AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

August 17, 2005

Mr. Michael N. Jones
United States Environmental Protection Agency (D243-02)
4930 Page Road
Durham, NC 27703

Dear Mr. Jones:

LOCAL-SCALE AIR TOXICS AMBIENT MONITORING PROGRAM – COMMUNITY-SCALE MONITORING CATEGORY

Attached please find the Grant Proposal for the Local-Scale Air Toxics Ambient Monitoring Program – Community-Scale Monitoring Category. We are seeking a total grant amount of $457,000 to supplement our current Air Toxics Monitoring Network and to provide contractual analysis support. The application includes our work plan and completed Standard Forms 424, 424A, and 424B.

If you have any questions, please contact Mahmood Hossain, primary point of contact for this program, at (858) 650-4650, by fax at (858) 650-4658, or by email at Mahmood.Hossain@sdcounty.ca.gov. Please direct all technical questions to Janet Cawyer at (858) 650-4648, by fax at (858) 650-4658, or by email at Janet.Cawyer@sdcounty.ca.gov.

Sincerely,

Richard J. Smith

RICHARD J. SMITH, Director
Air Pollution Control District

RJS:MH:dp

Attachment

9150 Chesapeake Drive • San Diego • California 92123-1096 • (858) 650-4700
FAX (858) 650-4659 • Smoking Vehicle Hotline 1-800-28-SMOKE

KEY PEOPLE LIST

Please show street address as well as Post Office Box Number where applicable.

AGENCY DIRECTOR

(Individual who is authorized to sign the assistance agreement application and award acceptance).

Name: Richard J. Smith
Title: Director, Air Pollution Control District
Address: 9150 Chesapeake Drive, San Diego, CA 92123-1096
Telephone: (858) 650-4503 Fax No. (858) 650-4659

PROGRAM DIRECTOR

(Program Director – non technical).

Name: Mahmood Hossain
Title: Chief, Monitoring and Technical Services,
Air Pollution Control District
Address: 9150 Chesapeake Drive, San Diego, CA 92123-1096
Telephone: (858) 650-4650 Fax No. (858) 650-4658

FINANCE DIRECTOR

(This is the person who is responsible for (1) maintaining the accounting/financial management system supporting grant expenditures; (2) preparing financial reports; and (3) maintaining the Letter of Credit. If any of these responsibilities are located in another office, please so indicate by showing below the name(s), title(s) organization name(s), address and telephone.)

Name: Ferdinand Alviar
Title: Senior Accountant
Address: 9150 Chesapeake Drive, San Diego, CA 92123-1096
Telephone: (858) 650-4530 Fax No. (858) 650-4659

PROGRAM PRINCIPAL INVESTIGATOR

(Technical program director).

Name: Janet E. Cawyer
Title: Associate Air Pollution Chemist
Air Pollution Control District
Address: 9150 Chesapeake Drive, San Diego, CA 92123-1096
Telephone: (858) 650-4648 Fax No. (858) 650-4658

INSTRUCTIONS FOR THE SF 424

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item: Entry:

1.Self-explanatory.

2. Date application submitted to Federal agency (or State if applicable) & applicant's control number (if applicable).

3.State use only (if applicable).

4.If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank.

5.Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant, and name and telephone number of the person to contact on matters related to this application.

6.Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.

7.Enter the appropriate letter in the space provided.

8.Check appropriate box and enter appropriate letter(s) in the space(s) provided:

- _ "New" means a new assistance award.
- _ "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.
- _ "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation.

9. Name of Federal agency from which assistance is being requested with this application.

10. Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.

11. Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.

Item: Entry:

INSTRUCTIONS FOR THE SF-424A

General Instructions

This form is designed so that application can be made for funds from one or more grant programs. In preparing the budget, adhere to any existing Federal grantor agency guidelines, which prescribe how, and whether budgeted amounts should be separately shown for different functions or activities within the program. For some programs, grantor agencies may require budgets to be separately shown by function or activity. For other programs, grantor agencies may require a breakdown by function or activity. Sections A, B, C, and D should include budget estimates for the whole project except when applying for assistance which required Federal authorization in annual or other funding period increments. In the latter case, Section A, B, C, and D should provide the budget for the first budget period (usually a year) and Section E should present the need for Federal assistance in the subsequent budget periods. All applications should contain a breakdown by the object class categories show in Lines a - k of Section B.

Section A. Budget Summary
Lines 1 - 4, Columns (a) and (b)

For applications pertaining to a *single* federal grant program (Federal Domestic Assistance Catalog number) and *not requiring* a functional or activity breakdown, enter on Line 1 under Column (a) the catalog program title and the catalog number in Column (b).

For applications pertaining to a *single* program *requiring* budget amounts by multiple functions or activities, enter the name of each activity or function on each line in Column (a), and enter the catalog number in Column (b). For applications pertaining to multiple programs where none of the programs require a breakdown by function or activity, enter the catalog program title on each line in Column (a) and the respective catalog number on each line in Column (b).

For applications pertaining to *multiple* programs where one or more programs require a breakdown by function or activity, prepare a separate sheet for each program requiring the breakdown. Additional sheets should be used when one form does not provide adequate space for all breakdown of data required. However, when more than one sheet is used, the first page should provide the summary totals by programs.

Lines 1 - 4, Columns (c) through (g).

For *new* applications, leave Columns (c) and (d) blank. For each line entry in Columns (a) and (b), enter in Columns (e), (f), and (g) the appropriate amounts of funds needed to support the project for the first funding period (usually a year).

Lines 1 - 4 Columns (c) through (g). (Continued)

For *continuing grant program* applications, submit these forms before the end of each funding period as required by the grantor agency. Enter in Columns (c) and (d) the estimated amounts of funds which will remain unbigoted at the end of the grant funding period only if the Federal grantor agency instructions provide for this. Otherwise, leave these columns blank. Enter in columns (e) and (f) the amounts of funds needed for the upcoming period. The amount(s) in Column (g) should be the sum of amounts in Columns (e) and (f).

For *supplemental grants and changes to existing grants*, do not use Columns (c) and (d). Enter in Column (e) the amount of the increase or decrease of Federal funds and enter in Column (f) the amount of the increase or decrease of non-Federal funds. In Column (g) enter the new total budgeted amount (Federal and non-Federal) which includes the total previous authorized budgeted amounts plus or minus, as appropriate, the amounts shown in Columns (e) and (f). The amount(s) in Column (g) should not equal the sum of amounts in Columns (e) and (f).

Line 5 - Show the totals for all columns used.

Section B. Budget Categories

In the column headings (1) through (4), enter the titles of the same programs, functions, and activities shown on Lines 1 - 4, Column (a), Section A. When additional sheets are prepared for Section A, provide similar column headings on each sheet. For each program, function, or activity, fill in the total requirements for funds (both Federal and non-Federal) by object class categories.

Lines 6a-i - Show the totals of Lines 6 a to 6h in each column.

Line 6j - Show the amount of indirect cost.

Line 6k - Enter the total of amounts on Lines 6i and 6j. For all applications for new grants and continuation grants the total amount in column (5), Line 6k, should be the same as the total shown in Section A, Column (g), Line 5. For supplemental grants and changes to grants, the total amount of the increase or decrease as shown in Columns (1)-(4), Line 6k should be the same as the sum of the amounts in Section A, Columns (e) and (f) on Line 5

INSTRUCTIONS FOR THE SF-424A (continued)

Line 7 - Enter the estimated amount of income, if any, expected to be generated from this project. Do not add or subtract this amount from the total project amount. Show under the program narrative statement the nature and source of income. The estimated amount of program income may be considered by the federal grantor agency in determining the total amount of the grant.

Section C. Non-Federal-Resources

Lines 8-11 - Enter amounts of non-Federal resources that will be used on the grant. If in-kind contributions are included, provide a brief explanation on a separate sheet.

Column (a) - Enter the program titles identical to Column (a), Section A. A breakdown by function or activity is not necessary.

Column (b) - Enter the contribution to be made by the applicant.

Column (c) - Enter the amount of the State's cash and in-kind contribution if the applicant is not a State or State agency. Applicants which are a State or State agency should leave this column blank.

Column (d) - Enter the amount of cash and in-kind contributions to be made from all other sources.

Column (e) - Enter totals of Columns (b), (c), and (d).

Line 12 - Enter the total for each of Columns (b)-(e). The amount in Column (e) should be equal to the amount on Line 5, Column (f), Section A.

Section D. Forecasted Cash Needs

Line 13 - Enter the amount of cash needed by quarter from the grantor agency during the first year.

