

# **Health Consultation**

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**HURRICANE RESPONSE SAMPLING ASSESSMENT FOR  
D. L. MUD, INC.**

**ABBEVILLE**

**VERMILION PARISH, LOUISIANA**

**EPA FACILITY ID: LAD981058019**

**AUGUST 30, 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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D. L. MUD, INC.

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EPA FACILITY ID: LAD981058019

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
DSI	Dowell Schlumberger, Inc.
EPA	Environmental Protection Agency
LDEQ	Louisiana Department of Environmental Quality
LDHH	Louisiana Department of Health and Hospitals
NPL	National Priorities Listing
OPH	Office of Public Health
SEET	Section of Environmental Epidemiology and Toxicology
ug/L	micrograms per liter

## **Summary and Statement of Issues**

The August 29, 2005 landfall of Hurricane Katrina and the September 24, 2005 landfall of Hurricane Rita resulted in extensive flooding throughout southern Louisiana. Following the hurricanes, a number of National Priorities Listing (NPL) sites throughout southern Louisiana were visited and sampled to identify any damage that these sites suffered, to determine whether the remedial actions at these sites remained effective, and to determine whether any contaminant levels had increased at the sites following hurricane-related flooding.

The United States Environmental Protection Agency (US EPA), in coordination with the Louisiana Department of Environmental Quality (LDEQ), sampled groundwater from two monitoring wells at the D.L. Mud, Inc. site. 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 developed the following health consultation to review these groundwater samples. The primary goals of this document are to determine whether any contaminants, that would pose a health hazard to exposed individuals, infiltrated the site's groundwater following Hurricane Rita and to establish what further public health actions, if any, may be needed.

## **Background and Site History**

The D.L. Mud site is located on Parish Road P-7-31, 2.5 miles southwest of Abbeville, Louisiana and 1.5 miles west of the Vermilion River. The site, which lies adjacent to another NPL site (Gulf Coast Vacuum Services), was once part of 25.56-acres of land known as the Galveston Houston Yard or the LeBoeuf Yard. The property was used for the storage and formulation of mud for barium sulfate-based oil field drilling. Waste oils and diesel fuel reportedly spilled onto the surface soils at the site, and illegal dumping of other wastes was also reported to have taken place during this time period [1,2].

In October 1980, Galveston Houston Fluid Services sold 12.78 acres of the site to Gulf Coast Vacuum Services, Inc. The following February, the remaining 12.78 acres was sold to the Dowell Division of the Dow Chemical Company. Dow removed some debris and contaminated soils from the site in May 1983 and transferred site ownership to Dowell Schlumberger, Inc. (DSI) in April 1984. D. L. Mud, Inc. purchased the site in March 1985, operating it until the company went out of business in 1986 [1,2].

EPA conducted sampling inspections at the site in 1980 and 1985. An Expanded Site Inspection was performed by EPA in 1987 to determine if the site posed a significant environmental and human health risk. The results from these studies led to the site's placement on the NPL in October 1989 [1].

In 1987, a cooperative agreement between Dowell Schlumberger, Inc. and LDEQ led to remedial cleanup operations at the site. Remediation began in April 1987 and was completed in August 1987. The remediation process included:

