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November 8, 2013

Donald Welsted
NYS DEC Region 4
Division of Air Resources
1130 North Westcott Road
Schenectady, NY 12306-2014

Re: Global Companies LLC - Albany, NY Terminal
Title V Facility Permit No. 4-0101-00112/00029

Dear Mr. Welsted;

On behalf of Global Companies LLC (Global), EnviroSpec Engineering, PLLC is submitting the attached revised application for a Significant Title V Permit Modification at the Global Companies Albany Terminal (Terminal) located at 50 Church Street, Albany, New York. This application was originally submitted June 11, 2013. The terminal currently operates under Title V Facility Permit No. 4-0101-00112/00029.

As stated in the original application, Global is requesting to expand crude oil storage capabilities at the Terminal to include heated petroleum products (crude, residual fuel and bio-fuels). The modification includes three elements 1) reconfiguration of an existing intermodal rail yard to allow offloading of heated petroleum products, 2) conversion of Tank 33, which currently stores distillate oil, to volatile petroleum product storage, and 3) installation of boilers to heat products contained in rail cars and storage tanks.

The project involves installing additional offloading stations for heated rail cars at the existing Canadian Pacific Railroad (CP) Kenwood Yard. The additional offload positions would be located on land leased from CP within Kenwood Yard between the Albany Terminal and the existing rail offloading tracks. A project plan showing the locations of the offloading stations, approximate locations of boilers and Tank 33 is included for your reference.

Emissions from heated petroleum products are lower than the emissions from the crude oil that is currently permitted at the facility; therefore, the potential to emit (PTE) will continue to be based on crude oil to allow the Terminal the greatest flexibility. TANKS 4.09 Reports are included with this application.

A total of seven (7) natural gas-fired boilers will be installed to heat the additional products, as needed, with two (2) boilers rated at 4 MMbtu/hr, one (1) boiler rated at 6 MMbtu/hr and four (4) rated at 13 MMbtu/hr. This varies from the original application submitted in June in that an additional boiler is being proposed. The total MMbtu/hr has increased by 6 MMbtu/hr from the original application. Four (4) of the boilers are exempt from permitting per 6 NYCRR 201-3.2(1)(i), because they are less than 10 MMbtu/hr. The larger boilers (13 MMbtu/hr) are not exempt from permitting. In addition, they are subject to 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. As indicated in the attached Project Summary, emissions from the boilers are far below the major source thresholds for all key combustion-related pollutants – particulate matter, nitrogen oxides, sulfur oxides, and carbon monoxide.

As previously mentioned, Global will be converting Tank 33 from distillate service to volatile petroleum product storage. To accommodate this change, an internal floating roof (IFR) will be installed in Tank 33, which will now be subject to 40 CFR Part 60, Subpart Kb – Standards of Performance of Volatile Organic Liquid Storage Vessels. To offset the increase in emissions from the conversion of Tank 33, Tank 118 will be limited to distillate service as well as the facility reducing its crude oil marine loading throughput from 1850 MMgal per year to 1800 MMgal per year. Heated petroleum products will be throughput under the existing crude oil throughput cap; as a result, no throughput modifications beyond the 50 MMgal reduction are necessary.

As part of this and the original modification application, Global is also proposing to modify Condition 2-3 which allows for a flexible tank grouping at the facility. Global is proposing to limit gasoline storage in the grouping. This change will allow the Terminal more flexibility for tank maintenance activities within the grouping without approaching the permitted PTE.

In support of this change, Global is proposing to add the following underlined language to Condition 2-3.7:

“The following sources TK114, TK115, TK031, and TNK32 have the flexibility to be utilized as crude oil tanks. However, at any one time only two of these sources can be utilized to store either gasoline or crude oil. The remaining two tanks will either be in distillate or ethanol service. If Tank 114 is in ethanol service, gasoline will not be stored in the remaining tanks.”

The current emission profile or Potential To Emit (PTE) at the facility incorporates the aforementioned scenario. The facility has taken this cap to remain within this current emission profile.”

Condition 4-10 must be modified to include Tank 33 as well, as Tank 33 will now be considered under that same project for NSR tracking purposes. Emission Unit 1-TANKS, Process CR1, Emission Source TK033 will need to be added to Item 4-10.1.



The facility PTE has been updated and the increase in emissions has been summarized on the revised Project Emission Summary sheet. Emission increases resulting from piping modifications related to the changes at the Terminal are also included.

In support of this application, please find attached the following items:

- Project Emission Summary
- Updated Emission Unit Matrix
- Facility Potential to Emit (PTE)
- Certification by a Responsible Official
- Relevant Title V facility application forms for the modification
- PE Certification form
- TANKS 4.09 Report
- Site Plan

Changes from a previous minor modification which permitted butane blending operations are also included on the Emission Unit Matrix and the Application Forms.

Should you have any questions please feel free to contact me at 518-453-2203 or Tom Keefe of Global Companies LLC at 781-398-4132.

Sincerely,



Nicole Brower, PE
Senior Engineer
Envirospec Engineering PLLC

Cc: Tom Keefe – Global Companies LLC
Ron Kenny – Operations Manager
Charles Furman – Terminal Manager



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A Woman Owned Business Enterprise (WBE)

Project Summary

EMISSION SOURCE	2010	2011	ACTUAL EMISSIONS	PROJECTED ACTUAL EMISSIONS
Tank 33 in Crude Oil Service	0.00	0.00	0.00	4.18
Marine Loading of Crude Oil (1,800 Mmgal)	-	0.39	0.39	38.43
VOC Emissions from Boilers	-	-	-	1.56
Additional Fugitive Emissions	-	-	-	0.08
TOTAL			0.39	44.25
Total Projected Actual Emissions (tons/year)				44.25
Total Actual Emissions (tons/year)				0.39
Contemporaneous Emissions Changes / Emission Reduction Credits* (tons/year)				-4.27
Total Project Emission Potential = Total Projected Actual Emissions - Total Actual Emissions + Contemporaneous Emissions Changes (tons/year)				39.59

* Calculation shown on the following page

EMISSION SOURCE	PROJECTED ACTUAL EMISSIONS BY POLLUTANT (tons/year)						
	PM	SOx	NOx	VOC	CO	CO2	GHGs
Boiler 1 (4 Mmbtu/hr)	0.13	0.01	1.72	0.09	1.44	2,061.18	2,066.50
Boiler 2 (4 Mmbtu/hr)	0.13	0.01	1.72	0.09	1.44	2,061.18	2,066.50
Boiler 3 (6 Mmbtu/hr)	0.20	0.02	2.58	0.14	2.16	3,091.76	3,099.77
Boiler 4 (13 Mmbtu/hr)	0.42	0.03	5.58	0.31	4.69	6,698.82	6,716.18
Boiler 5 (13 Mmbtu/hr)	0.42	0.03	5.58	0.31	4.69	6,698.82	6,716.18
Boiler 6 (13 Mmbtu/hr)	0.42	0.03	5.58	0.31	4.69	6,698.82	6,716.18
Boiler 7 (13 Mmbtu/hr)	0.42	0.03	5.58	0.31	4.69	6,698.82	6,716.18
TOTAL:	2.14	0.16	28.34	1.56	23.80	34,009.41	34,097.49

**Tank 118 Conversion from Gasoline Service to Distillate Service
Emission Reduction Credit Calculation**

Baseline Period:

Year	Emissions (tpy)
2011	3.83
2012	4.79
Average	4.31

Potential to Emit (PTE) Determination:

PTE (lb/yr)	PTE (ton/yr)
74	0.037

Emission Credit = **Baseline Actual Emissions - PTE**
Emission Credit = **4.31 tpy - 0.037 tpy**

Emission Credit = **4.27 tpy**

Emission Unit Matrix

Emission Unit ID	Emission Unit Description	Process ID	Process Description	SCC Code	Source ID	Source Description	Control ID	Control Description	Emission Point ID
1-TANKS	This emission unit represents storage tanks at the facility.	GA1	Gasoline storage tanks used for storage and distribution at terminal.	4-03-010-99	TK114 TK115 TK117	3,715,740 gallon tank 5,812,800 gallon tank 2,717,148 gallon tank	T114C T115C T117C	Internal Floating Roof Internal Floating Roof Internal Floating Roof	00114 00115 00117
DELETE					TK118	1,963,290 gallon tank	T118C	Internal Floating Roof	00118
		ET1	Ethanol storage tanks used for storage and distribution at terminal.	4-03-010-99	TK119 TK120 TK121 TK130 TK039	1,292,886 gallon tank 1,364,748 gallon tank 4,603,563 gallon tank 1,421,868 gallon tank 139,344,878 gallon tank	T119C T120C T121C T130C T039C	Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof	00119 00120 00121 00130 00739
		CR1	Crude Oil storage tanks used for storage and distribution at terminal.	4-03-010-99	TK031 TK032 TK039 TK114 TK115 TK117 TK118 TK119 TK120 TK121 TK130	3,829,140 gallon tank 3,829,140 gallon tank 3,690,540 gallon tank 3,715,740 gallon tank 5,812,800 gallon tank 2,717,148 gallon tank 1,963,290 gallon tank 1,292,886 gallon tank 1,364,748 gallon tank 4,603,563 gallon tank 1,421,868 gallon tank	TK31C TK32C T039C T114C T115C T117C T118C T119C T120C T121C T130C	Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof Internal Floating Roof	00731 00732 00739 00114 00115 00117 00118 00119 00120 00121 00130
ADD					TK033	3,715,740 gallon tank	TK33C	Internal Floating Roof	00733
		1FG	Wastewater tank contaminated with gasoline/distillate.	NOT NEEDED	1WATR	1,421,868 gal wastewater tank			001WW
1-RACK1	Truck loading rack with 3 gasoline bays and 5 distillate bays.	R1G	Emissions from VRU while loading gasoline/ethanol.	4-04-001-53	RACK1	Rack 1	VRUTK VACTK	Vapor Recovery Unit Vac Assist Vapor Reduction System	00001 00004
		R1D	Emissions from Rack 1 while loading distillate at Rack 1	4-04-001-50	RACK1	Rack 1			
		FG1	Fugitive HAP/VOC emissions from Rack 1 and associated piping	4-04-001-51	RACK1	Rack 1			
1-RACK2	Railcar loading rack with 2 loading positions for distillate and gasoline/ethanol with vapor combustion control.	R2G	Emissions from Vapor Combustion Unit while loading all gasoline/ethanol.	4-04-001-53	RACK2	Rack 2	VCURR	Vapor Combustion Unit	00002
		R2D	Emissions from Rack 2 while loading distillate.	4-04-001-50	RACK2	Rack 2			
		FG2	Fugitive HAP/VOC emissions from Rack 2 and associated piping	4-04-001-51	RACK2	Rack 2			
1-RACK3	This emission unit represents marine loading of product at dock.	R3E	Marine loading of ethanol at the dock with vapor combustion unit (VCU) control device.	4-06-002-98	RACK3	Rack 3	VCUML	Vapor Combustion Unit for R3E/R3G	00003
		R3G	Marine loading of gasoline at the dock with VCU control device.	4-06-002-98	RACK3	Rack 3	VCUML	Vapor Combustion Unit for R3E/R3G	00003
		R3D	Emissions from Rack 3 while loading distillate.	4-06-002-98	RACK3	Rack 3			
		R3C	Emissions from Rack 3 while loading crude oil.	4-06-002-98	RACK3	Rack 3	VCUM2	Vapor Combustion Unit for R3C	00006
		FG3	Fugitive HAP/VOC emissions from Rack 3 and associated piping	4-04-001-51	RACK3	Rack 3			
1-RACK4	Railcar loading rack for distillate without control.	R4D	Emissions from Rack 4 while loading distillate.	4-04-001-50	RACK4	Rack 4			00005
		FG4	Fugitive HAP/VOC emissions from Rack 4 and associated piping.	4-04-001-51	RACK4	Rack 4			
1-RACK5	Butane offloading operations.	FG5	Fugitive HAP/VOC emissions from Rack 5 and associated piping.	4-04-001-51	RACK5	Rack 5			
1-BOLR1 ADD	Natural-Gas Fired Boiler for rail car heating.	NLG	Natural-Gas Fired Boiler for rail car heating.	1-02-006-02	BOLR1 BOLR2 BOLR3 BOLR4	13 Mmbtu Natural-Gas Fired Boiler 13 Mmbtu Natural-Gas Fired Boiler 13 Mmbtu Natural-Gas Fired Boiler 13 Mmbtu Natural-Gas Fired Boiler			00007 00008 00009 00010

