Theodore D. Schade
Air Pollution Control Officer

Great Basin Unified Air Pollution Control District

157 Short Street, Bishop, California 93514-3537
Tel: 760-872-8211 Fax: 760-872-6109 E-mail: schade@greatbasinapcd.org

April 4, 2006

Mr. Ronald F. Deaton
General Manager
Los Angeles Department of Water and Power
111 Hope Street
Los Angeles, California 90012-2607

Subject: Modified Determination and Response to the City of Los Angeles' Alternative Analysis of the Air Pollution Control Officer's 2004/2005 Supplemental Control Requirements Determination

Dear Mr. Deaton:

This letter and the enclosed supplemental materials constitute the Great Basin Unified Air Pollution Control District's (District's) response to the City of Los Angeles Department of Water and Power's (City's) alternative analysis of the District's 2004/2005 Supplemental Control Requirements Determination (SCR determination). As a result of the District's review of the City's alternative analysis, the District has modified its SCR determination as described in more detail below.

Procedural Background

On December 21, 2005, the Air Pollution Control Officer (APCO) issued the SCR determination for the July 1, 2002 through June 30, 2004 data collection period. The SCR determination is required by federal and state law, including the federal Clean Air Act, 42 U.S.C. Section 7502(c)(9), and District Board Order #031113-01 contained in the 2003 Revision to the *Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan* (2003 SIP). The City agreed in writing to the terms of the Board Order, including the procedures for the SCR determination, in October 2003.

The 2003 SIP is the District- and State-approved plan for meeting the PM_{10} National Ambient Air Quality Standard (NAAQS) in the southern Owens Valley. It sets forth the requirements for the District's collection and analysis of data and it prescribes the procedure to be followed to allow the City a full review, comment and alternative analysis of the District's efforts. The APCO is legally required to follow the SIP requirements—for both the original SCR determination and the review of the City's alternative analysis.

On February 27, 2006, the City submitted to the District a letter dated February 22, 2006 from the General Manager of the Los Angeles Department of Water and Power, and a two-volume document prepared by the consulting firm CH2M Hill titled *Alternative Analysis of 2004-2005 Owens Lake Supplemental Control Determination* dated February 2006. The District requested additional information from the City, some of which was submitted electronically on March 16 and 17, 2006. The District has thereby provided the City with the opportunity to comment on the SCR determination as provided for in the 2003 SIP. The City's comments on the SCR determination are also referred to as the "alternative analysis."

The District has reviewed and considered all the information in the City's alternative analysis of the data under the 2003 SIP. The District's review of the City's alternative analysis also provides an opportunity to assess how the SIP procedures that the District and City jointly developed in 2003 have performed in guiding the City's efforts to meet the PM_{10} standards for the dust emissions from the dry bed of Owens Lake.

Summary of City's Alternative Analysis

The City's alternative analysis and supporting data are analyzed in detail in the accompanying materials to this letter. In summary, the City argues that the SCR determination was flawed and concludes that no additional areas on the Owens Lake bed require dust controls, for the following reasons:

1. The District did not discount the impacts of dust created by the City's temporary construction activities;
2. The District used substitute data that had not been authorized by the City;
3. The District included data from areas that will be controlled by the end of 2006, and therefore should not be part of a supplemental control analysis;
4. The District used data that had been impaired by man-made disturbances (e.g., vehicle traffic)
5. The District placed data collection equipment in locations that did not provide a representative sample of those areas;
6. The District did not comply with the requirements to verify the boundaries of emissive areas;
7. The SCR determination used a model that erroneously indicates the areas of the lake bed that require dust controls;
8. The City should not be required to implement additional expensive dust control measures until it completes its current dust control work on 29.8 square miles of the lake bed.

Summary of District's Review and Response

1. <u>The District did not discount the impacts of dust created by the City's temporary construction activities.</u>

The District extensively reviewed and analyzed the information presented by the City regarding dust created by temporary construction activities. The District concludes that the City has provided an insufficient demonstration supporting its alternative analysis, and also finds that construction activities had no apparent impact on the data associated with the SCR determination.

First, almost all the sites inside the construction areas showed less erosion during construction than prior to construction. This may be due to the active dust suppression measures implemented by the City during construction activities. It may also be due to the increased roughness of disturbed surfaces and the fact that surface disturbance exposes moist sub-surface soils which tend to resist wind erosion. However, there does not appear to be evidence of significant increased dust generation during the construction activities. If the City's theory that construction caused an increase in sand flux was true, then the areas closest to the construction activity, more specifically those inside the construction boundaries, would have to show an increase in sand flux.

The City's site-by-site analysis of the monthly sand flux and the timing of construction activities showed this same result. However, the City's submissions did not analyze the reduction in sand flux at the sites closest to the construction activities and therefore omitted this analysis that contradicts its argument.

Second, during the SCR determination period of July 2002 through June 2004, the City's construction activities disturbed a total of only 1.53 square miles of lake bed. There is no credible evidence submitted by the City or otherwise presented in the administrative record that construction activities on 1.53 square miles caused nearly nine square miles of lake bed to become emissive.

Third, similar to the construction areas themselves, the measurements of sand flux in a wider area than in the temporary construction areas also do not show an increase during construction periods. Figure 1 below shows monthly total sand flux values for all 47 Sensit sand flux monitors in the central areas of the lake bed from January 2002 through June 2005. It can be seen that during the Phase 3 construction across this central area (green shading) that the sand flux values for the entire area actually went down. Figure 2 below shows sand flux values in the central area of the lake bed plotted against distance to construction activities during the Phase 3 construction across that portion of the lake bed. Contrary to the City's claims, it can be seen that there is no correlation between sand flux and distance to construction. This evidence, in addition to significant additional analysis presented in our response, supports the finding that construction activities do not cause widespread impacts across the lake bed.

Fourth, the 2003 SIP and its associated Environmental Impact Report require the City to prepare and implement plans for controlling the dust generated by the construction activities. As noted above, the City's construction contractors provided and properly implemented dust control plans for the work on the lake bed. The District monitored good compliance with the dust control plans. The City's construction mangers also noted such compliance throughout the duration of construction. The alternative analysis does not show that the City's control of dust from its activities was so ineffective as to materially impact the District SCR Determination.

