

Introduction

In response to a request from members of the Modeling Advisory Committee (MAC) to investigate how flare emissions are treated in the CAMx air quality model from the standpoint of elevated versus low-level point sources, we have prepared the following report. Firstly, we briefly discuss the issue of elevated versus low-level point source emissions estimates and their treatment in CAMx. Secondly, we discuss the magnitude of the flare-related emissions at refineries in the Bay Area Air Quality Management District (BAAQMD) and how they compare to other source categories in the BAAQMD. Thirdly, we discuss the stack parameters associated with the flare emissions estimates and their impact on placement of the flare emissions estimates in the vertical structure of the CAMx air quality model. Finally, we discuss how the TOG emissions estimates are speciated for use in the CAMx air quality modeling.

Elevated Versus Low-Level Point Sources

In the CAMx air quality model, emissions estimates are placed in grid cells both in the horizontal direction and in the vertical direction. Currently, most area sources, all on-road mobile sources, and all biogenic emissions estimates are placed in the lower most layer of the CAMx modeling grid structure. The few area source categories that are treated somewhat like a point source are the large wildfire emissions estimates. The point source emissions estimates are placed in the grid structure based on a plume rise calculation (the well-known Briggs formulae set), which is based on the stack parameters (i.e. stack diameter, stack height, exit gas flow rate, and exit gas temperature) associated with the emissions estimates.

Table 1 shows the vertical grid structure that is used in the current air quality modeling study. That is, if the plume rise calculation shows that the emissions plume is between zero and thirty meters, inclusive, the point source emissions are placed in the first layer. On the other hand, if the plume rise calculation shows that the emissions plume rises to 832 meters, the point source emissions estimates are placed in layer twelve.

Table 1. CAMx vertical grid structure.

Layer	Average Vertical Distance To Top Of Layer (m)
1 (surface)	30.00
2	65.10
3	106.17
4	154.22
5	210.43
6	276.21
7	353.16
8	443.20
9	548.54
10	671.79
11	816.00
12	984.72

13	1182.12
14	1413.08
15	1683.30
16	1999.47
17	2369.37
18	2802.17
19	3308.54
20	3900.99
21	4594.16
22	5405.16
23	6354.04
24	7354.04

Flare-Related Emissions Estimates At Refineries

Figure 1 compares the emissions estimates from various anthropogenic source categories in the nine county region of the BAAQMD for 30-July-2000 (Sunday), 31-July-2000 (Monday), and 01-August-2000 (Tuesday). The emissions source categories represented in Figure 1 are as follows: AR. COMM. SHIPS (commercial ship emissions); AR. OFF-ROAD (off-road mobile source emissions); AREA (area source emissions other than commercial ships and off-road mobile source emissions); EGU (electric generating utilities emissions); ON-ROAD (on-road mobile source emissions); REF. FLARES (refinery flare emissions); REF. FUGITIVES (fugitive emissions from refinery operations); REF. OTH. OPS. (emissions from refinery operations other than flares and fugitives); and STATIONARY (point source emissions other than refinery- and EGU-related emissions). As can be observed from Figure 1, flare-related NO_x emissions are estimated to be on the order of one ton per day, which is less than 1% of the NO_x inventory. Flare-related CO and TOG emissions are negligible.

Refinery Stack Parameters

As stated earlier, stack parameters are used to compute plume rise. For this study, all stack parameters are taken from data that were supplied by the California Air Resources Board (ARB). In some cases, it is possible that a point source is missing one or more of its stack parameters. In these cases, the emissions modeling system that is used in the current study, EMS-95, applies a set of default stack parameters to fill-in the missing data: stack diameter of 0.66 feet; stack height of 10 feet; exit gas temperature of 72 F; exit gas velocity of 13 feet per second; and a exit gas flow rate of 269 cubic feet per minute. Note that these default stack parameters result in a plume rise that is approximately three meters, which in turn places the emissions estimates in the first layer of the air quality modeling domain.

Attachment A identifies the BAAQMD facilities with refinery-related flares, the flare emissions estimates (rounded to the nearest ton), the stack parameters associated with the flare emissions, the computed plume rise, and the vertical layer into which the flare-related emissions reach. As can be observed from Attachment A, a fair number of stacks associated with flare emissions have received default stack parameters, which ultimately places these flare emissions in the first layer of the air quality modeling domain. Though, as stated earlier, the flare-related NO_x emissions

comprise less than one percent of the NO_x inventory – the TOG and CO flare-related emissions are negligible, and are likely to have little impact on the overall air quality modeling results for the July-August 2000 episode. However, flaring emissions in other episodes may be higher; hence, it is prudent that the stack parameters be set to something more realistic than default values (e.g. stack heights on the order of 60 meters, exit gas temperatures on the order of 700 C).

Attachment A also shows that virtually all of the TOG emissions from flares comes from two facilities: Martinez Refining in Contra Costa County (facility id = 11); and Ultramar, Inc in Contra Costa County (facility id = 12758). In both cases, these emissions are emitted into the first layer of the CAMx air quality model.

