

# CATE

Citizens Against Toxic Exposure, Inc.



## **Air Pollution Campaign February – December 2007**

Final Report

February 2008

In Partnership with  
Bay Area Safe Air Coalition (BASAC)  
Community Environmental Health Advisory Board (CEHAB)  
Escambia County Health Department

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## **Table of Contents**

|                                                                      |    |
|----------------------------------------------------------------------|----|
| Introduction and Acknowledgements.....                               | 3  |
| Sampling Introduction.....                                           | 4  |
| Sampling Results.....                                                | 6  |
| Outreach Activities.....                                             | 21 |
| Additional Information on Health Affects in At Risk Communities..... | 23 |
| Summary and Conclusion.....                                          | 26 |

## **Introduction**

Citizens Against Toxic Exposure (CATE), located in Pensacola, Florida (Escambia County), is the leading organization in the Bay Area Safe Air Coalition (BASAC). Funded by a state grant, the organization conducted an air pollution campaign from February through December 2007. During this time, they sampled the air and soil at six different industrial facilities in and around Pensacola, and performed a number of community outreach activities.

## **Acknowledgments**

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### **Volunteers**

We would like to extend a special thanks to the BASAC members who volunteered their time and energy to perform many of the samples over this 11-month period:

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## Sampling

The six facilities chosen as sampling sites are some of the top polluters in all of Escambia County according to the Environmental Protection Agency's Toxic Release Inventory. The Gulf Power Crist Plant is a coal-fired power plant located at 11999 Pate Road in Pensacola. According to the TRI, the Crist Plant releases the highest amount of air emissions in the county (5,076,972 pounds in 2005). International Paper Company is a paper mill located at 375 Muscogee Road, Cantonment, FL, and releases the second highest amount of air emissions (1,875,275 pounds in 2005). Solutia, Inc. (third highest air emissions at 330,330 pounds in 2005) is a chemical company located at 3000 Old Chemstrand Road in Cantonment, FL. Solutia is classified as manufacturing plastics, materials, and resins; organic fibers, noncellulosic; cyclic crudes and intermediates; and industrial organic chemicals. Reichhold, Inc., at 425 S. Pace Boulevard, and Arizona Chemical Company, at 411 S. Pace Boulevard, release the fifth and ninth highest amounts of emissions, respectively. They are both chemical plants classified as producing plastics, materials, and resins in downtown Pensacola. Finally, Agrico Chemical Company, a 6 acre superfund site, is located at 118 E. Fairfield Drive in Pensacola.

A number of different sampling methods were utilized, and were determined by the contaminants that were being tested.

A **Summa Canister** is a type of high volume air sampler, used to “grab” and hold a sample of ambient air in an airtight, chemically inert container. The stainless steel canister is first emptied completely, creating a vacuum. Then, an external valve can be used to regulate the flow of air into the container before it is sealed and shipped to a lab for analysis.

A **Bucket** works on many of the same principles as the Summa Canister, and is used to detect toxic gasses in a sample of ambient air. It is, however, much more cost effective. Rather than a stainless steel container, the device uses a Tedlar bag, which is made from a chemically resistant material. The bag is closed in an airtight, five-gallon bucket, and attached to an external valve. The air is removed from the bucket, again creating a vacuum. The valve can then allow air into the Tedlar bag, which is then sealed, removed, and shipped to a lab. All of the air samples collected with buckets were sent to Columbia Analytical Services, located in Simi Valley, California, and analyzed for concentrations of Volatile Organic Compounds (VOCs), Sulphur Compounds, and other tentatively identified compounds (TICs). VOCs are organic compounds found in the air such as Benzene, Toluene, and Acetone, many of which are carcinogens and endocrine disrupters. Sulphur Compounds include Hydrogen Sulfide and seven types of Mercaptans, among others.

A **Wipe Sample** is used to detect toxins in the particulate matter (PM) that settles on outdoor surfaces. A wipe kit, which is a gauze wipe sealed inside a vial of solution, must be ordered from a lab for each type of analysis to be performed. The sampler then removes the gauze wipe, wipes down a pre-measured surface, and seals the wipe back in the vial before shipping it back to the lab. All of the wipe samples were sent to Columbia Analytical Services in Jacksonville, Florida, and analyzed for toxic metals (Arsenic, Cadmium, Chromium, Lead, and Nickel), Mercury, or Acetaldehyde.

A **UV Hound** is a portable point sampling air monitor. It uses ultraviolet light and a built-in spectrometer to continuously analyze and provide real-time readings of contaminant levels in the

ambient air. It can detect, identify, and quantify many toxic compounds such as Sulfur Dioxide, Nitric Oxide, Benzene, Mercury, Toluene, and Ammonia.

**Soil Samples** were also taken in order to detect concentrations of different radionuclides and metals that have settled in the soil. Radionuclides are radioactive isotopes of common elements, and many are used and produced by industrial processes. The samples were sent to GEL Laboratories, LLC in Charleston, South Carolina, and analyzed for radionuclides that emit both Alpha and Beta particles and Gamma radiation. All radionuclides increase the risk of developing certain types of cancer. Those emitting Gamma rays, which penetrate the skin, are especially dangerous, and increase the risk for all types of cancer.

The results from the air and soil sampling are presented along with published screening levels (when available). These “safe” levels should be used only as points of reference, as they are not legally enforceable and are often speculative and based on limited information.

The **EPA Region 6 Screening Levels** are used most often. These are standards based on current knowledge of the adverse health effects of certain toxins. The numbers are calculated based on pre-determined risk levels and the most common exposure pathways, and are for residential areas. When EPA levels were not available, Texas ESLs and ATSDR MRLs were used.

**Texas Effects Screening Levels** were developed by the Texas Commission on Environmental Quality, and are based on experimentally determined levels of risk in study populations. Unless otherwise indicated, Texas ESLs are for “short term” exposure, which is defined as lasting one hour.