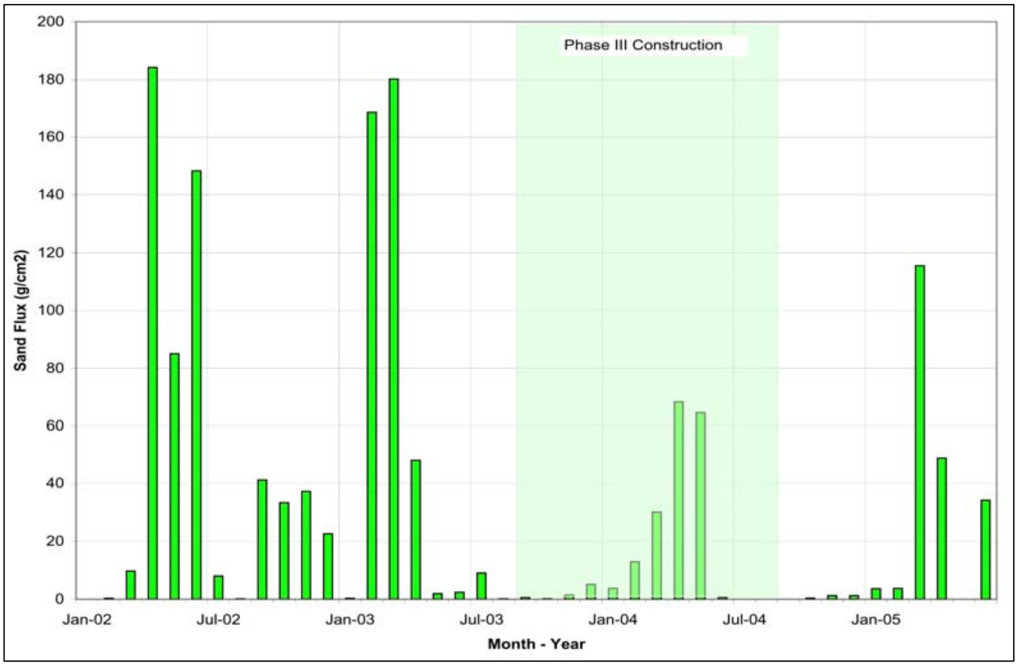

Figure 1 – Central zone composite monthly sand flux – 47 monitoring stations

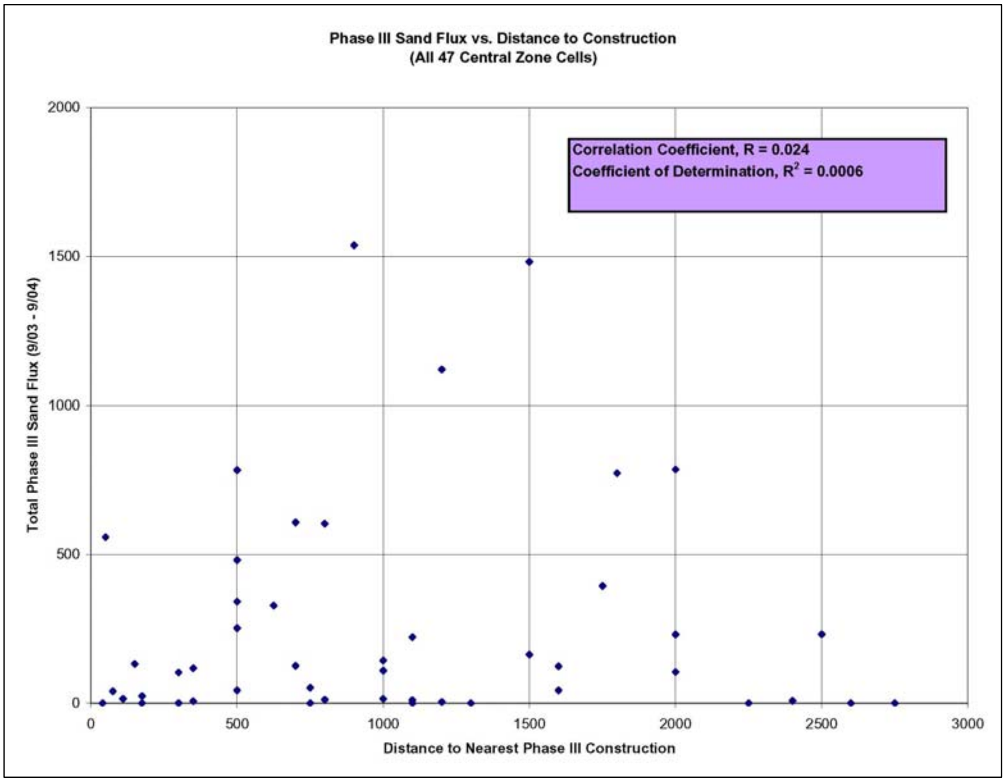

Figure 2 – Central zone sand flux vs. distance to Phase 3 construction

Fifth, the City's conclusion that dust generated by its temporary construction activities are the cause of exceedances of the PM_{10} standards is largely based upon assumptions that are neither valid under the scientific method of testing a hypothesis, nor supported by the data. To test a hypothesis, a scientist would examine all the variables that could affect the results of a test, not just one, and a very limited one at that. For example, the City failed to investigate other lines of evidence that could have been used to determine if construction was truly the cause of the erosion activity, such as; did the timing of the SCA events only coincide with construction activities, did all areas close to construction sites show an increase in erosion during construction, did erosion activity coincide with regional and/or seasonal erosion patterns. The City examined only one variable, construction activities, and their investigation was limited to SCA areas ignoring the larger pool of information from inside and outside the construction zones. The record before the District contains significant evidence that the City's construction activities were not the cause of dust emissions from the supplemental control areas on the Owens Lake bed.

2. <u>The District used substitute data that had not been authorized by the City.</u>

As part of the analysis of areas of the lake bed that require dust control measures, the City and the District agreed upon a protocol in the 2003 SIP, known as the Dust Identification Program, that would utilize a data collection procedure and modeling analysis to identify the actual sources of Owens Lake dust. The Dust ID program uses sand flux data from over 130 lake bed monitor sites, meteorological data from 13 stations and PM_{10} data from seven ambient monitor sites above the historic shoreline. Following the 2003 SIP Dust ID protocol, hourly PM_{10} emissions from each dust source area are estimated by multiplying the measured sand flux by periodic K-factors that are determined by comparing model predictions to observed concentrations at the PM_{10} monitor sites. Previous research found that due to variable lake bed conditions, K-factors change periodically and, due to varying soils, K-factors can be different in different areas of the lake bed.

The City was concerned that some active source areas were missed by the sand flux monitoring network and that these missing sources were causing higher K-factors, which in turn increased the PM_{10} emissions from the monitored source areas. Finding missing sources of sand flux and putting them into the Dust ID model was a high priority for the City and their consultants. At the City's request, the District included in the Dust ID model an alternate data filling method (Gillette model) for a 40-acre area used for construction staging (Charlie's Line-up) and an 18-acre emissive area near Keeler. Based upon its discussions with City staff, District staff understood that the City agreed with the use of this data-filling method.

After the District issued its SCR Determination in December 2006, the City, for the first time, challenged the use of the Gillette model as the alternate data filling method. Because the 2003 SIP requires an explicit written agreement between the Air Pollution Control Officer and the LADWP General Manager prior to the use of such alternative methods, the District concludes that it cannot rely upon the verbal communications with the City's staff, nor the course and scope of their joint use of the Gillette model, as a binding consent of the City for this alternate data filling method.

The District has therefore removed the use of the alternate data filling method from the December 2005 SCR Determination. As required by the 2003 SIP, default K-factors will be used in the model for periods when these two source areas were included. However, the entire two year modeling period was not affected. The periods when the sand flux data was filled using the Gillette model was July 2003 through June 2004 for Charlie's Line-up (south area K-factors), and March 2004 for the 18-acre area near Keeler (central area K-factors).

The result of removing the 18-acre area from the SCA list, and applying default K-factors for the north and central areas for March 2004, and for the south area for July 2003 through June 2004, is the removal or modification of five control SCR areas totaling 0.61 square miles. The SCR Determination is modified to reflect this change.

3. The District used data from areas that will be controlled by the end of 2006.

The City is not satisfied with the SCR Determination because the District used sand flux data from monitors located within areas designated for dust control by the 2003 SIP. Eight Sensit sand flux monitors used in the SCR determination are located within areas designated for control by the end of 2006. However, seven of the Sensits were located in areas in which no construction activities occurred during the 24-month SCR data collection period (July 2002 through June 2004). The District declines to accept the City's argument that only data collected after the dust control measures are implemented should be utilized in determining whether supplemental control measures are needed. The District believes the 2003 SIP protocols implicitly direct that all available, relevant data be considered. The District followed proper SIP procedures to identify and refine the SCAs using a longer data collection period—thereby improving the confidence in the boundaries. The source boundaries in question in the SCA determination were based on multiple lines of data which include: sand flux, observational maps, surface investigations and GPS mapping—all of these data were collected from the 2002-2004 SCA period, including data from the eight Sensit sand flux monitors. The City has presented no credible evidence that would justify excluding the Sensit data from seven of the eight areas.

