

**Corpus Christi Air Monitoring and Surveillance Camera
Installation and Operation Project**

Quarterly Report for the Period

October 1, 2004 through December 31, 2004

Submitted to

**Judge Janis Graham Jack
US District Court for the Southern District of Texas
Corpus Christi, Texas**

**Mr. Robert Todd
US Environmental Protection Agency, Region 6
Dallas, Texas**

**Mr. C. Buddy Stanley
Texas Commission on Environmental Quality, Region 14
Corpus Christi, Texas**

Submitted by

**David Allen, Ph.D.
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Center for Energy and Environmental Resources
The University of Texas at Austin
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February 25, 2005

I. Introduction

On October 1, 2003, the US District Court for the Southern District of Texas issued an order to the Clerk of the Court to distribute funds in the amount of \$6,700,000, plus interest accrued, to The University of Texas at Austin (University) to implement the court ordered condition of probation (COCP) project *Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation* (Project). This quarterly report has been prepared pursuant to the requirements of the project proposal and is being submitted to the US District Court, the US Environmental Protection Agency (EPA), and the Texas Commission on Environmental Quality (TCEQ).

II. Project Progress Report

The focus of work during the Quarter ending December 31, 2004 has been directed to the following activities.

A. Scheduled Meetings of the Volunteer Advisory Board

The third meeting of the Advisory Board was held on October 25, 2003 on the campus of Texas A&M University in Corpus Christi Texas. The following Board Members and Project Personnel were in attendance:

Gretchen Arnold	James Martinez
Ron Barnard	David Brymer
Eugene Billiot	Ken Rozacky
Ardys Boostrom	C. Buddy Stanley
Vinay Dulip	David Kennebeck
Glen E. Kost	David Allen
Pat Suter	Vincent M. Torres

The Board was briefed on the status of the installation of the Phase 1.a. and Phase 1.b. monitoring sites. Including the status of equipment installation, the need to address security at the sites and the timing and process for acceptance testing demonstrations prior to transitioning the sites into the Operations and Maintenance phase of the Project.

The establishment of trigger levels for the hydrocarbon sampling network was discussed. It was determined that the range for sampling should be established

at 2000 ppbC at a five minute average. Once the sites are established and collecting data the trigger levels will be evaluated and changed as needed.

The status of the selection of the Operations and Maintenance contractor was discussed. The attendees were informed that prospective contractors have been identified. The University was currently developing contracts and will begin the negotiation process very soon.

A brief overview of the Supplemental Environmental Project which will result in a time extension for the monitoring network and develop a trajectory and notification tool was addressed. It was determined that at a later meeting of the Advisory Board there will be a need to discuss at length the capabilities of the trajectory tool, the notification procedure and the availability of the data on the website.

The remainder of the meeting centered on the content, format and presentation of the Annual Project Report to the US District Court. The presentation of the Annual Report to the US District Court occurred during this quarter.

Appendix A is a copy of the Briefing Book Materials distributed at the October 25th meeting of the Advisory Board.

B. Phase I Site Installation

Installation of the monitoring sites in Phase 1a. and Phase 1b of the Installation Phase of the Project is proceeding on schedule. All three (3) sites in Phase I.a. of the Installation Phase of the Project are completed and were prepared for demonstration of performance testing. Although the monitoring equipment is working properly, a number of minor technical problems are being carefully and methodically diagnosed and repaired. The demonstration of performance testing was rescheduled for January 2005. The remaining four (4) sites in

Phase 1.b. are nearing completion. They will be completed in early January and prepared for demonstration of performance testing in late January 2005.

C. Phase II, the Operations and Maintenance Phase of the Project

During this Quarter the University signed a contract with Orsat L.L.C. to operate and maintain two (2) Auto GCs, one located at the Solar Estates Site and one at the Oak Park Site. A second contractor, Air Quality Solutions, Inc. (AQSI), will be responsible for the operation and maintenance of the remaining equipment at these two (2) and the other five (5) air monitoring sites. A contract between the University and AQSI was signed during this quarter.

The process for and transitioning of the sites from Phase I to Phase II will be completed during the next quarter.

D. Annual Report to the US District Court

On December 16, 2004, the University, the Advisory Board spokespersons and a representative from TCEQ Region 14 presented a Project Annual Report to representatives from the U.S. District Court in Corpus Christi Texas. After a presentation of the annual report to Judge Janis G. Jack, U.S. District Court representatives, project personnel from the University, TCEQ and several members of the Advisory Board toured the air monitoring site at Solar Estates Park and the site at FHR Easement.

Annual report materials were distributed electronically to the Advisory Board and project personnel.

E. Project Management and Planning

Project management and planning focused on coordination of Items A, B, C and D above and communication of project activities with stakeholders and interested parties. During this quarter, monthly and annual report of activities

were prepared by project staff and distributed electronically to the Advisory Board members, the US District Court, the TCEQ and the EPA to keep stakeholders apprised of the status of the project.

In addition to the electronic reporting of project status and activities, a website for the project is maintained at: <http://www.utexas.edu/research/ceer/ccaqp/>

III. Financial Report

As required by the project proposal, the following financial summary information is provided. Details supporting this financial summary are included in Appendix B.

A. Total Amount of COCP Funds and Other Funds Received Under the Project

The COCP funds received totals \$6,856,401.98. This total includes interest earned through December 31, 2004.

B. Detailed List of the Actual Expenditures Paid by COCP Funds

Expenditures during this quarter totals \$989,117.28. The detailed breakdown of the actual expenditures is included in Appendix B. The activities for which these expenditures were used are detailed in Section II of this report.

During this quarter monies received under a Supplemental Environmental Project (SEP) awarded by the TCEQ began to cover project expenses, except for the costs associated with the installation contractors. The SEP funds will be used in to cover Project expenses through September 30, 2005.