To complete this exercise, we also examined stacks for BAAQMD refinery operations other than flares (Attachment B identifies these data). As can be observed from Attachment B, a fair number of stacks associated with refinery operations have received default stack parameters, which ultimately places the associated emissions in the first layer of the air quality modeling domain.

Of notable interest is a source in Solano County (facility id = 12626) that emits 212 tons per day CO but negligible NO_x, both of which are combustion related pollutants, on 01-August-2000. Given that these are substantial CO emissions, (1) the source should be checked to ensure that the emissions for all pollutants are correct and (2) the stack parameters should be checked to ensure that indeed default stack parameters are appropriate, which we doubt.

Further, as with the flare-related emissions, Ultramar, Inc and Martinez Refining in Contra Costa County are the major sources of TOG, and again, these emissions are placed in the first layer of the CAMx air quality model.

Speciation Of Refinery-Related Total Organic Gas (TOG) Emissions

It is necessary to speciate the TOG emissions estimates per the chemical mechanism that is used in the CAMx air quality model. For purposes of this report, we focus on the CB-IV chemical mechanism in CAMx. The CB-IV species are as follows: ALD2, high molecular aldehydes (RCHO where R > H); ETH, ethene (CH₂=CH₂); FORM, formaldehyde (CH₂=O); ISOP, isoprene; NR, nonreactive species as methane; OLE, olefinic carbon bond species (C=C); PAR, paraffin carbon bond species (C—C); TOL, toluene (C₆H₅—CH₃); and XYL, xylene (C₆H₄—(CH₃)₂).

Table 2 shows the speciation profiles that are used to speciate the TOG emissions estimates for refinery-related operations. In order to obtain the CB-IV species value in moles, it is necessary to multiply the mass of TOG species, in grams, by the factor indicated in Table 2. For flare-related emissions, profiles 51 and 600 are used. Profile 600 is used on flares attached to blowdown systems, and profile 51 is used to speciate all other flare-related TOG emissions.

Table 2. CB-IV speciation profiles for refinery-related operations.

Profile	CB-IV Species and Assumed Molecular Weights (grams / mole)								
	ALD2	ETH	FORM	ISOP	NR	OLE	PAR	TOL	XYL
	44.05	28.05	30.03	68.12	16.04	27.05	14.17	92.13	106.16
3			2.556E-03		3.693E-02		1.942E-02	2.083E-04	
4			2.336E-03		2.053E-02	3.841E-03	2.985E-02		
5		4.080E-03			5.279E-02	6.976E-05	1.447E-03		
21			8.325E-04				6.823E-02		
29			1.674E-02		2.190E-02		9.214E-03		
31					6.239E-03	1.479E-07	6.458E-02		
35							6.941E-02		
51			6.367E-03		3.682E-02		1.368E-02		
53					1.681E-02	2.366E-06	4.445E-02	7.912E-05	6.866E-05
122		3.016E-03			5.444E-02	1.156E-04	1.917E-03		
297					1.388E-02	5.176E-07	5.370E-02	1.520E-04	
316					2.472E-02	2.458E-05	4.174E-02	5.427E-05	1.884E-05
321					4.255E-03	5.989E-06	6.224E-02	3.256E-04	1.225E-04
504	6.198E-06	3.834E-03	2.937E-05		5.710E-03	1.037E-03	4.367E-02	2.807E-04	1.674E-04
530					3.512E-02	2.588E-07	3.012E-02	8.683E-05	
531					4.756E-02	1.479E-07	1.635E-02	4.342E-05	
600		1.166E-03			1.975E-02		3.978E-02	8.846E-04	
906	1.015E-03		5.844E-05		3.258E-04	1.250E-04	6.279E-02	1.867E-04	1.067E-04

