

Health Consultation

PAINTCRAFT CORPORATION

963 SOUTH HENDERSON STREET

GALESBURG, KNOX COUNTY, ILLINOIS

OCTOBER 20, 2008

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:

Illinois Department of Public Health
Under cooperative agreement with the
Agency for Toxic Substances and Disease Registry

Purpose

At the request of the Illinois Environmental Protection Agency (Illinois EPA), the Illinois Department of Public Health (IDPH) reviewed information to determine whether current conditions at the Paintcraft Corporation site in Galesburg, Illinois, pose a public health hazard. This consultation is a health-based interpretation of information relative to this site, particularly concerning groundwater issues at and near the property.

Background and Statement of Issues

The Paintcraft Corporation (Paintcraft) site is at 963 South Henderson Street in Galesburg, Knox County, Illinois (Attachment 1). Paintcraft operated at this site as a paint and varnish manufacturer for commercial use from the mid-1920s until around 1978. Paintcraft leased the site until they purchased it in 1930. The manufacturing process involved the mixing of pigments, varnish, wetting agents and anti-settling agents into a pebble mill. In 1978, the corporation ceased the manufacturing of paint and began the distribution of paint, which included paint tinting. Paintcraft also operated as a commercial distributor of janitorial cleaning supplies beginning sometime before 1946. Paintcraft operated under the name Pomar Supply from 1985 to 1990. The distribution activities remained the same.

The facility was closed on June 1, 1990. A small engine repair business rented two of the buildings on the site from September 1990 to December 1990. The property owner filed for bankruptcy the same year and abandoned the site. Property taxes on the site were not paid for several years following closure [IEPA, 2005].

Site Description and History

This site consists of 1.15 acres of land with dimensions of roughly 200 feet by 250 feet. The area is mainly commercial and industrial, with one home across Henderson Street west of the site. Several buildings once occupied the site, but the last two of these and other debris piles were removed in August 2006. [Terricon, 2006b] The surface of the site shows no sign of soil staining or waste disposal [IEPA, 2005].

In response to citizen complaints, Illinois EPA performed an investigation of the site in October 1990. Multiple drums were discovered on the site, some of which were leaking. Illinois EPA referred the site to the U.S. Environmental Protection Agency (USEPA) on December 5, 1990. The USEPA Technical Assistance Team and Emergency Response Cleanup Services contractors were called to assist. There were six soil samples collected and analyzed at this time. Barium, chromium, lead, benzene, toluene, ethylbenzene, and xylene were detected.

Illinois EPA documented that the following were found and transported off the site for disposal:

- 4,900 gallons of flammable liquids
- 15 gallons of acidic liquids
- 110 gallons of basic/neutral non-hazardous liquids
- 13,500 pounds of flammable solids

- 1,400 pounds of non-hazardous solids
- 90 cubic yards of contaminated soil
- 40 cubic yards of debris

A geological study of the site was conducted using data from an Illinois EPA Geoprobe reaching 24 feet deep. Illinois EPA determined that the site was covered by less than one foot of fill material. Samples from a sizeable area of the site contained “mottled tan/olive silty clay with solvent odors” approximately 6 to 10 feet below the ground surface (BGS). Darker and harder clay with less of an odor was found at depths exceeding 10 feet [IEPA, 2005].

In addition, three underground storage tanks were found at the site. Two of these tanks were excavated and removed. The third, found at the time of removal, was kept at the site and covered with backfill. The contaminated soil from the area surrounding the tank was removed and replaced with clean fill. The top two inches of surface soil at the site were scraped and removed. These operations were completed in August 1991 [IEPA, 2005].

The Illinois EPA Office of Site Evaluation, in cooperation with the USEPA Region V and the City of Galesburg, initiated efforts for a Redevelopment Assessment on September 9, 2004. A Brownfield Redevelopment Assessment was conducted during the week of November 15, 2004.

Oversight of the property redevelopment has been moved from the Illinois EPA Brownfield program to the Illinois EPA voluntary site remediation program. Terracon, a contractor for the property owners, completed a Phase I environmental site assessment in July 2006 and a comprehensive site investigation report in October 2006. Data from these evaluations were reviewed by IDPH to determine whether health hazards exist relative to this site, particularly concerning groundwater issues at and near the property.

