



APR 08 2015

Craig Rous
Bear Creek Winery
11900 N. Furry Road
Lodi, CA 95240

RE: Final - Authority to Construct / Certificate of Conformity (Significant Modification)
Facility Number: N-96
Project Number: N-1133555

Dear Mr. Rous:

The Air Pollution Control Officer has issued the Authority to Construct permits to Bear Creek Winery for the installation of 29 new white wine fermentation/wine storage tanks, at 11900 N. Furry Road, Lodi, CA. Enclosed are the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits was published on May 5, 2014. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on April 30, 2014. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in a detailed re-examination of Achieved in Practice BACT and revised BACT cost effectiveness analysis for the control technologies of condensation and absorption. These changes did not trigger additional public notification requirements, nor did they have any impact upon the Best Available Control Technology determination or on the amount of offsets required for project approval. Enclosed is the revised evaluation with responses to comments received.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

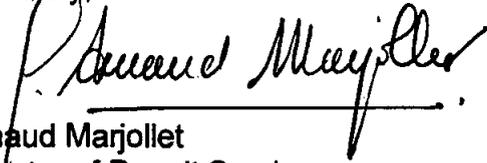
Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

Mr. Craig Rous
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Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-6000.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:jag

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email



Facility # N-96
BEAR CREEK WINERY
11900 N FURRY RD
LODI, CA 95240

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice.** Please pay enclosed invoice before due date.
2. **Fully Understand ATC.** Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.
3. **Follow ATC.** You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.
4. **Notify District.** You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department.
5. **Source Test.** Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.
6. **Maintain Records.** Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for 5 years.

By operating in compliance, you are doing your part to improve air quality for all Valley residents.

**For assistance, please contact District Compliance staff at
any of the telephone numbers listed below.**

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



AUTHORITY TO CONSTRUCT

PERMIT NO: N-96-360-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #718) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-360-0; Mar 31 2015 1:45PM - REFUERZJ; Job Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-361-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #719) WITH PRESSURE/VACUUM VALVE AND INSULATION

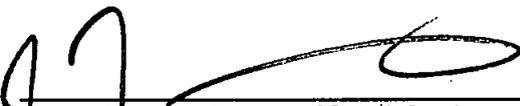
CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-361-0: Mar 31 2015 1:46PM - REFUERZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-362-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #726) WITH PRESSURE/VACUUM VALVE AND INSULATION

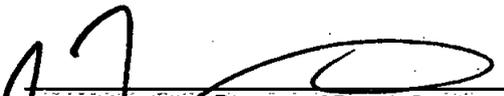
CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-362-0: Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
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10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
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12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
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19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-363-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #727) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

N-96-363-0 - Mar 31 2015 1:45PM - REFUERZJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-364-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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



Arnaud Marjollet, Director of Permit Services
N-96-364-0: Mar 31 2015 1:45PM - REFUERZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-365-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #710) WITH PRESSURE/VACUUM VALVE AND INSULATION

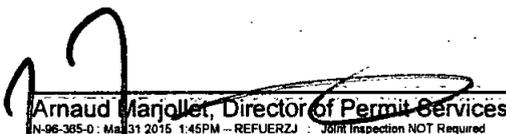
CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-365-0: Mar 31 2015 1:45PM -- REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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-96-366-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #716) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjot, Director of Permit Services

N-96-366-0; Mar 31 2015 1:45PM - REFUERZJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-367-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #717) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-367-0: Mar 01 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-368-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #701) WITH PRESSURE/VACUUM VALVE AND INSULATION

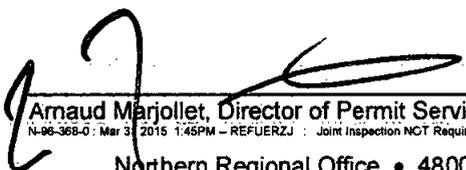
CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-368-0; Mar 3 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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-96-369-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #702) WITH PRESSURE/VACUUM VALVE AND INSULATION

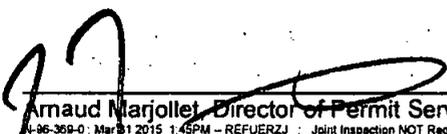
CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-369-0; Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-370-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #708) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-370-0 - Mar 31 2015 1:45PM - REFURZ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-371-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION

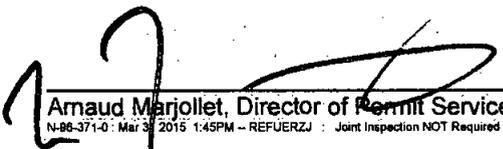
CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-371-0; Mar 31 2015 1:45PM - REFURZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-372-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #665) WITH PRESSURE/VACUUM VALVE AND INSULATION

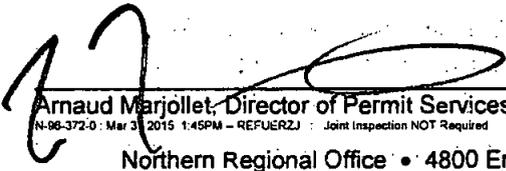
CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 38 feet in height with a proposed volume of 46,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-372-0 : Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-373-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #666) WITH PRESSURE/VACUUM VALVE AND INSULATION

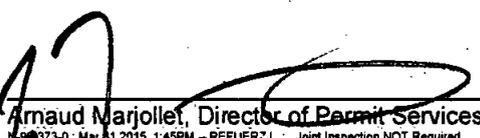
CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 38 feet in height with a proposed volume of 46,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-373-0; Mar 31 2015 1:45PM - REFUERZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-374-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-374-0 : Mar 31 2015 1:45PM -- REFUERZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-375-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #736) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services

N-96-375-0 : Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-376-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #737) WITH PRESSURE/VACUUM VALVE AND INSULATION

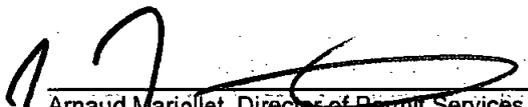
CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
09-376-0 - Mar 31 2015 1:45PM - REFUERZJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-377-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #738) WITH PRESSURE/VACUUM VALVE AND INSULATION

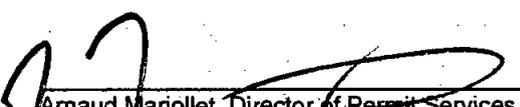
CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
N-96-377-0 : Mar 31 2015 1:45PM -- REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-378-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #739) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-378-0 - Mar 31 2015 1:45PM - REFUERZJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-379-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #740) WITH PRESSURE/VACUUM VALVE AND INSULATION

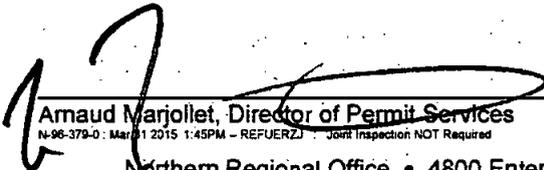
CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

N-96-379-0 - Mar 01 2015 1:45PM - REFUERZU - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-380-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #741) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services

N-96-380-0: Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-381-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #728) WITH PRESSURE/VACUUM VALVE AND INSULATION

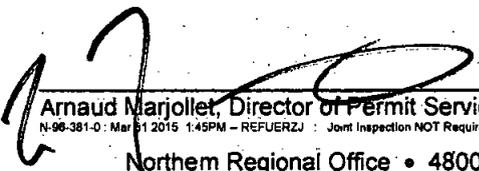
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-381-0: Mar 31 2015 1:45PM - REFUERZU : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-382-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #729) WITH PRESSURE/VACUUM VALVE AND INSULATION

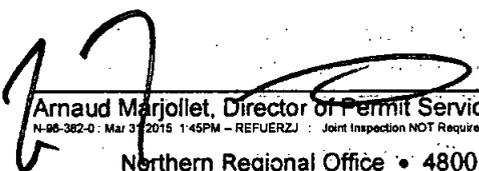
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services

N-96-382-0 : Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-383-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #730) WITH PRESSURE/VACUUM VALVE AND INSULATION

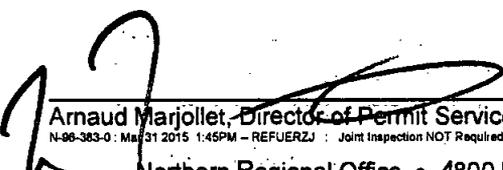
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

N-96-383-0: Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-384-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #731) WITH PRESSURE/VACUUM VALVE AND INSULATION

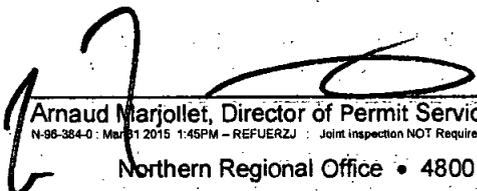
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-384-0: March 31 2015 1:45PM - REFUERZU : Joint inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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-96-385-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #732) WITH PRESSURE/VACUUM VALVE AND INSULATION

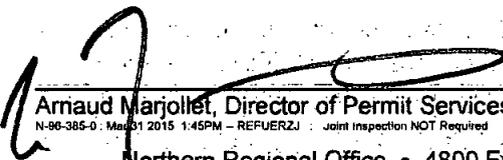
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

N-96-385-0 - Mar 31 2015 1:45PM - REPUERZJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-386-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #733) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-386-0: Mar 31 2015 1:45PM - REFUERZJ Joint Inspection NOT Required
Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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-96-387-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #734) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

N-96-387-0 : Mar 31 2015 1:45PM - REFUERZJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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-96-388-0

ISSUANCE DATE: 03/31/2015

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY

MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION

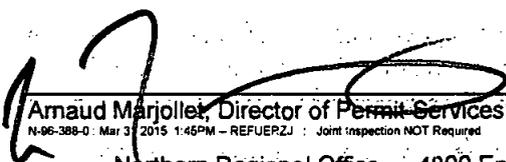
CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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


Arnaud Marjollet, Director of Permit Services
N-96-388-0, Mar 31 2015 1:46PM - REFUERZJ : Joint inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
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19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Federally Enforceable Through Title V Permit
22. 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

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Wine Storage and Fermentation Tanks

Facility Name: Bear Creek Winery Date: December 2, 2014
Mailing Address: 11900 N. Furry Road Engineer: Jesse A. Garcia
Lodi, CA 95240 Lead Engineer: Joven Refuerzo
Contact Person: Craig Rous
Telephone: (209) 969-3404
Application #(s): N-96-360-0 through '388-0
Project #: N-1133555
Deemed Complete: December 9, 2013

I. Proposal

Bear Creek Winery has requested Authority to Construct (ATC) permits for the installation of twenty-nine (29) white wine fermentation/storage tanks. Bear Creek proposes to permit these tanks under the facility's existing Specific Limiting Condition (SLC) which limits the combined annual VOC emissions from all wine fermentation and storage operations at their facility.

Bear Creek Winery has received their Title V Permit. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Bear Creek Winery must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC permits issued with this project.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
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 4102 Nuisance (12/17/92)
Rule 4694 Wine Fermentation and Storage Tanks (12/15/05)
CH&SC 41700 Health Risk Assessment
CH&SC 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 11900 N. Furry Road in Lodi, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Bear Creek Winery produces both red and white table wines, as well as other specialty wine products, from the fermentation of grapes. During the "crush season," typically from late August to late November, both red and white grapes are received by truck and delivered to a crusher-stemmer which serves to crush the grapes and remove the stems. In the case of red wines, the resultant juice (termed "must" and containing the grape skins, pulp and seeds) is pumped to red wine fermentation tanks for fermentation, a batch process. The red wine fermentation tanks are specifically designed to ferment the must in contact with the skins and to allow the separation of the skins and seeds from the wine after fermentation. In the case of white wines, the must is sent to screens and presses for separation of grape skins and seeds prior to fermentation. After separation of the skins and seeds, the white must is transferred to a fermentation tank. White wine fermentation can be carried out in a tank without design provisions for solids separation since the skins and seeds have already been separated.

After transfer of the must (for red or white wine) to the fermentation tank, the must is inoculated with yeast which initiates the fermentation reactions. During fermentation, the yeast metabolizes the sugar in the grape juice, converting it to ethanol and carbon dioxide (CO₂) while releasing heat. Temperature is typically controlled by refrigeration, and is maintained at 45–65 °F for white wine fermentation and 70–95 °F for red wine fermentation. The sugar content of the fermentation mass is measured in °Brix (weight %) and is typically 22–26° for unfermented grape juice, dropping to 4° or less at the end of fermentation. Finished ethanol concentration is approximately 10 to 14 percent by volume. Batch fermentation requires 3-5 days per batch for red wine and 1-2 weeks per batch for white wine. VOCs are emitted during the fermentation process along with the CO₂. The VOCs consist primarily of ethanol along with small quantities of other fermentation byproducts.

Following the completion of fermentation, white wine is transferred directly to storage tanks. Red wine is first directed to the presses for separation of solids and then routed to the storage tanks. All tanks in the winery typically operate as two separate emissions units: (1) a fermentation operation during which the tank is vented directly to the atmosphere to release the evolved CO₂ byproduct from the fermentation reaction; and (2) a storage operation during which the tank is closed to minimize contact with air and refrigerated to preserve the wine. Post-fermentation operations such as cold stabilization, racking, and filtration are conducted in the tanks, resulting in a number of inter-tank transfers during the period between the end of fermentation and bottling or bulk shipment. Storage operations are conducted year-round. VOC emissions occur primarily as a result of the inter-tank transfers which are necessitated by the post fermentation operations.

V. Equipment Listing

Permit #	Equipment Description
N-96-360-0	210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #718) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-361-0	210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #719) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-362-0	210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #726) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-363-0	210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #727) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-364-0	160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-365-0	160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #710) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-366-0	160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #716) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-367-0	160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #717) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-368-0	51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #701) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-369-0	51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #702) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-370-0	51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #708) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-371-0	51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-372-0	46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #665) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-373-0	46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #666) WITH PRESSURE/VACUUM VALVE AND INSULATION

N-96-374-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-375-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #736) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-376-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #737) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-377-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #738) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-378-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #739) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-379-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #740) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-380-0	13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #741) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-381-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #728) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-382-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #729) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-383-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #730) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-384-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #731) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-385-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #732) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-386-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #733) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-387-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #734) WITH PRESSURE/VACUUM VALVE AND INSULATION
N-96-388-0	6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION

As per District policy APR 1035 Flexibility in Equipment Descriptions in ATCs, some flexibility in the final specifications of the equipment is requested. The proposed tanks in this project will be built on-site and most likely will contain slight variations in the tank dimensions which lead to slightly different tank capacities than proposed. These slight tank variations should not have a significant effect on the tank emissions or tank operation. Therefore, the permit will specify the nominal tank dimensions and the source will submit to the District the measured tank capacity (known as the gauge volume) once the tank is constructed. The following sample condition will be listed on the permits to ensure compliance:

- *The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]*

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 proposed pressure/vacuum valve limits these emissions 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.

The temperature of the fermentation is controlled to maintain an average fermentation temperature not exceeding 95 °F which avoids higher temperatures that might be damaging to the yeast cells and reduces the potential for an out-of-control fermentation reaction in the tank. Temperature control serves to minimize VOC emissions relative to a tank without temperature control since the potential emissions increase with fermentation temperature.

VII. General Calculations

A. Assumptions/Basis

- Maximum ethanol content of stored wine is limited to 16% per applicant.
- Daily throughput of each of the storage tanks is limited to 5 turns per day.
- Annual throughput of each storage tank is limited to 25 turns per year.
- All storage tanks are insulated and equipped with a pressure/vacuum valve.
- Daily Potential to Emit for each wine tank will be calculated on a tank-by-tank basis as outlined in District FYI-114, *Estimating VOC Emissions from Wine Storage Tanks*.
- Fermentation operations in each of the 29 new white wine fermentation emissions units will be limited to 6 fermentation turns in each tank per year.

B. Emission Factors

The required emission factors for fermentation operations are taken from District FYI-114, *Estimating VOC Emissions from Winery Tanks*:

White Wine Fermentation

Daily: 1.62 lb-VOC/1000 gallons tank capacity
Annual: 2.5 lb-VOC/1000 gallons annual production

Wine Storage:

For the maximum ethanol content of 16.0%, the emission factors are given by District FYI-114:

$E_{f_{DAILY}} = 0.248 \text{ lb-VOC/1000 gallons}$

$E_{f_{ANNUAL}} = 0.143 \text{ lb-VOC/1000 gallons}$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new storage emissions units, PE1 = 0 (all pollutants) for storage operations in these tanks.

2. Post Project Potential to Emit (PE2)

a. Daily PE2 for each storage tank emission unit:

For new wine storage tank emission units, daily PE2 is listed in Appendix A

b. Annual PE2 for each storage tank emission unit:

For new wine storage tank emission units, annual PE2 is listed in Appendix B

c. Daily PE2 for each fermentation tank emission unit:

For new wine fermentation tank emission units, daily PE2 is listed in Appendix C

d. Annual PE2 for each fermentation tank emission unit:

For new wine fermentation tank emission units, annual PE2 is listed in Appendix D

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

Pursuant to District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) 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.

This project only concerns VOC emissions. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary.

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to 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.

This project only concerns VOC emissions. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

Rule 2410 Major Source Determination

All emissions units at this facility are wine fermentation and/or wine storage tanks. These emissions units emit only VOC and CO2.

The annual emissions VOC emissions are limited to 242,165 lb-VOC per year (121 tons per year) by the facility's SLC.

CO2 Emissions from Fermentation

Basis

- Project total annual pre-project fermentation emissions = 242,165 lb-VOC/year
- Assume all wine produced is white wine (worst case)
- The VOC emission factor is 2.5 lb-VOC per 1,000 gallons of white wine fermented.
- Maximum practical ethanol content for wine fermentation is 15 volume percent (higher concentrations have a negative impact on yeast reproduction with death of the yeast occurring at around 18 vol %)
- Molecular weight of ethanol and CO₂ are 46 and 44 lb/mole respectively.
- The fermentation reaction produces one mole of carbon dioxide for each mole of ethanol produced.
- Liquid density for ethanol is 6.61 lb/gal at 60 deg F.

Calculation

$$\begin{array}{l} \text{Maximum Annual Wine} \\ \text{Production Based on} \\ \text{100\% White Wine} \end{array} = 242,165 \frac{\text{lb-VOC}}{\text{year}} \div 2.5 \frac{\text{lb-VOC}}{1000 \text{ gallons}}$$

$$\begin{array}{l} \text{Maximum Annual Wine} \\ \text{Production Based on} \\ \text{100\% White Wine} \end{array} = 96,866,000 \text{ gallons per year}$$

$$\begin{array}{l} \text{Maximum} \\ \text{Annual} \\ \text{Ethanol} \\ \text{Production} \end{array} = 96,866,000 \frac{\text{gal}}{\text{year}} \times 15\% \text{ ethanol} \times 6.61 \frac{\text{lb-ethanol}}{\text{gallon}}$$

$$\begin{array}{l} \text{Maximum} \\ \text{Annual} \\ \text{Ethanol} \\ \text{Production} \end{array} = 96,041,449 \text{ lb-ethanol per year}$$

$$\begin{array}{l} \text{Maximum} \\ \text{Annual CO}_2 \\ \text{Production} \end{array} = 96,041,449 \frac{\text{lb}}{\text{year}} \times \frac{1 \text{ mole}}{46 \text{ lb}} \text{ ethanol} \times \frac{1 \text{ mole}}{1 \text{ mole}} \frac{\text{CO}_2}{\text{ethanol}} \times \frac{44 \text{ lb CO}_2}{\text{mole CO}_2}$$

$$\begin{array}{l} \text{Maximum Annual} \\ \text{CO}_2 \text{ Production} \end{array} = 91,865,734 \text{ lb-CO}_2 \text{ per year}$$

$$\begin{array}{l} \text{Maximum} \\ \text{Annual CO}_2 \\ \text{Production} \end{array} = 45,933 \text{ ton-CO}_2 \text{ per year}$$

The facility evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21(b)(1)(i). Therefore, the following PSD Major Source threshold for VOC is applicable.

PSD Major Source Determination (tons/year)		
	VOC	CO2
Facility PE before Project Increase	121	45,933
PSD Major Source Thresholds	250	100,000
PSD Major Source?	No	No

Therefore, the facility is not an existing Major Source for PSD.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Since these are new emission units, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

The *net emissions increase* is calculated as the increase in actual emissions resulting from the project. The post project actual emissions are conservatively assumed to be equal to the Post Project Potential to Emit. The calculated net emissions increase is significant if it exceeds the values in the following table:

SB 288 Major Modification Thresholds (Existing Major Source)	
Pollutant	Threshold (lb/year)
VOC	50,000
NO _x	50,000
PM ₁₀	30,000
SO _x	80,000

This facility is a major stationary source for VOC which concedes that the Post Project Potential to Emit exceeds the pre-project baseline actual emissions by more than 50,000 lb/year for the emissions units in this project. Therefore, this project is an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. SB 288 Major Modifications are not federal major modifications if they meet the criteria of the "Less-Than-Significant Emissions Increase" exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	0

The Net Emissions Increases (NEI) for purposes of determination of a "Less-Than-Significant Emissions Increase" exclusion will be calculated below to determine if this project qualifies for such an exclusion.

Net Emission Increase for New Units (NEI_N)

Per 40 CFR 51.165 (a)(2)(ii)(D) for new emissions units in this project,

$$NEI_N = PE_{2N} - BAE$$

Since these are new units, BAE for these units is zero and,

$$NEI_N = PE_{2N}$$

where PE_{2N} is the Post Project Potential to Emit for the new emissions units.

$$PE_{2N} = 69,234 \text{ lb-VOC/year (see Appendix E)}$$

The NEI for this project is thus calculated as follows:

$$NEI = NEI_N$$

$$NEI = 16,762 \text{ lb-VOC/year}$$

The NEI for this project will be greater than the federal Major Modification threshold of 0 lb-VOC/year. Therefore, this project does not qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined to be a Federal Major Modification for VOC.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

This project resulted in no change in the Potential to Emit of any pollutant from the facility

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District’s PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

For this project, PE2 = PE1 and therefore QNEC = 0

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

The applicant is proposing to install 29 new wine fermentation and storage tanks with a PE greater than 2 lb/day for VOC. Thus BACT is triggered for VOC for these emissions units.

b. Relocation of emissions units – PE > 2 lb/day

There are no emissions units being relocated from one stationary source to another, hence BACT is not triggered under this category.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project; therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.8 above, this project does constitute a SB288 and Federal Major Modification for VOC. Therefore BACT is triggered for VOC.

2. BACT Guideline

BACT Guideline 5.4.13, applies to the wine storage tanks. [Wine Storage Tanks] (Appendix E)

BACT Guideline 5.4.14, applies to the wine fermentation tanks. [Wine Fermentation Tanks] (Appendix D)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analyses (Appendix G and EF), BACT has been satisfied with the following:

Storage

VOC: Insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and achieve and maintain a continuous storage temperature not exceeding 75 °F within 60 days of completion of fermentation.

Fermentation

VOC: Temperature-Controlled Open Top Tank with Maximum Average Fermentation Temperature of 95 deg F.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, offsets are triggered.

2. Quantity of Offsets Required

As discussed above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds; therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE)

As discussed in Appendix C, potential emissions from wine tanks must be determined with consideration of the total tank population at the facility. As established in District Project N-1100320, all tanks at this facility meet the District' determination of achieved-in-practice BACT (and are thus Clean Emission Units), therefore ΣBE is taken to be the pre-project Potential to Emit of all wine tanks at the facility which is given by the existing Specific Limiting Condition on the permits:

$\Sigma BE = 242,165 \text{ lb-VOC/year}$

Post project, the new tanks will be covered by the SLC which is unchanged by this project and therefore:

$\Sigma PE2 = 242,165 \text{ lb-VOC/year}$

There are no increases in cargo carrier emissions due to this project. Therefore

Offsets Required (lb/year)	= $\Sigma[PE2 - BE] \times DOR = [\Sigma PE2 - \Sigma BE] \times DOR$
Per section VIII.C.6, ΣBE	= 242,165 lb-VOC/year
Per section VIII.C.2, $\Sigma PE2$	= 242,165 lb-VOC/year
Offsets Required (lb/year)	= $[242,165 - 242,165] \times DOR$
	= 0 lb-VOC/year $\times DOR$
	= 0 lb-VOC/year

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in VII.C.7 and VII.C.8, this project does constitute a SB 288 and Federal Major Modification for VOC; therefore, public noticing for SB 288 and Federal Major Modification purposes is required.

b. PE > 100 lb/day

The PE2 for proposed new permit units -360-0 to -367-0 exceeds 100 lb-VOC per day as indicated in Appendices A and B. Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
VOC	> 20,000	> 20,000	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post

Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	∑ Project PE2 (lb/year)	∑ Project PE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	242,165	242,165	0	20,000 lb/year	No

As demonstrated above, the SSIPE is not greater than 20,000 lb/year for VOC; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for PE greater than 100 lb/day for VOC, SB 288 and Federal Major Modification for VOC. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), US Environmental Protection Agency (US EPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC permits for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions

N-96-360-0 through '388-0

- *The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Y*
- *The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Y*
- *When used for wine storage, 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] Y*
- *When this tank is used for wine storage, 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] Y

- The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Y
- The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Y
- When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Y
- Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Y
- Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Y
- Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Y
- Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Y
- The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Y
- Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Y

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offsets, public notification and daily emission limit requirements of Rule 2201. Recordkeeping is also required for winery tanks pursuant to District Rule 4694, *Wine Fermentation and Storage Tanks*. The following conditions will be listed on the permits to ensure compliance:

N-96-360-0 through '388-0

- *When this tank is used for wine storage, 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 1070 and 2201] Y*
- *The operator shall record, on a weekly basis, the total gallons of wine or heavy lees contained in the tank and the maximum temperature of the stored wine. [District Rule 4694]*
- *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, shall be maintained. [District Rules 1070 and 2201]*
- *The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201]*
- *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]*
- *Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]*
- *If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Y*
- *For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average*

fermentation temperature and the uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either red wine or white wine. [District Rules 2201 and 4694]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. However, since this project involves only VOC and no ambient air quality standard exists for VOC, an AAQA is not required for this project.

G. Compliance Certification

Rule 2201 requires the owner of a new Major Source or a source undergoing a Title I 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. As discussed in Section VIII above, this facility is a Federal Major Modification and this project does constitute a Title I modification, therefore this requirement is applicable. The facility's compliance certification is included in Appendix H.

H. Alternative Siting Analysis

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

In addition to winery tanks, the operation of a winery requires a large number support equipment, services and structures such as raw material receiving stations, crushers, piping, filtering and refrigeration units, warehouses, laboratories, bottling and shipping facilities, and administration buildings.

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 will result in the least possible impact 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.

Rule 2410 Prevention of Significant Deterioration

The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

As demonstrated above, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a “permit amendment that does not qualify as a minor permit modification or administrative amendment.”

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC) (see Appendix I); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

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 fermentation and/or 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 fermentation and/or storage tank operations.

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of the proposed operations provided the equipment is well maintained. Therefore, the following condition will be listed on each permit to ensure compliance:

- *{98} 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 HAP as defined by Section 44321 of the California Health and Safety Code. Therefore, there are no increases in HAP emissions associated with any emission units in this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

District 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.

Section 5.1 requires the winery operator achieve Required Annual Emissions Reductions (RAER) equal to at least 35% of the winery's Baseline Fermentation Emissions (BFE). Per the definition of RAER in Section 3.25 of the Rule, the RAER may be achieved by any combination of Fermentation Emission Reductions (FER), Certified Emission Reductions (CER) or District Obtained Emission Reductions (DOER) as established in the facility's District-approved Rule 4694 Compliance Plan, due every three years on December 1st beginning in 2006. The facility has submitted the required plan to the District and is currently satisfying the required emission reductions in the form of Certified Emission Reductions.