However, the District did use sand flux data from one Sensit (7655) that was located within the existing managed vegetation DCM area and applied sand flux data collected from within the DCM to an area outside the DCM boundaries. This did not accurately represent the conditions outside the DCM. Therefore, SCA 7655 will be removed from the SCA list. This results in removing 0.04 square miles from the total SCR area. The SCR Determination is modified to reflect this change.

4. The District used data that had been impaired by man-made disturbance.

The City claims that Sensit sand flux monitors placed too near roads cannot accurately represent the surface conditions in those areas. A value of 75 yards is then used as a threshold for the exclusion of data. The City makes no demonstration that there was a bias in the data from the location of the sites in question near the roads. There is also no supporting discussion on how the City selected the value of 75 yards or the significance of this number.

Based upon all the information in the record, the District concludes that these roads did not impact the data—in fact, well-maintained roads create hard pavement-like surfaces that do not allow for sand and dust emissions to occur.

The City also suggests that when the District travels by All-Terrain-Vehicle (ATV) to Sensit sand flux monitoring sites to collect data, that the protective salt crust is destroyed. The City contends that by traveling to the Sensit sites, the data have been biased and should be discarded. However, the City presents no quantitative data or evidence to support this claim. The City shows no correlation between man-made disturbances and SCAs, and no study demonstrating a cause and effect relationship.

The District concludes that the City's alternative analysis is inadequately supported regarding the effect on lake bed surfaces from ATV's. The District's observations confirm that while there is occasional damage to the surface, most of the time the crust is neither damaged nor destroyed. The pressure exerted by an ATV on the surface of the lake bed is between 2 to 4 pounds per square inch. This is about the same pressure exerted by a 160 pound person walking on the lake bed. The District uses the same careful procedures to access all the instruments on the lake bed, including those that do not indicate the need for SCAs. The District concludes that the City has presented insufficient evidence or analysis that man-made disturbances have biased the data.

5. <u>The District placed data collection equipment in locations that did not adequately represent the areas to which they apply.</u>

The City claims that the sand flux collected by the District does not adequately represent the areas where they are located and that the sand flux data would be better represented by soil surface polygons mapped by the City in the summer of 2005 (outside the fall through spring "dust season" and one year after the end of the SCR period). The City's claim is in conflict with the results of 10 soil and surface surveys conducted on the lake bed between 1982 and 2002 and is based on a small data set which has never been quantitatively evaluated with data from the Dust ID program. The District has specifically evaluated past soil and surface surveys and determined that the best approach for delineating source areas and assigning sand flux values is to use a method that evaluated multiple lines of evidence. These data are intended to corroborate each other, thereby generating a comprehensive picture of the location of lake bed dust sources.

The bed of Owens Lake is a very dynamic place that responds quickly and dramatically to changes in moisture, temperature and wind conditions. Many of the erodable surfaces present on the lake bed are repeatable in time and space, as well as from year to year and season to season. However, many other erodable surfaces are less predictable and are present or absent in longer-period cycles. The first phases of dust control were based on a temporally-limited data set—30 months of data were used for those areas delineated in the 2003 SIP. Many of the areas present on the lakebed that were not included in the 2003 SIP had been observed by the District to be active sources prior to 2000 (beginning of the Dust ID project) but were not included because of an agreement between the City and the District to limit the source areas in the 2003 SIP to data collected between January 2000 and June 2002 (30 months). Based on the 24 months of additional data collected from July 2002 through June 2004, the record supports the finding that additional areas of dust control are required. As in the past, these areas became emissive due to natural changes and not due to construction activities. For over 20 years the District has well documented its contention that somewhere between 35 and 46 square miles of the Owens Lake bed would eventually require controls (see the District's 1988 and 1997 SIPs).

The City shows no correlation between the data from their summer 2005 surface mapping and the sand flux monitoring and dust storms that occurred in 2002 through 2004. The City also provides no demonstration that the District's source area delineation would be better represented differently. As such, the City has presented insufficient credible evidence that would justify using its soil condition survey polygons.

6. <u>The District failed to comply with the requirements to verify the boundaries of emissive areas.</u>

The City claims that the dust observations and GPS surveys were not conducted properly and that procedural error by the District caused areas to be incorrectly included in the SCR determination. Based on a review of the material presented and the delineation data collected during the SCR period by the District, the District finds that 1) the accuracy of the dust plume observation boundaries are well within that specified in the development of the SIP and 2) GPS surveys were carefully conducted following the procedures provided in the SIP. The GPS surveys were conducted following the definition of a source boundary provided in the SIP and correctly included areas of wind-blown salt deposits and sand deposition. GPS survey events were conducted appropriately with respect to precipitation events and the interiors of the areas surveyed were checked for surface character. GPS surveys were conducted 42 different times during the SCA period. Data from these surveys were used in conjunction with sand flux data, real-time dust plume observations, dust video from time lapse cameras, and expert surface inspections to correctly identify the source area configurations used in the dispersion modeling.

The District concludes that the City has not presented sufficient if any quantifiable evidence to indicate there were errors in the methods used for plume observations and GPS source area delineation, or that the source areas identified caused mistakes in determining SCAs. Furthermore, the City has not demonstrated that the District's data for the source area delineations resulted in misguided spatial assignment of emissions for the SCAs. The City has not quantitatively supported their arguments and has used vague subjective language when evaluating the work done by the District. The District has been and continues to be very careful in following the procedures and protocols required in the 2003 SIP. Based upon the materials submitted in the alternative analysis, the District finds no errors or procedural violations in the way the source area data were applied as part of the Dust ID program.

7. <u>The District relied on a model that erroneously indicates the areas of the lake bed that require dust controls.</u>

The District considered the arguments in the City's alternative analysis and found no justification for the removal of SCAs on the basis of poor model performance. The City and the District have been working together since 1999 on a collaborative effort to develop and improve model performance and understand Owens Lake's emission processes. In its alternative analysis, the City implicitly disclaims its own prior cooperative work and presents a critique of the modeling procedures with the apparent objective of justifying removal of SCAs from the Determination. The District's general responses to the City's alternative analysis of SCA modeling are as follows:

- A model performance analysis is not a requirement of the 2003 SIP for identification of SCAs and there was no agreed-to minimum level of model performance, certainly none using the biased techniques the City used in their alternative analysis.

- The “predictive capability” of the modeling procedures is not essentially zero. The modeling procedures meet EPA recommended performance criteria and are able to predict the distribution of observed concentrations for the data set as a whole and for each monitoring site over three orders of magnitude of PM_{10} concentration.
- Candidate SCAs were typically identified for the largest PM_{10} events that occurred during the two year period, not the low predicted and/or observed PM_{10} concentration events that the City says have less certainty.
- The alternative analysis omits the prior negotiations and consent of the City in October 2003 to the SCR protocols. During those negotiations, the District agreed at the City’s request to a 33% margin of error in their favor in the 2003 SIP, which used a 200 $\mu g/m^3$ threshold to select SCA’s instead of the 150 $\mu g/m^3$ level of the PM_{10} standard. In the alternative analysis, the City for the first time argues that the SCA threshold should be 1,000 $\mu g/m^3$, which would make it virtually impossible to attain the PM_{10} standard.
- The City’s alternative analysis judges model performance on a single paired-in-time statistical measure. Given the inherent uncertainties of the dispersive mechanisms being simulated, it is an unreasonable expectation that even the best formulated model will perform well using this measure. Further, the US EPA does not require good paired-in-time performance as suggested by the City.
- Criticism is directed throughout the City’s alternative analysis towards poor model performance. However, by insisting on the use of low K-factors, which lowers PM_{10} emissions, the City is apparently willing to sacrifice improved model performance, as long as fewer SCAs are identified.
- The alternative analysis recommends certain SCAs be removed on the basis of poor model performance. Although the District does not agree model performance should only be judged using paired-in-time statistics, the SCAs listed in the alternative analysis occurred during some of the episodes exhibiting the best model performance in the entire data set using these statistics.
- The District reviewed the data set provided by the City in the alternative analysis and found the City’s database to be corrupt with periods of missing data replaced with data pairs from different periods and locations.