Site Visit

IDPH staff visited the site on February 11, 2008. The property is a vacant lot adjacent to active businesses. It is bordered on the north and east by Midstate Manufacturing Corporation, which appears to use a driveway on the site for access to some of their buildings. To the south are railroad tracks and the Archer Daniels Midland grain elevator and agricultural facility. The site is bordered on the west by Henderson Street. Across the street is a parking lot, a water tower, a home and the Simmers Crane Design and Services Company. [Terricon, 2006a]

Discussion

Chemicals of Interest

IDPH compared the level of each chemical with appropriate screening comparison values developed by the Agency for Toxic Substances and Disease Registry (ATSDR) and other sources, to select contaminants for further evaluation. A description of each of the comparison values used is presented in Attachment 2. Chemicals exceeding comparison values or chemicals for which no comparison values were available were further evaluated (considering exposure to children and adults) for carcinogenic and non-carcinogenic health effects. IDPH relied on the

sampling information provided by Illinois EPA and assumed that adequate quality assurance and quality control measures were followed during the laboratory analysis and data reporting.

Brownfield Assessment

This site investigation included the collection of 35 soil and 5 groundwater samples from the site on November 15, 2004. Boring locations were set around the site in areas identified as former waste storage or disposal areas. Two samples were collected from each location to determine the depth from which to sample. An X-Ray Fluorescence (XRF) instrument was used to detect the level of metals present in the soil. Two XRF readings were taken from each location (a total of 26). A toxic vapor analyzer was used to measure the level of volatile organic compounds (VOCs) in subsurface samples.

Of the 35 soil samples collected, 28 were analyzed for VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, total metals, and cyanide. These consisted of a shallow sample collected from less than 10 feet BGS and a deep sample collected from greater than 10 feet BGS from each of the 13 locations as well as 2 duplicate samples. Three soil samples were analyzed for total organic carbon and four samples were analyzed for metals.

One groundwater sample was collected near each of the four corners of the site, and one duplicate sample was collected. All groundwater samples were tested for VOCs, SVOCs, PCBs, and metals. The laboratory did not test the duplicate water sample for organics, but did test for inorganic chemicals [IEPA, 2005].

The levels of chemicals present in the soil samples did not exceed comparison values. The levels of chemicals, primarily metals, detected in some of the groundwater samples did exceed comparison values. These samples were detected at an approximate depth of six feet or greater BGS. The geology of the site suggests that this shallow groundwater is underlain at 10 to 16 feet BGS by a layer of clay, which may minimize the movement of contamination off the site. [Terracon, 2006b]

Table 1 lists the chemicals found to exceed comparison values and the maximum level detected.

Terracon Investigations

Terracon investigated the site further in 2006 and confirmed the shallow groundwater contamination. Also, they determined that the groundwater flow in this area of Galesburg is to the northwest. Terracon confirmed that underground storage tanks remain on the site, and that these tanks and any adjacent impacted soil will be removed as part of the remedial phase of the site cleanup. [Terracon, 2006b]

Exposure Evaluation

A hazardous chemical can affect people only if they contact it through an exposure pathway at a sufficient concentration to cause a toxic effect. This requires:

- A source of exposure,
- An environment transport medium,
- A route of exposure,
- A point of exposure, and
- A receptor population.

A pathway is complete if all its components are present and exposure of people occurred in the past, is occurring, or will occur in the future. If parts of the pathway are absent, data are insufficient to decide whether it is complete, or exposure may occur at some time, then it is a potential pathway. If part of the pathway is not present and will never exist, the pathway is incomplete and can be eliminated from further consideration.

Persons who may come onto the site would have a completed exposure pathway to on-site soil; however, since the levels of chemicals present in the soil samples did not exceed comparison values, no adverse health effects would be expected. Based on the low levels of VOCs detected in the shallow groundwater and the distance from the site to nearby homes, vapor intrusion would not be expected to be a completed exposure pathway.

The City of Galesburg's public water supply is provided by four wells that are approximately 35 miles west of the city. The wells formerly used by the city are located within one mile of the site. These wells are presently on standby status to be used in an emergency. They have only been used twice in the last 30 years. If used, these wells would be required to be tested and pass state drinking water standards.