**ATSDR Minimum Risk Levels** were developed by the Agency for Toxic Substance and Disease Registry, and are similar to the Texas ESLs. The primary difference is that they are determined for non-cancer health effects only. Unless otherwise indicated, ATSDR MRLs are for “acute” exposure, which is defined as lasting one week or less.

## February 2007

### *Sample 1*

**Industry:** Arizona and Reichhold Chemical Plants

**Method:** UV Hound

**Details:** Lakewood Road, Pensacola, FL  
2/4-2/8/2007

### **Results:**

*Ammonia:* 497 ppb, which exceeds the EPA Region 6 Screening Level of 140 ppb.

Breathing ammonia can irritate the nose, throat, and lungs, causing coughing, wheezing, and shortness of breath. Extreme or repeated exposure can cause pulmonary edema and permanent lung damage. Ammonia can also cause an asthma-like allergy. If one develops, any low future exposure can lead to shortness of breath, coughing, wheezing, and chest tightness.

*Nitric Oxide:* 499-2990 ppb, which exceeds the Texas Effects Screening Level of 258 ppb.

Breathing Nitric Oxide can irritate the nose, throat, and lungs, causing coughing and shortness of breath. Higher or repeated exposure can cause the development of bronchitis and pulmonary edema. High levels can also lead to headaches, fatigue, dizziness, nausea, vomiting, mental confusion, blue color to the skin and lips, trouble breathing, unconsciousness, and even death.

*Sulfur Dioxide:* 1990-3090 ppb, which exceeds the ATSDR Minimal Risk Level of 10 ppb.

Breathing Sulfur Dioxide can irritate the nose, throat, and lungs, causing coughing and shortness of breath. Higher or repeated exposure can cause loss of sense of smell, headache, nausea, dizziness, bronchitis, and pulmonary edema. It is a reproductive hazard, and has been shown to decrease fertility in males and females. Sulfur Dioxide is also a known carcinogen. Although some detected levels were over 300 times the ATSDR Minimum Risk Levels, there is no safe level of exposure to carcinogens.

### *Sample 2*

**Industry:** International Paper Co.

**Method:** UV Hound

**Details:** Highway 29, South of Muscogee Road, Cantonment, FL  
2/4-2/8/2007

### **Results:**

*Ammonia:* 299-1990 ppb, which exceeds the EPA Region 6 Screening Level of 140 ppb.

Please see above for health effects of ammonia.

*Nitric Oxide:* 499-2990 ppb, which exceeds the Texas Effects Screening Level of 258 ppb.

Please see above for health effects of Nitric Oxide.

*Ozone:* 199-1990 ppb

Breathing Ozone can irritate the nose and throat, causing coughing and shortness of breath. Higher or prolonged exposure can cause headache, upset stomach, vomiting, chest pain or tightness, pulmonary edema, and lung damage. There is also evidence, though limited, that it causes lung cancer, genetic mutations, and damage to developing fetuses.

*Toluene:* 799-999 ppb, which is below the EPA Region 6 Screening Level of 1380 ppb. It is above the ATSDR Minimal Risk Level (for chronic exposure) of 80 ppb, however.

Short term exposure to Toluene can cause coughing, wheezing, trouble concentrating, headaches, and slowed reflexes. Higher or long term exposure can cause dizziness, lightheadedness, passing out, and liver, kidney, and brain damage. Toluene is also a teratogen, and can likely cause birth defects.

### ***Notes***

Hilton Kelley, with the Environmental Justice Air Monitoring Service, took air samples around Pensacola with his UV Hound from Sunday, February 4, 2007 through Thursday, February 8, 2007. The above results are associated with his work. This work was used as an identification tool for assisting with finding key contaminants of concern near key industrial facilities. All of the remaining samples discussed below were taken by CATE staff or volunteers. On Sunday evening, Hilton detected high levels of toxins around the Arizona and Reichhold Chemical Plants. On Monday, he detected high levels around the International Paper Plant. These values are listed in the results. On Tuesday morning, a press conference was held to inform the community of the results of his sampling thus far. Later that day, he detected some additional readings around Arizona and Reichhold. However, the remainder of his sampling, which was completed on Wednesday and Thursday, showed no conclusive results. It is his belief that the press conference alerted the industries to the presence of the samplers, and that they temporarily switched to cleaner-burning methods.

## March 2007

### *Sample 1*

**Industry:** International Paper Co.  
**Method:** Bucket Sample  
**Details:** Muscogee Road, at Gate 5, Cantonment, FL  
3/12/2007

### **Results:**

*alpha-Pinene:* 22  $\mu\text{g}/\text{m}^3$ , which exceeds the Texas Effects Screening Level (for long term exposure) of 6  $\mu\text{g}/\text{m}^3$ .

alpha-Pinene is a chemical that can affect the body when inhaled or absorbed through the skin. Contact can irritate the skin and eyes. Breathing in the chemical can irritate the nose, throat, and lungs, causing coughing, wheezing, and/or shortness of breath. alpha-Pinene can also cause headaches, nausea, vomiting, and diarrhea. Ultimately, exposure can cause a loss of coordination, dizziness, confusion, seizures, and coma. It can damage the kidneys, and repeated exposure can cause a skin rash and benign skin tumors.

*Dimethyl Sulfide:* 25  $\mu\text{g}/\text{m}^3$ , over 8 times the Texas Effects Screening Level of 3  $\mu\text{g}/\text{m}^3$ .

Dimethyl Sulfide is a skin, eye, and respiratory irritant.

### *Sample 2*

**Industry:** International Paper Co.  
**Method:** Bucket Sample  
**Details:** Stone Street, off Beck's Lake Road, Cantonment, FL  
3/28/2007

This sample was subject to a shipping error in which the laboratory did not receive the sample until the recommended holding time had expired. This delay may have caused the absence of any detectable compounds in the air sample.

