

**VENTURA COUNTY**  
**AIR POLLUTION CONTROL DISTRICT**  
Memorandum

TO: Brian Baca, Ventura County Planning

DATE: August 17, 2017

FROM: Chuck Thomas, Manager   
Planning/Rules/Incentives Division

SUBJECT: Renaissance Petroleum, PL14-0103

Air District staff conducted a qualitative assessment of air toxic emissions associated with the Renaissance Petroleum project in south Oxnard. The purpose of the assessment was to document that the air toxic risk to the general population in the area from facility activities would be quite low and therefore not significant. The assessment was accomplished by comparing the level of diesel activity of the Renaissance Petroleum project with that of the Wayne Jones Sand and Gravel north of the City of Moorpark, which itself does not pose a significant air toxics health risk to nearby residences of that facility despite having a far greater level of activity and far greater diesel particulate emissions that can contribute to air toxic impacts to the general population.

In addition, the Air District reviews the potential health risk from both the existing and new Renaissance Petroleum permitted facilities, including oil production facilities, on a routine and continuous basis. The District's policies and procedures for reviewing potential health risks of permitted facilities are summarized in Section 2 below

1) Qualitative Health Risk Assessment for Diesel Equipment Activity

Renaissance Petroleum Project

The Renaissance Petroleum facility is located in an agricultural area approximately 1,600 feet southeast of the Oxnard city limits. The Renaissance Petroleum project involves installation of four new oil wells, removal of two 500 barrel petroleum tanks, installation of two new 1,000 barrel petroleum tanks, removal of one 500 barrel produced water tank, and installation of one new 1,000 barrel produced water tank at the existing Naumann oil and gas facility.

The anticipated increase in production will result in an estimated average of 2.2 one-way heavy-duty diesel truck trips per day (1.1 truck loads). The Naumann facility receives gas from nine existing wells located at the Rosenmund and Naumann sites. Ninety percent of the produced gas is sold into the SoCalGas pipeline. The remaining 10 percent is flared. The Naumann facility operates under Air District Permit to Operate No. 1383 and meets all applicable Air District rules for the minimization of air emissions including air toxic emissions.

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#### Wayne Jones Sand and Gravel Expansion Project

The Wayne Jones Sand and Gravel mining facility is located in a rural, unincorporated area of Ventura County, approximately mid-way between the Cities of Moorpark and Fillmore. The facility produces sand and gravel products for the construction industry and other purposes. The facility is surrounded by other sand and gravel facilities and some agricultural uses. There are several residences in the area, including along State Route 23.

The Wayne Jones Sand and Gravel project (CUP Modification 4571-6) involved expansion of the area subject to sand and gravel mining activities, an increase in sand and gravel production, and an increase in the allowable daily number of material haul truck trips to and from the facility. The project was subject to an environmental impact report (EIR) (SCH 2003111063; December 2015). The EIR contains a complete project description and environmental analyses, including analyses for air quality and air toxics. The project was approved by the County of Ventura on May 3, 2016.

On-site facility operations involve use of sixteen pieces of heavy-duty diesel equipment such as front-end loaders, bulldozers, excavators, and water trucks. The engines of each of these equipment types emit a type of particulate matter known as diesel particulate matter (DPM) that can contribute to significant air toxics impacts.

The facility also uses heavy-duty diesel material haul trucks to transport finished products on public roadways, primarily on State Route 23 (northward and southward) to customers throughout the region. The engines of these vehicles also emit DPM and also can contribute to significant air toxic impacts, particularly to sensitive receptors (i.e. residences, schools, and hospitals) along the roadway haul routes. The anticipated increase in production will result in a net increase of 168 diesel truck trips per day on State Route 23 (70% south towards the City of Moorpark and 30% north towards Fillmore).

An air toxics health risk assessment was conducted by Air District staff to assess the potential air toxic risk to residents of the area as part of the EIR for the project. The California Air Resources Board HARP2 model was used to determine the risks. The HARP2 model implements the 2015 OEHHA Air Toxics Hot Spots Risk Assessment Guidelines. HARP2 uses the USEPA AERMOD dispersion model to determine offsite concentrations of pollutants.

