

Black Leaf Chemical and Lees Lane Landfill Update

EQC Annual Meeting
June 5, 2014

Department for Environmental Protection
Division of Waste Management



To Protect and Enhance Kentucky's Environment

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Former Black Leaf Property and Surrounding Areas

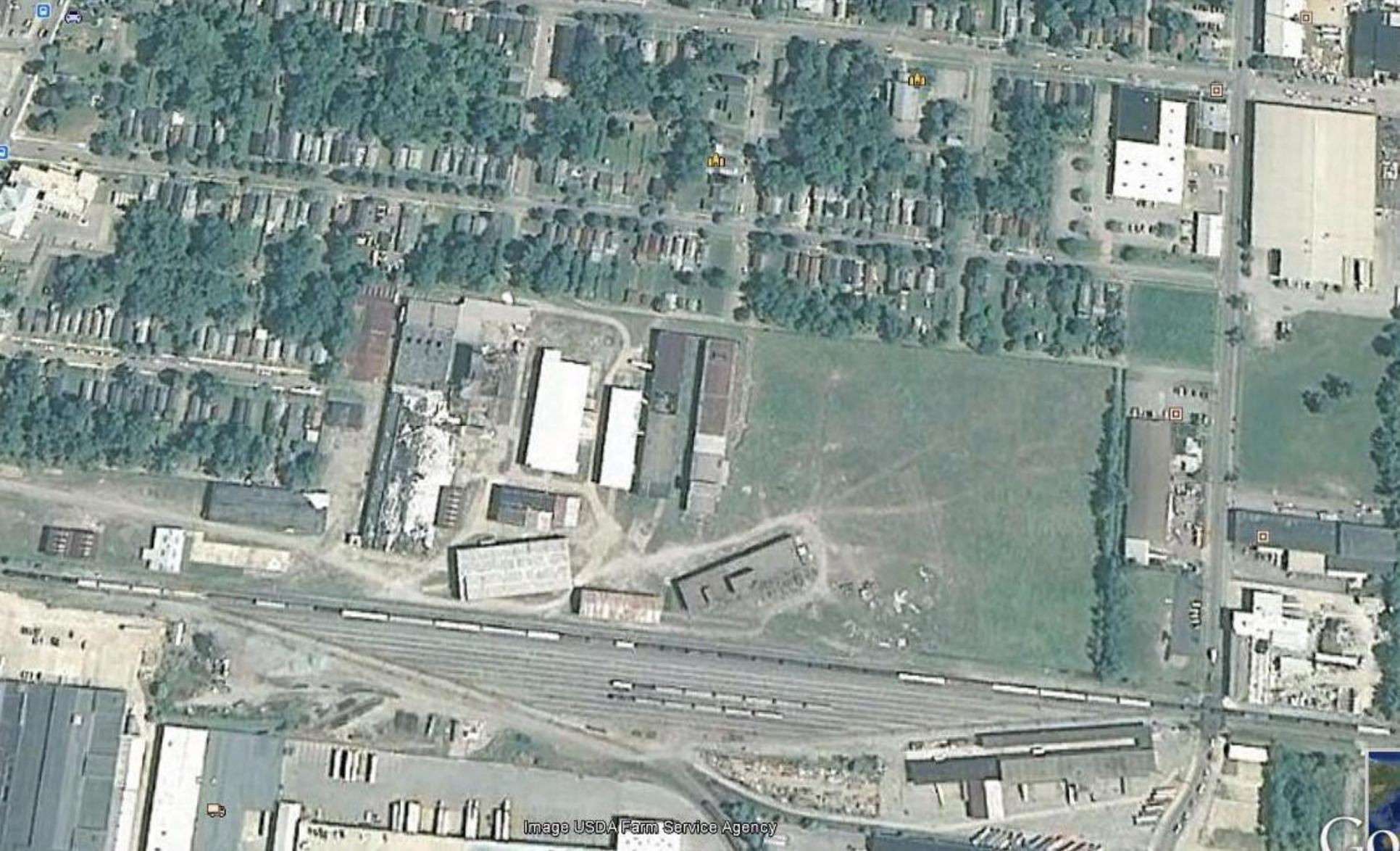


Image USDA Farm Service Agency

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Black Leaf Chemical- Chronology

- Facility manufactured pesticides from 1920-1959.
- Entire property is 29 acres. Pesticide operation occurred on eastern half of property. Western part of property operated as cooperage (barrel manufacturer) for a number of years. Property purchased in 2001 but has not been used since that time.



