JUL 26 2011

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-3386
Project # N-1111823

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. The applicant is requesting that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to re-evaluate the amount of VOC offsets for four new wine storage tanks.

Enclosed is the engineering evaluation of this application and proposed Authorities to Construct # N-3386-470-1 to -473-1 with Certificates of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

[Signature]
David Warner
Director of Permit Services
DW:JK/st
Enclosures
JUL 26 2011

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-3386
Project # N-1111823

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for E & J Gallo Winery 600 Yosemite Blvd, Modesto, which has been issued a Title V permit. E & J Gallo Winery is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. This project is to re-evaluate the amount of VOC offsets for four new wine storage tanks.

Enclosed is the engineering evaluation of this application and proposed Authorities to Construct # N-3386-470-1 to '473-1 with Certificates of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility’s Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

[Signature]
David Warner
Director of Permit Services
DW:JK/st

Enclosures

Sayed Sadedin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
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Tel: (559) 230-8000 FAX: (559) 230-8081

Southern Region
34948 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com
JUL 26 2011

Mr. Steven Sylvester
E & J Gallo Winery
600 Yosemite Blvd
Modesto, CA 95354

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-3386
Project # N-1111823

Dear Mr. Sylvester:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. The applicant is requesting that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to re-evaluate the amount of VOC offsets for four new wine storage tanks.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW:JK/st
Enclosures
NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed modification of E & J Gallo Winery for its winery 600 Yosemite Blvd, Modesto, California. This project is to re-evaluate the amount of VOC offsets for four new wine storage tanks.

The District’s analysis of the legal and factual basis for this proposed action, project #N-1111823, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. This will be the public’s only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356-8718.
San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review

Facility Name: E & J Gallo Winery
Mailing Address: 600 Yosemite Blvd
Modesto, CA 95354
Date: July 6, 2011
Engineer: Jagmeet Kahlon
Lead Engineer: Rupi Gill
Contact Person: Steven Sylvester
Telephone: (209) 341-6804
Fax: (209) 236-3938
Application # (s): N-3386-470-1 to ‘-473-1
Project #: N-1111823
Deemed Complete: June 9, 2011

I. PROPOSAL

E & J Gallo Winery has requested to re-calculate the amount of VOC offsets required under Authorities to Construct (ATCs) N-3386-470-0 to ‘-473-0 using the maximum wine storage temperature of 40°F since the finished wine will be stored at or below 40°F. The facility would also like to use recently purchased Emission Reduction Credit (ERC) certificate S-3666-1 to offset VOC emissions increase from this project. This project is evaluated as if the facility is applying to install new wine storage tanks, and will require cancellation of the previously issued ATCs N-3386-470-0 to ‘-473-0.

E & J Gallo Winery received their Title V Permit on July 6, 2000. The proposed project is a Significant Modification to the Title V permit since the project will trigger a Federal Major Modification under Rule 2201. The applicant has requested to issue the ATCs with a Certificate of Conformity (COC), which is EPA’s 45-day review of the project prior to the issuance of the final ATCs. This project will be published in the local newspaper Modesto Bee for public review and comment. The public comment period will last 30 days from the date of publication. Both COC and public notice will run concurrently.

II. APPLICABLE RULES

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4694 Wine Fermentation and Storage Tanks (12/15/05)
California Health & Safety Code 41700 (Public Nuisance)
California Health & Safety Code 42301.6 (School Notice)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-
15387: CEQA Guidelines

III. PROJECT LOCATION

The facility is located at 600 Yosemite Blvd, Modesto, California. The proposed tanks
will not be located within 1,000 feet of any K-12 school. Therefore, public notice
under the California Health & Safety Code 42301.6 is not required.

IV. PROCESS DESCRIPTION

The proposed tanks will be used to store and supply wine to the wine bottling
operation.

V. EQUIPMENT LISTING

N-3386-470-1 to ‘-473-1
53,000 GALLON STEEL WINE STORAGE TANK WITH PRESSURE/VACUUM
VALVE AND INSULATION

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

VOCs (ethanol) are emitted from wine storage tanks as a result of both working
losses (which occur when the liquid level in the tank changes) and breathing losses
(expansion and contraction effects due to temperature variations). The new tanks will
be equipped with pressure/vacuum valves to reduce release of VOCs by requiring
the maximum amount of variation in tank pressure before allowing the tank to vent to
the atmosphere or allowing air admission to the tank. Further, the new tanks will be
insulated, to minimize the breathing losses.

VII. CALCULATIONS

A. Assumptions

- VOC is the only pollutant of concern related to this project.
- Wine stored in each tank will be maintained at or below 40°F.
- Maximum ethanol content in the wine stored in each tank will be 14%.
- Each tank’s maximum throughput would be 5,000,000 gallons per year.
- Other assumptions will be stated as they are made for this project.
B. Emission Factors (EF)

1. Pre-Project Emission Factors (EF1)

The proposed wine storage tanks are new tanks; therefore, EF1 is not available at this point.

2. Post-Project Emission Factors (EF2)

The applicant has proposed to use EPA’s Tanks 4.0.d program to evaluate the potential vapor emissions (ethanol and water), and then adjust these emissions to determine VOC (ethanol) emissions. Therefore, EF2 is not listed here.

C. Potential to Emit

1. Pre-Project Potential to Emit (PE1)

PE1 = 0 for all new tanks

2. Post-Project Potential to Emit (PE2)

EPA’s Tanks 4.0.d program is used to determine vapor (ethanol and water mixture) emissions using a custom chemical database for wine 14% vol. alcohol (chemical data report is included in Appendix III of this document) and the maximum wine storage temperature of 40°F. The summary results are as follows (EPA’s Tanks 4.0.d runs are included in Appendix III of this document).

PE2 = 247 lb/yr (ethanol and water)

The average vapor molecular weight for wine 14% vol. alcohol is 26.79 lb/lb-mole, and the molecular weight of ethanol and water are 46.02 lb/lb-mole and 18.02 lb/lb-mole respectively. VOCs (ethanol) are determined as follows:

\[
AMW = y_a \times 46.02 + (1- y_a) \times 18.02,
\]

Where,

AMW = average molecular weight

\(y_a\) = fraction of ethanol

Rearranging the above equation,

\[
y_a = (AMW - 18.02)/(46.02-18.02)
= (26.79 - 18.02)/(46.02-18.02)
= 0.3132
\]
\[ PE2 = (PE2 \text{ (ethanol and water)}/\text{AMW}) \times y_a \times 46.02 \]
\[ = (247/26.79) \times 0.3132 \times 46.02 \]
\[ = 133 \text{ lb/yr-tank (ethanol)} \]

The applicant has proposed to install 4 identical tanks. So, the total VOCs (ethanol) emissions would be:

\[ PE2 = 133 \text{ lb-VOC/yr-tank} \times 4 \text{ tanks} \]
\[ = 532 \text{ lb-VOC/yr} \]

