

ITEM NO. : 88-11-3(b)  
DATE: August 11, 1988

**State of California**  
**AIR RESOURCES BOARD**

**ITEM:** Research Proposal No.1606-140 entitled  
"Data Analysis for the Southern California Air  
Quality Study - Phase I"

**RECOMMENDATION:** Adopt Resolution 88-47 approving Proposal No.  
1606-140 for an amount not to exceed \$124,170.

**SUMMARY:** This project provides for archiving, validation  
and management of the aerometric data base  
collected during the Southern California Air  
Quality Study (SCAQS). The contractor will  
perform statistical analyses of the data base in  
order to identify incorrect data, communicate  
with individual investigators to correct the  
data, and update the data base.

The principal investigator is John Collins, and  
the contractor is ERT, Inc. ERT has performed  
successfully as the data manager and quality  
assurance contractor for the Southern California  
Air Quality Study. This continuation of ERT's  
efforts will provide to the ARB and to other  
SCAQS sponsors a reasonably complete and  
validated data base for all intensive study  
days.

The attached table summarizes the status of data  
sets to be included. These data will be used by  
ARB and others to conduct tests and validations  
of existing photochemical models and to develop  
improved models for ozone, PM<sub>10</sub>, visibility,  
toxics and acidic air pollutants.

SCAQ5 Data Status - July 20, 1988

| Group   | PI        | Date Due | Received | Measurement                       |
|---------|-----------|----------|----------|-----------------------------------|
| AIHL    | Appel     |          | 2/10/88  | NO, NOx: Teko 14b w/CO3 denuder   |
| AIHL    | John      | 9/88     |          | Berner Impactor                   |
| ARB     | Bennett   |          | 2/18/88  | Pt. Mugu Upper Air Met            |
| ARB     | Bennett   | 8/88     |          | IMU Upper Air Met                 |
| ARB     | Kowalski  |          | 6/30/88  | NO, NOx: Monitor Labs 8840        |
| AV      | Moon      |          | 6/02/88  | Aerosol Sizing                    |
| AV      | Chan      | 8/88     |          | SCE Van                           |
| AV      | Ettenheim | 9/88     |          | Doppler Sounder                   |
| Bios    | Rasmussen | --       |          | HC Canister, Toxics               |
| CIT     | Hoffmann  | 8/88     |          | Cloud/Fog Water Chemistry         |
| CIT     | Shair     | 9/88     |          | SF6 Tracer                        |
| CMU     | Davidson  | 8/88     |          | Dry Deposition to Surfaces        |
| DGA     | Grosjean  | 12/88    |          | PAN, Organic Acids, C14           |
| EMSI    | Countess  | 8/88     |          | SCAQ5 Sampler Data                |
| EMSI    | Lev-On    | 8/88     |          | H2O2                              |
| EPA     | Kellogg   | 11/88    |          | XRF                               |
| EPA     | Knapp     | 11/88    |          | HC Speciation, HNO3               |
| EPA     | Lonneman  | 11/88    |          | PAN                               |
| EPA     | McElroy   | 10/88    |          | Lidar                             |
| ERT     | Fung      | 9/88     |          | Carbon, HNO3                      |
| ERT     | Wright    | 10/88    |          | Carbonyls                         |
| Ford    | Adams     | 8/88     |          | Spectraphone                      |
| GGC     | Gordon    | 11/88    |          | Radio Carbon                      |
| GGC     | Kaplan    | 11/88    |          | Alcohols                          |
| GM      | Wolff     | 8/88     |          | Continuous Analyzer               |
| GM      | Kelly     | 10/88    |          | Smog Chamber                      |
| IIT     | Noll      |          | 4/28/88  | Deposition Plates                 |
| LBL     | Hansen    |          | 7/01/88  | Aethalometer                      |
| OGC     | Turpin    | --       |          | Continuous Sulfate                |
| OME     | Bardswick | --       |          | APIOS Deposition                  |
| Radian  | Oliver    |          | 11/01/88 | Day-specific Emissions            |
| RP      | Richmond  |          | 6/01/88  | Photography                       |
| SCAQMD  | Eden      |          | 4/08/88  | PM10                              |
| SCAQMD  | Bope      |          | 3/11/88  | Continuous Routine AQ             |
| SCE-IWI | Zeldin    |          | 6/01/88  | Airport Met, Description (Summer) |
| SCE-IWI | Zeldin    | 9/88     |          | Airport Met, Description (Fall)   |
| STI     | Richards  |          | 2/17/88  | Radiance Difference               |
| STI     | Anderson  | 8/88     |          | Aircraft                          |
| SVRI    | Ingalls   | 10/88    |          | Tunnel Study                      |
| TBS-ARB | Lehrman   |          | 6/01/88  | Upper Air Met (Summer)            |
| TBS-ARB | Lehrman   | 8/88     |          | Upper Air Met (Fall)              |
| TBS-ARB | Lehrman   |          | 7/01/88  | Surface Met                       |
| TBS-SCE | Lehrman   |          | 6/01/88  | Upper Air Met (All)               |