### **Results:**

The air sample from the Tedlar bag was analyzed for 20 Sulfur Compounds and Volatile Organic Compounds. No chemicals were detected above the laboratory's reporting limits.

**April 2007**

***Sample 1***

**Industry:** Solutia, Inc.  
**Method:** Bucket Sample  
**Details:** 2900 Junction Drive, Gonzalez, FL  
4/20/2007

**Results:**

*Acetone:* 61  $\mu\text{g}/\text{m}^3$ , which was below the EPA Region 6 Screening Level of 3300  $\mu\text{g}/\text{m}^3$ .

Contact with Acetone can irritate the skin, eyes, nose and throat. Exposure to a high concentration can cause headache, dizziness, lightheadedness, nausea, vomiting, and loss of consciousness. Prolonged exposure can cause dryness and cracking of the skin. Many solvents can also cause brain and nerve damage, resulting in problems with memory and concentration, personality changes, fatigue, reduced coordination, and numbness of the arms and legs. There is also some evidence that Acetone may be a reproductive hazard.

## May 2007

### *Sample 1*

**Industry:** International Paper Co.  
**Method:** Bucket Sample and Summa Canister  
**Details:** West side of Highway 29, North of Muscogee Road, Cantonment, FL  
5/21/2007

### **Results:**

The two air samples were analyzed for 20 Sulfur Compounds and for Methanol. No chemicals were detected above the laboratory's reporting limit (1.1 ppmv for Methanol).

### *Sample 2*

**Industry:** Solutia, Inc.  
**Method:** Wipe Sample  
**Details:** Park off Old Chemstrand Road, Gonzalez, FL  
5/22/2007

### **Results:**

The sample was analyzed for Acetaldehyde, but no chemicals were detected above the laboratory's detection limit (0.75 mg per wipe).

### *Sample 3*

**Industry:** Gulf Power Crist Plant  
**Method:** Wipe Sample  
**Details:** Utility area near UWF Building 88, 11000 University Parkway, Pensacola, FL  
5/22/2007

### **Results:**

*Chromium:* 0.43 mg/wipe, which was above the laboratory's detection limit of 0.26 mg/wipe.

Chromium fumes can cause "metal fume fever," a flu-like illness with symptoms of fever, chills, aches, chest tightness, cough, and a metallic taste, which can last for a few days. It can also cause the development of a skin allergy, meaning any very low future exposure can cause itching and a rash. Chromium ore can cause a lung allergy, and any low future exposure can cause wheezing and shortness of breath.

*Mercury:* 0.007 mg/wipe, which was above the laboratory's detection limit of 0.005 mg/wipe.

Mercury can cause skin and eye irritation, and development of a skin allergy. Long term exposure can cause coughing, chest pain, shortness of breath, clouding of the eyes, a gray color of the skin, and kidney damage. Repeated exposure, even at very low levels, can cause Mercury poisoning. Symptoms of such poisoning include tremors, problems with memory and concentration, gum problems, increased salivation, loss of appetite and weight, changes in mood or personality, and even hallucinating and psychosis.

## June 2007

### *Sample 1*

**Industry:** Solutia, Inc.  
**Method:** Wipe Sample  
**Details:** 2981 Junction Drive, Gonzalez, FL  
6/14/2007

#### **Results:**

The particulate matter collected was analyzed for Acetaldehyde, but no chemicals were detected above the laboratory's detection limit (0.75 mg per wipe).

### *Sample 2*

**Industry:** Solutia, Inc.  
**Method:** Wipe Sample  
**Details:** 1066 Conference Street, Gonzalez, FL  
6/14/2007

#### **Results:**

The particulate matter collected was analyzed for Acetaldehyde, but no chemicals were detected above the laboratory's detection limit (0.75 mg per wipe).

### *Sample 3*

**Industry:** International Paper Co.  
**Method:** Bucket Sample  
**Details:** Stone Boulevard and Beck's Lake Road, Cantonment, FL  
6/25/2007

#### **Results:**

*Hydrogen Sulfide:* 10  $\mu\text{g}/\text{m}^3$  (7.3 ppbV), almost 5 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbV).

Hydrogen Sulfide is a highly flammable gas, and contact with it can cause pain and redness of the eyes and blurred vision. When breathed in, it can irritate the nose, throat, and lungs, leading to coughing and shortness of breath. Exposure can also cause nausea, dizziness, confusion, headache, and trouble sleeping. Extreme exposure can cause pulmonary edema and even immediate death. It is a colorless gas with a strong odor of rotten eggs.

## July 2007

### *Sample 1*

**Industry:** International Paper Co.  
**Method:** Bucket Sample  
**Details:** Highway 29, South of Muscogee Road, Cantonment, FL  
7/19/2007

### **Results:**

*Hydrogen Sulfide:* 28  $\mu\text{g}/\text{m}^3$  (20 ppbV), over 13 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbv).

Hydrogen Sulfide is a highly flammable gas, and contact with it can cause pain and redness of the eyes and blurred vision. When breathed in, it can irritate the nose, throat, and lungs, leading to coughing and shortness of breath. Exposure can also cause nausea, dizziness, confusion, headache, and trouble sleeping. Extreme exposure can cause pulmonary edema and even immediate death. It is a colorless gas with a strong odor of rotten eggs.

### *Sample 2*

**Industry:** Gulf Power Crist Plant  
**Method:** Soil Sample  
**Details:** Two samples, taken within a mile of industry location (sample 1), and at a distance of approximately 50 miles away (sample 2). Sample 1 was taken at the University of West Florida, 11000 University Parkway, Pensacola, FL on 7/25/2007. Sample 2 was taken at Beasley Park, Fort Walton Beach, FL on 7/26/2007.

### **Results:**

Sample 1 contained 0.895 pCi/g *Beryllium-7*, 0.172 pCi/g *Cesium-137*, 0.183 pCi/g *Lead-212*, 0.238 pCi/g *Lead-214*, and 0.202 pCi/g *Thorium-230*.

