Association of Irritated Residents
Tom Frantz, President
30100 Orange St
Shafter, CA 93263

March 11, 2011

CEC docket # 08-AFC-8

To the CEC, HECA, EPA Region IX and all other parties concerned:

This is a data request for the applicant but it is hoped the CEC, EPA, and the SJV air district will also consider the implications. The actual request is at the end of the document after some preliminary background information. The request is not argumentative nor should the answer be confidential.

In the Memorandum from URS dated October 11, 2010, and sent to Scott Bohning of the EPA, an explanation is given for the selection of the Shafter air monitor for ozone readings which lead to required NO2 and O3 modeling data. AIR questioned this same monitor selection for the modeling of NOx emissions in 2009 in the air quality analysis of the Revised AFC. AIR questioned why the Arvin monitor was not more appropriate and requested the data to be recalculated. Below is the partial response from the applicant to that earlier data request from AIR (copied paragraphs are in blue):

With respect to the monitoring data used in the air quality analysis presented in the Revised AFC, the Applicant used the highest reading from the monitoring station most representative of ambient air quality at the location of the Project. Criteria used to assess whether data from a monitoring site represent conditions at a project site include the distance between the project site and the monitoring station, source types and source locations potentially influencing both locations, terrain, and meteorological conditions. Monitoring sites influenced by nearby emission sources are not representative of a project site unless the project site is also influenced by similar nearby emission sources. Data from urban areas potentially influenced by traffic, commercial, and residential emission sources are generally not representative of conditions at a rural site such as the Project site.

For some projects, it is possible to obtain data from a monitoring station in close proximity to the project site. When no nearby station exists, as in the case of the Project, the best approach is to find an existing monitoring station with data that represent the location of the proposed project….

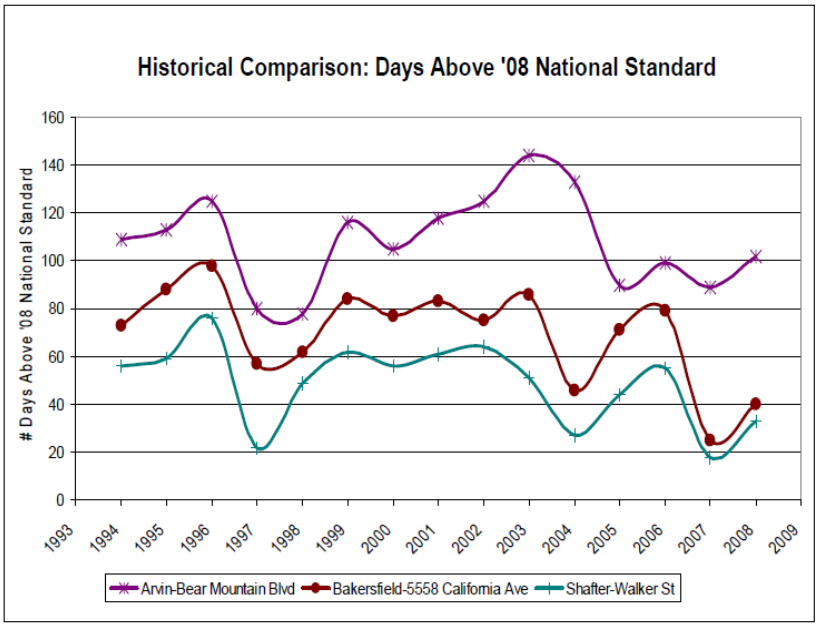
…The Shafter-Walker Street Station is closest to the Project site, is much more rural than any of the stations in the greater Bakersfield area, and has topography and meteorology very similar to the Project site. Therefore, the Shafter-Walker Street Station was selected as having the most representative ozone data.

The Arvin-Bear Mountain Boulevard Station is the station farthest from the Project site in Western Kern County and is much closer to elevated terrain that is widely known to obstruct air flow movement out of the valley. Therefore, the ozone data from the Arvin-

Bear Mountain Station are not representative of the ozone levels at the Project site, and were therefore not selected.

The figure below was used in AIR's earlier data request to show that Shafter has significantly cleaner air historically, in regards to ozone violations, than either Arvin or Bakersfield.