SCAQS Data Status - July 20, 1988  
(continued)

| Group  | PI           | Date Due   | Received | Measurement            |
|--------|--------------|------------|----------|------------------------|
| TT-SCE | Marsh        | 9/88       |          | Perfluorocarbon Tracer |
| UCD    | Cahill       | 8/88       |          | DRUM                   |
| UCLA   | Allen        | 9/88       |          | Particle Size, FTIR    |
| UCLA   | Main         | 9/88       |          | LPI Dichot             |
| UCR    | Winer        | 8/88       |          | DOAS NO3, NO2 (Summer) |
| UCR    | Winer        | 3/89       |          | DOAS NO3, NO2 (Fall)   |
| UCR    | Atkinson     | not funded |          | HiVol w/PUF            |
| UD     | Stedman      |            | 5/01/88  | PAN, HNO3, Rad         |
| UI     | Rood         | 7/88       |          | Nephelometer, Temp, RH |
| UM     | McMurry      | 11/88      |          | MOUDI-Carbon           |
| UNI    | Mackay       |            | 3/19/88  | HCHO, H2O2, HNO3       |
| UV     | Hitzenberger |            | 6/20/88  | Path Radiance          |
| UW     | Hegg         |            | 6/01/88  | Aircraft               |
| VCAPCD | Shipp        | 8/88       |          | Surface Met            |

**State of California**

**AIR RESOURCES BOARD**

Resolution 88-47  
August 11, 1988

**WHEREAS**, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

**WHEREAS**, a solicited research proposal, Number 1606-140, entitled "Data Analysis for the Southern California Air Quality Study - Phase I," has been submitted by ERT, Inc.; and

**WHEREAS**, the Research Division staff has reviewed and recommended this proposal for approval; and

**WHEREAS**, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1606-140, entitled "Data Analysis for the Southern California Air Quality Study - Phase I," submitted by ERT, Inc. for a total amount not to exceed \$124,170.

**NOW, THEREFORE, BE IT RESOLVED**, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1606-140, entitled "Data Analysis for the Southern California Air Quality Study - Phase I," submitted by ERT, Inc. for a total amount not to exceed \$124,170.

**BE IT FURTHER RESOLVED**, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed \$124,170.

I hereby certify that the above is a true and correct copy of Resolution 88-47, as adopted by the Air Resources Board.

  
\_\_\_\_\_  
Cary Allison, Board Secretary

# B U D G E T   S U M M A R Y

ERT, Inc.

