

CITGO Petroleum Corporation



Pettys Island Terminal
PO Box 655
Pennsauken, NJ 08110
856-963-1251

November 14, 2019

FedEx # 7769 8357 1700

Ms. Jane Gilbert
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017
207-287-7693

RE: Part 70 Air Emission License Renewal Application
Permit # A-460-70-G-R
CITGO/Irving Petroleum Terminal
102 Mechanic Street
South Portland, ME 04106

Ms. Jane Gilbert,

CITGO Petroleum is submitting a renewal application for the Part 70 Air Emission License at the above referenced location. There have been no significant changes to equipment or operations since the last renewal. CITGO desires to renew the existing Air Emission License with only a few clarifications to emissions. CITGO also proposes to reduce the facility's total Volatile Organic Compound (VOC) Potential To Emit (PTE) emissions from 117.3 Tons Per Year (TPY) to 104.4 TPY.

The Marine Vessel Loading Dock at the terminal is currently permitted to load up to 10,000,000 gallons/year of gasoline and 45,000,000 gallons/year of distillate products. The current air permit license allows for the loading of gasoline without controls. CITGO proposes to only load gasoline if controlled by the Vapor Combustion Unit (VCU) currently on site. This will reduce the VOC PTE of Marine gasoline loading from 9.1 TPY to 0.916 TPY. There is no change to the distillate loading emissions as they are not required to be controlled and the VOC PTE is 0.39 TPY.

The Truck Rack emissions from the loading of trucks and the emissions from the VCU control device have been reduced from 66.0 TPY to 60.6 TPY. There is no change in the annual throughput limits for any products at the truck rack.

There has been no change in the VOC PTE emissions from Storage Tanks which will remain the same.

Facility Fugitive Emissions have been calculated at 0.63 TPY PTE of VOCs. The 2004 permit increased the Facility Fugitive Emissions from 0.3 to 0.63 TPY PTE. The permit should reflect the 0.63 TPY PTE limit during the renewal of the permit.

The Total Allowable Annual Emissions for the Facility should reflect a decrease in potential Total VOC emissions of 12.9 TPY from 117.3TPY to 104.4 TPY. No other changes are proposed to the air permit license.

The supporting documentation includes MEDEP air permit renewal forms, air emission calculations, public notice, certifications and notice of Intent to File.

Please contact me at (609)841-0399 should you have any questions or require additional information.

Sincerely,



Donald Lee Griffin Jr.
Environmental, Health, Safety & Security Manager

CC: U.S. EPA Region 1-FedEx 7769 8365 1344
South Portland Municipal Offices- FedEx 7769 8366 9861



attachments



Form No.	A-L-0022
Effective Date	1/16/2007
Revision No.	04
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Section B: Source Overview

I. NAICS Codes

North American Industry Classification System (NAICS) Code	Description
424710	Bulk Petroleum Storage and Distribution

II. Equipment List

Add additional pages as necessary.

E X A M P L E

Emission Unit ID	Stack #	Description
<i>PB#1</i>	<i>1</i>	<i>Power Boiler #1 (example)</i>
<i>C Recovery</i>	<i>2</i>	<i>Recovery Boiler (example)</i>
<i>Tank 3</i>	<i>fugitive</i>	<i>Gasoline Storage Tank (example)</i>

Emission Unit ID	Stack #	Description
001	VCU001	Truck Rack Loading and VCU emissions
002	a.v.	removed
003	a.v.	removed
004	a.v.	Tank #10
005	a.v.	Tank #7
006	a.v.	Tank #8
007	a.v.	Tank #9
008	a.v.	Tank #3
009	a.v.	Tank #4
010	a.v.	Tank #6
011	a.v.	Tank #2
012	a.v.	Tank #5
013	a.v.	Tank #1
014	a.v. or VCU001	Marine Vessel Loading (distillate/gasoline)
	fugitive	Process Fugitives (Facility wide)



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Section C: Facility Emissions and General Applicable Requirements

I. Criteria Pollutants

This facility has the potential to emit more than 100 ton/year of the following regulated pollutants (check all that apply):

- Particulate Matter (PM)
- Particulate Matter less than 10 micrometers (PM₁₀)
- Particulate Matter less than 2.5 micrometers (PM_{2.5})
- Sulfur Dioxide (SO₂)
- Nitrogen Oxides (NO_x)
- Carbon Monoxide (CO)
- Volatile Organic Compounds (VOC)

II. Hazardous Air Pollutants

(as defined by: EPA, Office of Air Quality, Planning & Standards Section 112 Hazardous Air Pollutants List)

This facility has the potential to emit:

- ≥ 10 Tons per year of any single Hazardous Air Pollutant
- ≥ 25 Tons per year of all Hazardous Air Pollutants combined
- None of the above

III. Greenhouse Gases (GHGs)

(as defined by: 06-096 C.M.R. ch. 100, Definitions Regulation)

This facility has the potential to emit 7,502.61 ton/year of GHG.



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Section C: Facility Emissions and General Applicable Requirements (cont)

IV. Applicable State Regulations

Indicate any STATE rules that may be applicable to your facility by checking the associated box.

	Citation	Title
<input checked="" type="checkbox"/>	06-096 C.M.R. 101	Visible Emissions
<input checked="" type="checkbox"/>	06-096 C.M.R. 103	Fuel Burning Equipment Particulate Emission Standard
<input checked="" type="checkbox"/>	06-096 C.M.R. 104	Incinerator Particulate Emission Standard
<input type="checkbox"/>	06-096 C.M.R. 105	General Process Source Particulate Emission Standard
<input checked="" type="checkbox"/>	06-096 C.M.R. 106	Low Sulfur Fuel Regulation
<input checked="" type="checkbox"/>	06-096 C.M.R. 111	Petroleum Liquid Storage Vapor Control
<input checked="" type="checkbox"/>	06-096 C.M.R. 112	Bulk Terminal Petroleum Liquid Transfer Requirements
<input type="checkbox"/>	06-096 C.M.R. 117	Source Surveillance
<input type="checkbox"/>	06-096 C.M.R. 118	Gasoline Dispensing Facilities Vapor Control
<input type="checkbox"/>	06-096 C.M.R. 121	Emission Limitations and Emission Testing Resource Recovery Facilities
<input type="checkbox"/>	06-096 C.M.R. 123	Paper Coating Regulation
<input type="checkbox"/>	06-096 C.M.R. 124	Total Reduced Sulfur Control from Kraft Mills
<input type="checkbox"/>	06-096 C.M.R. 126	Capture Efficiency Test Procedures
<input type="checkbox"/>	06-096 C.M.R. 129	Surface Coating Facilities
<input type="checkbox"/>	06-096 C.M.R. 130	Solvent Degreasers
<input type="checkbox"/>	06-096 C.M.R. 132	Graphic Arts – Rotogravure and Flexography
<input type="checkbox"/>	06-096 C.M.R. 133	Petroleum Liquids Transfer Vapor Recovery at Bulk Gasoline Plants
<input checked="" type="checkbox"/>	06-096 C.M.R. 134	Reasonably Available Control Technology for Facilities that emit Volatile Organic Compounds
<input checked="" type="checkbox"/>	06-096 C.M.R. 137	Emission Statements
<input type="checkbox"/>	06-096 C.M.R. 138	Reasonably Available Control Technology for Facilities that emit Nitrogen Oxides
<input checked="" type="checkbox"/>	06-096 C.M.R. 140	Part 70 Air Emission License Regulations
<input type="checkbox"/>	06-096 C.M.R. 145	NOx Control Equipment
<input type="checkbox"/>	06-096 C.M.R. 153	Mobile Equipment Repair and Refinishing
<input type="checkbox"/>	06-096 C.M.R. 154	Control of Volatile Organic Compounds from Flexible Package Printing
<input type="checkbox"/>	06-096 C.M.R. 159	Control of Volatile Organic Compounds from Adhesives and Sealants
<input type="checkbox"/>	06-096 C.M.R. 161	Offset Lithography and Letterpress Printing
<input type="checkbox"/>	06-096 C.M.R. 162	Control of Fiberglass Boat Manufacturing Materials
<input type="checkbox"/>	06-096 C.M.R. 166	Industrial Cleaning Solvents
<input checked="" type="checkbox"/>	Other (list)	06-096 CMR 109, 110, 115, 116, 119, 120, 143 & 144
<input type="checkbox"/>	Other (list)	



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Section C: Facility Emissions and General Applicable Requirements (cont)

V. Applicable Federal Regulations

Indicate any Federal rules that may be applicable to any equipment at the facility by checking the associated box.

- 40 C.F.R. Part 60 (NSPS) – List all subparts that apply:
Subpart A, Subpart K, Subpart XX

- 40 C.F.R. Part 63 (NESHAP) – List all subparts that apply:
Subpart A, Subpart Y, Subpart WW, Subpart BBBBBB

- 40 C.F.R. Part 64 (CAM) List emission units subject to CAM:
001 and 0014

- 40 C.F.R. Part 68 (Chemical Accident Prevention Provisions)

- Part 70 (State Operating Permit Program for Part 70 Sources)
- Part 72 (Acid Rain Program) - List all applicable emission units:

- 40 C.F.R. Part 75 (Continuous Emission Monitoring for Acid Rain Sources)
- 40 C.F.R. Part 82 (Protection of Stratospheric Ozone)
- 40 C.F.R. Part 98 (Mandatory Greenhouse Gas Reporting)
- Other _____



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Section D: Fuel Burning Equipment
 (Except reciprocating internal combustion engines, see Section E.)

Emission Unit ID/Name: 001/Truck Loading Rack VCU

I. Equipment Description

Type of Equipment (Boiler, Combustion Turbine, etc.)	Vapor Combustion Unit (VCU)
Manufacturer	John Zink Company, Inc.
Model	ZCT-2/5-10-54-4-2/8-4/8-X-X
Max. Heat Input	114 MMBtu/hr
Date of Manufacture	1995
Date of Installation	1995
40 C.F.R. Part 60 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): XX and App. A
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBBBB
Limited Use	<input checked="" type="radio"/> No <input type="radio"/> Yes (< 10%) <input type="radio"/> Yes (< 20%)

II. Fuels

Type/Grade	Max Firing Rate (e.g. gal/hr, scfh)	Max. Sulfur Content (%) (if applicable)	Avg. Moisture Content (%) (if applicable)
Petroleum Vapors	5,850 lb/hr	.0015	N/A
Propane	1,392 gal/hr	.0031	N/A



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack VCU

III. Control Equipment

Duplicate page as needed.

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	N/A
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack VCU

IV. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached

V. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

- Yes No

If yes, for what pollutant(s)? VOC

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

- | | | |
|--|--|--|
| <input type="checkbox"/> Opacity | <input type="checkbox"/> TRS | <input type="checkbox"/> NH ₃ |
| <input type="checkbox"/> SO ₂ | <input type="checkbox"/> Mercury | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> NO _x | <input type="checkbox"/> O ₂ | |
| <input type="checkbox"/> CO | <input type="checkbox"/> CO ₂ | |

c. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack VCU

VI. Stack Data

How are the emissions released? Fugitive Stack

For stack emissions only:

Stack ID	VCU001
Orientation	<input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal
Rain Cap	<input type="radio"/> Yes <input checked="" type="radio"/> No
Height (feet above ground level)	54
Inside Diameter (feet)	10
Gas Exit Flow Rate (acfm)	80-1797
Gas Exit Velocity (ft/sec)	variable
Exit Temperature (deg F)	ambient-2,000



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Section D: Fuel Burning Equipment
 (Except reciprocating internal combustion engines, see Section E.)

Emission Unit ID/Name: 014/Marine Gasoline Loading

I. Equipment Description

Type of Equipment (Boiler, Combustion Turbine, etc.)	Vapor Combustion Unit (VCU)
Manufacturer	John Zink Company, Inc.
Model	ZCT-2/5-10-54-4-2/8-4/8-X-X
Max. Heat Input	114 MMBtu/hr
Date of Manufacture	1995
Date of Installation	1995
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): Y
Limited Use	<input checked="" type="radio"/> No <input type="radio"/> Yes (< 10%) <input type="radio"/> Yes (< 20%)

II. Fuels

Type/Grade	Max Firing Rate (e.g. gal/hr, scfh)	Max. Sulfur Content (%) (if applicable)	Avg. Moisture Content (%) (if applicable)
Petroleum Vapors	5,850 lb/hr	.0015	N/A
Propane	1,392 gal/hr	.0031	N/A



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 014/Marine Gasoline Loading

III. Control Equipment

Duplicate page as needed.

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	Vapor Combustion Unit (VCU)
Manufacturer	John Zink Company, Inc.
Install Date	1995
Pollutant(s) Controlled	VOCs
Capture Efficiency	98.7 %
Control Efficiency	99 %

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. ESP, SNCR, Flue Gas Recirc, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 014/Marine Gasoline Loading

IV. BACT/BPT

BACT was established <15 Years Ago

BPT analysis is attached

V. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? VOC

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

- Opacity
- SO₂
- NO_x
- CO

- TRS
- Mercury
- O₂
- CO₂

- NH₃
- Other: _____

c. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section D: Fuel Burning Equipment (cont.)