COVER

GLOBAL COMPANIES

**PRODUCT TERMINAL EMISSION REPORT
SIC CODE 5171**

Albany

**Report Purpose
2013 PTE**

**Version Date
5/17/2013**

Emission Unit Overview

Description	VOC			HAP			SINGLE HAP Hexane		
	Tank Emissions	Tank Landing Emissions	TOTAL TANK EMISSIONS	Tank Emissions	Tank Landing Emissions	TOTAL TANK EMISSIONS	Tank Emissions	Tank Landing Emissions	TOTAL TANK EMISSIONS
Gasoline Storage (RFG)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Gasoline Loading Emissions		Total Emissions From VCU	Gasoline Loading Emissions		Total Emissions From VCU			
	0.000		0.000	0.000		0.000	0.000		0.000
IFR Storage Tanks									
Tank 117_BLG	3.209	2.179	5.388	0.188	0.128	0.316	0.127	0.086	0.213
Tank 119_BLG	4.297	1.152	5.449	0.252	0.068	0.319	0.170	0.046	0.216
Tank 120	2.262	1.152	3.415	0.133	0.068	0.200	0.090	0.046	0.135
Tank 121_BLG	6.427	4.051	10.478	0.276	0.174	0.450	0.029	0.018	0.047
Tank 114_BLG	4.121	1.296	5.418	0.242	0.076	0.317	0.163	0.051	0.215
Tank 115_BLG	5.856	4.051	9.907	0.343	0.237	0.581	0.232	0.160	0.392
Tank 33**	3.491	2.125	5.616	0.246	0.125	0.370	0.138	0.084	0.222
Tank 39	5.885	4.220	10.105	0.253	0.181	0.434	0.027	0.019	0.046
Tank 31*	0.405	1.292	1.697	0.017	0.056	0.073	0.002	0.006	0.008
Tank 32*	0.405	1.292	1.697	0.017	0.056	0.073	0.002	0.006	0.008
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tank Cleaning									
	Gasoline Loading Emissions		Total Emissions From VCU	Gasoline Loading Emissions		Total Emissions From VCU			
Gasoline Loading (CNV)									
Truck Loading Fugitive	0.000		0.000	0.000		0.000	0.000		0.000
Truck Loading Stack	5.424		5.424	0.233		0.233	0.025		0.025
Rail Loading Fugitive	5.007		5.007	0.215		0.215	0.023		0.023
Rail Loading Stack	6.258		6.258	0.269		0.269	0.028		0.028
Distillate Service	Distillate Tank Emissions		TOTAL TANK EMISSIONS	Distillate Tank Emissions		TOTAL TANK EMISSIONS			
Tank 28	0.799		0.799	0.081		0.081			
Tank 29	0.799		0.799	0.081		0.081			
Tank 64	0.508		0.508	0.051		0.051			
Tank 30	0.799		0.799	0.081		0.081			
Tank 118	0.037		0.037	0.004		0.004			
	0.000		0.000	0.000		0.000			
	0.000		0.000	0.000		0.000			
	0.000		0.000	0.000		0.000			
	0.000		0.000	0.000		0.000			
	0.000		0.000	0.000		0.000			
	0.000		0.000	0.000		0.000			
Truck Loading	1.626		1.626	0.165		0.165			
Rail Loading	0.000		0.000	0.000		0.000			
Aviation Gasoline Storage									
Product / Water Mixture Tank	0.000		0.000	0.000		0.000	0.000		0.000
CNV Equipment Fugitives	0.403		0.403	0.064		0.064	0.003		0.003
Marine Loading	67.162		67.162	2.105		2.105	0.174		0.174
Additive Tank Emissions	0.072		0.072	0.087		0.087			
TOTAL OF SOURCES			148.06			6.57			1.75
Total VOCs	148.06	tons/yr							
Total HAPs	6.57	tons/yr							
Total Hexane	1.75	tons/yr							
Total GHG	48,123.45	tons/yr							

*Modeled as Ethanol Only

TANK STORAGE, CLEANING AND LOADING RACK

RFG														Page	Landing	
Tank No.	lb/yr	Benzene	Ethylbenzene	Hexane	Isocutane	MTBE	Toluene	Xylene (-m)	Biphenyl	Cresol (-o)	Cumene	Naphthalene	Methanol	Total Hap	Total Hap	Total HAP
		-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	-	-	-
		-	-	-	-	-	-	-						-	-	-
Gasoline Loading (RFG)														-	-	-
Truck Loading		0	0	0	0	0	0	0						-	-	-
Rail Loading														-	-	-
Gasoline Storage (Conv)														-	-	-
Tank 117_BLG		64	2	254	26	N/A	24	6	N/A	N/A	N/A	N/A		376	255	631
Tank 119_BLG		95	3	340	34	N/A	33	9	N/A	N/A	N/A	N/A		504	135	639
Tank 120		45	1	179	18	N/A	17	5	N/A	N/A	N/A	N/A		265	135	400
Tank 121_BLG		74	25	58	114	N/A	158	123	N/A	N/A	N/A	N/A		552	348	901
Tank 114_BLG		82	2	326	33	N/A	31	8	N/A	N/A	N/A	N/A		483	152	635
Tank 115_BLG		116	4	464	47	N/A	45	12	N/A	N/A	N/A	N/A		686	475	1,161
Tank 33**		69	2	276	28	N/A	27	7	N/A	N/A	N/A	N/A	82	492	249	741
Tank 39		68	23	53	104	N/A	145	112	N/A	N/A	N/A	N/A		506	363	869
Tank 31*		5	2	4	7	N/A	10	8	N/A	N/A	N/A	N/A		35	111	146
Tank 32*		5	2	4	7	N/A	10	8	N/A	N/A	N/A	N/A		35	111	146
		-	-	-	-	N/A	-	-	N/A	N/A	N/A	N/A		-	-	-
		-	-	-	-	N/A	-	-	N/A	N/A	N/A	N/A		-	-	-
Gasoline Loading (CNV)														-	-	-
Truck Loading Fugitive		0	0	0	0	0	0	0						-	-	-
Truck Loading Stack		62	21	49	96	0	134	104						466	-	466
Rail Loading Fugitive		58	20	45	89	0	123	96						430	-	430
Rail Loading Stack		72	24	57	111	0	154	120						538	-	538
Distillate Service														-	-	-
Tank 28		4	6	N/A	N/A	N/A	44	107	0	0	0	1	0	162	-	162
Tank 29		4	6	N/A	N/A	N/A	44	107	0	0	0	1	0	162	-	162
Tank 64		3	4	N/A	N/A	N/A	28	68	0	0	0	1	0	103	-	103
Tank 30		4	6	N/A	N/A	N/A	44	107	0	0	0	1	0	162	-	162
Tank 118		0	0	N/A	N/A	N/A	2	5	0	0	0	0	0	8	-	8
		0	0	N/A	N/A	N/A	0	0	0	0	0	0	0	-	-	-
		0	0	N/A	N/A	N/A	0	0	0	0	0	0	0	-	-	-
		0	0	N/A	N/A	N/A	0	0	0	0	0	0	0	-	-	-
Truck Loading		8.1	11.7	N/A	N/A	N/A	90.0	217.5	0.0	0.0	0.0	1.9	0.0	329	-	329
Rail Loading		0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
Av Gasoline Storage														-	-	-
Av Gasoline Loading														-	-	-
RFG Equipment Fugitives														-	-	-
CNV Equipment Fugitives		10	8	6	23	0	40	40	0	0	0	0	0	127	-	127
Marine Loading		442	150	348	682	0	947	734	0	0	0	0	907	4,210	-	4,210
Additive Tank Emissions			46					127						173	-	173
Total of all Sources														10,803	2,334	13,137
lb/yr		1640	416	3508	1708	0	2510	2360	0	0	0	6	989			
Tons/yr		0.82	0.21	1.75	0.85	-	1.25	1.18	-	-	-	0.00	0.49	-	-	-
	13,137.36															
	6.57															

TANK LANDINGS

RFG		Lb/yr												Page
Tank No.		Benzene	Ethylbenzene	Hexane	Isooctane	MTBE	Toluene	Xylene (-m)	Biphenyl	Cresol (-o)	Cumene	Naphthalene	Methanol*	Total Hap
0		-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	-
0		-	-	-	-	-	-	-						-
Gasoline Storage (Conv)														
Tank 117_BLG		43	1	173	17	-	17	4	N/A	N/A	N/A	N/A	N/A	255
Tank 119_BLG		23	1	91	9	-	9	2	N/A	N/A	N/A	N/A	N/A	135
Tank 120		23	1	91	9	-	9	2	N/A	N/A	N/A	N/A	N/A	135
Tank 121_BLG		47	16	37	72	-	100	77	N/A	N/A	N/A	N/A	N/A	348
Tank 114_BLG		26	1	103	10	-	10	3	N/A	N/A	N/A	N/A	N/A	152
Tank 115_BLG		80	2	321	32	-	31	8	N/A	N/A	N/A	N/A	N/A	475
Tank 33**		42	1	168	17	-	16	4	N/A	N/A	N/A	N/A	N/A	249
Tank 39		49	16	38	75	-	104	81	N/A	N/A	N/A	N/A	N/A	363
Tank 31*		15	5	12	23	-	32	25	N/A	N/A	N/A	N/A	N/A	111
Tank 32*		15	5	12	23	-	32	25	N/A	N/A	N/A	N/A	N/A	111
		-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	-
		-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	-
Tank Cleaning														

INPUTS

2013 PTE

	Stored	Rack Loaded	Rail Loaded	Ship/Barge Loaded	Sent Up Pipeline	
Conventional Gasoline	1,250,000,000	650,000,000	150,000,000	450,000,000	-	gal
RFG Gasoline (MTBE)					-	gal
RFG Gasoline (Ethanol)						
% of Gasoline as RFG (MTBE) (2)						0%
*** Total Gasoline (auto fuel)	1,250,000,000	650,000,000	150,000,000	450,000,000	-	gal
Crude	1,800,000,000			1,800,000,000	-	gal
Ethanol					-	gal
Distillate	229,300,000	229,300,000	-		-	gal
Facility Total	3,279,300,000	879,300,000	150,000,000	2,250,000,000	0	0
	Actual	Calculated				
Total Additive Used		527,580	gal	Product-water		gal

RFG Gasoline Tanks

Tk. No.	Dia	Leg ht	no land	land av	Vol bbbs	Volume gals	Actual Thruputs (2)	Turnovers	Calculated Thruputs	gal/day
						-	-		-	
							Average Turnovers			

VOC's from Tanks(lb/yr)				
Tk No	Standing	Working	Total	Ozone Highest

IFR Tanks

Tk. No.	Dia	Leg ht	no land	land avg days	Vol bbls	Volume gals	BLG / ETH		Other GAS	
							Thruputs	Turnovers	Thruputs	gal/day
117_BLG	110	4	2	2.0	64,694	2,717,148	63,270,000	23.3	0	173,342
119_BLG	80	4	2	2.0	30,783	1,292,886	63,270,000	48.9	0	173,342
120	80	4	2	2.0	32,494	1,364,748		172.1	234,869,064	643,477
121_BLG	150	4	2	2.0	109,608	4,603,536	200,000,000	43.4	0	0
114_BLG	120	4	1	2.0	88,470	3,715,740	100,000,000	26.9	0	273,973
115_BLG	150	4	2	2.0	138,400	5,812,800	100,000,000	17.2	0	273,973
33**	120	4	2	2.0	88,470	3,715,740		121.1	450,000,000	0
39	125	4	3	2.0	87,870	3,690,540		172.1	635,130,936	1,740,085
31*	125	4	2	2.0	91,170	3,829,140		13.1	50,000,000	136,986
32*	125	4	2	2.0	91,170	3,829,140		13.1	50,000,000	136,986
						26,913,138	526,540,000		1,420,000,000	
*Modeled as Ethanol Only								Average Turnovers		385.1
**Modeled as Crude Oil Only								Total IFR Tank Throughput		1,946,540,000

VOC's from Tanks (lb/yr)				
Tk No	Standing	Working	Total	Ozone Highest
117_BLG	6310	108	6,419	
119_BLG	8444	149	8,594	
120	3971	554	4,525	
121_BLG	12602	251	12,854	
114_BLG	8,086	157	8,243	
115_BLG	11,586	126	11,712	
33**	3,080	3,901	6,982	
39	10,812	959	11,771	
31*	715	94	809	
32*	715	94	809	
			72,716	