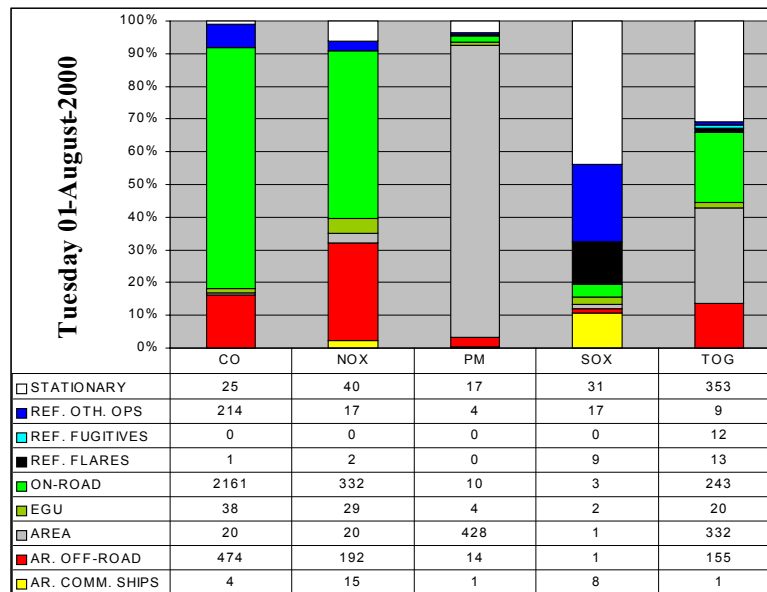
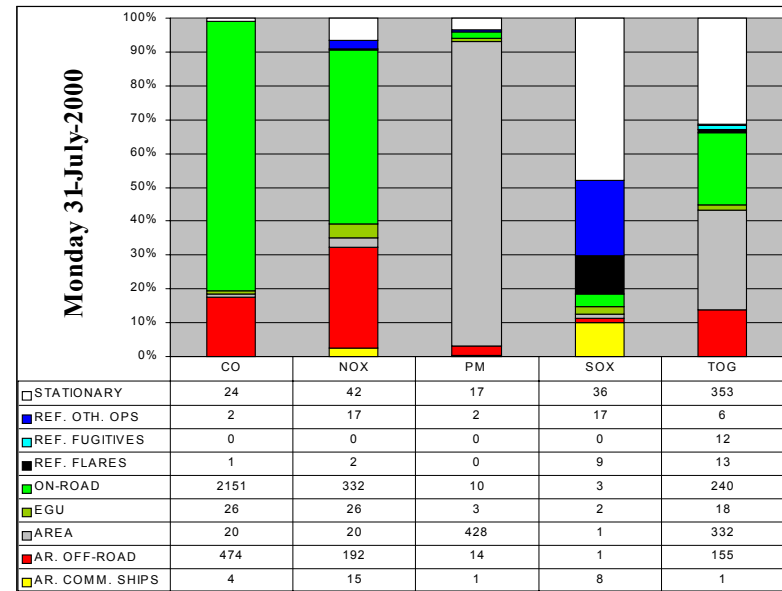
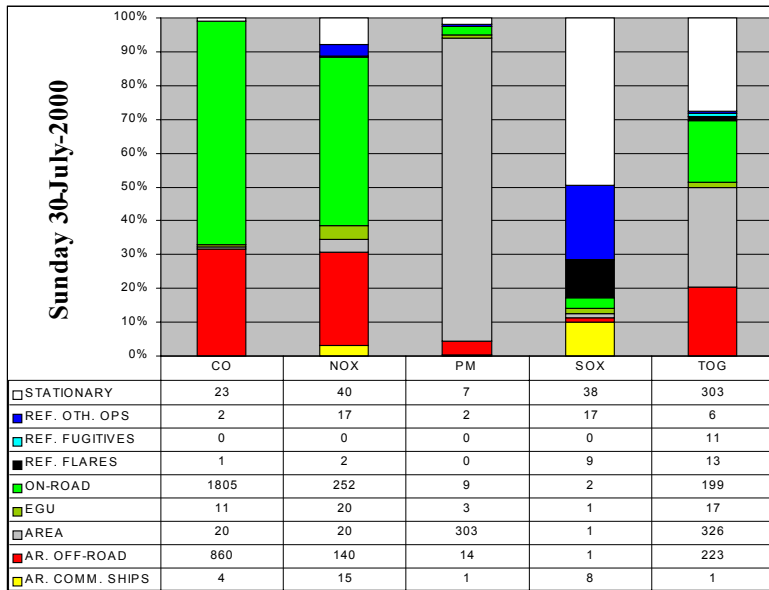


Figure 1. Comparison of BAAQMD emissions estimates from various anthropogenic source categories.

Attachment A. Projected Plume Rise For Flare Emissions At BAAQMD Refineries On 01-August-2000.

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	5	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	58	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	11	0	11.90	42	72	13	269	13	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	9	0	0.60	82	72	13	269	25	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	134	0	5.00	119	72	0	59	36	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	140	0	4.00	124	72	0	60	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	149	0	2.60	127	72	0	150	39	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	131	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	132	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	218	0	3.00	175	72	0	136	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	6015	0	3.00	176	72	1	373	54	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	40	0	5.50	75	-1	14	19817	55	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	55	0	3.50	250	72	13	269	76	3
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	93	0	3.00	175	72	350	2566327	191	5

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1

----- polid=NOX -----

FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	5	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	58	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	12626		2DS	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	1	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		1	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	11	0	11.90	42	72	13	269	13	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	9	0	0.60	82	72	13	269	25	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	134	0	5.00	119	72	0	59	36	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	140	0	4.00	124	72	0	60	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	149	0	2.60	127	72	0	150	39	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	131	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	132	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	218	0	3.00	175	72	0	136	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	6015	0	3.00	176	72	1	373	54	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	40	0	5.50	75	-1	14	19817	55	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	55	0	3.50	250	72	13	269	76	3
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	93	0	3.00	175	72	350	2566327	191	5