The assessment considered both the on-site diesel-powered equipment used for mining and processing sand and gravel projects, and the diesel-powered haul trucks that transport the finished products. The health risk assessment specifically considered the residences in the area, especially those along State Route 23.

Excess cancer risks were calculated assuming 30 years of exposure, with exposure beginning in the third trimester (prior to birth). The California Air Resources Board/California Air Pollution Control Officers Risk Management Guidance was used to define breathing rates, with the 95<sup>th</sup> percentile daily breathing rate (DBR) used for age groups less than 2 years old

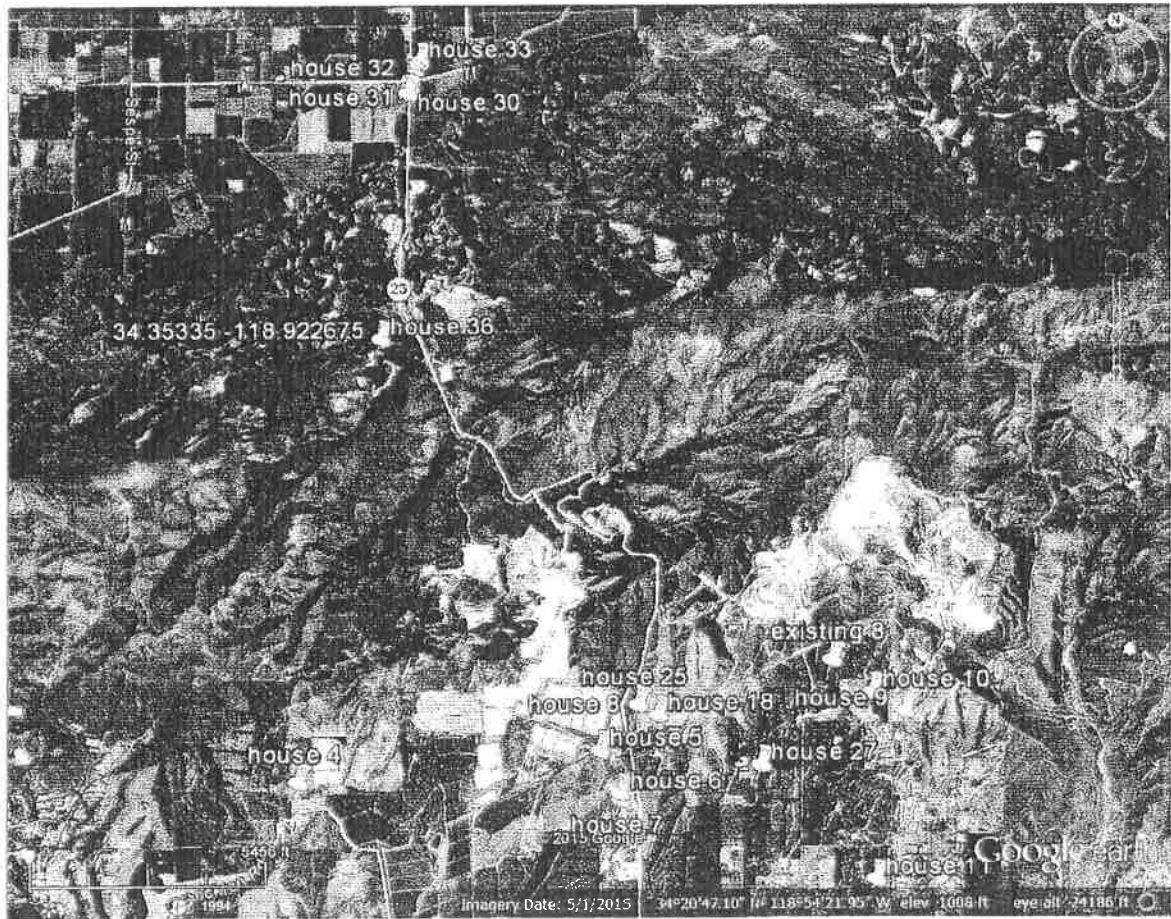
and the 80<sup>th</sup> percentile DBR for other age groups. Per the California Office of Environmental Health Hazard Assessment, only inhalation risks were calculated for DPM emissions.