The following condition listed on the facility-wide permit ensures compliance:

- *A Three-Year Compliance Plan that demonstrates compliance with the requirements of Section 5.1 of District Rule 4694 (12/15/05) for each year of the applicable compliance period shall be submitted to the District by no later than December 1, 2006, and every three years thereafter on or before December 1. [District Rule 4694]*

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 conditions will be listed on the permits for stainless steel tanks \geq 5,000 gallons in capacity and used for storage to ensure compliance with the requirements of Section 5.2.1:

- *When used for wine storage, 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]*
- *When used for wine storage, 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 following condition will be placed on the permits for stainless steel tanks \geq 5,000 gallons in capacity and used for storage to ensure compliance with the requirements of Section 5.2.2:

- *When used for wine storage, the temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694]*

Every three years, Section 6.1 and 6.2 require the facility to submit a Three-Year Compliance Plan and a Three-Year Compliance Plan Verification respectively. Section 6.3 requires that an Annual Compliance Plan Demonstration be submitted to the District no later than February 1 of each year to show compliance with the applicable requirements of the Rule. Section 6.4.3 requires that all monitoring be performed for any Certified Emission Reductions as identified in the facility's Three-Year Compliance Plan and that the records of all monitoring be maintained.

The following conditions listed on the facility-wide permit ensure compliance:

- *A Three-Year Compliance Plan that demonstrates compliance with the requirements of Section 5.1 of District Rule 4694 (12/15/05) for each year of the applicable compliance period shall be submitted to the District by no later than December 1, 2006, and every three years thereafter on or before December 1. [District Rule 4694]*
- *A Three-Year Compliance Plan Verification that demonstrates that the Three-Year Compliance Plan elements are in effect shall be submitted to the District by no later than July 1, 2007, and every three years thereafter on or before July 1. [District Rule 4694, 6.2]*

- *An Annual Compliance Plan Demonstration that shows compliance with the applicable requirements of this rule shall be submitted to the District by no later than February 1, 2008, and every year thereafter on or before February 1. [District Rule 4694]*
- *Operators using CER to mitigate fermentation emissions shall perform all monitoring and recordkeeping, as established in their approved Three-Year Compliance Plan, and shall maintain all records necessary to demonstrate compliance. [District Rule 4694]*

Section 6.4.1 requires that records be kept for each fermentation batch. The following condition will be listed on the permits for each fermentation tank to ensure compliance:

- *For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and the uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either red wine or white wine. [District Rules 2201 and 4694]*

Section 6.4.2 requires that weekly records be kept of wine volume and temperature in each storage tank. The following conditions will be listed on the permit for each storage tank to ensure compliance with the requirements of Section 6.4.2:

- *When used for wine storage, the operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694]*

Section 6.4.3 requires that all monitoring be performed for any Certified Emission Reductions as identified in the facility's Three-Year Compliance Plan and that the records of all monitoring be maintained. The following condition listed on the facility-wide permit ensures compliance:

- *Operators using CER to mitigate fermentation emissions shall perform all monitoring and recordkeeping, as established in their approved Three-Year Compliance Plan, and shall maintain all records necessary to demonstrate compliance. [District Rule 4694]*

Section 6.4 requires that records required by this rule be maintained, retained on-site for a minimum of five years, and made available to the APCO upon request. The following conditions will be listed on all permits to ensure compliance:

- *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]*

California Environmental Quality Act (CEQA)

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 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.

The County of San Joaquin (County) is the public agency having principal responsibility for approving the project. As such, the County served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document and finds that it adequately characterizes the project's potential impact on air quality. Furthermore, the District has conducted an engineering evaluation (this document), which demonstrates that all feasible and cost-effective control measures to reduce potential impacts on air quality resulting from project related stationary source emissions have been applied to the project as part of BACT. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions would be reduced to lessen the impacts on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authority to Construct permits N-96-360-0 through '388-0 subject to the permit conditions on the attached draft Authority to Construct permits in Appendix J.

X. Billing Information

Billing Information							
Permit.			Fee Description		Fee Rule		Fee
N-96-	360	-0	210,000	GALLONS	3020-05	E	\$246
N-96-	361	-0	210,000	GALLONS	3020-05	E	\$246
N-96-	362	-0	210,000	GALLONS	3020-05	E	\$246
N-96-	363	-0	210,000	GALLONS	3020-05	E	\$246
N-96-	364	-0	160,000	GALLONS	3020-05	E	\$246
N-96-	365	-0	160,000	GALLONS	3020-05	E	\$246
N-96-	366	-0	160,000	GALLONS	3020-05	E	\$246
N-96-	367	-0	160,000	GALLONS	3020-05	E	\$246
N-96-	368	-0	51,000	GALLONS	3020-05	D	\$185
N-96-	369	-0	51,000	GALLONS	3020-05	D	\$185
N-96-	370	-0	51,000	GALLONS	3020-05	D	\$185
N-96-	371	-0	51,000	GALLONS	3020-05	D	\$185
N-96-	372	-0	46,000	GALLONS	3020-05	C	\$135
N-96-	373	-0	46,000	GALLONS	3020-05	C	\$135
N-96-	374	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	375	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	376	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	377	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	378	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	379	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	380	-0	13,400	GALLONS	3020-05	B	\$93
N-96-	381	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	382	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	383	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	384	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	385	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	386	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	387	-0	6,500	GALLONS	3020-05	B	\$93
N-96-	388	-0	6,500	GALLONS	3020-05	B	\$93

XI. Appendices

- A: Daily PE2 for Storage Tanks
- B: Annual PE2 for Storage Tanks
- C: Daily PE2 for Fermentation Tanks
- D: Annual PE2 for Fermentation Tanks
- E: Federal Major Modification Calculations
- F: BACT Guideline 5.4.14 and Top Down BACT Analysis – Wine Fermentation
- G: BACT Guideline 5.4.13 and Top Down BACT Analysis – Wine Storage
- H: Compliance Certification
- I: COC Compliance Certification
- J: Draft ATC Permits
- K: Public Comments and District Responses

Appendix A

Daily PE2 for Storage Tanks

Daily PE2 for Storage Tanks

Bear

N-956, 1120314

Permit Unit	Tank Capacity gallons	Potential Throughput gal/day	Emission Factor lb-VOC/day per 1000 gallons tank capacity	Daily Potential to Emit lb-VOC/day
N-96- 360 -0	210,000	1,050,000	0.248	260.4
N-96- 361 -0	210,000	1,050,000	0.248	260.4
N-96- 362 -0	210,000	1,050,000	0.248	260.4
N-96- 363 -0	210,000	1,050,000	0.248	260.4
N-96- 364 -0	160,000	800,000	0.248	198.4
N-96- 365 -0	160,000	800,000	0.248	198.4
N-96- 366 -0	160,000	800,000	0.248	198.4
N-96- 367 -0	160,000	800,000	0.248	198.4
N-96- 368 -0	51,000	255,000	0.248	63.2
N-96- 369 -0	51,000	255,000	0.248	63.2
N-96- 370 -0	51,000	255,000	0.248	63.2
N-96- 371 -0	51,000	255,000	0.248	63.2
N-96- 372 -0	46,000	230,000	0.248	57.0
N-96- 373 -0	46,000	230,000	0.248	57.0
N-96- 374 -0	13,400	67,000	0.248	16.6
N-96- 375 -0	13,400	67,000	0.248	16.6
N-96- 376 -0	13,400	67,000	0.248	16.6
N-96- 377 -0	13,400	67,000	0.248	16.6
N-96- 378 -0	13,400	67,000	0.248	16.6
N-96- 379 -0	13,400	67,000	0.248	16.6
N-96- 380 -0	13,400	67,000	0.248	16.6
N-96- 381 -0	6,500	32,500	0.248	8.1
N-96- 382 -0	6,500	32,500	0.248	8.1
N-96- 383 -0	6,500	32,500	0.248	8.1
N-96- 384 -0	6,500	32,500	0.248	8.1
N-96- 385 -0	6,500	32,500	0.248	8.1
N-96- 386 -0	6,500	32,500	0.248	8.1
N-96- 387 -0	6,500	32,500	0.248	8.1
N-96- 388 -0	6,500	32,500	0.248	8.1

Appendix B

Annual PE2 for Storage Tanks

Post Project Potential to Emit, N-1133555

Wine Storage Operation

Maximum storage throughput is 25 tank volumes per year

Maximum ethanol content is 16 volume%

The wine storage emission factor is 0.143 lb-VOC/1000 gallons throughput

Bear Creek N-1133555								
Permit Unit	# tanks	Nominal volume Each Gallons	Total Nominal Volume Gallons	Number Fills per Year	% Tank Fill for White Wine	Annual Wine Throughput gallons	Emission Factor lb-VOC/1000 gal	Annual Emissions lb
360-0 to 363-0	4	210,000	840,000	25	100%	21,000,000	0.143	3,003
364-0 to 367-0	4	160,000	640,000	25	100%	16,000,000	0.143	2,288
368-0 to 371-0	4	51,000	204,000	25	100%	5,100,000	0.143	729
372-0 to 373-0	2	46,000	92,000	25	100%	2,300,000	0.143	329
374-0 to 380-0	7	13,400	93,800	25	100%	2,345,000	0.143	335
381-0 to 388-0	8	6,500	52,000	25	100%	1,300,000	0.143	186
Total	29		1,921,800			48,045,000		6,870

Appendix C

Daily PE2 for Fermentation Tanks

**Daily PE2 for Fermentation Tanks
Bear Creek Winery
N-96, 1133555**

Permit Unit	Tank Capacity	Emission Factor lb-VOC/day per 1000 gallons tank capacity	Daily Potential to Emit lb- VOC/day
N-96- 360 -0	210,000	1.62	340.2
N-96- 361 -0	210,000	1.62	340.2
N-96- 362 -0	210,000	1.62	340.2
N-96- 363 -0	210,000	1.62	340.2
N-96- 364 -0	160,000	1.62	259.2
N-96- 365 -0	160,000	1.62	259.2
N-96- 366 -0	160,000	1.62	259.2
N-96- 367 -0	160,000	1.62	259.2
N-96- 368 -0	51,000	1.62	82.6
N-96- 369 -0	51,000	1.62	82.6
N-96- 370 -0	51,000	1.62	82.6
N-96- 371 -0	51,000	1.62	82.6
N-96- 372 -0	46,000	1.62	74.5
N-96- 373 -0	46,000	1.62	74.5
N-96- 374 -0	13,400	1.62	21.7
N-96- 375 -0	13,400	1.62	21.7
N-96- 376 -0	13,400	1.62	21.7
N-96- 377 -0	13,400	1.62	21.7
N-96- 378 -0	13,400	1.62	21.7
N-96- 379 -0	13,400	1.62	21.7
N-96- 380 -0	13,400	1.62	21.7
N-96- 381 -0	6,500	1.62	10.5
N-96- 382 -0	6,500	1.62	10.5
N-96- 383 -0	6,500	1.62	10.5
N-96- 384 -0	6,500	1.62	10.5
N-96- 385 -0	6,500	1.62	10.5
N-96- 386 -0	6,500	1.62	10.5
N-96- 387 -0	6,500	1.62	10.5
N-96- 388 -0	6,500	1.62	10.5

Appendix D

Annual PE2 for Fermentation Tanks

Post Project Potential to Emit, N-1133555

Fermentation Operation

Basis:

All operation is white wine fermentation

Each tank is limited to 6 fermentation turns per season (year)

Tank fill is 95% of nominal volume rating for white wine

The white wine emission factor is 2.5 lb-VOC/1000 gallons wine production

Bear Creek N-1133555								
Permit Unit	# tanks	Nominal volume Each Gallons	Total Nominal Volume Gallons	Fermentation Cycles per Year	% Tank Fill for White Wine	Annual White Wine Production gallons	Emission Factor lb-VOC/1000 gal	Annual Emissions lb
360-0 to 363-0	4	210,000	840,000	6	95%	4,788,000	2.5	11,970
364-0 to 367-0	4	160,000	640,000	6	95%	3,648,000	2.5	9,120
368-0 to 371-0	4	51,000	204,000	6	95%	1,162,800	2.5	2,907
372-0 to 373-0	2	46,000	92,000	6	95%	524,400	2.5	1,311
374-0 to 380-0	7	13,400	93,800	6	95%	534,660	2.5	1,337
381-0 to 388-0	8	6,500	52,000	6	95%	296,400	2.5	741
Total	29		1,921,800			10,954,260		27,386

Appendix E

Federal Major Modification Calculations

Federal Major Modification Calculations

A. Basis

- Since winery tanks are not truly independent emissions units, the Net Emission Increase (NEI_{NEW}) for new tanks which are added to an existing winery with a Specific Limiting Condition (SLC) is considered to be the increase in the PE of all tanks in the facility resulting from adding the proposed new tanks to the SLC:

$$PE_{2_{NEW}} = PE_{2_{ALL\ TANKS}} - PE_{1_{ALL\ TANKS}}$$

- New winery tanks will be added to the existing Specific Limiting Conditions (SLC) which limits combined annual fermentation and storage emissions for all wine fermentation and storage tanks at the facility. A summary of the winery tanks at the facility is given in the following table:

Type of Wine Tank	Pre-Project		Proposed New Tanks		Post Project	
White wine fermentation and storage tanks	67	2,449,580	29	1,921,800	96	4,371,380
Red wine fermentation and storage tanks	37	2,556,972	0	0	37	2,556,972
Red wine fermentation tanks	10	310,000	0	0	10	310,000
Wine storage tanks (red wine or white wine)	242	7,531,931	0	0	242	7,531,931
Total:	356	12,848,483	29	1,921,800	385	14,770,283

- Annual Potential to Emit for VOC emissions from the fermentation and storage operation at the facility will be calculated generally using the method specified in the District's FYI-296, *Calculation of the Potential to Emit for VOC Emissions from Wine Fermentation and Storage Operations (attached in Appendix E)*. However, the calculation method of FYI-296 allows consideration of the facility's pressing or crushing capacity as a potential operating limitation. While this consideration is applicable to establishing a Specific Limiting Condition for the annual Potential to Emit for all tanks at a facility, it is not applicable to calculating PE2 for added tanks for purposes of determination of a Federal Major Modification since the pressing and/or the pressing capacity are not limited by permits and thus may be increased at any time without consideration of NSR impact. Therefore, the facility's pressing or crushing potential will be conservatively ignored and only the new tank capacity will be considered in the calculations.

- The proposed new tanks are combined storage and white wine fermentation tanks. An additional SLC has been proposed by the applicant which limits the new fermentation operation in each tank to 6 white wine fermentation turns per season. This limitation is included in the analysis since it effectively limits the potential production of wine for the facility.
- Maximum ethanol content of stored wine is 16.0 volume%.
- All storage tanks are insulated and equipped with pressure/vacuum relief valves. Therefore the emission factors given in District FYI-114 for wine storage operations are applicable.

B. Emission Factors

The required emission factors for fermentation and storage operations are taken from District FYI-114, *Estimating VOC Emissions from Winery Tanks (SEE Appendix D)*:

White Wine Fermentation

Annual: 2.5 lb-VOC/1000 gallons annual throughput

Wine Storage Working Losses from insulated tanks @ 16% Ethanol per District FYI-114:

Annual: 0.143 lb-VOC/1000 gallons annual throughput

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The combined Pre-Project Potential to Emit for the proposed new fermentation capacity is determined in the following sequence of calculations:

- Potential fermentation emissions from the white wine production scenario are considered first, assuming the facility produces 100% white wine:

White wine production capacity is determined based only on the production capacity of the wine fermentation tanks:

W_W = White wine production capacity (gallons per year as measured immediately after pressing) is the lesser of the following four calculations:

$W1$ = production capacity based on crusher capacity – **not applicable, see assumptions**

$W2$ = production capacity based on pressing capacity – **not applicable, see assumptions**

$W3 = (V_{FW} \times F_W \times D_w) / W_{FW}$ (limited by white fermenter volume)

$W4 = (V_T \times D_w) / R_{TW}$ (limited by overall tank processing volume)

where,

D_w = days in a white wine crush season = 120 days

W_{FW} = White fermentation period = 10 days

F_w = Fill factor for white wine fermentation = 95%

R_{TW} = Total winery retention time for white wine, 40 + 10 = 50 days

V_{FW} = Total volume of white wine fermenters = 2,449,580 gallons

V_T = Total Storage Cooperage = 9,981,511 gallons

Potential white wine fermentation emissions are then determined by applying the white fermentation emission factor stated in FYI-114:

$$PE_{\text{whitefermentation}} = E_{fw} \times W_w$$

E_{fw} = white wine emission factor = 2.5 lb-VOC/1000 gal

Performing the above calculations yields

W1 = Not applicable

W2 = Not applicable

W3 = 27.9 MG/year (million gals/year)

W4 = 24.0 MG/year

Selecting $W_w = W4 = 24.0$ MG/year and applying the emission factor for white wine fermentation yields:

$$PE_{\text{whitefermentation}} = 60,000 \text{ lb-VOC/year}$$

Storage emissions are then calculated for white wine operation per District FYI-114:

$$PE_{\text{storage}} = E_s \times T \times W_w$$

Where:

E_s = wine storage annual emission factor based on District FYI-114 = 0.143 lb-VOC/1000 gallons of wine transferred for 16% alcohol wine at a facility located in the Northern Region;

T = Total post fermentation inter-tank transfers per batch of wine = 8

W_w = maximum quantity of white wine the facility can produce = 24.0 million gallons per year

$$PE_{\text{storage}} = (0.143/1000) \times 8 \times 24,000,000 = 27,456 \text{ lb-VOC/year}$$

The PE for white wine production is then taken as the sum of the fermentation and storage potentials for white wine:

$$PE_{\text{white}} = 60,000 + 27,456 = 87,456 \text{ lb-VOC/year}$$

- b. Pursuant to District Policy FYI 296, potential emissions from red wine production are subsequently determined. Since this project authorizes white wine

production only, there will be no increase from red wine production; therefore, potential emissions from red wine production will not be required for this project.

Therefore,

$$PE1_{\text{tanks}} = PE1_{\text{white}} = 87,456 \text{ lb-VOC/year}$$

2. Post-Project Potential to Emit (PE2)

The combined Post-Project Potential to Emit for the facility including the proposed new tanks is determined in the following sequence of calculations:

- a. Potential fermentation emissions from the white wine production scenario are considered first, assuming the facility produces 100% white wine:

White wine production capacity is determined based only on the production capacity of the wine fermentation tanks:

W_W = White wine production capacity (gallons per year as measured immediately after pressing) is the lesser of the following four calculations:

W1 = production capacity based on crusher capacity – **not applicable, see assumptions**

W2 = production capacity based on pressing capacity – **not applicable, see assumptions**

W3 = Pre-project white fermentation production capacity + maximum capacity of proposed new tanks. Given a total new tank capacity of 1,921,800 gallons limited to 6 fermentation turns per year, maximum new production capacity = $6 \times 1,921,800 = 11.5$ million gallons.

W4 = $(V_T \times D_w) / R_{TW}$ (limited by overall tank processing volume)

where,

D_w = days in a white wine crush season = 120 days

W_{FW} = White fermentation period = 10 days

F_w = Fill factor for white wine fermentation = 95%

R_{TW} = Total winery retention time for white wine, $40 + 10 = 50$ days

V_{FW} = Total volume of white wine fermenters = 4,371,380 gallons

V_T = Total Storage Cooperage = 11,903,311 gallons

Potential white wine fermentation emissions are then determined by applying the white fermentation emission factor stated in FYI-114:

$PE_{\text{whitefermentation}} = E_{fw} \times W_W$

E_{fw} = white wine emission factor = 2.5 lb-VOC/1000 gal

Performing the above calculations yields

W1 = Not applicable

W2 = Not applicable

W3 = 27.9 MG/year + 11.5 MG/year (million gals/year)

W3 = 39.4 MG/year

W4 = 28.6 MG/year

Selecting $W_W = W4 = 28.6$ MG/year and applying the emission factor for white wine fermentation yields:

$PE_{\text{whitefermentation}} = 71,500$ lb-VOC/year

Storage emissions are then calculated for white wine operation per District FYI-114:

$PE_{\text{storage}} = E_s \times T \times W_W$

Where:

E_s = wine storage annual emission factor based on District FYI-114 = 0.143 lb-VOC/1000 gallons of wine transferred for 16% alcohol wine at a facility located in the Northern Region;

T = Total post fermentation inter-tank transfers per batch of wine = 8

W_W = maximum quantity of white wine the facility can produce = 28.6 million gallons per year

$PE_{\text{storage}} = (0.143/1000) \times 8 \times 28,600,000 = 32,718$ lb-VOC/year

The PE for white wine production is then taken as the sum of the fermentation and storage potentials for white wine:

$PE_{\text{white}} = 71,500 + 32,718 = 104,218$ lb-VOC/year

- b. As discussed above, since this project authorizes white wine production only, there will be no increase from red wine production; therefore, potential emissions from red wine production will not be required for this project.

Therefore,

$PE_{2\text{tanks}} = PE_{\text{white}} = 104,218$ lb-VOC/year

Federal Major Modification Increase:

$NEI_N = PE_{2\text{tanks}} - PE_{1\text{tanks}}$

$NEI_N = 104,218 - 87,456 = 16,762$ lb-VOC/year

Appendix F

BACT Guideline 5.4.14 and Top Down BACT Analysis

**San Joaquin Valley
Unified Air Pollution Control District**

Best Available Control Technology (BACT) Guideline 5.4.14*

Last Update 10/6/2009

Wine Fermentation Tank

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Temperature-Controlled Open Top Tank with Maximum Average Fermentation Temperature of 95 deg F	1. Capture of VOCs and Thermal Oxidation or Equivalent (88% control) 2. Capture of VOCs and Carbon Adsorption or Equivalent (86% control) 3. Capture of VOCs and Absorption or Equivalent (81% control) 4. Capture of VOCs and Condensation or Equivalent (81% control)	

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**

Top Down BACT Analysis for Wine Fermentation VOC Emissions for Permit Units N-1237-670-0 through '693-0

Step 1 - Identify All Possible Control Technologies

BACT guideline 5.4.14 (10/6/2009) lists both absorption (scrubber) and condensation systems as technologically feasible options for the control of VOC emission from wine fermentation operations. Since 2009, there has been substantial development of these two control technologies prompting a re-examination of the feasibility of these technologies in this project to determine if the technologies are considered Achieved in Practice. The Achieved in Practice analysis for BACT for wine fermentation tanks is included in Attachment 2 and is as follows:

- 1) Temperature-Controlled Open Top Tank with Maximum Average Fermentation Temperature of 95 deg F

The SJVUAPCD BACT Clearinghouse guideline 5.4.14, 3rd quarter 2013, identifies technologically feasible BACT for wine fermentation tanks as follows:

- 1) Capture of VOCs and thermal oxidation or equivalent (88% control)
- 2) Capture of VOCs and carbon adsorption or equivalent (86% control)
- 3) Capture of VOCs and absorption or equivalent (81% control)
- 4) Capture of VOCs and condensation or equivalent (81% control)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank by Control Effectiveness		
Rank	Control	Overall Capture and Control Efficiency ^(*)
1	Capture of VOCs and thermal or catalytic oxidation or equivalent	88% ^(**)
2	Capture of VOCs and carbon adsorption or equivalent	86%
3	Capture of VOCs and absorption or equivalent	81%
4	Capture of VOCs and condensation or equivalent	81%
5	Temperature-Controlled Open Top Tank with Maximum Average Fermentation Temperature of 95 deg F	Baseline (Achieved-in-Practice)

(*) Capture efficiency (90%) x removal efficiency for control device.

(**) Following recent District practice, thermal and catalytic oxidation will be ranked together.

Step 4 - Cost Effectiveness Analysis

A cost-effective analysis is performed for each control technology which is more effective than meeting the requirements of option 5 (achieved-in-practice BACT), as proposed by the facility.

General Basis and Assumptions

- The proposed new tanks in this project consist of groups of tank sizes ranging from 6,500 gallon capacity each up to 210,000 gallons each. This BACT analysis will be first performed based on considering only the largest 210,000 gallon tanks (N-96-360-0 to '-363-0). If it is shown that a particular technology is not cost effective for the largest tanks, it is then assumed that it will not be cost effective for the smaller tanks (since the potential emissions are linear with tank size and there will be a loss of economy of scale for smaller sizes).
- Annual uncontrolled fermentation PE for permit units N-96-360-0 to '-363-0 is 11,979 lb/year per Appendix C.
- Maximum CO₂ flow rate from each tank is 483 cfm at 60 F per a proprietary model provided by E & J Gallo based on a white wine fermentation at 60 F and an initial sugar concentration of 20 °Brix.
- It is assumed all 4 fermentation tanks can reach maximum flow simultaneously. The design rate for the capture and control system is therefore 4 x 483 = 1,932 cfm.

Capture of VOCs and condensation (> 81% collection & control)

Basis and Assumptions: Evaluation of this option is based on the EcoPAS technology which is the only condensation technology known to the District which is both commercially available and which has been developed specifically for control of emissions from wine fermentation tanks. Pricing for the refrigerated condenser option was obtained from EcoPAS under District

project N-1131615. In that project, EcoPAS submitted a budgetary estimate to control 24 red wine fermentation tanks using four proprietary PAS control units. Each PAS unit was dedicated to a bay of six fermentation tanks. The units operate based on a small backpressure on the tanks and do not require induced draft fans. Chilled glycol/water is supplied from the winery central facility for condensing the ethanol vapor. The four units proposed for that project did not have sufficient capacity to actually control all 24 tanks under a scenario where all tanks reached maximum fermentation rate at the same time. Instead, the design relied upon variability of operation in the tanks as well as planned staging of the fermentation operations to ensure that the capacity of control devices would not be exceeded during operation.

- As a conservative assumption, for purposes of the analysis, it will be assumed that the EcoPAS design for project N-1131615, relying upon variability of operation in the tanks as well as planned staging of the fermentation operations to ensure that the capacity of control devices will not be exceeded during operation, is valid and workable.
- The District provided notice to Steven Colome, Sc.D. of EcoPAS that this project was being proposed to allow EcoPAS an opportunity to provide cost information. The District did not receive updated cost information.
- The EcoPAS equipment pricing and capital investment requirements developed for District Project N-1131615 (Gallo Livingston) will be factored as required to develop a cost effectiveness analysis for this project.
- To develop a Purchased Equipment Cost (PEC) for each project, the Base PEC from N-1131615 will be considered the Base Estimate and the PEC for this project ("New") will be developed by factoring the Base PEC by the ratio of project capacity with an exponent of 0.6 $[(\text{Capacity}_{\text{new}}/\text{Capacity}_{\text{base}})^{0.6}]$ where "Capacity" refers to the adjusted total nominal volume of all tanks included in the analysis (commonly referred to the "6-tenths Rule", traditionally employed to extrapolate equipment costs from one capacity to a different capacity).
- Since the tanks in this project are white fermenters versus the red fermenter considered in base project N-1131615, the capacity of white fermentation tanks must be adjusted to an equivalent red fermenter flow basis in order to recognize 1) that the peak flow from white fermentation is substantially less than that of red fermentation per gallon of fermenting must and 2) that the maximum percentage fill of the tank for white fermentation is greater than that for red fermentation (more gallons of must will be in the tank when conducting a white fermentation).
- Peak CO₂ flow for red fermentation is 43.5 lb-CO₂/hour per 1000 gallons of fermenting must as calculated by the Gallo kinetic model and based on an 80F fermentation with starting sugar = 20 °Brix
- Peak CO₂ flow for white fermentation is 15.9 lb-CO₂/hour per 1000 gallons of fermenting must as calculated by the Gallo kinetic model and based on an 60F fermentation with starting sugar = 20 °Brix
- Peak flow from a white fermenter is therefore $15.9/43.5 = 36.2\%$ of that from a red fermenter per 1000 gallons of fermenting must.
- Maximum percentage fill of a red fermenter is 80% versus 95% for a white fermenter. Therefore, the maximum gallons of must fermenting in a white fermentation tank of a given size is $95\%/80\% = 119\%$ of the maximum gallons of red must.

