Health Consultation

Exposure Investigation Report

Indoor Air Testing

FORMER AMERICAN BERYLLIUM SITE
TALLEVAST, MANATEE COUNTY, FLORIDA

EPA FACILITY ID: FLD004100731

AUGUST 8, 2005

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 30333

Table of Contents

Summary and Statement of Issues

In May 2004, members of the Tallevast community requested the Manatee County Health Department (CHD) and the Florida Department of Health (DOH) test indoor air of homes for vapor intrusion from contaminated ground water. Tallevast area ground water is contaminated with trichloroethene (TCE) and other volatile organic compounds (VOCs). This exposure investigation report focuses on the public health threat of vapor intrusion from the contaminated ground water into indoor air of four buildings near the former American Beryllium site in Tallevast. The Manatee CHD and the Florida DOH tested for 61 VOCs in the indoor air of three homes and one community center. The levels of VOCs found in the indoor air of these four buildings are not likely to cause illness.

Purpose

This health consultation addresses the public health threat of vapor intrusion from the contaminated ground water into indoor air of four buildings near the former American Beryllium site. Residents were concerned they were breathing vapors from contaminated ground water underneath their homes. The U.S. Agency for Toxic Substances and Disease Registry (ATSDR) provides the financial support for this consultation.

Site Background and History

Between 1961 and 1996, the Loral American Beryllium Company manufactured ultra-precision beryllium machine parts at a five-acre facility at 1600 Tallevast Road in the Tallevast community, Manatee County, Florida. The main plant consisted of numerous machining departments that included lathes, milling, jig boring, deburring, grinding, and electrical discharge machining. The machining of beryllium, aluminum, titanium, and albemet (a 60% beryllium and 40 % aluminum blend) produced beryllium-containing dust.

Chemicals used and wastes generated at the facility included oils, petroleum-based fuels, solvents, acids, and metals. American Beryllium collected wastewater in a holding pond on the southeast corner of the site (DEP 1994). In 1996, Lockheed-Martin purchased the American Beryllium facility and ceased operations. In 2004, both the Florida DOH and Lockheed-Martin's consultant tested drinking water wells and irrigation wells at nearby homes. They found 1,1-dichloroethane, 1,1-dichloroethene, cis & trans-1, 2-dichloroethene, tetrachloroethene, and trichloroethene (TCE). The highest concentration of TCE found in a drinking water well was 240 micrograms per liter (ug/L). The highest TCE concentration found in an irrigation well was 5,400 ug/L. The highest TCE concentration in an on-site monitor well was 35,000 ug/L. Florida DOH addresses the public health threat from use of contaminated ground water in a separate report expected to be completed by the end of 2005.

In June and December 2004, Florida DOH and Manatee CHD staff attended public meetings in Tallevast to gather health concerns and answer health questions.

Site Description

The Tallevast community is in southern Manatee County midway between Sarasota and Bradenton (Figure 1). The neighborhood is a blend of single-family homes, and light commercial/industrial development. The Tallevast community surrounds the former American Beryllium site (Figure 2).

In 2000, Wiring Pro International (WPI) purchased the former American Beryllium facility from Lockheed-Martin. WPI manufactures cable wire light. Lockheed-Martin, however, retains responsibility for environmental contamination.

Demographics

In 2000, about 200 people lived within a 0.5-mile radius of the site. Approximately 82% were black and 13% percent were white. Other racial/ethnic groups include 5% American Indian, Hispanic or Latino (Bureau of the Census, U.S. Department of Commerce 2000).

Discussion

In July 2004, Susan Bland with the Florida DOH prepared a plan to test levels of volatile organic compounds (VOCs) in the air of three Tallevast homes and the community center near the former American Beryllium site (Appendix A). In consultation with the Manatee CHD, Ms. Bland chose three buildings over the highest levels of trichloroethene (TCE) ground water contamination. For comparison, she also chose one building outside the limits of known ground water contamination. In August 2004, ATSDR approved the plan and provided funding. Ms. Bland explained the air sampling plan to each property owner and obtained written consent (Appendix B).

Air Collection and Shipment

On August 18 and 19, 2004, Florida DOH and Manatee CHD staff collected sixteen indoor air samples from four buildings near the former American Beryllium site. Using Summa canisters, they collected three 8-hour samples in the early morning, late afternoon and late evening at each location. Florida DOH and Manatee CHD staff measured the pressure in each Summa canister before and after each test. They also collected one grab sample in the late afternoon at each location.

On August 19, Florida DOH staff shipped the canisters and pressure gauges overnight via AirBorne to DataChem Laboratories in Utah. They included chain-of-custody forms, laboratory analytical request forms, canister serial numbers, collection times, and pressure readings. On August 20, DataChem Laboratories received all 16 air canisters and pressure gauges in good condition.

Air Laboratory Methods and Analyses

In September, DataChem Laboratories analyzed the air samples for 61 volatile organic compounds using EPA Method Total Organic 15 (http://www.epa.gov/ttn/amtic/files/ambient/airtox/to-15r.pdf).

