

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Rick Scott
Governor

John H. Armstrong, MD, FACS
State Surgeon General & Secretary

Vision: To be the Healthiest State in the Nation

March 23, 2015

Ms. Kim Walker, Administrator
Department of Defense and Brownfields Sites
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 4505
Tallahassee, Florida

Re: Letter Health Consultation: Oak Hill Park Neighborhood Health Concerns Investigation

Dear Ms. Walker:

A resident of the Oak Hill Park Neighborhood contacted the EPA in September 2014. He was concerned that a pipeline from Jacksonville Naval Air Station to Cecil Field was leaking jet fuel and causing illness in his neighborhood. The EPA referred this contact to you at the Florida Department of Environmental Protection (FDEP). You asked Florida Department of Health (FDOH) to look into this matter via an email on September 29, 2014.

This assessment considers the health concerns of Oak Hill Park residents and explores whether there could be an association between their health concerns and nearby environmental contamination.

Contamination sources FDOH investigated include two facilities near the intersection of 103rd Street and Ricker Road; Oak Hill Dry Cleaners and a BP gas station formerly owned by Amoco and Giant Oil. FDEP is managing clean up of both sites both sites, which have limited areas of soil and groundwater contamination. We also identified the four areas of the Cecil Field jet fuel pipeline under 103rd Street where contractors investigated weak spots in the pipeline north of the neighborhood. Investigators did not find leaks in these locations and have not done any pipeline testing nearby since 1999.

Testing shows soil and groundwater contamination from the Oak Hill Cleaners and the BP gas station have not entered the neighborhood. FDOH concludes that based on this testing, drinking groundwater or accidentally swallowing soil in the Oak Hill Park neighborhood will not harm people's health. We recommend that residents with health concerns should continue to follow the advice of their doctor for the treatment of their symptoms and illnesses.

Site Description

The Florida Department of Health (FDOH) defines the Oak Hill Park neighborhood as the area bounded on the north by 103rd Street (State Road 134), on the east by Ricker Road, on the south by is Wheat Road/Renault Drive/Barracuda Road and on the west by Brannon Avenue. This neighborhood

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is in a mixed commercial and residential area of southwest Jacksonville, Duval County, Florida, 32244 (Figures 1 and 2). Most of this area is residential. Restaurants, malls, churches, gas stations, and other businesses line both sides of 103rd Street. Jacksonville Heights Elementary School and Wheat Field Park are in the southeastern part of Oak Hill Park neighborhood, near the intersection of Wheat and Ricker Roads.

Demographics

The Oak Hill Park neighborhood defined above is about one-half square mile. Approximately 2,400 people live in this area. Fifty-two percent (52%) are white, 38% are black, 9% are Hispanic, 3% are Asian, and 3% are two or more races. Twenty-two percent (22%) are less than 18 years old. Fifty-nine percent (59%) have a high school diploma or less and 21% have an associate or bachelor's degree. Seventy-seven percent (77%) speak only English and 62% make \$50,000 a year or less [EPA 2014].

Community Health Concerns

On September 10, 2014, a resident of the Oak Hill Park neighborhood contacted the US Environmental Protection Agency (EPA). The resident was concerned about recent groundwater monitoring along 103rd Street. The resident asked if environmental contamination caused illnesses in his family and neighbors, including: leukemia, Guillain-Barre, lupus, Wagners (this spelling was in the email, we could only find Wagner Syndrome and Wegener's granulomatosis and we were unable to confirm the correct spelling with the resident), cancer, and kidney disease.

Environmental Data

FDOH reviewed available information on hazardous waste sites that border this neighborhood (Kim Walker, FDEP, email, 9/29/2014), (Figure 3). These sites include:

- Oak Hill Cleaners,
- the former Amoco # 647/ Giant Oil # 361 gasoline station, (currently a BP) and
- the former Cecil Field jet fuel pipeline.

Areas of contamination plotted in Figure 3 will be or are being addressed by remediation. Soil and groundwater contamination from the gas station and dry cleaners are limited and do not extend into the Oak Hill Park neighborhood. The boxes on Figure 3 mark areas Navy contractors investigated in 1999. Tests of soil and groundwater for jet fuel components did not that did not detect contamination. The Navy pumped jet fuel from this pipeline in 1998, they transported jet fuel in tanker trucks until Cecil Field closed in 1999.