- The unadjusted capacity for this analysis is based on four 210,000 gallon white fermentation tanks = 4 x 210,000 = 840,000 gallons. Adjusting this value to an equivalent red fermenter yields:

Adjusted Capacity = 840,000 gallons x 36.2% x 119% = 361,855 gallons

- The parameters of the current evaluation are compared with the Base Project in the following table:

Summary of Comparative Parameters		
Project Number	N-1131615	N-1133555
Facility	Gallo (Base Project)	Bear Creek
Fermentation Type	Red	White
No of Tanks	24	4
Individual Tank Capacity gallons	56,000	210,000
Project Capacity gallons	1,344,000	840,000
Adjusted project Capacity, gallons	1,344,000	361,855

- The quoted capture and control efficiency of the EcoPAS system has been stated to be 90% based on limited small-scale pilot testing. Given that the unit operation has not been fully demonstrated at this time, the District will consider the average control efficiency of the unit to be only 81% for purposes of this project, consistent with the District's BACT Guideline for this class and category source.
- Controlled emissions are calculated as:

$11,970 \times 81\% / 2,000 = 4.8$ tons

- The Base Project included \$10,000 in direct cost for each EcoPAS unit as an allowance for PLC control and data logging which was a site specific requirement for that facility. The applicant for this project has not indicated this to be a requirement at this time and therefore it will be conservatively assumed that the PLC cost is not applicable to this project.
- In the Base Project, EcoPAS provided site-specific installation costs for the proposed scope of supply. The installation costs from that analysis will be factored by the ratio of adjusted project capacity to establish installation costs for this project.
- Engineering costs will be assumed to be 5% of total direct cost exclusive of city/county plan check costs.

- An allowance of 10,000 is included to cover all permitting costs including County planning and building department costs.
- Due to the unsteady state operation of fermentation tanks, initial source testing is expected to be a significant technical operation with significant expense, conducted over the fermentation cycle rather than the typical three 30-minute steady state measurements. A cost of \$15,000 will be assumed for initial source testing.
- Owner's costs are included at 6% of Total Direct Cost up to a maximum of \$100,000.
- Project contingency is included at 20% of Total Capital Investment based on good engineering practice and accepted estimating norms of the engineering industry.
- Operating labor is estimated based on 1 operator hour per shift and 3 shifts per day, operating unit over a 90 day crush season and an hourly cost of \$18.50 per hour.
- An allowance for annual maintenance cost was included as 1% of Total Capital Investment.
- The cost of a chiller system has been annualized and the annualized cost is estimated at \$270 per ton of recovered ethanol based on approximately \$85 per ton energy charge at \$0.13/kWh and \$100 per ton capital charge for the central chilled water facility (based on a District analysis of annualized costs for a 100 ton mechanical chiller).
- Annual source testing will be required. It is assumed that only one representative unit will require testing each year. An annual charge of \$15,000 has been included.
- Recovered ethanol is estimated at approximately 4,882 gallons per year based on 60 proof (11,970 lb/year (uncontrolled fermentation emissions) x 81% x gal/6.62 lb ÷ 0.30). The recovered 60 proof is conservatively assumed to have a value of \$25 per gallon based on statements by EcoPAS.
- Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.1627, \text{ amortizing over 10 years at 10\%}$$

$$\text{Annualized Capital Investment} = \text{Initial Capital Investment} \times 0.163$$

Total Capital Investment for Refrigerated Condenser:

Total Capital Investment is presented in the following table along with the estimate from the Base Project:

Total Capital Investment		
TCI - Direct Costs (DC)	N-1131615	N-1133555
Purchased equipment cost (inc frgt & sales tax)	\$1,901,272	\$865,218
PLC, Data, Software	\$40,000	N/A
Foundations & supports (not required)	-	
Handling & erection	\$140,775	\$37,902
Electrical (not required)	-	
Piping (not included)		
Painting (not required)	-	
Insulation (not required)	-	
Subcontracts	\$18,000	\$4,846
Direct installation costs	\$198,775	\$42,748
Total Direct Costs	\$2,100,047	\$907,966
TCI - Indirect Costs (IC)		
Engineering	\$105,002	\$45,398
Plan check/Building Permits	\$10,000	\$10,000
Initial Source Testing	\$60,000	\$15,000
Owner's Cost	\$100,000	\$54,478
Total Indirect Costs	\$275,002	\$124,876
Subtotal Cap Inv	\$2,375,049	\$1,032,842
Owner's Contingency 20%	\$475,010	\$206,568
Total Capital Investment (TCI) (DC + IC)	\$2,850,059	\$1,239,411

Total Annual Cost and Cost Effectiveness

The Total Annual Cost, including the recovered ethanol credit is presented in the following table along with the cost effectiveness calculation. As indicated in the table, the evaluated cost effectiveness exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for this project.

Total Annual Cost & Cost Effectiveness		
Direct Costs	N-1131615	N-1133555
Operator (2 hours/unit/day, 90 days, \$18.50/hour)	\$19,980	\$3,330
Supervisor (15% of Operator)	\$1,998	\$500
Maintenance		
Labor (1% of TIC)	\$28,501	\$12,394
Utility		
Chiller (Glycol) - \$270/ton recovered ethanol	\$9,280	\$328
Electricity (none required)	\$0	\$0
Total DC	\$59,759	\$16,552
Indirect Annual Cost (IC)		
Overhead (60% of labor and maintenance)	\$30,287.16	\$9,734
Annual Source test	\$15,000	\$15,000
Administrative Charge (2% TCI)	\$57,001	\$24,788
Property Taxes (1% TCI)	\$28,501	\$12,394
Insurance (1% TCI)	\$28,501	\$12,394
Total IC	\$159,290	\$74,311
Recovery Credits (RC)		
60 Proof Recovered	\$70,349	\$122,050
Annual Cost (DC + IC – RC)	\$148,699	-\$31,187
Annualized TCI (0.163 x TCI)	\$463,705	\$201,652
Total Annual Costs	\$612,404	\$170,465
Tons Control	34.370	4.8
CE \$ per ton	\$17,818	\$35,514
Cost Effective?	NO	NO

Collection of VOCs and control by absorption (> 81% collection & control)

Basis and Assumptions: Evaluation of this option is based on the NoMoVo technology (NohBell Corporation) which is the only absorption technology (refrigerated water scrubber) known to the District which is both commercially available and which has been developed specifically for control of emissions from wine fermentation tanks. Pricing for the refrigerated water scrubber was obtained from NohBell Corporation under District project N-1131615. In that project, NohBell submitted a budgetary estimate to control 24 red wine fermentation tanks using eighteen proprietary NoMoVo control units. Each NoMoVo unit was dedicated to a single tank although NohBell has stated that a single unit may control more than one unit at a time and that the 18 units would be capable of controlling all 24 tanks considering variability of operation in the tanks as well as planned staging of the fermentation operations to ensure that the capacity of control devices would not be exceeded during operation. The units operate based on a small backpressure on the tanks and do not require induced draft fans. Chilled glycol/water is supplied from a chiller/pump package supplied with each control unit.

- **As a conservative assumption, for purposes of the analysis, it will be assumed that the NohBell design for project N-1131615, relying upon variability of operation in the tanks as well as planned staging of the fermentation operations to ensure that the capacity of control devices will not be exceeded during operation, is valid and workable.**
- The District provided notice to Andrew Fedak of NohBell Corporation to allow NohBell Corporation an opportunity to provide cost information. The District did not receive updated cost information; therefore, the NohBell equipment pricing and capital investment requirements developed for District Project N-1131615 (Gallo Livingston) will be factored as required to develop a cost effectiveness analysis for this project
- To develop a Purchased Equipment Cost (PEC) for each project, the Base PEC from N-1131615 will be considered the Base Estimate and the PEC for this project ("New") will be developed by factoring the Base PEC by the ratio of project capacity with an exponent of 0.6 $[(\text{Capacity}_{\text{new}}/\text{Capacity}_{\text{base}})^{0.6}]$ where "Capacity" refers to the adjusted total nominal volume of all tanks included in the analysis (commonly referred to the "6-tenths Rule", traditionally employed to extrapolate equipment costs from one capacity to a different capacity).
- Since the tanks in this project are white fermenters versus the red fermenter considered in base project N-1131615, the capacity of white fermentation tanks must be adjusted to an equivalent red fermenter flow basis in order to recognize 1) that the peak flow from white fermentation is substantially less than that of red fermentation per gallon of fermenting must and 2) that the maximum percentage fill of the tank for white fermentation is greater than that for red fermentation (more gallons of must will be in the tank when conducting a white fermentation).
- Peak CO₂ flow for red fermentation is 43.5 lb-CO₂/hour per 1000 gallons of fermenting must as calculated by the Gallo kinetic model and based on an 80F fermentation with starting sugar = 20 °Brix
- Peak CO₂ flow for white fermentation is 15.9 lb-CO₂/hour per 1000 gallons of fermenting must as calculated by the Gallo kinetic model and based on an 60F fermentation with starting sugar = 20 °Brix

- Peak flow from a white fermenter is therefore $15.9/43.5 = 36.2\%$ of that from a red fermenter per 1000 gallons of fermenting must.
- Maximum percentage fill of a red fermenter is 80% versus 95% for a white fermenter. Therefore, the maximum gallons of must fermenting in a white fermentation tank of a given size is $95\%/80\% = 119\%$ of the maximum gallons of red must.
- The unadjusted capacity for this analysis is based on four 210,000 gallon white fermentation tanks = $4 \times 210,000 = 840,000$ gallons. Adjusting this value to an equivalent red fermenter yields:

Adjusted Capacity = $840,000 \text{ gallons} \times 36.2\% \times 119\% = 361,855 \text{ gallons}$

- The parameters of the current evaluation are compared with the Base Project in the following table:

Summary of Comparative Parameters		
Project Number	N-1131615	N-1133555
Facility	Gallo (Base Project)	Bear Creek
Fermentation Type	Red	White
No of Tanks	24	4
Individual Tank Capacity gallons	56,000	210,000
Project Capacity gallons	1,344,000	840,000
Adjusted project Capacity, gallons	1,344,000	361,855

- The quoted average capture and control efficiency of the NohBell system has been stated to be 81% which is consistent with the District's BACT Guideline for this class and category source.
- Controlled emissions are calculated as:

$$11,970 \times 81\% / 2,000 = 4.8 \text{ tons}$$

- The Base Project included \$10,000 in direct cost for each NohBell unit as an allowance for PLC control and data logging which was a site specific requirement for that facility. The applicant for this project has not indicated this to be a requirement at this time and therefore it will be conservatively assumed that the PLC cost is not applicable to this project.
- In the Base Project, technology-specific installation cost factors were established and formed the basis of that estimate. The installation costs from that analysis will be factored by the ratio of adjusted project capacity to establish installation costs for this project:

- Instrumentation allowance of \$2,000 per NoMoVo unit has been included for a pressure transmitter and a temperature transmitter for monitoring pressure of the collection header and vent stream and temperature from the NoMoVo unit.
 - Sales tax = 8.225% based on California location
 - Foundations and supports: not required – unit is supported from either a tank or the pipe rack structure. Equipment price includes required attachments and clips.
 - Since the units are mobile which are ready for operation upon delivery, Handling and Erection is taken to be 2% of Purchased Equipment Cost as an allowance for pre-commissioning.
 - Piping is taken to be 1% of Purchased Equipment Cost based on the only requirements being Tee fittings for the tank discharge.
 - Insulation and painting are not required.
- Installed cost for a 20,000 gallon waste ethanol solution storage tank is included in the estimate. Total direct cost for installation of a 22,000 gallon tank is estimated based on 2003 costs published by the State of Michigan, UIP 11¹ for welded steel water tanks. UIP 11 indicates an installed cost of \$30,000 (2003 dollars). The total direct cost of the tank includes typical tank ancillaries such as roof, ladders, painting, fittings on tank, etc., plus the tank foundation. Escalating this cost to 2014 at 2.75% per year, the current direct cost of the tank is determined to be \$40,400.
 - Engineering costs will be assumed to be 5% of total direct cost exclusive of city/county plan check costs.
 - An allowance of 10,000 is included to cover all permitting costs including County planning and building department costs.
 - Due to the unsteady state operation of fermentation tanks, initial source testing is expected to be a significant technical operation with significant expense, conducted over the fermentation cycle rather than the typical three 30-minute steady state measurements. A cost of \$15,000 will be assumed for initial source testing.
 - Owner's costs are included at 6% of Total Direct Cost up to a maximum of \$100,000.
 - Project contingency is included at 20% of Total Capital Investment based on good engineering practice and accepted estimating norms of the engineering industry.
 - Operating labor is estimated based on 2 operator hours per unit per day, operating units over a 90 day crush season and an hourly cost of \$18.50 per hour. For purposes of the estimate, a total of 5 NoMoVo units are assumed to be required.
 - An allowance for annual maintenance cost was included as 1% of Total Capital Investment.
 - Connected electrical load for each NoMoVo unit is 2.5 horsepower which is assumed to operate continuously for 90 days.
 - Electric power cost = \$0.102/kWh (see regenerative thermal oxidizer Top Down BACT Analysis section below)
 - Captured ethanol is recovered as a 10% solution suitable for disposal to an ethanol distillery at a cost of \$0.08 per gallon.
 - Annual source testing will be required. It is assumed that only one representative unit will require testing each year. An annual charge of \$15,000 has been included.
 - Annualized Capital Investment = Total Capital Investment x Amortization Factor

¹ State of Michigan, UIP 11, Tanks, www.michigan.gov/documents/Vol2-35UIP11.Tanks_121080_7.pdf, . 2003. S4

Amortization Factor = $\left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.1627$, amortizing over 10 years at 10%

Annualized Capital Investment = Initial Capital Investment x 0.163

Total Capital Investment for Refrigerated Water Scrubber:

Total Capital Investment is presented in the following table along with the estimate from the Base Project:

Total Capital Investment		
Project Number	N-1131615 (Gallo- Base Project)	N-1133555 (Bear Creek)
Purchased equipment cost (inc frgt & sales tax) - PEC	\$1,354,934	\$616,594
PLC, Data, Software	\$180,000	N/A
Foundations & supports (not required)	-	
Handling & erection - 2% PEC	\$27,099	\$12,332
Electrical 1% PEC	\$13,549.34	\$6,166
Piping 1% PEC	\$13,549	\$6,166
Painting (not required)	-	
Insulation (not required)	-	
Recovered Ethanol Tank - Allowance	\$40,000	\$40,400
Direct installation costs	\$274,197	\$65,064
Total Direct Costs	\$1,629,131	\$681,658
TCI - Indirect Costs (IC)		
Engineering 5% DC	\$81,457	\$34,083
Construction and field expenses 2% DC	\$32,583	\$13,633
Contractor fees 2% DC	\$32,583	\$13,633
Start-up 1%	\$16,291	\$6,817
Plan check/Building Permits	\$10,000	\$10,000
Initial Source Testing	\$20,000	\$15,000
Owner's Cost (6% DC to Max. of \$100,000)	\$100,000	\$40,899
Total Indirect Costs	\$292,913	\$134,065
Subtotal Cap Inv	\$1,922,044	\$815,723
Owner's Contingency 20%	\$384,409	\$163,145
Total Capital Investment (TCI) (DC + IC)	\$2,306,453	\$978,868

Total Annual Cost and Cost Effectiveness

The Total Annual Cost, including the recovered ethanol credit is presented in the following table along with the cost effectiveness calculation. As indicated in the table, the evaluated cost effectiveness exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for this project.

Total Annual Cost & Cost Effectiveness		
Project Number	N-1131615 (Gallo- Base Project)	N-1133555 (Bear Creek)
Direct Costs		
Operator (\$18.50/hr, 2 hours/unit/day, 90 days)	\$66,600	\$16,650
Supervisor (15% of Operator)	\$10,490	\$2,498
Maintenance		
Labor (1% of TIC)	\$23,065	\$9,789
Wastewater Disposal		
10% solution, \$0.08 per gallon	\$8,307	\$1,172
Utility		
Chiller (Glycol) - none required		
Electricity 2.5 hp/unit, 2160 hr/yr, 0.102/kWh	\$7,393	\$2,054
Total DC	\$115,855	\$32,163
Indirect Annual Cost (IC)		
Overhead (60% of labor and maintenance)	\$60,092.72	\$17,362
Annual Source test	\$15,000	15000
Administrative Charge (2% TCI)	\$46,129	\$19,577
Property Taxes (1% TCI)	\$23,065	\$9,789
Insurance (1% TCI)	\$23,065	\$9,789
Total IC	\$167,351	\$71,517
Recovery Credits (RC)		
60 Proof Recovered	\$0	\$0
Annual Cost (DC + IC – RC)	\$283,205	\$103,680
Annualized TCI x 0.163	\$375,260	\$159,556
Total Annual Costs	\$658,465	\$263,236
Tons Control	34.370	4.800
CE \$ per ton	\$19,158	\$54,840
Cost Effective?	NO	NO

Collection of VOCs and control by carbon adsorption (> 86% collection and control)

The proposed new tanks consist of groups of tank sizes ranging from 6,500 gallon capacity each up to 210,000 gallons each. This BACT analysis will be first performed based on considering only the 210,000 gallon tanks. If it is shown that carbon adsorption is not cost effective for these tanks, it will be assumed that it will not be cost effective for the smaller tanks (since the potential emissions are linear with tank size and there will be a loss of economy of scale for smaller sizes).

Basis and Assumptions

- Annual uncontrolled fermentation PE for permit units N-96-360-0 to '-363-0 is 11,970 lb/year per Appendix C.
- Since this facility is not equipped with a boiler for regeneration of activated carbon, the analysis will be based on using 2000 lb non-regenerable fixed-bed absorbers (canisters).
- The carbon adsorption system (CAS) is assumed to consist of a 2-row array of non-regenerable absorbers with each row of absorbers containing sufficient carbon to adsorb the maximum daily PE of the four fermentation tanks.
- Maximum CO₂ flow rate from each tank is 483 cfm at 60 F per a proprietary model provided by E & J Gallo based on a white wine fermentation at 60 F and an initial sugar concentration of 20 °Brix.
- It is assumed all 4 fermentation tanks can reach maximum flow simultaneously. The design rate for the CAS and its supply duct is therefore $4 \times 483 = 1,932$ cfm.
- The CAS is assumed to be located at grade, approximately 25 feet from the nearest tank. The 4 fermentation tanks are 30' diameter and 40' tall each and are arranged in a square array per the applicant's plot plan. Based on this, duct branch connections to each tank are estimated at 25 feet long and the main header is determined to be a minimum of 100 feet long.
- Maximum duct velocity is limited to 40 feet per second to minimize pressure on the tanks. Based on this criterion, the duct connection to each tank is determined to be 6" diameter and the main header is determined to be 12" diameter.
- The collection system consists of stainless steel plate ductwork (stainless steel is required due to food grade product status) with isolation valving connecting the four proposed 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 be included in the cost estimate.

- Direct cost of ductwork is taken from the Eichleay Study.² The following pricing is applicable to ductwork and includes labor and materials (pricing is estimated to be approximately 50% labor, 50% materials):
 - 6" ductwork: \$61.50 per linear foot
 - 12" ductwork: \$144 per linear foot
 - Allowance for duct supports: \$4,000 per tank
 - Isolation valves \$2,125 each
- Pricing of the CAS is based on the EPA Air Pollution Control Cost Manual (APCCM).³
- Carbon utilization is assumed to be 20%.
- Maximum daily emissions from each fermentation tank are 1.62 lb-VOC per 1000 gallons of tank capacity per District's FYI-114. Total daily emissions to the CAS are therefore $4 \times 210,000 \times 1.62/1000 = 1,361$ lb-VOC/day.
- At a carbon utilization of 20%, the minimum amount of carbon in each adsorber row is $1,361/20\% = 6,804$ lb. Therefore each row will consist of four non-regenerable adsorbers, or a total of eight adsorbers in the array.
- Purchase cost of a 2000 lb carbon adsorber vessel is \$2,500 per David Drewelow of Drewelow Remediation Equipment.
- Delivery and installation of a 1,000 cfm blower package for carbon adsorption is \$80-85,000 and delivery and installation of a 50cfm blower package for carbon adsorption is \$20-25,000 per David Drewelow of Drewelow Remediation Equipment. Assuming \$80,000 and \$20,000 respectively for the above-mentioned systems, extrapolating for a 1,932 cfm system, yields \$138,863.
- Capital investment will be evaluated based only on ductwork. Other costs which are recognized but not included in this evaluation are 1) knock out drum, fan and vent stack for the CAS, 2) piping, instrumentation, electrical and all other direct and indirect costs associated with the CAS and 3) Clean-in-Place (CIP) system for sanitizing the ductwork

² Eichleay Engineers, Fermenter VOC Emissions Control Cost Estimate, 2005.

³ U.S.EPA Air Pollution Control Cost Manual, Section 3, Chapter 1, Carbon Absorbers.

- Evaluation of annual operating costs will be based only on the supply and installation of non-regenerable carbon beds. Other costs which are recognized but not included in this evaluation are 1) operating labor and maintenance, 2) disposal costs for the spent carbon and 3) all other direct and indirect costs associated with operation of the CAS.

Capital Investment Required Based on Ductwork Only

<u>Direct Costs</u>			
	Qty	Unit Direct Cost	Direct Cost Extension
6" ductwork	100	\$61.50	\$6,150
12" ductwork	100	\$144.00	\$14,400
Tank Isolation Valves	4	\$2,125.00	\$8,500
Duct Supports	4	\$4,000.00	\$16,000
Subtotal Direct Cost (2005 dollars)			\$45,050
Escalation at 2.75%			\$12,458
Carbon Adsorption Equipment			\$138,863
Subtotal Direct Cost			\$196,371
Sales Tax 3.3125% ⁴			\$6,505
Total Direct Cost (DC)			\$202,876
<u>Indirect Costs</u>			
Engineering 10% of DC			\$20,288
Construction and field expenses 5% DC			\$10,144
Contractor fees 10% DC			\$20,288
Start-up 2% DC			\$4,058
Contingency 10% DC			\$20,288
Total Indirect Costs (IC)			\$75,066
Total Capital Investment for Ductwork (DC+IC)			\$277,942

Total Capital Investment for Carbon Adsorber Equipment = \$277,942

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

⁴ Pollution control equipment is qualify for CA tax partial exemption, and the exemption rate is 4.1875%, so the reduced sales tax rate is equal 3.3125% (7.500% - 4.1875%). http://www.boe.ca.gov/sutax/manufacturing_exemptions.htm#Purchasers

Annualized Capital Investment = $\$277,942 \times 0.163 = \$45,305$ per year

Annual Operating Cost Based on Carbon Purchase Only

VOC adsorbed annually = $86\% \times 11,970 = 10,294$ lb-VOC/year

Annual carbon requirement at 20% carbon utilization = $10,294/20\% = 51,470$ lb-Carbon/year

Number of carbon adsorbers per year = $51,470/2,000 = 26$ carbon absorbers/year

Annual purchase cost for adsorbers = $26 \times \$2,500 = \$65,000$

Total Annual Cost = Annualized Capital Investment + Annual Operating Cost

Total Annual Cost = $\$45,305 + \$65,000 = \$110,305$

Uncontrolled fermentation PE for proposed ATCs N-96-360-0 to -363-0 is 11,970 lb-VOC/year.

Annual Emission Reduction = Uncontrolled Emissions $\times 0.86$
= $11,970$ lb-VOC/year $\times 0.86$
= $10,294$ lb-VOC/year
= 5.1 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost \div Annual Emission Reductions

Cost Effectiveness = $\$110,305/\text{year} \div 5.1$ tons-VOC/year
= $\$21,628/\text{ton-VOC}$

The analysis demonstrates that the annualized cost based only on the capital investment for ductwork plus the annual carbon absorber replacement cost alone results in a cost effectiveness which exceeds the District's Guideline of $\$17,500/\text{ton-VOC}$. Therefore this option is not cost-effective and will not be considered for this project.

Collection of VOCs and control by thermal or catalytic oxidation (> 88% collection & control)

The proposed new tanks consist of groups of tank sizes ranging from 6,500 gallon capacity each up to 210,000 gallons each. This BACT analysis will be first performed based on considering only the 210,000 gallon tanks. If it is shown that thermal oxidation is not cost effective for these tanks, it will be assumed that it will not be cost effective for the smaller tanks (since the potential emissions are linear with tank size and there will be a loss of economy of scale for smaller sizes).

Basis and Assumptions

- Annual uncontrolled fermentation PE for permit units N-96-360-0 to '-363-0 is 11,970 lb/year per Appendix C.
- The thermal oxidizer is assumed to be a regenerative thermal oxidizer (RTO) with 95% fuel efficiency.
- Maximum CO₂ flow rate from each tank is 483 cfm at 60 F per a proprietary model provided by E & J Gallo based on a white wine fermentation at 60 F and an initial sugar concentration of 20 °Brix.
- It is assumed all 4 fermentation tanks can reach maximum flow simultaneously. The design rate for the RTO and its supply duct is therefore $4 \times 483 = 1,932$ cfm.
- The RTO is assumed to be located at grade, approximately 25 feet from the nearest tank. The 4 fermentation tanks are 30' diameter and 40' tall each and are arranged in a square array per the applicant's plot plan. Based on this, duct branch connections to each tank are estimated at 25 feet long and the main header is determined to be a minimum of 100 feet long.
- Maximum duct velocity is limited to 40 feet per second to minimize pressure on the tanks. Based on this criterion, the duct connection to each tank is determined to be 6" diameter and the main header is determined to be 12" diameter.
- The collection system consists of stainless steel plate ductwork (stainless steel is required due to food grade product status) with isolation valving connecting the four proposed 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 be included in the cost estimate.
- Direct unit costs of ductwork are taken from the Eichleay Study.⁵ The following pricing is applicable to ductwork and includes labor and materials (pricing is estimated to be approximately 50% labor, 50% materials):

6" ductwork:	\$61.50 per linear foot
12" ductwork:	\$144 per linear foot
Allowance for duct supports:	\$4,000 per tank
Isolation valves	\$2,125 each

⁵ Eichleay Engineers, Fermenter VOC Emissions Control Cost Estimate, 2005.