"Data Analysis for the Southern California  
Air Quality Study -  
Phase I"

## BUDGET ITEMS:

|                             |                           |                  |
|-----------------------------|---------------------------|------------------|
| Salaries                    | \$28,507                  |                  |
| Benefits                    | 33,924                    |                  |
| Travel                      | 620                       |                  |
| Consultants*                | 25,000                    |                  |
| Other Costs**               | <u>27,103</u>             |                  |
| <b>TOTAL, Direct Cost</b>   |                           | \$115,154        |
| <b>TOTAL, Indirect Cost</b> |                           | <u>9,016</u>     |
|                             | <b>TOTAL PROJECT COST</b> | <b>\$124,170</b> |

=====

\* Consultant funds will be used to help ensure that all data are contained in the archive and reported in a consistent manner, and to help oversee validation efforts.

\*\* Computer Usage           \$ 7,500  
Telephone                   500  
Report Cost                 500  
G & A (26%)                 18,603

**State of California**

**AIR RESOURCES BOARD**

**Resolution 88-48  
August 11, 1988**

**WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and**

**WHEREAS, a solicited research proposal, Number 1593-138, entitled "Development of Species Profiles for Selected Organic Emission Sources," has been submitted by the California Polytechnic State University Foundation; and**

**WHEREAS, the Research Division staff has reviewed and recommended this proposal for approval; and**

**WHEREAS, the Research Screening Committee has reviewed and recommends for funding:**

**Proposal Number 1593-138, entitled "Development of Species Profiles for Selected Organic Emission Sources," submitted by the California Polytechnic State University Foundation, for a total amount not to exceed \$140,161.**

**NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:**

**Proposal Number 1593-138, entitled "Development of Species Profiles for Selected Organic Emission Sources," submitted by the California Polytechnic State University Foundation, for a total amount not to exceed \$140,161.**

**BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed \$140,161.**

I hereby certify that the above is a true and correct copy of Resolution 88-48, as adopted by the Air Resources Board.

  
\_\_\_\_\_  
Cary Allison, Board Secretary

**ITEM NO.:** 88-11-3(b)

**DATE:** August 11, 1988

**State of California**

**AIR RESOURCES BOARD**

**ITEM:** Research Proposal No. 1593-138 entitled "Development of Species Profiles for Selected Organic Emission Sources"

**RECOMMENDATION:** Adopt Resolution 88-48 approving Proposal No. 1593-138 for an amount not to exceed \$149,962.

**SUMMARY:** The purpose of this study is to develop source profiles for emissions of organic compounds from selected source categories that contribute to violation of state and federal ambient air quality standards for ozone.

Fugitive hydrocarbon emissions from oil production facilities and exhaust hydrocarbons from specified types of equipment using internal combustion engines, including tractors, heavy-duty equipment, lawnmowers and other utility engines, would be sampled and analyzed. Hydrocarbon speciation would be performed and identities of major components would be verified. Analytical results would be reported in a format consistent with the Organic Gas Emission Profiles of the ARB's emission inventory. A total of approximately 100 samples would be collected and analyzed.

Information from this study will be used to improve the accuracy of emission inventories for organic gases and to improve modeling analyses used for the development of ozone control strategies. The contractor for this study would be the California Polytechnic State University, San Luis Obispo, and the principal investigator would be Dr. Albert Censullo. The analytical laboratory work would be subcontracted to Environmental Analytical Services, Inc., of San Luis Obispo.

## BUDGET SUMMARY

California Polytechnic State University,  
San Luis Obispo

"Development of Species Profiles for  
Selected Organic Emission Sources"

### BUDGET ITEMS:

|                             |               |                         |
|-----------------------------|---------------|-------------------------|
| Salaries                    | \$54,465      |                         |
| Benefits                    | 11,968        |                         |
| Travel                      | 9,900         |                         |
| Consultants                 | 1,710         |                         |
| Other Costs*                | <u>46,925</u> |                         |
| <b>TOTAL, Direct Cost</b>   |               | <b>\$124,968</b>        |
| <b>TOTAL, Indirect Cost</b> |               | <b><u>24,994</u></b>    |
| <b>TOTAL PROJECT COST</b>   |               | <b><u>\$149,962</u></b> |

\*Subcontract with Environmental Analytical Services, Inc., for chemical analyses of approximately 100 gas samples for speciated hydrocarbons and aldehydes.