*Modeled as Ethanol Only

**Modeled as Crude Oil Only

INPUTS

Distillate Tanks

Tk. No.	Dia		vol bbls	Volume gals	Actual Thruputs (2)	Turnover's	Calculated Thruputs	gal/day
28	125		91,170	3,829,140		13.4	51,222,741	140,336
29	125		91,170	3,829,140		13.4	51,222,741	140,336
64	125		87,870	3,690,540		13.4	49,368,676	135,257
30	125		91,170	3,829,140		13.4	51,222,741	140,336
118	100		46,745	1,963,290		13.4	26,263,102	71,954
Pct Top Loading Distillate			0%	17,141,250	-		229,300,000	
Average Turnovers							13.4	

VOC's from Tanks (lb/yr)					
Tk No	Standing	Working	Total	Ozone	Highest
28	766	832	1,598		
29	766	832	1,598		
64	350	666	1,015		
30	766	832	1,598		
118	12	63	75		
5,882.8					

Additive Tanks

Tk. No.	Dia		vol bbls	Volume gals	Actual Thruputs (2)	Turnovers	Calculated Thruputs	gal/day
A-1			257	10,800		13.277	143,396.60	393
A-4			172	7,221		13.277	95,876.56	263
A-5			21	900		13.277	11,949.72	33
A-6			11	450		13.277	5,974.86	16
A-Generic			172	7,221		13.277	95,876.56	263
A-Exxon			85	3,554		13.277	47,188.10	129
SA			175	7,366		13.277	97,801.79	268
A-Red Dye			6	248		13.277	3,292.81	9
A-Red Dye 2			11	450		13.277	5,974.86	16
WHFO			6	250		13.277	3,319.37	9
D-Fire Pump			6	250		13.277	3,319.37	9
R-Fire Pump			3	125		13.277	1,659.68	5
GAFO			21	900		13.277	11,949.72	33
			39,735	0	Total Additive		527,580	

VOC's from Tanks (lb/yr)					
Tk No	Standing	Working	Total	Ozone	Highest
A-1	16	23	39		
A-4	11	15	26		
A-5	1	2	3		
A-6	1	1	2		
A-Generic	11	15	26		
A-Exxon	6	8	13		
SA	11	14	25		
A-Red Dye	1	1	1		
A-Red Dye 2	1	1	2		
WHFO	1	1	1		
D-Fire Pump	1	1	1		
R-Fire Pump	0	0	1		
GAFO	1	2	3		
144					

Product Water/Mixture tanks

Tk. No.	Dia		vol bbls	Volume gals	Actual Thruputs (2)	Turnovers	Calculated Thruputs	gal/day
65	92		39,072	1,641,015		-		
130	75		33,854	1,421,868		-		

VOC's from Tanks (lb/yr)					
Tk No	Standing	Working	Total	Ozone	Highest
65			-		
130			-		

Gasoline Loading Control

Control Device Level

Truck Rack	2.0 mg/l	VRU
Rail Loading	10.0 mg/l	VDU

Meteorological Data Used

Albany, NY

Liquid Density in Apr from Tanks 4.0

6.1 lb/gal

May temp from Tanks 4.0

54.180 deg F

VP of VOC in Apr from Tanks 4.0

6.62

MW of VOC in Apr from Tanks 4.0

61 g/g-mole

Saturation Factor for landing

0.6

INPUTS

Average days per landing 2.5

Speciation Data from

	Distillate	Gas tank	Additive
Tank No.	Tank		tank
	28	120	A-1
Benzene	3.99	26.04	
Ethylbenzene	5.76	8.82	12.44
Hexane	0.83	20.46	
Isooctane		40.15	
MTBE			
Toluene	44.18	55.76	
Xylene (-m)	106.83	43.21	34.54
Biphenyl			
Cresol (-o)			
Cumene			
Naphthalene	0.95		
Total VOC	1,597.61	4,525	39.13

Data used for Calculated Fugitives		0.1	fraction of the fugitive valve/flange count assigned to the vapor phase
Tanks	Bays		
Gasoline (RFG)	0	0	Using Actual Values
Gasoline (CNV)	8	2	
Distillate (DIST)	5	2	If using 'Actual Values' then leave table empty

	RFG in Liquid Phase		RFG in Vapor Phase		CNV in Liquid Phase		CNV Gas Phase		DIS	
	Calculated	Actual	Calculated	Actual	Calc	Actual	Calc	Actual	Calc	Actual
Valves	-	-	-			350		20		110
Pumps	-					12				4
Other						1				
Loading Arm Valve	-					8				6
Flanges	-	-	-	-		881		47		410

Tanks CNV

	117_BLG	119_BLG	120	121_BLG	114_BLG	115_BLG	33**	39	31*	32*	-	-	Total Thruput		
Actual Thruput	63,270,000	63,270,000	-	200,000,000	100,000,000	100,000,000	-	-	-	-	-	-	526,540,000	gal/yr	
Calculated Thruput	-	-	234,869,064	-	-	-	450,000,000	635,130,936	50,000,000	50,000,000	-	-	#####	gal/yr	
Throughput (Bbl / Yr):	1,506,429	1,506,429	5,592,121	4,761,905	2,380,952	2,380,952	10,714,286	15,122,165	1,190,476	1,190,476	-	-	46,346,190	bbl/yr	
	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year		Lb / Year	Tons /Year
Total VOC**	6,419	8,594	4,525	12,854	8,243	11,712	6,982	11,771	809	809	-	-		72,716	36.36
Benzene	64	85	45	74	82	116	69	68	5	5	-	-		611	0.31
Ethylbenzene	2	3	1	25	2	4	2	23	2	2	-	-		65	0.03
Hexane	254	340	179	58	326	464	276	53	4	4	-	-		1,959	0.98
Isooctane	26	34	18	114	33	47	28	104	7	7	-	-		419	0.21
MTBE														-	
Toluene	24	33	17	158	31	45	27	145	10	10	-	-		500	0.25
Xylene (-m)	6	9	5	123	8	12	7	112	8	8	-	-		297	0.15
Biphenyl														-	-
Cresol (-o)														-	-
Cumene														-	-
Naphthalene														-	-
Methanol*							82							82	0.04
Total HAP Species	376	504	265	552	483	686	492	506	35	35	-	-		3,933	1.97
Non Hap VOC	6,043	8,090	4,259	12,301	7,760	11,025	6,490	11,265	774	774	-	-		68,783	34.39

Total VOC:	6,419	8,594	4,525	12,854	8,243	11,712	6,982	11,771	809	809	-	-		72,716	36.36
Source Fraction Total VOC:	0.09	0.12	0.06	0.18	0.11	0.16	0.10	0.16	0.01	0.01	-	-			
Total HAP	376	504	265	552	483	686	492	506	35	35	-	-		3,933	1.97
SINGLE HAP: Hexane	254	340	179	158	326	464	276	145	10	10	-	-			
Source Fraction HAP:	0.10	0.13	0.07	0.14	0.12	0.17	0.12	0.13	0.01	0.01	-	-			

* Modeled as Ethanol

** Emissions from EPA Tanks 4.0 program.

Tanks DIS

	28	29	64	30	118	0						Total Thruput	
Actual Thruput	-	-	-	-	-	-	-	-	-	-	-	-	gal/yr
Calculated Thruput	51,222,741	51,222,741	49,368,676	51,222,741	26,263,102	-	-	-	-	-	-	229,300,000	gal/yr
Throughput (Bbl / Yr):	1,219,589	1,219,589	1,175,445	1,219,589	625,312	-	-	-	-	-	-	5,459,524	bbl/yr
	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year			Lb / Year	Tons /Year
Total VOC**	1,598	1,598	1,015	1,598	75	-	-	-	-	-	-	5,883	2.94
Benzene	4.0	4.0	2.5	4.0	0.2	-	-	-	-	-	-	15	0.01
Ethylbenzene	5.8	5.8	3.7	5.8	0.3	-	-	-	-	-	-	21	0.01
Hexane												-	-
Isooctane												-	-
MTBE												-	-
Toluene	44.2	44.2	28.1	44.2	2.1	-	-	-	-	-	-	163	0.08
Xylene (-m)	106.8	106.8	67.9	106.8	5.0	-	-	-	-	-	-	393	0.20
Biphenyl	-	-	-	-	-	-	-	-	-	-	-	-	-
Cresol (-o)	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	1.0	1.0	0.6	1.0	0.0	-	-	-	-	-	-	4	0.00
Methanol*	-	-	-	-	-	-	-	-	-	-	-	-	-
Total HAP Species	162	162	103	162	8	-	-	-	-	-	-	595	0.30
Non Hap VOC	1,436	1,436	913	1,436	67	-	-	-	-	-	-	5,287	2.64

Total VOC:	1,598	1,598	1,015	1,598	75	-						5,883	2.94
Source Fraction Total VOC:	0.27	0.27	0.17	0.27	0.01	-	-	-	-	-	-	1	
SINGLE HAP: Xylene (-m):	106.83	106.83	67.89	106.83	4.99	-	-	-	-	-	-	393	0.20
Total HAP:	162	162	103	162	8	-	-	-	-	-	-	595	0.30
Source Fraction HAP:	0.27	0.27	0.17	0.27	0.01	-	-	-	-	-	-	1	

* Emissions from EPA Tanks 4.0 program.

Tanks Additive

	A-1	A-4	A-5	A-6	A-Generic	A-Exxon	SA	A-Red Dye	A-Red Dye 2	WHFO	D-Fire Pump	R-Fire Pump	GAFO	Total		
Actual Thruput	-	-	-	-	-	-	-	-	-	-	-	-	-	-	gal/yr	
Calculated Thruput	143,397	95,877	11,950	5,975	95,877	95,877	95,877	95,877	95,877	95,877	95,877	95,877	95,877	1,120,087	gal/yr	
Throughput (Bbl / Yr):	3,414	2,283	285	142	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	26,669	bbl/yr	
	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year		lb/year	tons/year
Total VOC**	39	26	3	2	26	13	25	1	2	1	1	1	3		144.16	0.07
Benzene	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Ethylbenzene	12.4	8.3	1.0	0.5	8.3	4.3	7.9	0.4	0.5	0.5	0.4	0.2	1.0		45.83	0.02
Hexane	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Isooctane	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
MTBE	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Toluene	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Xylene (-m)	34.5	23.1	2.9	1.5	23.1	11.9	21.8	1.1	1.5	1.3	1.1	0.6	2.9		127.25	0.06
Biphenyl	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Cresol (-o)	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Cumene	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Naphthalene	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Methanol*	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A	N / A		-	-
Total HAP Species	47	31	4	2	31	16	30	1	2	2	1	1	4		173	0.09
Non Hap VOC	(8)	(5)	(1)	(0)	(5)	(3)	(5)	(0)	(0)	(0)	(0)	(0)	(1)		(29)	(0.01)

Calculated using 23% ethyl benzene & 77% xylene(-m)

Sample Calculation for Additive thruput

use 0.6 gal of additive for each gal of LOADED gasoline and distillate

$$\begin{aligned}
 \text{Total Additive thruput} &= (\text{Total Loading Volume} / 1000) * (0.6) \\
 &= (500,000,000 \text{ gallons} / 1000) * (0.6) \\
 &= 300,000 \text{ gallons}
 \end{aligned}$$

* Emissions from EPA Tanks 4.0 program.

