PUBLIC HEALTH CONSULTATION

Community Questions /Comments

HC04

Industrial Excess Landfill
Uniontown, Ohio
July 25, 1996

OHD000377911

CRS 50W2

U.S. Department of Health and Human Services
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia

Concurrence:

Director, DHAC, ATSDR (E32) _____
Branch Chief, SSAB, DHAC (E32) _____
Chief, SSAB-Section B, DHAC (E32) _____

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INDUSTRIAL EXCESS LANDFILL

UNIONTOWN, OHIO

CERCLIS NO. OHD000377911

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STATEMENT OF ISSUES

PURPOSE

This document contains the Agency for Toxic Substance and Disease Registry's (ATSDR) responses to questions asked by citizens living near the Industrial Excess Landfill (IEL) during public meetings ATSDR held March 5 and 6, 1996. The purpose of these meetings was to describe ATSDR services and to receive feedback from members of the community about which services they felt they needed. Thirty people attended these meetings, including representatives of a citizens group, Concerned Citizens of Lake Township (CCLT). ATSDR staff members described some of our services, including health education, reviewing medical records and health concerns, and public health consultations. Group discussions yielded information about activities community members thought were appropriate near the IEL, and ATSDR gained insights into issues of importance to the community.

Community concerns/questions summarized below are grouped in the broad categories of health, environment, and CCLT concerns. Figures 1 and 2 provide visual support to our responses.

FINDINGS

Community members near IEL thought that health education, reviewing health concerns, and public health consultations were appropriate activities. Their specific questions and comments are provided in this health consultation.

ISSUES OF CONCERN

HEALTH

1. **How did you decide "who is affected" by living near the landfill? Is it just the 100 homes who received notice about the meeting?**

ATSDR determined that people in the immediate vicinity of the landfill (primarily to the west in the area of the original alternate water system and just north) were most likely to have been exposed to landfill contaminants. We sent approximately 110 letters to residents, inviting about 250 people to our March meetings. We also provided an 800 number for residents who wished to share their ideas but could not attend the meetings. The meetings also were publicized in two area newspapers, and anyone was welcome to attend.

2. Expand the number of residents that are invited to share health concerns to include those living northwest and southwest of the landfill.

Residents in the contaminated areas of northwest Uniontown and southwest of the landfill (areas not included as part of the IEL superfund site) are welcome to share health concerns with ATSDR. Several residents from these areas attended our March meetings and shared health concerns. Residents are welcome to contact ATSDR and to consult with our physicians regarding their individual environmental health concerns.

3. Could living near the landfill cause breast cancer, neuromuscular disease, and birth defects?

It is unlikely that living near the IEL has caused breast cancer, neuromuscular disease, or birth defects. Some of the contaminants present at the IEL include methane, benzene, tetrachloroethylene (PCE), vinyl chloride, 1,2-dichloroethane, barium, lead, and cadmium. We have not identified any routes of exposure or exposure pathways linking residents to sufficient quantities of these compounds for time periods that would result in adverse health effects -- including breast cancer, neuromuscular disease, or birth defects. However, ATSDR has not completed its evaluation of the ambient air pathway. Although radiation exposure has been associated with a slight increase in the risk of breast cancer, the levels of radiation at IEL (at or near background) have not been shown to cause breast cancer or other forms of cancer.

4. How can we link current health problems with past exposures?

Our experience at the IEL and at similar sites shows that linking current health problems to past exposures is a very difficult process requiring extensive studies. With the technology and science available to us today, we cannot definitively link current health problems in Uniontown residents to exposures possibly related to IEL. We can conduct studies to evaluate associations between disease and exposure. An association is different from a link in that a link usually indicates a clear cause-and-effect relationship, such as getting sick after swallowing poison. Unquestionable links between exposures and diseases are very rarely observed in environmental health studies. Links are difficult to make because the duration of exposures and the concentrations of chemicals are often unknown and impossible to reconstruct.

Some types of studies that are conducted to evaluate associations between disease and exposure look at:

- the frequency and types of diseases occurring throughout an entire community;
- a disease outcome and then look back in time to determine which exposures may have contributed to the disease; and
- groups of individuals who have been exposed to determine the frequency of the occurrence of diseases or symptoms in the future.

These types of studies in themselves, however, provide only a small amount of information needed to make a cause-and-effect link between exposures and diseases. Many different studies are needed to provide enough information to establish a positive association.

One obstacle to studying a community such as the one near IEL is the small size of the population surrounding the site. Even if health conditions in this area were summarized, the exposed population is probably too small to produce meaningful results because the rates of many diseases would be too low to be measured. For example, if the normal disease rate is one case per 100,000, it would be difficult to identify excesses in an exposed population of about 1,000 people. Although the 1990 census data indicate that 4,135 people live within a mile radius of the landfill (Figure 1), we estimate the maximum potentially exposed population in the vicinity of the landfill (including the areas north and west of the landfill) to be less than 1,500 people.

A physician looking for a link between current health problems and past exposure in an individual would evaluate the health complaints by assessing the medical condition and by taking a thorough history of exposure. To evaluate past exposure, it would be important to determine how long the individual was exposed and how the individual was exposed (such as by eating contaminated soil; by breathing contaminated air; by having skin contact with contaminated air, dust, dirt, or water; or by drinking contaminated water). It would also be important to rule out other medical causes of the health condition such as family history, genetics, and predisposing conditions.