C. Total Interest Earned on COCP Funds During the Quarter

The interest earned during this quarter totals \$20,852.33. A report providing detailed calculations of the interest earned on the COCP funds during each month of the quarter is included in Appendix B.

D. Balance as of December 31, 2004 in COCP Account, including Interest Earned During the Quarter

The balance in COCP account totals \$5,203,835.88.

E. Expected Expenditures for the Funds Remaining in the COCP Account

The expected expenditures for the funds remaining totals \$5,203,835.88.

F. Other funds received during period

There were no other funds received during this quarter.

Quarterly Report Distribution List:

U.S. District Court

Ms. Shirley Johnson, Assistant Deputy Chief USPO

Mr. James Martinez, Supervising USPO

Texas Commission on Environmental Quality

Ms. Kate Hodgins, Litigation Division – Headquarters*

Mr. David Brymer, Laboratory and Mobile Monitoring –
Headquarters*

Mr. C. Buddy Stanley, Director – Region 14*

Mr. David Kennebeck, Field Operations – Region 14*

Environmental Protection Agency

Mr. Robert Todd, Air Enforcement Officer – Dallas Regional Office*

* *Distributed without Appendix A*

Volunteer Advisory Board (*Distributed without Appendices*)

APPENDIX A

October 25' 2005 Advisory Board Meeting Briefing Book Materials

AGENDA

ADVISORY BOARD MEETING

Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Project

Texas A&M University-Corpus Christi

Room 2010 NRC

Corpus Christi, Texas

October 25, 2004 3:30 pm – 5:00 pm

I Call to Order

II. Introductions

III. Project Overview and Status

- a. Advisory Board Policies - Deferred–
- b. Status of Installation of the Monitoring Sites for Phase I
 1. Initial Phase 1.a. Sites: 1.a. Oak Park, 1.d. Dona Park, and 1.g. Solar Estates.
 - i. Solar Estates Park Neighborhood Meeting and Camera View
 - ii. Acceptance Testing and Field Training
 - iii. Trigger Levels
 2. Remaining Four Phase 1.b. Sites: 1.b. Grain Elevator - Port of Corpus Christi, 1.c. J.I. Hailey, 1.e. Inner Harbor - Port of Corpus Christi, and 1.f.Up River Road – Flint Hills Resources.
- c. Status of Selection of the Contractor for Phase II - Site Operation and Maintenance
 1. Contract Negotiations
 2. Field Training

IV. Annual Report

- a. Required Content of the Annual Report
- b. Who will be attending the presentation of Annual Report to the Court
- c. Generate a script for the oral presentation to the Court
 1. Assignment – identify persons responsible for presentations
- d. Site visit by representatives of the US District Court
- e. Action items

V. Project Related Activities – Supplemental Environmental Project

- a. Time Extension of Monitoring Network
- b. Trajectory and Notification Tool
- c. Discussion

VI. Other Issues

- a. Set next meeting date, time and site
- b. Recommendations for agenda items for next meeting
 1. Advisory Board Policies
- c. Public comment

VII. Adjourn

Agenda Item - III Project Overview and Status

b.1.iii. Trigger Levels

PLACE IN THE
BRIEFING BOOK UNDER TAB 2
GENERAL PROJECT INFORMATION

October 25, 2004

Setting trigger levels for the hydrocarbon sampling network in Corpus Christi:

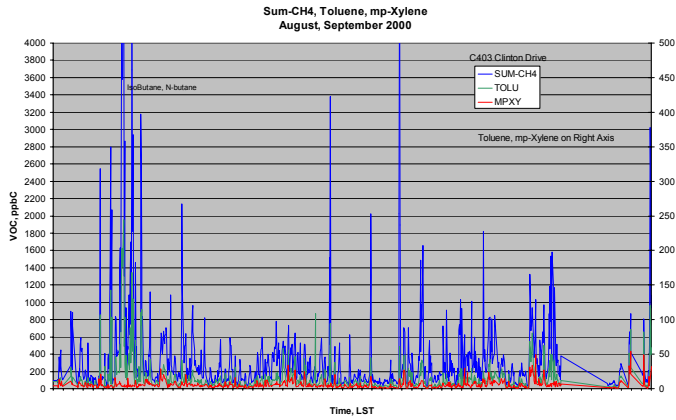
Lessons from the TCEQ Houston auto-GC network will be used to set initial levels; after 2-3 months of data, levels will be set based on Corpus Christi measurements

Houston auto-GC network

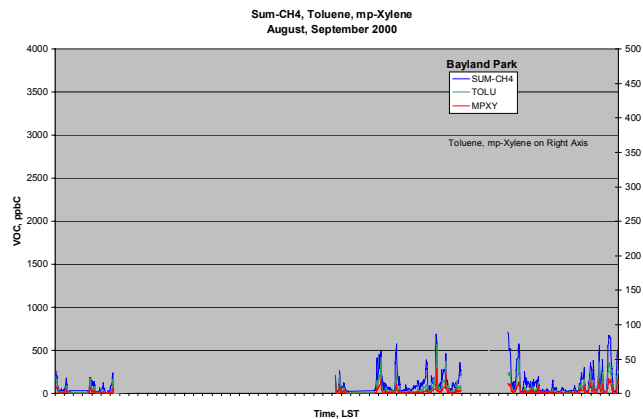


- Multiple auto-GC sampling sites have been operated by TCEQ in Houston
 - Clinton (C403)
 - Deer Park (C35)
 - Aldine (C08)
 - Bayland Park (C53)