- Pricing of the RTO is based on pricing obtain from Adwest Technologies in September of 2014. Considering that the costs are nearly linear between the different sized units, based on the costs provided, the price of a 1,930 cfm RTO is estimated at \$161,820.
- Capital investment will be evaluated based only on the RTO and ductwork. Other costs which are recognized but not included in this evaluation are 1) knock out drum to prevent wine reaching the RTO, 2) Clean-in-Place (CIP) system for sanitizing the ductwork and 3) site specific costs for utilities (natural gas and electric power).
- Annual Operating Costs are presented per the cost model given by the EPA Air Pollution Control Cost Manual (APCCM).⁶ Some of the cost factors have been modified to reflect good engineering practice and/or local conditions.
- Natural gas consumption will be based on a 95% efficient RTO operating for 90 days. No credit for the fuel value of ethanol is considered since the ethanol rate will tend to be highly variable, occurring primarily in spikes during fermentation peak operating points.
- Unit price of natural gas is \$7.71/MMBtu⁷.
- Electric power consumption is computed for the RTO fan based on the maximum CO₂ vent rate from the tanks plus a 50% allowance for combustion air. Assumed parameters for the fan are 10" water column differential pressure, 60% static efficiency, 90% electric motor efficiency, 90 days full time operation.
- Electricity cost is \$.102/kWh.⁸

⁶ U.S.EPA Air Pollution Control Cost Manual, Section 3.2, Chapter 2, Incinerators.

⁷ Energy Information Administration/Natural Gas; Average Price of Natural Gas Sold to Commercial Consumers by State, 2011 - 2013

⁸ Energy Information Administration/Electric Power; Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, 2011 - 2012.

Capital Investment Required Based on Ductwork Only

Direct Costs			
	Qty	Unit Direct Cost	Direct Cost Extension
6" ductwork	100	\$61.50	\$6,150
12" ductwork	100	\$144.00	\$14,400
Tank Isolation Valves	4	\$2,125.00	\$8,500
Duct Supports	4	\$4,000.00	\$16,000
Subtotal Direct Cost (2005 dollars)			\$45,050
Escalation at 2.75%			\$12,458
Total Direct Cost (DC)			\$57,508
Indirect Costs			
Engineering 10% of DC			\$5,751
Construction and field expenses 5% DC			\$2,875
Contractor fees 10% DC			\$5,751
Start-up 2% DC			\$901
Contingency 10% DC			\$5,751
Total Indirect Costs (IC)			\$21,029
Total Capital Investment for Ductwork (DC+IC)			\$78,537

Capital Investment for the RTO

Total Capital Investment for Thermal Oxidizer		
Direct Costs		
Purchased Equipment Costs		
Oxidizer (A)		\$161,820
Instrumentation 10% A		\$16,182
Sales Tax 3.8125% (8.0% - 4.1875% ⁹) A		\$6,776
Freight 5% A		Including in DI Cost
Purchased Equipment Cost (PEC)		\$184,778
Direct Installation Costs Provided by Adwest Technologies, Inc		
Direct Installation Cost Including Freight		\$33,840
Total Direct Cost DC		\$218,618
Indirect Costs		
Engineering 10% DC		\$21,862
Construction and Field Expense 5% DC		\$10,931
Contractor Fees 10% DC		\$21,862
Startup 2% DC		\$4,372
Performance Test 1% DC		\$2,186
Contingency 10% DC		\$21,862
Total Indirect Cost IC		\$111,456
Total Capital Investment DC + IC		\$301,700

Total Capital Investment Including Ductwork

The Total Capital Investment (TCI) for this option is the sum of that for the RTO plus that for the ductwork:

$$TCI = \$301,700 + 78,537 = \approx 380,200$$

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

⁹ Manufacturing and Research & Development Exemption. http://www.boe.ca.gov/sutax/manufacturing_exemptions.htm

Therefore,

Annualized Capital Investment = \$380,200 x 0.163 = \$61,973 per year

Operation and Maintenance Costs

The Direct annual costs include labor (operating, supervisory, and maintenance), maintenance materials, electricity, and fuel.

Heat of Combustion for waste gas stream -dh(c):

$$\begin{aligned} \text{heat of combustion -dHc} &= 20,276 \text{ Btu/lb} \\ \text{Daily VOC emissions rate} &= 340.2 \text{ lb/day} \\ \text{Blower flow rate} &= 1,932 \text{ scfm} \\ &= 2,782,080 \text{ ft}^3/\text{day} \end{aligned}$$

$$\begin{aligned} -dh(c) &= 340.2 \text{ lb/day} \times 20,276 \text{ Btu/lb} / 2,782,080 \text{ ft}^3/\text{day} \\ &= 2.479 \text{ Btu/ft}^3 \end{aligned}$$

Assuming the waste gas is principally air, with a molecular weight of 28.97 and a corresponding density of 0.0739 lb/scf, the heat of combustion per pound of incoming waste gas is:

$$\begin{aligned} -dh(c) &= 2.479 \text{ Btu/ft}^3 / 0.0739 \text{ lb/ft}^3 \\ &= 33.55 \text{ Btu/lb} \end{aligned}$$

Fuel Flow Requirement

$$Q(\text{fuel}) = \frac{P_w \cdot Q_w \cdot \{C_p \cdot [1.1 T_f - T_w - 0.1 T_r] - [-dh(c)]\}}{P(\text{ef}) \cdot [-dh(m) - 1.1 C_p \cdot (T_f - T_r)]}$$

Where

$$\begin{aligned} P_w &= 0.0739 \text{ lb/ft}^3 \\ C_p &= 0.255 \text{ Btu/lb-}^\circ\text{F} \\ Q_w &= 1,932 \text{ scfm} \\ -dh(m) &= 21,502 \text{ Btu/lb for methane} \\ T_r &= 77^\circ\text{F assume ambient conditions} \\ P(\text{ef}) &= 0.0408 \text{ lb/ft}^3 \text{ m, methane at } 77^\circ\text{F, 1 atm} \\ T_f &= 1600^\circ\text{F} \\ T_w &= 1150^\circ\text{F} \\ -dh(c) &= 33.55 \text{ Btu/lb} \end{aligned}$$

$$\begin{aligned} Q &= \frac{0.0739 \cdot 1,932 \cdot \{0.255 \cdot [1.1 \cdot 1,600 - 1,150 - 0.1 \cdot 77] - 33.55\}}{0.0408 \cdot [21,502 - 1.1 \cdot 0.255 \cdot (1,600 - 77)]} \\ &= 17,138 + 860 = 19.93 \text{ ft}^3/\text{min} \end{aligned}$$

Fuel Costs

The cost for natural gas shall be based upon the average price of natural gas sold to "Commercial Consumers" in California for the years 2011, 2012 and 2013.¹⁰

2013 = \$7.81/thousand ft³ total monthly average
2012 = \$8.29/thousand ft³ total monthly average
2011 = \$7.05/thousand ft³ total monthly average
Average for two years = \$7.717/thousand ft³ total monthly average

$$\begin{aligned}\text{Fuel Cost} &= 19.93 \text{ cfm} \times 1440 \text{ min/day} \times 90 \text{ day/year} \times \$7.717/1000 \text{ ft}^3 \\ &= \$19,932/\text{year}\end{aligned}$$

Electricity Requirement

$$\text{Power}_{\text{fan}} = \frac{1.17 \cdot 10^{-4} Q_w \Delta P}{\epsilon}$$

Where

ΔP = Pressure drop Across system = 10 in. H₂O
 ϵ = Efficiency for fan and motor = 0.6
Q_w = 6,200 scfm

$$\begin{aligned}\text{Power}_{\text{fan}} &= \frac{1.17 \cdot 10^{-4} \cdot 1,932 \text{ cfm} \cdot 1.5 \cdot 10 \text{ in. H}_2\text{O}}{0.60 \cdot 0.90} \\ &= 6.28 \text{ kW}\end{aligned}$$

Electricity Costs

Average cost of electricity to commercial users in California¹¹:

2012 = \$0.1023
2011 = \$0.1012
AVG = \$0.102

$$\text{Electricity Cost} = 6.28 \text{ kW} \times 24 \text{ hours/day} \times 90 \text{ days/year} \times \$0.102/\text{kWh} = \$1,384/\text{year}$$

¹⁰ Energy Information Administration/Natural Gas; Average Price of Natural Gas Sold to Commercial Consumers by State, 2011 - 2012

¹¹ Energy Information Administration/Electric Power; Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, 2011 - 2012

Annual Costs

Annual Costs for Thermal Oxidizer		
Direct Annual Costs		
Operating Labor		
	Operator (.5 hr/shift)	\$2,498
	Supervisor (15% of operator)	\$375
Maintenance (1% TCI)		
		\$3,802
Utilities		
	Natural Gas	\$19,932
	Electricity	\$1,384
	Total Direct Cost DC	\$27,991
Indirect Annual Costs		
Overhead (60% of labor and maintenance)		
		\$4,005
Administrative charges (2% TCI)		
		\$7,604
Property Taxes (1% TCI)		
		\$3,802
Insurance (1% TCI)		
		\$3,802
Capital Recovery (CRF x TCI)		
		\$61,973
	Total Indirect Cost IC	\$81,186
Total Annual Cost (DC + IC)		\$109,177

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Uncontrolled fermentation PE for proposed ATCs N-96-360-0 to '-363-0 is 11,970 lb-VOC/year per Appendix C.

Annual Emission Reduction = Uncontrolled Emissions x 0.70
 = 11,970 lb-VOC/year x 0.95
 = 11,370 lb-VOC/year
 = 5.7 tons-VOC/year

Cost Effectiveness = \$109,177/year ÷ 5.7 tons-VOC/year
 = \$19,154/ton-VOC

The analysis demonstrates that the annualized cost (without consideration of requirements for a knock out drum, CIP system or site-specific cost) results in a cost effectiveness which exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for this project.

Appendix G

BACT Guideline 5.4.13 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

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	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.	1. Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control) 2. Capture of VOCs and carbon adsorption or equivalent (95% control) 3. Capture of VOCs and absorption or equivalent (90% control) 4. 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.

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**

Top Down BACT Analysis for Wine Storage VOC Emissions for Permit Units N-1237-662-0 through '669-0

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, 3rd quarter 2013, identifies achieved in practice 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.

***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.*

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, 3rd quarter 2013, identifies technologically feasible BACT for wine storage tanks as follows:

- 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)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank by Control Effectiveness		
Rank	Control	Overall Capture and Control Efficiency
1	Capture of VOCs and thermal or catalytic oxidation or equivalent	98%
2	Capture of VOCs and carbon adsorption or equivalent	95%
3	Capture of VOCs and absorption or equivalent	90%
4	Capture of VOCs and condensation or equivalent	70%
5	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	Baseline (Achieved-in-Practice)

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), as proposed by the facility.

Basis and Assumptions

- The proposed new tanks consist of groups of tank sizes ranging from 6,500 gallon capacity each up to 210,000 gallons each. This BACT analysis will be first performed based on considering only the 210,000 gallon tanks. If it is shown that a control device is not cost effective for these tanks, it will be assumed that it will not be cost effective for the smaller tanks (since the potential emissions are linear with tank size and there will be a loss of economy of scale for smaller sizes).
- All control options share an identical requirement for a collection system.
- The common collection system consists of stainless steel plate ductwork (stainless steel is required due to food grade product status) with isolation valving, connecting four 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 be included in the cost estimate.
- A minimum duct size is established at six inches diameter at each tank to provide adequate strength for spanning between supports. The main header is twelve inches diameter to handle the potential for simultaneous venting.
- The Total Capital Investment for the system described above has been determined to be \$78,537 (see Appendix D, "Collection of VOCs and control by thermal or catalytic oxidation (> 88% collection & control)")
- For a storage operation, the maximum vent rate from a tank is equal to the maximum liquid fill rate. A typical winery general purpose pump is assumed to be equipped with a 20 hp electric motor. Based on an electric motor efficiency of 90%, a centrifugal pump efficiency of 65% and a differential head of 22 psi (40' hydrostatic head plus 5 psi dynamic loss), maximum vent rate from each tank is determined to be 122 cfm. Total simultaneous rate from all four tanks is $4 \times 122 = 488$ scfm.
- Rated design capacity of all control devices is established at 110% of the maximum flow rate or $488 \times 110\% = 537$ cfm (typical overdesign margin for process equipment)
- Escalation of cost data to 2014 is included in all cost estimates at an average annual rate of 2.75%.

Capture of VOCs and thermal or catalytic oxidation or equivalent (98%)

Capital Investment for Control Device

Pricing of the RTO is based on pricing obtain from Adwest Technologies in September of 2014. The cost of a 537 cfm RTO is estimated at \$145,500.

Total Capital Investment (TCI)

Total Capital Investment is calculated based only on the capital investment for ductwork and the purchase price of the TO, ignoring all other costs.

TCI = capital investment for ductwork + purchase price of control device

$$\text{TCI} = \$78,537 + \$145,500 = \$223,537$$

Annualized Capital Costs

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

$$\text{Annualized Capital Investment} = \$223,537 \times 0.163 = \$36,437$$

Total Annual Cost

Total Annual Cost is evaluated based only on the Annualized Capital Investment:

$$\text{Total Annual Cost} = \text{Annualized capital investment} = \$36,437$$

Emission Reductions

$$\begin{aligned} \text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.98 \\ &= 3,003 \text{ lb-VOC/year} \times 0.98 \\ &= 2,943 \text{ lb-VOC/year} \\ &= 1.5 \text{ tons-VOC/year} \end{aligned}$$

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

$$\begin{aligned} \text{Cost Effectiveness} &= \$36,437/\text{year} \div 1.5 \text{ tons-VOC/year} \\ &= \$24,291/\text{ton-VOC} \end{aligned}$$

The analysis demonstrates that the annualized purchase cost of the required collection system ductwork and the control device purchase price alone results in a cost effectiveness which exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for this project.

Capture of VOCs and carbon adsorption or equivalent (95%)

Assumptions

- Since this facility is not equipped with a boiler for regeneration of activated carbon, the analysis will be based on using 2000 lb non-regenerable fixed-bed absorbers (canisters).
- At a carbon utilization of 20%, the minimum amount of carbon in each adsorber row is $1,361/20\% = 6,804$ lb. Therefore each row will consist of four non-regenerable adsorbers, or a total of eight adsorbers in the array.
- Purchase cost of a 2000 lb carbon adsorber vessel is \$2,500 per David Drewelow of Drewelow Remediation Equipment.
- Delivery and installation of a 1,000 cfm blower package for carbon adsorption is \$80-85,000 and delivery and installation of a 50cfm blower package for carbon adsorption is \$20-25,000 per David Drewelow of Drewelow Remediation Equipment. Assuming \$80,000 and \$20,000 respectively for the above-mentioned systems, interpolating for a 537 cfm system, yields \$50,760.

Total Capital Investment (TCI)

Total Capital Investment is calculated based only on the capital investment for ductwork, ignoring all other costs.

TCI = capital investment for ductwork

TCI = \$78,537

Annualized Capital Costs

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

$$\text{Annualized Capital Investment} = \$78,537 \times 0.163 = \$ 12,800$$

Total Annual Cost

Fixed-bed absorbers cost:

$$\text{VOC adsorbed annually} = 90\% \times 3,003 = 2,853 \text{ lb-VOC/year}$$

$$\text{Annual carbon requirement at 20\% carbon utilization} = 2,853/20\% = 14,264 \text{ lb-Carbon/year}$$

Number of carbon beds per year = $14,264/2,000 = 8$ carbon absorbers/year

Annual purchase cost for absorbers = $8 \times \$2,500 = \$20,000$

Total Annual Cost = Annual carbon cost + Annualized capital investment

Total Annual Cost = $\$20,000 + \$12,800 = \$32,800$

Emission Reductions

Annual Emission Reduction = Uncontrolled Emissions x 0.95
= $3,003 \text{ lb-VOC/year} \times 0.95$
= $2,853 \text{ lb-VOC/year}$
= $1.4 \text{ tons-VOC/year}$

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness = $\$32,800/\text{year} \div 1.4 \text{ tons-VOC/year}$
= $\$23,429/\text{ton-VOC}$

The analysis demonstrates that the annualized purchase cost of the required collection system ductwork and the annual carbon absorber cost alone results in a cost effectiveness which exceeds the District's Guideline of $\$17,500/\text{ton-VOC}$. Therefore this option is not cost-effective and will not be considered for this project.

Capture of VOCs and absorption or equivalent (90%)

The total capital investment costs and operating costs for an absorption system used in this evaluation are based on the information given in District project N-1133659. The scrubber under project N-1133659 was evaluated for the control of 84,864 pounds of VOC emissions. The potential VOC emissions from this project are 3,003 pounds, equivalent to approximately 3.5% of the emissions evaluated for control under project N-1133659.

Generally, when estimating costs from a known value, the rule of six-tenths is used to account for economy of scale. However, since the control device required for this project is smaller than the control device in the base project, the cost for the control device in this project will be scaled linearly. Scaling linearly results in lower capital cost and lower cost effectiveness. Therefore, the capital and installation costs provided in the cost estimate will be adjusted by a factor of 0.035 for purposes of this analysis.

Capital Cost for each Water Scrubber unit is as follows: Reactor and Portable Pumping Skids are $\$60,000$ and $\$7,500$ respectively. The total capital cost for all units is $\$1,215,000$ controlling 84,864 lbs-VOC. Therefore, the total capital cost for an equivalent system for this project is estimated to be $\$42,525$.

Scrubber	
Cost Description	Cost (\$)
Refrigerated Scrubber System	\$42,525
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Scrubber System) See Above	\$42,525
Instrumentation (\$2,000 per unit; worst case, assume 1 unit)	\$2,000
Sales Tax 3.3125%	\$1,409
Freight (included)	-
Purchased equipment cost	\$45,934
Foundations & supports (not required)	-
Handling & erection 2%	\$ 919
Electrical 1%	\$ 459
Piping 1%	\$ 459
Painting (not required)	-
Insulation (not required)	-
PLC & Programming (not requested by applicant)	-
Recovered Ethanol Storage Tank (installed)	\$5,000
Direct installation costs	\$6,837
Total Direct Costs (TDC)	\$52,771
Indirect Costs (IC)	
Engineering (5% of TDC)	\$2,639
Construction and field expenses (2% of TDC)	\$1,055
Permits (Building Department) (Allowance)	\$10,000
Contractor fees (2% of TDC)	\$1,055
Start-up (1% of TDC)	\$ 528
Source Testing (1 unit x \$15,000/unit)	\$15,000
Owner's Cost (Allowance)	\$5,556 ¹²
Total Indirect Costs	\$35,833
Subtotal Capital Investment (SCI)	\$88,604
Project Contingency (20% of SCI)	\$17,721
Total Capital Investment (TCI) (DC + IC)	\$106,325

¹² From project N-1133659 for 18 units, Owner's Cost = \$100,000 (or \$5,556/unit)

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Annualized Capital Investment = \$106,325 x 0.163 = \$17,331.

Wastewater Disposal Costs

The water scrubber will generate ethanol-laden wastewater containing 1.35 tons (2,703 lbs) of ethanol annually (3003 lb/year (uncontrolled emissions) x 0.90 ÷ 2000). Assuming a 10% solution, approximately 4,083 gallons of waste water (2,703 lb-ethanol x 1 gal/6.62 lb ÷ 0.10) will be generated annually. Based on information from NohBell Corporation, an allowance of \$0.08 per gallon is applied for disposal costs.

Annual disposal costs = 4,083 gallons x \$0.08/gallon = \$327

Annual Costs

Annual Costs			
Direct Annual Cost (DC)			
Operating Labor			
Operator	2 hr/day x 1 unit x 365 days = 730 hr/year	\$18.50/h	\$13,505
Supervisor	15% of operator		\$2,026
Maintenance			
Labor	1% of TCI		\$1,063
Wastewater Disposal			
	10% Solution = 4,083 gal	\$0.08/gal	\$327
Utility			
Electricity	1 unit x 2.5 hp x 0.746 kW/hp x 730 hr/yr = 1,361 kWh/yr	\$0.102/kWh	\$139
Total DC			\$17,060
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost	0.6 x (\$13,505 + \$2,026 + \$1,063)	\$9,956
Administrative	2% TCI		\$2,127
Property Taxes	1% TCI		\$1,063
Insurance	1% TCI		\$1,063
Annual Source Test	One representative test/year @		\$15,000
Total IC			\$29,208
Annual Cost (DC + IC)			\$46,268

Total Annual Cost = Ductwork + Absorption System + Operating Costs
 = \$78,537 + \$17,331 + \$46,268
 = \$142,136

$$\begin{aligned}\text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.90 \\ &= 3,003 \text{ lb-VOC/year} \times 0.90 \times \text{ton}/2,000 \text{ lb} \\ &= 1.4 \text{ tons-VOC/year}\end{aligned}$$

$$\begin{aligned}\text{Cost Effectiveness} &= \$142,136/\text{year} \div 1.4 \text{ tons-VOC/year} \\ &= \$101,526/\text{ton-VOC}\end{aligned}$$

The analysis demonstrates that the annualized purchase costs of the required collection system ductwork plus the annual cost of ethanol waste disposal results in a cost effectiveness which exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for this project.

Capture of VOCs and condensation or equivalent (70%)

The total capital investment costs and operating costs for condensation system used in this evaluation are based on the information given in District project N-1133659. Similar assumption in "Capture of VOCs and absorption or equivalent (90%)" discussed above applies; the capital cost given in project N-1133659 will be adjusted by a factor of 3.5% for purposes of this analysis. In addition, no value will be given for the ethanol that is recovered from the condensation system since the recovered ethanol has not been conclusively demonstrated to have a value in practice and could actually result in additional costs for disposal.

Generally, when estimating costs from a known value, the rule of six-tenths is used to account for economy of scale. However, since the control device required for this project is smaller than the control device in the base project, the cost for the control device in this project will be scaled linearly. Scaling linearly results in lower capital cost and lower cost effectiveness. Therefore, the capital and installation costs provided in the cost estimate will be adjusted by a factor of 0.035 for purposes of this analysis.

The total capital cost provided in project N-1133659 is \$1,901,272 for 4 units controlling 84,864 lbs-VOC. Therefore, the total capital cost for an equivalent system for this project is estimated to be \$66,545.

Condensation	
Cost Description	Cost (\$)
Cost of Refrigerated Condenser system (1 PAS Unit)	\$66,545
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Condenser) See Above	\$66,545
Instrumentation (included)	-
Sales Tax (included)	-
Freight (included)	-
Purchased equipment cost	\$66,545
Labor (estimated from project N-1133659)	\$326
Installation Expense (estimated from project N-1133659)	\$237
Subcontracts (estimated from project N-1133659)	\$72
PLC/Programming (not requested by applicant)	-
Direct installation costs	\$635
Total Direct Costs (TDC)	\$67,180
Indirect Costs (IC)	
Engineering (5% of TDC)	\$3,359
Permits (Building Department) (Allowance)	\$2,500 ¹³
Initial Source Testing (\$15,000/unit)	\$15,000
Owner's Cost (Allowance)	\$5,556
Total Indirect Cost	\$26,415
Subtotal Capital Investment (SCI)	\$93,595
Project Contingency (20% of SCI)	\$18,719
Total Capital Investment (TCI) (DC + IC + Contingency)	\$112,314

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Annualized Capital Investment = \$112,314 x 0.163 = \$18,307.

¹³ From project N-1133659 for 4 units, Permits = \$10,000 (or \$2,500/unit)

Annual Costs

Annual Costs			
Direct Annual Cost (DC)			
Operating Labor			
Operator	1 hr/day x 3 shifts/day x 1 unit x 365 days = 1,095 hr/year	\$18.50/h	\$20,258
Supervisor	15% of operator		\$3,039
Maintenance			
Labor	1% of TCI		\$1,123
Chiller (Glycol)			
	3,003 lb/year (uncontrolled storage emissions) x 0.90 + 2000	\$270/ton EtOH	\$365
Utility			
Electricity		\$0.102/kWh	\$0
Total DC			\$24,785
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost	0.6 x (\$20,258 + \$3,039 + \$1,123)	\$14,652
Administrative	2% TCI		\$2,246
Property Taxes	1% TCI		\$1,123
Insurance	1% TCI		\$1,123
Annual Source Test	One representative test/year @ \$15,000		\$15,000
Total IC			\$34,144
Annual Cost (DC + IC)			\$58,929

$$\begin{aligned}
 \text{Total Annual Cost} &= \text{Ductwork} + \text{Condensation System} + \text{Operating Costs} \\
 &= \$78,537 + \$18,307 + \$52,929 \\
 &= \$149,773
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.70 \\
 &= 3,003 \text{ lb-VOC/year} \times 0.70 \times \text{ton}/2,000 \text{ lb} \\
 &= 1.1 \text{ tons-VOC/year}
 \end{aligned}$$

$$\begin{aligned}
 \text{Cost Effectiveness} &= \$149,773/\text{year} \div 1.1 \text{ tons-VOC/year} \\
 &= \$136,157/\text{ton-VOC}
 \end{aligned}$$

Total Annual Cost

Total Annual Cost is evaluated based only on the Annualized Capital Investment: and the Recovery Credit (RC) for ethanol condensed.

Credit for Recovered Ethanol

Ethanol recovered from the condensation has byproduct value as ethanol still feed. Assuming recovery as 60-proof spirit and assuming a conservatively high valuation at \$5.00 per gallon:

Gallons pure ethanol recovered = 318 gallons (2,102 lb at 6.62 lb/gal)

Gallons 60 proof recovered = 1,058 gallons

Recovery credit (RC) at \$5.00/gallon = \$5,290

Total Annual Cost = Annualized capital investment – RC = \$149,773 - \$5,290 = \$144,483

Emission Reductions

Annual Emission Reduction = Uncontrolled Emissions x 0.70
= 3,003 lb-VOC/year x 0.70
= 2,102 lb-VOC/year
= 1.1 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness = \$144,483/year ÷ 1.1 tons-VOC/year
= \$131,348/ton-VOC

The analysis demonstrates that the annualized purchase cost of the required collection system ductwork and the control device purchase price alone less credit for recovered ethanol results in a cost effectiveness which exceeds the District's Guideline of \$17,500/ton-VOC. Therefore this option is 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 achieve and maintain a continuous storage temperature not exceeding 75 °F within 60 days of completion of fermentation. These BACT requirements will be listed on the permits as enforceable conditions.

Appendix H
Compliance Certification

N-96
Bear Creek Winery
Compliance Certification Statement
For Federal Major Permit Modifications
Compliance with District Rule 2201, Section 4.15.2

I certify under penalty of law that all major stationary sources (Title V facilities) operated under my control in California are compliant with all applicable air emissions limitations and standards.