Finally, to establish cause-and-effect, it is necessary to establish the plausibility that exposure could have biologically or physically caused the disease or symptom.

5. What has been done to locate people who have moved out of the neighborhood to make sure that we know about their health effects?

ATSDR has some of the addresses of people who have moved. Current residents may also be able to provide information. ATSDR will provide technical assistance to the Stark County health department and the local medical school, Northeastern Ohio Universities College of Medicine (NEOUCM), if NEOUCOM evaluates the health status of residents in Uniontown, Ohio.

6. Is anyone keeping track of who has died?

The Ohio Department of Health collects and reviews mortality information for Stark and other Ohio counties on a regular basis. As previously explained in our health consultation on health outcome data (1), the Ohio Department of Health issued a report on the rates of cancer mortality in Ohio from 1986 -1988, based on death certificates. The number of available records was too small for the Ohio Department of Health and ATSDR to determine whether any increase in the rate of cancer mortality had occurred. ATSDR also analyzed cancer mortality data (1979-1988) from a database administered by the National Centers for Health Statistics. The analysis did not indicate any significant excesses of cancers for the residents of Stark County (1).

7. Is there a higher incidence of cancer and other diseases in our community than in others?

The Ohio Department of Health is collecting information on cancer incidence and storing it in the Ohio Cancer Incidence Surveillance System [OCISS]. This system was implemented in January 1992 and does not currently cover a sufficient time span to give reliable cancer rates (a time span of five years or more is needed to develop statistically valid data). As previously recommended in our health consultation on health outcome data (1), ATSDR recommends a review of these data when there are a sufficient number of records to calculate reliable rates.

8. **Should we examine the incidence of diseases/outcomes that are more subtle than cancer (i.e.reproductive history [low birth weight, miscarriages]/learning disabilities/neurological effects)?**

Yes, if the incidence of diseases/outcomes could be reasonably evaluated. The incidence of low birth weight, miscarriages, learning disabilities, and neurological effects could be evaluated, especially if the community is concerned that the rate of occurrence of these health conditions is elevated. However, the difficulty of evaluating these health conditions varies from relatively easy for low birth weight to quite difficult for miscarriages. The level of difficulty would therefore have to be considered in any decision to evaluate these health conditions. Even if an evaluation of some or all of these health conditions could address whether the incidence is elevated, it would not establish a cause-and-effect association between IEL contaminants and the health conditions. The detailed exposure information that would be needed to establish such an association is not available.

9. **We believe that there are a lot of cancers among the people who live along Metzger's Ditch.**

People who live along Metzger's Ditch aren't drinking or bathing in the water from the ditch. Data collected by EPA during the Remedial Investigation does not indicate levels of contamination in the ditch that would cause cancer or other health effects. The incidence of cancer in the Metzger Ditch area could possibly be investigated once the Ohio Cancer Incidence Surveillance System has sufficient data to allow reliable evaluations. Even then, an evaluation may not result in useful information if the cancers of concern are rare, since the population near Metzger Ditch is small. For example, if the average rate of a certain type of cancer is 1 in 10,000 in the general population, and the population near the ditch is less than 1,000, it would be very hard to detect an excess. It is very unlikely that an elevated rate of cancer could or would be associated to contaminants in Metzger Ditch.

10. **What is being done to prevent more people from getting sick in the future?**

ATSDR has evaluated most of the pathways--groundwater, soil, soil gas etc.-- and concluded that residents near the landfill are not currently being exposed to

contaminants from the IEL at levels that would cause health effects. However, ATSDR is still evaluating the ambient air pathway and will make recommendations that are appropriate to our findings. ATSDR will also evaluate any new situations (such as during remedial actions) and take actions to prevent or lessen exposures if necessary.

11. Can we assess the health effects of the cumulative effects of all of the landfills in the area (several in addition to IEL)?

No, ATSDR can not currently make such an assessment. We would need large epidemiological studies to determine the cumulative effects of a variety of exposures, to be able to demonstrate any statistically significant results. These kinds of studies are usually conducted on thousands of individuals over long periods of time to evaluate causation (evidence that a specific exposure or exposures caused a specific disease or diseases) or to establish a scientifically credible theory of causation. We also need good exposure information to conduct these types of studies.

12. What kind of action will be taken if information on health effects are collected? How will studies help the people here? Can you a) stop exposures; and b) provide health clinics where people can receive diagnoses.

Appropriate actions or recommendations would be made based on the results of a collection of health effects. If an excess of disease were found, ATSDR or other health agencies could do health studies, health education, refer residents to specialty physicians, reexamine the exposure issues, etc. Information on health studies is provided in our response to question 4 in this section. Health studies could also lead to the above actions or recommendations.

ATSDR's mission is to prevent or lessen adverse human health effects resulting from exposure to hazardous substances in the environment. Thus, ATSDR can stop exposures by relocating people or recommending changes to remedial actions when they result in exposures at levels causing health effects. ATSDR is not authorized to provide medical treatment. However, ATSDR provides referrals to specialty physicians upon request or where a need has been determined. The physicians are usually associated with organizations such as the Association of Occupational and Environmental Clinics (as described in the next response).

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13. Can you provide referrals to specialty physicians who understand environmental illnesses?