Aerial of Former Black Leaf Property- 1992



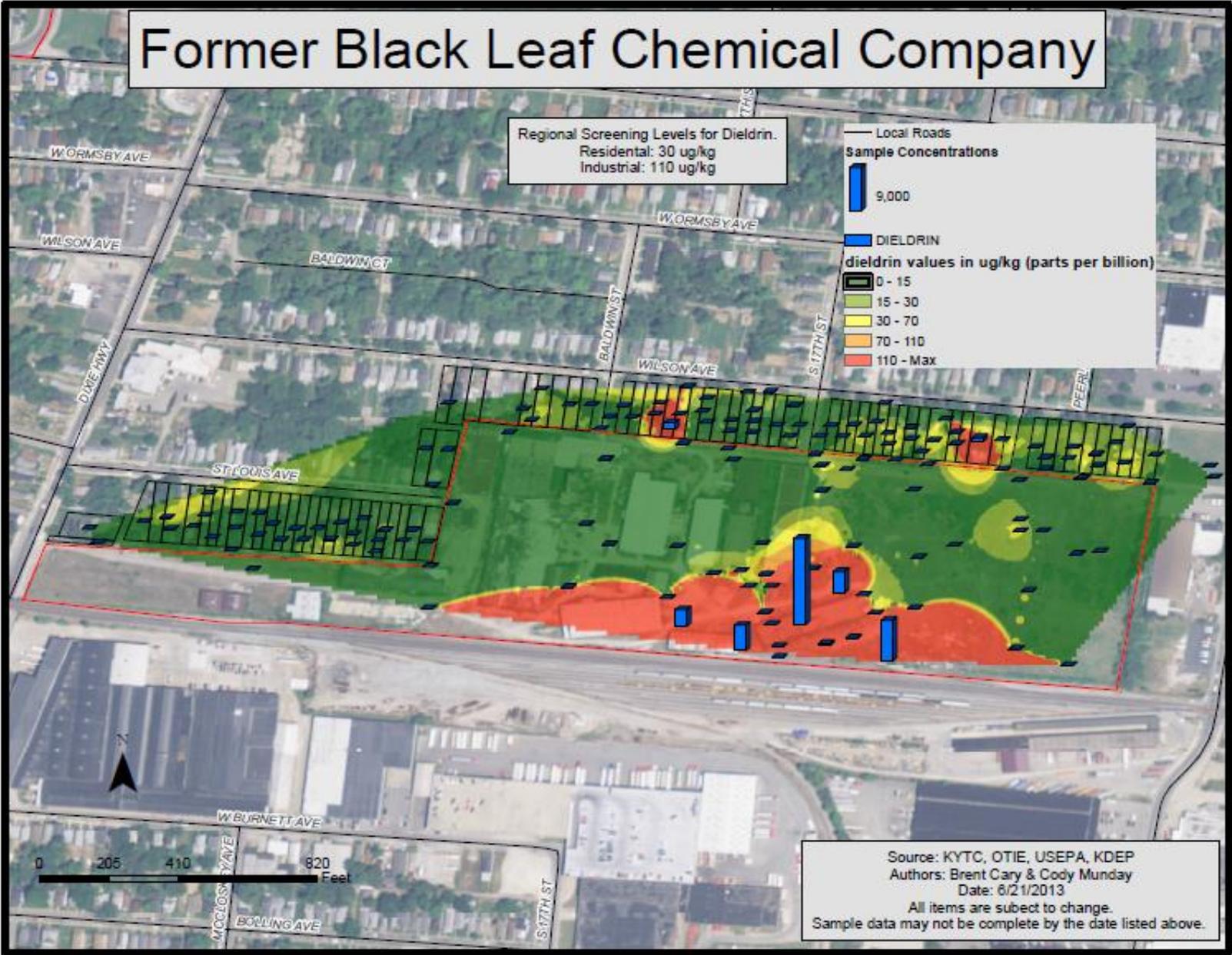
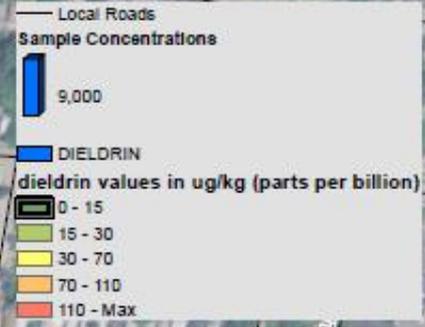
Black Leaf Chemical- Chronology