Line 14 - Enter the amount of cash from all other sources needed by quarter during the first year.

Line 15 - Enter the totals of amounts on Lines 13 and 14.

Section E. Budget Estimates of Federal Funds Needed for Balance of the Project

Lines 16-19 - Enter in Column (a) the same grant program titles shown in Column (a), Section A. A breakdown by function or activity is not necessary. For new applications and continuation grant applications, enter in the proper columns amounts of Federal funds which will be needed to complete the program or project over the succeeding funding periods (usually in years). This section need not be completed for revisions (amendments, changes, or supplements) to funds for the current year.

If more than four lines are needed to list the program titles, submit additional schedules as necessary.

Line 20 - Enter the total for each of the Columns (b)-(e). When additional schedules are prepared for this Section, annotate accordingly and show the overall totals on this line.

Section F. Other Budget Information

Line 21 - Use this space to explain amounts for individual direct object-class cost categories that may appear to be out of the ordinary or to explain the details as required by the Federal grantor agency.

Line 22 - Enter the type of indirect rate (provisional, predetermined, final or fixed) that will be in effect during the funding period, the estimated amount of the base to which the rate is applied, and the total indirect expense.

Line 23 - Provide any other explanations or comments deemed necessary.

OMB Approval No. 0348-0040

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ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. 6101-6107), which prohibits discrimination of the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VII of the Civil Rights Act of 1968 (42 U.S.C. 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. 276a to 276a-7), the Copeland Act (40 U.S.C. 276c and 18 U.S.C. 874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), regarding labor standards for federally-assisted construction subagreement. 10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more. 11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in flood plains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).		12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.) Related to protecting components or potential components of the national wild and scenic rivers system. 13. Will assist the awarding agency in assuring compliance will Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469a-1 et seq.). 14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance. 15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. 2131 et seq.) Pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance. 16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4801 et seq.) Which prohibits the use of lead-based paint in construction or rehabilitation of residence structures. 17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations." 18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Richard J. Smith 	TITLE Director, Air Pollution Control District
APPLICANT ORGANIZATION San Diego County Air Pollution Control District	DATE SUBMITTED August 18, 2005

APPLICATION FOR FEDERAL ASSISTANCE

1. TYPE OF SUBMISSION Application ☐ Construction ■ Non-Construction	Preapplication ☐ Construction ☐ Non-Construction	2. DATE SUBMITTED August 18, 2005 3. DATE RECEIVED BY STATE 4. DATE RECEIVED BY FEDERAL AGENCY	Applicant Identifier DUNS - 009581646 State Application Identifier A009059-04-0 Federal Identifier

5. APPLICANT INFORMATION

Legal Name: San Diego County Air Pollution Control District

Organizational Unit: San Diego County Air Pollution Control District

Address (give city, county, state, and zip code):
9150 Chesapeake Drive
San Diego, Ca. 92123-1096

Name and telephone number of the person to be contacted on matters involving this application (give area code)
Administrative Contact: Patricia Sally - Tel. No. (858) 650-4506
Principal Investigator: Mahmood Hossain - Tel. No. (858) 650-4650

6. EMPLOYER IDENTIFICATION (EIN):
33-0488415

7. TYPE OF APPLICANT: (enter appropriate letter here) G
A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School District
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify):

8. TYPE OF APPLICATION:
9. ☒ New ☐ Continuation ☐ Revision
If Revision, enter appropriate letter(s) in box(es): ☐ ☐
A. Increase Award B. Decrease Award
C. Increase Duration D. Decrease Duration
Other Specify:

9. NAME OF FEDERAL AGENCY: US Environmental Protection Agency

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER 66-034
TITLE:

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
San Diego County Air Pollution Control Air Toxics Monitoring Program-Local-Scale Air Toxics Monitoring

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.):
County of San Diego

13. PROPOSED PROJECT:		14. CONGRESSIONAL DISTRICT OF:	
Start Date	End Date	a. Applicant:	b. Project
10-01-2005	10-01-2007	41, 42, & 43	41,42, & 43 (Countywide)

15. Estimated Funding:	
a. Federal	$ 457,000
b. Applicant	$ 471,620
c. State	$
d. Local	$
e. Other	$
f. Program Income	$
g. TOTAL	$ 928,620

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?
a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESSES FOR REVIEW ON:
DATE
b. NO.
☐ PROGRAM IS NOT COVERED BY E.O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?
☐ Yes If "Yes" attach an explanation. X No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF. ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Typed Name of Authorized Representative	b. Title:	c. Telephone Number
RICHARD J. SMITH	Director	(858) 650-4503

d. Signature of Authorized Representative: Richard J. Smith

e. Date Signed: August 17, 2005

Previous Editions Not Usable

Standard Form 424A (REV 4-88)
Prescribed by OMB Circular A-102

AUTHORIZED FOR LOCAL REPRODUCTION

Grant Proposal for Local-Scale Air Toxics Monitoring Program

Category: **Community-Scale Monitoring**

Applicant: **San Diego Air Pollution Control District**
9150 Chesapeake Dr.
San Diego, CA 92123

Contact: **Mahmood Hossain**
Phone: (858) 650-4650
Fax: (858) 650-4658
Email: Mahmood.Hossain@sdcounty.ca.gov

Funding Requested: $457,000

Total Projected Cost: $928,620

Project Period: October 2005- October 2007

Project Background:

The San Diego Air Basin (SDAB) is a large and diverse region and encompasses the entire 4,300 square miles of the County of San Diego. Its distinct topography, climate, and patterns of urbanization are not found elsewhere. It is bound on the north by the South Coast Air Basin, on the east by the Southwest Desert Basin, on the west by the Pacific Ocean, and on the south by the Mexican State of Baja California. According to the 2000 census, about 2.8 million people live in the San Diego Metropolitan Statistical Area (MSA).

According to EPA's 1999 National Air Toxics Assessment (NATA) the County of San Diego ranks within the top ten percent of counties in the nation for cancer risk.(Figure 1). San Diego County, a major urban center, possesses one of the most accurate, extensive, and complete emissions inventories in the nation, with nearly 5000 individual point sources being fully characterized by District staff using standardized EPA calculation procedures and emission factors. Unfortunately, no data-backed means currently exists to "calibrate" these emissions estimates and relate them to the actual ambient toxics concentrations to which our local communities are exposed. It is vital that we utilize ambient toxics monitoring to buttress/dispute point source emission estimates. Currently, the San Diego County Air Pollution Control District (District) monitors selected air toxics at its Chula Vista and El Cajon monitoring sites on a one in twelve day schedule. These samples are collected by the District and forwarded to the California Air Resources Board Laboratory (CARB) in Sacramento for analysis. A number of toxics metals data have also been collected from Otay Mesa and downtown San Diego. This limited monitoring program, however, does not adequately characterize toxic air pollutants throughout the county. There is a greater need to determine concentration gradients across various communities which are subject to unique emission sources. There exists an equal need to implement local-scale community monitoring for hexavalent chromium and elemental/organic carbon. The District has identified three additional monitoring stations that will be used for this purpose: Otay Mesa, Escondido and the newly established San Diego-Beardsley Street in the community of Barrio Logan. The District proposes to monitor VOCs, metals and carbonyls at all three stations. In addition, organic carbon/elemental carbon (OC/EC) and hexavalent chromium are also proposed to be monitored at the Beardsley Street site. (Figure 2)