Emission Unit ID/Name (cont): 014/Marine Gasoline Loading

VI. Stack Data

How are the emissions released?	<input type="radio"/> Fugitive <input checked="" type="radio"/> Stack
For stack emissions only:	
Stack ID	VCU001
Orientation	<input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal
Rain Cap	<input type="radio"/> Yes <input checked="" type="radio"/> No
Height (feet above ground level)	54
Inside Diameter (feet)	10
Gas Exit Flow Rate (acfm)	80-1797
Gas Exit Velocity (ft/sec)	variable
Exit Temperature (deg F)	ambient-2,000



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 013/Tank 1

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1947
Color	White
Height (feet)	40
Diameter (feet)	120
Capacity (gallons)	2,793,588
Annual throughput	31,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 013/Tank 1

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 011/Tank 2

I. Equipment Description

Material Stored	Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input checked="" type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1931
Color	White
Height (feet)	41
Diameter (feet)	140
Capacity (gallons)	4751302
Annual throughput	60,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 011/Tank 2

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 008/Tank 3

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1974
Color	White
Height (feet)	50
Diameter (feet)	120
Capacity (gallons)	3,765,132
Annual throughput	98,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): K
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 008/Tank 3

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 009/Tank 4

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1974
Color	White
Height (feet)	50
Diameter (feet)	120
Capacity (gallons)	3,765,132
Annual throughput	98,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): K
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 009/Tank 4

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 012/Tank 5

I. Equipment Description

Material Stored	Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input checked="" type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1938
Color	White
Height (feet)	41
Diameter (feet)	78
Capacity (gallons)	1,340,094
Annual throughput	13,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):

II. BACT/BPT

BACT was established <15 Years Ago

BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 012/Tank 5

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 010/Tank 6

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1974
Color	White
Height (feet)	51
Diameter (feet)	80
Capacity (gallons)	1,584,072
Annual throughput	13,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): K
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 010/Tank 6

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section II: Liquid Organic Material Storage

Emission Unit ID/Name: 005/Tank 7

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1965
Color	White
Height (feet)	48
Diameter (feet)	134
Capacity (gallons)	4,200,000
Annual throughput	30,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 005/Tank 7

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 006/Tank 8

I. Equipment Description

Material Stored	Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input checked="" type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1965
Color	White
Height (feet)	48
Diameter (feet)	134
Capacity (gallons)	4,200,000
Annual throughput	30,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 006/Tank 8

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 007/Tank 9

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1966
Color	White
Height (feet)	48
Diameter (feet)	100
Capacity (gallons)	2,509,416
Annual throughput	20,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 007/Tank 9

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section H: Liquid Organic Material Storage

Emission Unit ID/Name: 004/Tank 10

I. Equipment Description

Material Stored	Gasoline/Ethanol/Distillates
Location	<input checked="" type="radio"/> Above Ground <input type="radio"/> Below Ground
Type	<input checked="" type="radio"/> Internal floating roof <input type="radio"/> External floating roof <input type="radio"/> Fixed roof (no internal floating roof) <input type="radio"/> Other
Date of Installation	1962
Color	White
Height (feet)	48
Diameter (feet)	100
Capacity (gallons)	2,705,556
Annual throughput	39,000,000
Loading Rack Used?	<input type="radio"/> No <input checked="" type="radio"/> Yes Unit ID/Name: 001
Product Transfers To	<input checked="" type="checkbox"/> Trucks <input type="checkbox"/> Ships/barges/marine vessels <input type="checkbox"/> Rail car <input type="checkbox"/> Other:
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section H: Liquid Organic Material Storage (cont)

Emission Unit ID/Name (cont): 004/Tank 10

III. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency



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Section I: Miscellaneous Emission Unit

Emission Unit ID/Name: 001/Truck Loading Rack

I. Equipment Description

Type of Emission Unit (Loading Rack, Parts Washer, etc.)	Truck Loading Rack
Description (Size, Capacity, etc.)	5 lane 13,440 gallons/minute
Type of Emissions (PM, VOC, NOx, HAPs, etc.)	VOC/HAPs
Nature of Emissions (Fugitive Dust, Paint Room, etc.)	Fugitive Truck Loading Losses
Date of Manufacture	est.1931
Date of Installation	est.1931
40 C.F.R. Part 60 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): A, XX
40 C.F.R. Part 63 Applicability	<input type="radio"/> No <input checked="" type="radio"/> Yes Subpart(s): BBBB

II. BACT/BPT

- BACT was established <15 Years Ago
- BPT analysis is attached



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack

III. Control Equipment

Duplicate page as needed.

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	Vapor Combustion Unit (VCU)
Manufacturer	John Zink Company, Inc.
Install Date	1995
Pollutant(s) Controlled	VOC
Capture Efficiency	98.7 %
Control Efficiency	99 %

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack

IV. Associated Chemical Usage

Duplicate page as needed to accommodate all chemical usage for this Emission Unit.

Chemical Name: (e.g. ink, blanket wash, paint, etc.)		Gasoline Vapors
Actual Usage (gal/year or lb/year):		635,000,000 gallons/year PTE
Density of Chemical (lb/gal):		6.1 lb/gal
Avg. Percent VOC:		100.
List each HAP below:		Weight Percentage
1. see attached VOC Emissions Summary		
2.		
3.		
4.		
5.		
Total HAP Emissions (lb/year):	52	
Total VOC Emissions (lb/year):	63,400	

Chemical Name: (e.g. ink, blanket wash, paint, etc.)		
Actual Usage (gal/year or lb/year):		
Density of Chemical (lb/gal):		
Avg. Percent VOC:		
List each HAP below:		Weight Percentage
1.		
2.		
3.		
4.		
5.		
Total HAP Emissions (lb/year):		
Total VOC Emissions (lb/year):		



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): 001/Truck Loading Rack

V. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

- | | | |
|--|--|--|
| <input type="checkbox"/> Opacity | <input type="checkbox"/> TRS | <input type="checkbox"/> NH ₃ |
| <input type="checkbox"/> SO ₂ | <input type="checkbox"/> Mercury | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> NO _x | <input type="checkbox"/> O ₂ | |
| <input type="checkbox"/> CO | <input type="checkbox"/> CO ₂ | |

c. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency

VI. Stack Data

How are the emissions released? Fugitive Stack

For stack emissions only:

Stack ID	
Orientation	<input type="radio"/> Vertical <input type="radio"/> Horizontal
Rain Cap	<input type="radio"/> Yes <input type="radio"/> No
Height (feet above ground level)	
Inside Diameter (feet)	
Gas Exit Flow Rate (acfm)	
Gas Exit Velocity (ft/sec)	
Exit Temperature (deg F)	



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Section I: Miscellaneous Emission Unit

Emission Unit ID/Name: Facility Fugitive Emissions (Process Fugitives)

I. Equipment Description

Type of Emission Unit (Loading Rack, Parts Washer, etc.)	Facility Fugitive Emissions
Description (Size, Capacity, etc.)	Facility Fugitive Emissions from valves, pump seals and other fittings
Type of Emissions (PM, VOC, NOx, HAPs, etc.)	VOC/HAPs
Nature of Emissions (Fugitive Dust, Paint Room, etc.)	Facility Fugitive Emissions from valves, pump seals and other fittings
Date of Manufacture	est.1931 onward
Date of Installation	est.1931 onward
40 C.F.R. Part 60 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):
40 C.F.R. Part 63 Applicability	<input checked="" type="radio"/> No <input type="radio"/> Yes Subpart(s):

II. BACT/BPT

BACT was established <15 Years Ago

BPT analysis is attached



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): Facility Fugitive Emissions (Process Fugitives)

III. Control Equipment

Duplicate page as needed.

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	Not Applicable
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%

Type of Control Equipment (e.g. Cyclone, Baghouse, RTO, etc.)	
Manufacturer	
Install Date	
Pollutant(s) Controlled	
Capture Efficiency	%
Control Efficiency	%



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): Facility Fugitive Emissions (Process Fugitives)

IV. Associated Chemical Usage

Duplicate page as needed to accommodate all chemical usage for this Emission Unit.

Chemical Name: (e.g. ink, blanket wash, paint, etc.)	Gasoline Vapors	
Actual Usage (gal/year or lb/year):	635,000,000 gallons/year PTE	
Density of Chemical (lb/gal):	6.1 lb/gal	
Avg. Percent VOC:	100	
List each HAP below:	Weight Percentage	
1. see attached Fugitive Emissions Total VOC Emissions by component type		
2.		
3.		
4.		
5.		
Total HAP Emissions (lb/year):	52	
Total VOC Emissions (lb/year):	1,260	

Chemical Name: (e.g. ink, blanket wash, paint, etc.)		
Actual Usage (gal/year or lb/year):		
Density of Chemical (lb/gal):		
Avg. Percent VOC:		
List each HAP below:	Weight Percentage	
1.		
2.		
3.		
4.		
5.		
Total HAP Emissions (lb/year):		
Total VOC Emissions (lb/year):		



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Section I: Miscellaneous Emission Unit (cont.)

Emission Unit ID/Name (cont): Facility Fugitive Emissions (Process Fugitives)

V. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

Yes No

If yes, for what pollutant(s)? _____

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

- | | | |
|--|--|--|
| <input type="checkbox"/> Opacity | <input type="checkbox"/> TRS | <input type="checkbox"/> NH ₃ |
| <input type="checkbox"/> SO ₂ | <input type="checkbox"/> Mercury | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> NO _x | <input type="checkbox"/> O ₂ | |
| <input type="checkbox"/> CO | <input type="checkbox"/> CO ₂ | |

c. Parameter Monitors

Parameter Monitored	Unit of Measure	Monitoring Tool/Method	Monitoring Frequency	Recording Frequency

VI. Stack Data

How are the emissions released? Fugitive Stack

For stack emissions only:

Stack ID	
Orientation	<input type="radio"/> Vertical <input type="radio"/> Horizontal
Rain Cap	<input type="radio"/> Yes <input checked="" type="radio"/> No
Height (feet above ground level)	a.v.
Inside Diameter (feet)	a.v.
Gas Exit Flow Rate (acfm)	N/A
Gas Exit Velocity (ft/sec)	N/A
Exit Temperature (deg F)	ambient

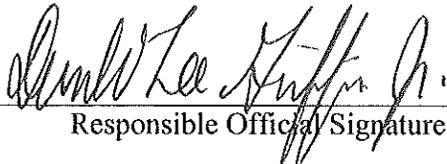


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Section J: Certification

Each application submitted to the Department must include the following certification signed by a Responsible Official*:

"I certify under penalty of law that, based on information and belief formed after reasonable inquiry, I believe the information included in the attached document is true, complete, and accurate."

 Responsible Official Signature	11/14/19 Date
Donald Lee Griffin Jr. Responsible Official Name (Printed or Typed)	EHSS Manager Title

*A Responsible Official is defined by 06-096 C.M.R. ch. 100 as:

- A. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (1) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - (2) The delegation of authority to such representatives is approved in advance by the permitting authority;
- B. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- C. For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA).



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Section K: List of Attachments

- | | |
|---|---------------------|
| <input checked="" type="checkbox"/> Facility Description | Attachment <u>A</u> |
| <input checked="" type="checkbox"/> Discussion of Applicable Requirements | Attachment <u>B</u> |
| <input checked="" type="checkbox"/> Public Notice of Intent to File
<i>(Copy or tear sheet from the newspaper)</i> | Attachment <u>C</u> |
| <input checked="" type="checkbox"/> BPT/BACT Analysis | Attachment <u>D</u> |
| <input checked="" type="checkbox"/> Calculations | Attachment <u>E</u> |
| <input type="checkbox"/> Permit Shield | Attachment _____ |
| <input checked="" type="checkbox"/> CAM Plan | Attachment <u>F</u> |
| <input type="checkbox"/> Ambient Air Quality Impact Analysis | Attachment _____ |
| <input type="checkbox"/> Proposed Alternative Operating Scenarios | Attachment _____ |
| <input checked="" type="checkbox"/> Plot Plan | Attachment <u>G</u> |
| <input type="checkbox"/> Confidentiality Justification | Attachment _____ |
|
 | |
| <input type="checkbox"/> Other: | Attachment _____ |

Attachments

	Attachment
Facility Description	A
Discussion of Applicable Requirements	B
Public Notice of Intent to File	C
BPT/BACT Analysis	D
Calculations	E
CAM Plan	F
Plot Plan	G

Attachment A

Facility Description

CITGO operates a bulk petroleum products terminal located at 102 Mechanic Street in South Portland, Maine. The NAICS code for this operation is 424710. The facility has ten large Aboveground Storage Tanks (AST) and several smaller additive tanks. The facility receives petroleum products from the marine dock and smaller deliveries by truck. The terminal stores gasoline, ethanol/biofuels, heating oil, diesel fuel and fuel additive products. There is a 5-bay Truck Loading Rack where tanker trucks are loaded with petroleum products. The marine dock can also load petroleum products onto marine vessels.

Attachment B

Discussion of Applicable Requirements

The facility is subject to State and Federal regulations. A list of these applicable regulations is presented in the application forms Section C.

Attachment C

Public Notice of Intent to File



No.	A-L-0014
Effective Date	2/3/06
Revision No.	04
Last Revision Date	5/31/2013
Page 1 of 1	

1. For Renewals, New Sources, Modifications, Class IV-A Incinerator General Permits, and Transfers: To be advertised once by the applicant in a newspaper of general circulation in the area of the project location, within 30 days prior to the filing of the application.
2. For major modifications, new major sources, and new Part 70 sources this notice must also be mailed by certified mail to all abutting landowners, within 30 days prior to the filing of the application.
3. A copy of the "published" notice is to be submitted with the application.

PUBLIC NOTICE OF INTENT TO FILE

Please take notice that CITGO Petroleum Corporation (609-841-0399) intends to file an Air Emission License application with the Maine Department of Environmental Protection (DEP) pursuant to the provisions of 38 M.R.S.A., Section 590 on (November 15, 2019) The application is for Title V Air Permit renewal at CITGO South Portland, 102 Mechanic Street, South Portland, ME 04106. According to Department regulations, interested parties must be publicly notified, written comments invited, and if justified, an opportunity for public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation will be available for review at the Bureau of Air Quality (BAQ) DEP offices in Augusta, (207) 287-7688, during normal working hours. A copy of the application and supporting documentation will also be available at the municipal office in South Portland Maine.

Written public comments may be sent to (DEP Project Manager, Jane Gilbert) at the Bureau of Air Quality, State House Station #17, Augusta, Maine 04333.

Public Notice

**PUBLIC NOTICE OF
INTENT TO FILE**

Please take notice that CITGO Petroleum Corporation (609-841-0399) Intends to file an Air Emission License application with the Maine Department of Environmental Protection (DEP) pursuant to the provisions of 38 M.R.S.A., Section 590 on (November 15, 2019) The application is for Title V Air Permit renewal at CITGO South Portland, 102 Mechanic Street, South Portland, ME 04106. According to Department regulations, interested parties must be publicly notified, written comments invited, and if justified, an opportunity for public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation will be available for review at the Bureau of Air Quality (BAQ) DEP offices in Augusta, (207) 287-7688, during normal working hours. A copy of the application and supporting documentation will also be available at the municipal office in South Portland Maine.

Written public comments may be sent to (DEP Project Manager, Jane Gilbert) at the Bureau of Air Quality, State House Station #17, Augusta, Maine 04333.

Attachment D

BPT/BACT Analysis

A Best Practicable Technology (BPT) was completed and CITGO proposes that the control equipment, fuel limitations and process constraints as contained in our current air emission license represent BPT for this equipment and these processes.

