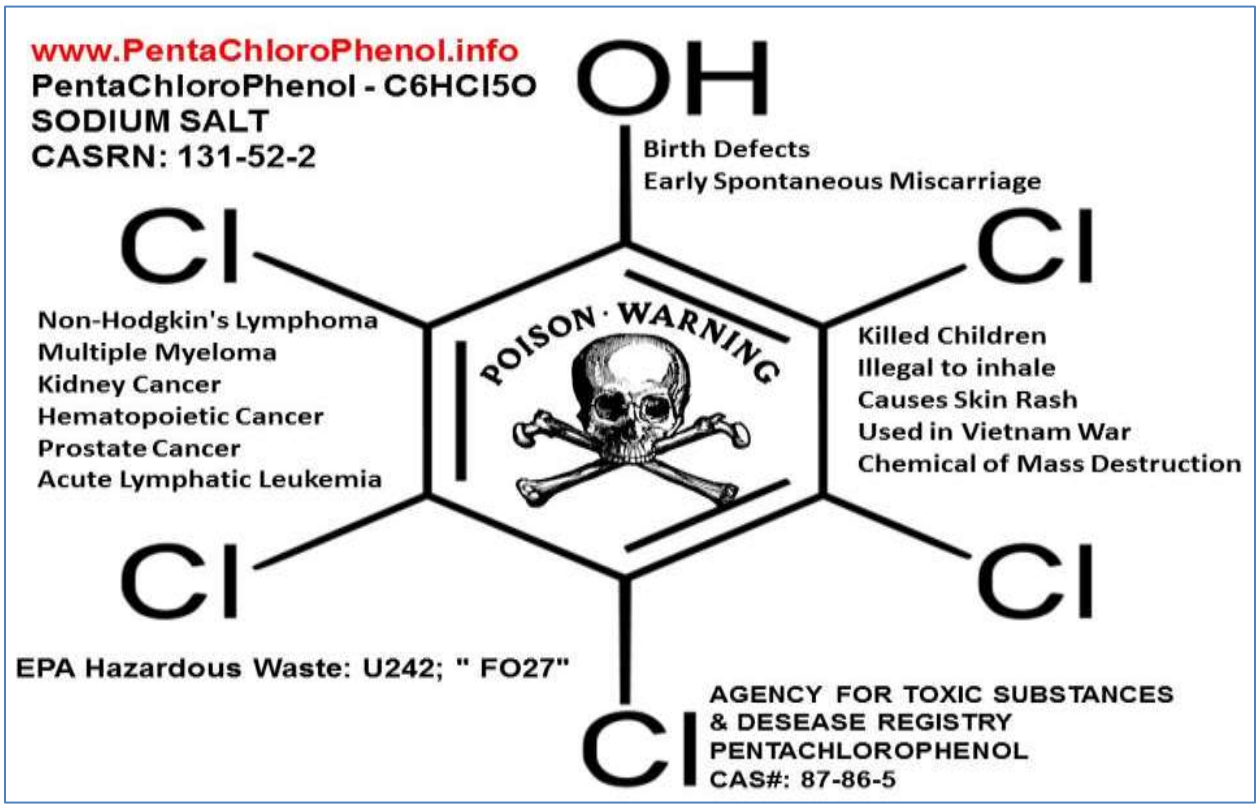
PentaChloroPhenol (PCP)

Penta – Chloro - Phenol



www.PentaChloroPhenol.info

WASHINGTON, Oct. 25, 2016 - The International Agency for Research on Cancer's latest report, which looks at the cancer-causing potential of five chemicals, received swift criticism from the group that represents U.S. pesticide manufacturers. IARC published a summary in The Lancet yesterday of its review of pentachlorophenol (PCP), IARC categorized pentachlorophenol as "carcinogenic to humans" (Group 1). http://www.agri-pulse.com/International-cancer-agencys-latest-report-raises-CropLifes-ire-10252016.asp

https://www.epa.gov/pesticide-reevaluation
http://www3.epa.gov/airtoxics/hlthef/pentachl.html
http://nepis.epa.gov/Simple.html
https://en.m.wikipedia.org/wiki/Pentachlorophenol

Dear Reader;

The following document is a complication of material about the toxic chemical PentaChloroPhenol. Short snippets about the material with a link to the content have been provided.

The purpose of the document is to consolidate in one easy to read format.

A copy of the document has been provided to the EPA to take under advisement in regards to their current review to consider re-registering PentaChloroPhenol.

The document is marked and supporting videos found at:

http://www.PentaChloroPhenol.info

The document will be updated periodically as new superfund sites , water well breaches, spills and illness are located and reported.

Questions may be referred to me Chuck Idol.

Thank you
Sincerely
Chuck Idol

PLEASE FEEL FREE TO

SHARE THE DOCUMENT!!

PREAMBLE

My journey for fighting this chemical started in 2014 after our town had some 220 eighty foot leaching poles installed near our schools, bus stops, hospitals and play grounds. This is one of the first articles I wrote after doing a deep dive into what this smelly, dirty wet chemical being installed near our children and drinking water.

https://longislandweekly.com/opinion-the-truth-about-the-poison-in-psegs-poles/
By Chuck Idol - July 21, 2014

A PSEG "hurricane pole" in Port Washington

Here on Long Island, as all across America, "hurricane poles" are being placed in local communities to "harden" our infrastructure and provide jobs as a part of the "federal fast-track program." Hardening means cutting trees and installing larger poles in residential and commercial areas.

Typically, the utility companies don't announce their plans to the communities, and certainly don't ask for input from residents. We saw this with PSEG Long Island's recent installation of hurricane poles through Port Washington, Manhasset and Great Neck, as well as other parts of their service area. Utilities often justify the unannounced construction by citing eminent domain. Or, if necessary, after the giant poles are erected, they issue a mea culpa (ad maiorem gloriam potestatem).

In our case, the poles are not only tall, but also toxic.

PSEG provides power over wooden poles saturated with Pentachlorophenol (Penta). Penta is a PCP chemical produced by mixing and pressure-treating wood with lethal phenols, chlorine and F9-HTS biodiesel fuels. Penta preserves the wood from rot by killing any living organism in, on or up to eight feet around the pole.

With that chemical cocktail, Penta poles leach carcinogenic poisonous gases and liquids that the Environmental Protection Agency (EPA) says shouldn't be encountered without protective clothes, gloves and masks.

Scary, huh?

To date, PSEG and LIPA have not issued a public safety announcement nor posted signs warning of:

1. Prenatal teratogenic effects (that is, congenital deformities) from hexachlorodioxin, a contaminant of pentachlorophenol

2. Fire departments needing to handle burning poles as HAZMAT (hazardous material)

3. The dangers to children who might absorb poison from the poles by playing around them, touching them, or eating—even breathing—nearby.

So how does PSEG get away with using such a powerful toxin throughout our communities?

The answer traces back to the EPA.

With pesticides such as Penta (yes, it's considered a pesticide), the EPA doesn't "approve" the compounds, rather, the agency "registers" them. Penta has been registered and reregistered for use, provided "that risk mitigation measures are adopted" and "that Pentachlorophenol will not pose unreasonable risks to humans or the environment."

The EPA reviews the impact of the pesticide, but its thoroughness may be less than most of us would expect. As the EPA sees it, "The purpose of the Agency's review is to reassess the potential hazards arising from the currently registered uses of the pesticide; to determine the need for additional data on health and environmental effects; and to determine

whether or not the pesticide meets the ‘no unreasonable adverse effects’ criteria of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).”

FIFRA does not use the word “adverse.” Rather, it looks for unreasonable “risk,” as in “any unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of the pesticide,” or “a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard.”

And even the EPA admits it is out of touch with the real-world uses of these chemicals, such as on utility poles.

“The Agency’s exposure models were designed to assess risk from agricultural chemicals; exposure estimates are expected to be conservative and may not be representative of ‘real world’ exposure.”

That’s very bad news for those of us here in the “real world.”

About the only good news is the fact that all of this federal fumbling does not preclude state and local governments from clamping down on the use of poisons such as Penta. It is essential that we — and local officials — make it clear to PSEG that we don’t want Penta in our soil and definitely not in our neighborhoods.

Chuck Idol lives in Port Washington. He holds multiple degrees, certifications, patents and copyrights in technology, and is the owner of Long Island Builders, LLC. Email: ChuckIdol@LongIslandBuilders.com

INDEX

1) CONTENTS

2) INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

http://www.iarc.fr/en/media-centre/iarcnews/pdf/Volume%20117_news%20item.pdf

International Agency for Research on Cancer

World Health Organization

24 October 2016

IARC Monographs evaluate pentachlorophenol and some related compounds

Lyon, France, 24 October 2016 – An international Working Group of 18 scientists convened by the International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization, has evaluated the carcinogenicity of five chemical agents: pentachlorophenol, 2,4,6-trichlorophenol, 3,3′,4,4′-tetrachloroazobenzene, aldrin, and dieldrin.

A summary of the final evaluations, based on the latest available scientific literature, is available online in *The Lancet Oncology*. The detailed assessments will be published as Volume 117 of the IARC Monographs.

Pentachlorophenol (PCP)

The insecticide PCP is classified as a persistent organic pollutant under the Stockholm Convention. PCP is a multipurpose pesticide that has mainly been used as a wood preservative. It has also been used as a biocide in the leather and textile industries. In Europe and North America, the sale to consumers of products containing PCP has been restricted since the 1990s.

PCP was classified by the Working Group as *carcinogenic to humans* (Group 1), based on *sufficient evidence* that PCP causes non-Hodgkin lymphoma in humans. In all of the available epidemiological studies, exposure to PCP was positively associated with non-Hodgkin lymphoma.

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3) CALIFONIA - PENTACHLOROPHENOL TO CAUSE CANCER

http://oehha.ca.gov/proposition-65/crnr/chemical-listed-effective-october-21-2016-known-state-california-cause-cancer

http://oehha.ca.gov/media/downloads/crnr/10212016responsepentachlorophenol.pdf

Oct 21, 2016

Effective October 21, 2016, the Office of Environmental Health Hazard Assessment (OEHHA) is adding pentachlorophenol and by-products of its synthesis (complex mixture) to the list of chemicals known to the state to cause cancer for purposes of Proposition 65[1].

The listing of pentachlorophenol and by-products of its synthesis (complex mixture) is based on formal identification by the National Toxicology Program (NTP), an authoritative body[2], that the chemical causes cancer. The criteria used by OEHHA for the listing of chemicals under the "authoritative bodies" mechanism can be found in Title 27, Cal. Code of Regs., section 25306.

The documentation supporting OEHHA's determination that the criteria for administrative listing have been satisfied for pentachlorophenol and by-products of its synthesis (complex mixture) is included in the "Notice of Intent to List Pentachlorophenol and By-Products of its Synthesis (Complex Mixture)" posted on OEHHA's website and published in the October 30, 2015 issue of the California Regulatory Notice Register (Register 2015, No. 44-Z). The publication of the notice initiated a public comment period that closed on November 30, 2015. OEHHA received three public comments on pentachlorophenol and by-products of its synthesis (complex mixture). The comments and OEHHA's responses are posted with the Notice of Intent to List.

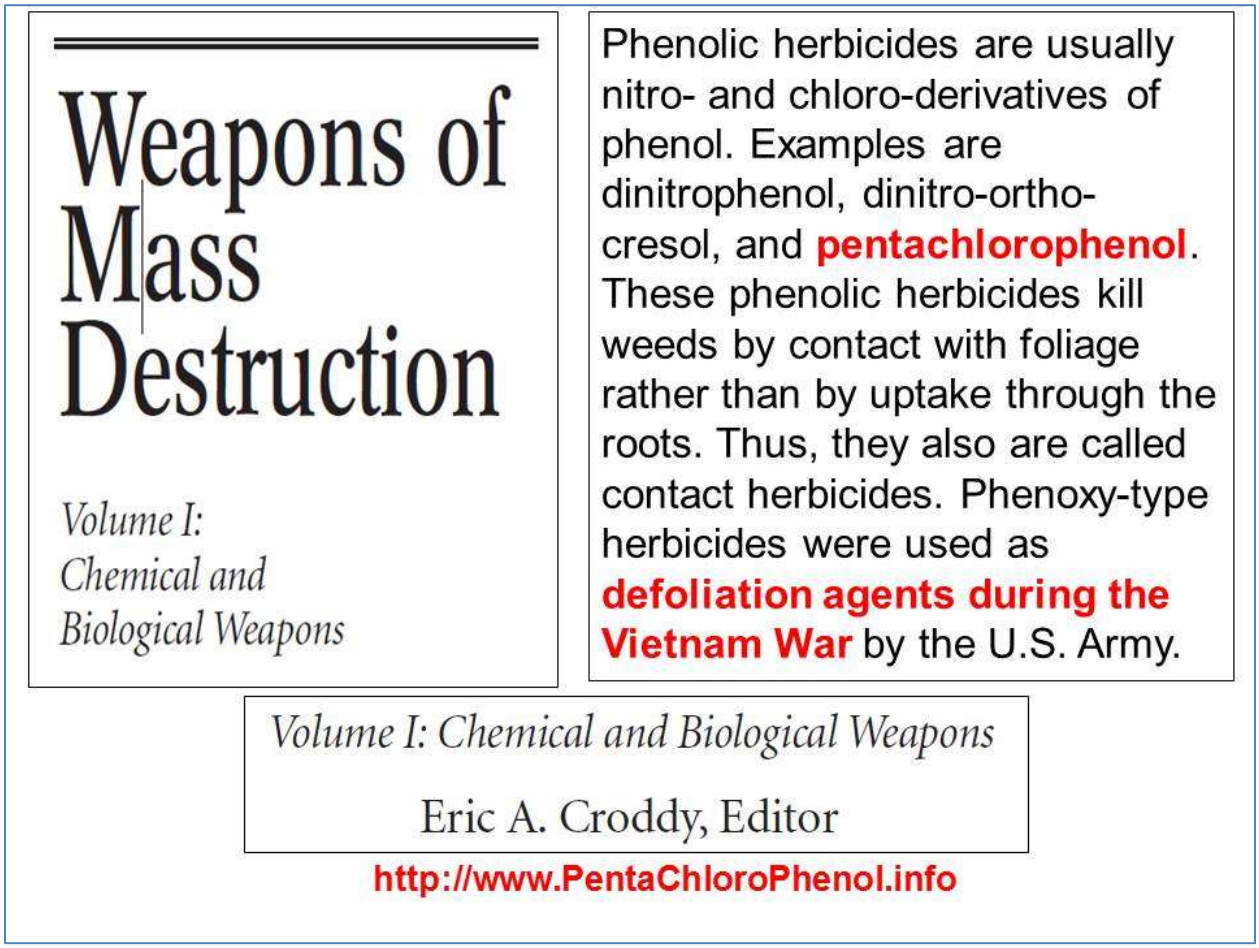
The chemical pentachlorophenol has been listed under Proposition 65 as known to cause cancer since January 1, 1990. This listing pertains to the complex mixture containing both pentachlorophenol and one or more compounds formed as by-products of pentachlorophenol synthesis.

A complete, updated chemical list is published in this issue of the California Regulatory Notice Register and is available on the OEHHA website at http://oehha.ca.gov/proposition-65/proposition-65-list.

In summary, pentachlorophenol and by-products of its synthesis (complex mixture) is listed under Proposition 65 as known to the state to cause cancer, as follows:

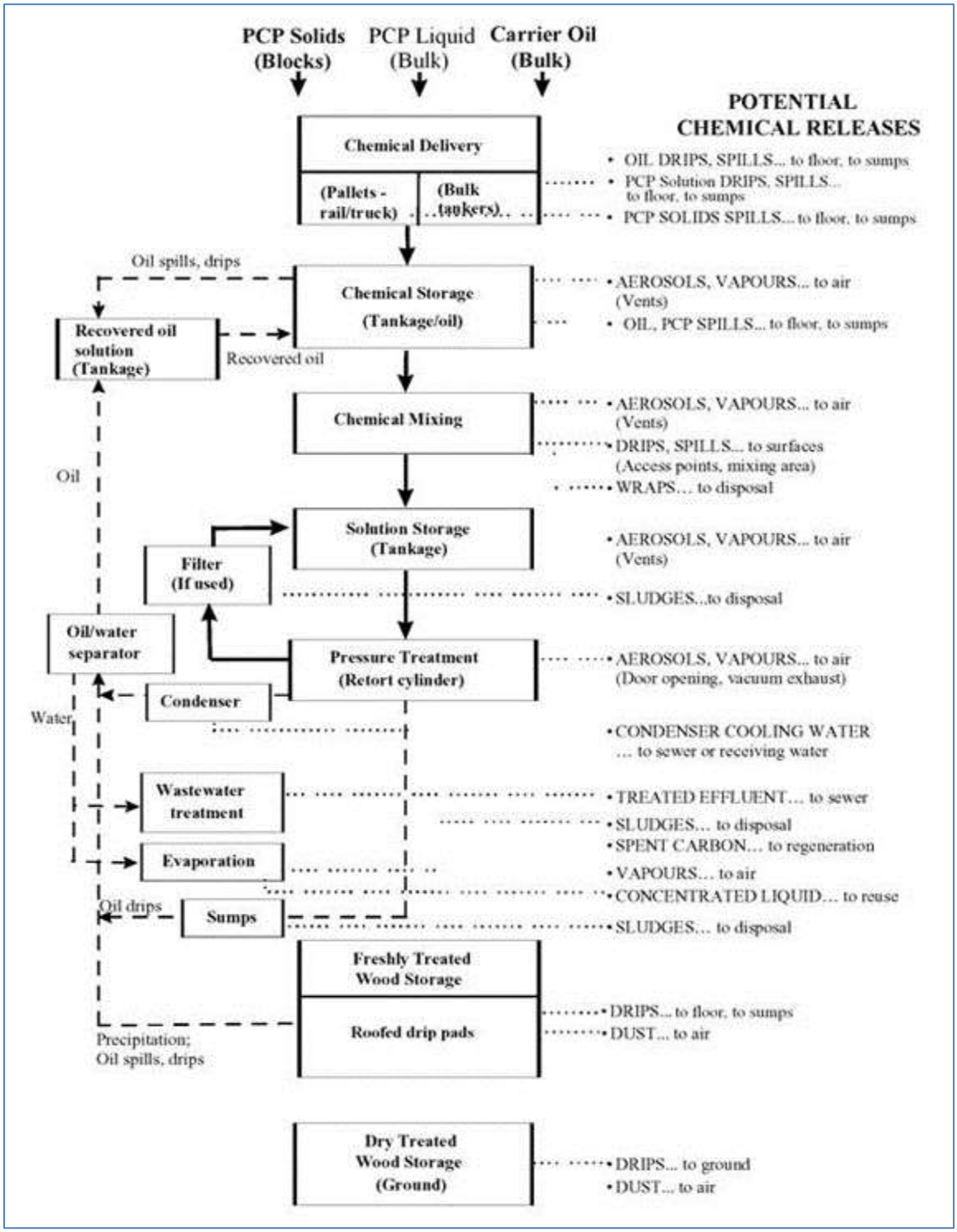
"…all of the components (microcontaminants) of "Pentachlorophenol and by-products of its synthesis (complex mixture)" that are associated with carcinogenicity, principally Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzofurans, and Hexachlorobenzene, are already listed as carcinogens under Proposition 65."

4) WEAPONS OF MASS DESTRUCTION



http://www.noufors.com/Documents/Books,%20Manuals%20and%20Published%20Papers/Books%20in%20PDF%20Format/Weapons%20of%20Mass%20Destruction.pdf

5) CHEMICAL RELEASES TO THE ENVIRONMENT



6) BASIC INFORMATION:

According to "Wood Pole Purchasing, Inspection, and Maintenance 69 percent of poles in service are southern pine, followed by Douglas-fir (15 percent) and western red cedar (13 percent).

The most prevalent wood preservative for poles in service is pentachlorophenol (Penta). Approximately 63 percent of poles are treated with this preservative.

According to industry experts, some 16.5 million pounds of technical Penta are used annually, each year resulting in the Penta treatment of an estimated 2 million wood utility poles. Estimates a total of 4.2 million poles treated annually with all preservatives.

Wood treaters purchase Penta in block form and dissolve it in cosolvent or whole P9 oil-as defined by the American Wood Protection Association (AWPA)-or purchase it as a 40 percent concentrate and mix it with blending oil (typically #2 fuel oil-petroleum diesel).

Penta recently underwent an extensive data review process, resulting in its re-registration by the US Environmental Protection Agency.

AWPA standards have also been modified to allow the use of *biodiesel-hydrocarbon blends as a carrier solvent,* …..

Recent studies have shown that *Penta dissolved in biodiesel-based systems might not be as effective as petroleum-based carrier systems.* Reports from laboratory tests and limited field testing on a proprietary biodiesel containing *P9 oil indicate the biodiesel may not effect efficacy*, but long-term data is not yet available.

Penta is a restricted use pesticide. The only major company manufacturing and selling Penta as a wood preservative in the US is KMG-Bernuth Inc.

http://www.utilityproducts.com/articles/print/volume-16/issue-06/product-focus/line-construction-maintenance/wood-utility-poles-and-preservative-choices.html

To: Whom It May Concern

Information about the chemical called PentaChloroPhenol the chemical used to treat wooden utility poles you will see leaching off the poles and near your ground water.

Pentachlorophenol (penta or PCP) was first introduced for use as a wood preservative in 1936 by Dow Chemical Company and Monsanto Chemical Company. Penta has since been used as an herbicide on ornamental lawns, golf courses, aquatic areas, and rights-of-way; for control of subterranean termites; as an anti-microbial agent in cooling towers, adhesives, latex paints, paper coatings, cements used with food can ends and seals, coatings in reusable bulk food storage containers, photographic solutions, leather tanneries, and pulp and paper mills; and, as a disinfectant.

PentaChloroPhenol is marketed under the trade names Santophen, Penchlorol, Chlorophen, Pentacon, Penwar, Sinituho and Penta among others.

As of 1977, about **50 million pounds of penta were produced annually in the United States**. In 1985, 35 million pounds of penta were manufactured in the U.S. Vulcan Chemicals, located in Wichita, Kansas, is penta's sole U.S. producer.

In 1988, the U.S. Environmental Protection Agency (EPA) cancelled all uses of penta except for its use as a wood preservative.

Teratogenicity:

EPA has concluded that penta and possibly its hexachlorodibenzo - p-dioxin (HxCDD) contaminants cause birth defects and fetotoxic effects in test animals.32 Reported adverse effects in fetuses from penta exposure include distorted sex ratios, increased incidences of resorbed embryos, skeletal anomalies, subcutaneous edema (excessive fluid), reduced survival, and reduced growth.7,29 Reported no observable effect levels (NOELs) for teratogenicity range from 3 to 5.8 milligrams per kilogram (mg/ kg) per day for penta and .001 mg/kg per day for HxCDD.4,29,33

Pentachlorophenol has been one of the most heavily used pesticides in the United States. The compound is found in all environmental media (air, soil, and water) as a result of its past widespread use. In addition, a number of other chemicals, including **hexachlorobenzene**, **pentachlorobenzene**, and **benzene hexachloride isomers, are known to be metabolized to pentachlorophenol. Pentachlorophenol has been identified in at least 313 of the 1,585 hazardous waste sites that have been proposed for inclusion on the EPA National Priorities List (NPL) (HazDat 2001). However, the number of sites evaluated for pentachlorophenol is not known**. (ATDSR = tp51-c6)

With so much focus being given on Climate Change and the need for more electricity and Internet connectivity comes the demand for more wooden utility poles across the United States Of America.

Wooden poles are treated with a deadly chemical PentaChloroPhenol (PCP) a carcinogen. It is also treated with P9 crude oil all in the effort to try and keep the wood from degrading over a 40 /60-year period. During that time, the wood must be retreated by pouting chemicals at the base and injecting more chemicals into the wood to keep it from being eaten by bugs or destroyed by woodpeckers and more.

The PentaChloroPhenol will leech gallons into the ground and the retreatment is measure and managed in “gallons” per pole. Look around your community and calculate the amount of chemicals needed to keep one pole from rotting after being cut and stripped.

One pole and its leeching can cause cancer and death to anything it comes in contact with given its low absorption and daily limit intake threshold.

