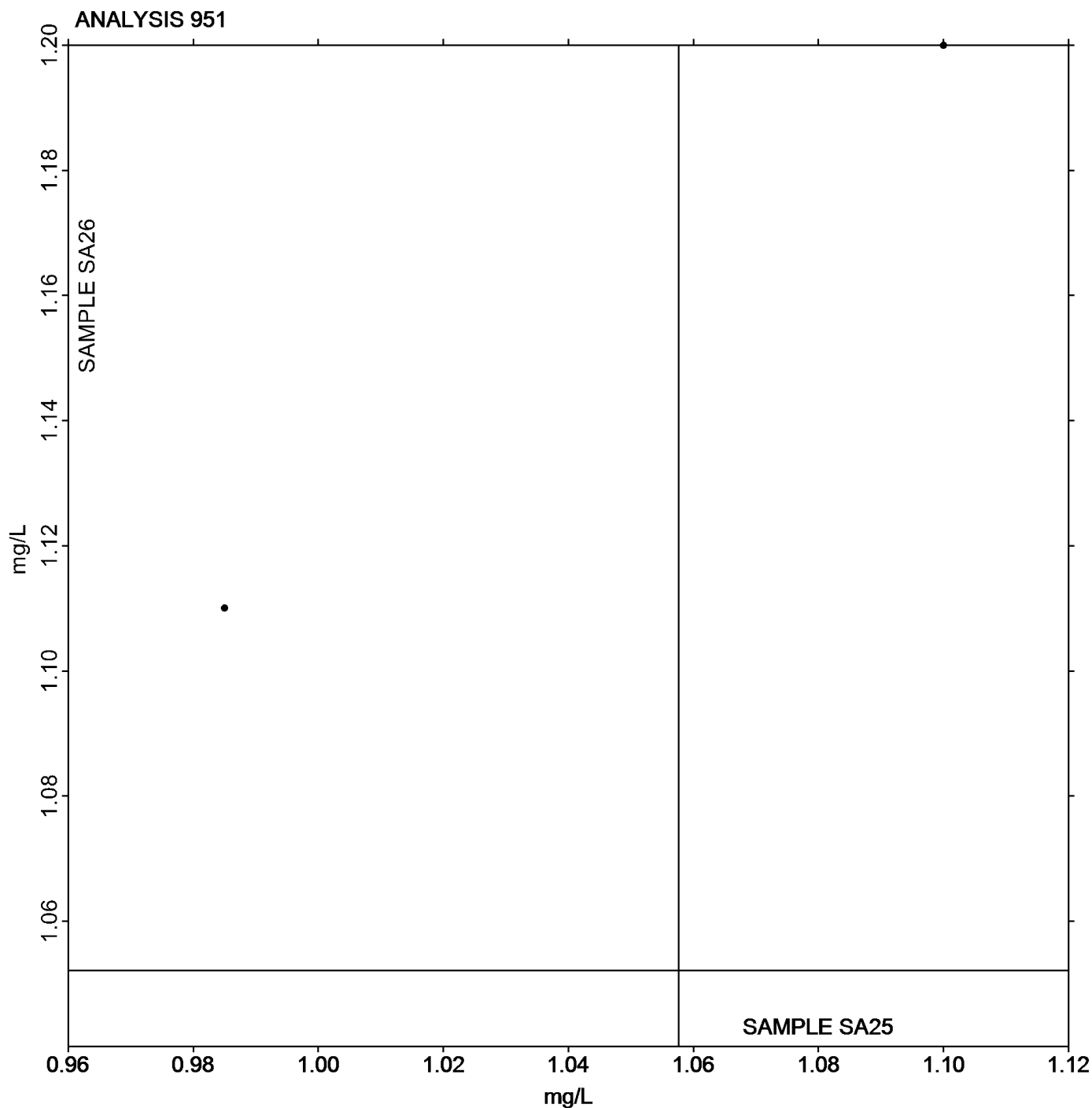
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 16 reporting participants.*

Wines tested: SA25: Chardonnay; SA26: Chardonnay



Research Property: Iron Content



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



Research Property: Methanol Content

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| WebCode | Data Flag | Sample SA25 |                        |                          | Sample SA26 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| JATK4Y  |           | 68.00       |                        |                          | 69.50       |                        |                          |