Figure AIR 2-1. Number of Days Above 2008 8-Hour Ozone National Standard



Source: CARB- ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/Branch, Last access: October 15, 2009)

Even though Shafter is closer to the HECA site than Bakersfield or Arvin it is not the most appropriate monitoring site for the purposes of estimating local air quality around HECA. Shafter, because of its location, has exceptionally good air quality compared to other places in Kern County where there are monitors for ozone levels. Shafter also has better air quality than places to the north such as Corcoran or Fresno proving that local pollution levels in Kern County are influenced by what is relatively nearby and not so much from what drifts down the valley from 100 miles or more to the north. The reason for this better air quality in Shafter is because Shafter sits in the middle of agricultural land and in the middle of the valley floor (there are no hills or mountains nearby). It also has no big industrial sources of pollution nearby or major highways and roads with a lot of heavy truck traffic. The issue of truck traffic is important as will be explained.

To anyone who has studied air quality issues around Kern County it is known that proximity to a specific source of NOx emissions alone is not enough for that area to have an ozone problem. The NOx mixes with VOC's on a regional level to form ozone levels that can vary greatly over a distance as small as 10 miles. The open area around Shafter and the relatively low NOx levels drifting into the town and those produced locally do not allow for a lot of buildup of ozone pollution during periods of air stagnation, high barometric pressure or atmospheric inversion episodes. The opposite can obviously take

place around the HECA site because of its proximity to nearby hills and mountains plus far greater sources of NOx and VOC's that float around the area and can potentially mix and raise local ozone levels. Arvin has a similar situation to HECA in many ways that are different from Shafter.

The applicant argues that Shafter is the best site simply because it is closest to HECA and is surrounded by farmland like HECA. They neglect to mention that HECA is up against the hills immediately to the south and near the mountains on the west side of the valley where these mountains are beginning to curve around to the southeast effectively blocking air flow over the HECA site in many local atmospheric conditions. HECA is also very near to heavy industrial sources of pollution in the nearby oil fields to the northeast, west, and south and just south of a major interstate and a couple busy highways. These conditions must be considered in the comparing of different monitoring sites.

It must be emphasized that the area surrounding Shafter is not at all like the HECA environment when looking at more than just a one or two mile radius. Arvin, on the other hand, is also up against the mountains and, with the worst ozone levels in the valley, obviously exposed to heavy sources of pollution that are not produced in its immediate vicinity which is mainly agriculture. It is not difficult to see that Arvin's source of pollution is from places like the oil fields north of Bakersfield and also the oil fields on the west side of the valley near HECA. Arvin also has highway traffic with heavy trucking not too far away on Hwy 99 to the west and Hwy 58 to the north. Plenty of NOx emissions from several miles away can drift into the Arvin area and form ozone. This can happen at the HECA site as well but not as much at the Shafter site.

The following three paragraphs should be the argument for choosing the Arvin site over Shafter for the necessary modeling in this permit application.