Sample 2 contained 0.231 pCi/g *Actinium-228*, 0.199 pCi/g *Bismuth-214*, 0.122 pCi/g *Lead-212*, 0.273 pCi/g *Lead-214*, 0.231 pCi/g *Radium-228*, and 0.199 pCi/g *Thorium-230*. 3.08 pCi/g of *Gross Alpha* activity was found at this location.

*Gross Beta Activity:* 8.56 pCi/g was detected in Sample 1, but not Sample 2. This shows an elevated level of Gross Beta Radioactivity in the soil directly around the Gulf Power Crist Plant, but not in soil at a distance of 50 miles away. Further soil testing was performed, centering on the Crist plant, to determine the extent and direction of radioactivity. See August 2007, Sample 3, for these results.

## August 2007

### *Sample 1*

**Industry:** Gulf Power Crist Plant

**Method:** Wipe Sample

**Details:** UWF Welcome Center Parking Lot (North end), 11000 University Parkway,  
Pensacola, FL  
8/22/2007

### **Results:**

*Chromium:* 0.002 mg/wipe.

Exposure to Chromium fumes can lead to fever, chills, aches, chest tightness, cough, and a metallic taste. If a skin allergy has already developed, any very low exposure can cause itching and a rash.

*Lead:* 0.002 mg/wipe.

Exposure to Lead can irritate the eyes, cause headache, irritability, reduced memory, disturbed sleep, mood and personality changes, weakness, fatigue, and can increase the risk of high blood pressure. Repeated exposure can cause Lead poisoning, which has symptoms of metallic taste, poor appetite, weight loss, colic, nausea, vomiting, and muscle cramps. Lead is also a probable carcinogen. As such, there is no safe level of exposure.

*Nickel:* 0.002 mg/wipe.

Exposure to Nickel can irritate the eyes and skin, damage the kidneys, and affect liver function. It can also result in skin and asthma-like allergies. If either allergy type develops, any very low future exposure to the metal can cause itching and a rash, or asthma attacks, shortness of breath, wheezing, cough, and chest-tightness, respectively. Nickel is also a probable carcinogen. As such, there is no safe level of exposure.

### *Sample 2*

**Industry:** Gulf Power Crist Plant

**Method:** Wipe Sample

**Details:** UWF Procurement Services, 11000 University Parkway, Pensacola, FL  
8/22/2007

### **Results:**

The particulate matter collected analyzed for Mercury, but none was detected above the laboratory's reporting limit (0.00003 mg/wipe).

### **Sample 3**

**Industry:** Gulf Power Crist Plant

**Method:** Soil Sample

**Details:** Four samples, taken approximately 2-3 miles away from the industry location in all directions. Sample 1 was taken at the intersection of Ashton Brosnaham Road and Chris Black Drive, Pensacola, FL on 8/29/2007. Sample 2 was taken at the intersection of East Johnson Avenue and University Parkway, Pensacola, FL on 8/29/2007. Sample 3 was taken at Pearl Ridge Road, Pace, FL on 8/30/2007. Sample 4 was taken at the intersection of Diamond Street and Magnolia Oaks Street, Pace, FL on 8/30/2007.

### **Results:**

Sample 1: 3.89 pCi/g *Gross Beta* activity at 2 miles to the west.

Sample 2: 3.48 pCi/g *Gross Beta* activity at 2 miles to the south.

Sample 3: 0.299 pCi/g *Gross Beta* activity at 3.5 miles to the east.

Sample 4: 3.45 pCi/g *Gross Beta* activity at 2.5 miles to the east/northeast.

These results, along with those from the soil sampling completed in July 2007, demonstrate elevated levels of Gross Beta Radioactivity in the soil extending from the Gulf Power Crist Plant to the south, west, and east/northeast, to a distance of at least 2.5 miles away. The levels are generally consistent in the 2-2.5 mile range (3.45-3.89 pCi/g) and highest within 0.5 miles (8.56 pCi/g, from July 2007) of the plant.

## September 2007

### *Sample 1*

**Industry:** Arizona Chemical Co.  
**Method:** Bucket Sample  
**Details:** 501 South Myrick Street, Pensacola, FL  
9/17/2007

### **Results:**

The air sample was analyzed for Volatile Organic Compounds, but none were detected above the laboratory's detection limit.

### *Sample 2*

**Industry:** International Paper Co.  
**Method:** Bucket Sample  
**Details:** Intersection of Booker Street and Ransom Street, Cantonment, FL  
9/19/2007

### **Results:**

*Hydrogen Sulfide:* 17  $\mu\text{g}/\text{m}^3$  (12 ppbV), over 8 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbV).

Hydrogen Sulfide can cause pain and redness of the eyes and blurred vision. When breathed in, it can irritate the nose, throat, and lungs, leading to coughing and shortness of breath. Exposure can also cause nausea, dizziness, confusion, headache, and trouble sleeping. Extreme exposure can cause pulmonary edema and even immediate death.

### *Sample 3*

**Industry:** International Paper, Co.  
**Method:** Bucket Sample  
**Details:** Intersection of Booker Street and Ransom Street, Cantonment, FL  
9/26/2007

### **Results:**

*Hydrogen Sulfide:* 18  $\mu\text{g}/\text{m}^3$  (13 ppbV), over 8.5 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbv).

Please see above for health effects of Hydrogen Sulfide.

*Methyl Mercaptan:* 4.7  $\mu\text{g}/\text{m}^3$  (2.4 ppbV), over 2 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbv).

Methyl Mercaptan can irritate the skin, eyes, nose, throat, and lungs, causing coughing and shortness of breath. Exposure can also cause headache, nausea, vomiting, dizziness, muscle weakness, and loss of coordination. Extreme exposure can cause anemia, pulmonary edema, loss of consciousness, and death.

