

Health Consultation

DUTCHTOWN TREATMENT PLANT
POST-HURRICANE GROUNDWATER SAMPLING EVALUATION

ASCENSION, LOUISIANA

EPA FACILITY ID: LAD980879449

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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
bgs	Below ground surface
EPA	Environmental Protection Agency
ERA	Expedited Response Action
FS	Feasibility Study
LDEQ	Louisiana Department of Environmental Quality
LDHH	Louisiana Department of Health and Hospitals
MW	Monitoring well
NPL	National Priorities List
O&M	Operation and Maintenance
OPH	Office of Public Health
ppb	Parts per Billion
PRPs	Potentially responsible parties
RI	Remedial Investigation
ROD	Record of Decision
SEET	Section of Environmental Epidemiology and Toxicology

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 13, 2005, EPA collected groundwater samples from two monitoring wells at the Dutchtown Treatment Plant 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) have performed a review of the post-hurricane groundwater data. The primary goal of this health consultation is to determine whether the Dutchtown 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 Dutchtown Treatment Plant site was a waste oil reclamation plant located at the intersection of Interstate Highway 10 and Louisiana Highway 74 near Dutchtown in Ascension Parish, Louisiana. The 5-acre plot contained a 0.8-acre holding pond, a 0.07-acre waste oil pit, seven above ground vertical storage tanks, two small horizontal tanks, and a railroad tank car used as a horizontal tank, before being removed during remedial action. Presently, it is surrounded by residential and commercial property [1].

The site hydrology is characterized by multiple aquifers present in the fluvial sediments which underlie the facility. The shallow water bearing zone is encountered 7- to 12- feet below ground surface (bgs). Additional aquifers present in the area of the site include the deeper water-bearing zone present at 30- to 35- feet bgs, the Alluvial Aquifer encountered at 100- to 300- feet bgs, and the Gonzales Aquifer encountered 300- to 1000- feet bgs [2]. None of the aquifers near the facility are used as a drinking-water source.

The site received waste oils and other waste materials (solvents and petrochemical wastes) from offsite sources, processed them, and redistributed them between 1965 and 1982. In August 1983, the facility was ordered by the State of Louisiana to suspend and properly close the operations at the site. The State declared the site abandoned on January 17, 1984, after the facility owners failed to properly close the site in accordance with regulations.

In June 1985, following the declaration of site abandonment, the Louisiana Department of Environmental Quality (LDEQ) conducted a series of investigations and presented a site closure strategy plan to the EPA. A series of site investigations were performed by the EPA from July 1985 to March 1987. The site was proposed for inclusion on the National Priorities List (NPL) on January 22, 1987, and was promulgated on the NPL on July 27, 1987 [1].

An Expedited Response Action (ERA) was conducted by the potentially responsible parties (PRPs) from January 1991 through August 1991. It involved removal of waste oil, oily sludge, and contaminated soil from the holding pond, waste-oil pit, and storage tanks, as well as the

treatment and removal of stormwater from the pits and holding ponds. The excavations resulting from remediation of the waste-oil pit and holding pond were backfilled and capped with compacted clay. The Remedial Investigation (RI) was published on November 20, 1992, and the Feasibility Study (FS) for the site was completed on May 19, 1993.

The Record of Decision (ROD) was signed on June 20, 1994. The principal pollutants on the site were benzene, toluene, ethylbenzene, xylene, and lead. According to the RI results, the shallow water –bearing unit, from 0-foot to 14-feet bgs, was contaminated. No risk pathways were named between the upper unit, the unusable groundwater source, and any potential receptor population. Monitoring of institutional controls and natural attenuation were the selected remedies for the site. Based upon available data and the remedial activities implemented at the facility, ie. the installation of a new monitoring well, the plugging and abandoning of a residential well, and operation and maintenance activities, the site was deleted from the NPL via direct final rule on November 16, 2002. Currently, Operation and Maintenance (O&M) activities at the Dutchtown site include maintenance of the clay cap constructed above treated soil, groundwater monitoring, and fence inspection.

Demographics

The Dutchtown Treatment Plant 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 [3].

There are approximately 1,836 residents that live within a 1-mile radius of the site, of which approximately 369 people reside within the Dutchtown community. Approximately 4,000 people live within three miles of the site [2]. The immediate residential properties are located along the northern, southern, and western boundaries [see Figure 1].