Attachment E

Calculations

VOC Emissions Summary

2020 PTE

Former MCVIA Tk. # CTGC Tank # Emission Unit ID #	Product Specification Key	7551		7362		31634		31635		29587		29588		30694		29545		TOTAL (TPV)
		Tank 1 013	Tank 2 011	Tank 3 008	Tank 4 009	Tank 5 012	Tank 6 010	Tank 7 005	Tank 8 006	Tank 9 007	Tank 10 004	Tank 11 001	Tank 12 014	Tank 13 014	Tank 14 014	Tank 15 014	Tank 16 014	
Total VOC Emissions (lb/yr)		9,446	4,183	10,952	9,543	1,922	5,563	18,533	4,373	7,950	11,407	83,803	52,993	4,727	1,833	783	63,400	208,798
Total VOC Emissions (TPV)		4,272	2,09	5,47	4,77	0,96	2,78	9,27	2,16	3,98	5,70	41,90	25,50	2,36	0,39	0,39	31,70	0,63
Total VOC Emissions (lb/day)		25,88	11,46	29,95	26,15	5,27	15,24	50,78	139,45	21,78	31,25	229,60	145,19	12,95	5,02	2,15	173,70	3,45
Ozone Season (lbs)		1,892	1,445	1,852	1,544	659	1,009	2,245	1,351	1,589	2,184	15,780						
Ozone Season (lb/day)		20,57	15,71	20,13	15,78	7,16	10,97	24,40	14,68	17,27	23,85	171,52	0,00	0,00	0,00	0,00	0,00	3,45
VOC NAP Emissions (lb/yr):																		
Isocane (2,2,4 Trimethylpentane)		3,31	0,00	75,52	66,80	0,00	38,94	129,73	0,00	55,65	79,85	450,80	370,95	0,00	12,83	0,00	443,80	8,82
Benzene		1,89	5,73	43,73	36,17	7,64	22,25	74,13	5,93	31,80	45,63	271,90	211,97	6,48	7,33	1,07	263,60	5,04
Ethylbenzene		0,47	18,44	10,93	9,54	8,48	5,56	18,53	19,06	7,95	11,41	110,38	52,99	20,84	1,83	3,45	65,40	1,26
Hexane (n)		6,61	11,89	153,05	133,60	5,47	77,88	259,46	12,29	111,30	159,70	931,2	741,90	13,43	23,66	2,23	887,60	17,84
Toluene		5,20	57,22	120,25	104,97	26,50	61,19	203,86	58,13	87,45	125,48	851,1	587,92	64,66	20,16	10,71	687,40	13,86
Xylenes (Mixed Isomers)		1,89	37,51	43,33	38,17	17,25	22,25	74,13	38,77	31,80	45,63	351,13	211,97	42,39	7,33	7,02	253,60	5,04
Methyl Tertiary Butyl Ether (MTBE)		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
VOC NAP Emissions (tons/yr):																		
Isocane (2,2,4 Trimethylpentane)		0,00165	0,00000	0,03826	0,03340	0,00000	0,01947	0,06487	0,00000	0,02783	0,03992	0,22540	0,18548	0,00000	0,00000	0,00000	0,22190	0,00441
Benzene		0,00094	0,00287	0,02186	0,01909	0,00132	0,01113	0,03707	0,00296	0,01590	0,02281	0,13595	0,10599	0,00000	0,00000	0,00000	0,12680	0,00252
Ethylbenzene		0,00024	0,00972	0,00547	0,00477	0,00424	0,00278	0,00927	0,00953	0,00398	0,00570	0,05519	0,02650	0,00000	0,00000	0,00000	0,03170	0,00053
Hexane (n)		0,00331	0,00594	0,07652	0,06690	0,02723	0,03894	0,12973	0,00614	0,05565	0,07985	0,46562	0,37095	0,00000	0,00000	0,00000	0,44380	0,00882
Toluene		0,00280	0,02851	0,06013	0,05249	0,01315	0,03060	0,10193	0,02956	0,04373	0,06274	0,42553	0,29145	0,00000	0,01008	0,00535	0,34870	0,00693
Xylenes (Mixed Isomers)		0,00094	0,01876	0,02186	0,01909	0,00862	0,01113	0,03707	0,01938	0,01590	0,02281	0,17555	0,10599	0,02120	0,00367	0,00351	0,12680	0,00252
Methyl Tertiary Butyl Ether (MTBE)		0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
POUNDS		1	2	3	4	5	6	7	8	9	10							
Tank Emissions		8,345	4,183	8,186	6,797	1,923	4,343	9,955	3,903	5,972	8,684	64,297	40,185	4,727	1,833	783	63,400	208,798
Tank Standing Losses		7,148	523	7,147	5,712	1,77	2,818	8,961	636	5,667	8,379	47,287	37,095	2,36	0,39	0,39	31,70	0,63
Tank Working Losses		1,197	3,560	1,039	1,085	1,746	1,525	974	3,267	1,305	1,305	17,004	7,090	12,95	5,02	2,15	173,70	3,45
Tank Landng/Cleaning Losses		1,101	0	2,746	2,746	0	1,220	2,761	0	978	1,723	13,275	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
TOTAL		11,01	8,643	11,931	10,518	3,649	6,561	13,916	4,539	7,950	10,407	83,803	52,993	4,727	1,833	783	63,400	208,798
TONS		4,17	2,09	4,09	3,40	0,96	2,17	4,98	1,95	3,49	4,84	32,15	18,53	1,73	0,70	0,28	23,66	1,26
Tank Standing Losses		3,57	0,31	3,57	2,86	0,09	1,41	4,49	0,32	2,83	4,19	23,66	17,84	0,89	0,14	0,89	17,84	0,53
Tank Working Losses		1,15	1,78	1,89	1,92	0,87	1,37	4,78	1,84	1,14	1,51	18,26	2,23	2,15	0,26	0,89	173,70	3,45
Tank Landng/Cleaning Losses		0,55	0,00	1,37	1,37	0,00	0,61	4,29	0,21	0,49	0,86	9,76	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
Tank Capacity		2,793,588	4,175,207	3,765,132	2,765,132	1,340,094	1,584,072	4,200,000	4,200,000	2,509,416	2,705,556							
Annual Throughput PTE		145,765,571	241,064,674	105,466,864	105,466,864	50,994,195	92,371,174	278,400,000	278,400,000	150,495,632	140,688,974							

Product Specification Key	7551		7362		31634		31635		29587		29588		30694		29545		TOTAL (TPV)
	Tank 1 013	Tank 2 011	Tank 3 008	Tank 4 009	Tank 5 012	Tank 6 010	Tank 7 005	Tank 8 006	Tank 9 007	Tank 10 004	Tank 11 001	Tank 12 014	Tank 13 014	Tank 14 014	Tank 15 014		
Total VOC Emissions (lb/yr)	9,446	4,183	10,952	9,543	1,922	5,563	18,533	4,373	7,950	11,407	83,803	52,993	4,727	1,833	783	63,400	208,798
Total VOC Emissions (TPV)	4,272	2,09	5,47	4,77	0,96	2,78	9,27	2,16	3,98	5,70	41,90	25,50	2,36	0,39	0,39	31,70	0,63
Total VOC Emissions (lb/day)	25,88	11,46	29,95	26,15	5,27	15,24	50,78	139,45	21,78	31,25	229,60	145,19	12,95	5,02	2,15	173,70	3,45
Ozone Season (lbs)	1,892	1,445	1,852	1,544	659	1,009	2,245	1,351	1,589	2,184	15,780						
Ozone Season (lb/day)	20,57	15,71	20,13	15,78	7,16	10,97	24,40	14,68	17,27	23,85	171,52	0,00	0,00	0,00	0,00	0,00	3,45
VOC NAP Emissions (lb/yr):																	
Isocane (2,2,4 Trimethylpentane)																	
Benzene																	
Ethylbenzene																	
Hexane (n)																	
Toluene																	
Xylenes (Mixed Isomers)																	
Methyl Tertiary Butyl Ether (MTBE)																	
VOC NAP Emissions (tons/yr):																	
Isocane (2,2,4 Trimethylpentane)																	
Benzene																	
Ethylbenzene																	
Hexane (n)																	
Toluene																	
Xylenes (Mixed Isomers)																	
Methyl Tertiary Butyl Ether (MTBE)																	
POUNDS																	
Tank Emissions																	
Tank Standing Losses																	
Tank Working Losses																	
Tank Landng/Cleaning Losses																	
TOTAL																	
TONS																	
Tank Emissions																	
Tank Standing Losses																	
Tank Working Losses																	
Tank Landng/Cleaning Losses																	
Tank Capacity																	
Annual Throughput PTE																	

**Calculation of Truck Loading Losses
South Portland-2020**

Assumptions:
 Saturation Factor 1.0
 Control Device Rating 10.00 mg/L Stack test *****

Gasoline									
	Throughput (Mgal)	Avg Temp (°F)	RVP (psia)	TVP (psia)	MolWt (lb/lbmol)	L _L (lb/Mgal)	Uncontrolled Emissions (lb)	Loading Losses (lb)	Controlled Losses (lb)
Jan	52,917	35.40	15.0	5.084	57.835	7.401	391,622	5,091.1	4,416.1
Feb	52,917	36.87	15.0	5.235	57.835	7.599	402,129	5,227.7	4,416.1
Mar	52,917	41.57	15.0	5.747	57.835	8.264	437,296	5,684.8	4,416.1
Apr	52,917	46.44	13.5	5.596	61.093	8.417	445,421	5,790.5	4,416.1
May	52,917	51.00	9.0	3.850	66.853	6.282	332,398	4,321.2	4,416.1
Jun	52,917	55.48	9.0	4.215	66.853	6.816	360,695	4,689.0	4,416.1
Jul	52,917	58.15	9.0	4.446	66.853	7.152	378,479	4,920.2	4,416.1
Aug	52,917	57.30	9.0	4.371	66.853	7.044	372,723	4,845.4	4,416.1
Sep	52,917	53.23	11.5	5.320	64.306	8.312	439,832	5,717.8	4,416.1
Oct	52,917	48.01	13.5	5.770	61.093	8.653	457,865	5,952.2	4,416.1
Nov	52,917	43.22	15.0	5.937	57.835	8.508	450,221	5,852.9	4,416.1
Dec	52,917	37.71	15.0	5.324	57.835	7.715	408,250	5,307.2	4,416.1
Avg/Total	635,000	47.03	12.5	5.074	61.923	7.680	4,876,929	63,400.1	52,993.3
ozone t-put	158750.001						1111896.582	14454.656	13248.323
ozone lb/day	301.119							ozone lbs/yr	27702.978
								lbs/yr	116393.369
								TPY	68.197

Distillate Fuel Oil #2									
	Throughput (Mgal)	Avg Temp (°F)	TVP (psia)	MolWt (lb/lbmol)	L _L (lb/Mgal)	Uncontrolled Emissions (lb)	Loading Losses (lb)	Controlled Losses (lb)	
Jan	29,167	35.4	0.0028	130.000	0.009	263	3.4	255.4	
Feb	29,167	36.9	0.0029	130.000	0.009	277	3.6	268.5	
Mar	29,167	41.6	0.0034	130.000	0.011	325	4.2	314.8	
Apr	29,167	46.4	0.0041	130.000	0.013	381	5.0	369.9	
May	29,167	51.0	0.0048	130.000	0.015	442	5.8	429.1	
Jun	29,167	55.5	0.0056	130.000	0.017	510	6.6	494.9	
Jul	29,167	58.2	0.0061	130.000	0.019	555	7.2	538.4	
Aug	29,167	57.3	0.0059	130.000	0.019	540	7.0	524.2	
Sep	29,167	53.2	0.0052	130.000	0.016	475	6.2	460.9	
Oct	29,167	48.0	0.0043	130.000	0.014	401	5.2	389.4	
Nov	29,167	43.2	0.0036	130.000	0.012	343	4.5	332.6	
Dec	29,167	37.7	0.0030	130.000	0.010	285	3.7	276.3	
Avg/Total	350,000	47.0	0.004	130.000	0.014	4,798	62.4	4,654.4	
ozone t-put	87,500.00					1605.676	20.874	1567.606	
ozone lb/day	17.16						ozone lbs/yr	1578.380	
							lbs/yr	4716.814	
							TPY	2.358	

Kerosene or additive									
	Throughput (Mgal)	Avg Temp (°F)	TVP (psia)	MolWt (lb/lbmol)	L _L (lb/Mgal)	Uncontrolled Emissions (lb)	Loading Losses (lb)	Controlled Losses (lb)	
Jan	49	35.4	0.0035	130.000	0.011	0.6	0.0	0.5	
Feb	49	36.9	0.0037	130.000	0.012	0.6	0.0	0.6	
Mar	49	41.6	0.0044	130.000	0.014	0.7	0.0	0.7	
Apr	49	46.4	0.0052	130.000	0.017	0.8	0.0	0.8	
May	49	51.0	0.0061	130.000	0.019	0.9	0.0	0.9	
Jun	49	55.5	0.0071	130.000	0.022	1.1	0.0	1.1	
Jul	49	58.2	0.0077	130.000	0.024	1.2	0.0	1.2	
Aug	49	57.3	0.0075	130.000	0.024	1.2	0.0	1.1	
Sep	49	53.2	0.0065	130.000	0.021	1.0	0.0	1.0	
Oct	49	48.0	0.0055	130.000	0.017	0.9	0.0	0.8	
Nov	49	43.2	0.0046	130.000	0.015	0.7	0.0	0.7	
Dec	49	37.7	0.0038	130.000	0.012	0.6	0.0	0.6	
Avg/Total	590	47.0	0.0055	130.000	0.017	10.3	0.1	10.0	
ozone t-put	147.500						0.045	3.333	
ozone lb/day	0.037						ozone lbs/yr	3.378	
							lbs/yr	10.086	
							TPY	0.005	

Total NOx	32,524	Total CO	81,804
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	distillate		gasoline					
	Nox	CO	Nox	CO	VOC-Fug	VOC-VGU	Control =	1-Controlled Losses
Factors	lb/1,000 gals	lb/1,000 gals	Efficiency	Uncontrolled Losses				
	0.033	0.083	0.033	0.083	0.10	0.08		
Ave. Daily Emissions	32	80	57	144	157.343	144.004	Control =	98.82%
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	Efficiency	
Annual Emissions	11,569	29,099	20,955	52,705	63,463	57,658		
	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year		
Annual Emissions	5.785	14.549	10.478	26.353	31.731	28.829	60.660	Total TPY
	Tons/year	Tons/year	Tons/year	Tons/year	Tons/year	Tons/year		

MOTIVA ENTERPRISES, LLC SOUTH PORTLAND TERMINAL FUGITIVE EMISSIONS

Total Volatile Organic Compound (VOC) Emissions by Component Type

Component Type	Service	Average Emission Factor (lb/hr/source)	Quantity	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
Valves	Vapor	0.0002866	3	0.00	0.00
	Liquid	0.0009480	527	0.05	0.22
Pump Seals	Vapor	0.0014330	-	-	-
	Liquid	0.0019000	28	0.03	0.15
Others	Vapor	0.0026500	-	-	-
	Liquid	0.0028700	7	0.00	0.01
Fittings	Vapor	0.0039250	58	0.01	0.02
	Liquid	0.0011600	2,985	0.05	0.23
			Total	0.14	0.63

* These factors are for total organic compound emission rates (including non-VOC's such as methane and ethane). Emission factors extracted from the U.S. EPA Protocol for Equipment Leak Emission Estimates, Publication No. EPA-453/R-95-017, Table 2-3, Marketing Terminal Average Emission Factors. Light liquid emission factors conservatively applied to heavy liquid components.

* The "other" equipment type should be applied for any equipment type other than fittings, pumps, or valves.

* Fittings* were not identified as flanges or non-flanged connectors; therefore, the fitting emissions were estimated by averaging the estimates from the connector and the flange correlation equations.

Total Volatile Organic Compound (VOC) Emissions by Service

Service	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
Vapor	0.01	0.02
Liquid	0.14	0.60
Total	0.14	0.63

Hazardous Air Pollutant Speciation Data

HAP	CAS #	Vapor Wt%
Benzene	71-43-2	31.0
Ethylbenzene	100-41-4	2.0
Hexane	110-54-3	0.0
Isocaine	540-84-1	0.8
MTBE	1634-04-4	1.5
Toluene	108-88-3	1.4
Xylenes	1330-20-7	0.5

* Normal gasoline speciation data obtained from the *Compilation of Air Emission Factors for Petroleum Distribution and Retail Marketing Facilities, September 1991*.
Assumes worst case scenario of year-round transport of gasoline.