**October 2007**

**Sample 1**

**Industry:** Gulf Power Crist Plant

**Method:** Soil Sample

**Details:** Six samples, Sample 1 taken at industry location. Sample 2 was taken at the UWF Field House, 11000 University Parkway, Pensacola, FL. Sample 3 was taken on Tecumseh Trail, Pensacola, FL. Sample 4 was sediment from Escambia Bay, taken from a location off Highway 90, Pace, FL. Sample 5 was taken from 3350 Indian Hills Drive, Pace, FL. Sample 6 was taken at 3100 Highway 90, Pensacola, FL.  
University of West Florida, 11000 University Parkway, Pensacola, FL  
10/03/2007

**Results:**

Sample 1: Heavy metals were detected in concentrations of 0.238 pCi/g for *Actinium-228*, 0.391 pCi/g for

*Bismuth-214*, 0.225 pCi/g for *Cesium-137*, 0.442 pCi/g for *Lead-212*, 0.427 pCi/g for *Lead-214*, 0.238 pCi/g for *Radium-228*, 0.112 pCi/g for *Thallium-208*, and 0.391 pCi/g for *Thorium-230*.

Sample 2: 1.15 pCi/g *Gross Beta* activity at 1 mile to the south.

Sample 3: 12.7 pCi/g *Gross Beta* activity at 0.5 miles to the west.

Sample 4: *Gross Beta* activity not detected from bay sediment at 2.5 miles to the east/northeast.

Sample 5: 5.43 pCi/g *Gross Beta* activity at 3 miles to the east/northeast.

Sample 6: 4.16 pCi/g *Gross Beta* activity at 2 miles to the southeast.

These results are comparable to those from the July and August soil sampling from around the Gulf Power Crist Plant. The data indicate elevated levels of Gross Beta Radioactivity in the soil extending away from the plant, to a distance of approximately 3 miles. The highest levels detected over a period of three months were found in the locations nearest the plant (within a mile).

**Sample 2**

**Industry:** International Paper Co.

**Method:** Bucket Sample

**Details:** Intersection of Booker Street and Ransom Street, Cantonment, FL  
10/15/2007

**Results:**

The air sample from the bucket's Tedlar bag was analyzed for Sulfur Compounds, but none were detected above the laboratory's detection limit.

**Sample 3**

**Industry:** International Paper Co.

**Method:** Bucket Sample

**Details:** Intersection of Bibbs Road and Muscogee Road, Cantonment, FL  
10/17/2007

**Results:**

*Hydrogen Sulfide:* 17  $\mu\text{g}/\text{m}^3$  (12 ppbV), over 8 times the EPA Region 6 Screening Level of 2.1  $\mu\text{g}/\text{m}^3$  (1.5 ppbV).

Hydrogen Sulfide is a highly flammable gas, and contact with it can cause pain and redness of the eyes and blurred vision. When breathed in, it can irritate the nose, throat, and lungs, leading to coughing and shortness of breath. Exposure can also cause nausea, dizziness, confusion, headache, and trouble sleeping. Extreme exposure can cause pulmonary edema and even immediate death. It is a colorless gas with a strong odor of rotten eggs.

## November 2007

### *Sample 1*

**Industry:** Agrico Chemical Co.  
**Method:** Soil Sample  
**Details:** 3311 Marcus Drive, Pensacola, FL  
11/14/2007

### **Results:**

*Lead:* 137 mg/kg, which falls below the EPA Region 6 Screening Level of 400mg/kg.

Exposure to lead can irritate the eyes, cause headache, irritability, reduced memory, disturbed sleep, mood and personality changes, weakness, fatigue, and can increase the risk of high blood pressure. Repeated exposure can cause lead poisoning, which has symptoms of metallic taste, poor appetite, weight loss, colic, nausea, vomiting, and muscle cramps. Lead is also a probable carcinogen. As such, there is no safe level of exposure.

*Arsenic:* 2.01 mg/kg, over 5 times the EPA Region 6 Screening Level of 0.39 mg/kg.

Contact with Arsenic can irritate the skin and eyes, and cause burning, itching, and a rash. Breathing it can irritate the nose and throat. High or long term exposure can cause nausea, vomiting, muscle cramps, nerve damage, and liver and stomach problems. Arsenic is a carcinogen, known to cause lung and skin cancer. As such, there is no safe level of exposure.

*Radium-228:* 0.313 pCi/g

Radium emits Gamma rays, which can penetrate the body. For this reason, any external exposure increases the risk of all types of cancer. If radium is ingested or inhaled, it increases the risk of developing lymphoma, bone cancer, leukemia, and aplastic anemia.

### *Sample 2*

**Industry:** Agrico Chemical Co.  
**Method:** Soil Sample  
**Details:** 3313 Marcus Drive, Pensacola, FL  
11/14/2007

### **Results:**

*Lead:* 29.5 mg/kg, which falls below the EPA Region 6 Screening Level of 400mg/kg.

Please see above for health effects of lead.

*Radium-228:* 0.266 pCi/g

Please see above for health effects of radium.

## December 2007

### *Sample 1*

**Industry:** Agrico Chemical Co.

**Method:** Soil Sample

**Details:** Two samples. Sample 1 was taken at 3347 Marcus Drive, Pensacola, FL and sample 2 was taken at 3344 Marcus Drive, Pensacola, FL  
12/14/2007

### **Results:**

Sample 1: *Arsenic*: 8.14 mg/kg, almost 21 times the EPA Region 6 Screening Level of 0.39 mg/kg.

Contact with Arsenic can irritate the skin and eyes, and cause burning, itching, and a rash. Breathing it can irritate the nose and throat. High or long term exposure can cause nausea, vomiting, muscle cramps, nerve damage, and liver and stomach problems. Arsenic is a carcinogen, known to cause lung and skin cancer. As such, there is no safe level of exposure.

*Lead*: 70.7 mg/kg, which falls below the EPA Region 6 Screening Level of 400 mg/kg.