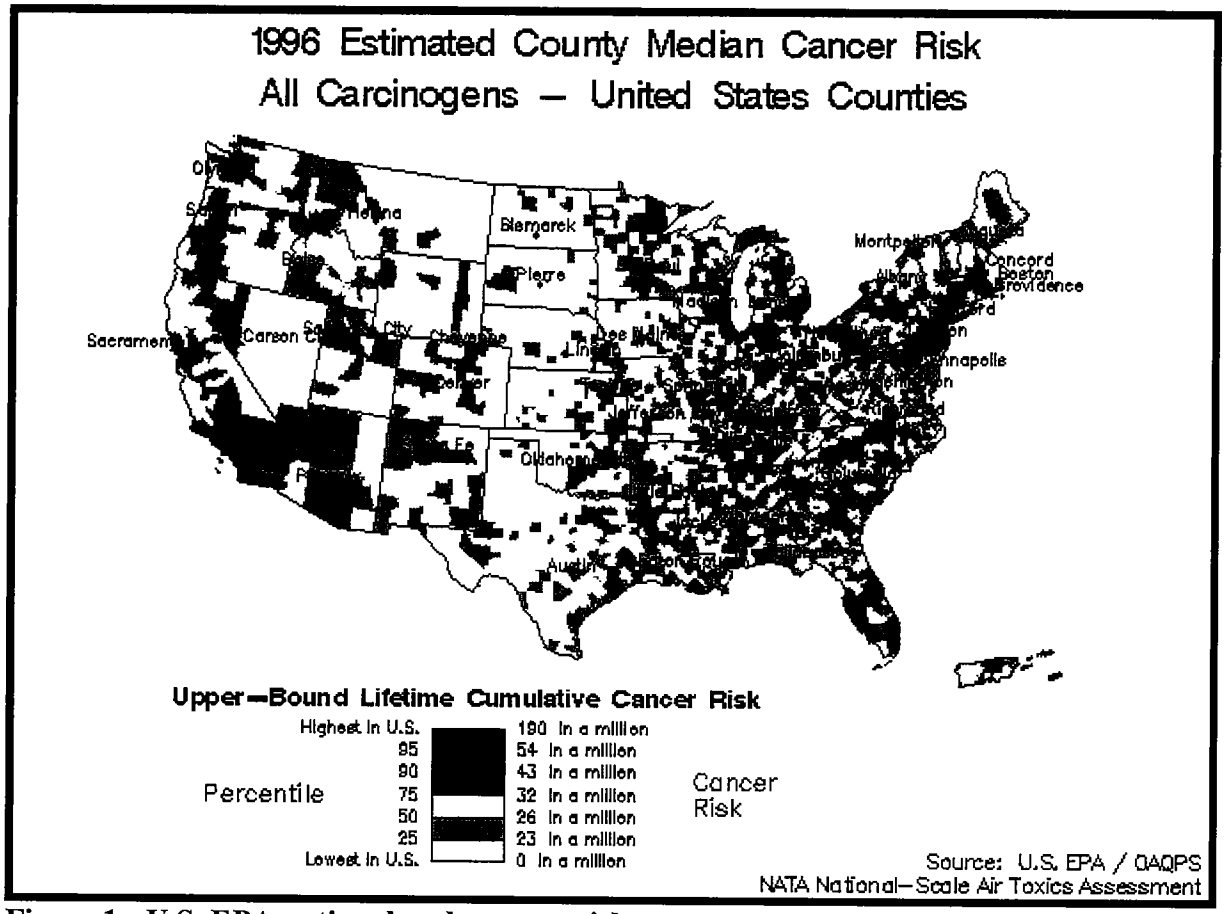


Figure 1: U.S. EPA national scale cancer risk assessment

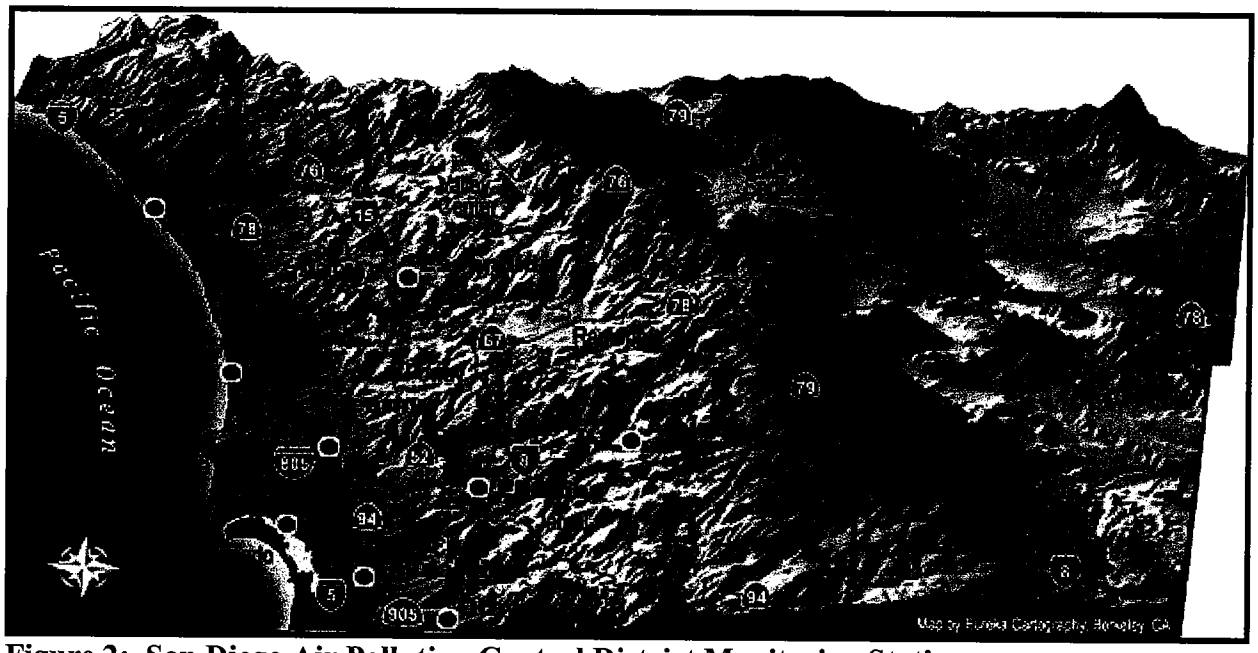


Figure 2: San Diego Air Pollution Control District Monitoring Stations.

Project Objectives:

The objective of this project is to supplement ongoing monitoring activities with capital improvements in order to measure industrial- and mobile-source related impacts of toxic pollutants: A) along the US-Mexico border, B) within the northern inland valley region of the San Diego Air Basin, C) within the community of Barrio Logan. We are proposing to collect 24-hour samples once every six days for VOCs, metals, carbonyls, hexavalent chromium and carbon. This data will be submitted to the EPA Air Quality System Database. To meet the quality assurance and quality control needs, we will co-locate VOCs at the Otay Mesa site. We will combine toxics data from these sites with the data from our Chula Vista and El Cajon monitoring sites to characterize concentration gradients for across San Diego County communities.

The District monitors ozone, PM10, PM2.5 and meteorological data at various sites in our air basin (Table 1). We also operate four Photochemical Assessment Monitoring Stations (PAMS) where we collect 24-hour air samples every 6th day from November to June and analyze the samples using a modified EPA TO-14 method for non methane hydrocarbons speciation (NMHC). During the four months of the summer PAMS season, we augment this program by collecting four 3-hour NMHC samples on the same every 6th day schedule at our El Cajon and Kearney Mesa (San Diego - Overland) stations. We will use these data to assist in identifying toxics source-receptor relationships and other characterization needs. If augmentations to the Toxics program are met through this grant, some District resources will be re-allocated from the PAMS program to the Toxics program.

The District has emission inventory data for the entire air basin. We will hire a contractor to evaluate the emission inventory for the study area against the ambient toxics data and look for any inconsistencies. The contractor will evaluate the success of the ISC3 model by comparing predicted local dispersion with concentrations actually measured within the study areas.