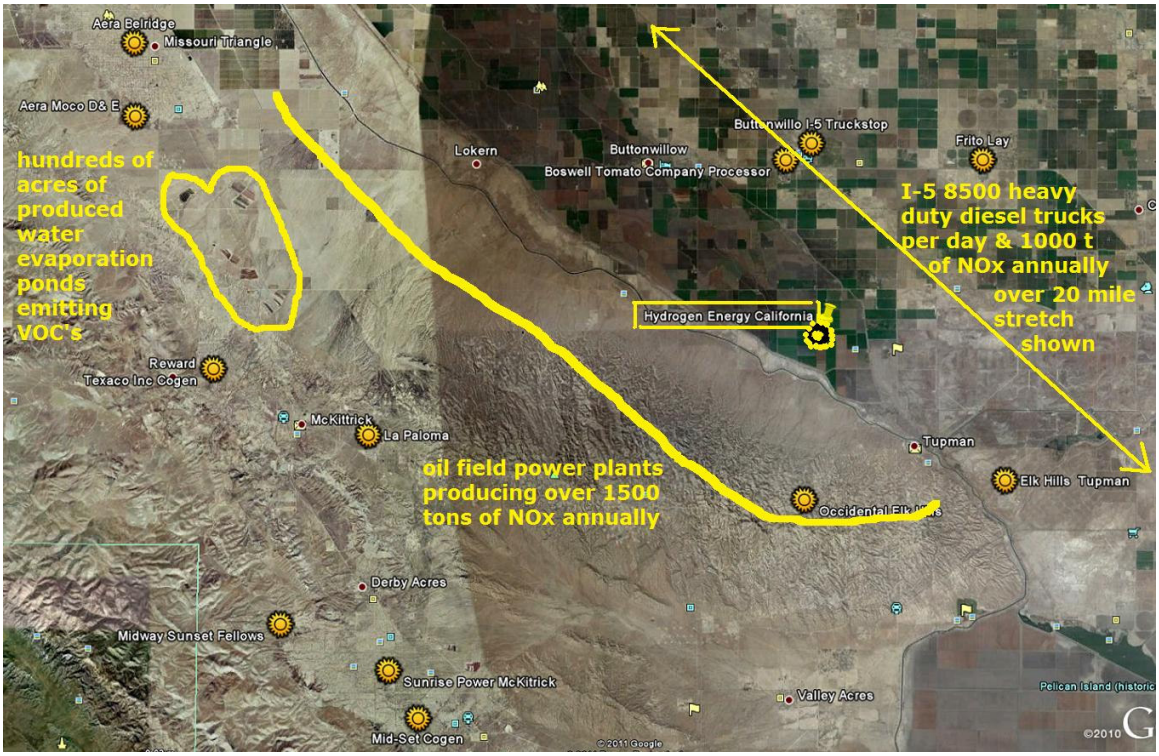
The HECA site is downwind of high levels of industrial pollution and NOx emissions and so is Arvin. The HECA site is backed up against hills and mountains at the southern end of the San Joaquin Valley and so is Arvin. The HECA site is a few miles away from huge sources of pollution but with a farming buffer zone and so is Arvin. Shafter, on the other hand, is surrounded by flat farmland for many more miles in all directions and has no large, nearby industrial sources and busy freeways such as those that can influence and raise ozone levels at both HECA and Arvin.

There are very large sources of NOx emissions near HECA that easily total over 2,500 tons per year and which can easily build up against the hills in the area HECA wishes to locate in. These consist partly of 1,500 tons annually from large stationary sources alone coming from nearby power plants and steam generators in the oilfields and another 1,000 tons emitted by heavy duty diesel trucks annually from just a nearby 20 mile stretch of I-5. There are many smaller sources of NOx as well in nearby oil field operations and other busy highways. There is no such situation with totals even close to these same levels of NOx emissions at similar distances from Shafter. Arvin, on the other hand, obviously receives large NOx emissions from oil fields, industry, and major freeways

