



Revised Mitigated Negative Declaration Addendum

County of Ventura • Resource Management Agency • Planning Division
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RENAISSANCE PETROLEUM PROJECT **Conditional Use Permit Modification** **Case No. PL14-0103** **(MINOR MODIFICATION of CUP LU05-0086)**

A. BACKGROUND INFORMATION AND PROJECT DESCRIPTION:

- 1. Entitlement:** The applicant requests that a modified Conditional Use Permit (CUP) be granted to authorize the expansion and continued operation of an existing oil and gas facility. (Case No. PL14-0103)
- 2. Location:** 3214 Etting Road, Oxnard area
- 3. Assessor's Parcel Number:** 232-0-062-030
- 4. Lot Size:** 26.87 acres
- 5. General Plan Land Use Designation:** Agricultural
- 6. Zoning Designation:** AE-40 ac (Agricultural Excusive, 40-acre minimum lot size)
- 7. Project Description:**

The applicant requests that a modified Conditional Use Permit (CUP) be granted to authorize the expansion and continued use of an existing oil and gas facility for an additional 30-year period.

The existing facility is comprised of one active oil and gas well, gathering pipelines, and storage and processing equipment and operations. The proposed project includes the addition of four new oil and gas wells, and the relocation of various pieces of equipment on the approximately 1-acre drill site in order to facilitate the placement of the new wells. The project also includes the replacement of three oil and produced water storage tanks with larger tanks. The proposed project includes the following components:

- a) Installation, testing, operation, reworking, and maintenance of a total of five oil and gas wells (i.e. one existing well and four proposed wells).

The existing oil and gas well is designated as Naumann No. 1 (API No. 11121431) with the coordinates (NAD83): 34.1603, -119.131007. The four proposed oil and gas wells and pumping units will be designated as Naumann No. 2, No. 3, No. 4, and No. 5, and will be located on the existing drilling pad. All of the drilling, completion, and production operations will be conducted in accordance to the rules and regulations of the California Department of Conservation, Division of Oil and Gas and Geothermal Resources (DOGGR);

- b) The operation of equipment such as pumps, heaters, and refrigeration systems, and compressors for the separation of natural gas and produced water from crude oil, the separation of natural gas liquids from produced natural gas, and the processing of the natural gas to the specifications established by the Southern California Gas Company (SCGC) for the introduction of the natural gas into the SCGC distribution pipeline system for sale to local customers;
- c) The operation of equipment such as pumps and compressors to support the on-site injection of produced water into a well or wells for disposal purposes, the on-site injection of natural gas into a well or wells for the purpose of reservoir pressure maintenance, and to support for the utilization of natural gas for gas lifting of liquids from wells. *(Note: One well is currently authorized to be used for injection purposes.)* Any injection activities will only involve water or gas produced at the Naumann drill site or the Rosenmund drill site. Fluids and gas produced at the separately-permitted Rosenmund oil and gas facility are conveyed by existing pipeline to the Naumann facility;
- d) The transport of gas, natural gas liquids, crude oil, and produced water from the site. Produced water may either be transported to the Rosenmund drill site or to a permitted commercial facility for disposal;
- e) The installation and operation of equipment and structures associated with the storage, processing, and transporting of oil, gas, natural gas liquids, and water, as shown on project plans (Exhibit 3);
- f) Implementation of a fluid truck transport limit of no more than 10 truckloads (20 one-way trips) per day, and no more than 3 truckloads (6 one-way trips) of produced fluids departing from the Naumann facility per hour. Truck transport of fluids will additionally be limited to no more than 2 truckloads (4 one-way trips) during peak traffic hours (6-8 a.m. and 4-6 p.m.).
- g) Extension of the hours of fluid transport (trucking) to 24 hours per day, 7 days per week from the currently authorized 7:30 a.m. to 6:30 p.m. Monday through Saturday schedule.

h) Modifications of the ancillary equipment used at the facility as follows:

1. Removal of two existing 500-barrel crude oil storage tanks;
2. Removal of one existing 500-barrel produced water tank;
3. Installation of two new 1,000-barrel crude oil storage tanks;
4. Installation of one new 1,000-barrel produced water storage tank;
5. Relocation of one existing 500-barrel fire water storage tank;
6. Relocation of one existing 20-foot tall light post; and,
7. Relocation of one existing emergency gas flare.

Each of the three proposed new tanks is 21 feet in diameter and 16 feet in height.

The oil and gas facility at the Naumann drill site is connected by two existing pipelines to the separately-permitted Rosenmund drill site. The Rosenmund facility is also operated by Renaissance Petroleum and is located approximately 0.75 miles (3,960 feet) north of the Naumann drill site at 2797 East Pleasant Valley Road. The facilities and activities at the Rosenmund drill site are authorized by CUP 5252 (see Exhibit 8). Oil, gas and water produced at the Rosenmund drill site are currently conveyed by the existing pipelines to the processing and storage facilities on the Naumann drill site.

No additional grading or expansion of the existing Naumann drill site is proposed. The Applicant also requests that the permit expiration date be extended from the year 2037 to the year 2047 (i.e., 30 years after the effective date of this modified permit).

Hydraulic fracturing, acid well stimulation and other "well stimulation treatments", as defined in Public Resources Code Section 3157, are not included in the proposed project. The use of any such well stimulation treatment as part of the project would require a subsequent discretionary modification of the CUP, additional environmental review under CEQA, and a public hearing.

B. STATEMENT OF ENVIRONMENTAL FINDINGS:

Pursuant to CEQA (Public Resources Code § 21000 et seq.) and the CEQA Guidelines (Title 14, California Code of Regulations, Division 6, Chapter 3, § 15000 et seq.), the subject application is a "project" that is subject to environmental review.

On December 19, 1986, the Planning Director granted CUP 4384 to authorize the installation, operation and maintenance of one exploratory oil and gas well and associated facilities. The processing operations permitted at the well site under CUP 4384 include the separation of produced water and natural gas from crude oil and those processing operations required for injection purposes and for the transportation of production products from the site. The CUP was granted for a

period of 20 years with an expiration date on December 23, 2006. As part of this action, a Mitigated Negative Declaration (MND) was adopted.

