



## Wine Industry Interlaboratory Program

### Summary Report #053- Summer 2016

---

[Introduction to the Wine Program](#)

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

| <b>Analysis</b>            | <b>Analysis Name</b>                                       |
|----------------------------|--|
| <a href="#"><u>901</u></a> | <a href="#"><u>Ethanol (% of volume)</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>Free Sulfur Dioxide</u></a>                 |
| <a href="#"><u>904</u></a> | <a href="#"><u>Titratable Acidity</u></a>                  |
| <a href="#"><u>905</u></a> | <a href="#"><u>Volatile Acidity</u></a>                    |
| <a href="#"><u>906</u></a> | <a href="#"><u>Specific Gravity</u></a>                    |
| <a href="#"><u>907</u></a> | <a href="#"><u>pH</u></a>                                  |
| <a href="#"><u>908</u></a> | <a href="#"><u>Residual Sugar</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>Glucose + Fructose</u></a>                  |
| <a href="#"><u>911</u></a> | <a href="#"><u>Copper Content</u></a>                      |
| <a href="#"><u>912</u></a> | <a href="#"><u>Potassium Content</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>A520nm (1cm path)</u></a>                   |
| <a href="#"><u>950</u></a> | <a href="#"><u>Research Property: Turbidity</u></a>        |
| <a href="#"><u>951</u></a> | <a href="#"><u>Research Property: Methanol Content</u></a> |
| <a href="#"><u>952</u></a> | <a href="#"><u>Research: Sodium Content</u></a>            |

---

## **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.

For further information concerning this report contact:

**Collaborative Testing Services, Inc.  
21331 Gentry Drive  
Sterling, Virginia 20166 USA**

**+1-571-434-1925  
FAX #: +1-571-434-1937  
wine@cts-interlab.com**

**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.

---

### Common Problems Highlighted in Footnotes

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

---

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



## Analysis 901

Summer 2016

## Ethanol (% of volume)

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 13.42       | 0.04                 | 0.63  | 13.90       | 0.05                 | 0.75  |
| 2QM86H  |           | 13.38       | 0.00                 | 0.00  | 13.85       | -0.01                | -0.12 |
| 32VJPP  |           | 13.37       | -0.01                | -0.27 | 13.83       | -0.03                | -0.43 |
| 3CW8GM  |           | 13.36       | -0.02                | -0.36 | 13.85       | -0.01                | -0.12 |
| 4PW9TN  | *         | 13.24       | -0.14                | -2.51 | 13.69       | -0.16                | -2.55 |
| 6AJ8JJ  | *         | 13.30       | -0.08                | -1.44 | 13.80       | -0.05                | -0.82 |
| 6HRN7H  | X         | 13.45       | 0.07                 | 1.26  | 13.85       | 0.00                 | -0.04 |
| 6RNEXK  |           | 13.40       | 0.02                 | 0.36  | 13.88       | 0.02                 | 0.36  |
| 6TU7GL  |           | 13.41       | 0.03                 | 0.54  | 13.88       | 0.03                 | 0.43  |
| 6UPPJM  |           | 13.40       | 0.02                 | 0.27  | 13.86       | 0.01                 | 0.12  |
| 77EYRD  |           | 13.38       | 0.00                 | 0.00  | 13.87       | 0.01                 | 0.20  |
| 7C692C  |           | 13.35       | -0.03                | -0.63 | 13.82       | -0.03                | -0.51 |
| 7DZR4D  |           | 13.37       | -0.01                | -0.18 | 13.84       | -0.01                | -0.19 |
| 7LQD9B  | *         | 13.45       | 0.07                 | 1.17  | 13.96       | 0.11                 | 1.69  |
| 7XKTXC  |           | 13.35       | -0.03                | -0.63 | 13.82       | -0.03                | -0.51 |
| 8N94MK  | *         | 13.30       | -0.08                | -1.44 | 13.80       | -0.05                | -0.82 |
| 8QFLLG  |           | 13.45       | 0.07                 | 1.26  | 13.92       | 0.07                 | 1.06  |
| 8YEYRC  |           | 13.44       | 0.06                 | 0.99  | 13.89       | 0.03                 | 0.51  |
| 9393BH  | X         | 13.27       | -0.11                | -2.06 | 13.80       | -0.06                | -0.90 |
| 9CU7HG  | X         | 13.30       | -0.08                | -1.44 | 13.90       | 0.05                 | 0.75  |
| A6CB2D  |           | 13.41       | 0.03                 | 0.54  | 13.89       | 0.04                 | 0.59  |
| A73HZG  |           | 13.35       | -0.03                | -0.63 | 13.82       | -0.04                | -0.59 |
| B4YZN7  |           | 13.43       | 0.05                 | 0.90  | 13.89       | 0.04                 | 0.59  |
| BC63LC  |           | 13.39       | 0.01                 | 0.09  | 13.86       | 0.01                 | 0.12  |
| BU8N4D  |           | 13.36       | -0.02                | -0.45 | 13.82       | -0.03                | -0.51 |
| BZYPR8  | X         | 13.55       | 0.17                 | 3.06  | 14.20       | 0.35                 | 5.47  |
| CE7C8E  |           | 13.40       | 0.02                 | 0.27  | 13.89       | 0.03                 | 0.51  |
| CT7BVB  |           | 13.42       | 0.04                 | 0.72  | 13.89       | 0.04                 | 0.59  |
| CX2V88  |           | 13.36       | -0.02                | -0.45 | 13.83       | -0.02                | -0.35 |
| DABVG7  |           | 13.34       | -0.04                | -0.72 | 13.81       | -0.04                | -0.67 |
| DEK9Y6  | X         | 13.36       | -0.02                | -0.45 | 13.77       | -0.08                | -1.29 |
| DJZJC9  | X         | 13.56       | 0.18                 | 3.15  | 14.11       | 0.25                 | 3.97  |
| DW6PGF  |           | 13.36       | -0.02                | -0.45 | 13.83       | -0.03                | -0.43 |
| DWQFD7  |           | 13.43       | 0.05                 | 0.81  | 13.91       | 0.05                 | 0.83  |
| ENQFE6  |           | 13.32       | -0.06                | -1.17 | 13.80       | -0.06                | -0.90 |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 901****Summer 2016****Ethanol (% of volume)**

| WebCode | Data Flag | Sample SA05 |                      |        | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV    | Lab Mean    | Diff from Grand Mean | CPV   |
| EWEDUC  |           | 13.39       | 0.01                 | 0.18   | 13.89       | 0.03                 | 0.51  |
| F8F2L9  |           | 13.35       | -0.03                | -0.63  | 13.85       | -0.01                | -0.12 |
| FBFCH9  | X         | 13.45       | 0.07                 | 1.26   | 13.85       | 0.00                 | -0.04 |
| FY2ED6  | X         | 13.53       | 0.15                 | 2.61   | 13.67       | -0.19                | -2.95 |
| G6RY37  | *         | 13.54       | 0.16                 | 2.79   | 14.04       | 0.19                 | 2.95  |
| GJ783A  |           | 13.39       | 0.01                 | 0.09   | 13.86       | 0.01                 | 0.12  |
| GJN4KC  |           | 13.43       | 0.05                 | 0.81   | 13.91       | 0.05                 | 0.83  |
| GPFB67  |           | 13.32       | -0.06                | -1.05  | 13.79       | -0.06                | -1.02 |
| GQQCR4  |           | 13.36       | -0.02                | -0.36  | 13.83       | -0.02                | -0.35 |
| JBRXQ2  | X         | 13.28       | -0.10                | -1.79  | 13.58       | -0.27                | -4.28 |
| K39444  |           | 13.27       | -0.11                | -1.97  | 13.73       | -0.12                | -1.92 |
| KD74G8  |           | 13.43       | 0.05                 | 0.90   | 13.92       | 0.07                 | 1.06  |
| KG93RZ  | X         | 12.80       | -0.58                | -10.51 | 13.33       | -0.52                | -8.21 |
| KRQJK8  |           | 13.41       | 0.03                 | 0.54   | 13.89       | 0.04                 | 0.59  |
| L746R4  |           | 13.33       | -0.05                | -0.99  | 13.79       | -0.07                | -1.06 |
| LBYYP6  |           | 13.37       | -0.01                | -0.18  | 13.85       | -0.01                | -0.12 |
| LNLBT3  |           | 13.41       | 0.03                 | 0.45   | 13.86       | 0.01                 | 0.12  |
| N329WU  |           | 13.25       | -0.13                | -2.33  | 13.70       | -0.15                | -2.40 |
| N3GEBX  |           | 13.42       | 0.04                 | 0.63   | 13.89       | 0.04                 | 0.59  |
| N94364  |           | 13.43       | 0.05                 | 0.90   | 13.92       | 0.07                 | 1.06  |
| NGH2LZ  |           | 13.39       | 0.01                 | 0.18   | 13.87       | 0.02                 | 0.28  |
| PPRPYY  |           | 13.39       | 0.01                 | 0.18   | 13.85       | 0.00                 | -0.04 |
| Q836UY  |           | 13.40       | 0.02                 | 0.27   | 13.86       | 0.00                 | 0.04  |
| QJVKHZ  |           | 13.46       | 0.08                 | 1.44   | 13.95       | 0.09                 | 1.46  |
| QUCEN2  |           | 13.35       | -0.03                | -0.54  | 13.79       | -0.07                | -1.06 |
| RJPQCY  |           | 13.45       | 0.07                 | 1.17   | 13.93       | 0.07                 | 1.14  |
| RPZTEU  | X         | 13.17       | -0.21                | -3.77  | 13.61       | -0.25                | -3.89 |
| TETBGW  | X         | 12.93       | -0.45                | -8.09  | 13.65       | -0.20                | -3.18 |
| TEXTFV  |           | 13.42       | 0.04                 | 0.72   | 13.90       | 0.05                 | 0.75  |
| TQMR7X  |           | 13.44       | 0.06                 | 1.08   | 13.92       | 0.06                 | 0.99  |
| U6L4ZM  | *         | 13.26       | -0.12                | -2.09  | 13.70       | -0.16                | -2.44 |
| UC6AXU  |           | 13.43       | 0.05                 | 0.81   | 13.91       | 0.05                 | 0.83  |
| ULVV3T  |           | 13.35       | -0.03                | -0.54  | 13.83       | -0.02                | -0.35 |
| VCZC2P  |           | 13.32       | -0.06                | -1.08  | 13.77       | -0.08                | -1.29 |
| VPAR9U  |           | 13.25       | -0.13                | -2.33  | 13.70       | -0.15                | -2.40 |



Analysis 901  
Ethanol (% of volume)

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| VVVRFU  |           | 13.40       | 0.02                 | 0.36  | 13.84       | -0.01                | -0.19 |
| WVPWAT  |           | 13.35       | -0.03                | -0.63 | 13.82       | -0.04                | -0.59 |
| WY6H6L  | X         | 13.06       | -0.32                | -5.74 | 13.73       | -0.12                | -1.92 |
| X2VQ4P  |           | 13.39       | 0.01                 | 0.18  | 13.87       | 0.01                 | 0.20  |
| X774LM  |           | 13.42       | 0.04                 | 0.63  | 13.89       | 0.04                 | 0.59  |
| XZK4EM  |           | 13.39       | 0.01                 | 0.09  | 13.87       | 0.02                 | 0.28  |
| YA28YR  |           | 13.44       | 0.06                 | 0.99  | 13.91       | 0.06                 | 0.91  |
| YQA2TM  |           | 13.44       | 0.06                 | 1.08  | 13.90       | 0.05                 | 0.75  |
| YRZARP  |           | 13.45       | 0.07                 | 1.26  | 13.93       | 0.07                 | 1.14  |
| Z3DUPR  |           | 13.39       | 0.01                 | 0.18  | 13.86       | 0.01                 | 0.12  |
| ZU3HHL  |           | 13.35       | -0.03                | -0.54 | 13.80       | -0.05                | -0.82 |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 13.380 percent   | 13.852 percent     |
| Std Dev Btwn Labs  |                    |
| 0.056 percent  | 0.064 percent      |
| <b>Statistics based on 68 of 81 reporting participants</b> |                    |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

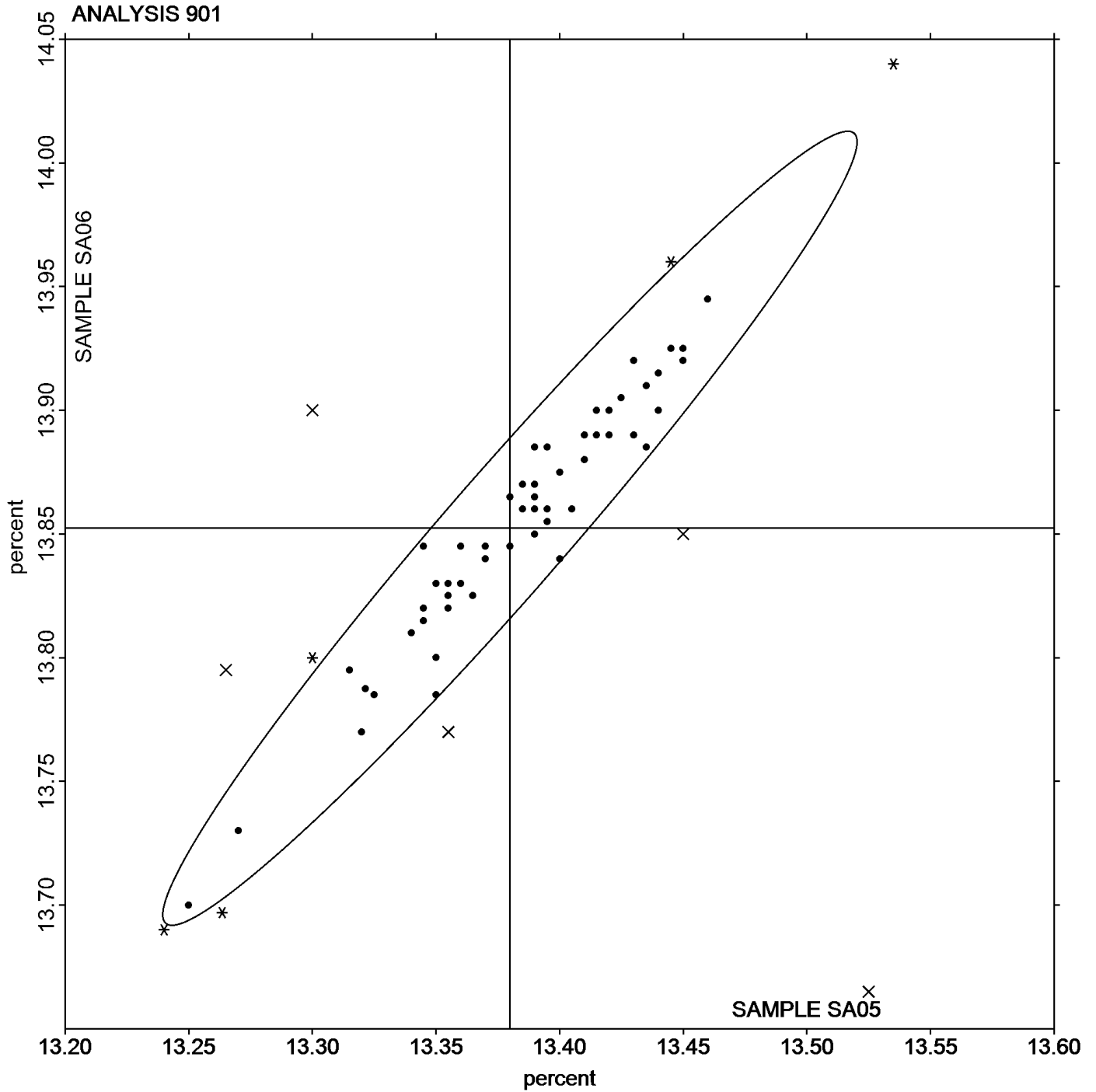
- JBRXQ2 (X) - Inconsistent in testing between samples, data for Sample SA06 are low.
- DJZJC9 (X) - Data for both samples are high. Possible Systematic Error.
- BZYPR8 (X) - Data for both samples are high.
- DEK9Y6 (X) - Inconsistent in testing between samples.
- WY6H6L (X) - Inconsistent in testing between samples, data for sample SA05 are low. Inconsistent within the determinations of sample SA05.
- FBFCH9 (X) - Inconsistent in testing between samples.
- 9393BH (X) - Inconsistent in testing between samples.
- TETBGW (X) - Data for both samples are low.
- 9CU7HG (X) - Inconsistent in testing between samples.
- RPZTEU (X) - Data for both samples are low. Possible Systematic Error.
- KG93RZ (X) - Data for both samples are low.
- FY2ED6 (X) - Inconsistent in testing between samples, data for sample SA06 are low.
- 6HRN7H (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.



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

| Test Methodology           | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|----------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                            | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used |                              |              |              |                                 |              |              | 0/2             |
| Ebulliometer Method        |                              |              |              |                                 |              |              | 0/3             |
| Gas Chromatography Method  | 13.385                       | 0.056        | 0.01         | 13.842                          | 0.051        | -0.01        | 3/5             |
| Near Infrared Method       | 13.384                       | 0.043        | 0.00         | 13.857                          | 0.047        | 0.01         | 45/47           |
| Dist. / Density Method     | 13.308                       | 0.063        | -0.07        | 13.770                          | 0.075        | -0.08        | 9/12            |
| FTIR                       | 13.434                       | 0.046        | 0.05         | 13.918                          | 0.059        | 0.07         | 8/9             |
| Other _____                | 13.387                       | 0.037        | 0.01         | 13.858                          | 0.028        | 0.01         | 3/3             |







Analysis 902  
Total Sulfur Dioxide

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 51.50       | -3.01                | -0.40 | 54.50       | -0.19                | -0.02 |
| 2QM86H  |           | 56.00       | 1.49                 | 0.20  | 59.50       | 4.81                 | 0.63  |
| 32VJPP  | X         | 20.00       | -34.51               | -4.57 | 25.00       | -29.69               | -3.87 |
| 3CW8GM  |           | 61.50       | 6.99                 | 0.92  | 60.50       | 5.81                 | 0.76  |
| 4PW9TN  |           | 61.50       | 6.99                 | 0.92  | 65.50       | 10.81                | 1.41  |
| 6AJ8JJ  | X         | 74.00       | 19.49                | 2.58  | 65.50       | 10.81                | 1.41  |
| 6RNEXK  |           | 58.00       | 3.49                 | 0.46  | 56.00       | 1.31                 | 0.17  |
| 6TU7GL  |           | 54.50       | -0.01                | 0.00  | 54.00       | -0.69                | -0.09 |
| 6UPPJM  |           | 52.00       | -2.51                | -0.33 | 53.50       | -1.19                | -0.15 |
| 77EYRD  |           | 56.00       | 1.49                 | 0.20  | 58.00       | 3.31                 | 0.43  |
| 7C692C  |           | 67.50       | 12.99                | 1.72  | 68.50       | 13.81                | 1.80  |
| 7LQD9B  |           | 47.00       | -7.51                | -0.99 | 46.00       | -8.69                | -1.13 |
| 7XKTXC  |           | 68.00       | 13.49                | 1.78  | 67.50       | 12.81                | 1.67  |
| 8N94MK  | X         | 58.00       | 3.49                 | 0.46  | 46.50       | -8.19                | -1.07 |
| 8QFLLG  |           | 66.00       | 11.49                | 1.52  | 66.00       | 11.31                | 1.47  |
| 8YEYRC  |           | 47.00       | -7.51                | -0.99 | 47.00       | -7.69                | -1.00 |
| 9393BH  |           | 46.50       | -8.01                | -1.06 | 48.50       | -6.19                | -0.81 |
| 9CU7HG  |           | 56.00       | 1.49                 | 0.20  | 52.00       | -2.69                | -0.35 |
| A6CB2D  |           | 54.00       | -0.51                | -0.07 | 53.00       | -1.69                | -0.22 |
| A73HZG  |           | 49.00       | -5.51                | -0.73 | 48.50       | -6.19                | -0.81 |
| B4YZN7  |           | 51.00       | -3.51                | -0.46 | 51.00       | -3.69                | -0.48 |
| BC63LC  |           | 54.00       | -0.51                | -0.07 | 57.00       | 2.31                 | 0.30  |
| BU8N4D  | *         | 68.36       | 13.84                | 1.83  | 72.52       | 17.83                | 2.33  |
| BZYPR8  |           | 52.00       | -2.51                | -0.33 | 49.50       | -5.19                | -0.68 |
| CE7C8E  |           | 43.50       | -11.01               | -1.46 | 47.50       | -7.19                | -0.94 |
| CT7BVB  |           | 46.50       | -8.01                | -1.06 | 48.00       | -6.69                | -0.87 |
| CU2UWC  |           | 61.50       | 6.99                 | 0.92  | 60.50       | 5.81                 | 0.76  |
| CX2V88  |           | 71.50       | 16.99                | 2.25  | 72.50       | 17.81                | 2.32  |
| DABVG7  |           | 67.50       | 12.99                | 1.72  | 65.50       | 10.81                | 1.41  |
| DEK9Y6  |           | 48.00       | -6.51                | -0.86 | 49.60       | -5.09                | -0.66 |
| DJZJC9  | X         | 67.56       | 13.05                | 1.73  | 48.00       | -6.69                | -0.87 |
| DW6PGF  |           | 46.00       | -8.51                | -1.13 | 46.50       | -8.19                | -1.07 |
| DWQFD7  |           | 50.50       | -4.01                | -0.53 | 49.50       | -5.19                | -0.68 |
| ENQFE6  | *         | 53.00       | -1.51                | -0.20 | 60.00       | 5.31                 | 0.69  |
| EWEDUC  |           | 55.50       | 0.99                 | 0.13  | 56.50       | 1.81                 | 0.24  |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 902****Summer 2016****Total Sulfur Dioxide**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| F8F2L9  |           | 51.00       | -3.51                | -0.46 | 51.50       | -3.19                | -0.42 |
| FBFCH9  |           | 45.50       | -9.01                | -1.19 | 41.50       | -13.19               | -1.72 |
| FY2ED6  |           | 68.00       | 13.49                | 1.78  | 63.50       | 8.81                 | 1.15  |
| G6RY37  |           | 47.00       | -7.51                | -0.99 | 47.00       | -7.69                | -1.00 |
| GJ783A  |           | 62.00       | 7.49                 | 0.99  | 62.00       | 7.31                 | 0.95  |
| GJN4KC  |           | 54.50       | -0.01                | 0.00  | 54.00       | -0.69                | -0.09 |
| GPFB67  |           | 48.00       | -6.51                | -0.86 | 48.00       | -6.69                | -0.87 |
| GQOCR4  |           | 58.50       | 3.99                 | 0.53  | 57.50       | 2.81                 | 0.37  |
| JBRXQ2  |           | 51.20       | -3.31                | -0.44 | 48.00       | -6.69                | -0.87 |
| K39444  |           | 52.00       | -2.51                | -0.33 | 53.50       | -1.19                | -0.15 |
| KD74G8  |           | 50.50       | -4.01                | -0.53 | 50.50       | -4.19                | -0.55 |
| KG93RZ  |           | 57.00       | 2.49                 | 0.33  | 55.50       | 0.81                 | 0.11  |
| KRQJK8  |           | 52.50       | -2.01                | -0.27 | 50.50       | -4.19                | -0.55 |
| L746R4  |           | 41.50       | -13.01               | -1.72 | 42.00       | -12.69               | -1.65 |
| LBYYP6  |           | 45.00       | -9.51                | -1.26 | 48.00       | -6.69                | -0.87 |
| LNLBT3  |           | 65.50       | 10.99                | 1.45  | 66.00       | 11.31                | 1.47  |
| N329WU  |           | 54.50       | -0.01                | 0.00  | 55.50       | 0.81                 | 0.11  |
| N94364  |           | 54.50       | -0.01                | 0.00  | 55.50       | 0.81                 | 0.11  |
| NGH2LZ  |           | 58.50       | 3.99                 | 0.53  | 53.50       | -1.19                | -0.15 |
| Q836UY  |           | 49.00       | -5.51                | -0.73 | 48.00       | -6.69                | -0.87 |
| QJVKHZ  |           | 40.50       | -14.01               | -1.85 | 44.50       | -10.19               | -1.33 |
| QUCEN2  |           | 47.00       | -7.51                | -0.99 | 46.00       | -8.69                | -1.13 |
| RJPQCY  | *         | 54.50       | -0.01                | 0.00  | 48.00       | -6.69                | -0.87 |
| TEXTFV  |           | 60.50       | 5.99                 | 0.79  | 61.50       | 6.81                 | 0.89  |
| TQMR7X  |           | 52.00       | -2.51                | -0.33 | 52.50       | -2.19                | -0.29 |
| U6L4ZM  |           | 61.50       | 6.99                 | 0.92  | 62.00       | 7.31                 | 0.95  |
| UC6AXU  |           | 49.50       | -5.01                | -0.66 | 48.50       | -6.19                | -0.81 |
| ULVV3T  |           | 50.50       | -4.01                | -0.53 | 49.00       | -5.69                | -0.74 |
| VCZC2P  |           | 51.50       | -3.01                | -0.40 | 51.00       | -3.69                | -0.48 |
| VPAR9U  | *         | 67.00       | 12.49                | 1.65  | 62.00       | 7.31                 | 0.95  |
| VVVRFU  |           | 54.00       | -0.51                | -0.07 | 53.50       | -1.19                | -0.15 |
| WVPWAT  |           | 64.00       | 9.49                 | 1.25  | 68.50       | 13.81                | 1.80  |
| WY6H6L  |           | 50.29       | -4.22                | -0.56 | 50.29       | -4.40                | -0.57 |
| X2VQ4P  |           | 44.25       | -10.26               | -1.36 | 43.00       | -11.69               | -1.52 |
| X774LM  |           | 62.50       | 7.99                 | 1.06  | 64.00       | 9.31                 | 1.21  |



**Analysis 902  
Total Sulfur Dioxide**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| YA28YR  |           | 56.50       | 1.99                 | 0.26  | 56.50       | 1.81                 | 0.24  |
| YQA2TM  |           | 49.00       | -5.51                | -0.73 | 51.00       | -3.69                | -0.48 |
| YRZARP  |           | 42.38       | -12.13               | -1.61 | 47.44       | -7.25                | -0.95 |
| Z3DUPR  |           | 69.00       | 14.49                | 1.92  | 71.50       | 16.81                | 2.19  |
| ZU3HHL  |           | 57.00       | 2.49                 | 0.33  | 56.00       | 1.31                 | 0.17  |

| Grand Means  |             | Summary Statistics |             |
|--|-------------|--------------------|-------------|
|  | 54.514 mg/L |                    | 54.688 mg/L |
| Std Dev Btwn Labs  |             |                    | 7.670 mg/L  |
|  | 7.559 mg/L  |                    |             |
| <b>Statistics based on 71 of 75 reporting participants</b> |             |                    |             |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

6AJ8JJ (X) - Inconsistent in testing between samples.