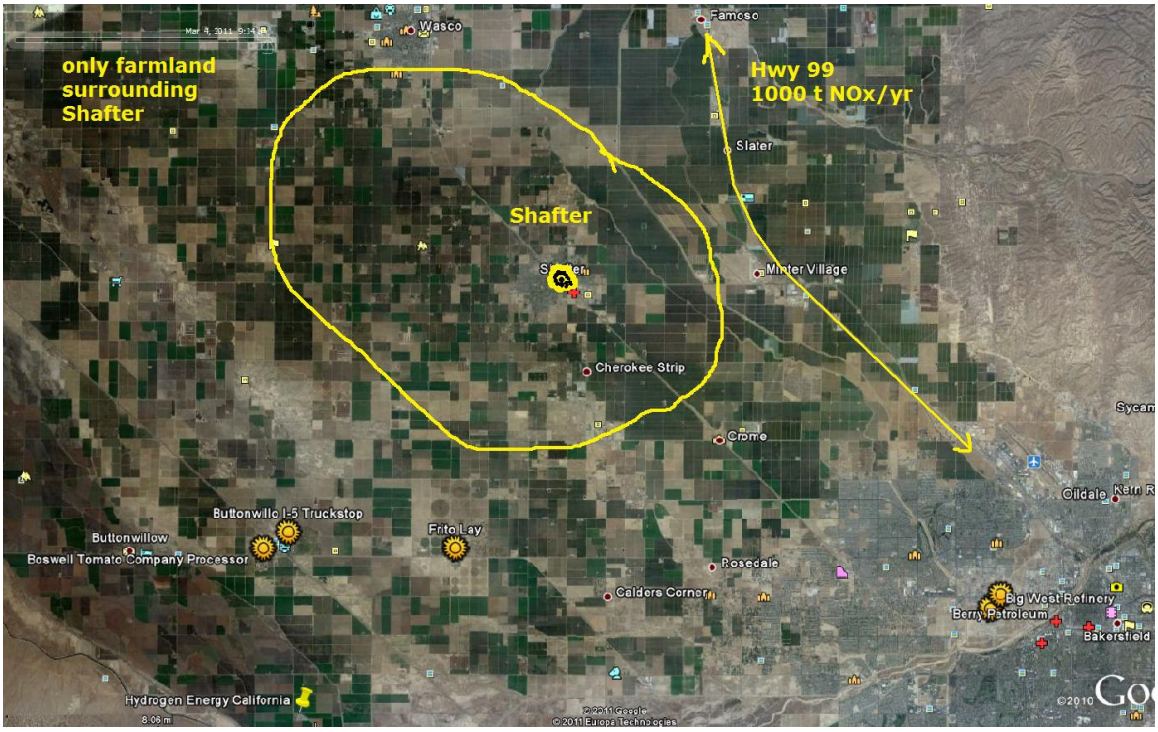
which strongly influence its air quality. This is obvious because there is no other reason for Arvin to have the worst air in the San Joaquin Valley and second worst in the entire country (Only a site high in the mountains above San Bernardino, called Crestline, seems to have worse ozone levels than Arvin). The HECA site is very similar to Arvin and much different than Shafter. Traffic on I-5, as close as 2.5 miles from the site, is not at all similar to the traffic on Hwy 43 in Shafter. Hwy 99 is also more than twice as far away and less upwind from Shafter as I-5 is in relation to the HECA site.

In choosing a site it is normal, under CEQA, to be conservative and choose the site that is more likely to overestimate air pollutants rather than underestimate. For that reason also, Arvin is a better choice than Shafter.

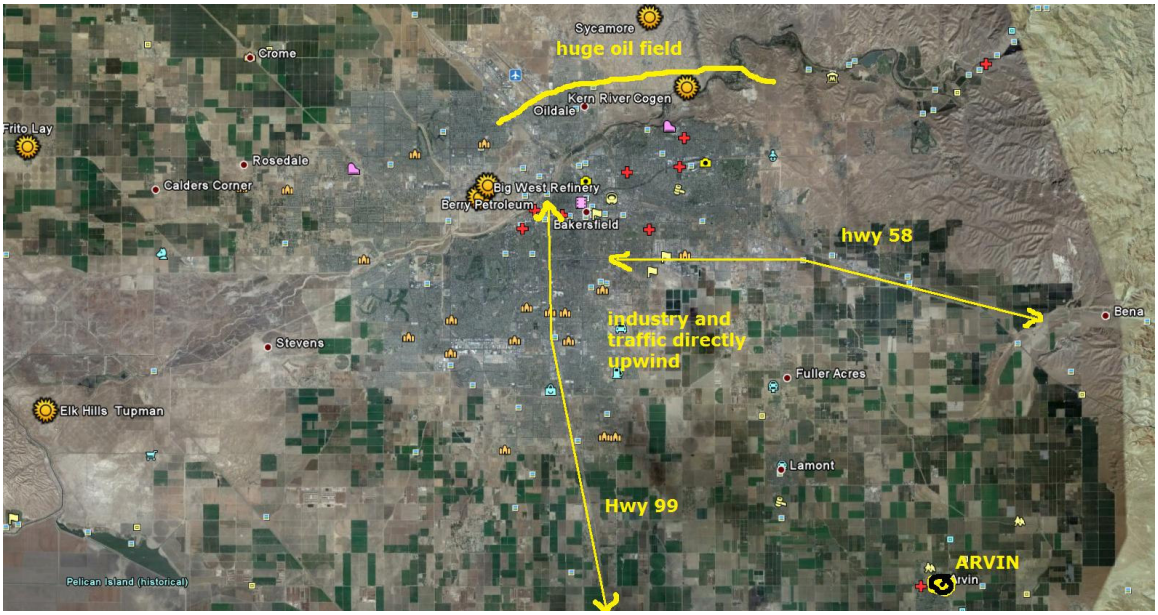
The following satellite photos, with some labels, also illustrate that Arvin should have been the monitoring site chosen for the HECA analysis. The viewer can easily see that major sources of NOx and VOC's will strongly influence the air quality around HECA which sits up against the hills to the south and higher mountains not far to the southwest. If the applicant or the CEC needs a tour of the area to see this reality, AIR can arrange such an outing.