Loading Summary

	TRUCK LOADING				Rail Loading			Marine Loading			Total	
	Gasoline		Distillate	Total	Gasoline	Distillate	Total	Crude Oil	Gas / Eth	Total	lb/yr	Tons/yr
	RFG	CNV										
Total VOC lb/yr	0	10,848	3,253	14,100	22,530	0	22,530	76,865	57,459	134,324	170,954	85.48
Benzene	0	62	8	71	130	0	130	442	331	773	973	0.49
Ethylbenzene	0	21	12	33	44	0	44	150	112	262	339	0.17
Hexane (-n)	0	49	-	49	102	-	102	348	260	607	758	0.38
Iso-octane	0	96	-	96	200	-	200	682	510	1,192	1,488	0.74
MTBE	0	-	-	0	-	-	-	0	0	0	0	0.00
Toluene	0	134	90	224	278	0	278	947	708	1,655	2,157	1.08
Xylene (-m)	0	104	218	321	215	0	215	734	549	1,283	1,819	0.91
Biphenyl	-	-	0	0	-	0	0	-	-	0	0	0.00
Cresol	-	-	0	0	-	0	0	-	-	0	0	0.00
Cumene	-	-	0	0	-	0	0	-	-	0	0	0.00
Naphthalene	-	-	2	2	-	0	0	-	-	0	2	0.00
Phenol	-	-	0	0	-	0	0	-	-	0	0	0.00
Methanol	-	-	-	-	-	-	-	907	-	907	907	0.45
Total HAP Species*	0	466	329	795	968	0	968	4,210	2,469	6,679	8,443	4.22
Non Hap VOC	0	10,382	2,923	13,305	21,562	0	21,562	72,655	54,989	127,644	162,511	81.26

Load CNV-Truck

			Vapor Fraction	Loading Losses 2mg/l		Tank-truck loss 8 mg/l		Total	
				Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Gasoline Throughput at the Rack (MM gal)	650.0	Total VOC	100.00%	10,848	5.424	-	-	10,848	5.424
Distillate bottom loading vapors are controlled emissions from this loading are negligible		Benzene	0.58%	62	0.031	0	-	62	0.031
		Ethylbenzene	0.19%	21	0.011	0	-	21	0.011
		Hexane (-n)	0.45%	49	0.025	0	-	49	0.025
		Iso-octane	0.89%	96	0.048	0	-	96	0.048
VRU Emission Rating (mg/liter)	2.00	MTBE	N/A		-	-	-	0.000	
Tank-Truck Loss Factor (mg/liter)		Toluene	1.23%	134	0.067	0	-	134	0.067
		Xylene (-m)	0.95%	104	0.052	0	-	104	0.052
		Biphenyl	N/A					-	
Controlled gasoline Loading Losses (lb/year)	10,848	Cresol	N/A					-	
Uncontrolled gasoline Loading Losses (lb/year)	6,360,783	Cumeme	N/A					-	
		Naphthalene	N/A					-	
		Phenol	N/A					-	
		Total HAP Species*	4.30%	466	0.233	-	-	466	0.233
		Non Hap VOC	95.70%	10,382	5.191	-	-	10,382	5.191
Temp. used in uncontrolled loading calculation	54.18 F								
	514.18 R	Total VOC		10,848	5.424	-	-	10,848	5.424
		Total HAP		466	0.233	-	-	466	0.233
PTE Vapor Control Down Time lb/yr	-	Highest Single HAP							
(tons/year)	0.0	Toluene		134	0.067	-	-	134	0.067

Sample Calculations

Volume Of Gasoline loaded (gallons)*3.785 litres/gallon*(VRU/VDU emission rate (mg/liter of gasoline loaded) + gasoline loading losses (mg/liter of gasoline loaded))*2.2046 lbs/Kg*1 Kg/1,000,000 mg = emissions (lbs)

For 100,000,000 gallons loaded, and a VDU rated at 10 mg/liter the equation yields:

$$100,000,000 * 3.785 * (10 + 8) * 2.2046 * 1 / 1,000,000 = 15,020 \text{ lbs}$$

Uncontrolled Loading Emissions Factor, L = 12.46 SPM/T in lb VOC/1,000 gallons product loaded

for S = 1 (dimensionless); VP = 5.73 psia of VOC; M = 65 lb/lb-mole; T = 530 deg R

$$= 12.46 * (1) * (5.73) * 65 / 530$$

$$= 8.75609 \text{ lb} / 1,000 \text{ gallons gasoline loaded}$$

Uncontrolled Total VOC Emissions = Annual Loading Volume (M gallons) x Loading Emission Factor (lbs VOC per M gallons loaded)

for 100,000,000 gallons loaded, and a loading factor of 8.75609 lbsVOC per 1,000 gallons loaded

$$= 100,000,000 * 8.75609 / 1,000$$

$$= 875,609 \text{ lbs VOC}$$

Load CNV-Rail

			Loading Losses 10mg/l		Tank-truck loss 8 mg/l		Total		
		Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	
Gasoline Throughput at the Rack (MM gal)	150.0	Total VOC	100.00%	12,517	6.258	10,013	5.007	22,530	11.265
Distillate bottom loading vapors are controlled emissions from this loading are negligible		Benzene	0.58%	72	0.036	58	0.029	130	0.065
		Ethylbenzene	0.19%	24	0.012	20	0.010	44	0.022
		Hexane (-n)	0.45%	57	0.028	45	0.023	102	0.051
		Iso-octane	0.89%	111	0.056	89	0.044	200	0.100
VRU Emission Rating (mg/liter)	10.00	MTBE	N/A	-	-	-	-	0.000	
Tank-Truck Loss Factor (mg/liter)	8	Toluene	1.23%	154	0.077	123	0.062	278	0.139
		Xylene (-m)	0.95%	120	0.060	96	0.048	215	0.108
Controlled gasoline Loading Losses (lb/year)	22,530	Biphenyl	N/A					-	
		Cresol	N/A					-	
Uncontrolled gasoline Loading Losses (lb/year)	1,467,873	Cumeme	N/A					-	
		Naphthalene	N/A					-	
		Phenol	N/A					-	
		Total HAP Species*	4.30%	538	0.269	430	0.215	968	0.484
		Non Hap VOC	95.70%	11,979	5.989	9,583	4.791	21,562	10.781
Temp. used in uncontrolled loading calculation	54.18								
	514.18	Total VOC		12,517	6.258	10,013	5.007	22,530	11.265
		Total HAP		538	0.269	430	0.215	968	0.484
PTE Vapor Control Down Time lb/yr	-	Highest Single HAP							
(tons/year)	0.0	Toluene		154	0.077	123	0.062	278	0.139

Sample Calculations

Volume Of Gasoline loaded (gallons)*3.785 litres/gallon*(VRU/VDU emission rate (mg/liter of gasoline loaded) + gasoline loading losses (mg/liter of gasoline loaded))*2.2046 lbs/Kg*1 Kg/1,000,000 mg = emissions (lbs)

For 100,000,000 gallons loaded, and a VDU rated at 10 mg/liter the equation yields:

$$100,000,000 * 3.785 * (10 + 8) * 2.2046 * 1 / 1,000,000 = 15,020 \text{ lbs}$$

Uncontrolled Loading Emissions Factor, L = 12.46 SPM/T in lb VOC/1,000 gallons product loaded

for S =1.0 (dimensionless); VP = 5.73 psia of VOC; M = 65 lb/lb-mole; T= 530 deg R

$$= 12.46 * (1) * (5.73) * 65 / 530$$

$$= 8.75609 \text{ lb} / 1,000 \text{ gallons gasoline loaded}$$

Uncontrolled Total VOC Emissions = Annual Loading Volume (M gallons) x Loading Emission Factor (lbs VOC per M gallons loaded)

for 100,000,000 gallons loaded, and a loading factor of 8.75609 lbsVOC per 1,000 gallons loaded

$$= 100,000,000 * 8.75609 / 1,000$$

$$= 875,609 \text{ lbs VOC}$$

EMISSIONS FROM MARINE LOADING OF CRUDE OIL:

Throughput: 1,800 Mmgal 3 mg/L 0.02503621 lbs/1000 gallons

Loading into an Uncleaned Barge:	Emission Factor (lb/1000 gal)	Throughput (Mmgal)	Loading Rack Emissions (lb/yr)	1.3% Remaining after 98.7% goes to VDU	98.7% to VDU	3 mg/L from VDU	Total Emissions (lbs)	Total Emissions (tons)
	1.3590	1800	2446127	31800	2414327	45065	76865	38.43

Max Emissions Per Hour:
25,000 barrels / hr
1,050,000 gal / hr

Emission Factor (lb/1000 gal)	Throughput (Mmgal)	Loading Rack Emissions (lb/hr)	1.3% Remaining after 98.7% goes to VDU	98.7% to VDU	3 mg/L from VDU	Total Emissions (lbs)	Total Emissions (tons)
1.3590	1.05	1427	19	1408	28	47	0.02

EMISSIONS FROM MARINE LOADING OF GAS/ETH:

Throughput:

450 Mmgal

Loading into an Uncleaned Barge:	9.4 mg/L							
	Emission Factor* (lb/1000 gal)	Throughput (Mmgal)	Loading Rack Emissions (lb/yr)	1.3% Remaining after 98.7% goes to VDU	98.7% to VDU	98% Reduction from VDU	Total Emissions (lbs)	Total Emissions (tons)
	3.9000	450	1755000	22815	1732185	34644	57459	28.73

* Emission Factor from Table 5.2-2 in AP-42 for an Uncleaned Barge previously loaded with a Volatile Liquid

Max Emissions Per Hour:

4000 barrels / hr
168000 gal / hr

Emission Factor* (lb/1000 gal)	Throughput (Mmgal)	Loading Rack Emissions (lb/hr)	1.3% Remaining after 98.7% goes to VDU	98.7% to VDU	98% Reduction from VDU	Total Emissions (lbs)	Total Emissions (tons)
			9				
3.9000	0.17	655		647	13	21	0.01

Load DIS-Rail

		Vapor Fraction		Up Stack		Top Load Fugitives	
				Lbs/Year	Tons/Yr	Lbs/Year	Tons/Yr
Distillate Throughput (MM gal)	-	Total VOC	100.00%	0.0	-	0.0	-
		Benzene	0.25%	0.0	-	0.0	-
		Ethylbenzene	0.36%	0.0	-	0.0	-
Uncontrolled Tank-Truck Splash Loading Emission Factor (mg/l)	4.00	Hexane (-n)	0.00%	0.0	-	0.0	-
Uncontrolled Tank-Truck Bottom Loading Emission Factor (mg/l)	1.70	Iso-octane	0.00%	0.0	-	0.0	-
		MTBE	0.00%	0.0	-	0.0	-
		Toluene	2.77%	0.0	-	0.0	-
Distillate Loading Rack Loss (lb/year)	-	Xylene (-m)	6.69%	0.0	-	0.0	-
		Biphenyl	0.00%	0.0	-	0.0	-
		Cresol	0.00%	0.0	-	0.0	-
Top Load Fugitive Loss (lb/year)	-	Cumeme	0.00%	0.0	-	0.0	-
		Naphthalene	0.06%	0.0	-	0.0	-
		Phenol	0.00%	0.0	-	0.0	-
		Total HAP Species*	10.12%	0.0	-	0.0	-
		Non Hap VOC	89.88%	0.0	-	0.0	-

Total VOC

0.0

0.0

Total HAP

0.0

0.0

Highest Single HAP

Benzene		-		-	-
---------	--	---	--	---	---

Sample Calculations

Volume of distillate top loaded (gallons)*3.785 litres/gallon*4.0 mg/liter of distillate loaded
 *2.2046 lbs/kg*1 kg/1,000,000 mg= emissions (lbs)

For 100,000,000 distillate gallons top loaded the equation yields:

100,000,000*3.785*4*2.2046*1/1,000,000 = 3,338 lbs
 Top load emissions are all fugitive

Volume of distillate bottom loaded (gallons)*3.785 litres/gallon* 1.7 mg/liter of distillate loaded
 *2.2046 lbs/kg*1 kg/1,000,000 =emissions (lbs)

For 100,000,000 distillate gallons bottom loaded the equation yields:

100,000,000*3.785*1.7*2.2046*1/1,000,000 = 1,419 lbs
 Bottom Loaded emission are discharged up the stack.
 The 'fugitive' emissions are negligible, and are assumed to be zero

Load DIS-Truck

		Vapor Fraction		Up Stack		Top Load Fugitives	
				Lbs/Year	Tons/Yr	Lbs/Year	Tons/Yr
Distillate Throughput (MM gal)	229.30	Total VOC	100.00%	3252.7	1.626	0.0	-
		Benzene	0.25%	8.1	0.004	0.0	-
		Ethylbenzene	0.36%	11.7	0.006	0.0	-
Uncontrolled Tank-Truck Splash	4.00	Hexane (-n)	0.00%	0.0	-	0.0	-
Loading Emission Factor (mg/l)		Iso-octane	0.00%	0.0	-	0.0	-
		MTBE	0.00%	0.0	-	0.0	-
Uncontrolled Tank-Truck	1.70	Toluene	2.77%	90.0	0.045	0.0	-
Bottom Loading Emission Factor (mg/l)		Xylene (-m)	6.69%	217.5	0.109	0.0	-
		Biphenyl	0.00%	0.0	-	0.0	-
Distillate Loading Rack Loss (lb/year)	3,253	Cresol	0.00%	0.0	-	0.0	-
		Cumeme	0.00%	0.0	-	0.0	-
Top Load Fugitive Loss (lb/year)	-	Naphthalene	0.06%	1.9	0.001	0.0	-
		Phenol	0.00%	0.0	-	0.0	-
		Total HAP Species*	10.12%	329.2	0.165	0.0	-
		Non Hap VOC	89.88%	2923.5	1.462	0.0	-

