

APPENDIX C

Air Quality Modeling Results

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EMFac Modeled Results Summary Table

District or Area	Reactive Organic Gases (ROG) (grams/mile)	SO ₂ (grams/mile)	CO (grams/mile)	NO _x (grams/mile)	PM10 (grams/mile)	Heavy - Duty Trucks (Diesel)	
						Pm10	Brake Wear
Ventura County Air Pollution Control District	0.559	.016	2.722	11.721	0.411	0.036	0.028
Light-Duty Trucks (Catalytic Converters)							
State	Running Exhaust Emissions (grams/mile)	0.023	1.823	0.181	0.013	0.008	0.013
	Starting Emissions (grams/trip)	0.52	7.707	0.465	0.018	N/A	N/A
	Hot Soak Emissions (grams/trip)	0.162	N/A	N/A	N/A	N/A	N/A
	Partial Day Resting Loss (grams/hour)	0.057	N/A	N/A	N/A	N/A	N/A
	Evaporative Running Loss (grams/minute)	0.025	N/A	N/A	N/A	N/A	N/A

On-Road emissions calculated using EmFac 2007 (V.2.3) November 2006

Heavy-Duty Trucks reported as diesel, Light-Duty Trucks reported as average of catalytic converter and diesel

Heavy-Duty Truck emissions assume model years 1990-2010

Light-Duty Trucks are considered to be 1-ton capacity or less, assume model years 1996-2010

Light-Duty Truck calculations are based on 600-minute starting emissions, 40-minute hot soak emissions and 40-minute evaporative loss emissions

LD Truck Emissions factors are based on the following assumptions:

Year 2010, 55 mph, 90 degrees, summer construction, 40% relative humidity.

HD Truck Emissions factors are based on the following assumptions:

Year 2010, 50 mph, 90 degrees, summer construction, 40% relative humidity.

Hydrocarbons are reported as reactive organic gases (ROG's)

CHEESEBORO RESERVIOR DECOMMISSIONING PROJECT AIR EMISSIONS SUMMARY		VCAPCD				
		NO _x	ROG	PM10	CO	SO ₂
MOBILIZATION/ DEMOBILIZATION						
	Pounds/Day	7.227	1.364	0.321	17.819	0.015
	Tons	0.020	0.002	0.001	0.021	0.000
CHEESEBORO RESERVIOR DEMOLITION						
	Pounds/Day	28.089	6.614	1.244	88.620	0.062
	Tons	0.211	0.050	0.009	0.665	0.001
PALO COMADO PUMP STATION DEMOLITION						
	Pounds/Day	28.089	6.614	1.244	88.620	0.062
	Tons	0.211	0.050	0.009	0.665	0.001
LINDERO FEEDER PIPELINE DECOMMISSIONING						
	Pounds/Day	12.456	1.217	0.567	4.410	0.014
	Tons	0.012	0.001	0.001	0.004	0.000

PROJECT AIR EMISSIONS TOTAL		VCAPCD				
		NO _x	ROG	PM10	CO	SO ₂
Pounds/Day		75.86	15.81	3.38	199.47	0.15
Tons		0.45	0.10	0.02	1.35	0.00

COMBINED TOTAL	NOX	ROG	PM10	CO	SO2	TOTAL
TONS	0.45	0.10	0.02	1.35	0.00	1.93

CHEESEBORO RESERVIOR DECOMMISSIONING PROJECT GHG EMISSIONS SUMMARY		VCAPCD		
		N ₂ O	CH ₄	CO ₂
MOBILIZATION/ DEMOBILIZATION	Pounds/Day	0.061	0.077	1385.679
	Metric Tons	0.000	0.000	3.204
CHEESEBORO RESERVIOR DEMOLITION	Pounds/Day	0.204	0.498	4996.621
	Metric Tons	0.001	0.003	33.997
PALO COMADO PUMP STATION DEMOLITION	Pounds/Day	0.204	0.498	4996.621
	Metric Tons	0.001	0.003	33.997
LINDERO FEEDER PIPELINE DECOMMISSIONING	Pounds/Day	0.178	0.328	3366.254
	Metric Tons	0.000	0.000	3.054

PROJECT GHG EMISSIONS TOTAL		VCAPCD		
		N ₂ O	CH ₄	CO ₂
Pounds/Day		0.65	1.40	14745.17
Metric Tons		0.00	0.01	74.25

COMBINED TOTAL	N ₂ O	CH ₄	CO ₂	TOTAL
METRIC TONS	0.003	0.007	74.252	74.262

TOTAL CO ₂ EQUIVALENT ¹	N ₂ O	CH ₄	CO ₂	CO ₂ E
METRIC TONS	0.95	0.15	74.25	75.35

Greenhouse Gas Emission Factors for Off-Road Sources

Equipment Type	BHP	N ₂ O G/GAL	CH ₄ G/GAL	CO ₂ G/GAL	BSFC LBS/ Bhp*Hr	BSFC Gallons/ Bhp*Hr	EF N ₂ O Grams/ Bhp*Hr	EF CH ₄ Grams/ Bhp*Hr	EF CO ₂ Grams/ Bhp*Hr	EF N ₂ O Pounds/ Bhp*Hr	EF CH ₄ Pounds/ Bhp*Hr	EF CO ₂ Pounds/ Bhp*Hr
Crane	230	0.0832	1.39	10138	0.47	0.06438	0.00536	0.08949	652.72055	0.000012	0.000197	1.438978
Backhoe	70	0.0832	1.39	10138	0.49	0.06712	0.00558	0.09330	680.49589	0.000012	0.000206	1.500211

Greenhouse Gas Emission Factors for On-Road Sources

Vehicle Type	Miles/ Gallon	Grams/Gallon			Grams/Mile		
		N ₂ O	CH ₄	CO ₂	N ₂ O	CH ₄	CO ₂
Heavy Duty Trucks	5	0.332	0.303	10141.000	0.06640	0.06060	2028.20000
Light Duty Trucks	15	0.740	1.270	8861.000	0.04933	0.08467	590.73333

Data from CARB's Documentation of California's Greenhouse Gas Inventory available at http://www.arb.ca.gov/cc/inventory/doc/doc_index.php

Assumptions: Heavy Duty Trucks will get 5 miles per gallon.

Light Duty Trucks will get 15 miles per gallon.

One gallon of diesel fuel weighs 7.3 lbs.

BSFC values are taken from the CARB OFFROAD2007 model.