Yes. ATSDR has cooperative agreements with the Association of Occupational and Environmental Clinics (AOEC), an academically based clinical network of 52 clinics in the United States and two in Canada. The AOEC clinics can provide referrals to primary care practitioners. Some AOEC clinics that you might consider are:

<u>OHIO</u>
WorkLink
Occupational & Environmental Health Clinic
2500 MetroHealth Drive
Cleveland, OH 44109-1998
216-778-8087 FAX 216-778-8225
Kathleen Fagan, MD, MPH
Alternate Contact: Seth Foldy, MD

Center for Occupational Health
Holmes Hospital-Tate Wing
University of Cincinnati College of Medicine
Eden and Bethesda Ave.
Cincinnati, OH 45267-0182
513-558-1234 FAX 513-558-1010
James Donovan, MD, MPH
Alternate Contact: Douglas Linz, MD, MS

Greater Cincinnati Occupational Health Center
Jewish Hospital Evandale
10475 Reading Road, Suite 405
Cincinnati, OH 45241
513-769-0561 FAX 513-769-0766
Harriet Applegate
Alternate Contact: Margaret Atterbury, MD, MPH

14. Can you provide physicians with education to help them improve their diagnostic abilities?

Yes. ATSDR has developed clinical case studies for several hazardous substances that teach physicians how to evaluate patients that have been exposed to these substances in their environment. If requested, ATSDR can also provide training programs to educate physicians about site specific contaminants, how their patients may have come in contact with contaminants, and what health conditions to look for as a result of exposure to hazardous substances.

ATSDR will conduct a needs assessment of local health care providers to determine whether there is a need for health professionals education. ATSDR will also provide current information about some of the known contaminants at the IEL and their potential health effects to the local health department and library.

ENVIRONMENT

Soil Gases

1. List soil gases at the site and look at the source of the gases.

The Environmental Protection Agency's (EPA) on-site sampling program for landfill gases includes sampling gas from exploratory boreholes, punch probe points, pilot test piezometers and extraction wells, and the Methane Venting System (MVS) stack. The MVS, a soil vapor extraction system, pulls gases near the perimeter of the landfill and burns them in the groundflare system. IEL soil gas contains many volatile organic compounds (VOCs), ranging from benzene to xylenes. EPA's 1992 Preliminary Remedial Design Study detected 22 volatile organic compounds. Data on landfill gas indicate that the highest concentrations of contaminants are in the north-central portion of the site (1) [Figure 2]. Benzene and toluene are gases found in the highest concentrations at the IEL. The table below contains the concentrations of these gases and tetrachloroethylene (PCE). In general, gas concentrations are highest anywhere from 15 to 50 feet below the surface, usually near or below the bottom of landfill waste and above the water table (2).

TABLE A--SELECTED GASES WITHIN MVS PERIMETER

	Exploratory Borehole		Punch probe-NE corner		Extraction wells & piezometers	
	Concentration (ppb)					
VOC	Maximum	Average	Maximum	Average	Maximum	Average
PCE	660	68.4	290	15.3	510	43.6
Benzene	16,000	1584	1700	256.2	100,000	539
Toluene	13,000	653	2500	189	300,000	20,794

2. Can gases migrate from the landfill independent of groundwater even with the methane venting system in place?

If the MVS fails to capture some soil gases, the gases could possibly migrate independently of groundwater; however, they would be released to ambient air within several hundred feet of the landfill. The MVS minimizes gas migration from the landfill. The permeable soils in the area would also limit horizontal migration if the MVS were not operating. A permeable ground surface allows natural venting to the atmosphere, reducing the lateral extent of gas migration. Without the MVS operating, soil gases have been estimated to migrate about 650 feet from the landfill (3). Based on field data, one expert concluded that beyond 100 feet, soil gases from the landfill would be unlikely to affect indoor air concentrations because of the loss of vapors through the soil surface (4). The improved gas collection and treatment system planned by EPA should maintain a constant negative pressure inside the landfill and prevent off-site migration of gases.

Three sets of data have been collected to analyze the extent of off-site soil gas migration: off-site borehole data, landfill gas monitoring well data, and punch probe data outside the perimeter of the gas extraction system. Punch probe data from 56 locations along the perimeter of the landfill indicate that no significant quantities of any landfill gases have migrated from the site through shallow soils, [including PCE, which ranged from not detectable to 0.233 parts per billion (ppb)]. Landfill gas monitoring wells and off-site exploratory boreholes show some soil

gases outside the landfill perimeter (Table B, Figure 2). The highest concentration of PCE detected off-site (12 ppb) was south of the IEL. The highest off-site concentration of benzene and toluene (86 ppb and 17 ppb respectively) was detected on the west perimeter near the Union Tire building. These soil gas concentrations were detected below the surface and therefore are not concentrations at which people would be exposed. Human exposure to contaminants could occur only if soil gas migrated into the ambient air. Ambient air concentrations inside basements would be at least ten times lower than soil gas concentrations. Off-site soil gas concentrations near the IEL, therefore, are too low to result in significant indoor air exposures. However, ATSDR is examining the issue of ambient air releases from the landfill and may have future recommendations on this pathway.