The month of July information is used to determine the maximum daily emissions. The results from EPA’s Tanks 4.0 program for July month are as follows:

\[ PE2 = 165.9 \text{ lb/month (ethanol and water)} \]

\[ PE2 = (PE2 \text{ (ethanol)}/\text{AMW}) \times y_a \times 46.02 \]
\[ = (165.9/26.79) \times 0.3132 \times 46.02 \]
\[ = 89.3 \text{ lb/month-tank (ethanol)} \]

There are 31 days in July; so the daily emissions would be:

\[ PE2 = 89.3/31 \]
\[ = 2.9 \text{ lb-VOC/day-tank} \]

3. Quarterly Emissions Changes (QEC)

This calculation is required for application’s emission profile, which is used for the District’s internal tracking purposes. Typically, QECs are calculated as follows: \[ QEC = (PE2 - PE1) \text{ lb/year ÷ 4 quarters/yr}. \] QEC for each tank would be:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Q1 (lb)</th>
<th>Q2 (lb)</th>
<th>Q3 (lb)</th>
<th>Q4 (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>34</td>
</tr>
</tbody>
</table>

4. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine if BACT is required for emission units that are being modified. AIPE is calculated using the equations mentioned in Section 4.3 and 4.4 of Rule 2201.

\[ AIPE = PE2 - \left( \frac{EF2}{EF1} \right)(PE1) \]
These tanks are new emission units. Therefore, AIPE calculations are not necessary.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, SSPE1 is the Potential to Emit from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions (AERs) that have occurred at the source, and which have not been used on-site. SSPE1 balance is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>VOC (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE1</td>
<td>2,005,698</td>
</tr>
<tr>
<td>Major Source Thresholds</td>
<td>20,000</td>
</tr>
<tr>
<td>Major Source?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

<table>
<thead>
<tr>
<th>Category</th>
<th>VOC (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE1</td>
<td>2,005,698</td>
</tr>
<tr>
<td>N-3386-477-1 to ‘-473-1</td>
<td>532</td>
</tr>
<tr>
<td>SSPE2</td>
<td>2,006,230</td>
</tr>
<tr>
<td>Offset Thresholds</td>
<td>20,000</td>
</tr>
<tr>
<td>Offsets Triggered?</td>
<td>Yes</td>
</tr>
<tr>
<td>Major Source Thresholds</td>
<td>20,000</td>
</tr>
<tr>
<td>Major Source?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Stationary Source Increase in Permitted Emissions (SSIPE)

It is District practice to define SSIPE as the difference between SSPE2 and SSPE1. Negative SSIPE will be equated to zero. SSIPE for this project is 532 lb-VOC/yr.
4. SB 288 Major Modification

The purpose of Major Modification calculations is to determine the following:

A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, §4.1.3); and

B. If a public notification is triggered (District Rule 2201, §5.4.1).

Per section VII.D.2 of this document, this facility is a Major Source for VOC emissions. To determine whether a Major Modification can be triggered, first net emissions increase (NEI) is determined, and then NEI is compared with the Major Modification threshold limit of 50,000 lb/year for VOC.

NEI can be calculated as the sum of the difference of post-project potential emissions (PE2) and historical emissions (HE) for the emissions units involved in this project. The proposed tanks are considered new for the purpose of this project; therefore, HE is equal to zero. So,

\[ \text{NEI} = \sum \text{PE2} \]

\[ = 532 \text{ lb-VOC/yr} \]

NEI is not greater than 50,000 lb-VOC/yr. Therefore, the proposed project is not an SB 288 Major Modification for VOC.

5. Federal Major Modification

The purpose of Federal Major Modification calculations is to determine the following:

A. If a Rule-compliance project qualifies for District Rule 2201's Best Available Control Technology (BACT) and offset exemptions (District Rule 2201, §4.2.3.5); and

B. If an Alternate Siting analysis must be performed (District Rule 2201, §4.15.1);

C. If the applicant must provide certification that all California stationary sources owned, operated, or controlled by the applicant that are subject to emission limits are in compliance with those limits or are on a schedule for compliance with all applicable emission limits and standards; and

D. If a public notification is triggered. (District Rule 2201, §5.4.1).

Per section VII.D.2 of this document, this facility is a Major Source for VOC emissions. To determine whether a Major Modification can be triggered,
first net emissions increase (NEI) is determined, and then NEI is compared with the Major Modification threshold limit of 0 lb/year for VOC.

NEI can be calculated as the sum of the difference of the project actual emissions (PAE) and the baseline actual emissions (BAE) for the emissions units involved in this project. BAE is equal to zero since the proposed tanks are new tanks.

\[
\text{NEI} = \sum \text{PAE} = 532 \text{ lb-VOC/yr}
\]

NEI is greater than 0 lb-VOC/yr. Therefore, the proposed project is a Federal Major Modification for VOCs.

VIII. COMPLIANCE

Rule 2201  New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

BACT requirements shall be triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions:

- Any new emissions unit or relocation from one Stationary Source to another of an existing emissions unit with a Potential to Emit (PE2) exceeding 2.0 pounds in any one day;

- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds in any one day;

- Any new or modified emissions unit, in a stationary source project, which results in a Major Modification, as defined in this rule.

Per section VII.C.2 of this document, PE2 from each tank is greater than 2.0 pounds per day. Thus, BACT is triggered for each storage tank.

Pursuant to the "Top-Down BACT Analysis" in Appendix II of this document, BACT has been satisfied with the following:

VOC: Insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and continuous storage temperature not exceeding 40°F.
The following conditions will be included in each permit. Please note that the equipment description of each permit will include that a tank is an "insulated tank", therefore, separate condition stating the "tank shall be insulated" is not included in each permit.

- This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694]

- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694]

- The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694]

2. Offsets

Per section VII.D.2 of this document, this facility's total VOC are above the offset threshold of 20,000 pounds per year. Therefore, offset calculations are required for this project.

Section 4.7.1 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

\[
EOQ = \Sigma(PE2 - BE) + ICCE, \text{ where}
\]

- \(PE2\) = Post-Project Potential to Emit (lb/yr)
- \(BE\) = Baseline Emissions (lb/yr)
- \(ICCE\) = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

\[
EOQ = \Sigma(PE2 - BE)
\]

This facility is a Major Source for VOC. The proposed units are new emission units. Therefore, \(BE\) is equal to zero for each emission unit. Thus,

\[
EOQ = \Sigma PE2
\]
= 532 lb-VOC/yr

Per section 4.8.1 of Rule 2201, for NOx and VOC offsets for new Major Sources and Federal Major Modifications, the distance offset ratio shall be 1.5. This project triggers a Federal Major Modification. Therefore, the amount of offset would be 798 pounds per year (532 lb-VOC/yr × 1.5).