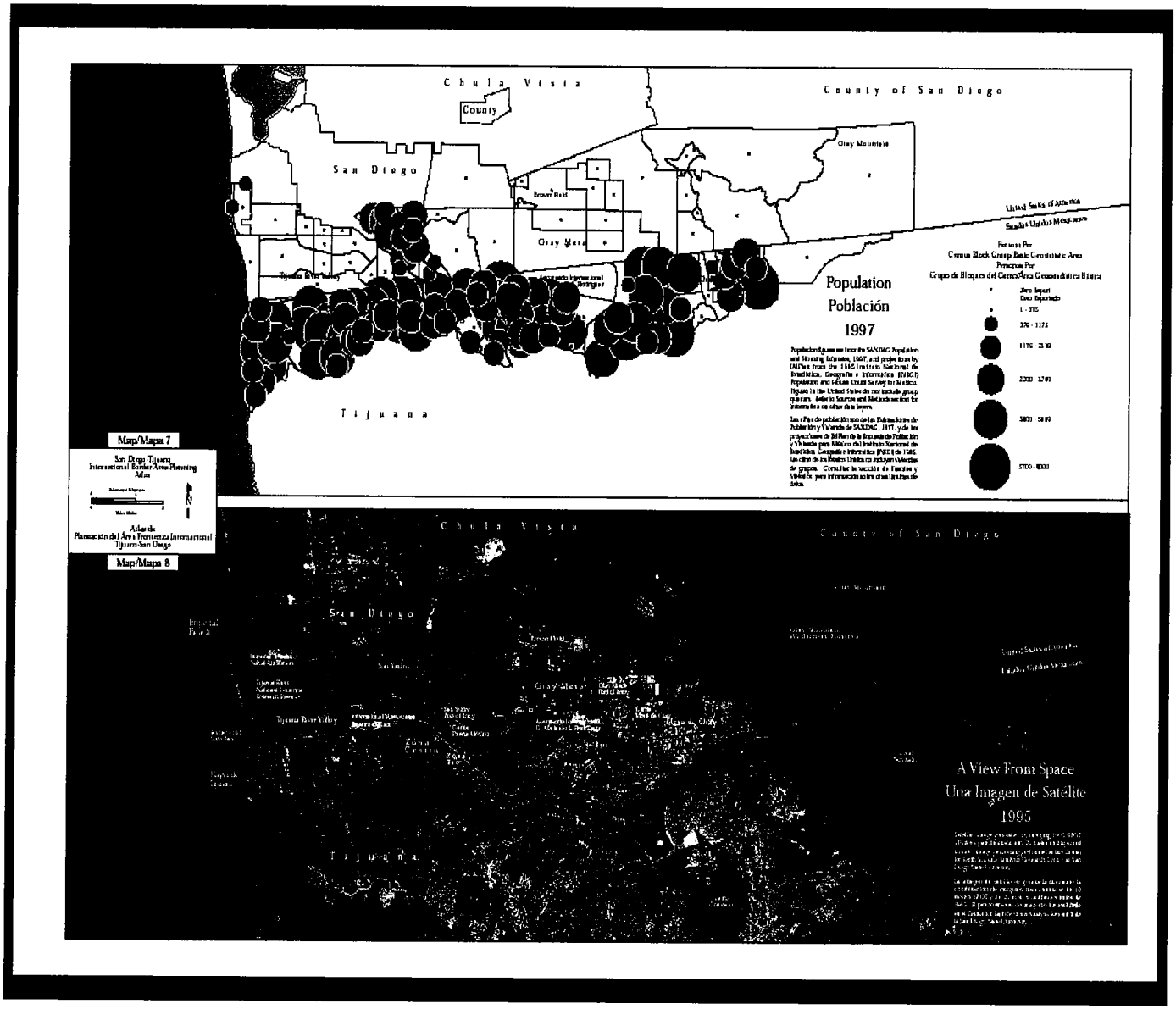
Currently, we are unable to adequately estimate health risk for many areas of the county. This grant will allow us to collect ambient air toxics data from these areas, calculate health risks and compare with the existing health risk assessments calculated for Chula Vista and El Cajon. We will use the ambient air toxics data from these new sites to establish a baseline reference of community exposure. In addition, we will use the ambient air toxics data from these new sites to identify compounds with high health risks and apply appropriate control measures. We will thus be able to evaluate the success of any future air toxics reduction project. This grant will also allow us to gain in-house technical capabilities to perform any future analogous air toxics monitoring for community assessment.

Table 1: Current Monitoring Stations

Sites		Pollutants									
	PAMS	O3	CO	NO2	SO2	PM10	PM2.5 (FRM)	PM2.5 Speciation	PM2.5 Continuous	Toxics	Surface Met WS,WD, T
Alpine	Yes	Yes		Yes							Yes
Camp Pendleton	Yes	Yes		Yes							Yes
Chula Vista		Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Del Mar		Yes									Yes
El Cajon	Yes	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes
Escondido		Yes	Yes	Yes		Yes	Yes	Yes	Yes	In process	Yes
Otay Mesa		Yes	Yes	Yes	Yes	Yes	No		planned	In process	Yes
SD-Union St.			Yes								
SD-Overland Ave.	Yes	Yes		Yes		Yes	Yes				Yes
San Diego-Beardsley St.		Yes	Yes	Yes	Yes	Yes	Yes		Yes	In process	Yes

Otay Mesa:

The Otay Mesa monitoring station lies on the international border with Mexico and is located in an industrialized area which is rapidly spreading on both sides of the border. Adjacent to the monitoring station is the Otay Mesa border crossing, a major port of entry for commercial and passenger vehicles. An estimated 1.4 million mostly diesel trucks cross this border annually. It is the largest commercial port along the California/Baja Mexico border. Tijuana has a population of 1.3 million and is the main commercial and industrial center of this Mexican state. Tijuana has about seven hundred maquiladora manufacturing plants employing about 115,000 workers. An auto manufacturing plant has recently been built on the eastern outskirts of Tijuana and several power plants dot Baja coastline. Additionally there is a plan to build a Liquefied Natural Gas (LPG) plant in Tijuana. The Rodriquez International Airport and the Brown Field Airports are located on either side of the border. On the US side of the border, a 500 MW power plant is slated to begin construction in the Otay Mesa Area. Metals data has been collected by the District from this site in the past. An analysis of this data indicates significantly higher levels of lead and cadmium when compared to the data collected at Chula Vista. This site is close to the master planned community development of Otay Ranch. When completed, this community will have an estimated population of 25,000.



Escondido:

As a part of its air quality monitoring network (Table1) the District also operates a monitoring station at Escondido, located in the populous northern sector of the SDAB. Toxics data has never been collected from anywhere within this expansive northern region. The Escondido monitoring station is downwind from the densely populated Interstate 15 and California Highway 78 corridors and also downwind from light manufacturing facilities built along these major transport corridors. Recently a power generating plant with a capacity of 500MW is in final construction phase at the intersection of Interstate 15 and Highway 78. About half a million people live in and around Escondido

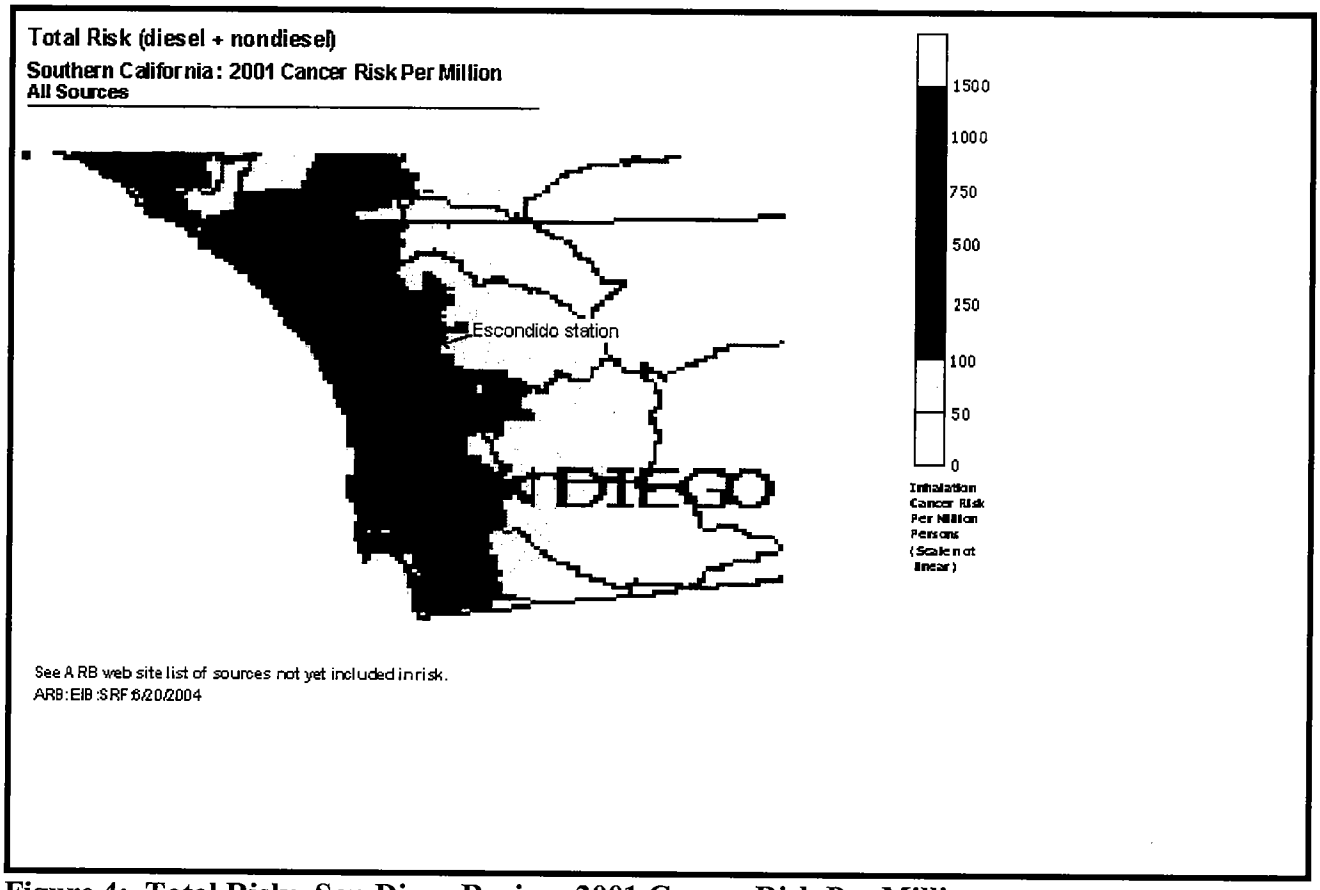


Figure 4: Total Risk: San Diego Region: 2001 Cancer Risk Per Million
California Air Resources Board website: toxic health risk assessments