TABLE B--GASES OUTSIDE MVS PERIMETER

	Near IEL- landfill gas monitoring wells		Near IEL- exploratory boreholes		Northwest Uniontown- geoprobe and slam bar	
	Concentration (ppb)					
VOC	Maximum	Average	Maximum	Average	Maximum	Average
PCE	12	2.4	0.9	0.33	554	75.7
Benzene	20	3.0	86	5	40.4	4.3
Toluene	9.4	1.1	17	1.7	1773	60.7

3. Reexamine the idea that the IEL and Northwest Uniontown are separate sites. (Is there a connection between the contamination that has been found at the IEL and in Northwest Uniontown, and why are they considered to be separate sites?)

ATSDR has reexamined the idea that the IEL and Northwest Uniontown are separate sites and has concluded that geological, hydrological, and chemical data support the conclusion that these areas are separate sites. Factors supporting the lack of a soil gas connection between the IEL and Northwest Uniontown include

the high permeability of area soils, the characteristics of the topography, and the concentrations of gases detected in each area.

ATSDR has reviewed the PCE data in groundwater and soil gas for both the IEL and Northwest Uniontown. According to the U.S. Geological Survey, groundwater from the landfill does not flow to Northwest Uniontown (5). As ATSDR has previously stated in our groundwater consultation, PCE in groundwater of Northwest Uniontown did not migrate from the landfill and separate sources of soil gas contamination are indicated (Figure 2). Figure 2 shows the PCE soil gas concentrations at the IEL and in Northwest Uniontown and includes the topographic elevations. Any gases traveling north/northeast from the landfill should tend to vent south of the crest of the topographic ridge that runs between the IEL and Northwest Uniontown. The closest distance between areas where PCE contamination was detected in Northwest Uniontown and where it was detected near the IEL is approximately 2,300 feet. Given this distance, the topography of the area, and the high permeability of the soils, we do not think that gases could have migrated from the IEL to Northwest Uniontown.

The concentrations of soil gases detected at the IEL and in Northwest Uniontown also indicate separate sources of contamination. In August 1993, investigators used slam-bar and geoprobe methods to sample soil gas concentrations of PCE in Northwest Uniontown (Table B). PCE concentrations in soil gas of Northwest Uniontown ranged from 0.5 to 554 ppb with an average of 75.7 ppb (7). PCE concentrations at the IEL were highest *in-situ* gas from on-site exploratory boreholes, ranging from 0.025 to 660 ppb (Table A) with an average of 68.4 ppb (5). However, as shown in Table B, PCE and other gases found in Northwest Uniontown are at higher concentrations than gases found outside the perimeter of the MVS at IEL. The maximum PCE concentration outside of the MVS is 12 ppb and the maximum average concentration is 2.4 ppb. In addition, at the IEL, benzene is one of the gases with the highest concentrations (maximums of 1,700 - 100,000 ppb), whereas in Northwest Uniontown, benzene is the contaminant found at the lowest concentration (maximum of 40 ppb). *It is possible that multiple sources have contributed to the contamination at Northwest Uniontown, however, IEL is unlikely to have been one of those sources.*

Even though separate sources of soil gas contamination are indicated, ATSDR will consider the IEL and Northwest Uniontown together for health education purposes and for the collection of any health-related information.

4. **Additional data should be collected to evaluate soil gas migration.**
   a. **Collect new data to learn whether levels indicate venting to north.**
   b. **Collect data by fanning out in all directions for weak areas geographically (for placement of cap and to find out whether there is gas build-up in homes).**
   c. **Identify pathways of gas migration.**
   d. **Sample ambient air.**

Responses 1 through 3 on soil gas in this environmental section address ATSDR's logic behind not recommending additional soil gas samples. In summary, PCE concentrations in soil gas outside of the MVS are not high enough to indicate indoor air concentrations at levels that would cause health effects.

ATSDR is examining the issue of ambient air releases from the landfill and may have future recommendations on this pathway.

5. **How would additional air and other sampling benefit us?**

Hundreds of samples have already been taken at IEL and cover all media (soil, soil gas, air, surface water, sediment, and groundwater) and the MVS at this site. The results are in EPA's remedial investigation documents. Additional air sampling will be conducted during site remediation as part of the Site Safety Plan to ensure the protection of on-site workers and people off site. Depending on the remedy that is implemented, vent/emission sampling and air modeling may be necessary after the completion of the remedy to ensure that the off-site population is not affected.

Groundwater

1. **Why is there so much emphasis on groundwater contamination? Are there significant routes of exposure other than groundwater?**

There is emphasis on groundwater contamination because of private well use (particularly in the past) in the area near the IEL. ATSDR completed a groundwater consultation in August 1995 (6). Inhalation of contaminants via ambient air may have been another important route of exposure; however, there was no off-site ambient air data collected during the operation of the landfill on

which to base health analyses. Current information pertaining to ambient air releases is being evaluated by ATSDR.

2. What criteria were used for providing free water (provision of water from a municipal water system) in the past?

People living west of the landfill were provided with municipal water from the North Canton water supply system because of contaminated groundwater in that area and the potential for further migration of contaminants from the IEL.

EPA determined the extent of the area that would receive an alternate water system by calculating the rate of contaminant migration based on hydrological data collected during the Remedial Investigation. U.S. EPA then used this data to project how far from the site contaminants would migrate over the estimated amount of time it would take to construct the remedy. The potentially affected area included 40 homes west of the landfill. To include a margin of safety, U.S. EPA extended the boundaries of the alternate water supply area to include an additional 60 homes. (U.S. EPA describes this approach in the September 30, 1987 Record of Decision (ROD) for the Provision of Alternate Water Supply).