Total Hazardous Air Pollutant Emissions from Process Fugitive Emissions

HAP	CAS #	Emissions (lb/yr)	Emissions (ton/yr)
Benzene	71-43-2	11.30	0.006
Ethylbenzene	100-41-4	0.26	0.001
Hexane	110-54-3	20.10	0.010
Isocaine	540-84-1	10.06	0.005
MTBE	1634-04-4	19.73	0.010
Toluene	108-88-3	16.33	0.008
Xylenes	1330-20-7	6.28	0.003
Total		85.05	0.04

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

Identification

User Identification: Tank 1
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: Former Tank 7551

Tank Dimensions

Diameter (ft): 120.00
 Volume (gallons): 2,793,588.00
 Turnovers: 227.31
 Self Supp. Roof? (y/n): N
 No. of Columns: 16.00
 Eff. Col. Diam. (ft): 1.50

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: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Characteristics

Deck Fitting Category: Typical
 Deck Type: Bolted
 Construction: Sheet
 Deck Seam: Sheet: 5 Ft Wide
 Deck Seam Len. (ft): 2,261.94

Deck Fitting/Status

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	7
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/Slit Fabric Seal 10% Open	116
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 1 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	5.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.87	32.28	41.45	45.40	5.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.06	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.5941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	56.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2148	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	53.23	47.96	58.50	45.40	5.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	5.7686	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.55	46.69	45.40	5.9344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	5.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Tank 1 - Internal Floating Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	37.2580	38.6450	43.4749	43.9435	30.6154	33.9055	35.1321	35.4050	43.2177	45.7026	45.3320	39.4849
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)/in):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1120
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0818	5.2339	5.7448	5.6941	3.8702	4.2148	4.4459	4.3709	5.3181	5.7668	5.8344	5.3222
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008	99.8008
Number of Columns:	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000	18.0000
Effective Column Diameter (ft):	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
Net Throughput (gal/hr):	52,916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052	916,666.660052
Shell Coingage Factor (lb/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	316.9087	328.7310	369.7783	373.7643	260.9111	288.4102	307.3233	301.1474	367.5905	388.7087	385.5742	335.6710
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1120
Vapor Molecular Weight (lb/lb-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000	612.4000
Deck Seam Losses (lb):	208.6591	216.4338	243.4590	248.0834	171.7818	189.8869	202.3391	198.2730	242.0168	255.9226	253.8589	221.0030
Deck Seam Length (ft):	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400	2,261.9400
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	662.6185	683.6146	766.5131	763.6920	563.1631	612.0065	645.5953	634.8273	752.6276	790.1326	784.5660	695.6397
Roof Fitting Status	Roof Fitting Loss Factors											
	Q-arity		KFa (lb-mole/yr)		KFb (lb-mole/(yr mph/in))		m		Losses (lb)			
Access Hatch (24-in. Diam.) Unbolted Cover, Ungasketed	1		36.00		5.90		1.20		236.4776			
Automatic Gauge Float Well Unbolted Cover, Ungasketed	1		14.00		5.40		1.10		81.9635			
Column Well (24-in. Diam.) Bolt-Up Col.-Siding Cover, Ungask.	1		47.00		0.00		0.00		2,161.1426			
Ladder Well (24-in. Diam.) Siding Cover, Ungasketed	1		76.00		0.00		0.00		499.2305			
Sample Pipe or Well (24-in. Diam.) Silt Fabric Seal 10% Open	1		12.00		0.00		0.00		78.8289			
Sub Drain (1-in. Diameter)	115		1.20		0.00		0.00		914.3801			
Vacuum Breaker (10-in. Diam.) Weighted Mech. Actuation, Gask.	1		8.20		1.20		0.94		40.7267			

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

Emissions Report for: Annual

**Tank 1 - Internal Floating Roof Tank
Portland, Maine**

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	89.64	199.60	762.47	502.01	1,553.72
Gasoline (RVP 15)	204.18	499.00	1,738.66	1,143.40	3,583.25
Gasoline (RVP 9)	136.12	399.20	1,157.79	762.28	2,455.40
Gasoline (RVP 11.5)	43.22	99.80	387.59	242.02	772.63

1,197.6

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

Identification

User Identification:	Tank 2
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Vertical Fixed Roof Tank
Description:	Former Tank 7362

Tank Dimensions

Shell Height (ft):	41.00
Diameter (ft):	144.00
Liquid Height (ft):	39.00
Avg. Liquid Height (ft):	21.00
Volume (gallons):	4,751,302.38
Turnovers:	73.66
Net Throughput(gal/yr):	350,000,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	4.50
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 2 - Vertical Fixed Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Jet kerosene	Jan	35.40	31.29	39.51	45.40	0.0041	0.0041	0.0041	130.0000		162.00	Option 1: VP40 = .0041	
Jet kerosene	Feb	36.87	32.28	41.45	45.40	0.0041	0.0041	0.0044	130.0000		162.00	Option 1: VP40 = .0041	
Jet kerosene	Mar	41.66	37.07	48.06	45.40	0.0044	0.0041	0.0053	130.0000		162.00	Option 1: VP40 = .0041 VP50 = .006	
Jet kerosene	Apr	46.44	41.38	51.49	45.40	0.0053	0.0044	0.0064	130.0000		162.00	Option 1: VP40 = .0041 VP50 = .006	
Jet kerosene	May	51.25	45.58	56.92	45.40	0.0063	0.0052	0.0077	130.0000		162.00	Option 1: VP50 = .006 VP60 = .0065	
Jet kerosene	Jun	55.47	49.41	61.48	45.40	0.0074	0.0059	0.0089	130.0000		162.00	Option 1: VP50 = .006 VP60 = .0065	
Jet kerosene	Jul	68.15	62.19	64.11	45.40	0.0089	0.0065	0.0095	130.0000		162.00	Option 1: VP50 = .006 VP60 = .0065	
Jet kerosene	Aug	57.30	51.62	62.97	45.40	0.0076	0.0054	0.0092	130.0000		162.00	Option 1: VP50 = .006 VP60 = .0065	
Jet kerosene	Sep	53.23	47.95	58.50	45.40	0.0058	0.0056	0.0081	130.0000		162.00	Option 1: VP50 = .006 VP60 = .0065	
Jet kerosene	Oct	48.01	43.23	52.78	45.40	0.0056	0.0047	0.0067	130.0000		162.00	Option 1: VP40 = .0041 VP50 = .006	
Jet kerosene	Nov	43.22	39.55	46.69	45.40	0.0047	0.0041	0.0054	130.0000		162.00	Option 1: VP40 = .0041 VP50 = .006	
Jet kerosene	Dec	37.10	34.02	41.39	45.40	0.0041	0.0041	0.0044	130.0000		162.00	Option 1: VP40 = .0041	

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

Tank 2 - Vertical Fixed Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (b):	31.8888	32.0832	36.6768	47.8630	65.2544	77.1756	85.3074	78.9451	62.3314	48.7184	29.8628	27.5747
Vapor Space Volume (cu ft):	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0360	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0262	0.0252
Vented Vapor Saturation Factor:	0.9953	0.9953	0.9950	0.9940	0.9929	0.9917	0.9909	0.9912	0.9923	0.9936	0.9947	0.9953
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504	350,149.3504
Tank Diameter (ft):	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000
Vapor Space Outage (ft):	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000
Tank Shell Height (ft):	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000
Average Liquid Height (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Roof Outage (ft):	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
Roof Outage (Cone Roof):												
Roof Outage (ft):	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
Roof Height (ft):	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000
Roof Slope (ft):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Shell Radius (ft):	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000	72.0000
Vapor Density:												
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Daily Avg. Liquid Surface Temp. (deg. F):	495.0694	496.5382	501.2320	506.1059	510.9189	515.1436	517.8206	518.9653	512.9016	507.6786	502.8894	497.3745
Daily Average Ambient Temp. (deg. F):	20.8500	23.3000	32.9000	43.2000	63.3000	82.4000	68.6000	67.2500	59.1000	48.5000	38.7000	28.4500
Ideal Gas Constant R (psi cu ft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692
Tank Paint Solar Absorbance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Paint Solar Absorbance (Roof):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sq ft day):	597.1021	655.0387	1,221.4895	1,492.4381	1,767.1939	1,931.6398	1,909.9654	1,698.9809	1,343.3212	927.0629	571.7205	478.7604
Vapor Space Expansion Factor:												
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0360	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0262	0.0252
Daily Vapor Temperature Range (deg. R):	16.4502	18.3391	17.8923	20.2080	22.6878	24.0281	23.8514	22.7031	21.0822	18.1038	14.6734	14.7319
Daily Vapor Pressure Range (psia):	0.0000	0.0003	0.0012	0.0020	0.0028	0.0030	0.0030	0.0028	0.0025	0.0020	0.0013	0.0003
Breather Vent Press. Setting Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0041	0.0041	0.0041	0.0044	0.0052	0.0059	0.0065	0.0064	0.0066	0.0047	0.0041	0.0041
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0041	0.0044	0.0053	0.0064	0.0077	0.0089	0.0096	0.0092	0.0081	0.0067	0.0054	0.0044
Daily Avg. Liquid Surface Temp. (deg. R):	495.0694	496.5382	501.2320	506.1059	510.9189	515.1436	517.8206	518.9653	512.9016	507.6786	502.8894	497.3745
Daily Min. Liquid Surface Temp. (deg. R):	490.9569	491.9534	496.7364	501.0539	505.2519	509.1371	511.8678	511.2885	507.8311	502.9034	499.2210	493.6908
Daily Max. Liquid Surface Temp. (deg. R):	499.1820	501.1229	505.7276	511.1579	516.5858	521.1501	523.7835	522.8411	518.1722	512.4538	508.5577	501.6682
Daily Ambient Temp. Range (deg. R):	18.9000	19.6000	19.9000	18.2000	19.8000	20.6000	20.6000	20.3000	20.4000	20.4000	18.6000	17.3000
Vented Vapor Saturation Factor:												
Vented Vapor Saturation Factor:	0.9953	0.9953	0.9950	0.9940	0.9929	0.9917	0.9909	0.9912	0.9923	0.9936	0.9947	0.9953
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Space Outage (ft):	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000	21.5000
Working Losses (b):	212.4305	212.4305	227.8073	276.7816	327.0507	381.7738	416.4496	406.3701	352.7333	291.2697	244.1230	212.4305
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Net Throughput (gal/mo.):	29,168,666.660029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029	168,668,660.029
Annual Turnover:	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640	73.6640
Turnover Factor:	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739	0.5739
Maximum Liquid Volume (gal):	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627	4,751,302.3627
Maximum Liquid Height (ft):	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000
Tank Diameter (ft):	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000	144.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (b):	244.0193	244.5137	264.3841	323.6505	392.3051	458.8494	501.7569	484.3152	415.0647	339.9591	273.5568	240.0052

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

Emissions Report for: Annual

Tank 2 - Vertical Fixed Roof Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet kerosene	3,559.68	623.28	4,182.94

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

Identification
 User Identification: Tank 3
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: formerly tank 31634

Tank Dimensions
 Diameter (ft): 120.00
 Volume (gallons): 3,765,132.00
 Turnovers: 168.65
 Self Supp. Roof? (y/n): N
 No. of Columns: 7.00
 Eff. Col. Diam. (ft): 0.70

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: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Characteristics
 Deck Fitting Category: Typical
 Deck Type: Bolted
 Construction: Sheet
 Deck Seam: Sheet: 5 Ft Wide
 Deck Seam Len. (ft): 2,261.94

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	7
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/Slit Fabric Seal 10% Open	116
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 3 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	5.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.87	32.28	41.45	45.40	5.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.06	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.6941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	56.92	45.40	3.8702	N/A	N/A	87.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2148	N/A	N/A	87.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	87.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	87.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	53.23	47.96	58.50	45.40	5.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	5.7656	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.55	46.89	45.40	5.6344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	6.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Emissions Report for: Annual

Tank 3 - Internal Floating Roof Tank
Portland, Maine

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	89.84	173.19	762.47	502.01	1,527.25
Gasoline (RVP 15)	204.18	432.82	1,736.88	1,143.40	3,517.06
Gasoline (RVP 9)	136.12	346.25	1,167.79	762.28	2,402.45
Gasoline (RVP 11.5)	43.22	86.56	367.59	242.02	739.39

1,038.76

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

Identification
 User Identification: Tank 4
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: Former Tank 31635

Tank Dimensions
 Diameter (ft): 120.00
 Volume (gallons): 3,765,132.00
 Turnovers: 168.65
 Self Supp. Roof? (y/n): N
 No. of Columns: 7.00
 Eff. Col. Diam. (ft): 1.50

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: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Characteristics
 Deck Fitting Category: Typical
 Deck Type: Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	7
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 4 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	6.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	36.67	32.28	41.45	45.40	6.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	48.06	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.6941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	56.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2148	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	63.23	47.96	58.60	45.40	5.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	5.7696	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.65	48.89	45.40	5.9344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	5.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Emissions Report for: Annual

Tank 4 - Internal Floating Roof Tank
Portland, Maine

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	89.64	180.89	992.44	0.00	1,262.97
Gasoline (RVP 15)	204.18	452.22	2,260.44	0.00	2,916.84
Gasoline (RVP 9)	136.12	361.78	1,506.98	0.00	2,004.88
Gasoline (RVP 11.5)	43.22	90.44	478.46	0.00	612.12

1,085.33

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

Identification

User Identification:	Tank 5
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Vertical Fixed Roof Tank
Description:	Former Tank 7487

Tank Dimensions

Shell Height (ft):	41.00
Diameter (ft):	78.00
Liquid Height (ft):	39.00
Avg. Liquid Height (ft):	21.00
Volume (gallons):	1,340,094.00
Turnovers:	261.18
Net Throughput(gal/yr):	350,000,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	2.44
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 5 - Vertical Fixed Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Jet kerosene	Jan	35.40	31.29	39.51	45.40	0.0041	0.0041	0.0041	130.0000			162.00	Option 1: VP40 = .0041
Jet kerosene	Feb	36.87	32.28	41.45	45.40	0.0041	0.0041	0.0044	130.0000			162.00	Option 1: VP40 = .0041
Jet kerosene	Mar	41.56	37.07	46.06	45.40	0.0044	0.0041	0.0053	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Apr	46.44	41.38	51.49	45.40	0.0053	0.0044	0.0064	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	May	51.25	45.59	56.92	45.40	0.0063	0.0052	0.0077	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Jun	55.47	49.47	61.48	45.40	0.0074	0.0056	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Jul	58.15	52.19	64.11	45.40	0.0080	0.0065	0.0095	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Aug	57.30	51.62	62.97	45.40	0.0078	0.0064	0.0092	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Sep	53.23	47.96	58.50	45.40	0.0068	0.0056	0.0081	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Oct	48.01	43.23	52.78	45.40	0.0056	0.0047	0.0067	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Nov	43.22	39.55	46.88	45.40	0.0047	0.0041	0.0054	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Dec	37.70	34.02	41.39	45.40	0.0041	0.0041	0.0044	130.0000			162.00	Option 1: VP40 = .0041