A. HECA



B. SHAFTER



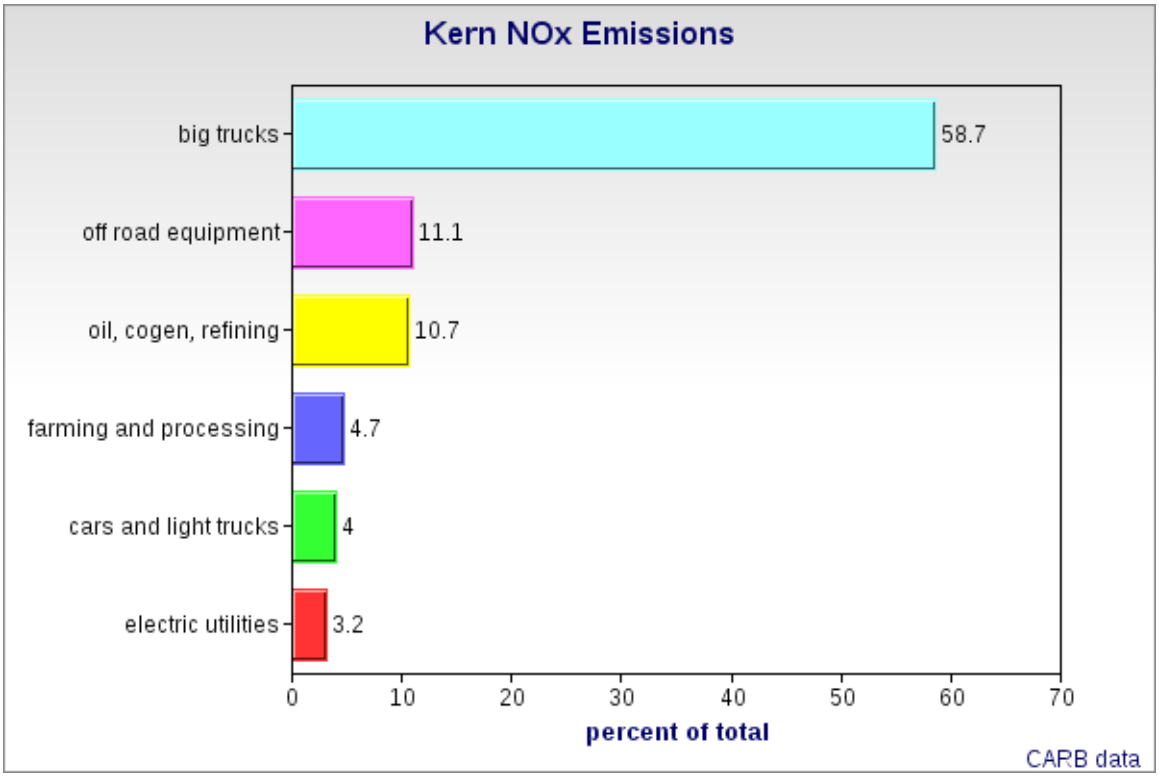
B. ARVIN

It is important to note the applicant does not give correct information about traffic on the section of Hwy 43 that passes through Shafter. In the Memorandum of Oct 11, 2010, via URS, the applicant states that Hwy 43 in Shafter has 14,000 vehicle trips per day. This number may be close to the traffic estimate on Hwy 43 near Fresno (Selma), but it is not close to what occurs in Shafter where the most recent estimation is 10,000 trips daily. The number given by the applicant is therefore 40% too high. I-5, near HECA has

32,000 vehicle trips per day, in comparison. Seventh Standard and Hwy 58, near HECA, would have many thousands of daily trips as well. As Arvin shows, sources of NOx do not just cause air pollution for nearby sources. It is logical to assume that traffic near HECA is a far greater pollution factor on local areas than the traffic near Shafter.