Interpretation of Air Results

For all four buildings, most of the 61 VOCs analyzed were below detection limits. For those VOCs with ATSDR guidance concentrations, all levels detected were below guidance concentrations (Table 1 and Appendix C). Therefore, the levels of VOCs found in the indoor air of these four buildings are not likely to cause illness.

Twenty-five VOCs were found in the indoor air in at least one of the four locations. Even though TCE, tetrachloroethene, 1,1-dichloroethene, cis and trans 1,2-dichloroethene, and 1,1-dichloroethane were found in the ground water under homes in the neighborhood, these VOCs were not found in indoor air at all four locations. The VOCs found in the indoor air from the background location outside of the TCE plume did not differ significantly from those found at the other three locations. The same VOCs were found at all four locations and are typical of those found in homes.

Consideration of Biological Testing

The VOC levels found in the indoor air do not warrant blood or urine testing.

Child Health Considerations

Children may be more sensitive to the effects of VOCs than are adults. Little information exists on how VOCs differ in their effects between children and adults (ATSDR 1997). Children drink more fluids, eat more food, and breathe more air per kilogram of body weight than do adults. Children have a larger skin surface in proportion to their body volume. A child's diet—that often differs from that of an adult's—and a child's behavior and lifestyle can also influence exposure. Children, especially small children, are closer to the ground than are adults. They crawl on the floor, put things in their mouths, and might ingest inappropriate items such as dirt or paint chips. Children also spend more time outdoors than do adults. Finally and perhaps most importantly, children do not have the judgment of adults for avoiding hazards (ATSDR 1997).

Florida DOH reviewed the air test results in terms of sensitive populations such as pregnant women, nursing mothers and children, and found that VOCs in the indoor air of the four buildings are not likely to cause illness for these populations.

Conclusions

1. Trichloroethylene (TCE), tetrachloroethene, 1,1-dichloroethene, cis and trans 1,2-dichloroethene, and 1,1-dichloroethane found in Tallevast area ground water were not

found in any indoor air samples.

2. Levels of volatile organic compounds (VOCs) detected in all 16 canisters (twelve 8-hour and four grab) are not likely to cause illness in children or adults. There is no apparent public health hazard from breathing VOCs in indoor air in the four buildings tested.
3. The concentrations of VOCs in indoor air from four building near the site (including one background) do not warrant further air testing or blood/urine testing.

Recommendations

None.

Public Health Action Plan

Past Actions:

In December 2004 and January 2005, the Manatee County Health Department tested 237 Tallevast residents, former American Beryllium workers, and household members for beryllium sensitivity. Four of these participants were re-tested at the Manatee CHD. The Manatee CHD referred former workers with abnormal tests to the Department of Labor for further evaluation.

In March 2005 Florida DOH and Sarasota County Health Department staff tested 116 Tallevast residents and household members of former American Beryllium workers for beryllium sensitivity.

In summer 2005, the Florida DOH submitted a soil and water health consultation to ATSDR for review. ATSDR will finalize these health consultations by the end of 2005.

Planned Actions:

In August 2005, the Florida DOH will prepare an exposure investigation report evaluating blood beryllium sensitivity test results collected in December 2004, March 2005 and April 2005 with the assistance from the Manatee and Sarasota County Health Departments (CHDs). The report includes blood test results of 359 participants including former workers, household members and residents who met certain criteria and lived by or worked at the former American Beryllium site from 1961 to 1996.

By Fall 2005, ATSDR will prepare a separate exposure investigation report including the re-testing results for nine participants (five residents, one household member and three former workers).

By the end of 2005, the Florida DOH will prepare a Public Health Assessment including all soil, water and air results once both the soil and water health consults are finalized.

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References

[ATSDR] Agency for Toxic Substances and Disease Registry. 1997. Toxicological profile for Trichloroethylene. Atlanta: US Department of Health and Human Services.

[DEP] Department of Environmental Protection. 1994. Hazardous Waste Inspection Report for Loral American Beryllium.