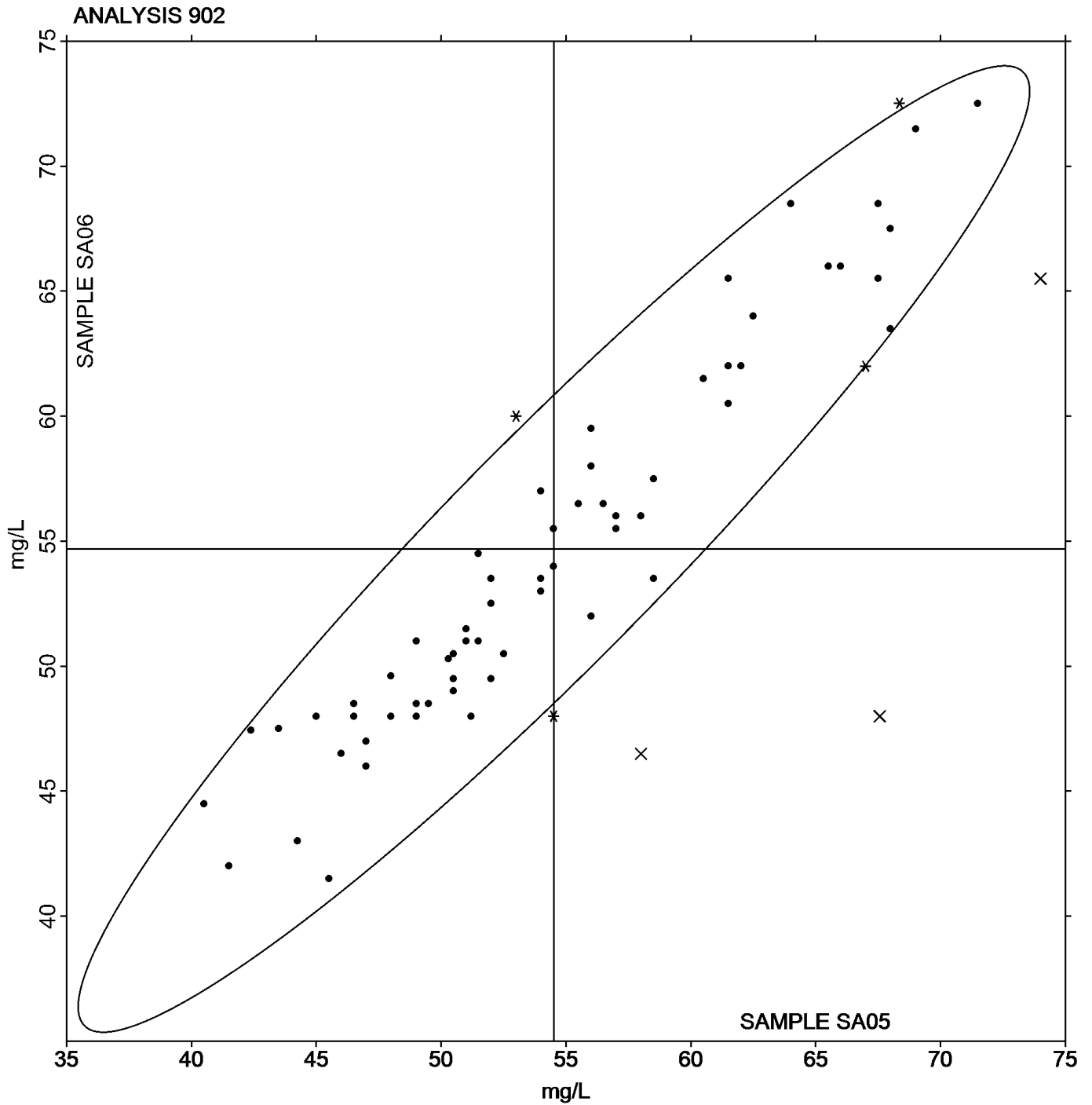
DJZJC9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

8N94MK (X) - Inconsistent in testing between samples.

32VJPP (X) - Data for both samples are low. Possible Systematic Error.

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

| Test Methodology               | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|--------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used     | 54.500                       | 0.000        | -0.01        | 55.500                          | 0.000        | 0.81         | 1/1             |
| Ripper Method                  | 57.499                       | 8.565        | 2.99         | 57.757                          | 9.224        | 3.07         | 29/32           |
| Aeration Oxidation (AO) Method | 52.325                       | 6.523        | -2.19        | 51.895                          | 5.673        | -2.79        | 20/20           |
| Segmented Flow Analyzer        | 53.500                       | 5.115        | -1.01        | 53.250                          | 4.628        | -1.44        | 4/4             |
| Enzymatic Method               | 53.900                       | 7.853        | -0.61        | 54.800                          | 6.281        | 0.11         | 5/5             |
| Colorimetric Analyzer          | 53.800                       | 7.783        | -0.71        | 55.600                          | 7.995        | 0.91         | 5/5             |
| FTIR                           | 54.000                       | 0.000        | -0.51        | 53.000                          | 0.000        | -1.69        | 1/1             |
| Flow Injection Analysis        | 49.250                       | 2.842        | -5.26        | 49.417                          | 2.616        | -5.27        | 6/7             |



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 903****Summer 2016****Free Sulfur Dioxide**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 21.00       | 0.96                 | 0.46  | 22.00       | 1.68                 | 0.74  |
| 2QM86H  |           | 19.05       | -1.00                | -0.48 | 18.40       | -1.92                | -0.85 |
| 32VJPP  | X         | 6.00        | -14.05               | -6.77 | 7.50        | -12.82               | -5.67 |
| 3CW8GM  |           | 16.50       | -3.55                | -1.71 | 17.00       | -3.32                | -1.47 |
| 4PW9TN  |           | 20.50       | 0.46                 | 0.22  | 20.00       | -0.32                | -0.14 |
| 6AJ8JJ  | X         | 28.00       | 7.96                 | 3.84  | 18.50       | -1.82                | -0.80 |
| 6HRN7H  |           | 20.85       | 0.81                 | 0.39  | 20.90       | 0.58                 | 0.26  |
| 6RNEXK  |           | 19.50       | -0.55                | -0.26 | 20.00       | -0.32                | -0.14 |
| 6TU7GL  |           | 23.50       | 3.46                 | 1.67  | 23.00       | 2.68                 | 1.19  |
| 6UPPJM  |           | 22.50       | 2.46                 | 1.18  | 22.50       | 2.18                 | 0.97  |
| 77EYRD  | *         | 22.00       | 1.96                 | 0.94  | 24.50       | 4.18                 | 1.85  |
| 7C692C  |           | 24.00       | 3.96                 | 1.91  | 25.00       | 4.68                 | 2.07  |
| 7DZR4D  |           | 19.00       | -1.05                | -0.50 | 19.50       | -0.82                | -0.36 |
| 7LQD9B  |           | 18.00       | -2.05                | -0.99 | 18.00       | -2.32                | -1.02 |
| 7XKTXC  | X         | 30.00       | 9.96                 | 4.80  | 29.50       | 9.18                 | 4.06  |
| 8N94MK  | X         | 24.00       | 3.96                 | 1.91  | 21.00       | 0.68                 | 0.30  |
| 8QFLLG  |           | 17.50       | -2.55                | -1.23 | 19.00       | -1.32                | -0.58 |
| 8YEYRC  |           | 18.50       | -1.55                | -0.75 | 18.00       | -2.32                | -1.02 |
| 9393BH  |           | 16.00       | -4.05                | -1.95 | 16.50       | -3.82                | -1.69 |
| 9CU7HG  |           | 21.50       | 1.46                 | 0.70  | 21.50       | 1.18                 | 0.52  |
| A6CB2D  |           | 18.50       | -1.55                | -0.75 | 18.50       | -1.82                | -0.80 |
| A73HZG  |           | 18.00       | -2.05                | -0.99 | 20.00       | -0.32                | -0.14 |
| B4YZN7  |           | 24.00       | 3.96                 | 1.91  | 24.00       | 3.68                 | 1.63  |
| BC63LC  |           | 18.00       | -2.05                | -0.99 | 19.00       | -1.32                | -0.58 |
| BU8N4D  |           | 23.28       | 3.23                 | 1.56  | 24.26       | 3.94                 | 1.74  |
| BZYPR8  |           | 18.50       | -1.55                | -0.75 | 18.00       | -2.32                | -1.02 |
| CE7C8E  |           | 17.50       | -2.55                | -1.23 | 18.00       | -2.32                | -1.02 |
| CT7BVB  |           | 18.00       | -2.05                | -0.99 | 18.00       | -2.32                | -1.02 |
| CU2UWC  |           | 23.00       | 2.96                 | 1.42  | 24.00       | 3.68                 | 1.63  |
| CX2V88  |           | 20.00       | -0.05                | -0.02 | 21.00       | 0.68                 | 0.30  |
| DABVG7  |           | 23.50       | 3.46                 | 1.67  | 22.50       | 2.18                 | 0.97  |
| DEK9Y6  |           | 22.40       | 2.36                 | 1.14  | 20.80       | 0.48                 | 0.21  |
| DJZJC9  | X         | 19.70       | -0.35                | -0.17 | 23.85       | 3.53                 | 1.56  |
| DW6PGF  |           | 18.00       | -2.05                | -0.99 | 18.50       | -1.82                | -0.80 |
| DWQFD7  |           | 19.50       | -0.55                | -0.26 | 20.50       | 0.18                 | 0.08  |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 903****Summer 2016****Free Sulfur Dioxide**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENQFE6  |           | 21.00       | 0.96                 | 0.46  | 22.00       | 1.68                 | 0.74  |
| EWEDUC  |           | 24.00       | 3.96                 | 1.91  | 25.00       | 4.68                 | 2.07  |
| F8F2L9  |           | 19.50       | -0.55                | -0.26 | 20.50       | 0.18                 | 0.08  |
| FBFCH9  | X         | 5.50        | -14.55               | -7.01 | 5.50        | -14.82               | -6.55 |
| FY2ED6  |           | 19.00       | -1.05                | -0.50 | 19.00       | -1.32                | -0.58 |
| G6RY37  |           | 19.50       | -0.55                | -0.26 | 18.50       | -1.82                | -0.80 |
| GJ783A  |           | 22.00       | 1.96                 | 0.94  | 21.50       | 1.18                 | 0.52  |
| GJN4KC  |           | 19.50       | -0.55                | -0.26 | 19.50       | -0.82                | -0.36 |
| GPFB67  |           | 19.00       | -1.05                | -0.50 | 20.00       | -0.32                | -0.14 |
| GQOCR4  |           | 24.50       | 4.46                 | 2.15  | 24.50       | 4.18                 | 1.85  |
| JBRXQ2  | *         | 19.20       | -0.85                | -0.41 | 16.80       | -3.52                | -1.55 |
| K39444  |           | 20.50       | 0.46                 | 0.22  | 20.50       | 0.18                 | 0.08  |
| KD74G8  |           | 19.00       | -1.05                | -0.50 | 19.50       | -0.82                | -0.36 |
| KG93RZ  | *         | 17.85       | -2.20                | -1.06 | 20.15       | -0.17                | -0.07 |
| KRQJK8  |           | 19.50       | -0.55                | -0.26 | 19.50       | -0.82                | -0.36 |
| L746R4  |           | 18.50       | -1.55                | -0.75 | 18.00       | -2.32                | -1.02 |
| LBYYP6  |           | 18.00       | -2.05                | -0.99 | 17.00       | -3.32                | -1.47 |
| LNLBT3  |           | 19.00       | -1.05                | -0.50 | 19.40       | -0.92                | -0.41 |
| N329WU  |           | 21.50       | 1.46                 | 0.70  | 21.00       | 0.68                 | 0.30  |
| N3GEBX  |           | 19.40       | -0.65                | -0.31 | 18.75       | -1.57                | -0.69 |
| N94364  |           | 22.00       | 1.96                 | 0.94  | 23.00       | 2.68                 | 1.19  |
| NGH2LZ  |           | 18.00       | -2.05                | -0.99 | 18.00       | -2.32                | -1.02 |
| Q836UY  |           | 18.00       | -2.05                | -0.99 | 17.50       | -2.82                | -1.25 |
| QJVKHZ  | X         | 27.00       | 6.96                 | 3.35  | 26.50       | 6.18                 | 2.73  |
| QUCEN2  |           | 18.50       | -1.55                | -0.75 | 20.00       | -0.32                | -0.14 |
| RJPQCY  |           | 22.50       | 2.46                 | 1.18  | 23.50       | 3.18                 | 1.41  |
| TETBGW  | X         | 1.13        | -18.92               | -9.12 | 1.09        | -19.23               | -8.50 |
| TEXTFV  |           | 21.00       | 0.96                 | 0.46  | 22.50       | 2.18                 | 0.97  |
| TQMR7X  | X         | 24.00       | 3.96                 | 1.91  | 21.50       | 1.18                 | 0.52  |
| UC6AXU  |           | 17.00       | -3.05                | -1.47 | 17.50       | -2.82                | -1.25 |
| ULVV3T  |           | 19.50       | -0.55                | -0.26 | 20.00       | -0.32                | -0.14 |
| VCZC2P  |           | 20.00       | -0.05                | -0.02 | 20.50       | 0.18                 | 0.08  |
| VVVRFU  |           | 20.00       | -0.05                | -0.02 | 20.00       | -0.32                | -0.14 |
| WVPWAT  |           | 23.00       | 2.96                 | 1.42  | 23.00       | 2.68                 | 1.19  |
| WY6H6L  |           | 23.54       | 3.50                 | 1.69  | 24.61       | 4.29                 | 1.90  |



**Analysis 903  
Free Sulfur Dioxide**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| X2VQ4P  |           | 19.15       | -0.90                | -0.43 | 17.70       | -2.62                | -1.16 |
| X774LM  |           | 21.00       | 0.96                 | 0.46  | 22.00       | 1.68                 | 0.74  |
| XZK4EM  |           | 21.00       | 0.96                 | 0.46  | 21.00       | 0.68                 | 0.30  |
| YA28YR  |           | 18.00       | -2.05                | -0.99 | 18.50       | -1.82                | -0.80 |
| YQA2TM  |           | 18.50       | -1.55                | -0.75 | 18.00       | -2.32                | -1.02 |
| YRZARP  |           | 19.85       | -0.20                | -0.10 | 20.29       | -0.03                | -0.01 |
| Z3DUPR  | X         | 33.00       | 12.96                | 6.25  | 32.50       | 12.18                | 5.39  |
| ZU3HHL  |           | 20.00       | -0.05                | -0.02 | 20.00       | -0.32                | -0.14 |

| Grand Means  |             | Summary Statistics |             |
|--|-------------|--------------------|-------------|
|  | 20.045 mg/L |                    | 20.317 mg/L |
| Std Dev Btwn Labs  |             |                    |             |
|  | 2.074 mg/L  |                    | 2.262 mg/L  |
| <b>Statistics based on 68 of 78 reporting participants</b> |             |                    |             |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

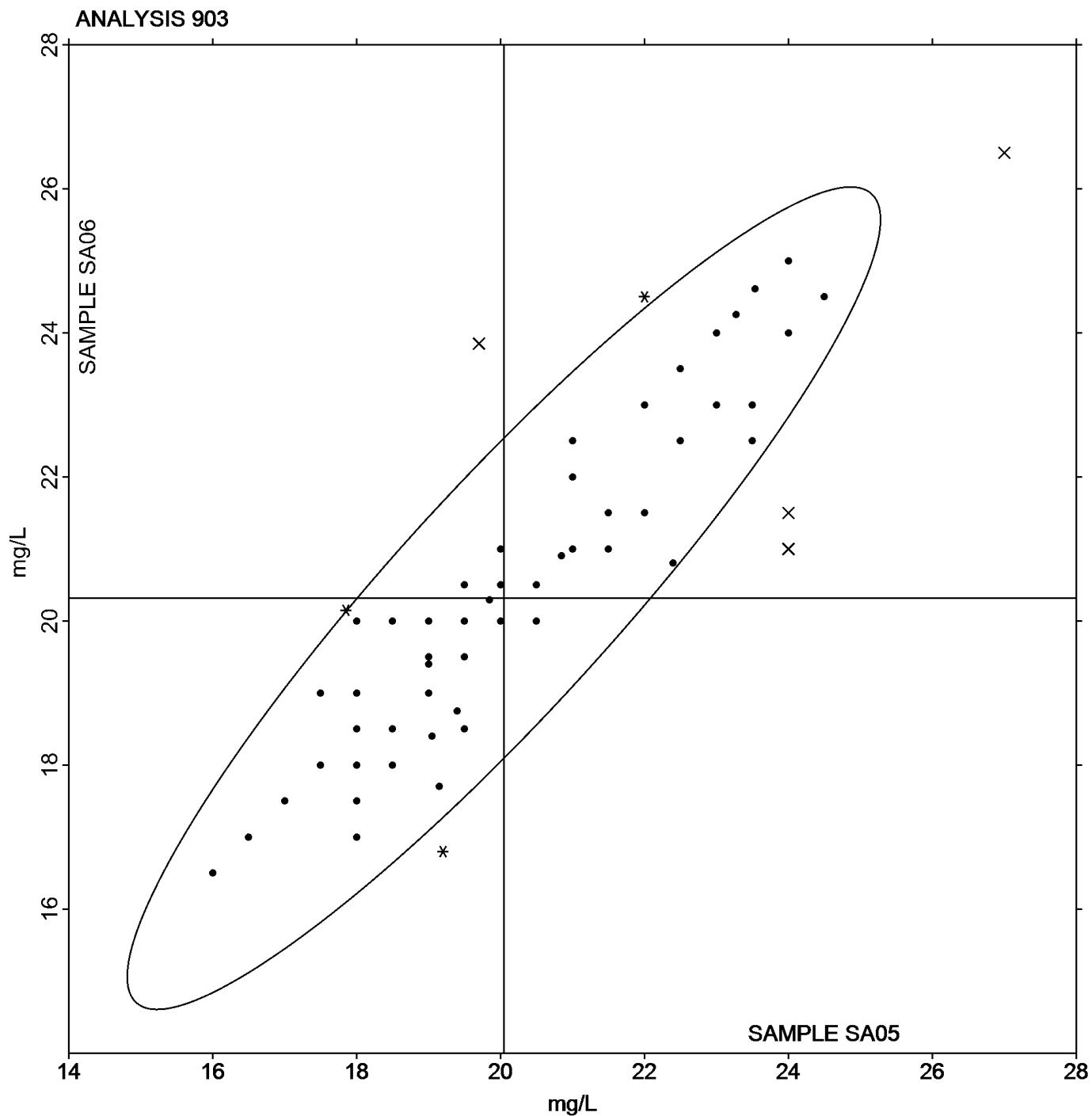
- QJVKHZ (X) - Inconsistent in testing between samples, data for sample SA05 are high.
- 6AJ8JJ (X) - Inconsistent in testing between samples, data for sample SA05 are high. Inconsistent within the determinations of sample SA05.
- DJZJC9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA06.
- 7XKTXC (X) - Data for both samples are high. Possible Systematic Error.
- Z3DUPR (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample SA05.
- TQMR7X (X) - Inconsistent in testing between samples.
- 8N94MK (X) - Inconsistent in testing between samples.
- 32VJPP (X) - Data for both samples are low. Possible Systematic Error.
- FBFCH9 (X) - Data for both samples are low.
- TETBGW (X) - Data for both samples are low.