Oak Hill Cleaners

Oak Hill Cleaners has been an active dry cleaning business since 1981. It is in the Oak Hill Village shopping center, 7628-1 Ricker Road (Photograph 1). Contractors found soil and groundwater contamination at the back door of the facility and to the north and northwest. They found the highest contamination in soil between 15 and 25 feet below land surface (bls), in an area about 85-feet wide and in groundwater between 16 and 20 feet bls, in an area about 300 feet long (Figure 3)[E&E 2001].

Figure 3 shows the extent of soil and groundwater contamination. Table 1 summarizes soil and groundwater test results. FDEP's contractor operated a soil remediation system between 2005 and 2010 [E&E 2014]. They also remediated the groundwater by injecting hydrogen peroxide into 20 wells in January 2006.

Tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (1,2-DCE) are still present in groundwater under this site at levels above their Florida Maximum Contaminant Levels [E&E 2014]. FDEP's contractor recommended continued yearly groundwater testing and injection of solvent-digesting bacteria to increase the rate of contamination breakdown.

Former Amoco # 647/ Giant Oil # 361 (Current BP Gasoline Station)

In 1989, FDEP documented soil and groundwater contamination at the former Amoco #647/Giant Oil #361 gasoline station, 7612 103rd Street at Ricker Road (Photograph 3) [ICF Keiser Engineers 1993]. The contamination does not appear to extend into the Oak Hill Park neighborhood (Figure 3). We estimate the soil contamination area is 50-foot wide and the groundwater contamination area is a little over 100 feet long. Table 3 summarizes the soil and groundwater contamination. Site cleanup is set to begin in the summer of 2015 and last 4 years [URS 2014].

Cecil Field Jet Fuel Pipeline

In 1953, the Navy installed a 14-mile pipeline under 103rd Street to transport jet fuel from the Jacksonville Naval Air Station to Cecil Field (Photograph 2). In 1994 and 1996, contractors for the Navy identified weak places in the pipeline [VETCO 1994, 1996]. Four of these weak spots are near the Oak Hill Park neighborhood (Figure 3). VA15 and AN15 are about 800 feet north of the neighborhood, while AN16 and AN17 are 1900 and 2400 feet northwest of the neighborhood. Contractors investigated these four places (Table 2); however did not find significant soil or groundwater contamination [TtNUS 2002, 2004]. The Navy pumped all fuel out of the pipeline in 1998 and stopped using this pipeline for fuel transportation (Kim Walker, FDEP, email, 9/29/2014).

The Navy's investigation did find 4 weak areas where jet fuel leaked and remediation was required. They also found 4 areas where engineering controls were needed to prevent contact with contamination. These areas were not near the Oak Hill Park neighborhood [TtNUS 2004].

The Exposure Pathway

An exposure pathway is a series of steps starting with the release of a contaminant in environmental media and ending at contact with the human body. A completed exposure pathway consists of five elements:

1. Source of contamination, such as a hazardous waste site;
2. An environmental medium such as air, water, or soil that can hold or move the contamination;
3. A point where people come into contact with a contaminated medium, such as water at the tap or soil in the yard;
4. An exposure route, such as ingesting (contaminated soil or water) or breathing (contaminated air); and
5. A population, such as people who live near or work on a contaminated waste site.

Generally, FDOH considers three exposure categories:

- Completed exposure pathways—all five elements of a pathway are present;
- Potential exposure pathways—one or more of the elements might not be present, but information is insufficient to eliminate or exclude the element; and
- Eliminated exposure pathways—at least one element is not present and will not likely be present.

Exposure pathways evaluate specific ways in which people were, are, or might be exposed to environmental contamination in the past, present, and future.

Exposure Pathway Analyses

FDOH did not identify any complete or potential exposure pathways for Oak Hill Park neighborhood residents. Therefore, FDOH considers soil, drinking water from private wells, and showering with water from private wells as eliminated pathways (Table 4).

Testing shows contaminated soil remains underneath pavement at the drycleaners and gas station and has not moved into the nearby Oak Hill Park neighborhood (Figure 3) [E&E 2001, 2014; URS 2014, TtNUS 2002, 2004].