The 1986 MND identified only one potentially significant impact from the development of oil and gas facilities on the project site. The potential impact was on agricultural resources due to the proposed loss of approximately two acres (87,120 square feet) of the then-existing citrus (lemon) orchard on the property to create the drill site. At the time, the land owner was operating the property under an LCA Contract, which restricts contracted land to agricultural or open space uses for 10 years in exchange for preferential property tax treatment. In addressing this potential impact, the MND recommended limiting the area of the graded site to 28,000 square feet (0.64 acres) in area, replanting of trees of the same variety when well abandonment occurred, and minimizing dust along access roads. The MND is attached as Exhibit 4b.

On May 21, 2007, the Planning Director granted a modified permit (CUP No. LU05-0086) to authorize the drilling of an additional oil and gas well and construction of two gathering pipelines connecting the nearby Rosenmund drill site to the Naumann drill site, which allows for the consolidation of processing and production activities in accordance with the provisions of the County's Non-coastal Zoning Ordinance (NCZO). The approved site plan included an expansion of the existing drilling pad to 41,300-square feet (0.94 acres [140-feet by 295-feet]). This development was determined to be categorically exempt from CEQA review pursuant to Sections 15302 and 15303, which allows for the replacement or reconstruction of existing structures and facilities, and the construction of (new) small structures. The second well was required to be drilled by May 31, 2012, but was never completed.

The currently proposed project involves the continued use of the existing, disturbed drill site for oil and gas activities, including the addition of four new oil and gas wells. No expansion of the drill site is proposed. No new disturbance of land, loss of agricultural soils, or other significant environmental effect has been identified that would result from implementation of the proposed project.

The additional oil and gas wells are anticipated to result in minor increases to truck traffic and air emissions.

The CEQA Guidelines [§ 15164(b)] state that the lead agency shall prepare an addendum to an adopted MND if (1) minor changes or additions are necessary but (2) none of the conditions described in the CEQA Guidelines (§ 15162) calling for the preparation of a subsequent MND have occurred. This MND Addendum includes a description of the changes or additions that are necessary to the MND and a discussion of why none of the conditions described in the CEQA Guidelines exist which require the preparation of an EIR or subsequent MND.

The conditions described in Section 15162 of the CEQA Guidelines which require the preparation of an EIR or subsequent negative declaration, are provided below, along with a discussion as to why an EIR or subsequent Negative Declaration (or MND) is not required:

- 1. Substantial changes are proposed in the project which will require major revisions of the previous MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects [§ 15162(a)(1)].**

The currently proposed project involves the continued use of an existing, disturbed drill site for oil and gas activities, including the addition of four new oil and gas wells. No expansion of the drill site is proposed. Although the addition of four more oil and gas wells is anticipated to result in increases in noise, truck traffic, and air emissions, these increases are minimal and do not exceed any thresholds for significance. No new disturbance of land, loss of agricultural soils, or other significant environmental effect has been identified that would result from implementation of the proposed project.

The oil and gas production and associated injection operations will be subject to engineering standards and regulations enforced by the California Division of Oil and Gas and Geothermal Resources. The operator will be required by DOGGR to prepare and implement a Spill Prevention Control and Countermeasure Plan (SPCC). No substantial evidence has been identified that these facilities will result in a significant impact on surface or groundwater resources.

The proposed project is an existing oil and gas facility and is not a noise sensitive use. The site is located about 500 feet north of Highway 1. Traffic on this highway contributes to the ambient noise in the area. The proposed additional oil and gas activities would be similar to the existing permitted activities. The proposed activities will generate noise during construction (well and ancillary facility installation), operation of pumping units, and from truck traffic. The well-drilling activities are temporary and would involve only a few months of the 30-year lifespan of the project. The pumping units are electrically-powered and do not generate substantial noise. In any case, the nearest noise sensitive uses are two single-family residences, located approximately 500 feet to the west of the proposed project site (approximately 250 feet north of Highway 1), and 2,000 feet to the east of the site. At these distances/locations, the noise generated from the activities included in the proposed project would not exceed the noise thresholds established in County policy.

Additionally, the proposed project will be subject to conditions of approval to maintain project-related noise levels measured at the residential areas below the policy limits or to obtain waivers from the affected parties. Finally, noise resulting

from the increased frequency of trucking operations is not subject to the County noise policy as the trucks will be travelling on roads included in the Regional Road Network.

The additional equipment, and reconfiguration of the existing onsite equipment, will not substantially change the visual character of the site as viewed from the surrounding area.

Traffic Impacts

The proposed addition of four new oil wells will result in additional trucking of produced fluids from the site. Currently, truck traffic to and from the Naumann facility is not limited, except that the number of daily truck trips that may go "through residential streets" is capped at two truckloads per day unless otherwise authorized by the Planning Director.

County staff compiled fluid production data available from Division of Oil and Gas and Geothermal Resources (DOGGR) for the nine oil wells currently connected to the Naumann facility for the five-year period from 2010-2014 (Exhibit 10) to establish the existing baseline for truck traffic associated with the project. This data was used in combination with actual truck trip data provided by the Applicant for a one-year period in 2013-14 to calculate the historic volume of truck traffic associated with activities at the Naumann facility.

During the 5-year period evaluated, truck traffic associated with the site averaged 4.9 one-way truck trips (2.45 truckloads) per day. Implementation of the proposed project will potentially increase truck traffic by an average of approximately 2.18 one-way trips (1.1 truckloads) per day ($4.9 \text{ trips}/9 \text{ wells} \times 4 \text{ wells} = 2.18 \text{ trips}$). This minor increase in average truck traffic volume will not have a substantial effect on traffic circulation or safety in the project vicinity.

Similarly, the peak monthly average for truck traffic during the 5-year period of record was 9.8 one-way trips (4.9 truckloads) per day, which was achieved in October and November of 2010. Thus, the peak number of truck trips that would be expected with the addition of the proposed four new wells would be 4.4 one-way trips (2.2 truckloads) per day ($9.8 \text{ trips}/9 \text{ wells} \times 4 \text{ wells} = 4.4 \text{ trips}$). This minor increase in peak traffic volume would not result in a significant impact on traffic circulation or safety in the project vicinity.