The applicant has proposed to use ERC S-3666-1 to offset the VOC increase from this project. This certificate has 80,000 pounds of VOC per quarter, significantly more than the required amount of 200 pounds of VOC per quarter. Therefore, this certificate is determined to be sufficient to offset the VOC increase from this project.

3. Public Notification

District Rule 2201, section 5.4, requires a public notification for the affected pollutants from the following types of projects:

- New Major Sources
- Federal Major Modifications
- SB 288 Major Modifications
- New emission units with a \( PE > 100 \) lb/day of any one pollutant
- Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis
- New stationary sources with SSPE2 exceeding Offset thresholds
- Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant

This project triggers a Federal Major Modification. Therefore, a 30-day public notice is required for this project.

4. Daily Emission Limits (DELS)

The daily emissions limitations (DELS) and other enforceable conditions are required by Section 3.17 to restrict a unit's maximum daily emissions. The following conditions will be included in each permit:

- The ethanol content of wine stored in this tank shall not exceed 14.0 percent by volume. [District Rule 2201]
- The maximum wine storage throughput in this tank shall not exceed 53,000 gallons per day. [District Rule 2201]
5. Compliance Assurance

Source Testing
Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

Monitoring
The applicant is required to monitor the temperature of the wine stored in each tank on daily basis.

Recordkeeping
The facility will be required to keep daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, along with the records of total gallons of wine contained in a tank and temperature of the stored wine.

These records are required to be retained on-site for a period of at least five years and made available for District inspection upon request.

Reporting
No reporting is required to demonstrate compliance with Rule 2201.

6. Ambient Air Quality Analysis

Per Section 4.14 of Rule 2201, ambient air quality analysis (AAQA) shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse the violation of an Ambient Air Quality Standard (AAQS).

This project involves only VOCs (ethanol) for which AAQS does not exist; therefore, AAQA is not performed for this project.

7. Additional Requirements for new Major Sources and Federal Major Modifications

Per Section 4.15 of Rule 2201, “Compliance Certification” and “Alternative Siting Analysis” is required for any project, which constitutes a New Major Source or a Federal Major Modification.

Compliance Certification
The owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. The compliance certification from the facility is included in Appendix IV of this document.
Alternative Siting Analysis
The current project occurs at an existing winery with a pre-project total wine tank volume of 86,242,565 gallons. With these four new tanks the wine tank volume would be 86,454,565 gallons, which represents an increase of 0.2% of the existing total wine tank volume. Since the current project involves only a minimal increase in the winery's total tank volume and no change to any other facets of the operation, the existing site is expected to result in the least possible impact to the environment from the project. Alternative sites would involve the relocation and/or construction of various support structures and facilities on a much greater scale, and would therefore, result in a much greater impact.

Compliance is expected with this Rule.

Rule 2520  Federally Mandated Operating Permits

E & J Gallo Winery possesses a Title V permit. The proposed project is considered a Significant Modification to the Title V permit since this project triggers a Federal Major Modification under Rule 2201. The applicant has requested to issue the ATCs with COC. Therefore, the following conditions will be included in each permit:

- This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]

- Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and

- The source's suggested draft permit (Appendix I of this document) and

- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix IV of this document).

Section 5.3.4 of this rule requires the permittee shall file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. E & J Gallo Winery is expected to notify the District by filing TV Form-008 upon
implementing the ATCs. The District Compliance Division is expected to submit a change order to implement ATCs into Permits to Operate (PTOs).

Compliance is expected with this Rule.

Rule 4001  New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to wine storage tank operations.

Rule 4002  National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to wine storage tank operations.

Rule 4102  Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. The following condition will be placed on each permit:

- No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 - Health Risk Assessment

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Ethanol is not a hazardous air pollutant (HAP) as defined by Section 44321 of the California Health and Safety Code. Therefore, health risk assessment is not necessary.

Compliance is expected with this Rule.
Rule 4694  Wine Fermentation and Storage Tanks

The purpose of this rule is to reduce emissions of volatile organic compounds (VOC) from the fermentation and bulk storage of wine, or achieve equivalent reductions from alternative emission sources.

This rule is applicable to all facilities with fermentation emissions in excess of 10 tons-VOC/year. The storage tank provisions of this rule apply to all tanks with capacity in excess of 5,000 gallons.

The wine tanks at this facility are used for wine storage and bottling operations. No fermentation takes place at this site, even though some tanks (N-3386-93, and 425 to 430), are allowed as storage/fermentation tanks. This facility claims an exemption under Section 4.1 (Section 4.1 states, except for recordkeeping requirements specified in Section 6.4.4, this rule shall not apply to any winery which has a Baseline Fermentation Emissions of less than 10 tons per year) of Rule 4694 (12/15/2005). Therefore, requirements for fermentation tanks are not discussed in the following section.

Section 5.2 places specific restrictions on wine storage tanks with 5,000 gallons or more in capacity when such tanks are not constructed of wood or concrete. Section 5.2.1 requires these tanks to be equipped and operated with a pressure-vacuum relief valve meeting all of the following requirements:

- The pressure-vacuum relief valve shall operate within 10% of the maximum allowable working pressure of the tank,
- The pressure-vacuum relief valve shall operate in accordance with the manufacturer's instructions, and
- The pressure-vacuum relief valve shall be permanently labeled with the operating pressure settings.
- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21.

The following condition will be included in the permits to ensure compliance with the requirements of Section 5.2.1:

- This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694]
- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in
accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694]

Section 5.2.2 requires that the temperature of the stored wine be maintained at or below 75°F.

The applicant has proposed to maintain the temperature of the stored wine at or below 40°F in the proposed tanks. The following condition will be included in the permits to ensure compliance with the requirements of Section 5.2.2:

- The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694]

Section 6.4.2 requires that weekly records be kept of wine volume and temperature of wine contained in each storage tank. The following conditions will enforce on-going compliance with this section. The recording frequency is consistent with similar permits issued to this facility under project N-1100247.

- Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 2201 and 4694]

- The operator shall record, on a daily basis, the total gallons of wine contained in the tank and temperature of the stored wine. [District Rules 2201 and 4694]

Section 6.4.4 states that the operators claiming exemption pursuant to Section 4.0 shall maintain annual records of the total gallons of red wine and the total gallons of white wine fermented at the winery, and total gallons of wine in storage tanks. Records submitted to the United States Department of Treasury - Alcohol and Tobacco Tax and Trade Bureau for the purpose of tax determination shall be adequate, provided the operator indicates the volumes of red and white wines fermented.

Facility-wide permit N-3386-0-3 (Condition 42) requires the facility to keep the records mentioned in the above section. Therefore, continued compliance is expected.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its Environmental Review Guidelines (ERG) in 2001. The basic purposes of CEQA are to:
Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.

Identify the ways that environmental damage can be avoided or significantly reduced.

Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

**Greenhouse Gas Significance Determination**

Terrestrial carbon sequestration is the process through which carbon dioxide \((\text{CO}_2)\) from the atmosphere is absorbed by trees, plants and crops through photosynthesis, and stored as carbon in biomass (tree trunks, branches, foliage and roots) and soils. The term "sinks" is also used to refer to forests, croplands, and grazing lands, and their ability to sequester carbon. Agriculture and forestry activities can also release \(\text{CO}_2\) to the atmosphere. Therefore, a carbon sink occurs when carbon sequestration is greater than carbon releases over some time period.

Grape vines sequester \(\text{CO}_2\) from the atmosphere to produce biomass, including grapes. Much of the \(\text{CO}_2\) sequestered in grapes is in the form of glucose, which has a molecular weight of 180.16 g mol\(^{-1}\). \(\text{CO}_2\) has a molecular weight of 44.01 g mol\(^{-1}\). Fermentation yields two molecules of \(\text{CO}_2\) per each molecule of glucose, resulting in a conversion ratio of 48.86 percent, by weight. While these emissions are real, the amounts of carbon remaining sequestered in biomass and residual sugars in wine result in an overall long-term carbon balance which is considered to be a carbon sink.

Furthermore, \(\text{CO}_2\) emissions resulting from fermentation processes and \(\text{CO}_2\) emissions released when grape biomass decays at a future date originates from atmospheric \(\text{CO}_2\) which was absorbed by grape vines through photosynthesis. The re-release of this short-term sequestered \(\text{CO}_2\) into the atmosphere would not result in an overall increase in atmospheric \(\text{CO}_2\). Thus, these biogenic \(\text{CO}_2\) emissions are considered to be carbon neutral.
District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. RECOMMENDATION

Compliance with all applicable regulations is expected. Therefore, issuance of ATCs is recommended upon addressing comments from the public, EPA, CARB, and the applicant.

X. BILLING INFORMATION

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Description</th>
<th>Previous Fee Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-3386-470-1 to '473-1</td>
<td>3020-05 D</td>
<td>53,000 gallons</td>
<td>None</td>
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</table>

APPENDICES

Appendix I: Draft ATC Permits
Appendix II: BACT Guideline and Top-Down BACT Analysis
Appendix III: Emission Calculations - EPA's Tanks 4.0.d Sheets
Appendix IV: Compliance Certification Documents
Appendix I
Draft ATC Permits
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-3368-470-1
LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 600 YOSEMITE BLVD
MODESTO, CA 95354
LOCATION: 600 YOSEMITE BLVD
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
MODIFICATION OF 53,000 GALLON STEEL WINE STORAGE TANK WITH PRESSURE/VACUUM VALVE AND INSULATION: TO RE-CALCULATE THE AMOUNT OF OFFSETS

CONDITIONS

1. The Authority to Construct N-3368-470-0 shall be cancelled upon implementation of this permit. [District Rule 2201] Federally Enforceable Through Title V Permit

2. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

3. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

4. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

5. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications, and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Directory RPCO

DAVID WARNER, Director of Permit Services

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475
6. The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

7. The ethanol content of wine stored in this tank shall not exceed 14.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

8. The maximum wine storage throughput in this tank shall not exceed 53,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum wine storage throughput in this tank shall not exceed 5,000,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

11. The operator shall record, on a daily basis, total gallons of wine contained in the tank and temperature of the stored wine. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of annual throughput of wine. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Prior to operating equipment under under this Authority to Construct, the permittee shall mitigate the following quantities of VOC: 1st quarter: 33 lb, 2nd quarter: 33 lb, 3rd quarter: 33 lb, and 4th quarter: 34 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit

14. VOC ERC S-3666-1 (or a certificate split from any of these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be re-issued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to re-issuance of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit
AUTHORITY TO CONSTRUCT

PERMIT NO: N-3386-471-1

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 600 YOSEMITE BLVD
MODESTO, CA 95354

LOCATION: 600 YOSEMITE BLVD
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
MODIFICATION OF 53,000 GALLON STEEL WINE STORAGE TANK WITH PRESSURE/VACUUM VALVE AND INSULATION: TO RE-Calculate THE AMOUNT OF OFFSETS

CONDITIONS

1. The Authority to Construct N-3386-471-0 shall be cancelled upon implementation of this permit. [District Rule 2281] Federally Enforceable Through Title V Permit

2. (1830) This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

3. (1831) Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

4. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer’s instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

5. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
N-3386-471-1 - JULY 2011 5:33 PM - RED ON 4 - No Inspection Not Required
Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475
6. The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

7. The ethanol content of wine stored in this tank shall not exceed 14.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

8. The maximum wine storage throughput in this tank shall not exceed 53,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum wine storage throughput in this tank shall not exceed 5,000,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

11. The operator shall record, on a daily basis, total gallons of wine contained in the tank and temperature of the stored wine. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of annual throughput of wine. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Prior to operating equipment under this Authority to Construct, the permittee shall mitigate the following quantities of VOC: 1st quarter: 33 lb, 2nd quarter: 33 lb, 3rd quarter: 33 lb, and 4th quarter: 34 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit

14. VOC ERC S-3666-1(or a certificate split from any of these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be re-issued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to re-issuance of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit
AUTHORITY TO CONSTRUCT

PERMIT NO: N-3386-472-1

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 600 YOSEMITE BLVD
MODESTO, CA 95354

LOCATION: 600 YOSEMITE BLVD
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
MODIFICATION OF 53,000 GALLON STEEL WINE STORAGE TANK WITH PRESSURE/VACUUM VALVE AND INSULATION: TO RE-CALCULATE THE AMOUNT OF OFFSETS

CONDITIONS

1. The Authority to Construct N-3386-472-0 shall be cancelled upon implementation of this permit. [District Rule 2201] Federally Enforceable Through Title V Permit

2. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

3. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

4. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

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Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475
6. The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

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15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit
AUTHORITY TO CONSTRUCT

PERMIT NO: N-3386-473-1
LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 600 YOSEMITE BLVD
                      MODESTO, CA 95354
LOCATION: 600 YOSEMITE BLVD
                      MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
MODIFICATION OF 53,000 GALLON STEEL WINE STORAGE TANK WITH PRESSURE/VACUUM VALVE AND
INSULATION: TO RE-CALCULATE THE AMOUNT OF OFFSETS

CONDITIONS

1. The Authority to Construct N-3386-473-0 shall be cancelled upon implementation of this permit. [District Rule 2201] Federally Enforceable Through Title V Permit

2. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

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4. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

5. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
6. The temperature of the wine stored in this tank shall be maintained at or below 40 degrees Fahrenheit. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit

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15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit
Appendix II
BACT Guideline and Top-Down BACT Analysis
San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 5.4.13*
Last Update: 10/6/2009

Wine Storage Tank

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice or contained in the SIP</th>
<th>Technologically Feasible</th>
<th>Alternate Basic Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>1. Insulation or Equivalent**, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; &quot;gas-tight&quot; tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.</td>
<td>1. Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Capture of VOCs and carbon adsorption or equivalent (95% control)</td>
<td>3. Capture of VOCs and absorption or equivalent (90% control)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Capture of VOCs and condensation or equivalent (70% control)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tanks made of heat-conducting materials such as stainless steel may be insulated or stored indoors (in a completely enclosed building, except for vents, doors and other essential openings) to limit exposure of diurnal temperature variations. Tanks made entirely of non-conducting materials such as concrete and wood (except for fittings) are considered self-insulating.