Testing also shows groundwater contamination has not moved to business drinking water wells or irrigation wells. In 1999, FDOH in Duval County tested two business wells and seven irrigation wells within one-quarter mile of Oak Hill Cleaners but did not find dry cleaning solvents or their breakdown products. They also tested 7 wells (6 private and 1 business) within one-quarter mile of the Amoco/Giant station in 1998, 1999, 2005, and 2010 but did not find gasoline components.

Chemical contamination in the environment can only harm someone's health if he or she comes into contact with those contaminants. If there is no exposure, there can be no associated harm to health.

FDEP has investigated the dry cleaning and gasoline sites and is overseeing their remediation. Therefore, it is unlikely that Oak Hill Park residents will come into contact with contamination from these sites in the future. Cleanup has been underway at Oak Hill Cleaners since 2005. Cleanup at Amoco # 647/Giant Oil #361, now owned by BP, should begin in 2015. The Navy removed jet fuel from the Cecil Field pipeline in 1998. In 2001 and 2004, they investigated 32 areas along the pipeline, and did not find any leaks near the Oak Hill Park neighborhood [TtNUS 2004].

FDOH spoke on the phone with the resident who had health concerns. The resident has been using city water and has lived in this neighborhood for 25 years. Neither family member had employment applying pesticides. The family member with leukemia did not serve in the military or have exposure to Agent Orange, a defoliant used in Vietnam. Agent Orange exposure has been linked with leukemia.

FDOH in Duval County confirmed the concerned resident's house has been connected to the public water supply system for many years.

Community Health Concerns Evaluation

An Oak Hill Park resident is concerned that environmental contamination may have caused chronic lymphocytic leukemia, Guillain-Barre, lupus, Wagners (this spelling was in the email, we could only find Wagner Syndrome and Wegener's granulomatosis and we were unable to confirm the correct spelling with the resident), cancer, and kidney disease in the neighborhood. Because contamination from nearby sites has not spread into the neighborhood, there are no clear exposure pathways for Oak Hill Park residents to these sites. Therefore, it is unlikely the reported diseases are linked to these sites. While there are no clear causes for chronic lymphocytic leukemia, doctors do know of some risk factors. In addition, doctors know that Guillain-Barre tends to occur after a viral infection and people tend to have a genetic predisposition to lupus and Wagner Syndrome [Mayo Clinic, 2014; Genetics Home Reference 2014]. Cancer and kidney disease are broader categories of disease and tend to have varied risk factors [NCI 2014, Mayo Clinic 2014].

Conclusions

FDOH concludes that based on the available testing, drinking or using groundwater or accidentally swallowing soil in the Oak Hill Park neighborhood will not harm people's health. Soil and groundwater contamination from the Oak Hill Cleaners and former Amoco/Giant gasoline station have not entered the neighborhood. Investigation of the former jet fuel pipeline north of the neighborhood (completed in 1999) also did not find leaking jet fuel contamination.

Recommendations

Oak Hill Park residents should continue to follow the advice of their doctor for the treatment of their symptoms and illnesses.

Public Health Action Plan

FDOH will consider review of new data when requested.

Please contact me at 850 245-4444 x 2316 if you have any questions about this assessment.

Sincerely,

Connie Garrett, MS, PG
Environmental Specialist

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Appendix A: Tables, Figures, and Photographs

Table 1. Environmental Testing at the Oak Hill Dry Cleaners Site

SITE	Tests				RESULTS
	LOCATION	# SOIL BORINGS/ SAMPLE DATES	# GROUND-WATER SAMPLES/ SAMPLE DATES	GROUND-WATER DEPTH	
Oak Hill Dry Cleaners	7628-1 Ricker Road just south of 103 rd Street	14 soil borings, 42 soil samples, 2001	28 locations, 132 groundwater samples, 2001	5-7 feet below land surface	<p>Soil—PCE found in 7 locations at levels exceeding leaching SCTL of 0.03 mg/kg. This value is lower than the ATSDR soil screening value of 300 mg/kg. Florida set it to provide soil cleanup standards that protect groundwater.</p> <p>Groundwater (direct push technology and monitoring wells)—PCE found in 12 borings at levels exceeding ATSDR CREG of 17 µg/L (21.22 to 120,000 µg/L). PCE found in 14 borings at levels exceeding the Florida MCL of 3.0 µg/L (4.7 to 120,000 µg/L). TCE found in 17 borings at levels exceeding ATSDR CREG of 0.78 µg/L (2.8 to 362 µg/L).* TCE found in 16 borings at levels exceeding the Florida MCL of 3.0 µg/L (5.51 to 500 µg/L).</p>

mg/kg = milligrams per kilogram, parts per million.