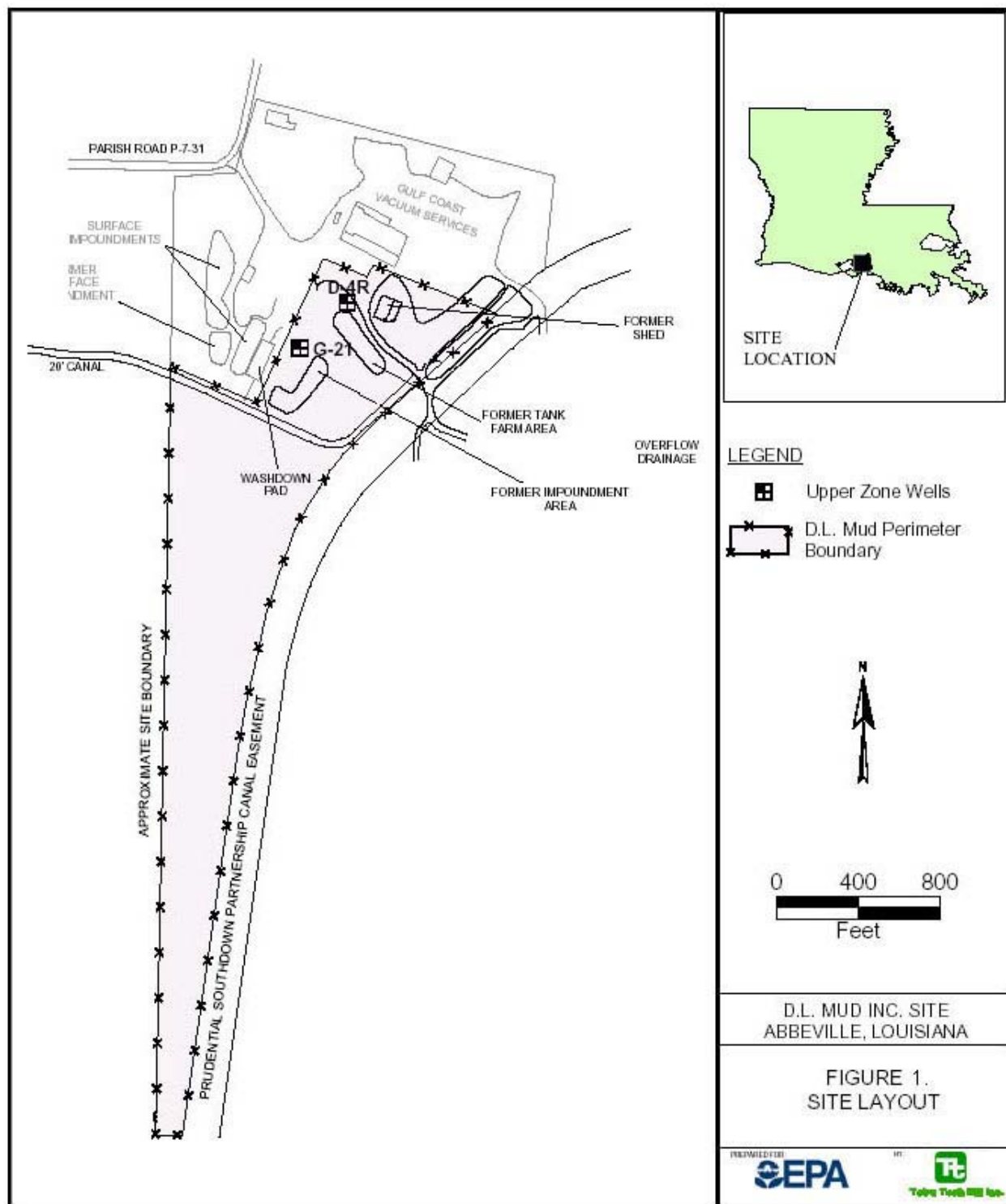
- removal and disposal of the remaining drilling muds stored in 16 storage tanks;
- removal and disposal of these tanks and corresponding equipment;
- removal and disposal of contaminated soils believed to have originated from illegal dumping; and,
- backfilling and grading of all excavations [1].

A Remedial Investigation/ Feasibility Study (RI/FS) was performed by EPA at the site from December 1990 through September 1992. In February 1992, LDHH, in cooperation with the ATSDR, completed a Preliminary Public Health Assessment using data available prior to the RI/FS [1].

An EPA Record of Decision (ROD) signed in September of 1994 called for the excavation and offsite disposal of sludges and contaminated subsurface soil and the implementation of institutional controls at the site such as fences and deed restrictions. Long-term groundwater monitoring will identify the presence of plumes that might contribute to the migration of contaminants off-site or into the underlying Chicot Aquifer System. Remediation was completed in February 1999 with the installation of a six-foot chain link fence around the entire site in order to control access by trespassers [1]. The site was deleted from the NPL list in March 2000 [3].

The August 29, 2005 landfall of Hurricane Katrina and the September 24, 2005 landfall of Hurricane Rita resulted in extensive flooding throughout southern Louisiana. On October 1, 2005, EPA and LDEQ performed a site visit to D.L. Mud, Inc. to determine whether the remedial actions in place at the site had been compromised by Hurricane Rita. Appendix A includes photographs taken during the site visit. The site inspection team found no evidence of flooding or flood-related erosion at the site. No damage to the perimeter fence was observed [4].

Along with the site visit, two shallow groundwater samples were collected from monitoring wells. These samples were analyzed to determine whether any contaminants from residual soils left after excavation had migrated into the groundwater following the hurricane. Figure 1 shows the location of the two wells sampled at the site. The results were compared to EPA's September 2003 Five-Year Review for D.L. Mud. Contaminant levels were comparable to those recorded in the Five-Year Review, from which it was concluded that the contaminants detected were not present as a result of hurricane-related flooding. The remedial actions in place at the site were not compromised by the hurricane [5, 6].