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2

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FIPS id	county State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	5	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	58	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	11	0	11.90	42	72	13	269	13	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	9	0	0.60	82	72	13	269	25	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	134	0	5.00	119	72	0	59	36	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	140	0	4.00	124	72	0	60	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	149	0	2.60	127	72	0	150	39	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	131	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	132	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	218	0	3.00	175	72	0	136	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	6015	0	3.00	176	72	1	373	54	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	40	0	5.50	75	-1	14	19817	55	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	55	0	3.50	250	72	13	269	76	3
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	93	0	3.00	175	72	350	2566327	191	5

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0

----- polid=SOX -----

FIPS id	county State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	58	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	12626		2DS	1	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		1	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	7	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	11	0	11.90	42	72	13	269	13	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	9	0	0.60	82	72	13	269	25	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	134	0	5.00	119	72	0	59	36	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	140	0	4.00	124	72	0	60	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	149	0	2.60	127	72	0	150	39	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	131	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	132	0	3.50	175	72	0	69	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	6015	0	3.00	176	72	1	373	54	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	40	0	5.50	75	-1	14	19817	55	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	55	0	3.50	250	72	13	269	76	3
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	93	0	3.00	175	72	350	2566327	191	5

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9

----- polid=TOG -----

FIPS id State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6 CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	5	0	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	58	0	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		0	0.66	10	72	13	269	3	1
6 CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6 CA	95	Solano	12626		2DS	0	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	12758	ULTRAMAR INC		3	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		9	0.66	10	72	13	269	3	1
6 CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	11	0	11.90	42	72	13	269	13	1
6 CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6 CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	9	0	0.60	82	72	13	269	25	1
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	134	0	5.00	119	72	0	59	36	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	140	0	4.00	124	72	0	60	38	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	149	0	2.60	127	72	0	150	39	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	131	0	3.50	175	72	0	69	53	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	132	0	3.50	175	72	0	69	53	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	218	0	3.00	175	72	0	136	53	2
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	6015	0	3.00	176	72	1	373	54	2
6 CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	40	0	5.50	75	-1	14	19817	55	2
6 CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	55	0	3.50	250	72	13	269	76	3
6 CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	93	0	3.00	175	72	350	2566327	191	5

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13

Attachment B. Projected Plume Rise For Refinery-Related Emissions Other Than Flares At BAAQMD Refineries On 01-August-2001.

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	42	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4021	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	4	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	35	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	37	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	40	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	43	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	10	0	0.66	10	72	13	269	3	1
6	CA	1	Alameda	698	G-P GYPSUM CORPORATION		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	29	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	1	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	36	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	34	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	39	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	12626		1DS	212	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1765	0	1.00	13	72	2	98	4	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	19	0	5.00	40	72	17	19639	16	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	77	0	1.00	60	72	20	944	19	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	20	0	2.50	60	72	19	5605	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	23	0	4.20	60	72	12	9767	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	36	0	4.00	64	72	8	5979	21	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	2	0	3.60	67	72	11	6718	22	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	18	0	3.50	75	72	6	3608	24	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	252	0	4.70	78	72	1	1322	24	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	13	0	6.00	75	72	10	16964	26	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	18	0	6.00	79	72	18	29976	29	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	21	0	4.70	90	72	11	11159	30	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	22	0	4.00	90	72	25	18940	31	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	148	0	3.00	99	72	12	5144	31	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	71	0	0.66	105	72	13	269	32	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	147	0	3.00	99	72	24	10094	32	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	17	0	3.50	100	72	16	9421	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	112	0	5.80	100	72	6	9511	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	109	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	111	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	16	0	5.00	100	72	13	14726	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	79	0	4.50	104	72	9	8588	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	76	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	77	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	351	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	116	0	3.70	100	72	30	19179	34	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	19	0	6.50	102	72	10	19969	35	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	15	0	5.50	100	72	22	31931	36	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	21	0	5.00	120	72	5	6385	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	47	0	6.60	98	72	32	65111	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	17	0	2.40	125	72	13	3537	39	2

