

LAGUNA PLANT EMISSIONS

Project:	Santa Rosa Subregional Long-Term Wastewater Project	Prepared By:	I. Edmonds
Subject:	Waterwater Treatment Plant Emissions	Date Prepared:	11/22/95
		Checked By:	C. Chapin 11/22/95

Existing Air Pollutant Emissions

Pollutant/Organic Compound	Liquid Process Flow Emissions ^a		Solid Process Flow Emissions ^b		Internal Combustion Engine Emissions ^c		Total Emissions	
	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
Nitrogen Oxides	0.0000	0.0	0.0000	0.0	362.0	132130.0	362.0	132130.0
Carbon Monoxide	0.0000	0.0	0.0000	0.0	1125.0	410625.0	1125.0	410625.0
Hydrocarbons	0.0000	0.0	0.0000	0.0	144.0	52560.0	144.0	52560.0
Acetaldehyde	0.0000	0.0	0.0000	0.0	0.0013	0.5	0.0013	0.5
Acetone	0.3002	109.6	0.0000	0.0	0.0000	0.0	0.3002	109.6
Acrolein	0.0000	0.0	0.0000	0.0	0.0009	0.3	0.0009	0.3
Benzene	0.0190	6.9	0.0003	0.1	0.0421	15.4	0.0614	22.4
Dichlorobenzene	0.0488	17.8	0.0000	0.0	0.0000	0.0	0.0488	17.8
Ethylbenzene	0.0271	9.9	0.0000	0.0	0.0000	0.0	0.0271	9.9
Formaldehyde	0.0000	0.0	0.0000	0.0	0.0187	6.8	0.0187	6.8
Perchloroethylene	0.5511	201.2	0.0000	0.0	0.0000	0.0	0.5511	201.2
Styrene	0.0000	0.0	0.0000	0.0	0.0151	5.5	0.0151	5.5
Toluene	0.1152	42.1	0.0014	0.5	0.0538	19.6	0.1704	62.2
Trichloroethene	0.0577	21.1	0.0000	0.0	0.0000	0.0	0.0577	21.1
Xylene	0.1937	70.7	0.0016	0.6	0.0190	6.9	0.2143	78.2
Methylene Chloride	0.3274	119.5	0.0500	18.3	0.0256	9.3	0.4030	147.1
1,1,1 - Trichloroethane	0.2155	78.7	0.0003	0.1	0.0000	0.0	0.2158	78.8

Notes:

^a Source of information is Quarterly sampling from January 1990 through 1993 (CH2M Hill, 1993)

^b Emissions are a total of AB2588 Report Source Test Data (December 1990)

^c Source of information is Permit Application Package to BAAQMD for Authority to Construct the Laguna Advanced Treatment Upgrade Project (CH2M Hill, 1993)

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Air Pollutant Emissions From Existing and Upgrade Project

Pollutant/Organic Compound	Liquid Process Flow Emissions ^a		Solid Process Flow Emissions ^b		Internal Combustion Engine Emissions ^c		Total Emissions	
	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)
Nitrogen Oxides	0.0000	0.0	0.0000	0.0	275.9	100703.5	275.9	100703.5
Carbon Monoxide	0.0000	0.0	0.0000	0.0	487.5	177937.5	487.5	177937.5
Hydrocarbons	0.0000	0.0	0.0000	0.0	184.0	67160.0	184.0	67160.0
Acetaldehyde	0.0000	0.0	0.0000	0.0	0.0082	3.4	0.0082	3.4
Acetone	0.0097	157.6	0.0000	0.0	0.0000	0.0	0.0097	157.6
Acrolein	0.0000	0.0	0.0000	0.0	0.0036	1.3	0.0036	1.3
Benzene	0.0037	4.2	0.0004	0.1	0.3007	109.8	0.3048	114.1
Dichlorobenzene	0.0068	15.5	0.0000	0.0	0.0000	0.0	0.0068	15.5
Ethylbenzene	0.0058	6.7	0.0000	0.0	0.0000	0.0	0.0058	6.7
Formaldehyde	0.0000	0.0	0.0000	0.0	0.0501	18.3	0.0501	18.3
Perchloroethylene	0.3300	218.0	0.0000	0.0	0.0000	0.0	0.3300	218.0
Styrene	0.0000	0.0	0.0000	0.0	0.0593	21.6	0.0593	21.6
Toluene	0.0220	44.7	0.0019	0.7	0.1336	48.8	0.1575	94.2
Trichloroethene	0.0330	16.6	0.0000	0.0	0.0000	0.0	0.0330	16.6
Xylene	0.0400	62.0	0.0022	0.8	0.0560	20.4	0.0982	83.2
Methylene Chloride	0.1600	345.9	0.0700	25.6	0.1086	39.6	0.3386	411.1
1,1,1 - Trichloroethane	0.1318	88.2	0.0004	0.1	0.0000	0.0	0.1322	88.3

Notes:

^a Source of information is BASTE model run (CH2M Hill, 1995)

^b Emissions are a total of AB2588 Report Source Test Data (December 1990) plus estimated emissions from adding 1 gravity belt and 1 anaerobic digester.

^c Source of information is Permit Application Package to BAAQMD for Authority to Construct the Laguna Advanced Treatment Upgrade Project (CH2M Hill, 1993)

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Estimated Air Pollutant Emissions From Expansion of the Headworks (Capacity Increased From 18 to 21 mgd)

Pollutant/Organic Compound	Liquid Process Flow Emissions ^a		Solid Process Flow Emissions ^b		Internal Combustion Engine Emissions ^c		Increase In Emissions From Expansion Compared To Existing and Upgrade Emissions		Screening Trigger Levels For Carcinogens Contaminants	Screening Trigger Levels For Noncarcinogenic Contaminants	Screening Triggered
	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/day)	(lb/yr)	(lb/yr)	(lb/yr)	
Acetone	0.5575	203.5	0.0000	0.0	0.0000	0.0	0.5478	45.9			NA
Benzene	0.0197	7.2	0.0005	0.2	0.3007	109.8	0.0161	3.0	6.7		NO
Dichlorobenzene	0.0570	20.8	0.0000	0.0	0.0000	0.0	0.0502	5.3	68		NO
Ethylbenzene	0.0266	9.7	0.0000	0.0	0.0000	0.0	0.0208	3.0		193000	NO
Perchloroethylene	0.8855	323.2	0.0000	0.0	0.0000	0.0	0.5555	105.2	33		YES
Toluene	0.1611	58.8	0.0024	0.9	0.1338	48.8	0.1398	14.4		38800	NO
Trichloroethene	0.0704	25.7	0.0000	0.0	0.0000	0.0	0.0374	9.1			NA
Xylene	0.2241	81.8	0.0028	1.0	0.0560	20.4	0.1847	20.0		57900	NO
Methylene Chloride	1.4271	520.9	0.0900	32.8	0.1086	39.6	1.2871	182.3	190		NO
1,1,1 - Trichloroethane	0.3523	128.6	0.0005	0.2	0.0000	0.0	0.2206	40.4		61800	NO

Notes:

^a Source of information is BASTE model run (CH2M Hill, 1995)

^b Emissions are scaled up from Upgrade Project emissions using a factor of 27/21.

^c Source of information is Permit Application Package to BAAQMD for Authority to Construct the Laguna Advanced Treatment Upgrade Project (CH2M Hill, 1993)