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

*This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)
Top-Down BACT Analysis for VOCs from Wine Storage Operations

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, 3rd quarter 2009, identifies achieved in practice and technologically feasible BACT for wine storage tanks as follows:

1) Insulation or Equivalent**, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.
2) Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)
3) Capture of VOCs and carbon adsorption or equivalent (95% control)
4) Capture of VOCs and absorption or equivalent (90% control)
5) Capture of VOCs and condensation or equivalent (70% control)

**Tanks made of heat-conducting materials such as stainless steel may be insulated or stored indoors (in a completely enclosed building, except for vents, doors and other essential openings) to limit exposure to diurnal temperature variations. Tanks made entirely of non-conducting materials such as concrete and wood (except for fittings) are considered self-insulating.

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

<table>
<thead>
<tr>
<th>Rank</th>
<th>Option</th>
<th>Control</th>
<th>Overall Capture &amp; Control Efficiency¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>Capture of VOCs and thermal or catalytic oxidation</td>
<td>98 %</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Capture of VOCs and carbon adsorption</td>
<td>95 %</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>Capture of VOCs and absorption</td>
<td>90 %</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>Capture of VOCs and condensation</td>
<td>70 %</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Insulated tank, pressure/vacuum valve set with 10% of the maximum allowable working pressure of the tank, &quot;gas tight&quot; tank operation and 75°F tank temperature control as defined in District Rule 4694. (Achieved in Practice and Industry Standard)</td>
<td>0 %</td>
</tr>
</tbody>
</table>

¹ Relative to "industry standard"
Step 4 - Cost Effectiveness Analysis

A cost-effective analysis is performed for each control technology which is more effective than meeting the requirements of District Rule 4694 plus tank insulation (achieved-in-practice BACT). The cost-effectiveness analysis will be performed based on the following:

- Since the most cost effective approach will be achieved by installing a common control device for multiple tanks, the analysis will be based on this approach.

- To expand the scope and generality of this BACT, the cost-effectiveness analysis will be based on a hypothetical "industry-typical" storage tank operation consisting of a battery of twelve (12) storage tanks each with a capacity of 200,000 gallons. Total annual throughput for the hypothetical tank battery is 39.6 million gallons per year based on an individual annual throughput of 3,300,000 gallons per year each (equivalent to almost 17 turns per year of each storage tank versus an estimated industry average of 6 turns per tank\(^2\)). Total throughput subject to VOC control by a common VOC control device is thus 39.6 MMgal/year. Based on economies of scale, it is obvious that any control found to not be cost-effective at this level of throughput would be even less cost-effective at lower capacities.

**Industry Standard**

During the development of District Rule 4694, it was determined that use of pressure/vacuum valves and some level of refrigeration on wine storage tanks is a standard operation for large wineries in the San Joaquin Valley. Additionally, essentially all storage tanks are insulated. This was directly confirmed with four large wineries: Mission Bell (Madera), Gallo-Livingston, Bronco, and Robert Mondavi. Based on this information, the wine storage tank VOC control requirements of District Rule 4694 and tank insulation are also determined to be "industry standard".

The emission factor for "industry standard" operation is determined based on Table 1 of the District’s FYI-114, Estimating Emissions from Wine Storage Tanks, for an insulated storage tank with up to 14% ethanol content in the wine being stored:

\[ E_r \text{(industry standard)} = 0.198 \text{ lb-VOC/1000 gal of wine throughput} \]

**Uncontrolled emissions for Twelve-Tank Battery**

\[
\begin{align*}
\text{Uncontrolled Emissions} &= \text{Gallons Throughput/year} \times 0.198 \text{ lb-VOC/1000 gallons} \\
&= (39.6 \times 10^6 \text{ gal/year}) \times (0.198 \text{ lb-VOC/1000 gal}) \\
\text{Uncontrolled Emissions} &= 7,841 \text{ lb/year}
\end{align*}
\]

---

\(^2\) Per discussions with the Wine Institute (Bob Calvin of Constellation Wines) during Rule 4694 development (8/16/05)
Capture of VOCs with Thermal or Catalytic Oxidation/ Carbon Adsorption/Absorption or Condensation (Options 2, 3, 4, and 5)

A common feature of all of these options is that they require installation of a collection system for delivering the VOCs from the tanks to the common control device. The analysis below indicates that these options are not cost effective by showing that just the annualized direct cost for the ductwork of the collection system and supporting structural steel and foundations alone is too large, when considered at the District's cost effectiveness threshold for VOC BACT, to justify the capital investment required by these options. This approach ignores additional major costs for the actual control device and its installation and for equipment sterilization systems for ductwork and control device, instrumentation and control systems for isolation of individual tanks in the battery, site specific factors due to limited plot space (known to be a significant factor at all wineries), and operating and maintenance costs for each system. Should all these additional cost factors be included, the calculated cost effectiveness would be substantially higher than indicated below.

a. Control Efficiency

Option 2 is capable of a 98% reduction in VOC emissions while the remaining options under consideration have lesser control efficiencies. Showing that all of the options under consideration are not cost effective at a 98% reduction level based on capital investment requirements of ductwork and steel alone is adequate since options other than thermal/catalytic oxidation would be even less cost effective at their actual (lower) reduction levels.

Annual Emission Reduction
= Uncontrolled Emissions $\times 0.98$
= 7,841 lb-VOC/year $\times 0.98$
= 7,684 lb-VOC/year
= 3.84 tons-VOC/year

b. Capital Investment for Installation of a VOC Collection System

Design and Estimate Basis:

- The basis and approach for the capital cost estimate for ductwork and support steel is summarized in BACT Attachment 1.

- The collection system consists of stainless steel plate ductwork (stainless steel is required due to cleanliness and sterilization requirements for wine quality considerations and due to the food grade product status) with isolation valving, connecting twelve 200,000 gallon tanks to a common manifold system which ducts the combined vent to the common control device. The cost of dampers and isolation valving, installed in the ductwork, will not be included in the cost estimate.