The residential areas near the site all use public water. Contamination that exists in the groundwater at the site appears to be localized and at levels that only slightly exceed drinking water standards. The geology of the area suggests migration would be minimal and potential off-site impacts would not be expected.

Child Health Considerations

IDPH recognizes that children are more sensitive to some contaminants than adults. Children receive a higher dose when exposed to the same contaminant level. Therefore, IDPH included children when evaluating exposure to contaminants at this site. IDPH considers it unlikely that children are being exposed to the groundwater on the site.

Conclusions

IDPH concludes that this site poses no apparent public health hazard. Persons who may come onto the site may have a completed exposure pathway to on-site soil; however, since the levels of chemicals present in the soil samples did not exceed comparison values, no adverse health effects would be expected. Contamination that exists in the groundwater at the site appears to be localized. The former public wells that are within one mile of the site are currently on stand-by status to be used by the city of Galesburg in an emergency. If used, these wells will be required to meet Illinois safe drinking water standards. No other private wells are currently impacted in the vicinity of the site.

Recommendations

IDPH concurs with Illinois EPA that remaining underground storage tanks and impacted subsurface soil should be removed as part of site redevelopment. This should minimize future groundwater contamination and migration. At Illinois EPA's request, IDPH will provide a health-based interpretation of any future data collected.

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References

1. Illinois Environmental Protection Agency Bureau of Land Division of Remediation Management Office of Site Evaluation. Brownfields Redevelopment Assessment Report for: Paintcraft Corporation Galesburg, IL ILB 000 000 065. July 14, 2005.
2. Phase I Environmental Site Assessment; Former Paintcraft Corporation. Terracon. July 14, 2006.
3. Comprehensive Site Investigation Report, Remediation Objectives Report, and Remedial Action Plan. Terracon. October 16, 2006.

Table 1. Chemicals of Interest in On-site Groundwater

Chemical	Number of samples exceeding comparison value	Maximum Level Detected (in ppb)	Comparison Value (in ppb)
Benzene	1/4	6.4	5 (MCL)
Ethylbenzene	1/4	870	700 (MCL)
Total PCBs	1/4	1.4	0.5 (MCL)
Aluminum	1/4	29,000	20,000 (SDWR)
Arsenic	4/5	94	10 (MCL)
Lead	4/5	86	15 (AL)
Manganese	4/5	2,600	300 (LTHA)
Vanadium	3/5	82	30 (I-EMEG)