Figures and Tables

Figure 1: Site Location Map

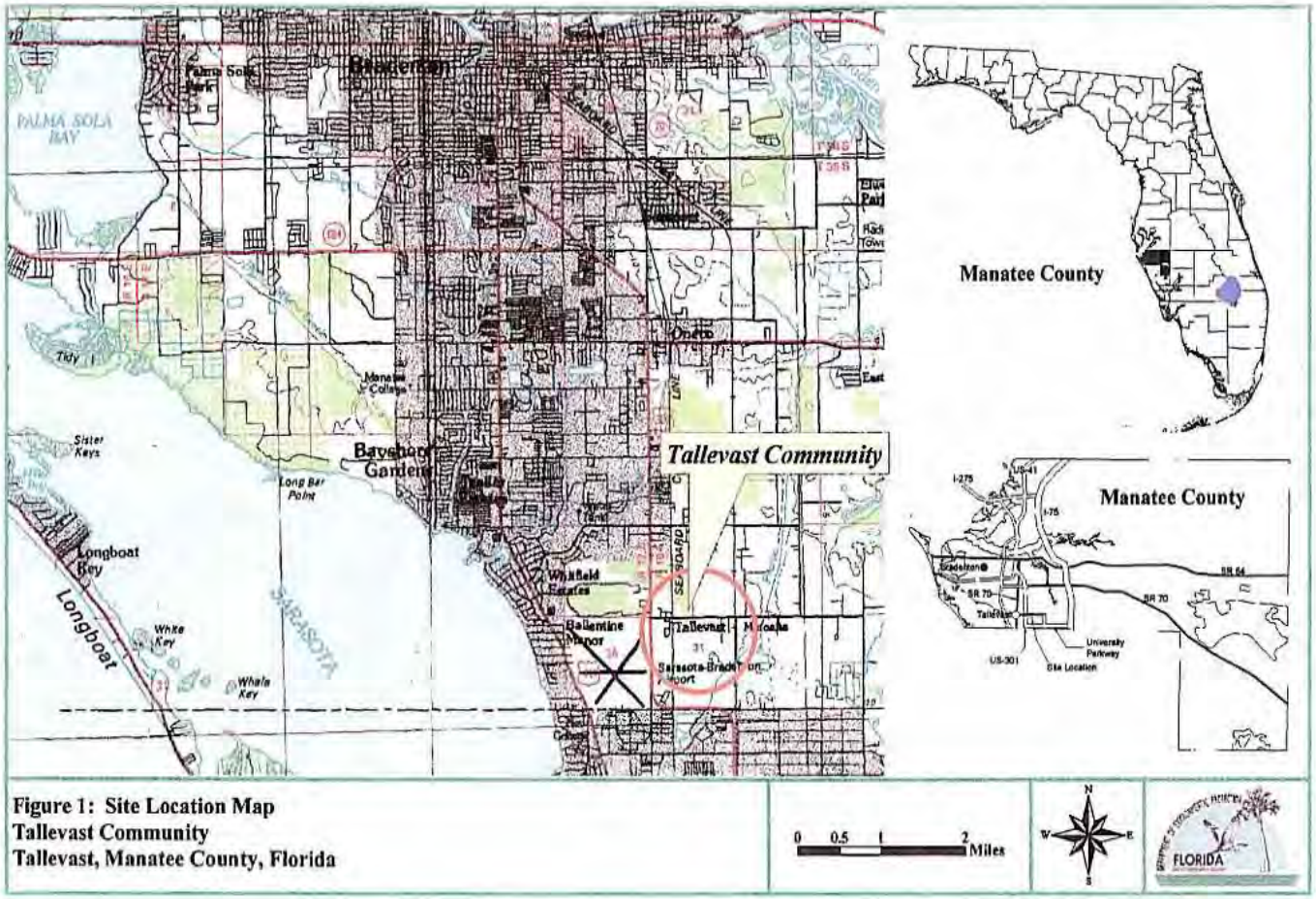

Figure 1: Site Location Map
Tallevast Community
Tallevast, Manatee County, Florida

Figure 2: Street Map of the Tallevast Area Surrounding the former American Beryllium Site