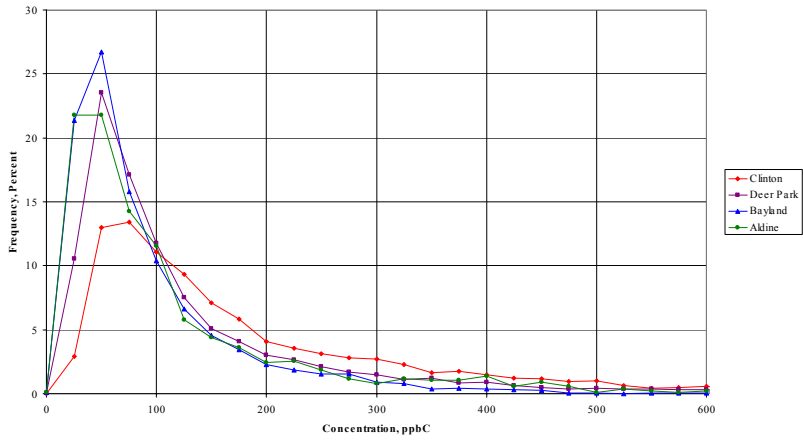
Clinton time series, August and September, 2000



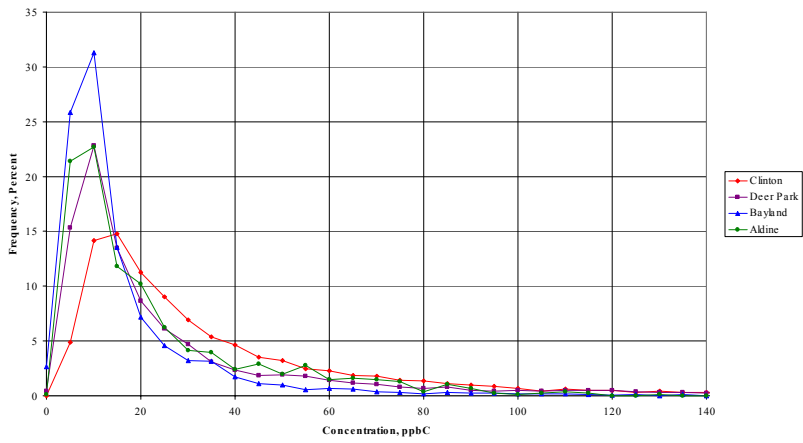
Bayland Park time series, August and September, 2000



Alkane Concentration Frequency Distribution



Alkene Concentration Frequency Distribution



Trigger levels

- Residential site with heavy traffic but no nearby industrial sources rarely exceeds 500 ppbC (1 hour average)
- Sites dominated by petrochemical sources will exceed 2000 ppbC several times per month (1 hour average)
- Begin Corpus Christi sampling with trigger levels of 2000 ppbC (5 minute average); re-evaluate monthly, based on data collected in Corpus network

Agenda Item – IV Annual Report
a. Required Content of the Annual Report
Draft of Annual Report including
Financial Summary

PLACE IN THE
BRIEFING BOOK UNDER TAB 6

REPORTS TO THE COURT

October 25, 2004

REQUIRED CONTENT OF THE ANNUAL REPORT TO THE U.S. DISTRICT COURT

One year from the anniversary date of the University's receipt of the COCP funds and annually thereafter, the University's Agreement with the U.S. District Court contains the following requirements:

Representatives of the University and the Advisory Board will appear before the Court to present a status report on the Project. The Annual Report will contain the following information:

- the use of COCP funds
- monitoring equipment and/or cameras installed and operated
- management actions implemented
- plans for additional monitor and/or camera installation (if any)
- plans for management actions for additional installations
- annual audit report results for the University certified in accordance with the requirements of U.S. Office of Management and Budget Circular A-133 (required for federal research grants)
- audit report results for the University by TCEQ and EPA (if any) and
- annual audit report results for the University by all other state or federal agencies which may have audited any activity or expenditure of the University, in accordance with Article XIV* of this Project Proposal, during the prior year.

*Article XIV is the Right to Audit clause. TCEQ, EPA, US District Court have the right to audit the Project records.

**DRAFT ANNUAL REPORT
TO THE U.S. DISTRICT COURT
FOR THE
CORPUS CHRISTI AIR MONITORING AND CAMERA SURVEILLANCE
PROJECT**

*Activity Summary for the period from
October 2, 2003 through September 30, 2004*

A. ADVISORY BOARD

1. An eight member Advisory Board was appointed in December of 2003, the members follow:

Ms. Gretchen Arnold	Member-at-Large and Co-Chair
Mr. Ron Barnard	Near Non-Attainment Area Liaison and Co-Chair
Dr. Eugen Billiot	Measurement Technologies Expert
Dr. Ardys Boostrom	Local Public Health
Ms. Lena Coleman	Neighborhood Organization and Recording Secretary
Mr. Vinay Dulip	Local Educator
Dr. K. Glen Kost	Member-at-Large
Ms. Pat Suter	Local Advocacy Group

2. Two (2) meetings of the Advisory Board and one (1) teleconference with the Advisory Board were held during the first year:
 - a. The first meeting was held on January 16, 2004 (@.Texas A&M University in Corpus Christi Texas).
 - Six Board Members and representatives from UT, TCEQ and EPA attended.
 - Rules of operation of the Advisory Board and appointment of Co-Chairs established.
 - The sites were chosen for camera installation with recommendations from the Board (and other meeting attendees)
 - Advisory Board (and other meeting attendees) provided input on the selection of the Contractor for Phase I, the Installation of the monitoring sites.
 - Briefing Books and materials were distributed.
 - Meeting Notes were prepared and distributed after the meeting.

 - b. The second meeting was held on May 25, 2004 (@.Texas A&M University in Corpus Christi Texas).
 - Eight Board Members and representatives from TCEQ, UT and the U.S. District Court attended.
 - Received input from the Board on the placement and field of view of the two cameras to be installed.
 - With assistance from the Board a Solar Estates Park neighborhood meeting was held on July 13, 2004. Representatives from the neighborhood were updated on the project and the placement and viewing field of the camera to be installed.
 - Received input from the Board on the use of Supplemental Environmental Project Funds awarded to the University by TCEQ.
 - Received input from the Board on the requirements to be written into the Request for Proposal for the Phase II Operations and Maintenance Contractor.
 - Briefing Books and materials were distributed.
 - Meeting Notes were prepared and distributed after the meeting.