Exposure to lead can irritate the eyes, cause headache, irritability, reduced memory, disturbed sleep, mood and personality changes, weakness, fatigue, and can increase the risk of high blood pressure. Repeated exposure can cause lead poisoning, which has symptoms of metallic taste, poor appetite, weight loss, colic, nausea, vomiting, and muscle cramps. Lead is also a probable carcinogen. As such, there is no safe level of exposure.

*Radium-228*: 0.303 pCi/g

Radium emits Gamma rays, which can penetrate the body. For this reason, any external exposure increases the risk of all types of cancer. If radium is ingested or inhaled, it increases the risk of developing lymphoma, bone cancer, leukemia, and aplastic anemia.

Sample 2: *Radium-228*: 0.289 pCi/g

Please see above for health effects of radium.

### *Sample 2*

**Industry:** Agrico Chemical Co.

**Method:** Soil Sample

**Details:** 3310 Marcus Drive, Pensacola, FL  
12/14/2007

### **Results:**

*Arsenic*: 5.14 mg/kg, over 13 times the EPA Region 6 Screening Level of 0.39 mg/kg.

Please see above for health effects of arsenic.

*Lead*: 124 mg/kg, which falls below the EPA Region 6 Screening Level of 400 mg/kg.

Please see above for health effects of lead.

*Radium-228*: 0.286 pCi/g

Please see above for health effects of radium.

## **Outreach Activities**

With the CEHAB grant, CATE was contracted to perform at least six outreach activities throughout the grant period. CATE was excited about this project as they have had trouble recruiting members to their cause and coalition. CATE recognizes the need for community involvement and thus chose to focus on educating community members about the health risks they are exposed to constantly. With the focus on education, CATE chose to narrow these outreach activities and concentrate on Toxic Release Inventories (TRIs) for neighboring industrial facilities. The audience for these activities included citizens living and working in or near at risk communities located relatively close to polluting plants and sites.

Included in the TRI presentations CATE disseminated packets of resources and information to community members. The packets contained flyers, pollution logs (for community members to keep detailed notes of incidents in their neighborhoods and then turn them over to CATE for compilation), criteria for joining the Bay Area Safe Air Coalition (BASAC) and their steering committee, fact sheets about recycling and air pollution, and other relevant literature. During these meetings CATE informed community members of neighboring industrial sites as well as the chemicals they emit, and the health effects of those chemicals.

While CATE feels that the presentations were successful, they recognize that there is still a great need for more outreach. The outreach presentations did not yield the number of attendees CATE was hoping for, despite the fact that CATE sent out flyers and posted events in local newspapers. While CATE believes that they did everything possible to recruit new faces to their meetings, they now recognize that there is a need to approach that goal with a little more creativity. CATE hopes to continue work on that front.

What follows is a list of the dates and locations of all of CATE's outreach activities throughout the grant period. All of these meetings were held for CATE's TRI presentations and BASAC meetings.

### **February 8, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

(Along with the TRI presentation CATE also coordinated a press conference with Hilton Kelley of CIDA and WEAR TV)

### **February 26, 2007**

Senior Center, 132 Mintz Lane, Cantonment, FL

### **March 8, 2007**

New Hope Church

### **March 21, 2007**

Senior Center, 132 Mintz Lane, Cantonment, FL

### **April 12, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

### **May 10, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

### **June 14, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**July 11, 2007**

Unitarian Universalist Church of Pensacola, 9888 Highway 29, Pensacola, FL

**July 11, 2007**

Unitarian Universalist Church of Pensacola, 9888 Highway 29, Pensacola, FL

**August 9, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**September 13, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**October 11, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**November 29, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**November 29, 2007**

New Hope Missionary Baptist Church, 10 E. Pearl Street, Pensacola, FL

**October 11, 2007**

Golden Corral, 2260 Langley Avenue, Pensacola, FL

**October 11, 2007**

Tyron Branch Library, 5740 N. 9<sup>th</sup> Avenue, Pensacola, FL

In addition to CATE's TRI Presentations and BASAC meetings they have also performed outreach through the media. Utilizing public service announcements, calendar event announcements and earned media events, CATE was able to broaden their outreach to other unlikely allies and participants. Public service announcements consist of a nonprofit or other group extending outreach information on meetings or other events open to the public to their audience via some form of media. Calendar events announcements work through the same means as public service announcements, but are done simply by placing a calendar in the media outlet and then allowing the posting of very brief information on meetings/events their date, time and place. Earned media consists of obtaining actual news coverage of an event or story. Throughout the project most of CATE's media outreach was channeled through WEAR TV, the Pensacola News Journal, and UWF radio.

Despite the fact that CATE felt the turn out of many of their meetings could have been better, their outreach proved to be more effective than their small audiences might have suggested. Not only did CATE work hard to produce media coverage, but they actually received numerous phone calls from citizens desiring more testing and more information. The community members who called in seemed to display both an interest and a fear of getting publicly involved. One caller went so far as to invite BASAC members to a community meeting held by International Paper. These calls reinvigorated CATE's outreach campaign and also gave them yet another incentive to educate the public on these very serious health concerns.

## **At Risk Communities**

### **Community Surrounding International Paper Company**

**375 MUSCOGEE RD., CANTONMENT, FL 32533**

The community in Cantonment, Florida is subjected to toxic releases from the International Paper (IP) facility on a daily basis. Some three thousand residents are living within the same Census tract (number 12033003700) as the plant itself. These citizens are not only exposed to the plumes of Acetaldehyde, Mercury and dioxins raining down from IP, but they are also burdened by at least ten other facilities within just twenty miles of their homes, schools, churches and parks.

Along with IP, the Cantonment community discussed here is within ten miles of Gulf Power and Solutia Inc., and within twenty miles of Arizona Chemical Company, Reichhold Inc., the U.S. Navy Pensacola Navy Air Station, Pall Membrane Tech Center, and GE Generators. All of these facilities pour out between 5 and 25,500,247 pounds of toxic emissions annually.