Under the recommended conditions of approval for the proposed project, future trucking will be limited to no more than 10 truckloads (20 one-way truck trips) per day. The proposed conditions of approval also further restrict truck traffic emanating from the project site to no more than 3 truckloads (6 one-way trips) of produced fluids per hour, and no more than 2 truckloads (4 one-way truck trips) during the

hours of 6-8 a.m. and 4-6 p.m., Monday through Friday. Implementation of these conditions will further reduce the potential impacts of any increase in truck traffic by ensuring that truck traffic is minimized during peak traffic times, and is spread out through the course of the day rather than concentrated during any one time period.

The proposed expansion of the allowable trucking hours to 24 hours per day will likewise facilitate the distribution of the truck traffic associated with the project over a longer time period. Thus, no new, potentially significant impact on traffic will result from implementation of the proposed project.

Additionally, a review of traffic data on the surrounding roadways indicates that the cumulative contribution to traffic and safety from the proposed project is likewise negligible. In 2008, the Southern California Association of Governments (SCAG) and the Cities of Port Hueneme and Oxnard commissioned a Truck Traffic Study to analyze existing traffic conditions in the Hueneme/Oxnard area, and to identify impacts and congestion generated by truck trips traveling on local arterial roadways (Exhibit 12, Cities of Port Hueneme/Oxnard Truck Traffic Study, June 2008).

Three of the recognized/preferred truck routes for the area - SR 1, Pleasant Valley Road, and Rice Road - intersect approximately one mile west of the project site. In 2008, approximately 30,000 daily vehicle trips, including 2,000 heavy truck trips, occurred each day on Rice Avenue in the vicinity of the proposed project. Additional heavy trucks trips occur on Pleasant Valley Road and State Highway 1. By comparison, the increase in truck traffic that would result from implementation of the proposed project would be only 2.2 one-way truck trips per day. This 0.1 percent increase in truck traffic (and 0.007 percent increase in overall traffic) would not have a significant effect on traffic circulation or safety in the vicinity of the project.

The applicant has obtained a permit from DOGGR to conduct wastewater injection operations at the Rosenmund facility. Currently, this injection well is undergoing testing to determine its viability for long-term wastewater disposal. If viable, wastewater produced at both the Rosenmund and Naumann sites will be conveyed by existing pipeline to the Rosenmund site for underground disposal. In this circumstance, the tanker truck traffic associated with the Naumann facility will be reduced by approximately 66 percent as two-thirds of the fluid trucked from the Naumann facility is wastewater. Note that injection well operation at the Rosenmund site is authorized by CUP LU08-0117.

Air Quality Impacts

The proposed operation of four additional oil wells and the additional trucking of produced fluids will result in increased emissions of the criteria pollutants nitrous oxides (NOx) and reactive organic compounds (ROC). Each new oil well will result in an additional 2 pounds/day of ROC emissions according to the Ventura County

Air Pollution Control District (VCAPCD). However, oil wells are facilities subject to permits issued by the VCAPCD. According to the adopted Air Quality Assessment Guidelines (AQAG), the emissions of such facilities are not counted toward the 25 pounds/day threshold of significance for the evaluation of air quality impacts.

The potential additional truck trips resulting from implementation of the project will likewise result in an increase in NO_x emissions. However, the NO_x emissions generated by the proposed project are estimated to be less than three pounds/day. This amount is more than three times lower than the 25 pounds/day threshold of significance established in the AQAG.

The Ventura County APCD has estimated the air pollutant emissions associated with the temporary drilling operations to install the proposed 4 new oil wells. As indicated in the attached September 6, 2017 APCD memorandum, the emissions associated with drilling activities are estimated to be approximately 90 pounds per day of NO_x and ROC. As drilling would occur over about 120 days, the total emissions from drilling activities would be 10,800 pounds of NO_x and ROC. Averaged over the 30-year effective term of the requested permit, the average daily emissions would be about 1.0 pounds per day $[10,800 \text{ pounds} / (30 \times 365 \text{ days}) = 0.99 \text{ pounds per day}]$. This level of emissions if added to the long-term emissions of the project mentioned above would not result in a potentially significant impact on air quality. The adopted air quality Threshold would not be exceeded. Note that the operation of a drilling rig would be subject to an APCD-issued Authority to Construct permit. Thus, the emissions are not subject to the Thresholds of Significance for Air Quality adopted by the County.

To provide information on the cumulative air pollutant emissions in Ventura County, the Ventura County APCD has provided a second September 6, 2017 memorandum (attached). This memorandum provides emissions inventory data from the adopted 2016 Ventura County Air Quality Management Plan. In particular, the cumulative emissions due to onshore oil and gas production and the operation of heavy trucks are provided on Page 2 of the APCD memorandum. Projections of emissions to the Year 2035 are also provided.

The proposed project involves the installation of 4 new oil and gas wells. As indicated in the attached compilation of Ventura County oil field statistics provided by DOGGR, there are 3,973 active oil and gas wells in the County of Ventura. Of those, 3,053 are oil and gas production wells. Thus, the 4 proposed wells represent an increase in the number of production wells in Ventura County of approximately 0.1 percent.

Based on the above discussion, the proposed project does not include any substantial changes in the existing permitted facility which would require major

revisions to the previous MND due to the involvement of new, significant effects or an increase in severity of a previously-identified significant effect.

Health Risks

The potential for adverse health effects on individuals residing in the vicinity of the proposed project due to project-related emissions was evaluated by the APCD. An August 17, 2017 memorandum prepared by the APCD is attached to this MND. It includes a qualitative assessment of the potential health risk from truck exhaust emissions and the emissions from oil field equipment. APCD's analysis took into account the type and number of on-site equipment, and the number of truck trips per day that are associated with the proposed project. This information was then compared to a project that utilizes similar types of emissions-generating equipment. APCD concluded that the project will not cause a significant human health risk.

- 2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects [§ 15162(a)(2)].**

There have been no substantial changes in the circumstances under which the original project was analyzed which would require revisions in the adopted MND. The character and use of the surrounding agricultural lands have not changed substantially since the project was initially approved.

- 3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Planning Director adopted the previous MND, shows any of the following:**
 - a. The project will have one or more significant effects not discussed in the previous MND [§ 15162(a)(3)(A)].**

There is no new information of substantial importance that indicates the project will have any new, significant effects not discussed in the previous MND.