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

Tank 5 - Vertical Fixed Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (b):	8.9736	8.1140	10.3909	13.6972	18.6308	21.9282	24.2371	22.4293	17.7085	13.8404	8.4934	7.8333
Vapor Space Volume (cu ft):	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0360	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0292	0.0256
Vented Vapor Saturation Factor:	0.9955	0.9955	0.9962	0.9942	0.9931	0.9919	0.9912	0.9914	0.9925	0.9938	0.9948	0.9955
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498	99,453,6498
Tank Diameter (ft):	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000
Vapor Space Outage (ft):	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133
Tank Shell Height (ft):	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000	41.0000
Average Liquid Height (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Roof Outage (ft):	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133
Roof Outage (Cone Roof):												
Roof Outage (ft):	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133	0.8133
Roof Height (ft):	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400	2.4400
Roof Slope (ft):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Shell Radius (ft):	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000
Vapor Density:	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Daily Avg. Liquid Surface Temp. (deg. R):	495.0694	495.6382	501.2320	508.1059	510.9189	515.1438	519.9206	517.2500	512.8016	507.6786	502.8894	497.3745
Daily Average Ambient Temp. (deg. F):	20.8500	23.3000	32.9000	43.2000	53.3000	62.4000	68.5600	67.2500	59.1000	48.5000	38.7000	26.4500
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692
Tank Paint Solar Absorptance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sq ft day):	597.1021	688.0387	1,221.4895	1,492.4381	1,767.1939	1,931.5398	1,908.9654	1,698.5809	1,343.3212	921.0629	571.7205	478.7604
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0360	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0292	0.0256
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0360	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0292	0.0256
Daily Vapor Temperature Range (deg. R):	15.4502	18.3391	17.9823	20.2980	22.5678	24.0281	23.5514	22.7031	21.0822	19.1008	14.6734	14.7349
Daily Vapor Pressure Range (psia):	0.0000	0.0003	0.0012	0.0020	0.0028	0.0038	0.0050	0.0058	0.0068	0.0078	0.0088	0.0093
Breather Vent Press. Setting Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0041	0.0041	0.0041	0.0044	0.0052	0.0059	0.0065	0.0064	0.0056	0.0047	0.0041	0.0041
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0041	0.0044	0.0053	0.0064	0.0077	0.0089	0.0096	0.0092	0.0081	0.0067	0.0054	0.0044
Daily Avg. Liquid Surface Temp. (deg R):	495.0694	495.6382	501.2320	508.1059	510.9189	515.1438	519.9206	517.2500	512.8016	507.6786	502.8894	497.3745
Daily Min. Liquid Surface Temp. (deg R):	450.9569	491.8534	496.7304	501.0539	505.2519	509.1371	511.8878	511.2895	507.6311	502.9034	499.2210	493.6536
Daily Max. Liquid Surface Temp. (deg R):	499.1820	501.1229	505.7278	511.1578	516.6858	521.1501	523.7836	622.8411	518.1722	512.4538	506.5577	501.0582
Daily Ambient Temp. Range (deg. R):	18.9000	19.6000	18.9000	18.2000	19.6000	20.8000	20.8000	20.3000	20.4000	20.4000	16.6000	17.3000
Vented Vapor Saturation Factor:	0.9955	0.9955	0.9962	0.9942	0.9931	0.9919	0.9912	0.9914	0.9925	0.9938	0.9948	0.9955
Vented Vapor Saturation Factor:	0.9955	0.9955	0.9962	0.9942	0.9931	0.9919	0.9912	0.9914	0.9925	0.9938	0.9948	0.9955
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Space Outage (ft):	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133	20.8133
Working Losses (b):	104.2059	104.2059	111.7488	135.2851	160.4318	187.2757	204.2856	188.6507	173.0302	142.8797	119.7523	104.2059
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Net Throughput (gal/mo.):	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600	29,166,666.6600
Annual Turnovers:	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815	0.2815
Turnover Factor:	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000	1,340,094.0000
Maximum Liquid Volume (gal):	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000
Maximum Liquid Height (ft):	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000	78.0000
Tank Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Working Loss Product Factor:												
Total Losses (b):	113.1794	113.3159	122.1395	148.6323	178.9704	209.2019	228.5226	221.2759	190.7355	156.7201	128.2358	112.6391

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

Emissions Report for: Annual

**Tank 5 - Vertical Fixed Roof Tank
Portland, Maine**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet kerosene	1,746.16	177.07	1,923.23

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

Identification

User Identification:	Tank 6
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Internal Floating Roof Tank
Description:	Former Tank 31636

Tank Dimensions

Diameter (ft):	80.00
Volume (gallons):	1,584,072.00
Turnovers:	400.87
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.50

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:	Mechanical Shoe
Secondary Seal:	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

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

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 6 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	6.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	36.87	32.28	41.45	45.40	5.2333	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.06	45.40	6.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.5941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	56.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2148	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	59.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	53.23	47.96	58.59	45.40	5.3151	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	6.7688	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.65	48.89	45.40	5.5344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	6.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Emissions Report for: Annual

**Tank 6 - Internal Floating Roof Tank
Portland, Maine**

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Filling Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	59.76	254.18	474.12	0.00	788.06
Gasoline (RVP 15)	136.12	635.45	1,079.88	0.00	1,851.46
Gasoline (RVP 9)	90.75	508.36	719.93	0.00	1,319.04
Gasoline (RVP 11.5)	28.81	127.09	228.57	0.00	384.48

1,525.08

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

Identification
 User Identification: Tank 7
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: Former Tank 29587

Tank Dimensions
 Diameter (ft): 134.00
 Volume (gallons): 4,200,000.00
 Turnovers: 151.19
 Self Supp. Roof? (y/n): N
 No. of Columns: 8.00
 Eff. Col. Diam. (ft): 1.50

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: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Characteristics
 Deck Fitting Category: Detail
 Deck Type: Bolted
 Construction: Sheet
 Deck Seam: Sheet: 5 Ft Wide
 Deck Seam Len. (ft): 2,820.52

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.	15
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/Slit Fabric Seal 10% Open	144
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 7 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	5.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	36.87	32.28	41.45	45.40	5.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.06	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.5941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	56.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2143	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	53.23	47.96	58.50	45.40	5.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	5.7685	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.55	46.89	45.40	5.9344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	5.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Emissions Report for: Annual

Tank 7 - Internal Floating Roof Tank
Portland, Maine

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	100.10	162.30	975.50	625.97	1,863.88
Gasoline (RVP 15)	228.00	405.74	2,221.87	1,425.77	4,281.38
Gasoline (RVP 9)	152.00	324.59	1,481.27	950.52	2,908.39
Gasoline (RVP 11.5)	48.26	81.15	470.29	301.78	901.48

973.78

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

Identification

User Identification:	Tank 8
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Vertical Fixed Roof Tank
Description:	Former Tank 29588

Tank Dimensions

Shell Height (ft):	48.00
Diameter (ft):	134.00
Liquid Height (ft):	39.00
Avg. Liquid Height (ft):	24.00
Volume (gallons):	4,200,000.00
Turnovers:	83.33
Net Throughput(gal/yr):	350,000,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	4.19
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.89 psia)

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

Tank 8 - Vertical Fixed Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Jet kerosene	Jan	35.40	31.29	39.61	45.40	0.0041	0.0041	0.0041	130.0000			162.00	Option 1: VP40 = .0041
Jet kerosene	Feb	36.87	32.28	41.45	45.40	0.0041	0.0041	0.0044	130.0000			162.00	Option 1: VP40 = .0041
Jet kerosene	Mar	41.56	37.07	46.06	45.40	0.0044	0.0041	0.0063	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Apr	46.44	41.38	51.49	45.40	0.0063	0.0044	0.0064	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	May	51.25	45.68	56.92	45.40	0.0063	0.0052	0.0077	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Jun	55.47	49.47	61.48	45.40	0.0074	0.0059	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Jul	58.15	52.19	64.11	45.40	0.0080	0.0065	0.0095	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Aug	67.30	51.62	62.97	45.40	0.0078	0.0064	0.0092	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Sep	53.23	47.96	58.50	45.40	0.0068	0.0056	0.0081	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085
Jet kerosene	Oct	48.01	43.23	52.78	45.40	0.0056	0.0047	0.0067	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Nov	43.22	39.55	48.89	45.40	0.0047	0.0041	0.0054	130.0000			162.00	Option 1: VP40 = .0041 VP50 = .006
Jet kerosene	Dec	37.70	34.02	41.39	45.40	0.0041	0.0041	0.0044	130.0000			162.00	Option 1: VP40 = .0041

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

Tank 8 - Vertical Fixed Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (b):	32.2842	32.7835	37.3797	48.9045	66.6603	78.8221	87.1155	80.6219	63.6684	49.7754	30.5164	28.1817
Vapor Space Volume (cu ft):	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0390	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0292	0.0256
Vented Vapor Saturation Factor:	0.9945	0.9945	0.9941	0.9929	0.9916	0.9902	0.9893	0.9896	0.9909	0.9925	0.9937	0.9945
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702	358,159.2702
Tank Diameter (ft):	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000
Vapor Space Outage (ft):	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967
Tank Shell Height (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Average Liquid Height (ft):	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000	24.0000
Roof Outage (ft):	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967
Roof Outage (Cone Roof):												
Roof Outage (ft):	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967	1.3967
Roof Height (ft):	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900	4.1900
Roof Slope (ft):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Shell Radius (ft):	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000	67.0000
Vapor Density:												
Vapor Density (lb/cu ft):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Daily Avg. Liquid Surface Temp. (deg. F):	495.0694	496.5382	501.2320	506.1059	510.9189	515.1436	517.8206	518.9653	512.9018	507.6788	502.8894	497.3745
Daily Average Ambient Temp. (deg. F):	20.8500	23.3000	32.9500	43.2000	53.3000	62.4000	68.6000	67.2500	59.1000	48.5000	38.7000	28.4500
Ideal Gas Constant R (psia-cuft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. F):	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692	505.0692
Tank Paint Solar Absorptance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insolation Factor (Btu/sqft day):	697.1021	888.0387	1,221.4895	1,492.4381	1,787.1639	1,931.5398	1,909.9654	1,698.9809	1,343.3212	927.0629	571.7205	478.7604
Vapor Space Expansion Factor:												
Vapor Space Expansion Factor:	0.0291	0.0329	0.0319	0.0390	0.0405	0.0428	0.0422	0.0400	0.0372	0.0337	0.0292	0.0256
Daily Vapor Temperature Range (deg. F):	16.4502	18.3391	17.9823	20.2080	22.6678	24.0261	23.6514	22.7031	21.0822	18.1008	14.6734	14.7349
Daily Vapor Pressure Range (psia):	0.0000	0.0003	0.0012	0.0020	0.0026	0.0030	0.0030	0.0028	0.0025	0.0020	0.0013	0.0003
Breather Vent Press. Setting Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0041	0.0041	0.0041	0.0044	0.0052	0.0059	0.0065	0.0064	0.0058	0.0047	0.0041	0.0041
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0041	0.0044	0.0053	0.0064	0.0077	0.0089	0.0095	0.0092	0.0081	0.0067	0.0054	0.0044
Daily Avg. Liquid Surface Temp. (deg. F):	495.0694	496.5382	501.2320	506.1059	510.9189	515.1436	517.8206	518.9653	512.9018	507.6788	502.8894	497.3745
Daily Min. Liquid Surface Temp. (deg. F):	490.9569	491.9634	498.7364	501.0639	505.2519	509.1371	511.8578	511.2895	507.6311	502.9034	499.2210	493.8908
Daily Max. Liquid Surface Temp. (deg. F):	499.1820	501.1229	505.7276	511.1579	516.5858	521.1501	523.7835	522.6411	518.1722	512.4538	506.8577	501.0582
Daily Ambient Temp. Range (deg. F):	18.9000	19.6000	18.9000	18.2000	19.6000	20.6000	20.6000	20.3000	18.4000	16.6000	17.3000	17.3000
Vented Vapor Saturation Factor:												
Vented Vapor Saturation Factor:	0.9945	0.9945	0.9941	0.9929	0.9916	0.9902	0.9893	0.9896	0.9909	0.9925	0.9937	0.9945
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Vapor Space Outage (ft):	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967	25.3967
Working Losses (b):	194.9398	194.9398	209.0505	253.0802	300.1228	350.3400	382.1607	371.9935	323.6906	267.2877	224.0228	194.9398
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0041	0.0041	0.0044	0.0053	0.0063	0.0074	0.0080	0.0078	0.0068	0.0056	0.0047	0.0041
Net Throughput (gal/mo.):	29,166,666.660029	168,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029	166,666,660.0029
Annual Turnovers:	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333	83.3333
Turnover Factor:	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267	0.5267
Maximum Liquid Volume (gal):	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000	4,200,000.0000
Maximum Liquid Height (ft):	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000	39.0000
Tank Diameter (ft):	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000	134.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (b):	277.2240	277.7293	248.4303	301.6347	356.7635	429.1621	469.2162	452.6154	381.3550	317.0631	254.5392	223.1215

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

Emissions Report for: Annual

**Tank 8 - Vertical Fixed Roof Tank
Portland, Maine**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet kerosene	3,286.57	636.72	3,903.29

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

Identification
 User Identification: Tank 9
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: Former Tank 30694

Tank Dimensions
 Diameter (ft): 100.00
 Volume (gallons): 2,509,418.00
 Turnovers: 253.05
 Self Supp. Roof? (y/n): N
 No. of Columns: 6.00
 Eff. Col. Diam. (ft): 1.50

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: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Characteristics
 Deck Fitting Category: Typical
 Deck Type: Bolted
 Construction: Sheet
 Deck Seam: Sheet: 5 Ft Wide
 Deck Seam Len. (ft): 1,570.80