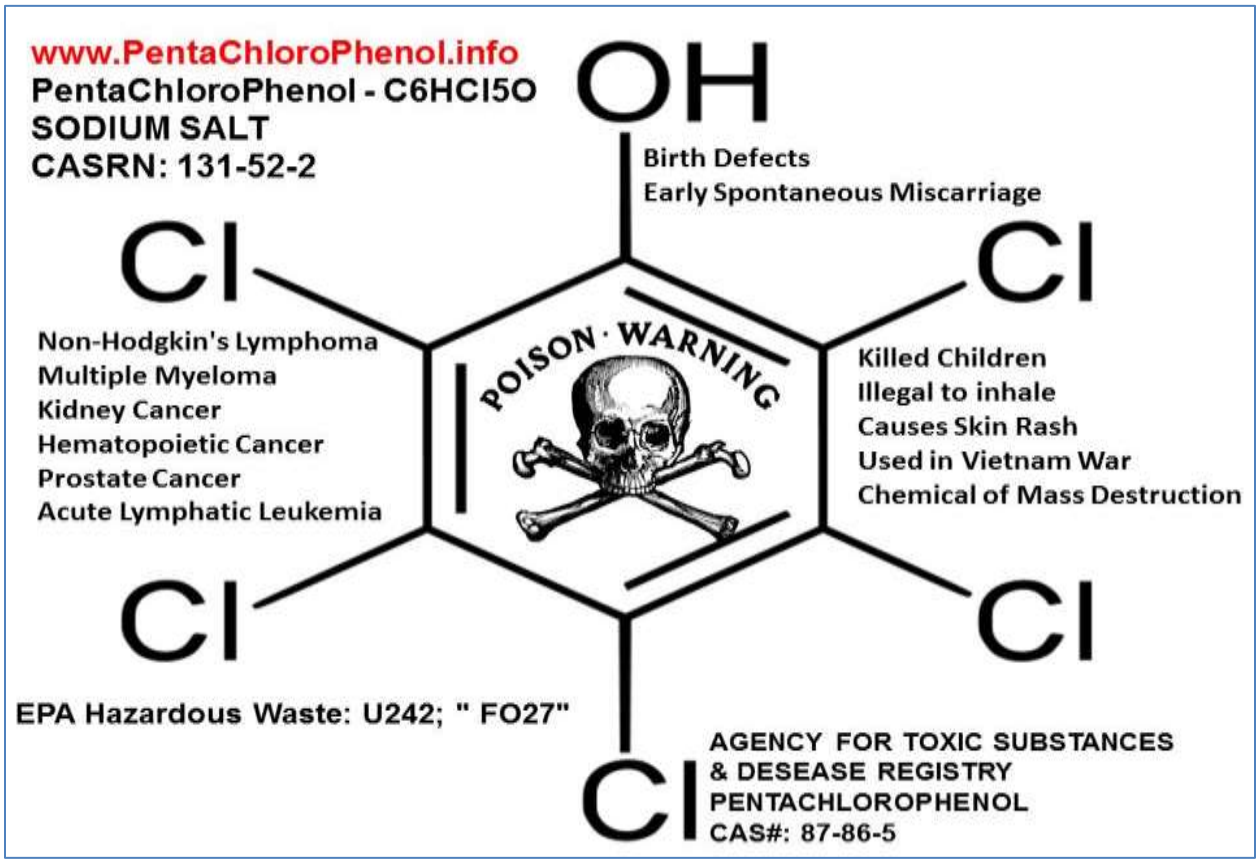
7) ONE EXAMPLE - INDIAN POSIONING

http://www.therepublic.com/view/local_story/Editorial-Contamination-remedy_1443742927

"When REMC customer David Carothers noticed a **strange odor coming** from the well **that provides drinking water** for his home on Lowell Road, he reached out to the utility for help. He also reported to the utility that **26 fish in a pond fed by the well water had died.** The only recent change he was aware of was installation of new power lines and poles by REMC near his home. When he investigated the poles, he found that one — located about 52 feet from the well — had the same odor as the well water. REMC came to Carothers' home and tested the water for chemicals. The results showed 13 chemicals in the well water, including **pentachlorophenol,** a substance used to treat utility poles. **The utility company acknowledged that the pole was the likely culprit of contamination.."**

This document (which is being updated frequently) is meant to bring the issues related to chemical poles and to help explain there are non-chemical solutions to wood poles such as Steel and Fiber Reinforced Polymer Poles bury the lines http://www.NoMorePoles.com.

The EPA is well aware of the issues but has to date not banned or even released an interim restriction for this lethal chemical even when the rest of the world has taken action and banned it globally.



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www.PentaChloroPhenol.info and the documents can be found under:

www.PentaChloroPhenol.info/DocShare and:

PentaChloroPhenol has been banned other than the United States.

There are alternatives to 18th century wooden poles. Many Utility Companies are using 20th century solutions such as Steel and FRP – Fiber Reinforced Polymer Poles that do not leech and come with a warrantee.

PentaChloroPhenol will only last an average of 10 years then you will find your town facing yet another chemical that is used to maintain the poles by drilling and pouring gallons of chemicals into the wood to try and save it. Aka “Pole Maintenance”

There have been numerous issues related to the smell of the PentaChloroPhenol and the P9 Crude Oil that will leech down the pole and onto the ground and possibly into the ground water. Homeowners are complaining it is affecting their property use and property value. We even have laws against breathing the fumes as follows:

The Law

N.Y. PBH. LAW § 3380 : NY Code - Section 3380: Inhalation of certain toxic vapors or fumes, and certain hazardous inhalants; sale of glue and hazardous inhalants in certain cases 1. (a) As used in this section the phrase "glue containing a solvent having the property of releasing toxic vapors or fumes" shall mean and include any glue, cement, or other adhesive containing one or more of the following chemical compounds: acetone, cellulose acetate, benzene, butyl alcohol, ethyl alcohol, ethylene dichloride, ethylene trichloride, isopropyl alcohol, methyl alcohol, methyl ethyl ketone, pentachlorophenol, petroleum ether, toluene or such other similar material as the commissioner shall by regulation prescribe.

8) PENTACHLOROPHENOL TERATOGENIC EFFECTS

http://pi.ace.orst.edu/search/getDocketDocument.s?document=EPA-HQ-OPP-2004-0402-0012

PentaChloroPhenol Teratogenic effects "studies, especially those of Schwetz et al. (1974) and Welsh et al. (1987), **showed toxic effects of pentachlorophenol in offspring that occurred at dose levels below those producing maternal toxicity**. In addition, it is recognized that the contaminants hexachlorodioxin and 2,3,7,8 tetrachlorodioxin are considered teratogenic chemicals. Due to this reason combined with the knowledge that hexachlorodioxin is a contaminant of pentachlorophenol, the warning labels on pentachlorophenol formulations with respect to potential teratogenic effects have remained."

9) PENTACHLOROPHENOL CHILDREN BREATHING PESTICIDES

"Because of their higher rate of breathing, children are more highly exposed to pesticides that remain in indoor air. Compared to their parents, children living in homes with indoor air contaminated with the pesticide **pentachlorophenol (PCP)** , were found to have close to twice as much PCP in their blood as their parents. Children also spend a lot of time closer to the ground than adults thus they are more likely to come into contact with pesticides that concentrate in this breathing zone. Children also have greater hand-to-mouth activity, increasing opportunities for direct ingestion of pesticide residues in dirt or dust."

10) PENTACHLOROPHENOL AND P9 CRUDE OIL LEACHING.

11) PENTACHLOROPHENOL AGENT ORANGE – AGENT BLUE

Agent Orange / Agent Blue :

chlorophenoxy or chlorophenols acid herbicides

Dioxins are also generated in such as chlorine bleaching fibers for chlorinated phenols, Compounds involved include the wood preservative pentachlorophenol, and also herbicides such as 2,4-dichlorophenoxyacetic acid (or 2,4-D) and 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). Higher levels of chlorination require higher reaction temperatures and greater dioxin production. Dioxins may also be formed during the photochemical breakdown of the common antimicrobial compound triclosan.[17]

12) BURY THE LINES - HTTP://NOMOREPOLES.COM

Strong Town Leaders are looking to bury lines to ensure their towns remain healthy and look like a place their residents and children can grow and work.

THIS IS NOT NESSESSARY ONLY A CHEAP TEMPORAY SOLUTION

13) THE WORLD BANS PENTACHLOROPHENOL

Announcement to Ban PentaChloroPhenol Click Here

(Geneva, Switzerland) – Delegates from more than 90 countries took the unprecedented step of voting for a global ban on pentachlorophenol – a proven toxic pesticide and contaminant found in wildlife and human biomonitoring studies worldwide. The historic vote came at the combined meetings of the Basel, Rotterdam, and Stockholm Conventions – which usually make decisions by consensus – after India repeatedly blocked action.

During the meeting, India surprisingly rejected the findings of the Stockholm Convention's own scientific expert committee in which they participated. Switzerland triggered the voting procedure – the first in the history of the convention. Ninety-four countries voted in favor of global prohibition of pentachlorophenol; two opposed; and eight countries abstained.

"We commend the global community for this important decision which will help ensure that the Indigenous Peoples of the Arctic and the traditional foods on which they depend are protected against toxic pentachlorophenol," said Pamela Miller ofAlaska Community Action on Toxics. The delegates of the Stockholm Convention also supported international bans on two other industrial chemicals that harm the global environment and human health: chlorinated naphthalenes and hexachlorobutadiene.

Delegates at the Rotterdam Convention failed to list two deadly substances, chrysotile asbestos and a paraquat formulation, despite the fact that exporters would simply have been required to notify and get permission from importing countries. Belarus, Cuba, India, Kazakhstan, Kyrgyzstan, Pakistan, and Russia all opposed listing chrysotile asbestos. Guatemala, India, Indonesia, and Paraguay blocked listing of the paraquat formulation.

"All the candidate substances meet the Convention criteria according to the treaty's own expert committee," said Mariann Lloyd-Smith, IPEN Sr. Policy Advisor. "That means that a small handful of opposing countries and their powerful industry representatives undermined the treaty with a political decision that disrespects governments' right to know what substances are

14) ONE MOTHERS STORY

One Mothers Story – CLICK HERE

PENTACHLOROPHENOL UTILITY POLES

Senator Chuck Schumer to National Grid: Stop installing toxin-infused utility poles

http://www.syracuse.com/news/index.ssf/2015/06/schumer_to_national_grid_suspend_use_of_t

15) PENTACHLOROPHENOL IMPACT ON BIRDS

BIRDS

Signs of PCP intoxication in birds include excessive drinking and regurgitation, rapid breathing, wing shivers or twitching, jerkiness, shakiness, ataxia, tremors, and spasms (Hudson et al. 1984). Signs sometimes appear within 10 minutes. Mallards usually die 2 to 24 hours posttreatment, and ring-necked pheasants 3 to 5 days posttreatment; remission in pheasants requires up to 2 weeks (Hudson et al. 1984).

Pentachlorophenol killed various species of birds at single oral doses of 380 to 504 mg/kg BW, at dietary concentrations of 3,850 mg/kg ration fed over a 5-day period, and when nesting materials contained >285 mg/kg. Residues (mg/kg fresh weight tissue) in birds found dead from PCP poisoning were 11 in brain, 20 in kidney, 46 in liver, and 50 to 100 in egg (Table 5). Sublethal effects, including liver histopathology and diarrhea, were reported in domestic chickens at dietary levels as low as 1 mg PCP/kg feed over an 8-week period; significant accumulations in tissues were measured after consumption for 14 days of diets containing 10 mg PCP/kg (Table 5). Residues in chickens fed PCP-containing diets for 8 weeks were dose-related and highest in kidney

16) "I NEVER DREAMED PENTA WAS AS DANGEROUS UNTIL I LOST MY SON."

http://www.wbrc.com/story/28944736/toxic-trouble-does-contamination-remain-in-the-soil-and-water

FLOWOOD, MS (Mississippi News Now) - Few people realize that 6 acres in Flowood remain on the EPA's Superfund list. Why? Chemical waste left behind in the soil and water that the EPA concluded may be linked to adverse health impacts.

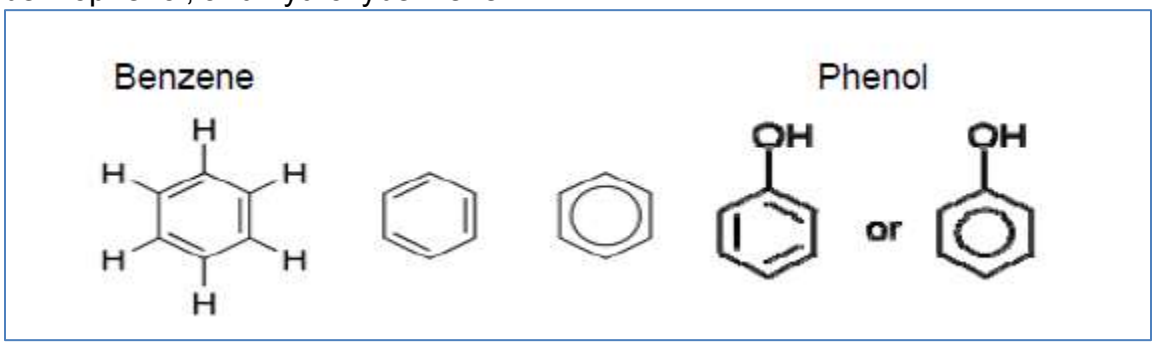
READ THE ARTCLE ON THE WEB SITE.

17) BREAST CANCER AND PENTACHLOROPHENOL

There were seven phenols followed and reported in selected participants. Four environmental phenols, Bisphenol A, 2-Hydroxy-4-methoxybenzophenone (Benzophenone-3), 4-tert-Octyl phenol and 2,4,4'-Trichloro-2'-hydroxyphenyl ether (Triclosan), and three organchlorine pesticides, **Pentachlorophenol**, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol.

Phenols or phenolics are a manufactured class of weakly acidic water-soluble chemical compounds related to the organic chemical compound phenol naturally present in most foods. Phenol is used as a slimicide, a disinfectant, in medical products, and as a reagent in research laboratories and as a precursor or intermediate during the manufacture of phenolic resins, bisphenol A, caprolactam, adipic acid, alkylphenols, aniline, and **chlorinated phenols**. Phenols are readily absorbed following inhalation, ingestion or skin contact, and are widely distributed in the body, can cross the placenta, and have been found in human breast milk. Some phenols are weak endocrine disrupters.

Phenol chemical formula is C6H5OH and its structure is that of a hydroxyl group (-OH) bonded to a phenyl ring (Fig. 1). Synonyms for phenol include carbolic acid, benzophenol, and hydroxybenzene.



18) PENTACHLOROPHENOL (PCP) IN TOYS

http://anchorcertanalytical.com/testing-services/pentachlorophenol

Pentachlorophenol is a synthetic substance that was first produced in the 1930's. It can be found in two forms – PCP itself or as the sodium salt of PCP, which dissolves easily in water.

Pentachlorophenol (PCP) can be found in several product types and is used to prevent fungal growth and decay by the spread of bacteria. In textile and leather industry, PCP is mostly used for preservation finishing; in ligneous products PCP can be used in conservation paints. PCP can also be used in wooden toys and handicrafts.

Concern

PCP and its salts are highly toxic for aquatic systems and highly persistent in the environment. PCP is also harmful to human health (short term exposure to large amounts of PCP can cause harmful effects on the liver, kidneys, blood, lungs, nervous system, immune system and gastrointestinal tract) and contact with PCP can irritate the skin, eyes and mouth. Products containing PCP may form highly toxic substances when they are incinerated. PCP is also a suspected/probable carcinogen.

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19) PENTACHLOROPHENOL – (WWW.FS.FED.US)

http://www.fs.fed.us/t-d/pubs/htmlpubs/htm06772809/page14.htm

Consumer Information

This wood has been preserved by pressure-treatment with an EPA-registered pesticide containing pentachlorophenol to protect it from insect attack and decay. Wood treated with pentachlorophenol should be used only where such protection is important. Pentachlorophenol penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to pentachlorophenol may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use and dispose of the treated wood.

Use Site Precautions

- Logs treated with pentachlorophenol should not be used for log homes.
- Wood treated with pentachlorophenol should not be used where it will be in frequent or prolonged contact with bare skin (for example, chairs and other outdoor furniture), unless an effective sealer has been applied.
- Pentachlorophenol-treated wood should not be used in residential, industrial, or commercial interiors except for laminated beams or building components that are in ground contact and are subject to decay or insect infestation and where two coats of an appropriate sealer are applied. Sealers may be applied at the installation site. Urethane, shellac, latex epoxy enamel, and varnish are acceptable sealers for pentachlorophenol-treated wood.
- Wood treated with pentachlorophenol should not be used in the interiors of farm buildings where there may be direct contact with domestic animals or livestock that may crib (bite) or lick the wood.
- In interiors of farm buildings where domestic animals or livestock are unlikely to crib (bite) or lick the wood, pentachlorophenol-treated wood may be used for building components which are in ground contact and are subject to decay or insect infestation and where two coats of an appropriate sealer are applied. Sealers may be applied at the installation site.
- Do not use pentachlorophenol-treated wood for farrowing or brooding facilities.
- Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such sites would be structures or containers for storing silage or food.
- Do not use treated wood for cutting boards or countertops.

- Only treated wood that is visibly clean and free of surface residue should be used for patios, decks, and walkways.

- Do not use treated wood for construction of those portions of beehives that may come into contact with the honey.

- Pentachlorophenol-treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

- Do not use pentachlorophenol-treated wood where it may come into direct or indirect contact with drinking water for domestic animals or livestock, except for uses involving incidental contact such as docks and bridges.

Handling Precautions

- Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers rated at 20 million British Thermal Units/hour or greater heat input or its equivalent in accordance with State and Federal regulations.

- Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.

- When power-sawing and machining, wear goggles to protect eyes from flying particles.

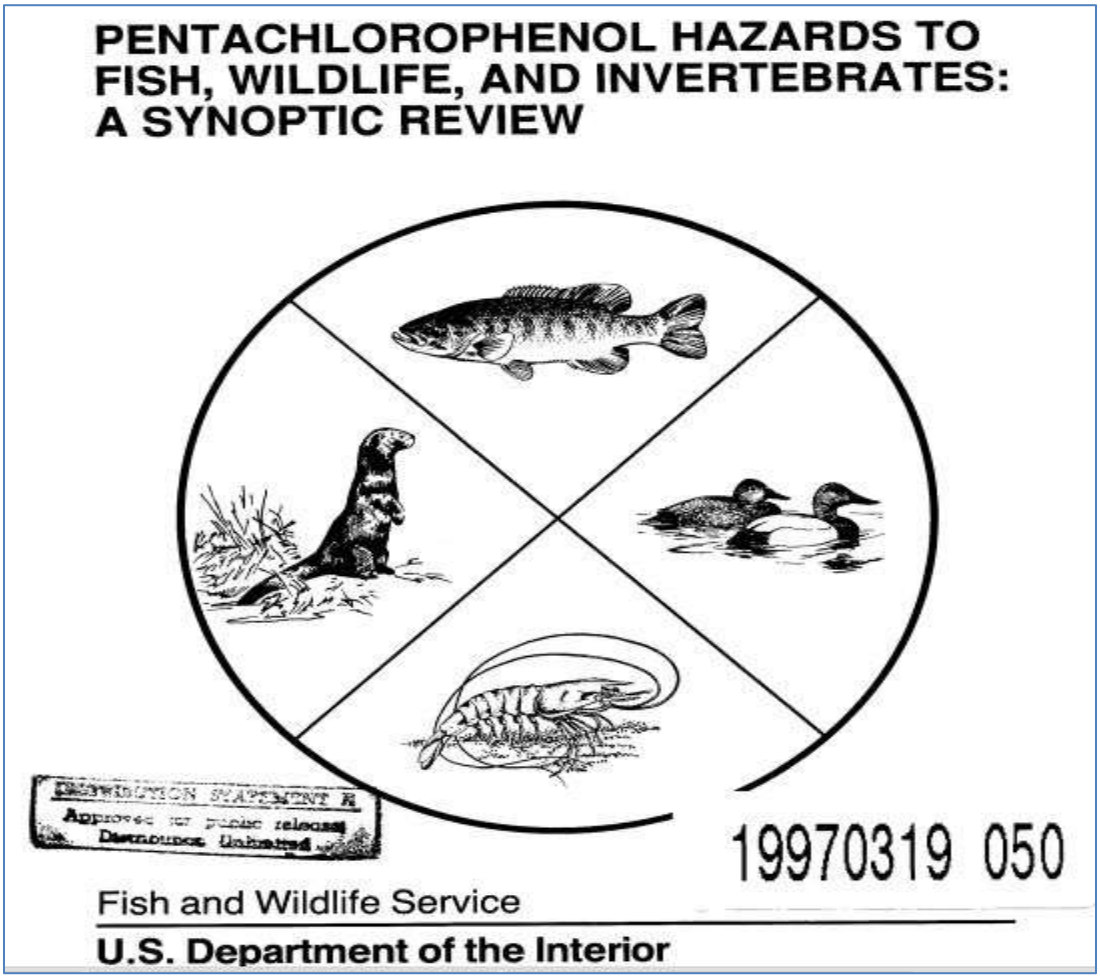
- Avoid frequent or prolonged skin contact with pentachlorophenol-treated wood.

- When handling the treated wood, wear long-sleeved shirts and long pants and use gloves impervious to the chemicals (for example, gloves that are vinyl-coated).

- After working with the wood, and before eating, drinking, and using tobacco products, wash exposed areas thoroughly.

- If oily preservatives or sawdust accumulates on clothes, launder before reuse. Wash work clothes separately from other household clothing.

20) PENTACHLOROPHENOL IMPACT ON WILD LIFE



http://www.dtic.mil/dtic/tr/fulltext/u2/a322630.pdf

21) PARK VISON PLAN CALLS FOR NO PENTACHLOROPHENOL

2015 SNOHOMISH COUNTY PARKS AND RECREATION VISIONING PLAN

*** CALLS FOR BAN ON PENTACHLOROPHRNOL ***

http://snohomishcountywa.gov/DocumentCenter/View/28315

Yes, I would please urge the parks to not use ANY pesticides or chemicals herbicides in the parks, this includes Round-up (glyphosate)... For further info see the numerous articles on it http://www.panna.org/search/node/Glyphosate, this article http://www.i-sis.org.uk/EU_Regulators_Monsanto_Glyphosate_Toxicity.php and

http://www.beyondpesticides.org/gateway/pesticide/glyphosate.htm. Also, please do not use extremely toxic chemicals to treat fences or other woods in the park, such as **Pentachlorophenol ("Penta") - see**

http://www.beyondpesticides.org/gateway/pesticide/penta.htm, a good one to read is this http://www.beyondpesticides.org/wood/pubs/poisonpoles/findings.html This toxins get into our water supply, birds, insects and entire eco-system. Please help make our State and its parks safe for all living creatures and especially our children, whose growing bodies and immune system are most susceptible to harm by this toxic chemicals.

https://www.beyondpesticides.org/assets/media/documents/infoservices/pesticidesandyou/Fall%2001/Poison%20Playgrounds.pdf

https://www.beyondpesticides.org/assets/media/documents/infoservices/pesticidesandyou/documents/UtilityPolesFall2014.pdf

http://www.beyondpesticides.org/assets/media/documents/infoservices/pesticidesandyou/Spring%202008/wood.pdf

Have You Ever Seen Someone Near a Utility Pole? EPA Hasn't!

Send a picture and help EPA see the reality of wood preservative exposure in your community.

Children playing around utility poles treated with chemicals like pentachlorophenol with contaminants including dioxin, furans and hexachlorobenzene. People, pets and wildlife exposed daily. The pictures speak for themselves and they reflect the reality that people know.

Yet, in documents EPA released on April 17, 2008 the agency says people don't come into contact with utility poles or these chemicals, known by EPA to cause cancer, kidney and liver disease and reproductive effects.

The undoctored stock photos on this page illustrate how common exposure to utility poles, both in use and recycled, is in everday life.

22) PENTACHLOROPHENOL TOXICOLOGY ENVIRONMENTAL FATE

FULL ARTCLE CLICK HERE

As of 1977, about 50 million pounds of penta were produced annually in the United States.2 In 1985, 35 million pounds of penta were manufactured in the U.S.4 Vulcan Chemicals, located in Wichita, Kansas, is penta's sole U.S. producer.5 In 1988, the U.S. Environmental Protection Agency (EPA) cancelled all uses of penta except for its use as a wood preservative

"EPA has concluded that penta and possibly its hexachlorodibenzop - dioxin (HxCDD) contaminants cause birth defects and fetotoxic effects in test

animals."