Total VOC

3252.7

0.0

Total HAP

329.2

0.0

Highest Single HAP

Xylene (-m)		217.5		-	0.109
-------------	--	-------	--	---	-------

Sample Calculations

Volume of distillate top loaded (gallons)*3.785 litres/gallon*4.0 mg/liter of distillate loaded
 *2.2046 lbs/kg*1 kg/1,000,000 mg= emissions (lbs)

For 100,000,000 distillate gallons top loaded the equation yields:

100,000,000*3.785*4*2.2046*1/1,000,000 = 3,338 lbs
 Top load emissions are all fugitive

Volume of distillate bottom loaded (gallons)*3.785 litres/gallon* 1.7 mg/liter of distillate loaded
 *2.2046 lbs/kg*1 kg/1,000,000 =emissions (lbs)

For 100,000,000 distillate gallons bottom loaded the equation yields:

100,000,000*3.785*1.7*2.2046*1/1,000,000 = 1,419 lbs
 Bottom Loaded emission are discharged up the stack.
 The 'fugitive' emissions are negligible, and are assumed to be zero

Fug CNV

Fugitive VOC Emissions

Count				Light	Heavy	Gas	Lbs/Hr	Lbs/Year	lb/day
Light	Heavy	Gas		Factor (lbs/hr)	Factor (lbs/hr)	Factor (lbs/hr)			
350	110	20	Valves	9.48E-05	9.48E-05	2.87E-05	0.04	3.9E+02	1.06
12	4	-	Pumps	1.19E-03	1.19E-03	1.43E-04	0.02	1.7E+02	0.46
1	-	-	Other	2.87E-04	2.87E-04	2.65E-04	0.00	2.5E+00	0.01
8	6	-	Loading Arm Valve	9.48E-05	9.48E-05	2.87E-05	0.00	1.2E+01	0.03
881	410	47	Flanges	1.76E-05	1.76E-05	9.26E-05	0.03	2.4E+02	0.65
							0.09	805.65	2.21

		Light Liquid	Fraction Light Liquid	Lbs/Year	Heavy Liquid Fraction	Heavy Liquid Lbs/Year	Gas	Fraction	Gas Lbs/Year	Total Lbs/Year
Total VOC		100.00%		561.06	100.00%	201.45	100.00%		43.14	805.65
Benzene	00071-43-2	1.80%		10.10	0.001%	0.00	0.58%		0.25	10.35
Ethylbenzene	00100-41-4	1.40%		7.85	0.01%	0.03	0.19%		0.08	7.97
Hexane	00110-54-3	1.00%		5.61	N/A	N/A	0.45%		0.20	5.81
Isooctane	00540-84-1	4.00%		22.44	N/A	N/A	0.89%		0.38	22.83
MTBE	01634-04-4			0.00	N/A	N/A	0.00%		0.00	0.00
Toluene	00108-88-3	7.00%		39.27	0.03%	0.06	1.23%		0.53	39.87
Xylene (-m)	00108-38-3	7.00%		39.27	0.29%	0.58	0.95%		0.41	40.27
biphenyl	00092-52-4	N/A		N/A	0.00%	0.00	N/A		N/A	0.00
Cresol (-o)	00095-48-7	N/A		N/A	0.00%	0.00	N/A		N/A	0.00
Cumene	00098-82-8	N/A		N/A	0.00%	0.00	N/A		N/A	0.00
Naphthalene	00091-20-3	N/A		N/A	0.10%	0.20	N/A		N/A	0.20
Methanol*	0.00%	N/A		N/A	0.00%	0.00	N/A		N/A	0.00
Total HAPS		22.20%		124.56	0.44%	0.88	4.30%		1.85	127.29
Non Hap VOC		77.80%		436.51	99.56%	200.57	95.70%		41.29	678.37

* Based on facility-specific equipment component counts and EPA, November 1995, Equipment Leak Emission Factors.

HAP data

HAP	VAPOR FRACTION Gasoline		Liquid Speciation Weight Fraction Gasoline (used for liquid fugitives)		Liquid Weight Fraction Distillate	Vapor Fraction (calculated) Distillate	Additive Tanks	Vapor Faction Av Gas	HAP	Cas Numbers	Texas TNRCC Numbers
	Conventional	Blending	Blending	Conventional							
Benzene	0.58%	0.99%		5.00%	1.80%	0.00001	0.00250		0.006	Benzene	00071-43-2
Ethylbenzene	0.19%	0.03%		2.00%	1.40%	0.00013	0.00361	0.318	0.002	Ethylbenzene	00100-41-4
Hexane	0.45%	3.96%		12.00%	1.00%	0.00000	-		0.005	Hexane	00110-54-3
Isooctane	0.89%	0.40%		4.00%	4.00%					Isooctane	00540-84-1
MTBE										MTBE	01634-04-4
Toluene	1.23%	0.38%		7.00%	7.00%	0.00032	0.02765		0.012	Toluene	00108-88-3
Xylene (-m)	0.95%	0.10%		7.00%	7.00%	0.00290	0.06687	0.883	0.010	Xylene (-m)	00108-38-3
Biphenyl										Biphenyl	00092-52-4
Cresol (-o)									0.000	Cresol (-o)	00095-48-7
Cumene									0.000	Cumene	00098-82-8
Naphthalene						0.00100	0.00060		0.000	Naphthalene	00091-20-3
Methanol*	1.18%	1.18%		2.00%	2.00%						

Landing CNV

Tank No.	117_BLG	119_BLG	120	121_BLG	114_BLG	115_BLG	33**	39	31*	32*	-	-
Tank Diam	110	80	80	150	120	150	120	125	125	125	-	-
Heel Height	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	-	-
Volume ft3	38,013	20,106	20,106	70,686	45,239	70,686	45,239	49,087	49,087	49,087	-	-
Vol bbl	6,771	3,581	3,581	12,590	8,058	12,590	8,058	8,743	8,743	8,743	-	-
Volume gal	284,377	150,414	150,414	528,800	338,432	528,800	338,432	367,222	367,222	367,222	-	-
Vol liters	1,076,367	569,318	569,318	2,001,509	1,280,966	2,001,509	1,280,966	1,389,937	1,389,937	1,389,937	-	-
Avg Temp F	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18
Avg Temp K	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47
temp corr	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568
moles	45,978	24,319	24,319	85,496	54,718	85,496	54,718	59,372	59,372	59,372	-	-
VP of VOC(psia)	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	3.72	3.72	3.72	6.62
VOC theo fraction	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.25	0.25	0.25	0.45
Sat Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
moles VOC	12,424	6,571	6,571	23,102	14,785	23,102	14,785	16,043	9,024	9,024	-	-
mol weight g/g-mole	61.00	61.00	61.00	61.00	61.00	61.00	50.00	61.00	49.82	49.82	49.82	61.00
VOC grams/landing	757,841	400,841	400,841	1,409,208	901,893	1,409,208	739,257	978,617	449,541	449,541	-	-
VOC lbs/landing	1,670.73	884	884	3,107	1,988	3,107	1,630	2,157	991	991	-	-
VOC tons/landing	0.84	0.44	0.44	1.55	0.99	1.55	0.81	1.08	0.50	0.50	-	-
land/yr	2	2	2	2	1	2	2	3	2	2	-	-
average days per landing	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	-	-
VOC lb filling	3,341	1,767	1,767	6,213	1,988	6,213	3,260	6,472	1,982.10	1,982.10	-	-
VOC lb standing	1,016	537	537	1,889	604	1,889	991	1,968	602.56	602.56	-	-
VOC lb/hr when landing	45	24	24	84	54	84	44	59	27	27	#DIV/0!	#DIV/0!
VOC lb/day when landing	2,179	1,152	1,152	4,051	1,296	4,051	2,125	4,220	1,292	1,292	#DIV/0!	#DIV/0!
Total VOC lbs	4,357	2,305	2,305	8,102	2,593	8,102	4,250	8,440	2,585	2,585	-	-
Total VOC tons	2.18	1.15	1.15	4.05	1.30	4.05	2.13	4.22	1.29	1.29	-	-

Total VOC	100.00%	4,357	2,305	2,305	8,102	2,593	8,102	4,250	8,440	2,585	2,585	-	-
Benzene	0.58%	43	23	23	47	26	80	42	49	15	15	-	-
Ethylbenzene	0.19%	1	1	1	16	1	2	1	16	5	5	-	-
Hexane (-n)	0.45%	173	91	91	37	103	321	168	38	12	12	-	-
Iso-octane	0.89%	17	9	9	72	10	32	17	75	23	23	-	-
MTBE	0.00%	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	1.23%	17	9	9	100	10	31	16	104	32	32	-	-
Xylene (-m)	0.95%	4	2	2	77	3	8	4	81	25	25	-	-
Biphenyl	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cresol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cumene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total HAP Species*	4.30%	255	135	135	348	152	475	249	363	111	111	-	-
Non Hap VOC	95.70%	4,102	2,170	2,170	7,754	2,441	7,628	4,001	8,077	2,474	2,474	-	-

Fuel Consumption

Product	Unit	Gall/yr (Liquid)	SCF/yr (Gas)	Liters/year (Gas)	MMBTU/yr
Distillate	Furnace	590			66.08
Natural Gas	Boiler (water bldg)	1,863			54.00
Natural Gas	Boiler (garage)	105			22.00
Natural Gas	Boiler (office)	1,720			163.00
Natural Gas	Boiler (line trace)	TBD			35,040.00
Natural Gas	Boiler (line trace)	TBD			35,040.00
Natural Gas	Boiler (tanks)	TBD			52,560.00
Natural Gas	Boiler (rail cars)	TBD			113,880.00
Natural Gas	Boiler (rail cars)	TBD			113,880.00
Natural Gas	Boiler (rail cars)	TBD			113,880.00
Natural Gas	Boiler (rail cars)	TBD			113,880.00
Natural Gas	Furnace	857			120.00
Natural Gas	VDU	82,315			11,524.10
		86,860			590,043

Distillate Service

Pollutant	Pollutant						GHG
	PM	SOx	NOx	VOC	CO	CO2	
Factor - lb/1000 gal	2.00	52.54	20.00	0.20	5.00	1.2E+05	CO2*1 / CO*3.7
lb/yr	1.18	31.00	11.80	0.12	2.95	1,486.80	1,497.72
tons/yr	0.00	0.02	0.01	0.00	0.00	0.74	0.75

* Emission factors used to estimate emissions are from AP-42 workbook.

Example calculation

= gal/yr / 1000 gal * emission factor

Natural Gas Service

Pollutant	lbs Pollutant / MM BTU						GHG
	PM	SOx	NOx	VOC	CO	CO2	
Factor	0.007	0.001	0.098	0.005	0.082	117.647	CO2*1 / CO*3.7
lb/yr	4,396.40	347.08	57,847.36	3,181.60	48,591.78	69,416,835.29	69,596,624.90
tons/yr	2.20	0.17	28.92	1.59	24.30	34,708.42	34,798.31

* Emission factors used to estimate emissions are from AP-42 section 1.4, tables 1.4-1, 1.4-2, and 1.4-3.

Example Calculation of Natural Gas Usage

= Natural Gas Used

590,043 MMBTU/yr

= Natural Gas Used * Emission factor

Gasoline Vapor Service

Pollutant	lbs Pollutant / MM SCF						GHG
	PM	PM10	SOx	NOx	VOC	CO	
Factor	6.20	6.20	0.60	140.00	5.80	35.00	1.2E+05
lb/yr	1,375.37	1,375.37	133.10	31,056.73	1,286.64	7,764.18	26,620,050.24
tons/yr	0.69	0.69	0.07	15.53	0.64	3.88	13,310.03

Propane Vapor Service

Pollutant	lbs Pollutant/ 10 ⁶ liter or lbs/10 ⁶ BTU (CO and NOx)						GHG
	PM	SOx	NOx	VOC	CO	CO2	
Factor	0.044	Nil	0.068	NA	0.37	0.082	CO2*1 / CO*3.7
lb/yr	0.00	0.00	0.00	NA	0.00	0.00	0.00
tons/yr	0.00	0.00	0.00	NA	0.00	0.00	0.00

VCU Gasoline Combustion

10,563,512 lbs of emissions combusted at the rack
20 micrograms/liter PM2.5 emission factor

* flare soot emission factor from AP-42 Table 13.5-1
(assumes nearly no smoke)

VCU Propane Combustion

82315 gallons of propane combusted
36.3 cubic feet gas/gallon of propane
20 micrograms/liter PM2.5 emission factor

** from NGPA publication 2145-71
* flare soot emission factor from AP-42 Table 13.5-1
(assumes nearly no smoke)

Total of all Services

Pollutant	PM	SOx	NOx	VOC	CO	CO2	GHG
lb/yr	5,772.95	511.18	88,915.89	4,468.36	56,358.92	96,038,372.33	96,246,900.32
tons/yr	2.89	0.26	44.46	2.23	28.18	48,019.19	48,123.45

Note: Sulfur content assumed to be 0.37%

Note: These emissions are from Gasoline combustion and pilot light gas. Gasoline VOC's are already accounted for in the VDU efficiency (i.e. 10 mg/l loaded). The pilot gas is basically propane, and contributes almost no non-propane VOC's.