Additionally, township trustees applied for community development block grants which allowed them to expand the IEL Alternate Water Supply system to other areas near the IEL (per Stark County Health Commissioner).

3. Is Clear Water Park (northeast of the site) affected by groundwater contamination?

No. Groundwater does not flow from the IEL toward Clear Water Park. Clear Water Park, located near the intersection of Edison Street and Hoover, is approximately a mile northeast of the IEL. Contamination reached Metzger's Ditch on the east side of the landfill, but not much farther (i.e., the contamination may extend, perhaps, several hundred feet farther during the use of irrigation wells by the sod farms east of the site).

4. Where can we have our water tested?

Names of state-approved laboratories in the 216 area code that test for VOCs and other contaminants in drinking water are listed below (along with two labs that have 1-800 numbers and test for VOCs):

Laboratory	Location in Ohio	Phone number	Contact
Adcon Analytical Services	Akron	216-773-9161	Gary Dunn
American Analytical Lab.	Akron	216-535-1300	Mark Holtman
Aqua Tech Environmental Consultants Inc.	Melmore Marion	1-800-858-8869 1-800-783-5991	Kathy Streng
Electro-analytical Labs.	Mentor	216-951-3514	Anthony Solitro
Geo Analytical, Inc.	Twinsburg	216-963-6990	Terrence Harper
Quanterra Inc.	North Canton	216-497-9396	George Gatlin
Trans-Enviro, Inc.	Warrensville Heights	216-663-0808	Husein Sitabkhan

5. Is the level of radiation still high?

ATSDR's analyses of radiation data and databases are provided in our health consultation on radiation (8). Radioactivity was detected at or near background (very low) levels. The low levels of natural radioactivity detected at IEL are not expected to hurt people's health. Representatives of the Ohio Environmental Protection Agency and the U.S. EPA collected information about several types of radiation. They detected uranium, thorium, radium, and tritium, which are radioactive substances found naturally in the environment, at the IEL.

ATSDR staff members looked at national and local databases that estimate background radioactivity in the United States. We know that information about background levels for specific areas is not always complete and that some of the sampling methods are not perfect. However, agency scientists believe that the information collected was sufficient to determine that levels of radioactivity detected at the IEL were comparable to background.

Remediation

1. What is being done to clean up the landfill and prevent further dumping? What kind of clean-up will be done?

The landfill operated from 1966 until 1980 when dumping ceased. The site is fenced and is not accessible for further dumping. EPA has completed most of the remedial design (clean-up plan). The plan consists of the following components:

- installing a multi-layer landfill cap over the site;
- expanding the existing methane gas venting system;
- extracting contaminated groundwater beneath and near the landfill;
- building a wastewater treatment plant on site to treat contaminated groundwater;
- monitoring the cap, the groundwater extraction and treatment system, and the methane venting system to ensure that the remedy is effective.

2. What will be done to protect people from dust, etc., when the site is cleaned up?

Dust suppression methods can be used in the event that dust is a problem. Additionally, the topsoil on the landfill is clean fill, not contaminated soil.

3. Is the landfill still leaking?

Yes. Since the landfill has not yet been remediated, contaminants may be leaking to groundwater, escaping as soil gas or ambient air releases. Installation of the multi-layer cap currently being designed by U.S. EPA will prevent rain water and surface water from seeping through the top of the landfill into the buried waste and the into the groundwater. Minimizing rainfall seepage will protect groundwater quality by preventing water from mixing with the contaminants and migrating away from the landfill area. Gases are still being generated within the landfill and are captured by the MVS or vented vertically into ambient air. Horizontal gas migration has been limited by the active MVS.

SPECIFIC CCLT QUESTIONS AND CONCERNS

1. **Why haven't core samples of the landfill ever been done?**

Core samples are unlikely to provide additional information. Soil, sediment, and groundwater samples have been taken and have indicated what contaminants are present.

2. **Anywhere that the chemicals went should be considered part of IEL.**

CCLT believes that chemicals released to Metzger's Ditch may have accumulated in swampy areas above Lake Center Road. A representative of CCLT indicated that this area was being disturbed and that sampling would be difficult. Although it is feasible for contaminants to accumulate in low-lying areas, samples collected from the ditch do not indicate contamination at levels that would result in health effects. ATSDR does not restrict its health evaluations to the Superfund site boundaries established by EPA.

3. **What is being done to evaluate the contaminants from the landfill that cannot be identified?"**

The tentatively identified compounds (TICs) are not being evaluated because they cannot be positively identified. We need to be able to identify contaminants prior to evaluating them.

4. **Secure funding to hire gas experts to review this possible source of exposure as soon as possible.**

Our review of existing data and the opinions previously expressed by experts do not indicate the need for further soil gas investigation. ATSDR has recently acquired some additional air experts who will be evaluating the ambient air pathway.

5. **Provide the results of the previous birth defects investigation.**

Limitations on evaluating birth defects near the IEL was previously discussed in our health consultation on health outcome data (1). Although we discussed available data with the Ohio Department of Health, no report has been issued for the reasons stated below.

The Ohio Department of Health attempted to conduct an evaluation of birth defects for the area around IEL during the time period immediately following the landfill's operation, but this evaluation was not completed due to a lack of reliable information. Prior to 1989, the only systematic method used to collect data on the occurrence of birth defects in Ohio was a space on the birth certificate where the physician was asked to check a box labeled "congenital malformations or anomalies of child." The Ohio Department of Health discovered that so many of the birth certificates were incomplete or inaccurate, they could not serve as a valid source of information about birth defects. Relying on birth certificate data would significantly under-estimate the number and types of birth defects across the state. In addition, the data prior to 1978 were not computerized and exist only in paper files.

