

Public Health Assessment for

For Public Comment

KELLY AIR FORCE BASE
SAN ANTONIO, BEXAR COUNTY, TEXAS
CERCLIS NO: TX2571724333
AUGUST 26, 1999

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
Agency for Toxic Substances and Disease Registry

Comment Period Ends:

OCTOBER 26, 1999



Public Health Assessment

Phase I

Kelly Air Force Base

San Antonio, Bexar County, Texas

CERCLIS Number TX2571724333

Prepared by:

**Exposure Investigations and Consultations Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry**

THE ATSDR PUBLIC HEALTH ASSESSMENT: A NOTE OF EXPLANATION

This Public Health Assessment-Public Comment Release was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) section 104 (i)(6) (42 U.S.C. 9604 (i)(6)), and in accordance with our implementing regulations (42 C.F.R. Part 90). In preparing this document, ATSDR has collected relevant health data, environmental data, and community health concerns from the Environmental Protection Agency (EPA), state and local health and environmental agencies, the community, and potentially responsible parties, where appropriate. This document represents the agency's best efforts, based on currently available information, to fulfill the statutory criteria set out in CERCLA section 104 (i)(6) within a limited time frame. To the extent possible, it presents an assessment of potential risks to human health. Actions authorized by CERCLA section 104 (i)(11), or otherwise authorized by CERCLA, may be undertaken to prevent or mitigate human exposure or risks to human health. In addition, ATSDR will utilize this document to determine if follow-up health actions are appropriate at this time.

This document has previously been provided to EPA and the affected state in an initial release, as required by CERCLA section 104 (i)(6)(H) for their information and review. Where necessary, it has been revised in response to comments or additional relevant information provided by them to ATSDR. This revised document has now been released for a 30-day public comment period. Subsequent to the public comment period, ATSDR will address all public comments and revise or append the document as appropriate.

The public health assessment will then be reissued. This will conclude the public health assessment process for this site, unless additional information is obtained by ATSDR which, in the agency's opinion, indicates a need to revise or append the conclusions previously issued.

Agency for Toxic Substances and Disease Registry..... Jeffrey P. Koplan, M.D., M.P.H., Administrator
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Use of trade names is for identification only and does not constitute endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Please address comments regarding this report to:

Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Attn: Chief, Program Evaluation, Records, and Information Services Branch, E-56
1600 Clifton Road, N.E., Atlanta, Georgia 30333

You May Contact ATSDR TOLL FREE at
1-888-42ATSDR or
Visit our Home Page at: <http://atsdr1.atsdr.cdc.gov:8080/>

Foreword

The Agency for Toxic Substances and Disease Registry, ATSDR, is an agency of the U.S. Public Health Service. It was established by Congress in 1980 under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as the *Superfund* law. This law set up a fund to identify and clean up our country's hazardous waste sites. The Environmental Protection Agency (EPA) and the individual states regulate the investigation and cleanup of the sites.

Since 1986, ATSDR has been required by law to conduct a public health assessment at each of the sites on the EPA National Priorities List of Uncontrolled Hazardous Substances. The aim of these evaluations is to find out if people are being exposed to hazardous substances and, if so, whether that exposure is harmful and should be stopped or reduced. (The legal definition of a health assessment is included on the inside front cover of this report.) If appropriate, ATSDR also conducts public health assessments when petitioned by concerned individuals. Public health assessments are carried out by environmental health scientists from ATSDR and from the states with which ATSDR has cooperative agreements.

Exposure: As a first step in evaluating a site, ATSDR scientists review environmental data to see how much contamination is at a site, where it is, and how people might come into contact with it. Generally, ATSDR does not collect its own environmental sampling data but reviews information provided by EPA, other government agencies, businesses, and the public. When there is not enough environmental information available, the report on the site will indicate what further sampling data are needed.

Health Effects: If the review of the environmental data shows that people have or could come into contact with hazardous substances, ATSDR scientists then evaluate whether or not there will be any harmful effects from these exposures. The public health assessment report focuses on public health, or the health impact on the community as a whole, rather than on individual risks. Again, ATSDR generally makes use of existing scientific information, which can include the results of medical, toxicologic, and epidemiologic studies as well as the data collected in disease registries. Environmental health science is a developing field, and sometimes scientific information on the health effects of certain substances is not available. When this is so, the report will suggest what further research studies are needed.