µg/L = micrograms per liter, parts per billion.

MCL = Maximum Contaminant Level, the legal threshold limit on the amount of a substance that is allowed in public water systems. This level is 3.0 µg/L per Florida Administrative Code 62-770.

SCTL = Florida DEP Soil Target Cleanup Level

Data Source: [E&E 2001]

ATSDR CREG = Cancer Risk Evaluation Guide Dose associated with 1 in 1 million increased risk of cancer. Different agencies may get different values for this dose because they use different values in the equation.

Table 2. Environmental Testing along the Cecil Field Jet Fuel Pipeline near the Oak Hill Park Neighborhood

PIPELINE WEAK SPOT	Tests			RESULTS	
	LOCATION	# SOIL BORINGS/ SAMPLE DATE/ RESULTS	# GROUND- WATER SAMPLES/ SAMPLE DATE		GROUNDWATER DEPTH
CF-VA12	103 rd Street at the intersection with Millman Drive	Four soil borings March 15, 1999/ one OVA reading above 50 ppm, three above 10 ppm	2/ March 15, 1999	8 feet below land surface	Soil and GW - all VOAs and PAHs below DL or ATSDR CVs
CF-AN15	103 rd Street just west of Ricker Road	Three soil borings March 15, 1999/ one OVA reading above 10 ppm, all below 50 ppm.	3/March 15, 1999	8 to 9 feet below land surface	Soil and GW - all VOAs and or PAHs below DL or ATSDR CVs, except groundwater; 1 temporary well showed initial finding of benzo(b)fluoranthene at 1.4 µg/L (1 qualifier) (0.1 PAH TEQ) (CREG 0.0048 µg/L) not confirmed by the permanent well sample.
CF-AN16	103 rd Street near the intersection with Brannon Avenue	Four soil borings March 12, 1999/ no OVA reading above 10 ppm	4/March 12, 1999	9 to 11 feet below land surface	Soil and GW - all VOAs and PAHs below DL or ATSDR CVs
CF-AN17	103 rd Street at the intersection with Brannon Avenue	Four soil borings March 12, 1999/ no OVA reading above 10 ppm	4/March 12, 1999	9 feet below land surface	Soil and GW - all VOAs and PAHs below DL or ATSDR CVs

GCTL = Florida DEP Groundwater Target Cleanup Level **SCTL** = Florida DEP Soil Target Cleanup Level ppm = parts per million
DL = Detection level **OVA** = Organic Vapor Analysis **VOAs** = Volatile Organic Analytes **PAHs** = Polycyclic Aromatic Hydrocarbons
Data Source: [TT NUS 2002, 2004]

Table 3. Environmental Testing at the Former Amoco #647/GIANT #361 Gasoline Station

SITE	Tests			RESULTS	
	LOCATION	# SOIL BORINGS/ SAMPLE DATES	# GROUND-WATER SAMPLES/ SAMPLE DATES		GROUND-WATER DEPTH
The former Amoco #647/ Giant #361 currently operated by BP: Facility ID: 8506989	7612 103 rd Street	84 soil boring locations, 313 soil samples, 2014	82 well locations, 286 groundwater samples, 2014	5-8 feet below land surface	<p>Soil—VOA, MTBE and naphthalene impacted soil found in 24 locations. Distribution of impacted soil is based on corresponding laboratory analytical results of soil to net Organic Vapor Analyzer readings which showed from 2.5 to >5000 ppm in 40 of 84 soil readings. Soil plume area in Figure 3 has net OVA readings > 500 ppm.</p> <p>Groundwater— Concentrations of VOA, lead, MTBE, and naphthalene exceeded the ATSDR CVs in 45 wells and GTCLs in 44 wells.</p>

GCTL = Florida DEP Groundwater Target Cleanup Level

OVA = Organic Vapor Analysis

VOAs = Volatile Organic Analytes

MTBE = Methyl Tertiary Butyl Ether, an octane enhancer for gasoline.