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

| Test Methodology               | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|--------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used     | 22.000                       | 0.000        | 1.96         | 23.000                          | 0.000        | 2.68         | 1/1             |
| Ripper Method                  | 21.075                       | 2.208        | 1.03         | 21.693                          | 2.307        | 1.38         | 15/20           |
| Aeration Oxidation (AO) Method | 20.063                       | 2.053        | 0.02         | 20.326                          | 2.216        | 0.01         | 33/37           |
| Segmented Flow Analyzer        | 20.392                       | 1.900        | 0.35         | 20.483                          | 1.543        | 0.17         | 6/6             |
| Colormetric Analyzer           | 18.625                       | 1.750        | -1.42        | 18.125                          | 1.436        | -2.19        | 4/4             |
| Flow Injection Analysis        | 18.438                       | 0.943        | -1.61        | 18.563                          | 1.208        | -1.75        | 8/9             |
| FTIR                           | 18.500                       | 0.000        | -1.55        | 18.500                          | 0.000        | -1.82        | 1/1             |





## Analysis 904

Summer 2016

## Titratable Acidity

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 5.950       | 0.129                | 0.66  | 6.360       | 0.108                | 0.50  |
| 2QM86H  |           | 6.100       | 0.279                | 1.44  | 6.600       | 0.348                | 1.61  |
| 32VJPP  |           | 5.815       | -0.006               | -0.03 | 6.210       | -0.042               | -0.20 |
| 3CW8GM  |           | 5.705       | -0.116               | -0.60 | 6.155       | -0.097               | -0.45 |
| 4PW9TN  |           | 6.135       | 0.314                | 1.62  | 6.580       | 0.328                | 1.52  |
| 6AJ8JJ  |           | 5.700       | -0.121               | -0.62 | 6.150       | -0.102               | -0.47 |
| 6HRN7H  | *         | 6.200       | 0.379                | 1.95  | 6.500       | 0.248                | 1.15  |
| 6RNEXK  |           | 5.740       | -0.081               | -0.42 | 6.120       | -0.132               | -0.61 |
| 6TU7GL  |           | 5.950       | 0.129                | 0.66  | 6.350       | 0.098                | 0.45  |
| 6UPPJM  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| 77EYRD  |           | 6.200       | 0.379                | 1.95  | 6.750       | 0.498                | 2.31  |
| 7C692C  |           | 5.500       | -0.321               | -1.65 | 5.900       | -0.352               | -1.63 |
| 7DZR4D  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| 7LQD9B  |           | 5.850       | 0.029                | 0.15  | 6.300       | 0.048                | 0.22  |
| 7XKTXC  |           | 5.700       | -0.121               | -0.62 | 6.200       | -0.052               | -0.24 |
| 8N94MK  |           | 5.400       | -0.421               | -2.17 | 5.830       | -0.422               | -1.96 |
| 8QFLLG  |           | 5.750       | -0.071               | -0.36 | 6.200       | -0.052               | -0.24 |
| 8YEYRC  |           | 5.800       | -0.021               | -0.11 | 6.250       | -0.002               | -0.01 |
| 9393BH  |           | 5.900       | 0.079                | 0.41  | 6.250       | -0.002               | -0.01 |
| 9CU7HG  |           | 5.750       | -0.071               | -0.36 | 6.300       | 0.048                | 0.22  |
| A6CB2D  |           | 5.900       | 0.079                | 0.41  | 6.270       | 0.018                | 0.08  |
| A73HZG  |           | 5.715       | -0.106               | -0.54 | 6.060       | -0.192               | -0.89 |
| B4YZN7  |           | 5.880       | 0.059                | 0.30  | 6.280       | 0.028                | 0.13  |
| BC63LC  | *         | 6.300       | 0.479                | 2.46  | 6.800       | 0.548                | 2.54  |
| BU8N4D  |           | 5.960       | 0.139                | 0.72  | 6.540       | 0.288                | 1.33  |
| BZYPR8  | X         | 7.050       | 1.229                | 6.32  | 5.850       | -0.402               | -1.86 |
| CE7C8E  |           | 5.700       | -0.121               | -0.62 | 6.180       | -0.072               | -0.34 |
| CT7BVB  |           | 5.725       | -0.096               | -0.49 | 6.310       | 0.058                | 0.27  |
| CU2UWC  | X         | 6.250       | 0.429                | 2.21  | 6.955       | 0.703                | 3.26  |
| CX2V88  |           | 5.650       | -0.171               | -0.88 | 6.050       | -0.202               | -0.94 |
| DABVG7  |           | 6.030       | 0.209                | 1.08  | 6.495       | 0.243                | 1.12  |
| DEK9Y6  |           | 5.600       | -0.221               | -1.14 | 5.900       | -0.352               | -1.63 |
| DJZJC9  | *         | 5.715       | -0.106               | -0.54 | 6.350       | 0.098                | 0.45  |
| DW6PGF  |           | 5.800       | -0.021               | -0.11 | 6.200       | -0.052               | -0.24 |
| DWQFD7  |           | 5.770       | -0.051               | -0.26 | 6.250       | -0.002               | -0.01 |

Analysis 904  
Titratable Acidity

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENQFE6  |           | 5.895       | 0.074                | 0.38  | 6.300       | 0.048                | 0.22  |
| EWEDUC  |           | 6.000       | 0.179                | 0.92  | 6.400       | 0.148                | 0.68  |
| F8F2L9  |           | 5.800       | -0.021               | -0.11 | 6.200       | -0.052               | -0.24 |
| FBFCH9  | X         | 6.100       | 0.279                | 1.44  | 6.200       | -0.052               | -0.24 |
| FY2ED6  |           | 6.290       | 0.469                | 2.41  | 6.695       | 0.443                | 2.05  |
| G6RY37  |           | 6.000       | 0.179                | 0.92  | 6.400       | 0.148                | 0.68  |
| GJ783A  |           | 6.000       | 0.179                | 0.92  | 6.450       | 0.198                | 0.92  |
| GJN4KC  | X         | 5.925       | 0.104                | 0.54  | 6.000       | -0.252               | -1.17 |
| GPFB67  | X         | 5.095       | -0.726               | -3.73 | 5.495       | -0.757               | -3.51 |
| GQOCR4  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| JBRXQ2  |           | 5.840       | 0.019                | 0.10  | 6.295       | 0.043                | 0.20  |
| K39444  |           | 5.600       | -0.221               | -1.14 | 5.950       | -0.302               | -1.40 |
| KD74G8  |           | 5.800       | -0.021               | -0.11 | 6.300       | 0.048                | 0.22  |
| KG93RZ  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| KRQJK8  | *         | 5.750       | -0.071               | -0.36 | 6.400       | 0.148                | 0.68  |
| L746R4  |           | 5.735       | -0.086               | -0.44 | 6.115       | -0.137               | -0.64 |
| LBYYP6  |           | 5.710       | -0.111               | -0.57 | 6.145       | -0.107               | -0.50 |
| LNLBT3  |           | 6.250       | 0.429                | 2.21  | 6.700       | 0.448                | 2.08  |
| N329WU  |           | 5.905       | 0.084                | 0.43  | 6.205       | -0.047               | -0.22 |
| N3GEBX  | *         | 6.355       | 0.534                | 2.75  | 6.900       | 0.648                | 3.00  |
| NGH2LZ  | X         | 6.085       | 0.264                | 1.36  | 6.275       | 0.023                | 0.11  |
| PPRPYY  |           | 6.000       | 0.179                | 0.92  | 6.300       | 0.048                | 0.22  |
| Q836UY  |           | 5.800       | -0.021               | -0.11 | 6.200       | -0.052               | -0.24 |
| QJVKHZ  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| QUCEN2  |           | 5.800       | -0.021               | -0.11 | 6.200       | -0.052               | -0.24 |
| RJPQCY  |           | 5.750       | -0.071               | -0.36 | 6.075       | -0.177               | -0.82 |
| RPZTEU  |           | 5.900       | 0.079                | 0.41  | 6.350       | 0.098                | 0.45  |
| TETBGW  |           | 5.645       | -0.176               | -0.91 | 6.140       | -0.112               | -0.52 |
| TEXTFV  |           | 5.700       | -0.121               | -0.62 | 6.150       | -0.102               | -0.47 |
| U6L4ZM  |           | 5.743       | -0.078               | -0.40 | 6.145       | -0.108               | -0.50 |
| UC6AXU  |           | 5.850       | 0.029                | 0.15  | 6.200       | -0.052               | -0.24 |
| ULVV3T  |           | 5.855       | 0.034                | 0.18  | 6.265       | 0.013                | 0.06  |
| VCZC2P  |           | 5.725       | -0.096               | -0.49 | 6.295       | 0.043                | 0.20  |
| VPAR9U  |           | 5.850       | 0.029                | 0.15  | 6.400       | 0.148                | 0.68  |
| VVVRFU  |           | 5.770       | -0.051               | -0.26 | 6.230       | -0.022               | -0.10 |



**Analysis 904  
Titratable Acidity**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| WVPWAT  |           | 5.830       | 0.009                | 0.05  | 6.190       | -0.062               | -0.29 |
| WY6H6L  |           | 5.850       | 0.029                | 0.15  | 6.300       | 0.048                | 0.22  |
| X2VQ4P  |           | 5.840       | 0.019                | 0.10  | 6.190       | -0.062               | -0.29 |
| X774LM  |           | 5.790       | -0.031               | -0.16 | 6.245       | -0.007               | -0.03 |
| XZK4EM  |           | 5.745       | -0.076               | -0.39 | 6.150       | -0.102               | -0.47 |
| YA28YR  |           | 5.800       | -0.021               | -0.11 | 6.240       | -0.012               | -0.06 |
| YQA2TM  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| YRZARP  | *         | 5.285       | -0.536               | -2.76 | 5.660       | -0.592               | -2.75 |
| Z3DUPR  |           | 5.700       | -0.121               | -0.62 | 6.100       | -0.152               | -0.71 |
| ZU3HHL  |           | 5.500       | -0.321               | -1.65 | 5.900       | -0.352               | -1.63 |

| Grand Means  | Summary Statistics          |
|--|-----------------------------|
| 5.8209 g/L as tartaric acid                                | 6.2523 g/L as tartaric acid |
| Std Dev Btwn Labs  |                             |
| 0.1944 g/L as tartaric acid                                | 0.2157 g/L as tartaric acid |
| <b>Statistics based on 74 of 80 reporting participants</b> |                             |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

- NGH2LZ (X) - Inconsistent in testing between samples.
- BZYPR8 (X) - Inconsistent in testing between samples, data for sample SA05 are high. Inconsistent within the determinations of sample SA05.
- GJN4KC (X) - Inconsistent in testing between samples.
- FBFCH9 (X) - Inconsistent in testing between samples.
- CU2UWC (X) - Inconsistent in testing between samples, data for sample SA06 are high.
- GPF67 (X) - Data for both samples are low. Possible Systematic Error.



Analysis 904  
Titratable Acidity

Results by Methodology (as reported by laboratory)

| Test Methodology        | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|-------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                         | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method   | 5.770                        | 0.000        | -0.051       | 6.230                           | 0.000        | -0.022       | 1/1             |
| Autotitration           | 5.822                        | 0.150        | 0.001        | 6.263                           | 0.170        | 0.011        | 49/50           |
| Manual Titration        | 5.761                        | 0.285        | -0.060       | 6.176                           | 0.325        | -0.077       | 14/19           |
| FTIR                    | 5.952                        | 0.196        | 0.131        | 6.355                           | 0.205        | 0.103        | 9/9             |
| Segmented Flow Analyzer | 5.500                        | 0.000        | -0.321       | 5.900                           | 0.000        | -0.352       | 1/1             |



Analysis 905  
Volatile Acidity

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  | X         | 0.7350      | 0.2437               | 4.59  | 0.7950      | 0.2472               | 4.12  |
| 2QM86H  |           | 0.4450      | -0.0463              | -0.87 | 0.4950      | -0.0528              | -0.88 |
| 32VJPP  |           | 0.5200      | 0.0287               | 0.54  | 0.5700      | 0.0222               | 0.37  |
| 3CW8GM  |           | 0.5300      | 0.0387               | 0.73  | 0.5700      | 0.0222               | 0.37  |
| 4PW9TN  |           | 0.4550      | -0.0363              | -0.68 | 0.5100      | -0.0378              | -0.63 |
| 6AJ8JJ  | *         | 0.4900      | -0.0013              | -0.03 | 0.4950      | -0.0528              | -0.88 |
| 6HRN7H  |           | 0.4550      | -0.0363              | -0.68 | 0.5450      | -0.0028              | -0.05 |
| 6RNEXK  | X         | 0.5450      | 0.0537               | 1.01  | 0.5100      | -0.0378              | -0.63 |
| 6TU7GL  |           | 0.4850      | -0.0063              | -0.12 | 0.5450      | -0.0028              | -0.05 |
| 6UPPJM  | *         | 0.6000      | 0.1087               | 2.05  | 0.6300      | 0.0822               | 1.37  |
| 77EYRD  |           | 0.5100      | 0.0187               | 0.35  | 0.5700      | 0.0222               | 0.37  |
| 7C692C  |           | 0.5200      | 0.0287               | 0.54  | 0.5800      | 0.0322               | 0.54  |
| 7DZR4D  |           | 0.4850      | -0.0063              | -0.12 | 0.5550      | 0.0072               | 0.12  |
| 7LQD9B  |           | 0.5450      | 0.0537               | 1.01  | 0.6450      | 0.0972               | 1.62  |
| 7XKTXC  |           | 0.4900      | -0.0013              | -0.03 | 0.5450      | -0.0028              | -0.05 |
| 8N94MK  |           | 0.5100      | 0.0187               | 0.35  | 0.5500      | 0.0022               | 0.04  |
| 8QFLLG  |           | 0.4200      | -0.0713              | -1.34 | 0.4700      | -0.0778              | -1.30 |
| 9393BH  |           | 0.4700      | -0.0213              | -0.40 | 0.5500      | 0.0022               | 0.04  |
| 9CU7HG  |           | 0.4400      | -0.0513              | -0.97 | 0.5000      | -0.0478              | -0.80 |
| A6CB2D  |           | 0.5100      | 0.0187               | 0.35  | 0.5800      | 0.0322               | 0.54  |
| A73HZG  | X         | 0.4650      | -0.0263              | -0.50 | 0.6050      | 0.0572               | 0.95  |
| B4YZN7  |           | 0.4400      | -0.0513              | -0.97 | 0.4900      | -0.0578              | -0.96 |
| BC63LC  |           | 0.5400      | 0.0487               | 0.92  | 0.6150      | 0.0672               | 1.12  |
| BU8N4D  |           | 0.5100      | 0.0187               | 0.35  | 0.5700      | 0.0222               | 0.37  |
| BZYPR8  | *         | 0.6000      | 0.1087               | 2.05  | 0.6300      | 0.0822               | 1.37  |
| CE7C8E  |           | 0.5300      | 0.0387               | 0.73  | 0.5850      | 0.0372               | 0.62  |
| CT7BVB  |           | 0.4500      | -0.0413              | -0.78 | 0.5150      | -0.0328              | -0.55 |
| CU2UWC  |           | 0.5050      | 0.0137               | 0.26  | 0.5450      | -0.0028              | -0.05 |
| CX2V88  |           | 0.6150      | 0.1237               | 2.33  | 0.6700      | 0.1222               | 2.04  |
| DABVG7  |           | 0.4950      | 0.0037               | 0.07  | 0.5500      | 0.0022               | 0.04  |
| DEK9Y6  |           | 0.4630      | -0.0283              | -0.53 | 0.5295      | -0.0183              | -0.30 |
| DJZJC9  |           | 0.4650      | -0.0263              | -0.50 | 0.5000      | -0.0478              | -0.80 |
| DW6PGF  |           | 0.4800      | -0.0113              | -0.21 | 0.5400      | -0.0078              | -0.13 |
| DWQFD7  | *         | 0.6225      | 0.1312               | 2.47  | 0.7050      | 0.1572               | 2.62  |
| ENQFE6  |           | 0.4300      | -0.0613              | -1.15 | 0.4700      | -0.0778              | -1.30 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 905  
Volatile Acidity****Summer 2016**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| EWEDUC  |           | 0.4400      | -0.0513              | -0.97 | 0.5350      | -0.0128              | -0.21 |
| F8F2L9  |           | 0.4400      | -0.0513              | -0.97 | 0.4950      | -0.0528              | -0.88 |
| FBFCH9  |           | 0.5400      | 0.0487               | 0.92  | 0.6000      | 0.0522               | 0.87  |
| FY2ED6  | X         | 0.7000      | 0.2087               | 3.93  | 0.7000      | 0.1522               | 2.54  |
| G6RY37  |           | 0.5100      | 0.0187               | 0.35  | 0.5700      | 0.0222               | 0.37  |
| GJ783A  |           | 0.4400      | -0.0513              | -0.97 | 0.4550      | -0.0928              | -1.55 |
| GPFB67  | X         | 0.6200      | 0.1287               | 2.42  | 0.6100      | 0.0622               | 1.04  |
| GQOCR4  |           | 0.5000      | 0.0087               | 0.16  | 0.5600      | 0.0122               | 0.20  |
| JBRXQ2  |           | 0.4050      | -0.0863              | -1.63 | 0.4300      | -0.1178              | -1.96 |
| K39444  |           | 0.5250      | 0.0337               | 0.63  | 0.5750      | 0.0272               | 0.45  |
| KD74G8  |           | 0.5300      | 0.0387               | 0.73  | 0.5750      | 0.0272               | 0.45  |
| KG93RZ  |           | 0.4750      | -0.0163              | -0.31 | 0.5200      | -0.0278              | -0.46 |
| KRQJK8  |           | 0.4500      | -0.0413              | -0.78 | 0.4850      | -0.0628              | -1.05 |
| L746R4  |           | 0.5200      | 0.0287               | 0.54  | 0.5350      | -0.0128              | -0.21 |
| LBYYP6  |           | 0.4650      | -0.0263              | -0.50 | 0.5300      | -0.0178              | -0.30 |
| LNLBT3  | *         | 0.3505      | -0.1408              | -2.65 | 0.3835      | -0.1643              | -2.74 |
| N329WU  |           | 0.4950      | 0.0037               | 0.07  | 0.5500      | 0.0022               | 0.04  |
| N3GEBX  |           | 0.4950      | 0.0037               | 0.07  | 0.5700      | 0.0222               | 0.37  |
| N94364  |           | 0.4950      | 0.0037               | 0.07  | 0.5700      | 0.0222               | 0.37  |
| NGH2LZ  | X         | 0.5625      | 0.0712               | 1.34  | 0.5045      | -0.0433              | -0.72 |
| PPRPYY  |           | 0.4850      | -0.0063              | -0.12 | 0.5850      | 0.0372               | 0.62  |
| Q836UY  |           | 0.4950      | 0.0037               | 0.07  | 0.5550      | 0.0072               | 0.12  |
| QJVKHZ  | X         | 0.6600      | 0.1687               | 3.18  | 0.8200      | 0.2722               | 4.54  |
| QUCEN2  |           | 0.5350      | 0.0437               | 0.82  | 0.5800      | 0.0322               | 0.54  |
| RJPQCY  | X         | 0.3850      | -0.1063              | -2.00 | 0.3650      | -0.1828              | -3.05 |
| RPZTEU  | X         | 0.7100      | 0.2187               | 4.12  | 0.7650      | 0.2172               | 3.62  |
| TETBGW  |           | 0.4300      | -0.0613              | -1.15 | 0.4800      | -0.0678              | -1.13 |
| TEXTFV  |           | 0.5800      | 0.0887               | 1.67  | 0.6300      | 0.0822               | 1.37  |
| U6L4ZM  |           | 0.4635      | -0.0278              | -0.52 | 0.5445      | -0.0033              | -0.05 |
| UC6AXU  |           | 0.5600      | 0.0687               | 1.29  | 0.6500      | 0.1022               | 1.71  |
| ULVV3T  |           | 0.4750      | -0.0163              | -0.31 | 0.5550      | 0.0072               | 0.12  |
| VCZC2P  |           | 0.5200      | 0.0287               | 0.54  | 0.6100      | 0.0622               | 1.04  |
| VVVRFU  |           | 0.4150      | -0.0763              | -1.44 | 0.4450      | -0.1028              | -1.71 |
| WVPWAT  |           | 0.4550      | -0.0363              | -0.68 | 0.5250      | -0.0228              | -0.38 |
| WY6H6L  |           | 0.4860      | -0.0053              | -0.10 | 0.5400      | -0.0078              | -0.13 |



Analysis 905
Volatile Acidity

Table with 8 columns: WebCode, Data Flag, Lab Mean, Diff from Grand Mean, CPV (repeated for Sample SA05 and Sample SA06). Rows include X2VQ4P, X774LM, XZK4EM, YA28YR, YQA2TM, Z3DUPR, ZU3HHL.

Summary Statistics table with 2 columns: Grand Means, Stnd Dev Btwn Labs. Values for SA05 and SA06 are provided. Includes note: Statistics based on 68 of 77 reporting participants.

Wines tested: SA05: Merlot; SA06: Zinfandel

Comments on Assigned Data Flags for Test #905

- 6RNEXK (X) - Inconsistent in testing between samples.
RJPQCY (X) - Inconsistent in testing between samples, data for sample SA06 are low.
QJVKHZ (X) - Data for both samples are high. Possible Systematic Error.
NGH2LZ (X) - Inconsistent in testing between samples.
A73HZG (X) - Inconsistent in testing between samples.
2FWVKN (X) - Data for both samples are high. Possible Systematic Error.
GPF67 (X) - Inconsistent in testing between samples.
RPZTEU (X) - Data for both samples are high. Possible Systematic Error.
FY2ED6 (X) - Inconsistent in testing between samples, data for sample SA05 are high. Inconsistent within the determinations of both samples.



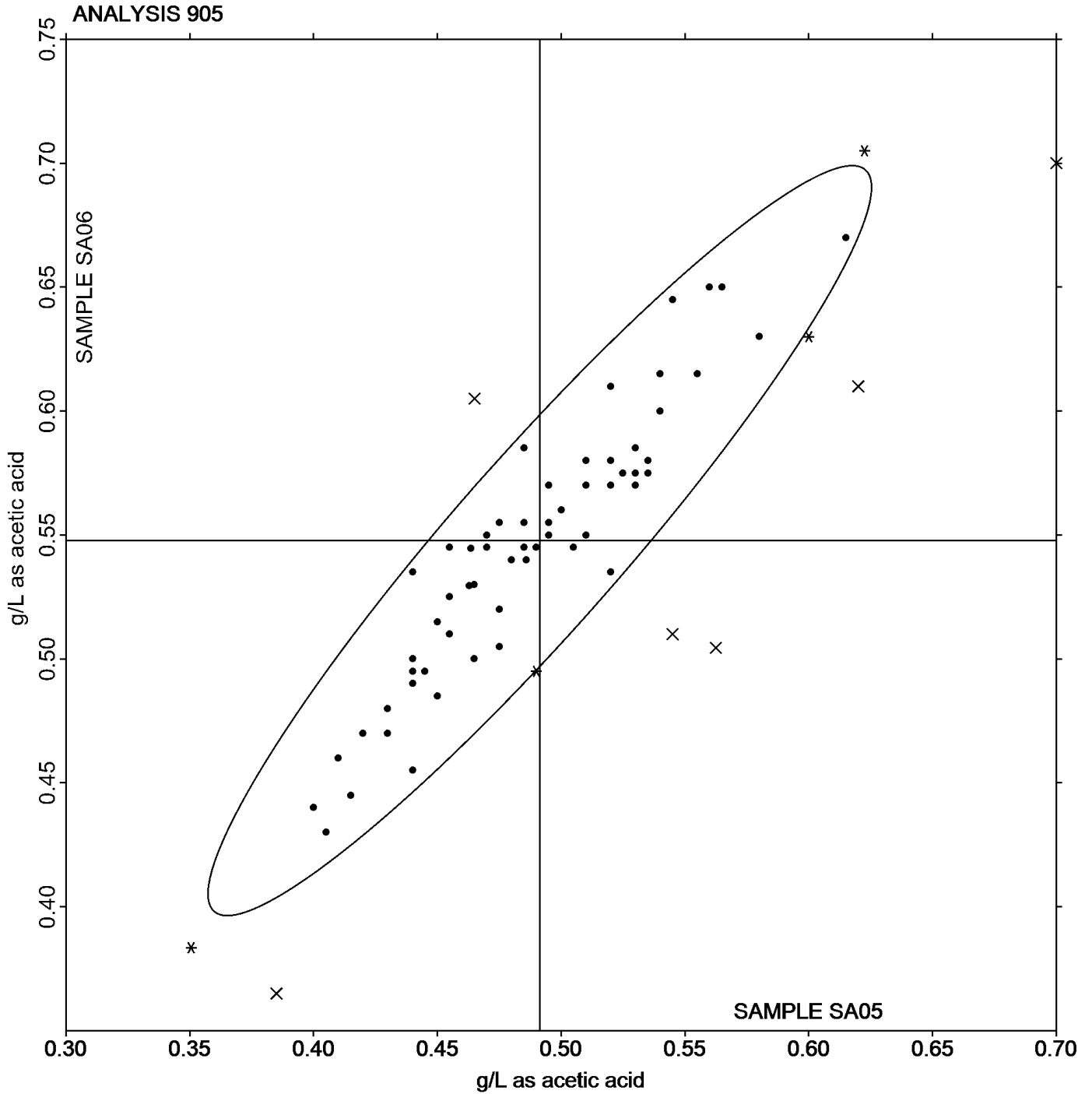
Analysis 905  
Volatile Acidity

Results by Methodology (as reported by laboratory)

| Test Methodology                  | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|-----------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                                   | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method             | 0.560                        | 0.000        | 0.0687       | 0.650                           | 0.000        | 0.1022       | 1/1             |
| Cash Still method                 | 0.512                        | 0.056        | 0.0206       | 0.563                           | 0.066        | 0.0156       | 16/21           |
| Enzymatic method                  | 0.475                        | 0.050        | -0.0161      | 0.531                           | 0.056        | -0.0172      | 33/36           |
| HPLC                              | 0.520                        | 0.000        | 0.0287       | 0.570                           | 0.000        | 0.0222       | 1/1             |
| GC                                | 0.448                        | 0.054        | -0.0433      | 0.500                           | 0.057        | -0.0478      | 2/2             |
| Colorimetric Analysis             | 0.510                        | 0.000        | 0.0187       | 0.550                           | 0.000        | 0.0022       | 1/1             |
| Seg. Flow / Colorimetric Analyzer | 0.523                        | 0.055        | 0.0320       | 0.575                           | 0.059        | 0.0272       | 6/6             |
| FTIR                              | 0.489                        | 0.039        | -0.0026      | 0.563                           | 0.054        | 0.0154       | 8/9             |