Since the project was originally reviewed and the MND adopted, the role of greenhouse gas (GHG) emissions and their potential contribution to global climate change has become an important and widely debated scientific, economic and political issue. However, estimated GHG emissions associated with implementation of the proposed project are only seven percent of the 10,000 MTCO₂e threshold of significance cited by the VCAPCD. The GHG emissions for the proposed new wells and additional truck transport are estimated to be 737.5 Metric Tonnes CO₂ equivalent (MTCO₂e), including fugitive methane emissions from the wells and

projected combustion emissions from the emergency flare. Therefore, the potential impact on climate change due to increased GHG emissions associated with implementation of the proposed project will be less than significant. *(Note: The gas sold to the SCGC for consumptive use conserves energy and proportionately reduces air pollutant emissions from the level that would be emitted if all the produced gas were flared.)*

Based on the information provided above, there is no substantial evidence to warrant the preparation of a subsequent MND. The decision-making body shall consider this addendum to the adopted MND prior to making a decision on the project.

C. PUBLIC REVIEW:

Pursuant to the CEQA Guidelines [§ 15164(c)], this addendum to the MND does not need to be circulated for public review, and shall be included in, or attached to, the adopted MND.

Prepared by:



Bonnie Luke, Case Planner
Commercial & Industrial Permit Section

Reviewed for Release to the Public by:



Brian R. Baca, Manager
Commercial & Industrial Permit Section

The Planning Director finds that this Addendum has been completed in compliance with the California Environmental Quality Act.



Kim L. Prillhart, Director
Ventura County Planning Division

Date

9-6-17

Attachments:

1. Ventura County Oil Fields – 2014 Annual Production, Well Statistics (provided by DOGGR)
2. 9-6-17 VCAPCD memorandum (Estimate of drilling emissions)
3. 9-6-17 APCD memorandum (AQMP Emissions Inventory)

VENTURA COUNTY OIL FIELDS - 2014 ANNUAL PRODUCTION - WELL STATISTICS

FIELD	OPERATOR(S)	OIL (BARRELS)	WATER (BARRELS)	GAS (MCF)	OG Active	OG Idle	UIC Active	UIC Idle	TOTAL
BARDSDALE	VPC, Vaquero, Thompco	170,049	570,291	295,997	49	24	4	3	80
BIG MOUNTAIN	Vintage Production California LLC (VPC)	28,992	70,884	115,191	11	2	0	1	14
CABRILLO	Renaissance Petroleum, LLC	24,378	57,007	89,354	7	2	0	0	9
CANADA LARGA	Hammond Canyon #2 Inc.	1,319	2,515	0	2	1	0	0	3
CHAFFEE CANYON	Concordia Resources Inc.	1,550	1,618	21,668	5	0	0	0	5
EUREKA CANYON	TEG Oil and Gas USA Inc.	2,138	29,112	320	8	0	1	0	9
FILLMORE	PRE Resources	583	4,578	255	2	0	0	0	2
HOLSER	Mirada Petroleum Inc.	18,383	20,591	26,343	15	0	2	0	17
HOPPER CANYON	DCOR, LLC	3,477	20,459	15,873	9	8	2	0	19
MONTALVO, WEST	Vintage Production California LLC	572,639	1,160,865	254,013	50	19	10	3	82
MOORPARK, WEST	Thompco Inc.	1,846	6,638	596	1	1	0	0	2
OAK PARK	Vintage Production California LLC	17,116	63,265	6,088	15	1	3	0	19
OAKRIDGE	Vintage Production California LLC	147,570	856,089	89,147	23	10	7	17	57
OJAI	Numerous Operators	264,077	1,278,743	1,349,444	186	58	13	6	263
OXNARD	Numerous Operators	336,359	768,140	15,769	60	48	52	33	193
RAMONA	Numerous Operators	42,709	49,834	100,508	89	24	3	1	117
RINCON	VPC, RILP, LBTH, Inc.	292,997	3,274,861	245,265	83	259	23	25	390
SAN MIGUELITO	Vintage Production California LLC	451,169	5,330,210	370,368	71	56	43	33	203
SANTA CLARA AVE	Vintage Production California LLC	53,044	195,452	38,901	20	11	2	1	34
SANTA SUSANA	Vintage Production California LLC	15,871	26,434	102,575	9	7	0	1	17
SATICOY	VPC, Peak Operator	39,774	92,605	43,504	17	17	3	6	43
SESPE	Seneca, Vaquero, Chemassist, TB Prop.	477,032	436,194	994,771	247	87	11	0	345
SHIELLS CANYON	VPC, Joro, Chemassist	81,063	313,685	358,583	48	3	3	0	54
SIMI	Seneca, C. Barnett	0	0	0	3	1	0	0	4
SOUTH MOUNTAIN	Numerous Operators	741,363	1,256,708	843,296	360	27	8	17	412
TAPO CANYON, SOUTH	Vintage Production California LLC	9,283	6,269	1,675	25	5	0	0	30

TAPO RIDGE	Vintage Production California LLC	528	755	748	2	0	0	0	2
TAPO, NORTH	Berco Oil	4,580	56,340	0	17	0	1	0	18
TEMESCAL	Ample Resources, DCOR	72,793	212,112	92,370	20	2	2	1	25
TIMBER CANYON	VPC, Ridgeway Corp.	31,586	6,581	101,695	29	3	0	1	33
TORREY CANYON	Vintage Production California LLC	118,353	152,427	171,660	46	12	0	7	65
VENTURA	Aera Energy LLC	5,089,921	46,939,666	2,837,593	548	275	469	102	1,394
WEST MOUNTAIN	Vintage Production California LLC	9,239	11,817	10,237	9	4	0	0	13
	VENTURA COUNTY TOTALS	9,121,781	63,272,745	8,593,807	2086	967	662	258	3,973

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Brian Baca
Planning/RMA

DATE: September 6, 2017

FROM: Chuck Thomas, Manager *CT*
Planning/Rules/Incentives

SUBJECT: Renaissance Petroleum Project (PL14-0103)

As you requested, we've estimated daily air emissions from drilling one generic oil well and 15 daily employee commute trips associated with the proposed Renaissance Petroleum Project near Oxnard.