 - c. A teleconference was held on September 23, 2004 to obtain input from Board on the recommendation of an award for the Phase II (the Operation and Maintenance Phase) Contractor.

The following Board Members and Project Personnel participated:

Gretchen Arnold	David Kennebeck
Eugene Billiot	David Allen
Lena Coleman	Vince Torres
Glen Kost	MaryAnn Foran
Pat Suter	

B.

**PHASE: SITE INSTALLATION
Air Monitoring Station Schedule and Equipment**

Phase 1.a. The installation of the first three (3) monitoring stations

Phase I.a. Sites	Description of Site Location	Monitoring Equipment				
		Auto GC	Event Triggered Samplers	Sulfur Compound Monitors	Meteorology Station	Surveillance Camera
1.a	Oak Park Recreation Center	Yes	Yes		Yes	
1.d	TCEQ Monitoring Site C199 @ Dona Park		Yes	Yes		Yes
1.g	Solar Estates Park at end of Sunshine Road	Yes	Yes	Yes	Yes	Yes

Phase 1.a. Sites are scheduled for completion and acceptance testing during the first week in November of 2004.

Phase 1.b. The installation of the remaining four (4) monitoring stations

Phase I.b. Sites	Description of Site Location	Monitoring Equipment				
		Auto GC	Event Triggered Samplers	Sulfur Compound Monitors	Meteorology Station	Surveillance Camera
1.b	Grain Elevator @ Port of Corpus Christi		Yes	Yes	Yes	
1.c	J. I. Hailey Site @ Port of Corpus Christi		Yes	Yes	Yes	
1.e	Port of Corpus Christi building on west end of CC Inner Harbor		Yes	Yes	Yes	
1.f	Off Up River Road on Flint Hills Resources Easement		Yes	Yes	Yes	

Phase 1.b. Sites are scheduled for completion and acceptance testing on January 31, 2005.

C.

PHASE II: OPERATIONS and MAINTENANCE of SITES

1. Request for Proposals, prepared, posted for response and contractors selected for recommendation.
2. Negotiation of Contracts to be completed early in the second project year.
3. Operations and Maintenance Contracts expected to be completed and Contractors transitioned into operation by the end of January 2005.

D.

PROJECT MANAGEMENT and PLANNING

1. Project Schedule
2. Communication
 - a. Project Website – operational with portions under construction
 - b. Monthly Progress Reports - submitted
 - c. Quarterly Technical and Financial Reports - submitted
3. Budget Monitoring
 - a. Project costs for Phase I, Site Installation
4. Supplemental Environmental Project (SEP) Funding from the Texas Commission on Environmental Quality. Appendix A Scope of Work and budget for the SEP.

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



APPENDIX A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 13, 2004

David Allen, Ph.D., Principal Investigator
Center for Energy and Environmental Resources
J.J. Pickle Research Campus
10100 Burnet Road, Building 133 MC R7100
Austin, Texas 78758

Dear Dr. Allen:

This letter is in response to the Draft Air Monitoring and Trajectory Assessment Project Work Plan submitted on August 2, 2004 (see enclosure), which details tasks to be funded in the Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Project. The Supplemental Environmental Project (SEP) Agreement between the University of Texas at Austin and the Texas Commission on Environmental Quality (TCEQ) sets out the procedure to follow regarding tasks to be approved on page twelve of the agreement. The tasks to be funded are set out on pages six and seven of the SEP agreement. This work plan successfully details task one, Extension of Project Monitoring, and task three, Development of Air Quality Modeling Capability for Network for which TCEQ previously approved funding.

TCEQ approves the attached work plan and is looking forward to seeing the project progress over the next two years.

Sincerely,

A handwritten signature in black ink that reads "David Brymer".

David Brymer, Manager
Laboratory and Mobile Monitoring Section
Monitoring Operations Division

Enclosure

DB/bb

cc: Kate Hodgins, Litigation Division

**WORK PLAN
AIR MONITORING AND TRAJECTORY ASSESSMENT
PROJECT**

Submitted By

**THE UNIVERSITY OF TEXAS AT AUSTIN
on behalf of the
Center for Energy and Environmental Resources**

- 1. Principal Investigator:** David Allen, Ph.D.
- 2. Key Personnel:** David Allen, Vincent M. Torres, Gary McGaughey, MaryAnn Foran, and Denzil Smith
- 3. Quality Assurance/Quality Control Procedures:** The University of Texas at Austin (UT Austin) Corpus Christi Air Monitoring Project Extension Task – The project for which this task is an extension will have in place a TCEQ approved Quality Assurance Project Plan, which will be followed for this task. Trajectory Assessment Task – QA/QC procedures for this task will include a systematic review of the mathematical equations used, review of the data utilized for accuracy in transfer and processing, and sanity checks of the model output for agreement with independent data that has been quality control reviewed.
- 4. Time Line:** The period of performance for the UT Austin Corpus Christi Air Monitoring Project Extension Task will be September 1, 2004 to August 31, 2005. The period of performance for the Trajectory Assessment Task will be August 1, 2004 to July 31, 2006. A task schedule is provided in Figure 2.
- 5. Budget:** The budget for the Corpus Christi Air Monitoring Project Extension Task is \$680,000 and the budget for the Trajectory Assessment Task is \$190,000. A detailed budget for each task provided in Table 1.
- 6. Technical Approach/Method:**
UT Austin Corpus Christi Air Monitoring Project Extension Task
As described in Attachment A, the University will, through a separate agreement, install, maintain and operate an air monitoring and surveillance camera network along the Corpus Christi ship channel to record the concentrations of specific air pollutants along the industrial area. This separate agreement is a Court Ordered Condition of Probation (“COCP”) under *U.S. v. Koch Petroleum Group, L.P.* (S.D. Tex.) CR-C-00-325. Through the contract issued under the COCP, the University will install seven air monitoring stations, which will record concentrations of hydrogen sulfide (total reduced sulfur), sulfur dioxide and volatile organic compounds, including benzene, and meteorological data. Data obtained from the monitors will be made available to the public via the TCEQ website (Internet) as soon as possible after it becomes available electronically. Additionally, access to view the images captured by the surveillance cameras will be made available to the public via the Internet.