Analysis 905  
Volatile Acidity





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #053  
Summer 2016

## Analysis 906 Specific Gravity

| WebCode | Data Flag | Sample SA05 |                      |        | Sample SA06 |                      |        |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV    | Lab Mean    | Diff from Grand Mean | CPV    |
| 2FWVKN  | X         | 0.9965      | 0.0005               | 0.80   | 0.9961      | -0.0007              | -1.29  |
| 2QM86H  | X         | 1.0026      | 0.0065               | 11.14  | 1.0032      | 0.0064               | 10.92  |
| 32VJPP  |           | 0.9962      | 0.0002               | 0.29   | 0.9970      | 0.0002               | 0.26   |
| 4PW9TN  | X         | 0.9957      | -0.0003              | -0.53  | 0.9957      | -0.0011              | -1.94  |
| 6AJ8JJ  | X         | 0.9933      | -0.0027              | -4.60  | 0.9941      | -0.0028              | -4.76  |
| 6HRN7H  |           | 0.9950      | -0.0010              | -1.76  | 0.9959      | -0.0009              | -1.63  |
| 6RNEXK  | X         | 0.9966      | 0.0006               | 0.97   | 0.9977      | 0.0009               | 1.46   |
| 6TU7GL  |           | 0.9964      | 0.0004               | 0.61   | 0.9972      | 0.0003               | 0.59   |
| 6UPPJM  |           | 0.9962      | 0.0001               | 0.22   | 0.9970      | 0.0001               | 0.21   |
| 7C692C  |           | 0.9961      | 0.0001               | 0.12   | 0.9970      | 0.0001               | 0.17   |
| 7DZR4D  |           | 0.9962      | 0.0001               | 0.24   | 0.9970      | 0.0002               | 0.26   |
| 7LQD9B  |           | 0.9966      | 0.0006               | 0.97   | 0.9974      | 0.0005               | 0.86   |
| 7XKTXC  |           | 0.9968      | 0.0007               | 1.23   | 0.9977      | 0.0009               | 1.46   |
| 8N94MK  | *         | 0.9945      | -0.0015              | -2.62  | 0.9953      | -0.0015              | -2.66  |
| 8QFLLG  | X         | 0.9934      | -0.0026              | -4.50  | 0.9942      | -0.0026              | -4.55  |
| 8YEYRC  |           | 0.9962      | 0.0002               | 0.29   | 0.9970      | 0.0002               | 0.26   |
| 9393BH  |           | 0.9966      | 0.0006               | 0.96   | 0.9974      | 0.0005               | 0.93   |
| 9CU7HG  |           | 0.9973      | 0.0013               | 2.17   | 0.9980      | 0.0012               | 1.98   |
| A73HZG  |           | 0.9962      | 0.0001               | 0.21   | 0.9970      | 0.0001               | 0.22   |
| B4YZN7  | *         | 0.9958      | -0.0002              | -0.41  | 0.9964      | -0.0005              | -0.79  |
| BC63LC  | *         | 0.9943      | -0.0017              | -2.95  | 0.9952      | -0.0017              | -2.89  |
| BZYPR8  | X         | 0.9923      | -0.0037              | -6.40  | 0.9928      | -0.0041              | -6.98  |
| CE7C8E  |           | 0.9963      | 0.0003               | 0.46   | 0.9970      | 0.0002               | 0.26   |
| CT7BVB  | X         | 0.9952      | -0.0008              | -1.42  | 0.9970      | 0.0002               | 0.26   |
| CX2V88  |           | 0.9962      | 0.0001               | 0.22   | 0.9969      | 0.0000               | 0.07   |
| DABVG7  |           | 0.9961      | 0.0001               | 0.12   | 0.9969      | 0.0001               | 0.09   |
| DEK9Y6  |           | 0.9960      | 0.0000               | -0.05  | 0.9969      | 0.0001               | 0.09   |
| DJZJC9  | X         | 0.9935      | -0.0026              | -4.41  | 0.9941      | -0.0028              | -4.81  |
| DW6PGF  |           | 0.9962      | 0.0002               | 0.29   | 0.9970      | 0.0002               | 0.26   |
| DWQFD7  |           | 0.9965      | 0.0005               | 0.80   | 0.9973      | 0.0005               | 0.78   |
| FBFCH9  | *         | 0.9943      | -0.0017              | -2.96  | 0.9951      | -0.0017              | -3.01  |
| FY2ED6  |           | 0.9961      | 0.0001               | 0.10   | 0.9969      | 0.0000               | 0.07   |
| G6RY37  |           | 0.9962      | 0.0002               | 0.29   | 0.9970      | 0.0002               | 0.26   |
| GJN4KC  | X         | 0.9825      | -0.0135              | -23.13 | 0.9820      | -0.0149              | -25.61 |
| GPFB67  |           | 0.9963      | 0.0002               | 0.38   | 0.9971      | 0.0002               | 0.37   |



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #053

## Analysis 906 Specific Gravity

Summer 2016

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| GQQCR4  | X         | 0.9981      | 0.0020               | 3.45  | 0.9990      | 0.0022               | 3.70  |
| JBRXQ2  |           | 0.9964      | 0.0004               | 0.63  | 0.9973      | 0.0004               | 0.69  |
| K39444  |           | 0.9957      | -0.0003              | -0.55 | 0.9965      | -0.0004              | -0.62 |
| KD74G8  |           | 0.9965      | 0.0005               | 0.80  | 0.9974      | 0.0005               | 0.86  |
| KG93RZ  | X         | 0.9930      | -0.0030              | -5.18 | 0.9940      | -0.0028              | -4.90 |
| KRQJK8  | X         | 0.9978      | 0.0018               | 3.01  | 0.9978      | 0.0009               | 1.62  |
| L746R4  |           | 0.9962      | 0.0001               | 0.20  | 0.9970      | 0.0001               | 0.17  |
| LBYYP6  |           | 0.9962      | 0.0002               | 0.32  | 0.9970      | 0.0002               | 0.28  |
| N329WU  |           | 0.9960      | 0.0000               | -0.05 | 0.9970      | 0.0002               | 0.26  |
| N94364  | *         | 0.9944      | -0.0016              | -2.79 | 0.9952      | -0.0016              | -2.83 |
| NGH2LZ  |           | 0.9963      | 0.0002               | 0.41  | 0.9971      | 0.0002               | 0.40  |
| Q836UY  |           | 0.9962      | 0.0001               | 0.20  | 0.9970      | 0.0001               | 0.21  |
| QJVKHZ  |           | 0.9962      | 0.0001               | 0.23  | 0.9970      | 0.0001               | 0.21  |
| RJPQCY  |           | 0.9962      | 0.0001               | 0.23  | 0.9972      | 0.0003               | 0.52  |
| TEXTFV  | *         | 0.9965      | 0.0005               | 0.80  | 0.9971      | 0.0003               | 0.43  |
| TQMR7X  | X         | 0.9969      | 0.0009               | 1.53  | 0.9969      | 0.0000               | 0.02  |
| U6L4ZM  |           | 0.9961      | 0.0001               | 0.17  | 0.9969      | 0.0001               | 0.14  |
| UC6AXU  |           | 0.9961      | 0.0001               | 0.12  | 0.9969      | 0.0001               | 0.09  |
| ULVV3T  |           | 0.9962      | 0.0002               | 0.29  | 0.9971      | 0.0003               | 0.43  |
| VCZC2P  |           | 0.9960      | 0.0000               | 0.01  | 0.9970      | 0.0002               | 0.30  |
| VPAR9U  |           | 0.9962      | 0.0001               | 0.20  | 0.9970      | 0.0001               | 0.18  |
| VVVRFU  |           | 0.9960      | 0.0000               | -0.05 | 0.9970      | 0.0002               | 0.26  |
| WVPWAT  |           | 0.9956      | -0.0005              | -0.82 | 0.9964      | -0.0004              | -0.77 |
| WY6H6L  | X         | 0.9950      | -0.0010              | -1.76 | 0.9950      | -0.0018              | -3.18 |
| X2VQ4P  |           | 0.9959      | -0.0001              | -0.23 | 0.9967      | -0.0002              | -0.34 |
| X774LM  |           | 0.9959      | -0.0001              | -0.23 | 0.9967      | -0.0001              | -0.26 |
| YA28YR  |           | 0.9961      | 0.0001               | 0.19  | 0.9970      | 0.0001               | 0.21  |
| YQA2TM  |           | 0.9961      | 0.0001               | 0.19  | 0.9970      | 0.0002               | 0.26  |
| Z3DUPR  |           | 0.9962      | 0.0002               | 0.27  | 0.9970      | 0.0001               | 0.19  |
| ZU3HHL  |           | 0.9962      | 0.0002               | 0.29  | 0.9970      | 0.0002               | 0.26  |



Analysis 906  
Specific Gravity

| Grand Means  | Summary Statistics    |
|--|-----------------------|
| 0.99603 sp gr 20/20 C                                      | 0.99685 sp gr 20/20 C |
| Stnd Dev Btwn Labs   |                       |
| 0.00059 sp gr 20/20 C                                      | 0.00058 sp gr 20/20 C |
| <b>Statistics based on 50 of 65 reporting participants</b> |                       |

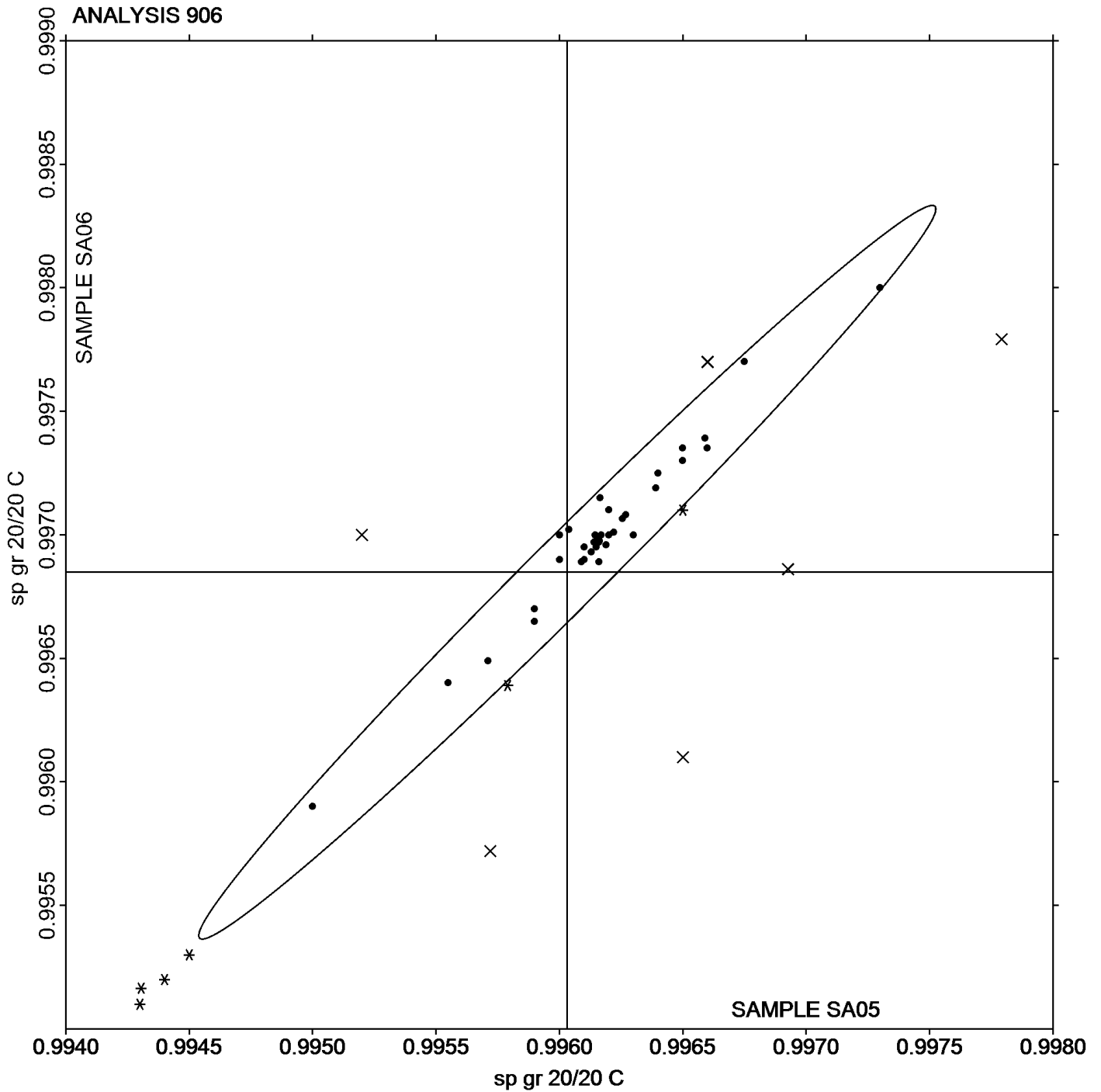
Wines tested: SA05: Merlot; SA06: Zinfandel

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

- 6RNEXK (X) - Inconsistent in testing between samples.
- 6AJ8JJ (X) - Data for both samples are low. Possible Systematic Error.
- DJZJC9 (X) - Data for both samples are low. Possible Systematic Error.
- BZYPR8 (X) - Data for both samples are low. Possible Systematic Error.
- 2QM86H (X) - Data for both samples are high.
- WY6H6L (X) - Inconsistent in testing between samples, data for sample SA06 are low.
- 4PW9TN (X) - Inconsistent in testing between samples.
- TQMR7X (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA06.
- GJN4KC (X) - Data for both samples are low.
- KRQJK8 (X) - Inconsistent in testing between samples, data for sample SA05 are high.
- 8QFLLG (X) - Data for both samples are low. Possible Systematic Error.
- CT7BVB (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA05.
- 2FWVKN (X) - Inconsistent in testing between samples.
- KG93RZ (X) - Data for both samples are low. Possible Systematic Error.
- GQQCR4 (X) - Data for both samples are high. Possible Systematic Error.



Analysis 906  
Specific Gravity







## Analysis 907

Summer 2016

## pH

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 3.455       | -0.040               | -1.19 | 3.455       | -0.038               | -1.14 |
| 2QM86H  |           | 3.520       | 0.025                | 0.76  | 3.530       | 0.037                | 1.11  |
| 32VJPP  | *         | 3.545       | 0.050                | 1.51  | 3.565       | 0.072                | 2.15  |
| 3CW8GM  |           | 3.500       | 0.005                | 0.16  | 3.500       | 0.007                | 0.21  |
| 4PW9TN  |           | 3.460       | -0.035               | -1.04 | 3.460       | -0.033               | -0.99 |
| 6AJ8JJ  |           | 3.480       | -0.015               | -0.44 | 3.480       | -0.013               | -0.39 |
| 6HRN7H  |           | 3.475       | -0.020               | -0.59 | 3.470       | -0.023               | -0.69 |
| 6RNEXK  |           | 3.480       | -0.015               | -0.44 | 3.480       | -0.013               | -0.39 |
| 6TU7GL  |           | 3.465       | -0.030               | -0.89 | 3.455       | -0.038               | -1.14 |
| 6UPPJM  |           | 3.485       | -0.010               | -0.29 | 3.485       | -0.008               | -0.24 |
| 77EYRD  |           | 3.520       | 0.025                | 0.76  | 3.520       | 0.027                | 0.81  |
| 7C692C  |           | 3.495       | 0.000                | 0.01  | 3.490       | -0.003               | -0.09 |
| 7DZR4D  |           | 3.490       | -0.005               | -0.14 | 3.490       | -0.003               | -0.09 |
| 7LQD9B  |           | 3.450       | -0.045               | -1.34 | 3.450       | -0.043               | -1.29 |
| 7XKTXC  |           | 3.490       | -0.005               | -0.14 | 3.485       | -0.008               | -0.24 |
| 8N94MK  |           | 3.450       | -0.045               | -1.34 | 3.435       | -0.058               | -1.73 |
| 8QFLLG  |           | 3.535       | 0.040                | 1.21  | 3.535       | 0.042                | 1.25  |
| 8YEYRC  |           | 3.500       | 0.005                | 0.16  | 3.490       | -0.003               | -0.09 |
| 9393BH  |           | 3.535       | 0.040                | 1.21  | 3.530       | 0.037                | 1.11  |
| 9CU7HG  |           | 3.500       | 0.005                | 0.16  | 3.490       | -0.003               | -0.09 |
| A6CB2D  | *         | 3.560       | 0.065                | 1.96  | 3.540       | 0.047                | 1.40  |
| A73HZG  |           | 3.450       | -0.045               | -1.34 | 3.450       | -0.043               | -1.29 |
| B4YZN7  |           | 3.500       | 0.005                | 0.16  | 3.500       | 0.007                | 0.21  |
| BC63LC  | X         | 3.600       | 0.105                | 3.15  | 3.570       | 0.077                | 2.30  |
| BU8N4D  |           | 3.480       | -0.015               | -0.44 | 3.480       | -0.013               | -0.39 |
| BZYPR8  |           | 3.445       | -0.050               | -1.49 | 3.440       | -0.053               | -1.58 |
| CE7C8E  |           | 3.550       | 0.055                | 1.66  | 3.550       | 0.057                | 1.70  |
| CT7BVB  |           | 3.500       | 0.005                | 0.16  | 3.490       | -0.003               | -0.09 |
| CU2UWC  |           | 3.550       | 0.055                | 1.66  | 3.530       | 0.037                | 1.11  |
| CX2V88  |           | 3.530       | 0.035                | 1.06  | 3.530       | 0.037                | 1.11  |
| DABVG7  |           | 3.495       | 0.000                | 0.01  | 3.490       | -0.003               | -0.09 |
| DEK9Y6  |           | 3.470       | -0.025               | -0.74 | 3.475       | -0.018               | -0.54 |
| DJZJC9  | X         | 3.650       | 0.155                | 4.65  | 3.700       | 0.207                | 6.19  |
| DW6PGF  |           | 3.450       | -0.045               | -1.34 | 3.440       | -0.053               | -1.58 |
| DWQFD7  |           | 3.470       | -0.025               | -0.74 | 3.465       | -0.028               | -0.84 |



# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #053  
Summer 2016

## Analysis 907

### pH

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| ENQFE6  |           | 3.520       | 0.025                | 0.76  | 3.520       | 0.027                | 0.81  |
| EWEDUC  | *         | 3.435       | -0.060               | -1.79 | 3.455       | -0.038               | -1.14 |
| F8F2L9  | *         | 3.530       | 0.035                | 1.06  | 3.505       | 0.012                | 0.36  |
| FBFCH9  |           | 3.530       | 0.035                | 1.06  | 3.525       | 0.032                | 0.96  |
| FY2ED6  | X         | 3.430       | -0.065               | -1.93 | 3.460       | -0.033               | -0.99 |
| G6RY37  | X         | 3.540       | 0.045                | 1.36  | 3.570       | 0.077                | 2.30  |
| GJ783A  |           | 3.535       | 0.040                | 1.21  | 3.535       | 0.042                | 1.25  |
| GJN4KC  |           | 3.470       | -0.025               | -0.74 | 3.470       | -0.023               | -0.69 |
| GPFB67  |           | 3.415       | -0.080               | -2.38 | 3.415       | -0.078               | -2.33 |
| GQOCR4  |           | 3.460       | -0.035               | -1.04 | 3.475       | -0.018               | -0.54 |
| JBRXQ2  |           | 3.435       | -0.060               | -1.79 | 3.430       | -0.063               | -1.88 |
| K39444  |           | 3.505       | 0.010                | 0.31  | 3.500       | 0.007                | 0.21  |
| KD74G8  |           | 3.475       | -0.020               | -0.59 | 3.480       | -0.013               | -0.39 |
| KG93RZ  |           | 3.550       | 0.055                | 1.66  | 3.550       | 0.057                | 1.70  |
| KRQJK8  |           | 3.455       | -0.040               | -1.19 | 3.460       | -0.033               | -0.99 |
| L746R4  |           | 3.510       | 0.015                | 0.46  | 3.520       | 0.027                | 0.81  |
| LBYYP6  |           | 3.500       | 0.005                | 0.16  | 3.495       | 0.002                | 0.06  |
| LNLBT3  |           | 3.495       | 0.000                | 0.01  | 3.475       | -0.018               | -0.54 |
| N329WU  |           | 3.460       | -0.035               | -1.04 | 3.460       | -0.033               | -0.99 |
| N3GEBX  |           | 3.505       | 0.010                | 0.31  | 3.495       | 0.002                | 0.06  |
| N94364  |           | 3.495       | 0.000                | 0.01  | 3.495       | 0.002                | 0.06  |
| NGH2LZ  |           | 3.490       | -0.005               | -0.14 | 3.480       | -0.013               | -0.39 |
| PPRPYY  | X         | 3.490       | -0.005               | -0.14 | 3.525       | 0.032                | 0.96  |
| Q836UY  |           | 3.480       | -0.015               | -0.44 | 3.480       | -0.013               | -0.39 |
| QJVKHZ  |           | 3.490       | -0.005               | -0.14 | 3.480       | -0.013               | -0.39 |
| QUCEN2  |           | 3.465       | -0.030               | -0.89 | 3.460       | -0.033               | -0.99 |
| RJPQCY  |           | 3.475       | -0.020               | -0.59 | 3.470       | -0.023               | -0.69 |
| RPZTEU  |           | 3.485       | -0.010               | -0.29 | 3.485       | -0.008               | -0.24 |
| TETBGW  |           | 3.500       | 0.005                | 0.16  | 3.500       | 0.007                | 0.21  |
| TEXTFV  |           | 3.500       | 0.005                | 0.16  | 3.500       | 0.007                | 0.21  |
| UC6AXU  | *         | 3.520       | 0.025                | 0.76  | 3.540       | 0.047                | 1.40  |
| ULVV3T  | *         | 3.580       | 0.085                | 2.55  | 3.580       | 0.087                | 2.60  |
| VCZC2P  |           | 3.480       | -0.015               | -0.44 | 3.495       | 0.002                | 0.06  |
| VVVRFU  |           | 3.535       | 0.040                | 1.21  | 3.535       | 0.042                | 1.25  |
| WVPWAT  |           | 3.470       | -0.025               | -0.74 | 3.480       | -0.013               | -0.39 |



**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Analysis 907**  
**pH**

**Report #053**  
**Summer 2016**

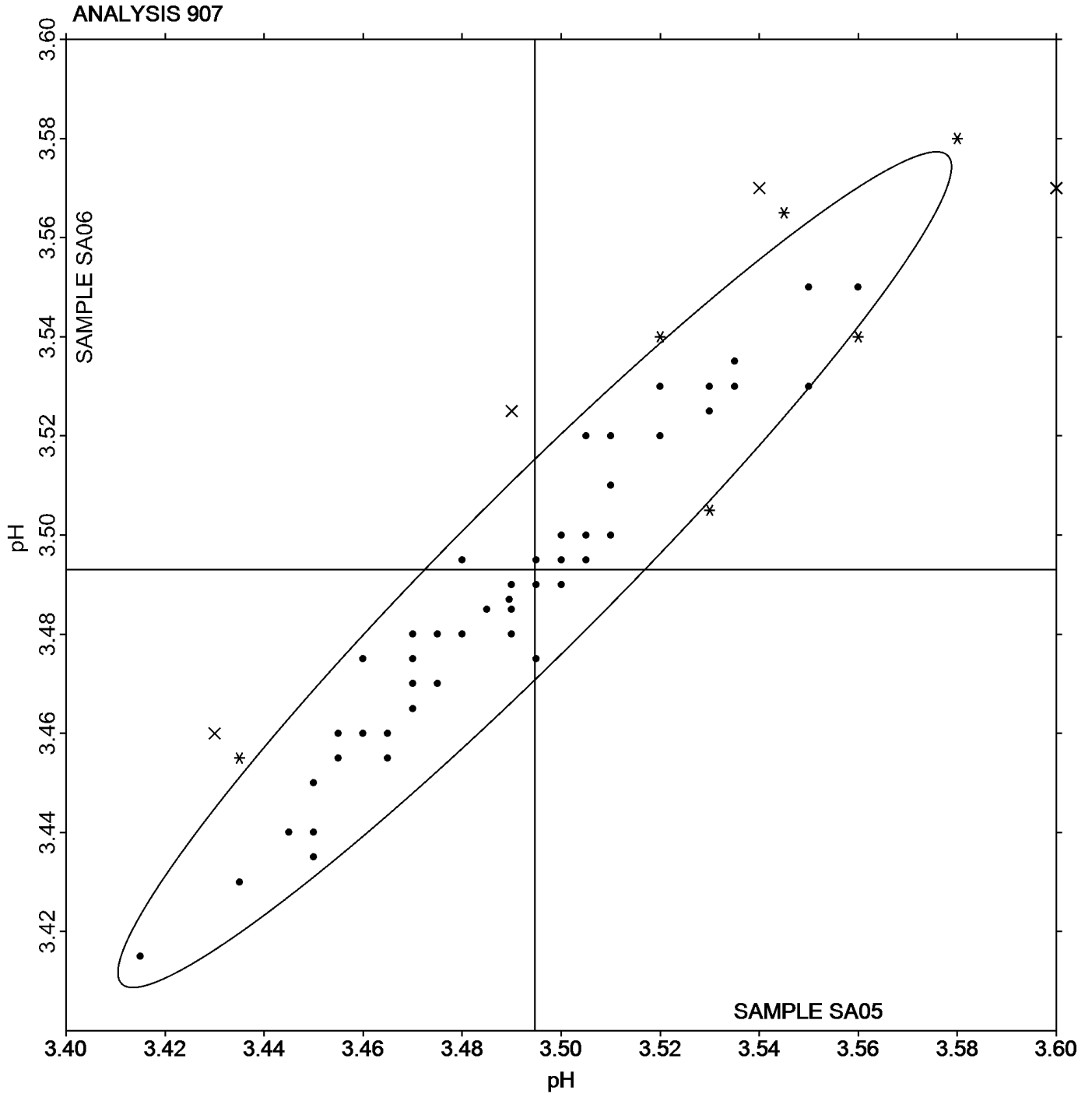
| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| WY6H6L  |           | 3.510       | 0.015                | 0.46  | 3.510       | 0.017                | 0.51  |
| X2VQ4P  |           | 3.510       | 0.015                | 0.46  | 3.520       | 0.027                | 0.81  |
| X774LM  |           | 3.560       | 0.065                | 1.96  | 3.550       | 0.057                | 1.70  |
| XZK4EM  |           | 3.510       | 0.015                | 0.46  | 3.500       | 0.007                | 0.21  |
| YA28YR  |           | 3.490       | -0.005               | -0.15 | 3.487       | -0.006               | -0.18 |
| YQA2TM  |           | 3.500       | 0.005                | 0.16  | 3.490       | -0.003               | -0.09 |
| YRZARP  | X         | 3.175       | -0.320               | -9.57 | 3.170       | -0.323               | -9.65 |
| Z3DUPR  |           | 3.505       | 0.010                | 0.31  | 3.520       | 0.027                | 0.81  |

| Grand Means  |           | Summary Statistics |           |
|--|-----------|--------------------|-----------|
|  | 3.4946 pH |                    | 3.4930 pH |
| Std Dev Btwn Labs  |           |                    |           |
|  | 0.0334 pH |                    | 0.0335 pH |
| <b>Statistics based on 72 of 78 reporting participants</b> |           |                    |           |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

- BC63LC (X) - Inconsistent in testing between samples, data for sample SA05 are high.
- G6RY37 (X) - Inconsistent in testing between samples.
- PPRPPY (X) - Inconsistent in testing between samples.
- DJZJC9 (X) - Data for both samples are high.
- YRZARP (X) - Data for both samples are low.
- FY2ED6 (X) - Inconsistent in testing between samples.