The SCAs identified by the dispersion modeling analysis are only a candidate list for consideration. Other lines of evidence are used by the District to support the inclusion of the area on the final list. In some instances the District removed SCAs when we felt the predictions were less certain and the evidence was not overwhelming. Based upon the record, the District concludes that more than substantial evidence supports the use of the model for the modified SCR Determination.

8. <u>The City should not be required to implement additional expensive dust control measures until it completes its current dust control work on 29.8 square miles of the lake bed.</u>

There is no legal or procedural basis for the City’s “wait and see” position. Neither is there sufficient evidence, or any evidence, to support the City’s optimistic position that the dust emissions from almost nine square miles will suddenly stop when the City completes controls elsewhere. The District has carefully reviewed and considered the City’s arguments against the necessity for any supplemental control measures, following the legal requirements set forth in the SIP. The results of the SIP process, as well as expert observations, indicate that additional areas of the Owens Lake playa will require dust controls in order for the southern Owens Valley to attain the PM_{10} standards. The City has speculated that at least some of the PM_{10} emissions may be related to construction activities or some other temporary, transient disturbances. But the City's alternative analysis is both flawed and lacking in sufficient credible evidence to prove that the dust emissions from the lake bed are anything other than natural changes that can and do occur unpredictably in time and place every year. As a public agency entrusted with protecting public health, the District finds that the law and the data in the administrative record require that the City proceed immediately with implementing the additional of dust controls required to attain the PM_{10} NAAQS at Owens Lake.

Extreme levels of PM_{10} emissions from Owens Lake continue to be measured in the communities in the Owens Valley. The valley's residents continue to breathe the highest levels of PM_{10} air pollution in the country. The record demonstrates that these emissions were caused, in part, by almost nine square miles of unprotected, uncontrolled lake bed—lake bed that is emissive not because of construction activities, or because the data collection equipment is located in the wrong place, or because ATVs drove on the lake bed, or because the air quality model is not perfect—the emissions continue to occur because of the City's water diversions. And the emissions will continue to occur until the City controls all the emissive areas of the lake bed, including the SCR areas in this modified determination.

<u>Conclusion</u>

The District concludes that the procedures set forth in the 2003 SIP provide meaningful guidance toward meeting the PM_{10} standards in the southern Owens Valley, and that the requirements set forth in the 2003 SIP are applied in the modified Determination and supported by substantial evidence for the determination of supplemental control area requirements. The City's alternative conclusion that no additional dust controls are required is insufficiently supported and contrary to the weight of the evidence in the record. The City's assertion that the excess dust emissions from Owens Lake will cease when temporary construction activities end is also not adequately or convincingly supported by the evidence in the City's alternative analysis.

<u>Modified Determination</u>

This modified determination incorporates by reference all enclosed materials, as well as the City's alternative analysis and all information associated with the original December 21, 2005 determination. The APCO has used the data collected during the 2-year period from July 1, 2002 through June 30, 2004 and has analyzed that data following the procedures set forth in the 2003 SIP. Based on the original analysis, as well as a careful and complete review of the City's alternative analysis, the APCO has determined that the original determination dated December 21, 2006 should be modified. This modified determination requires air pollution control measures to be implemented on an additional 8.66 square miles of the Owens Lake bed. This is a reduction of 0.65 square miles from the December 21, 2006 preliminary determination. These areas are referred to as "Control" areas in the attached maps and tables. A map (Map 1), table of supplemental control area coordinates (Table 1) and table of supplemental control areas with episode dates (Table 2) are attached.

In addition, 0.79 square miles of lake bed has been identified for preliminary air pollution control measure design under Section 2.3 of Exhibit 2 in the 2003 SIP. These areas are referred to as “Watch” areas in the attached maps and tables. This is an increase of 0.13 square miles from the original December 21, 2006 determination.

In accordance with the requirements set forth in the Great Basin Unified Air Pollution Control District’s Board Order 031113-01, which was adopted by the Great Basin Governing Board on November 13, 2003, the APCO directs the City of Los Angeles to implement, operate and maintain air pollution control measures on the 8.66 square miles of lake bed described in Map 1 and Table 1. The City may use any combination of the three approved Best Available Control Measures (BACM) described in the 2003 SIP to control emissions from these areas. The APCO also directs the City to prepare a 30 percent design for BACM on 0.79 square miles of “Watch” area also described in Map 1 and Table 1.

For the purposes of the time provided in the 2003 SIP for the implementation of supplemental control measures (2003 SIP, Exhibit 2, Section 2.8), the date of the APCO’s “written determination” shall be April 4, 2006. Within one year (by April 4, 2007), the City must choose the BACM it wishes to implement on the 8.66 square-mile Control area and the 0.79 square-mile Watch area, prepare 30 percent construction design documents, complete the environmental analysis document (if necessary) and apply for all necessary permits for construction. Within two years of the date of the final written determination from the APCO (by April 4, 2008), the City must have all infrastructure for BACM constructed and operational on the 8.66 square-mile Control area. The City shall have BACM fully operational and compliant within 2½ years (by October 4, 2008) if implementing Shallow Flood, otherwise within four years (by April 4, 2010) if implementing any other BACM.

Sincerely,

Theodore D. Schade, P.E.
Air Pollution Control Officer

Enclosures:

- Map 1 – Owens Lake supplemental control areas, July 2002 through June 2004
- Table 1 – Coordinate description of supplemental control areas
- Table 2 – Table of supplemental control areas with episode dates
- Review and response to City’s alternative analysis

Cc: Henry “Skip” Veatch, GBUAPCD Board Chairman
Mary Nichols, President, LADWP Board of Commissioners
Larry Biland, USEPA, Region 9
Sylvia Oey, Calif. Air Resources Board

Richard Harasick, LADWP
Julie Conboy, LADWP
Richard Coles, CH2M Hill
Richard Cervantes, GBUAPCD Board Vice-Chairman
Linda Arcularius, GBUAPCD Board
Tony Barrett, GBUAPCD Board
Gunter Kaiser, GBUAPCD Board
D. “Hap” Hazard, GBUAPCD Board
Byng Hunt, GBUAPCD Board