Pentachlorophenol: Toxicology and Environmental Fate

By Brett Fisher

Pentachlorophenol (penta or PCP) was first introduced for use as a wood preservative in 1936 by Dow Chemical Company and Monsanto Chemical Company.[1] Penta has since been used as an herbicide on ornamental lawns, golf courses, aquatic areas, and rights-of-way; for control of subterranean termites; as an anti-microbial agent in cooling towers, adhesives, latex paints, paper coatings, cements used with food can ends and seals, coatings in reusable bulk food storage containers, photographic solutions, leather tanneries, and pulp and paper mills; and, as a disinfectant.[2] It is marketed under the trade names Santophen, Penchlorol, Chlorophen, Pentacon, Penwar, Sinituho and Penta among others.[3]

As of 1977, about 50 million pounds of penta were produced annually in the United States.[2] In 1985, 35 million pounds of penta were manufactured in the U.S.[4] Vulcan Chemicals, located in Wichita, Kansas, is penta's sole U.S. producer.[5] In 1988, the U.S. Environmental Protection Agency (EPA) cancelled all uses of penta except for its use as a wood preservative.[6]

There are two manufacturing processes used to produce penta: (1) the

however, is incomplete. Technical grade penta contains from 4 to 12 percent tetrachlorophenols, which are toxic in their own right. In addition, the high temperatures used in manufacturing penta produce several contaminants including hexachlorobenzene, dioxins, and furans (see Figure 1).[2]

There are two general methods for preserving wood, the pressure process and the non-pressure process. The pressure-treating process involves placing the wood in a pressure-treating vessel where it is immersed in the preservative and then subjected to applied pressure. The excess penta is vacuumed from the vessel and the treated wood is removed, inspected, stored, and shipped. In the non-pressure process, penta is applied to the surface of wood by spraying, brushing, dipping, and soaking. This process is used for short-term wood protection in construction where the wood will be protected from exposure to soil or weather through brick or cement barriers. This process is also used to control sapstain fungi (fungi which leave a blue stain on wood) by passing green lumber through a spray tunnel or by dipping the wood.[7]

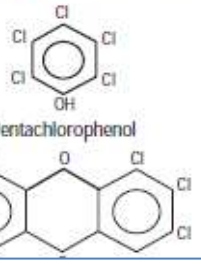
Human Exposure

People are exposed to penta in the

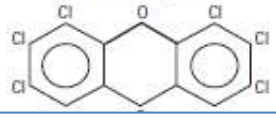
etrated the skin than had been estimated by EPA: 62 percent of the penta in oil was absorbed and 16 percent of the penta in water.[13] Two recent studies of sawmill workers exposed to water-based penta support these findings.[10,14] These findings suggest that workers and others, such as those living in treated homes or children who play on treated playground structures, may be at greater risk from exposure through skin contact than estimated by EPA.

Although most people are not occupationally exposed to penta, researchers for the national Health and Nutritional Examination Survey II of the National Center for Health Statistics found

Figure 1
Pentachlorophenol and Some of Its Contaminants



Pentachlorophenol



23) MORTALITY IN COHORT PENTACHLOROPHENOL

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 30:180–194 (1996)

Mortality in a Cohort of Pentachlorophenol Manufacturing Workers, 1940–1989

Jonathan M. Ramlow, PhD, MPH, Nanette W. Spadacene, CIH, MPH, Scott R. Hoag, IHIT, MS, Beth A. Stafford, BS, Janice B. Cartmill, BS, RN, and Phillip J. Lerner, MD, MPH

Mortality in a cohort of 770 workers with potential pentachlorophenol (PCP) exposure was evaluated from 1940 through 1989. The study cohort is a subset of a larger cohort of workers with potential exposure to higher chlorinated dioxins. Total mortality and cancer mortality in the PCP cohort were slightly lower than expected in comparison to the U.S. white male population. There were 229 total deaths with 242.5 expected (SMR = 94, 95% confidence interval 83–108), and 50 cancer deaths with 52.6 expected (SMR = 95, 95% confidence

24) PENTACHLOROPHENOL DATA SHEET

KMG

SAFETY DATA SHEET

1. Identification

Product identifier **Dura-Treat 40 Wood Preserver**

http://kmgchemicals.com/wp-content/uploads/Dura-Treat-40-Wood-Preserver-Safety-Data-Sheet.pdf

25) PROP- 65 PENTACHLOROPHENOL - "KNOWN TO CAUSE CANCER"

http://oehha.ca.gov/prop65/CRNR_notices/admin_listing/intent_to_list/NOIL103015pentachlrophenol.html

Proposition 65

NOTICE OF INTENT TO LIST PENTACHLOROPHENOL AND BY-PRODUCTS OF ITS SYNTHESIS (COMPLEX MIXTURE) [10/30/15]

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) intends to list "pentachlorophenol and by-products of its synthesis (complex mixture)" as known to the state to cause cancer under the Safe Drinking Water and Toxic Enforcement Act of 1986[1]. This action is being proposed under the authoritative bodies listing mechanism[2].

Pentachlorophenol is currently listed as **known to the state to cause cancer** under Proposition 65.

This listing includes the byproducts of pentachlorophenol synthesis, which are found in varying amounts in pentachlorophenol and the sodium salt formulations.

26) ALASKA COMMUNITY ACTION ON TOXICS

http://www.watershedsentinel.ca/content/eliminate-toxic-chemicals

Eliminate Toxic Chemicals

Source:

Alaska Community Action on Toxics

ANCHORAGE, AK, USA; TORONTO, ON, CANADA; TEXCOCO, STATE OF MEXICO, MEXICO: Today, health, human rights, environmental justice, and conservation organizations across North America are calling on the governments of Mexico, Canada, and the United States (US) to join them in opposition to the continued use of pentachlorophenol (PCP). Coalitions in each of the three countries are sending letters in advance of the Conference of the Parties (COP7) of the Stockholm Convention on Persistent Organic Pollutants (POPs) in May 2015 demanding support for a global ban on PCP, as well as two additional substances recommended for global elimination by a UN expert committee (aka POPs Review Committee).

PCP has been used throughout the world as an insecticide, fungicide, and defoliant. currently, it is used primarily as a wood preservative pesticide for utility poles, with the majority of use in the U.S. and Canada. Due to its high toxicity and persistence in the environment, PCP has already been banned in many countries.

"Pentachlorophenol has global health implications since it is found in the bodies of people throughout the world including Indigenous Peoples of the Arctic. Now governments must agree to finally eliminate this toxic chemical," said Pamela Miller, Executive Director of Alaska Community Action on Toxics.

People are exposed through inhalation and ingestion of the chemical, skin contact, and contaminated ground water. PCP is a persistent toxic chemical found in the breast milk, blood, amniotic fluid, adipose tissue, and seminal fluid of people throughout the world. The chemical is associated with adverse health effects including damage to the developing brain and nervous system, impairment of memory and learning, disruption to thyroid function, immune suppression, infertility, and increased risk of certain cancers such as non-Hodgkin lymphoma.

"As a coalition of NGOs and academics from throughout Mexico, we are calling on the Mexican government to support a global ban on PCP without exemptions, and demanding a thorough investigation of the environmental and health impacts at the maquiladora manufacturing facility that produces PCP for wood preservation and the only manufacturer of wood-preserving PCP in North America, according to the producer," states Fernando Bejarano with Red de Acción en Plaguicidas y Alternativas en México (RAPAM) and IPEN hub for Latin America and the Caribbean.

"We are urging the Canadian government to align itself with other countries around the world that have stopped using PCP. The POPs Review Committee has been tremendously thorough in its work and has demonstrated that safe alternatives to PCP exist that will allow present users to move away from PCP," states Fe de Leon, Researcher with the Canadian Environmental Law Association. "Canada's support for global elimination for the three new toxic substances is essential to continue the efforts for reducing POPs levels in Canada and around the world."

Children may be exposed to this carcinogenic substance while they are playing in and around PCP-treated poles in residential areas and near schools and parks. Recent studies have confirmed that children in the U.S. are still being exposed to pentachlorophenol, even though PCP was banned for almost all uses in 1987 except for wood preservation of utility poles. PCP-treated poles are being re-used in landscaping, livestock enclosures, and gardening applications that can result in continued exposures. Occupational exposure to PCP is a concern in the manufacturing and application process.

"Pentachlorophenol (PCP) is almost entirely used in Canada and US on utility poles. Non-chemical alternatives for these uses are readily available, require less maintenance, have a longer service life and have already been implemented in both U.S. and Canada. In Canada PCP has been almost completely phased out. Therefore, there is no reason for continued use of this highly toxic substance. IPEN strongly recommends listing PCP in Annex A of the Stockholm convention with no specific exemptions," stated Dr. Olga Speranskaya, Co-Chair of IPEN, an international network of 700 participating organizations working for a toxics-free future.

Next month, the international community of 179 nations that have ratified the Convention is meeting in Geneva, Switzerland to discuss a global ban of PCP. Mexico and Canada are Parties to the Convention. The United States has not ratified and is not a Party to Convention but can play an instrumental role protecting the health of the global community by supporting a ban on PCP. The UN expert committee of the Stockholm Convention recommended the global elimination of pentachlorophenol in October 2014. In its recommendation for the Stockholm Convention, the Committee cited pentachlorophenol's persistence, bioaccumulation, long-range transport, and its toxic impacts. The Committee found wide availability of non-chemical alternatives that were much safer than pentachlorophenol. The committee also recommends the global elimination of two additional substances, hexachlorobutadiene, produced as a byproduct in the manufacture of chlorinated solvents; and chlorinated naphthalenes, unintentionally produced through such processes as waste incineration, metals smelting, and cement production. Governments around the world will decide on the recommendations for global elimination of these three toxic substances in May 2015, but Parties to the Stockholm Convention on POPs typically accept the recommendations of its expert committee.

27) PENTACHLOROPHENOL – DEATH

Death has been reported within 10 minutes of ingestion of 4.8 g phenol. Other cases have been reported in which death has occurred within hours after ingestion of 10–20 g phenol.

Iranian Journal of Toxicology Volume 8, No 27, Winter 2015

Phenol and Its Toxicity: A Case Report

Mahesh Chand Meena[*1], *Rahul Band* [1], *Girish Sharma*[1]

Received: 15.08.2014 *Accepted: 28.09.2014*

ABSTRACT

Background: Phenol and its derivatives like dinitrophenol and pentachlorophenol (carbolic acid) are widely used as insecticides, but they are very toxic substances. Phenol is a general protoplasmic poison with corrosive local effects that denature proteins. Poisoning with phenol compounds may occur by ingestion, inhalation, and absorption through skin. In this report we presented the toxicity effects of Phenol and its derivatives like dinitrophenol and pentachlorophenol on humans.

Case report: A 27-year-old married female was found unconscious at her residence in September 2013. She was expired after hospitalization in Lady Hardinge Medical College and its associated hospital on the same day after six hours. On examination, corrosion of skin, at angel of mouth and chin, and brown discoloration in mucosa of the esophagus were seen. Histological examination showed exfoliation of esophageal mucosa and coagulative necrosis of gastric mucosa. In toxicological analyses, carbolic acid was detected.

Conclusion: Strict precautionary measures are advised when using this compound.

Keywords: Corrosion, Phenol, Toxicity.

28) NIEHS SUPERFUND RESEARCH - CHILDREN

The NIEHS Superfund Research Program (SRP)

SRP enables university-based scientists, engineers, and public health workers, along with community members, to lessen the environmental health effects of hazardous waste sites across the nation.

Photo courtesy of Le Bonheur Children's Hospital and the University of Tennessee Health Science Center.

Louisiana State University (LSU)

Environmentally Persistent Free Radicals

Particles from the thermal remediation of hazardous wastes, called environmentally persistent free radicals (EPFRs), are all around, and the LSU Superfund Research Center is studying how they may affect our health.

Led by Barry Dellinger, Ph.D., researchers at the Louisiana State University (LSU) SRP Center are investigating how:

- EPFRs that formed during remediation processes at Superfund sites are released into the air and impact the environment and human health.
- Exposure to EPFRs affects lung function and blood flow, leading to asthma and worsening recovery after ischemic events, such as heart attacks.
- EPFRs can also be formed in soils that have been contaminated with pentachlorophenol, a chemical used to preserve wood.
- The structure and chemical properties of particles affect EPFR formation and reactivity.
- To prevent the formation of EPFRs and how to destroy existing EPFRs in an efficient and inexpensive manner.
- The biological mechanisms behind EPFR toxicity may lead to pulmonary and cardiovascular harm in people.

LSU researchers engage people in communities close to Superfund sites to learn about their concerns and communicate their research findings. They also work with the Louisiana Environmental Action Network, a community organization with more than 100 affiliated groups.

29) IZÚCAR DE MATAMOROS, MEXICO, DISATER

http://www.ipsnews.net/2010/08/mexico-poisonous-pesticides-on-the-doorstep/

IZÚCAR DE MATAMOROS, Mexico, Aug 4 2010 (IPS) - "People want to get rid of the factory. It has to go. There's already been an accident," a taxi driver said on the drive to the pesticide plant belonging to the Agricultura Nacional company in this southern Mexican city.

On the night of Mar. 24, life changed for the 70,000 people of this municipality in Puebla state, about 200 kilometres south of the Mexican capital.

An explosion at the Dragon Group's factory, which makes pesticides, weedkillers and fungicides, spewed out 300 kilograms of dimethoate, an organophosphate insecticide, that had toxic effects on some 750 people.

"The factory was shut down by the city council on the day of the accident, and after what happened we don't want it to operate again," retired high school teacher José Rincón, a member of the Citizen's Council of Izúcar de Matamoros, formed in response to the accident, told IPS.

Prolonged exposure to dimethoate can cause eye irritation, nausea, dizziness, respiratory failure and even death, according to the pesticide catalogue produced by the Interministerial Commission for the Control of the Production and Use of Pesticides, Fertilisers and Toxic Chemicals.

The industrial complex manufactured about 130 products containing dangerous active ingredients like pentachlorophenol, 2,4-dichlorophenoxyacetic acid (2,4-D), endosulphan and paraquat.

Fourteeen of the company's products were classified as highly dangerous, 30 as moderately toxic and 37 others as somewhat harmful, according to the Federal Commission for Protection against Health Risks (COFEPRIS).

COFEPRIS has authorised 7,313 brands of pesticides made by about 200 companies, including transnational corporations like Germany's Bayer and the U.S. Dow Chemical.

"It's a disgrace that these chemicals are still being used and that the government is doing nothing about them," Fernando Bejarano, head of the non-governmental Centre for Analysis and Action on Toxins and Their Alternatives (CAATA), told IPS.

"They are examples of backwardness and the lack of preventive public policies in regard to toxic substances. We have been left with the idea of letting industry regulate itself, a neoliberal approach," he said.

CAATA is pressing for the Mexican government to comply with the Stockholm Convention on Persistent Organic Pollutants, signed in 2001 and in effect since 2004, which seeks to eliminate or reduce pollutants like dioxins, chlorinated pesticides or furans.

Endosulphan is authorised for use on 42 different crops, including maize, cotton, beans, vegetables and coffee, according to CAATA. In 2006, 731 tonnes of the insecticide were imported by Mexico.

After the accident at its plant, Agricultura Nacional, which employed 200 people in Izúcar, transported 3,500 tonnes of materials to factories around the country.

Just a few hours later, protesters blocked the entrance to the plant. A few tents remain to testify to that demonstration. Yellow closure notices seal the doors of the factory.

“We didn’t know anything about these things. We have had to learn about them along the way, in the process of our struggle,” Rincón said.

The Citizens’ Council is organising a public consultation, and planning a protest march for Sunday Aug. 1.

The Dragon Group, which owns Agricultura Nacional, became established in the area in 1986, producing powdered stone and rock for fertilisers to remineralise soils. In 1992 it added insecticide and pesticide manufacturing to its operations.

Around that time a group of local residents began a resistance movement, in response to an accident that occurred many kilometres away from Izúcar.

On May 3, 1991, there was a fire and explosion at an Agricultura Nacional insecticide factory called Anaversa in Córdoba, a city in the state of Veracruz, 354 kilometres southeast of the Mexican capital. The accident released and spread 18,000 litres of methyl parathion, 8,000 litres of paraquat, **1,500 litres of pentachlorophenol** and 3,000 litres of 2,4-D.

2,4-D was a major ingredient in Agent Orange, a defoliant used by the United States armed forces to spray jungles during the Vietnam war in the late 1960s and early 1970s, with serious environmental and health consequences.

Although there were no immediate deaths from the Anaversa accident, a toxic cloud bearing dioxins covered the city of Córdoba and also polluted the groundwater.

The number of cases of cancer and other serious illnesses began to climb throughout the city, the association of Anaversa victims, formed to fight for compensation and medical care for the victims, told IPS.

The death toll from the consequences of the explosion stands at over 2,700, according to the association’s estimates. Agricultura Nacional paid a fine of 9,300 dollars, closed the Anaversa plant and focused on its operations in Izúcar.

In Mexico, the management of harmful chemicals is entangled in a legal labyrinth comprising nine laws, 11 sets of regulations and 36 specific standards, 20 of which apply to pesticides.

Looking ahead to the fifth Conference of the Parties to the Rotterdam Convention in Geneva in June 2011, its Chemical Review Committee has recommended including chrysotile asbestos, endosulphan and tributyl tin compounds, all harmful to human health, on the list of substances covered by this treaty.

In force since 2004, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade promotes shared responsibility, open exchange of information on prohibitions and restrictions, and safe handling of dangerous substances between importer and exporter countries, in order to preserve human health and the environment.

The fourth meeting of the Conference of the Parties to the Rotterdam Convention, held in Rome in October 2008, voted against including these chemicals in the Convention, in spite of intense campaigning to that effect by activists all over the world.

In Izúcar, the federal environmental prosecutor's office ruled in 2009 that the company had broken the General Law of Ecological Balance and Environmental Protection, but did not specify how it did so, or what corrective measures should be imposed.

After the March 2010 accident, however, it ordered the factory to be closed for six months pending an environmental audit.

"Products that have been proved to be toxic should be strictly banned. The scientific principles of precaution and substitution are not applied in this country, nor is there a chemical safety policy," said Bejarano.

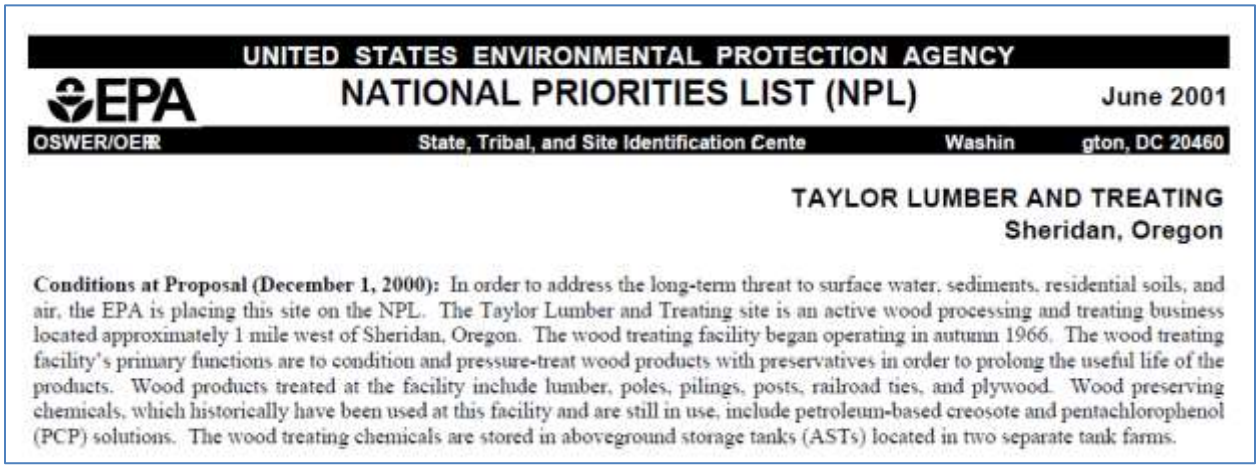
CAATA wrote a letter to COFEPRIS summarising the facts about endosulphan, which has been banned in more than 60 countries and is being considered for a global ban under the Stockholm Convention. The letter included the results of studies carried out in Mexico.

"We have heard that the factory is going to be transferred to another municipality in Puebla state. That is a false solution: instead of polluting here, they will do it elsewhere," said Rincón.

In Córdoba, the association of Anaversa victims has called for a clean-up of the factory site, but this has not been done. The disaster was covered by the 2007 documentary film "El perro que ladra a la luna" (Barking at the Moon), by Spanish journalists Charo Ruiz and Sandra Soler.

In 1996, the people of Izúcar had scored a temporary victory when the authorities closed the plant, but it managed to reopen. Now they will settle for nothing less than shutting it down for good.

30) SUPERFUND - TAYLOR LUMBER AND TREATING - OREGON



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA NATIONAL PRIORITIES LIST (NPL) June 2001

OSWER/OERR State, Tribal, and Site Identification Cente Washin gton, DC 20460

TAYLOR LUMBER AND TREATING
Sheridan, Oregon

Conditions at Proposal (December 1, 2000): In order to address the long-term threat to surface water, sediments, residential soils, and air, the EPA is placing this site on the NPL. The Taylor Lumber and Treating site is an active wood processing and treating business located approximately 1 mile west of Sheridan, Oregon. The wood treating facility began operating in autumn 1966. The wood treating facility's primary functions are to condition and pressure-treat wood products with preservatives in order to prolong the useful life of the products. Wood products treated at the facility include lumber, poles, pilings, posts, railroad ties, and plywood. Wood preserving chemicals, which historically have been used at this facility and are still in use, include petroleum-based creosote and pentachlorophenol (PCP) solutions. The wood treating chemicals are stored in aboveground storage tanks (ASTs) located in two separate tank farms.

31) SUPERFUND - AMERICAN CREOSOTE WORKS

The 18-acre American Creosote Works (Pensacola plant) site is in a dense, moderately commercial and residential area of Pensacola, Florida. A wood-preserving facility operated at this site from 1902 to 1981. During this time, process wastewater containing pentachlorophenol (PCP) was discharged into unlined, onsite surface impoundment ponds. Before 1970, these impoundment ponds were allowed to overflow through a spillway into neighboring bays. After 1970, wastewater was discharged to designated onsite spillage areas. Additional discharges occurred during periods of heavy rainfall when the ponds overflowed. In March 1980, the city found considerable quantities of oily, asphaltic, creosote material in the groundwater near the site. Because of the threat posed to human health and the environment, EPA and the state performed an emergency cleanup in 1983. This included dewatering the ponds, treating the water, and discharging treated water into the city sewer system. The sludge in the ponds was then solidified and capped.EPA signed a record of decision (ROD) in 1985 requiring all onsite and offsite contaminated solids, sludge, and sediment to be placed in an onsite RCRA-permitted landfill. A second ROD, signed in 1989, addresses remediation of contaminated surface soil. A future ROD will address treatment of contaminated subsurface soil, sludge, and groundwater. The primary contaminants of concern affecting the surface soil are organics, including dioxins, carcinogenic polycyclic aromatic hydrocarbons (PAHs), and PCP.

32) SUPERFUND – KOPPERS - BUTTE COUNTY, CALIFORNIA.

The Koppers site is a 200-acre operating wood-treating plant in Butte County, California. Nearby land use is mixed agricultural, residential, commercial, and industrial. Although there is a history of wood-treating operations at the site, they were greatly expanded in 1955 when Koppers Company, Inc., became the owner and operator.

Pentachlorophenol (PCP), creosote, and chromated copper arsenate (CCA) solution are among the chemicals that have been used at this site. Wastewater discharge and other site activities have resulted in contamination of unlined ponds, soil, and debris. PCP was detected in onsite groundwater in 1971 and in residential wells in 1972. Pursuant to a state order, Koppers conducted cleanup activities from 1973-74, including groundwater pumping and discharge to spray fields and offsite disposal of contaminated debris, and process changes, including construction of a wastewater treatment plant. In 1986, Koppers provided nearby residents an alternate water supply for domestic uses. Following a 1987 explosion and fire at a PCP wood-treatment process facility, EPA issued a removal order requiring cleanup of fire debris and removal and stabilization of surface soil. The present record of decision (ROD) addresses the remaining contamination in onsite soil and groundwater affected. The primary contaminants of concern are polycyclic aromatic hydrocarbons (PAHs), PCP, dioxins and furans, and metals including arsenic and chromium.

33) SUPERFUND - KOPPERS MORRISVILLE - NORTH CAROLINA.

