

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

Identification

User Identification:	950-TKH-01
City:	Montrose County
State:	Colorado
Company:	Energy Fuels
Type of Tank:	Horizontal Tank
Description:	Main Diesel Storage Tank

Tank Dimensions

Shell Length (ft):	32.50
Diameter (ft):	8.50
Volume (gallons):	12,000.00
Turnovers:	17.00
Net Throughput(gal/yr):	204,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

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

Meteorological Data used in Emissions Calculations: Grand Junction, Colorado (Avg Atmospheric Pressure = 12.37 psia)

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Liquid Contents of Storage Tank

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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.					
Distillate fuel oil no. 2	All	55.06	48.57	61.56	52.95	0.0055	0.0043	0.0069	130.0000			188.00	Option 1: VP50 = .0045 VP60 = .0065

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Detail Calculations (AP-42)

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Annual Emission Calculations

Standing Losses (lb):	2.5450
Vapor Space Volume (cu ft):	1,174.6580
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.0458
Vented Vapor Saturation Factor:	0.9988
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,174.6580
Tank Diameter (ft):	8.5000
Effective Diameter (ft):	18.7593
Vapor Space Outage (ft):	4.2500
Tank Shell Length (ft):	32.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0055
Daily Avg. Liquid Surface Temp. (deg. R):	514.7342
Daily Average Ambient Temp. (deg. F):	52.9333
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	512.6233
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,578.3125
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0458
Daily Vapor Temperature Range (deg. R):	25.9688
Daily Vapor Pressure Range (psia):	0.0026
Breather Vent Press. Setting Range (psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0055
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0043
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0069
Daily Avg. Liquid Surface Temp. (deg R):	514.7342
Daily Min. Liquid Surface Temp. (deg R):	508.2420
Daily Max. Liquid Surface Temp. (deg R):	521.2264
Daily Ambient Temp. Range (deg. R):	25.6333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9988
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0055
Vapor Space Outage (ft):	4.2500
Working Losses (lb):	3.4810
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0055
Annual Net Throughput (gal/yr.):	204,000.0000
Annual Turnovers:	17.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	8.5000
Working Loss Product Factor:	1.0000
Total Losses (lb):	6.0260

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Individual Tank Emission Totals

Emissions Report for: Annual

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Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Distillate fuel oil no. 2	3.48	2.55	6.03