- A minimum duct size is established at 6 inches diameter at each tank to ensure minimal backpressure of the tank during filling operations and to provide adequate strength for spanning between supports. The main header is 12' diameter to handle the potential for simultaneously venting all tanks based on a potential fill rate of 1000 gpm for each tank (per applicant) and a duct velocity of 2000 feet per minute.
• The ductwork is designed with features to facilitate clean-in-place (CIP) operation to allow for periodic sterilization procedures as required for food grade products. The CIP system includes strategically placed spray nozzles on the ductwork for injecting sterilizing solutions into the system. Cost impacts to install CIP systems to clean the ducting are not included in the cost estimate.

• The ductwork is supported on a structural steel piperack mounted on drilled concrete piers, running through the new tank battery. Ducting elevations are established to allow continuous free draining to the separator located at the control device.

• Unit Installed Costs for Ductwork: A direct cost estimate for 12" diameter stainless steel ductwork, installed in a San Joaquin Valley winery, was taken from a study prepared by Eichley Engineering for the Wine Institute in conjunction with development of District Rule 4694. The estimate is based on 2nd quarter 2005 dollars, and includes fittings, miscellaneous duct supports and other materials plus field labor costs required to install the ductwork, but does not include other associated indirect costs such as construction management, engineering, owner’s cost, contingency, etc. BACT Attachment 1 presents the development of unit installed costs for stainless steel ducting based on the costs derived from the Eichley estimate.

• A linear foot of ducting required was extracted from the Eichley Estimate for a similar system at Gallo-Livingston (See BACT Attachment 1 in project C1090293).

• Costs for structural steel supports and foundations were extracted from the Eichley Estimate for a similar system at Gallo-Livingston (See BACT Attachment 1 in project C1090293).

• Sales tax of 8% was applied to all materials.

• Indirect costs include Engineering, Construction Expense and Contractor’s Fee and Contingency. Factors for these costs are taken from Peters & Timmerhaus.

• Capital costs taken from the Eichley estimate are 2005 dollars. These are escalated to 2011 based on 3% overall escalation per year.

Capital Investment (for ductwork and steel supports)

Fixed Capital Investment is summarized in the following table:

---

3 Eichley Engineers of California, Fermenter VOC Emissions Control Cost Estimate (Revision 1), Eichley Project Numbers 30892 and 30913, June 30, 2005

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Unit</th>
<th>Material Cost</th>
<th>Total Item Material Cost</th>
<th>Unit Labor Cost</th>
<th>Total Item Labor Cost</th>
<th>Unit Subcontract Price</th>
<th>Total Item Subcontract Cost</th>
<th>Total Item Direct Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6″ Dia. Ducting</td>
<td>75</td>
<td>ft</td>
<td>$32.11</td>
<td>$2,408</td>
<td>$29.20</td>
<td>$2,190</td>
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<td></td>
<td>$4,596</td>
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<tr>
<td>12″ Dia. Ducting</td>
<td>870</td>
<td>ft</td>
<td>$75.33</td>
<td>$65,537</td>
<td>$68.49</td>
<td>$59,586</td>
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<td>$125,123</td>
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<td>Drilled Piers</td>
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<td>ea.</td>
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<td></td>
<td></td>
<td>$1,000.00</td>
<td>$32,000</td>
<td>$32,000</td>
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<tr>
<td>Structural Steel Supports</td>
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<td>lot</td>
<td>$45,273</td>
<td>$287,630</td>
<td>$45,273</td>
<td>$28,446</td>
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<td>$332,903</td>
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<tr>
<td>Direct Cost Subtotals</td>
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<td></td>
<td></td>
<td>$355,575</td>
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<td>$107,049</td>
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<td></td>
<td>$494,624</td>
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<td>Sales Tax</td>
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<td>$28,446</td>
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<td>Total Direct Cost</td>
<td></td>
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<td>$384,021</td>
<td>$107,049</td>
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<td>$32,000</td>
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<td>$523,070</td>
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<tr>
<td>Indirect Costs</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Engineering @ 15% of Direct Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$78,461</td>
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<tr>
<td>Construction Expense and Contractor's Fee @ 20% of Direct Cost</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$104,614</td>
</tr>
<tr>
<td>Contingency @ 15% of Fixed Capital Investment</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>$124,614</td>
</tr>
<tr>
<td>Fixed Capital Investment (2005 Cost)</td>
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<td>$830,759</td>
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<tr>
<td>Escalation to 2011 @ 3%/year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$161,211</td>
</tr>
<tr>
<td>Fixed Capital Investment (2011 Cost)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$991,970</td>
</tr>
</tbody>
</table>
Annualized Capital Investment and Cost Effectiveness (based on ductwork):
Annualized Capital Investment = Initial Capital Investment × Amortization Factor
Amortization Factor = 0.163 per District policy, amortizing over 10 years at 10%
Therefore,
Annualized Capital Investment = $991,970 × 0.163 = $161,691

Cost Effectiveness = Annualized Cost/Annual Emission Reductions

Cost Effectiveness = $161,691/3.84 tons-VOC = $42,107/ton-VOC

As shown above, the cost of VOC reduction by capture of VOCs with thermal or catalytic oxidation, carbon adsorption, absorption or condensation would be greater than the $17,500/ton cost effectiveness threshold for VCC in the District BACT policy, based only on the direct cost required for the collection ducting. Therefore these options are not cost-effective and will not be considered for this project.

Step 5 - Select BACT

All identified feasible options with control efficiencies higher than the option proposed by the facility have been shown to not be cost effective. The facility has proposed Option 1, insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and maintain a continuous storage temperature of 40°F. These BACT requirements will be placed on the ATCs as enforceable conditions.
Appendix III

Emission Calculations - EPA's Tanks 4.0.d Sheets
TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

<table>
<thead>
<tr>
<th>Identification</th>
<th>Gallo Tanks Jag</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Identification:</td>
<td>Modesto</td>
</tr>
<tr>
<td>City:</td>
<td>California</td>
</tr>
<tr>
<td>State:</td>
<td>Gallo</td>
</tr>
<tr>
<td>Type of Tank:</td>
<td>Vertical Fixed Roof Tank</td>
</tr>
<tr>
<td>Description:</td>
<td>District Verification Run</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tank Dimensions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell Height (ft):</td>
<td>40.00</td>
</tr>
<tr>
<td>Diameter (ft):</td>
<td>15.08</td>
</tr>
<tr>
<td>Liquid Height (ft):</td>
<td>40.00</td>
</tr>
<tr>
<td>Avg. Liquid Height (ft):</td>
<td>40.00</td>
</tr>
<tr>
<td>Volume (gallons):</td>
<td>51,554.93</td>
</tr>
<tr>
<td>Turnovers:</td>
<td>95.98</td>
</tr>
<tr>
<td>Net Throughput (gal/yr):</td>
<td>5,000,000.00</td>
</tr>
<tr>
<td>Is Tank Heated (y/n):</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paint Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell Color/Shade:</td>
<td>White/White</td>
</tr>
<tr>
<td>Shell Condition:</td>
<td>Good</td>
</tr>
<tr>
<td>Roof Color/Shade:</td>
<td>White/White</td>
</tr>
<tr>
<td>Roof Condition:</td>
<td>Good</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Roof Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Cone</td>
</tr>
<tr>
<td>Height (ft):</td>
<td>2.00</td>
</tr>
<tr>
<td>Slope (ft/ft) (Cone Roof)</td>
<td>0.27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breather Vent Settings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum Settings (psig):</td>
<td>0.30</td>
</tr>
<tr>
<td>Pressure Settings (psig) :</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Meteorological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)
### TANKS 4.0.9d