The 52-acre Koppers Morrisville site is a wood-laminating facility in Morrisville, Wake County, North Carolina. Surrounding land use is a mixture of commercial, light industrial, and rural residential. The site has been used by lumber companies since 1896. In 1962, Koppers began treating wood at the site using pentachlorophenol (PCP) and isopropyl ether injected into wood. Process wastes were put into unlined lagoons. Koppers discontinued wood treatment in 1975, but past wood-treatment processes and associated disposal activities have left the site contaminated with PCP, dioxins, and isopropyl ether affecting the soil, groundwater, and surface water. In 1989, in response to state studies of water contamination from the site, nearby residents began using public water lines instead of wells to obtain drinking water. In 1990, EPA required extensive studies of the soil, groundwater, drainage pathways, and ponds, and also determined that additional studies were needed to further assess contamination of the surface soil in the lagoon and wood-treatment process areas. In 1992, EPA completed a record of decision (ROD) for the site that specified incineration as the primary remedy and base-catalyzed decomposition (BCD) as the “contingency remedy” whose use would be dependent upon the results of a treatability study. One driving force for providing for an alternative to incineration was the strong interest of the community. The primary strategy was offsite incineration of soil involving

34) SUPERFUND – ARKWOOD – ARKANSAS

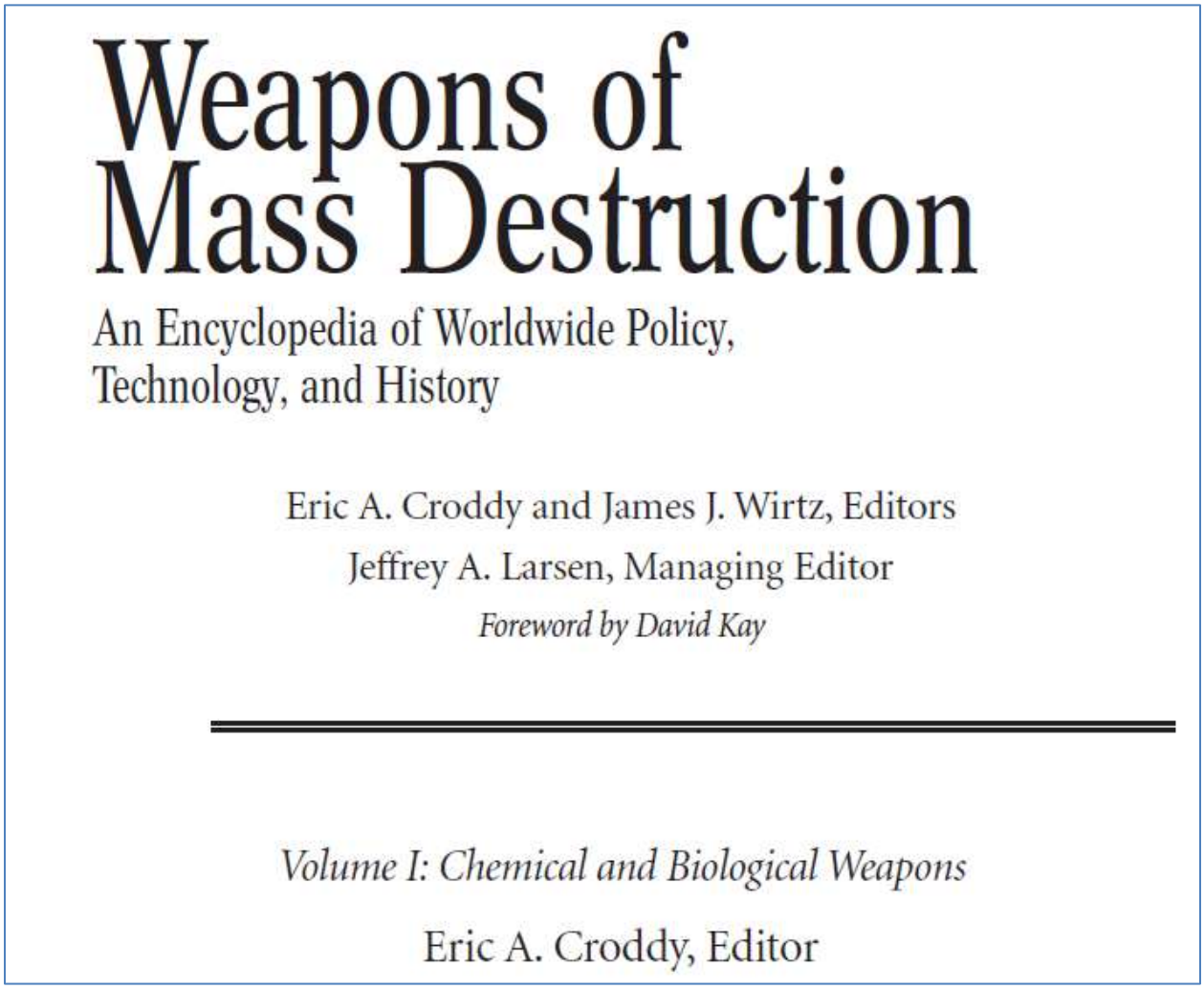
The 15-acre Arkwood site is a former wood-treatment facility in Boone County, Arkansas. Land use in the vicinity of the site is primarily agricultural and light industrial. Approximately 200 residences are located within 1 mile of the site, and 35 domestic water supply wells are within 1.5 miles of the site. Groundwater on or near the site is highly susceptible to contamination as a result of underground cavities, enlarged fractures, and conduits that hinder monitoring and pumping. From 1962 to 1973, Arkwood operated a pentachlorophenol (PCP) and creosote wood treatment facility at the site. In 1986, the site owner dismantled the plant. State investigations conducted during the 1980s documented PCP and creosote contamination in surface water, soil, debris, and buildings throughout the site. Contaminated surface features at the site include the wood-treatment facility, a sinkhole area contaminated with oily waste, a ditch area, a wood storage area, and an ash pile. In 1987, EPA ordered the site owner to perform an immediate removal action that included implementing site access restrictions, such as fencing and sign postings. The present record of decision (ROD) addresses remediation of all affected media and provides the final remedy for the site. The primary contaminants affecting the soil, sludge, debris, and groundwater are organics including PCP, polycyclic aromatic hydrocarbons (PAHs) and dioxins.

35) SUPERFUND SITE UNITED CREOSOTING – TEXAS

The 100-acre United Creosoting site in Conroe, Montgomery County, Texas, is occupied by a residential subdivision, a distributing company, and a construction company. From 1946 to 1972, the United Creosoting Company operated a wood preserving facility at the site. Pentachlorophenol (PCP) and creosote were used in the wood-preservation process, and process wastes were stored in waste ponds. During 1980, the county used soil and waste pond backfill from the site on local roads. After residents living near the improved roadways experienced health problems, the county sampled and compared leachate composition from the affected roadways and the site. They determined that leachate from both the site and the roadways was contaminated with PCP. Roadway soil was subsequently removed and disposed of using land farm treatment. In 1983, in response to contaminated stormwater runoff from the former waste pond areas, the property owner was directed under terms of an EPA Administrative Order to regrade contaminated soil, divert surface water drainage away from the residential portion of the site, and cap the contaminated soil. The present record of decision (ROD) specifies a final remedy for contaminated soil at the site and complements a 1986 ROD that determined that no action was necessary to remediate shallow groundwater. The primary contaminants of concern affecting the soil are organics including polycyclic aromatic hydrocarbons (PAHs), PCP, and dioxins.

Since 1980, EPA has classified 56 wood preserving sites as Superfund sites. At about 40 of these sites, EPA has completed the process of selecting a cleanup strategy for the soil, sludge, sediments, and water contaminated by wood treatment wastes.

36) WEAPONS OF MASS DESTRUCTION



Phenolic and phenoxy-type herbicides are other commonly used types. Phenolic herbicides are usually nitro- and chloro-derivatives of phenol. Examples are dinitrophenol, dinitro-ortho-cresol, and pentachlorophenol. These phenolic herbicides kill weeds by contact with foliage rather than by uptake through the roots. Thus, they also are called contact herbicides. Phenoxy-type herbicides were used as defoliation agents during the Vietnam War by the U.S. Army.

Bipyridylium (Paraquat, Diquat) herbicides compete with electron acceptors, which are necessary for continuous exchange of energy in photosystem I in photosynthesis, causing weeds to die. Dinitrophenol, dinitro-ortho-cresol, and pentachlorophenol are toxic because they uncouple the oxidative phosphorylation used for energy transfer process in weeds.

1971: Surplus U.S. herbicides containing pentachlorophenol

contaminate civilian water supplies in

Haebaru and Gushikami districts.

http://www.japantimes.co.jp/community/2013/11/11/issues/okinawa-the-junk-heap-of-the-pacific/#.U80eB_ldWSq

Other U.S. veterans and Okinawa civilians interviewed by The Japan Times recall how surplus stocks of Agent Orange were sold on the black market to local farmers who valued its potent weed-killing power. The risks of the unregulated sale of hazardous substances to those lacking the necessary safety training became clear in 1971 when large volumes of **pentachlorophenol** herbicides — obtained from the U.S. military by a civilian company — were dumped in the Haebaru and Gushikami districts of southern Okinawa. The chemicals leaked into Kokuba River and the water supply to 30,000 people had to be halted; children attending local schools suffered from abdominal pains and nausea.

37) NON HODKINS LYMPHOMA (NHL)

National Toxicology Program
U.S. Department of Health and Human Services

Peer-Review Draft: Report on Carcinogens Monograph on Pentachlorophenol and By-Products of Its Synthesis August 28, 2013

http://ntp.niehs.nih.gov/ntp/about_ntp/monopeerrvw/2013/october/pcppeerrevdraft_508be.pdf

3.5.1 Synthesis

Overall there is credible evidence for an association between exposure to pentachlorophenol and NHL, based on consistent findings across studies in different occupational populations with varying co-exposures, different geographical areas and study designs, and strong evidence of positive exposure-response relationships in the most informative study (Demers et al. 2006). **An increased risk of NHL was found among workers exposed to pentachlorophenol in all of the studies specific for pentachlorophenol exposure.** These studies include all three cohort studies (Collins et al. 2009a/Ramlow et al. 1996, Demers et al. 2006, Ruder and Yiin 2011), the nested casecontrol study of IARC herbicide workers (Kogevinas et al. 1995) and two Swedish population-based case-control studies (Hardell et al. 1994, 2002). Although the strength of the evidence varied among the studies, the finding of increased risk of NHL in both cohort and case-control studies, which have different types of strengths and limitations increases the confidence in the body of studies. The strongest evidence comes from the large cohort of Canadian sawmill workers (Demers et al. 2006), which observed exposure-response relationships between cumulative dermal exposure to pentachlorophenol and both NHL mortality and incidence in lagged (10 and 20 years) and unlagged analyses. **This finding is supported by findings from the Michigan pentachlorophenol cohort, in which a statistically significant increase in NHL was observed among workers who were only exposed to pentachlorophenol** (Collins et al. 2009a). Analyses by exposure level found increases in NHL or NHL and multiple myeloma combined mortality among workers with at least one year of cumulative exposure (Ramlow et al. 1996) (in the earlier follow-up), and in the highest category of surrogates (chlorinated dioxins) for pentachlorophenol exposure in the subsequent follow-up (Collins et al. 2009a). The evidence for an association from the other individual studies with specific exposure information for pentachlorophenol (Hardell et al. 1994, 2002, Kogevinas et al. 1995, Ruder and Yiin 2011) is considered to be more limited, but as a group they provide evidence to support the associations found in the two most informative studies.

38) ALABAMA POISONED PATRIOTS OF FT. MCCLELLAN

Poisoned Patriots of Ft. McClellan

http://www.atsdr.cdc.gov/HAC/pha/pha.asp?docid=834&pg=4

http://www.lawenforcementtoday.com/2012/07/03/poisoned-patriots-of-ft-mcclellan/

A series of three unlined industrial waste lagoons used from ~ 1960 to 1978 for storage of concentrated liquid chemical wastes and abrasive dust waste generated in the SIA. Liquid waste lagoons emptied by pumping wastes to A-Block lagoon (SWMU-22). Surface Soil: PAHs, PCBs, metals, and VOCs were detected above CVs. Subsurface Soil: **Elevated levels of arsenic, lead, manganese, PAHs, PCBs, pentachlorophenol were detected.** The area occupies 145 acres of unpaved land in the southwest portion of the site. Several SWMUs are suspected as contaminant sources, including SWMUs 6, 9, 12, 14, 19, 20, 22, and 24. Groundwater: VOCs and pentachlorophenol were detected at levels above CVs.

39) ARKANSAS CEDAR CHEMICAL COMPANY

Cedar Chemical Company

STATE PRIORITY LIST SITE
WEST HELENA, ARKANSAS

ADEQ
5301 Northshore Drive
North Little Rock, Arkansas 72118

EPA ID No: AR990660649
AFIN: 54-00068
County: Phillips
Arkansas Senate District: 16
Arkansas House District: 13
US Congressional District: 1

Waste and Volumes

Hazardous substances detected in soils at concentrations greater than risk-based screening criteria include Arsenic, Cadmium, Mercury, Aldrin, Dieldrin, Dinoseb, Heptachlor, Methoxychlor, Toxaphene, 3,4-Dichloroaniline, Propanil, Chloroform, 1,2-Dichloroethane, Methylene Chloride, and **Pentachlorophenol.**

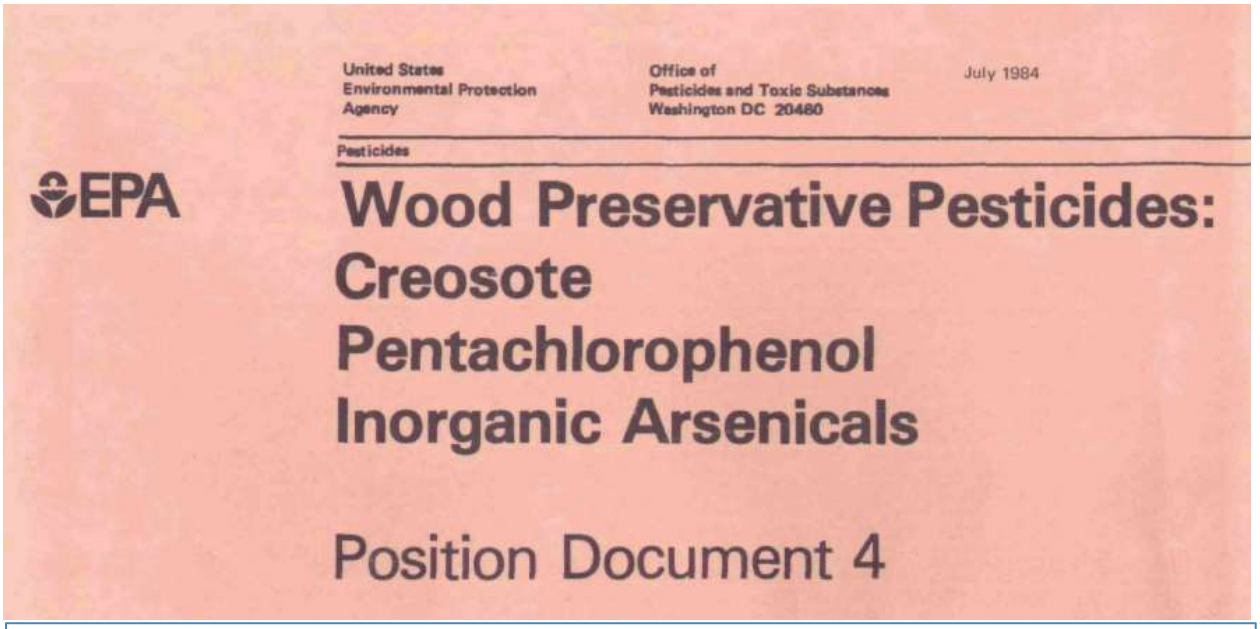
Hazardous substances detected in groundwater at concentrations greater than risk-based screening criteria and/or Maximum Contaminant Levels (MCLs) include Arsenic, Barium, Cadmium, Chromium, Lead, 4,4'-DDT, Alpha BHC, Aniline, 4-Chloroaniline, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, Chloroethane, 1,4-Dichlorobenzene, 2,6-Dinitrotoluene, 3,4-Dichloroaniline, 4Chlorozniline, Dinoseb, bis(2-Chloroethyl)ether, bis(2-Ethylhexyl) phthalate, 1,2-Dichloroethane, 4Methyl-2-Pentanone, 2Methylphenol, Acetone, Benzene, Chloroform, Vinyl Chloride, Methylene Chloride, Trichloroethene, 1,1,2Trichloroethane, 1,2-Dichloropropane, Bromodichloromethane, Bromoform, Dibromochloromethane, and Toluene.

In summary, the surface soils and subsurface soils are contaminated with pesticides, volatile organics, and heavy metals. The onsite surface water bodies and groundwater are contaminated with volatile organics and heavy metals. The sediments are contaminated with pesticides and heavy metals.

Eighty (80) Solid Waste Management Units (SWMUs) (including approx. 30 sumps and 10 drum/drum storage/drum crushing areas) have been identified onsite to date that are deemed areas of concern.

40) POSITION DOCUMENT # 4 – AWAP 9101AITZ

LINK TO DOCUMENT CLICK HERE



United States Environmental Protection Agency

Office of Pesticides and Toxic Substances Washington DC 20460

July 1984

Pesticides

EPA

Wood Preservative Pesticides: Creosote Pentachlorophenol Inorganic Arsenicals

Position Document 4

The three wood preservatives considered in this Position Document 4 are creosote, which includes creosote, coal tar and coal tar neutral oil; the inorganic arsenical compounds, which include chromated copper arsenate (CCA), ammoniacal copper arsenate, (ACA), and fluor chrome arsenic phenol (FCAP); and pentachlorophenol, including its sodium salt. These pesticides preserve wood against attack by fungi, insects, bacteria, and marine borers. Treated wood generally has a useful life at least five times longer than untreated wood.

- Prohibit application of the wood preservative pesticides in a manner which may result in direct exposure to domestic animals or livestock, or in the contamination of food, feed or drinking and irrigation water.

- Require control technologies to reduce arsenic surface residues on the treated wood.

In light of the high economic benefits resulting from the use of the wood preservative chemicals, the Agency determined in the PD 2/3 that the use of the wood preservative chemicals in accordance with these modifications would satisfy the statutory standard for continued registration.

The term "unreasonable adverse effects on the environment" is defined as "any unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide" FIFRA § 2(bb). To register a pesticide, the Administrator must find that the benefits of each use of the pesticide exceed the risks of use, when the pesticide is used in accordance with commonly recognized practice and in compliance with the terms and conditions of registration.

The burden of proving that a pesticide satisfies the registration standard is on the proponents of registration and continues as long as the registration remains in effect. Under section 6 of FIFRA, the Administrator may cancel the registration of a pesticide or modify the terms and conditions of registration whenever it is determined that the pesticide causes unreasonable adverse effects on the environment. The Agency created the RPAR process to facilitate the identification of pesticide uses which may not satisfy the statutory standard for registration and to provide an informal procedure to gather and evaluate information about the risks and benefits of these uses.

41) TEXAS SCHOOL

http://www.yourhoustonnews.com/courier/news/health-issues-concern-former-students/article_219a5e8d-42b3-5aeb-9d7e-155724b29525.html

Posted: Saturday, June 7, 2014 10:33 pm

By Kimberly Sutton

Cynthia Hancock has **been battling illnesses for much of her adult life** — sickness she believes is directly related to exposure to chemicals or waste that affected numerous students at **Wilkerson Intermediate School** in The Woodlands in the 1970s and early 1980s.

Hancock's medical conditions are similar to more than a hundred former students found by Chuck Foreman, a 1986 Oak Ridge High School graduate, and he has many friends he believes have battled lifelong illnesses associated with the strong odor that permeated throughout the school more than 30 years ago. Foreman's plight now is to find the cause of these debilitating and possibly deadly illnesses and determine whether students and residents in the area along Sawmill Road still could be affected by it.

Foreman said the soil underneath Wilkerson Intermediate is possibly contaminated by the old Grogan-Cochran Sawmill that was located at Tamarac Park, off of Woodlands Parkway. He believes the flood runoff could have taken the chemicals all the way to the Wilkerson Intermediate area near Grogan's Mill Road and Sawmill Road.

"The wood-preserving industry pressure treats wood with chemicals that protect against insects and fungus," according to a document "Cleaning Up Contaminated Wood-Treating Sites," published by Princeton University. "Just a few preserving chemicals have been widely used by the industry. The oldest preservative process treats wood

with creosote, a tarry liquid derived from coal. Pentachlorophenol (PCP) became widely used as a preservative after 1950, although its purchase and use is now restricted."

According to the CDC, **people may be exposed to phenol** if they live near landfills or hazardous waste sites that contain phenol or near facilities manufacturing phenol. Low levels of phenol can be present in air and drinking water, some foods and from smoking or inhaling secondhand smoke.

42) CONNETICUT - DURHAM MEADOWS SUPERFUND SITE

http://www3.epa.gov/region1/superfund/sites/durham/238284.pdf

News Release
U.S. Environmental Protection Agency
New England Regional Office
October 26, 2015

Contact: Jim Murphy, (617) 918-1028

Cleanup project to install new water supply for properties contaminated by Durham Meadows Superfund Site

BOSTON – EPA has allocated $9 million to jump start cleanup activities at the Durham Meadows Superfund site in Durham, Conn. The funding will support the installation of an alternative water supply to the Superfund site area, serving over 100 residential and commercial structures, including Regional School District 13. Many of the homes and businesses to be connected have treatment systems or are being provided bottled water as a result of **widespread groundwater contamination.**

"This EPA funding will initiate the work to install the alternative water supply for the residents and businesses of Durham. We are excited that this means the important work to address groundwater contamination and ensure clean drinking water will begin next year," said Curt Spalding, regional administrator of EPA's New England office. "EPA appreciates the hard work and partnership of the Town of Durham, the City of Middletown, the Conn. Dept. of Energy & Environmental Protection (DEEP), and the Conn. Dept. of Public Health to help EPA make this happen."

"Moving this project forward brings us closer to a positive ending to a long and troubling saga for residents and businesses in this area," said DEEP Commissioner Robert Klee. "With federal and state funding now in place we are moving forward to provide safe drinking water to families and to clean chemical contamination that has remained in the ground for far too long."

In the past, the Durham Manufacturing Company (operating) and the former Merriam Manufacturing Company polluted soil and groundwater with TCE and other chlorinated solvents in the area of Main Street in Durham. As a result, water in many **private potable wells in Durham is unsafe to drink.**

EPA, DEEP, DPH, the Town of Durham, and the City of Middletown have been working together for many years to provide temporary and permanent remedies for the homes with polluted wells. A

public water main from Middletown to Durham will be the permanent remedy. EPA received $9 million for the federal fiscal year of 2015 to start construction of the water main. DEEP has received $3 million from the Bond Commission for the state's cost share, as required by Superfund, to support construction of the water main and other remedial actions at the site. EPA and DEEP are happy to see this project moving forward.

"I made a commitment to the residents of the Town of Durham that bringing clean water to the contaminated areas within the Superfund would be a priority. Thanks to the dedication of our partners at EPA, DEEP, DPH and the City of Middletown, our residents will be assured of a clean and safe water supply," said Town of Durham's First Selectman, Laura L. Francis.

The Durham Meadows Superfund Site includes an area of groundwater contamination associated with past disposal practices at the Durham Manufacturing Co. and the former location of Merriam Manufacturing Co. In 1982, the Conn. Dept. of Environmental Protection (now the Conn. Dept. of Energy & Environmental Protection (CT DEEP)), detected volatile organic compounds (VOCs - commonly found in solvents, paints and degreasers) in private drinking water wells in the Durham Center area, including trichloroethylene (TCE).

Under a state order, the companies installed granular activated carbon filtration units on impacted residential wells. To date, 50 private wells serving 54 locations have found to be contaminated. These homes have water treatment systems to remove contamination. In 2005, EPA issued a Record of Decision outlining the cleanup action for the Site, including the extension of an alternate water supply from the City of Middletown Water Distribution System to address the overall area of Site-wide groundwater contamination. Since 2005, EPA has been developing the design for the water line with support from the Town of Durham, City of Middletown, CTDEEP, and CTDPH. EPA also completed the cleanup of the former Merriam Manufacturing Company property in 2012 and is working on the design to perform a cleanup at the Durham Manufacturing Company.

Superfund is the federal program that investigates and cleans up the most complex, uncontrolled or abandoned hazardous waste sites in the country. This year marks the 35th anniversary of the enactment of the Comprehensive Environmental, Response, Compensation and Liability Act, the law establishing the Superfund program. Superfund's passage was a giant step forward in cleaning up hazardous waste sites to help ensure human health and environmental protection through long-term and short-term cleanup activities. Cleanups not only address environmental and human health threats, but often lead to positive economic benefits in the communities where cleanups occur including job creation and enhanced local tax bases.