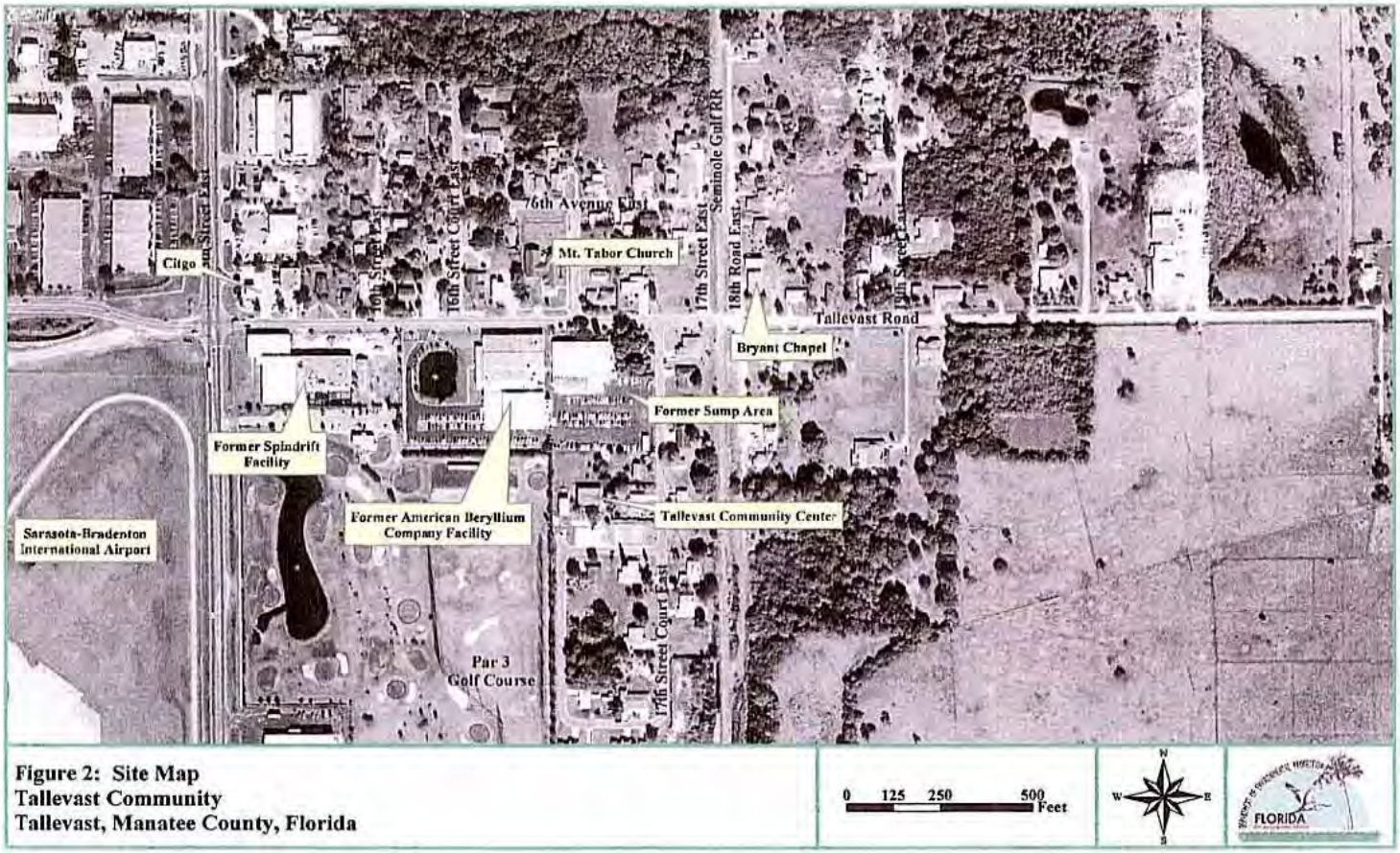

Figure 2: Site Map
Tallevast Community
Tallevast, Manatee County, Florida

Table 1. Air Concentrations at Four Locations Near the American Beryllium Site

Volatile Organic Cmpds	Location #1				Location #2				Location #3				Location #4			
(ppb)	1st 8-hr sample	2nd 8-hr sample	3rd 8-hr sample	grab sample #1	1st 8-hr sample	2nd 8-hr sample	3rd 8-hr sample	grab sample #2	1st 8-hr sample	2nd 8-hr sample	3rd 8-hr sample	grab sample #3	1st 8-hr sample	2nd 8-hr sample	3rd 8-hr sample	grab sample #4
1,1,1-Trichloroethane	1.1	0.69 J	0.77 J	0.99 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	50	18	20	32	12	9.4	9.6	8.7
2-Butanone	6.5	17	1.5	0.99 J	ND	ND	ND	ND	ND	ND	ND	ND	1.5	1.1	0.93 J	ND
4-Methyl-2-Pentanone	ND	2.8	0.85 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	300	420	66	180	26	20	19	23 E	12	12	22	6.6	120	57	44	52
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	0.51 J	ND	ND	ND	0.87 J	0.45 J	0.62 J	0.59
Bromomethane	ND	ND	ND	ND	0.39 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	0.99 J	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	4.9	3.2	3.8	3.8	1.3	0.96 J	2.1	0.82 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	1.4	0.89 J	0.92 J	0.88 J	1.1	0.68 J	0.93 J	0.61 J	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	0.6 J	ND	0.77 J	0.57 J	0.61 J	0.66 J	ND	ND	0.59 J	0.58 J	ND	ND	ND	0.61 J	ND
Ethanol	620	1100	440	410	390	1000	300	810	9.2	90	92	1.6	980	720	520	360
Ethyl Acetate	1	2.8	1.2	ND	ND	1	ND	0.74	ND	ND	ND	ND	7.9	4.2	6.3	6
Ethylbenzene	0.34 J	ND	ND	ND	ND	ND	ND	ND	0.34 J	ND	ND	ND	ND	ND	ND	ND
Freon 11	0.4 J	ND	ND	0.37 J	0.45 J	0.42 J	0.42 J	0.37 J	ND	ND	ND	ND	1.6	1.1	1.3	1
Heptane	0.24	0.2	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0.31J	ND	ND	ND
Isopropyl Alcohol	17	8.9	13	17	11	7.5	5.2	6.8	2.1	ND	1200	2.2	2100	440	240	380
Methyl t-Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	410	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	3.9	2.7	3.3	2.3	ND	ND	ND	ND	2.5	2	2.2	2
Propene	49	94	91	24	2	ND	2.1	ND	1.9	ND	ND	ND	2.6	2.7	1.8	4.4
Styrene	0.99 J	0.84 J	0.42 J	1.6	0.44 J	0.51 J	ND	ND	1.9	ND	ND	ND	0.63 J	0.33 J	ND	0.33
Toluene	1.7	3.1	1.5	1.3	3.1	2.7	2	1.5	0.89 J	0.95 J	0.46 J	0.28 J	9.8	6.8	7.4	6.3
Vinyl Acetate	4.4	1.2	ND	1.2	1.1	0.60 J	ND	0.56 J	14	ND	1.3	ND	19	0.93 J	ND	ND
m,p-Xylene	0.84 J	0.74 J	0.87	ND	ND	1.1	ND	ND	1.2	0.94 J	ND	ND	1.1	0.75 J	0.75 J	ND
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39 J	ND	ND	ND