Research Property Consensus Value

Consensus Average

64.967 mg/L

62.979 mg/L

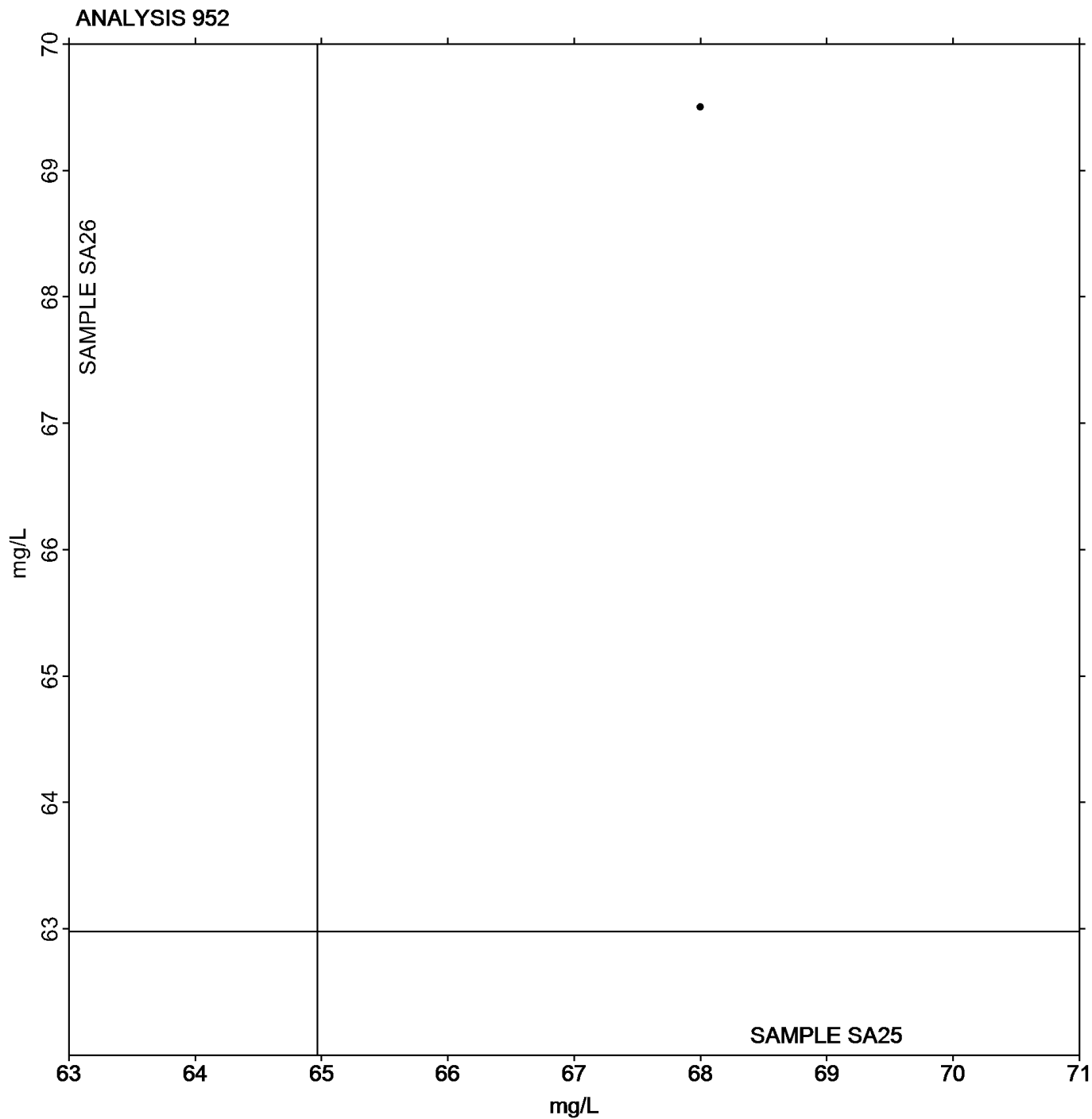
Note: Tests 950, 951 and 952, are research tests. As a result participants should use caution when evaluating data for these tests.

*This consensus average is based on 12 reporting participants.*

Wines tested: SA25: Chardonnay; SA26: Chardonnay



Research Property: Methanol Content



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

-End of Report-