More information:

Previous work to cleanup of the Durham Meadows Superfund Site (http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0100108)

General information on Superfund program (http://www.epa.gov/superfund)

43) EPA DURHAM MEADOWS SUPERFUND SITE $23 MILLION.

http://www.highbeam.com/doc/1G1-281460432.html

The cleanup of hazardous waste at a Durham Meadows Superfund Site in Connecticut may cost about $23 million, according to U.S. Environmental Protection Agency officials.

Though the environmental cleaning is no cost to the town, the agency is hoping to receive a portion of the money from a proposed settlement with Merriam Manufacturing and entities related- Aztec Industries, LLC and the estate of Allam Adams, the agency's New England project manager, Anni Loughlin, said.

In a consent decree filed on Jan.11, the above companies agreed to what Loughlin calls a "stipulated judgment" in the amount of $20.1 million to help recover some of the costs to remove contaminated soil. ...

LINKS
http://patch.com/connecticut/durham/update-durham-meadows-superfund-cleanup
http://www.townofdurhamct.org/filestorage/27536/PowerPoint_Presentation_12-16-2014.pdf

SVOC compounds in the bedrock groundwater were generally detected at low concentrations. Elevated concentrations of benzo(a)pyrene were noted at 176 Main Street and 268 Main Street, southwest of MMC. An elevated concentration of **pentachlorophenol** was noted at 176 Main Street and the Strong School contained bis(2-ethylhexyl) phthalate at an elevated concentration

For the current resident using untreated groundwater as household water, carcinogenic and noncarcinogenic risks exceeded the EPA acceptable risk range of 10"4 to 10"*and/or a target organ HI of 1 for 35 of the private wells. The cumulative carcinogenic risks range from 2 x 10"4 to 3 x 10"2 and the target organ His range from 2 to 900. The exceedances were due primarily to the presence of benzene, 1,2-dichloroethene, cis-l,2-dichloroethene, 1,2-dichloroethane, 1,4- dioxane, methylene chloride, tetrachloroethene, trichloroethene, vinyl chloride, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, dibenz(a,h) anthracene, indeno(l,2,3-cd)pyrene, **pentachlorophenol,** arsenic, and vanadium in bedrock groundwater used for potable purposes.

For the future resident using untreated groundwater as household water, carcinogenic and noncarcinogenic risks exceeded the EPA acceptable risk range of 10"4 to 10"6 and/or a target organ HI of 1 for Site-wide bedrock groundwater. The cumulative carcinogenic risk was 4 x 10"2 and the target organ HI was 900. **The exceedances were due primarily to** the presence of benzene, 1,2- dichloroethene, cis-l,2-dichloroethene, 1,2-dichloroethane, 1,4-dioxane, methylene chloride, tetrachloroethene, trichloroethene, vinyl chloride, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, dibenz(a,h) anthracene, indeno(l,2,3-

cd)pyrene, **pentachlorophenol,** arsenic, mercury, and vanadium in bedrock groundwater used for potable purposes.

44) DIOXIN POISONING – PENTACHLOROPHENOL

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www.elsevier.com/locate/envres

Review

Dioxins: An overview

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Received 20 July 2005; received in revised form 22 November 2005; accepted 5 December 2005

Abstract

This review article summarizes what is known about human health following exposure to dioxins. It is meant primarily for health professionals but was also written with the general public in mind. The need for such an article became apparent to the authors following media inquiries at the time the then Ukraine presidential candidate Victor Yushchenko was deliberately poisoned with the most toxic dioxin, tetrachlorodibenzodioxin or TCDD.

Keywords: Dioxins; Poisoning; Yushchenko; Agent orange; TCDD

The patterns of dioxins and dioxin-like chemicals reflect their sources. To a specialist the measured dioxin congener patterns in blood or other tissues can be as informative as an electrocardiogram to a cardiologist. Table 2 shows patterns in patients from different dioxin exposures. **The first is an American with massive pentachlorophenol exposure** (Ryan et al., 1987). Primarily higher chlorinated (with 5–8 chlorines) dioxins and PCDFs are noted compared to the background level of the general American population (Schecter et al., 1990b). The second shows blood from an Agent Orange-exposed Vietnamese with marked elevation of TCDD, the characteristic dioxin of Agent Orange (Schecter et al., 2001a). The third shows

While chloracne sometimes lasts foryears, even decades in some cohorts, the cases usually resolved within 1 year in the Seveso children. In another population, Coenraads et al. (1999) found that chloracne occurred in all seven Chinese chemical workers who had TEQ blood lipid levels greater than 1000 ppt after producing the biocides pentachlorophenol and hexachlorocyclohexane (Coenraads et al., 1999).

Fig. 2. President Viktor Yushchenko of Ukraine before and after dioxin poisoning with 2,3,7,8-TCDD (courtesy of the Associated Press).

http://emedicine.medscape.com/article/819776-overview

https://en.wikipedia.org/wiki/Chloracne

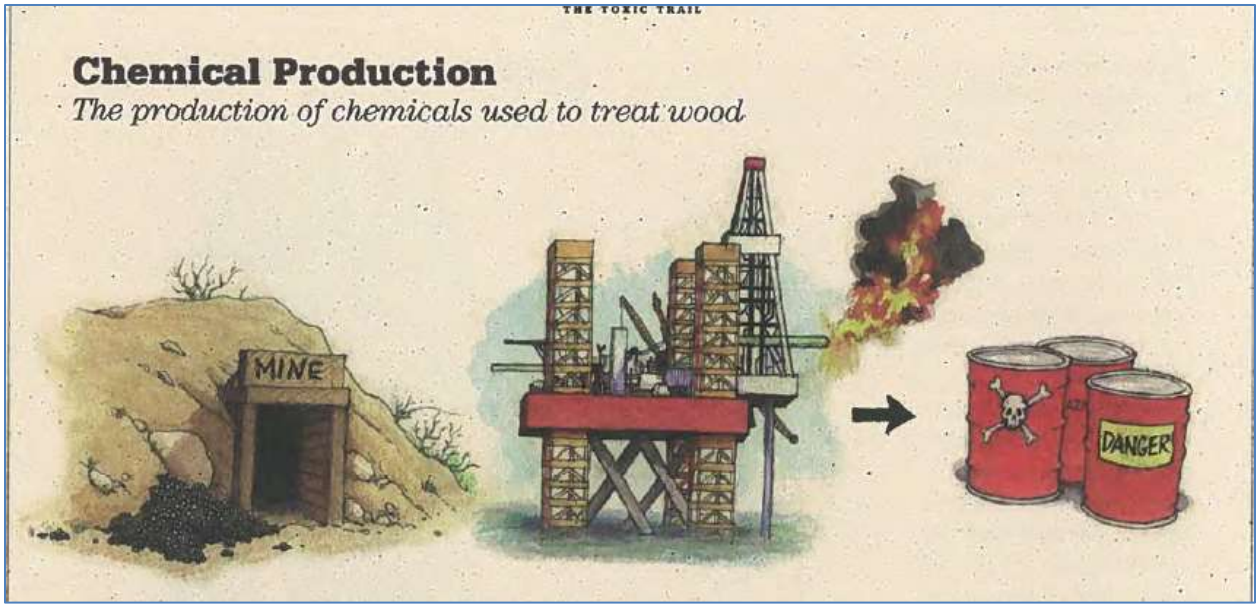
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835904/

Environmental pollutants can result in a variant of acne called ‘chloracne’. Chloracne is caused by systemic exposure to certain halogenated aromatic hydrocarbons ‘chloracnegens’, and is considered to be one of the most sensitive indicators of systemic poisoning by these compounds. Dioxin is the most potent environmental chloracnegen. Most cases of chloracne have resulted from occupational and non-occupational exposures, non-occupational chloracne mainly resulted from contaminated industrial wastes and contaminated food products. Non-inflammatory comedones and straw-colored cysts are the primary clinical manifestation of chloracne. Increasing of cysts in number is a signal of aggravation of chloracne. Generalized lesions can appear on the face, neck, trunk, exterimities, genitalia, axillary and other areas. Course of chloracne is chronic. Severity of chloracne is related to dosage of exposed chloracnegens, chloracnegenic potency and individual susceptibility. Histopathology of chloracne is characterized mainly by hyperplasia of epidermal cell, while follicular and

sebaceous gland are taken placed by keratinized epidermal cell. The pathogenesis of chloracne maybe related to the imbalance of epidermal stem cell. Chloracne appears to be resistant to all tested forms of treatment. The only way to control chloracne is to prevent exposure to chloracnegens.

45) THE TOXIC TRAIL

http://www.beyondpesticides.org/programs/wood-preservatives/publications/poison-poles



46) MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER

The most frequently detected compound, pentachlorophenol, was found in 98 of the 396 drinking water wells and in 15 of the 231 irrigation/fish culture wells sampled. Pentachlorophenol is now restricted to wood use only and can probably be excluded as an agricultural chemical.

A fish consumption advisory was issued for this lake in 1987 following several fish kills due to spills of wood treating material including pentachlorophenol. Dioxin contamination has been documented in this lake, and fish have been analyzed for dioxin on four occasions, the most recent of which was September and October 1997. MDEQ is considering removal of the Dioxin advisory, however a PCP advisory is still in effect. Right side fillets collected for the dioxin study will be used to determine what levels of PCP's persist in the fish. The results are given in Table III-32 and indicate that dioxin is declining in fish in the lake.

OPC Environmental Damage Assessments

Country Club Lake and Mineral Creek near Hattiesburg (1990-1997) A wood preserving facility was located in the watershed of this 60-acre impoundment in a subdivision northwest of Hattiesburg, Mississippi. **From 1974 to 1987, the lake was severely impacted by discharges of pentachlorophenol (PCP).** In 1987, a fish consumption advisory was issued for the lake. Fish were sampled from Mineral Creek (tailwaters of Country Club Lake) in June 1990.

47) GREECE DRINKING WATER POISONING

http://www.srcosmos.gr/srcosmos/showpub.aspx?aa=5483

CONTAMINATION OF DRINKING WATER SOURCES BY WOOD-PRESERVING CHEMICALS IN IOANNINA AREA (N.W. GREECE)

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[3]Dept. of Chemistry, University of Crete, Iraklio, Greece.

ABSTRACT

The case of contamination by creosote compounds of an aquifer that constitutes a major drinking water source in the area of Ioannina in northwestern Greece is presented. Creosote intrusion from a wood treatment facility located in the vicinity of the aquifer as potential source of pollution is investigated. Phenolic compounds (phenol, m-cresol, o-cresol, p-cresol, 3,5 xylenol and **pentachlorophenol**) were detected periodically both in water and soil samples from monitoring wells at concentration levels above 0.1 μg/L and 0.01μg/g respectively during the monitoring period. Creosote component compounds such as naphthalene, fluoranthene, pyrene, 9H-fluorene, phenanthrene, Benzo[a]pyrene and isomers were also determined at detection levels from 0.09 to 1005 ng/g in the vadoze zone showing higher concentration in the upper soil layers.

The aquifer of Toumba is located northwest of the city of Ioannina and occurs in unconsolidated formations composed mainly of fine-to-coarse sand and clay deposits on limestone substrate. The saturated zone occurs from a depth of 30m to the surface in the form of spring fed pond. **The aquifer is a principal source of water supply in the area. A wood preserving industry where creosote oil and pentachlorophenol are used was located in the vicinity of the aquifer.**

48) TIMES BEACH MISSOURI IS A GHOST TOWN

Times Beach is a ghost town in St. Louis County, Missouri, United States, 17 miles (27 km) southwest of St. Louis and 2 miles (3 km) east of Eureka. Once home to more than two thousand people, the town was completely evacuated early in 1983 due to a dioxin contamination that made national headlines. It was the largest civilian exposure to dioxin in the country's history.

http://www.nytimes.com/1984/07/12/us/epa-to-limit-the-sale-of-3-wood-preservatives.html

https://en.wikipedia.org/wiki/Times_Beach,_Missouri

http://www.stlmag.com/Remember-Times-Beach-The-Dioxin-Disaster-30-Years-Later/

http://www.atsdr.cdc.gov/PHS/PHS.asp?id=361&tid=63

Pentachlorophenols contains dioxin, albeit an isomer considerably less toxic than the dioxins that contaminated Times Beach, Mo.. The use of pentachlorophenols will be prohibited for wood intended to be used indoors except for millwork and support structure.

******* THE EPA RE REGIASTERED PENTACHLOROPHENOL FOR USE IN 2008 EVEN AFTER THIS DIASTER AND MANY OTHER DISATERS …. *****

http://catastrophemap.org/toxic-apocalypse-times-beach.html

Permanently evacuated in 1985, Times Beach Missouri is literally Nowheresville, USA

TOWN OF 2240 PERMANENTLY EVACUATED IN 1985

Is it our imagination, or was there once a town by the name of Times Beach about 17 miles from St. Louis, MO? Yes, but the citizens voted the town out of existence and the place was permanently evacuated in 1985 due to dioxin toxicity.

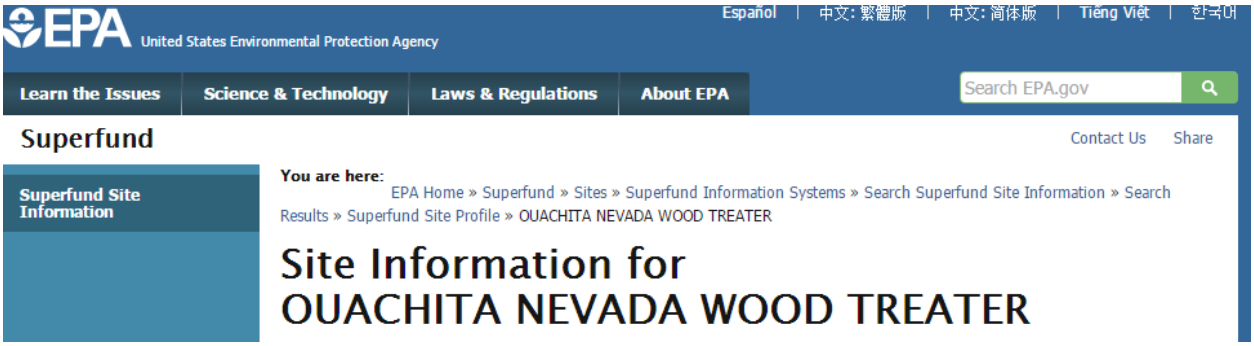
SHUNNING THE REFUGEES

The EPA announcements set into motion a series of fear driven events. From this point on, every cold, miscarriage or dead pet was attributed rightly or wrongly, to the dioxin. After a flood and a series of unpleasant public debates, the town aldermen unanimously voted themselves out of existence on April 2. 1985. The action was approved by Governor John Ashcroft. Ultimately, the buyout package for Times Beach totaled $32 million.

By late 1985, the town was evacuated except for one elderly couple who refused to leave, and the site was quarantined. Residents were shunned in their new communities by people who feared the effects of exposure to dioxin were contagious. Many of the town's citizens sued Bliss, NEPACCO, and its various subcontractors. Although the ethics and legality of Bliss' practices has been questioned, Bliss was never implicated or convicted of any crime.

49) OUACHITA NEVADA WOOD TREATER

http://cumulis.epa.gov/supercpad/cursites/dsp_ssppSiteData1.cfm?id=0604486



EPA's Involvement at this Site

On March 21, 2000, EPA began a time-critical removal action at the Site. The removal action addressed all aboveground sources of contamination, including tanks, drums, and impoundments, as well as all soil exceeding the 50 mg/kg action level for either **arsenic or pentachlorophenol. Approximately 4,065 tons of contaminated soil were** excavated and disposed of. The removal action was completed on June 24, 2000.

EPA signed a Record of Decision (ROD) for the Site on September 28, 2005. The ROD, which sets forth the selected remedy for the Site, involves actions to address pentachlorophenol (PCP) **contamination in groundwater**. The major components of the remedy are:

HALEY ALDRICH www.haleyaldrich.com

http://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/Phase%20II%20Narrative%20-%20Super%20Salvage%20Property.pdf

PHASE II SOIL AND GROUNDWATER INVESTIGATION REPORT VOLUNTARY CLEANUP PROGRAM SUPER SALVAGE, INC., PARCEL AT BUZZARD POINT, SQUARE 0605, LOT

WASHINGTON, D.C

Heavy staining of concrete (soil sample location GSS-605-802-11): Groundwater samples were not collected.

 Oil layer in secondary containment under AST (sample locations GTW-605-802-1 and GTW-605- 802-2): Arsenic was detected at concentrations above groundwater screening levels. Reported detection limits for thallium and select semi-volatile organic compounds ([SVOCs]; benzo[a]pyrene, and pentachlorophenol) were elevated above groundwater screening levels.

 Concrete staining next to northern AST (sample location GTW-605-802-9): Antimony, arsenic, lead, and methylene chloride were detected at concentrations above groundwater screening levels. Reported detection limits for thallium, select VOCs (1,2-dibromo-3-chloropropane, 1,2- dibromoethane and vinyl chloride), and select SVOCs (benzo[a]pyrene, hexachlorobenzene, and pentachlorophenol) were elevated above groundwater screening levels.

 Impacts to the adjacent property (sample locations GTW-605-802-6 and GTW-605-802-7): Lead and methylene chloride were detected at concentrations above the groundwater screening level. Reported detection limits for thallium, select VOCs (1,2-dibromo-3-chloropropane, 1,2- dibromoethane and vinyl chloride), and select SVOCs (benzo[a]pyrene, and pentachlorophenol) were elevated above groundwater screening levels.

The reported concentrations of arsenic in groundwater above the groundwater screening level may be within naturally occurring background at the Site, and if so, would not warrant remediation. Although detection limits for SVOCs (benzo(a)pyrene, hexachlorobenzene, and pentachlorophenol)

50) THE OESER COMPANY - ONE OF AMERICA'S MOST CONTAMINATED HAZARDOUS WASTE SITES

http://www.whatcomwatch.org/php/WW_open.php?id=689

his is the Oeser Company (formerly the Oeser Cedar Company) —a 26-acre **wood treatment** plant on the outskirts of Marine Drive. In August 2005, Oeser agreed to a complete compensation of $8.6 million for federal cleanup cost. This decision was made eight years after the EPA targeted the Oeser site for its unsafe level of toxins and possible connection to water contamination in Little Squalicum Creek. The facility had been treating cedar since the 1940s, an era where environmental law was far from becoming a perfected science.

"Many wood companies tend to have messy operations, as is historically shown," said Mary Jane Nearman, Oeser project manager through the EPA. Oeser's facility is no exception to this statement. **The company, which is now more than 75 years old,**

has had multiple emergency situations throughout its complex history. Chris Sechrist, president of Oeser, was the only designated authority to speak on the company's behalf and he was unavailable for comment during the writing of this article.

While many of Oeser's employees are aware of health risks while working, they may not have realized the risks they ran simply by living near the facility. The Department of Ecology's memo stated Oeser's discharge levels into Bellingham Bay through an "unknown tributary" which was later titled Little Squalicum Creek. The memo stated "urban runoff is undoubtedly picking up unknown quantities of animal wastes, lawn and garden fertilizers and possibly septic tank contamination." The original intention of the memo was to discover levels of phenol and pentachlorophenol, chemicals used during the time to treat Oeser's lumber. Despite the detection of organic contamination, the memo later stated that Oeser had a minimal effect on its receiving waters

http://www3.epa.gov/region10/pdf/sites/oeser/oeser_first_fyr_09302011.pdf

http://yosemite.epa.gov/r10/nplpad.nsf/0/662f42372330c19c85256594004a633a!OpenDocument

51) CALIFORNIA

https://clu-in.org/download/contaminantfocus/dnapl/Treatment_Technologies/Visalia_pyrolysis_1998.pdf

http://www.nbcbayarea.com/investigations/Chemical-Leak-at-Livermore-Oil-Field-May-Have-Contaminated-Some-Alameda-County-Water-Supplies-353092171.html

http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/Southern+California+Edison+Co.+(Visalia+Poleyard)?OpenDocument

https://www.llnl.gov/news/llnl-technology-cleans-visalia-superfund-100%C2%A0years-ahead-schedule

http://water.ca.gov/storage/docs/NODOS%20Project%20Docs/NODOS_Prelim_Admin_Draft_EIR/Appendixes/APP_28A_28B_and_28C_prelim_admin_draft_Dec2013.pdf

52) VERMONT DEPARTMENT OF HEALTH

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558766/

In 2009, after resident calls regarding an odor, the Vermont Department of Health and state partners responded to 2 scenarios of private drinking water contamination from utility poles treated with pentachlorophenol (PCP), an organochlorine wood preservative used in the United States. Public health professionals should consider PCP contamination of private water if they receive calls about a chemical or gasoline-like odor with concurrent history of nearby utility pole replacement.

53) HAVERTOWN, PENNSYLVANIA.

https://en.m.wikipedia.org/wiki/Havertown_Superfund

https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0300574

Havertown Superfund refers to the polluted groundwater site in Havertown, Pennsylvania. While its designation as a Superfund cleanup site did not occur until the early 1990s, the site's environmental hazards had been identified as early as 1973.

In 1947, Natural Wood Preservers established a wood treatment plant at the intersection of Eagle Road and West Hillcrest Avenue in Havertown, Pennsylvania. During its operation in the treatment of the wood, hazardous chemicals (including oil, dioxins, and pentachlorophenol) were created as waste products. Natural Wood Preservers disposed of these waste products, untreated, into an on-site well. These chemicals fed directly into Naylor's Run Creek and eventually into the Delaware River, for which the creek is a tributary.

This disposal of hazardous waste continued for a minimum of several decades during the company's ownership of the site, which ended in 1991. During the company's 44-year ownership, both local and federal government bodies attempted to force Natural Wood Preservers to stop their dumping and clean up the existing pollution.

54) CALIFORNIA EDISON CO. (VISALIA POLEYARD), VISALIA, CA

http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0902061

The 20-acre Southern California Edison Co. (Visalia Poleyard) site in Visalia, California, was a utility pole treatment yard from the 1920s to 1980. Leaking tanks and stored treated poles contaminated groundwater and soil with chemicals, including creosote and pentachlorophenol (PCP). Following cleanup, EPA took the site off the Superfund program's National Priorities List (NPL) in 2009.

http://abc30.com/news/tulare-county-residents-caught-in-the-middle-of-a-battle-over-water/1097038/

55) BAXTER/UNION PACIFIC TIE TREATING, LARAMIE, WY

http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0800792

The 140-acre Baxter/Union Pacific Tie Treating site is located along the Laramie River in Laramie, Wyoming. The Union Pacific Railroad (UPRR) operated the plant for the treatment of railroad ties and other wood preserving operations on an intermittent basis from 1886 to 1983. Historical spills and disposal practices contaminated soil and groundwater with hazardous chemicals.

56) HAWAII DIOXIN CONTAMINATION CONFIRMED WOOD PLANT

http://www.environment-hawaii.org/?p=3505

The Campbell Industrial Park lot once occupied by the Chem-Wood Treatment Co. is heavily contaminated with a variety of chemicals used to make lumber termite-resistant during the 15 years that the company was in business. Among the contaminants are pentachlorophenol, a wood preservative, and a dioxin that is a byproduct of penta's manufacture. Both are extremely toxic to humans.

The Chem-Wood plant at 91-476 Komohana Street began treating lumber for protection against insect damage in 1973. Before that time, the site had been used for wood-treatment by another operator, Hawai`i Wood Preserving Co.

Chem-Wood employed two processes. One, in use from 1973 until the plant closed in October 1988, involved pressure-treating wood with chromated copper arsenate (CCA). The other, in use from 1983 until 1988, treated wood with pentachlorophenol (also known as penta or PCP). Penta as manufactured usually contains dioxins as a contaminant, in concentrations as high as the hundred part-per-million range. This is the source of the dioxin contamination.

Extremely high levels of pentachlorophenol continue to be present in groundwater samples. Unlike the metal contaminants, the plume of penta contamination has trended downslope of the site. Wells on the Precision Wood lot (to the south of Chem-Wood) exhibited some of the highest concentrations of penta contamination in the January 1995 testing. One well showed pentachlorophenol at 170 mg/L in 1995, when testing of the same well in 1993 found concentrations of 15.9 mg/L.