Beardsley Street (San Diego Monitoring Station):

The community of Barrio Logan is located within the industrialized southwest portion of the City of San Diego. In 2000, Barrio Logan was designated by the EPA as a Federal Interagency Environmental Justice Demonstration project in order to mobilize all levels of government to improve the air quality and public health in that area. The community is zoned for mixed use with neighborhood auto body shops and chrome plating facilities. The community is also close to ship repair facilities, naval shipyards and a marine terminal serviced by the ATSF (Atchison Topeka and Santa Fe) and SDIV (San Diego and Imperial Valley) railways.

Local community activism in the form of the Environmental Health Coalition, an organization representing the residents of Barrio Logan, promulgation of California SB25 (Children's Environmental Health Protection Act), and the introduction of California Air Resources Board's Neighborhood Assessment Program (NAP) resulted in the California Air Resource Board (CARB) designating Barrio Logan as the first community to implement its NAP and SB25 measures. Monitoring for selected toxic compounds was conducted from October 1999 through February 2001 at the Memorial Academy Charter School, and followed by an intensive air monitoring study centered on two chrome plating facilities in March of 2001. For a more thorough introduction to this community, visit the University of Maryland website at http://www.umich.edu/~snre492/holtzman.html.

Advancing the spirit of environmental justice to which the District is committed, we have relocated our San Diego-12th avenue site to Perkins Elementary School at Beardsley Street, and are in the process of implementing routine toxics monitoring there. The Beardsley Street location is approximately 1.2 miles northwest of the Memorial Academy site, to the west of Interstate 5. However, this monitoring will not address some toxic compounds, exposure to which may critically contribute to the total community cancer risk: due to diesel emissions, hexavalent chromium, acrolein and acrylonitrile. We feel it is essential to assess the current ambient levels of these compounds for which we have no in-house capability to do so. Routine data collected at this site will complement and build upon the foundation of monitoring performed during the aforementioned Federal Interagency Environmental Justice Demonstration project.

Figure 5 depicts the relative hexavalent chromium emissions in San Diego County. Cancer risk maps, taken from the CARB website for toxic risk assessments, illustrate the 2001 estimated Cancer risk from non-diesel and diesel emissions in Figures 6 and 7. This grant will enable the District to perform VOC analysis (TO-15), Metals analyses (IO 3.5), and carbonyl analysis by GC/MS. In addition to the total metals analysis, the District will characterize hexavalent chromium levels using ion chromatography (IC). The District will use existing particulate filters and a thermal optical carbon analyzer to determine OC/EC levels in order to monitor diesel emission trends.

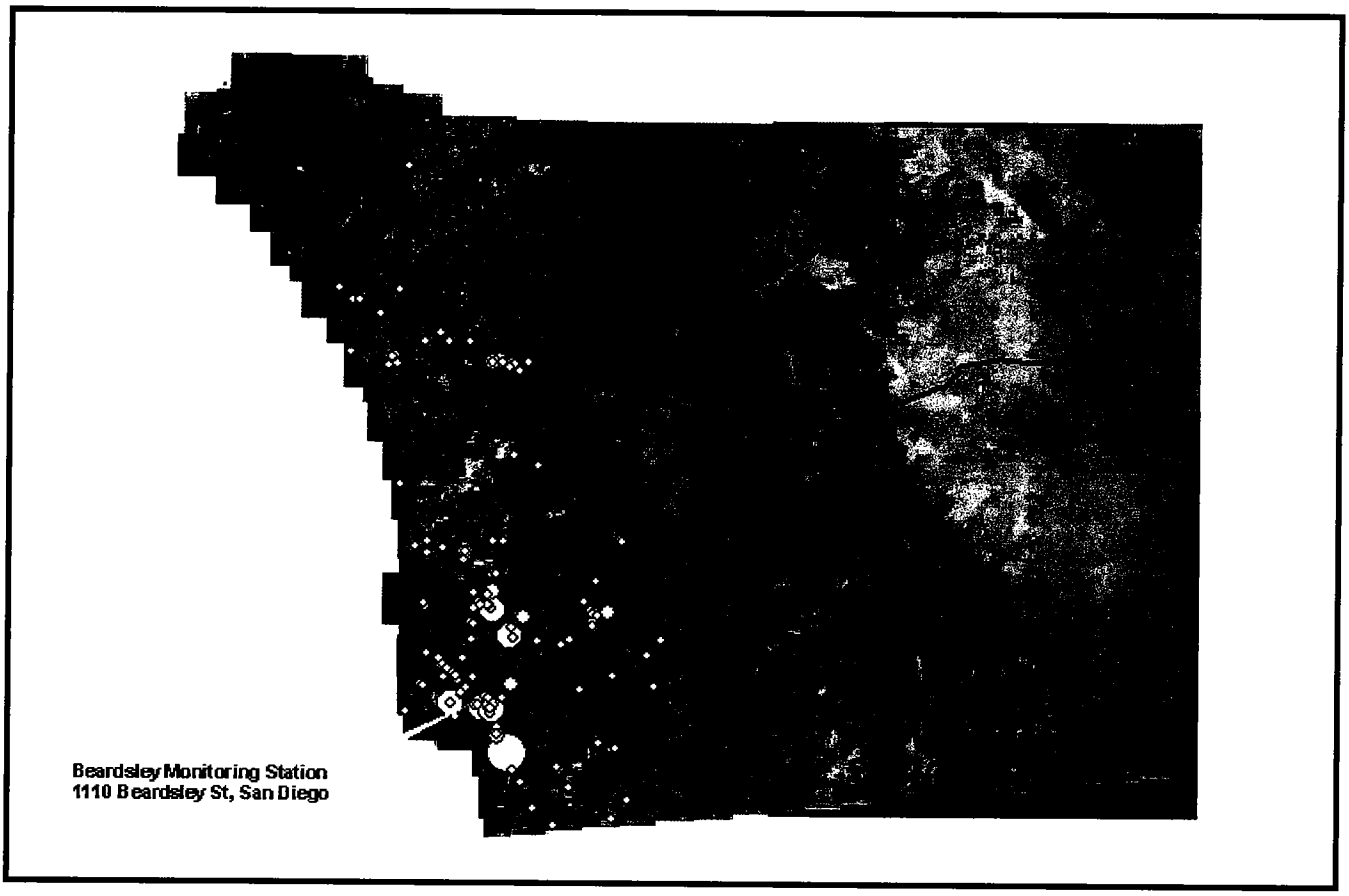


Figure 5: Relative contribution of San Diego County hexavalent chromium point sources, most recent emissions inventory data (2001-2004)