Data Source: [URS 2014]

Figure 1. Location of Oak Hill Park Neighborhood in Jacksonville, Duval County, Florida



Sources: USGS Topographic Map. Aerial Photography Accessed via Google Earth

Figure 2. Oak Hill Park Neighborhood in Duval County: Aerial Photo Date January 19, 2014 (Google Earth)

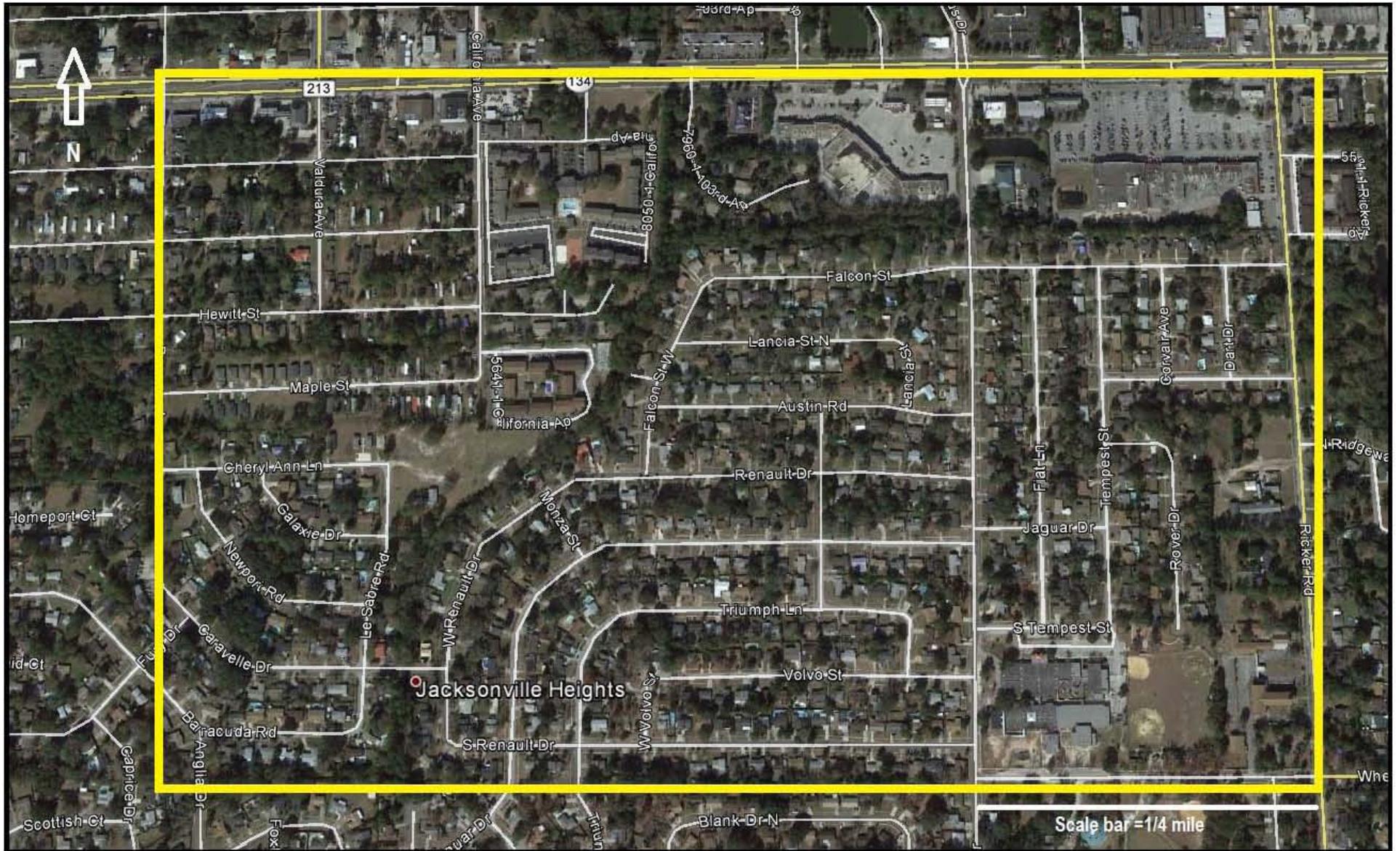
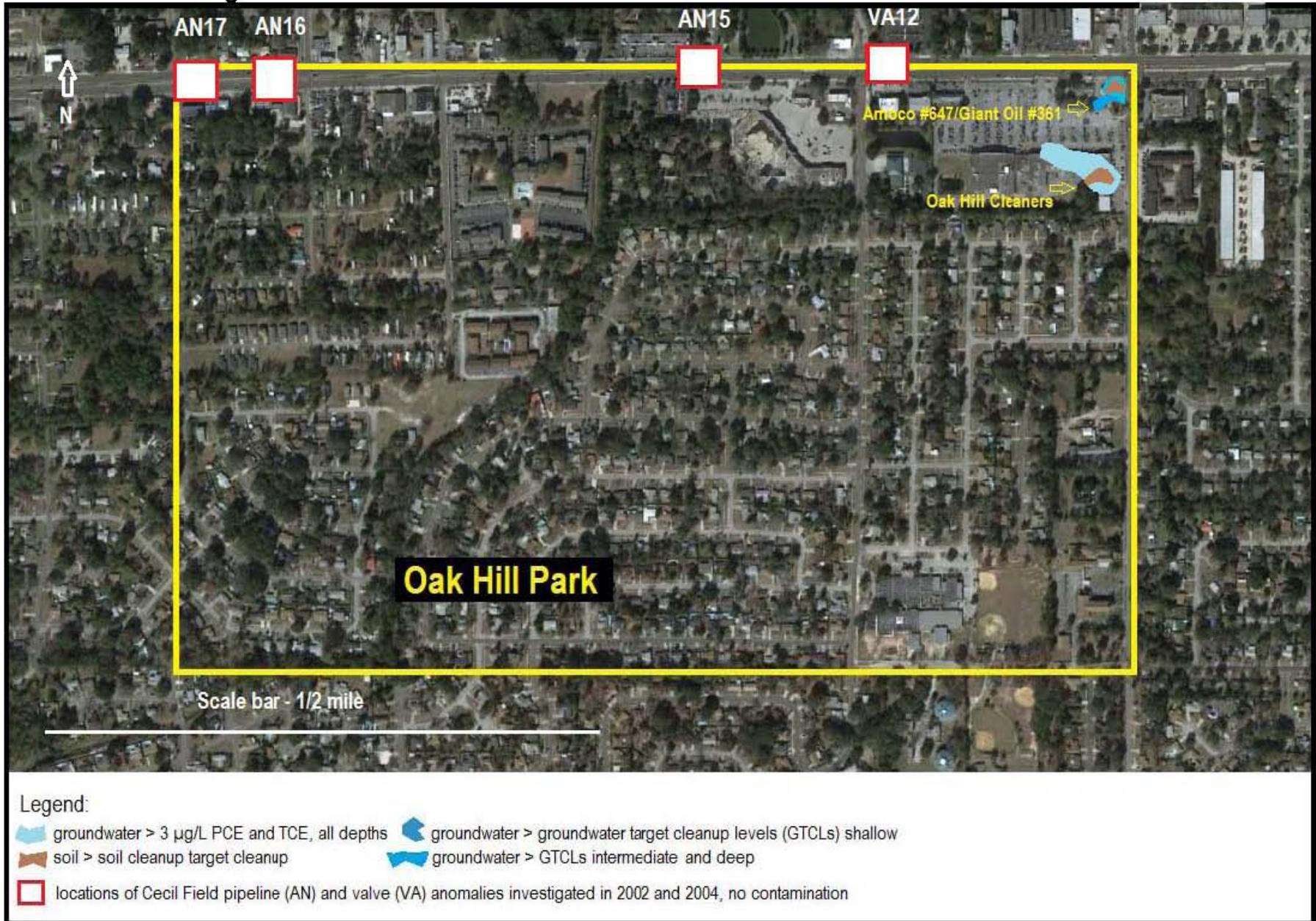


Figure 3. Oak Hill Park Neighborhood and Sources of Contamination



Photographs



Photograph 1: Oak Hill Cleaners looking west from Ricker Road [Google 2014].



Photograph 2: The Cecil Field jet fuel pipeline is under the median of 103rd Street, seen here looking west at the intersection with Ricker Road [Google 2014].



Photograph 3: The former Amoco #647/Giant #361 property, now operating as a BP gas station. This view is looking southwest from the intersection of Ricker Road and 103rd Street [Google 2014].