ATSDR is primarily an advisory agency, so usually these reports identify what actions are appropriate to be undertaken by EPA, other responsible parties, or the research or education divisions of ATSDR. However, if there is an urgent health threat, ATSDR can issue a public health advisory, warning people of the danger. ATSDR also can authorize health education or pilot studies of health effects, full-scale epidemiologic studies, disease registries, surveillance studies, or research on specific hazardous substances.

Conclusions: The report presents conclusions about the level of health threat, if any, posed by a site. When health threats have been determined for high risk groups (such as children, elderly, chronically ill, and people engaging in high risk practices), they will be summarized in the conclusion section of the report. Ways to stop or reduce exposure will then be recommended in the public health action plan.

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Community: ATSDR also needs to learn what people in the area know about the site and what concerns they may have about its impact on their health. Consequently, throughout the evaluation process, ATSDR actively gathers information and comments from the people who live or work near a site, including residents of the area, civic leaders, health professionals, and community groups. To ensure that the report responds to the community's health concerns, an early version is also distributed to the public for their comments. All the comments received from the public are responded to in the final version of the report.

Comments: If, after reading this report, you have questions or comments, we encourage you to send them to us.

Letters should be addressed as follows:

Attention: Chief, Program Evaluation, Records and Information Services Branch, Agency for Toxic Substances and Disease Registry, 1600 Clifton Road (E-56), Atlanta, Georgia 30333

Summary

ATSDR was petitioned by the late congressman Frank Tejeda to perform a public health assessment of neighborhoods north and southeast of Kelly Air Force Base (AFB). Residents in these areas had concerns that their health may have been effected by releases of hazardous substances from the base. This document is a report of Phase I of the public health assessment process and provides ATSDR's evaluation of potential releases of hazardous substances from Kelly AFB.

During the time that ATSDR was conducting this assessment, concern was also expressed by residents of the East Kelly area. Because of this concern, ATSDR will evaluate the East Kelly area and the results will be provided in Phase III of the public health assessment. (See Figure 1, page 7, for the location of Kelly AFB and surrounding areas.)

Current Exposures

The community is *not* currently exposed to levels of contaminants from Kelly AFB that would cause people to become sick.

ATSDR evaluated the possible ways that community members could come into contact with contaminants that may be in the air, groundwater, surface water, and soil (See Table 1, page 6). ATSDR concluded that it is NOT likely there will be noncancer health effects (like liver or kidney injury) because of current exposure to contaminants from Kelly AFB. The amounts of contaminants are *too low* to cause residents to get sick. ATSDR also looked at the projection of cancer cases in areas surrounding Kelly AFB. Figure 2 (page 8) shows the locations of the highest estimated cumulative risk for cancer from current air emissions. These locations of highest estimated risk are either on base or in unpopulated areas off base. It is unlikely that exposure to current air emissions would result in a significant increase in the risk of developing cancer.

Although unlikely linked to base contamination, ATSDR is recommending health education about lead exposures, blood lead testing and subsequent environmental investigation under existing programs to address potential lead exposures.

Other environmental pathways (see Table 1, page 6) do not currently appear to play a role in making residents sick.

Past Exposures

The community may have been exposed to higher levels of contaminants in the past. ATSDR will investigate further.

There is not enough information about past levels of contamination to make conclusions about past levels of exposure. Past air emissions represent a pathway requiring additional evaluation because of the potential for higher levels of chemical exposure on and off base. Figure 3 (page 9) depicts the estimated past location of the air plume and therefore, areas where past air emissions may have been present. ATSDR will evaluate air emissions that may have occurred in the past. The results will be presented in Phase II of the public health assessment.

Health Data

ATSDR is further investigating reports of elevated cancers and adverse birth outcomes. ATSDR will continue health education activities and health outcome evaluation.

