

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT <i>ENGINEERING and COMPLIANCE</i> APPLICATION PROCESSING AND CALCULATIONS	PAGES	PAGE
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	APPLIC. NO.	DATE
	415342	5/14/03 (revised 6/13/03)
	PROCESSED BY	CHECKED BY
	H. Stoddard	

b) Fugitive Emissions

The total number of fugitive devices for this process was supplied by Venoco through an inventory performed by Avanti and reported on 3/10/03 of the existing system plus the additional fugitive devices for upgrade (bypass lines, liquid and dry carbon beds) reported by R. Rosenbaum on 6/11/03. Calculations will be based on the California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/ARB, February 1999.

Total Organic Compound Emission Factor for liquid service, lb/hr				Total Organic Compound Emission Factor for gas service, lb/hr				
Valves	Fitt./Conn.	Flanges	Pumps	Valves	Fitt./Conn.	Flanges	Pumps	Others
4.2E-05	2.2E-05	5.3E-6	5.8E-04	7.7E-05	2.6E-05	5.30E-05	2.2E-03	3.2E-04

liquid service (count)				gas service (count)				
Valves	Fitt./Conn.	Flanges	Pumps	Valves	Fitt./Conn.	Flanges	Pumps	Others
24	32	0	4	38	264	0	0	18

Example calculation:

(liquid service): 24 valves x 4.2 x 10⁻⁵ lb/hr.valve = 0.001008 lbs/hr

(gas service): 38 valves x 7.7 x 10⁻⁵ lb/hr.valve x (1-.7345)[% methane] = 0.000777 lbs/hr

Fugitive Emissions Summary

	lb/hr	lb/day	lb/yr
VOC	0.006073	0.145752	53

Summary of all VOC Emissions

	R1 (lb/hr)	R2 (lbs/hr)	R1 (lbs/day)	R2 (lbs/day)	R2, Annual (lbs/yr)	30 Day Av (lbs/day)
Process	0.0178	0.00089	0.4272	0.02136	8	0
Fugitives	0.006073	0.006073	0.145752	0.145752	53	0
Total	0.023873	0.006963	0.572952	0.167112	61	0