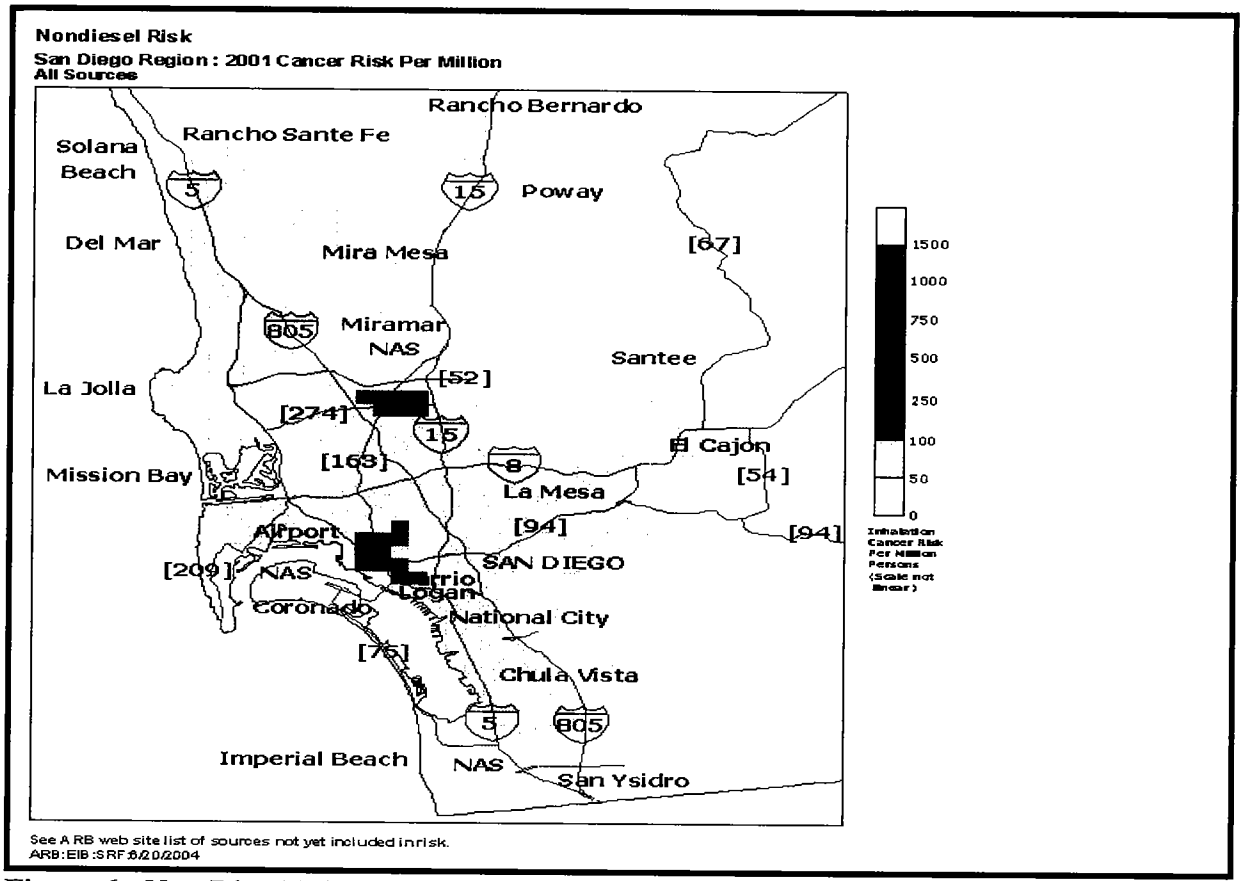


Figure 6: Non Diesel Risk: San Diego Region: 2001 Cancer Risk Per Million
California Air Resources Board website: toxic health risk assessments

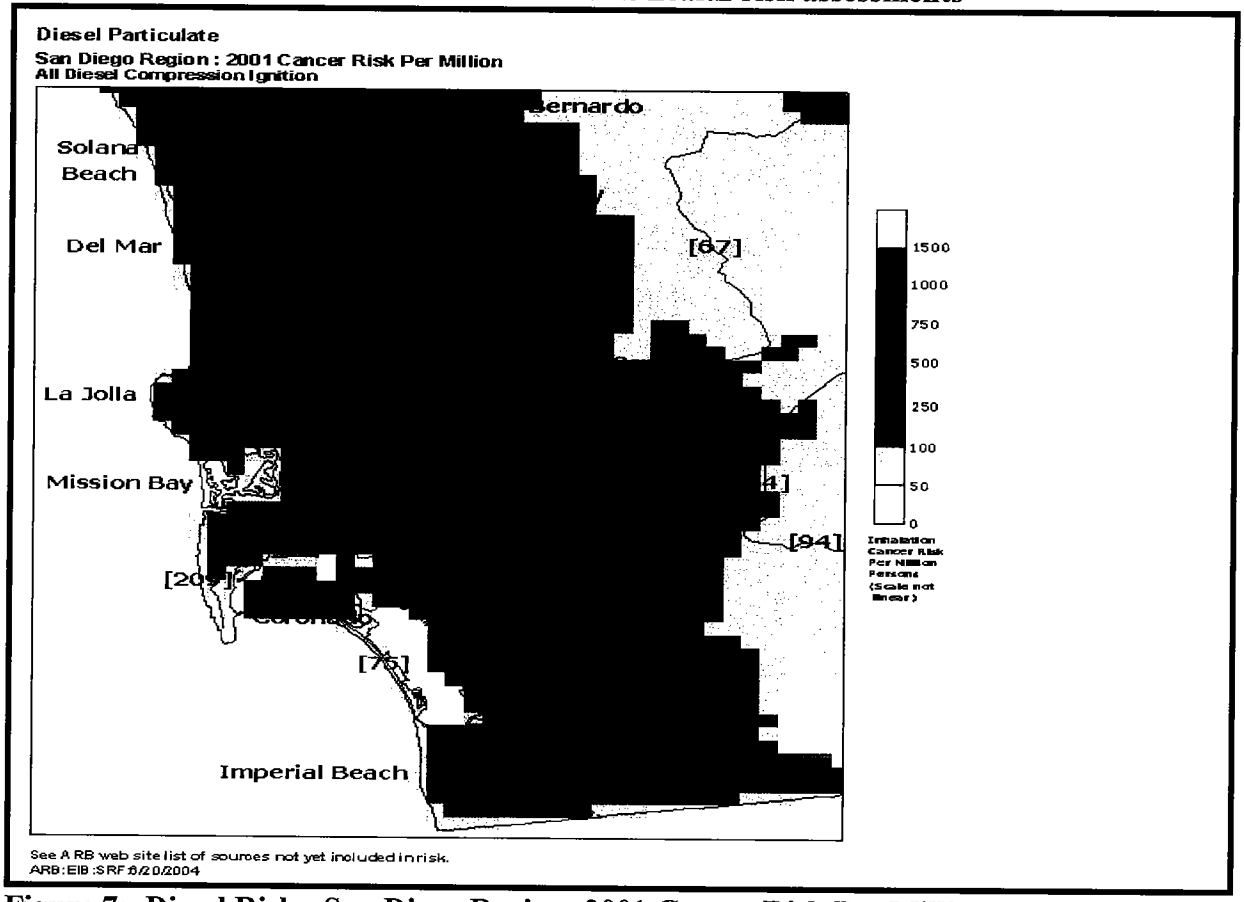


Figure 7: Diesel Risk: San Diego Region: 2001 Cancer Risk Per Million
California Air Resources Board website: toxic health risk assessments

Project Method/Activities:

Current Capabilities and Proposed Capital Improvements:

Metals Analysis:
The District has the capability to quantify metals using Graphite Furnace Atomic Absorption Spectrometry (GFAA) and XonTech 920/924 samplers. Samples have been collected from the Otay Mesa and Downtown (12^{th} Avenue station) for several years. This GFAA instrument has been in service for over ten years. However, there are several operational problems which require labor intensive maintenance. The GFAA is approaching the end of its lifetime. High detection limits and interfering compounds, as well as instrument malfunctions, have resulted in much of the data being unusable. Through this grant, the District will purchase an inductively coupled plasma mass spectrometer (ICP-MS) which will lower detection limits to the parts-per-trillion level.

Additionally, the use of an ICP-MS will allow for the analysis of all metals on EPA's list of hazardous air pollutants. The quality of data and the sample throughput capability will also be greatly increased. GFAA typically requires 2-3 minutes per element per sample. Since ICP-MS is a multi-element technique, 20-30 elemental determinations can be made in a few minutes. Of the measurement techniques available, the best detection limits are obtained with ICP-MS. ICP-MS has a wide analytical working range from the high parts-per-million to the low parts-per-trillion.

Hexavalent Chromium:
Hexavalent chromium will be sampled at the Beardsley Street site and quantified using an ion chromatograph.

Organic Carbon/Elemental Carbon:
If approved, the District will use this grant to purchase a Thermal Optical Carbon Analyzer to track organic and elemental carbon at the Beardsley Street monitoring station. As diesel rules are implemented the District will be able to evaluate trend data and make assessments regarding control efficiencies. This type of analyzer is similar to analyzers currently in use by the California Air Resources Board and the South Coast Air Quality Management District. Since carbon measurements can be analyzer dependant, this analyzer will allow the District to make state-wide comparisons of the data.