Table 1. Air Monitoring and Trajectory Assessment Project Budget

	<i>Monitoring</i>	<i>Modeling Tools</i>	<i>Total</i>
	<i>9/1/04-8/31/05</i>	<i>8/1/04-7/31/06</i>	<i>8/1/04-7/31/06</i>
PI/CO-PI			
A. David Allen	\$7,428	\$0	\$7,428
B. Vincent M. Torres	\$88,121	\$0	\$88,121
TOTAL PI/Co-PI	\$95,549	\$0	\$95,549
OTHER PROFESSIONALS			
A. Research Engineer <i>ITS</i>	\$38,821	\$12,032	\$50,853
B. Research Engineer	\$0	\$54,688	\$54,688
C. Project Management	\$37,780	\$0	\$37,780
D. Systems Analyst-Web Design	\$22,212	\$49,811	\$72,023
TOTAL Other Professionals	\$98,813	\$116,531	\$215,344
ADMINISTRATIVE			
A. Technical - Financial report prep. Data base mgmt	\$45,990	\$21,584	\$67,574
TOTAL-Administrative	\$45,990	\$21,584	\$67,574
SUBTOTAL - S&W	\$240,352	\$138,115	\$378,467
FRINGE BENEFITS			
1. GRA (28%)	\$0	\$0	\$0
2. NON-ACADEMIC(26%)	\$62,492	\$35,910	\$98,402
TOTAL-Fringe Benefits	\$62,492	\$35,910	\$98,402
TOTAL S&W + FRINGE BENEFITS	\$302,844	\$174,025	\$476,869
PERMANENT EQUIPMENT			
A. HARDWARE	\$0	\$11,975	\$11,975
TOTAL EQUIPMENT	\$0	\$11,975	\$11,975
TRAVEL			
A. DOMESTIC	\$4,800	\$1,000	\$5,800
TOTAL TRAVEL	\$4,800	\$1,000	\$5,800
OTHER DIRECT COSTS			
A. MATERIALS/SUPPLIES	\$6,649	\$3,000	\$9,649
B. CANISTER ANALYSIS	\$81,060	\$0	\$81,060
C. QUALITY ASSURANCE	\$10,000	\$0	\$10,000
D. CONTINGENCY	\$17,000	\$0	\$17,000
E. DECOMMISSIONING	\$0	\$0	\$0
F. TUITION & FEES	\$0	\$0	\$0
G. SUBCONTRACT (maintenance & operations)	\$257,647	\$0	\$257,647
TOTAL OTHER DIRECT COSTS	\$372,356	\$3,000	\$375,356
TOTAL DIRECT COSTS	\$680,000	\$190,000	\$870,000
INDIRECT COSTS (n/a)	\$0	\$0	\$0
TOTAL COSTS	\$680,000	\$190,000	\$870,000

Under the COCP agreement (Attachment A) the University is scheduled to perform the installation and operation of the sites continuously for a minimum of 7 years (through October, 2010) and until at least \$6.760 million has been expended on the Project. The UT Austin Corpus Christi Air Monitoring Project Extension Task will extend the project for a period of one (1) year. The period for which the funds will be used to extend the project will be September 1, 2004 to August 31, 2005. The primary focus of activities during this year of the project will be acceptance testing of the seven sights as they come on line, ensuring that all data collection and transfer processes are operating properly after sites come on line, ensuring proper training of the operation and maintenance contractor and a smooth transition from the contractor establishing the sites and the O&M contractor, and ensuring that the data collected by the project is easily accessible to the public via the internet.

Trajectory Assessment Task

The objectives of the Trajectory Assessment Task are to link publicly available meteorological data collected by the UT-Corpus Christi monitoring network to a web site, and to design, develop, and implement an interactive web-based application (Trajectory Analysis tool) to generate and display both forward and backward trajectories of air parcels in the Corpus Christi area. The Trajectory Assessment tool will be limited to a geographic area 10 km (north/south) by 20 km (east/west) centered on the University's Corpus Christi Air Monitoring Network.. Air parcel trajectories will be calculated, on demand, for historical events (any day prior to the current date at the time of the request) only.

The steps in the development of the Trajectory Analysis tool will be:

1. Develop a data archiving system to allow access to surface wind observations
2. Develop trajectory calculation software
3. Develop interface software
4. Develop web site and notification tool

Subtask A: Database Archive The wind observations (speed and direction) collected by the UT-Corpus Christi monitoring network must be readily accessible for the trajectory calculations. The University will develop and maintain the wind field database using a web-based system such as MySQL Database. Scripting languages will be used to automate the download of wind data collected by the Corpus Christi monitoring network on a routine basis. The system will be designed to incorporate wind data from as many additional monitoring networks as possible within the Corpus Christi area, but to be included in the data assimilation system, the data from the sites must be publicly available from the TCEQ database archive.

Subtask B: Trajectory Calculation Software For trajectories based on observational data, software will be written to advect a hypothetical air parcel two-dimensionally using the area-averaged wind speed and direction. The algorithm will treat the air parcel as a discrete point that moves with the average wind.