6. **Redo cancer analysis and use national figures rather than (figures from) counties adjacent to IEL.**

Additional cancer analysis should be done when there is sufficient information in the Ohio Cancer Incidence Surveillance System (OCISS) or other cancer databases to conduct a meaningful analysis.

7. **Dr. Johnson should personally investigate all the issues raised in a recent letter regarding radiation and support CCLT in requesting full blown field studies, core samples, the gases and the stream.**

Dr. Johnson oversees all ATSDR activities, including those for IEL. He supports the consultations prepared by staff members and has been briefed on issues regarding the Industrial Excess Landfill site.

8. **ATSDR should tell the truth about coercion and corruption (i.e., the 15 million punishment for helping Uniontown).**

This statement from the CCLT spokesperson was referred to ATSDR Assistant Administrator Barry L. Johnson for his reply. Dr. Johnson's reply follows.

"This statement refers to a statement I made, I think, in 1989 to Ms. Borello. I commented that ATSDR's work at IEL had an adverse impact on ATSDR's budget. My comment was unprofessional, uninformed, and not based on fact. I was extremely fatigued during my meetings with Ms. Borello and other community spokespersons and generally frustrated with ATSDR's efforts to meet a series of

very difficult Superfund deadlines. I personally apologized for my remark to the EPA Assistant Administrator and to a principal advisor to the then EPA Administrator. EPA has never used any specific site as a means of determining ATSDR's budget. I was wrong in my comment to Ms. Borello and I regret that she still interprets it as a statement of some kind of collusion between government agencies."

9. **CCLT would like to have "oversight" and direct citizen involvement in educational activities, especially those designed for health care providers.**

Input from citizens is valuable and necessary. The word "oversight" suggests the ability to change the professional standards that guide our health education programs and activities. In such a case, where the intention of oversight is to provide supervision, oversight would not be appropriate. However, ATSDR considers community input to be a valuable component of health education activities at hazardous waste sites. This is especially true because integrating community health concerns with health professionals education is imperative in meeting the needs of the community. ATSDR will conduct a needs assessment regarding health professionals education with community concerns and needs in mind, and will notify the community of planned educational activities.

10. **The community would like to receive explanations of how/why decisions are made by ATSDR.**

ATSDR has explained its technical opinions through the Technical Information Committee, health consultations, public meetings, and telephone communication with the community. We will continue to use these methods to explain our decisions.

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Input from citizens is valuable and necessary. The word "oversight" suggests the ability to change the professional standards that guide our health education programs and activities. In such a case, where the intention of oversight is to provide supervision, oversight would not be appropriate. However, ATSDR considers community input to be a valuable component of health education activities at hazardous waste sites. This is especially true because integrating community health concerns with health professionals education is imperative in meeting the needs of the community. ATSDR will conduct a needs assessment regarding health professionals education with community concerns and needs in mind, and will notify the community of planned educational activities.

10. **The community would like to receive explanations of how/why decisions are made by ATSDR.**

ATSDR has explained its technical opinions through the Technical Information Committee, health consultations, public meetings, and telephone communication with the community. We will continue to use these methods to explain our decisions.

CONCLUSIONS

Community members at the March 1996 public meetings for the IEL thought that health education, reviewing health concerns, and public health consultations were appropriate activities for the site.

Although further health analyses can be done, it will be difficult to determine whether incidences of diseases are elevated among people living near the IEL because of the small number of people exposed to landfill contaminants and the limited occurrence of some diseases.

ATSDR has reexamined the idea that IEL and Northwest Uniontown are separate sites and has concluded that the data support that these areas are separate sites with separate sources of contamination. The concentrations of soil gases found in each area, the distance between the two areas, topographical characteristics, and the high permeability of the soils indicate that the contaminants at the IEL and in Northwest Uniontown are not from the same source.

ATSDR has not completed its evaluation of the ambient air pathway via releases from the MVS and landfill surface.

RECOMMENDATIONS

ATSDR will conduct a needs assessment regarding health professionals education with community concerns and needs in mind, and will notify the community of planned educational activities.

Additional cancer analysis should be done when there are a sufficient number of records in the Ohio Cancer Incidence Surveillance System (OCISS) or other cancer databases to reliably determine cancer rates and conduct a meaningful analysis.

ATSDR will provide technical assistance to the Stark County health department and the local medical school, Northeastern Ohio Universities College of Medicine (NEOUCM), if NEOUCOM evaluates the health status of residents in Uniontown, Ohio.

If site remediation involves intrusive activities (i.e., regrading, installation of vents, leachate collections, etc), real-time on-site air monitoring (with contingencies for perimeter air sampling) should occur during operations to ensure that contaminants do not affect off-site populations. Depending on the remedy that is implemented, vent/ emission sampling and air monitoring after the completion of the remedy may be necessary to ensure that the off-site population is not affected.

ATSDR will evaluate the ambient air pathway and make recommendations, as appropriate.

References

1. Agency for Toxic Substances and Disease Registry. Public health consultation on health outcome data for the Industrial Excess Landfill, Uniontown, Ohio. Atlanta: US Department of Health and Human Services, Public Health Service, December 13, 1994.