Oil Well Drilling: 90 lbs/day (NOx + ROG)
Assumptions: Tier 3 diesel engine: 3.0 grams/BHP-hr
1,000 gallons diesel fuel/day

15 Daily Employee Commute Trips: 0.06 lbs/day NOx; 0.06 lbs/day ROG
Assumptions: 15 employees, 30 one-way trips/day; 10 miles/one-way trip


If you have any questions, please contact me at chuck@vcapcd.org or 805/645-1427.

c: Mike Villegas, VCAPCD
Kerby Zozula, VCAPCD

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Brian Baca
Planning/RMA

DATE: September 5, 2017

FROM: Chuck Thomas, Manager 
Planning/Rules/Incentives

SUBJECT: 2016 Ventura County Air Quality Management Plan Base Year Emissions
Inventory and Emissions Forecasts

Attached are Table A-7 and A-8 from Appendix A, Ventura County Emissions Inventory Documentation, of the 2016 Ventura County Air Quality Management Plan (AQMP) (February 2017). The 2016 AQMP presents Ventura County's strategy to attain the 2008 federal 8-hour ozone standard; as required by the federal Clean Air Act Amendments of 1990. Photochemical air quality modeling conducted by the South Coast Air Quality Management District indicates that Ventura County will attain the 2008 federal 8-hour ozone standard by 2020 using local, state, and federal clean air programs.

The 2016 AQMP was adopted by the Ventura County Air Pollution Control Board on February 14, 2017 and by the California Air Resources Board on March 23, 2017. Plan approval by the U.S. Environmental Protection Agency is pending.

Table A-7 presents the 2012 base year and future year emissions by summary category for reactive organic gases (ROG). Table A-8 presents 2012 base year and emissions forecasts by summary category for nitrogen oxides (NOx). ROG and NOx emissions chemically react in the atmosphere to form ozone, Ventura County's most serious air pollution problem.

The base year emissions inventory of ROG and NOx forms the basis for all future year emission projections and also establishes the emission levels against which progress in emission reductions are measured. Forecasted inventories are a projection of the base year inventory that reflects expected growth trends for each emissions source category and emission reductions due to adopted control measures. Emission inventories and projections of an area's ROG and NOx emissions are fundamental components of an ozone clean air plan and are the primary input to air quality models used to assess future year ozone levels and demonstrate attainment of the federal ozone standard.

Forecasts of future year ROG and NOx emissions are a product of two principal components: growth factors and control factors. The forecast methodology involves applying growth and control factors to 2012 base year emissions by pollutant-emitting process category. Growth and control factors are calculated by analyzing the 2012 actual emissions, future socioeconomic assumptions, and the future impact of district, state, and federal control

strategies. Development of the Ventura County base year emissions inventory and forecasts for the 2016 AQMP was a joint effort of the Air District and the California Air Resources Board.

Table A-7 shows that countywide ROG emissions were 37.76 tons per day in 2012 and are projected to be 32.27 tons per day in 2035 (14.5% reduction). Similarly, Table A-8 shows that countywide NOx emissions were 40.55 tons per day in 2012 and are projected to be 23.93 tons per day in 2035 (41% reduction). Emissions in the Outer Continental Shelf (OCS) air basin are included in these total emissions.

Countywide ROG emissions associated with onshore oil and gas production were 1.48 tons per day in 2012 and are projected to be 1.05 tons per day in 2035 (29% reduction).

Countywide NOx emissions associated with onshore oil and gas production were 0.17 tons per day in 2012 and are projected to be 0.12 tons per day in 2035 (29% reduction).

Countywide ROG emissions associated with heavy-heavy duty diesel trucks of the type that transport produced crude oil and water were 0.16 tons per day in 2012 and are projected to be 0.03 tons per day in 2035 (81% reduction).

Countywide NOx emissions associated with heavy-heavy duty diesel trucks of the type that transport produced crude oil and water were 2.69 tons per day in 2012 and are projected to be 0.73 tons per day in 2035 (73% reduction).

If you have any questions regarding this issue, feel free to contact by email at chuck@vcapcd.org or by telephone at (805) 645-1427.

c: Mike Villegas, VCAPCD
Alan Ballard, VCAPCD

Base Year and Forecast Emissions Summaries

Tables A-7 and A-8 contain summaries of 2012 base year and forecast year ROG and NOx planning day emissions by summary category and air basin.

Table A-7
ROG Planning Emissions Forecast by Summary Category and Air Basin

Ventura County EIC Summary Category Name	ROG (tons/summer day)					
	2012	2018	2020	2025	2030	2035
SCC AIR BASIN						
STATIONARY SOURCES						
Fuel Combustion						
Electric Utilities	0.10	0.08	0.09	0.09	0.09	0.09
Cogeneration	0.00	0.00	0.00	0.00	0.00	0.00
Oil And Gas Production (Combustion)	0.03	0.02	0.02	0.02	0.02	0.02
Petroleum Refining (Combustion)	0.00	0.00	0.00	0.00	0.00	0.00
Manufacturing And Industrial	0.02	0.02	0.03	0.03	0.03	0.03
Food And Agricultural Processing	0.03	0.02	0.02	0.02	0.02	0.02
Service And Commercial	0.03	0.03	0.03	0.04	0.04	0.04
Other (Fuel Combustion)	0.01	0.01	0.01	0.01	0.01	0.01
Total Fuel Combustion	0.22	0.20	0.20	0.20	0.20	0.21
Waste Disposal						
Sewage Treatment	0.01	0.01	0.01	0.01	0.01	0.01
Landfills	0.11	0.13	0.13	0.14	0.16	0.17
Incinerators	0.00	0.00	0.00	0.00	0.00	0.00
Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	0.74	0.78	0.79	0.80	0.82	0.84
Total Waste Disposal	0.87	0.91	0.93	0.96	0.99	1.02
Cleaning And Surface Coatings						
Laundering	0.04	0.05	0.05	0.05	0.05	0.05
Degreasing	1.87	2.05	2.11	2.18	2.25	2.31
Coatings And Related Process Solvents	0.85	1.01	1.06	1.11	1.15	1.19
Printing	0.27	0.35	0.38	0.40	0.42	0.43
Adhesives And Sealants	0.40	0.44	0.45	0.47	0.48	0.50
Other (Cleaning And Surface Coatings)	0.58	0.63	0.65	0.67	0.69	0.71
Total Cleaning And Surface Coatings	4.01	4.52	4.70	4.88	5.04	5.20
Petroleum Production And Marketing						
Oil And Gas Production	1.45	1.23	1.16	1.13	1.08	1.03
Petroleum Refining	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Marketing	1.38	1.06	1.03	0.96	0.92	0.92
Other (Petroleum Production And Marketing)	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production And Marketing	2.83	2.29	2.19	2.08	2.00	1.95
Industrial Processes						
Chemical	0.07	0.09	0.10	0.11	0.12	0.12
Food And Agriculture	0.01	0.02	0.02	0.02	0.02	0.02
Mineral Processes	0.02	0.02	0.02	0.02	0.02	0.02
Metal Processes	0.01	0.00	0.00	0.00	0.00	0.00
Wood And Paper	0.10	0.13	0.15	0.16	0.16	0.17
Electronics	0.02	0.04	0.04	0.05	0.06	0.07
Other (Industrial Processes)	0.39	0.32	0.32	0.33	0.34	0.35
Total Industrial Processes	0.62	0.61	0.65	0.69	0.72	0.76
TOTAL STATIONARY SOURCES	8.55	8.54	8.67	8.82	8.95	9.12