Subtask C: Interface Software Numerous scripts and batch jobs will be required to automate the exchange of data and information between the various computational resources developed for this project. The heterogeneity of the software and hardware environments will require the

development of middleware tools to integrate the computational applications. Initially we intend to use Open Source Programming such as PHP scripting language and MySQL Database.

Subtask D: Public Access Website and notification tool An Internet site will be developed using HyperText Markup Language (HTML) and Flash software. The web-interface will open with an interactive map centered on the Corpus Christi area. It will allow users to zoom in and out, and to pan interactively at any particular location on the Corpus Christi map. It will also contain searchable information (e.g., main freeway, main facilities etc...) so that users can select preset points instead of panning the map. As the user moves the mouse around on the map, the interface will automatically show and update instantly the latitude-longitude information at the mouse selected map locations.

Upon selection of an initial geographic location from the interface, the user will be prompted for additional information (e.g., date, starting time, total runtime, forward or backward, etc.) required for the calculation of the requested trajectory. The user-provided information will be transferred to the database server, where the trajectory calculation software and necessary observational data are accessed. A graphic will then be generated using HTML and Flash to display the trajectory over a geographic map of the Corpus Christi area. An example mock-up of the output map is shown in Figure 1.

An additional feature of the website will be the calculation of back trajectories whenever the monitoring network instruments measure concentrations that exceed thresholds selected by the Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Advisory Board, in consultation with the TCEQ. An automated email or fax notification will be sent to TCEQ and the appropriate monitoring site operators to allow the site operators to inspect the equipment for any nonfunctioning or malfunctioning equipment. The site operator will respond to both UT-Austin and TCEQ. The subsequent action/response will be prescribed in a protocol that will be developed by UT Austin with input from the TCEQ, the Advisory Board, and industry.

Public Access to Data

UT Austin Corpus Christi Air Monitoring Project Task

Data from the monitoring sites will be made available to the public via the Internet as soon as possible after it becomes available electronically, dependant on the type of monitor. The data displayed on the Internet will be reviewed periodically for quality assurance by the University and will be subject to change pending final validation by the University. All continuous monitors and Auto GCs at the sites will be connected to the TCEQ's real-time data system. Specifically, the data will be transmitted to the TCEQ's Corpus Christi regional office hub computer and then transmitted to the TCEQ's central office in Austin for near real-time display on the TCEQ's web site. The University, through its contractor will work with the TCEQ's Monitoring Operations Division staff to obtain the necessary hardware, firmware, software, and licenses for uploading continuous monitoring data and Auto GC data to the TCEQ's MeteoStar system and for validating the data behind the TCEQ's firewall. It is anticipated the first group of monitoring sites will be operational by October 2004. The months of data collection for the effort under this SEP Project will begin when

the first monitoring sites are operational and end on August 31, 2005, the end date for the UT Austin Corpus Christi Air Monitoring Project Extension Task as identified in Section 4 of this Work Plan.

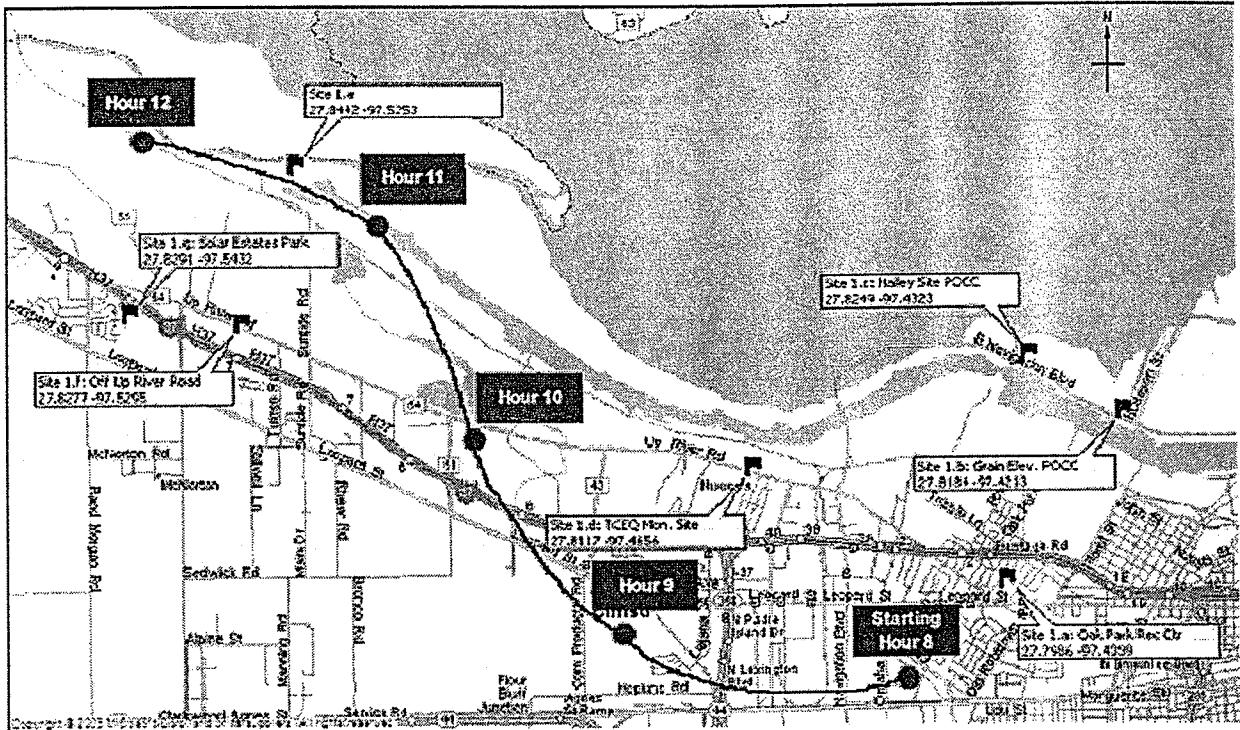


Figure 1. Mock-up of map-based output from interactive web-based trajectory tool.