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 19	0	2.90	125	72	12	4926	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 3	0	4.20	120	72	18	14838	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 11	0	4.20	125	72	8	6259	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 6	0	5.70	120	72	11	16872	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 15	0	6.50	125	72	9	16983	41	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 10	0	6.20	125	72	9	17154	41	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	15	0	6.00	125	72	14	23207	42	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	48	0	7.30	113	72	30	75412	44	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4171	0	2.00	150	72	13	269	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	117	0	6.00	135	72	17	28975	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	120	0	7.00	135	72	21	48490	48	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	151	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	152	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	40	0	8.50	120	72	29	98225	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	118	0	7.30	135	72	24	60269	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	119	0	7.00	135	72	27	61952	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	153	0	8.30	150	72	9	28243	50	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4141	0	2.60	165	72	13	269	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	42	0	8.80	119	72	34	123709	50	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 12	0	8.20	146	72	16	49366	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	49	0	8.50	125	72	36	121206	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	98	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	100	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	99	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	215	0	5.20	175	72	27	34442	59	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	55	0	7.30	163	72	31	76843	60	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	216	0	4.70	175	72	43	44324	60	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 9	0	6.00	177	72	27	44956	61	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	79	0	3.60	200	72	13	269	61	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	121	0	8.00	180	72	15	45238	62	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	217	0	4.70	195	72	42	43220	66	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	25	0	8.40	200	72	12	40333	67	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	24	0	11.50	200	72	7	45930	68	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 75	0	10.03	105	487	2	8793	72	3
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4002	0	3.60	250	72	13	269	76	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	28	0	13.40	200	72	17	144268	77	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 13	0	9.00	272	72	14	51987	90	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	1401	0	7.00	330	72	11	24984	105	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	14	0	6.00	75	-1	47	79972	114	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	25	0	10.00	350	72	40	186844	126	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	101	0	5.00	125	754	21	24367	140	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	122	0	8.00	180	467	9	28605	149	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	59	0	9.58	155	536	10	42166	181	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	57	0	12.25	240	439	7	48734	209	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	58	0	12.25	240	431	8	54031	218	6
6	CA	13	Contra Costa	12758	ULTRAMAR INC	35	0	7.00	100	633	43	100169	290	7
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN	FRAN 14	0	9.00	272	507	23	87150	304	7

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	127	0	5.00	117	1511	80	93866	343	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	123	0	5.00	117	1517	80	93866	343	7
6	CA	95	Solano	12626		36	0	8.00	240	700	35	104673	348	7
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	12758	ULTRAMAR INC	6	0	11.99	250	570	111	752713	915	12

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	42	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4021	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	10	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	4	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	15	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	43	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	10	0	0.66	10	72	13	269	3	1
6	CA	1	Alameda	698	G-P GYPSUM CORPORATION		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	40	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	35	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	37	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	29	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	34	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	36	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	39	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		1	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		1	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1765	0	1.00	13	72	2	98	4	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	19	0	5.00	40	72	17	19639	16	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	77	0	1.00	60	72	20	944	19	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	20	0	2.50	60	72	19	5605	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	23	0	4.20	60	72	12	9767	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	36	0	4.00	64	72	8	5979	21	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	2	0	3.60	67	72	11	6718	22	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	18	0	3.50	75	72	6	3608	24	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	252	0	4.70	78	72	1	1322	24	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	13	0	6.00	75	72	10	16964	26	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	18	0	6.00	79	72	18	29976	29	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	21	0	4.70	90	72	11	11159	30	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	22	0	4.00	90	72	25	18940	31	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	148	0	3.00	99	72	12	5144	31	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	71	0	0.66	105	72	13	269	32	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	147	0	3.00	99	72	24	10094	32	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	17	0	3.50	100	72	16	9421	33	2

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	112	0	5.80	100	72	6	9511	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	109	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	111	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	16	0	5.00	100	72	13	14726	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	79	0	4.50	104	72	9	8588	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	77	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	76	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	351	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	116	0	3.70	100	72	30	19179	34	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	19	0	6.50	102	72	10	19969	35	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	15	0	5.50	100	72	22	31931	36	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	21	0	5.00	120	72	5	6385	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	47	0	6.60	98	72	32	65111	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	17	0	2.40	125	72	13	3537	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	19	0	2.90	125	72	12	4926	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	3	0	4.20	120	72	18	14838	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	11	0	4.20	125	72	8	6259	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	6	0	5.70	120	72	11	16872	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	15	0	6.50	125	72	9	16983	41	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	10	0	6.20	125	72	9	17154	41	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	15	0	6.00	125	72	14	23207	42	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	48	0	7.30	113	72	30	75412	44	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4171	0	2.00	150	72	13	269	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	117	0	6.00	135	72	17	28975	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	120	0	7.00	135	72	21	48490	48	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	151	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	152	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	40	0	8.50	120	72	29	98225	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	118	0	7.30	135	72	24	60269	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	119	0	7.00	135	72	27	61952	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	153	0	8.30	150	72	9	28243	50	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4141	0	2.60	165	72	13	269	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	42	0	8.80	119	72	34	123709	50	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	12	0	8.20	146	72	16	49366	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	49	0	8.50	125	72	36	121206	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	98	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	100	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	99	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	215	0	5.20	175	72	27	34442	59	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	55	0	7.30	163	72	31	76843	60	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	216	0	4.70	175	72	43	44324	60	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	9	0	6.00	177	72	27	44956	61	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	79	0	3.60	200	72	13	269	61	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	121	0	8.00	180	72	15	45238	62	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	217	0	4.70	195	72	42	43220	66	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	25	0	8.40	200	72	12	40333	67	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	24	0	11.50	200	72	7	45930	68	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	75	0	10.03	105	487	2	8793	72	3
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4002	0	3.60	250	72	13	269	76	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	28	0	13.40	200	72	17	144268	77	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	13	1	9.00	272	72	14	51987	90	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	1401	0	7.00	330	72	11	24984	105	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	14	0	6.00	75	-1	47	79972	114	4