Analysis 908  
Residual Sugar

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2QM86H  |           | 5.450       | -1.636               | -1.44 | 6.750       | -2.150               | -1.39 |
| 32VJPP  |           | 7.240       | 0.154                | 0.14  | 8.695       | -0.205               | -0.13 |
| 6RNEXK  | X         | 7.200       | 0.114                | 0.10  | 5.800       | -3.100               | -2.01 |
| 7LQD9B  |           | 8.400       | 1.314                | 1.16  | 9.950       | 1.050                | 0.68  |
| 8N94MK  |           | 7.470       | 0.384                | 0.34  | 9.855       | 0.955                | 0.62  |
| A73HZG  |           | 7.525       | 0.439                | 0.39  | 10.395      | 1.495                | 0.97  |
| B4YZN7  |           | 6.800       | -0.286               | -0.25 | 8.530       | -0.370               | -0.24 |
| CE7C8E  |           | 5.720       | -1.366               | -1.20 | 6.930       | -1.970               | -1.27 |
| DEK9Y6  |           | 7.650       | 0.564                | 0.50  | 9.800       | 0.900                | 0.58  |
| DJZJC9  |           | 5.280       | -1.806               | -1.59 | 5.709       | -3.191               | -2.06 |
| F8F2L9  |           | 5.865       | -1.221               | -1.08 | 7.390       | -1.510               | -0.98 |
| FY2ED6  |           | 8.850       | 1.764                | 1.56  | 11.600      | 2.700                | 1.75  |
| GJN4KC  |           | 9.450       | 2.364                | 2.08  | 11.600      | 2.700                | 1.75  |
| JBRXQ2  |           | 5.650       | -1.436               | -1.27 | 7.550       | -1.350               | -0.87 |
| KG93RZ  |           | 6.865       | -0.221               | -0.19 | 8.465       | -0.435               | -0.28 |
| KRQJK8  |           | 6.350       | -0.736               | -0.65 | 7.850       | -1.050               | -0.68 |
| N94364  |           | 7.600       | 0.514                | 0.45  | 9.550       | 0.650                | 0.42  |
| PPRPYY  |           | 6.100       | -0.986               | -0.87 | 8.000       | -0.900               | -0.58 |
| VCZC2P  |           | 7.900       | 0.814                | 0.72  | 10.100      | 1.200                | 0.78  |
| WY6H6L  |           | 7.700       | 0.614                | 0.54  | 9.700       | 0.800                | 0.52  |
| YRZARP  |           | 7.390       | 0.304                | 0.27  | 8.830       | -0.070               | -0.05 |
| ZU3HHL  |           | 7.550       | 0.464                | 0.41  | 9.650       | 0.750                | 0.49  |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 7.0860 g/L   | 8.8999 g/L         |
| Stnd Dev Btwn Labs   |                    |
| 1.1341 g/L   | 1.5457 g/L         |
| <b>Statistics based on 21 of 22 reporting participants</b> |                    |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

6RNEXK (X) - Inconsistent in testing between samples.



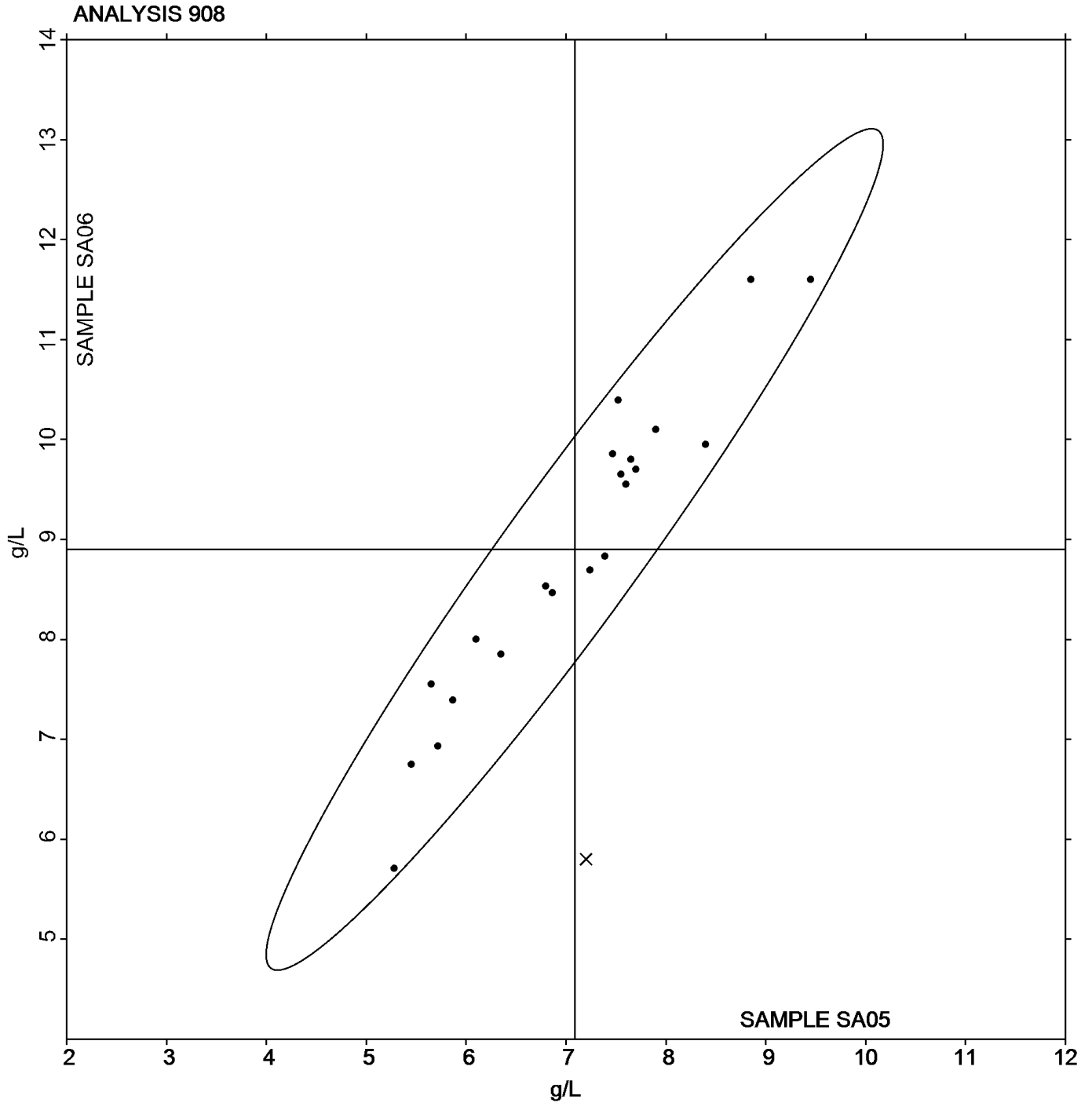
Analysis 908  
Residual Sugar

Results by Methodology (as reported by laboratory)

| Test Methodology           | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|----------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                            | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used | 5.450                        | 0.000        | -1.636       | 6.750                           | 0.000        | -2.150       | 1/2             |
| Cu Reduction Method        | 7.342                        | 0.710        | 0.256        | 9.456                           | 0.915        | 0.556        | 8/8             |
| HPLC                       | 6.865                        | 0.000        | -0.221       | 8.465                           | 0.000        | -0.435       | 1/1             |
| Segmented Flow             | 7.550                        | 0.000        | 0.464        | 9.650                           | 0.000        | 0.750        | 1/1             |
| FTIR                       | 7.319                        | 1.576        | 0.233        | 9.034                           | 2.152        | 0.134        | 7/7             |
| Other _____                | 6.325                        | 0.925        | -0.761       | 7.717                           | 0.991        | -1.183       | 3/3             |



Analysis 908  
Residual Sugar





# ASEV-CTS Wine Industry Interlaboratory Testing Program

Report #053  
Summer 2016

## Analysis 909

### L-Malic Acid

| WebCode | Data Flag | Sample SA05                      |                      |       | Sample SA06 |                      |       |
|---------|-----------|----------------------------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean                         | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2QM86H  |           | 0.1250                           | -0.0199              | -0.45 | 0.1700      | -0.0065              | -0.13 |
| 32VJPP  |           | 0.1600                           | 0.0151               | 0.34  | 0.1900      | 0.0135               | 0.27  |
| 3CW8GM  |           | 0.1500                           | 0.0051               | 0.12  | 0.1800      | 0.0035               | 0.07  |
| 4PW9TN  |           | 0.1700                           | 0.0251               | 0.57  | 0.1900      | 0.0135               | 0.27  |
| 6AJ8JJ  |           | 0.2235                           | 0.0786               | 1.79  | 0.2595      | 0.0830               | 1.67  |
| 6HRN7H  |           | 0.1600                           | 0.0151               | 0.34  | 0.2050      | 0.0285               | 0.57  |
| 6RNEXK  |           | 0.1550                           | 0.0101               | 0.23  | 0.1750      | -0.0015              | -0.03 |
| 6TU7GL  |           | 0.0750                           | -0.0699              | -1.59 | 0.1100      | -0.0665              | -1.34 |
| 77EYRD  |           | 0.1390                           | -0.0059              | -0.13 | 0.1710      | -0.0055              | -0.11 |
| 7C692C  |           | 0.1395                           | -0.0054              | -0.12 | 0.1705      | -0.0060              | -0.12 |
| 7DZR4D  | X         | 0.2825                           | 0.1376               | 3.14  | 0.2960      | 0.1195               | 2.41  |
| 7XKTXC  |           | 0.1280                           | -0.0169              | -0.38 | 0.1625      | -0.0140              | -0.28 |
| 8N94MK  | *         | 0.1900                           | 0.0451               | 1.03  | 0.1800      | 0.0035               | 0.07  |
| 8QFLLG  |           | 0.1655                           | 0.0206               | 0.47  | 0.2370      | 0.0605               | 1.22  |
| 9393BH  |           | 0.1650                           | 0.0201               | 0.46  | 0.2100      | 0.0335               | 0.68  |
| 9CU7HG  |           | 0.1200                           | -0.0249              | -0.57 | 0.1250      | -0.0515              | -1.04 |
| A6CB2D  | *         | 0.0250                           | -0.1199              | -2.73 | 0.0600      | -0.1165              | -2.35 |
| B4YZN7  | X         | 0.1100                           | -0.0349              | -0.80 | 0.0200      | -0.1565              | -3.15 |
| BC63LC  | *         | 0.0500                           | -0.0949              | -2.16 | 0.0500      | -0.1265              | -2.55 |
| BU8N4D  |           | 0.1450                           | 0.0001               | 0.00  | 0.1715      | -0.0050              | -0.10 |
| CE7C8E  |           | 0.1840                           | 0.0391               | 0.89  | 0.2095      | 0.0330               | 0.67  |
| CT7BVB  |           | 0.1500                           | 0.0051               | 0.12  | 0.1900      | 0.0135               | 0.27  |
| CU2UWC  |           | 0.1600                           | 0.0151               | 0.34  | 0.1900      | 0.0135               | 0.27  |
| CX2V88  |           | 0.2000                           | 0.0551               | 1.26  | 0.2600      | 0.0835               | 1.68  |
| DABVG7  |           | 0.1325                           | -0.0124              | -0.28 | 0.1645      | -0.0120              | -0.24 |
| DEK9Y6  |           | 0.1150                           | -0.0299              | -0.68 | 0.1390      | -0.0375              | -0.75 |
| DJZJC9  | M         | No data reported for this sample |                      |       | 0.0750      | -0.1015              | -2.04 |
| DW6PGF  |           | 0.1665                           | 0.0216               | 0.49  | 0.2210      | 0.0445               | 0.90  |
| DWQFD7  | *         | 0.2000                           | 0.0551               | 1.26  | 0.1900      | 0.0135               | 0.27  |
| ENQFE6  |           | 0.0350                           | -0.1099              | -2.51 | 0.0550      | -0.1215              | -2.45 |
| EWEDUC  |           | 0.1350                           | -0.0099              | -0.23 | 0.1850      | 0.0085               | 0.17  |
| FBFCH9  |           | 0.1600                           | 0.0151               | 0.34  | 0.1900      | 0.0135               | 0.27  |
| FY2ED6  |           | 0.1960                           | 0.0511               | 1.17  | 0.2220      | 0.0455               | 0.92  |
| G6RY37  |           | 0.1420                           | -0.0029              | -0.07 | 0.1790      | 0.0025               | 0.05  |
| GJ783A  |           | 0.1690                           | 0.0241               | 0.55  | 0.2210      | 0.0445               | 0.90  |





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

**Report #053  
Summer 2016**

**Analysis 909**

**L-Malic Acid**

| WebCode | Data Flag | Sample SA05                      |                      |       | Sample SA06 |                      |       |
|---------|-----------|----------------------------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean                         | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| GJN4KC  |           | 0.1950                           | 0.0501               | 1.14  | 0.2250      | 0.0485               | 0.98  |
| GPFB67  |           | 0.1500                           | 0.0051               | 0.12  | 0.1850      | 0.0085               | 0.17  |
| GQQCR4  |           | 0.1385                           | -0.0064              | -0.15 | 0.1715      | -0.0050              | -0.10 |
| KD74G8  | X         | 0.1400                           | -0.0049              | -0.11 | 0.2450      | 0.0685               | 1.38  |
| KG93RZ  | X         | 0.3100                           | 0.1651               | 3.77  | 0.5250      | 0.3485               | 7.02  |
| KRQJK8  | *         | 0.0350                           | -0.1099              | -2.51 | 0.0500      | -0.1265              | -2.55 |
| L746R4  |           | 0.1000                           | -0.0449              | -1.02 | 0.1350      | -0.0415              | -0.84 |
| LBYYP6  |           | 0.1400                           | -0.0049              | -0.11 | 0.1800      | 0.0035               | 0.07  |
| LNLBT3  |           | 0.1250                           | -0.0199              | -0.45 | 0.1550      | -0.0215              | -0.43 |
| N329WU  |           | 0.1000                           | -0.0449              | -1.02 | 0.1350      | -0.0415              | -0.84 |
| N3GEBX  |           | 0.1600                           | 0.0151               | 0.34  | 0.1800      | 0.0035               | 0.07  |
| N94364  |           | 0.0650                           | -0.0799              | -1.82 | 0.0700      | -0.1065              | -2.14 |
| NGH2LZ  |           | 0.1835                           | 0.0386               | 0.88  | 0.2285      | 0.0520               | 1.05  |
| Q836UY  |           | 0.1315                           | -0.0134              | -0.30 | 0.1695      | -0.0070              | -0.14 |
| QJVKHZ  |           | 0.1350                           | -0.0099              | -0.23 | 0.1750      | -0.0015              | -0.03 |
| QUCEN2  |           | 0.1650                           | 0.0201               | 0.46  | 0.1960      | 0.0195               | 0.39  |
| RJPQCY  |           | 0.1800                           | 0.0351               | 0.80  | 0.2000      | 0.0235               | 0.47  |
| RPZTEU  |           | 0.2000                           | 0.0551               | 1.26  | 0.2600      | 0.0835               | 1.68  |
| TETBGW  | X         | 0.0350                           | -0.1099              | -2.51 | 0.1450      | -0.0315              | -0.63 |
| TEXTFV  |           | 0.1200                           | -0.0249              | -0.57 | 0.1300      | -0.0465              | -0.94 |
| ULVV3T  |           | 0.1750                           | 0.0301               | 0.69  | 0.2100      | 0.0335               | 0.68  |
| VCZC2P  |           | 0.1600                           | 0.0151               | 0.34  | 0.1900      | 0.0135               | 0.27  |
| VVVRFU  |           | 0.1300                           | -0.0149              | -0.34 | 0.1900      | 0.0135               | 0.27  |
| WVPWAT  |           | 0.1500                           | 0.0051               | 0.12  | 0.2000      | 0.0235               | 0.47  |
| WY6H6L  |           | 0.2300                           | 0.0851               | 1.94  | 0.2500      | 0.0735               | 1.48  |
| X2VQ4P  |           | 0.1300                           | -0.0149              | -0.34 | 0.1700      | -0.0065              | -0.13 |
| X774LM  |           | 0.1900                           | 0.0451               | 1.03  | 0.2150      | 0.0385               | 0.78  |
| XZK4EM  |           | 0.1160                           | -0.0289              | -0.66 | 0.1445      | -0.0320              | -0.64 |
| YA28YR  | M         | No data reported for this sample |                      |       | 0.2050      | 0.0285               | 0.57  |
| YQA2TM  |           | 0.1250                           | -0.0199              | -0.45 | 0.1300      | -0.0465              | -0.94 |
| Z3DUPR  |           | 0.1875                           | 0.0426               | 0.97  | 0.2330      | 0.0565               | 1.14  |



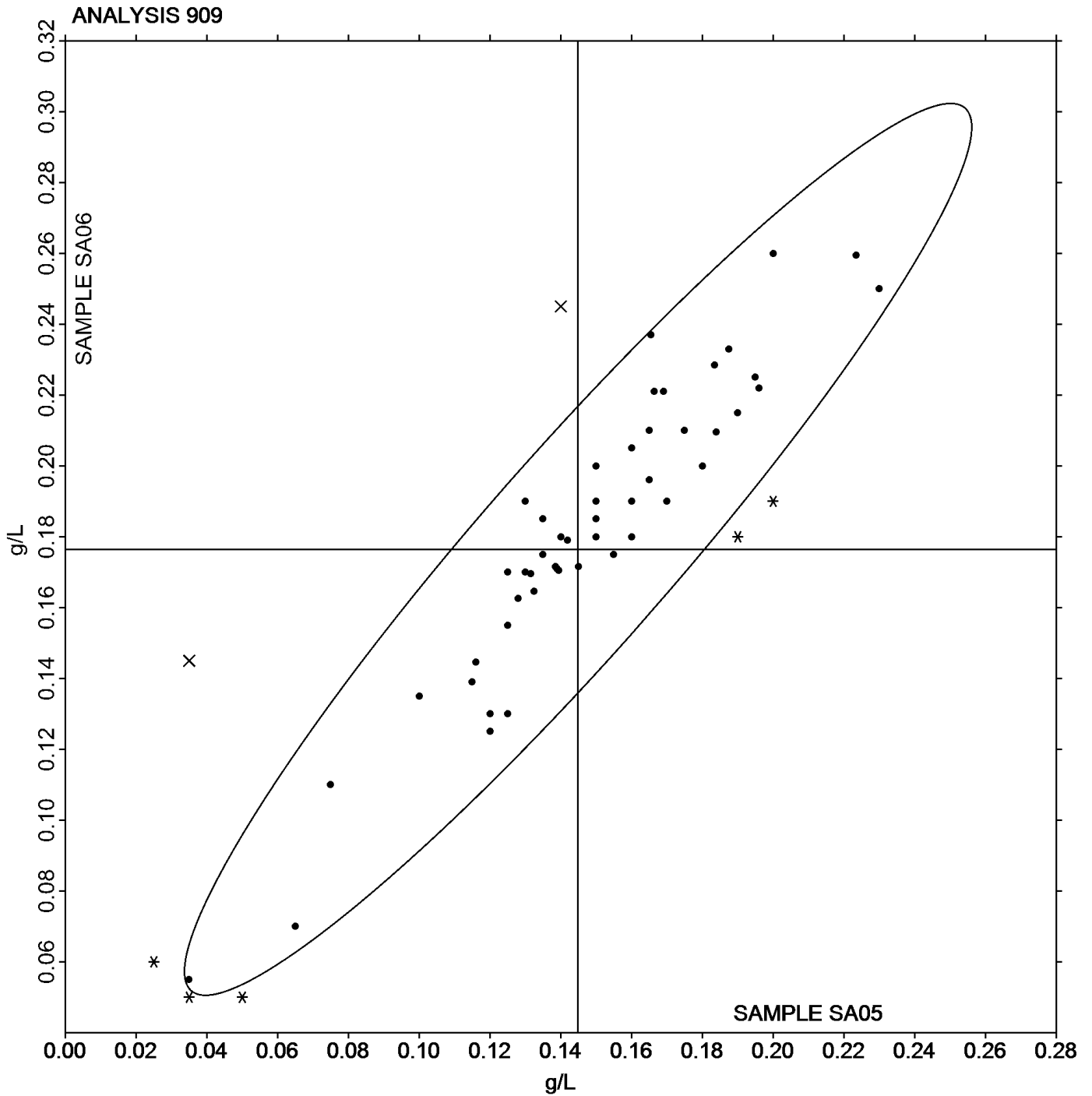
| Grand Means       | Summary Statistics |
|-------------------|--------------------|
| 0.14487 g/L       | 0.17646 g/L        |
| Std Dev Btwn Labs |                    |
| 0.04386 g/L       | 0.04965 g/L        |

**Statistics based on 59 of 66 reporting participants**

Wines tested: SA05: Merlot; SA06: Zinfandel

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

- YA28YR (M) - Participant did not submit data for sample SA05.
- DJZJC9 (M) - Participant did not submit data for sample SA05.
- B4YZN7 (X) - Inconsistent in testing between samples, data for sample SA06 are low.
- 7DZR4D (X) - Data for sample SA05 are high. Inconsistent within the determinations of both samples.
- KD74G8 (X) - Inconsistent in testing between samples.
- TETBGW (X) - Inconsistent in testing between samples.
- KG93RZ (X) - Data for both samples are high.