Craig Rous
(Signature)

Date: 2/14/14

Craig Rous
(Name)

Director of Operations
(Title)

Appendix I

COC Compliance Certification

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: <u>Goldstone Land LLC dba Bear Creek Winery</u>	FACILITY ID: <u>11-96</u>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: <u>Kurt Kautz Managing Partner</u>	
3. Agent to the Owner: <u>Craig Rous</u>	

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

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

Craig Rous

Signature of Responsible Official

11/1/13

Date

Craig Rous

Name of Responsible Official (please print)

Director of Operations

Title of Responsible Official (please print)

Appendix J

Draft ATC Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-360-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #718) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Arnaud Marjolle, Director of Permit Services
N-96-360-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-361-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #719) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services
N-96-361-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-96-362-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #726) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjolle, Director of Permit Services
N-96-362-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-363-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
210,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #727) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 30 feet in diameter and 40 feet in height with a proposed volume of 210,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjolle, Director of Permit Services
N-96-363-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-364-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Amaud Marjollet, Director of Permit Services
N-96-364-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-365-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #710) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services
N-96-365-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-366-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #716) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director, APCO

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Arnaud Marjollet, Director of Permit Services
N-96-366-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-367-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
160,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #717) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 25.5 feet in diameter and 40 feet in height with a proposed volume of 160,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services

N-96-367-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-368-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #701) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Arnaud Marjollet, Director of Permit Services
N-96-368-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-369-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #702) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services
N-96-369-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-96-370-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #708) WITH
PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-96-370-0 : Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-371-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

51,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #709) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 40 feet in height with a proposed volume of 51,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjolle, Director of Permit Services

N-96-371-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-372-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #665) WITH
PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 38 feet in height with a proposed volume of 46,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Amaud Marjoret, Director of Permit Services
N-96-372-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-373-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

46,000 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #666) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 14.5 feet in diameter and 38 feet in height with a proposed volume of 46,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services
N-96-373-0 : Dec 2 2014 5:39PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-374-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjolle, Director of Permit Services
N-96-374-0, Dec 2 2014 5:38PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-375-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #736) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services

N-96-375-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-376-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #737) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services
N-96-376-0 - Dec 2 2014 5:40PM - GARCIAJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-377-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #738) WITH
PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services
N-96-377-0 - Dec 2 2014 5:40PM - GARCIAJ - Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-378-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #739) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director, APCO

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Arnaud Marjollet, Director of Permit Services
N-96-378-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-379-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #740) WITH
PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Arnaud Marjollet, Director of Permit Services
N-96-379-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-380-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
13,400 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #741) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 10 feet in diameter and 24 feet in height with a proposed volume of 13,400 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services

N-96-380-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-381-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #728) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director, APCO

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Arnaud Marjollet, Director of Permit Services
N-96-381-0 : Dec 2 2014 5:40PM -- GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-382-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #729) WITH
PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-96-382-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-383-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #730) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjolle, Director of Permit Services

N-96-383-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-384-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #731) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Arnaud Marjollet, Director of Permit Services
N-96-384-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-385-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #732) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

Arnaud Marjollet, Director of Permit Services
N-96-385-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-386-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #733) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services
N-96-386-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-96-387-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:
6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #734) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services
N-96-387-0 : Dec 2 2014 5:40PM - GARCIAJ : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694] Federally Enforceable Through Title V Permit
8. The ethanol content of wine stored in this tank shall not exceed 16.0 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
9. When this tank is used for wine storage, the daily tank throughput, in gallons, shall not exceed twenty-five (25) times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fermentation operations in this tank shall not exceed 6 turns per year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either white wine or red wine. [District Rule 4694]
12. When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit
13. When this tank is used for wine storage, 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 1070 and 2201] Federally Enforceable Through Title V Permit
14. Annual emissions from all wine fermentation and storage tanks, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 242,165 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production - gallons) x (6.2 lb-VOC/1,000 gallons) + (Total Annual White Wine Production - gallons) x (2.5 lb-VOC/1,000 gallons). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
17. Total annual VOC emissions from wine storage operations shall be determined as the sum of the product of the volume of wine transferred in each wine movement and the batch-specific wine storage VOC emission factor calculated using the equation specified within this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The batch-specific wine storage VOC emission factor (EF), in pounds of VOC per 1,000 gallons of wine throughput, shall be calculated using the following equation: $EF = 1.705259 * P^{1.090407}$, where P is the volume percent ethanol of the wine being transferred. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-96-388-0

LEGAL OWNER OR OPERATOR: BEAR CREEK WINERY
MAILING ADDRESS: 11900 N FURRY RD
LODI, CA 95240

LOCATION: 11900 N FURRY RD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

6,500 GALLON STAINLESS STEEL WHITE WINE FERMENTATION AND STORAGE TANK (TANK #735) WITH PRESSURE/VACUUM VALVE AND INSULATION

CONDITIONS

1. The nominal tank dimensions are 6 feet in diameter and 24 feet in height with a proposed volume of 6,500 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The daily VOC emission rate for fermentation shall not exceed 1.62 lb/1,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. When used for wine storage, 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
6. When this tank is used for wine storage, 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

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20. If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit
22. 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

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Appendix K

Public Comments and District Responses

District Response to EcoPAS Comments to SJVAPCD on ATC Project for Bear Creek Winery, Facility # N-96, Project # N-1133555, Submitted on May 30, 2014

Comment #A – Preface

The following comments are a serious indictment of the process, objectivity and honesty of the SJVUAPCD (“District”) in developing and presenting its analysis of the cost-effectiveness for controlling volatile organic emissions from wine fermentation.

We have reviewed or participated in hundreds of agency analyses and reports at the federal, state and local levels. Never have we seen a more poorly justified and documented analysis with such illogical basis and so clear a directional bias.

Numerous and significant errors identified by EcoPAS in an earlier BACT analysis were propagated by the District in the “Base Case” used for evaluating the proposed tank expansion at Bear Creek in the current application. The Executive Staff at SJVUAPCD are acutely aware of the interest of our company in the analysis of cost-effectiveness of our VOC control system, designed specifically to capture ethanol vapor (a reactive VOC) emitted during wine fermentation.

While an in-person discussion with Dave Warner was held on January 15, 2014 following a Hearing Board session, and a conference call with Mr. Warner and staff engineer Dennis Roberts was held on January 29, 2014, no mention was made to us of the current Bear Creek project. We suspect that this omission was no accidental.

Had EcoPAS been notified of the current project we would have pointed out the errors in analysis and presentation; further, we would have identified opportunities for configuring the control system to enhance its cost-effectiveness.

Recent staff re-assignments and the departure of key senior staff cause us to question whether the District currently has the expertise and institutional memory necessary to evaluate, review and properly regulate the unique source characteristics associated with primary wine fermentation, a class of major stationary source emissions of volatile organic carbon in California’s Central Valley.

Response #A – Preface

Steven Colome, Sc.D., of EcoPAS, was given notification of the project and provided an opportunity to provide cost information on January 30, 2014. Additional project specific information was provided on February 4, 2014, both via email from District employee, Dennis Roberts, as requested by Dr. Colome. The District to date has not received any project specific cost information.

Comment #A – Base Case

Rather than conducting a cost-effectiveness analysis specific to the current Bear Creek application, District staff used a seriously flawed Base Case (BC). The BC reports a highly inflated annualized cost which is used to frame the current BACT analysis. Even with

multiple errors of fact, improbable design premises, unjustified cost categories, and misapplication of the economic concept a Capital Recovery Factor – the most cost-effectiveness of the EcoPAS technology could only be pushed to \$17,818/ton of VOC removed, just past the District's current threshold.

Because of the central importance of the Base Case to the current Top-Down BACT analysis, Attachment 1 contains our criticism of the BC along with a more realistic reanalysis showing that the most probable cost-effectiveness for our technology is >\$10,000/ton VOC removed; and because of the recovery value of the ethanol combined with flavor and aroma compounds that are captured with the vapors, could well become a profit center. The reanalysis in Attachment 1 was performed using the same framework and calculations employed by the District in the Top-Down BACT analysis.

Attachment 1 shall be included as part of our public comments for Project #N-1133555.

In the BC for the current BACT analysis, the District reveals a total value of \$70,349/year for the previously redacted Recovery Credits for collected alcohol. This amount reflects a value that EJ Gallo placed on the recovered product for use as a feedstock to their brandy stills. This is an inappropriate use and value of the by-product due to loss of aroma and flavor compounds that give value to the condensate.

In the BACT analysis for the current project, the District states that they impute a value of \$25/gallon for the 60-proof dilution of our by-product (page 49). Were that number actually to have been used in the analysis as presented, the estimated market value of collected alcohol in the BC would have been a more realistic \$648,980/year (using the District's calculation). This would have yielded cost-effectiveness for PAS in the BC of \$983/ton VOC collected.

Therefore, PAS is a highly cost-effective technology if the District had simply done what it said it did in the BACT analysis.

Response #A – Base Case

See response to Comment #A – Preface.

Additionally, see responses to Comments Base Case N-1133659 in Attachment 1.

Comment #B – Errors in General Basis and Assumptions

1. The Top-Down BACT analysis for the Bear Creek facility is conducted considering only the four largest proposed new tanks. The District's justification for this is:

"If it is shown that a particular technology is not cost effective for the largest tanks, it is then assumed that it will not be cost effective for the smaller tanks"
Pages 45-46

As a vendor which provides VOC control equipment to the wine industry, along with the option for turn-key design and installation of the entire system, it is surprising that we

were never contacted by the District regarding this application. Our interest is well-known to the District in addition to our willingness to assist in the costing and analysis of PAS technology, especially since our technology is one of two evaluated in the Top-Down BACT analysis.

Instead of contacting the vendor the District made a sweeping assumption; and there is a very old saying about making unsupported assumptions, that saying certainly applies here. Using this assumption, the District addresses only 11,970 lbs. of potential annual emissions out of the total potential of 27,386 lbs. from all 29 proposed tanks addressed in the ATC.

Inclusion of the additional tanks will assist in leveling the CO2 combined flow rates and enhance total VOC capture and capture efficiency. All 29 tanks can be combined into a collection system that will be customized to the winery's tank configuration.

As we have requested for other ATC application reviews, we would need the site plot and certain other details regarding the proposed tank array to design the most cost-effective and efficient manifold system.

2. Maximum CO2 flow rates

The District knows better than to propagate the highly improbable maximum flow scenarios that are presented in the Top-Down BACT analysis. The District has previously admitted that the maximum combined tank flow scenario derived from the proprietary EJ Gallo kinetic model is unrealistic and should not be used as the engineering design basis for a control system.

This issue is important and is dealt with in greater detail in Section D below. For now, suffice it to say that the approach assumed grossly overestimates real-life flow patterns and forces an unnecessary and over-capitalized control system. The net effect is to make a cost-effective solution appear to be cost ineffective. (Also see Section D of Attachment 1)

3. Six-tenths Rule

The District incorrectly and unnecessarily applies an engineering "rule of thumb" to extrapolate from the EJ Gallo Livingston Base Case to the current application. The "6-tenths Rule" is a somewhat odd adjustment factor that lacks clear provenance or theoretical foundation. That writ, its main purpose is for crude extrapolation to the unknown, only when direct estimates or systems do not exist.

In the current case, the District could simply have picked up the phone and asked us to provide a configuration of our system that would best meet the needs of the current application.

It is completely invalid to use the "6-tenths Rule" in the current BACT analysis.

4. Engineering Costs. (See Attachment 1: 4.c page 7 of 21)

District engineering cost estimate is inconsistent with and is overestimated relative to the EPA Control Cost Manual. Components are quickly and directly integrated into an existing or new winery tank-farm with minimal engineering required. PAS assembly is substantially less expensive to install than assumed by the District, or envisioned in 2002 in the EPA Control Cost Manual for a generic VOC condenser.

Designed specifically to control emissions from wine fermentation, and unlike conventional air pollution systems, PAS is an invention comprised of standard food/beverage components that are easily assembled on-site.

The PAS system arrives fully fabricated. We proudly state that after mounts are attached "no tools are required to install the PAS because components are assembled by hand with triclamp fittings familiar to the wine industry. This allows for easy assembly and seasonal cleaning.

Use by the District of simple and unjustified "rules of thumb" is incorrect and overestimates the Total Annual Costs of the PAS units.

5. Initial Source Testing (See Attachment 1: 4.d pages 8-9 of 21)

Our system uniquely collects the "pollutant" (ethanol vapor) and condenses it into a usable product that must be reported to the US Treasury (TTB) for taxation purposes. Actual, quantifiable and integrated capture of contaminant is far superior and subject to less error and uncertainty than the approach suggested by the District. This suggested cost is unnecessary, counter-productive and overestimates the Total Annual Costs of the PAS units.

6. Owner's Cost (See Attachment 1: 4.e page 9 of 21)

Like the prior erroneous "capital adjustment factor" applied to the PAS, this expense is not an included category in the EPA Control Cost Manual. We have not been able to verify but suspect that this category may never have been applied by the District in analyses prior to the Base Case. Further, the category is redundant to other costs already included within the EPA Control Cost Manual. The effect of this uncategorized and gratuitous cost category is to overestimate the Total Annual Costs of the PAS units.

7. Project Contingency (See Attachment 1: 4.f Page 9 of 21)

This excessive charge based on an ad hoc contingency assignment of 20% of the total estimated capital investment is contrary to the 3% of Purchased Equipment Costs used in the EPA Control Cost Manual. The effect of using this ad hoc and unrealistically exaggerated contingency is to overestimate the Total Annual Costs of the PAS units.

8. Annual Source Testing (See #5 above and Attachment 1: 4.d pages 8-9 of 21)

This suggested cost is unnecessary, counter-productive and overestimates the Total Annual Costs of the PAS units.

9. Recovery Credits (RC) for collected ethanol (See Attachment 1: 4.j page 10 of 21)

Had the District followed its own template and done the math right, the Recovered Value for the potential 27,386 annual lbs. of emissions in the current application would be \$279,242. Using the incorrect District assumption that addresses only 11,970 lbs. of annual emission from the largest 4 (out of 29) tanks, the annual Recovered Value is \$122,054.

District claims that their analysis was done assuming a RC of \$25/gal for a 60-proof diluted product, while the BACT analysis presents an unsupported value of \$30,614/yr for the recovered alcohol. It is unclear how District arrived at that value, representing a significant math error.

Once again, the District is overestimating the Total Annual Costs of the PAS unit and not adjusting correctly for the recovered value of the condensate.

Response #B– Errors in General Basis and Assumptions

1. See Response to Comment #A - Preface. Having been given an opportunity to provide comment or cost information for the subject project, EcoPAS failed to provide such information.
2. The District's final decision of the Base Case Project N-1133659 has incorporated EcoPAS's assertion in this regard by basing the analysis on EcoPAS's estimated requirement for the number of PAS units required for control of emissions from the 24 tanks in the project; therefore, the revisions to the maximum CO₂ production rate is not required in this project.
3. See Response to Comment #A - Preface. EcoPAS having failed to provide comments or project specific cost information required the "6-tenths Rule" to be employed as a last resort since no better cost information was available.
4. See Response to Comment Base Case N-1133659: #A.4.c – District Analysis in Attachment 1.
5. See Response to Comment Base Case N-1133659: #A.4.d – District Analysis in Attachment 1.
6. See Response to Comment Base Case N-1133659: #A.4.e – District Analysis in Attachment 1.

7. See Response to Comment Base Case N-1133659: #A.4.f – District Analysis in Attachment 1.
8. See Response to Comment #B.5 above and Comment Base Case N-1133659: #A.4.d – District Analysis in Attachment 1.
9. Comment noted. The recovered value from the ethanol was revised to \$124,876; however, this revision has not affected the cost effectiveness determination presented in the District's final decision.

Comment #C – Capital Recovery Factor in District's BACT Policy

The following quote is from District document APR 1305, the SJVUAPCD Best Available Control Technology (BACT) Policy, Section X.A.1 on Procedures for Conducting Cost-Effectiveness Analysis of Technologically Feasible Alternatives.

"Calculate an equivalent annual cost from a capital cost using a capital recovery factor as shown below:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} \text{ where;}$$

- A = Equivalent Annual Control Equipment Capital Cost
- P = Present value of the control equipment, including installation cost
- i = interest rate (use 10%, or demonstrate why alternate is more representative of the specific operation).
- n = equipment life (assume 10 years or demonstrate why alternate is more representative of the specific operation)" Emphasis added

The District's written policy recognizes the variable quality of the interest rate and equipment life as inputs to the Capital Recovery Factor. Further, the District has had ample demonstration for why better alternatives to the 10/10 default assumption are more appropriate for this analysis.

1. Interest rate, i

We know of no other public agency currently using a value of 10% discount rate to evaluate cost-effectiveness.

The value of 10% is outdated and is not reflective of either private or public money costs. Per statute CARB updates the cost-effectiveness limit and capital recovery factors (CRF) annually. For 2014 CARB continues to use a discount rate of 1% with a revised cost-effectiveness limit of \$17,720.

EPA uses the values reported by the Office of Management and Budget (OMB), the federal agency that annually updates interest rates for use in project evaluation⁸.

OMB reports both nominal and real discount rates for projects of different duration. Nominal rates are the same as market rates and typically used for lease-purchase analysis. Real discount rates remove the inflation premium and are “often required in cost-effectiveness analysis”. Below is a Table of Nominal and Real interest rates for 10 and 20 year projects.

Table C-1: Real and Nominal Discount Rates (%), 2014
(OMB Circular No. A-94)

	10-Year Project	20-Year Project
Real Discount Rate	1.0%	1.6%
Nominal Discount Rate	3.0%	3.6%

Clearly, the District’s continued use of a 10% discount rate represents an extreme outlier among public agencies. The 10% value does not represent current rates and biases results, making cost-effective solutions appear to be cost-ineffective.

Most significantly, continued use by the District of an outdated 10% CRF serves to discourage new and innovative pollution controls that will serve to assist in cleaning up the serious and persistent air quality problems in the Central Valley.

2. Equipment Life, n

The District has also received ample evidence for why ten years is an incorrectly short life expectancy for PAS VOC controls. Use of a ten year life is also inconsistent with the EPA Air Pollution Control Cost Manual. The EPA Manual gives default equipment life for a generic condensing control system of 15 years.

Fifteen years is a minimum feasible life for the PAS system. There are no moving parts (including motors, fans, or pumps) integral to the control unit. The body of the unit is fabricated from food-grade stainless steel and while in-use, pressures and temperatures within the system are moderate. Compared with other types of pollution control equipment, which operate under more extreme conditions of temperature and pressure, it is reasonable to assume a product life of at least 25 years for the PAS.

In sum, the District is incorrectly applying the economic concept of a Capital Recovery Factor, is not using values of equipment life and current interest rates (*i*) consonant with other public agencies including CARB, EPA and the Office of Management and Budget.

The net effect of using an unrealistic discount rate and incorrectly short equipment life-expectancies is to make a very cost-effective control solution appear to be cost-ineffective.

As such, the District is establishing itself as an extreme outlier among public agencies and is actively discouraging the adoption of innovative new control technologies.

Response #C – Capital Recovery Factor in District's BACT Policy

See Response to Base Case N-1133659: #C – Capital Recovery Factor in District's BACT Policy in Attachment 1.

Comment #D – Unrealistic Estimate of Maximum CO2 Production Rate

The District has used a highly improbable flow condition to report potential maximum CO2 flow rates in the current BACT analysis. We will show in this section just how unrealistic is this estimate. The District is fully aware of the improbable conditions established in the simultaneous maximum flow condition derived from Gallo's proprietary CO2 flow model. The problem is that the District continues to propagate an unrealistic calculation of multitank maximum combined fermentation activity (and therefore CO2 flows).

It is quite simply bad engineering and bad public policy to use these conditions to design a control system. Clearly, the purpose of posing an extreme and improbable flow condition is to suggest need for an over-sized and over-capitalized system that will have difficulty meeting cost effectiveness criteria. This would be like oversizing a dam or revising building codes to require structures sustain Richter 11 ground shakes.

As usual, the District continues to state peak flow rates without a time constant, in spite of the fact that they have been repeatedly reminded that a flow rate is not useful for engineering design in the absence of a time constant. The individual-tank peak flow rates as calculated by the EJ Gallo proprietary model are not consistent with production of quality wines; and any good winemaker will avoid overly rapid fermentation activity characterized by the flow rates reported in the proprietary kinetic model.

Why that model is still proprietary is somewhat of a mystery to us. The basic stoichiometry has been known for over a century and modeling and measurement activities have been reported in the literature, including our own sensitive mass-flow meter measurements taken in a commercial winery reported in a public abstract.

In our study we reported results from direct CO2 flow measurements made within a commercial winery during normal wine production operations. We found that the integrated mass of CO2 released to the atmosphere during primary fermentation is dependent on the total sugar consumed (0 Brix reduction) and not the fermentation duration. We also found that the time course of CO2 release can be complex and is primarily dependent on the length of active fermentation.

The worst-case peak tank flow scenario as envisioned and calculated in the EJ Gallo proprietary model, and referenced repeatedly by the District, represents exceedingly short and higher-temperature ferments not consistent with good winemaking practice.

So let's explore what would be required to achieve the maximum combined vapor flow of 1,932 scfm as reported by the District for the four largest fermentation tanks proposed for Bear Creek.

We must start with 4 empty fermentation tanks.

To achieve the theoretical flow reported by the District, each of the four (4) 210,000 gallon tanks would need to be filled to capacity (stated as 95% maximum fill).

For calculation we will assume:

1. 24.5 tons/truckload of grapes
2. Approximately 175 gallons must (grape juice)/ton of grapes for a quality white wine

Therefore,

$4 \text{ tanks} \times 210,000 \text{ gal/tank} \times 95\% \text{ fill} = 798,000 \text{ gallons must}$

$798,000 \text{ gallons} / (175 \text{ gal/ton}) = 4,560 \text{ tons of grapes}$

$4,560 \text{ tons} / (24.5 \text{ tons/truckload}) = 186 \text{ truckloads of grapes}$

While these four tanks may be in various stages of fermentation at any particular time during a harvest season, it is virtually impossible that they are all peaking at the same instant. Furthermore, this scenario would require that the winemakers planned for all four tanks to complete fermentation faster than desired to achieve the highest value for the harvested grapes.

For that scenario to happen, all 4 tanks would need to start empty - something likely only at the start of the season. Then 4,560 tons of grapes would need to be picked by the harvest crew, loaded into 186 double-bed trucks, travel in caravan to the Lodi winery and line up to be processed at the facility's crushers/de-stemmers.

To complete this scenario, the 186 truckloads would need to be instantly processed and all 4 tanks filled at one time. Not a realistic condition.

Nutrients and yeast would be added simultaneously to the 4 large tanks which would need to be at the same starting temperature to peak at the same time. Normal biological variation would need to be minimal for all fermentations to peak at the same time.

Not only is this scenario highly unlikely due to physical constraints, but the winemaker will do everything possible to avoid this scenario in order not to reduce the value of over a quarter million gallons of wine to its lowest possible dollar/gallon price.

Response #D – Unrealistic Estimate of Maximum CO2 Production Rate

The District's final decision of the Base Case Project N-1133659 has incorporated EcoPAS's assertion in this regard by basing the analysis on EcoPAS's estimated requirement for the number of PAS units required for control of emissions from the 24 tanks in the project; therefore, the revisions to the maximum CO2 production rate is not required in this project.

Comment #E – District's Current Wine Fermentation BACT

The District's BACT for wine fermentation is to "require" average fermentation temperatures be maintained below 95 degrees F. This is in recognition that temperature IS the most significant variable affecting the atmospheric release of ethanol vapors for most commercial wine fermentation. In fact, this relationship is quite nonlinear.

District emission factors for wine fermentation are derived by the California Air Resources Board and adopted in District Rule 4694.

These emission factors are:

Red wine: 6.21lbs./1000gal at 78°F and 21.8°Brix reduction
White wine: 2.5lbs./1000gal at 58°F and 20.4°Brix reduction

It is also recognized by the District that:

" ... as fermentation temperature increases, ethanol loss increases *exponentially*"
emphasis added

Note in the example above for red vs. white emission factors that a 20°F difference in fermentation temperature (58°F to 78°F) results in a 2.4 fold increase in emissions (not counting the slight difference is assumed sugar consumption).

Should wine be processed at the District's current BACT of 95°F, VOC emissions to the atmosphere would be several-fold higher than 6.2lbs/1000gal.

While BACT is reported to be "the most stringent control technique for the emissions unit and class of source", it must be recognized that this BACT policy represents no control at all; for good winemaking practice calls for temperatures of both red and white wines be maintained below this temperature.

We have asked the District for written protocols on how temperatures are recorded and reported to the District, and none have been produced to date. Starting times for temperature recording are also not specified (e.g., following tank-fill with must, or following yeast inoculation, or once sugar consumption is first detected).

There are multiple options for placement of thermal wells and for the timing and frequency of temperature recording which all affect the calculation of average fermentation temperature.

The District uses separate emission factors for red and white wine under the assumption that white wines are typically fermented at lower temperatures. However, the District has not set a separate and lower temperature for fermentation of white wines in spite of the fact that the District must assume lower fermentation temperatures to rely on the lower 2.5 lbs/1,000 gallon emission factor used for emission models.

We have asked the District multiple times whether temperatures are reviewed by the District for white wine fermentations and have not received a direct answer. If white wines are processed primarily for ethanol markets, therefore at the lowest price points, it is possible that they will be fermented at higher temperature in order to shorten time in the fermentation tanks. In that case, emission rates would begin to approximate those for normal red wine fermentations.

District BACT analysis identifies the SJVUAPCD BACT Clearinghouse Guideline 5.4.14 for wine fermentation BACT as a Maximum Average Fermentation Temperature of 95°F. While this term is consistent with the one-page Clearinghouse Guideline for this emission source, it is undefined mathematically and as such is meaningless. The term is inconsistent with the draft Authority to Construct Condition, which states: "The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation".

More telling is the fact that the Compliance Department memo, for inspection of tanks involved in the fermentation of wine (COM 2293, dated April 3, 2012 and signed by Morgan Lambert), does not directly mention the role of the field inspector in monitoring and reviewing compliance of wineries for this wine fermentation BACT requirement.

The lack of definition, conflicting terminology, and lax monitoring or recording of values by inspectors underscore the fact that this is a meaningless control measure that is not treated seriously by the District.

Response #E – District's Current Wine Fermentation BACT

A red wine fermenter typically operates at a much higher throughput and produces significant more emissions (i.e. higher emission factor) relative to a white wine fermenter of the same size. Therefore, the cost effectiveness determination for red wine is much more favorable in terms of cost effectiveness for a control device than white wine so the BACT determination, at the moment, focuses only on red wine fermentation. If a control technology is determined to be cost effective for red wine, then the control technology will also be analyzed for white wine.

District Response to NohBell Comments to SJVAPCD on ATC Project for Bear Creek Winery, Facility # N-96, Project # N-1133555, Submitted on June 3, 2014

Comment #1

This document is submitted pursuant to the public notice regarding San Joaquin Valley District facility # N-96 project# N-1133555. The District BACT analysis related to Rules 2201 and 4694 reveals erroneous methodology on economic factors specified in the EPA Control Cost Manual Sixth Edition (EPAI452/B-02-001).

Fundamentally, the District BACT analysis is incomplete based on abbreviated cost methodology extrapolated from an erroneous base case.

As a base case the District employed data from facility# N-1237 project N-1131615 24, 56,000 gallon red wine tanks, then applied a 6/10ths rule and adjusted for maximum flow rate from 6.2 lbs red to 2.5 lbs white. The direct and indirect calculations were then applied to only the largest 4, 210,000 gallon tanks assuming economies of scale apply to the largest tanks. The problem with this assumption is that one time direct costs associated with the entire facility in the analysis are applied to only those 4 tanks....

Response #1

Project specific cost information from NohBell was requested of Andrew Fedak via email on February 10, 2014 from District employee Dennis Roberts. The District, to date, has not received any project specific cost information. Therefore, not having better cost information, the District was required to employ the 6/10ths rule as a last resort in order to perform a cost analysis of NohBell's absorption technology.

Comment #2

...The operator costs imply that 5 NoMoVo units will be required for the 4 tanks that are evaluated.

This implies a pre-tax cost per unit of $(616,594/1.08225)/5 = \$113,947$. This is nearly double the cost of the units in the base case evaluation.

Response #2

The tanks in the proposed project are larger in capacity with a larger throughput than the tanks in base case N-1237, 1131615; therefore, scaling the units results in a higher cost per unit for units that are expected to be larger to serve the larger capacity and throughput.

Comment #3

The number of NoMoVo units estimated to be required are not representative of the requirement based on the actual size and number of tanks in the permit, but rather extrapolated as a function of the tanks listed in the base case. All of the tanks in the base case are uniform in size and capacity but the tanks listed in the Bear Creek Winery differ in

size. NoMoVo systems are optimized for cost effectiveness based on fermenting gallons and require more considered evaluation of the winery design to accurately estimate cost effectiveness. The difference in peak flow rate between red wine and white wine affords the use of fewer NoMoVo systems than used in red wine fermentation abatement.