In 2007 this community was ranked as a middle income neighborhood. The Census reports that the median income (broken down by age groups) ranged from \$22,778 to \$40,000 annually, with the young (under 25 years old) and senior citizens (over 65 years old) all listed in the lowest income brackets. All these facts seem to dismiss the true economic problems within the community. In 1999 there were 120 families and 525 individuals living below the poverty line. Almost half (41.5%) of the households in this community were making less than \$25,000 a year in 1999. The poverty line is one way of measuring the income of a community, but it is also important to remember the definitions of these poverty thresholds. In 1999 when these Census reports on poverty were conducted, an individual making more than \$8,667 (or \$7,990 if 65 years or older) would not be listed under the poverty line. Add a child to a two person household and that number jumps to only \$11,483 (or \$11,440 if 65 or older.)

The burdens placed on a community like this are staggering. Not only do they have to contend with the everyday life of poverty, but they also have to come home to a community where they and their families are placed at risk to cancer, heart disease and asthma as well as other developmental and reproductive disorders. Along with the extreme nuisance of uninvited health risks, neighbors in and around Cantonment are subjected to the noxious odors caused by the constant outpouring of toxic chemicals. Many young residents do not even leave the community regularly enough to enjoy a breath of fresh air. If they are too young for school they are either at home all day or in a nearby daycare center. Even if they are attending elementary or high school, those schools are also located near IP and other polluting facilities. Similarly, citizens who are out of work or retired are also subjected to twenty four hours a day of toxic inhalations.

The health risks to this community are severely magnified by the constant outpour of recognized and suspected developmental toxicants, gastrointestinal and liver toxicants, kidney toxicants, neurotoxicants, respiratory toxicants, skin and sense organ toxicants, carcinogens, immunotoxicants, cardiovascular and blood toxicants, reproductive toxicants, endocrine toxicants, and musculoskeletal toxicants from neighboring industrial facilities.

CATE's own monitoring around the IP facility demonstrated elevated exposure to Ammonia, Nitric Oxide, Ozone, alpha-Pinene, Dimethyl Sulfide, Hydrogen Sulfide, and Methyl Mercaptan.

### **Community Surrounding Solutia Inc.**

**3000 OLD CHEMSTRAND RD., CANTONMENT, FL 32560**

The community in Cantonment, Florida is subjected to toxic releases from both Solutia Inc. and the International Paper facilities on a daily basis. Some six thousand residents (over

sixteen years old, as of 2000) are sitting within the same Census tract (number 12033003602) as these plants. These citizens are not only exposed to the plumes of Acetaldehyde, Mercury, Lead and dioxins raining down from IP and Solutia, but they are also burdened by at least ten other facilities within just twenty-five miles of their homes, schools, churches and parks. Along with Solutia and IP, the Cantonment community discussed here is within twenty miles of Arizona Chemical Company, Reichhold Inc., the U.S. Navy Pensacola Navy Air Station, Pall Membrane Tech Center, Gulf Power, and GE Generators. All of these facilities pour out between 5 and 25,500,247 pounds of toxic emissions annually.

In 2007 this community was ranked as a middle income neighborhood. The Census reports that the median income (broken down by age groups) ranged from \$28,333 to \$47,706 annually, with the young (under 25 years old) and senior citizens (over 75 years old) all listed in the lowest income brackets. All these facts seem to dismiss the true economic problems within the community. In 1999 there were 347 families and 1,470 individuals living below the poverty line. Just over a third (34.1%) of the households in this community were making less than \$25,000 a year in 1999.

The health risks to this community are severely magnified by the constant outpour of recognized and suspected developmental toxicants, gastrointestinal and liver toxicants, kidney toxicants, neurotoxicants, respiratory toxicants, skin and sense organ toxicants, carcinogens, immunotoxicants, cardiovascular and blood toxicants, reproductive toxicants, endocrine toxicants, and musculoskeletal toxicants from neighboring industrial facilities.

### **Community Surrounding Gulf Power Company, Crist Plant**

**11999 PATE RD., PENSACOLA, FL 32533**

The community in Pace, Florida (Santa Rosa County) is subjected to toxic releases from the Gulf Power Company on a daily basis. Some two thousand residents (over sixteen years old, as of 2000) are sitting just miles from the Crist plant. These citizens are not only exposed to the plumes of Hydrochloric and Sulfuric Acids, Mercury, Lead and dioxins raining down from Gulf Power, but they are also burdened by at least ten other facilities within just twenty-five miles of their homes, schools, churches and parks. Along with Gulf Power, the Pace community discussed here is within just ten miles of the Pall Membrane Tech Center, GE Generators, the Wayne Dalton Corporation, and Blazer Boats, and also within twenty-five miles of Arizona Chemical Company, Reichhold Inc., the U.S. Navy Pensacola Navy Air Station, and International Paper. All of these facilities pour out between 5 and 25,500,247 pounds of toxic emissions annually.

In 2007 this community was ranked as a middle income neighborhood. The Census reports that the median income (broken down by age groups) ranged from \$19,333 to \$49,909 annually, with the young (under 25 years old) and senior citizens (over 75 years old) all listed in the lowest income brackets. All these facts seem to dismiss the true economic problems within the community. In 1999 there were 133 families and 531 individuals living below the poverty line. Almost a third (28.1%) of the households in this community were making less than \$25,000 a year in 1999.

The health risks to this community are severely magnified by the constant outpour of recognized and suspected developmental toxicants, gastrointestinal and liver toxicants, kidney toxicants, neurotoxicants, respiratory toxicants, skin and sense organ toxicants, carcinogens, immunotoxicants, cardiovascular and blood toxicants, reproductive toxicants, endocrine toxicants, and musculoskeletal toxicants from neighboring industrial facilities.