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 910****Summer 2016****Glucose + Fructose**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 2FWVKN  |           | 5.850       | -0.088               | -0.23 | 7.400       | 0.002                | 0.00  |
| 32VJPP  |           | 6.590       | 0.652                | 1.70  | 8.030       | 0.632                | 1.31  |
| 3CW8GM  |           | 5.300       | -0.638               | -1.66 | 6.650       | -0.749               | -1.55 |
| 4PW9TN  |           | 5.900       | -0.038               | -0.10 | 7.400       | 0.002                | 0.00  |
| 6AJ8JJ  |           | 5.982       | 0.044                | 0.11  | 6.928       | -0.471               | -0.98 |
| 6HRN7H  | X         | 6.200       | 0.262                | 0.68  | 6.850       | -0.549               | -1.14 |
| 6RNEXK  |           | 5.800       | -0.138               | -0.36 | 7.200       | -0.199               | -0.41 |
| 6TU7GL  |           | 5.960       | 0.022                | 0.06  | 7.530       | 0.132                | 0.27  |
| 6UPPJM  | X         | 5.655       | -0.283               | -0.74 | 8.075       | 0.677                | 1.40  |
| 77EYRD  |           | 6.100       | 0.162                | 0.42  | 7.500       | 0.102                | 0.21  |
| 7C692C  |           | 6.050       | 0.112                | 0.29  | 7.400       | 0.002                | 0.00  |
| 7DZR4D  |           | 5.405       | -0.533               | -1.39 | 6.790       | -0.609               | -1.26 |
| 7LQD9B  | *         | 5.200       | -0.738               | -1.92 | 7.000       | -0.399               | -0.83 |
| 7XKTXC  |           | 6.100       | 0.162                | 0.42  | 7.800       | 0.402                | 0.83  |
| 8N94MK  |           | 6.117       | 0.179                | 0.46  | 8.052       | 0.654                | 1.35  |
| 8QFLLG  |           | 5.400       | -0.538               | -1.40 | 6.800       | -0.599               | -1.24 |
| 8YEYRC  |           | 6.200       | 0.262                | 0.68  | 7.800       | 0.402                | 0.83  |
| 9CU7HG  |           | 5.400       | -0.538               | -1.40 | 6.750       | -0.649               | -1.34 |
| A6CB2D  |           | 6.500       | 0.562                | 1.46  | 8.400       | 1.002                | 2.08  |
| A73HZG  |           | 5.405       | -0.533               | -1.39 | 7.010       | -0.389               | -0.81 |
| B4YZN7  | X         | 6.660       | 0.722                | 1.88  | 6.430       | -0.969               | -2.01 |
| BC63LC  |           | 5.630       | -0.308               | -0.80 | 7.315       | -0.084               | -0.17 |
| BU8N4D  |           | 6.450       | 0.512                | 1.33  | 8.000       | 0.602                | 1.25  |
| CE7C8E  |           | 5.720       | -0.218               | -0.57 | 6.930       | -0.469               | -0.97 |
| CT7BVB  |           | 6.160       | 0.222                | 0.58  | 7.695       | 0.297                | 0.61  |
| CU2UWC  |           | 5.950       | 0.012                | 0.03  | 7.435       | 0.037                | 0.08  |
| CX2V88  | *         | 5.850       | -0.088               | -0.23 | 6.645       | -0.754               | -1.56 |
| DABVG7  |           | 6.400       | 0.462                | 1.20  | 7.900       | 0.502                | 1.04  |
| DW6PGF  |           | 6.050       | 0.112                | 0.29  | 7.400       | 0.002                | 0.00  |
| ENQFE6  |           | 5.415       | -0.523               | -1.36 | 6.800       | -0.599               | -1.24 |
| EWEDUC  |           | 5.950       | 0.012                | 0.03  | 7.550       | 0.152                | 0.31  |
| F8F2L9  |           | 5.865       | -0.073               | -0.19 | 7.390       | -0.009               | -0.02 |
| FBFCH9  |           | 5.770       | -0.168               | -0.44 | 6.785       | -0.614               | -1.27 |
| FY2ED6  | X         | 8.600       | 2.662                | 6.93  | 11.150      | 3.752                | 7.78  |
| G6RY37  |           | 6.400       | 0.462                | 1.20  | 7.950       | 0.552                | 1.14  |

**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 910****Summer 2016****Glucose + Fructose**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| GJ783A  |           | 5.800       | -0.138               | -0.36 | 7.050       | -0.349               | -0.72 |
| GJN4KC  |           | 6.300       | 0.362                | 0.94  | 7.700       | 0.302                | 0.63  |
| GPFB67  |           | 6.395       | 0.457                | 1.19  | 8.050       | 0.652                | 1.35  |
| GQQCR4  |           | 6.100       | 0.162                | 0.42  | 7.150       | -0.249               | -0.52 |
| KD74G8  |           | 5.965       | 0.027                | 0.07  | 7.480       | 0.082                | 0.17  |
| KG93RZ  |           | 6.865       | 0.927                | 2.41  | 8.485       | 1.087                | 2.25  |
| KRQJK8  |           | 5.850       | -0.088               | -0.23 | 7.400       | 0.002                | 0.00  |
| L746R4  |           | 5.785       | -0.153               | -0.40 | 7.300       | -0.099               | -0.20 |
| LBYYP6  |           | 6.400       | 0.462                | 1.20  | 7.850       | 0.452                | 0.94  |
| LNLBT3  |           | 5.735       | -0.203               | -0.53 | 7.140       | -0.259               | -0.54 |
| N329WU  |           | 5.862       | -0.076               | -0.20 | 7.036       | -0.363               | -0.75 |
| N3GEBX  |           | 5.830       | -0.108               | -0.28 | 6.980       | -0.419               | -0.87 |
| NGH2LZ  |           | 5.640       | -0.298               | -0.78 | 7.055       | -0.344               | -0.71 |
| Q836UY  |           | 6.200       | 0.262                | 0.68  | 7.800       | 0.402                | 0.83  |
| QJVKHZ  |           | 5.700       | -0.238               | -0.62 | 7.100       | -0.299               | -0.62 |
| QUCEN2  |           | 5.985       | 0.047                | 0.12  | 7.415       | 0.017                | 0.03  |
| RJPQCY  |           | 5.800       | -0.138               | -0.36 | 6.800       | -0.599               | -1.24 |
| RPZTEU  |           | 6.785       | 0.847                | 2.20  | 8.265       | 0.867                | 1.80  |
| TETBGW  |           | 5.500       | -0.438               | -1.14 | 6.900       | -0.499               | -1.03 |
| TEXTFV  |           | 5.450       | -0.488               | -1.27 | 6.850       | -0.549               | -1.14 |
| U6L4ZM  |           | 6.620       | 0.682                | 1.78  | 8.450       | 1.052                | 2.18  |
| UC6AXU  |           | 6.100       | 0.162                | 0.42  | 7.650       | 0.252                | 0.52  |
| ULVV3T  |           | 6.300       | 0.362                | 0.94  | 7.860       | 0.462                | 0.96  |
| VCZC2P  |           | 6.355       | 0.417                | 1.09  | 7.990       | 0.592                | 1.23  |
| VVVRFU  |           | 5.800       | -0.138               | -0.36 | 7.100       | -0.299               | -0.62 |
| WVPWAT  |           | 5.950       | 0.012                | 0.03  | 7.490       | 0.092                | 0.19  |
| X2VQ4P  |           | 5.890       | -0.048               | -0.12 | 7.350       | -0.049               | -0.10 |
| X774LM  |           | 5.980       | 0.042                | 0.11  | 7.450       | 0.052                | 0.11  |
| XZK4EM  | *         | 5.075       | -0.863               | -2.25 | 6.690       | -0.709               | -1.47 |
| YA28YR  |           | 6.000       | 0.062                | 0.16  | 7.600       | 0.202                | 0.42  |
| YQA2TM  |           | 5.300       | -0.638               | -1.66 | 6.735       | -0.664               | -1.38 |
| Z3DUPR  |           | 5.900       | -0.038               | -0.10 | 7.700       | 0.302                | 0.63  |
| ZU3HHL  | X         | 5.650       | -0.288               | -0.75 | 8.150       | 0.752                | 1.56  |



| Grand Means  |            | Summary Statistics |            |
|--|------------|--------------------|------------|
|  | 5.9379 g/L |                    | 7.3985 g/L |
| Std Dev Btwn Labs  |            |                    | 0.4824 g/L |
|  | 0.3842 g/L |                    |            |
| <b>Statistics based on 63 of 68 reporting participants</b> |            |                    |            |

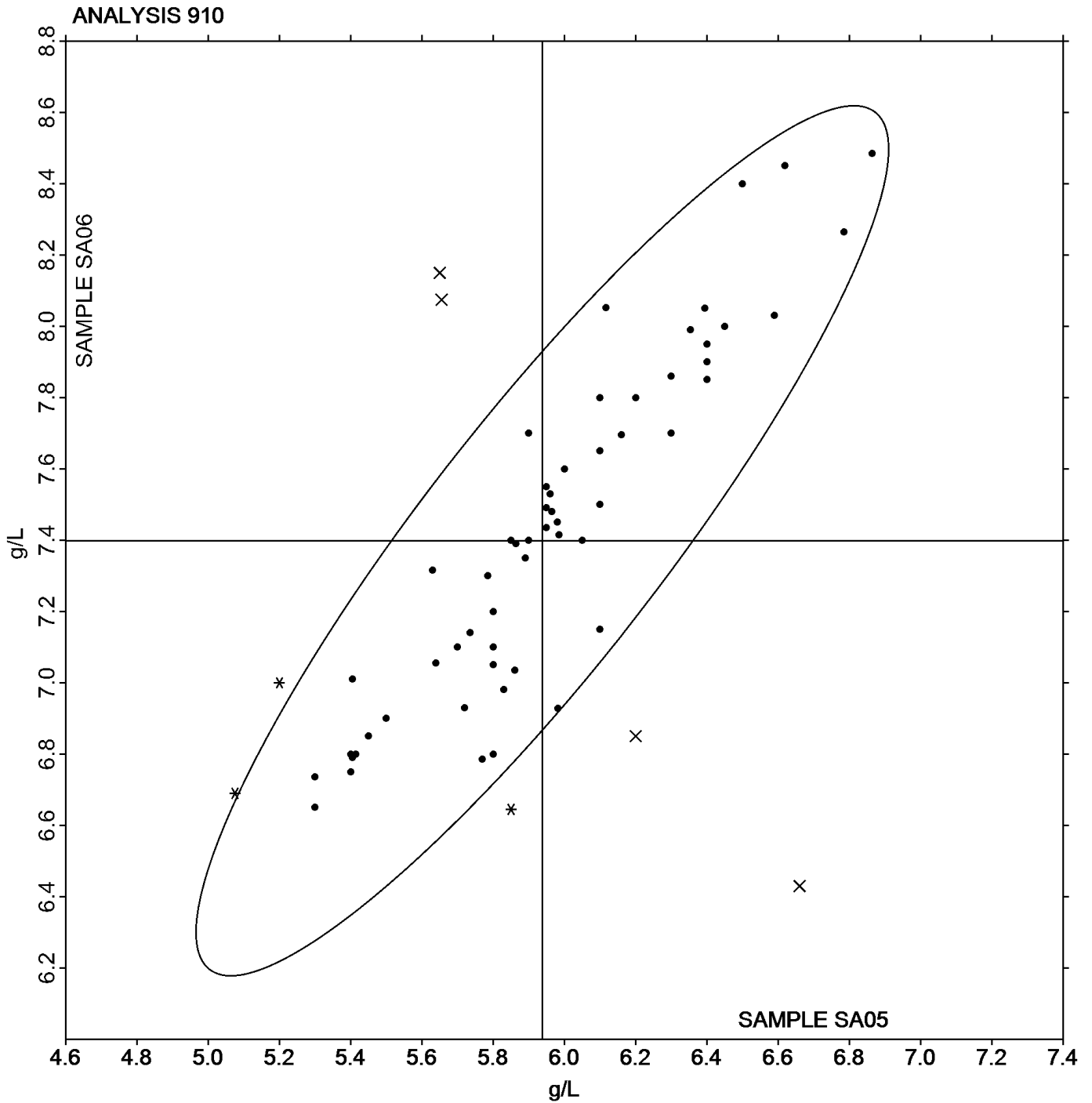
Wines tested: SA05: Merlot; SA06: Zinfandel

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

- ZU3HHL (X) - Inconsistent in testing between samples.
- B4YZN7 (X) - Inconsistent in testing between samples.
- 6UPPJM (X) - Inconsistent in testing between samples.
- FY2ED6 (X) - Data for both samples are high.
- 6HRN7H (X) - Inconsistent in testing between samples.

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

| Test Methodology             | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                              | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used   | 5.830                        | 0.000        | -0.108       | 6.980                           | 0.000        | -0.419       | 1/1             |
| HPLC                         | 6.481                        | 0.438        | 0.543        | 8.091                           | 0.505        | 0.693        | 4/5             |
| Enzymatic/Spectrophotometric | 5.903                        | 0.342        | -0.035       | 7.337                           | 0.418        | -0.062       | 52/54           |
| FTIR                         | 5.804                        | 0.526        | -0.134       | 7.452                           | 0.722        | 0.054        | 5/7             |
| Other _____                  | 6.355                        | 0.000        | 0.417        | 7.990                           | 0.000        | 0.592        | 1/1             |





Analysis 911  
Copper Content

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06                      |                      |       |
|---------|-----------|-------------|----------------------|-------|----------------------------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean                         | Diff from Grand Mean | CPV   |
| 32VJPP  |           | 0.0600      | 0.0112               | 0.50  | 0.0400                           | -0.0025              | -0.10 |
| 4PW9TN  |           | 0.0200      | -0.0288              | -1.29 | 0.0300                           | -0.0125              | -0.50 |
| 6RNEXK  |           | 0.0265      | -0.0223              | -1.00 | 0.0420                           | -0.0005              | -0.02 |
| 6TU7GL  |           | 0.0400      | -0.0088              | -0.39 | 0.0250                           | -0.0175              | -0.70 |
| 7C692C  |           | 0.0630      | 0.0142               | 0.63  | 0.0420                           | -0.0005              | -0.02 |
| B4YZN7  |           | 0.0290      | -0.0198              | -0.89 | 0.0190                           | -0.0235              | -0.94 |
| G6RY37  |           | 0.0710      | 0.0222               | 0.99  | 0.0525                           | 0.0100               | 0.40  |
| GJN4KC  | M         | 0.0169      | -0.0319              | -1.43 | No data reported for this sample |                      |       |
| KG93RZ  |           | 0.0300      | -0.0188              | -0.84 | 0.0300                           | -0.0125              | -0.50 |
| L746R4  |           | 0.0450      | -0.0038              | -0.17 | 0.0300                           | -0.0125              | -0.50 |
| LBYY6   |           | 0.0450      | -0.0038              | -0.17 | 0.0340                           | -0.0085              | -0.34 |
| N94364  |           | 0.0450      | -0.0038              | -0.17 | 0.0300                           | -0.0125              | -0.50 |
| NGH2LZ  |           | 0.0200      | -0.0288              | -1.29 | 0.0100                           | -0.0325              | -1.30 |
| PPRPYY  |           | 0.0800      | 0.0312               | 1.39  | 0.1000                           | 0.0575               | 2.30  |
| Q836UY  |           | 0.1000      | 0.0512               | 2.29  | 0.1000                           | 0.0575               | 2.30  |
| YQA2TM  |           | 0.0565      | 0.0077               | 0.34  | 0.0450                           | 0.0025               | 0.10  |
| ZU3HHL  |           | 0.0500      | 0.0012               | 0.05  | 0.0500                           | 0.0075               | 0.30  |

| Grand Means  |              | Summary Statistics |              |
|--|--------------|--------------------|--------------|
|  | 0.04881 mg/L |                    | 0.04247 mg/L |
| Std Dev Btwn Labs  |              |                    |              |
|  | 0.02236 mg/L |                    | 0.02502 mg/L |
| <b>Statistics based on 16 of 17 reporting participants</b> |              |                    |              |

Wines tested: SA05: Merlot; SA06: Zinfandel

**Comments on Assigned Data Flags for Test #911**

GJN4KC (M) - Participant did not submit data for sample SA06.

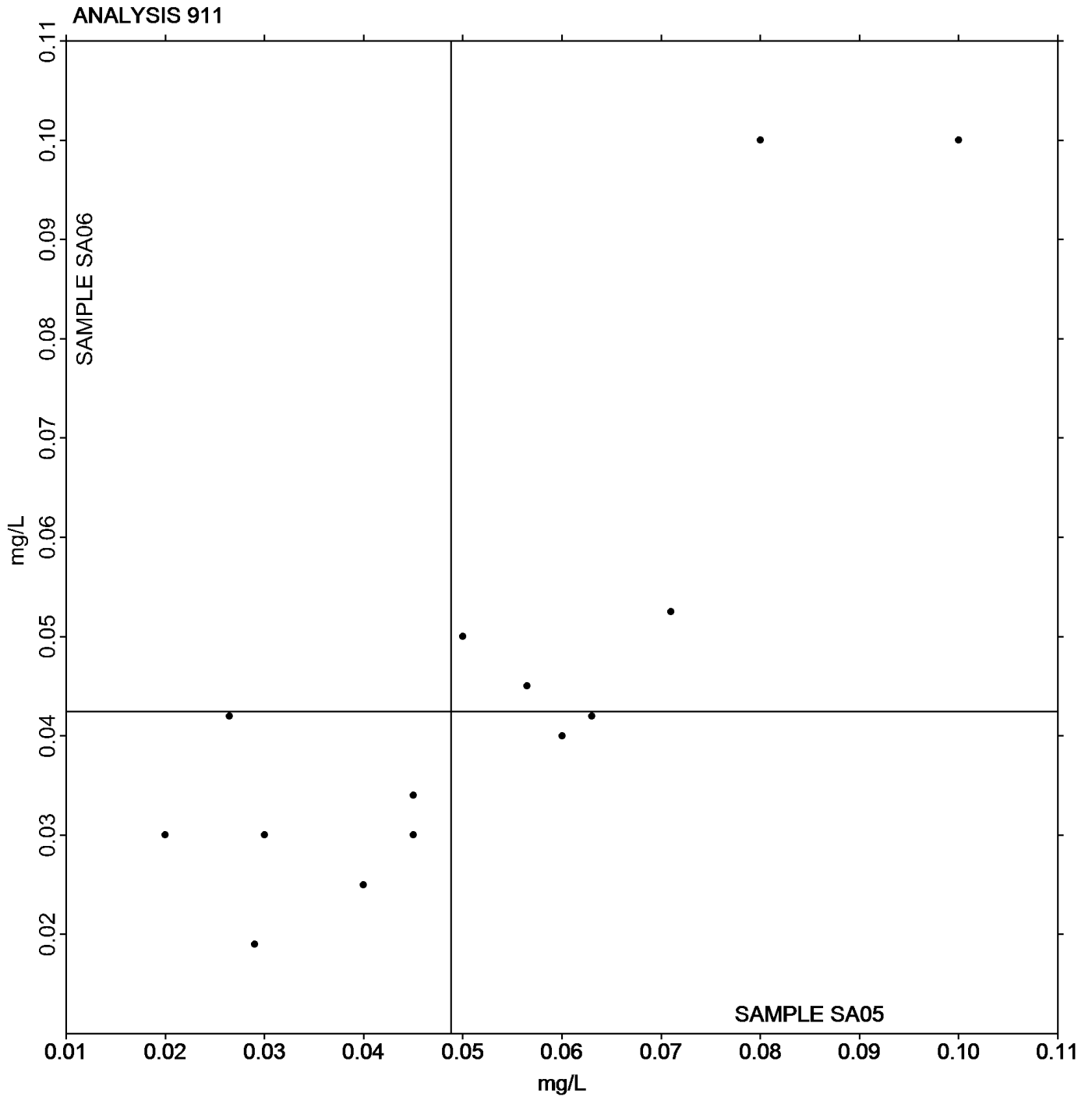
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|--------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Please specify method used     | 0.050                        | 0.000        | 0.0012       | 0.050                           | 0.000        | 0.0075       | 1/1             |
| Atomic Absorption Spectroscopy | 0.049                        | 0.021        | 0.0001       | 0.040                           | 0.024        | -0.0022      | 10/11           |
| ICP-OES                        | 0.050                        | 0.034        | 0.0016       | 0.051                           | 0.033        | 0.0080       | 4/4             |
| Other _____                    | 0.040                        | 0.000        | -0.0088      | 0.025                           | 0.000        | -0.0175      | 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.



**Analysis 912  
Potassium (K) Content**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |       |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|-------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV   |
| 32VJPP  |           | 940.0       | -64.6                | -0.47 | 823.8       | -127.4               | -0.88 |
| 4PW9TN  |           | 845.0       | -159.6               | -1.16 | 779.5       | -171.7               | -1.18 |
| 6RNEXK  |           | 1,070.0     | 65.4                 | 0.47  | 1,165.0     | 213.8                | 1.47  |
| 6TU7GL  |           | 1,034.0     | 29.4                 | 0.21  | 988.5       | 37.3                 | 0.26  |
| 7DZR4D  |           | 937.5       | -67.1                | -0.49 | 899.0       | -52.2                | -0.36 |
| 7LQD9B  |           | 945.0       | -59.6                | -0.43 | 968.0       | 16.8                 | 0.12  |
| GJN4KC  |           | 1,075.0     | 70.4                 | 0.51  | 1,020.0     | 68.8                 | 0.47  |
| KG93RZ  |           | 1,060.4     | 55.8                 | 0.40  | 1,005.3     | 54.1                 | 0.37  |
| L746R4  |           | 1,010.0     | 5.4                  | 0.04  | 970.0       | 18.8                 | 0.13  |
| N94364  |           | 975.0       | -29.6                | -0.21 | 927.5       | -23.7                | -0.16 |
| NGH2LZ  | *         | 1,122.5     | 117.9                | 0.85  | 831.0       | -120.2               | -0.83 |
| Q836UY  |           | 896.5       | -108.1               | -0.78 | 852.5       | -98.7                | -0.68 |
| U6L4ZM  |           | 906.9       | -97.7                | -0.71 | 869.0       | -82.2                | -0.57 |
| VCZC2P  |           | 1,331.5     | 326.9                | 2.37  | 1,289.0     | 337.8                | 2.33  |
| VPAR9U  |           | 943.0       | -61.6                | -0.45 | 920.5       | -30.7                | -0.21 |
| YA28YR  |           | 904.0       | -100.6               | -0.73 | 854.0       | -97.2                | -0.67 |
| YQA2TM  |           | 1,281.0     | 276.4                | 2.00  | 1,198.5     | 247.3                | 1.71  |
| ZU3HHL  |           | 805.0       | -199.6               | -1.45 | 760.0       | -191.2               | -1.32 |

| Grand Means  | Summary Statistics |
|--|--------------------|
| 1,004.57 mg/L  | 951.17 mg/L        |
| Stnd Dev Btwn Labs   |                    |
| 138.05 mg/L  | 145.03 mg/L        |
| <b>Statistics based on 18 of 18 reporting participants</b> |                    |