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	6
Ladder Well (38-in. Diam.)/Sliding Cover, Ungasketed	1
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/Slit Fabric Seal 10% Open	80
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 9 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	6.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.87	32.23	41.45	45.40	5.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.08	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.5941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.66	56.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.48	45.40	4.2143	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.97	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	63.23	47.96	58.50	45.40	6.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	6.7696	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.55	46.89	45.40	5.9344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	6.3222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Tank 9 - Internal Floating Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Roof Seal Losses (b):	31.0492	32.2075	36.2291	36.6196	25.6628	28.2570	30.1101	29.6050	36.0147	38.0838	37.7167	32.6374
Seal Factor A (b-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (b-mole/ft-yr (mph) ^{1/2}):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1126
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0318	5.2339	5.7448	5.6941	3.8702	4.2148	4.4458	4.3709	5.3191	5.7658	5.9344	5.3222
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Vapor Molecular Weight (b/b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (b):	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829
Number of Columns:	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Effective Column Diameter (ft):	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
Net Throughput (gal/mo):	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600
Shell Circumference Factor (b/b/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (b/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Deck Fitting Losses (b):	270.2314	280.3124	315.3139	318.7128	222.4817	245.9305	262.0578	256.7916	313.4483	331.4560	328.7533	286.2302
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1126
Vapor Molecular Weight (b/b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact. (b-mole/yr):	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000	522.2000
Deck Seam Losses (b):	144.8967	150.3020	169.0697	170.8921	119.2935	131.8666	140.5140	137.6903	169.0694	177.7250	176.2618	153.4751
Deck Seam Length (ft):	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000
Deck Seam Loss per Unit Length Factor (b-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor (ft/sqft):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Vapor Molecular Weight (b/b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (b):	554.9602	574.6048	629.3956	635.0075	476.1210	514.8371	541.4648	532.7698	628.3154	656.0477	651.6347	581.3757
Roof Fitting Loss Factors												
Roof Fitting Status	Quantity	KFa (b-mole/yr)		KFb (b-mole/yr (mph)^{1/2})		m		Losses (b)				
Access Hatch (24-in. Diam.) Unbolted Cover, Ungasketed	1	36.00		5.90		1.20		238.4776				
Automatic Gauge Float Well Unbolted Cover, Ungasketed	1	14.00		5.40		1.10		91.9555				
Column Well (24-in. Diam.) Bolt-Up Col. Sliding Cover, Ungask.	6	47.00		0.00		0.00		1,832.4078				
Ladder Well (36-in. Diam.) Sliding Cover, Ungasketed	1	76.00		0.00		0.00		499.2305				
Sample Pipe or Well (24-in. Diam.) Sit Fabric Seal 10% Open	1	12.00		0.00		0.00		78.8259				
Stub Drain (1-in. Diameter)	80	1.20		0.00		0.00		630.6070				
Vacuum Breaker (10-in. Diam.) Weighted Mech. Actuation, Gask.	1	6.20		1.20		0.84		40.7267				

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

Emissions Report for: Annual

**Tank 9 - Internal Floating Roof Tank
Portland, Maine**

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 11.5)	36.01	108.78	313.45	168.07	626.32
Gasoline (RVP 13.5)	74.70	217.57	650.17	348.62	1,291.06
Gasoline (RVP 15)	170.15	543.91	1,480.87	794.04	2,988.97
Gasoline (RVP 9)	113.43	435.13	987.26	529.36	2,065.19

1,305,39

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

Identification
 User Identification: Tank 10
 City: Portland
 State: Maine
 Company: CITGO Petroleum Corporation
 Type of Tank: Internal Floating Roof Tank
 Description: Former Tank 29545

Tank Dimensions
 Diameter (ft): 100.00
 Volume (gallons): 2,705,556.00
 Turnovers: 234.70
 Self Supp. Roof? (y/n): N
 No. of Columns: 6.00
 Eff. Col. Diam. (ft): 1.50

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: Vapor-mounted
 Secondary Seal: Rim-mounted

Deck Characteristics
 Deck Fitting Category: Typical
 Deck Type: Bolted
 Construction: Sheet
 Deck Seam: Sheet: 5 Ft Wide
 Deck Seam Len. (ft): 1,570.80

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	6
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	32
Sample Pipe or Well (24-in. Diam.)/Silt Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/Silt Fabric Seal 10% Open	80
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Tank 10 - Internal Floating Roof Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weigh	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Gasoline (RVP 15)	Jan	35.40	31.29	39.51	45.40	5.0818	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.87	32.28	41.45	45.40	5.2339	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.56	37.07	46.06	45.40	5.7448	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	46.44	41.38	51.49	45.40	5.6941	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 9)	May	51.25	45.58	58.92	45.40	3.8702	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jun	55.47	49.47	61.68	45.40	4.2148	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Jul	58.15	52.19	64.11	45.40	4.4458	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 9)	Aug	57.30	51.62	62.87	45.40	4.3709	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 11.5)	Sep	53.23	47.96	58.50	45.40	5.3191	N/A	N/A	64.3500			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 13.5)	Oct	48.01	43.23	52.78	45.40	5.7686	N/A	N/A	61.4000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Nov	43.22	39.55	48.89	45.40	5.9344	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	37.70	34.02	41.39	45.40	5.9222	N/A	N/A	58.7200			92.00	Option 4: RVP=15, ASTM Slope=3

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

Tank 10 - Internal Floating Roof Tank
Portland, Maine

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (b):	113.8410	118.0941	132.8400	134.2720	93.7303	103.6092	110.4035	108.1849	132.0541	139.6408	138.6148	120.6872
Seal Factor A (b-mole/ft-yr):	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000
Seal Factor B (b-mole/ft-yr (mph) ^{1/2}):	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1120
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0918	5.2339	5.7448	5.6941	3.9702	4.2148	4.4458	4.3709	5.3191	5.6668	6.9344	5.3222
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Vapor Molecular Weight (lb-b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (b):	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829	108.7829
Number of Columns:	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Effective Column Diameter (ft):	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
Net Throughput (gal/mo.):	52,916,668.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600	52,916,666.6600
Shell Clingage Factor (lb/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000	8.6000
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Deck Fitting Losses (b):	401.0520	416.0133	467.9592	473.0035	330.1864	364.9868	388.9215	381.1059	465.1905	491.9158	487.9491	424.7959
Value of Vapor Pressure Function:	0.1058	0.1097	0.1234	0.1193	0.0763	0.0843	0.0899	0.0881	0.1119	0.1241	0.1287	0.1120
Vapor Molecular Weight (lb-b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(b-mole/yr):	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000	775.0000
Deck Seam Losses (b):	144.8967	150.3020	169.0697	170.8921	119.2935	131.8666	140.6140	137.6903	168.0694	177.7260	176.2918	153.4751
Deck Seam Length (ft):	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000	1,570.8000
Deck Seam Loss per Unit Length Factor (b-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Tank Diameter (ft):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Vapor Molecular Weight (lb-b-mole):	58.7200	58.7200	58.7200	61.4000	67.0000	67.0000	67.0000	67.0000	64.3500	61.4000	58.7200	58.7200
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (b):	768.8766	793.1923	878.6518	898.9505	651.9931	709.2455	748.6219	735.7641	874.0968	918.0642	911.5384	807.6412
Roof Fitting Status	Quantity		KF(a-b-mole/yr)		KF(b-mole/(yr mph^{1/2}))		m		Losses(b)			
Access Hatch (24-in. Diam.)Unbolted Cover, Ungasketed	1		36.00		5.90		1.20		236.4776			
Automatic Gauge Float WellUnbolted Cover, Ungasketed	1		14.00		5.40		1.10		91.9635			
Column Well (24-in. Diam.)Slat-Up Col-Siding Cover, Ungask.	6		47.00		0.00		0.00		1,852.4079			
Ladder Well (36-in. Diam.)Sliding Cover, Ungasketed	1		76.00		0.00		0.00		499.2205			
Roof Leg or Hanger Well/Adjustable	32		7.60		0.00		0.00		1,680.5583			
Sample Pipe or Well (24-in. Diam.)Silt Fabric Seal 10% Open	1		12.00		0.00		0.00		78.8259			
Stub Drain (1-in. Diameter)	60		1.20		0.00		0.00		630.6070			
Vacuum Breaker (10-in. Diam.)Weighted Mech. Actuation, Gask.	1		6.20		1.20		0.94		40.7267			

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

Emissions Report for: Annual

**Tank 10 - Internal Floating Roof Tank
Portland, Maine**

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13.5)	273.91	217.57	964.92	348.62	1,805.01
Gasoline (RVP 15)	623.88	543.91	2,197.77	794.04	4,169.60
Gasoline (RVP 9)	415.93	435.13	1,465.20	529.36	2,845.62
Gasoline (RVP 11.5)	132.05	108.78	465.19	168.07	874.10

1,305.39

TANKS 4.0.9d
Emissions Report - Detail Format
Total Emissions Summaries - All Tanks in Report

Emissions Report for: Annual

Tank Identification				Losses (lbs)
Tank 1	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	8,345.00
Tank 2	CITGO Petroleum Corporation	Vertical Fixed Roof Tank	Portland, Maine	4,182.94
Tank 3	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	8,188.16
Tank 4	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	6,796.81
Tank 5	CITGO Petroleum Corporation	Vertical Fixed Roof Tank	Portland, Maine	1,923.23
Tank 6	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	4,343.03
Tank 7	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	9,955.13
Tank 8	CITGO Petroleum Corporation	Vertical Fixed Roof Tank	Portland, Maine	3,903.29
Tank 9	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	6,971.53
Tank 10	CITGO Petroleum Corporation	Internal Floating Roof Tank	Portland, Maine	9,684.34
Total Emissions for all Tanks:				64,291.46

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

Identification

User Identification:	Additive Tank # 1082
City:	Portland
State:	Maine
Company:	CHGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 1082

Tank Dimensions

Shell Length (ft):	20.00
Diameter (ft):	6.00
Volume (gallons):	4,019.00
Turnovers:	52.00
Net Throughput(gal/yr):	208,988.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Additive Tank # 1082 - Horizontal Tank
Portland, Maine

Mixture Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
HTA-1000	Al	47.06	42.14	51.56	45.40	0.0150	0.0150	0.0150	100.0000			100.00	OpSrn 1: VP40 = .015 VP50 = .015

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

Additive Tank # 1082 - Horizontal Tank
Portland, Maine

<u>Annual Emission Calculations</u>	
Standing Losses (lb):	1.4031
Vapor Space Volume (cu ft):	369.1826
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9976
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	369.1826
Tank Diameter (ft):	6.0000
Effective Diameter (ft):	12.3533
Vapor Space Outage (ft):	3.0000
Tank Shell Length (ft):	20.0000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lbib-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7188
Daily Average Ambient Temp. (deg. F):	45.3792
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0592
Tank Paint Solar Absorptance (Shell):	0.1709
Daily Total Solar Insulation Factor (Btu/sq ft day):	1,235.6345
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. R):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Breaker Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7188
Daily Min. Liquid Surface Temp. (deg. R):	501.6069
Daily Max. Liquid Surface Temp. (deg. R):	511.6327
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9976
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Space Outage (ft):	3.0000
Working Losses (lb):	
Working Losses (lb):	5.5500
Vapor Molecular Weight (lbib-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Annual Net Throughput (gal/yr.):	208,588.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7436
Tank Diameter (ft):	6.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	6.9532

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

Emissions Report for: Annual

Additive Tank # 1082 - Horizontal Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
HTA-1000	5.55	1.40	6.95

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

Identification

User Identification:	Additive Tank # 19001
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 19001

Tank Dimensions

Shell Length (ft):	18.50
Diameter (ft):	10.00
Volume (gallons):	10,575.00
Turnovers:	52.00
Net Throughput(gal/yr):	549,900.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Additive Tank # 19001 - Horizontal Tank
Portland, Maine

Mixture Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min.	Max.		Avg	Min.	Max.					
HTA-1000	AS	47.65	42.14	51.96	45.40	0.0150	0.0150	0.0150	100.0000			100.00	Option 1: VP40 = .015 VP50 = .015

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

Additive Tank # 19001 - Horizontal Tank
Portland, Maine

<u>Annual Emission Calculations</u>	
Standing Losses (lb):	3.5995
Vapor Space Volume (cu ft):	925.4692
Vapor Density (lb/cu ft):	0.0093
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9960
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	925.4692
Tank Diameter (ft):	10.0000
Effective Diameter (ft):	15.3515
Vapor Space Outage (ft):	5.0500
Tank Shell Length (ft):	18.5000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0093
Vapor Molecular Weight (lb/lb-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7153
Daily Average Ambient Temp. (deg. F):	45.3782
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0692
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insolation Factor (Btu/sq ft day):	1,235.6345
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. R):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Smaller Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7153
Daily Min. Liquid Surface Temp. (deg. R):	501.8069
Daily Max. Liquid Surface Temp. (deg. R):	511.6327
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9960
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Space Outage (ft):	5.0500
Working Losses (lb):	
Working Losses (lb):	14.6036
Vapor Molecular Weight (lb/lb-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Annual Net Throughput (gal/yr.):	549,600.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7436
Tank Diameter (ft):	10.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	18.2031

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

Emissions Report for: Annual

Additive Tank # 19001 - Horizontal Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
HTA-1000	14.60	3.60	18.20

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

Identification

User Identification:	Additive Tank # 1950
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 1950

Tank Dimensions

Shell Length (ft):	11.00
Diameter (ft):	8.00
Volume (gallons):	4,105.00
Turnovers:	52.00
Net Throughput(gal/yr):	213,460.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Additive Tank # 1950 - Horizontal Tank
Portland, Maine

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Premium Diesel Additive	All	47.05	42.14	51.66	45.40	0.0097	0.0097	0.0097	177.0000			177.00	Option 1: VP40 = 0.09671053 VP50 = 0.09671053

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

Additive Tank # 1950 - Horizontal Tank
Portland, Maine

Annual Emission Calculations	
Standing Losses (lb):	1.6952
Vapor Space Volume (cu ft):	352.1765
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9580
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	352.1765
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	10.5878
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	11.0000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb-b-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. F):	506.7183
Daily Average Ambient Temp. (deg. F):	45.3782
Ideal Gas Constant R (psia cu ft / (lb-mol-deg F)):	10.731
Liquid Bulk Temperature (deg. F):	505.0692
Tank Paint Solar Absorbance (Shal):	0.1700
Daily Total Solar Insolation Factor (Btu/sq ft day):	1,235.6345
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. F):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. F):	506.7183
Daily Min. Liquid Surface Temp. (deg. F):	501.6969
Daily Max. Liquid Surface Temp. (deg. F):	511.6327
Daily Ambient Temp. Range (deg. F):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9580
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	
Working Losses (lb):	6.4692
Vapor Molecular Weight (lb-b-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Annual Net Throughput (gal/y):	213,460.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7436
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	8.0353

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

Emissions Report for: Annual

**Additive Tank # 1950 - Horizontal Tank
Portland, Maine**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Premium Diesel Additive	6.47	1.57	8.04

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

Identification

User Identification:	Additive Tank # 2002
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 2002

Tank Dimensions

Shell Length (ft):	5.50
Diameter (ft):	4.00
Volume (gallons):	500.00
Turnovers:	52.00
Net Throughput(gal/yr):	26,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

**Additive Tank # 2002 - Horizontal Tank
Portland, Maine**

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
HTA-1000	All	47.05	42.14	51.95	45.40	0.0150	0.0150	0.0150	100.0000			100.00	Option 1: VP40 = .015 VP50 = .015