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	25	0	10.00	350	72	40	186844	126	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	101	0	5.00	125	754	21	24367	140	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	122	0	8.00	180	467	9	28605	149	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	59	0	9.58	155	536	10	42166	181	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	1	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	57	1	12.25	240	439	7	48734	209	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	58	1	12.25	240	431	8	54031	218	6
6	CA	13	Contra Costa	12758	ULTRAMAR INC	35	0	7.00	100	633	43	100169	290	7
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	14	0	9.00	272	507	23	87150	304	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	127	1	5.00	117	1511	80	93866	343	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	123	2	5.00	117	1517	80	93866	343	7
6	CA	95	Solano	12626		36	0	8.00	240	700	35	104673	348	7
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	1	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	1	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	12758	ULTRAMAR INC	6	0	11.99	250	570	111	752713	915	12

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	1	Alameda	698	G-P GYPSUM CORPORATION		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4021	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	4	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	0	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	0	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	42	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	43	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	10	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	0	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	35	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	37	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	40	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	29	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	36	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	34	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	39	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	1	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	12626		1DS	2	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1765	0	1.00	13	72	2	98	4	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	19	0	5.00	40	72	17	19639	16	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	77	0	1.00	60	72	20	944	19	1

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	20	0	2.50	60	72	19	5605	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	23	0	4.20	60	72	12	9767	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	36	0	4.00	64	72	8	5979	21	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	2	0	3.60	67	72	11	6718	22	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	252	0	4.70	78	72	1	1322	24	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	13	0	6.00	75	72	10	16964	26	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	18	0	6.00	79	72	18	29976	29	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	22	0	4.00	90	72	25	18940	31	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	148	0	3.00	99	72	12	5144	31	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	71	0	0.66	105	72	13	269	32	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	147	0	3.00	99	72	24	10094	32	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	17	0	3.50	100	72	16	9421	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	112	0	5.80	100	72	6	9511	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	109	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	111	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	16	0	5.00	100	72	13	14726	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	79	0	4.50	104	72	9	8588	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	351	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	76	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	77	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	116	0	3.70	100	72	30	19179	34	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	19	0	6.50	102	72	10	19969	35	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	15	0	5.50	100	72	22	31931	36	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	21	0	5.00	120	72	5	6385	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	47	0	6.60	98	72	32	65111	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	17	0	2.40	125	72	13	3537	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	19	0	2.90	125	72	12	4926	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	3	0	4.20	120	72	18	14838	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	11	0	4.20	125	72	8	6259	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	6	0	5.70	120	72	11	16872	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	15	0	6.50	125	72	9	16983	41	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	10	0	6.20	125	72	9	17154	41	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	15	0	6.00	125	72	14	23207	42	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	48	0	7.30	113	72	30	75412	44	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4171	0	2.00	150	72	13	269	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	117	0	6.00	135	72	17	28975	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	120	0	7.00	135	72	21	48490	48	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	151	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	152	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	40	0	8.50	120	72	29	98225	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	118	0	7.30	135	72	24	60269	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	119	0	7.00	135	72	27	61952	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	153	0	8.30	150	72	9	28243	50	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4141	0	2.60	165	72	13	269	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	42	0	8.80	119	72	34	123709	50	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	12	0	8.20	146	72	16	49366	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	49	0	8.50	125	72	36	121206	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	98	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	100	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	99	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	215	0	5.20	175	72	27	34442	59	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	55	0	7.30	163	72	31	76843	60	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	216	0	4.70	175	72	43	44324	60	2

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	9	0	6.00	177	72	27	44956	61	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	79	0	3.60	200	72	13	269	61	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	121	0	8.00	180	72	15	45238	62	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	217	0	4.70	195	72	42	43220	66	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	25	0	8.40	200	72	12	40333	67	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	24	0	11.50	200	72	7	45930	68	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	75	0	10.03	105	487	2	8793	72	3
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4002	0	3.60	250	72	13	269	76	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	28	0	13.40	200	72	17	144268	77	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	13	0	9.00	272	72	14	51987	90	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	1401	0	7.00	330	72	11	24984	105	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	14	0	6.00	75	-1	47	79972	114	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	25	0	10.00	350	72	40	186844	126	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	101	0	5.00	125	754	21	24367	140	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	122	0	8.00	180	467	9	28605	149	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	59	0	9.58	155	536	10	42166	181	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	57	0	12.25	240	439	7	48734	209	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	58	0	12.25	240	431	8	54031	218	6
6	CA	13	Contra Costa	12758	ULTRAMAR INC	35	0	7.00	100	633	43	100169	290	7
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	14	0	9.00	272	507	23	87150	304	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	127	0	5.00	117	1511	80	93866	343	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	123	0	5.00	117	1517	80	93866	343	7
6	CA	95	Solano	12626		36	0	8.00	240	700	35	104673	348	7
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	1	Alameda	698	G-P GYPSUM CORPORATION		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4021	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	4	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	40	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	35	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	37	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	43	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	29	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	36	0	0.66	10	72	13	269	3	1