Transmittal Letter and Modified Determination

Map 1
Owens Lake Supplemental Control Areas

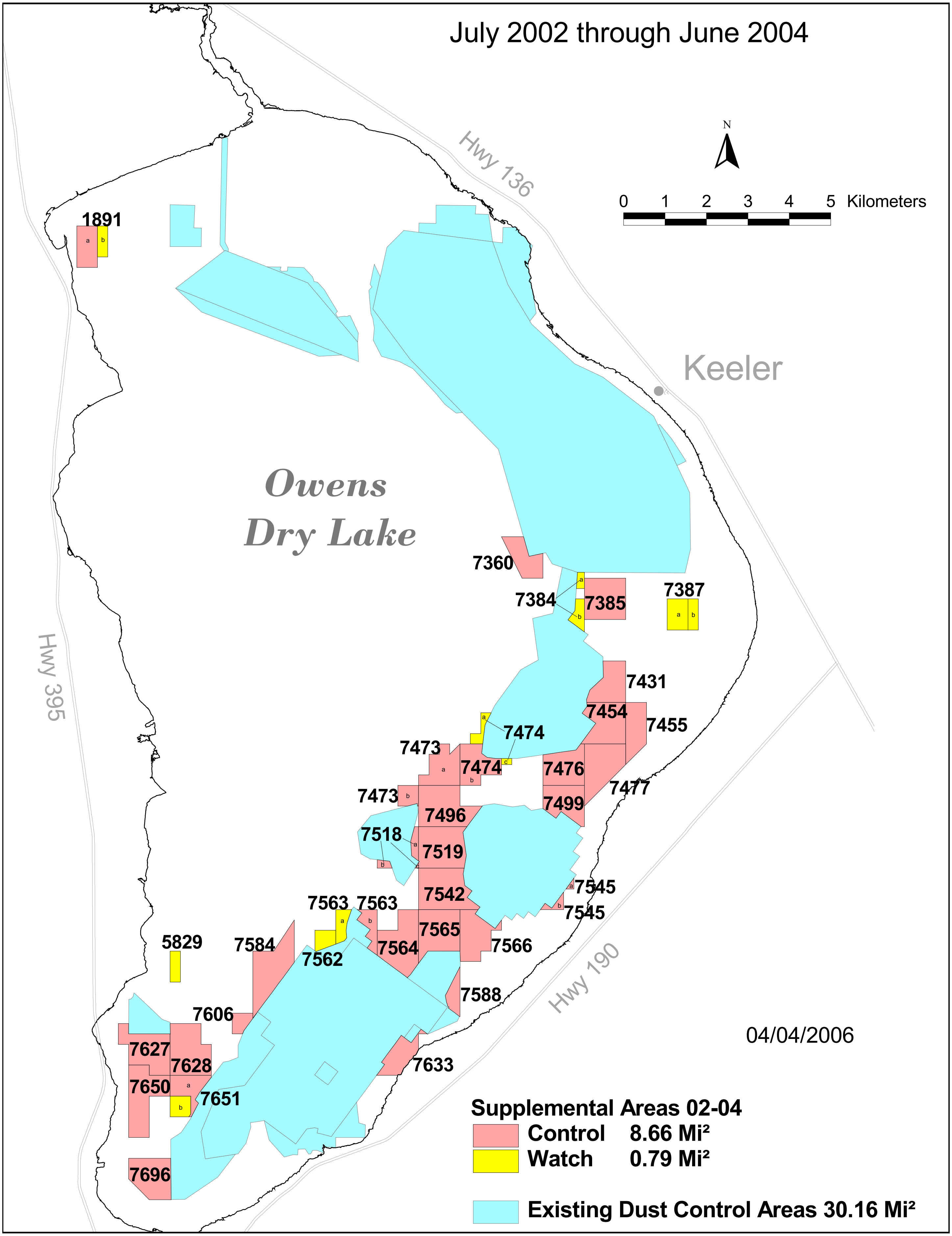

Table 1
Control Area Coordinate Description

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
1891a	0.19	Control		
			408,250.0000	4,041,500.0000
			407,750.0000	4,041,500.0000
			407,750.0000	4,042,500.0000
			408,250.0000	4,042,500.0000
			408,250.0000	4,041,500.0000
1891b	0.07	Watch		
			408,250.0000	4,041,750.0000
			408,500.0000	4,041,750.0000
			408,500.0000	4,042,500.0000
			408,250.0000	4,042,500.0000
			408,250.0000	4,041,750.0000
7360	0.22	Control		
			419,000.0000	4,034,000.0000
			418,500.0000	4,034,000.0000
			418,000.0000	4,035,000.0000
			418,531.7810	4,035,000.0000
			418,665.6250	4,034,527.4375
			419,000.0000	4,034,596.9258
			419,000.0000	4,034,000.0000
7384a	0.03	Watch		
			420,000.0000	4,033,750.0000
			419,806.3750	4,033,750.0195
			419,831.7500	4,034,141.0000
			420,000.0000	4,034,139.8359
			420,000.0000	4,033,750.0000
7385	0.39	Control		
			420,000.0000	4,033,000.0000
			421,000.0000	4,033,000.0000
			421,000.0000	4,034,000.0000
			420,000.0000	4,034,000.0000
			420,000.0000	4,033,000.0000
7384b	0.07	Watch		
			420,000.0000	4,033,000.0000
			420,000.0000	4,032,703.5430
			419,606.1560	4,032,994.5000
			419,771.8750	4,033,218.0000
			419,790.1560	4,033,500.0313
			420,000.0000	4,033,500.0000
			420,000.0000	4,033,000.0000
7387a	0.14	Watch		
			422,500.0000	4,033,500.0000
			422,000.0000	4,033,500.0000
			422,000.0000	4,032,750.0000
			422,500.0000	4,032,750.0000
			422,500.0000	4,033,500.0000
7387b	0.07	Watch		
			422,500.0000	4,033,500.0000
			422,750.0000	4,033,500.0000
			422,750.0000	4,032,750.0000
			422,500.0000	4,032,750.0000
			422,500.0000	4,033,500.0000
7431	0.27	Control		
			421,000.0000	4,031,000.0000
			420,058.5310	4,031,000.0000
			420,051.6560	4,031,073.7500
			420,132.5000	4,031,300.5000
			420,460.9380	4,031,604.7500
			420,451.3130	4,032,000.0000
			421,000.0000	4,032,000.0000
			421,000.0000	4,031,000.0000
7454	0.35	Control		
			421,000.0000	4,030,000.0000
			421,000.0000	4,031,000.0000
			420,058.5310	4,031,000.0000
			420,067.1560	4,030,907.7500
			419,947.7500	4,030,741.5000
			420,276.9060	4,030,498.5000
			419,908.5630	4,030,000.0000
			421,000.0000	4,030,000.0000
7455	0.24	Control		
			421,000.0000	4,030,000.0000
			421,000.0000	4,031,000.0000
			421,500.0000	4,031,000.0000
			421,500.0000	4,030,000.0000
			421,000.0000	4,029,500.0000
			421,000.0000	4,030,000.0000
7474a	0.06	Watch		
			417,548.9690	4,030,000.0000
			417,250.0000	4,030,000.0000
			417,250.0000	4,030,250.0000
			417,500.0000	4,030,250.0000
			417,500.0000	4,030,750.0000
			417,750.0000	4,030,750.7715
			417,605.6560	4,030,461.0000
			417,548.9690	4,030,000.0000
7473a	0.28	Control		
			417,000.0000	4,029,000.0000
			416,000.0000	4,029,000.0000
			416,000.0000	4,029,250.0000
			416,250.0000	4,029,250.0000
			416,250.0000	4,029,750.0000
			416,500.0000	4,029,750.0000
			416,500.0000	4,030,000.0000
			416,750.0000	4,030,000.0000
			416,750.0000	4,029,750.0000
			417,000.0000	4,030,000.0000
			417,000.0000	4,029,000.0000
7474b	0.28	Control		
			417,000.0000	4,029,000.0000
			417,000.0000	4,030,000.0000
			417,548.9690	4,030,000.0000
			417,521.0000	4,029,772.5000
			417,653.3750	4,029,674.7500
			417,852.8440	4,029,647.5000
			418,000.0000	4,029,647.3613
			418,000.0000	4,029,250.0000
			417,500.0000	4,029,250.0000
			417,500.0000	4,029,000.0000
			417,000.0000	4,029,000.0000
7476	0.32	Control		
			420,000.0000	4,029,000.0000
			420,000.0000	4,030,000.0000
			419,908.5630	4,030,000.0000
			419,798.8440	4,029,851.5000
			419,000.0000	4,029,736.0996
			419,000.0000	4,029,000.0000
			420,000.0000	4,029,000.0000

