

Parameter	Units	Symbol	Equation (AP-42, Chapter 7, Section 1)	Tank 1	Tank 2	Tank 3	Tank 4
Tank Data							
Tank ID	--	--		11001	11002	11352	11353
Permit Device ID	--	--	SCAQMD Permit	D14	D15	D16	D17
Service	--	--	SCAQMD Permit	Produced Water	Slop Oil	Crude Oil	Crude Oil
Capacity	bbl	--	SCAQMD Permit	1,000	250	1,000	1,000
Roof Type	--	--	--	Dome	Dome	Dome	Dome
Tank Orientation	--	--	--	Vertical	Vertical	Vertical	Vertical
Shell Diameter	ft	D	SCAQMD Permit	21.5	15.25	21.5	21.5
Shell Height	ft	H _s	SCAQMD Permit	16	8	16	16
Construction	--	--	Bolted/Riveted or Welded	Bolted	Bolted	Bolted	Bolted
Insulated?	--	--	--	No	No	Yes	Yes
Estimated Liquid Temperature	Deg F	--	--	87	90	93	93
Breather Vent Pressure Setting	psig	P _{BP}	Default; See note under Equation 1-10	0.03	0.03	0.03	0.03
Breather Vent Vacuum Setting	psig	P _{BV}	Default; See note under Equation 1-10	-0.03	-0.03	-0.03	-0.03
Meteorological Data and Ambient Temperature Calculation							
Average Daily Minimum Ambient Temperature	Deg F	T _{AN}	Table 7.1-7, Los Angeles AP, May	57.8	57.8	57.8	57.8
	Deg R			517.47	517.47	517.47	517.47
Average Daily Maximum Ambient Temperature	Deg F	T _{AX}	Table 7.1-7, Los Angeles AP, May	68.5	68.5	68.5	68.5
	Deg R			528.17	528.17	528.17	528.17
	Btu/ft2/day	I	Table 7.1-7, Los Angeles AP, May	2045	2045	2045	2045
	lb/in2	P _A	Table 7.1-7, Los Angeles AP, Annual	14.63	14.63	14.63	14.63
Average Daily Ambient Temperature	Deg R	T _{AA}	1-30	522.82	522.82	522.82	522.82
	Deg R	ΔT _A	1-11	10.7	10.7	10.7	10.7
Tank Roof Paint Color	--	--	--	Tan	Tan	Tan	Tan
Tank Roof Paint Solar Absorptance	Dimensionless	α _R	Table 7.1-6, Assumes Average Condition	0.49	0.49	0.49	0.49
Tank Shell Paint Color	--	--	--	Tan	Tan	Aluminum, Diffuse	Aluminum, Diffuse
Tank Shell Paint Solar Absorptance	Dimensionless	α _S	Table 7.1-6, Assumes Average Condition	0.49	0.49	0.64	0.64
Paint Solar Absorptance	Dimensionless	α	0.5 x (α _R + α _S)	0.49	0.49	0.57	0.57
Standing Loss Calculations							
Vapor Space Outage							
Shell Radius	ft	R _S	--	10.75	7.63	10.75	10.75
Tank Dome Roof Radius	ft	R _R	D; See note under Equation 1-20	21.5	15.25	21.5	21.5
Tank Roof Height	ft	H _R	1-20	2.8805	2.0431	2.8805	2.8805
Roof Outage	ft	H _{RO}	1-19	1.4747	1.0460	1.4747	1.4747

Tank Liquid Height	ft	H _L	Measured, or 0.5 x HS; See note under Equation 1-16	8.00	4.00	8.00	8.00
Vapor Space Outage	ft	H _{VO}	1-16	9.4747	5.0460	9.4747	9.4747
Vapor Space Expansion Factor and Vented Vapor Saturation Factor							
Average Daily Vapor Temperature Range	Deg R	ΔT _V	1-6; Set to 0 for Insulated Tanks, See note under Equation 1-8	27.5310	27.5310	0.0000	0.0000
Liquid Bulk Temperature	Deg R	T _B	Calculated from Estimated Liquid Temperature	525.8262	525.8262	526.7464	526.7464
Average Daily Liquid Surface Temperature	Deg R	T _{LA}	1-27	529.0079	529.2806	529.9916	529.9916
Average Daily Maximum Liquid Surface Temperature	Deg R	T _{LX}	Figure 7.1-17	535.8906	536.1634	529.9916	529.9916
Average Daily Minimum Liquid Surface Temperature	Deg R	T _{LN}	Figure 7.1-17	522.1251	522.3979	529.9916	529.9916
VP at Average Daily Maximum Liquid Surface Temperature	psia	P _{VX}	See Footnote 1	0.0408	0.0412	0.3606	0.3874
VP at Average Daily Minimum Liquid Surface Temperature	psia	P _{VN}	See Footnote 1	0.0255	0.0257	0.3606	0.3874
Average Daily Vapor Pressure Range	psia	ΔP _V	1-9; Set to 0 for Insulated Tanks, See Note 5 under Equation 1-5	0.0153	0.0154	0.0000	0.0000
Breather Vent Pressure Setting Range	psig	ΔP _B	1-10; Set to 0 for Bolted/Riveted Tanks, See note under Equation 1-10	0.0000	0.0000	0.0000	0.0000
VP at Average Daily Liquid Surface Temperature	Deg R	P _{VA}	See Footnote 1	0.0323	0.0326	0.3606	0.3874
Vapor Space Expansion Factor	Per Day	K _E	1-5	0.0531	0.0531	0.0000	0.0000
Vented Vapor Saturation Factor	--	K _S	1-21	0.9840	0.9913	0.8467	0.8371
Vapor Density							
Vapor Molecular Weight	lb/lb-mol	M _V	Table 7.1-2	50	50	50	50
Ideal Gas Constant	(psia*ft ³)/(lb-mol*Deg R)	R	See note under Equation 1-22	10.731	10.731	10.731	10.731
Average Vapor Temperature	Deg R	T _V	1-32	532.1896	532.7351	533.2367	533.2367
Vapor Density	lb/ft ³	W _V	1-22	0.0003	0.0003	0.0032	0.0034
Standing Loss							
Standing Loss	lb/day	L _S	1-4	0.0509	0.0138	0.0000	0.0000

Standing Losses (lb/day) 0.0647

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Crude RVP (2024 ASTM D -323 Test)	0.15	0.15	0.9	0.95
A, Figure 7.1-16	14.65	14.65	12.92	12.87
B, Figure 7.1-16	9567.90	9567.90	7389.12	7323.37
Calculated TVP at Maximum Temperature (psia), Equation 1-25, P _{VX}	0.0408	0.0412	0.3606	0.3874
Calculated TVP at Minimum Temperature (psia), Equation 1-25, P _{VN}	0.0255	0.0257	0.3606	0.3874
Calculated TVP at Average Temperature (psia), Equation 1-25, P _{VA}	0.0323	0.0326	0.3606	0.3874

Daily Emissions (lb) 0.0647