Table A-7 (Cont.)
ROG Planning Emissions Forecast by Summary Category and Air Basin

Ventura County		ROG (tons/summer day)				
EIC Summary Category Name	2012	2018	2020	2025	2030	2035
AREAWIDE SOURCES						
Solvent Evaporation						
Consumer Products	4.64	4.53	4.59	4.68	4.77	4.87
Architectural Coatings And Related Process Solvents	2.31	2.41	2.45	2.51	2.57	2.62
Pesticides/Fertilizers	3.35	2.39	2.34	2.30	2.25	2.22
Asphalt Paving / Roofing	0.58	0.76	0.82	0.86	0.89	0.93
Total Solvent Evaporation	10.88	10.09	10.20	10.34	10.48	10.65
Miscellaneous Processes						
Residential Fuel Combustion	0.39	0.40	0.41	0.41	0.42	0.43
Farming Operations	0.12	0.12	0.12	0.12	0.12	0.12
Construction And Demolition	0.00	0.00	0.00	0.00	0.00	0.00
Paved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	0.00
Fires	0.01	0.01	0.01	0.01	0.01	0.01
Managed Burning And Disposal	0.14	0.13	0.13	0.13	0.12	0.12
Cooking	0.04	0.05	0.05	0.05	0.05	0.05
Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00
Total Miscellaneous Processes	0.69	0.70	0.71	0.72	0.72	0.73
TOTAL AREAWIDE SOURCES	11.57	10.80	10.91	11.05	11.20	11.38
MOBILE SOURCES						
On-Road Motor Vehicles						
Light Duty Passenger (LDA)	3.54	1.74	1.47	1.09	0.90	0.71
Light Duty Trucks - 1 (LDT1)	0.99	0.50	0.42	0.29	0.20	0.11
Light Duty Trucks - 2 (LDT2)	1.36	0.77	0.64	0.48	0.38	0.28
Medium Duty Trucks (MDV)	1.23	0.89	0.76	0.51	0.39	0.29
Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.29	0.23	0.21	0.16	0.13	0.06
Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.03	0.03	0.02	0.01	0.01	0.01
Medium Heavy Duty Gas Trucks (MHDV)	0.07	0.03	0.03	0.02	0.02	0.02
Heavy Heavy Duty Gas Trucks (HHDV)	0.01	0.00	0.00	0.00	0.00	0.00
Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.03	0.03	0.03	0.02	0.01	0.01
Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.01	0.01	0.01	0.00	0.00	0.00
Medium Heavy Duty Diesel Trucks (MHDV)	0.08	0.04	0.03	0.01	0.01	0.01
Heavy Heavy Duty Diesel Trucks (HHDV)	0.16	0.04	0.04	0.03	0.03	0.03
Motorcycles (MCY)	0.67	0.56	0.53	0.48	0.44	0.42
Heavy Duty Diesel Urban Buses (UB)	0.01	0.01	0.01	0.00	0.00	0.00
Heavy Duty Gas Urban Buses (UB)	0.00	0.00	0.00	0.00	0.00	0.00
School Buses - Gas (SBG)	0.01	0.00	0.00	0.00	0.00	0.00
School Buses - Diesel (SBD)	0.00	0.00	0.00	0.00	0.00	0.00
Other Buses - Gas (OBG)	0.01	0.01	0.01	0.01	0.01	0.01
Other Buses - Motor Coach - Diesel (OBC)	0.00	0.00	0.00	0.00	0.00	0.00
All Other Buses - Diesel (OBD)	0.00	0.00	0.00	0.00	0.00	0.00
Motor Homes (MH)	0.02	0.01	0.01	0.00	0.00	0.00
Other (On-Road Motor Vehicles)	0.00	0.50	0.00	0.00	0.00	0.00
Total On-Road Motor Vehicles	8.54	5.40	4.21	3.13	2.53	1.96

Table A-7 (Cont.)
ROG Planning Emissions Forecast by Summary Category and Air Basin