- In October, 2010 EPA and KDEP collected samples at the former Black Leaf site and found elevated levels of pesticides, lead, arsenic and polycyclic aromatic hydrocarbons (PAHs). In 2012 and 2013 up to 76 residential properties located adjacent to the site along Wilson and St. Louis Avenues to the north/northwest were sampled.
- Results from soil sampling on the residential properties indicated levels of lead were present above risk-based levels at 9 properties, arsenic at 1 property, pesticides at 14 properties and PAHs at all 76 properties.
- 10 properties exceeded EPA's Removal Levels while the other 66 exceeded KDEP's risk based screening levels for residential use.



Former Black Leaf Chemical Company

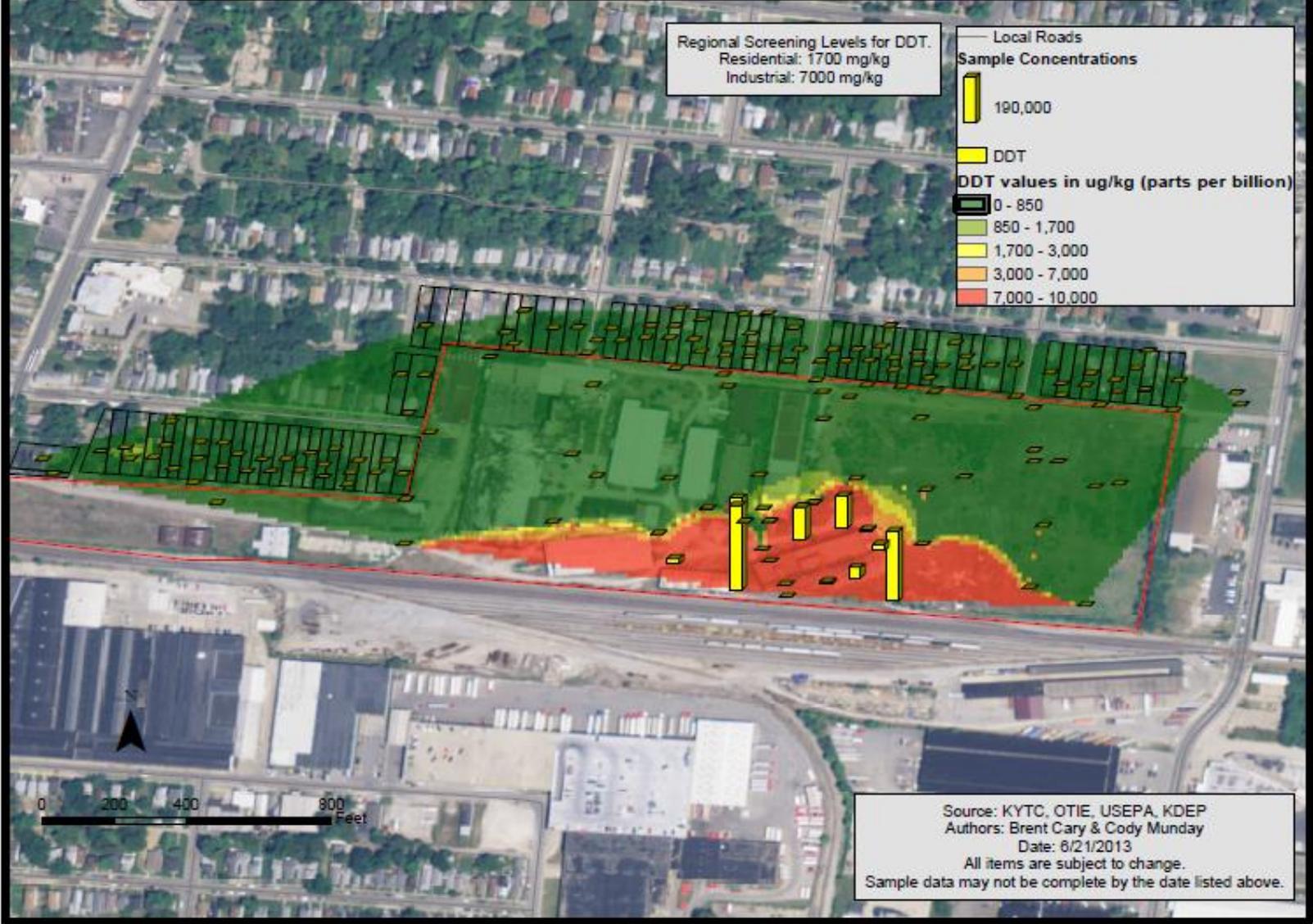
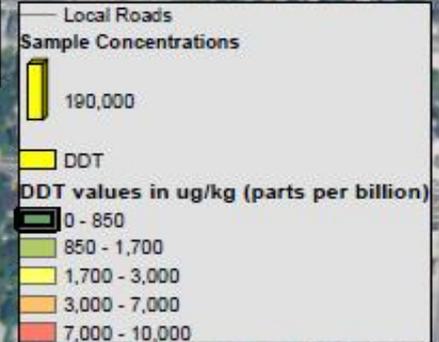
Regional Screening Levels for Dieldrin.
Residential: 30 ug/kg
Industrial: 110 ug/kg