Table 1
Control Area Coordinate Description

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7477	0.39	Control		
			420,000.0000	4,029,000.0000
			420,000.0000	4,030,000.0000
			421,000.0000	4,030,000.0000
			421,000.0000	4,029,500.0000
			420,000.0000	4,028,500.0000
			420,000.0000	4,029,000.0000
7474c	0.01	Watch		
			418,000.0000	4,029,500.0000
			418,250.0000	4,029,500.0000
			418,250.0000	4,029,647.1250
			418,000.0000	4,029,647.3613
			418,000.0000	4,029,500.0000
7473b	0.09	Control		
			416,000.0000	4,028,500.0000
			415,974.8750	4,028,500.0000
			415,969.6880	4,028,562.7500
			415,732.5940	4,028,500.0000
			415,500.0000	4,028,500.0000
			415,500.0000	4,029,000.0000
			416,000.0000	4,029,000.0000
			416,000.0000	4,028,500.0000
7496	0.45	Control		
			417,166.3130	4,028,000.0000
			416,000.0000	4,028,000.0000
			416,000.0000	4,029,000.0000
			417,000.0000	4,029,000.0000
			417,000.0000	4,028,500.0000
			417,535.7190	4,028,500.0000
			417,166.3130	4,028,000.0000
7499	0.3	Control		
			419,000.0000	4,028,441.1875
			419,000.0000	4,029,000.0000
			420,000.0000	4,029,000.0000
			420,000.0000	4,028,000.0000
			419,915.7500	4,028,000.0000
			419,922.7810	4,028,009.5000
			419,437.5000	4,028,368.0000
			419,318.0000	4,028,206.2500
			419,000.0000	4,028,441.1875
7518a	0.05	Control		
			416,000.0000	4,028,000.0000
			415,899.2190	4,028,000.0000
			415,812.0000	4,027,654.7500
			415,829.9380	4,027,301.7500
			416,000.0000	4,027,175.9980
			416,000.0000	4,028,000.0000
7519	0.43	Control		
			416,000.0000	4,027,000.0000
			416,000.0000	4,027,137.9336
			416,016.5630	4,027,163.7500
			416,000.0000	4,027,175.9980
			416,000.0000	4,028,000.0000
			417,166.3130	4,028,000.0000
			417,068.5940	4,027,867.7500
			417,153.0940	4,027,305.2500
			417,099.8440	4,027,000.0000
			416,000.0000	4,027,000.0000
7518b	0.02	Control		
			415,363.2810	4,027,000.0000
			415,000.0000	4,027,000.0000
			415,000.0000	4,027,206.1758
			415,303.7810	4,027,171.2500
			415,363.2810	4,027,000.0000

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7518c	Less than	Control		
	0.01		416,000.0000	4,027,137.9336
			415,911.5000	4,027,000.0000
			416,000.0000	4,027,000.0000
			416,000.0000	4,027,137.9336
7542	0.47	Control		
			417,437.8440	4,026,000.0000
			416,000.0000	4,026,000.0000
			416,000.0000	4,027,000.0000
			417,099.8440	4,027,000.0000
			417,075.8130	4,026,862.2500
			417,118.0630	4,026,581.0000
			417,289.1250	4,026,454.5000
			417,169.6250	4,026,292.7500
			417,483.0940	4,026,061.2500
			417,437.8440	4,026,000.0000
7545a	0.01	Control		
			419,750.0000	4,026,500.0000
			419,557.8440	4,026,500.3086
			419,749.8750	4,026,760.2363
			419,750.0000	4,026,500.0000
7545b	0.03	Control		
			419,500.0000	4,026,000.0000
			418,939.5940	4,026,000.0000
			419,000.0000	4,026,083.7246
			419,051.1880	4,026,153.0000
			419,212.9380	4,026,033.5000
			419,499.5000	4,026,421.3691
			419,500.0000	4,026,250.0000
			419,500.0000	4,026,000.0000
7563a	0.09	Watch		
			414,000.0000	4,025,167.1758
			414,000.0000	4,026,000.0000
			414,385.3440	4,026,000.0000
			414,383.8750	4,025,998.0000
			414,275.8130	4,025,684.7500
			414,249.7810	4,025,496.0000
			414,265.6880	4,025,321.0000
			414,210.4690	4,025,246.0000
			414,000.0000	4,025,167.1758
7563b	0.11	Control		
			415,000.0000	4,024,895.1387
			414,755.6560	4,025,075.7461
			414,875.1560	4,025,237.5000
			414,713.4060	4,025,357.0000
			414,832.9060	4,025,518.7500
			414,509.4060	4,025,757.7500
			414,628.9060	4,025,919.5000
			414,519.8750	4,026,000.0000
			415,000.0000	4,026,000.0000
			415,000.0000	4,024,895.1387
7564	0.44	Control		
			415,000.0000	4,024,895.1387
			415,000.0000	4,025,500.0000
			415,500.0000	4,025,500.0000
			415,500.0000	4,026,000.0000
			416,000.0000	4,026,000.0000
			416,000.0000	4,024,703.7715
			415,803.2810	4,024,437.5000
			415,788.3130	4,024,419.2500
			415,755.0310	4,024,385.7500
			415,740.0630	4,024,367.5000
			415,730.9060	4,024,355.0859
			415,000.0000	4,024,895.1387

Table 1
Control Area Coordinate Description

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7565	0.4	Control		
			416,000.0000	4,024,703.7715
			416,000.0000	4,026,000.0000
			417,000.0000	4,026,000.0000
			417,000.0000	4,025,000.0000
			416,218.8440	4,025,000.0000
			416,000.0000	4,024,703.7715
7566	0.31	Control		
			417,000.0000	4,025,000.0000
			417,000.0000	4,026,000.0000
			417,437.8440	4,026,000.0000
			417,363.5940	4,025,899.5000
			417,848.8440	4,025,541.0000
			418,000.0000	4,025,745.5723
			418,000.0000	4,025,500.0000
			417,750.0000	4,025,500.0000
			417,750.0000	4,025,000.0000
			417,500.0000	4,025,000.0000
			417,500.0000	4,024,750.0000
			417,006.5630	4,024,750.0000
			417,000.0000	4,024,989.1250
			417,000.0000	4,025,000.0000
7584	0.44	Control		
			412,000.0000	4,023,500.0000
			412,000.0000	4,025,000.0000
			412,500.0000	4,025,000.0000
			413,000.0000	4,025,750.0000
			413,000.0000	4,024,729.9277
			412,000.0000	4,023,376.6465
			412,000.0000	4,023,500.0000
7562	0.08	Watch		
			414,000.0000	4,025,500.0000
			413,500.0000	4,025,500.0000
			413,500.0000	4,025,003.2695
			413,520.9690	4,024,987.7656
			414,000.0000	4,025,167.1758
			414,000.0000	4,025,500.0000
5829	0.07	Watch		
			410,250.0000	4,024,250.0000
			410,000.0000	4,024,250.0000
			410,000.0000	4,025,000.0000
			410,250.0000	4,025,000.0000
			410,250.0000	4,024,250.0000
7588	0.1	Control		
			417,000.0000	4,024,624.8730
			417,000.0000	4,023,420.6016
			416,990.8440	4,023,420.6699
			416,886.1880	4,023,501.3984
			416,718.3440	4,023,625.2402
			416,734.5000	4,023,647.0000
			416,700.3130	4,023,672.2500
			416,688.8440	4,023,734.0000
			416,678.0630	4,023,742.0000
			416,644.1880	4,023,924.7500
			417,000.0000	4,024,624.8730
7606	0.08	Control		
			412,000.0000	4,023,500.0000
			411,500.0000	4,023,500.0000
			411,500.0000	4,023,000.0000
			411,750.1880	4,023,000.0000
			411,782.9380	4,023,082.7500
			412,091.6880	4,023,500.0000
			412,091.0940	4,023,500.0000
			412,000.0000	4,023,376.6465
			412,000.0000	4,023,500.0000