Ventura County		ROG (tons/summer day)				
EIC Summary Category Name	2012	2018	2020	2025	2030	2035
Other Mobile Sources						
Aircraft	0.38	0.87	0.91	1.08	1.30	1.57
Trains	0.01	0.01	0.01	0.01	0.01	0.01
Ocean Going Vessels	0.04	0.04	0.04	0.05	0.05	0.06
Commercial Harbor Craft	0.09	0.09	0.09	0.10	0.10	0.11
Recreational Boats	3.06	2.26	2.04	1.55	1.19	0.99
Off-Road Recreational Vehicles	0.39	0.38	0.37	0.35	0.34	0.34
Off-Road Equipment	3.07	2.50	2.42	2.36	2.37	2.45
Farm Equipment	0.52	0.39	0.35	0.29	0.23	0.20
Fuel Storage And Handling	0.58	0.43	0.40	0.35	0.32	0.22
Total Other Mobile Sources	8.14	6.97	6.63	6.12	5.91	5.94
TOTAL MOBILE SOURCES	16.68	12.37	10.84	9.25	8.44	7.91
TOTAL SCC AIR BASIN	36.81	31.70	30.42	29.12	28.59	28.41
ERC Balance	----	1.72	1.72	1.72	1.72	1.72
TOTAL SCC AIR BASIN	36.81	33.42	32.14	30.84	30.31	30.13
OCS AIR BASIN						
STATIONARY SOURCES						
Fuel Combustion						
Cogeneration	0.00	0.00	0.00	0.00	0.00	0.00
Oil And Gas Production (Combustion)	0.01	0.01	0.00	0.00	0.00	0.00
Service And Commercial	0.02	0.02	0.02	0.02	0.02	0.02
Total Fuel Combustion	0.03	0.02	0.02	0.02	0.02	0.02
Waste Disposal						
Incinerators	0.00	0.00	0.00	0.00	0.00	0.00
Total Waste Disposal	0.00	0.00	0.00	0.00	0.00	0.00
Cleaning And Surface Coatings						
Coatings And Related Process Solvents	0.00	0.00	0.00	0.00	0.00	0.00
Total Cleaning And Surface Coatings	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Production And Marketing						
Oil And Gas Production	0.04	0.04	0.04	0.03	0.04	0.04
Petroleum Marketing	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production And Marketing	0.04	0.04	0.04	0.03	0.04	0.04
TOTAL STATIONARY SOURCES	0.07	0.07	0.06	0.06	0.06	0.06
MOBILE SOURCES						
Other Mobile Sources						
Aircraft	0.05	0.14	0.14	0.14	0.15	0.16
Ships And Commercial Boats	0.02	0.02	0.02	0.02	0.02	0.02
Ocean Going Vessels	0.57	0.79	0.86	1.10	1.37	1.60
Commercial Harbor Craft	0.25	0.28	0.28	0.29	0.29	0.29
Total Other Mobile Sources	0.89	1.23	1.30	1.55	1.83	2.07
TOTAL MOBILE SOURCES	0.89	1.23	1.30	1.55	1.83	2.07
TOTAL OCS AIR BASIN	0.96	1.30	1.37	1.61	1.89	2.14
TOTAL VENTURA COUNTY	37.76	34.72	33.50	32.44	32.21	32.27

Notes:

Source: CEPAM v1.04 (June 2016).

Includes +0.5 tpd adjustment to On-Road Vehicles 2018 ROG for transportation conformity safety margin.

Data rounding may affect totals.

Table A-8
NOx Planning Emissions Forecast by Summary Category and Air Basin

Ventura County		NOx (tons/summer day)				
EIC Summary Category Name	2012	2018	2020	2025	2030	2035
SCC AIR BASIN						
STATIONARY SOURCES						
Fuel Combustion						
Electric Utilities	0.48	0.46	0.47	0.49	0.50	0.51
Cogeneration	0.00	0.00	0.00	0.00	0.00	0.00
Oil And Gas Production (Combustion)	0.13	0.11	0.10	0.10	0.09	0.09
Petroleum Refining (Combustion)	0.00	0.00	0.00	0.00	0.00	0.00
Manufacturing And Industrial	0.27	0.32	0.34	0.35	0.36	0.37
Food And Agricultural Processing	0.47	0.31	0.30	0.27	0.24	0.22
Service And Commercial	0.32	0.31	0.31	0.32	0.33	0.34
Other (Fuel Combustion)	0.21	0.17	0.14	0.14	0.14	0.14
Total Fuel Combustion	1.89	1.68	1.67	1.66	1.66	1.68
Waste Disposal						
Sewage Treatment	0.01	0.01	0.01	0.01	0.01	0.01
Landfills	0.09	0.10	0.11	0.11	0.12	0.13
Incinerators	0.00	0.00	0.00	0.00	0.00	0.00
Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	0.00	0.00	0.00	0.00	0.00	0.00
Total Waste Disposal	0.10	0.11	0.12	0.12	0.13	0.14
Cleaning And Surface Coatings						
Laundering	0.00	0.00	0.00	0.00	0.00	0.00
Degreasing	0.00	0.00	0.00	0.00	0.00	0.00
Coatings And Related Process Solvents	0.00	0.00	0.00	0.00	0.00	0.00
Printing	0.00	0.00	0.00	0.00	0.00	0.00
Adhesives And Sealants	0.00	0.00	0.00	0.00	0.00	0.00
Other (Cleaning And Surface Coatings)	0.00	0.00	0.00	0.00	0.00	0.00
Total Cleaning And Surface Coatings	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Production And Marketing						
Oil And Gas Production	0.04	0.03	0.03	0.03	0.03	0.03
Petroleum Refining	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Marketing	0.00	0.00	0.00	0.00	0.00	0.00
Other (Petroleum Production And Marketing)	0.00	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production And Marketing	0.04	0.03	0.03	0.03	0.03	0.03
Industrial Processes						
Chemical	0.00	0.00	0.00	0.00	0.00	0.00
Food And Agriculture	0.00	0.00	0.00	0.00	0.00	0.00
Mineral Processes	0.00	0.00	0.00	0.00	0.00	0.00
Metal Processes	0.00	0.00	0.00	0.00	0.00	0.00
Wood And Paper	0.00	0.00	0.00	0.00	0.00	0.00
Electronics	0.00	0.00	0.00	0.00	0.00	0.00
Other (Industrial Processes)	0.06	0.06	0.06	0.06	0.06	0.06
Total Industrial Processes	0.06	0.06	0.06	0.06	0.07	0.07
TOTAL STATIONARY SOURCES	2.08	1.89	1.87	1.88	1.89	1.92

Table A-8 (Cont.)

