

# Agenda

- 4:00 – 6:00 Open House
- 6:00 – 6:05 Introductions and Overview
- 6:05 – 6:10 Representative Anderson
- 6:10 – 6:30 Presentations
  - MDNR
  - Northrop Grumman
  - MDHSS
- 6:30 – 7:00 Question and Answer Open Forum
- 7:00 – 8:00 Open House



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

# Litton Systems Inc. Site

4811 West Kearney Street



# What is Trichloroethylene (TCE)

- Man-made chemical, colorless liquid
- Used as a cleaner and degreaser
- Evaporates easily into the air (volatile organic compound changes from a liquid to a vapor)

## Trichloroethylene - ToxFAQs™

CAS # 79-01-6

This fact sheet answers the most frequently asked health questions (FAQs) about trichloroethylene. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

**HIGHLIGHTS:** Trichloroethylene is used as a solvent for cleaning metal parts. Exposure to very high concentrations of trichloroethylene can cause dizziness, headaches, sleepiness, incoordination, confusion, nausea, unconsciousness, and even death. The Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC) classify trichloroethylene as a human carcinogen. Trichloroethylene has been found in at least 1,045 of the 1,699 National Priorities List sites identified by the EPA.

### What is trichloroethylene?

Trichloroethylene is a colorless, volatile liquid. Liquid trichloroethylene evaporates quickly into the air. It is nonflammable and has a sweet odor.

The two major uses of trichloroethylene are as a solvent to remove grease from metal parts and as a chemical that is used to make other chemicals, especially the refrigerant, HFC-134a. Trichloroethylene was once used as an anesthetic for surgery.

### What happens to trichloroethylene when it enters the environment?

- Trichloroethylene can be released to air, water, and soil at places where it is produced or used.
- Trichloroethylene is broken down quickly in air.
- Trichloroethylene breaks down very slowly in soil and water and is removed mostly through evaporation to air.
- It is expected to remain in groundwater for long time since it is not able to evaporate.
- Trichloroethylene does not build up significantly in plants or animals.

### How might I be exposed to trichloroethylene?

- Breathing trichloroethylene in contaminated air.
- Drinking contaminated water.
- Workers at facilities using this substance for metal degreasing are exposed to higher levels of trichloroethylene.
- If you live near such a facility or near a hazardous waste site containing trichloroethylene, you may also have higher exposure to this substance.

### How can trichloroethylene affect my health?

Exposure to moderate amounts of trichloroethylene may cause headaches, dizziness, and sleepiness; large amounts may cause coma and even death. Eating or breathing high levels of trichloroethylene may damage some of the nerves in the face. Exposure to high levels can also result in changes in the rhythm of the heartbeat, liver damage, and evidence of kidney damage. Skin contact with concentrated solutions of trichloroethylene can cause skin rashes.

There is some evidence exposure to trichloroethylene in the work place may cause scleroderma (a systemic autoimmune disease) in some people. Some men occupationally-exposed to trichloroethylene and other chemicals showed decreases in sex drive, sperm quality, and reproductive hormone levels.

### How likely is trichloroethylene to cause cancer?

There is strong evidence that trichloroethylene can cause kidney cancer in people and some evidence for trichloroethylene-induced liver cancer and malignant lymphoma. Lifetime exposure to trichloroethylene resulted in increased liver cancer in mice and increased kidney cancer and testicular cancer in rats.

The IARC and the EPA determined that there is convincing evidence that trichloroethylene exposure can cause kidney cancer. The National Toxicology Program (NTP) is recommending a change in cancer classification to "known human carcinogen" [http://ntp.niehs.nih.gov/ntp/htdocs/monographs/vol134\\_508.pdf](http://ntp.niehs.nih.gov/ntp/htdocs/monographs/vol134_508.pdf).

# MoDNR Superfund Role

- Investigate releases of hazardous substances
- Oversee cleanup work
- Respond to exposure risk
- Require responsible parties to clean up contaminated sites

# Electro-Pac - Willard

- Electroplating facility operated 1972-1974
- TCE wastewater discharged to unlined lagoon
- Limited soil cleanup in 1975
- Limited investigations in 1988 and 1990
- Site Reassessment
  - Multiple sampling events May – August 2019

# Electro-Pac Sampling On-site

- 4 soil samples
  - Former lagoon
  - Underground piping
- 3 soil gas
  - Underground piping
  - Former drainage area
- 1 groundwater sample
  - Former lagoon



**Sample Location Map**  
**Electro-Pac Site**  
**6302 West Farm Road 84**  
**Greene County, Missouri**  
**June 29, 2019**

**Legend**

- ★ Electro-Pac Facility
- Groundwater Sample Location
- Soil Sample Locations
- ▲ Soil Gas Sample Locations
- Electro-Pac Parcel Boundary
- ◻ Former Lagoon
- - - Surface Water Drainage Route
- Drainage Area to Lagoon
- US Census Bureau Roads



Created on: June 25, 2019 by Amanda Brunson.  
This map is located at  
M:\Superfund\Electro-Pac\Potential Sampling Locations

Base Map: National Agriculture Imagery Program (NAIP)  
ortho photography. Flight Date: 2014  
Data Sources: US Census 2010;  
Missouri Department of Transportation