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7627	0.39	Control		
			410,000.0000	4,022,000.0000
			409,500.0000	4,022,000.0000
			409,500.0000	4,022,250.0000
			409,000.0000	4,022,250.0000
			409,000.0000	4,022,750.0000
			408,750.0000	4,022,750.0000
			408,750.0000	4,023,250.0000
			409,002.0630	4,023,249.9805
			408,999.6250	4,023,000.2500
			410,000.0000	4,023,000.0000
			410,000.0000	4,022,000.0000
7628	0.43	Control		
			411,000.0000	4,022,000.0000
			411,000.0000	4,022,750.0000
			410,750.0000	4,022,750.0000
			410,750.0000	4,023,250.0000
			410,001.7500	4,023,250.0000
			410,005.2500	4,022,998.0000
			410,000.0000	4,023,000.0000
			410,000.0000	4,022,000.0000
			411,000.0000	4,022,000.0000
7633	0.21	Control		
			414,983.7810	4,022,000.0000
			415,178.0310	4,022,263.0234
			415,103.1880	4,022,318.5000
			415,581.2500	4,022,965.5000
			415,817.8750	4,022,790.5000
			416,056.9060	4,023,114.0000
			416,209.4060	4,023,001.3965
			416,000.0000	4,023,000.0000
			416,000.0000	4,022,628.4023
			415,997.6560	4,022,624.0293
			415,990.2810	4,022,606.0449
			415,973.6250	4,022,574.0410
			415,972.6560	4,022,563.6777
			415,952.5940	4,022,527.4063
			415,946.6880	4,022,514.3008
			415,943.0000	4,022,507.9004
			415,924.7810	4,022,488.3926
			415,912.6250	4,022,481.6875
			415,901.1250	4,022,474.3711
			415,890.9690	4,022,475.5898
			415,878.8750	4,022,467.3613
			415,875.6250	4,022,464.6172
			415,869.4060	4,022,457.3027
			415,871.0940	4,022,439.0137
			415,872.3750	4,022,431.0898
			415,857.0630	4,022,416.7637
			415,849.1880	4,022,408.5352
			415,847.1250	4,022,401.5234
			415,840.6560	4,022,389.9414
			415,801.3440	4,022,364.0332
			415,791.5310	4,022,359.4609
			415,778.9380	4,022,337.2109
			415,761.8130	4,022,312.8262
			415,757.4380	4,022,308.5605
			415,754.5000	4,022,299.7207
			415,742.6250	4,022,272.8984
			415,729.3130	4,022,254.6094
			415,718.1560	4,022,252.4766
			415,716.4060	4,022,248.8184
			415,716.7810	4,022,245.4668
			415,693.8130	4,022,225.9590
			415,685.5630	4,022,211.3281
			415,670.7500	4,022,198.8320
			415,657.5000	4,022,184.2012
			415,643.7190	4,022,171.4004
			415,630.9060	4,022,147.6250
			415,627.3750	4,022,136.0430
			415,616.0000	4,022,108.9160
			415,615.3440	4,022,104.0391
			415,611.5940	4,022,097.9434
			415,601.7190	4,022,078.4355
			415,594.8440	4,022,064.1094
			415,591.2810	4,022,054.9648
			415,583.7190	4,022,039.7266

Table 1
Control Area Coordinate Description

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7633 Continued	0.21	Control		
			415,581.5310	4,022,028.1426
			415,576.6560	4,022,025.4004
			415,570.6250	4,022,019.3047
			415,565.8750	4,022,017.4746
			415,555.6250	4,022,015.9512
			415,546.9060	4,022,015.3418
			415,541.4380	4,022,013.8184
			415,532.1250	4,022,014.1230
			415,526.9690	4,022,014.7324
			415,519.6560	4,022,014.4277
			415,512.1560	4,022,015.0371
			415,503.9690	4,022,015.0371
			415,495.3130	4,022,007.4160
			415,494.8750	4,022,000.0000
			414,983.7810	4,022,000.0000
7650	0.43	Control		
			410,000.0000	4,021,500.0000
			410,000.0000	4,022,000.0000
			409,500.0000	4,022,000.0000
			409,500.0000	4,022,250.0000
			409,000.0000	4,022,250.0000
			409,000.0000	4,020,500.0000
			409,500.0000	4,020,500.0000
			409,500.0000	4,021,500.0000
			410,000.0000	4,021,500.0000
7651a	0.19	Control		
			410,000.0000	4,021,500.0000
			410,000.0000	4,022,000.0000
			411,000.0000	4,022,000.0000
			411,000.0000	4,021,952.2852
			410,718.8750	4,021,593.2500
			410,604.9060	4,021,412.5000
			410,687.6250	4,021,328.0000
			410,516.5000	4,021,000.0000
			410,452.1250	4,021,000.0000
			410,500.0000	4,021,064.7695
			410,500.0000	4,021,500.0000
			410,000.0000	4,021,500.0000
7651b	0.1	Watch		
			410,000.0000	4,021,500.0000
			410,000.0000	4,021,000.0000
			410,452.1250	4,021,000.0000
			410,500.0000	4,021,064.7695
			410,500.0000	4,021,500.0000
			410,000.0000	4,021,500.0000

Sensit / ID	Area (miles ²)	Area type	Coordinates(UTM Zone11 meters NAD83) X-coordinates	Y-coordinates
7696	0.35	Control		
			410,000.0000	4,020,000.0000
			410,018.6560	4,020,000.0000
			410,025.1560	4,019,000.0000
			409,500.0000	4,019,000.0000
			409,000.0000	4,019,500.0000
			409,000.0000	4,020,000.0000
			410,000.0000	4,020,000.0000

Total Control: 8.66
Total Watch: 0.79

Table 2

SCA Event List(July 2002-June 2004)

			MONITOR PM_{10} ($\mu g/m^3$)						
Source Area No.	Episode Date	Lone/ Watch	Stanley TEOM	Flat Rock TEOM	Keeler TEOM	Lone Pine TEOM	Olancha TEOM	Shell Cut TEOM	Dirty Socks TEOM
1891	4/28/2003	Watch (a)		36	64	18		43	42
1891	5/10/2004	Lone (b)	**160**	**626**	**470**	106	81	**299**	**1274**
1891	6/8/2004	Lone (b)			95	53	31	81	90
5829	12/16/2002	Watch		81	133	16	30	133	**270**
7360	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7384	2/2/2003	Watch	39	**395**	**484**	116	**1062**	**9162**	**10933**
7385	2/18/2004	Lone	14	35	**813**	133	12	42	43
7387	3/15/2003	Watch	**318**	13	**313**	**180**	5	106	**207**
7387	3/25/2004	Watch	87	**238**	**3322**	**349**	36	134	**343**
7431	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7454	2/7/2004	Watch	9	143	**197**	11	13	**554**	73
7454	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7455	11/12/2003	Watch		9	11	8	8	16	9
7455	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7455	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7473	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7473	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7473	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7473	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7474	2/2/2003	Watch (a)	39	**395**	**484**	116	**1062**	**9162**	**10933**
7474	4/1/2004	Watch		98	136	63	55	**1784**	**361**
7474	4/2/2004	Lone (b)	92	131	**342**	116	**210**	**1698**	**4032**
7476	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7476	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7476	2/5/2003	Lone	25	21	97	13	100	**2400**	**1750**
7477	3/25/2004	Lone	87	**238**	**3322**	**349**	36	134	**343**
7477	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7496	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7496	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7496	2/5/2003	Lone	25	21	97	13	100	**2400**	**1750**
7496	3/14/2003	Watch	**567**	56	**1209**	**724**	13	196	**335**
7496	4/1/2004	Watch		98	136	63	55	**1784**	**361**
7496	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7499	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7499	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7499	2/5/2003	Watch	25	21	97	13	100	**2400**	**1750**
7499	3/27/2003	Lone	29	36	49	30	**259**	**158**	**2327**
7499	4/2/2003	Lone	10	57	133	63	12	72	**218**
7499	4/4/2003	Lone	20	82	20	17	13	95	**279**
7499	5/14/2003	Lone		123	**352**	19	34	**2449**	**2379**
7499	2/7/2004	Watch	9	143	**197**	11	13	**554**	73
7499	3/25/2004	Lone	87	**238**	**3322**	**349**	36	134	**343**
7499	4/1/2004	Lone		98	136	63	55	**1784**	**361**