Table 2. ATSDR Comparison Values

Volatile Organic Compounds	ATSDR CVs				
	acute (ppb)	interm (ppb)	chronic (ppb)	cancer (ug/m3)	RFC (ug/m3)
1,1,1-Trichloroethane	2000	700	none	none	none
1,4-Dichlorobenzene	800	200	100	none	none
2-Butanone	none	none	none	none	5000
4-Methyl-2-Pentanone	none	none	none	none	none
Acetone	26000	13000	13000	none	none
Benzene	50	4	none	0.1	30
Bromomethane	none	none	none	none	none
Carbon Disulfide	none	none	300	none	700
Chloroform	none	none	none	none	none
Chloromethane	none	none	none	none	none
Dichlorodifluoromethane	none	none	none	none	none
Ethanol	none	none	none	none	none
Ethyl Acetate	none	none	none	none	none
Ethylbenzene	none	1000	none	none	1000
Freon 11	none	none	none	none	none
Heptane	none	none	none	none	none
Isopropyl Alcohol	none	none	none	none	none
Methyl t-Butyl Ether	none	none	none	none	none
Methylene Chloride	600	300	300	none	none
propene	none	none	none	none	none
Styrene	none	none	60	none	1000
Toluene	1000	none	80	none	400
Vinyl Acetate	none	10	none	none	200
m,p-Xylene	1000*	700*	100*	none	0.1*
o-Xylene	none	none	none	none	none

Table 3. VOC Chemicals Not Detected (n=46)

1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromoethane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Butadiene
1,4-Dioxane
2-Hexanone
4,7-Methano-1H-indene,octahyd
4-Ethyl toluene
Acetaldehyde
Benzyl Chloride
Bromodichloromethane
Bromoform
C7 Hydrocarbon
Cyclohexane, Methyl-
Cyclopentane, Methyl-
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Cyclohexane
Dibromochloromethane
Hexachlorobutadiene
Hexane
Hexane, 2-methyl-
Hexane, 3-methyl-
Pentane, 2,3-dimethyl-
Pentane, 2-methyl-
Pentane, 3-methyl-
Tetrachloroethene
Tetrahydrofuran
Trichloroethene
Vinyl Chloride
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Freon 113
Freon 114

Appendix A

Exposure Investigation Protocol

Exposure Investigation Protocol for American Beryllium, Bradenton, Florida

August 2004

Prepared by

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PROJECT OVERVIEW

Summary

The Florida Department of Health (DOH) proposes to conduct an exposure investigation (EI) to determine if selected volatile organic compounds (VOCs) via indoor air vapor intrusion pose a health risk to residents living near the former American Beryllium site in Bradenton, Florida.

In 2000, volatile organic compounds (VOCs) were identified in shallow groundwater beneath former concrete sumps located on-site at the eastern portion of the American Beryllium site. The VOCs are primarily trichloroethene (TCE), tetrachloroethene (PCE) and its breakdown products.

Based on more extensive sampling from 2002-2003, it was discovered that VOCs had migrated off-site to the northeast, east and southeast of the facility property line. The Florida Department of Environmental Protection (FDEP) was notified of the discovery of the off-site contamination and has been involved in the cleanup process.

Investigators and collaborators

The Florida Department of Health and the Agency for Toxic Substances and Disease Registry (ATSDR) will be the lead agency for this Exposure Investigation. The Manatee County Health Department will assist. FDEP is the lead agency for the determination of the extent of the contamination and site cleanup.

Agency for Toxic Substances and Disease Registry

Debra Gable, Exposure Investigation Team, will serve as the technical consultant for the exposure investigation.

State Health Department

Susan Bland, the Exposure Investigation Coordinator with FDOH, will coordinate indoor air testing of four locations near the site with the Manatee CHD (Chuck Henry and Tom Larkin). Ms. Bland will coordinate the lab analyses with DataChem in Colorado. Once results are received from the laboratory, FDOH will interpret the results and prepare an Indoor Air Exposure Investigation report for ATSDR's review. The results of the exposure investigation and report will be shared with the households that participate in the air testing.

Randy Merchant, FDOH Environmental Administrator, will review documents and assist as needed.

Lu Grimm, the FDOH Physician Health Education Coordinator/Community Relations Coordinator, will be available to provide assistance as necessary.