6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	34	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	39	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		1	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	1	5	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1765	0	1.00	13	72	2	98	4	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	19	0	5.00	40	72	17	19639	16	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	20	0	2.50	60	72	19	5605	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	23	0	4.20	60	72	12	9767	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	36	0	4.00	64	72	8	5979	21	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	2	0	3.60	67	72	11	6718	22	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	18	0	3.50	75	72	6	3608	24	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	252	0	4.70	78	72	1	1322	24	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	13	0	6.00	75	72	10	16964	26	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	18	0	6.00	79	72	18	29976	29	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	21	0	4.70	90	72	11	11159	30	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	22	0	4.00	90	72	25	18940	31	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	148	0	3.00	99	72	12	5144	31	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	71	0	0.66	105	72	13	269	32	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	147	0	3.00	99	72	24	10094	32	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	17	0	3.50	100	72	16	9421	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	112	0	5.80	100	72	6	9511	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	109	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	111	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	16	0	5.00	100	72	13	14726	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	79	0	4.50	104	72	9	8588	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	77	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	76	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	351	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	116	0	3.70	100	72	30	19179	34	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	19	0	6.50	102	72	10	19969	35	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	15	0	5.50	100	72	22	31931	36	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	21	0	5.00	120	72	5	6385	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	47	0	6.60	98	72	32	65111	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	17	0	2.40	125	72	13	3537	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	19	0	2.90	125	72	12	4926	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	3	0	4.20	120	72	18	14838	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	11	0	4.20	125	72	8	6259	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	6	0	5.70	120	72	11	16872	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	15	0	6.50	125	72	9	16983	41	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	10	0	6.20	125	72	9	17154	41	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	15	0	6.00	125	72	14	23207	42	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	48	0	7.30	113	72	30	75412	44	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4171	0	2.00	150	72	13	269	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	117	0	6.00	135	72	17	28975	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	120	0	7.00	135	72	21	48490	48	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	152	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	151	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	40	0	8.50	120	72	29	98225	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	118	0	7.30	135	72	24	60269	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	119	0	7.00	135	72	27	61952	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	153	0	8.30	150	72	9	28243	50	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4141	0	2.60	165	72	13	269	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	42	0	8.80	119	72	34	123709	50	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	12	0	8.20	146	72	16	49366	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	49	0	8.50	125	72	36	121206	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	98	0	8.00	125	72	44	132609	53	2

polid=SOX
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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	100	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	99	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	215	0	5.20	175	72	27	34442	59	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	55	0	7.30	163	72	31	76843	60	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	216	0	4.70	175	72	43	44324	60	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	9	0	6.00	177	72	27	44956	61	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	79	0	3.60	200	72	13	269	61	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	121	0	8.00	180	72	15	45238	62	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	217	0	4.70	195	72	42	43220	66	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	25	0	8.40	200	72	12	40333	67	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	24	0	11.50	200	72	7	45930	68	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	75	0	10.03	105	487	2	8793	72	3
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4002	0	3.60	250	72	13	269	76	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	28	0	13.40	200	72	17	144268	77	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	13	0	9.00	272	72	14	51987	90	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	14	0	6.00	75	-1	47	79972	114	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	25	0	10.00	350	72	40	186844	126	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	101	0	5.00	125	754	21	24367	140	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	122	0	8.00	180	467	9	28605	149	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	59	0	9.58	155	536	10	42166	181	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	57	0	12.25	240	439	7	48734	209	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	58	0	12.25	240	431	8	54031	218	6
6	CA	13	Contra Costa	12758	ULTRAMAR INC	35	0	7.00	100	633	43	100169	290	7
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	14	0	9.00	272	507	23	87150	304	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	127	0	5.00	117	1511	80	93866	343	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	123	0	5.00	117	1517	80	93866	343	7
6	CA	95	Solano	12626		36	0	8.00	240	700	35	104673	348	7
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	12758	ULTRAMAR INC	6	0	11.99	250	570	111	752713	915	12

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	1	Alameda	698	G-P GYPSUM CORPORATION		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4021	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11218	SHELL MARTINEZ CATALYST PLANT	4	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	35	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	37	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	40	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	42	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	43	0	0.66	10	72	13	269	3	1