CATE's own monitoring around the IP facility demonstrated elevated exposure to Chromium, Mercury, Beryllium-7, Cesium-137, Lead-212, Lead-214, Thorium-230, Actinium-

228, Bismuth-214, Radium-228, as well as elevated levels of Gross Alpha Activity and Gross Beta Radioactivity.

**Community Surrounding Reichhold Inc. and Arizona Chemical Company**  
**425 S. PACE BLVD., PENSACOLA, FL 32505 and 411 S. PACE BLVD., PENSACOLA, FL 32505**  
**(Respectively)**

The community in West Pensacola, Florida is subjected to toxic releases from Reichhold and the Arizona Chemical Company on a daily basis. Some three thousand residents (over sixteen years old, as of 2000) are sitting just next to these two plants. These citizens are not only exposed to the plumes of Trimethylbenzene, Xylene and dioxins raining down from Reichhold and Arizona, but they are also burdened by at least ten other facilities within just twenty-five miles of their homes, schools, churches and parks. Along with Reichhold and the Arizona Chemical Company, the Pace community discussed here is within just five miles the U.S. Navy Pensacola Navy Air Station, and also within twenty miles of the Pall Membrane Tech Center, GE Generators, the Wayne Dalton Corporation, and Blazer Boats, Gulf Power, Solutia and International Paper. All of these facilities pour out between 5 and 25,500,247 pounds of toxic emissions annually.

In 2007 this community was ranked as a moderate income neighborhood. The Census reports that the median income (broken down by age groups) ranged from \$17,130 to \$38,281 annually, with the young (under 25 years old) and senior citizens (over 65 years old) all listed in the lowest income brackets. All these facts seem to dismiss the true economic problems within the community. In 1999 there were 244 families and 1,041 individuals living below the poverty line. Almost half (43.3%) of the households in this community were making less than \$25,000 a year in 1999.

The health risks to this community are severely magnified by the constant outpour of recognized and suspected developmental toxicants, gastrointestinal and liver toxicants, kidney toxicants, neurotoxicants, respiratory toxicants, skin and sense organ toxicants, carcinogens, immunotoxicants, cardiovascular and blood toxicants, reproductive toxicants, and endocrine toxicants from neighboring industrial facilities.

CATE's own monitoring around Reichhold and Arizona demonstrated elevated exposure to Ammonia, Nitric Oxide and Sulfur Dioxide.

## Conclusion

Citizens Against Toxic Exposure (CATE) organized during the EPA's emergency removal of 255,000 cubic yards of toxic soil from the site of the former Escambia Treating Company in the years of 1991-1993. CATE unites an area consisting of four neighborhoods, including 358 families that were relocated by the EPA (the third largest relocation in U.S. history) because of the danger posed by their proximity to the treatment site.

The Escambia Treating Company Superfund Site, known as "Mt. Dioxin," is home to many chemicals including its namesake toxin, arsenic, hydrocarbons naphthalene, pentachlorophenol, creosote, benzo pyrene, dieldrin, toluene, xylene, benzene, copper, chromium, asbestos, PCBs, and others as yet unidentified chemicals. Though the treating company shut down in 1982, while in operation there were several fires, and the boilers used to treat wood frequently flew open, releasing toxic chemicals.

Also nearby is the former site of Agrico, an agricultural chemical manufacturer, now another Superfund site. Several of the same chemicals found at the Escambia Treating Company, plus lead and radium, are also leaking into the soil from the Agrico Superfund Site; the combined toxic poisons from each site contaminate the aquifer used for drinking, as well as groundwater that empties into the Escambia Bay and Bayou Texar. An agreement was made with the EPA to clean up the site, though the cleaning has been done only on a superficial level, and the groundwater remains untreated.

In addition to Mt. Dioxin, the Pensacola community also faces toxic assaults from Solutia Inc., the Gulf Power Company (Crist Plant), International Paper, the Huntsman Petrochemical Corporation, Reichhold Inc., the Pall Membrane Tech Center, Blazer Boats Inc., the Arizona Chemical Company, the Wayne Dalton Corporation (Pensacola Division), the U.S. Naval Air Station, Cerex Advanced Fabric Inc., Advanced Elastomer, GE Generators and even a few more. The health problems associated with the chemicals released at these facilities include (but are not limited to) various cancers, especially lung cancer, kidney disease, heart disease, diabetes, birth defects, infertility, respiratory problems, eye irritation, skin rashes

CATE works to inform the population of the threats to their community's environment, by working with the media and the community. CATE also works to assure that information released to the community is scientifically accurate. CATE is currently working to achieve a high level of dioxin clean-up, as well as to stop the contamination of the groundwater. CATE hopes to obtain healthcare, including diagnoses and treatment, for members of the community affected by the toxic releases. While the relocation of the 358 families near the Superfund site is one of their greatest accomplishments, CATE is still working to correct some problems that arose from the relocation.

In addition to their work on Mt. Dioxin, CATE has worked diligently on their monitoring campaign under the CEHAB grant. With the funds provided by CEHAB, CATE was able to monitor the air and soil at six different industrial facilities in and around Pensacola, and performed a number of community outreach activities.

While the activities performed under the CEHAB grant proved successful, CATE hopes to continue the work as they recognize there is still a great need to identify pollutants and the levels of exposure that citizens face every day. Clearly, CATE's goal is not simply to discover this information, but also to do something about it. CATE's greatest hope is that they place at risk communities out of harm's way.

In order to achieve their ambitious goal, CATE recognizes the need for greater and more creative methods of community outreach, as well as more monitoring to determine exactly who is in danger. Remediation has also long been a goal of CATE's, and they continue to work to make sure that toxic soil and water are cleaned up properly. It is already too late for this work to

happen in a timely manner, but it is CATE's hope that when it happens, it will at the very least be a comprehensive and cautious clean up. While CATE would love to see this work happen, they also recognize that nothing can be done without the proper funding needed to sustain these activities. They hope to continue all this work and obtain the necessary and appropriate funding to do so.