Emissions Report - Detail Format

**Liquid Contents of Storage Tank**

#### Gallo Tanks Jag - Vertical Fixed Roof Tank

Modesto, California

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine 14.0% Vol Alcohol</td>
<td>All</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>0.1628</td>
<td>0.1628</td>
<td>0.1628</td>
<td>26.7874</td>
<td></td>
<td></td>
<td>19.55</td>
<td>Option 1: VP40 = 0.16276 VP50 = 0.24016</td>
</tr>
</tbody>
</table>
TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Gallo Tanks Jag - Vertical Fixed Roof Tank
Modesto, California

<table>
<thead>
<tr>
<th>Annual Emission Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing Losses (bbl):</td>
</tr>
<tr>
<td>Vapor Space Volume (stf ft):</td>
</tr>
<tr>
<td>Vapor Density (lb/mo):</td>
</tr>
<tr>
<td>Vapor Space Expansion Factor:</td>
</tr>
<tr>
<td>Ventend Vapor Saturation Factor:</td>
</tr>
</tbody>
</table>

Tank Vapor Space Volume:
- Vapor Space Volume (stf ft):                                    | 117,8097 |
- Tank Diameter (ft):                                             | 12.0000 |
- Vapor Space Outage (ft):                                        | 0.0000 |
- Tank Shell Height (ft):                                         | 40.0000 |
- Average Liquid Weight (ft):                                     | 40.0000 |
- Roof Outage (ft):                                               | 0.6667 |

| Roof Outage (Cone Roof)                                         | 0.0000 |
| Roof Outage (ft):                                               | 0.0000 |
| Roof Height (ft):                                               | 2.0000 |
| Roof Slope (ft):                                                | 0.2700 |
| Shell Radii (ft):                                               | 7.8000 |

Vapor Density:
- Vapor Density (bblcu ft):                                      | 6.0000 |
- Vapor Molecular Weight (lb/mole):                               | 20.7674 |
- Vapor Pressure at Daily Average Liquid                          | 499.6700 |
- Surface Temperature (ppa):                                      | 61.5458 |
- Ideal Gas Constant R                                            | 0.0000 |
- Liquid Bulk Temperature (deg R):                                 | 496.6700 |
- Tank Paint Solar Absorptance (Block):                           | 0.1700 |
- Tank Paint Solar Absorptance (Roof):                            | 0.1700 |
- Daily Total Solar Insulation Factor (Btu/ft^2/day):              | 1,542.9167 |

| Vapor Space Expansion Factor:                                   | 0.0000 |
| Daily Vapor Temperature Range (deg R):                          | 0.0000 |
| Daily Vapor Pressure Range (psia):                              | 0.0000 |
| Steam Vent Press. Settng Range (psia):                          | 0.0000 |
| Vapor Pressure at Daily Average Liquid                          | 499.6700 |
| Surface Temperature (psia):                                      | 61.5458 |
| Vapor Pressure at Daily Minimum Liquid                          | 0.1628 |
| Surface Temperature (psia):                                      | 0.1628 |
| Vapor Pressure at Daily Maximum Liquid                          | 0.1628 |
| Surface Temperature (psia):                                      | 0.1628 |
| Daily Avg. Liquid Surface Temp. (deg R):                        | 499.6700 |
| Daily Min. Liquid Surface Temp. (deg R):                        | 499.6700 |
| Daily Max. Liquid Surface Temp. (deg R):                        | 499.6700 |
| Daily Ambient Temp. Range (deg R):                              | 25.6483 |

<p>| Vented Vapor Saturation Factor:                                  | 0.9943 |
| Vented Vapor Saturation Factor:                                  | 0.1628 |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Space Outage (ft):</td>
<td>0.6667</td>
</tr>
<tr>
<td>Working Losses (lb)</td>
<td>247,0604</td>
</tr>
<tr>
<td>Vapor Molecular Weight (lb/mole)</td>
<td>26.7874</td>
</tr>
<tr>
<td>Vapor Pressure at Daily Average Liquid</td>
<td></td>
</tr>
<tr>
<td>Surplus Temperature (°R):</td>
<td>0.1628</td>
</tr>
<tr>
<td>Annual Net Throughput (gal/yr):</td>
<td>6,000,000.0000</td>
</tr>
<tr>
<td>Annual Turnover</td>
<td>99.9879</td>
</tr>
<tr>
<td>Turnover Factor</td>
<td>0.4760</td>
</tr>
<tr>
<td>Maximum Liquid Volume (gal):</td>
<td>51,534.9000</td>
</tr>
<tr>
<td>Maximum Liquid Height (ft):</td>
<td>40.0000</td>
</tr>
<tr>
<td>Tank Diameter (ft):</td>
<td>15.0000</td>
</tr>
<tr>
<td>Working Loss Product Factor:</td>
<td>1.0000</td>
</tr>
<tr>
<td>Total Losses (lb):</td>
<td>247,0604</td>
</tr>
</tbody>
</table>
TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual
Gallo Tanks Jag - Vertical Fixed Roof Tank
Modesto, California

<table>
<thead>
<tr>
<th>Components</th>
<th>Working Loss</th>
<th>Breathing Loss</th>
<th>Total Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine 14.0 % Vol Alcohol</td>
<td>247.06</td>
<td>0.00</td>
<td>247.06</td>
</tr>
</tbody>
</table>
# TANKS 4.0.9d

## Emissions Report - Detail Format

### Tank Identification and Physical Characteristics

| Identification |  |  |
|----------------|-----------------------------|
| User Identification: | Gallo Tanks |
| City: | Modesto |
| State: | California |
| Company: | Gallo |
| Type of Tank: | Vertical Fixed Roof Tank |
| Description: | District Ventilation Run |