Discussion

Environmental Data

On October 13, 2005, EPA collected groundwater samples from two shallow monitoring wells located down gradient at the northeastern corner of the property [see Figure 1]. Both samples were analyzed for benzene, ethylbenzene, toluene, and xylene. A site inspection was also 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.

Benzene concentrations from the Oct. 2005 samples in both wells were detected above the health based comparison values and remained unchanged from the June 2004 data results prior to the hurricane. Ethylbenzene was detected in concentrations higher than the health based comparison values in one well, and remained below the value in the other well.

**Contaminants detected in shallow groundwater from the Dutchtown Treatment Plant
October 13, 2005 site sampling event.**

Contaminant	Well MW-3A (ug/L¹)	Well MW-4A (ug/L¹)
Benzene	12.1	51.1
Ethylbenzene	1810	147
Toluene	50 UJ ²	5 UJ
Xylenes, Total	100 U ³	10 U

¹ug/L = micrograms per liter, ² UJ- not detected above an estimated quantitation limit,

³U- Non detected in sample

Exposure Pathways

To determine whether a child or adult would be exposed to contaminants detected in groundwater from the Dutchtown Treatment Plant 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.

The shallow ground water zone, the only zone where contamination was found in the remedial investigation for the site, is not used as a domestic water supply. The groundwater at the Dutchtown Treatment Plant site is not currently associated with the domestic water supply and is not likely to be consumed by the local population because of the poor water quality. Trespassing and/or recreational usage is not expected because the perimeter fencing is intact, thus eliminating the potential for oral and/or dermal exposures to elevated benzene and ethylbenzene levels detected in the groundwater from the Dutchtown site. EPA does not believe that the groundwater at the site was affected by the hurricane due to the fact that the October 2005 groundwater data are similar to the June 2004 data.

Health Effects Evaluation

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

Child Health Considerations

It is unlikely that children would be exposed to the groundwater from the Dutchtown Treatment plant site. The shallow groundwater is not used as a water supply. SEET found no public health hazard to children under these conditions.

Conclusions

Evaluation of the groundwater sampled by EPA during its post-hurricane investigation suggests that there is no public health hazard from exposures to groundwater from the Dutchtown Treatment site. EPA does not believe that the groundwater at the site was affected by the hurricane due to the fact that the October 2005 groundwater data are similar to the June 2004 data. The quality of the groundwater is poor and has been in declining condition making it unsuitable for domestic use, so exposure to shallow groundwater contaminants at the site is unlikely.

Recommendations

There are no recommendations to be made at this time regarding the Dutchtown Treatment Plant 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 by SEET.

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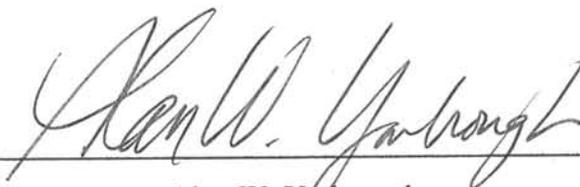
Certification

This health consultation for the Dutchtown Treatment Plant 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

1. CH2MHILL. Technical Memorandum: Hurricane Katrina Response Dutchtown Treatment Plant Superfund Site, Louisiana Site Inspection and Sampling Results; December 2005.
2. Environmental Protection Agency Region 6. Fact Sheet for the Dutchtown Treatment Plant Superfund Site, Ascension Parish, Louisiana. Accessed 21 Aug 2006 at URL: <http://www.epa.gov/superfund/sites/npl/la.htm>
3. U.S. Census Bureau, Ascension Parish, Louisiana Population Finder- American Fact Finder. Generated by Kathleen Golden. Accessed 21 Aug 2006 at URL: <http://factfinder.census.gov/>
4. United States Environmental Protection Agency, Region 6. Five-Year Review Report for the Dutchtown Treatment Plant Superfund Site, Ascension Parish, Louisiana. September 2002.

Figures

Figure 1: October 2005 groundwater sampling locations, Dutchtown Treatment Plant site, Ascension Parish, LA.



Source: CH2MHILL Technical Memorandum, Hurricane Katrina Response Dutchtown Treatment Plant Superfund Site, Louisiana Site Inspection and Sampling Results. December 2005.