Manatee County Health Department

Chuck Henry and Tom Larkin, Manatee CHD, will assist with indoor air testing at the homes near the site.

INTRODUCTION

Background

The former American Beryllium Company (the Facility) is located on Tallevast Road in Manatee County, Florida. The Facility is located on slightly more than five acres, which is bounded by Tallevast Road to the north and 17th Street Court East to the east.

Loral Metals Technology operated American Beryllium Company (ABC) as a precision machining/metalworking plant from 1961 to 1996. Lockheed Martin assumed ownership of the Facility when it purchased the Loral Corporation in 1996. ABC's operations were discontinued in 1997, and the property sold in 2000 to Wire Pro Inc. (WPI), which produces cables, connectors and wiring harnesses. No beryllium work is currently conducted on the site.

During a due diligence assessment conducted in 2000 to support the land sale to WPI, volatile organic compounds (VOCs) were identified in shallow groundwater beneath former concrete sumps located on-site at the eastern portion of the Facility. The VOCs are primarily trichloroethene (TCE), tetrachloroethene (PCE) and its breakdown products. TCE and PCE are commonly used industrial solvent/degreasers.

Lockheed Martin notified the Florida Department of Environmental Protection (FDEP) upon discovering the on-site contamination and entered into a voluntary site cleanup including a soil excavation program conducted in 2001 to remove the source of groundwater impacts around the former sumps. Soil and groundwater sampling was conducted to estimate the extent of VOCs in soil and groundwater at both on-site and off-site locations (see Summary of Well Testing and Table 1).

Based on more extensive sampling from 2002-2003, Lockheed Martin discovered that the VOCs migrated off-site to the northeast, east and southeast of the ABC property line. The FDEP was notified of the discovery of the off-site contamination and has been involved in the cleanup process (see Figure 1).

Residential Well/Soil Sampling

Representatives of Lockheed Martin, and its environmental engineering contractor, Tetra Tech Inc., met with the Tallevast Community FOCUS group on November 7, 2003, to discuss the cleanup activities. As agreed during that meeting, on May 24 through 26, 2004, Lockheed Martin tested 22 private wells in use (17 potable and 5 irrigation), and six properties identified as having received soil from the former ABC facility. Lockheed Martin also split the samples so that residents would have their own samples for independent review and paid for the lab results.

Well Results

The results of 22 wells sampled showed that 12 of the wells contained volatile organic compounds (VOCs) that exceed the Florida Department of Environmental Protection's (FDEP) Groundwater Cleanup Target Level (GCTL). Due to the sporadic pattern of wells impacted, Lockheed Martin agreed to conduct further investigations in the surrounding area.

In the interim, the county utility provided 17 homes with a temporary connection to the public water supply. Lockheed Martin agreed to pay the residents' water bills for the temporary connection. Lockheed Martin and the county utility are working together to get a permanent water connection for those residences

Soil Results

Of the six soil samples collected, five properties came back non-detect or within Florida Department of Environmental Protection Residential Soil Cleanup Levels for beryllium and/or any constituents within the metals and VOCs group. The soils tested on one property contained arsenic at concentrations higher than the FDEP's standard for soil. Since arsenic is naturally occurring in rocks and soil in the Sarasota/Bradenton area, additional sampling will be done at the one property to determine the extent of arsenic on the property.

In addition to the on-going investigations and sampling, Lockheed Martin continues to remain committed to removing the contamination from the Tallevast community. Lockheed Martin and Tetra Tech, Inc. submitted a remediation action plan (RAP) to the FDEP in March 2004 with recommendations for cleanup. Lockheed Martin received comments from the FDEP on June 9, 2004, and is preparing to respond to the comments. Lockheed Martin intends to implement an interim remedial action (IRA) plan to expedite cleanup near the suspected source area. Following full delineation of the VOC plume, full-scale cleanup is expected to begin at the end of 2004.

In late July 2004, DEP shared their most recent ground water results from the surficial aquifer (30-40') with the DOH. The highest concentration found on-site was 35,000 ppb. The highest concentration found under the ground of residences was 800 ppb. Groundwater continues to be monitored by wells located within the property boundary and along public and commercial right-of-way adjacent to the Facility. DEP also plans to request that Lockheed Martin test the deeper ground water and delineate the extent of this plume.

JUSTIFICATION FOR THE EXPOSURE INVESTIGATION

1. Is there an exposed population?

Yes. In May 2004, eight residents near the site had measured concentrations between 3 and 240 parts per billion TCE in their drinking water wells. These residents' homes as well as 12 nearby homes were recently connected to municipal water. TCE and breakdown products still remain in

the ground water beneath their home and the nearby American Beryllium site. The center of the closest home (framed with a crawl space underneath) to the site is about 80 feet from the site property boundary. The center of the second closest home (slab foundation) is approximately 170 feet from the site property line. In July 2004, the DOH received DEP's latest ground water results showing 800 ppb under the residence's homes and 35,000 ppb under the site.