Wines tested: SA05: Merlot; SA06: Zinfandel

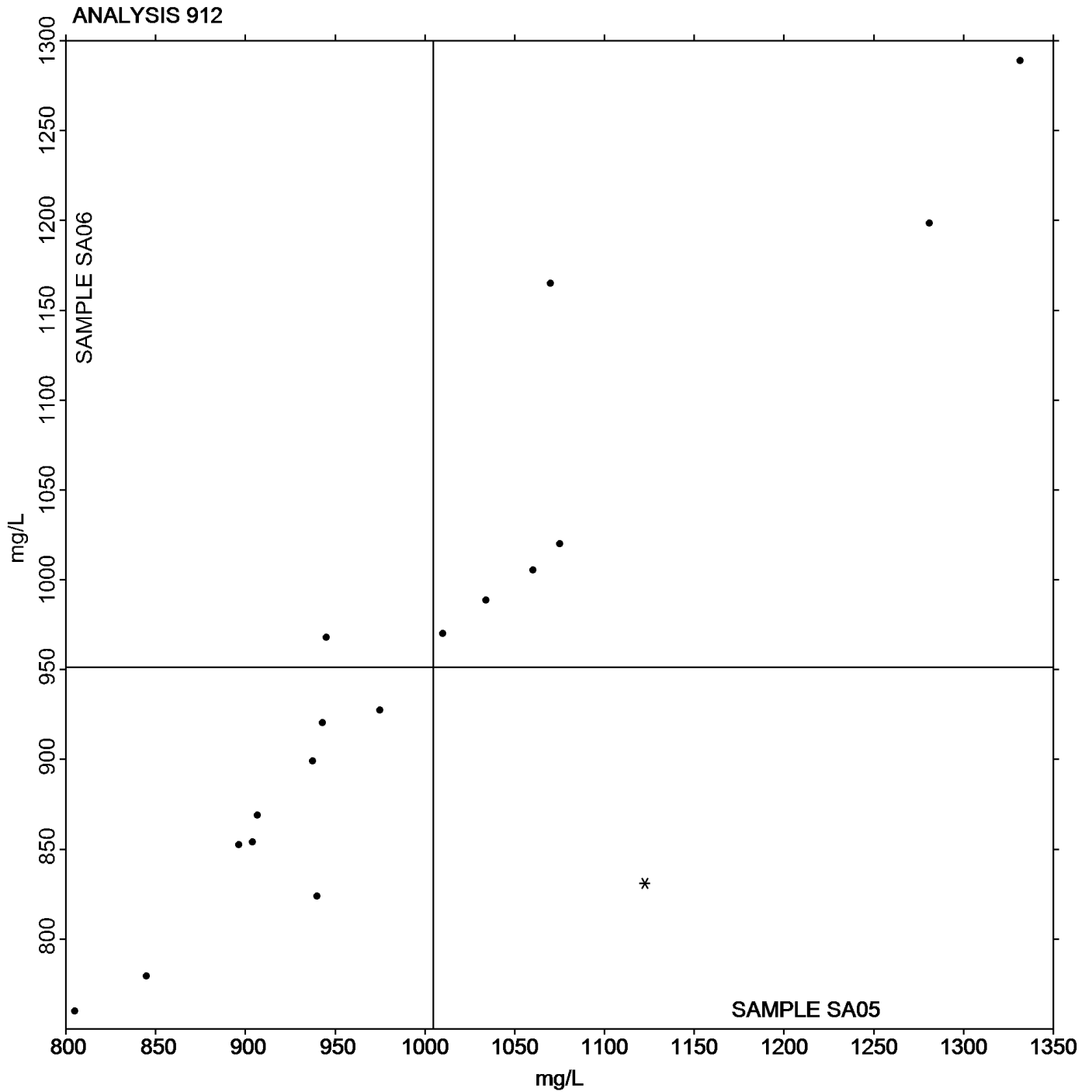
**Results by Methodology (as reported by laboratory)**

| Test Methodology               | Sample SA05<br><i>Merlot</i> |              |              | Sample SA06<br><i>Zinfandel</i> |              |              | Labs Incl / Rpt |
|--------------------------------|------------------------------|--------------|--------------|---------------------------------|--------------|--------------|-----------------|
|                                | Group Mean                   | Btwn Lab STD | Diff from GM | Group Mean                      | Btwn Lab STD | Diff from GM |                 |
| Atomic Absorption Spectroscopy | 1006.55                      | 149.23       | 2.0          | 923.93                          | 135.81       | -27.2        | 7/7             |
| ICP-OES                        | 974.31                       | 75.82        | -30.3        | 938.01                          | 129.30       | -13.2        | 6/6             |
| FTIR                           | 1010.00                      | 91.92        | 5.4          | 994.00                          | 36.77        | 42.8         | 2/2             |
| Other _____                    | 1056.83                      | 263.99       | 52.3         | 1012.50                         | 265.32       | 61.3         | 3/3             |



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 #053****Analysis 915****Summer 2016****A420nm (1cm path)**

| WebCode | Data Flag | Sample SA05 |                      |        | Sample SA06 |                      |        |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV    | Lab Mean    | Diff from Grand Mean | CPV    |
| 32VJPP  | X         | 3.355       | 0.573                | 4.95   | 2.940       | 0.419                | 3.47   |
| 3CW8GM  |           | 2.700       | -0.082               | -0.71  | 2.500       | -0.021               | -0.18  |
| 4PW9TN  |           | 2.495       | -0.287               | -2.48  | 2.250       | -0.271               | -2.25  |
| 6AJ8JJ  |           | 2.775       | -0.007               | -0.06  | 2.520       | -0.001               | -0.01  |
| 6RNEXK  |           | 2.855       | 0.073                | 0.63   | 2.620       | 0.099                | 0.82   |
| 6TU7GL  |           | 2.855       | 0.073                | 0.63   | 2.670       | 0.149                | 1.23   |
| 7DZR4D  | X         | 0.059       | -2.723               | -23.51 | 0.053       | -2.468               | -20.44 |
| 7LQD9B  | X         | 3.245       | 0.463                | 4.00   | 3.055       | 0.534                | 4.42   |
| 8N94MK  | X         | 2.500       | -0.282               | -2.43  | 2.450       | -0.071               | -0.59  |
| 9393BH  |           | 2.755       | -0.027               | -0.23  | 2.470       | -0.051               | -0.43  |
| A6CB2D  |           | 2.850       | 0.068                | 0.59   | 2.550       | 0.029                | 0.24   |
| B4YZN7  | *         | 3.000       | 0.218                | 1.89   | 2.816       | 0.295                | 2.44   |
| BZYPR8  | *         | 2.760       | -0.022               | -0.19  | 2.612       | 0.091                | 0.75   |
| CT7BVB  |           | 2.870       | 0.088                | 0.76   | 2.505       | -0.016               | -0.14  |
| CX2V88  | X         | 3.726       | 0.944                | 8.15   | 3.231       | 0.709                | 5.87   |
| DABVG7  | X         | 3.215       | 0.433                | 3.74   | 2.810       | 0.289                | 2.39   |
| DEK9Y6  |           | 2.752       | -0.030               | -0.26  | 2.561       | 0.040                | 0.33   |
| DJZJC9  |           | 2.655       | -0.127               | -1.09  | 2.416       | -0.105               | -0.87  |
| DW6PGF  |           | 2.875       | 0.093                | 0.81   | 2.620       | 0.099                | 0.82   |
| DWQFD7  |           | 2.770       | -0.012               | -0.10  | 2.515       | -0.006               | -0.05  |
| F8F2L9  |           | 2.940       | 0.158                | 1.36   | 2.652       | 0.130                | 1.08   |
| FY2ED6  |           | 2.845       | 0.063                | 0.55   | 2.580       | 0.059                | 0.49   |
| GJN4KC  | X         | 1.982       | -0.800               | -6.91  | 1.934       | -0.587               | -4.86  |
| GPF67   |           | 2.790       | 0.008                | 0.07   | 2.557       | 0.036                | 0.30   |
| KD74G8  |           | 2.793       | 0.011                | 0.09   | 2.506       | -0.015               | -0.13  |
| L746R4  |           | 2.775       | -0.007               | -0.06  | 2.485       | -0.036               | -0.30  |
| LBYY6   |           | 2.825       | 0.043                | 0.37   | 2.535       | 0.014                | 0.11   |
| LNLBT3  |           | 2.895       | 0.113                | 0.98   | 2.620       | 0.099                | 0.82   |
| N329WU  |           | 2.844       | 0.062                | 0.53   | 2.607       | 0.086                | 0.71   |
| NGH2LZ  |           | 2.799       | 0.017                | 0.15   | 2.467       | -0.055               | -0.45  |
| PPRPYY  | X         | 3.636       | 0.854                | 7.38   | 3.061       | 0.540                | 4.47   |
| Q836UY  |           | 2.816       | 0.034                | 0.30   | 2.536       | 0.014                | 0.12   |
| RJPQCY  |           | 2.780       | -0.002               | -0.01  | 2.480       | -0.041               | -0.34  |
| TETBGW  |           | 2.783       | 0.001                | 0.01   | 2.525       | 0.004                | 0.03   |
| TEXTFV  |           | 2.837       | 0.055                | 0.48   | 2.547       | 0.026                | 0.21   |



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

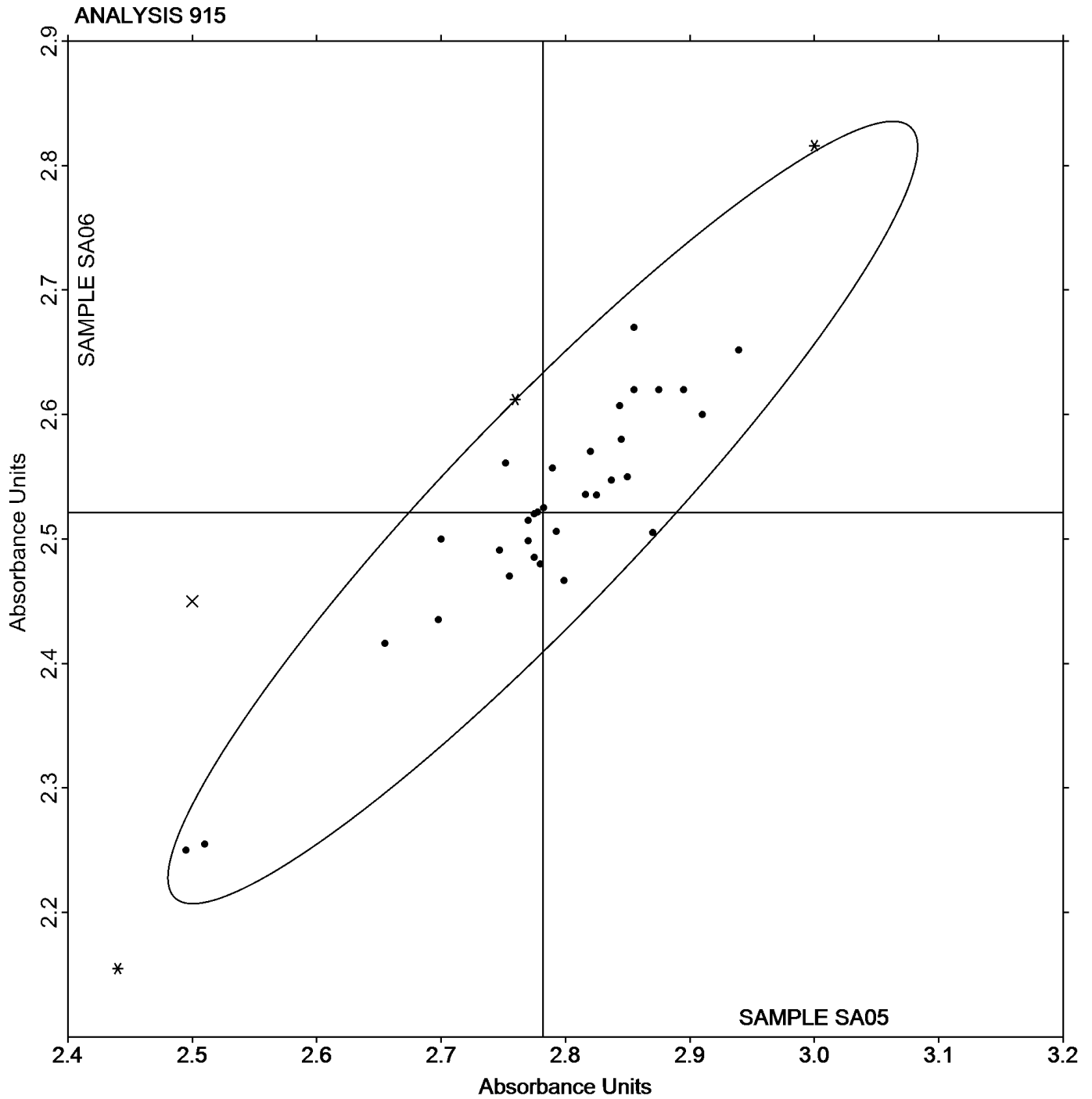
| WebCode | Data Flag | Sample SA05 |                      |        | Sample SA06 |                      |        |
|---------|-----------|-------------|----------------------|--------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV    | Lab Mean    | Diff from Grand Mean | CPV    |
| TQMR7X  |           | 2.770       | -0.012               | -0.10  | 2.499       | -0.023               | -0.19  |
| UC6AXU  |           | 2.747       | -0.035               | -0.30  | 2.491       | -0.030               | -0.25  |
| ULVV3T  |           | 2.778       | -0.004               | -0.04  | 2.522       | 0.000                | 0.00   |
| VCZC2P  | X         | 0.568       | -2.214               | -19.12 | 0.515       | -2.006               | -16.61 |
| WY6H6L  |           | 2.910       | 0.128                | 1.11   | 2.600       | 0.079                | 0.65   |
| X774LM  |           | 2.820       | 0.038                | 0.33   | 2.570       | 0.049                | 0.40   |
| YA28YR  |           | 2.510       | -0.272               | -2.35  | 2.255       | -0.266               | -2.21  |
| YRZARP  | *         | 2.440       | -0.342               | -2.95  | 2.155       | -0.366               | -3.03  |
| Z3DUPR  |           | 2.698       | -0.084               | -0.72  | 2.435       | -0.086               | -0.71  |
| ZU3HHL  | X         | 3.564       | 0.782                | 6.76   | 3.244       | 0.723                | 5.98   |

| Grand Means  |                         | Summary Statistics |                         |
|--|-------------------------|--------------------|-------------------------|
|  | 2.7817 Absorbance Units |                    | 2.5213 Absorbance Units |
| <b>Std Dev Btwn Labs</b>                                   | 0.1158 Absorbance Units |                    | 0.1208 Absorbance Units |
| <b>Statistics based on 35 of 45 reporting participants</b> |                         |                    |                         |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

- PPRYYY (X) - Data for both samples are high. Inconsistent within the determinations of sample SA05.
- VCZC2P (X) - Data for both samples are low.
- CX2V88 (X) - Data for both samples are high. Inconsistent within the determinations of sample SA05.
- ZU3HHL (X) - Data for both samples are high.
- 7LQD9B (X) - Data for both samples are high. Possible Systematic Error.
- DABVG7 (X) - Inconsistent in testing between samples, data for sample SA05 are high.
- 7DZR4D (X) - Data for both samples are low.
- GJN4KC (X) - Data for both samples are low.
- 8N94MK (X) - Inconsistent in testing between samples.
- 32VJPP (X) - Data for both samples are high. Possible Systematic Error.



**ASEV-CTS Wine Industry Interlaboratory Testing Program****Report #053****Analysis 916****Summer 2016****A520nm (1cm path)**

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |        |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV    |
| 32VJPP  | *         | 4.595       | 1.064                | 3.05  | 4.020       | 0.742                | 2.93   |
| 3CW8GM  |           | 3.450       | -0.081               | -0.23 | 3.200       | -0.078               | -0.31  |
| 4PW9TN  |           | 3.165       | -0.366               | -1.05 | 2.965       | -0.313               | -1.23  |
| 6AJ8JJ  |           | 3.460       | -0.071               | -0.20 | 3.240       | -0.038               | -0.15  |
| 6RNEXK  |           | 3.685       | 0.154                | 0.44  | 3.410       | 0.132                | 0.52   |
| 6TU7GL  |           | 3.700       | 0.169                | 0.49  | 3.460       | 0.182                | 0.72   |
| 7DZR4D  | X         | 0.075       | -3.456               | -9.91 | 0.068       | -3.210               | -12.67 |
| 7LQD9B  | X         | 4.200       | 0.669                | 1.92  | 4.020       | 0.742                | 2.93   |
| 8N94MK  |           | 3.325       | -0.206               | -0.59 | 3.315       | 0.037                | 0.15   |
| 9393BH  |           | 3.560       | 0.029                | 0.08  | 3.235       | -0.043               | -0.17  |
| A6CB2D  |           | 3.645       | 0.114                | 0.33  | 3.360       | 0.082                | 0.32   |
| BZYPR8  |           | 3.010       | -0.521               | -1.49 | 3.010       | -0.268               | -1.06  |
| CT7BVB  |           | 3.615       | 0.084                | 0.24  | 3.225       | -0.053               | -0.21  |
| CX2V88  |           | 3.258       | -0.273               | -0.78 | 3.159       | -0.119               | -0.47  |
| DABVG7  |           | 4.090       | 0.559                | 1.60  | 3.650       | 0.372                | 1.47   |
| DEK9Y6  |           | 3.445       | -0.086               | -0.25 | 3.290       | 0.012                | 0.05   |
| DJZJC9  | X         | 1.848       | -1.683               | -4.83 | 1.838       | -1.440               | -5.68  |
| DW6PGF  |           | 3.675       | 0.144                | 0.41  | 3.400       | 0.122                | 0.48   |
| DWQFD7  |           | 2.950       | -0.581               | -1.66 | 2.865       | -0.413               | -1.63  |
| F8F2L9  |           | 3.827       | 0.296                | 0.85  | 3.460       | 0.182                | 0.72   |
| FY2ED6  |           | 3.530       | -0.001               | 0.00  | 3.265       | -0.013               | -0.05  |
| GJN4KC  | *         | 2.508       | -1.023               | -2.93 | 2.486       | -0.792               | -3.13  |
| GPFB67  |           | 3.619       | 0.088                | 0.25  | 3.389       | 0.111                | 0.44   |
| KD74G8  |           | 3.614       | 0.083                | 0.24  | 3.294       | 0.016                | 0.06   |
| KRQJK8  | *         | 3.180       | -0.351               | -1.01 | 3.230       | -0.048               | -0.19  |
| L746R4  |           | 3.595       | 0.064                | 0.18  | 3.275       | -0.003               | -0.01  |
| LBYYP6  |           | 3.685       | 0.154                | 0.44  | 3.350       | 0.072                | 0.29   |
| LNLBT3  |           | 3.780       | 0.249                | 0.72  | 3.450       | 0.172                | 0.68   |
| N329WU  |           | 3.707       | 0.176                | 0.50  | 3.406       | 0.128                | 0.51   |
| NGH2LZ  |           | 3.619       | 0.088                | 0.25  | 3.206       | -0.072               | -0.28  |
| PPRPYY  | X         | 2.999       | -0.531               | -1.52 | 3.308       | 0.030                | 0.12   |
| Q836UY  |           | 3.650       | 0.119                | 0.34  | 3.332       | 0.054                | 0.21   |
| RJPQCY  |           | 3.620       | 0.089                | 0.26  | 3.310       | 0.032                | 0.13   |
| TETBGW  | X         | 3.546       | 0.015                | 0.04  | 3.729       | 0.451                | 1.78   |
| TEXTFV  |           | 3.644       | 0.113                | 0.32  | 3.330       | 0.052                | 0.21   |



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

| WebCode | Data Flag | Sample SA05 |                      |       | Sample SA06 |                      |        |
|---------|-----------|-------------|----------------------|-------|-------------|----------------------|--------|
|         |           | Lab Mean    | Diff from Grand Mean | CPV   | Lab Mean    | Diff from Grand Mean | CPV    |
| TQMR7X  |           | 3.000       | -0.531               | -1.52 | 3.000       | -0.278               | -1.10  |
| UC6AXU  |           | 3.505       | -0.026               | -0.07 | 3.182       | -0.096               | -0.38  |
| ULVV3T  |           | 3.607       | 0.076                | 0.22  | 3.355       | 0.077                | 0.30   |
| VCZC2P  | X         | 0.730       | -2.801               | -8.03 | 0.680       | -2.598               | -10.26 |
| WY6H6L  |           | 3.440       | -0.091               | -0.26 | 3.230       | -0.048               | -0.19  |
| X774LM  |           | 3.690       | 0.159                | 0.46  | 3.430       | 0.152                | 0.60   |
| YA28YR  |           | 3.295       | -0.236               | -0.68 | 3.040       | -0.238               | -0.94  |
| YRZARP  |           | 3.300       | -0.231               | -0.66 | 2.955       | -0.323               | -1.27  |
| Z3DUPR  |           | 3.540       | 0.009                | 0.03  | 3.240       | -0.038               | -0.15  |
| ZU3HHL  |           | 4.112       | 0.581                | 1.67  | 3.816       | 0.538                | 2.13   |

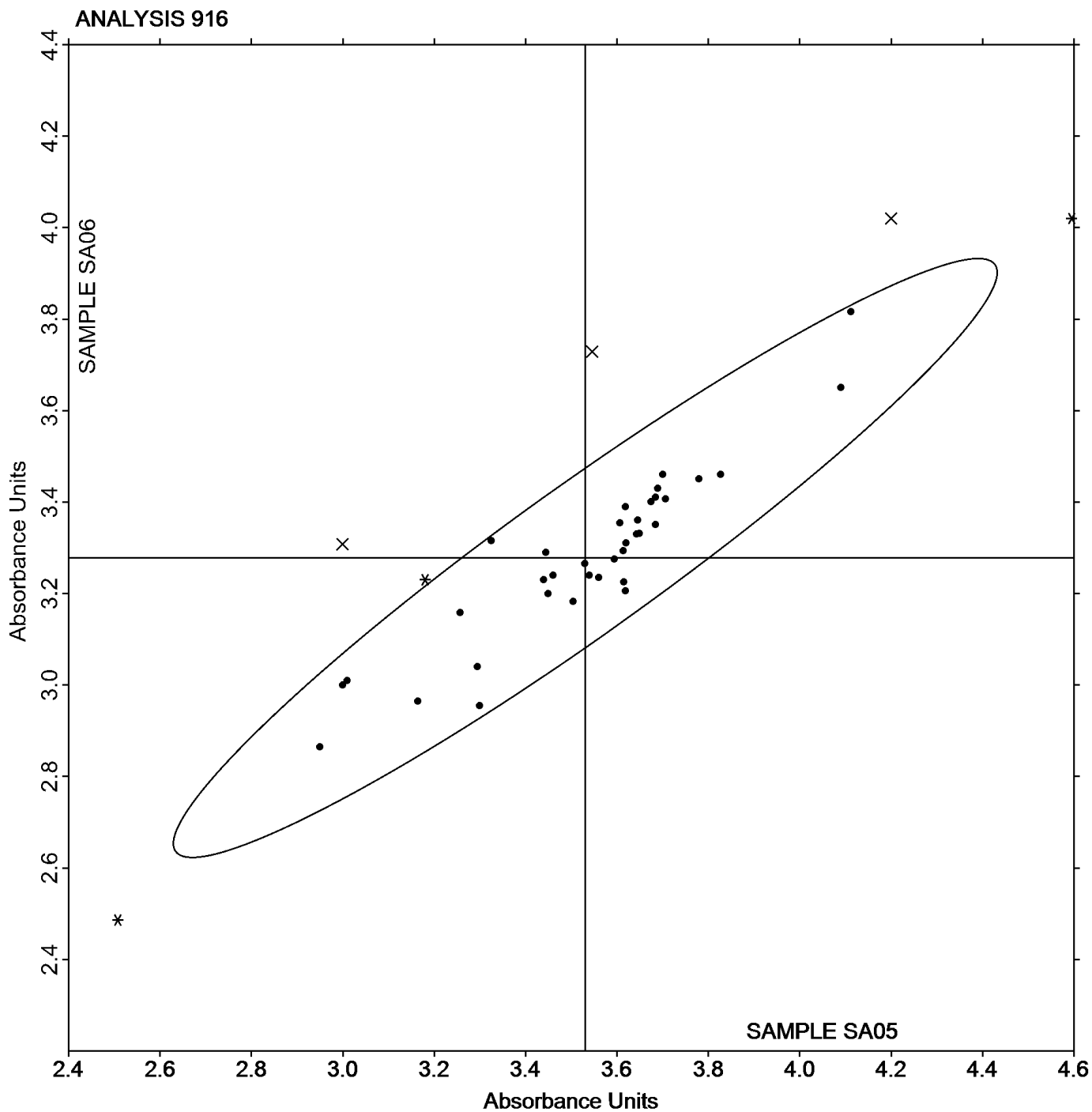
| Grand Means  |                         | Summary Statistics |                         |
|--|-------------------------|--------------------|-------------------------|
|  | 3.5305 Absorbance Units |                    | 3.2778 Absorbance Units |
| <b>Std Dev Btwn Labs</b>                                   | 0.3488 Absorbance Units |                    | 0.2533 Absorbance Units |
| <b>Statistics based on 39 of 45 reporting participants</b> |                         |                    |                         |

Wines tested: SA05: Merlot; SA06: Zinfandel

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

- PPRPYY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample SA06.
- VCZC2P (X) - Data for both samples are low.
- DJZJC9 (X) - Data for both samples are low.
- 7LQD9B (X) - Data for sample SA06 are high.
- 7DZR4D (X) - Data for both samples are low.
- TETBGW (X) - Inconsistent in testing between samples.