Proposed Tasks	2004		2005			2006		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Assemble model components								
Real-time data collection tool								
Database archive system								
Trajectory tool								
Web-based user interface								
Interface software								

Q3: Aug-Oct; Q4: Nov-Jan; Q1: Feb-Apr; Q2: May-Jul

Figure 2. Trajectory Assessment Task Timeline

Data from the event-triggered monitors will be available to the public on the TCEQ's web site or the University's web site within 30 days. Canister samples from the event-triggered monitors will be capable of being triggered automatically when a pre-set level of total non-methane hydrocarbons is exceeded. Canister analysis data will be provided to the TCEQ in a format mutually agreed upon by the University and the Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Advisory Board, in consultation with the TCEQ.

Images from the surveillance cameras will be made available to the public on the Center for Energy and Environmental Resources' web site located at the University. The University will operate the cameras and archive data from the cameras. The University will make the data from the cameras available to the TCEQ.

Transport Assessment Task Deliverables

The transport assessment tool will be accessible to the public through the internet. TCEQ will receive a copy of the Trajectory Assessment tool developed by Contractor as part of the deliverables under this Work Plan. Contractor will support the Trajectory Assessment tool throughout the period of performance of this SEP Project identified in Section 4. of this Work Plan.

7. Models and Software to be Used by Contractor: See Trajectory Assessment Task Description in Section 6.

8. Models, Reports, or other Data to be Supplied to the Contractor by TCEQ: The only TCEQ data required by the project from the TCEQ will be obtained from the TCEQ website.

9. Miscellaneous Other Information or Elements: None
Signed by:

Rochelle Athey, Associate Director
Office of Sponsored Projects
The University of Texas at Austin

**DRAFT ANNUAL REPORT
TO THE U.S. DISTRICT COURT
FOR THE
CORPUS CHRISTI AIR MONITORING AND CAMERA SURVEILLANCE
PROJECT**

Financial Summary

Period: October 2, 2003 - September 30, 2004

A. FIRST YEAR EXPENDITURES *

Actual Expenditures	<u>663,448.81</u>
Current Year Adjustments	<u>(1,779.33)</u>
Total Expenditures as of 9/30/04*	<u>661,669.48</u>
First Year Budget	<u>\$2,300,000.00</u>

* Summary of Expenditures in Exhibit A, attached.

B COCP FUNDS REMAINING AS OGF 9/30/04

Initial deposit on 10.2.03	<u>6,761,718.02</u>
Less first year expenditures	<u>(661,669.48)</u>
Plus interest earned as of 9/30/04	<u>TBD</u>
Total	<u>TBD</u>

COCP FUNDS REMAINING AS OF 9/30/04

\$ TBD

EXHIBIT A

Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Project

Draft Expenditure Summary for the Fiscal Year 10/2/03 through 9/30/04

DESCRIPTION	BUDGET	Prior Year Expenditures	Current Year Expenditures	Current Year Adjustments	<u>9/30/04 BALANCE</u>
SALARIES & WAGES	71,574.00	0.00	73,936.90	(2,724.00)	361.10
FRINGE BENEFITS	19,094.00	0.00	16,496.86	1,118.76	1,478.38
CEER ADMIN SALARIES	4,800.00	0.00	4,731.90		68.10
SUPPLIES	90,000.00	0.00	0.00		90,000.00
OTHER EXPENSES	7,532.00	0.00	3,176.42	58.00	4,297.58
SUBCONTRACT	1,800,000.00	0.00	477,412.00		1,322,588.00
TRAVEL	2,000.00	0.00	1,154.22		845.78
EQUIPMENT	5,000.00	0.00	0.00		5,000.00
TOTAL DIRECT COSTS	2,000,000.00	0.00	576,908.30	(1,547.24)	1,424,638.94
INDIRECT COSTS /15% TDC	300,000.00	0.00	86,540.51	(232.09)	213,691.58
TOTAL EXPENDITURES	\$2,300,000.00	0.00	\$663,448.81	**(\$1,779.33)	\$1,638,330.52

**** Current Year Adjustments will not be reflected on the University's General Ledger until General Ledger closes for the month of October, 2004.**

Current year adjustments include:

(2,724.00)	Less September salary to be moved from the account
1,118.76	Plus September fringe benefits to be charged to the account
58.00	Plus September other expenses to be charged to the account
<u>(232.09)</u>	Less Indirect cost charges to be moved from the account
(\$1,779.33)	Total Current Year Adjustments

CORPUS CHRISTI AIR MONITORING AND CAMERA SURVEILLANCE PROJECT

University of Texas at Austin Annual Audit Report Results

Period: October 2, 2003 - September 30, 2004

The University's Annual Reports are made available for public review at the following website:

<http://www.sao.state.tx.us/reports/2004/04-316.pdf>

Attached is a copy of The University of Texas at Austin's Certification Statement for the Office of Management and Budget (OMB) Circular A-133 Audit conducted during the 2002/2003 fiscal year. The OMB Circular A-133 Audit for the 2003/2004 fiscal year is currently being conducted. The results of the 2003/2004 Audit will be made available at the above website. It is anticipated the audit results will be posted in late Spring 2005.

SUBRECIPIENT AUDIT FORM
(including financial reports and internal controls)
FOR FISCAL YEAR
ENDING AUGUST 31, 2003

SUBRECIPIENT'S LEGAL ENTITY NAME AND ADDRESS

The University of Texas at Austin
Office of the Controller
The University of Texas at Austin
P.O. Box 7487
Austin, TX 78713-7487

- Our audit report for the subject fiscal year has been completed. Material weaknesses, material instances of noncompliance, or findings related to the management of sub-award(s) made to The University of Texas at Austin were noted.