VOC Analysis:
The District, with the aid of a previous grant award, has purchased a Pre-concentrator/GCMS system and has implemented a program for the analysis of TO-15 compounds. TO-15 canister samplers have also been purchased and are currently being installed at the three designated sites designated above. The detection limits for this analysis have been shown to be at the low pptv level. District staff have been provided extensive training and are well versed in the operation of these instruments. As a consequence of initiating our toxics program, the District has been able to provide VOC analytical services to the Arizona Department of Environmental Quality (ADEQ) for the National Air Toxics Trends Stations (NATTS) network. The District has participated in NATTS and CARB audits with satisfactory results. In order to provide adequate quality assurance for our air toxics program, the District needs to purchase a dilution system which will be used in sampling system audits.

Carbonyls:
Currently the District monitors for formaldehyde and acetaldehyde at the El Cajon and Kearney Mesa stations using the TO-11A method and DNPH impregnated silica based cartridges. Available space at Otay Mesa, Escondido and Beardsley Street stations does not permit the installation of additional samplers for TO-11 compounds sampling. This method is not adequate to quantify acrolein or 2-butanone. The TO-11A method uses separate samplers, requires the purchase of DNPH cartridges, requires significant sample preparation time involving the storage of liquid hazardous waste and lacks a sampling system bias protocol.

The District proposes analyzing carbonyls such as acrolein, and 2-butanone by purge and trap pre-concentrator/GC-MS. This method will allow a single canister to be used for both carbonyl and VOC analysis. Further analysis of formaldehyde and acetaldehyde will also be investigated and compared to the current methodology. Given adequate detection limits and sample recoveries, formaldehyde and acetaldehyde will be quantified using this technique. This method will also be used for the analysis of acrylonitrile.

Community Support/"Hot Spots" Monitoring:
The District has purchased several passive canister samplers and has the ability to set up temporary canister sampling sites. The District has previously used its current capabilities to perform monitoring activities for local projects of concern. Recently these passive samplers were used to perform monitoring in support of a study conducted by the City of San Diego at the Mission Bay Landfill. During the devastating fires of October 2003, the District was able provide local pollution concentration data for selected compounds. The District anticipates that this grant will supplement its ability to perform periodic temporary monitoring and to characterize ambient concentrations for local areas of concern.

Quality Control/Assurance:

The District is committed to maintaining the highest degree of data quality and that the data meet monitoring data quality objectives of this project. If approved for this award, the District will develop and implement an EPA approved Quality System including a Quality Management Plan and a Quality Assurance Project Plan. The District believes that the Data Quality Objectives required by this program will be better served by implementing the new proposed technologies and methodologies. Technical procedures for the quality assurance program will include participation in EPA audits, annual system audits, system calibrations, standard checks, system blank checks, proper record keeping and co-located samples. A detailed quality assurance and monitoring plan will be submitted to EPA prior to monitoring. The District staff will analyze, validate and provide software programming capability to insure that the data is submitted to EPA in AQS format on a quarterly schedule within 120 days of completing a data collection quarter.

Analyst Biographies:

Mike Kaszuba: Associate Air Pollution Control Chemist with the District for over twenty five years.
B. S. Marine Biology, University of Miami
Graduate work in Environmental Science, Southern Illinois University
Mike is the principle investigator for the VOC analysis by GC/MS. He is also the back-up for NMHC analysis by GC/FID. Mike has previously worked in most areas of ambient monitoring. He was the Air Quality Network audit lead for several years.

David Shina: Associate Air Pollution Control Chemist. Approximately 15 years with the District.
B. A. Chemistry: University of California, San Diego
David is the principle investigator for the analysis of carbonyls by HPLC and PM2.5 monitoring.

Jerry Hunter: Associate Air Pollution Control Chemist with the District for over twenty five years.
Responsibilities include metals analysis by GFAA, network calibrations, precision and accuracy data for the Air Quality Network.

Janet Cawyer: Associate Air Pollution Control Chemist with the District for approximately 15 years.
B. A. Chemistry: University of California, San Diego
Janet is the principle investigator for the analysis of NMHC by GC/FID. She is the back-up for the VOC analysis by GC/MS. Responsibilities also include calibrations/certifications for network QA instruments/gases. Provides programming support for data formatting.

John Shindler: Air Pollution Control Chemist. John has been with the District for 13 years.
M.S.C. and B.E.S Cleveland State University
Ph. D. University of Southern California
Prior to working for the District, John was a Research Fellow at the Naval Ocean Systems Center and an Assistant Professor at the University of San Diego. John is quite knowledgeable about the field of spectroscopy and supports quality assurance activities for the District.

Jean Timmerman: Air Resource Specialist at the District for 14 years. A. S. Degree in Computer Science. Jean is responsible for maintaining the Network DAS and for uploading all data to AQS.

Tracking and Measurement of Progress:

The District will provide quarterly reports summarizing the progress of the monitoring activities proposed within this application on a scheduled timeline determine by EPA. A detailed final report will be submitted to the EPA within 90 days of the end of the project period.

Table 2. Implementation Schedule

Event:		Date:
Submit Grant to EPA		8/22/2005
Funds Awarded		10/2005
Grant Approval by San Diego County Air Pollution Control Board		12/31/2005
Equipment Purchase completed by		3/1/2006
Quality System In Place		4/1/2006
Start Monitoring		4/1/2006
End Monitoring		10/1/2007
Data Submitted to AIRS (quarterly)		120days
Draft Report to EPA		12/31/2007
Final Report to EPA		1/31/2008

The following pollutants to be monitored:

Table 3: List of Pollutants:

Name of Compound:	Type of Sampler:	Analytical Method:
***VOCs*: 47 Compounds – TO15 list**	XonTech 910	GC/MS
Core VOC Compounds:	XonTech 910 (Silica Lined Canisters)	GC/MS
Benzene		
1,3-Butadiene		
Carbon Tetrachloride		
Chloroform		
1,2-Dichloropropene		
Methylene Chloride		
Tetrachloroehtylene		
Trichloroethylene		
Vinyl Chloride		
Metals	XonTech 920/924	ICP-MS
Arsenic and compounds		
Beryllium and compounds		
Cadmium and compounds		
Lead and compounds		
Manganese and compounds		
Nickel and compounds		
Hexavalent chromium	XonTech 920/924 (Cellulose Filters)	IC-PCR
Carbonyls:		
Formaldehyde Acetaldehyde	Xontech 925	HPLC (potentially GC/MS)

	Table 3: List of Pollutants: con't	
Acrolein 2-Butanone (MEK) 4-Methyl-2-pentanone (MIK)	Modified XonTech 910 (Ambient pressure silica lined canisters)	Purge/Trap GC/MS
Acrylonitrile	Modified XonTech 910 (Ambient pressure silica lined canisters)	Purge/Trap GC/MS

Cost Estimates:

The following table lists the analytical instruments needed to support the air toxics program. The District currently has samplers for the following methodologies.

Table 4: List of Equipment Needed				
Compounds	**Analytical Method**	**What is not needed**	**What is needed**	**Cost**
VOC's	GC/MS	*Analytical System*	-	-
Metals	ICP/MS	-	*ICP/MS*	*$170,000*
Hex Chrom	IC	-	*IC-PCR*	*$55,000*
Carbonyls	GC/MS	-	*Purge/Trap*	*$31,000*
			GC/MS	*$75,000*
OC/EC	Thermal Optical Carbon Analyzer	-	*Analyzer*	*$60,000*
Quality Assurance	Gas Dilution System	-	*Dilution System*	*$11,000*
			Total	*$402,000*

The following table summarizes the total cost for this project: The district will absorb the cost of labor and supplies.

Table 5:Total Cost Estimates:			
Description	**Cost:**	**District Cost:**	**Total Cost:**
Equipment	$402,000		$402,000
Supplies		$58,640	$58,640
Personnel including benefits		$412,980	$412,980
Travel/Training	$5,000		$5,000
Contract Services	$50,000		$50,000
TOTAL:			

Summary:

San Diego County's Air Pollution Control District has enjoyed a long-held national recognition for excellence. We have a highly trained and experienced staff, and are known for the quality and completeness of our data submitted to AQS. The extent and accuracy of our emissions inventory remains unsurpassed, and the effectiveness of our rule-making and enforcement sections is top-notch. In step with California being at the forefront of air pollution control, we were commended by EPA for being one of the first agencies in the country to implement the $PM_{2.5}$ legislation. If we are lacking in any arena, it would be in keeping pace with recent technological advances in the laboratory. The confidence in our analytical capabilities and the high esteem with which this organization is held can be demonstrated by both EPA's Region IX and ADEQ having requested that we analyze air toxics samples from the Phoenix area in support of NATTS, before having established even our own toxics network. We continue to fulfill this assignment with satisfying results. (We were further requested to take on the analysis of San Joaquin Air Basin and Sacramento PAMS samples, but were unable to commit the substantial resources required. Yet pending are similar requests for toxics analysis for the Bay Area's San Jose site, the sole California NATTS location, and additionally for support for local Arizona Native American tribal monitoring.)