Adapted from: United States Environmental Protection Agency, Region 6. First Five-Year Review Report for the D.L. Mud, Inc. Site, Abbeville, Vermilion Parish, Louisiana. Prepared by Tetra Tech EM Inc. Work Assignment No. 934-FR-FE-06ZZ.



### **Demographics**

Census 2000 results reported a population of 5,283 within the census block that encompassed the D.L. Mud, Inc. site. The largest ethnic group at the site at that time was Caucasian (94.7%), followed by African-American (4.2%), American Indian or Alaskan Native (0.44%), those identifying themselves as belonging to 2 or more races (0.42%), Asian (0.08%), Native Hawaiian or other Pacific Islander (0.08%), and Other (0.08%). Zero point eighty-five percent (0.85%) of the population identified themselves as Hispanic. Forty-three point nine percent (43.9%) of the population age 25 years or older in 2000 had earned at least a high school diploma. The median household income was \$37,676.

### **Discussion**

#### **Data Used**

Two shallow groundwater samples were taken from monitoring wells at the D.L. Mud site on October 1, 2005. This sampling event was part of the EPA's characterization of post-hurricane conditions at NPL sites throughout southern Louisiana. The samples were analyzed for 142 contaminants, including a range of metals and semivolatiles.

#### **Exposure Pathways**

Groundwater serves as the source for the public water supply in the area around the D.L. Mud site. Residents within a 3-mile radius of the site obtain drinking water from private wells, which also provide a water source for irrigation. These wells draw water from the Chicot Aquifer System, which underlies a large portion of southwest Louisiana and is the principal source of groundwater supply within the Abbeville area [4].

The shallow groundwater from which the D.L. Mud, Inc. site samples were collected is considered inappropriate for domestic use because of its high turbidity from silt and clay [5]. The local population is unlikely come into contact with contaminants present in this exposure medium unless the contaminants migrate into the domestic groundwater sources. Long-term groundwater monitoring at the site currently shows no evidence of such migration. Therefore, there is no current exposure pathway between shallow groundwater contaminants at the site and the local population.

#### **Evaluation Process**

Table 1 lists the contaminants detected at the D.L. Mud, Inc. site. Many of these, such as calcium, are essential elements in human nutrition. High concentrations of metals can be a cause of concern in water used for drinking, cooking, bathing, recreation, or irrigation.

**Table 1. Contaminants detected in shallow groundwater from the D.L. Mud, Inc. October 1, 2005 site sampling event.**

<b>Contaminant</b>	<b>Well D-4R (ug/L<sup>*</sup>)</b>	<b>Well G-2I (ug/L)</b>
Aluminum	122	294
Arsenic	15.6	--
Barium	173	1,880
Cadmium	3.7	16.7
Calcium	51,400	450,000
Caprolactam	6.9	8.8
Chromium	1.61	--
Cobalt	--	34.1
Iron	116	283
Lead	--	7.8
Magnesium	20,100	187,000
Manganese	9.83	7,050
Mercury	--	0.0492
Nickel	1.83	16.9
Potassium	1590	4,460
Sodium	120,000	339,000
Vanadium	1.9	--
Zinc	2.04	--

<sup>\*</sup>ug/L = micrograms per liter

Since the shallow groundwater tested at D.L. Mud is not used for any of these purposes, the contaminants detected pose no public health hazard.

### **Child Health Considerations**

It is unlikely that children would be exposed to the groundwater from the D.L. Mud, Inc. site. The shallow groundwater is not used as a water supply due to its naturally poor quality. SEET found no public health hazard to children under these conditions.

## **Conclusions**

Groundwater from the D.L. Mud site currently poses no public health hazard to the community around the site. The poor quality of the water prevents it from being suitable for domestic use. Long-term groundwater monitoring shows no evidence of migration into domestic water sources at this time.

## **Recommendations**

There are no recommendations to be made at this time regarding the groundwater at the D.L. Mud, Inc. site. LDHH/OPH/SEET will examine future D.L. Mud, Inc. data as needed.

## **Public Health Action Plan**

The information produced within this health consultation should be disseminated to the community members and stakeholders within Vermilion Parish, Louisiana.