### Tank Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell Height (ft):</td>
<td>40.00</td>
</tr>
<tr>
<td>Diameter (ft):</td>
<td>15.00</td>
</tr>
<tr>
<td>Liquid Height (ft):</td>
<td>40.00</td>
</tr>
<tr>
<td>Avg. Liquid Height (ft):</td>
<td>20.00</td>
</tr>
<tr>
<td>Volume (gallons):</td>
<td>51,554.93</td>
</tr>
<tr>
<td>Turnovers:</td>
<td>31.00</td>
</tr>
<tr>
<td>Net Throughput (gal/yr):</td>
<td>1,508,200.83</td>
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<tr>
<td>Is Tank Heated (yn):</td>
<td>Y</td>
</tr>
</tbody>
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### Paint Characteristics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Shell Color/Finish:</td>
<td>White/White</td>
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<tr>
<td>Roof Color/Step:</td>
<td>White/White</td>
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<tr>
<td>Roof Condition:</td>
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### Roof Characteristics

<table>
<thead>
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<th>Characteristic</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Height (ft):</td>
<td>2.00</td>
</tr>
<tr>
<td>Slope (ft) (Cone Roof):</td>
<td>0.27</td>
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### Breather Vent Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Vacuum Settings (psig):</td>
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</tr>
<tr>
<td>Pressure Settings (psig):</td>
<td>0.00</td>
</tr>
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**Meteorological Data used in Emissions Calculations:** Stockton, California (Avg Atmospheric Pressure = 14.72 psia)
## Gallo Tanks - Vertical Fixed Roof Tank

*Modesto, California*

<table>
<thead>
<tr>
<th>Substance/Component</th>
<th>Month</th>
<th>Data Liquid Sf. Temp (deg F)</th>
<th>Vapor Sf. Temp (deg F)</th>
<th>Vapor Pressure (psia)</th>
<th>Vapor Mole Fract.</th>
<th>Liquid Mole Fract.</th>
<th>Net Weight</th>
<th>State for Vapor Pressure Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine - 9% Vol Alcohol</td>
<td>Jul</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>0.438</td>
<td>0.1028</td>
<td>0.1028</td>
<td>26.78%</td>
</tr>
</tbody>
</table>

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mhtml:file://C:\My Docs\GalloAnnual.mht 6/2/2011
## Gafo Tanks - Vertical Fixed Roof Tank

### Emissions Report - Detail Format

#### Detail Calculations (AP-42)

<table>
<thead>
<tr>
<th>Month</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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</thead>
<tbody>
<tr>
<td><strong>Storage Loss</strong> (lb)</td>
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<td><strong>Vapor Space Volume</strong> (cu ft)</td>
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<tr>
<td><strong>Tank Depth Height</strong> (ft)</td>
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<tr>
<td><strong>Vapor Expansion Factor</strong></td>
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<td><strong>Total Vapor Loss (lb)</strong></td>
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<tr>
<td><strong>Rainout (Gallons Per Foot)</strong></td>
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<td>0.6487</td>
</tr>
</tbody>
</table>

#### Other Calculations

- **Daily Average Liquid Surface Temp. (°F)**: 49.519
- **Vapor Pressure at Daily Average Liquid Surface Temperature (psi)**: 5.1500
- **Vapor Pressure**: 0.0200
- **Vapor Temperature Range (deg F)**: 26.16
- **Daily Maximum Vapor Pressure Range (psi)**: 3.2000
- **Basis Temperature (deg F)**: 70.00
- **Basis Pressure (psi)**: 14.70
- **Vapor Pressure at Basis Temperature (psi)**: 2.5000
- **Vapor Pressure at Daily Average Liquid Surface Temperature (psi)**: 5.1500
- **Vapor Pressure at Daily Maximum Liquid Surface Temperature (psi)**: 5.1500
- **Basis Liquid Surface Area**: 49.519
- **Daily Maximum Liquid Surface**: 49.519
- **Daily Ambient Temp. Range (°F)**: 33.5000
- **Vapor Space Volume**: 3,622.1213
- **Vapor Loss Factor**: 1.500
- **Vapor Loss**: 0.000
- **Surface Area**: 49.519
- **Basis Vapor Pressure**: 0.0200
- **Surface Temperature (°F)**: 26.16
- **Basis Temperature (deg F)**: 70.00
- **Basis Pressure (psi)**: 14.70

#### Other Calculations

- **Annual Turnover**: 1.500
- **Vapor Loss Factor**: 1.500
- **Tank Diameter (in)**: 13.622
- **Tank Depth Height (ft)**: 40.0503
- **Vapor Loss (lb)**: 0.000
- **Vapor Loss Factor**: 1.500
- **Total Loss**: 195,858

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**Note:** The file was last modified on 6/2/2011.
Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Gallo Tanks - Vertical Fixed Roof Tank
Modesto, California

<table>
<thead>
<tr>
<th>Component</th>
<th>Working Loss</th>
<th>Breathing Loss</th>
<th>Total Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine 14.0% Vol Alcohol</td>
<td>155.9</td>
<td>0.01</td>
<td>155.9</td>
</tr>
<tr>
<td>Chemical Name Category</td>
<td>CAS</td>
<td>Molecular Weight</td>
<td>Vapor Density</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----</td>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Water 14.0 % Vol Alcohol Organic Liquids</td>
<td>18.05</td>
<td>66.79</td>
<td>0.20</td>
</tr>
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</tbody>
</table>

file://C:\Program Files (x86)\Tanks409\data_display.htm

6/2/2011
Appendix IV
Compliance Certification Documents
Mr. Rupi Gill  
San Joaquin Valley Air Pollution Control District  
4800 Enterprise Way  
Modesto CA 95356-8718

Subject: Compliance Statement for E&J Gallo Winery - Modesto

Dear Mr. Gill:

In accordance with Rule 2201, Section 4.15, "Additional Requirements for New Major Sources and Federal Major Modifications," E&J Gallo Winery - Modesto is pleased to provide this compliance statement regarding its proposed (4) Wine Bottling Tanks project N-1111823.

All major stationary sources in California owned or operated by E&J Gallo Winery - Modesto, or by any entity controlling, controlled by, or under common control with E&J Gallo Winery - Modesto, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include one or more of the following facilities:

E&J Gallo Winery: 600 Yosemite Blvd. Modesto, CA 95354

E&J Gallo - Brandy: 200 Yosemite Blvd. Modesto, CA 95354

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Please contact me if you have any questions regarding this certification.

Sincerely,

[Signature]

Doug Reifsteck  
Vice President – Modesto Bottling and Cellar Operations
San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ X ] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

<table>
<thead>
<tr>
<th>COMPANY NAME: E&amp;J Gallo Winery</th>
<th>FACILITY ID: N - 3386</th>
</tr>
</thead>
</table>

1. Type of Organization: [X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility

2. Owner's Name: E&J Gallo Winery

3. Agent to the Owner: Steven Sylvester

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

☑ Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).

☑ Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

☑ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

☑ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

Doug Reifsteck

Name of Responsible Official (please print)

Vice President – Modesto Bottling and Cellar Operations

Title of Responsible Official (please print)

PROJECT # N-1111823

Mailing Address: Central Regional Office * 1930 E. Gettysburg Avenue * Fresno, California 93726-6244 * (559) 230-5900 * FAX (559) 230-6061