Source: KYTC, OTIE, USEPA, KDEP
Authors: Brent Cary & Cody Munday
Date: 6/21/2013
All items are subject to change.
Sample data may not be complete by the date listed above.

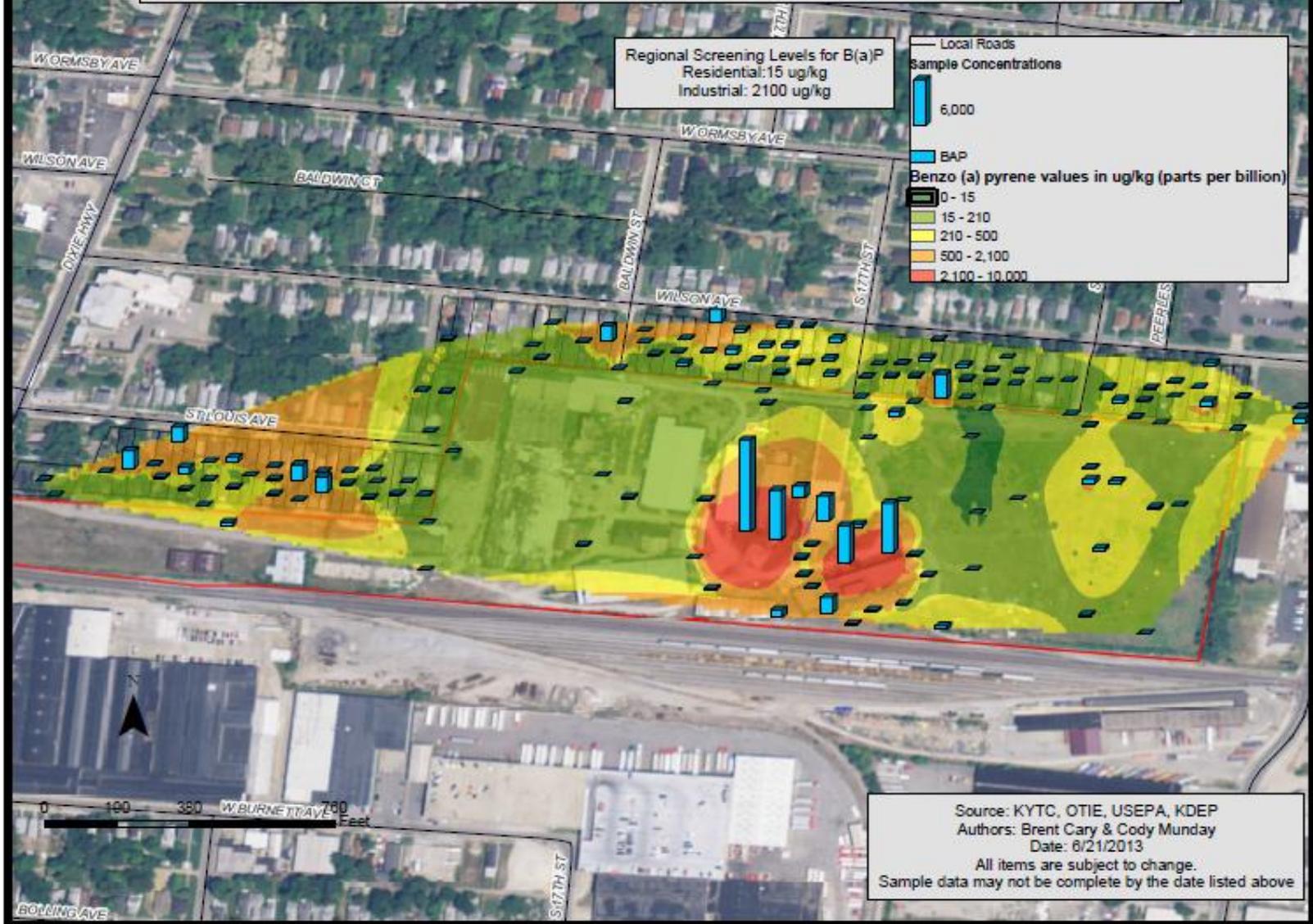
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Regional Screening Levels for DDT.
Residential: 1700 mg/kg
Industrial: 7000 mg/kg