New York State Department of Environmental Conservation Air Permit Application



DEC ID											
4	-	0	1	0	1	-	0	0	1	1	2

APPLICATION ID											
-	-	-	-	-	-	-	-	-	-	-	-

OFFICE USE ONLY											
-	-	-	-	-	-	-	-	-	-	-	-

Section I - Certification

Title V Certification	
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information [required pursuant to 6 NYCRR 201-6.3(d)] I believe the information is, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.	
Responsible Official <u>Tom Keefe</u>	Title <u>Director of EHS Operations</u>
Signature <u>[Signature]</u>	Date <u>6/10/2013</u>

State Facility Certification	
I certify that this facility will be operated in conformance with all provisions of existing regulations.	
Responsible Official <u>N/A</u>	Title <u>N/A</u>
Signature <u>N/A</u>	Date <u>/ /</u>

Section II - Identification Information

Title V Facility Permit ☐ New ☒ Significant Modification ☐ Renewal ☐ Minor Modification	☐ Administrative Amendment General Permit Title: _____	State Facility Permit ☐ New ☐ Modification General Permit Title: _____
☐ Application involves construction of new facility		☐ Application involves construction of new emission unit(s)

Owner/Firm			
Name <u>Global Companies LLC</u>			
Street Address <u>800 South Street</u>			
City <u>Waltham</u>	State <u>MA</u>	Country <u>US</u>	Zip <u>02453</u>
Owner Classification ☐ Federal ☒ Corporation/Partnership	☐ State ☐ Individual	☐ Municipal	Taxpayer ID <u>043443029</u>
Facility			
☐ Confidential			
Name <u>Global Companies LLC - Albany Terminal</u>			
Location Address <u>50 Church Street</u>			
☒ City / ☐ Town / ☐ Village <u>Albany</u>			Zip <u>12202</u>
Project Description			
☐ Continuation Sheet(s)			
This project includes the conversion of Tank 33 into crude oil storage from distillate service. An IFR will be installed in Tank 33 to accommodate this change of service. Tank 118, which is currently permitted for gasoline storage, will be limited to distillate service. Six (6) boilers will be installed to heat crude oil.			

Owner/Firm Contact Mailing Address			
Name (Last, First, Middle Initial) <u>Tom Keefe</u>		Phone No. (781) 398.4132	
Affiliation <u>Global Companies LLC</u>		Title <u>Director EHS OPS</u>	
Street Address <u>800 South Street</u>		Fax No. (781) 398.9212	
City <u>Waltham</u>	State <u>MA</u>	Country <u>US</u>	Zip <u>02453</u>
Facility Contact Mailing Address			
Name (Last, First, Middle Initial) <u>Charles Furman</u>		Phone No. (518) 436.6570	
Affiliation <u>Global Companies LLC</u>		Title <u>Terminal Manager</u>	
Street Address <u>50 Church Street</u>		Fax No. (518) 436.6788	
City <u>Albany</u>	State <u>NY</u>	Country <u>US</u>	Zip <u>12202</u>

New York State Department of Environmental Conservation Air Permit Application



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4	-	0	1	0	1	-	0	0	1	1	2

Section III - Facility Information

Classification					
• Hospital	• Residential	• Educational/Institutional	• Commercial	X Industrial	• Utility

Affected States (Title V Only)					
• Vermont	• Massachusetts	• Rhode Island	• Pennsylvania	Tribal Land: _____	
• New Hampshire	• Connecticut	• New Jersey	• Ohio	Tribal Land: _____	

SIC Codes											
5171											

Facility Description		• Continuation Sheet(s)
PETROLEUM BULK TERMINAL		

Compliance Statements (Title V Only)	
I certify that as of the date of this application the facility is in compliance with all applicable requirements: X YES • NO If one or more emission units at the facility are not in compliance with all applicable requirements at the time of signing this application (the 'NO' box must be checked), the noncomplying units must be identified in the "Compliance Plan" block on page 8 of this form along with the compliance plan information required. For all emission units at this facility that are operating <u>in compliance</u> with all applicable requirements complete the following: • This facility will continue to be operated and maintained in such a manner as to assure compliance for the duration of the permit, except those units referenced in the compliance plan portion of Section IV of this application. • For all emission units, subject to any applicable requirements that will become effective during the term of the permit, this facility will meet all such requirements on a timely basis. • Compliance certification reports will be submitted at least once a year. Each report will certify compliance status with respect to each requirement, and the method used to determine the status.	

Facility Applicable Federal Requirements									• Continuation Sheet(s)
Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Facility State Only Requirements									• Continuation Sheet(s)
Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

DEC ID											
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Section III - Facility Information (continued)

Facility Compliance Certification								• Continuation Sheet(s)	
Rule Citation									
Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
• Applicable Federal Requirement		• Capping	CAS No.		Contaminant Name				
• State Only Requirement									
Monitoring Information									
• Ambient Air Monitoring			• Work Practice Involving Specific Operations				• Record Keeping/Maintenance Procedures		
Description									
Work Practice		Process Material				Reference Test Method			
Type	Code	Description							
Parameter						Manufacturer Name/Model No.			
Code		Description							
Limit				Limit Units					
Upper		Lower		Code	Description				
Averaging Method			Monitoring Frequency			Reporting Requirements			
Code	Description		Code	Description		Code	Description		

[illegible]

New York State Department of Environmental Conservation Air Permit Application



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Section IV - Emission Unit Information

Emission Unit Description										• Continuation Sheet(s)
EMISSION UNIT	1	-	T	A	N	K	S	Storage Tanks at the Facility.		

Building					• Continuation Sheet(s)
Building	Building Name	Length (ft)	Width (ft)	Orientation	

Emission Point							• Continuation Sheet(s)
EMISSION PT.	0	0	T	3	3		
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
	48		1440		Length (in)	Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	
		601.833	4720.724				
EMISSION PT.							
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
					Length (in)	Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	

Emission Source/Control								X Continuation Sheet(s)
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.	
ID	Type				Code	Description		
TK033	I							
Design Capacity	Design Capacity Units			Waste Feed		Waste Type		
Code	Description	Code	Description	Code	Description	Code	Description	
3,715,740	15	GALLONS						
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.	
ID	Type				Code	Description		
TK33C	K				091	FLOATING ROOF		
Design Capacity	Design Capacity Units			Waste Feed		Waste Type		
Code	Description	Code	Description	Code	Description	Code	Description	

New York State Department of Environmental Conservation Air Permit Application



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Section IV - Emission Unit Information (continued)

Process Information										• Continuation Sheet(s)	
EMISSION UNIT 1 - T A N K S										PROCESS C R 1	
Description											
Crude Oil Storage Tanks used for storage and distribution at terminal.											
Source Classification Code (SCC)		Total Thruput		Thruput Quantity Units							
4-06-010-99		Quantity/Hr	Quantity/Yr	Code	Description						
- Confidential - Operating at Maximum Capacity - Activity with Insignificant Emissions		Operating Schedule		Building		Floor/Location					
		Hrs/Day	Days/Yr								
		24	365								
Emission Source/Control Identifier(s)											
TK033											
TK33C											
EMISSION UNIT 1 - T A N K S										PROCESS G A S	
Description											
Gasoline storage tanks used for storage and distribution at terminal.											
Source Classification Code (SCC)		Total Thruput		Thruput Quantity Units							
4-04-001-60		Quantity/Hr	Quantity/Yr	Code	Description						
- Confidential - Operating at Maximum Capacity - Activity with Insignificant Emissions		Operating Schedule		Building		Floor/Location					
		Hrs/Day	Days/Yr								
		24	365								
Emission Source/Control Identifier(s)											
TK114	TK115	TK117	TK119	TK120	TK121	TK130	TK039				
T114C	T115C	T117C	T119C	T120C	T121C	T130C	T039C				

New York State Department of Environmental Conservation Air Permit Application



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Section IV - Emission Unit Information (continued)

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirements • Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
1 -TANKS	00T33	CR1	TK033	40	CFFR	60	Kb	113b	(a)				
1 -TANKS	00T33	CR1	TK033	40	CFR	60	Kb	115b	(a)				
1 -TANKS	00T33	CR1	TK033	40	CFR	60	Kb	116b					
-													

Emission Unit	Emission Point	Process	Emission Source	Emission Unit State Only Requirements • Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-													
-													
-													
-													

Emission Unit Compliance Certification • Continuation Sheet(s)									
Rule Citation									
Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
• Applicable Federal Requirement			• State Only Requirement			• Capping			
Emission Unit	Emission Point	Process	Emission Source	CAS No.		Contaminant Name			
-				-					
Monitoring Information									
- Continuous Emission Monitoring - Intermittent Emission Testing - Ambient Air Monitoring				- Monitoring of Process or Control Device Parameters as Surrogate - Work Practice Involving Specific Operations - Record Keeping/Maintenance Procedures					
Description									
Work Practice		Process Material				Reference Test Method			
Type	Code	Description							
Parameter						Manufacturer Name/Model No.			
Code		Description							
Limit				Limit Units					
Upper		Lower		Code	Description				
Averaging Method				Monitoring Frequency			Reporting Requirements		
Code	Description			Code	Description		Code	Description	

New York State Department of Environmental Conservation Air Permit Application



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Section IV - Emission Unit Information

Emission Unit Description												Continuation Sheet(s)
EMISSION UNIT		1	-	B	O	L	R	1	Natural-Gas Fired Boiler for Rail Car Heating			

Building					Continuation Sheet(s)	
Building	Building Name			Length (ft)	Width (ft)	Orientation

Emission Point							X Continuation Sheet(s)
EMISSION PT.		0 0 0 0 7					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
19	7.5	25.5	22		Length (in)	Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	
		601.833	4720.724				
EMISSION PT.		0 0 0 0 8					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
19	7.5	25.5	22		Length (in)	Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	
		601.833	4720.724				

Emission Source/Control							X Continuation Sheet(s)
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
BOLR1	C						
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description		Code	Description	Code	Description
13	25	MILLION BTU PER HOUR					
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
BOLR2	C						
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description		Code	Description	Code	Description
13	25	MILLION BTU PER HOUR					

New York State Department of Environmental Conservation

Air Permit Application



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4 - 01011-00112

Section IV - Emission Unit Information

Emission Point (continuation)						
EMISSION UNIT	1 - B O L R 1				EMISSION PT. 0 0 0 0 9	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (° F)	Cross Section	
					Length (in)	Width (in)
19	7.5	25.5	22			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		601.833	4720.724			
EMISSION UNIT	1 - B O L R 1				EMISSION PT. 0 0 0 1 0	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (° F)	Cross Section	
					Length (in)	Width (in)
19	7.5	25.5	22			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		601.833	4720.724			
EMISSION UNIT					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (° F)	Cross Section	
					Length (in)	Width (in)
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
EMISSION UNIT					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (° F)	Cross Section	
					Length (in)	Width (in)
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
EMISSION UNIT					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (° F)	Cross Section	
					Length (in)	Width (in)
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal

New York State Department of Environmental Conservation Air Permit Application



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4 - 1011011 - 100112

Section IV - Emission Unit Information

EMISSION UNIT		Emission Source/Control (continuation)					
1 - BOLR1							
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
BOLR3	C						
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
13	25	MILLION BTU PER HOUR					
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
BOLR4	C						
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
13	25	MILLION BTU PER HOUR					
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.
ID	Type				Code	Description	
Design Capacity	Design Capacity Units			Waste Feed		Waste Type	
	Code	Description			Code	Description	Code Description

New York State Department of Environmental Conservation Air Permit Application



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4	-	0	1	0	1	-	0	0	1	1	2

Section IV - Emission Unit Information (continued)