In summarizing the well tests, Woodward-Clyde writes: "The lateral extent of contamination measured in January 1995 appears to be somewhat smaller than the extent detected in November 1993, although this may be partially an artifact of the fewer number of localities sampled in January 1995. Overall, the concentrations of copper and pentachlorophenol measured in January 1995 were lower than levels measured in November 1993, while the measured concentrations of arsenic, chromium, and hexavalent chromium were, on average, roughly similar."

Penta

Workers at the Chem-Wood site today wear moon suits and masks if they are doing tasks that may expose them to penta. The precautions are in keeping with the toxic nature of the chemical.

On the basis of animal studies, scientists believe that a 150-pound person would die following oral ingestion of 1.09 ounces of a 10-percent penta solution or dermal absorption of 4.4 ounces. In 1956, a tank-truck driver who splashed a mixture of diesel

oil and penta on his hand died within 24 hours. A detergent whose formulation included penta was found to be the cause of death of a newborn in 1966.

Sublethal doses have been linked to acute leukemia, Hodgkin's and non-Hodgkins lymphomas, and other soft-tissue cancers. Sublethal exposures are suspected of suppressing the body's immune system and can severely irritate the skin and lungs.

Byproduct contaminants that result from the manufacture of penta, and which are usually found in commercial grade product, include hexachlorobenzene (HCB) and various dioxins and furans, including hexa dioxin. Animal tests show HCB can cause liver cancer and thyroid damage. While hexa dioxin is not the most lethal dioxin (that distinction falls to 2,3,7,8-tetrachlorodibenzo-p-dioxin, or TCDD), it still has been labeled by the EPA as a potent carcinogen.

57) OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

http://www.deq.state.or.us/lq/ECSI/ecsidetail.asp?seqnbr=14

The facility encompasses approximately 105 acres, comprised of a main plant housing a pulp and paper mill, and a 2-acre permitted solid waste landfill (the landfill was closed with DEQ approval in 1989). Effluent from the plant's primary clarifier pond discharged to a secondary 40-acre aeration lagoon which is part of the City of St. Helens Sewage Treatment Plant (STP).

3/19/90 JMO/SAS) Over the years, several transformers at the facility leaked oils containing PCBs. Adequate cleanup was confirmed with sampling of some of the spills. Some spill cleanups were not documented. (See DEQ preliminary assessment for more information.) There are 2 landfills on-site: one for clarifier sludge wastes (South 80 Landfill) and one for demolition debris. (The off-site clarifier sludge landfill has been assigned its own site number; see ECSI #4327). It is suspected that these sludges contain dioxins.

Pentachlorophenol, tetrachlorophenol and arsenic were detected in monitoring wells that surround the South 80 Landfill. Currently, mill wastewater (after sludge removal) is discharged to the City of St. Helens sewage treatment plant. From the 1920s until the early 1970s, waste was discharged into Multnomah Channel, which is connected to the Columbia River. Dioxins have been detected in fish near the mill (see DEQ preliminary assessment).

Primarily wastewater discharge to Multnomah Channel until 1969; PCBs from leaking transformers; pentachlorophenol and arsenic in the South 80 Demolition Landfill monitoring wells from unknown sources; overall estimated time of release: 1920s - 1987.

PCBs leaked into site soils. Pentachlorophenol and arsenic, likely from off-site sources, were discovered in monitoring wells on-site. Dioxins, PAHs and PCBs in river sediment.

58) SUPERFUND SITE, ARLINGTON, TENNESSEE

http://costperformance.org/profile.cfm?ID=13&CaseID=13

The Arlington Blending and Packaging Superfund site, located in Arlington, Tennessee, is a 2.3 acre site that was used for the formulation and packaging of pesticides and herbicides from 1971 to 1978. Chemicals handled at the facility included the pesticides endrin, aldrin, dieldrin, chlordane, heptachlor, lindane, methyl parathion, and thimet as well as solvents and emulsifiers used in the formulation operations. Leaks and spills of chemicals occurred during these operations and process wastewater was discharged to drainage ditches at the site. The site was placed on the National Priorities List (NPL) in July 1987. A remedial investigation (RI), begun in 1988, determined that the main areas of soil contamination at the site were located around and beneath the process buildings. The ROD, signed in 1991, specified excavation of contaminated soil and treatment on site using thermal desorption.

Contaminants:

Pesticides and Metals

- Maximum concentrations during remedial investigation: chlordane (390 mg/kg surface and 120 mg/kg subsurface); endrin (70 mg/kg surface and 20 mg/kg subsurface); pentachlorophenol (130 mg/kg surface and 9.5 mg/kg) subsurface; arsenic (370 mg/kg surface)

Waste Source:

Leaks and spills of pesticides during blending and packaging operations; process wastewater discharged to drainage ditches at the site

The original estimate for the soil excavation was 10,000 tons, based on the results from field-based screening using the Drexil method. Subsequent verification analyses indicated that the results from this method were not accurate. The site was recharacterized, using immunoassay sampling (results confirmed to be accurate by an off-site laboratory), and an additional 30,000 tons of soil requiring excavation were identified. The use of immunoassay sampling saved time by providing real time results (versus 5 to 6 day turnaround time for an off-site laboratory).

Total project cost was $5,586,376 including $4,356,244 in costs directly associated with the thermal treatment - Treatment costs included $4,293,893 in capital costs and $62,351 in O&M costs - The calculated unit cost for this application was $105 per ton, based on 41,431 tons of soil treated.

59) MISSOULA'S WHITE PINE SASH SITE

http://missoulian.com/news/local/deq-conducting-new-tests-for-toxins-from-missoula-s-white/article_2e1a4e7a-539a-11e1-aa84-0019bb2963f4.html

Owen said the DEQ is testing in 11 homes in the area of Scott and Cooley streets, ambient air sources, four onsite structures and two holes dug into the ground on Scott Street. On Thursday, she and environmental scientist Ben Martich of CDM Smith captured vapors from roughly 30 feet and 15 feet below ground level.

The testing will cost at least $80,000, according to a DEQ estimate, and **Huttig Building Products will foot the bill. Huttig is parent to the White Pine Sash Co., a window and door manufacturing facility. From the 1930s until 1987, workers at the Northside site dipped wooden window frames into mixtures of pentachlorophenol - or PCP** - and petroleum products. Some spilled and contaminated the site, roughly 40 acres in all near Scott and Stoddard streets, and cleanup has been taking place since 1993, according to the DEQ.

60) 6 FLORIDA PENTACHLOROPHENOL TREATMENT PLANTS

http://www.floridahealth.gov/environmental-health/hazardous-waste-sites/health-assessments.html

COLEMAN EVANS WOOD PRESERVING - Whitehouse, Duval County - Site Type: Wood treatment facility Contaminants: Chromium, copper, lead, phenol, and pentachlorophenol (PCP)

ESCAMBIA WOOD-PENSACOLA - Pensacola, Escambia County - Site Type: Former wood treatment plant Contaminants: Arsenic, benzene, dioxins/furans, pentachlorophenol (PCP), and polycyclic aromatic hydrocarbons (PAHs)

NOCATEE-HULL - Nocatee / DeSoto County - Site Type: Former creosote wood treatment site - Contaminants: Arsenic, benzene, boron, carbazole, dibenzofurans, napthalene, pentachlorophenol (PCP), and polycyclic aromatic hydrocarbons (PAHs)

PIONEER SAND CO. - Warrington, Escambia County - Site Type: Former landfill in former borrow pit - Contaminants: Antimony, beryllium, cadmium, chromium, di(2-ethylhexyl) phthalate, lead, and pentachlorophenol (PCP) and polychlorinated biphenyls (PCBs)

RALEIGH STREET DUMP - Tampa, Hillsborough County - Site Type: Former dump site -Contaminants: Antimony, arsenic, dieldrin, gamma chlordane, heptachlor, heptachlor/epoxide, lead, manganese, pentachlorophenol (PCP), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and toxaphene

ST. MARKS REFINERY - St. Marks, Wakulla County - Site Type: Former crude oil refinery - Contaminants: Arsenic, dioxins/furans, manganese, mercury, and pentachlorophenol (PCP)

61) ACCEPTABLE MATERIAL FOR WOOD RECYLING

http://www.meridiancity.org/environmental.aspx?id=8467

Basically, anything that can be turned into wood chips is acceptable in the wood recycling program. There are, however, a few exceptions. Wood containing chemical preservatives, such as creosote, pentachlorophenol or copper chrome-arsenate, is not acceptable in the wood recycling program.

62) ESCAMBIA - SUPERFUND SITE – PENSACOLA, FL

ESCAMBIA WOOD TREATMENT SUPERFUND SITE – PENSACOLA, FL

http://www.horizontaldrill.com/assets/pdf/DTD-Case-History-Escambia.pdf

In the summer of 2009, DTD installed our longest horizontal well to date for groundwater remediation. The 1,450 foot long multi-screen well intersects a naphthalene plume downgradient from a source area at the Escambia Superfund site in Pensacola, Florida. **The Escambia site encompasses an old wood treatment plant that used creosote and pentachlorophenol for wood preservation**. The site has been the focus of ongoing cleanup efforts to remove or reduce soil and groundwater contamination. Black & Veatch, of Alpharetta, GA, is currently managing the site characterization and cleanup activities.

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63) KOKUBA RIVER – POSIONED BY PENTACHLOROPHENOL

https://en.wiki2.org/wiki/Kokuba_River

The Kokuba River (国場川 Kokubagawa?) is a river in Naha, Okinawa, and is the hydrographic resource for domestic urban fresh water. A number of geographical places

on Okinawa bear its name, such as Lake Man Park (漫湖公園?) and Kokuba Danchi (国場団地?). The river flows into the East China Sea.

Poisoning

The river and people living around it suffered when pentachlorophenol herbicides were dumped into the river, obtained from the U.S. military by a civilian company in 1971, when it was still a US territory. Some 30,000 Okinawans had used the river for water supply, which was halted when school children came down with abdominal pain and nausea. Okinawa continues to suffer from extremely elevated levels of dioxins far beyond allowed limits, from the areas in and surrounding its US military bases, which are adjacent urban population centers, despite decades of denials and cleanup refusals by US officials.

64) TOXIC NEW ENGLAND LOG HOMES

http://theberkshireedge.com/vitos-toxic-venture-story-new-england-log-homes/

https://theberkshireedge.com/cleanup-log-homes-site-begins-landmark-bioremediation-technique/

http://theberkshireedge.com/40-million-commercial-residential-development-slated-log-homes-site/

http://www.mass.gov/ago/docs/environmental/bcntsa-great-barrington-2011.pdf

Problem was, while penta created indoor exposure for homeowners, workers who handled penta didn't fare so well, either.

A few lawsuits rolled in over the years. According to California personal injury attorney Richard Alexander, a cancer cluster in Northern California was linked by a physician to the Simpson Lumber Mill where workers applied penta to logs — through a product called Woodlife –sometimes spraying it on. Alexander successfully litigated wrongful death cases on behalf of some Simpson workers who died of rare forms of leukemia. He said he had to go after the manufacturers and sellers with a "defective product" claim, having taken fat samples from workers that revealed the chemical was present. "**It sits in fatty tissue,**" Alexander said.

There is at least one case of a homeowner suing a log home manufacturer over health problems linked to indoor exposure to penta-treated logs. Log homes treated before the ban may still be a threat to its inhabitants, especially children, who put their hands in their mouths. On Long Island, there is presently a class-action suit over penta-treated utility poles leaching into private property, and two Long Island, N.Y., lawmakers have proposed a ban on continuing to use penta on utility poles. There have been mini battles across the country over newly treated poles, which are said to smell like intensified lighter fluid. One town on Long Island passed a law requiring warning labels on treated utility poles.

California personal injury attorney Richard Alexander,

http://www.alexanderinjury.com/wp-content/uploads/2012/11/toxicchem_1991_Toxic_Tort_Pentachlorophenol.pdf

A Developing Toxic Tort: Lumber Mills, Log Cabins, Leukemia, Lymphomas and Soft Tissue Sarcomas: The Case Against Pentachlorophenol

By Richard Alexander, Esq.
and Robert Bohn, Esq

Pentachlorophenol (also known as PCP or penta) has been conclusively established as a carcinogen in laboratory studies PCP exposure is linked with leukemia and immune suppression after an extremely long latency period There have been a number of PCP cases around the country and the authors are collecting interrogatory answers and depositions from a dozen PCP log cabin home cases and one case arising from the late 1960's in which a nursery of newborns was dosed with PCP via diaper detergent that killed six or seven infants In this latter case two survivors now have leukemia

Because there is a latency period of

RICHARD ALEXANDER

surviving leukemia victim who worked on the paint line and handled wood treated with PCP as a trim saw operator during the period 1971 through 1976 has experienced rashes, URI's, and nose bleeds He was diagnosed as having leukemia in 1988. Co-workers have since died of non-Hodgkins lymphoma and leukemia

The action against U.S. Plywood, Champion Papers, Roberts Consolidated Industries, Beecham Home Improvement Products, and DAP, Inc is pending and a complete report on this particular case is premature. However, research shows that few California worker's compensation lawyers have experience dealing with toxic

http://articles.chicagotribune.com/1990-07-03/news/9002230594_1_toxic-chemical-fawna-wright-loxene

LAWYERS SAY HUNDREDS EXPOSED TO DETERGENT MAY HAVE BEEN HARMED

AP , Associated Press

Jul. 3, 1990 9:23 PM ET

ST. LOUIS (AP) _ Attorneys for a woman who will get $3.75 million from a chemical company after claiming their detergent caused her leukemia say the detergent may also have harmed hundreds of others.

Fawna Wright, 23, of Mound City, Ill., reached the settlement with BASF Wyandotte Corp., of Michigan, on Monday, the day a civil trial was to start.

Wright's 1985 lawsuit claimed her illness was linked to exposure to toxic chemicals in Loxene, a detergent once produced by BASF and used to launder diapers and bed linens at Booth Memorial Hospital here, where she was born in 1967.

"Wyandotte continued to manufacture Loxene despite repeated warnings of its potential danger and continued to market it to hospitals after it had twice promised the USDA that it would not," one of Wright's lawyers, Robert Bogard, said Monday.

"Therefore, we now have hundreds of persons exposed at Booth or other hospitals using Loxene during the 1960s who may be suffering from problems ranging from learning disabilities to cancer, and they don't even suspect that their illnesses are linked to the diapers they wore in the hospital."

Wright, whose leukemia is in remission and who plans to attend nursing school in the fall, said she hoped the settlement would send a message to chemical companies to be more responsible.

"I want this to reach to this chemical company and shake them up a bit, to make them realize that they are negligent," she said. "I can never go back to 12 and start all over again."

Wright's lawsuit centered on two chemicals in Loxene: a pesticide known as trichlorocarbonilide, or TCC, and pentachlorophenol, a substance known as penta that is more widely used as a pesticide and wood preservative.

Despite being warned as early as 1955 that penta was unsafe because it caused skin irritations, BASF Wyandotte, then Wyandotte Chemical Corp., instructed Booth Hospital how to use Loxene in final laundry rinses to kill mildew, the lawsuit contended.

The Salvation Army, which operated the now-defunct Booth Hospital for unwed mothers, previously agreed to pay Wright $5,000, and Dow Chemical Co. settled for $60,000, Bogard said. Dow and Monsanto Co. were accused because they manufactured penta and TCC. Monsanto was dropped as a defendant.

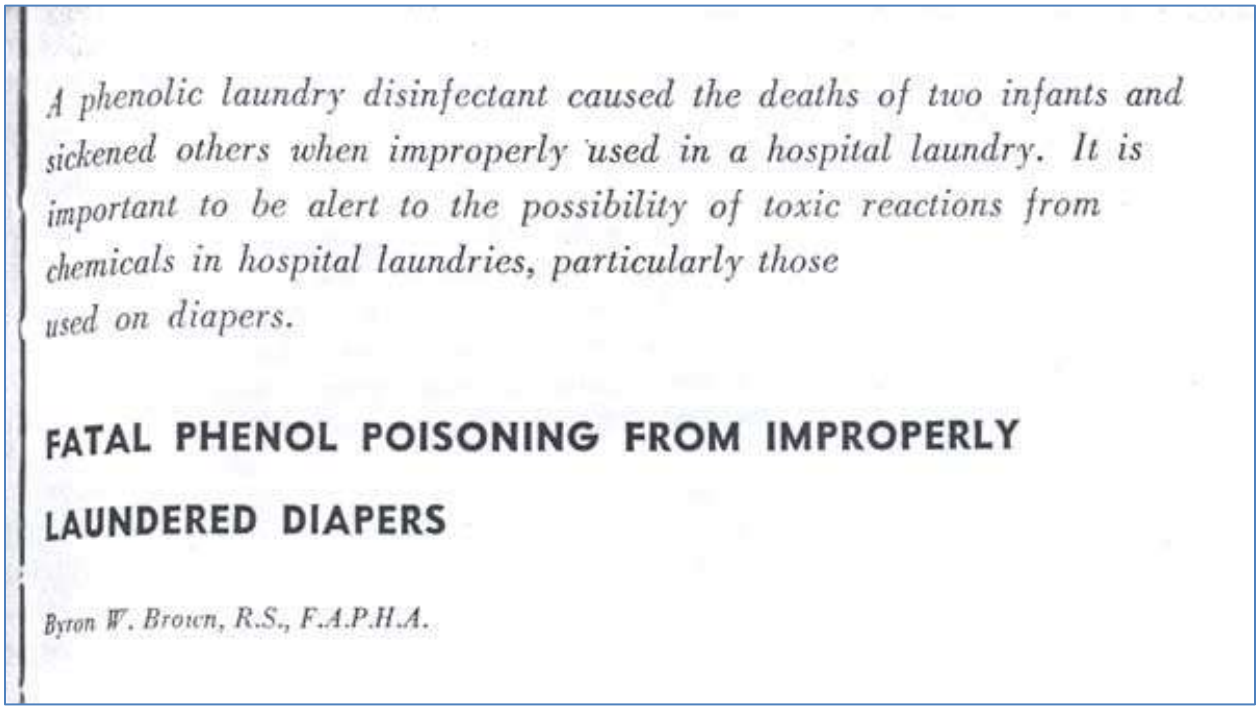
In a statement, BASF said it "is not directly responsible for her (Wright's) condition" because the hospitals "disregarded clearly stated use instructions and warnings."

Wright became gravely ill when she was 5 days old but recovered and was later adopted, her suit says. Often ill in early childhood, at age 12 she was diagnosed with acute myelogenous leukemia, an often fatal bone marrow cancer.

Because of sealed records, her lawyers said they were able to trace only eight other babies born at Booth during the time the hospital used Loxene. The lawyers said those babies also became severely ill, with high fevers and profuse sweating.

Two died as infants and a third suffers from a learning disability, the lawyers said. In 1966, an outbreak of illnesses attributed to Loxene at Pembina County Hospital in Cavalier, N.D., left one infant dead, they said.

Bogard said Wyandotte Chemical should have removed Loxene from the market following the North Dakota episode instead of waiting until the product's registration was revoked more than a year later.



A phenolic laundry disinfectant caused the deaths of two infants and sickened others when improperly used in a hospital laundry. It is important to be alert to the possibility of toxic reactions from chemicals in hospital laundries, particularly those used on diapers.

FATAL PHENOL POISONING FROM IMPROPERLY LAUNDERED DIAPERS

Byron W. Brown, R.S., F.A.P.H.A.

1967: Rare Deaths Due to Improper Use of Laundry Agents

- 1967, Booth Memorial Hospital, St. Louis, MO
- Infants: sweating, fever, difficulty breathing
- 2 deaths, multiple illnesses
- 2 drums of Loxene found in laundry closet
  - 22.9% chlorophenols
  - 4% triclocarban
- Analysis of blood showed phenol poisoning

http://nepis.epa.gov/Exe/ZyPDF.cgi/91012IHL.PDF?Dockey=91012IHL.PDF

65) URBAN ECOLOGY AND CONSERVATION SYMPOSIUM

http://www.fws.gov/oregonfwo/toolsforlandowners/urbanconservation/Documents/UERC%202013%20proceedings%20FINAL.pdf

Katie Bohren1 , Torrey Lindbo2 , Joseph Maser3 1 Portland State University, Environmental Science, 8054 SE Taylor Street, Portland, OR 97215; Phone: (480) 544-5008, Email: kebohren@uwalumni.com 2 City of Gresham, Environmental Services, 1333 NW Eastman Parkway, Gresham, OR 97030; Phone: (503) 618- 2405, Email: torrey.lindbo@greshamoregon.gov 3 Portland State University, Environmental Science, 1719 SW 10th Ave, Portland, OR 97201; Phone: (503) 725-8042, Email: jmaser@pdx.edu The effects of utility pole placement and characteristics on pentachlorophenol concentrations entering Underground Injection Control (UIC) devices: City of Gresham, Oregon Pentachlorophenol (PCP) is a fungicide that has been banned for general use, but is still used for treating wooden utility poles. PCP-treated utility poles have been linked to concentrations in urban stormwater that can exceed the Safe Drinking Water Act limit of 1 ug/L. PCP is a known carcinogen and can cause liver and kidney damage in humans over time. With the use of underground injection control (UIC) devices as an alternative method to treat and dispose of stormwater, the potential exists for groundwater contamination of PCP. In this study 60 UIC device contributing areas were surveyed for the presence and characteristics of utility poles in Gresham, Oregon. A positive correlation was found between utility pole surface area in a UIC contributing area and PCP concentration in stormwater. A stronger correlation exists for surface area of utility poles surrounded by concrete and PCP concentration in stormwater. The year of the last inspection by the electrical company could also be an indicator of PCP concentration in stormwater, as additional treatment compound is often injected into utility poles during these inspections. The intensity of the rainfall event during stormwater sample collection, in combination with these other attributes, may impact how much treatment compound is able to leach from the pole. Recommendations for future research include ongoing monitoring of PCP in stormwater and identifing utility poles surrounded by concrete that might contribute higher PCP loads to UICs. An effective solution for existing utility poles is when sidewalks are built or replaced, maintaining or adding a soil or vegetation buffer around the utility pole. Keywords: Hydrology, Land/watershed management, Sustainable development

66) PESTICIDES: ENVIRONMENTAL IMPACTS AND MANAGEMENT

5.1. Fishes

http://cdn.intechopen.com/pdfs-wm/46083.pdf

Fishes are an important part of marine ecosystem as they interact closely with physical, biological and chemical environment. Fishes provide food source for other animals such as sea birds and marine mammals and thus fishes form an integral part of the marine food web. A lot of research has been carried out to examine the impact of pesticides on decline in fish population (Scholz et al., 2012). Pesticides have been directly linked to causing fish mortality worldwide. For example, 27 freshwater fish species are found to be affected by “plant protec- tion products” (PPP) in Europe (Ibrahim et al., 2013). **Another pesticide pentachlorophenol 198 Pesticides - Toxic Aspects (NaPCP) is reported to cause large numbers of fish mortality in the rice fields of Surinam (Vermeer et al., 1970). Pesticides not only impact the fish but also food webs related to them.**

A study was conducted in rice fields of Surinam to examine the effects of pesticides, pentachlorophenol (NaPCP) on birds. NaPCP was sprayed for the purpose of killing Poma-cea snails. Large numbers of dead sick/dead egrets, herons and jacana birds were found during the period of pesticide application. Pentachlorophenol and endrin levels in these birds suggested that ingestion of contaminated food was the probable cause of sickness and mortality (Vermeer et al., 1970).

67) WOOD POLE MAINTENANCE

http://www.usbr.gov/power/data/fist/fist_vol_4/vol4-6.pdf

treated. In addition to rapid sterilization of the wood, a fungi-toxic residual is deposited in the cells of the wood from the gas phase. This residual is effective for an indefinite period since chemical analysis shows the residue to be principally elemental sulfur.

A-2. TREATMENT.-Use Vapam fumigant in wood poles at the time of groundline bore test inspection and as a supplemental groundline treatment. Schedule poles known to have internal decay or that have white wood showing near groundline for treatment before they have decayed to the point where replacing them is necessary.

A-3. EQUIPMENT AND MATERIALS.-

(1) A 9/16-inch wood auger.

(2) Vapam in 1-pint bottles.

(3) Treated wood filler plugs (5/8 by 6 inches).

(4.) Safety goggles.

A-4. PROCEDURE.-

(1) If the pole is inspected with a sonic pole tester and no low readings are recorded and no evidence of wood-destroying insects is noticed, do not bore that pole and, hence, do not use the Vapam.

(2) In poles with either decay pockets or insects, bore a hole in each quarter at groundline and one hole 2 feet above groundline, preferably above the decay pocket.

a closed vehicle.