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3. Deposition transcripts in the Mario DeSario et al. and Griffith et al. versus Industrial Excess Landfill cases.

4. Air Emission and Soil Gas Transport Predictions for the Industrial Excess Landfill, Uniontown, Ohio, prepared by R. Dupont, Utah State University, for A. Roisman, January 26, 1995.

5. Bair, E.S., and Dumouchelle, D.H., March 1994, Ground-water levels and directions of flow near the Industrial Excess Landfill, Uniontown, Ohio. US Geological Survey Water Resources Investigations Report 94-4136. Public meeting presentation by USGS on October 11, 1994.

6. Agency for Toxic Substances and Disease Registry. Public health consultation on groundwater for Industrial Excess Landfill, Uniontown, Ohio. Atlanta: US Department of Health and Human Services, Public Health Service, August 21, 1995.

7. Final Report: Potable Water and Soil Gas Sampling, Northwest Uniontown, Uniontown, Ohio, prepared by Roy F. Weston, Inc., for A. Humphrey, US Environmental Protection Agency, February 1994.

8. Agency for Toxic Substances and Disease Registry. Public health consultation on radiation for the Industrial Excess Landfill, Uniontown, Ohio. Atlanta: US Department of Health and Human Services, Public Health Service, April 1994.

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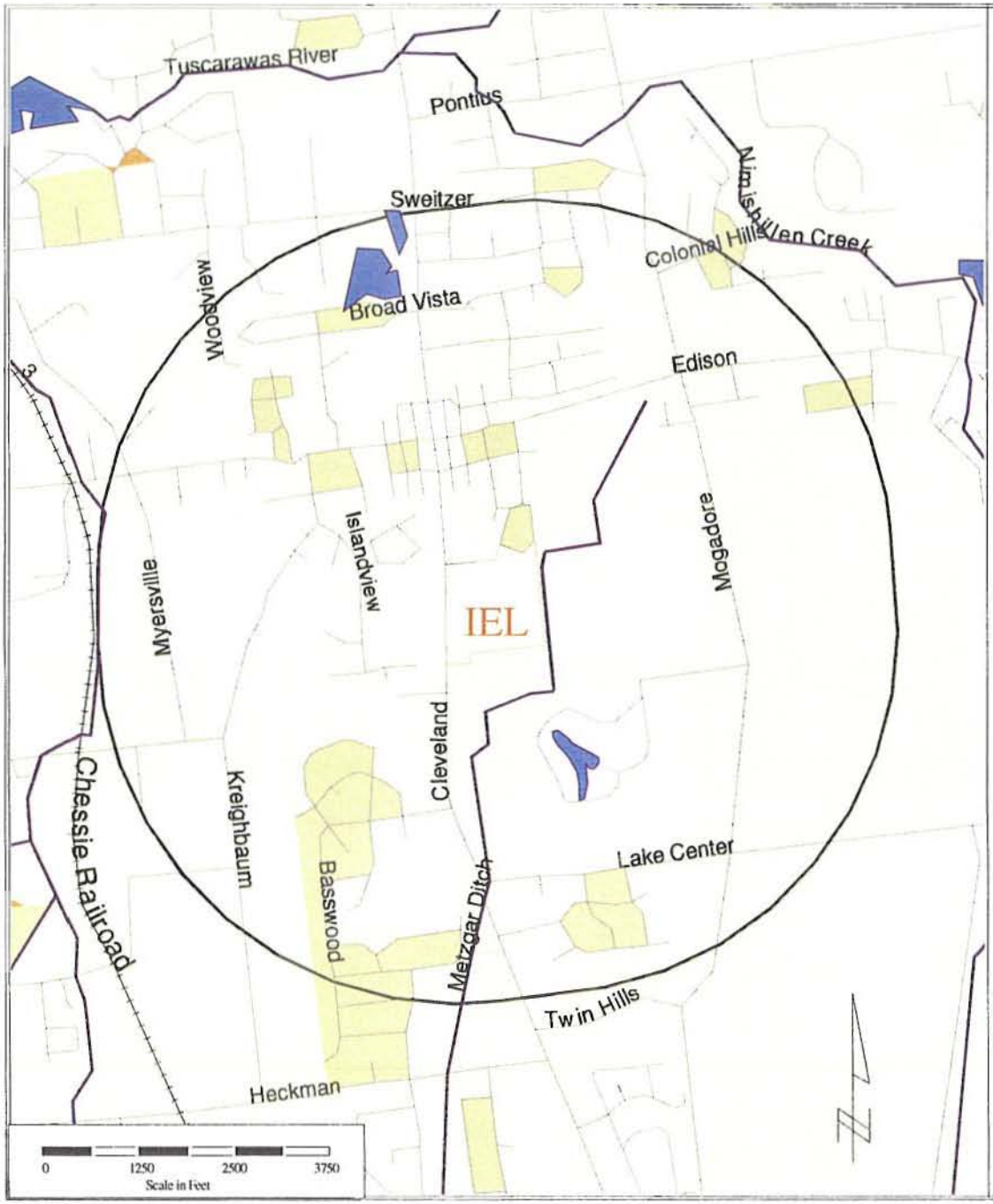