Process Information										• Continuation Sheet(s)	
EMISSION UNIT 1 - B O L R 1								PROCESS N L G			
Description											
Natural-Gas Fired Boiler for Rail Car Heating											
Source Classification Code (SCC)		Total Thruput		Thruput Quantity Units							
1-02-006-02		Quantity/Hr	Quantity/Yr	Code	Description						
• Confidential • Operating at Maximum Capacity • Activity with Insignificant Emissions		Operating Schedule		Building	Floor/Location						
		Hrs/Day	Days/Yr								
		24		365							
Emission Source/Control Identifier(s)											
BOLR1	BOLR2	BOLR3	BOLR4								
EMISSION UNIT -								PROCESS			
Description											
Source Classification Code (SCC)		Total Thruput		Thruput Quantity Units							
		Quantity/Hr	Quantity/Yr	Code	Description						
• Confidential • Operating at Maximum Capacity • Activity with Insignificant Emissions		Operating Schedule		Building	Floor/Location						
		Hrs/Day	Days/Yr								
Emission Source/Control Identifier(s)											

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Section IV - Emission Unit Information (continued)

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirements								Continuation Sheet(s)	
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
1 - BOLR1		NLG	BOLR1	40	CFR	60	Dc	40C	a				
-													
-													
-													

Emission Unit	Emission Point	Process	Emission Source	Emission Unit State Only Requirements								Continuation Sheet(s)	
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-													
-													
-													
-													

Emission Unit Compliance Certification										Continuation Sheet(s)	
Rule Citation											
Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause		
• Applicable Federal Requirement				• State Only Requirement				• Capping			
Emission Unit	Emission Point	Process	Emission Source	CAS No.			Contaminant Name				
-				-							
Monitoring Information											
- Continuous Emission Monitoring - Intermittent Emission Testing - Ambient Air Monitoring				- Monitoring of Process or Control Device Parameters as Surrogate - Work Practice Involving Specific Operations - Record Keeping/Maintenance Procedures							
Description											
Work Practice		Process Material					Reference Test Method				
Type	Code	Description									
Parameter		Manufacturer Name/Model No.									
Code	Description										
Limit				Limit Units							
Upper		Lower		Code	Description						
Averaging Method				Monitoring Frequency				Reporting Requirements			
Code	Description			Code	Description			Code	Description		

DEC ID											
4	-	0	1	0	1	-	0	0	1	1	2

Section IV - Emission Unit Information (continued)

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DEC ID											
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Section IV - Emission Unit Information

Emission Unit Description										Continuation Sheet(s)
EMISSION UNIT	1	-	R	A	C	K	5	Butane offloading operations.		

Building				• Continuation Sheet(s)
Building	Building Name	Length (ft)	Width (ft)	Orientation

Emission Point							Continuation Sheet(s)
EMISSION PT.							
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
					Length (in)	Width (in)	
19							
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	
EMISSION PT.							
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section		
					Length (in)	Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	

Emission Source/Control							• Continuation Sheet(s)	
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.	
ID	Type				Code	Description		
RACK5	C							
Design Capacity	Design Capacity Units			Waste Feed		Waste Type		
	Code	Description		Code	Description	Code	Description	
Emission Source		Date of Construction	Date of Operation	Date of Removal	Control Type		Manufacturer's Name/Model No.	
ID	Type				Code	Description		
Design Capacity	Design Capacity Units			Waste Feed		Waste Type		
	Code	Description		Code	Description	Code	Description	

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Section IV - Emission Unit Information (continued)

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New York State Department of Environmental Conservation
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P.E. Certification

I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments as they pertain to the practice of engineering. This is defined as the performance of a professional service such as consultation, investigation, evaluation, planning, design or supervision of construction or operation in connection with any utilities, structures, buildings, machines, equipment, processes, works, or projects wherein the safeguarding of life, health and property is concerned, when such service or work requires the application of engineering principals and data. Based on my inquiry of those individuals with primary responsibility for obtaining such information, I certify that the statements and information are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name of P.E. Gianna Aiezza, PE

Signature of P.E.

Date 6 / 12 / 13

NYS License No. 081422

Phone (518) 453.2203 x113

**Global Albany Terminal
Proposed Language for Regulation 6 NYCRR 231-11.2 (c)
October 2013**

Proposed Language for Applicable Regulation 6 NYCRR 231-11.2 (c):

For a modification with a project emission potential which is less than 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, but equals or exceeds 50 percent of the applicable significant project threshold when emissions excluded in accordance with Clause 231-4.1(b)(40)(i)(c) of this Part are added, or for a modification with a project emission potential which equals or exceeds 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, the facility owner or operator must submit an application to modify the facility permit under the minor permit provisions of Subpart 201-6 of this Title or obtain a preconstruction permit under the provisions of Subpart 201-6 of this Title, and must:

- (1) maintain the following information for a minimum of five years:
 - (i) a description of the modification.
 - (ii) an identification of each new or modified emission source(s) including the associated processes and emission unit.
 - (iii) the calculation of the project emission potential for each modified emission source(s) including supporting documentation.
 - (iv) the date the modification commenced operation.
- (2) monitor the emissions of each regulated NSR contaminant from the emission source(s) that will increase as a result of the modification, and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the modification, or for a period of 10 years following resumption of regular operations after the change if the modification increases the design capacity of or potential to emit the regulated NSR contaminant at such emission source(s).
- (3) submit a report to the department within 30 days after the end of each year during which records must be generated in accordance with Paragraph 231-11.2(c)(2) of this Part. The report must contain:
 - (i) the name, address, and telephone number of the major facility.
 - (ii) the annual emissions as calculated pursuant to Paragraph (c)(2) of this Section.
 - (iii) a comparison of actual annual emissions to the projected actual emissions and, if applicable, an explanation as to why the actual annual emissions exceeded the projected actual emissions.

The Compliance Demonstration applies to:

Emission Unit: 1-RACK3
Process: FG3 Emission Source: RACK3

Emission Unit: 1-RACK3
Process: R3C Emission Source: RACK3

Emission Unit: 1-RACK3
Process: R3C Emission Source: VCUML

Emission Unit: 1-TANKS
Process: CR1 Emission Source: TK033

Emission Unit: 1-BOLR1
Process: NLG

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification:	2013 PTE Tank 33 - CRUDE
City:	Albany
State:	New York
Company:	Global
Type of Tank:	Internal Floating Roof Tank
Description:	Kb

Tank Dimensions

Diameter (ft):		120.00
Volume (gallons):		3,715,740.00
Turnovers:		124.47
Self Supp. Roof? (y/n):	N	
No. of Columns:		7.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

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

Rim-Seal System

Primary Seal:	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):		2,261.94

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7
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	125
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Albany, New York (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

2013 PTE Tank 33 - CRUDE - Internal Floating Roof Tank Albany, New York

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.					
Crude Oil (RVP 11)	All	48.97	43.66	54.29	47.37	7.0858	N/A	N/A	50.0000			207.00	Option 4: RVP=11
1,2,4-Trimethylbenzene						0.0130	N/A	N/A	120.1900	0.0033	0.0000	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane (isooctane)						0.4299	N/A	N/A	114.2300	0.0010	0.0003	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						0.8532	N/A	N/A	78.1100	0.0060	0.0030	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						0.8915	N/A	N/A	84.1600	0.0070	0.0036	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0732	N/A	N/A	106.1700	0.0040	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.4254	N/A	N/A	86.1700	0.0040	0.0033	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0315	N/A	N/A	120.2000	0.0010	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Methyl alcohol						1.0099	N/A	N/A	32.0400	0.0200	0.0118	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Toluene						0.2320	N/A	N/A	92.1300	0.0100	0.0014	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.0694	N/A	N/A	50.0780	0.9297	0.9759	252.80	
Xylene (-m)						0.0607	N/A	N/A	106.1700	0.0140	0.0005	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

2013 PTE Tank 33 - CRUDE - Internal Floating Roof Tank Albany, New York

Annual Emission Calculations

Rim Seal Losses (lb):	237.2404
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0.4000
Value of Vapor Pressure Function:	0.1648
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.0858
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	3,901.4403
Number of Columns:	7.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	462,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	120.0000
Deck Fitting Losses (lb):	1,514.3846
Value of Vapor Pressure Function:	0.1648
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	459.6000
Deck Seam Losses (lb):	1,328.5463
Deck Seam Length (ft):	2,261.9448
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	6,981.6115

Roof Fitting/Status	Quantity	KF _a (lb-mole/yr)	Roof Fitting Loss Factors		m	Losses(lb)
			KF _b (lb-mole/(yr mph ⁿ))			
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00		0.00	5.2720
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00		0.00	9.2260
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7	33.00	0.00		0.00	761.1463
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00		0.00	184.5203
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00		0.00	39.5401
Stub Drain (1-in. Diameter)/	125	1.20	0.00		0.00	494.2508
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20		0.94	20.4290

TANKS 4.0.9d

Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

2013 PTE Tank 33 - CRUDE - Internal Floating Roof Tank
Albany, New York

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Crude Oil (RVP 11)	237.24	3,901.44	1,514.38	1,328.55	6,981.61
Hexane (-n)	0.79	15.61	5.04	4.43	25.87
Benzene	0.71	23.41	4.53	3.97	32.62
2,2,4-Trimethylpentane (isooctane)	0.06	3.90	0.38	0.33	4.68
Toluene	0.32	39.01	2.05	1.80	43.19
Ethylbenzene	0.04	15.61	0.26	0.23	16.13
Xylene (-m)	0.12	54.62	0.75	0.66	56.15
Isopropyl benzene	0.00	3.90	0.03	0.02	3.96
1,2,4-Trimethylbenzene	0.01	12.87	0.04	0.03	12.95
Cyclohexane	0.87	27.31	5.52	4.84	38.54
Methyl alcohol	2.80	78.03	17.87	15.68	114.38
Unidentified Components	231.53	3,627.17	1,477.91	1,296.55	6,633.15

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification:	2013 PTE Tank 33 - Heated Product 1
City:	Albany
State:	New York
Company:	Global
Type of Tank:	Internal Floating Roof Tank
Description:	Kb

Tank Dimensions

Diameter (ft):		120.00
Volume (gallons):		3,715,740.00
Turnovers:		124.47
Self Supp. Roof? (y/n):	N	
No. of Columns:		7.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

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

Rim-Seal System

Primary Seal:	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):		2,261.94

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7
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	125
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Albany - 60°F, New York (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

2013 PTE Tank 33 - Heated Product 1 - Internal Floating Roof Tank

Albany, New York

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.					
Crude Oil (RVP 7.5)	All	65.34	62.57	68.11	63.73	5.5166	N/A	N/A	50.0000			207.00	Option 4: RVP=7.5
1,2,4-Trimethylbenzene						0.0252	N/A	N/A	120.1900	0.0033	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane (isooctane)						0.6934	N/A	N/A	114.2300	0.0010	0.0005	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.3517	N/A	N/A	78.1100	0.0060	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3974	N/A	N/A	84.1600	0.0070	0.0073	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1304	N/A	N/A	106.1700	0.0040	0.0004	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1948	N/A	N/A	86.1700	0.0040	0.0066	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0586	N/A	N/A	120.2000	0.0010	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3890	N/A	N/A	92.1300	0.0100	0.0029	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.1042	N/A	N/A	49.4704	0.9497	0.9749	220.76	
Xylene (-m)						0.1088	N/A	N/A	106.1700	0.0140	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

2013 PTE Tank 33 - Heated Product 1 - Internal Floating Roof Tank Albany, New York

Annual Emission Calculations

Rim Seal Losses (lb):	170.1963
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.1182
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.5166
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	3,736.5907
Number of Columns:	7.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	462,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	6.8000
Tank Diameter (ft):	120.0000
Deck Fitting Losses (lb):	1,086.4196
Value of Vapor Pressure Function:	0.1182
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	459.6000
Deck Seam Losses (lb):	953.0991
Deck Seam Length (ft):	2,261.9448
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	5,946.3057

Roof Fitting/Status	Quantity	KF _a (lb-mole/yr)	Roof Fitting Loss Factors		m	Losses(lb)
			KF _b (lb-mole/(yr mph^n))			
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00		0.00	3.7821
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00		0.00	6.6187
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7	33.00	0.00		0.00	546.0464
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00		0.00	132.3749
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00		0.00	28.3660
Stub Drain (1-in. Diameter)/	125	1.20	0.00		0.00	354.5756
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20		0.94	14.6558