2. Are there any data gaps?

Yes. It is not known if solvent vapors from contaminated ground water underneath the homes are entering the homes and if so, if concentration of solvent vapors is at levels of health concern.

3. Can data gaps be addressed by an exposure investigation?

Yes. We can determine if vapors are entering the slabs or foundation cracks of homes near the site and if the air levels are of health concern. FDOH proposes to collect indoor air using SUMMA canisters and test for TO 15 compounds (63 volatile organic compounds).

4. How would exposure investigation results impact public health decision-making? What is the health action plan?

This EI would impact public health decision-making by indicating if the Florida Department of Environmental Protection and/or the federal Environmental Protection Agency (EPA) should conduct additional indoor air testing and/or if ventilation of homes is potentially needed to improve air quality and mitigate exposures. Depending on measured indoor air concentrations, other nearby homes may need to be tested.

Objectives

The objective of the exposure investigation is to determine if indoor air of two residences and a community center closest to the American Beryllium site have volatile organic compounds (VOCs) above ATSDR's Minimal Risk Levels (MRLs) and if so, if these concentrations are at levels of health concerns. DOH will also collect a background sample from a location outside of the TCE ground water plume.

Rational

TCE and break down products are present in the ground water underneath the residents' homes. The highest concentrations are on the site (35,000 ppb TCE). Ground water is traveling in the direction of the residents' homes selected for this EI. Residents have asked ATSDR and FDOH to determine if vapors from the contaminated ground water are entering their homes.

METHODS

DataChem Laboratories will analyze grab samples and 8-hour air samples using EPA's Method TO 15 for VOC analysis.

Target Population

Residents living closest to the site. DOH and the Manatee CHD will conduct air sampling at four locations (includes one background location) near the site.

Environmental Data Collection

Susan Bland, Chuck Henry and Tom Larkin will be present the day of the indoor air testing and explain the process to the residents. Susan will coordinate ordering the SUMMA canisters in advance and have them shipped to the CHD. Susan will order 12 air canisters for 8-hour time weighted average samples and four grab sample canisters. Ms. Bland received the directions from the laboratory on collecting these samples. Ms. Bland, Chuck Henry and Tom Larkin will collect the air samples.

Data Analysis Plan

All of the indoor air samples will be analyzed utilizing the EPA method TO15. Currently, there are Minimal Risk Levels (MRLs) available for 37 of the 63 chemicals to use for evaluation of the air results.

REPORTING OF RESULTS

Once the FDOH receives the laboratory results, the FDOH will review the results as quickly as possible and prepare a letter to both households who had indoor air testing. The letter will include an explanation of the EI results. A copy of this letter will be sent to the FDEP and the Manatee County Health Department. FDOH will also prepare and distribute an Indoor Air Exposure Investigation report to the residents.

FOLLOW-UP ACTIVITIES

If indoor air concentrations in homes are at levels of health concern, the Florida DOH will work with the Florida DEP and Lockheed Martin to develop a solution.

The Florida DOH will share information collected during the EI with homeowners, other agencies, and the media.

The Florida DOH will review additional environmental data as necessary.

PROPOSED TIMELINE – The Florida DOH and the Manatee CHD plan to collect indoor air samples in mid-August to late August due to DEP's new ground water data. DOH needed to see if the new data would change ground water flow or concentrations. FDOH has contacted

DataChem (Paul Pope) to reserve sampling equipment for mid-August or late August.

INFORMED CONSENT PROCEDURES

See attached consent form.

PROJECTED BUDGET AND SOURCE OF FUNDING

Approximately $4000 is required to conduct the EI. Funds for this EI are available to Florida Department of Health from Program 1043 obligated monies. Additional funds are available from the Exposure Investigation and Consultation Branch, ATSDR if needed and approved.

REFERENCES -

Email from Chuck Henry dated May 15, 2004. Summary of Tallevast Activities.

Lockheed Martin's Newsletter dated June 2004.

ATSDR Toxicological Profile for TCE dated September 1997.

Appendix B

Agency for Toxic Substances and Disease Registry
U.S. Department of Health and Human Services
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Bureau of Community Environmental Health
Tallahassee, Florida 32399-1712

Consent to Access to Property
(Environmental Sample Collection)

American Beryllium – Bradenton, Florida
Tallevast Residents
Indoor Air Sampling
Exposure Investigation

The Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Department of Health and Human Services, together with the Florida Department of Health (FDOH) and the Manatee County Health Department (CHD), is conducting an exposure investigation. Residents in your neighborhood are concerned about chemical vapors from the groundwater entering their homes. Our agencies have selected two homes, a background location and ********** to test indoor air. Your home is one of the two we chose because your home is close to the site.

Before you decide if you want this testing done, please read the rest of this form and ask us any questions you have.

If you choose to participate, we will test your indoor air for the chemicals on the attached sheet. Your participation in this investigation is voluntary. The authority for collecting information in this investigation is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9604 (i)).

