Pacific Ethanol Magic Valley, LLC
Cooling Tower Emissions, FS05

Cooling tower PM emissions are based on an induced draft cooling tower with a circulating water flow rate of 15,000 gallons per minute (gpm) and a conservative drift (0.005% of the circulating water flow). Calculations assume a total dissolved solids concentration of 2,000 ppm.

Circulating Flow Rate (gallons/minute)	Circulating Flow Rate (gallons/hour)	Total Drift (% circulating flow)	Total Drift (gal/hr)	Total Drift (lb/hr)	PM/PM_{10} Emissions (lb/day)	$PM/PM_{10}/PM_{2.5}$ Emissions (lb/yr)	$PM/PM_{10}/PM_{2.5}$ Emissions (tpy)
15,000	900,000	0.005%	45.00	360.00	18.01	**6,575**	**3.29**

Density of Cooling Water = 8.34 lb/gal

TDS = 2,000 ppm

Production Throughputs for Pacific Ethanol Magic Valley, LLC

Undenatured ethanol throughput:	60	MMgal/yr	(proposed limit)
Denaturant throughput:	3.000	MMgal/yr	(assuming 5% by volume of ethanol produced which is 4% by weight)
Denatured ethanol (fuel) throughput:	63.00	MMgal/yr	(denatured ethanol)

Corn Processed:	22.5	MMBu/yr
	629213	tpy
	71.8	ton/hr

Assuming 2.67 gal EtOH per bushel of corn and 56 lb/Bu

Maximum Wetcake Produced	196629	tpy DDGS
	22.4	ton/hr DDGS
	70.1	ton/hr Wetcake

Assuming 17.5 lb DDGS per bushel of corn and wetcake contains 32% DDGS solids

Attachment C
IDEQ Forms

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
04/03/07

Please see instructions on page 2 before filling out the form.

DEQ USE ONLY
Date Received
Project Number
Payment / Fees Included? Yes ☐ No ☐
Check Number

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Pacific Ethanol Inc.		
2. Facility Name	Pacific Ethanol Magic Valley, LLC	3. Facility ID No.	031-00032
4. Brief Project Description - One sentence or less	Install Regenerative catalytic oxider instead of RTO, and modify tank sizes		

PERMIT APPLICATION TYPE

5. ☐ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source
☒ Modify Existing Source: Permit No.: P-060450 Date Issued: 05/14/2007
☐ Required by Enforcement Action: Case No.:____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☐	☒	Form GI – Facility Information	☐
☐	☒	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	☐
☐	☒	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU5 – Boiler Information Please Specify number of forms attached: _____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	☐
☐	☒	Form BCE - Baghouses Control Equipment	☐
☒	☐	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☒
☐	☒	Form FRA – Federal Regulation Applicability	☐

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PERMIT TO CONSTRUCT APPLICATION
Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	Pacific Ethanol, Inc
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Corn Receiving Baghouse	SV01	0.86	3.75										
Corn Handling Baghouse	SV02	0.43	1.88										
Corn Bin #1 Spot Filters	SV03	0.03	0.15										
Corn Bin #2 Spot Filters	SV04	0.03	0.15										
Surge Bin Spot Filters	SV05	0.02	0.08										
Hammermilling Baghouse	SV06	0.39	1.69										
Boiler #1	SV09	0.56	2.47	0.04	0.19	3.78	16.56	2.39	10.48	0.41	1.78		
Boiler #2	SV10	0.56	2.47	0.04	0.19	3.78	16.56	2.39	10.48	0.41	1.78		
Boiler #3	SV11	0.56	2.47	0.04	0.19	3.78	16.56	2.39	10.48	0.41	1.78		
Regenerative Catalytic Oxidizer	SV12	0.05	0.20	0.00	0.02	0.30	1.31	0.51	2.25	5.31	23.27		
Distillation Scrubber	SV13									0.72	3.14		
190 Proof Tank										0.01	0.05		
Denaturant Storage Tank										0.18	0.79		
200 Proof Storage Tank #1										0.04	0.19		
200 Proof Storage Tank #2										0.04	0.19		
Denatured Ethanol Tank #1										0.04	0.17		
Denatured Ethanol Tank #2										0.04	0.17		
Total		3.49	15.31	0.12	0.59	11.64	50.99	7.68	33.69	7.61	33.31		