ATSDR found elevations in certain health data at some locations around the base. Cancers that were elevated in at least one zip code included leukemia, liver, kidney, lung, bladder, and cervical cancers (see Figure 4, page 10). Birth outcomes that were elevated included low birth weight and certain birth defects. ATSDR's preliminary evaluation indicates that some of the elevated health data may be due to expected fluctuation, some may be due to general public health problems, and some may be associated with environmental exposures. Further investigation is necessary to clarify these issues; additional health data as well as environmental data is being collected. *ATSDR has concluded that follow-up activities are needed and results will be presented in Phase II of the public health assessment.*

Conclusions

Current levels of exposure are not expected to make people sick.

Past levels may have been high enough to cause some health concern. ATSDR is still investigating.

Follow-up activities are needed involving health education and health outcome evaluation.

Professional public health representatives at these locations are available to provide information:

San Antonio Metropolitan Health District 210-207-8853 Weekdays, 8–5 CDT

Texas Department of Health 512-458-7269 Weekdays, 8–5 CDT

ATSDR 1-888-42-ATSDR or 1-888-422-8737 Weekdays, 9–4 EDT

Table 1. Exposure Pathways

Pathway Name	Contaminants	Exposure Pathway Elements					Time	Comments
		Source	Environmental Media	Point of Exposure	Route of Exposure	Exposed Population		
Past Air Emissions	VOCs Fuel Metals	Industrial Processes, Aircraft	Air	Off-base On-base	Inhalation	Child Adult Worker	Past	Indeterminate. Completed exposure pathway. Past levels (before 1996) are unknown. More investigation is indicated.
Non-occupational On-base Employees	VOCs Fuel Metals	Industrial Processes, Aircraft	Air	On-base	Inhalation	Worker	Present	Indeterminate. Completed exposure pathway. Refined air modeling is recommended.
Soil Migration	Lead	S-1 Storage Area	Soil	Residential Soil	Incidental Ingestion	Child	Present	Indeterminate. Lead levels in samples taken by community are below levels of health concern. Health education activities are recommended.
Current Air Emissions	VOCs Fuel Metals	Industrial Processes, Aircraft	Air	Off-base On-base	Inhalation	Child Adult Worker	Present	No apparent health hazard. Completed exposure pathway. Current levels (after 1995) are below levels of health concern.
Leon Creek	Metals PAHs, PCBs Pesticides	Abandoned Landfills, NPDES Dischg.	Surface Water Sediment Biota	Leon Creek	Ingestion, Fish Consumption	Child Youth Adult	Present	No apparent health hazard. Intermittent potential exposure below levels of health concern. TNRCC and EPA monitor NPDES discharges and water quality.
Surficial Aquifer	VOCs Fuel, Metals	Spills, Leachate Leaks	Groundwater	Non-potable wells	Ingestion	Child Adult	Present	No apparent health hazard. No known exposure at levels of health concern. Drinking water from different source.
Soil Gas	VOCs Fuel	Contaminated Groundwater	Air	Residence	Inhalation	Child Adult	Present	No apparent health hazard. Below levels of health concern for North Kelly Gardens and Quintana Road.
Noise	Noise Level	Aircraft	Air	Residence	NA	Child Adult	Present	No apparent health hazard. Noise determined to be at disturbance levels but not hearing loss.
Fuel Jettisoning	Jet Fuel	Aircraft	Air	Residence	Inhalation	Child Adult	Past	No apparent health hazard. Unlikely based on policy restrictions and atmospheric science.
Garden Produce	VOCs Fuel	Contaminated Groundwater	Groundwater	Residential	Ingestion	Child Adult	Present	No apparent health hazard. Contaminants not taken up by plants at levels of health concern.
Thallium in Drinking Water	Thallium	Unknown	Groundwater	Residence	Ingestion	Child Adult	Past	No apparent health hazard. Exposure to thallium in drinking water for 3.25 years. Below level for expected health effects.
Radioactive Waste	Radio nuclides	Landfills in Zone 1	Soil Groundwater	None	NA	NA	Present	No health hazard. Radioactive material buried on base. No known exposure; area is restricted.