What we will do

If you choose to be in this study, here's what we will do:

- ask about your health, job, and hobbies
- meet with you and show you the metal air canisters used to collect an air sample
- explain to you what the results will tell you after the laboratory gives us the results
- put a metal air canister in your home, pick it up eight hours later and then repeat

this process with two more canisters sampling 8 hours later and 16 hours later (total of 3 canisters over 24 hours)
- collect one grab air sample in another canister
- ship four metal air canisters overnight to the laboratory for air analysis

We will only test your indoor air for the 63 chemicals on the attached sheet. Some of these chemicals (trichloroethylene, 1, 2-dichloroethene, 1, 1-dichloroethene, tetrachloroethene and dichloroethane) were found in the groundwater near your home. We will also test for other chemicals included on this sheet because they are part of this laboratory scan and can also be found in indoor air.

Do I need to do anything different while the metal air canister is in my home?

No. You can bathe and shower as normal. Please do not touch the canisters or cover them because this can ruin or affect the air results and the laboratory may not be able to check for all the chemicals. Please do not use cleaning products, hairsprays or other aerosol/pump products in your home 48 hours before we collect the air samples.

When will I receive the results of this indoor air testing?

You will receive a letter explaining your indoor air testing results within eight weeks. We do not expect to find high levels of chemicals in your indoor air from the groundwater. We are only testing your indoor air as a precaution.

What will your agencies do with the results?

Susan Bland will write a report that sums up what we find from the indoor air testing of your home and the one other neighbor selected for indoor air testing. It will take us about six months to finalize the report. We will send you a copy of the report once it is finalized. We will also give the report to the Manatee CHD, and the Florida Department of Environmental Protection (DEP).

What about my privacy?

In Florida, indoor testing results are not confidential information because they are not medical information. However, you may choose to withhold your address or names to avoid affecting your property value.

Are there any costs?

No. You do not have to pay to have your indoor air tested. The ATSDR is paying for this air testing.

What if I don't want to do this?

You can choose to have your indoor air tested or not. If you decide not to have your indoor air tested, we will select the next nearest home and see if the homeowner is willing to have their indoor air tested. If you change your mind later, we will not be able to test your home. We are only able to test two homes closest to the site.

How can I find out more?

You may have questions about this project. If so, you can ask anyone here right now. If you have questions later about the indoor air testing, please call Susan Bland with the Florida DOH in Tallahassee at 1-877-798-2772 during regular business hours or Chuck Henry with the Manatee CHD in Bradenton at 748-0747.

Consent Statement

I have read this form or it has been read to me. I have had a chance to ask questions about indoor air testing in my home and my questions have been answered. I agree to have my air tested in my home. I have marked below the parts I will do.

Yes No Fill out a questionnaire

Yes No Let the County Health Department, ATSDR and the DOH collect air samples from my home in August 2004

_____ _____

Participant's Signature Date

_____

Participant's Printed Name

Appendix C

Chemicals detected at four locations during 24 hour sampling for Tallevast area

Location #1 –

2-Butanone*
4-Methyl-2-Pentanone
Acetone*
Carbon Disulfide*
Chloroform*
Chloromethane*
Dichlorodifluoromethane*
Ethylbenzene
Freon 11*
Styrene*
Toluene*
Vinyl Acetate*
m,p-Xylene

Location #2 – Background

Acetone*
Bromomethane
Chloroform*
Chloromethane*
Dichlorodifluoromethane
Freon 11*
Methylene Chloride*
Styrene
Toluene*
Vinyl Acetate*
m,p-Xylene

Location #3

1,4-Dichlorobenzene*
Acetone*
Benzene
Chloromethane
Dichlorodifluoromethane
Ethylbenzene
Styrene
Toluene*
Vinyl Acetate (slightly above interm CV)
m,p-Xylene

Location #4

1,4-Dichlorobenzene*
2-Butanone
Acetone*
Benzene*
Chloroform*
Chloromethane*
Dichlorodifluoromethane
Freon 11*
Methylene Chloride*
Styrene*
Toluene*
Vinyl Acetate (slightly above interm CV)
m,p-Xylene and o-Xylene

Note : * = chemical was also detected in the grab air sample (<30 second sample)
All reported lab results except vinyl acetate are less than ATSDR's Comparison Value's (CVs) for either 24 hour totals or individual 8 hr samples. Currently, there are no CVs for the following detected chemicals found in air at locations #1-#4: Dichlorodifluoromethane, Freon 11, 2-Butanone and 4-Methyl-2-Pentanone.

Certification

The Florida DOH, Bureau of Community Environmental Health, under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR) prepared the Indoor Air Evaluation for the Former American Beryllium Site Exposure Investigation. This Exposure Investigation was prepared in accordance with approved methodology and procedures existing at the time. Editorial review was completed by the Cooperative Agreement Partner.

Jennifer Freed
Technical Project Officer, CAT, SPAB, DHAC

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation, and concurs with its findings.

Alan Yarbrough
Team Lead, CAT, SPAB, DHAC, ATSDR