DEQ AIR QUALITY PROGRAM
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PERMIT TO CONSTRUCT APPLICATION
Revision 2
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	Pacific Ethanol, Inc
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fule Grade Ethanol Production

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - FUGITIVE SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Fugitive Source Name	Fugitive ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Fugitive Source(s)													
Truck Traffic	FS01	4.64	20.33										
Grain Handling	FS02	1.47	6.44										
Wetcake Storage	FS03									0.61	2.67		
Equipment Leaks	FS04									0.69	3.02		
Cooling Towers	FS05	0.75	3.29										
Grain Loadout	FS06	0.65	2.83										
Grain Flaking	FS07	1.13	4.93										
Total		8.64	37.82							1.30	5.69		

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PERMIT TO CONSTRUCT APPLICATION
Revision 3
4/5/2007

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Company Name:	Pacific Ethanol, Inc.
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Distillation Scrubber	SV13									0.72	3.14		
name of the emissions unit2													
name of the emissions unit3													
name of the emissions unit4													
name of the emissions unit5													
name of the emissions unit6													
name of the emissions unit7													
name of the emissions unit8													
name of the emissions unit9													
name of the emissions unit10													
name of the emissions unit11													
name of the emissions unit12													
name of the emissions unit13													
name of the emissions unit14													
name of the emissions unit15													
name of the emissions unit16													
name of the emissions unit17													
name of the emissions unit18													
name of the emissions unit19													
name of the emissions unit20													
name of the emissions unit21													
(insert more rows as needed)													
Total										0.72	3.14		

DEQ AIR QUALITY PROGRAM
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PERMIT TO CONSTRUCT APPLICATION
Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	Pacific Ethanol, Inc
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - FUGITIVE SOURCES

1.	2.	3. Air Pollutant Maximum Change in Emissions Rate (lbs/hr or t/yr)											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Fugitive Source Name	**Fugitive ID**	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Fugitive Source(s)													
Grain Loadout	FS06	0.65	2.83										
Grain Flaking	FS07	1.13	4.93										
Total		1.78	7.76										

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Pacific Ethanol, Inc	**Facility Name:** Pacific Ethanol Magic Valley, LLC	**Facility ID No.:** 031-00032
Brief Project Description: Fuel Grade Ethanol Production		

IDENTIFICATION				SCRUBBER					
1.	2.	3.	4.	5.	6.	7.	8.	9	10.
Emission Unit	EU ID No.	CE ID No.	Stack ID No.	Manufacturer Name	Model No.	Type	Dimensions In Feet (Ht x Dia x L)	Water Flow (gpm)	Pressure Drop (in H_2O)
Distillation Scrubber	15-35, 41-43	CE08	SV13	TBD	TBD	TBD	44.67x1.33	35	6

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 0
04/02/07

Please see instructions on page 3 before filling out the form.

IDENTIFICATION

Company Name: Pacific Ethanol, Inc.	**Facility Name:** Pacific Ethanol Magic Valley, LLC	**Facility ID No.:** 031-00032
Brief Project Description: Fuel Grade Ethanol Production		

AFTERBURNER/OXIDIZER INFORMATION

Equipment Description

Manufacturer: TBD
Model Number: TBD

Type

- ☒ Catalytic oxidizer
- ☐ Recuperative oxidizer
- ☐ Thermal (direct fired) oxidizer
- ☐ Regenerative thermal oxidizer (RTO)

Number of chambers:

Is a rotoconcentrator for VOC part of the design? ☐ Yes ☐ No

Media type for regenerative oxidizer:
- ☒ Saddles
- ☐ Monolith
- ☐ Other:

For recuperative oxidizer, type of heat exchanger:
- ☐ Shell and tube
- ☐ Plate
- ☐ Other:

Type of Burner

- ☒ Gas fired — Btu rating: 1,020
- ☐ Electric — KW rating:
- ☐ Oil fired — Btu rating:

Blower scfm:
Blower hp:

Manufacturer's emission guarantee for burners for:
NOx: ppm @ % O_2
CO: ppm @ % O_2

Design Criteria

Retention time at normal operating temperature: 1 seconds at 1400 degrees F
Combustion chamber volume: 3,611.7 cubic feet (ft^3)
Design gas flow: 6,332.5 scfm

Pre-Treatment

Is a pre-treatment device for particulate removal present? ☒ Yes ☐ No
If yes, indicate type: ☒ Cyclone ☐ Precooler ☐ Preheater ☐ Knock-out chamber ☐ Baghouse ☐ Other:

Auxiliary Fuel Data

Auxiliary fuel available? ☐ Yes ☒ No
If yes, indicate type:

Fuel usage (check one):

	Maximum	Minimum	Average
☒ Cubic feet (ft^3)/hour	5,882		
☐ Gallons/hour			

For Catalytic Oxidizer

Catalyst manufacturer: A.H. Lundberg Associates

Type of catalyst:
- ☒ Low temperature catalyst
- ☐ Commercial noble metal
- ☐ Other:

Estimated catalyst life: 5-7 years
Catalyst cleaning frequency: TBD months
Method of cleaning:

Does the process emit any of the following potential catalyst masking agents or deactivators?
☐ Yes (if yes, check type[s] below) ☒ No
- ☐ Halogen
- ☐ Heavy metal
- ☐ Silicone
- ☐ Sulfur compounds
- ☐ Phosphorus compound
- ☐ Particulate matter

Process Blower

Blower: hp Design flow rate: scfm Draft: ☐ Forced ☐ Induced

Process Stream Characteristics

Brief Description of Process	VOC emissions from the fermentation process and ethanol loadout process will enter the RCO combustion chamber. Partial combustion of the VOC emissions will occur in the RCO, and the resulting emissions will be vented through SV12.

Emission Data

Air contaminant	Concentration ppmv	Destruction efficiency %
VOC		99%

Instrumentation Data	Flowmeter, thermocouple
Bakeout Process	Is bakeout a feature of the process? ☐ Yes ☐ No

Operating Conditions

	Maximum	Minimum	Average
Operating temperature (degrees F):	1400		
Exit gas temperature (degrees F):	128		
Pressure inches (H_2O):	TBD		
Moisture content (%):	TBD		
Gas volume (scfm):	6,332.5		
Gas velocity (duct-ft/min):			

Operating Schedule

Normal:	24 hours/day	7 days/week	52 weeks/year
Maximum:	24 hours/day	7 days/week	52 weeks/year

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PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	Pacific Ethanol, LLC
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (µg/m3)**	**Significant Contribution Level (µg/m3)**	**Full Impact Analysis Results (µg/m3)**	**Background Concentration (µg/m3)**	**Total Ambient Impact (µg/m3)**	**NAAQS (µg/m3)**	**Percent of NAAQS**
PM_{10}	24-hour	13.17	5	13.17	76.00	88.17	150	59%
	Annual	3.39	1	3.39	27.00	30.39	50	61%
SO_2	3-hr	---	25	---	---	---	1300	---
	24-hr	---	5	---	---	---	365	---
	Annual	---	1	---	---	---	80	---
NO_2	Annual	4.34	1	4.34	17.00	21.34	100	21%
CO	1-hr	---	2000	---	---	---	10000	---
	8-hr	---	500	---	---	---	40000	---

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PERMIT TO CONSTRUCT APPLICATION
Revision 3
3/27/2007

Please see instructions on page 2 before filling out the form.