In order to continue in this tradition of excellence, it is urgent that we:

- Replace our aging GFAA with new technology that will enable lower detection limits and a high-quality analysis that has heretofore been unavailable for arsenic, hexavalent chromium, etc.
- Monitor for and analyze acrolein and hexavalent chromium (two extremely toxic compounds); OC/EC, as an initial venture into the world of diesel particulate; and acrylonitrile, which based upon a single year's limited data capture in San Diego carries a cancer risk of 400!

If we are able to meet the aforementioned goals with the assistance of this grant, we are highly confident that it will result in:

- Production of quality ambient air toxics data on both regional and localized scales. This will include the quantification of several priority pollutants not before measured, and include all 18 core HAPs. This data will be available to the public via the EPA AQS.
- Tremendously improved cancer risk assessments on both regional and local scales.
- Identification of localized "hot spots" and the distribution of HAPs within them, primarily beginning with the community of Barrio Logan. We remain committed to the pursuit of environmental justice, and would gain great satisfaction from the in-house capability to characterize acrolein, acrylonitrile, OC/EC, and hexavalent chromium. These assembled data will be of high value not only to one small community, but also to the EPA, and even internationally.
- Support of future rule-making which will lead to reduced emissions within the SDAB.
- Model output that will elucidate spatial distribution of risk, accompanied by knowledge of where to direct monitoring resources.
- Validation of, or illumination of shortcomings with, the current ICS3/HARP dispersion model, accompanied by similar validation of existing emissions inventory.

It is expected that this grant request is to be approached as a partnership with the EPA, they supplying the major funding for the expansion of laboratory capability, and the District bearing the cost of supplies, canisters, sample media etc.; maintenance of equipment; and all labor costs associated with collection and analysis of samples, as well as data reduction and submittal, and all continuing costs for extension of this project beyond the initial scope. We optimistically envision that this extended capability will further open the door to future partnerships of the type previously addressed throughout the region.

BUDGET INFORMATION – Non-Construction Programs

OMB Approval No. 0348-0044

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Air Toxics Monitoring Program	66-034	$ 0.00	$ 0.00	$ 457,000.00	$ 471,620.00	$ 928,620.00
2.						0.00
3.						0.00
4.						0.00
5. **TOTALS**		$ 0.00	$ 0.00	$ 457,000	$ 471,620.00	$ 928,620.00

SECTION B - BUDGET CATEGORIES

6. OBJECT CLASS CATEGORIES	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
			(3)	(4)	
a. Personnel	$ 412,980.00	$	$	$	$ 412,980.00
b. Fringe Benefits (included in Personnel)					
c. Travel	5,000.00				5,000.00
d. Equipment	402,000.00				402,000.00
e. Supplies	58,640.00				58,640.00
f. Contractual	50,000.00				50,000.00
g. Construction	.00				.00
h. Other (IT Contracts & Inter-Fund Charges)	.00				.00
i. Total Direct Charges (sum of 6a - 6h)	$ 928,620.00		0.00	0.00	$ 928,620.00
j. Indirect Charges (Paid to County Depts.)	.00				.00
k. TOTALS (sum of 6i and 6j)	$ 928,620.00	$ .00	$ 0.00	$ 0.00	$ 928,620.00
7. Program Income	$	$	$	$	$

SECTION C – NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. Air Pollution Control District Monitoring Program	$ 471,620.00	$ 0	$ 0	$ 471,620.00
9.				
10.				
11.				
12. TOTAL (sum of lines 8 and 11)	$ 471,620.00	$ 0	$ 0	$ 471,620.00

SECTION D - FORECASTED CASH NEEDS

	(Total for 1st Year)	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 457,000.00	$ 114,250.00	$ 114,250.00	$ 114,250.00	$ 114,250.00
14. NonFederal	$ 471,620.00	$ 117,905.00	$ 117,905.00	$ 117,905.00	$ 117,905.00
15. TOTAL (sum of lines 13 and 14)	$ 928,620.00	$ 232,155.00	$ 232,155.00	$ 232,155.00	$ 232,155.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	$ 0	$ 0	$ 0	$ 0
17				
18.				
19.				
20. TOTALS (sum of lines 16 - 19)	$ 0	$ 0	$ 0	$ 0

SECTION F - OTHER BUDGET INFORMATION
(Attach additional sheets if Necessary)

21. Direct Charges:	22. Indirect Charges:

23. Remarks:

a. Personnel: (Program Staffing - include and indicate vacant positions) Position Title	Number in Position Class	Annual Salary Rate	Work Years	Personnel Costs
(1)	(2)	(3)	(4)	(5)
Senior Air Pollution Chemist	1	128,113	2	
Associate Air Pollution Chemist	3	106,801	2	
Air Pollution Test Technician	1	82,525	2	
Electronic Instrument Technician II	1	79,533	2	
Note: The above employees will only work part of of their staff years on this program.				
PERSONNEL CATEGORY TOTALS	Carried to page 2, 6a	0.00	0.00	$ 412,980.00
b. FRINGE BENEFITS: TOTAL	Included in Personnel			.00
c. TRAVEL: TOTAL (Itemize below - See Sample pages)	Carried to page 2, 6c			5,000 .00

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BUDGET CATEGORIES INFORMATION (FROM SF424A, SECTION B TOTALS)
Enter Total Program Costs, i.e., Federal and Non-Federal Funds Combined

(Attach Separate Sheet(s) if necessary)

Object Class Categories		
d. Equipment: (1) List each item costing $5,000 or more to be purchased for this project;		
Inductively Coupled Plasma – Mass Spectrometer (ICP-MS) –one	$ 170,000	
Gas Chromatorgraph – Mass Spectrometer (GC-MS) - one	$ 75,000	
Purge and Trap Preconcentrator/Autosampler – one	$ 31,000	
Ion Chromatograph – post column reactor – one	$ 55,000	
Thermal Optical Carbon Analyzer – one	$ 60,000	
Gas Dilution System – one	$ 11,000	
	SUB-TOTAL	$402,000.00
(2) List items costing less than $5,000. You may list the items by groups, as appropriate.		
	SUB-TOTAL	$ 0.00
Carried to 2, 6d	COMBINED EQUIPMENT TOTAL	$402,000.00
e. Supplies: List by groups, as appropriate.		
Sample canisters	$12,750	
NIST standard gas	$ 5,000	
Non-NIST standard gases	$ 8,600	
Instrument gas supplies/purification traps	$22,640	
Instruments consumables (regulators, electron multipliers, columns, fittings)	$ 8,650	
Filters, solvents, standards for metals analysis	$ 1,000	
Carried to page 2,6e	SUPPLIES TOTAL	$58,640.00

Prescribed by OMB Circular A-102

AUTHORIZED FOR LOCAL REP

BUDGET CATEGORIES INFORMATION (FROM SF424A, SECTION B TOTALS)

Enter Total Program Costs, i.e., Federal and Non-Federal Funds Combined

(Attach Separate Sheet(s) if necessary)

Object Class Categories		
f.	CONTRACTUAL: List each planned contract separately, type of services to be procured, proposed procurement method (i.e. small purchase, formal advertising, competitive negotiations or non-competitive negotiations) and the estimated cost. Also, please indicate if the proposed contract performance period will go beyond the budget period of assistance for which this application is submitted.	
	Contract – Air toxics inventory and modeling analysis - $50,000.00	
	COMBINED CONTRACTUAL TOTA	$ 50,000.00
g.	CONSTRUCTION (N/A)	.00
h.	OTHER: Explain by major categories any items not included in above standard budget categories. Caution: Do not include or proposed as a direct project cost, any cost that is indirect in nature (see OMB Circular A-87) or is included in the indirect cost pool on which the indirect cost rate (item j) is based.	
	OTHER TOTA	$ 0.00
i.	TOTAL DIRECT CHARGES: (Sum of Items a. through h.) (Carried to page 3, 6l)	$ 928,620.00
j.	INDIRECT COSTS: (Attach a copy of your latest indirect cost agreement)	$ .00
k.	TOTAL PROPOSED PROGRAM COSTS (Sum of Items i. and j.)	$ 928,620.00