The actual number and size of the tanks included in the permit application are transposed below.

Tank Size	Quantity of Tanks	Fermentation Cycles per Season
6,500	8	6
13,400	7	6
46,000	2	6
51,000	4	6
160,000	4	6
210,000	4	6

Response #2

See response to Comment #1.

Additionally, as stated in the application review, "the BACT analysis is first performed based on considering only the largest 210,000 gallon tanks. If it is shown that a particular technology is not cost effective for the largest tanks, it is then assumed that it will not be cost effective for the smaller tanks (since the potential emissions are linear with tank size and there will be a loss of economy of scale for smaller tank sizes).

Also, as stated in the application review, "since the tanks in this project are white fermenters versus the red fermenter considered in base project N-1131615, the capacity of white fermentation tanks were adjusted to an equivalent red fermenter flow basis in order to recognize 1) that the peak flow from white fermentation is substantially less than that of red fermentation per gallon of fermenting must and 2) that the maximum percentage fill of the tank for white fermentation is greater than that for red fermentation (more gallons of must will be in the tank when conducting a white fermentation)."

Comment #3

In addition, the BACT analysis reveals incomplete understanding of the costs related to the NoMoVo system design, installation and operation. NoMoVo is a patent pending invention, with which NohBell Corporation, in cooperation with wineries operating in varying environments throughout California has been capturing fugitive ETOH since 2009. Proven, replicated, documented, verifiable test results should have preferential influence in evaluating the proposed cost effectiveness of the project, rather than the opinions of third party engineering firms without knowledge of the NoMoVo invention and its design, capability or operation.

Response #3

Comment noted.

Comment #4

The District neglected to modify the effective tax rate from 8.225% to 3.3% per California Law, an equipment amortization period from 10 to 15 years, and an effective interest rate from 10% to 7% per CARB and EPA.

Response #4

With a reduced effective tax rate per California Law, the absorption technology remains not cost effective.

Additionally, since essentially the formation of the San Joaquin Valley Air Pollution Control District in the early 1990's, the District has consistently used a 10% discount rate and a 10 year equipment life in cost effectiveness calculations. These are the standard default values listed in District Policy APR-1305. Although APR-1305 allows consideration of other values for these parameters, to the District's knowledge, no other values have ever been used in any District analysis. A 10% discount rate and a 10 year equipment life represent financially conservative values consistent with the District's conservative and cautionary approach when imposing new controls (with substantial technical and socio-economic unknowns) on businesses in the San Joaquin Valley. Given the District's consistent history of using only the conservative default values, the District would be irresponsible to implement significantly different values for a specific project. While the values may not reflect current economic conditions, the District would only implement changes in the precedent-based use of APR-1305 after substantial study of the socio-economic impact and public input. The District has used the appropriate discount rate and equipment life for this project based on established precedent and a conservative approach with respect to imposing new technology on businesses in the San Joaquin Valley.

Comment #5

The data Noh Bell is submitting in this response to the public notice is based on empirical data recorded in tests throughout California. These tests were conducted in commercial wineries on multiple tanks and operating environments representative those in the San Joaquin Valley from 2009 through 2013.

NoMoVo has been in continuous operation for 5 complete crush seasons at commercial wineries in California. Successful tests were completed on similar tanks to those indicated in this project description. In the 5 years of NoMoVo operations, there has never been an instance of negative impact on wine quality, style characteristics, or cross contamination of wine batches, either when controlling single tanks or multiple tanks with a single control device. The systems are cleaned in place and have demonstrated all industry standards for sanitation. A summary of recorded work and Achievements in Practice for this size and scale of winery is available upon request.

Response #5

Comment noted.

Comment #6

Noh Bell Corporation requests a comprehensive BACT analysis based on empirical cost data accumulated through years of operation rather than conceptual modelling.

Response #6

See response to Comment #1.

District Response to Environmental Protection Agency (EPA) Comments to SJVAPCD on ATC Project for Bear Creek Winery, Facility # N-96, Project # N-1133555, Submitted on June 16, 2014

District Response – Evaluation of Achieved in Practice Controls

On May 5, 2014, EPA provided a comment letter for project N-1133659 in which the comments provided are applicable to the subject project by reference in EPA's comment letter on June 16, 2014 for the subject project. See the Districts response in Attachment 2.

District Response – Cost of a Thermal Oxidizer

In EPA's June 16, 2014 comment letter, EPA commented that "the District should use the most recent cost data available, and if necessary adjust those costs to current year dollars using an appropriate cost index, such as the Chemical Engineering Project Cost Index."

The District obtained a recent cost proposal from the applicant dated September 12, 2014 from Adwest Technologies, Inc. and updated the cost analysis of the technically feasible option. The updated cost analysis still shows the thermal oxidizer option as not cost effective.

District Response – Cost Manual Methodology

In EPA's June 16, 2014 comment letter, EPA questioned the use and amount allowed for owner's cost and project contingency.

The District utilized the installation costs provided by EcoPAS for their specific condensation technology as a basis for the cost effectiveness analysis rather than generic EPA installation factors. However, the District recognized that the EcoPAS installation costs were strictly a vendor's concept of installed cost for control equipment which has only been pilot tested and not yet installed for full commercial operation and therefore significant uncertainty existed in the estimated costs. Additionally, the District determined that some essential scope elements were missing from the EcoPAS estimate or were not appropriate to a vendor's turnkey estimate. Based on this the District incorporated the EcoPAS installation cost estimate into the cost effectiveness analysis along with the following modifications and additions:

- The District discarded EcoPAS's estimate of "administrative costs and contingency" (representing a combined allowance for both owner's costs and contingency) and replaced it with separate values of each item as estimated by the District.
- Since owner's costs cannot be included in a vendor's turnkey quotation (vendor has no control of these costs and no basis to estimate them for a particular project or owner), the District included a cost of \$100,000 in the estimate based on District staff experience and good estimating practice.
- Given the significant uncertainty in the estimate and in consideration of the conceptual nature of the estimate, the District set the appropriate contingency at

- Given the significant uncertainty in the estimate and in consideration of the conceptual nature of the estimate, the District set the appropriate contingency at 20% of direct costs consistent with industry norms for conceptual estimating and with good engineering practice.

The District maintains that an appropriate cost effectiveness analysis has been performed for this project, consistent with all applicable rules, regulations and District policies, and in accordance with good engineering practice and process industry norms for preparing conceptual cost estimates.

District Response – Use of Six-Tenths Rule

The District provided notification of the project and requested design and cost information from both condensation and absorption control technology vendors on January 30, 2014 and February 10, 2014 respectively. To date, the District has not received any project specific cost information; therefore, not having better cost information, the District was required to employ the 6/10ths rule as a last resort in order to perform a cost analysis of the respective technologies.

District Response – 10-Year Equipment Life

Since essentially the formation of the San Joaquin Valley Air Pollution Control District in the early 1990's, the District has consistently used a 10% discount rate and a 10 year equipment life in cost effectiveness calculations. These are the standard default values listed in District Policy APR-1305. Although APR-1305 allows consideration of other values for these parameters, to the District's knowledge, no other values have ever been used in any District analysis. A 10% discount rate and a 10 year equipment life represent financially conservative values consistent with the District's conservative and cautionary approach when imposing new controls (with substantial technical and socio-economic unknowns) on businesses in the San Joaquin Valley. Given the District's consistent history of using only the conservative default values, the District would be irresponsible to implement significantly different values for a specific project. While the values may not reflect current economic conditions, the District would only implement changes in the precedent-based use of APR-1305 after substantial study of the socio-economic impact and public input. The District has used the appropriate discount rate and equipment life for this project based on established precedent and a conservative approach with respect to imposing new technology on businesses in the San Joaquin Valley.

District Response – Offsets Required

Section 4.7.1.1 of District Rule 2201 states that the quantity of offsets required shall be calculated as $PE_2 - BE$. Additionally, District Policy APR-1420 (NSR Calculations for Units with Specific Limiting Conditions) states that when a new emission unit is added to an existing SLC, the quantity of offsets required is based on the difference between the post-project PE_{SLC} and the BE_{SLC} . Pursuant to section 3.8.1.4 of District Rule 2201, BE_{SLC} is equal to PE_{SLC} for clean units.

As shown in the application review document for this project, all units covered under the existing SLC are clean; therefore, $BE_{SLC} = PE1_{SLC} = 242,165$ lb-VOC/year. Furthermore, sections 4.9.1.2 and 4.10.1.2 of District Rule 2201 state that for units subject to an SLC, the PE for all units covered under the SLC shall be based on the overall PE of the SLC, not the sum of the individual units under the SLC. Since the applicant is not proposing to change the existing SLC, $PE2_{SLC} = 242,165$ lb-VOC/yr. Therefore, in accordance with District Policy APR-1420, the quantity of offsets required for this project is $242,165$ lb-VOC/yr $- 242,165$ lb-VOC/yr = 0. District Policy APR-1420 was adopted in 2007, but the guidance provided within it has been in use since 2002. In summary, our Baseline Emissions and quantity-of-offset determinations are consistent with District Rule 2201 requirements.

While an implementation of Federal New Source Review would require offsets to be provided in this specific case; District Rule 2201 does not. As you know, section 7 of Rule 2201 includes a requirement for an annual offset equivalency demonstration. This requires that the District demonstrate, on an annual basis, the quantity of offsets required under District Rule 2201, including any excess offsets required from previous reporting years (pursuant to section 7.1.2 of District Rule 2201), is at least equivalent to the quantity of offsets that would have been required under Federal New Source Review and the Clean Air Act. Since the date these provisions were incorporated into District Rule 2201, the District has been able to make such an equivalency demonstration.

Attachment 1

District Responses to EcoPas Comments on ATC Project N-1237, 1133659

District Response to EcoPAS Comments to SJVAPCD on ATC Project for E & J Gallo Winery, Facility # N-1237, Project # N-1133659, Submitted on May 5, 2014

Comment #A.1 – District BACT for Wine Fermentation

District BACT analysis identifies the SJVUAPCD BACT Clearinghouse Guideline 5.4.14 for wine fermentation BACT as a Maximum Average Fermentation Temperature of 95°F. While this term is consistent with the one-page Clearinghouse Guideline for this emission source, it is undefined mathematically and as such is meaningless. The term is inconsistent with the draft Authority to Construct Condition in the Notice of Preliminary Decision, which states: "The average fermentation temperature of each batch of must fermented in this tank shall not exceed 95 degrees Fahrenheit, calculated as the average of all temperature measurements for the batch taken at least every 12 hours over the course of the fermentation".

More telling is the fact that the Compliance Department memo, for inspection of tanks involved in the fermentation of wine (COM 2293, dated April 3, 2012 and signed by Morgan Lambert), does not directly mention the role of the field inspector in monitoring and reviewing compliance of wineries for this wine fermentation BACT requirement.

The lack of definition, conflicting terminology, and lax monitoring or recording of values by inspectors underscore the fact that this is a meaningless control measure that is not treated seriously by the District.

Response #A.1 – District BACT for Wine Fermentation

The fermentation data are collected every 12 hours during the fermentation period, at a minimum. The data can be collected as grab samples or by in tank thermocouples.

Comment #A.2 – Vapor Flow Rate/EcoPAS Analysis

District presents a scenario leading to a maximum combined flow rate of 6,926 scfm for the project during peak fermentation. This issue has been discussed previously in relation to Project N-1131615, with the District admitting that the maximum flow is unrealistic. In fact this scenario is so improbable as to be absurd.

In short, the scenario requires that all 24 fermentation tanks start empty, are instantaneously filled to 80% tank capacity with approximately 5,250 tons of crushed and destemmed grapes and inoculated simultaneously with yeast; then all tanks reach maximum CO₂ flow in unison 23-27 hours later.

The scenario would be no more than an amusing thought experiment if it were not for the fact that the applicant calculated and used the maximum flow rate of 6,926 scfm to define the physical and capital requirements for a hypothetical control system. This is a bit like designing a dam to hold a once-in-100,000 year flood or requiring that buildings be built to withstand an earthquake of greater than 10 on the Richter Scale. It is simply bad engineering and poor public policy.

The District knows better but continues to propagate an unrealistic flow estimate that leads in part to the applicant's impossibly high estimate for cost per ton of VOC removed. While the applicant has an incentive to overestimate control costs, the District has a professional and public responsibility to identify impossible scenarios and cost projections that are based on unreasonable and overpriced design considerations.

Later we describe how the Passive Alcohol System is designed to handle all potential fermentation flow conditions, with capacity requirements far less than projected by the applicant, and at a cost-effective investment.

The District re-applied an analysis of the EcoPAS control system (Project N-1131615 at the same Gallo facility) "as if it were submitted for this project." EcoPAS was not informed of this impending application nor invited to assist the District in development of a more accurate and professionally defensible cost-effectiveness analysis, despite knowledge by District staff and management of our interest.

Numerous and significant errors identified by EcoPAS in the initial BACT analysis have been propagated here. Both the applicant and Executive Staff at SJVUAPCD were acutely aware of the interest our company has in the analysis of cost-effectiveness of our VOC control system, designed specifically for wine fermentation. While a face-to-face meeting with Dave Warner was held on January 15, 2014 and a conference call with Mr. Warner and staff engineer Dennis Roberts was held on January 29, 2014, no mention was made to us of the current Gallo project. We suspect that this omission was not accidental. We did not have the opportunity to address serious errors in analysis, described herein, prior to release of the Notice of Preliminary Decision.

It is likely that a deliberate decision was made to keep the current project from our attention, preventing correction of obvious errors and the opportunity to update and improve the accuracy of the cost-effectiveness BACT analysis.

Had EcoPAS been notified of the current project we would have pointed out the errors in analysis and presentation; further, and based on the initial analysis, we would have identified opportunities for configuring the control system to ensure cost-

effectiveness. Additional specific comments for this section of the BACT analysis follow:

- a. The analysis from EcoPAS suggests that the preferred configuration for cooling the ethanol vapor is through tie-in to the winery's central chiller; this is clearly the most cost-effective and rational approach to providing chilling capacity to our PAS system. For Project N-1131615 the applicant claimed that "the current systems at the facility are fully utilized." For the present application the same claim was repeated. This claim is no longer credible since each application was for new fermentation and storage tanks, and the chilling capacity at the facility would need to be resized to supply the new tanks. The applicant can get away with that excuse once, but the second claim strains credulity.

A rational applicant would minimize capital and operating expense by sizing the added chilling capacity to accept the small incremental demand of the PAS control equipment. Nonetheless, we allow for a stand-alone chiller in the current application in the cost analysis, while recognizing that the applicant would ultimately choose to integrate the systems for a cleaner and more cost-effective solution.

- b. On page 3 of the Top-Down BACT analysis, District presents an unreadable version of a clean spreadsheet supplied by EcoPAS. In this analysis we show how in a short season of fewer than 80 fermentation days, the total requested fermentation capacity could be handled by four PAS units. This analysis presents a reasonable worst-case scenario for design of our ethanol (VOC) control system. While the applicant claims the intended purpose for the fermentation tanks is to produce higher quality wine, fermented over 5-8 days, we project the capacity to collect emissions using PAS during a rolling fermentation for worst-case, high-CO2 flow, fermentation cycles of 2-3 days.

Response #A.2 – Vapor Flow Rate/EcoPAS Analysis

The District concurs with EcoPAS's assertion that the maximum combined flow rate provided by Gallo most likely overstates the requirements for the sizing of the control device and that reasonable operating practices combined with a probability analysis could yield an actual design basis with a substantially smaller flowrate. For purposes of the analysis, the District's final decision has incorporated EcoPAS's assertion in this regard by basing the analysis on EcoPAS's estimated requirement for the number of PAS units required for control of emissions from the 24 tanks in this project.

- a. Comment noted. If the chiller cost was removed from the analysis, the condensation option would be still considered not cost effective.

- b. The District's final decision has incorporated EcoPAS's assertion in this regard by basing the analysis on EcoPAS's estimated requirement for the number of PAS units required for control of emissions from the 24 tanks in this project.

Comment #A.3 – District Presentation of Gallo Analysis

- a. Gallo indicates that while the proposed project is designed for production of premium wines with 5-8 day fermentation cycles, the fermentation cycle could be "aggressive" and completed in 2-3 days. EcoPAS approach is sized for a realistic worst-case 2-3 day fermentation cycle. The District could condition the permit to assure a reasonable maximum flow rate of CO2 without major interference with winemaking or grape delivery. Currently, the District restricts single tank VOC emissions to 3.46 pounds per 1,000 gallons tank capacity. A multi-tank limit could easily be designed and extended to ensure optimal flow conditions.
- b. Gallo represents that "grapes may not arrive in the quantities planned and tanks may be filled in groups at one time causing them to reach peak fermentation at the same time with variations in the fill quantity". This issue is discussed in greater detail in Section D. Winemakers have a number of tools available in order to stage fermentations, including timing of yeast inoculation and cold-soaking grapes to delay start of fermentation. District has the opportunity to place simple conditions on the ATC to ensure such staging. Alternatively, incentives could be placed on applicant to minimize emissions by imposing an emission fee for flow conditions that exceed the maximum design flows of the control system.
- c. Gallo presented to the District operating data on tank utilization from June-September, 2013 for 24 red wine tanks. We asked for a copy of the letter to the District from Gallo dated September 26, 2013 but were told the information is considered confidential by the applicant. Despite the lack of detailed information on the specific case identified by Gallo, our system is designed to handle the general conditions specified in the paragraph.
- d. The BACT analysis states: "Gallo Winery has provided a cost effectiveness analysis based on four condensers as quoted by the control technology company."

This statement is incorrect.

The Gallo cost analysis is presented in Attachment C of the District's BACT analysis. In that section Gallo bases their cost estimate deploying a total of 24, not 4 control units. This is part of the reason for the extremely inaccurate and

unrealistically high cost/ton control estimate generated by the applicant and included in the District's discussion of the EcoPAS cost-effectiveness.

- e. District states that Gallo says fire code requires a 25 foot radius from a control device. While that distance is correct for an indoor application, the requirement for an outdoor installation is a 10 foot radius to meet Class I, Division II Fire Code Standards. This error was previously pointed out to the District. EcoPAS is aware of the code requirements for our equipment and the system is designed to meet all applicable standards.
- f. Gallo claims that our control devices would need a Clean-in-Place (CIP) system in the event of a foam-over.

This is incorrect as a foam-over preventer is incorporated in and budgeted with the PAS design.

- g. Furthermore, modern winemaking practices have greatly reduced the likelihood of foam-overs which have been held up for over three decades by certain members of the winemaking community as the 'bogeyman' for emission controls. Good winemaking practice, modern yeasts, and working controls have greatly reduced the costly losses that result from fermentation foam-overs.
- h. An analysis of modeled costs provided to Gallo by Eichleay Engineers was made without detailed knowledge of the specific invention, application and operating requirements of the PAS controls. As such the analysis is highly unrealistic, if not frankly biased, in presenting adjustments to equipment and installation costs. As previously mentioned, the Gallo estimate increases the appropriate number of 4 control units to an unrealistic 24 units. This adjustment is a capital penalty that makes a cost-effective solution appear to be cost-ineffective.

The District should have noticed the increase in control units and dismissed the applicant's cost estimate. Instead the District erroneously claims the cost estimate from Gallo was based on four control units.

In December 2013 we were contacted by Eichleay Engineers to discuss the PAS and its winery application. Due to multiple previous misinterpretations of the requirements and use of our system, we invited questions in writing and submitted through the SJVUAPCD in order to keep all communications clear, open and on the record.

Response #A.3 – District Presentation of Gallo Analysis

- a. See response to Comment #A.2.b.

- b. A bulk production winery can receive grapes from more than a 100 mile radius from the facility. This makes the control of raw material entering the winery complex. For example, a 300,000 gallon tank may not receive enough grapes of a specific variety on any given day to completely fill the tank. The tank will still be inoculated to begin the fermentation process. Several days later, additional grapes of the same variety may be received and added to the tank. This results in a saw tooth fermentation curve compared to an idealized fermentation cycle. A bulk producer may need to split the grapes into multiple tanks that are partially filled to meet customer contract requirements for specific products at specific schedules. Factors beyond the control of the winery, such as weather which results in rushed fermentations to avoid grape spoilage, contract disputes, logistics of handling large amounts of juice, mis-estimates of amount of grapes in the field, etc., can result in more vessels in fermentation mode than originally planned. Therefore, flexibility is required to ensure operations run smoothly and business demands are met. Although bulk production wineries can control the raw material to a certain extent, grapes are a perishable material so a bank of fermenters must be available for use at any given time.
- c. Comment noted.
- d. Comment noted. The Gallo cost analysis is based upon 24 condensers.
- e. The District's analysis has only identified NFPA electrical area classification requirements as an undetermined potential additional cost impact for the project. The District believes that this potential cost impact is an applicable consideration for this project and would remain applicable until sufficient engineering design is completed to establish the actual requirements. Since the District has not included costs for any such impacts in the cost-effectiveness analysis, these considerations have not affected the cost effectiveness determination presented in the District's final decision.
- f. All wineries must practice sanitation techniques and prevent wine spoilage or cross contamination to meet the requirements of Alcohol and Tobacco Tax Trade Bureau (TTB) and US Food and Drug Administration (FDA). Tanks, pipes, ductwork and other various wine handling equipment would all need to be cleaned to meet these requirements. Microbes can and have spoiled wine. One particular microbe, *Zygosaccharomyces bailii*, is a well-known bacteria that has a high tolerance for alcohol. Therefore, wine handling equipment cannot be assumed to be self-cleaning due to the alcohol content, and does require periodic cleaning and maintenance.

- g. Foam overs occur when a tank is overfilled and the resulting fermentation liquid volume creates enough gas to overflow the tank. The precise mechanism of how foam overs form is not very well understood. Foam overs are extremely complex and the exact basis of the cause and prevention mechanisms are not well known. One theory indicates foam overs occur due to large amounts of press wine in the blend. Large wineries use a combination of screw and bladder presses to produce a tighter yield. This extracts more components from the raw material which many believe result in a higher rate of foam overs. Small wineries typically just use bladder presses and do not press the product as tightly extracting less components from the seeds and skins. In large fermentation tanks, a temperature gradient of 15 degrees Fahrenheit has been observed. The bubbles rising in the tank experience a higher hydraulic pressure in the bottom of the tank compared to the top which causes the bubbles to expand at the top contributing to foam. In small tanks, typically temperature gradients do not occur so foam overs are generally not an issue.
- h. The District's cost analysis uses 4 control units in the cost effectiveness determination. The Gallo cost analysis does not affect the cost effectiveness determination presented in the District's final decision.

Comment #A.4 – District Analysis

- a. The District control efficiency estimate of 81% applied to our system has been a long-standing estimate used by the District to estimate the efficiency for generic condensing and scrubbing systems. While we exceed that value in non-optimized pilot runs in a commercial winery, we will calculate cost-effectiveness based on this relatively low capture and control efficiency value. In a working installation our equipment will exceed this value and prove to be even more cost-effective.
- b. The District stated that "EcoPAS has provided site-specific costs for the proposed scope of supply (see Attachment C)".

This is not true.

Attachment C represents an unrealistic cost estimate provided by the applicant Gallo and is attributed to Dan Slagel, dated 10/27/2013. This estimate was generated without specific knowledge of the capacity, installation and operating requirements, or associated costs for the EcoPAS VOC control system.

EcoPAS has provided to the District site-specific costs, including a provisional turn-key cost estimate, producing a cost-effectiveness estimate of \$13,265.5 The District, for some reason avoided inclusion of our analysis.

- c. District has calculated engineering costs at "5% of total direct cost exclusive of city/county plan check costs". This leads to a District estimated \$105,000 in engineering expenses for the project. This estimate is too high and is drawn from thin air without respect to the unique design and straightforward installation requirements of the PAS control equipment.

PAS assembly is substantially less expensive to install than assumed by the applicant, or even envisioned in 2002 in the EPA Control Cost Manual for a generic VOC condenser.

Designed specifically to control emissions from wine fermentation, and unlike conventional air pollution systems, PAS is comprised of standard food/beverage components that are simply assembled on-site.

The PAS system arrives fully fabricated. Engineering is required for structural and earthquake based on a mounting system of the client's choice. We proudly state that after mounts are attached "no tools are required to install the PAS" because components are assembled by hand with triclamp fittings familiar in the wine industry. This allows for easy assembly and seasonal cleaning.

Envisioned by Gallo and Eichleay Engineers in their cost estimates is a far more complex system and installation.

EcoPAS consulting engineers with extensive experience in the food and beverage industries, and with knowledge of installation and operating requirements of our system, have estimated more realistic engineering costs for this installation of \$24,653. Direct engineering estimates are superior to proportionate assumed costs and should therefore be used.

On multiple occasions we have offered to work with the District, in concert with the applicant, to assist in understanding a more realistic estimate of engineering requirements for the PAS.

- d. The District states: "Due to unsteady state operation of fermentation tanks.....An additional cost of \$15,000 per unit will be assumed for initial source testing". This budget assessment is unrealistic for several reasons:
1. SJVUAPCD does not currently require source testing of winery emissions in the District, relying instead on separate emission factors for red and white wine. (Emission-factor EtOH)
 2. Ethanol removed from fermentation exhausts by PAS is quantified and is reportable to the Treasury Department (Captured EtOH). An accurate assessment of capture efficiency is calculated from:

(Captured EtOH)/(Emission-factor EtOH)

3. Another CA air district (SBCAPCD) uses captured EtOH, and not intermittent source testing, to calculate VOC removed from wine fermentation for a recent VOC ATC issued within their jurisdiction. This approach acknowledges that a direct measure of VOC removal is superior to the one-time source test suggested by SJVUAPCD.
 4. Our company has had joint discussions with CARB, EPA Region 9, and EPA North Carolina to explore the challenges associated with the lack of established source-testing protocol for winery VOC fermentation emissions. Experts in source testing recognize the inherent errors in measuring capture efficiency for this source using available source-testing methods.
 5. Each PAS unit is manufactured to the same specifications and does not require combustion or other processes that might vary from device to device. Requiring separate testing of each unit is not only unnecessary but totally irrelevant. There is no theory or mechanisms by which to propose unit-to-unit variation. While reasonable for thermal oxidizers and certain other types of control devices, this requirement has no engineering or scientific basis in the case of PAS.
 6. Given that an EXACT measurement of VOC (as EtOH) removed from the atmosphere is recorded daily and seasonally for the PAS, and given that this estimate represents a type of continuous monitoring system, and given the calculation errors inherent in monitoring intermittent inlet-to-outlet differences for this source type, the assumed \$60,000 cost for source testing is useless and inferior to the approach approved by the SBCAPCD.
- e. The District added an Owner's cost of \$100,000. Like the prior and erroneous "capital adjustment factor" applied to the PAS, this expense does not have a category in the EPA Control Cost Manual⁶ and is redundant to other costs already incorporated in the EPA methodology for Engineering and Direct Annual Labor attributed to the winery. This uncategorized and double-counted expense should be eliminated from the cost-effectiveness analysis.

It is possible that this category may have been developed specifically for this applicant and is not part of previous cost-effectiveness analyses conducted by the District.

- f. The District gives a subjective rationale for an excessive and inappropriate contingency estimate of \$475,009. This unnecessary amount is based on an ad

hoc contingency assignment of 20% of the total estimated capital investment and produces a biased estimate of cost-effectiveness. The District analysis is contrary to the 3% of Purchased Equipment Costs used by EPA in the Control Cost Manual. The EPA Control Cost method would result in a \$57,038 contingency allowance for a conceptual generic VOC condensing system. The District estimate is contrary to good engineering practice and EPA cost methodology upon which the District analysis is reported to be based.