Company Name:	Pacific Ethanol, Inc.
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Stack Height (m)**	**Modeled Diameter (m)**	**Stack Exit Temperature (K)**	**Stack Exit Flowrate (acfm)**	**Stack Exit Velocity (m/s)**	**Stack orientation (e.g., horizontal, rain cap)**
Point Source(s)										
Corn Receiving Baghouse	SV01	268,655.00	4,711,403.00	1,287.48	19.81	0.45		20,000.00	30.59	Vertical
Corn Handling Baghouse	SV02	268,658.28	4,711,420.50	1,287.48	19.81	0.45		10,000.00	30.59	Vertical
Corn Bin #1	SV03	268,660.25	4,711,437.00	1,287.48	20.42	0.34		400.00	2.11	Vertical
Corn Bin #2	SV04	268,655.00	4,711,403.00	1,287.48	20.42	0.34		400.00	2.11	Vertical
Surge Bin Spot Filters	SV05	268,675.25	4,711,446.50	1,287.48	9.14	0.46		200.00	0.59	Vertical
Hammermilling Baghouse	SV06	268,660.25	4,711,459.00	1,287.48	18.29	0.91		9,000.00	6.61	Vertical
Boiler #1	SV09	268,792.13	4,711,561.00	1,287.48	13.72	0.91	427.59	7,000.00	11.51	Vertical
Boiler #2	SV10	268,800.44	4,711,560.50	1,287.48	13.72	0.91	427.59	7,000.00	11.51	Vertical
Boiler #3	SV11	268,809.06	4,711,561.00	1,287.48	13.72	0.91	427.59	7,000.00	11.51	Vertical
RCO	SV12	268,700.59	4,711,534.00	1,278.48	12.80	0.91	326.48	11,920.00	4.28	45 deg.
Distillation Scrubber	SV13	268,721.66	4,711,346.19	1,278.48	13.60	0.41	296.21	24,910.00	1.51	Vertical
name of the emissions unit11	Cool1	268,737.19	4,711,605.00	1,287.48	10.36	2.44	294.26	25,300.00	16.07	Vertical
name of the emissions unit12	Cool2	268,740.53	4,711,604.00	1,287.48	10.36	2.44	294.26	25,300.00	16.07	Vertical
name of the emissions unit13	Cool3	268,746.09	4,711,604.00	1,287.48	10.36	2.44	294.26	25,300.00	16.07	Vertical
name of the emissions unit14										
name of the emissions unit15										
name of the emissions unit16										
name of the emissions unit17										
name of the emissions unit18										
name of the emissions unit19										
name of the emissions unit20										
name of the emissions unit21										
(insert more rows as needed)										

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4/5/2007

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Company Name:	Pacific Ethanol, Inc.
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

FUGITIVE SOURCE PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Release Height (m)**	**Easterly Length (m)**	**Northerly Length (m)**	**Angle from North (°)**	**Initial Vertical Dimension (m)**	**Initial Horizontal Dimension (m)**
Area Source(s)										
name of the emissions unit1	EQUIPFUG	268,770.88	4,711,475.00	1,287.48	0.30	3.05	5.00		12.19	
name of the emissions unit2	TANKS	268,672.47	4,711,568.00	1,287.48	0.61	30.48	30.48		7.62	
name of the emissions unit3										
name of the emissions unit4										
name of the emissions unit5										
name of the emissions unit6										
name of the emissions unit7										
name of the emissions unit8										
name of the emissions unit9										
name of the emissions unit10										
Volume Source(s)										
name of the emissions unit11	GRAIN1	268,734.97	4,711,569.50	1,287.48	2.29				2.29	1.70
name of the emissions unit12	GRAIN2	268,760.56	4,711,568.50	1,287.48	2.29				2.29	1.70
name of the emissions unit13	WETCAKE	268,718.09	4,711,424.00	1,287.48	0.30				4.88	24.38
name of the emissions unit14										
name of the emissions unit15										
name of the emissions unit16										
name of the emissions unit17										
name of the emissions unit18										
name of the emissions unit19										
(insert more rows as needed)										

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Company Name:	Pacific Ethanol, Inc.
Facility Name:	Pacific Ethanol Magic Valley, LLC
Facility ID No.:	031-00032
Brief Project Description:	Fuel Grade Ethanol Production