ppb = parts per billion

MCL = maximum contaminant level

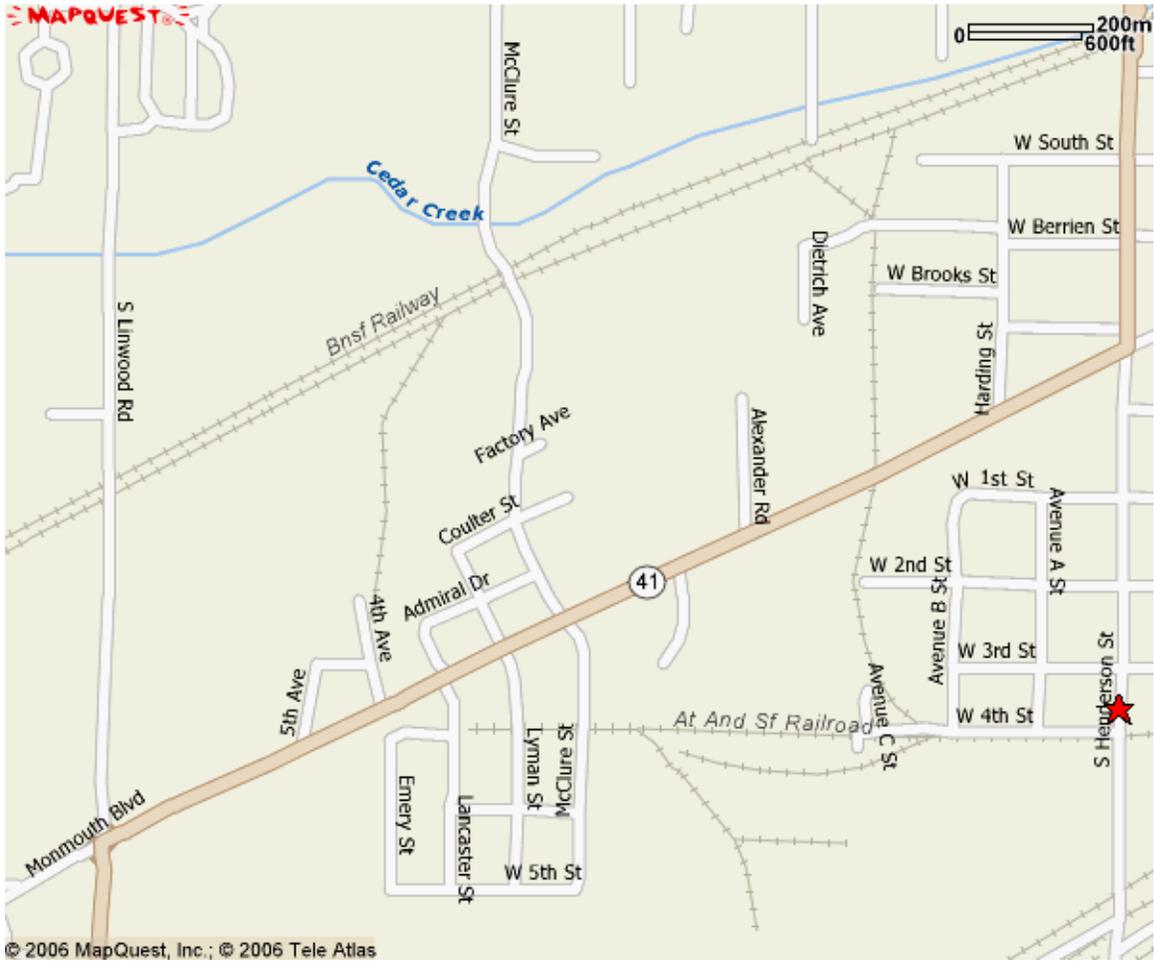
SMCL = secondary drinking water regulation

AL = USEPA action level

LTHA = lifetime health advisory

I-EMEG = intermediate environmental media evaluation guide

Attachment 1



www.mapquest.com. Street map. Galesburg, IL. 2008

Comparison Values Used In Screening Contaminants for Further Evaluation

Comparison values (CVs) are the calculated levels of a chemical in air, water, food, or soil that is unlikely to cause adverse health effects in exposed people. CVs are used as a screening level during the public health assessment process. Substances found in amounts greater than their CVs might be selected for further evaluation in the public health assessment process.

There are three different types of comparison values, which include environmental media evaluation guides (EMEGs), reference dose media evaluation guides (RMEGs), and cancer risk evaluation guides (CREGs). These values are used to screen chemicals and determine those that need to be evaluated further.

Environmental media evaluation guides (EMEGs) are derived from minimal risk levels presented in ATSDR Toxicological Profiles. Standard exposure assumptions for children and adults (body weights; ingestion rates for water, soil and air; and frequency and duration of exposure) are used. Individual EMEGs do not consider cancer, chemical interactions or multiple routes of exposure. They do help to identify specific chemicals needing further evaluation.

Reference dose media evaluation guides (RMEGs) are derived from the oral RfDs developed by USEPA using standard exposure assumptions for children and adults (body weights; ingestion rates for water, soil and air; and frequency/duration of exposure). Like EMEGs, RMEGs do not consider carcinogenic effects, chemical interactions, or multiple exposures.

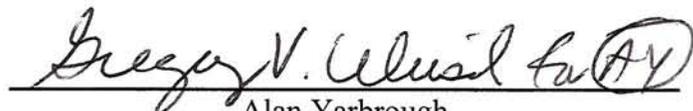
Cancer risk evaluation guides (CREGs) represent levels of environmental chemicals that may pose a 1×10^{-6} (one in a million) excess cancer risk. They are derived using cancer slope factors published by USEPA.

Certification

This Paintcraft Corporation health consultation was prepared by the Illinois Department of Public Health under a cooperative agreement with the federal Agency for Toxic Substances and Disease Registry (ATSDR). It was completed in accordance with approved methodologies and procedures existing at the time the health consultation was initiated. Editorial review was completed by the Cooperative Agreement partner.


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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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