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

Additive Tank # 2002 - Horizontal Tank
Portland, Maine

Annual Emission Calculations	
Standing Losses (b)	0.1716
Vapor Space Volume (cu ft)	44.0223
Vapor Density (b/cu ft)	0.6093
Vapor Space Expansion Factor	0.0388
Vented Vapor Saturation Factor	0.9984
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft)	44.0223
Tank Diameter (ft)	4.0000
Effective Diameter (ft)	5.2939
Vapor Space Outage (ft)	2.0000
Tank Shell Length (ft)	5.5000
Vapor Density	
Vapor Density (b/cu ft)	0.6093
Vapor Molecular Weight (b/b-mole)	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0150
Daily Avg. Liquid Surface Temp. (deg. R)	508.7168
Daily Average Ambient Temp. (deg. F)	45.3792
Ideal Gas Constant R (psia cu ft / (b-mol-deg R))	10.731
Liquid Bulk Temperature (deg. R)	605.0692
Tank Paint Solar Absorptance (Shell)	0.1700
Daily Total Solar Insolation Factor (Btu/sq ft day)	1.235.6345
Vapor Space Expansion Factor	
Vapor Space Expansion Factor	0.0388
Daily Vapor Temperature Range (deg. R)	19.8516
Daily Vapor Pressure Range (psia)	0.0000
Breather Vent Press. Setting Range (psia)	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0150
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia)	0.0150
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia)	0.0150
Daily Avg. Liquid Surface Temp. (deg. R)	508.7168
Daily Min. Liquid Surface Temp. (deg. R)	501.8669
Daily Max. Liquid Surface Temp. (deg. R)	511.6327
Daily Ambient Temp. Range (deg. R)	19.1250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor	0.9984
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0150
Vapor Space Outage (ft)	2.0000
Working Losses (b)	
Working Losses (b)	0.6905
Vapor Molecular Weight (b/b-mole)	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0150
Annual Net Throughput (gal/yr)	26,000.0000
Annual Turnovers	52.0000
Turnover Factor	0.7436
Tank Diameter (ft)	4.0000
Working Loss Product Factor	1.0000
Total Losses (b)	0.6621

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

Emissions Report for: Annual

Additive Tank # 2002 - Horizontal Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
HTA-1000	0.69	0.17	0.86

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

Identification

User Identification:	Additive Tank # 2210
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 2210

Tank Dimensions

Shell Length (ft):	10.00
Diameter (ft):	6.00
Volume (gallons):	2,000.00
Turnovers:	52.00
Net Throughput(gal/yr):	104,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Additive Tank # 2210 - Horizontal Tank
Portland, Maine

Module/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Premium Diesel Additive	At	47.05	42.14	51.96	45.40	0.0097	0.0097	0.0097	177.0000			177.00	Option 1: VP40 = .009671053 VP50 = .009671053

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

Additive Tank # 2210 - Horizontal Tank
Portland, Maine

<u>Annual Emission Calculations</u>	
Starting Losses (lb):	0.8313
Vapor Space Volume (cu ft):	180.0913
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9585
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	180.0913
Tank Diameter (ft):	6.0000
Effective Diameter (ft):	8.7426
Vapor Space Outage (ft):	3.0000
Tank Shell Length (ft):	10.0000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb-lb-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. R):	506.7183
Daily Average Ambient Temp. (deg. F):	45.3792
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0692
Tank Paint Solar Absorbance (Shst):	0.1700
Daily Total Solar Insolation Factor (Btu-sq ft day):	1,235.6346
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. R):	19.8516
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. R):	506.7183
Daily Min. Liquid Surface Temp. (deg. R):	501.8069
Daily Max. Liquid Surface Temp. (deg. R):	511.6327
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9585
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Space Outage (ft):	3.0000
Working Losses (lb):	
Working Losses (lb):	3.1518
Vapor Molecular Weight (lb-lb-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Annual Net Throughput (gal/yr.):	104,000.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7436
Tank Diameter (ft):	6.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	3.5631

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

Emissions Report for: Annual

Additive Tank # 2210 - Horizontal Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Premium Diesel Additive	3.15	0.80	3.95

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

Identification

User Identification:	Additive Tank # 2213
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 2213

Tank Dimensions

Shell Length (ft):	18.00
Diameter (ft):	5.50
Volume (gallons):	3,013.00
Turnovers:	52.00
Net Throughput(gal/yr):	156,676.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

**Additive Tank # 2213 - Horizontal Tank
Portland, Maine**

Module/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
HTA-1000	At	47.05	42.14	51.95	45.40	0.0150	0.0150	0.0150	100.0000			100.00	Option 1: VP40 = .015 VP50 = .015

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

Additive Tank # 2213 - Horizontal Tank
Portland, Maine

Annual Emission Calculations	
Standing Losses (lb):	1.0613
Vapor Space Volume (cu ft):	272.3831
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0368
Vented Vapor Saturation Factor:	0.9778
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	272.3831
Tank Diameter (ft):	5.5000
Effective Diameter (ft):	11.2301
Vapor Space Outage (ft):	2.7500
Tank Shell Length (ft):	18.0000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb/lb-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7158
Daily Average Ambient Temp. (deg. F):	45.3792
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0692
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insolation Factor (Btu/sq ft day):	1,235.6345
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0368
Daily Vapor Temperature Range (deg. R):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7158
Daily Min. Liquid Surface Temp. (deg. R):	501.6069
Daily Max. Liquid Surface Temp. (deg. R):	511.6327
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9778
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Space Outage (ft):	2.7500
Working Losses (lb):	
Working Losses (lb):	4.1628
Vapor Molecular Weight (lb/lb-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Annual Net Throughput (gal/yr.):	156,676.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7435
Tank Diameter (ft):	5.5000
Working Loss Product Factor:	1.0000
Total Losses (lb):	5.2221

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

Emissions Report for: Annual

Additive Tank # 2213 - Horizontal Tank
Portland, Maine

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
HTA-1000	4.16	1.06	5.22

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

Identification

User Identification:	Additive Tank # 87080
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Tank # 87080

Tank Dimensions

Shell Length (ft):	6.00
Diameter (ft):	8.00
Volume (gallons):	1,031.00
Turnovers:	62.00
Net Throughput(gal/yr):	53,612.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig):	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

**Additive Tank # 87080 - Horizontal Tank
Portland, Maine**

Mixture Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Premium Diesel Additive	All	47.05	42.14	51.56	45.40	0.0097	0.0097	0.0097	177.6000			177.00	Option 1: VP40 = 009671053 VP50 = 009671063

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

Additive Tank # 87080 - Horizontal Tank
Portland, Maine

Annual Emission Calculations	
Standing Losses (lb):	0.8543
Vapor Space Volume (cu ft):	192.0974
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9980
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	192.0974
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	7.6166
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	6.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb/lb-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. R):	506.7158
Daily Average Ambient Temp. (deg. F):	45.3782
Ideal Gas Constant R (psia cu ft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0692
Tank Paint Solar Absorption (Shell):	0.1700
Daily Total Solar Insolation Factor (Btu/sq ft day):	1,235.6345
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. R):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0097
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0097
Daily Avg. Liquid Surface Temp. (deg. R):	506.7158
Daily Min. Liquid Surface Temp. (deg. R):	521.6359
Daily Max. Liquid Surface Temp. (deg. R):	511.6397
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9980
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	
Working Losses (lb):	1.6248
Vapor Molecular Weight (lb/lb-mole):	177.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0097
Annual Net Throughput (gal/yr.):	53,612.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7436
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	2.4790

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

Emissions Report for: Annual

**Additive Tank # 87080 - Horizontal Tank
Portland, Maine**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Premium Diesel Additive	1.62	0.85	2.48

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

Identification	
User Identification:	Additive Totes
City:	Portland
State:	Maine
Company:	CITGO Petroleum Corporation
Type of Tank:	Horizontal Tank
Description:	Additive Totes

Tank Dimensions	
Shell Length (ft):	6.50
Diameter (ft):	3.00
Volume (gallons):	350.00
Turnovers:	52.00
Net Throughput(gal/yr):	18,200.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics	
Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings	
Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Portland, Maine (Avg Atmospheric Pressure = 14.69 psia)

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

Additive Totes - Horizontal Tank
Portland, Maine

Mixture Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
HTA-1000	As	47.65	42.14	51.95	45.40	0.0150	0.0150	0.0150	100.0000			100.00	Option 1: VP40 = .015 VP60 = .015

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

Additive Totes - Horizontal Tank
Portland, Maine

Annual Emission Calculations	
Standing Losses (lb):	0.1141
Vapor Space Volume (cu ft):	29.2648
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.0388
Vented Vapor Saturation Factor:	0.9988
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	29.2648
Tank Diameter (ft):	3.0000
Effective Diameter (ft):	4.9941
Vapor Space Outage (ft):	1.5000
Tank Shell Length (ft):	6.5000
Vapor Density:	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb-b-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. F):	506.7153
Daily Average Ambient Temp. (deg. F):	45.3792
Ideal Gas Constant R (psia-cu-ft/(lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	505.0692
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu-sq-ft/day):	1,235.6345
Vapor Space Expansion Factor:	
Vapor Space Expansion Factor:	0.0388
Daily Vapor Temperature Range (deg. R):	19.6516
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0150
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg. R):	506.7153
Daily Min. Liquid Surface Temp. (deg. R):	501.6069
Daily Max. Liquid Surface Temp. (deg. R):	511.6327
Daily Ambient Temp. Range (deg. R):	19.1250
Vented Vapor Saturation Factor:	
Vented Vapor Saturation Factor:	0.9988
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Vapor Space Outage (ft):	1.5000
Working Losses (lb):	
Working Losses (lb):	0.4833
Vapor Molecular Weight (lb-b-mole):	100.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0150
Annual Net Throughput (gal/Yr.):	18,200.0000
Annual Turnovers:	52.0000
Turnover Factor:	0.7456
Tank Diameter (ft):	3.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.5975

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

Emissions Report for: Annual

**Additive Totes - Horizontal Tank
Portland, Maine**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
HTA-1000	0.48	0.11	0.60

TANKS 4.0.9d
Emissions Report - Detail Format
Total Emissions Summaries - All Tanks in Report

Emissions Report for: Annual

Tank Identification				Losses (lbs)
Additive Tank # 1082	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	6.95
Additive Tank # 19001	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	18.20
Additive Tank # 1950	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	8.04
Additive Tank # 2002	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	0.86
Additive Tank # 2210	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	3.95
Additive Tank # 2213	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	5.22
Additive Tank # 87080	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	2.48
Additive Totes	CITGO Petroleum Corporation	Horizontal Tank	Portland, Maine	0.60
Total Emissions for all Tanks:				46.31

**Internal Floating Roof Tanks
Evaporative Loss from Storage Tank Floating Roof Landings**

Standing Idle Loss No.	Tank	Tank Type	Diameter	Month Landed	Roof Landed with Product	Loc Height	Height of Land above Tank Bottom	No. of Tank Stacks Idle with the	Vapor Space Expansion Factor @ T _{LA}	True Vapor Press. @ T _{LA}	V _v (ft ³)	Ideal Gas Constant R (psia ft ³ /lb-mole °R)	Bulk Liquid Temp. (°R)	Vapor Mole Wt. M _v (lb/lb-mol)	Standing Idle Losses (lbs)	Standing Idle Saturation Factor K _{SA}	Stock Liquid Effective Height h _s (ft)	Avg. Liquid Density W _L (lb/caf)	Standing Loss Upper Limit (lbs)	Standing Idle Losses (lbs)	
1	TR-1	FR	120	October	Gasoline (RVP 15)	3.5	1.00	0.45	0.1921	6.7311	28274.3	10.731	508.19	62	98.87	0.5286	1.00	4.6	390.816.0	98.87	
2	TR-2	FR	120	October	Gasoline (RVP 15)	6	1.00	0.5	0.1921	6.7311	56548.7	10.731	508.19	62	149.34	0.3593	1.00	4.6	390.816.0	149.34	
3	TR-3	FR	120	October	Gasoline (RVP 15)	6	1.00	0.5	0.1921	6.7311	56548.7	10.731	508.19	62	149.34	0.3593	1.00	4.6	390.816.0	149.34	
4	TR-4	FR	80	October	Gasoline (RVP 15)	6	1.00	0.5	0.1921	6.7311	25132.7	10.731	508.19	62	66.38	0.3593	1.00	4.6	173.696.0	66.38	
5	TR-5	FR	134	October	Gasoline (RVP 15)	3	1.00	0.5	0.1921	6.7311	56548.7	10.731	508.19	62	170.87	0.4121	1	4.6	487.232.8	170.87	
6	TR-6	FR	100	October	Gasoline (RVP 15)	3.5	1.00	0.5	0.1921	6.7311	19635.0	10.731	508.19	62	76.29	0.5286	1	4.6	271.400.0	76.29	
7	TR-7	FR	100	October	Gasoline (RVP 15)	5.5	1.00	0.5	0.1921	6.7311	33342.9	10.731	508.19	62	99.73	0.3899	1	4.6	271.400.0	99.73	
8																					
9																					
10																					
11																					
12																					310.83

$$L_s = R_v \times 0.57 \times D^2 \times P^2 \times M_v$$

$$\text{But } \leq 5.9 \times D^2 \times h_s \times M_v$$

Filling Loss No.	Tank	Tank Type	Diameter	Month Reblasted	Product Floating Roof	Type of Roof	Bulk Liquid Temp.	Vapor Press. @ T _{LA}	P (psia)	M _v (lb/lb-mol)	V _v (ft ³)	Ideal Gas Constant R (psia ft ³ /lb-mole °R)	Saturation Factor	Saturation Factor Correction for Generated Vapors ¹	Filling Losses L _F (lbs)
1	TR-1	FR	120	October	Ethanol	Full Head	508.19	6.7311	46.07	28274.3	10.731	0.6	0.15	1.002.26	
2	TR-3	FR	120	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	56548.7	10.731	0.6	N/A	2.596.49	
3	TR-4	FR	120	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	56548.7	10.731	0.6	N/A	2.596.49	
4	TR-5	FR	80	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	25132.7	10.731	0.6	N/A	1.154.00	
5	TR-7	FR	134	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	56548.7	10.731	0.6	N/A	2.596.14	
6	TR-9	FR	100	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	19635.0	10.731	0.6	N/A	901.56	
7	TR-10	FR	100	October	Gasoline (RVP 15)	Full Head	508.19	6.7311	62	33342.9	10.731	0.6	N/A	1.622.81	
8															
9															
10															
11															
12														12.463.71	

(1) - Assume that 15% of the vapor is generated from the product filling the tank if different from the product in the tank during the landing.

$$L_F = (R_v \times V_v) / (R_v \times T) \times M_v \times S$$

Total Losses No.	Tank ID	Standing Idle Loss L _S (lbs)	Filling Loss L _F (lbs)	Total Losses (lbs)
1	TR-1	98.87	1,002.26	1,101
2	TR-3	149.34	2,596.49	2,746
3	TR-4	149.34	2,596.49	2,746
4	TR-5	66.38	1,154.00	1,220
5	TR-7	170.87	2,596.14	2,767
6	TR-9	76.29	901.56	978
7	TR-10	99.73	1,622.81	1,723
8				
9				
10				
11				
12				13.275

$$L_T = L_S + L_F$$

Cleaning Losses	Wax tank Cleaned Yes/No	Maximum Cleaning Losses (lbs)
1	No	N/A
2	No	N/A
3	No	N/A
4	No	N/A
5	No	N/A
6	No	N/A
7	No	N/A
8	No	N/A
9	No	N/A
10	No	N/A
11	No	N/A
12	No	N/A

$$L_C = (M_v \times 1.5) \times 0.6 \times ((0.5 \times V_v) / (T \times 10.731))$$