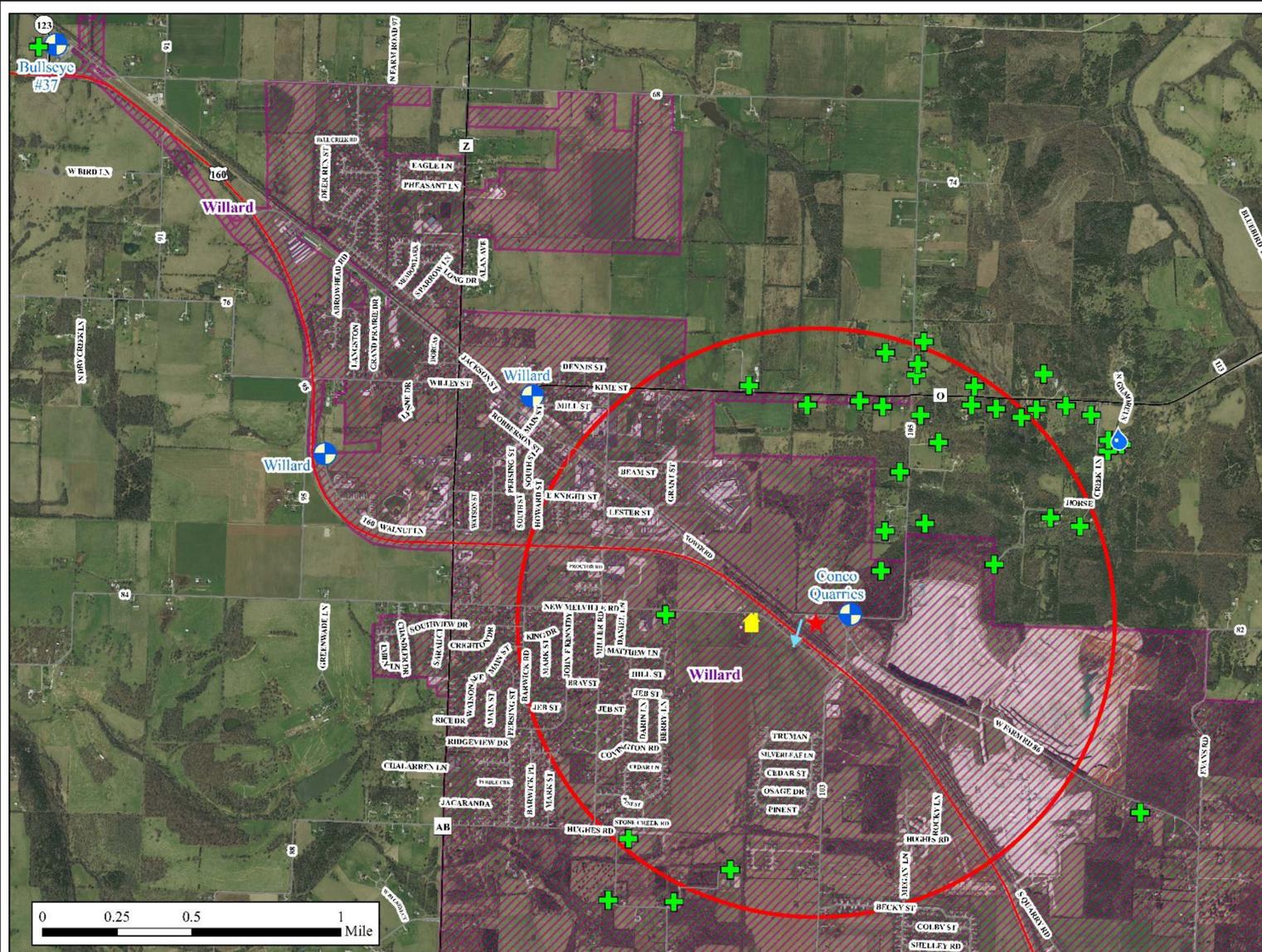
Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

# Electro-Pac Sampling On-site

- TCE detected in one soil gas sample
  - 14 ug/m<sup>3</sup>
  - Action level is 292 ug/m<sup>3</sup>
- TCE detected in the groundwater sample
  - 1.04 ppb
  - MCL is 5 ppb
- No VOC detections above action levels

# Electro-Pac Sampling Off-site

- 33 private wells within ~1 mile
- 1 spring
- No detections of any VOCs

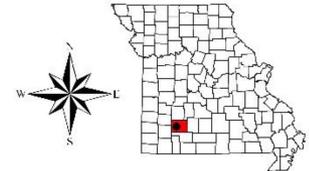


**Private Well  
Sampling Location Map  
Electro-Pac Site  
6302 West Farm Road 84  
Greene County, Missouri  
May 29, 2019**

**Legend**

- ★ Electro-Pac Facility
- 💧 Spring Sampled
- ✚ Private Well Sampled
- 🏠 Nearest Residence
- 🕒 Public Wells
- ➡ Surface Water Runoff Route
- Local Roads
- Federal Highway
- State Interced Highway
- State Numbered Highway
- 🔴 One Mile Radius
- 🟡 Municipal Boundary

Population within one mile of site = 2022



Created on: January 9, 2019, by Amanda Branson.  
This map is located at  
M:Superfund/Electro-Pac/One Mile Site Location Map

Base Map: National Agriculture Imagery Program (NAIP)  
ortho photography. Flight Date: 2014  
Data Sources: US Census 2010;  
Missouri Department of Transportation

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# Willard Public Wells

- 4 wells serve city
- 3 year sample cycle for VOCs
- 2019 is a sampling year
- No VOC detections since testing began 1995

# Electro-Pac Conclusions

- Limited removal of lagoon material
- Residual TCE remains on site at depth below action levels
- No exposure to workers on site
- No exposure in private or public wells or springs
- No further investigation warranted
- Public well monitoring will continue

# Future Communication

- Files Open to Public
- Web Site Updates with Fact Sheet
- Comment Forms
- Public Meeting for Proposed Plan
- Seek Public Input