NOx Planning Emissions Forecast by Summary Category and Air Basin

Ventura County		NOx (tons/summer day)				
EIC Summary Category Name	2012	2018	2020	2025	2030	2035
AREAWIDE SOURCES						
Solvent Evaporation						
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coatings And Related Process Solvents	0.00	0.00	0.00	0.00	0.00	0.00
Pesticides/Fertilizers	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Paving / Roofing	0.00	0.00	0.00	0.00	0.00	0.00
Total Solvent Evaporation	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Processes						
Residential Fuel Combustion	0.86	0.59	0.54	0.54	0.54	0.55
Farming Operations	0.00	0.00	0.00	0.00	0.00	0.00
Construction And Demolition	0.00	0.00	0.00	0.00	0.00	0.00
Paved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	0.00
Fires	0.01	0.01	0.01	0.01	0.01	0.01
Managed Burning And Disposal	0.08	0.08	0.08	0.08	0.07	0.07
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00
Total Miscellaneous Processes	0.95	0.68	0.62	0.62	0.62	0.62
TOTAL AREAWIDE SOURCES	0.95	0.68	0.62	0.62	0.62	0.62
MOBILE SOURCES						
On-Road Motor Vehicles						
Light Duty Passenger (LDA)	2.22	1.11	0.90	0.57	0.41	0.30
Light Duty Trucks - 1 (LDT1)	0.54	0.23	0.18	0.10	0.06	0.03
Light Duty Trucks - 2 (LDT2)	1.38	0.60	0.45	0.26	0.18	0.13
Medium Duty Trucks (MDV)	1.54	0.79	0.60	0.29	0.17	0.12
Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.39	0.27	0.24	0.17	0.11	0.08
Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.05	0.04	0.04	0.03	0.02	0.02
Medium Heavy Duty Gas Trucks (MHDV)	0.10	0.06	0.05	0.03	0.03	0.02
Heavy Heavy Duty Gas Trucks (HHDV)	0.02	0.01	0.01	0.01	0.02	0.02
Light Heavy Duty Diesel Trucks - 1 (LHDV1)	1.24	0.92	0.79	0.50	0.30	0.17
Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.36	0.23	0.19	0.10	0.04	0.02
Medium Heavy Duty Diesel Trucks (MHDV)	1.52	0.98	0.71	0.42	0.49	0.52
Heavy Heavy Duty Diesel Trucks (HHDV)	2.69	1.62	1.48	0.76	0.74	0.73
Motorcycles (MCY)	0.13	0.11	0.11	0.10	0.10	0.10
Heavy Duty Diesel Urban Buses (UB)	0.16	0.11	0.09	0.06	0.03	0.02
Heavy Duty Gas Urban Buses (UB)	0.01	0.01	0.01	0.01	0.01	0.01
School Buses - Gas (SBG)	0.01	0.00	0.00	0.00	0.00	0.00
School Buses - Diesel (SBD)	0.06	0.05	0.05	0.03	0.02	0.01
Other Buses - Gas (OBG)	0.02	0.02	0.01	0.01	0.01	0.01
Other Buses - Motor Coach - Diesel (OBC)	0.02	0.01	0.01	0.00	0.01	0.00
All Other Buses - Diesel (OBD)	0.04	0.02	0.02	0.01	0.01	0.01
Motor Homes (MH)	0.12	0.08	0.06	0.04	0.02	0.01
Other (On-Road Motor Vehicles)	0.00	0.00	0.00	0.00	0.00	0.00
Total On-Road Motor Vehicles	12.62	7.29	6.01	3.50	2.76	2.33

Table A-8 (Cont.)
NOx Planning Emissions Forecast by Summary Category and Air Basin

Ventura County		NOx (tons/summer day)					
EIC Summary Category Name	2012	2018	2020	2025	2030	2035	
Other Mobile Sources							
Aircraft	0.20	0.46	0.48	0.57	0.69	0.84	
Trains	0.16	0.17	0.17	0.16	0.16	0.15	
Ocean Going Vessels	0.84	0.86	0.84	0.90	0.99	1.07	
Commercial Harbor Craft	0.98	0.73	0.72	0.72	0.75	0.78	
Recreational Boats	0.56	0.48	0.46	0.42	0.39	0.37	
Off-Road Recreational Vehicles	0.01	0.01	0.01	0.02	0.02	0.02	
Off-Road Equipment	3.43	2.89	2.66	2.03	1.74	1.66	
Farm Equipment	2.60	2.09	1.90	1.44	1.10	0.85	
Fuel Storage And Handling	0.00	0.00	0.00	0.00	0.00	0.00	
Total Other Mobile Sources	8.78	7.69	7.25	6.27	5.83	5.74	
TOTAL MOBILE SOURCES	21.41	14.98	13.26	9.77	8.59	8.07	
TOTAL SCC AIR BASIN	24.44	17.54	15.75	12.27	11.11	10.61	
ERC Balance	---	0.82	0.82	0.82	0.82	0.82	
TOTAL SCC AIR BASIN	24.44	18.36	16.57	13.09	11.93	11.43	
OCS AIR BASIN							
STATIONARY SOURCES							
Fuel Combustion							
Cogeneration	0.00	0.00	0.00	0.00	0.00	0.00	
Oil And Gas Production (Combustion)	0.03	0.03	0.03	0.02	0.03	0.03	
Service And Commercial	0.32	0.27	0.27	0.27	0.27	0.27	
Total Fuel Combustion	0.35	0.30	0.30	0.29	0.30	0.29	
Waste Disposal							
Incinerators	0.00	0.00	0.00	0.00	0.00	0.00	
Total Waste Disposal	0.00	0.00	0.00	0.00	0.00	0.00	
Cleaning And Surface Coatings							
Coatings And Related Process Solvents	0.00	0.00	0.00	0.00	0.00	0.00	
Total Cleaning And Surface Coatings	0.00	0.00	0.00	0.00	0.00	0.00	
Petroleum Production And Marketing							
Oil And Gas Production	0.00	0.00	0.00	0.00	0.00	0.00	
Petroleum Marketing	0.00	0.00	0.00	0.00	0.00	0.00	
Total Petroleum Production And Marketing	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL STATIONARY SOURCES	0.35	0.30	0.30	0.30	0.30	0.30	
MOBILE SOURCES							
Other Mobile Sources							
Aircraft	0.02	0.07	0.07	0.07	0.08	0.08	
Ships And Commercial Boats	0.07	0.07	0.07	0.06	0.06	0.06	
Ocean Going Vessels	13.21	13.89	12.54	10.60	9.82	9.63	
Commercial Harbor Craft	2.46	2.53	2.51	2.45	2.44	2.42	
Total Other Mobile Sources	15.76	16.56	15.19	13.18	12.40	12.20	
TOTAL MOBILE SOURCES	15.76	16.56	15.19	13.18	12.40	12.20	
TOTAL OCS AIR BASIN	16.11	16.86	15.49	13.48	12.70	12.50	
TOTAL VENTURA COUNTY	40.55	35.23	32.06	26.57	24.62	23.93	

Notes:

Source: CEPAM v1.04 (June 2016).

No external ARB Adjustments.

Data rounding may affect totals.