In the choosing of the location for the most appropriate monitor it is important to not assume that the 10,000 (14,000) vehicle trips through Shafter are similar in nature to the traffic and other conditions nearby HECA. For example, heavy duty truck traffic through Shafter is a much smaller percentage of total vehicle numbers when compared to the percent of heavy duty trucks on I-5 in the HECA area (10% vs. 30%). There are also 25 times more heavy duty diesel truck trips daily on nearby I-5 compared to Hwy 43 in Shafter. In the appendix following this data request are the figures showing the traffic on these two major highways of concern. I-5, near HECA, has 7,499 heavy diesel truck (5 axle) trips daily and Hwy 43, in Shafter, has 300 similar daily trips.

Heavy duty diesel trucks are the number one source of NOx emissions in the Southern end of the valley. CARB inventory figures for NOx emissions in Kern County show that heavy duty trucks emit over 55% of total annual NOx and the majority of the other vehicles on our roads and highways (cars and light trucks) emit only 4% of the total NOx. This is illustrated in the chart below.



Data Request from AIR (March 11, 2011):

Please provide an analysis of the modeling of NOx, O3, NO2, and any other similar modeling that is necessary for this permit using the Arvin air monitor data in place of the Shafter data. To clarify, this request includes a request for a new analysis of the modeling already done in 2009 but using Arvin data this time. The validity and appropriateness of modeling done by the applicant in 2009 using Shafter data was already questioned by AIR and is still being questioned here. The CEC and the public needs to see clearly what differences in the permit application this new modeling would make.

Sincerely,

Association of Irritated Residents
Tom Frantz, President
Original signed by Tom Frantz

Appendix for AIR data request of March 10, 2011

California Department of Transportation traffic count data for Hwy 43 in Shafter and I-5 at Hwy 58

2009 estimates of total vehicle and total truck traffic http://traffic-counts.dot.ca.gov/2009all/docs/2009truckpublication.pdf

RTE	DIST	CNTY	POST MILE	LEG	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK AADT TOTAL	TRUCK % TOT VEH	TRUCK AADT TOTAL By Axle 2	3	4	5+	% TRUCK AADT By Axle 2	3	4	5+	EAL 2-WAY (1000)	YEAR VER/ EST
043	06	KER	15.89	A	CENTRAL VALLEY HIGHWAY	10000	1000	10	580	50	70	300	58	5	7	30	139	04E
005	06	KER	52.145	B	JCT. RTE. 58	32000	9699	30.31	1800	250	150	7499	18.56	2.58	1.55	77.32	2695	06E

2008 estimates of total vehicle and total truck traffic http://traffic-counts.dot.ca.gov/truck2008final.pdf

RTE	DIST	CNTY	POST MILE	LEG	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK AADT TOTAL	TRUCK % TOT VEH	TRUCK AADT TOTAL By Axle 2	3	4	5+	% TRUCK AADT By Axle 2	3	4	5+	EAL 2-WAY (1000)	YEAR VER/ EST
043	06	KER	15.89	A	CENTRAL VALLEY HIGHWAY	8100	810	10	470	41	57	243	58	5	7	30	112	04E
005	06	KER	52.145	A	JCT. RTE. 58	28500	8678	30.45	1519	260	174	6725	17.5	3	2	77.5	2423	05E

KERN COUNTY - SAN JOAQUIN VALLEY AIR BASIN base year 2008 NOx emission inventory in tons per day
http://www.arb.ca.gov/app/emsinv/fcemssumcat2009.php

