

## Vandy Musgrove October 19, 2010

### Introduction

In fall 2009, the Georgia Division of Public Health (GDPH) received a request from a resident in Albany, Georgia for information about environmental contamination and cancer rates for communities. The individual also requested information about the potential for environmental contamination of an elementary school and school grounds that may have originated from a nearby state listed hazardous waste site (Vandy Musgrove).

GDPH wrote a letter to the resident in response to the concerns about the potential for exposure to environmental contamination from the Vandy Musgrove hazardous waste site. Concerns about cancer rates were also addressed. GDPH evaluated soil and groundwater data, cancer data, and community concerns from several sources including:

- CH2M Hill Corporation, *Compliance Status Report for the Vandy Musgrove Property, Albany, GA.* 11/1999.
- Georgia Environmental Protection Division, Letter Dougherty County Health Department. 9/29/1998.
- Georgia Division of Public Health, Comprehensive Cancer Registry. 8/2010.

### Site Description and History

The Vandy Musgrove property is located northeast of the intersection of Oakridge Drive and Old Pretoria Road in southwest Albany. It is approximately one acre, currently vacant, and covered with grass, shrubs and trees. No fences or natural barriers, or 24-hour security were present during facility operations, but the site is surrounded by private property. Property owners have posted "Private Property" signs to discourage access.

There is woodland to the north, west, and east, commercial property to the south, and commercial properties, residential communities and an elementary school within one mile of the site. The public is connected to the Albany municipal water supply. The closest municipal well is within one mile of the site.

According to the 2000 U.S. Census data, the population within one mile of Vandy Musgrove is approximately 3,300 people.

The Vandy Musgrove property was originally a sand and gravel pit in a rural area. In the 1970's, Air Products and Chemicals, Inc. began using several pits on the Vandy Musgrove property for the unpermitted disposal of lime sludge (hydrated lime) generated during the manufacturing of acetylene gas. This gas is primarily used as a fuel, mostly for welding. Because of the high pH of the lime sludge and the geologic conditions at the site, the Georgia Environmental Protection Division (GEPD) ordered the company to stop the disposal. Consequently, no waste disposal has occurred at the site since 1981.

In July 1994, the GEPD listed Vandy Musgrove on the state Hazardous Site Inventory (HSI) for a known release of calcium carbide in soil at levels exceeding the reportable quantity. (More information about the HSI can be found at [www.gaepd.org/Documents/hazsiteinv](http://www.gaepd.org/Documents/hazsiteinv)).

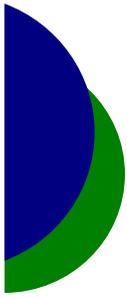
Calcium carbide is a manufactured compound produced by mixing the mineral lime (calcium oxide) and coke (from coal) at high temperatures. It is very corrosive. Contact with skin causes irritation and burns, especially if the skin is wet or moist. It may cause eye, skin, digestive tract and respiratory tract irritation, burns and permanent damage to organs.

### Environmental Sampling

In 1994, GEPD required the property owners to obtain and analyze additional on-site soil samples for calcium carbide, and to evaluate the pH values of on-site groundwater samples to define the extent of lime sludge materials. The approximate location of historical lime sludge placement was identified using aerial photography, property maps, and on-site reconnaissance.

### Soil

To determine if the public may have been exposed to contaminated soil from past operations on the Vandy Musgrove property, extensive soil sampling and analyses was conducted. Between September 1998 and



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November 1999, surface and subsurface soil samples were collected: 25 soil samples were analyzed for calcium carbide and pH; 87 soil boring samples from 28 soil boring locations were analyzed for pH, metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), and Toxicity Characteristic Leaching Procedure (TCLP) metals; and six discrete surface soil samples were analyzed for calcium carbide. Fifteen background soil samples from the site perimeter were collected (samples taken on-site in areas with no lime sludge materials) and analyzed for pH.

#### Groundwater

Between September 1998 and November 1999, eight on-site groundwater borings were sampled to provide groundwater data (flow direction and elevations beneath the site, gradient, and pH values upgradient and downgradient of the lime sludge placement locations). Four boreholes were located where known lime sludge was placed and four boreholes were drilled at site corner perimeters. In addition, three surface water samples were collected from the holding/detention pond to the east of the site, and analyzed for pH.

#### Results

##### Soil

The analytical results for metals in soil show the site in compliance with regulatory requirements, and TCLP metals analyses results indicate no potential impact on groundwater from metals in soil at the site.

In addition, it was determined that calcium carbide is not present at the site. Because of the highly reactive nature of calcium carbide, results from both soil and lime sludge materials analyses were in accordance with expectations that calcium carbide would not be detected. Minimum detection limits for calcium carbide ranging from 10.4 parts per million (ppm) to 25.9 ppm were a function of moisture content of each particular sample. In addition,

calcium carbide levels were consistent with the background sample results.

##### Groundwater

Based on the analytical results reported in documents reviewed [CH2M Hill Corporation, *Compliance Status Report for the Vandy Musgrove Property, Albany, GA*, 11/99], groundwater was not impacted at the time of analysis and no data exists to suggest that groundwater was affected prior to or following these sampling events. No historical information or analytical results suggest that groundwater has been or is being affected. Results of surface water sampling indicate no impact to surface water.

After extensive soil sampling and analyses, the site was removed from the HSI in January, 2001. There is no current risk to the public from exposure to soil, groundwater, or surface water the site.

#### Conclusions

The only human health risk associated with the Vandy Musgrove Property might result following direct dermal (skin) contact, soil/dust inhalation, or ingestion of on-site soil contaminated with caustic lime at the ground surface. GDPH concludes that contamination present in on-site soil at the Vandy Musgrove Property is not expected to harm people's health because the public has not been, is not currently, and is unlikely to be exposed to on-site soil. In addition, on-site soil contaminants did not affect groundwater or surface water on- or off-site.

There is no evidence of an excess numbers of cancer cases associated with exposure to past contamination at the Vandy Musgrove Property. This site poses no **apparent public health hazard**.

#### Recommendations

There are no recommendations at this time.