Worst case-clean all tanks with no controls

Tanks	pounds	945 stores ethanol
1		
3	4,764	
4	4,764	
6	2,395	
7	5,817	
9	3,461	
10	3,461	
distillate	1,260	
TOTAL	26,866	pounds
TPY	13.43	tons

Typical Case-clean one gas and one distillate tank per year

Tanks	pounds	0 stores ethanol
1		
3	0	
4	0	
6	0	
7	5,817	
9	0	
10	0	
distillate	420	
TOTAL	6,237	pounds
TPY	3.12	tons

PTE tank cleaning emissions

Tank Cleaning Losses

Tank	1	Storing Ethanol
Roof Type	IFR	
Month	Oct	(assumes worst case based on RVP and ambient temperature)
Year		

Degassing

Diameter:	120 feet
Height:	6 feet (of legs)
Saturation:	1 (assume 1)
Pressure:	0.7977 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt:	46.07 lb-lb mole (Vapor Molecular Weight)

Emissions: 445 lbs

Total gallons	5,000 gallons
at 5% solid	250 gallons
x 10 lbs/gallon	2,500 lbs

Sludge 2,500 lbs

x 20 %

Emissions: 500 lbs

TOTAL 945 Pounds
0.5 Tons

Tank Cleaning Losses

Tank 1 Storing Gasoline
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 120 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 4,264 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs

x 20 %

Emissions: 500 lbs

**TOTAL 4,764 Pounds
2.4 Tons**

Tank Cleaning Losses

Tank 3
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 120 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 4,264 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs
x 20 %
Emissions: 500 lbs

TOTAL 4,764 Pounds
2.4 Tons

Tank Cleaning Losses

Tank 4
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 120 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 4,264 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs
x 20 %
Emissions: 500 lbs

TOTAL 4,764 Pounds
2.4 Tons

Tank Cleaning Losses

Tank 6
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 80 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 1,895 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs
x 20 %
Emissions: 500 lbs

**TOTAL 2,395 Pounds
1.2 Tons**

Tank Cleaning Losses

Tank 7
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 134 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 5,317 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs
x 20 %
Emissions: 500 lbs

TOTAL 5,817 Pounds
2.9 Tons

Tank Cleaning Losses

Tank 9
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 100 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 2,961 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs
x 20 %
Emissions: 500 lbs

TOTAL 3,461 Pounds
1.7 Tons

Tank Cleaning Losses

Tank 10
Roof Type IFR

Month Oct (assumes worst case based on RVP and ambient temperature)
Year

Degassing

Diameter: 100 feet
Height: 6 feet (of legs)
Saturation: 1 (assume 1)
Pressure: 5.77 psia (Vapor Pressure at Daily Average Liquid Surface Temperature)
MolWt: 61.093 lb-lb mole (Vapor Molecular Weight)

Emissions: 2,961 lbs

Total gallons 5,000 gallons
at 5% solid 250 gallons
x 10 lbs/gallon 2,500 lbs

Sludge 2,500 lbs

x 20 %
Emissions: 500 lbs

**TOTAL 3,461 Pounds
1.7 Tons**

DISTILLATE
Tank Cleaning Losses

Tank	2	5	8
Roof Type	Fixed	Fixed	Fixed
Month	July	July	July
Year	(worst case VP and temperature)	(worst case VP and temperature)	(worst case VP and temperature)
Degassing Working Losses	100 pounds	100 pounds	100 pounds
Clingage	20 pounds	20 pounds	20 pounds
Emissions:	120 lbs	120 lbs	120 lbs
Total gallons at 5% solid x 10 lbs/gallon	3000 gallons 150 gallons 1500 lbs	3000 gallons 150 gallons 1500 lbs	3000 gallons 150 gallons 1500 lbs
Sludge x 20 % Emissions:	1500 lbs 300 lbs	1500 lbs 300 lbs	1500 lbs 300 lbs
TOTAL	420 Pounds 0.21 Tons	420 Pounds 0.21 Tons	420 Pounds 0.21 Tons
Fixed Roof Tank Total	1,260 lbs 0.63 tons		

Tanks	pounds
1	945 stores ethanol
3	4,764
4	4,764
6	2,395
7	5,817
9	3,461
10	3,461
distillate	1,260
TOTAL	26,866 pounds
TPY	13.43 tons

PTE tank cleaning emissions

Greenhouse Gas Emissions from Combustion Sources

PROCESS GASES

truck rack
 4,881,728 uncontrolled pounds
 divided by 6.1 pounds/gallon
 = 800.3 M gallons

Annual Combustion Process Gases for 2020 PTE

Emission Factors (lb/1,000 gals)*

CO2	12,500
CH4	0.2
N2O	0.9
SO2	0.1
PM10	0.2

Estimated Greenhouse Gas Emissions

	<u>lb/yr</u>	<u>tons/yr</u>
CO2	10,003,540	5,002
CH4	160.057	0.08
N2O	720.255	0.36
SO2	80.028	0.04
PM10	160.057	0.08
		5,002

*Reference for values
 AP-42, Sec 1.5,
 Table 1.5-1
 (7/08)

Emission Factors (lb/1,000 gals)**

		<u>tons/yr</u>
NOx	0.033	16.3
CO	0.083	40.9

**Manufacturers estimate

Annual Combustion Propane usage for 2020 PTE

400.0 M gallons

Emission Factors (lb/1,000 gals)*

CO2	12,500
CH4	0.2
N2O	0.9
SO2	0.1
PM10	0.2

Estimated Greenhouse Gas Emissions

	<u>lb/yr</u>	<u>tons/yr</u>
CO2	5,000,000	2,500.0
CH4	80.000	0.0400
N2O	360.000	0.1800
SO2	40.000	0.0200
PM10	80.000	0.0400
		2,500.3
		7,502.61 TPY PTE

*Reference for values
 AP-42, Sec 1.5,
 Table 1.5-1
 (7/08)

Emission Factors (lb/1,000 gals)**

		<u>tons/yr</u>
NOx	0.033	0.0066
CO	0.083	0.0166
VOC	0.0626	0.0125

Attachment F

CAM Plan

3. Emission Limit Compliance Methods

Compliance with the emission limits associated with the Loading Rack and VCU shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Unit of Emission Standard	Compliance Method	Frequency
NO _x	lb/1000 gal of product loaded	40 CFR Part 60, App. A, Method 7	As Requested
CO	lb/1000 gal of product loaded	40 CFR Part 60, App. A, Method 10	As Requested
VOC	mg/liter of product loaded	40 CFR Part 60, §60.503	Annually, prior to May 15 th of each year
Visible Emissions	% Opacity	40 CFR Part 60, App. A, Method 9	As requested

4. Compliance Assurance Monitoring (CAM)

For the Loading Rack, CAM is applicable to VOC. The presence of flame at the VCU is a CAM monitor. An electrical signal generated by a photoeye indicates pilot flame is present while loss of signal indicates the pilot flame is absent. Computer interlocks ensure that no vapors are introduced into the VCU unless a pilot flame is present. If signal is lost during loading, the Loading Rack shuts down until the problem is identified and repairs are completed. The CAM monitoring requirements are included in the monitoring sections below.

5. Periodic Monitoring

CITGO shall monitor and record the following periodic monitors for the Loading Rack and VCU.

- a. Gallons of propane used in the VCU on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]
- b. Gallons of throughput at the loading rack for each product stored on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]
- c. Records of the test results for each gasoline cargo tank loading at the facility as specified in 40 CFR §63.11094(b) and (c).
- d. Records of monthly leak inspections required under 40 CFR §60.502(j) in accordance with 40 CFR §60.505(c) and (e).

- e. Records describing the types, identification numbers, and locations of all equipment in gasoline service. [40 CFR §63.11094(d)]
- f. Records of monthly leak inspections including:
 - 1. Date of inspection.
 - 2. Findings (i.e. whether a leak was detected).
 - 3. Inspector name and signature
[40 CFR §60.505(c)]
- g. For each leak detected through inspection of equipment in gasoline service, CITGO shall record in the log book the following information:
 - 1. The equipment type and identification number.
 - 2. The nature of the leak (i.e. vapor or liquid) and the method of detection (i.e. sight, sound, or smell).
 - 3. The date the leak was detected and the date of each attempt to repair the leak.
 - 4. Repair methods applied in each attempt to repair the leak.
 - 5. "Repair delayed" and the reason for the delay if the leak is not repaired within fifteen (15) calendar days after discovery of the leak.
 - 6. The expected date of successful repair of the leak if the leak is not repaired within fifteen (15) days.
 - 7. The date of successful repair of the leak.
[40 CFR §63.11094(e) and 40 CFR §60.505(c)]
- h. Records of the CMS data. The records shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record. [40 CFR §63.11094(f)(1)]
- i. An up-to-date, readily accessible copy of the monitoring and inspection plan required under 40 CFR §63.11092(b)(1)(iii)(B)(2). [40 CFR §63.11094(f)(3)]
- j. An up-to-date, readily accessible record of all system malfunctions, as specified in 40 CFR §63.11092(b)(1)(iii)(B)(2)(v). [40 CFR §63.11094(f)(4)]
- k. Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment. [40 CFR §63.11094(g)(1)]
- l. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.11085(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR §63.11094(g)(2)]

6. Parameter Monitors

CITGO shall install, calibrate, certify, operate, and maintain a CMS for the VCU in accordance with 40 CFR §63.11092(b)(1)(iii)(B). The VCU CMS is considered a parameter monitor.

7. CEMS and COMS

There are no continuous emission monitoring systems (CEMS) or continuous opacity monitoring systems (COMS) required for the Loading Rack or VCU.

H. Gasoline/Ethanol Storage Tanks

The following tanks are used to store gasoline, ethanol, or gasoline/ethanol blends. They are all welded, white, steel tanks with cone internal floating roofs. Annual throughput for each tank varies depending on the product stored, size, and demand.

Storage Tank No.	Date of Installation	Capacity (gallons)	Control Equipment
Tank #1*	1947	2,800,000	Cone internal floating roof
Tank #3	1974	3,800,000	Cone internal floating roof
Tank #4	1974	3,800,000	Cone internal floating roof
Tank #6*	1974	1,400,000	Cone internal floating roof
Tank #7*	1965	4,200,000	Cone internal floating roof
Tank #9	1966	2,500,000	Cone internal floating roof
Tank #10	1962	2,700,000	Cone internal floating roof

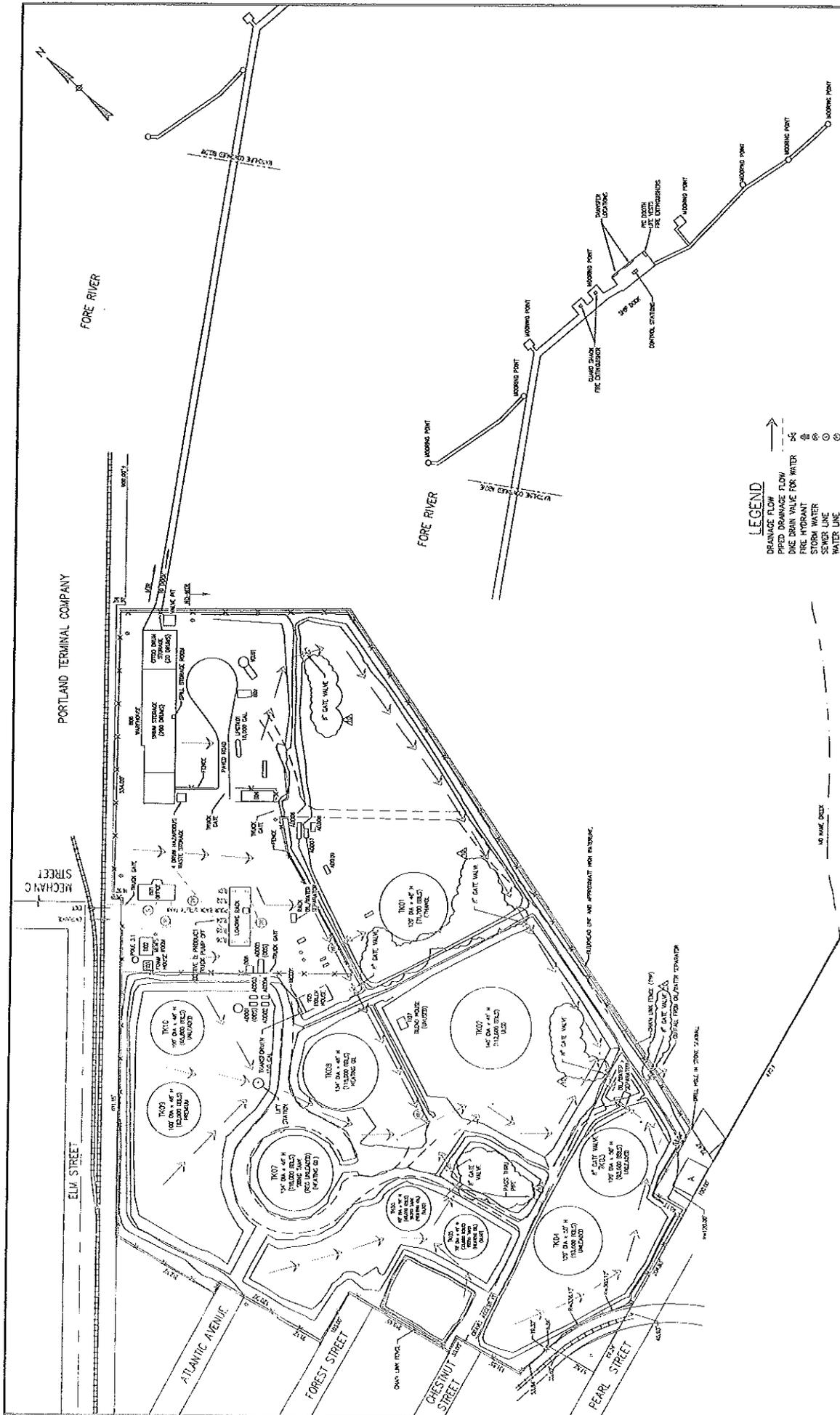
*Tanks #1, #6, and #7 are also licensed to store distillate products. CITGO shall meet all of the applicable requirements for existing gasoline storage tanks while storing gasoline or ethanol in these tanks.

1. New Source Performance Standards (NSPS)

Tanks #3, #4, and #6 are subject to 40 CFR Part 60 Subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978*. Subpart K requires that all affected storage vessels be equipped with a floating roof, a vapor recovery system, or their equivalent. Records must be kept documenting the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Attachment G

Plot Plan



CITGO Petroleum Corporation		SOUTH PORTLAND, MAINE TERMINAL	
DRAINAGE PLAN		DATE: 10/10/01	
NO.	DATE	BY	CHKD
10	10/10/01
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Figure 6-3