

Health Consultation

Post - Hurricane Groundwater Sampling Evaluation

CLEVE REBER SUPERFUND SITE

ASCENSION PARISH, LOUISIANA

EPA FACILITY ID: LAD980501456

NOVEMBER 1, 2006

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

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation 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.

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HEALTH CONSULTATION

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Prepared by:

Louisiana Department of Health and Hospitals
Office of Public Health
Section of Environmental Epidemiology and Toxicology
Under Cooperative Agreement with the
U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry

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List of Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry
ECCO	Environmental Controls Company
EPA	Environmental Protection Agency
FS	Feasibility Study
LDEQ	Louisiana Department of Environmental Quality
LDHH	Louisiana Department of Health and Hospitals
NPL	National Priorities List
O&M	Operation and Maintenance
OPH	Office of Public Health
PRPs	Potentially responsible parties
RI	Remedial Investigation
ROD	Record of Decision
SEET	Section of Environmental Epidemiology and Toxicology
UAO	Unilateral Administrative Order

Summary and Statement of Issues

On August 29 and September 24, 2005, hurricanes Katrina and Rita made landfall along the Gulf Coast. From September 29, 2005 through October 14, 2005, a team of U.S. Environmental Protection Agency (EPA) contractors collected samples at the National Priority List (NPL) sites in Louisiana to assess any potential impacts that the hurricanes may have had on remedies completed at those sites. On October 12, 2005, EPA collected groundwater samples from two monitoring wells at the Cleve Reber site, located in Ascension Parish, Louisiana. Through a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), the Louisiana Department of Health and Hospitals/Office of Public Health/Section of Environmental Epidemiology and Toxicology (LDHH/OPH/SEET) has performed a review of the post-hurricane groundwater data. The primary goal of this health consultation is to determine whether the Cleve Reber groundwater monitoring wells contained chemicals at levels that could pose a threat to human health and, if such levels are found, to establish what further public health actions, if any, may be needed.

Background

Site Description & History

The Cleve Reber site is located about 1 mile south of Highway 22 on the east side of Highway 70 and occupies about 25 acres in Ascension Parish, Louisiana. The 25-acre plot originally consisted of four ponds and a landfill area and was used as a borrow pit for fill material during the construction of Highway 70 and the Sunshine Bridge. Currently, the areas are primarily residential and agricultural. The residential areas are sparsely populated. Dense vegetation and swampy areas are located adjacent to the site to the east and south [See Figure 1].

In 1970, after construction at the site had been completed, the Environmental Controls Company (ECCO), with Mr. Cleve Reber as president, leased the land, and the site began receiving municipal and industrial waste. In 1974, a Louisiana court determined that the site was in violation of the state's sanitary code and directed ECCO to stop receiving waste. The site was abandoned later that year [2].

In 1983, EPA conducted an emergency cleanup and removed more than 1,100 drums and various waste piles. A temporary clay cap was placed over the area to prevent infiltration. A remedial investigation (RI), conducted in 1984, indicated that the site-related contaminants had migrated to the Shallow Sand aquifer which was underlying the site. A study conducted in July 1985 screened local monitoring wells for chlorinated organic compounds. None of the site-related contaminants were detected in the nearby residential wells screened in deeper aquifers; however, hexachlorobenzene was detected in groundwater samples collected from the Shallow Sand aquifer. In 1986, an additional field investigation was conducted which confirmed that there was no significant contamination of the Shallow Sand aquifer. The RI/feasibility study (FS) for the site was completed in September 1986.

EPA issued the Record of Decision (ROD) for the site in March 1987. The selected remedies identified in the ROD included the following components: (1) excavation of contaminated soil, industrial wastes, and drums; (2) incineration of contaminated soil using a transportable incineration system; (3) draining of on-site ponds and treatment of pond water; (4) backfilling of

drained ponds using ash from incinerated soil and clean backfill; (5) groundwater monitoring; (6) placement of a permanent cap over the landfill; and (7) post-closure care and monitoring for a period of 30 years [1]. On February 5, 1991, EPA issued a unilateral administrative order (UAO) to potentially responsible parties (PRPs) to conduct the remedial actions (RA) outlined in the ROD [2]. RA mobilization began in September 1993, and the remedy was completed in May 1996. The site was deleted from the National Priorities List (NPL) in December 1997.

Semiannual operation and maintenance (O&M) are presently being performed. The contaminants of concern which are being analyzed semiannually in the groundwater are carbon tetrachloride, tetrachloroethane, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, hexachlorocyclopentadiene, and mercury. Since O&M groundwater monitoring began, the concentrations of the COCs have been consistently lower than the detection limits.

Demographics

The Cleve Reber Superfund site is located in Ascension Parish, Louisiana. Census 2000 results record a parish population of 76,627. The largest ethnic group in that parish at that time was Caucasian (77.4%), followed by African American (20.3%), American Indian or Alaska Native (0.3%), Asian (0.3%), with 1.0% of the population reporting as other. Seventy-nine point six percent (79.6%) of the population age 25 or older in 2000 had earned at least a high school diploma. The median household income in 1999 was \$44,288 with 12.9% of persons living below poverty level [4].