TANKS 4.0.9d

Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

2013 PTE Tank 33 - Heated Product 1 - Internal Floating Roof Tank
Albany, New York

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Crude Oil (RVP 7.5)	170.20	3,736.59	1,086.42	953.10	5,946.31
Hexane (-n)	1.12	14.95	7.16	6.28	29.51
Benzene	1.04	22.42	6.61	5.80	35.87
2,2,4-Trimethylpentane (isooctane)	0.09	3.74	0.57	0.50	4.89
Toluene	0.50	37.37	3.17	2.78	43.82
Ethylbenzene	0.07	14.95	0.43	0.37	15.81
Xylene (-m)	0.19	52.31	1.24	1.09	54.84
Isopropyl benzene	0.01	3.74	0.05	0.04	3.83
1,2,4-Trimethylbenzene	0.01	12.33	0.07	0.06	12.47
Cyclohexane	1.25	26.16	7.98	7.00	42.38
Unidentified Components	165.92	3,548.64	1,059.15	929.18	5,702.90

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification:	2013 PTE Tank 33 - Heated Product 2
City:	Albany
State:	New York
Company:	Global
Type of Tank:	Internal Floating Roof Tank
Description:	Kb

Tank Dimensions

Diameter (ft):		120.00
Volume (gallons):		3,715,740.00
Turnovers:		124.47
Self Supp. Roof? (y/n):	N	
No. of Columns:		7.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

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

Rim-Seal System

Primary Seal:	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):		2,261.94

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7
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	125
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Albany - 100°F, New York (Avg Atmospheric Pressure = 14.59 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

2013 PTE Tank 33 - Heated Product 2 - Internal Floating Roof Tank

Albany, New York

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.					
Crude oil (RVP 5)	All	101.63	100.20	103.06	100.02	6.1345	N/A	N/A	50.0000			207.00	Option 4: RVP=5
1,2,4-Trimethylbenzene						0.0927	N/A	N/A	120.1900	0.0033	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane (isooctane)						1.7764	N/A	N/A	114.2300	0.0010	0.0012	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						3.3425	N/A	N/A	78.1100	0.0060	0.0135	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						3.3858	N/A	N/A	84.1600	0.0070	0.0160	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.4047	N/A	N/A	106.1700	0.0040	0.0011	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						5.1382	N/A	N/A	86.1700	0.0040	0.0139	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.1977	N/A	N/A	120.2000	0.0010	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						1.0746	N/A	N/A	92.1300	0.0100	0.0073	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.6626	N/A	N/A	48.7768	0.9497	0.9435	220.76	
Xylene (-m)						0.3417	N/A	N/A	106.1700	0.0140	0.0032	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

2013 PTE Tank 33 - Heated Product 2 - Internal Floating Roof Tank Albany, New York

Annual Emission Calculations

Rim Seal Losses (lb):	195.1787
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.1355
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.1345
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	3,901.4403
Number of Columns:	7.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	462,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	120.0000
Deck Fitting Losses (lb):	1,245.8906
Value of Vapor Pressure Function:	0.1355
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	459.6000
Deck Seam Losses (lb):	1,093.0007
Deck Seam Length (ft):	2,261.9448
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	6,435.5103

Roof Fitting/Status	Quantity	KF _a (lb-mole/yr)	Roof Fitting Loss Factors		m	Losses(lb)
			KF _b (lb-mole/(yr mph^n))			
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00		0.00	4.3373
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00		0.00	7.5903
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7	33.00	0.00		0.00	626.1983
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00		0.00	151.8056
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00		0.00	32.5298
Stub Drain (1-in. Diameter)/	125	1.20	0.00		0.00	406.6223
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20		0.94	16.8071

TANKS 4.0.9d

Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

2013 PTE Tank 33 - Heated Product 2 - Internal Floating Roof Tank
Albany, New York

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Crude oil (RVP 5)	195.18	3,901.44	1,245.89	1,093.00	6,435.51
Hexane (-n)	2.71	15.61	17.28	15.16	50.75
Benzene	2.64	23.41	16.86	14.79	57.71
2,2,4-Trimethylpentane (isooctane)	0.23	3.90	1.49	1.31	6.94
Toluene	1.42	39.01	9.04	7.93	57.39
Ethylbenzene	0.21	15.61	1.36	1.19	18.37
Xylene (-m)	0.63	54.62	4.02	3.53	62.80
Isopropyl benzene	0.03	3.90	0.17	0.15	4.24
1,2,4-Trimethylbenzene	0.04	12.87	0.26	0.23	13.40
Cyclohexane	3.12	27.31	19.93	17.48	67.84
Unidentified Components	184.15	3,705.20	1,175.48	1,031.23	6,096.06

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification:	2013 PTE Tank 33 - Heated Product 3
City:	Albany
State:	New York
Company:	Global
Type of Tank:	Internal Floating Roof Tank
Description:	Kb

Tank Dimensions

Diameter (ft):		120.00
Volume (gallons):		3,715,740.00
Turnovers:		124.47
Self Supp. Roof? (y/n):	N	
No. of Columns:		7.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

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

Rim-Seal System

Primary Seal:	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):		2,261.94

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7
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	125
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Albany - 120°F, New York (Avg Atmospheric Pressure = 14.59 psia)

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

2013 PTE Tank 33 - Heated Product 3 - Internal Floating Roof Tank
Albany, New York

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.					
Residual Oil - Heated	All	121.63	120.20	123.06	120.02	0.0004	N/A	N/A	190.0000			387.00	Option 4: RVP=.00019, ASTM Slope=3

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

2013 PTE Tank 33 - Heated Product 3 - Internal Floating Roof Tank Albany, New York

Annual Emission Calculations

Rim Seal Losses (lb):	0.0995
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0004
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,085.2598
Number of Columns:	7.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	462,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.9000
Tank Diameter (ft):	120.0000
Deck Fitting Losses (lb):	0.6350
Value of Vapor Pressure Function:	0.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	459.6000
Deck Seam Losses (lb):	0.5571
Deck Seam Length (ft):	2,261.9448
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Total Losses (lb):	1,086.5514

Roof Fitting/Status	Quantity	KF _a (lb-mole/yr)	Roof Fitting Loss Factors		m	Losses(lb)
			KF _b (lb-mole/(yr mph^n))			
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00		0.00	0.0022
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00		0.00	0.0039
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	7	33.00	0.00		0.00	0.3192
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00		0.00	0.0774
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00		0.00	0.0166
Stub Drain (1-in. Diameter)/	125	1.20	0.00		0.00	0.2072
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20		0.94	0.0086

TANKS 4.0.9d

Emissions Report - Detail Format

Individual Tank Emission Totals**Emissions Report for: Annual****2013 PTE Tank 33 - Heated Product 3 - Internal Floating Roof Tank****Albany, New York**

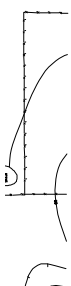
	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Resdual Oil - Heated	0.10	1,085.26	0.64	0.56	1,086.55

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

Emissions Report for: Annual

Tank Identification				Losses (lbs)
2013 PTE Tank 33 - CRUDE	Global	Internal Floating Roof Tank	Albany, New York	6,981.61
2013 PTE Tank 33 - Heated Product 1	Global	Internal Floating Roof Tank	Albany, New York	5,946.31
2013 PTE Tank 33 - Heated Product 2	Global	Internal Floating Roof Tank	Albany, New York	6,435.51
2013 PTE Tank 33 - Heated Product 3	Global	Internal Floating Roof Tank	Albany, New York	1,086.55
Total Emissions for all Tanks:				20,449.98

MATCH A-A; THIS SHEET



PRODUCT	TANKAGE

[illegible]

* Tank containment is under rain cover (freboard for precipitation not required)
 ** Field measurements
 *** Pre-fabricated HDPE containment pack or pallet.
 **** Containment calculated using two sections.

- [illegible]

SP-1 SCALE: AS SHOWN

CHAIN LINK FENCE

 FIRE HYDRANT

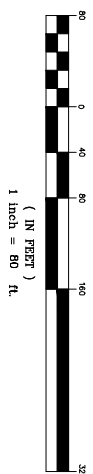
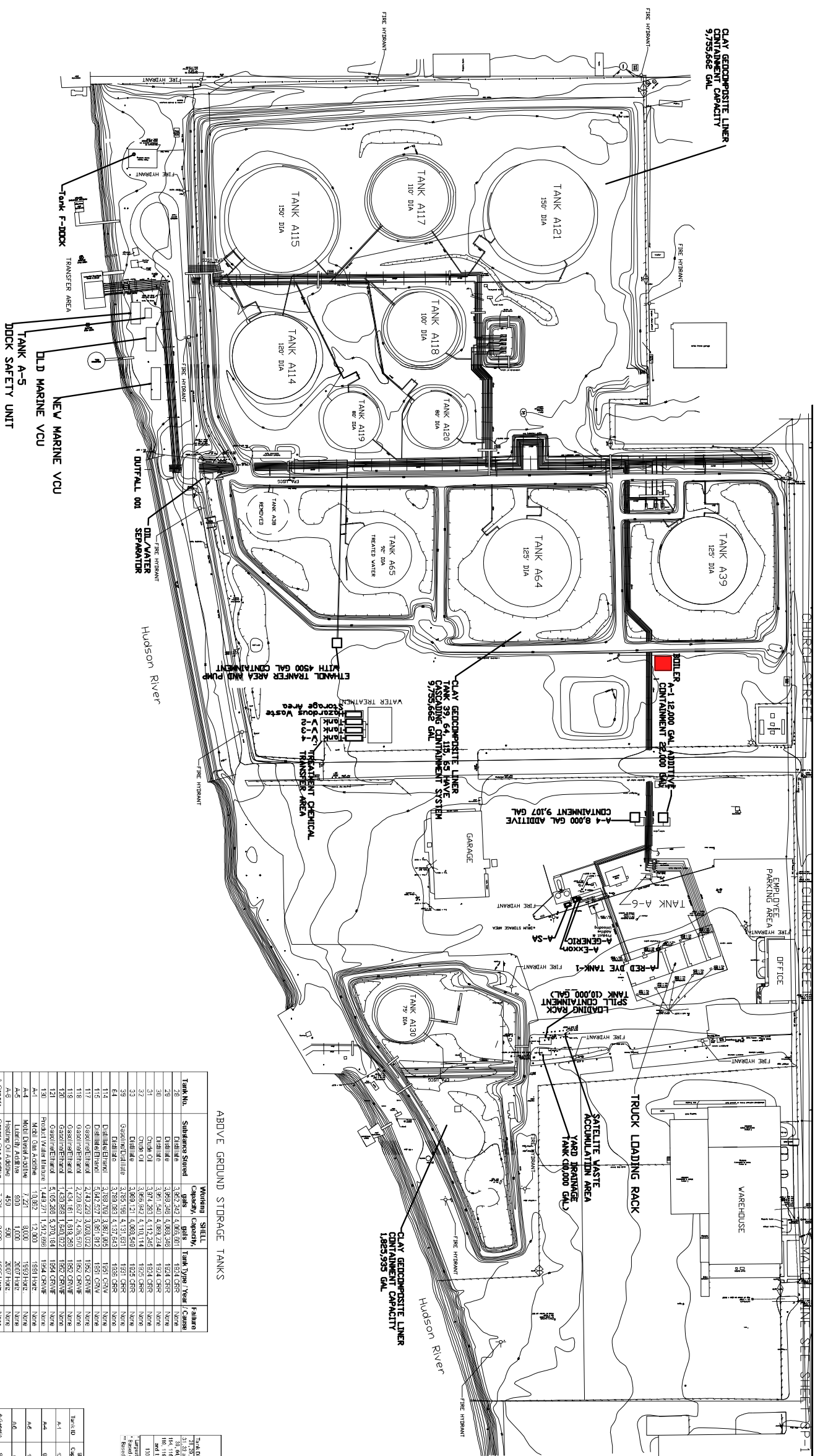
● FUS13

(IN FEET)
1 inch = 80 ft

1000

CONSULTING, LLC
16 COMPUTER DRIVE WEST
ALBANY, NY 12205
PHONE: 518.435.8800
FAX: 518.435.8807

GLOBAL COMPANIES, LLC		
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1 **PORT OF ALBANY TERMINAL SITE PLAN**
SP-1 **SCALE: AS SHOWN**

[illegible]

ABOVE GROUND STORAGE TANKS

[illegible]

CONTAINMENT VOLUME ANALYSIS

[illegible]

1. SECONDARY CONTAINMENT IS EQUAL TO 110% OF THE LARGEST TANK IN SYSTEM.
2. COMMUNICATION EQUIPMENT IS LOCATED OFFICE.
3. EMERGENCY RESPONSE EQUIPMENT IS IN THE OFFICE OFFICE AND THE WAREHOUSE.
4. DRUMS STORED IN THE GARAGE GREASE, OIL AND KERO.

[illegible]