**State of California**

**AIR RESOURCES BOARD**

Resolution 88-49  
August 11, 1988

**WHEREAS**, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

**WHEREAS**, an unsolicited research proposal, Number 1610-140, entitled "P-TEAM: Chemical Characterization of Indoor Air Particulates," has been submitted by the Research Triangle Institute; and

**WHEREAS**, the Research Division staff has reviewed and recommended this proposal for approval; and

**WHEREAS**, the Research Screening Committee has reviewed and recommends for funding:


Proposal Number 1610-140, entitled "P-TEAM: Chemical Characterization of Indoor Air Particulates," submitted by the Research Triangle Institute, for a total amount not to exceed \$67,536.

**NOW, THEREFORE, BE IT RESOLVED**, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1610-140, entitled "P-TEAM: Chemical Characterization of Indoor Air Particulates," submitted by the Research Triangle Institute, for a total amount not to exceed \$67,536.

**BE IT FURTHER RESOLVED**, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed \$67,536.

I hereby certify that the above is a true and correct copy of Resolution 88-49, as adopted by the Air Resources Board.

  
\_\_\_\_\_  
Cary Allison, Board Secretary

ITEM NO.: 88-11-3(b)  
DATE: August 11, 1988

**State of California**  
**AIR RESOURCES BOARD**

**ITEM:** Research Proposal No. 1610-140 entitled  
"P-TEAM: Chemical Characterization of Indoor  
Air Particulates"

**RECOMMENDATION:** Adopt Resolution 88-49 approving Proposal No.  
1610-140 for an amount not to exceed \$67,536.

**SUMMARY:** This proposal is submitted to provide for ARB participation in the initial pilot stages of a large field study to determine the indoor, outdoor and personal exposures of people to particulates and semivolatile organic compounds. The U.S. Environmental Protection Agency (EPA) is providing the majority of the funds needed to sponsor this work. EPA's focus is on obtaining gravimetric data on PM<sub>2.5</sub> and PM<sub>10</sub>. The requested funds would add specific extensions to the initial pilot study, primarily to evaluate methods for measuring exposures to organic compounds.

The results of this pilot study will be used to plan a much larger field study, where approximately 200 to 250 residences will be studied. At the end of this pilot study, the Research Screening Committee will assess and recommend whether and/or how ARB participation should be continued in the larger study. ARB

participation in this pilot study will ensure that it will be performed in California. It is likely that the larger study will be performed at the same site, thus effectively making the overall study (which would also be funded largely by EPA) serve the information needs of the Board.

The information generated by this specific proposal will have limited initial application to the activities of the Board's indoor and toxics programs. The major benefit will be to provide crucial information to guide the planning of future field work. Larger scale studies based on this work will be of great utility to the Board's indoor and toxics programs as well as our PM<sub>10</sub> regulatory efforts because it will provide indoor and outdoor exposure data on a large number of substances.

The contractor will be the Research Triangle Institute and the principal investigator will be Dr. E.D. Pellizzari.

B U D G E T   S U M M A R Y

RESEARCH TRIANGLE INSTITUTE

"P-TEAM: Chemical Characterization of Indoor Air Particulates"

BUDGET ITEMS:

|                 |              |
|-----------------|--------------|
| Salaries        | \$14,032     |
| Benefits        | 4,911        |
| Travel          | 4,050        |
| Sub Contractors | 10,000       |
| Other Costs*    | <u>6,580</u> |

|                      |               |
|----------------------|---------------|
| TOTAL, Direct Cost   | \$39,573      |
| TOTAL, Indirect Cost | <u>27,963</u> |

**TOTAL PROJECT COST**                    **\$67,536**

=====

---

|                              |         |
|------------------------------|---------|
| *Supplies                    | \$4,580 |
| Computer Costs               | 500     |
| Reports and<br>Communication | 1,500   |