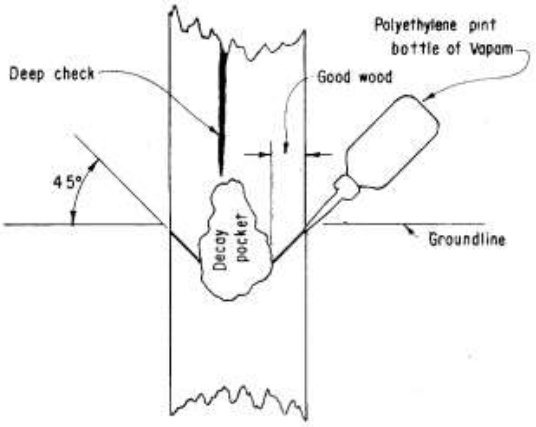


Figure A-1. Applying Vapam treatment.

68) IMPLICATIONS OF GLOBAL CLIMATE CHANGE

In active organisms such as fishes, metal exposure can lead to behavioral selection of a lower preferred temperature (if given a choice) (Gordon 2005). Thus, Cd and Cu exposure resulted in a decrease in the selected water temperature in Atlantic salmon Salmo salar, whereas Zn had no effect (Peterson 1976, cited according to Gordon 2005). Interestingly, respiratory poisons and metabolic uncouplers have the same effect on preferred temperatures, suggesting that interference with aerobic metabolism underlies these effects. Thus, the mitochondrial uncoupler pentachlorophenol and an inhibitor of cytochrome c oxidase, potassium cyanide, decreased preferred temperature in S. salar, although 2,4-dinitrophenol had no effect on preferred temperature, despite uncoupling of mitochondria (Javaid 1972, Peterson 1976). In the toad Buffo marinus,

injections of sodium azide or cyanide also led to a behavioral selection of a lower preferred temperature (Branco & Malvin 1996), as did exposure of protozoans Paramecium caudatum to sodium azide, cyanide, or 2,4-dinitrophenol (Malvin et al. 1994, Malvin 1998).

69) TOXICOLOGY PROFILE FOR PENTACHLOROPHENOL

TOXICOLOGY PROFILE FOR PENTACHLOROPHENOL

70) HTTP://WWW.GOOGLE.COM/PATENTS/US3070494

We have found unexpectedly that sodium pentachlorophenate can be used with the foregoing salts, such as alkali metal fluoride, chromates, and arsenates, to provide an excellent non-staining, non-sludging preservative for wood. Although sodium pentachlorophenate is a colorless, water-soluble salt with high toxicity to fungi, it had not been heretofore used for the impregnation of wood because the acidic nature of the wood causes precipitation of pentachlorophenol when the pH of the sodium pentachlorophenate solution falls slightly below 7 for technical grade material. After it is introduced into the wood, the pentachlorophenate is changed back to pentachlorophenol by the acidity of the wood and possibly through reaction with carbon

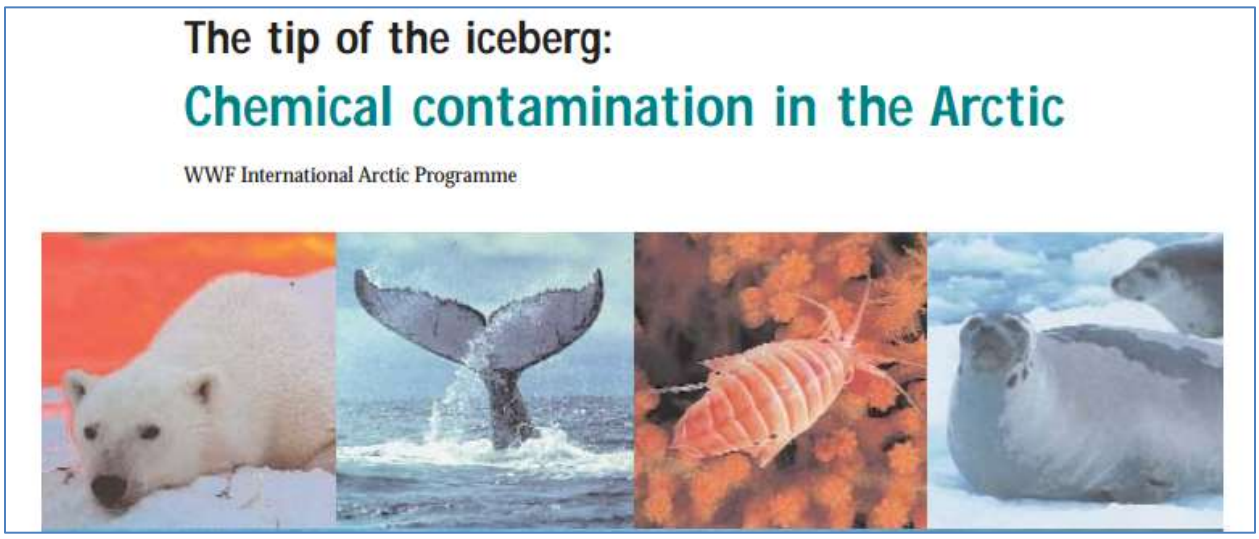
dioxide. Because of the precipitation **due to the acidity of the wood, the pentachlorophenate generally does not penetrate the wood deeply. While the material does afiord some protection from decay, the protection is less satisfactory than that protection which can be obtained with oil solutions of chlorinated phenol.** The use of aqueous solutions of sodium pentachlorophenate therefore has been heretofore limited to the dipping of green lumber in a solution of the pentachlorophenate to prevent blue staining during seasoning.

71) CHEMICAL CONTAMINATION IN THE ARCTIC

http://www.iisd.ca/linkages-update/44/

THE TIP OF THE ICEBERG: CHEMICAL CONTAMINATION IN THE ARCTIC

(WWF, February 2005) WWF has released a new report highlighting increases in chemical contamination in the Arctic environment. The report analyzes the levels of industrial and agricultural contaminants in the Arctic, considering toxic substances such as polychlorinated napthalenes (PCNs), brominated flame retardants (BFRs), perfluorooctanesulfonate (PFOS), hexachlorobenzene (HCB), short-chained chlorinated paraffins (SCCPs), and pentachlorophenol (PCP). The report presents evidence that chemical contamination is increasing exponentially in arctic marine mammals and bird species, and that these increases can be expected to continue. It argues that precautionary chemicals legislation, such as the EU's REACH proposal, is necessary to address these contamination problems.



72) PENTACHLOROPHENOL IS WORLD'S WORST CHEMICALS

http://www.pananz.net/uncategorized/unexpertcommitteetakesaction/

UN Expert Committee: Pentachlorophenol is one of the world's worst chemicals. Agrees to incorporate climate change impacts in toxic chemical evaluation.

73) ENVIRONMENTAL HEALTH - PENTACHLOROPHENOL

http://www.inchem.org/documents/ehc/ehc/ehc71.htm

A recent case, in Canada, of the mortality of young pigs kept on a PCP-treated wooden floor was reported by Ryan (1983). Although PCP residues of 310 µg/litre were found in sow's milk samples, no PCP could be detected in the liver and stomach of the young pigs. However, µg/kg concentrations of the higher chlorinated dioxins were found in the skin and liver of the young pigs, and Ryan (1983) concluded from these findings that these impurities were responsible for their deaths. Pesticide poisonings of livestock in the United Kingdom have been reviewed by Quick (1982) for the period 1977-80. Of 38 suspected PCP poisoning incidents, only 9 were confirmed as PCP intoxications. High PCP levels found in wood shavings and sawdust, used as bedding or litter for cats and poultry, apparently caused the death of animals. Quick (1982) suspected that impurities present in the commercial PCP products could have been partly responsible for the deaths.

In contrast to the lower chlorinated phenols, PCP does not cause convulsions. Ataxia, mental and physical fatigue, headaches, dizziness, disorientation, anorexia, nausea, vomiting, dyspnoea, hyperpyrexia, tachycardia, and a rise in metabolic rate are common signs and symptoms of PCP poisoning. Most prominent are extreme weakness, elevated body temperature, and profuse sweating. Death is due to cardiac arrest and poison victims usually show a marked rigor mortis (Truhaut et al., 1952a,b; Nomura, 1954; Mason et al., 1965; Robson et al., 1969; Watanabe & Watanabe, 1970).

74) BIOLOGICAL EFFECTS IN OSPREY CHICKS

http://fresc.usgs.gov/products/papers/900_henny.pdf

We found the highest concentrations of OCDD and otherhigher chlorinated PCDDs and PCDFs in eggs from theThompson River, which is also consistent with monitoring data[1]. As in the previous study, yolk sacs with higher concentrations of HpCDD and OCDD also contained 1,2,4,6,8,9- HxCDF and 1,2,4,6,8-PnCDF, which are considered to be indicative of pentachlorophenol sources. **Noteworthy are the substantial concentrations of OCDD and HpCDD in yolk sacs of ospreys from the Nechako River**, which are consistent with findings in eggs collected at that site in 1992 and which, together with the presence of 1,2,4,6,8,9-HxCDF and 1,2,4,6,8- PnCDF, are indicative of local chlorophenol sources, **probably from sawmills in the Vanderhoof area [1].**

75) CHLORINATED DIOXINS IMPLICATED IN MORTALITY PIGS

http://www.researchgate.net/publication/6400914_Higher_Chlorinated_Dioxins_Implicated_in_the_Mortality_of_Young_Pigs_Kept_on_a_Pentachlorophenol-treated_Wooden_Floor

Higher Chlorinated Dioxins Implicated in the Mortality of Young Pigs Kept on a Pentachlorophenol-treated Wooden Floor.

Higher Chlorinated Dioxins Implicated in the Mortality of Young Pigs Kept on a Pentachlorophenol- treated Wooden Floor

J. J. RYAN

Food Division, Health Protection Branch, Health and Welfare Canada, Tunney's Pasture, Ottawa, Ontario K1A 0L2

SUMMARY

Young pigs raised on a pentachlorophenol-treated wooden floor showed a high mortality. The deaths ceased when the original treated wood was covered with untreated plywood. Analysis of the wood, mother's milk, and young pig tissues was carried out for pentachlorophenol and chlorinated dibenzo-*p*-dioxins. Pentachlorophenol was found in the wood and mother's milk but not in the young pig nol, contrairement aux tissus des porcelets. On décela aussi de fortes concentrations de dioxines hautement saturées en chlore dans le bois et de faibles concentrations dans le lait de la truie; la peau et le foie des porcelets en contenaient cependant davantage. Une comparaison de la concentration des isomères des hexa-et des hepta-dioxines, dans le bois ainsi que dans la peau et le foie des porcelets, révéla qu'une absorption et/ou un métabo-

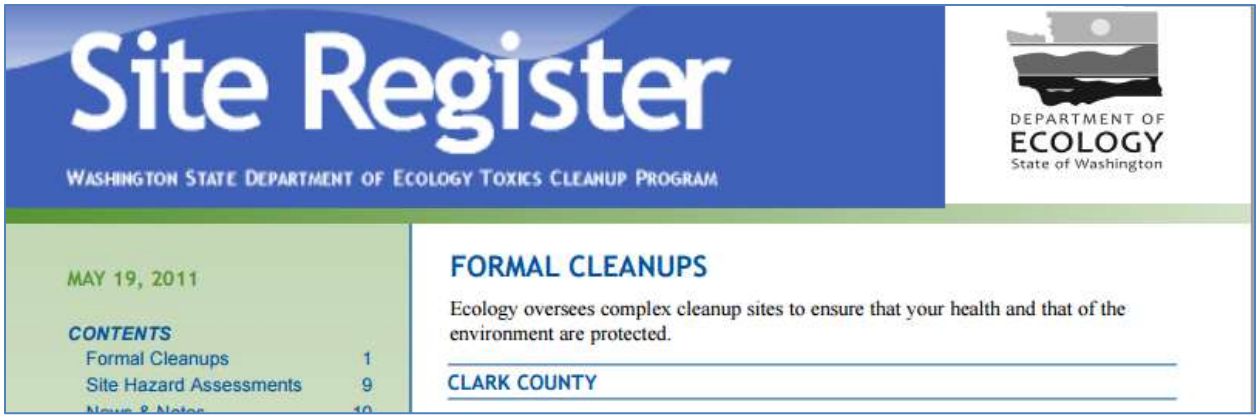
saturées en chlore, dans la mortalité de porcelets gardés sur un plancher de bois traité au pentachlorophénol

Des porcelets gardés sur un plancher de bois traité au pentachlorophénol affichèrent un taux élevé de mortalité. Ils cessèrent toutefois de mourir, dès qu'on eut recouvert le plancher avec du contre-plaqué intact. On effectua une analyse du bois, du lait d'une truie et de certains tissus des porcelets, dans le but de démontrer la présence de pentachlorophénol et de dibenzo-*p*-dioxines chlorées. Le bois et le lait de la truie recelaient du pentachlorophé-

nated wooden buildings had reproductive problems and low milk yields (8). Their tissues contained low parts per billion (ppb) concentrations of the higher chlorinated dioxins (12). The presence of contaminants in the tissues of food producing animals is particularly disturbing since the residues can readily be passed on to humans. The purpose of this paper is to describe analytical results of a case history implicating higher chlorinated dioxins

to be the toxic contaminant (9-10). Recently, a more insidious type of toxicosis has been uncovered (11-12) in farm animals raised in contact with bedding or wood which contained chlorinated dibenzo-*p*-dioxins (dioxins) and chlorinated dibenzofurans (furans). Chickens raised on wood shavings containing dioxins and furans have shown an increase in the occurrence of liver fibrosis and morbidity. The livers contained readily measureable amounts of higher chlorinated dioxins (11). Michigan dairy cattle raised in contact with contami-

Samples of the treated wood, sow's milk, and tissues from two piglets (liver, brain, kidney, serum, stomach content (piglet 1 only), and skin (piglet 1 only) were collected. The wood, milk, livers and the single stomach contents were analyzed for PCP by the Ontario Ministry of Agriculture and Food's Veterinary Services Laboratory, Guelph, Ontario. The method was based on gas chromatography (GC) with electron capture (EC) detection of the acetate derivative (13). Some samples were sent also to the Health Protection Branch laborato-



Site Register

WASHINGTON STATE DEPARTMENT OF ECOLOGY TOXICS CLEANUP PROGRAM

DEPARTMENT OF ECOLOGY
State of Washington

MAY 19, 2011

CONTENTS

FORMAL CLEANUPS

Ecology oversees complex cleanup sites to ensure that your health and that of the environment are protected.

CLARK COUNTY

https://fortress.wa.gov/ecy/publications/publications/1109041h.pdf

From 1964 to 1993, Pacific Wood Treating operated on the site. The company pressure-treated wood products with oil-based treatment solutions containing creosote, pentachlorophenol (PCP), and a water-based mixture of copper, chromium and arsenic. In 1993, the company declared bankruptcy.

76) WOOD TREATING PLANS AND THEIR CLEANUP

https://www.princeton.edu/~ota/disk1/1995/9509/950904.PDF

Wood-Treating Sites and Their Cleanup 2

The wood-preserving industry treats lumber with various chemicals to protect against insect damage and decay. Chemically preserved wood is used in products for outdoor use such as railway ties, fencing, telephone poles, exterior plywood panels, and outdoor decks (23). The industry has operated in the United States for over 100 years, with sites often having operated for decades (23). Spills from the treatment process have left many of these sites heavily contaminated with the chemicals used to preserve wood.

U.S. Environmental Protection Agency (EPA) has identified 56 wood-treating sites among the Superfund sites in the United States (17). Because the processes that have been used at these wood-treating sites are generally so similar, the contamination and cleanup needs are also similar. Recognizing this, EPA has recently moved to standardize the process for selecting Wood-treating sites are one of three categories of sites for which EPA has designated presumptive remedies.

For sites contaminated with preservatives such as those used at the Texarkana Wood Preserving site, EPA suggests bioremediation as the preferred cleanup remedy. If bioremediation is found to be infeasible, thermal desorption methods are to be considered. Incineration may be selected if bioremediation and thermal desorption are not feasible. In downplaying the role of incineration among the presumptive remedies, EPA stresses the difficulty in gaining public support, but recognizes the method's effectiveness.

In addition to the technologies that EPA now identifies as presumptive remedies, a number of other innovative technologies have been selected for use at wood-treating sites in recent years. OTA has reviewed 47 records of decision

77) THE EELS AND PENTACHLOROPHENOL POSION

http://www.eelregulations.co.uk/cont-009.html

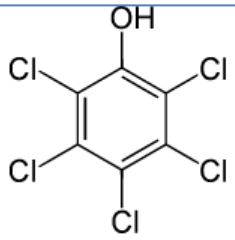
The Eels (England & Wales) Regulations 2009

PISCES CONSERVATION LTD

Ecology & conservation

Despite their current decline, eels play a major part in marine and freshwater ecosystems, both as predators and prey species, as demonstrated by the following excerpt:

Pesticides (organochlorines, organophosphates, DDT, pentachlorophenol)	◦ Carcinogenesis ◦ Liver toxicity, changes in function, and enlargement ◦ Damage to gills, reducing their ability to absorb oxygen ◦ Hyperglycaemia and disruption to metabolism ◦ Increased free radical levels, leading to cell damage ◦ Disturbance to lipid storage ◦ Direct toxicity to nervous system ◦ Abnormal ovarian and egge development



78) MUTIPLE CALIFONIA TOXIC PENTACHLOROPHENOL CLEANUP

http://www.swrcb.ca.gov/gama/docs/ab2021_fy0910.pdf

COUNTY	SITE	PESTICIDE	PREVENTION ACTION
Humboldt	U.S. Forest Service Nursery, McKinleyville	Chlorothalonil	Cleanup complete.
	Sierra Pacific, Arcata	Pentachlorophenol, Tetrachlorophenol,	Ongoing contamination cleanup.
	Carlotta Lumber Company	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination cleanup.
	Beaver Lumber Company, Arcata	Pentachlorophenol, Tetrachlorophenol	Cleanup complete.
	Sun Valley Bulb Farms	Chlorothalonil, Dithiocarbamate	Ongoing monitoring and assessment to prevent discharges to surface water and ground water under RWQCB direction.
	Pacific Lumber Co., Carlotta	Pentachlorophenol. Tetrachlorophenol	Ongoing contamination cleanup.
	Schmidbauer, Arcata	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination cleanup.
	Schmidbauer, Eureka	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination assessment and cleanup.
	Simpson Plywood Mill (Old), Eureka	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination assessment and cleanup.
	Simpson Mill, Samoa	Pentachlorophenol, Tetrachlorophenol	Cleanup complete.
Siskiyou	Hi-Ridge Lumber Company	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination assessment and cleanup.
	Pine Mountain Lumber Company	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination assessment and cleanup.
	Morgan Door, Roseburg	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination cleanup.
	J.H. Baxter	Pentachlorophenol, Tetrachlorophenol	Ongoing contamination cleanup.

COUNTY	SITE	PESTICIDE	PREVENTION ACTION
Alameda	AmChem/ Henkel Surface Technologies n/c in08	Chlordane, Heptachlor	RWQCB oversight. Impacted soil removed in 2006 and 2007. Groundwater no longer impacted, but may require long-term monitoring after removal of cap/redevelopment.
	Jones-Hamilton	Pentachlorophenol (PCP), Tetrachlorophenol (TCP)	RWQCB Final Site Cleanup Requirements Order No. 2001-0054 adopted specified time schedule for final remedial actions. Ongoing groundwater monitoring for VOCs, PCP & TCP.
	Port of Oakland (Embarcadero Cove)	Chlordane, Pentachlorophenol, DDT, Endosulfan, 2,3,7,8-TCDD, DDD	Department of Toxic Substances Control (DTSC) has lead and has approved a Remedial Action Plan including continuous ground water monitoring.
	Peerless Southern Pacific Railroad	Pentachlorophenol	City of Berkeley Health Department has lead. Additional soil and ground water investigations required.
	FMC, Newark	EDB	RWQCB Final Site Cleanup Requirements Order No. 2002-0060 adopted. Ongoing groundwater monitoring for VOCs, specified time schedule for final cleanup actions. Ground water cleanup underway.
	[illegible]	[illegible]	[illegible] alternative in preparation.
	Eagle Field (FUDS)	2,4-D, Pentachlorophenol,	Pesticides detected from groundwater grab samples. Additional assessment is needed.
	Broadview		

Butte	L.P, Remanufacturing Facility, Chico	Pentachlorophenol Tetrachlorophenol	DTSC is lead agency. The approved Final Remedial Action Plan included, in part, extracting pentachlorophenol-contaminated groundwater from four extraction wells, treating the water using granular activated carbon, and reinjecting the treated water to a dry well. Groundwater cleanup completed in 2003. Treatment system dismantled, dry well destroyed, and Waste Discharge Requirements rescinded in March 2008. Land use restricted. Groundwater monitoring continues.
Butte	Former Butte County Mosquito and Vector Abetment District, Chico	DDT, DDE, DDD, Endrin, Endrin Ketone, Heptachlor, α-Chlordane, γ-Chlordane	Pesticides detected in former septic tank and adjacent soils during excavation. Due to shallow local water table, on 19 November 2010 Butte County Environmental Health Division referred the case to the Central Valley Water Board. Preliminary site investigation is pending.
Shasta	Former Branstetter Mill Site, Redding	Pentachlorophenol	Pesticides associated with former dip tank. Residential development planned. Initial investigation identified potential human health concerns. In February 2008, case referred to DTSC who has entered into a voluntary cleanup agreement with RP, further assessment planned.
Tehama	Louisiana-Pacific, Former VG Mill & Jamb, Red Bluff	Pentachlorophenol Tetrachlorophenol Stoddard Solvent	CAO Order 98-712. On-going groundwater monitoring and assessment. Groundwater remediation by extraction, carbon filtration, and re-injection proposed to reduce pollutant source and promote biodegradation.

79) SUPERFUND SITE, BRUNSWICK, GA.

EPA Public Availability Session to be held for the Terry Creek Superfund Site, Brunswick, Ga.

FOR IMMEDIATE RELEASE:

Dec. 3, 2015

EPA Public Availability Session to be held for the Terry Creek Operable Unit 1 Superfund Site, Brunswick, Ga.

Contact Information: Dawn Harris Young, (404) 562-8421 (Direct), (404) 562-8400 (Main), harris-young.dawn@epa.gov

ATLANTA – The U.S. Environmental Protection Agency (EPA) will hold a Public Availability Session from 3:00 p.m. to 8:00 p.m. on Tuesday, December 8, 2015 at Brunswick Historic City Hall on 1229 Newcastle Street in Downtown Brunswick, Ga. Representatives from EPA and the Georgia Environmental Protection Division (GA EPD) will be available to answer questions and discuss cleanup of Operable Unit 1 at the Terry Creek Superfund Site.

The Terry Creek Dredge Spoil Areas/Hercules Outfall site is located in Brunswick, Georgia. It includes the area where the **Hercules Brunswick pesticide production facility discharged wastewater through an outfall ditch into Dupree Creek,** which flows into Terry Creek, from 1948 to 1980. The site also includes nearby areas used to store sediments dredged from Dupree Creek and Terry Creek. EPA proposed placing

the site on the Superfund program's National Priorities List in 1997 because of contaminated groundwater, soil, sediment and fish tissue.

EPA, the GA EPD and Hercules, Inc., the site's potentially responsible party (PRP), have investigated site conditions and taken steps to clean up the site in order to protect people and the environment from contamination. A fish consumption advisory remains in place for parts of Dupree Creek and Terry Creek. By investigating and cleaning up the site, EPA, GA EPD and the site's PRP continue to protect people and the environment from site contamination

Community members interested in obtaining additional information are encouraged to contact Angela Miller, EPA Community Involvement Coordinator, at (877) 718-3752 or 404-562-8561.

Brunswick Wood Preserving Superfund Site

Floods Floraville Neighborhood

http://glynnenvironmental.org/oldsite/BWP-10-05.htm

In October of 2005 the contaminated ponds and impoundments at Brunswick Wood Preserving Superfund Site overflowed and flooded the Floraville Lane neighborhood. Unlike other areas in Glynn County that experienced flooding during the first week of October, the water that flowed from **Brunswick Wood Preserving were covered with diesel fuel and pentachlorophenol.**

The GEC Project Manager spoke with residents the morning of October 8th and learned that besides contaminated water in homes, well water had turned an ominous yellow color. **The Georgia Emergency Response Team** was called and the problem was reported. Calls were received at a rapid pace from the Georgia Environmental Protection Division duty officer for the day, the United States Coastguard, and several branches of the EPA.