STATIONARY SOURCES	
SUMMARY CATEGORY NAME	**2010**
FUEL COMBUSTION	
ELECTRIC UTILITIES	4.592
COGENERATION	3.601
OIL AND GAS PRODUCTION (COMBUSTION)	9.390
PETROLEUM REFINING (COMBUSTION)	1.609
MANUFACTURING AND INDUSTRIAL	0.549
FOOD AND AGRICULTURAL PROCESSING	3.202
SERVICE AND COMMERCIAL	1.574
OTHER (FUEL COMBUSTION)	0.042
*** TOTAL FUEL COMBUSTION**	24.559
WASTE DISPOSAL	
SEWAGE TREATMENT	0.005
LANDFILLS	0.009
INCINERATORS	0.020
SOIL REMEDIATION	0.014
OTHER (WASTE DISPOSAL)	0.000
*** TOTAL WASTE DISPOSAL**	0.049
CLEANING AND SURFACE COATINGS	
LAUNDERING	0.000
DEGREASING	0.000
COATINGS AND RELATED PROCESS SOLVENTS	0.000
PRINTING	0.000
ADHESIVES AND SEALANTS	0.000
OTHER (CLEANING AND SURFACE COATINGS)	0.000
*** TOTAL CLEANING AND SURFACE COATINGS**	0.000
PETROLEUM PRODUCTION AND MARKETING	
OIL AND GAS PRODUCTION	0.325
PETROLEUM REFINING	0.080
PETROLEUM MARKETING	0.000
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.000
*** TOTAL PETROLEUM PRODUCTION AND MARKETING**	0.405
INDUSTRIAL PROCESSES	
CHEMICAL	0.003
FOOD AND AGRICULTURE	0.000
MINERAL PROCESSES	0.073
METAL PROCESSES	0.000
WOOD AND PAPER	0.000
GLASS AND RELATED PRODUCTS	0.000
OTHER (INDUSTRIAL PROCESSES)	0.000
*** TOTAL INDUSTRIAL PROCESSES**	0.076
**** TOTAL STATIONARY SOURCES**	25.089

AREAWIDE SOURCES	
SUMMARY CATEGORY NAME	**2010**
SOLVENT EVAPORATION	
CONSUMER PRODUCTS	0.000
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.000
PESTICIDES/FERTILIZERS	0.000
ASPHALT PAVING / ROOFING	0.000
*** TOTAL SOLVENT EVAPORATION**	0.000
MISCELLANEOUS PROCESSES	
RESIDENTIAL FUEL COMBUSTION	1.061

FARMING OPERATIONS	0.000
CONSTRUCTION AND DEMOLITION	0.000
PAVED ROAD DUST	0.000
UNPAVED ROAD DUST	0.000
FUGITIVE WINDBLOWN DUST	0.000
FIRES	0.003
MANAGED BURNING AND DISPOSAL	0.907
COOKING	0.000
OTHER (MISCELLANEOUS PROCESSES)	0.000
*** TOTAL MISCELLANEOUS PROCESSES**	1.972
**** TOTAL AREAWIDE SOURCES**	1.972
MOBILE SOURCES	
SUMMARY CATEGORY NAME	**2010**
ON-ROAD MOTOR VEHICLES	
LIGHT DUTY PASSENGER (LDA)	2.416
LIGHT DUTY TRUCKS - 1 (LDT1)	0.933
LIGHT DUTY TRUCKS - 2 (LDT2)	2.306
MEDIUM DUTY TRUCKS (MDV)	1.909
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.961
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.175
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.425
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.415
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.759
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.513
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	4.134
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	72.677
MOTORCYCLES (MCY)	0.291
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.358
HEAVY DUTY GAS URBAN BUSES (UB)	0.043
SCHOOL BUSES (SB)	0.473
OTHER BUSES (OB)	0.153
MOTOR HOMES (MH)	0.173
*** TOTAL ON-ROAD MOTOR VEHICLES**	89.114
OTHER MOBILE SOURCES	
AIRCRAFT	0.323
TRAINS	4.104
RECREATIONAL BOATS	0.378
OFF-ROAD RECREATIONAL VEHICLES	0.013
OFF-ROAD EQUIPMENT	15.630
FARM EQUIPMENT	3.410
FUEL STORAGE AND HANDLING	0.000
**** TOTAL MOBILE SOURCES**	112.974
*** TOTAL OTHER MOBILE SOURCES**	23.859
TOTAL KERN IN SAN JOAQUIN VALLEY	140.035