Risks were calculated at gridded receptors located every 100 meters around the Wayne Jones facility to a distance of 1,500 meters and every 500 meters to a distance of 10,000 meters. Additional receptors were located at nearby residences and at several intersections of interest along the haul truck route. No schools, hospitals, or other sensitive receptor types are located in the area. The significance threshold for excess lifetime cancer risk is 10 chances per million.

The results are presented in the table below. This table shows the modeled receptors sites with the highest lifetime excess cancer risks. The maximum lifetime excess cancer risk at a location where people are expected to be for considerable amounts of time was 7.0 in a million at a residence south of the facility.

The highest risk was 63 in a million at the intersection of Wayne's Way and State Route 23. This is an isolated rural location with no residences or other structures in the area. Residences 30-33 are near the intersection of State Route 23 and Bardsdale Avenue south of the City of Fillmore. Those risks range from 2.0 to 3.4 in a million. All other identified receptors have lower risks from the project. All modeled receptor sites are shown on the map below.

Receptor #	Receptor Location	Lifetime Excess Cancer Risk (chances per million)
666	Maximum Actual Receptor (Residence)	7.0
657	A Street at Ventura Street	1.9
658	Walnut Canyon Road at Casey Road	5.0
659	Los Angeles Avenue at Grimes Canyon Rd.	4.2
660	A Street at River Street	1.9
661	Grimes Canyon Road at Bardsdale Avenue	5.8
662	Grimes Canyon Road at Broadway	4.8
663	Grimes Canyon Road at Wayne's Way	63.0
664	Broadway at Fruitvale Avenue	0.05
665	Broadway at Walnut Canyon Road	4.9
677	House 30	2.0
678	House 31	3.2
679	House 32	3.0
680	House 33	3.4



The health risk assessment for the Wayne Jones Sand and Gravel project indicated that, despite the large number on on-site diesel equipment and the net increase of 168 material haul truck trips per day, the project would not cause significant air toxic risks to the residents of the area, neither near the project site nor along State Route 23. The health risk assessment is more thoroughly described and discussed in the final EIR for the Wayne Jones Sand and Gravel project (page 4.2-20).

### Conclusion

Although a formal health risk assessment was not conducted for the Renaissance Petroleum project, it can be reasonably concluded that the project will not cause a significant human health risk in the area. This conclusion is based on the type and number of on-site equipment and the low number of truck trips per day compared to the Wayne Jones Sand and Gravel project.

## 2) Oil Field Facility Risk Assessments

The Ventura County Air Pollution Control District (VCAPCD) reviews the air toxic emissions from existing and new permitted facilities using the following methods:

- Air Toxics “Hot Spots” Information and Assessment Act of 1987 also known as the AB-2588 Air Toxics “Hot Spots Program
- VCAPCD Policy: Air Toxics Review During Permit Renewal
- VCAPCD Policy: Air Toxic Review of Permit Applications

### Air Toxics Hot Spots Program

The primary purpose of the “Hot Spots” Act (adopted September 1987) is to notify the public of facilities that have routine and predictable emissions of toxic air pollutants that may pose a significant health risk to nearby residents and workers. The “Hot Spots” Act also encourages those facilities to reduce the health risk below the level of significance. In Ventura County, the level of significance for air toxics is a cancer risk of greater than 10 in a million, or an acute or chronic hazard index of greater than 1.

Facilities subject to the Air Toxics Hot Spots Program are required to prepare inventories of their air toxics emissions. The air toxic emissions inventories are analyzed and prioritized (using ARB approved screening procedures) as having a high, intermediate, or low probability of creating a significant health risk. The prioritization procedure considers the quantity of emissions, their toxic potency, and the distance to nearby sensitive receptors (e.g., homes, schools, hospitals). High priority facilities are then required to prepare site-specific health risk assessments.

### Air Toxics Review During Permit Renewal

VCAPCD Permits are renewed on an annual basis. During the permit renewal process, each permit is reviewed to determine if the facility’s Air Toxics Hot Spots program status needs to be revised.

Each facility that is currently subject to the program is also reviewed to determine if its status should be revised based on its current permit.

Each facility that is currently not subject to the program (including an “exempt” or “conditionally exempt” facility) is reviewed to determine if it should be made subject to the program based on its current permit.