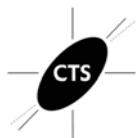




**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #053**  
**Summer 2016**

| WebCode | Data Flag | Sample SA05 |                        |                          | Sample SA06 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 2FWVKN  | *         | 0.6600      | 0.3533                 | 115.2%                   | 0.4500      | 0.1921                 | 74.5%                    |
| 32VJPP  |           | 0.2900      | -0.0167                | -5.4%                    | 0.2700      | 0.0121                 | 4.7%                     |
| 3CW8GM  |           | 0.2600      | -0.0467                | -15.2%                   | 0.2200      | -0.0379                | -14.7%                   |
| 6AJ8JJ  |           | 0.3145      | 0.0078                 | 2.5%                     | 0.2210      | -0.0369                | -14.3%                   |
| 6RNEXK  |           | 0.2255      | -0.0812                | -26.5%                   | 0.2405      | -0.0174                | -6.7%                    |
| 6TU7GL  | *         | 0.6300      | 0.3233                 | 105.4%                   | 0.4450      | 0.1871                 | 72.5%                    |
| 6UPPJM  |           | 0.2655      | -0.0412                | -13.4%                   | 0.1850      | -0.0729                | -28.3%                   |
| 7C692C  |           | 0.3025      | -0.0042                | -1.4%                    | 0.2505      | -0.0074                | -2.9%                    |
| 7DZR4D  |           | 0.0100      | -0.2967                | -96.7%                   | 0.0100      | -0.2479                | -96.1%                   |
| 7LQD9B  |           | 0.3220      | 0.0153                 | 5.0%                     | 0.2600      | 0.0021                 | 0.8%                     |
| 7XKTXC  | X         | 0.3450      | 0.0383                 | 12.5%                    | 0.6050      | 0.3471                 | 134.6%                   |
| 8N94MK  |           | 0.2850      | -0.0217                | -7.1%                    | 0.3350      | 0.0771                 | 29.9%                    |
| 8QFLLG  |           | 0.4850      | 0.1783                 | 58.1%                    | 0.3300      | 0.0721                 | 28.0%                    |
| 8YEYRC  |           | 0.2710      | -0.0357                | -11.6%                   | 0.1930      | -0.0649                | -25.2%                   |
| 9393BH  | *         | 0.3330      | 0.0263                 | 8.6%                     | 0.4695      | 0.2116                 | 82.0%                    |
| 9CU7HG  |           | 0.5400      | 0.2333                 | 76.1%                    | 0.3550      | 0.0971                 | 37.7%                    |
| B4YZN7  |           | 0.3000      | -0.0067                | -2.2%                    | 0.2000      | -0.0579                | -22.5%                   |
| BC63LC  |           | 0.3200      | 0.0133                 | 4.3%                     | 0.2700      | 0.0121                 | 4.7%                     |
| BU8N4D  |           | 0.2900      | -0.0167                | -5.4%                    | 0.2300      | -0.0279                | -10.8%                   |
| CU2UWC  |           | 0.3250      | 0.0183                 | 6.0%                     | 0.2800      | 0.0221                 | 8.6%                     |
| CX2V88  |           | 0.0500      | -0.2567                | -83.7%                   | 0.0250      | -0.2329                | -90.3%                   |
| DABVG7  |           | 0.2690      | -0.0377                | -12.3%                   | 0.2095      | -0.0484                | -18.8%                   |
| DEK9Y6  |           | 0.2400      | -0.0667                | -21.7%                   | 0.3600      | 0.1021                 | 39.6%                    |
| DJZJC9  | X         | 0.4500      | 0.1433                 | 46.7%                    | 0.1000      | -0.1579                | -61.2%                   |
| DW6PGF  |           | 0.1450      | -0.1617                | -52.7%                   | 0.1150      | -0.1429                | -55.4%                   |
| DWQFD7  |           | 0.3550      | 0.0483                 | 15.7%                    | 0.1750      | -0.0829                | -32.1%                   |
| EWEDUC  |           | 0.2500      | -0.0567                | -18.5%                   | 0.2300      | -0.0279                | -10.8%                   |
| FBFCH9  |           | 0.4250      | 0.1183                 | 38.6%                    | 0.4300      | 0.1721                 | 66.7%                    |
| G6RY37  |           | 0.3385      | 0.0318                 | 10.4%                    | 0.2260      | -0.0319                | -12.4%                   |
| GJN4KC  | X         | 0.4700      | 0.1633                 | 53.2%                    | 0.9550      | 0.6971                 | 270.3%                   |
| GPFB67  |           | 0.3500      | 0.0433                 | 14.1%                    | 0.3400      | 0.0821                 | 31.8%                    |
| GQOCR4  |           | 0.0900      | -0.2167                | -70.7%                   | 0.0700      | -0.1879                | -72.9%                   |
| JBRXQ2  |           | 0.3400      | 0.0333                 | 10.9%                    | 0.2150      | -0.0429                | -16.6%                   |
| KD74G8  |           | 0.3105      | 0.0038                 | 1.2%                     | 0.2145      | -0.0434                | -16.8%                   |
| KRQJK8  |           | 0.3000      | -0.0067                | -2.2%                    | 0.2600      | 0.0021                 | 0.8%                     |



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

**Report #053**  
**Summer 2016**

| WebCode | Data Flag | Sample SA05                      |                        |                          | Sample SA06 |                        |                          |
|---------|-----------|----------------------------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean                         | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| L746R4  |           | 0.3050                           | -0.0017                | -0.6%                    | 0.2500      | -0.0079                | -3.1%                    |
| LBYY6   |           | 0.2865                           | -0.0202                | -6.6%                    | 0.2385      | -0.0194                | -7.5%                    |
| LNLBT3  |           | 0.2505                           | -0.0562                | -18.3%                   | 0.2455      | -0.0124                | -4.8%                    |
| N329WU  |           | 0.3250                           | 0.0183                 | 6.0%                     | 0.1350      | -0.1229                | -47.7%                   |
| N3GEBX  | X         | 0.1600                           | -0.1467                | -47.8%                   | 0.3700      | 0.1121                 | 43.5%                    |
| N94364  |           | 0.2000                           | -0.1067                | -34.8%                   | 0.2100      | -0.0479                | -18.6%                   |
| NGH2LZ  | X         | 0.2550                           | -0.0517                | -16.9%                   | 0.5250      | 0.2671                 | 103.6%                   |
| PPRPYY  |           | 0.2700                           | -0.0367                | -12.0%                   | 0.2055      | -0.0524                | -20.3%                   |
| Q836UY  |           | 0.2500                           | -0.0567                | -18.5%                   | 0.2500      | -0.0079                | -3.1%                    |
| QUCEN2  |           | 0.5200                           | 0.2133                 | 69.5%                    | 0.4400      | 0.1821                 | 70.6%                    |
| RJPQCY  |           | 0.5500                           | 0.2433                 | 79.3%                    | 0.5200      | 0.2621                 | 101.6%                   |
| TEXTFV  |           | 0.2900                           | -0.0167                | -5.4%                    | 0.2400      | -0.0179                | -6.9%                    |
| TQMR7X  |           | 0.2340                           | -0.0727                | -23.7%                   | 0.1910      | -0.0669                | -25.9%                   |
| UC6AXU  |           | 0.1700                           | -0.1367                | -44.6%                   | 0.2125      | -0.0454                | -17.6%                   |
| VCZC2P  |           | 0.3250                           | 0.0183                 | 6.0%                     | 0.2800      | 0.0221                 | 8.6%                     |
| WVPWAT  |           | 0.2235                           | -0.0832                | -27.1%                   | 0.1870      | -0.0709                | -27.5%                   |
| WY6H6L  | M         | No data reported for this sample |                        |                          | 0.4400      | 0.1821                 | 70.6%                    |
| X2VQ4P  |           | 0.3100                           | 0.0033                 | 1.1%                     | 0.2650      | 0.0071                 | 2.8%                     |
| X774LM  |           | 0.3650                           | 0.0583                 | 19.0%                    | 0.4450      | 0.1871                 | 72.5%                    |
| YQA2TM  |           | 0.2615                           | -0.0452                | -14.7%                   | 0.2575      | -0.0004                | -0.2%                    |
| Z3DUPR  |           | 0.3045                           | -0.0022                | -0.7%                    | 0.2360      | -0.0219                | -8.5%                    |

|   |             |             |
|---|-------------|-------------|
| <b>Research Property Target Value</b>   |             |             |
| <b>Target Value</b>   | 0.30670 NTU | 0.25790 NTU |
| <p><i>For Test 950, CTS has chosen not to designate a target value for this property instead of using an average value.</i></p> |             |             |

**Wines tested:** SA05: Merlot; SA06: Zinfandel

|  |             |             |
|--|-------------|-------------|
| <b>Consensus Average</b><br>(may differ from target value) | 0.30665 NTU | 0.25786 NTU |
|--|-------------|-------------|

*This consensus average is based on 50 reporting participants.*



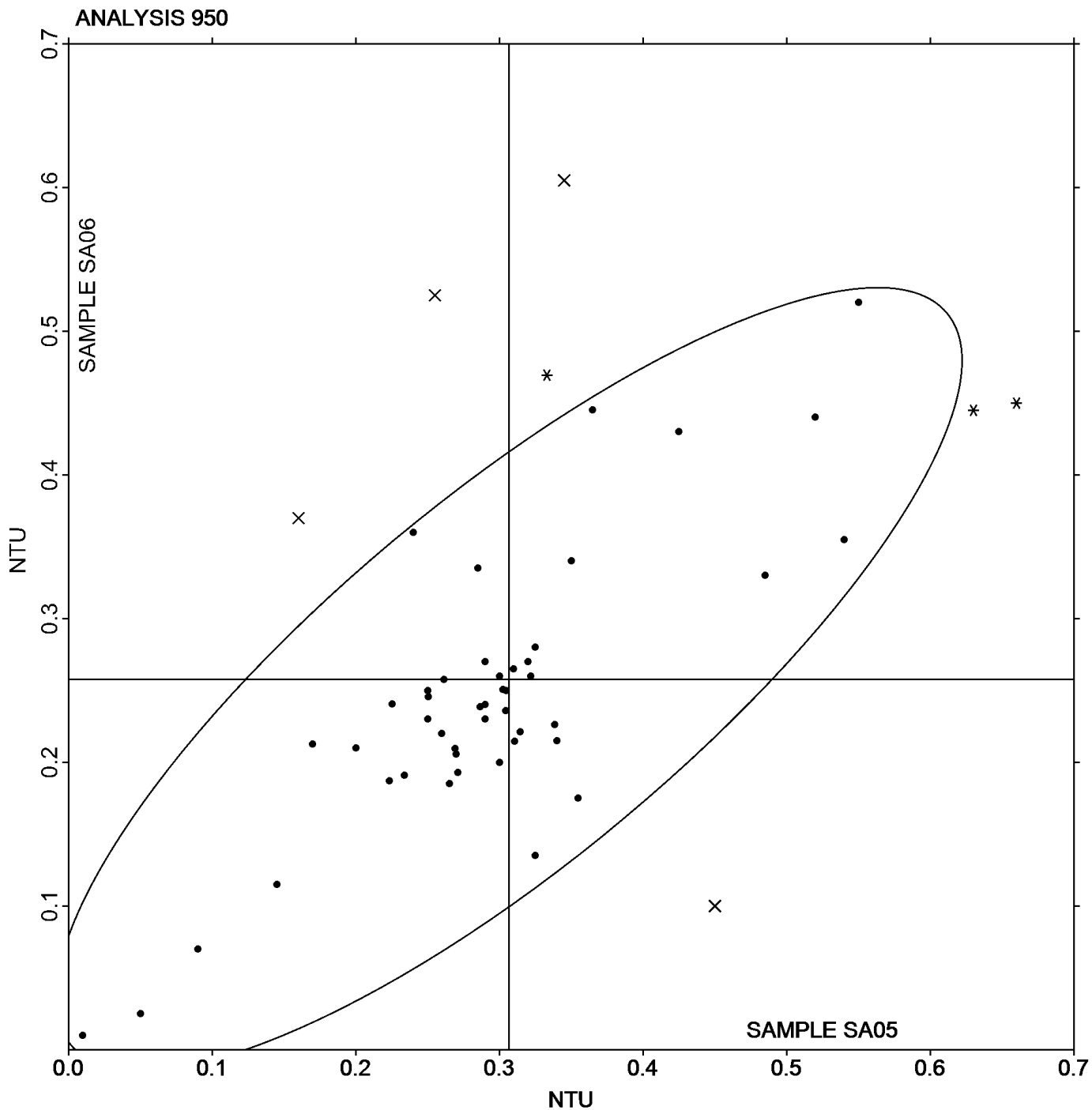
**ASEV-CTS Wine Industry Interlaboratory Testing Program**  
**Research Property 950**  
**Research Property - Turbidity**

**Report #053**  
**Summer 2016**

---

**Comments on Assigned Data Flags for Test #950**

- NGH2LZ (X) - Inconsistent in testing between samples.
- DJZJC9 (X) - Inconsistent in testing between samples.
- 7XKTXC (X) - Data for sample SA06 are high.
- WY6H6L (M) - Participant did not submit data for sample SA05.
- GJN4KC (X) - Data for sample SA06 are high.
- N3GEBX (X) - Inconsistent in testing between samples.





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

**Report #053**  
**Summer 2016**

| WebCode | Data Flag | Sample SA05 |                        |                          | Sample SA06 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 32VJPP  |           | 165.7       | -34.1                  | -17.1%                   | 182.1       | -41.9                  | -18.7%                   |
| 6TU7GL  |           | 267.0       | 67.2                   | 33.6%                    | 285.0       | 61.0                   | 27.2%                    |
| 8N94MK  |           | 200.0       | 0.2                    | 0.1%                     | 220.0       | -4.0                   | -1.8%                    |
| L746R4  |           | 197.5       | -2.3                   | -1.2%                    | 241.5       | 17.5                   | 7.8%                     |
| Q836UY  |           | 193.0       | -6.8                   | -3.4%                    | 219.5       | -4.5                   | -2.0%                    |
| U6L4ZM  |           | 184.0       | -15.9                  | -7.9%                    | 191.7       | -32.3                  | -14.4%                   |
| VPAR9U  |           | 191.5       | -8.3                   | -4.2%                    | 222.0       | -2.0                   | -0.9%                    |
| ZU3HHL  |           | 200.0       | 0.2                    | 0.1%                     | 230.0       | 6.0                    | 2.7%                     |

**Research Property Target Value**

Target Value

**199.83** mg/L

**223.98** mg/L

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

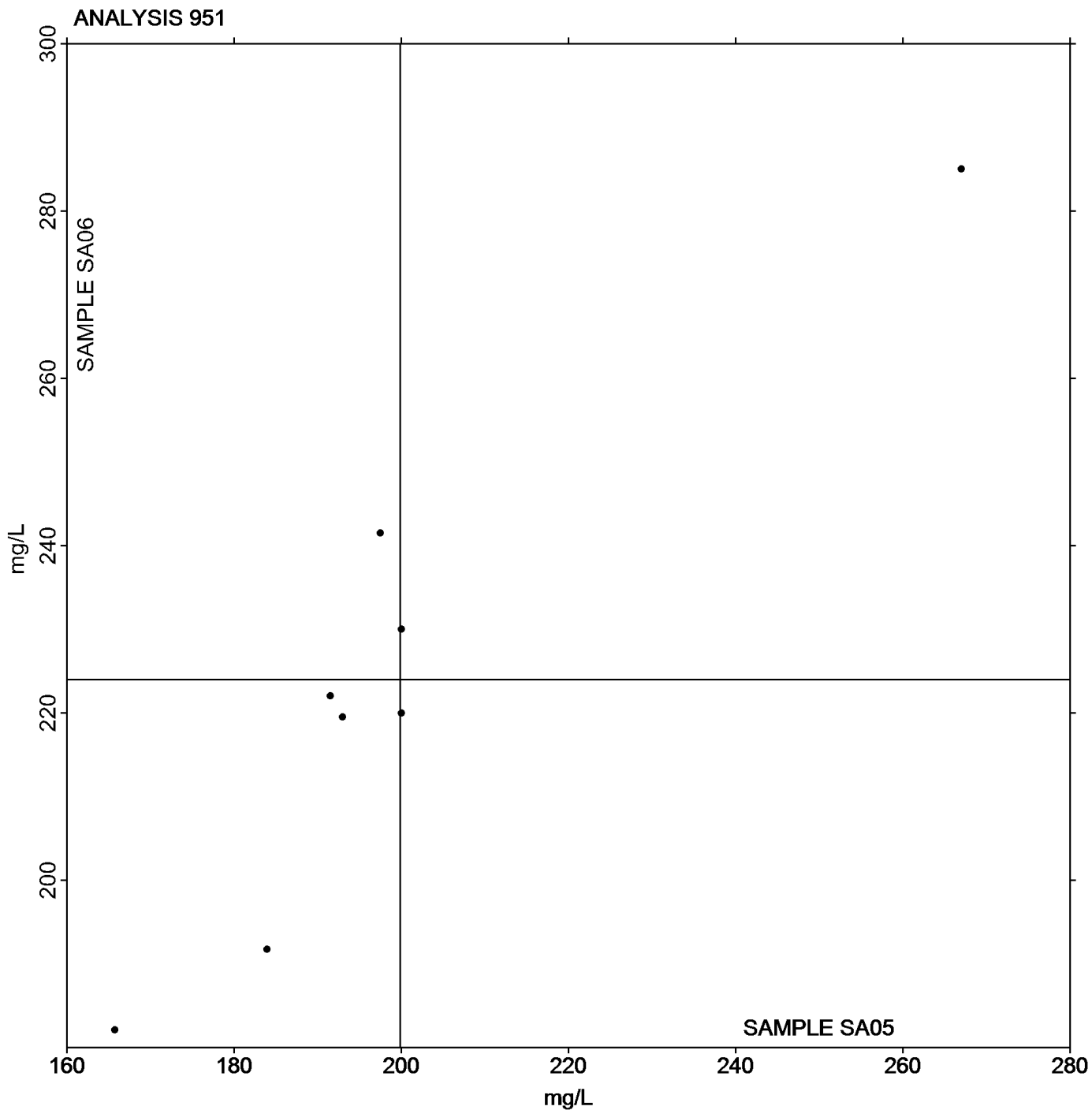
**Wines tested:** SA05: Merlot; SA06: Zinfandel

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

199.83 mg/L

223.98 mg/L

*This consensus average is based on 8 reporting participants.*



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



Research Property: Sodium (mg/L)

| WebCode | Data Flag | Sample SA05 |                        |                          | Sample SA06 |                        |                          |
|---------|-----------|-------------|------------------------|--------------------------|-------------|------------------------|--------------------------|
|         |           | Lab Mean    | Diff from Target Value | % Diff from Target Value | Lab Mean    | Diff from Target Value | % Diff from Target Value |
| 32VJPP  |           | 22.13       | -0.31                  | -1.4%                    | 22.07       | -1.29                  | -5.5%                    |
| 6RNEXK  |           | 21.90       | -0.53                  | -2.4%                    | 20.85       | -2.50                  | -10.7%                   |
| 6TU7GL  |           | 19.45       | -2.98                  | -13.3%                   | 17.40       | -5.95                  | -25.5%                   |
| N94364  |           | 25.00       | 2.57                   | 11.4%                    | 26.00       | 2.65                   | 11.3%                    |
| NGH2LZ  | X         | 93.00       | 70.57                  | 314.5%                   | 24.00       | 0.65                   | 2.8%                     |
| Q836UY  |           | 21.50       | -0.93                  | -4.2%                    | 24.00       | 0.65                   | 2.8%                     |
| VPAR9U  |           | 27.00       | 4.57                   | 20.4%                    | 30.00       | 6.65                   | 28.5%                    |
| YA28YR  |           | 22.50       | 0.07                   | 0.3%                     | 25.00       | 1.65                   | 7.1%                     |
| ZU3HHL  |           | 20.00       | -2.43                  | -10.9%                   | 21.50       | -1.85                  | -7.9%                    |

Research Property Target Value

Target Value

22.434 mg/L

23.352 mg/L

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

Wines tested: SA05: Merlot; SA06: Zinfandel

Consensus Average (may differ from target value)

22.434 mg/L

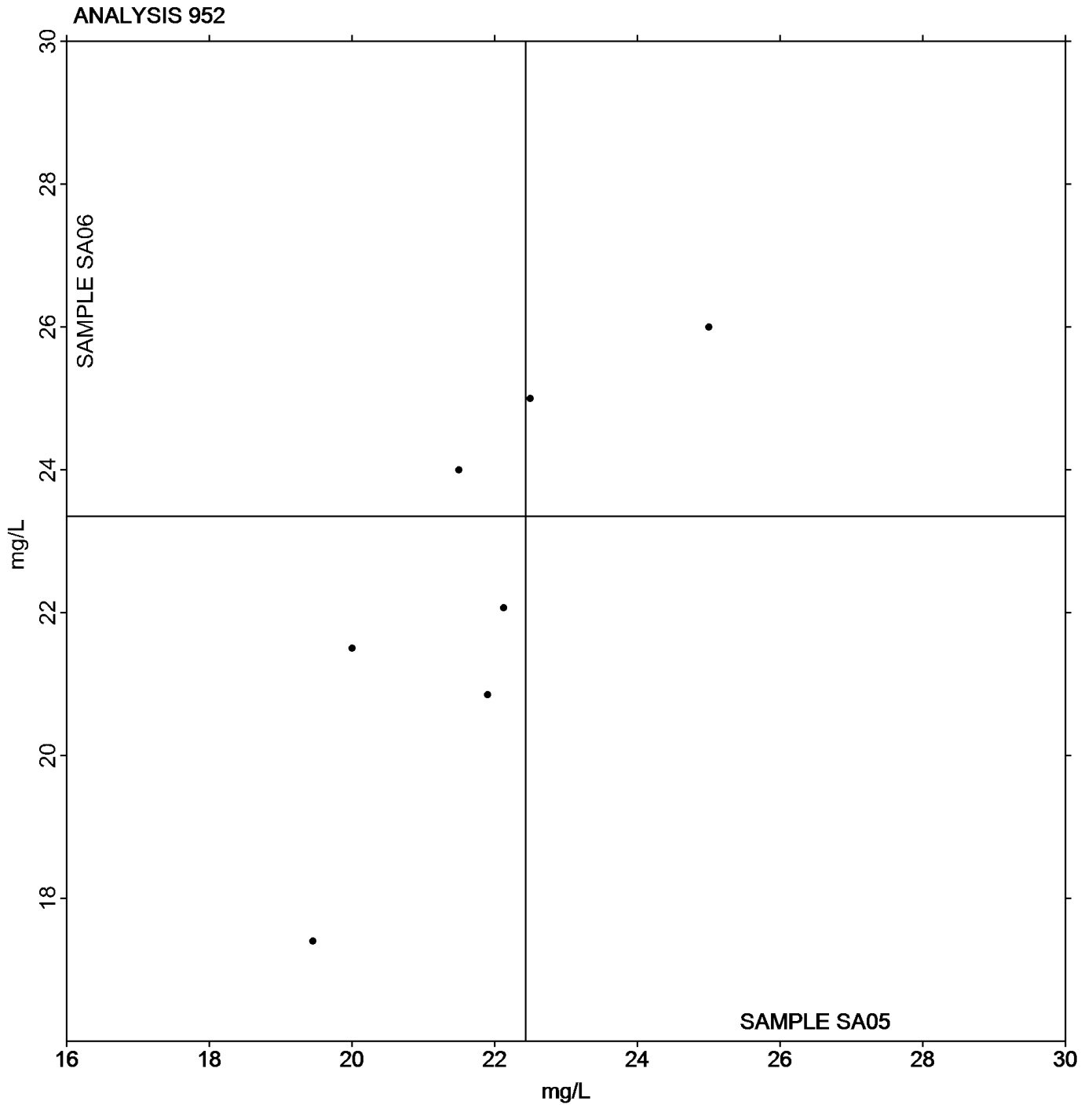
23.352 mg/L

This consensus average is based on 8 reporting participants.

Comments on Assigned Data Flags for Test #952

NGH2LZ (X) - Inconsistent in testing between samples, data for Sample SA05 are high.





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