- g. The District allowed an optional \$40,000 expense requested by the applicant for a PLC and data logging system for four PAS units. Since the PAS is a passive system with no mechanical or electronic controls, a PLC system would have nothing to program or control related to the control equipment. Instrumentation necessary for the safe and efficient operation of the PAS is included in the EcoPAS equipment cost estimate. While the customer may request optional equipment, which we are willing to price and install, it is inappropriate to add this or other optional expenses to the cost-effectiveness analysis.
- h. The District estimated a capital and annual operating cost for a stand-alone chiller system to service the PAS. The more cost-effective solution is to integrate the marginal chilling requirements of PAS into the main facility chillers servicing this bank of tanks. A cost-savings would follow from this straightforward integration and we find applicant's claim of insufficient chilling capacity unconvincing, particularly when it is repeated for a second facility expansion within months of a prior ATC.
- i. A District assessment of \$15,000 has been included for annual source testing. This is an unnecessary expense that is inferior to direct, integrated, and certain capture of ethanol reported to the US Treasury Department of the VOC removed from entering the atmosphere. These data are superior in quality and accuracy to that derived by one-time source test (see 4d, 1-6 above).
- j. The District is highly non-transparent when it accepts the redaction for recovered product value provided by the applicant and fails to show any analysis for alternative estimates for recovered VOC value. By redacting this value, and hiding any analysis, no District cost estimate is given for the PAS system, in spite of the fact that the installation is near cost-effective even with the erroneous and inappropriate charges added to the system by the District.

No sensitivity analysis was conducted by the District, as would be expected with good practice for engineering/economic evaluations. Instead of redacting the Gallo valuation, and thereby blanking out any cost-effectiveness evaluation of the PAS, the District could easily have bounded evaluation between the fuel value of the recovered VOC and the EcoPAS estimate of \$25/gallon.

The redacted Gallo estimate is close to the fuel value and is predicated on the inappropriate utilization of the condensate as a feedstock for brandy stills.

EcoPAS has tested the condensate, which has valuable flavor and aroma characteristics that would be lost in high-temperature distillation. We also have proprietary information that places a value up to \$250/gallon for applications in the food flavoring and aroma industries. As a matter of comparison, the \$25/gallon which we have previously claimed, is about \$5/750ml bottle. For a premium 80 proof alcohol spirit this is a very conservative price.

- k. We have previously corrected the District's assertion that the PAS units handle "the rated maximum flow stated by E&J Gallo" (see Section 2 above on vapor flow and Section D below). We have stated that the maximum flow scenario presented by Gallo is about as likely as rolling snake eyes 24 times in a row, once for each fermentation tank, and then being struck by lightning.

It is not good engineering practice to design a capital project to meet a highly improbable event. The District acknowledges the unreasonable flow estimate provided by the applicant but continues to propagate and use this value. Good engineering practice would be to work with a reasonable maximum flow under expected operating conditions and not some theoretical but highly improbable condition to size a system. Doing so leads to an oversized and inappropriate control system.

Nonetheless, the PAS could handle the Gallo-estimated maximum theoretical vapor flow of 6,926 scfm. Excess flow would be allowed to by-pass the pressure relief valve, much like the spillway on a dam.

- l. The District was informed by us on February 28, 2014 in an email to Dennis Roberts that a new CA sales tax rate for certain manufacturing activities is 3.3% beginning the first of July this year:

http://www.boe.ca.gov/sutax/manufacturing_exemptions.htm

The revised and reduced sales tax of 3.3% should be reflected in the BACT analysis. Among qualifying expenses are: "tangible personal property used in pollution control that meets standards established by this state or any local or regional governmental agency within this state".

- m. The District misuses the concept of Capital Recovery Factor (CRF) by ignoring its economic and engineering theory. While discount rate and equipment life expectancy are variables, for this analysis the District is treating them as fixed

factors of a 10% discount rate and 10 year product life. A 10% discount rate in current markets is well above both private and social discount rates and is not supported by any current literature on CRFs, or by the various public agencies that annually adjust those variables.

The District's use of an amortization factor in this BACT analysis is contrary to good engineering, current market conditions, economic theory of discounting, and the expected life of the PAS units. More significantly, this use is contrary to the District's own policy on BACT analyses.

The error in the District's analysis is explored further in Section C below. Use of the fixed 10/10 not only makes no sense, but more importantly it serves to discourage introduction of novel and capital intensive control technologies.

That is not what one expects from an agency charged with and responsible for cleaning the air.

We have found no other public agency in the US currently utilizing a 10% discount rate for pollution controls and fixing control equipment life at ten years, irrespective of the equipment design, use and anticipated life of the equipment.

The EPA Control Cost Manual, upon which the District analysis is supposed to be based, uses a 15 year life for a nonpackaged (custom) refrigerated condenser system. The same manual, last published in 2002, used a 7% discount rate, referenced to the Office of Management and Budget estimates which are updated annually. The current 2014 OMB real discount rate for ten years is 1% and for twenty years is 1.6%.

The apparent interpretation of the District is contrary to the goal of implementing new cost-effective controls to reduce stationary pollutant emissions.

- n. While the District claims that the cost data and model for their BACT calculation comes from the EPA Control Cost Manual Sixth Edition, the District has taken liberty with the EPA model and data to overestimate control costs. By consistently overestimating the costs of our equipment the District tilts the analysis in the direction of making a cost-effective control solution appear to be less cost-effective.

Examples include:

1. Addition of a PLC/Programming optional for \$40,000 requested by applicant. This is an optional expense and not required for safe and effective operation of PAS controls.
2. Addition of separate and redundant owner expense of \$105,000.
3. Overestimated project contingency (EPA estimate of \$57,038 vs unrealistic and unsupported District estimate of \$475,009)
4. EPA uses a default for equipment life for a generic condensing VOC control of 15 years rather than the District adhering to a 10 year device life in the face of demonstration that under expected use and operating conditions equipment should last more than 20 years with simple annual maintenance (budgeted).
5. In 2002 EPA used a discount rate of 7%, while the agency uses annual updates to discount rates calculated by OMB. For 2014 the OMB discount rate for a 10-20 year life ranges from 1.0% to 1.6% for a real discount rate used for cost-effectiveness analysis.

Had the District in fact used cost data and methodology outlined in the EPA Control Cost Manual the conclusion that our technology is currently cost-effective would be unavoidable.

- o. In this analysis of cost-effectiveness the District has again layered inappropriate expenses onto the PAS solution. Due to its keeping in place Gallo's redaction of a VOC recovery value, no District estimate is given for the cost-effectiveness of the PAS control. Instead, the District presents the applicant's extremely high and inaccurate cost estimate based on limited understanding of the unique installation and operating requirements of the PAS, and based on an unnecessary installation of 24 control units rather than the proposed and adequate 4 units.

While presenting the applicant's unrealistic estimate based on faulty assumptions and oversized capital considerations, the District fails to include the EcoPAS estimate of \$13,265/ton of VOC reduced; a figure that was provided in correspondence dated October 14, 2013 to Dave Warner.

In the following section, we correct the errors identified in this section and present a sensitivity analysis with a more appropriate and accurate assessment of the current cost-effectiveness of PAS controls for this project.

Using the District's own analysis methodology, correcting errors and unveiling the information lost through redaction, the EcoPAS control system is clearly cost-effective in the present application.

Response #A.4 – District Analysis

- a. A capture and control efficiency of 81% was previously established for condensation systems in District BACT Guideline 5.4.14 (October 2009 Update). The 81% value is a composite value based on 1) a capture efficiency which represents the portion of the emissions captured from the emissions unit (fermentation tank) and actually delivered to the control unit (condenser) and 2) a control efficiency which represents the removal efficiency of the control unit as applied to the emissions actually captured.

A capture efficiency of 90% infers that potentially 10% of the emissions from the fermentation tank may escape directly to the atmosphere, either during periods in which the tank is opened for pump-over operation or due to leakage at the control device connection point. Pump-over operations are performed periodically during the fermentation cycle and involve opening the hatch on the tank, pumping over fermenting wine from the bottom of the tank and distributing it over the pomace cap for control of the fermentation reaction. During these periods, essentially all emissions from the tank go directly to the atmosphere (uncaptured). Continuous leakage at the control device connection or at the tank hatch is expected due to the potential inability to maintain a gas tight seal at the interface or at the tank hatch as a result of additional provisions required to ensure that the tank relief system can safely handle a "foam-over" event without damaging the tank or its contents. Gas-tight operation of a fermentation tank/control device combination combined with tank over pressure control capable of handling a foam-over event has not been demonstrated at this time.

Control efficiency for a conventional condensation system in this application is expected to be limited by potential ice formation which will establish a lower limit for the operating temperature of any particular device. The District believes that 90% is representative of expected performance of standard condensation systems in this application.

While the PAS technology potentially offers combined capture and control efficiencies which exceed 90%, substantially higher than that expected by standard condensation technology, the District's opinion is that the operation of PAS has not been adequately demonstrated under operating conditions representative of an operating commercial winery in the San Joaquin Valley (including foam-over considerations) to revise the established capture and control efficiency stated in BACT Guideline 5.4.14.

- b. EcoPAS provided a turnkey estimate for supply and installation of the EcoPAS units, however, no direct mention of the inclusion of owner's costs is included as

a part of the estimate, however an estimate of \$98,100 was provided for "administrative costs and contingency". Generally, turnkey estimates and or bids provided by equipment suppliers only cover the scope of work which will be under the control of the bidder. Since the equipment supplier cannot take responsibility for the owner's costs (or even accurately estimate them), such costs would be inappropriate in a supplier's bid and would not be relied upon by the owner to establish such cost. The District has separated the category "administrative costs and contingency" into two separate categories estimated by the District: 1) "owner's cost" (assuming "administrative" refers to such costs) and 2) "contingency". The rationale for owner's costs is based on 1) the equipment supplier is not responsible for owner's costs nor has any control of those costs, 2) the EcoPAS cost estimate does not directly mention owner's costs or provide a breakout of those costs, and 3) the District's opinion is that the estimated value of \$98,100 provided by EcoPAS is not sufficiently large to include owner's cost based on the description of the expected effort by the owner's organization provided above.

- c. District staff experience indicates that 5% of direct cost is a minimum allowance for any engineering and construction project including capital-intensive projects, particularly when considering a project still in the conceptual estimate stage. Considering that the implementation of fermentation controls on a major winery expansion would be first-of-a-kind, essentially prototype project rather than a cookie-cutter duplicate of a previous project, engineering costs would be expected to be substantially higher than average. In the District's opinion, an engineering expenditure of \$25,000 would be a typical expenditure for front-end engineering to fully develop and define all the requirements and impacts of the project. A recognized construction industry Best Practice is to expend approximately 25% of the total engineering budget during front end engineering. A final engineering cost of \$105,000 is consistent with this approach. The District maintains that a 5% engineering allowance is a prudent approach for estimating the potential cost of this project.
- d. Installation of a control device on an emission source (this project) which, considered alone, has an uncontrolled potential to emit which exceeds the Major Source threshold of Rule 2201 and is both a Federal Major Modification and an SB288 Major Modification would require source testing to demonstrate compliance with the District New Source Review (NSR) Rule 2201 by District Policy. District's statement on page 24 of the ATC application review, that source testing is not required for compliance with Rule 2201 pursuant to District Policy APR 1705, refers to the approved configuration of the project which does not include add-on control devices. The presence of accepted emission factors for wine fermentation is not a consideration in this regard. APR 1705 provides a

guideline for source testing frequency but does not place a limit on any source testing requirements deemed necessary by the APCO.

Under NSR, the District is required to establish emission limits (limiting the amount of ethanol delivered to the atmosphere) and to require a demonstration of compliance by periodic source testing (annual frequency for a source of this magnitude). Meeting those criteria dictates source testing of the control device outlet as a minimum (assuming a gas tight operation can be achieved between the fermentation tank and the control device). While the District has recognized emission factors for fermentation, the factors represent an average fermentation operation in the San Joaquin Valley and the actual emissions will vary significantly depending upon initial sugar content and fermentation temperature of the operation. Given the above, it is apparent that a measurement of the ethanol collected by the control device would not suffice to demonstrate compliance with an emission limit or to establish the actual collection efficiency of the control device.

Source testing, in whatever form, is required to be conducted based on a specific protocol, approved by the District, and must be conducted by a specifically approved 3rd party. While routine on-going measurement of collected ethanol would satisfy the recordkeeping requirements of Rule 2201, it would not qualify as source testing to demonstrate compliance with emission limits. Due to the non-steady state nature of the fermentation process, conventional source testing procedures involving three 30-minute steady state measurement periods will also not be applicable. A measurement of actual emissions is expected to require either continuous monitoring or frequent periodic measurements over a 3-8 day period depending upon the specific fermentation. Regardless of the source testing protocol ultimately established for the process, 3rd party testing over such a period is expected to represent significant cost. The District maintains that source testing costs are a reasonable representation of the potential source testing expense for this project.

- e. Owner's expense represents those indirect costs incurred by the owner as a result of the implementation of project. The first-time installation of controls on a large winery expansion would represent both a major capital project and a major modification of winery operations which must be carefully planned and managed to establish and achieve the operational, quality, budgetary and schedule objectives. Significant study by the owner's engineering staff will be required to optimize the new installation, develop detailed specifications for all components of the project and fully integrate the new facilities with existing facilities. The new operational parameters of the project would be expected to impact existing standard operating procedures in the winery, requiring extensive involvement of winery operational personnel to ensure that the new operation would not impact

the efficiency and quality of the basic winemaking process. New work processes and operating procedures would most likely need to be developed to ensure efficient and compliant operation of the new controls and handling of the new condensate product to be produced as a result of the project. A senior project manager would be expected to be assigned to such a project for a period of several months to coordinate all aspects of the project and provide a single point of responsibility for the multiple objectives of the project.

See response to Comment #A.4.b.

- f. EcoPAS's assertion that the base equipment costs are known with certainty is incorrect. To fix the equipment cost, detailed specifications for the equipment must be agreed upon between the supplier and the owner, finalized, and included in a purchase order. This point is reached in a project when engineering is approximately 25% complete. Even at that point, prudent estimating practice in the process industries is to still include a 3-5% contingency to allow for expected scope change that may occur during completion of detailed design. For purposes of this cost effectiveness analysis, the District has assumed that EcoPAS's statements regarding the capacity and operability of the proposed equipment are correct and that the equipment, as proposed, will be capable of meeting the emission control objectives of the project, based upon EcoPAS's knowledge of the proposed operation and EcoPAS's standards of construction. However, given that the proposed equipment has never been demonstrated commercially or operated at the scale of this project, nor has the equipment scope and specific features been studied, reviewed and approved by the owner, there is a significant probability that the scope and cost of the equipment supply will increase dramatically in the actual implementation of this project.

Good engineering practice and accepted norms of the engineering industry, when applied to a conceptual estimate of this type, require a project contingency exceeding 20%. Contingencies less than 10% are only achieved when preliminary engineering has been completed (all major equipment fully specified and firm quotations received with approved piping and instrumentation diagrams, plot plans and equipment layouts) plus a preliminary design basis and/or preliminary design sketches with material takeoff for all significant cost components of the project. Contingencies less than 5% are only applicable to projects for which all engineering is completed and approved for construction.

Consistent with the discussion above, the District has appropriately applied a reasonable project contingency of 20% to the estimated capital investment for this project.

- g. District policy is to establish control costs based on all reasonable actual costs to be incurred by the facility in implementation of the proposed controls. Electronic instrumentation and digital control systems are the norm in many process plants and such features would correctly be included in the BACT scope when they are a part of the facility's standard operating procedure. PLC control and monitoring is consistent with this facility's operating philosophy and the District has appropriately included costs for these features.
- h. See Response to Comment #A.2.a.
- i. See Response to Comment #A.4.d.
- j. In the absence of other demonstrated high-value uses, the District has performed the cost effectiveness analysis based on a valuation of the recovered ethanol as brandy still input, using Gallo's internal valuation for such products. The valuation was determined to be consistent with the valuation by another major brandy producer in the San Joaquin Valley. No other developed market for the material has been discovered by the District or disclosed by EcoPAS at this time and therefore there is no basis for alternate values which might be used in a sensitivity analysis. Although EcoPAS has indicated a willingness to purchase the material at a higher valuation, such a project-specific offer lacks sufficient generality for a BACT determination which would have the potential to set the bar for emission control of all future wine fermentation projects in the San Joaquin Valley. While the District concurs that setting a high valuation for the recovered ethanol would result in a determination of cost effectiveness for condensation technology, use of a higher valuation cannot be justified at this time without identification and validation of a true existing market for the product. The District has appropriately valued the recovered ethanol based on the only identified and validated market (use as brandy still input).
- k. See Response to Comment #A.2.b.
- l. The capital cost of the EcoPAS units were provided by the vendor which included the sales tax value.
- m. Since essentially the formation of the San Joaquin Valley Air Pollution Control District in the early 1990's, the District has consistently used a 10% discount rate and a 10 year equipment life in cost effectiveness calculations. These are the standard default values listed in District Policy APR-1305. Although APR-1305 allows consideration of other values for these parameters, to the District's knowledge, no other values have ever been used in any District analysis. A 10% discount rate and a 10 year equipment life represent financially conservative values consistent with the District's conservative and cautionary approach when

imposing new controls (with substantial technical and socio-economic unknowns) on businesses in the San Joaquin Valley. Given the District's consistent history of using only the conservative default values, the District would be irresponsible to implement significantly different values for a specific project. While the values may not reflect current economic conditions, the District would only implement changes in the precedent-based use of APR-1305 after substantial study of the socio-economic impact and public input. The District has used the appropriate discount rate and equipment life for this project based on established precedent and a conservative approach with respect to imposing new technology on businesses in the San Joaquin Valley.

- n. The District utilized the installation costs provided by EcoPAS for their specific condensation technology as a basis for the cost effectiveness analysis rather than generic EPA installation factors. However, the District recognized that the EcoPAS installation costs were strictly a vendor's concept of installed cost for control equipment which has only been pilot tested and not yet installed for full commercial operation and therefore significant uncertainty existed in the estimated costs. Additionally, the District determined that some essential scope elements were missing from the EcoPAS estimate or were not appropriate to a vendor's turnkey estimate. Based on this the District incorporated the EcoPAS installation cost estimate into the cost effectiveness analysis along with the following modifications and additions:
- The District discarded EcoPAS's estimate of "administrative costs and contingency" (representing a combined allowance for both owner's costs and contingency) and replaced it with separate values of each item as estimated by the District.
 - Since owner's costs cannot be included in a vendor's turnkey quotation (vendor has no control of these costs and no basis to estimate them for a particular project or owner), the District included a cost of \$100,000 in the estimate based on District staff experience and good estimating practice.
 - Given the significant uncertainty in the estimate and in consideration of the conceptual nature of the estimate, the District set the appropriate contingency at 20% of direct costs consistent with industry norms for conceptual estimating and with good engineering practice.
 - The District added costs for source testing of the new control units since these costs were not included in the EcoPAS estimate.
 - The District added costs for electronic PLC-based control of the new emissions control units since these were not included in the EcoPAS estimate and based upon Gallo statements that such controls are standard for the Livingston facility.

The District maintains that an appropriate cost effectiveness analysis has been performed for this project, consistent with all applicable rules, regulations and District policies, and in accordance with good engineering practice and process industry norms for preparing conceptual cost estimates.

- o. The cost effectiveness of all technologically feasible options were found to exceed \$17,500 per ton. The District's final cost analysis uses 4 control units in the cost effectiveness determination. The Gallo cost analysis does not affect the cost effectiveness determination presented in the District's final decision.

Comment #B – Re-Analysis of District Top-Down BACT for Passive Alcohol System with District Errors Removed

In this section errors identified in Section A above are corrected and the cost-effectiveness of the EcoPAS VOC controls for Project Number N-1133659 is recomputed for multiple realistic scenarios.

To make all runs comparable and transparent, we use the District's calculational model. The veil of redaction is lifted so that estimates of cost-effectiveness are revealed.

In order to show the range of cost-effectiveness values and the central tendency of those values, the following table contains cost-effectiveness calculations (expressed as dollars/ton of VOC removed) for multiple cases, including the initial and error-filled case presented by the District.

Table B-1: Re-Analysis of Passive Alcohol System (PAS)

Case	Scenario	Cost Effectiveness, \$/ton VOC removed
#1	SJVUAPCD assumptions with VOC recovery credit of \$3/gallon EtOH	\$17,599
#2	As above with reduced tax rate to 3.3%, uncategorized "owner expense" removed and extreme contingency adjusted to EPA Control Cost Manual calculation	\$13,709

#3	As above with 15 year device life as recommended for "generic" refrigerated condensing VOC control with 3% discount rate	\$8,570
#4	As above with optional PCL and emission-testing expenses removed, engineering costs reduced to EcoPAS estimate of \$24,635 based on "turn-key" installation	\$7,417
#5	As above with 20 year useful life and 1% CARB discount rate	\$5,713
#6	As above increasing value of recovered by-product alcohol to \$10.75/gallon (slightly over \$2/750ml bottle for 80 proof spirit)	\$0 (at this alcohol value the control device pays for itself)

Response #B – Re-Analysis of District Top-Down BACT for Passive Alcohol System with District Errors Removed

The re-analysis cost effectiveness values have been noted. The District maintains that an appropriate cost effectiveness analysis has been performed for this project, consistent with all applicable rules, regulations and District policies, and in accordance with good engineering practice and process industry norms for preparing conceptual cost estimates. No revisions have been made to the cost effectiveness analysis for this project.

Comment #C – Capital Recovery Factor in District's BACT Policy Response

The following quote is from District document APR 1305, the SJVUAPCD Best Available Control Technology (BACT) Policy, Section X.A.1 on Procedures for Conducting Cost-Effectiveness Analysis of Technologically Feasible Alternatives.

"Calculate an equivalent annual cost from a capital cost using a capital recovery factor as shown below:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} \text{ where;}$$

A = Equivalent Annual Control Equipment Capital Cost

P = Present value of the control equipment, including installation cost

i = interest rate (use 10%, or demonstrate why alternate is more representative of the specific operation).

n = equipment life (assume 10 years or demonstrate why alternate is more representative of the specific operation)" Emphasis added

The District's written policy recognizes the variable quality of the interest rate and equipment life as inputs to the Capital Recovery Factor. Further, the District has had ample demonstration for why better alternatives to the 10/10 default assumption are more appropriate for this analysis.

1. Interest rate, i

We know of no other public agency currently using a value of 10% discount rate to evaluate cost-effectiveness.

The value of 10% is outdated and is not reflective of either private or public money costs. Per statute CARB updates the cost-effectiveness limit and capital recovery factors (CRF) annually. For 2014 CARB continues to use a discount rate of 1% with a revised cost-effectiveness limit of \$17,720.

EPA uses the values reported by the Office of Management and Budget (OMB), the federal agency that annually updates interest rates for use in project evaluation⁸.

OMB reports both nominal and real discount rates for projects of different duration. Nominal rates are the same as market rates and typically used for lease-purchase analysis. Real discount rates remove the inflation premium and are "often required in cost-effectiveness analysis". Below is a Table of Nominal and Real interest rates for 10 and 20 year projects.

Table C-1: Real and Nominal Discount Rates (%), 2014
(OMB Circular No. A-94)

	10-Year Project	20-Year Project
Real Discount Rate	1.0%	1.6%
Nominal Discount Rate	3.0%	3.6%

Clearly, the District's continued use of a 10% discount rate represents an extreme outlier among public agencies. The 10% value does not represent current rates and biases results, making cost-effective solutions appear to be cost-ineffective.

Most significantly, continued use by the District of an outdated 10% CRF serves to discourage new and innovative pollution controls that will serve to assist in cleaning up the serious and persistent air quality problems in the Central Valley.

2. Equipment Life, n

The District has also received ample evidence for why ten years is an incorrectly short life expectancy for PAS VOC controls. Use of a ten year life is also inconsistent with the EPA Air Pollution Control Cost Manual. The EPA Manual gives default equipment life for a generic condensing control system of 15 years.

Fifteen years is a minimum feasible life for the PAS system. There are no moving parts (including motors, fans, or pumps) integral to the control unit. The body of the unit is fabricated from food-grade stainless steel and while in-use, pressures and temperatures within the system are moderate. Compared with other types of pollution control equipment, which operate under more extreme conditions of temperature and pressure, it is reasonable to assume a product life of at least 25 years for the PAS.

Response #C – Capital Recovery Factor in District's BACT Policy

As discussed in the response to Comment #A.4.m., the District has used the appropriate discount rate and equipment life for this project based on established precedent and a conservative approach with respect to imposing new technology on businesses in the San Joaquin Valley. No revisions have been made to the interest rate or equipment life.

Comment #D – Unreality of Applicant's Estimate for Maximum CO₂ Production Rate

The applicant has produced a highly improbable maximum flow condition. We will show in this section the unrealistic nature of this estimate. If it were only a mental exercise in rare events (like computing the probability of the earth being hit by a giant asteroid) it might be an amusing calculation.

The problem is that the applicant has used an unrealistic calculation of maximum fermentation activity (and therefore CO₂ flows) as the design basis for an oversized manifold and theoretical control system. By unreasonably sizing the system, the applicant has guaranteed that their estimate of cost-effectiveness would lead to a conclusion that controls are not cost-effective.

Indeed, that is the result developed by applicant in Attachment C of the District BACT analysis. In that section Gallo greatly oversizes the control system and arrives at an incorrect cost-effectiveness calculation of \$113,643/ton VOC.

So let's explore what would be required to achieve the maximum combined vapor flow of 6,926 scfm as calculated by the applicant.

We must start with 24 empty fermentation tanks.

To achieve the theoretical flow calculated by the applicant, each of the twenty four (24) 56,000 gallon tanks would need to be filled to capacity (stated as 80% maximum fill).

For calculation we will assume:

1. 24.5 tons/truckload of grapes
2. 205 gallons must (grape juice)/ton of grapes

Therefore,

$24 \text{ tanks} \times 56,000 \text{ gal/tank} \times 80\% \text{ fill} = 1,075,200 \text{ gallons must}$
 $1,075,200 \text{ gallons} / (205 \text{ gal/ton}) = 5,245 \text{ tons of grapes}$
 $5,245 \text{ tons} / (24.5 \text{ tons/truckload}) = 214 \text{ truckloads of grapes}$

Gallo states that certain conditions might require simultaneous and rapid (46 hour) fermentation in all 24 tanks. While multiple tanks will be fermenting at various times during the crush season, it is improbable that they are all peaking at the same time.

For that scenario to happen, all 24 tanks would need to start empty – something likely only at the start of the season. Then 5,245 tons of grapes would need to be picked by the harvest crew, loaded into 214 double-bed trucks, travel in caravan to the Livingston winery and line up at the crusher/destemmer.

To complete the Gallo scenario, the 214 truckloads would need to be instantly processed and all 24 tanks filled at one time (in spite of the capacity of the Livingston facility, this would be quite a magic trick).

Nutrients and yeast would be added simultaneously to the 24 tanks which would need to be at the same starting temperature to peak at the same time. Normal biological variation would need to be minimal for all fermentations to peak at the same time.

Not only is this scenario physically improbable, but it violates the intended use of these tanks to produce premium wine fermented over 5-8 days. Furthermore, this scenario would cause multiple tanks in this group to violate the District's proposed daily emission condition #7, that each tank "shall not exceed 3.46 lb per 1000 gallons of tank capacity."

As previously mentioned, even if the applicant were to cause this unlikely chain of events to occur, it would not damage the PAS system or cause reconsideration of the proposed sizing.