### Air Toxics Review of Permit Applications

Each application for an Authority to Construct, or an application for a Permit to Operate when no Authority to Construct was issued, is reviewed to determine if a health risk assessment needs to be prepared for the application. This review includes various air toxics screening methods that are not as complex as a site-specific health risk assessment.

However, these screening methods contain very conservative assumptions in order to be most protective of public health. In addition, this review can include the review of a health risk assessment conducted for similar equipment or facilities. For example, previous health risk assessments conducted on natural gas-fired boilers, dryers, heaters, and new emergency diesel engines, have indicated health risks far below the level of significance. Therefore, the VCAPCD does not generally require site-specific health risk assessments for new natural gas-fired boilers, dryers, heaters, and new emergency diesel engines.

If a site-specific health risk assessment is needed, the health risk assessment is prepared for the air toxic emissions from the emissions units that are the subject of the application. The health risk assessment is prepared in accordance with the current guidelines used for the Air Toxics Hot Spots Program.

If the health risk from the new emissions units is significant (a cancer risk of greater than 10 in a million, or an acute or chronic hazard index of greater than 1) as defined above, the applicant is required to take action to reduce the risk to below the significance thresholds.

#### Health Risk Assessments For Oilfield Permits

Existing and new oilfield permits are also reviewed according to the procedures described above. As detailed in the VCAPCD 2016 Annual Report for the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Appendix A) there are a total of thirteen oilfield facilities that are subject to the program. These permits are the largest oilfield facilities in Ventura County.

The number of oil wells at these facilities range from a low of 8 oil wells to a high of 856 oil wells. All 13 of these facilities are currently designated as "intermediate priority" facilities meaning that they are not expected to create a significant health risk and do not require a site-specific health risk assessment at this time.

The VCAPCD recently permitted three new oilfield facilities in the agricultural area between Oxnard and Camarillo and conducted a site-specific health risk assessment for the first of them, and priority score screening analyses for the other two. Each facility included oil wells, storage tanks, oil truck loading, and natural gas-fired heaters / steam generators. The analyses indicated that these new facilities were not expected to create a significant health risk as follows:

#### Permit No. 08021 (Lenox Lease, Peak Operation LLC) - 4 oil wells

Site-specific health risk assessment: Cancer risk less than 1 in a million  
Hazard indices less than 0.1

Permit No. 07915 (Hunsucker Lease, Peak Operation LLC) - 8 oil wells

Priority = Low; site-specific health risk assessment not required

Permit No. 08062 (HBH Oil Development Lease, Peak Operation, LLC) - 6 oil wells

Priority = Low; site-specific health risk assessment not required

It is important to note that Ventura County has a number of oilfield rules and regulations that minimize toxic emissions from oilfield facilities. For example, Rule 71.1, "Crude Oil Production and Separation" requires vapor recovery systems on storage tanks and prohibits the uncontrolled venting of produced gas. All gas must be sold, combusted in on-site engines, heater treaters or steam generators, or combusted in a flare. In addition, Rule 74.10, "Components at Crude Oil and Natural Gas Production and Process Facilities", minimizes emissions through its leak detection and repair requirements. Rule 71.5, "Glycol Dehydrators," requires emission control systems on glycol dehydrator vents.

Also, the VCAPCD requires that new oil wells be equipped with electric powered pumping units as a best available control technology (BACT) requirement of Rule 26, "New Source Review." In addition, BACT also requires that all combustion equipment in an oilfield be fueled with natural gas. The combustion of crude oil or diesel fuel in heater treaters, steam generators, compressor engines, and similar such equipment is prohibited.

### 3) Overall Conclusion

Based on the qualitative health risk assessment discussion presented in Section 1 and the Air District's health risk procedures for oil production facilities, it can be concluded that the subject Renaissance Petroleum project will not cause a significant human health risk from air toxic emissions in the area. If and when this project is submitted to the Air District, we will evaluate the application and will not issue an Authority to Construct if the project will cause a significant health risk.

If you have any questions or need additional information, please do not hesitate to contact me at 805-645-1427 or [chuck@veapcd.org](mailto:chuck@veapcd.org).