Table 2

SCA Event List(July 2002-June 2004)

			MONITOR PM_{10} (μg/m^3)					
Source Area No.	Episode Date	Lone/ Watch	Stanley TEOM	Flat Rock TEOM	Keeler TEOM	Lone Pine TEOM	Olancha TEOM	Shell Cut TEOM	Dirty Socks TEOM
7499	6/14/2004	Watch			41	30	28	35	31
7518	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7519	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7519	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7519	2/5/2003	Lone	25	21	97	13	100	**2400**	**1750**
7519	3/14/2003	Watch	**567**	56	**1209**	**724**	13	196	**335**
7542	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7542	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7542	2/5/2003	Watch	25	21	97	13	100	**2400**	**1750**
7542	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7542	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7545	9/18/2002	Lone		24	60	27	26	**405**	41
7545	10/2/2002	Lone			142	19	41	**790**	57
7545	11/25/2002	Watch	15	**153**	**213**	37	**454**	**2594**	**877**
7545	11/26/2002	Watch	17	47	57	10	**338**	**1506**	**1214**
7545	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7545	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7545	2/5/2003	Lone	25	21	97	13	100	**2400**	**1750**
7545	2/20/2003	Lone	6	9	74	5	24	58	**2265**
7562	2/2/2003	Lone (c)	39	**395**	**484**	116	**1062**	**9162**	**10933**
7563	2/2/2003	Lone (b)	39	**395**	**484**	116	**1062**	**9162**	**10933**
7563	2/4/2003	Lone (b)	11	91	88	20	83	**2499**	**3184**
7563	3/10/2004	Watch (a)	21	45	109	36	**408**	**2990**	**4472**
7564	11/21/2003	Watch		141	200	29	28	83	248
7564	3/10/2004	Lone	21	45	109	36	**408**	**2990**	**4472**
7565	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7565	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7565	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7565	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7566	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7566	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7566	2/5/2003	Lone	25	21	97	13	100	**2400**	**1750**
7566	2/7/2004	Lone	9	143	**197**	11	13	**554**	73
7566	2/9/2004	Lone	8	13	20	14	29	**524**	105
7566	2/10/2004	Lone	8	102	37	11	18	**603**	42
7566	2/18/2004	Watch	14	35	**813**	133	12	42	43
7566	4/1/2004	Lone		98	136	63	55	**1784**	**361**
7566	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7584	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7584	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7587	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7587	2/4/2003	Watch	11	91	88	20	83	**2499**	**3184**
7587	2/5/2003	Watch	25	21	97	13	100	**2400**	**1750**

Table 2

SCA Event List(July 2002-June 2004)

			MONITOR PM_{10} ($\mu g/m^3$)						
Source Area No.	Episode Date	Lone/ Watch	Stanley TEOM	Flat Rock TEOM	Keeler TEOM	Lone Pine TEOM	Olancha TEOM	Shell Cut TEOM	Dirty Socks TEOM
7588	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7588	2/4/2003	Lone	11	91	88	20	83	**2499**	**3184**
7588	2/5/2003	Watch	25	21	97	13	100	**2400**	**1750**
7588	2/19/2003	Watch	11	9	24	11	8	**43**	**106**
7588	3/14/2003	Watch	**567**	56	**1209**	**724**	13	196	**335**
7588	3/17/2003	Lone		11	11	4	22	**211**	**1637**
7588	3/18/2003	Lone		65	**238**	17	53	**576**	**6592**
7588	3/19/2003	Lone		22	24	9	44	94	**294**
7588	3/27/2003	Lone	29	36	49	30	**259**	**158**	**2327**
7588	4/2/2004	Lone	92	131	**342**	116	**210**	**1698**	**4032**
7588	5/11/2004	Lone	23	57	62	44	44	**544**	**1034**
7606	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7627	12/16/2002	Watch		81	133	16	30	133	**270**
7627	2/1/2003	Watch	138	**321**	**674**	**224**	45	**320**	**1138**
7627	2/2/2003	Watch	39	**395**	**484**	116	**1062**	**9162**	**10933**
7627	3/13/2003	Lone	**2196**	41	**245**	**497**	18	50	**1368**
7627	3/14/2003	Lone	**567**	56	**1209**	**724**	13	**196**	**335**
7627	3/15/2003	Watch	**318**	13	**313**	**180**	5	106	**207**
7628	2/1/2003	Lone	138	**321**	**674**	**224**	45	**320**	**1138**
7628	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7628	3/13/2003	Lone	**2196**	41	**245**	**497**	18	50	**1368**
7628	3/14/2003	Lone	**567**	56	**1209**	**724**	13	**196**	**335**
7628	3/15/2003	Watch	**318**	13	**313**	**180**	5	106	**207**
7628	4/12/2003	Watch	138	25	35	106	27	40	**530**
7633	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7633	3/14/2003	Watch	**567**	56	**1209**	**724**	13	**196**	**335**
7650	12/14/2002	Watch	**539**	36	89	122	28	88	**251**
7650	2/2/2003	Lone	39	**395**	**484**	116	**1062**	**9162**	**10933**
7650	3/13/2003	Lone	**2196**	41	**245**	**497**	18	50	**1368**
7650	3/14/2003	Watch	**567**	56	**1209**	**724**	13	**196**	**335**
7651	11/25/2002	Watch	15	**153**	**213**	37	**454**	**2594**	**877**
7651	11/26/2002	Lone (b)	17	47	57	10	**338**	**1506**	**1214**
7651	1/5/2003	Lone (b)	10	61	116	35	**379**	64	**1173**
7651	2/1/2003	Lone (b)	138	**321**	**674**	**224**	45	**320**	**1138**
7651	2/2/2003	Lone (b)	39	**395**	**484**	116	**1062**	**9162**	**10933**
7651	2/4/2003	Lone (b)	11	91	88	20	83	**2499**	**3184**
7651	2/5/2003	Lone (b)	25	21	97	13	100	**2400**	**1750**
7651	2/19/2003	Watch	11	9	24	11	8	43	106
7651	2/20/2003	Lone (b)	6	9	74	5	24	58	**2265**
7651	3/18/2003	Lone (b)		65	**238**	17	53	**576**	**6592**
7651	4/2/2004	Watch (a)	92	131	**342**	116	**210**	**1698**	**4032**
7651	4/22/2004	Watch (a)	28	57	149	46	97	**207**	**2681**
7651	4/28/2004	Watch (a)	59	**161**	**264**	117	111	**405**	**1156**
7696	11/25/2002	Lone	15	**153**	**213**	37	**454**	**2594**	**877**

Table 2

SCA Event List(July 2002-June 2004)

			MONITOR PM_{10} ($\mu g/m^3$)						
Source Area No.	**Episode Date**	**Lone/ Watch**	**Stanley TEOM**	**Flat Rock TEOM**	**Keeler TEOM**	**Lone Pine TEOM**	**Olancha TEOM**	**Shell Cut TEOM**	**Dirty Socks TEOM**
7696	11/26/2002	Lone	17	47	57	10	**338**	**1506**	**1214**
7696	2/1/2003	Lone	138	**321**	**674**	**224**	45	**320**	**1138**
7696	12/7/2003	Watch		22	20	6	12	57	121
7696	3/10/2004	Lone	21	45	109	36	**408**	**2990**	**4472**

Watch = Source PM_{10} > 100 $\mu g/m^3$

Bold = Federal violation (> 150 $\mu g/m^3$)

Lone = Source PM_{10} > 200 $\mu g/m^3$

Note: (a) Watch area for period indicated

Note: (b) Lone area for period indicated

Note: (c) Sand catch apportioned using neighboring Sensit, Watch area