## **Preparers of this Report**

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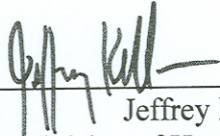
Jeff Kellam  
Division of Health Assessment and Consultation  
Agency for Toxic Substances and Disease Registry

## **References**

1. Agency for Toxic Substances and Disease Registry. Public Health Assessment : D.L. Mud, Incorporated, Abbeville, Vermilion Parish, Louisiana. Atlanta: US Department of Health and Human Services: 2001 Apr 11.
2. United States Environmental Protection Agency. Fact Sheet: D.L. Mud, Inc. Louisiana. EPA ID# LAD981058019. 2005 Jul 05.
3. United States Environmental Protection Agency. National Priorities List Sites in Louisiana. Accessed 02 Aug 2006 at URL:  
<http://www.epa.gov/superfund/sites/npl/la.htm>
4. CH2M HILL, Inc. Hurricane Rita Response: D.L. Mud Superfund Site, Louisiana, Site Inspection and Sampling Results. CH2M HILL Technical Memorandum 06-8469. 2006 Feb 2.
5. United States Environmental Protection Agency. Summary of Testing at Superfund National Priority List Sites. Accessed 04 Aug 2006 at URL:  
<http://www.epa.gov/katrina/superfund-summary.html#Mud>
6. United States Environmental Protection Agency, Region 6. First Five-Year Review Report for the D.L. Mud, Inc. Site, Abbeville, Vermilion Parish, Louisiana. Prepared by Tetra Tech EM Inc. Work Assignment No. 934-FR-FE-06ZZ. 2003 Sept.

## **Certification**

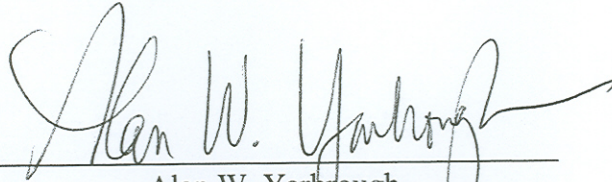
This Hurricane Response Sampling Assessment for the D.L. Mud, Inc. Post-Hurricane Assessment public health consultation was prepared by the Louisiana Department of Health and Hospitals under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures at the time the health consultation was begun. The editorial review was conducted by the Cooperative Agreement Partner.



Jeffrey Kellam

Technical Project Officer, Division of Health Assessment and Consultation (DHAC)

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



Alan W. Yarbrough

Cooperative Agreement Team Leader, DHAC, ATSDR



## APPENDIX A: D.L. Mud, Inc. Post-hurricane Site Inspection Photographs\*



**File Name:** D.L.Mud\_photo1.JPG  
**Date/Time Taken:** 01 Oct 2005 1805  
**Description:** Contact sign on site entrance gate, view to south.  
N29°57'29.1"; W92°11'9.7"



**File Name:** D.L.Mud\_photo2.JPG  
**Date/Time Taken:** 01 Oct 2005 1835  
**Description:** Well G-21, view to northeast.  
N29°57'27.2"; W92°11'10.2"



**File Name:** D.L.Mud\_photo3.JPG  
**Date/Time Taken:** 01 Oct 2005 1836  
**Description:** Southern boundary of site showing no apparent storm impact, view to south.  
N29°57'27.2"; W92°11'10.5"



**File Name:** D.L.Mud\_photo4.JPG  
**Date/Time Taken:** 01 Oct 2005 1838  
**Description:** View to east along southern boundary of site, showing no apparent storm impact.  
N29°57'25.9"; W92°11'11.9"

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\* Adapted from CH2M HILL, Inc. Hurricane Rita Response: D.L. Mud Superfund Site, Louisiana, Site Inspection and Sampling Results. CH2M HILL Technical Memorandum 06-8469. 2006 Feb 2.



**File Name:** D.L.Mud\_photo5.JPG

**Date/Time Taken:** 01 Oct 2005 1840

**Description:** View to north along eastern boundary of site, showing no apparent storm impact.  
N29°57'24.7"; W92°11'9.4"



**File Name:** D.L.Mud\_photo6.JPG

**Date/Time Taken:** 01 Oct 2005 1843

**Description:** View to northeast along northern site boundary, showing no apparent storm impact.  
N29°57'27.2"; W92°11'10.4"



**File Name:** D.L.Mud\_photo7.JPG

**Date/Time Taken:** 01 Oct 2005 1847

**Description:** Western boundary of site, view to west.  
N29°57'28.8"; W92°11'9.2"



**File Name:** D.L.Mud\_photo8.JPG

**Date/Time Taken:** 01 Oct 2005 1848

**Description:** Well D-4R, view to north.  
N29°57'28.8"; W92°11'8.8"





**File Name:** D.L.Mud\_photo9.JPG

**Date/Time Taken:** 01 Oct 2005 1852

**Description:** View to east along northern boundary of site, showing no apparent storm impact.

N29°57'28.8"; W92°11'8.8"



**File Name:** D.L.Mud\_photo10.JPG

**Date/Time Taken:** 01 Oct 2005 1854

**Description:** Grassy area in interior of site, showing no apparent storm impact, view to southwest.

N29°57'27.3"; W92°11'7.8"