BUILDING AND STRUCTURE INFORMATION

1.	2.	3.	4.	5.	6.	7.
Building ID Number	**Length (ft)**	**Width (ft)**	**Base Elevation (m)**	**Building Height (m)**	**Number of Tiers**	**Description/Comments**
Building 1 ID	78.73	93.86	1287.48	12.19	1	Boiler Building
Building 2 ID	75.45	40.84	1287.48	6.10	1	Mechanical Buidling - MCC
Building 3 ID	96.78	92.09	1287.48	6.10	1	Administration Building
Building 4 ID	301.83	93.80	1287.48	18.29	1	Process Building
Building 5 ID	339.70	100.00	1287.48	7.01	1	Fermentation Building
Building 6 ID	78.77	83.13	1287.48	12.19	1	Distillation Building - DDE
Building 7 ID	21.32	54.85	1287.48	10.36	1	Cooling

Attachment D
TANKS 4.09 Calculations

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK01
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valley, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	Off-spec Tank

Tank Dimensions

Diameter (ft):	25.00
Volume (gallons):	174,500.00
Turnovers:	3.44
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	9
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK01 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Ethyl alcohol	All	48.21	41.93	54.49	46.37	0.4341	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK01 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations

Rim Seal Losses (lb):	16.2476
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0088
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.4341
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Withdrawal Losses (lb):	5.5565
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	600,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.6100
Tank Diameter (ft):	25.0000
Deck Fitting Losses (lb):	86.7624
Value of Vapor Pressure Function:	0.0088
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	213.6000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Total Losses (lb):	108.5665

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	12.5919
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	1.7466
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	13.4043
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	22.7467
Roof Leg or Hanger Well/Adjustable	9	7.90	0.00	0.00	28.8802
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	4.8743
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2.5184

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK01 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Ethyl alcohol	16.25	5.56	86.76	0.00	108.57

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK02
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valley, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	Denaturant Storage Tank

Tank Dimensions

Diameter (ft):		20.42
Volume (gallons):		58,750.00
Turnovers:		51.06
Self Supp. Roof? (y/n):	N	
No. of Columns:		1.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	8
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK02 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 10)	All	48.21	41.93	54.49	46.37	4.1037	N/A	N/A	66.0000			92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK02 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations

Rim Seal Losses (lb):	213.2354
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0989
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.1037
Tank Diameter (ft):	20.4200
Vapor Molecular Weight (lb/lb-mole):	66.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	29.0650
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	3,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	20.4200
Deck Fitting Losses (lb):	1,342.5108
Value of Vapor Pressure Function:	0.0989
Vapor Molecular Weight (lb/lb-mole):	66.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	205.7000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	20.4200
Vapor Molecular Weight (lb/lb-mole):	66.0000
Product Factor:	1.0000
Total Losses (lb):	1,584.8112

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	202.3230
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	28.0642
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	215.3761
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	365.4866
Roof Leg or Hanger Well/Adjustable	8	7.90	0.00	0.00	412.4778
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	78.3186
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	40.4646

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK02 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 10)	213.24	29.07	1,342.51	0.00	1,584.81

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK03
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valey, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	200 Proof Storage Tank

Tank Dimensions

Diameter (ft):	25.00
Volume (gallons):	174,500.00
Turnovers:	171.92
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	9
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK03 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Ethyl alcohol	All	48.21	41.93	54.49	46.37	0.4341	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK03 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations	
Rim Seal Losses (lb):	16.2476
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0088
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.4341
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Withdrawal Losses (lb):	277.8240
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	30,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.6100
Tank Diameter (ft):	25.0000
Deck Fitting Losses (lb):	86.7624
Value of Vapor Pressure Function:	0.0088
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	213.6000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Total Losses (lb):	380.8340

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	12.5919
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	1.7466
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	13.4043
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	22.7467
Roof Leg or Hanger Well/Adjustable	9	7.90	0.00	0.00	28.8802
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	4.8743
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2.5184

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK03 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Ethyl alcohol	16.25	277.82	86.76	0.00	380.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK04
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valley, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	200 Proof Storage Tank