Source: KYTC, OTIE, USEPA, KDEP
Authors: Brent Cary & Cody Munday
Date: 6/21/2013
All items are subject to change.
Sample data may not be complete by the date listed above.

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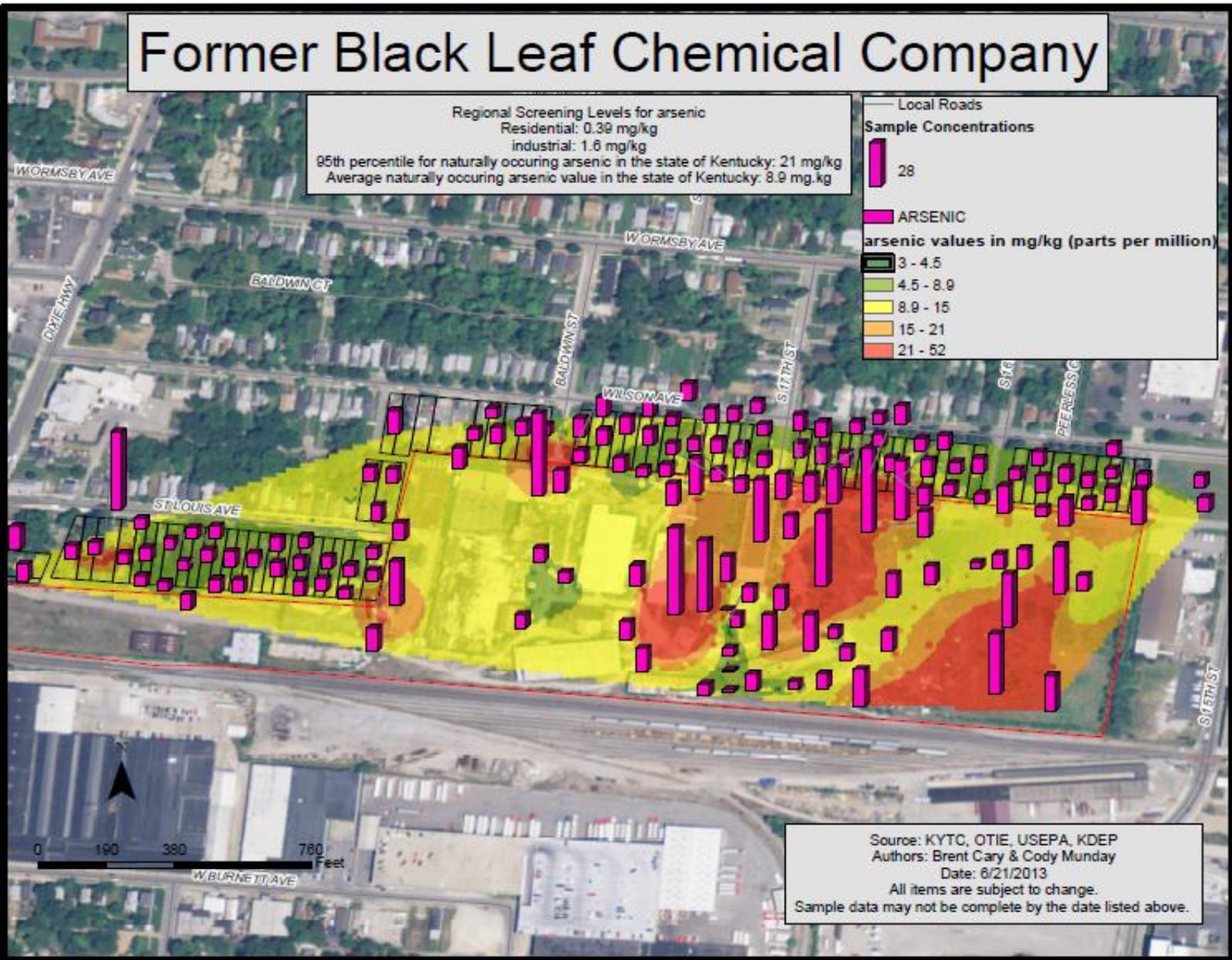
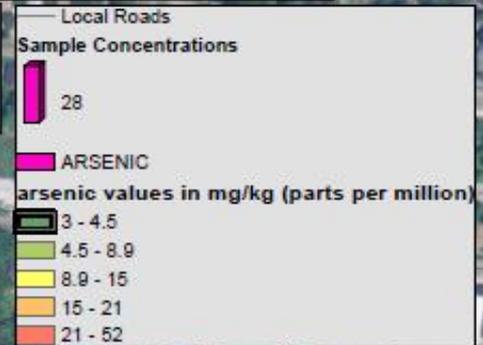