Attached is a listing of those findings and current course of action by the University to address noted concerns. Findings are related to business process and are not specific to any individual award.

A complete copy of the State of Texas Financial Portion of the Statewide Single Audit Report for the Year Ended August 31, 2003 (Report Number 04-316) and the Independent Auditors' Report on the Federal Portion of Statewide Single Audit Report can be viewed at

<http://www.sao.state.tx.us/reports/2004/04-316.pdf>

Authorizing Signature: _____


Brian G. Gutierrez
Associate Vice President and Controller

Date: _____

3-25-04

Research and Development Cluster

[Reference No. 04-52](#)

Cash Management

(Prior Audit Issue – 03-06)

[Reportable Condition Control and Non-Compliance](#)

The University's methodology used for drawdown of Federal awards through Letters of Credit (LOC) was questioned. Although the University had several informal controls in place to mitigate risk associated with draws for Federal funds; including supervisory review at the point of draw, the controls presented to the auditors were not sufficient to avert the finding. Efforts are underway to automate the calculation of incurred expenditure and associated overhead and to enhance supporting infrastructure to ensure compliance with Federal drawdown restrictions.

[Reference No. 04-53](#)

Matching and Program Income

(Prior Audit Issue – 03-09, 02-48)

[Reportable Condition Control](#)

The University's process of monitoring Matching and Program Income was questioned. The University implemented a new procedure for capturing cost sharing/matching in June 2003. This procedure addresses both mandatory and voluntary committed cost sharing/matching. In addition, award processing has been modified to include Principal Investigator confirmation of anticipated program income at the point of award issuance.

[Reference No. 04-54](#)

Subrecipient Monitoring

(Prior Audit Issue – 03-08)

[Reportable Condition Control and Material Non-Compliance](#)

The University's process for subrecipient monitoring was questioned. Although the University has several controls in place during pre-award subrecipient negotiations, the auditors questioned the documentation efforts associated with the University's annual questionnaire and documentation of completed A-133 reports. The University's current process includes use of the federal internet database and the University's internal Research Manager System to track the status of subrecipient A-133 questionnaires and A-133 certification statements on file.

Student Financial Assistance Cluster

[Reference No. 04-55](#)

Reporting – Pell Payment Data

[Non-Compliance](#)

The University's data submission to the U.S. Department of Education for Pell grants was questioned. The University made use of data requirements for the Common Origination and Disbursement (COD) System which did not match to the data requirements of the U.S. Department of Education's Student Financial Aid Handbook. As a result, the University did not report the estimated family contribution to the U.S. Department of Education.

[Reference No. 04-56](#)

Special Tests and Provisions – Disbursements To or On Behalf of Students

[Non-Compliance](#)

The University's method for notification and confirmation receipt of rights and termination instructions for Perkins and Family Education Loans was questioned. Although the University's mainframe system will not support confirmation receipt of notifications, the University will enhance public Web pages to provide more information on student rights for these loan programs and closely monitors e-mail notification to ensure they are submitted.

[Reference No. 04-57](#)

Special Tests and Provisions - Student Loan Repayments (Defaults)

(Prior Audit Issue – 03-10)

[Material Non-Compliance](#)

The University's method for performing phone call notifications to students with delinquent Perkins Loans was questioned. The University has implemented a new policy regarding documentation of loan collection and notification efforts.

APPENDIX B

**Financial Report of Expenditures
Financial Report of Interest Earned**

Corpus Christi Air Monitoring and Surveillance Camera Installation and Operation Project

**Accounting Report for the Quarter
10/01/04-12/31/04**

A. Total Amount of COCP Funds and Other Funds Received Under This Proposal

Total Grant Amount: \$6,761,718.02
 Total Interest Earned: \$94,683.96
 Total Funds Received: \$6,856,401.98

B. Summary of Expenditures Paid by COCP Funds

	Prior Yr. Carryover	Yr. 1 Budget	Yr. 1 Adjustments	Prior Activity	Current Activity 10/01/04-12/31/04	Remaining Balance 12/31/2004
Salaries-Prof	\$0.00	\$71,574.00	(\$4,800.00)	(\$73,936.90)	\$2,724.00	-\$4,438.90
Salaries-CEER	\$0.00	\$4,800.00	\$4,800.00	(\$4,731.90)	\$553.56	\$5,421.66
Fringe	\$0.00	\$19,094.00	\$0.00	(\$16,496.86)	\$0.00	\$2,597.14
Supplies	\$0.00	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
Other	\$0.00	\$7,532.00	\$0.00	(\$3,176.42)	(\$845.24)	\$3,510.34
Subcontract	\$0.00	\$1,800,000.00	\$0.00	(\$477,412.00)	(\$862,538.00)	\$460,050.00
Travel	\$0.00	\$2,000.00	\$0.00	(\$1,154.22)	\$0.00	\$845.78
Equipment	\$0.00	\$85,000.00	\$0.00	\$0.00	\$0.00	\$85,000.00
Indirect Costs	\$0.00	\$300,000.00	\$0.00	(\$86,540.51)	(\$129,011.60)	\$84,447.89
TOTALS	\$0.00	\$2,300,000.00	\$0.00	(\$663,448.81)	(\$989,117.28)	\$647,433.91

C. Interest Earned by COCP Funds as of 12/31/04

Prior Interest Earned: \$73,831.62
 Interest Earned This Quarter: \$20,852.33
 Total Interest Earned to Date: \$94,683.95

D. Balance of COCP Funds as of 12/31/04

Total Grant Amount: \$6,761,718.02
 Total Interest Earned: \$94,683.95
 Total Expenditures: (\$1,652,566.09)
 Remaining Balance: \$5,203,835.88

I certify that the numbers are accurate
 and reflect actual expenditures
 for the quarter

Barbara Morris

Accounting Certification