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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	10	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	29	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	901	HUNTWAY REFINING COMPANY	1	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	36	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	34	0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY	39	0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN		0	0.66	10	72	13	269	3	1
6	CA	95	Solano	15	EXXONMOBIL REFINING AND SUPPLY		0	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC		3	0.66	10	72	13	269	3	1
6	CA	95	Solano	12626		1DS	3	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY		9	0.66	10	72	13	269	3	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1765	0	1.00	13	72	2	98	4	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	19	0	5.00	40	72	17	19639	16	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	63	0	6.00	60	72	13	269	18	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	77	0	1.00	60	72	20	944	19	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	20	0	2.50	60	72	19	5605	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	23	0	4.20	60	72	12	9767	20	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	36	0	4.00	64	72	8	5979	21	1
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	2	0	3.60	67	72	11	6718	22	1
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	18	0	3.50	75	72	6	3608	24	1
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	252	0	4.70	78	72	1	1322	24	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	13	0	6.00	75	72	10	16964	26	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	18	0	6.00	79	72	18	29976	29	1
6	CA	13	Contra Costa	12758	ULTRAMAR INC	22	0	4.00	90	72	25	18940	31	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	148	0	3.00	99	72	12	5144	31	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	71	0	0.66	105	72	13	269	32	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	147	0	3.00	99	72	24	10094	32	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	17	0	3.50	100	72	16	9421	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	112	0	5.80	100	72	6	9511	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	109	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	111	0	5.00	100	72	9	10603	33	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	16	0	5.00	100	72	13	14726	33	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	79	0	4.50	104	72	9	8588	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	76	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	77	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	351	0	10.00	105	72	1	6927	34	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	116	0	3.70	100	72	30	19179	34	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	19	0	6.50	102	72	10	19969	35	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	15	0	5.50	100	72	22	31931	36	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	21	0	5.00	120	72	5	6385	38	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	47	0	6.60	98	72	32	65111	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	17	0	2.40	125	72	13	3537	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	19	0	2.90	125	72	12	4926	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	3	0	4.20	120	72	18	14838	39	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	11	0	4.20	125	72	8	6259	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	6	0	5.70	120	72	11	16872	40	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	15	0	6.50	125	72	9	16983	41	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	10	0	6.20	125	72	9	17154	41	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	15	0	6.00	125	72	14	23207	42	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	48	0	7.30	113	72	30	75412	44	2

polid=TOG
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FIPS id	State	county id	County Name	Fac id	Facility Name	Stack id	Emissions (TPD)	diam (ft)	height (ft)	temp (F)	exit veloc (ft/sec)	flowrate (ft^3/min)	plume rise (m)	CAMx vertical layer
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4171	0	2.00	150	72	13	269	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	117	0	6.00	135	72	17	28975	46	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	120	0	7.00	135	72	21	48490	48	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	151	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	152	0	6.00	150	72	8	14165	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	40	0	8.50	120	72	29	98225	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	118	0	7.30	135	72	24	60269	49	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	119	0	7.00	135	72	27	61952	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	153	0	8.30	150	72	9	28243	50	2
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4141	0	2.60	165	72	13	269	50	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	42	0	8.80	119	72	34	123709	50	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	12	0	8.20	146	72	16	49366	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	49	0	8.50	125	72	36	121206	52	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	100	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	98	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	99	0	8.00	125	72	44	132609	53	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	215	0	5.20	175	72	27	34442	59	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	55	0	7.30	163	72	31	76843	60	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	216	0	4.70	175	72	43	44324	60	2
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	9	0	6.00	177	72	27	44956	61	2
6	CA	13	Contra Costa	12758	ULTRAMAR INC	79	0	3.60	200	72	13	269	61	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	121	0	8.00	180	72	15	45238	62	2
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	217	0	4.70	195	72	42	43220	66	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	25	0	8.40	200	72	12	40333	67	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	24	0	11.50	200	72	7	45930	68	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	75	0	10.03	105	487	2	8793	72	3
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	4002	0	3.60	250	72	13	269	76	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	28	0	13.40	200	72	17	144268	77	3
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	13	0	9.00	272	72	14	51987	90	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	1401	0	7.00	330	72	11	24984	105	3
6	CA	13	Contra Costa	12758	ULTRAMAR INC	14	0	6.00	75	-1	47	79972	114	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	25	0	10.00	350	72	40	186844	126	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	12758	ULTRAMAR INC	27	0	15.00	200	80	35	368576	133	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	101	0	5.00	125	754	21	24367	140	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	1762	0	5.97	187	476	16	26486	146	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	122	0	8.00	180	467	9	28605	149	4
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	59	0	9.58	155	536	10	42166	181	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	23	0	17.98	350	-1	5	73949	193	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	57	0	12.25	240	439	7	48734	209	5
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	58	0	12.25	240	431	8	54031	218	6
6	CA	13	Contra Costa	12758	ULTRAMAR INC	35	0	7.00	100	633	43	100169	290	7
6	CA	13	Contra Costa	16	PHILLIPS 66 COMPANY - SAN FRAN	14	0	9.00	272	507	23	87150	304	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	127	0	5.00	117	1511	80	93866	343	7
6	CA	13	Contra Costa	10	CHEVRON PRODUCTS COMPANY	123	0	5.00	117	1517	80	93866	343	7
6	CA	95	Solano	12626		36	0	8.00	240	700	35	104673	348	7
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8
6	CA	13	Contra Costa	11	MARTINEZ REFINING COMPANY	24	0	17.98	350	532	8	126073	387	8

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