Response #D – Unreality of Applicant's Estimate for Maximum CO₂ Production Rate

The District's final decision has incorporated EcoPAS's assertion in this regard by basing the analysis on EcoPAS's estimated requirement for the number of PAS units required for control of emissions from the 24 tanks in this project. Revisions to the maximum CO₂ production rate is not required.

Comment #E – District's Current BACT for Wine Fermentation

The District's BACT for wine fermentation is to require average fermentation temperatures be maintained below 95 degrees F. This is in recognition that temperature IS the most significant variable affecting the atmospheric release of ethanol vapors for most commercial wine fermentation. In fact, this relationship is quite nonlinear.

While BACT is reported to be "the most stringent control technique for the emissions unit and class of source", it must be recognized that this BACT policy represents no control at all; for good winemaking practice calls for temperatures of both red and white wines be maintained below this temperature.

We have asked the District for written protocols on how temperatures are recorded and reported to the District, and none have been produced to date¹⁰. The definition of maximum average temperature, as used in the BACT analysis, is not mathematically defined. Starting times for temperature recording are also not specified (e.g., following tank-fill with must, or following yeast inoculation, or once sugar consumption is first detected).

There are multiple options for placement of thermal wells and for the timing and frequency of temperature recording which all affect the calculation of average fermentation temperature.

The District uses separate emission factors for red and white wine under the assumption that white wines are typically fermented at lower temperatures.

However, the District has not set a separate and lower temperature for fermentation of white wines in spite of the fact that the District must assume lower fermentation temperatures to rely on the lower 2.5 lbs/1,000 gallon emission factor used for emission models.

We have asked the District multiple times whether temperatures are reviewed by the District for white wine fermentations and have not received a direct answer. If white wines are not destined for the premium consumer markets it is quite possible that they are fermented at higher temperature in order to shorten time in the fermentation tanks. In that case, emission rates might begin to approximate those for normal red wine fermentations.

Response #E – District's Current BACT for Wine Fermentation

A red wine fermenter typically operates at a much higher throughput and produces significant more emissions (i.e. higher emission factor) relative to a white wine fermenter of the same size. Therefore, the cost effectiveness determination for red wine is much more favorable in terms of cost effectiveness for a control device than white wine so the BACT determination, at the moment, focuses only on red wine fermentation. If a control technology is determined to be cost effective for red wine, then the control technology will also be analyzed for white wine.

Comment #F – The Problem with Certified Emission Reduction (CER) Credits

The first 35% of offset credits for the proposed facility are derived from Certified Emission Reduction (CER) credits as described in Rule 4694. Unlike Emission Reduction Credits (ERCs), Certified Emission Reductions are treated as semi-secretive transactions not included in the public ERC record.

We have asked for any written District documentation, rules or policies that guide this class of emission reduction; and we have been met with lack of knowledge or silence. We understand that one senior member of the engineering/permit staff, who has since retired, was the sole District repository of, and accountant for, the CERs program. Current status and responsibility for the program are presently unclear.

The CERs used in the present Gallo application are derived from emission reductions on brandy-aging facilities owned and operated by the winery. It is unclear to us why this source of VOC emission was not identified by the District as an independent source of VOC emissions that should have had its own rule.

Nonetheless, we understand that thermal oxidizers were installed on the brandy-aging buildings and that annual CER credits were derived. The emissions from

brandy-aging are continuous; unlike wine fermentation which is a definite seasonal source.

It is an error for the District to allow a non-seasonal, annualized source of emission credits to be used to offset a clearly seasonal fermentation emission source, one for which over 75% of all emissions occur within the two month ozone season of September and October.

Further, by allowing thermal oxidizer controls to offset winery fermentation VOC emissions, the District has elected to trade off NOx emissions from the oxidizers for control of the VOC fermentation emissions.

In contrast, the PAS control option directly captures fermentation VOC emissions without generating unnecessary NOx emissions.

Response #F – The Problem with Certified Emission Reduction (CER) Credits

The status and responsibility of the CER program remains under the management and direction of the Permit Service Department in the Central Region in Fresno. All submitted information under this program is available in the Fresno office.

District Rule 4695 has adopted a dedicated rule to Brandy Aging and Wine Aging Operations.

District Rule 2201 Section 4.13.8 states Actual Emission Reductions for NOx and VOC that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year. Therefore, credits for ozone precursors are allowed to be used as offsets for any period of the year.

However, the District agrees that wine fermentation operations are seasonal. For Stationary Sources with quarterly Potential to Emit that is not constant throughout the year and for Seasonal Sources the amount shall be calculated in pounds per quarter. Fermentation operations occur during the crush season between August and November in the third and fourth quarter of each calendar year. Therefore, emission offset requirements for the fermentation operation were equally distributed and assessed in the third and fourth quarter.

As discussed in the staff report of Rule 4694, to provide time for industry and the District to better understand the uncertainty associated with technical feasibility and cost effectiveness of controlling wine fermenters, staff proposed a market-based approach for Rule 4694. Operators would be required to achieve a 35% reduction in their total fermentation emissions. This level of emissions reduction is consistent with the District's attainment plans for the source category and is reasonable given

the cost of control estimates and degree of uncertainty about potential impact on product quality.

Structuring Rule 4694 consistent with a market-based approach would achieve emission reductions in excess of the required 35% reduction in baseline emissions. Emission reductions occurring offsite require an offset ratio of 1.2 tons. This is a 20% premium for operators employing this provision. The uncertainty of the grape harvest is expected to result in emission reductions exceeding the 35% reduction requirement. The volume of wine fermentation that occurs within a given year is intrinsically linked to the grape harvest. Operators cannot accurately predict their actual emissions. To guard against potential determination of violation of the rule, and to simplify the process of demonstrating compliance, with the 35% VOC emission reduction requirement, operators are expected to obtain emission reductions in excess to the rule requirements. The three-year compliance plan provision and annual compliance demonstration will enable the District to quantify these additional reductions.

Based on the development of Rule 4694 and the intended reductions to be obtained by the rule, the District analyzed if controls on brandy-aging buildings utilizing a thermal oxidizer was approvable. An ambient air quality analysis was performed in the approval determination and the result was the project would not violate an ambient air quality standard, met all rules and regulations, and therefore was approvable. The Rule 4694 staff report also identified condensation, refrigeration, and cryogenic systems as possible control options and were considered viable control options for wine fermentation operations.

Attachment 2

District's Analysis of Achieved in Practice for Wine Fermentation BACT

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT MEMO

DATE: February 9, 2015 (Revised March 11, 2015)

TO: Dave Warner, Deputy APCO

FROM: Nick Peirce, Permit Services Manager
James Harader, Senior Air Quality Engineer
Jag Kahlon, Air Quality Engineer

SUBJECT: Achieved in Practice Analysis for Emission Control Technologies
Used to Control VOC Emissions from Wine Fermentation Tanks

Introduction

The purpose of this analysis is to determine whether there is any control technologies that can be considered to be Achieved in Practice BACT for controlling fermentation VOC emissions from wine fermentation tanks. If determined to be achieved in practice, the San Joaquin Valley Air Pollution Control District (District) would require the use of such technology for wine fermentation tanks when BACT is triggered, without any consideration of the cost effectiveness of the control technology. The District's achieved in practice BACT is functionally equivalent to Federal EPA's Lowest Achievable Emission Rate requirements outlined in Federal Non-Attainment NSR documents.

LAER

The emission control requirement for new Major Sources and Federal Major Modifications in non-attainment areas is that the emission units meet the lowest achievable emission rate (LAER). LAER is the most stringent emission limitation from either of the following:

1. The most stringent emission limitation contained in the implementation plan of any State for such class and category of source; or
2. The most stringent emission limitation achieved in practice by such class or category of source.

In no event can the LAER requirement be less stringent than Federal New Source Performance Standards (NSPS), if there is an NSPS applicable to the type of source being evaluated.

In the case of wine fermentation tanks, the District did not identify any SIP that would require the use of add-on control systems. Therefore, add-on control

systems can only be required as LAER for wine fermentation if they are determined to be achieved in practice for the source category.

Achieved in Practice Criteria

The term "achieved in practice" appears to be subject to interpretation since it is not defined in the federal statutes or regulations. As a result, there are few objective regulatory criteria to constrain the form of an achieved in practice determination. The following discussion outlines the achieved in practice criteria that is used by the District for determining LAER.

In a February 28, 1989 memorandum titled "Guidance on Determining Lowest Achievable Emission Rate (LAER), EPA provided the following guidance concerning the economic feasibility of LAER:

Traditionally, little weight has been given to economics in LAER determinations, and this continues to be the case. The extract in your memorandum from the record of the House and Senate discussion of the Clean Air Act (Act) contains the sentence:

"If the cost of a given control strategy is so great that a new major source could not be built or operated, then such a control would not be achievable and could not be required by the Administrator."

We interpret this statement in the record to be used in a generic sense. That is, that no new plants could be built in that industry if emission limits were based on levels achievable only with the subject control technology. However, if some other plant in the same (or comparable) industry uses that control technology, then such use constitutes de facto evidence that the economic cost to the industry of that technology control is not prohibitive. Thus, for a new source in that same industry, LAER costs should be considered only to the degree that they reflect unusual circumstances which, in some manner, differentiate the cost of control for that source from the costs of control for the rest of that industry. These unusual circumstances should be thoroughly analyzed to ensure that they really do represent compelling reasons for not requiring a level of control that similar sources are using. Therefore, when discussing costs, applicants should compare the cost of control for the proposed source to the costs for source(s) already using that level of control.

The statement "if some other plant in the same (or comparable) industry uses that control technology, then such use constitutes de facto evidence that the economic cost to the industry of that technology control is not prohibitive" is only

true if the plant using that control technology purchased or leased that control technology. Scenarios where the purchase/lease of the control technology was subsidized with grant money, or where the plant allowed the control vendor to operate and test their equipment on-site without actually purchasing/leasing the control technology do not constitute evidence that the economic cost to the industry due to use of that technology control is not prohibitive. Therefore, the District's historical position is that a control technology must have been purchased or leased by the plant in order for that installation of the control technology to be considered as achieved in practice.

EPA Region IX has previously stated that the successful operation of a new control technology for six months constitutes achieved in practice. This position was established in an August 25, 1997 letter from David Howekamp of US EPA Region IX to Moshen Nazemi of South Coast Air Quality Management District. This guidance is reflected in the South Coast Air Quality Management District's BACT Policy, which includes the following criteria for determining whether a control technology is achieved in practice:

Reliability: All control technologies must have been installed and operated reliably for at least six months. If the operator did not require the basic equipment to operate daily, then the equipment must have at least 183 cumulative days of operation. During this period, the basic equipment must have operated: 1) at a minimum of 50% design capacity; or 2) in a manner that is typical of the equipment in order to provide an expectation of continued reliability of the control technology.

For wine fermentation tanks, the District has taken the position that successful operation of a control device for one full fermentation season is satisfactory for qualifying a control as achieved in practice. The requirement of one full fermentation season is considerably more conservative than the 6-month requirement, since the fermentation season typically lasts only two to three months.

The term "successful operation" is not tightly defined. The District considers the following when determining whether a control technology has been successfully operated for achieved in practice BACT determinations:

1. Was the control technology operated in the same manner that would be required by the District if the control technology was required for BACT?
2. How reliable has the control technology been over the life of its use?
3. Has the control technology been verified to perform effectively over the range of operation expected for that type of equipment? Was the effectiveness verified by performance test(s), when possible, or using other performance data?

Other typical considerations that the District considers when making an achieved in practice BACT determination include:

1. Is the control technology commercially available from at least one vendor?
2. On what class and category of source has the control technology been demonstrated?

In summary, the following criteria are used for determining whether a control technology is achieved in practice for wine fermentation:

1. Did the plant using the control technology purchase/lease the equipment? Was that purchase/lease subsidized?
2. Was the control technology operated for at least one fermentation season?
3. Was the control technology operated in the same manner that would be required by the District for BACT purposes?
4. How reliable has the control technology been during its use at the plant?
5. Has the control technology been verified to perform effectively over the range of operation expected for that type of equipment? Was the effectiveness verified by performance test(s), when possible, or other performance data?
6. Is the control technology commercially available from at least one vendor?
7. On what class and category of source has the control technology been demonstrated?

Achieved in Practice Analysis for Known Installations of Wine Fermentation Control Technologies

The following is an analysis of each known installation of an emission control technology to control VOC emissions from wine fermentation tanks and whether that installation can be considered achieved in practice.

Terravant Wine Company (2008 – Current)

Terravant Wine Company submitted an Authority to Construct application for a wine processing facility to the Santa Barbara County Air Pollution Control District (SBCAPCD) on September 20, 2007. The application was deemed complete on October 19, 2007. The fermentation tanks triggered BACT; however, the SBCAPCD evaluation determined BACT to be infeasible. However, this project also triggered offsets and Terravant Wine Company electively proposed to install a packed bed water scrubber with UV/hydrogen peroxide controls to control VOC emissions from the wine fermentation tanks. Proposing the control would reduce VOC emissions to a level below the SBCAPCD offset threshold. The control technology is only required to run sufficiently to reduce emissions to stay below the offset threshold – it is not required to be operated all of the time, as is BACT-required equipment.

The packed bed water scrubber was installed in 2008 and began operation in 2008, with a 95% control efficiency requirement on the Authority to Construct permit. However, in 2008, the unit failed to meet the 95% control efficiency requirement. Prior to the 2009 season, Terravant Wine Company was issued a revised Authority to Construct permit that reduced the control efficiency requirement to 75%. However, the unit has not been able to consistently demonstrate compliance with the 75% control efficiency requirement. The effectiveness of the packed bed scrubber has varied considerably over its life, and has been measured to be as low as 49% control efficiency. During discussions, SBCAPCD staff indicated that this facility has been issued a Notice of Violation for non-compliance with their permitted emission limits and they would not recommend that any wineries use this control technology for the control of fermentation tank emissions, as it has proven to be unreliable. Finally, the control technology used by Terravant Winery is custom designed, and is not a commercially available off-the-shelf type of unit.

The packed bed scrubber technology does not meet the achieved in practice criteria since this control technology has not been operating in compliance with its permit requirements, its effectiveness is highly variable, and the control technology is not commercially available.

EcoPAS, LLC (2009)

EcoPAS conducted testing of their passive alcohol system, which is condensation-based emission control system, at a winery located within the San Luis Obispo County Air Pollution Control District. The purpose of this installation was to conduct full-scale testing of the passive alcohol system on red wine fermentation tanks. The District was unable to verify whether the winery purchased the system.

Since the District could not verify that the winery purchased the control system, this installation doesn't meet the first criteria listed to be considered as achieved in practice. Furthermore, the unit was operated for experimental testing of the control device. In the District's experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT.

Central Coast Wine Services (2009)

In 2009, Santa Barbara County Air Pollution Control District (SBCAPCD) determined that Central Coast Wine Services (CCWS) was operating without a permit. They required CCWS to submit an application for an Authority to Construct such that the winery would be in compliance with SBCAPCD Rules and Regulations. Based on the emission estimates for the facility, the facility was triggering Best Available Control Technology Requirements and Offsets. At that time, the SBCAPCD determined that BACT, while technologically feasible, was not cost effective. SBCAPCD issued an Authority to Construct/Permit to Operate on June 5, 2009 for the winery.

CCWS was allowed to exceed the offset thresholds during the fall 2009 harvest season in order to test potential control technologies. Three companies were invited to participate in testing of prototype emission control equipment, but only NohBell Corporation elected to install and test fugitive ethanol control equipment.

NohBell Corporation engineered and tested a full scale NoMoVo 1.0 system on a 50 ton tank at the CCWS plant. NoMoVo documents describe the equipment as successful, with full scale trials proceeding. After the 2009 season, NoMoVo documents indicate that CCWS decided to move the plant and equipment.

This installation does not meet the requirements to be considered achieved in practice. First, the facility does not appear to have purchased/leased the control system, nor did they intend to continue operating the system. This is evident by their decision to discontinue use of the system in the following year. Second, no data has been submitted to the District to demonstrate that the unit was continuously operated in the same manner that the District would require the system to operate if it were considered achieved in practice BACT. The purpose of this installation was to perform initial testing and trial runs of the control technology. In the District's experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT. Furthermore, the type of records necessary to demonstrate continuous operation of the system was not required by the SBCAPCD permit. Finally, the SBCAPCD permit did not include testing requirements to sufficiently demonstrate the effectiveness of the system.

Kendall Jackson Oakville (2010)

Kendall Jackson Winery belongs to Jackson Family Wines Inc (JFW), and is located in Oakville, California. This winery is in Bay Area Air Quality Management District (BAAQMD). BAAQMD does not require permits for wine fermentation or storage operations. Their Regulation 2, Rule 1, 117.9 and 117.10 has exemptions for wine storage and fermentation operations.

In 2010, NohBell installed a NoMoVo 2.0 system at the Kendall Jackson Winery. The system was connected to a 10,000 gallon fermentation tank and operated on a trial basis during the 2010 crush season. Pursuant to Brian Kosi, Winemaker at Kendall-Jackson Oakville, JFW never purchased the NoMoVo technology. The NoMoVo slurry was treated by the facilities on-site wastewater treatment system.

This installation does not meet the requirements of achieved in practice BACT. First, the system was never owned/leased by the winery. Secondly, the unit was operated for the purposes of testing/trial runs to evaluate the control technology. In the District's experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT. Furthermore, BAAQMD does not have any record of source tests occurring during the 2010 crush season; therefore, the effectiveness for this installation was not established.

Kendall Jackson Oakville (2011-2013)

In its 2010 clean air plan, the BAAQMD included a further study measure (FSM 14 – Winery Fermentation) to examine whether ethanol emissions from Bay Area wine production could be cost-effectively reduced. On 9/26/11, the BAAQMD signed a Research Sponsorship Agreement (Contract No. 2011-126) with NohBell to help develop its technology to capture volatile organic compounds emitted by wine fermentation tanks at Kendall Jackson Oakville. The contract states that *“District (BAAQMD) wishes to support NohBell’s effort to demonstrate the technology at JFW winery and wishes to verify the function and cost-effectiveness of the technology and acquire data to help DISTRICT (BAAQMD) determine whether the equipment could be cost effectively employed more widely in the wine industry”*. NoMoVo submitted a project budget estimate of \$118,750 for its NoMoVo 2.0 upgrades, pump upgrades, and related work at the plant. The BAAQMD contract promised \$50,000 towards this effort, to be paid in installments directly to NohBell Corporation. Furthermore, Brian Kosi of Kendall-Jackson Oakville confirmed that the facility never purchased the NoMoVo system from NohBell and confirmed that the system has been removed from the site by NohBell.

For 2011, NohBell Corporation planned to conduct trials of the upgraded NoMoVo 2.0 system on 10 fermentation tanks. Six to eight trials were anticipated, operating on 4-6 day cycles. The trial runs were scheduled to be primarily conducted while fermenting red wines. The District was unable to obtain operational data for the 2012 and 2013 fermentation seasons for this equipment. Following the 2013 crush season, the equipment was removed and transferred to Constellation Wines in Monterey, CA.

This installation does not pass the first criteria of LAER, since the facility never owned the system and since the installation and operation of the control technology by NohBell was subsidized by a Research Sponsorship Agreement with BAAQMD. Furthermore, operation of the control technology at this facility was for trials/testing of the effectiveness of the control technology. In the District’s experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT. Finally, the unit was removed, which indicates that this wasn’t intended as a permanent installation. For these reasons, the District does not consider this installation to be achieved in practice.

J. Lohr Vineyard and Winery (2013)

NohBell Corporation has indicated that they operated a NoMoVo system at J. Lohr Winery in Paso Robles during 2013 crush season. The District contacted J. Lohr Winery to obtain more information regarding this installation. J. Lohr Winery personnel stated that they considered this to be a pilot type testing operation. J. Lohr Winery did not purchase or lease the system. The unit operated during the 2013 crush season on fermentation tanks that were processing red wine. After the 2013 crush season, the system was removed and no longer operates at this site. San Luis Obispo Air Pollution Control District (SLOAPCD) had no knowledge that this unit was installed at this winery and no Authority to Construct or permit exemption was issued for this equipment.

This installation does not pass the first criteria of LAER, since the facility never purchased/leased the equipment. Furthermore, operation of the control technology at this facility was for trials/testing of the effectiveness of the control technology at this facility. In the District's experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT. Finally, the unit was removed, which indicates that this wasn't intended as a permanent installation. For these reasons, the District does not consider this installation to be achieved in practice.

Constellation Winery dba Gonzales Winery (2013)

During the 2013 crush season, a NoMoVo unit was installed on a 39,000 gallon fermentation tank at Constellation Brands U.S. Operations, Inc. dba Gonzales Winery in Monterey, CA. The control technology was installed and operated as a "pilot operation". Monterey Bay Unified Air Pollution Control District (MBUAPCD) compliance staff noticed the NoMoVo unit operating on-site without authorization from MBUAPCD and issued a notice of violation. Gonzales Winery submitted an Authority to Construct application; however, prior to processing that application, the facility notified MBUAPCD that the equipment had been removed from the site. The equipment operated at the site for a partial season for pilot testing purposes. MBUAPCD could not verify whether Gonzales Winery purchased or leased the equipment.

The District was unable to verify whether Gonzales Winery purchased or leased the NoMoVo unit. Furthermore, operation of the control technology at this facility was for trials/testing of the effectiveness of the control technology at this facility. In the District's experience, during experimental testing/trial runs, a control technology does not typically operate in the same manner as would be required by BACT, so the District has not historically considered experimental test/trial installations to constitute achieved in practice BACT. Finally, the unit was removed, which indicates that this wasn't intended as a permanent installation. For these reasons, the District does not consider this installation to be achieved in practice.

Vinwood Cellars Kenwood (2013)

The District has found documents indicating that a NoMoVo system was installed on four 15,000 gallon fermentation tanks at Vinwood Cellars Kenwood in Sonoma county, and the system was operated during the 2013 season. District staff attempted to contact Vinwood Cellars; however, the staff at Vinwood Cellars was unable to verify information for this installation. BAAQMD had no knowledge of this installation, as they do not require permits for wine tanks, so they were unable to verify this installation. Furthermore, since this installation was not subject to permit requirements, BAAQMD has no operational history or test data for this site. While BAAQMD administered source tests at Kendall Jackson Oakville winery, they have no records of any source testing of the NoMoVo system at Vinwood Cellars Kenwood.

This installation has not met the requirements of achieved in practice. First, it has yet to be confirmed that the winery actually purchased the NoMoVo system. Second, BAAQMD has no test records to verify the effectiveness of the NoMoVo system at this site. Finally, the operational history of the unit at this site is not available to determine whether it was operated in the same manner as a unit would be if it were installed as BACT.

Central Coast Wine Services (2013)

On August 5, 2013, CCWS electively applied to install a NoMoVo wine emission capture and control system to control ethanol emissions from fermentation activities at their wine center. The existing fermentation tanks at the facility ranged in capacity from 350 gallons to 20,887 gallons. On September 23, 2013, a final ATC (ATC 14257) was issued for the installation of the NoMoVo system, and the unit began operation in September 27, 2013. The installation of this unit allowed CCWS to increase daily wine fermentation while remaining under their existing daily and annual facility-wide VOC emission limits. A Permit to Operate (PTO 14257) was issued on December 13, 2013.

PTO 14257 states: "*The NoMoVo system is optional and may be used at CCWS' discretion*". Thus, the permit does not require continuous

operation of the NoMoVo system. The NoMoVo system is portable. The system can be attached to four or five fermentation tanks at a time via flexible hoses. The facility is allowed to move the NoMoVo system around, as desired, to capture emissions from the tanks where fermentation is taking place. However, there is no requirement to keep the NoMoVo system attached to a tank and operate it for the full fermentation cycle of that tank. Thus, the District was unable to confirm that the unit was operated in the continuous manner that would be required if the District considered NoMoVo to be achieved in practice BACT.

SBCAPCD PTO 14257 does not include a control efficiency requirement, does not include any source testing requirements to verify the control effectiveness of the control system. The effectiveness of the control has only been estimated using the density change of the NoMoVo slurry to estimate the quantity of ethanol capture, and using a theoretical calculation of the quantity of ethanol that would be emitted if the tanks were uncontrolled. Inlet and outlet air quality testing has not been performed for this particular installation.

Finally, the disposal of the NoMoVo slurry is an important consideration when determining the effectiveness of the control system. If the slurry is disposed of in a manner that re-emits the ethanol into the atmosphere, then the effectiveness of the control is diminished. Until August 2014, the CCWS facility disposed of the NoMoVo slurry in their on-site wastewater treatment facility. On August 21, 2014, SBCAPCD sent a letter to CCWS informing them that they have concerns over the treatment of the NoMoVo slurry. Specifically, SBAPCD was concerned about the potential for stripping of ethanol to the atmosphere during the on-site waste water treatment process. The SBCAPCD letter states *"In conclusion, after August 29, 2014, the District will not recognize emission reductions claimed based on the use of any of your NoMoVo systems (existing or new) at the facility until CCWS has a District-approved on-site or off-site ethanol disposal method in place"*. On August 27th, 2014, SBCAPCD approved the disposal of the NoMoVo slurry at Southern California Waste Water, an off-site facility in Santa Paula, California. In November, 2014, a vacuum truck carrying toxic chemicals from an unrelated facility exploded spreading about 1200 gallons of chemical waste including sulfuric acid and highly combustible organic peroxide. Since that incident, Southern California Waste Water has discontinued the acceptance of waste from all of their clients, so this disposal option is no longer available for the waste generated by CCWS.

The waste is now shipped to a distillery, which distills the ethanol and converts it into vehicle fuel. SBCAPCD has yet to approve the disposal of the NoMoVo slurry to the on-site wastewater facility. Consequently, the overall effectiveness of the system, including any ethanol re-emitted into the atmosphere during disposal, has yet to be sufficiently determined.

Since the control technology has not been demonstrated to operate in a manner that would be required by BACT and the overall effectiveness of the control technology has yet to be sufficiently determined, the District does not consider this installation to be achieved in practice.

Central Coast Wine Services (2014)

In 2014, CCWS submitted an Authority to Construct application for the installation of 40 new tanks, ranging in capacity from 7,407 gallons to 20,628 gallons. The proposal triggered BACT. CCWS decided to forego the normal BACT Analysis, and electively proposed to install six NoMoVo systems to control VOC emissions from the tanks, when the tanks were fermenting wine. A final ATC, (ATC 14350) was issued on July 28, 2014 and the tanks were installed for the 2014 season.

Unlike the previous installations of NoMoVo at this facility, the ATC requires use of the NoMoVo system on these tanks while fermentation is taking place, the permit requires a minimum capture and control efficiency, and the permit requires source testing to verify the effectiveness of the NoMoVo system. However, these tanks have yet to be used for fermentation and the effectiveness has yet to be determined for this installation of the NoMoVo system. An email from Richard Mather of CCWS to David Harris of SBCAPCD, dated September 16, 2014, states:

We won't be using the new tanks for fermentation this year, but since our ATC permit only gives us until August 1, 2015 to fulfill the source test plan, we will need to conduct the test this fall before our last fermentation. It would be highly unlikely that we would be conducting fermentation next year before August 1. Since harvest is progressing rapidly, we probably only have several weeks of fermentation left this year.

Since these tanks have yet to be operated for fermenting wine and the effectiveness of the NoMoVo system has yet to be verified for this installation, the District does not consider this installation of the NoMoVo system to be achieved in practice.

Conclusion

None of the installations have met all of the criteria necessary for the control technology to be considered as achieved in practice BACT or federal LAER.