FIGURE ONE

POPULATION BREAKDOWN FOR A ONE-MILE AREA AROUND THE INDUSTRIAL EXCESS LANDFILL

Uniontown, Stark County, Ohio

CERCLIS NO. OHD000377911

SUMMARY STATISTICS	
Total Number of People	4,135
Total Children 6 Years or Younger	319
Total Adults 65 Years or Older	413
Total Females Aged 15-44	961
Number of Whites*	4,074
Number of Blacks*	21
Number of American Indians*	12
Number of Asians*	14
Number of Hispanics*	12
Other*	2
* Figures assume even distribution	

PERSONS PER SQUARE MILE

- Zero Population
- 0-1000 *
- 1001 –2000 *
- GT 2000 *

Source 1990 U.S. Census

ATSDR GIS Spatial Analysis Activity

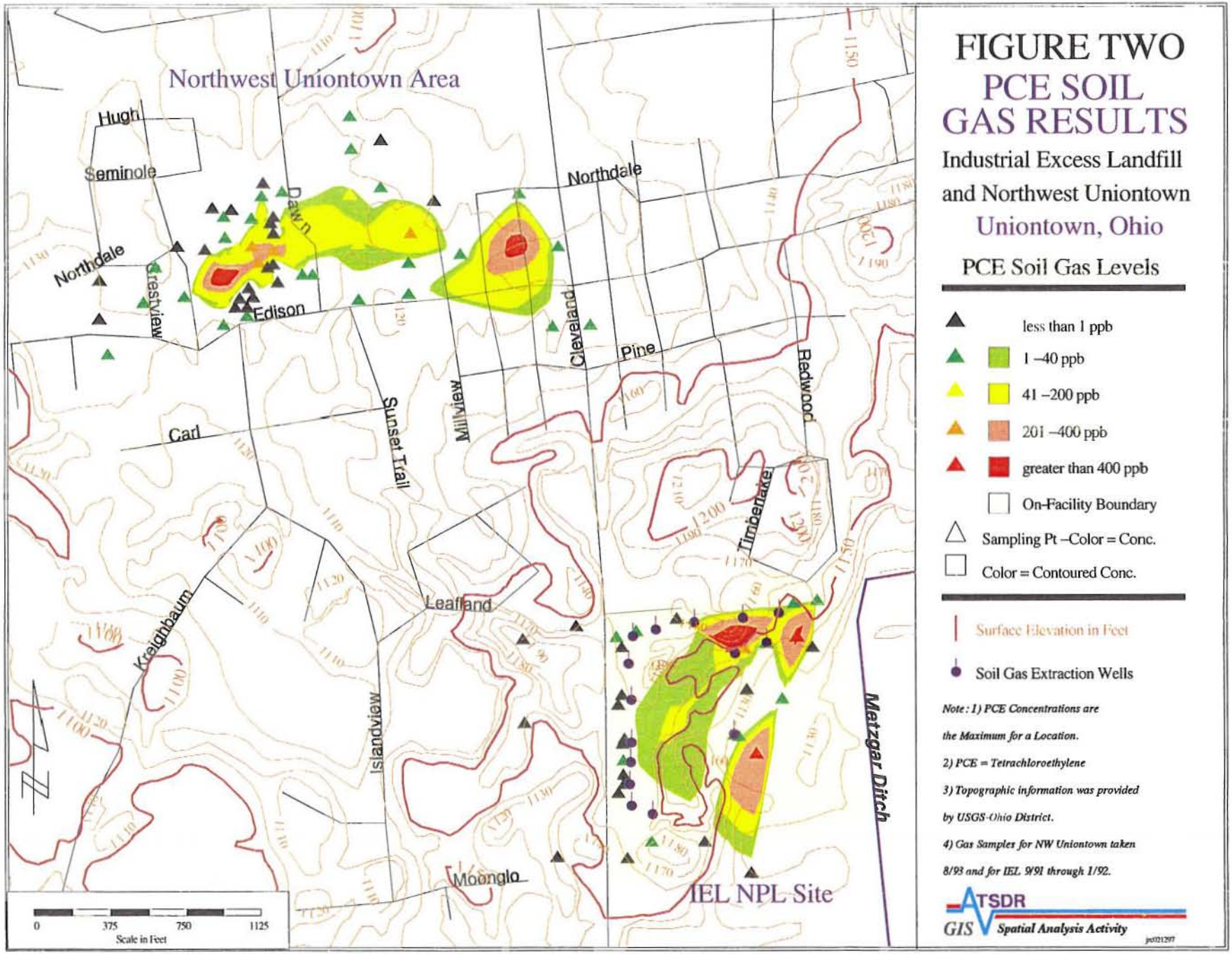

FIGURE TWO
PCE SOIL GAS RESULTS

Industrial Excess Landfill
and Northwest Uniontown
Uniontown, Ohio

PCE Soil Gas Levels

- less than 1 ppb
- 1 –40 ppb
- 41 –200 ppb
- 201 –400 ppb
- greater than 400 ppb
- On-Facility Boundary
- Sampling Pt –Color = Conc.
- Color = Contoured Conc.
- Surface Elevation in Feet
- Soil Gas Extraction Wells

Note: 1) PCE Concentrations are the Maximum for a Location.

2) PCE = Tetrachloroethylene

3) Topographic information was provided by USGS-Ohio District.

4) Gas Samples for NW Uniontown taken 8/93 and for IEL 9/91 through 1/92.

ATSDR GIS Spatial Analysis Activity

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