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Regional Screening Levels for arsenic
Residential: 0.39 mg/kg
Industrial: 1.6 mg/kg
95th percentile for naturally occurring arsenic in the state of Kentucky: 21 mg/kg
Average naturally occurring arsenic value in the state of Kentucky: 8.9 mg/kg



Source: KYTC, OTIE, USEPA, KDEP
Authors: Brent Cary & Cody Munday
Date: 6/21/2013
All items are subject to change.
Sample data may not be complete by the date listed above.

Cleanup of Residential Properties Adjacent to the Former Black Leaf Chemical Property

- EPA and KDEP decided to do a removal action on all of the affected properties on Wilson and St. Louis Avenues immediately adjacent to the former Black Leaf site in order to address potential exposure to contaminants in surface soils.
- A public meeting was held at St. Stephens Church on June 27, 2013 to discuss planned cleanup.
- Access agreements were submitted by EPA for 10 properties and KDEP for the other 66 properties. Access agreements were received for a total of 68 properties out of 76.
- Cleanup began on the first properties on August 19, 2013.



Cleanup of Residential Properties Adjacent to the Former Black Leaf Chemical Property

- Cleanup consisted of removing soil from the upper foot of the backyards and placing clean soil and sod or seed to establish vegetation. Yards with gardens were excavated to 2 feet.
- Air samples were collected by EPA during the initial cleanups to ensure that levels of dust were not a health hazard.
- KDEP provided vouchers for food and vegetables to the residents to a local supplier since many of the residents would not be able to grow their own food while the cleanup was ongoing.
- Division of Forestry conducted tree surveys on the properties.



Before Cleanup- Wilson Avenue



08.26.2013 10:58



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After Cleanup- Wilson Avenue



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Cleanup in Tight Conditions



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Cleanup in Tight Conditions



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Cleanup in Tight Conditions



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Cleanup Summary

- The cleanup of all 68 properties was completed by the end of January, 2014 related to digging soil and placing clean backfill. KDEP finished placing sod on 13 properties in March and April.
- Final work involves repairing a concrete retaining wall on one of the properties which will be done in June.



Residential Property Clean-up

Former Black Leaf Chemical Company



- COMPLETED, CLEANUP
- NO ACCESS
- COMPLETED, EPA
- COMPLETED, KDEP

Source: KCM, USEP/ESRI
For: KDEP
Author: Brent Cary
Date: 02/16/2014
All items subject to change



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Cleanup Summary

- EPA addressed 10 properties and disposed of over 1,670 tons of soil at the Outer Loop Landfill. EPA's total cost was \$425,000.
- KDEP addressed 58 properties and disposed of 7,326 tons of soil. KDEP's total cost for the cleanup is nearly \$1.6 million. The funds for the cleanup were provided by the Hazardous Waste Management Fund.
- The total amount of soil disposed at Outer Loop LF for this cleanup was 8,996 tons. The total cost for EPA and KDEP for the cleanup is \$2.025 million.