Tank Dimensions

Diameter (ft):	25.00
Volume (gallons):	174,500.00
Turnovers:	171.92
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	9
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK04 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Ethyl alcohol	All	48.21	41.93	54.49	46.37	0.4341	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK04 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations	
Rim Seal Losses (lb):	16.2476
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0088
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.4341
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Withdrawal Losses (lb):	277.8240
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	30,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.6100
Tank Diameter (ft):	25.0000
Deck Fitting Losses (lb):	86.7624
Value of Vapor Pressure Function:	0.0088
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	213.6000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Total Losses (lb):	380.8340

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	12.5919
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	1.7466
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	13.4043
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	22.7467
Roof Leg or Hanger Well/Adjustable	9	7.90	0.00	0.00	28.8802
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	4.8743
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2.5184

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK04 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Ethyl alcohol	16.25	277.82	86.76	0.00	380.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK05
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valley, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	Denatured Ethanol Storage Tank

Tank Dimensions

Diameter (ft):	40.00
Volume (gallons):	587,000.00
Turnovers:	53.66
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	12
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK05 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Denatured Ethanol	All	48.21	41.93	54.49	46.37	0.5284	N/A	N/A	50.0449			47.25	
Ethyl alcohol						0.4341	N/A	N/A	46.0700	0.9500	0.7370	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.1037	N/A	N/A	66.0000	0.0500	0.2630	92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK05 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations

Rim Seal Losses (lb):	34.5019
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0108
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5284
Tank Diameter (ft):	40.0000
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Withdrawal Losses (lb):	178.0864
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	31,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.5509
Tank Diameter (ft):	40.0000
Deck Fitting Losses (lb):	127.9264
Value of Vapor Pressure Function:	0.0108
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	237.3000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	40.0000
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Total Losses (lb):	340.5147

Roof Fitting/Status	Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	16.7118
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	2.3181
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	17.7900
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	30.1891
Roof Leg or Hanger Well/Adjustable	12	7.90	0.00	0.00	51.1059
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	6.4691
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	3.3424

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK05 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Denatured Ethanol	34.50	178.09	127.93	0.00	340.51
Ethyl alcohol	25.43	169.18	94.28	0.00	288.89
Gasoline (RVP 10)	9.07	8.90	33.65	0.00	51.63

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	PAC - Burley- TK06
City:	Burley
State:	Idaho
Company:	Pacific Ethanol Magic Valley, LLC
Type of Tank:	Internal Floating Roof Tank
Description:	Denatured Ethanol Storage Tank

Tank Dimensions

Diameter (ft):	40.00
Volume (gallons):	587,000.00
Turnovers:	53.66
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	12
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Pocatello, Idaho (Avg Atmospheric Pressure = 12.53 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

PAC - Burley- TK06 - Internal Floating Roof Tank
Burley, Idaho

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Denatured Ethanol	All	48.21	41.93	54.49	46.37	0.5284	N/A	N/A	50.0449			47.25	
Ethyl alcohol						0.4341	N/A	N/A	46.0700	0.9500	0.7370	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.1037	N/A	N/A	66.0000	0.0500	0.2630	92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

PAC - Burley- TK06 - Internal Floating Roof Tank
Burley, Idaho

Annual Emission Calcaulations

Rim Seal Losses (lb):	34.5019
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0108
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5284
Tank Diameter (ft):	40.0000
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Withdrawal Losses (lb):	178.0864
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	31,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.5509
Tank Diameter (ft):	40.0000
Deck Fitting Losses (lb):	127.9264
Value of Vapor Pressure Function:	0.0108
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	237.3000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	40.0000
Vapor Molecular Weight (lb/lb-mole):	50.0449
Product Factor:	1.0000
Total Losses (lb):	340.5147

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	1	31.00	5.20	1.30	16.7118
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	2.3181
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	17.7900
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	30.1891
Roof Leg or Hanger Well/Adjustable	12	7.90	0.00	0.00	51.1059
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	6.4691
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	3.3424

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

PAC - Burley- TK06 - Internal Floating Roof Tank
Burley, Idaho

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Denatured Ethanol	34.50	178.09	127.93	0.00	340.51
Ethyl alcohol	25.43	169.18	94.28	0.00	288.89
Gasoline (RVP 10)	9.07	8.90	33.65	0.00	51.63