Discussion

Environmental Data

On October 12, 2005, EPA collected groundwater samples from two shallow monitoring wells, P-10 and P-22, located in the far down gradient side of the property [see Figure 1]. Both samples were analyzed for volatiles, semi-volatiles, hydrocarbons and total metals.

Exposure Pathways

To determine whether a child or adult would be exposed to contaminants detected in groundwater from the Cleve Reber site, SEET evaluated the environmental and human components that lead to exposure. An exposure pathway contains the following five elements: a source of contamination, transport through some kind of environmental medium, a point of exposure, a route of exposure, and a receptor population. ATSDR categorizes an exposure pathway as a completed or potential exposure pathway if the exposure pathway cannot be eliminated. Completed pathways require that the five elements exist and indicate that exposure to a contaminant has occurred in the past, is presently occurring, or will occur in the future. Potential pathways, however, indicate that exposure to a contaminant could have occurred in the past, could be occurring now, or could occur in the future. An exposure pathway can be eliminated if at least one of the five elements is missing and will never be present.

EPA analyses detected bis (2-ethylhexyl)phthalate in slightly elevated levels in the groundwater samples collected from the Cleve Reber site.

A site inspection was conducted and found no evidence of damage at the site associated with the hurricanes. There was no standing water or evidence of flooding or erosion which might have disturbed the ground surface area. No damage to the perimeter security fencing was observed [1]. Trespassing and/or recreational usage is not expected because the perimeter fencing is intact, thus eliminating the potential for any exposures to any contaminants on site.

The residential areas are sparsely populated. There are presently eleven residences close to the site from the northern property line of the site [see Figure 1]. The nearest drinking water well is located on a residential property about 100 feet away from the northern property line of the site [3]. However, the groundwater at the Cleve Reber site flows to the east and south and is not likely to be consumed by the local population.

Health Effects Evaluation

Contaminants detected in shallow groundwater from the Cleve Reber October 12, 2005 site sampling event.

Contaminant	Well P-10 (ug/L ¹)	Well P-22 (ug/L ¹)
Bis(2-ethylhexyl)phthalate	4.75	27.7
Hexachlorobenzene	0.021	0.05 U ²
Hexachlorobutadiene	0.018	0.05 U ²
Magnesium	41200	45500

¹ug/L = micrograms per liter, ² U- Non detected in sample

Hexachlorobenzene, hexachlorobutadiene, bis(2-ethylhexyl)phthalate, and magnesium concentrations were detected in well P-10. Bis(2-ethylhexyl)phthalate and magnesium concentrations were detected in well P-22.

There are no completed or potential exposure pathways at the Cleve Reber site. The residential water supply is not sourced from the onsite groundwater zones. Therefore, no adverse health effects are expected.

Child Health Considerations

It is unlikely that children would be exposed to the groundwater from the Cleve Reber site. The shallow groundwater is not used as a water supply. No contaminant migration has been recorded from the site groundwater to domestic groundwater sources. SEET found no public health hazard to children under these conditions.

Conclusions

The physical damage Hurricane Katrina caused at the Cleve Reber site did not compromise the remedy instituted to protect the public against site-related health hazards. A post-hurricane evaluation of groundwater at the site detected only one elevated contaminant and found no evidence that the storm had increased the likelihood of public exposure to site-related contaminants. There is no evidence of this contaminant migrating into the domestic water supply. Groundwater sampled from the Cleve Reber site by EPA during its post-hurricane investigation suggests that there is no public health hazard to the community around the site.

Recommendations

There are no recommendations to be made at this time regarding the Cleve Reber groundwater. LDHH/OPH/SEET will examine future data as needed or requested.

Public Health Action Plan

The information produced within this health consultation will be disseminated to the public repositories, community members and stakeholders within Ascension Parish, Louisiana.

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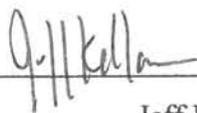
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Certification

This health consultation for the Cleve Reber site was prepared by Louisiana Department of Health and Hospitals under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It was completed in accordance with approved methodology and procedure existing at the time the health consultation was initiated. Editorial review was completed by the Cooperative Agreement Partners.



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



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References

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2. United States Environmental Protection Agency, Region 6. Second Five-Year Review Report for the Cleve Reber Superfund Site, Ascension Parish, Louisiana. September 2003.
3. Environmental Protection Agency Region 6. Fact Sheet for the Cleve Reber Superfund Site, Ascension Parish, Louisiana. Accessed 14 Sept. 2006 at URL: <http://www.epa.gov/superfund/sites/npl/la.htm>
4. U.S. Census Bureau, Ascension Parish, Louisiana Population Finder- American Fact Finder. Generated by Kathleen Golden. Accessed 14 Sept. 2006 at URL: <http://factfinder.census.gov/>

Figures

Figure 1: October 2005 groundwater sampling locations, Cleve Reber site. Ascension Parish, LA.



Source: CH2MHILL Technical Memorandum, Hurricane Katrina Response Cleve Reber Superfund Site, Louisiana Site Inspection and Sampling Results. December 2005.