Current Status

- Potentially responsible parties have been identified. They include Exxon Mobil, Occidental Chemical (Maxus is company representing them), Greif Brothers, Diageo, and Louisville Ind. Park, LLC (current owners).
- KDEP met with PRPs in October, 2013. Parties agreed to conduct investigation of former Black Leaf property without an agreement.
- Parties submitted site characterization work plan and KDEP has reviewed and provided comments. Work plan expected to be approved in June. Sampling of on-site areas should begin later this summer.



Current Status

- Once the former Black Leaf property is characterized, KDEP and the PRPs will meet to negotiate an agreement for cleanup of the on-site areas.
- Cleanup of the property must meet state requirements however cleanup could be planned and conducted to help facilitate future reuse and redevelopment of the property.



Lees Lane Landfill- History

- The 112-acre site is located next to the Ohio River in Louisville, Kentucky. A chemical plant borders the site to the northeast. The Louisville Flood Protection Levee borders the site to the southeast. Riverside Garden, a residential area, borders the site to the east. A Louisville Gas and Electric Company Cane Run power plant borders the site to the southwest. The Ohio River borders the site to the north and west.
- From the 1940s to 1975, landfill operations at the site accepted domestic, commercial and industrial wastes. Prior to landfill operations, sand and gravel quarry operations took place at the site. In 1975, residents living next to the site reported flash fires around their water heaters. Local authorities detected methane gas.



Lees Lane Landfill Site Layout



Lees Lane Landfill- History

- Residents were evacuated by the City and seven homes were purchased near the site. In 1980, KDEP found 400 drums of hazardous and flammable materials along the Ohio River next to the landfill. In 1981, the owners of the site pumped liquid wastes from the exposed drums found near the Ohio River and transported hazardous wastes off site for disposal. The owners of the site also removed drums and other wastes from the riverbank and buried them on site.
- In 1980, the Kentucky Department of Hazardous Material installed a methane gas collecting, venting and monitoring system at the landfill to address air contamination. EPA also installed air monitoring stations in the residential area next to the site.



Lees Lane Landfill- History

- In 1983, EPA listed the site on the NPL. Further cleanup activities were conducted in 1987-1988.
- In 1991, EPA negotiated a legal agreement with the Louisville and Jefferson County MSD, one of the site's PRPs, to perform O&M activities at the site for 29 years, with oversight provided by KDEP. MSD has continued to conduct groundwater and air monitoring at the site.
- In 1992 and 1993, EPA reached settlements with over 20 site PRPs. EPA used the settlement funding for site investigation and cleanup activities.



- EPA deleted the site from the NPL in 1996.
- A Five-Year Review, completed in 2008, found that the cleanup currently protects people and the environment. For the cleanup to be protective over the long term, the Five-Year Review recommended repairs to the gas collection system, access controls to prevent damage to the landfill cap (from ATV riders and trespassers) and implementing institutional controls on the site property to restrict ground water use.
- In response, the Louisville and Jefferson County MSD undertook repairs to the gas collection system.





Left – ATV trail

Lower Left – debris long southern tract

Lower Right – blower house and gas collection wells



age



Left – view across cap toward Ohio River

Lower Left – rip-rap along bank

Lower Right – signs along north end of site



Recent Activities

- The latest Five Year Review conducted by EPA in 2013 was inconclusive due to a lack of up to date information.
- In April, 2013, KDEP conducted soil sampling at 28 locations on the property to determine if there was a concern for possible exposure to surface soils.
- Concentrations above industrial risk levels were found in only 3 samples across the site.



Soil Sampling Locations- April, 2013



Recent Activities

- In April and May, 2014 KDEP contracted to have five nested groundwater monitoring wells installed to determine current groundwater conditions.



Groundwater Monitoring Well Locations- May, 2014



Recent Activities

- EPA conducted a soil gas survey in June, 2013 at locations of the site between the gas collection system and the residences. Results indicated elevated levels of 7 volatile organic compounds were detected.
- On March 21, 2014, an informational meeting was held by EPA with the potentially responsible parties to discuss additional work that may be necessary on the site.
- On May 28-29, public availability sessions were held by EPA at Western High School to discuss their plan to conduct soil gas sampling in June, 2014 at approximately 50 homes in the Riverside Garden area. Access agreements have been sent to the residents.