After calls between state and federal agencies, the EPA Emergency Response Branch was assigned to respond. David Dorian arrived less than 24 hours later on October 8th, assessed the situation and took a tour of the Superfund Site. Persistent flooding prevented all areas of the Site from being inspected. Of particular concern was the berm surrounding the **4 acre pond of creosote, copper chromium arsenate, and pentachlorophenol at the east end of the Site.**

Most of the floodwaters had subsided by the time Mr. Dorian had arrived and the sheen was much less visible. Several people living on Floraville Lane recounted the flood and how the first floodwaters had a thick layer of oil, and how the sheen thinned as the floodwaters flowed through the neighborhood. But the immediate concern was regarding that yellow water coming from their wells. Bottled water was provided by the EPA as an interim measure until the wells could be tested and results obtained.

Mr. Dorian came by the GEC office to review earlier residential water data and to further assess what action needed to be taken while he was here. Past sampling indicated that the next round of well sampling was due soon, and would better define the extent of any well contamination.

The rapid response and decisive action of David Dorian from the EPA Emergency Response Branch was in stark contrast to the EPA Remedial Branch's follow-up. The samplers from the EPA Athens, Georgia Laboratory moseyed into town six days later, only sampled two wells, and had no idea when the sampling results would be available to the residents. In fairness to those from the EPA Laboratory who sampled the wells, they said that only two days ago did they learn that they would need to get to Brunswick to sample in response to the emergency situation.

Tim Simpson from the EPA Environmental Services Laboratory in Athens, Georgia, taking residential water well samples on October 17th. Photo by Daniel Parshley

The Brunswick Wood Preserving Superfund Site is scheduled for a full round of residential and onsite monitoring well sampling in November 2005. Unfortunately, this might be too late to document impacts to surrounding residential wells during heavy rain events which will certainly come again in the future.

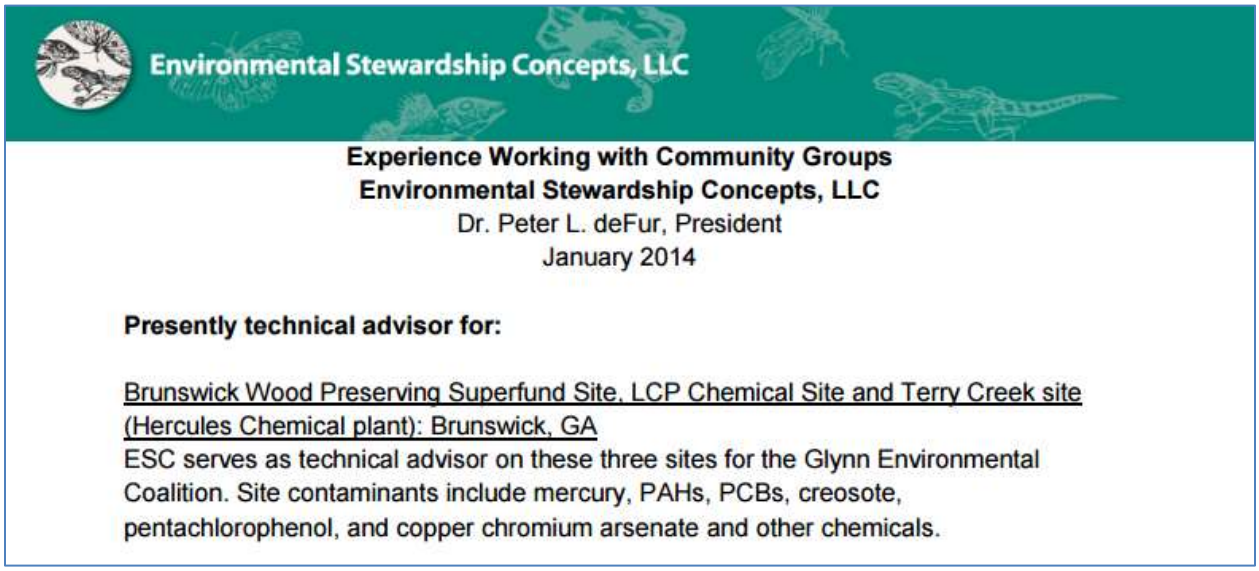
Even though we do not like to see our friends and neighbors flooded by contaminated water from a Superfund Site, hopefully this tragedy will stimulate the EPA to stop telling the media that Brunswick Wood Preserving is not a threat to those living around the Site. What they report within the EPA is much different, including the following concerns:

- Dioxin contamination in Burnett Creek and free product continues to discharge
- Potential impacts to 6 municipal wells within 4 miles serving 6000 people
- Several private wells near site
- Turtle, duck carcasses observed in ponds
- Deer observed on site (carcass reported)
- Children swim and fish in creek
- Large ponds are an imminent threat to human health and environment
- Fences are not an adequate long-term solution
- Site is attractive to trespassers, ATVs, and children fishing

The EPA has since completed analysis of the residential well samples and Brian Farrier, EPA Remedial Project Manager, reports, “The only detections we had were barium and copper, at levels consistent with past sampling in the area, for these naturally occurring compounds, i.e. the wells were not affected by the ponds. However,

I do not know what the State's results were for their Fecal Coliform tests; these wells should not be used until we know those results."

https://d10k7k7mywg42z.cloudfront.net/assets/5304c82ad6af68126400001d/Experience_Working_with_Community_Groups.pdf



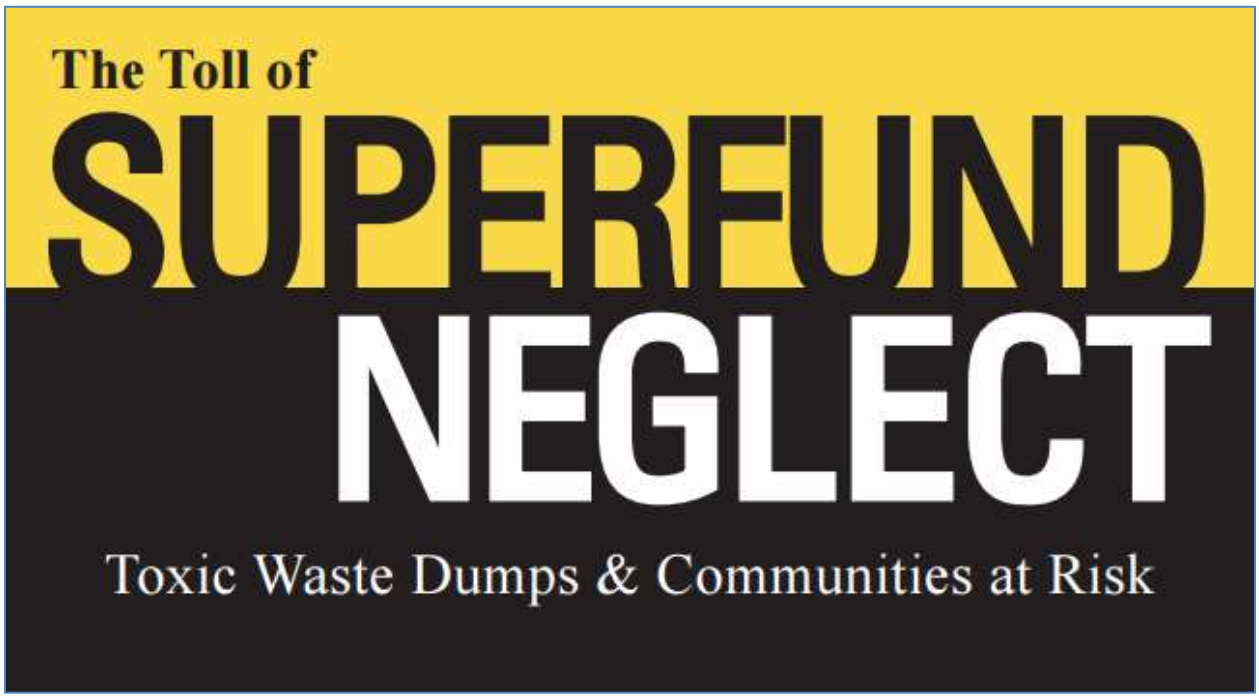
Environmental Stewardship Concepts, LLC

Experience Working with Community Groups
Environmental Stewardship Concepts, LLC
Dr. Peter L. deFur, President
January 2014

Presently technical advisor for:

Brunswick Wood Preserving Superfund Site, LCP Chemical Site and Terry Creek site (Hercules Chemical plant): Brunswick, GA
ESC serves as technical advisor on these three sites for the Glynn Environmental Coalition. Site contaminants include mercury, PAHs, PCBs, creosote, pentachlorophenol, and copper chromium arsenate and other chemicals.

http://www.progressivereform.org/articles/Superfund_061506.pdf



80) PENTACHLOROPHENOL IN DRINKING-WATER

http://www.who.int/water_sanitation_health/dwq/chemicals/pentachlorophenol.pdf

Pentachlorophenol in Drinking-water Background document for development of WHO Guidelines for Drinking-water Quality

81) GEORGIA RESOLUTION

http://www.legis.ga.gov/Legislation/20092010/87843.pdf

09 LC 35 1122

House Resolution 177

By: Representatives Long of the 61st, Davis of the 109th, Jordan of the 77th, Davis of the 122nd, Bruce of the 64th, and others

A RESOLUTION

Creating the House Study Committee on the Airborne Release of Pentachlorophenol and its Effects on the Health of Georgia Residents; and for other purposes.

WHEREAS, pentachlorophenol is devastating to human health and the environment and has been classified by the Environmental Protection Agency as a carcinogen (B2 cancer causing substance) that includes tumors, Hodgkin's disease, soft tissue sarcoma, and acute leukemia; and

82) PENTACHLOROPHENOL CONTAMINATION OF PRIVATE DRINKING WATER FROM TREATED UTILITY POLES

Lee Karlsson, MScPH, Lori Cragin, PhD, MS, Gail Center, BS, Cary Giguere, BS, Jeff Comstock, BS, Linda Boccuzzo, MS, and Austin Sumner, MD, MPH

Author information ► Article notes ► Copyright and License information ►

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558766/

Abstract

Pentachlorophenol (PCP) is an organochlorine wood preservative used to treat utility poles in the United States. It is applied to pine poles by vacuum pressure treatment at a manufacturing facility with binding agents from hydrocarbons, including diesel fuel and kerosene. About 36 million PCP-treated poles are in service across the United States (60% of the total 60 million treated utility poles).1

The US Environmental Protection Agency (EPA) maximum contaminant level (MCL) for PCP in drinking water is 0.001 milligrams per liter.2 The odor threshold for PCP in water is 0.857 milligrams per liter at 30°C (86°F).3 A PCP concentration in drinking water could be above the MCL but below the odor threshold, thus the odor property is not necessarily protective.

PCP is absorbed by oral, dermal, and inhalation routes.4 It does not build up in the body, and its elimination half-life is 33 hours, primarily in urine.4 Dose, duration of exposure, individual traits, and presence of other contaminants influence health effects.5 Effects of PCP exposure can range from skin, eye, and respiratory irritation; hepatotoxicity, including elevation of serum alkaline phosphatase, aspartate aminotransferase, and lactate dehydrogenase; kidney toxicity, including albuminuria, glycosuria, aminoaciduria, and elevated blood urea nitrogen; to impaired oxidative phosphorylation and hyperthermia, which can result in death.6,7 PCP is classified by the EPA as likely to be carcinogenic to humans.8

83) THE LAW – “SOLID WAIST” OR NOT ?

http://www.mitchellwilliamslaw.com/files/1302634860DOC041211.pdf

http://www.ettdefenseinsight.com/2011/05/court-rejects-toxic-telephone-pole-lawsuit/

http://www.ecfr.gov/cgi-bin/text-idx?SID=6c0f3be6467b6241b1f8d454d64eefdf&node=pt40.30.430&rgn=div5

84) ALSTEEN V WAULECO, INC.-

Alsteen v Wauleco, Inc. Wausau's River Street neighborhood Wisconsin

http://judicialview.com/State-Cases/wisconsin/Product_Liability/Alsteen-v-Wauleco-Inc./37/32503

http://www.masstortdefense.com/2011/06/articles/state-appeals-court-rejects-medical-monitoring/

https://www.wicourts.gov/ca/opinion/DisplayDocument.pdf?content=pdf&seqNo=65827

The following facts are alleged in the fourth amended complaint. From about 1940 to 1987, the Crestline window factory operated at 910 Cleveland Avenue, which is located in Wausau's River Street neighborhood. Wauleco, the current owner of the Crestline site, is the corporate successor to the Crestline Millwork Company and is a subsidiary of Sentry Insurance. ¶4 From approximately 1946 to 1986, operations at the Crestline site included treatment of wood products with a preservative called "Penta." Penta contains hazardous chemicals, including dioxins, pentachlorophenol, and benzene. These chemicals are known to be harmful to human health and are classified as possible carcinogens. They are capable of causing both cancerous and noncancerous diseases when ingested, inhaled, or absorbed through the skin. ¶5 Over a forty-year period, Penta was routinely spilled and discharged into the environment at the Crestline site. The Penta migrated into the River Street neighborhood. As a result, the air, soil, surface water, and groundwater in the River Street neighborhood became contaminated with dangerous levels of hazardous chemicals. Current and former residents of the neighborhood have ingested, inhaled, and absorbed these chemicals. ¶6 In May 2008, six neighborhood residents sued Wauleco, alleging personal injury and property damage caused by the release of Penta from the Crestline site. By the time the fourth amended complaint was filed in November 2009, the lawsuit included over 140 plaintiffs, each of whom had lived in or visited the River Street neighborhood at various times since 1939. These plaintiffs fell into three groups. One group alleged their exposure to Penta had caused them to develop various health problems, including Hodgkin's lymphoma, no Hodgkin's lymphoma, breast cancer, liver cancer, brain cancer, stomach cancer, thyroid cancer, diabetes, thyroid disease, and neurological problems. Another group alleged Wauleco's release of Penta had damaged their property. Alsteen is a member of the third group of plaintiffs, whose claims are the subject of this appeal. This third group did not allege any current adverse health effects caused by their exposure to Penta. Instead, they alleged their exposure to Penta "significantly increased their risk of contracting cancer" at some point in the future. As

damages, they sought “future expenses related to medical monitoring.” ¶7 Wauleco moved to dismiss Alsteen’s claims. Wauleco argued that Wisconsin law requires a plaintiff to allege actual injury in order to state a tort claim. Because Alsteen had only alleged an increased risk of future harm, Wauleco contended she had not alleged any actual injury. Accordingly, Wauleco argued Alsteen’s medical monitoring claim was not recognized under Wisconsin law. The circuit court granted Wauleco’s motion, concluding Alsteen had failed to state a claim. Alsteen now appeals.

https://www.mtu.edu/forest/alumni/yearbooks/pdfs/1977.pdf

Modern Trends In Wood Preservation

by Darrel D. Nicholas

Because of the need for conservation of our natural resources and the desirability of reducing maintenance costs, wood preservation is becoming increasingly important. In view of this, a brief review of recent developments in one general area of wood science would be timely.

Wood Preservatives

Since most wood preservatives are classified as toxic chemicals, their use must be reviewed by governmental agencies. An example of such a preservative substance is arsenic, which is currently being reviewed by OSHA.

Other preservative chemicals such as pentachlorophenol, creosote and chromium are also being reviewed by OSHA and EPA; however, the full impact of these evaluations on the wood preserving industry will not be known for some time.

From the economic standpoint, fumigant preservative systems should pay rich dividends in the future.

Research is also being conducted to find alternate methods for preserving wood. Such methods are desirable because all wood preservatives currently being used in the United States are toxic in nature and to a certain degree hazardous. It appears that work currently being conducted at the U.S. Forest Products Laboratory may ultimately lead to such method.

The basic approach being investigated involves modifying wood by various chemical reactions with

85) NEW YORK TIMES 1984 – 1 BILLION POUND OF CHEMICALS

http://www.nytimes.com/1984/07/12/us/epa-to-limit-the-sale-of-3-wood-preservatives.html

E.P.A. TO LIMIT THE SALE OF 3 WOOD PRESERVATIVES

By PHILIP SHABECOFF
Published: July 12, 1984

•

WASHINGTON, July 11— The Environmental Protection Agency announced today that it would restrict the sale of three widely used wood preservatives that have caused cancer and other illness in test animals.

The agency said it would permit sales of creosote, pentachlorophenol and inorganic arsenic compounds called arsenicals only to workers trained and certified as qualified to use them. The chemicals are used to protect lumber and products such as lawn furntiture, sun decks, utility poles, fence posts and railroad ties. Limitations on Sales

When the rules go into effect next February, unless one or more companies file objections, an uncertified person would no longer be able to go to a hardware store and purchase, say, a can of wood stain containing pentachlorophenol. To become certified, according to an agency official, a worker or consumer would have to take training in the safe use of the substances and pass a Government test of proper procedures.

Some popular wood preservatives used by homeowners, including Penta Ready to Use and some items in the Woodlife line made by Roberts Consolidated Inc., contain these preservatives. Some other popular preservatives, including the Darwarth Company's Cuprinol, do not use any of the three compounds.

The agency's action, taken under the Federal Insecticide Rodenticide and Fungicide Act, represents an unusual regulatory intrusion into the private market by the Reagan Administration, which has made deregulation a major element of its economic policy.

The agency did not ban the three preservatives because, according to John A. Moore, Assistant Administrator for Pesticides and Toxic Substances, "E.P.A. has decided that the benefits of these compounds outweigh the risks associated with their use." Large Portion of the Market

About one billion pounds of the three compounds are used in this country in a year. They account for 97 percent of the wood preservatives in use and more than a third of all pesticides used in the United States.

Consumers will still be able to purchase most wood products treated with these preservatives after the rules go into effect. But the industry will be required to participate

in a "consumer awareness program" by providing information on the risks of using the products and on how to deal with the products.

Workers certified to use the compounds will be required to wear protective clothing and, in some instances, respirators. A Less-Toxic Dioxin

Pentachlorophenols contains dioxin, albeit an isomer considerably less toxic than the dioxins that contaminated Times Beach, Mo.. The use of pentachlorophenols will be prohibited for wood intended to be used indoors except for millwork and support structure.

The agency is also requiring that the level of dioxin in pentachlorophenol be reduced to 15 parts per million immediately and to one part per million within 18 months.

When creosote or pentachlorophenol are used on wood intended for contact with humans, such as outdoor furniture, it must be treated with shellac or some other sealant under the new rules.

At a news conference today, Mr. Moore said the rules provide protection "where it is needed most - that is, to persons who apply wood preservatives and who handle wood during its installation." He said the danger to people casually exposed to the compounds is low. Industry Appears Satisfied

Industry spokesmen welcomed the new rules. E. David Lewis of the Society of American Wood Preservers said that "at first blush it appears to be a very reasonable approach that E.P.A. has taken."

Robert A. Kirshner, environmental counsel for the National Forest Products Association, also called the rules "reasonable" and added that while the market for the preservatives may be reduced, "there will still be a market for over the counter sales."

Environmental groups were disappointed, however. Jay Feldman, coordinator of the National Coalition Against the Misuse of Pesticides, said "the new controls will not adequately prevent or preclude the problems identified by the agency, including cancer and birth defects."

86) URBAN RUN OFF FROM PENTACHLOROPHENOL 19%

Waterways and receiving waters near urban and suburban areas are often adversely affected by urban storm water runoff. The degree and type of impact varies from location to location, but it is often significant relative to other sources of pollution and environmental degradation. Urban storm water runoff affects water quality, water quantity, habitat and biological resources, public health, and the aesthetic appearance of urban waterways. As reported in the National Water Quality Inventory 1996 Report to Congress (US EPA, 1998d), urban runoff was the leading source of pollutants causing water quality impairment related to human activities in ocean shoreline waters and the second leading cause in estuaries across the nation. **Urban runoff was also a significant source of impairment in rivers and lakes.** The percent of total impairment attributed to urban runoff is substantial. This impairment constitutes approximately 5,000 square miles of estuaries, 1.4 million acres of lakes, and 30,000 miles of rivers. Seven states also reported in the Inventory that urban runoff contributes to wetland degradation. Adverse impacts on receiving waters associated with storm water discharges have been discussed by EPA (1995b) in terms of three general classes. These are:

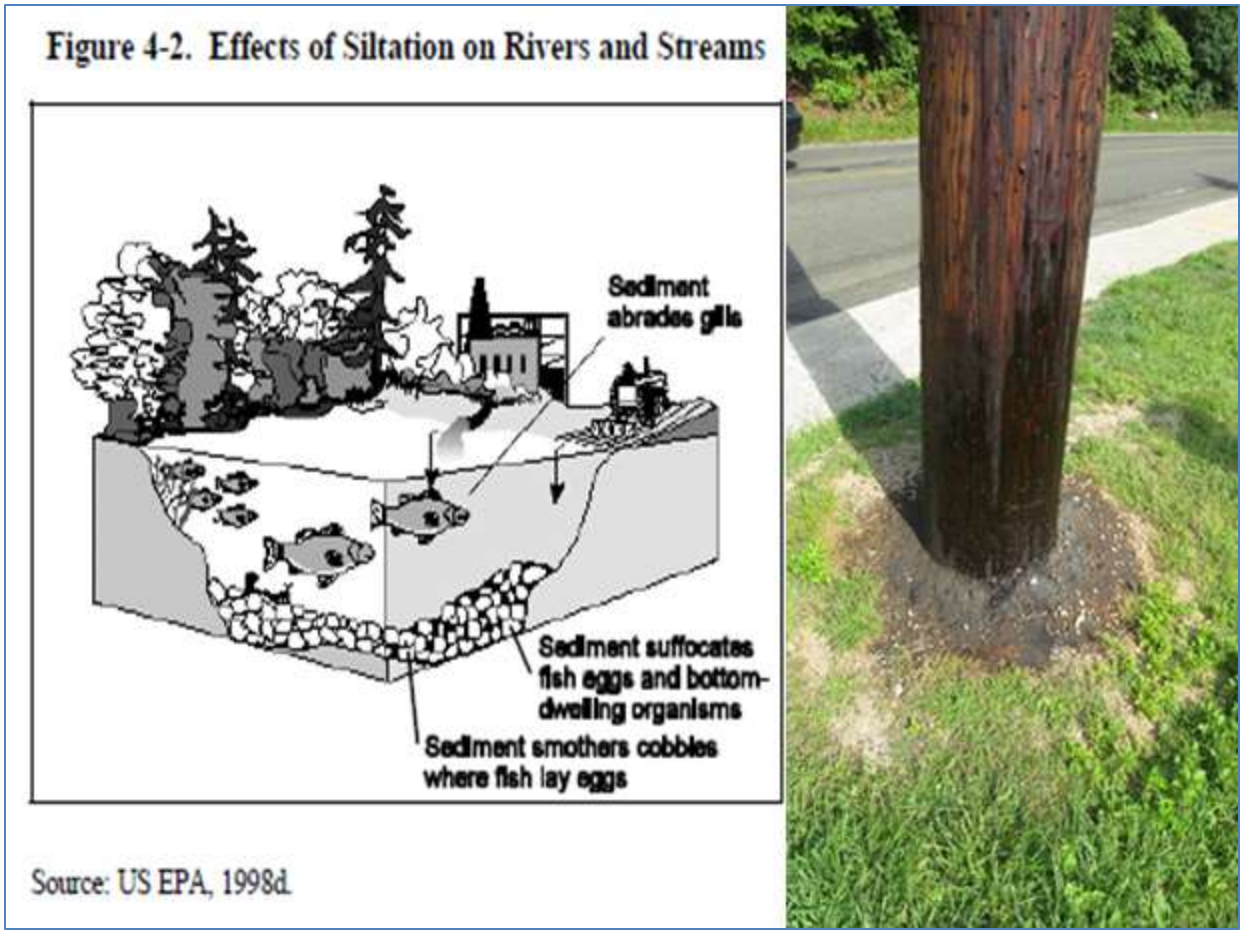
- Short-term changes in water quality during and after storm events including temporary increases in the concentration of one or more pollutants, toxics or bacteria levels.
- Long-term water quality impacts caused by the cumulative effects associated with repeated storm water discharges from a number of sources.
- Physical impacts due to erosion, scour, and deposition associated with increased frequency and volume of runoff that alters aquatic habitat.

As described in the Terrene Institute's Fundamentals of Urban Runoff Management (Horner et al, 1994), pollutants associated with urban runoff potentially harmful to receiving waters fall into the categories listed below:

Table 4-7. Most Frequently Detected Priority Pollutants in Nationwide Urban Runoff Program Samples (1978-83)

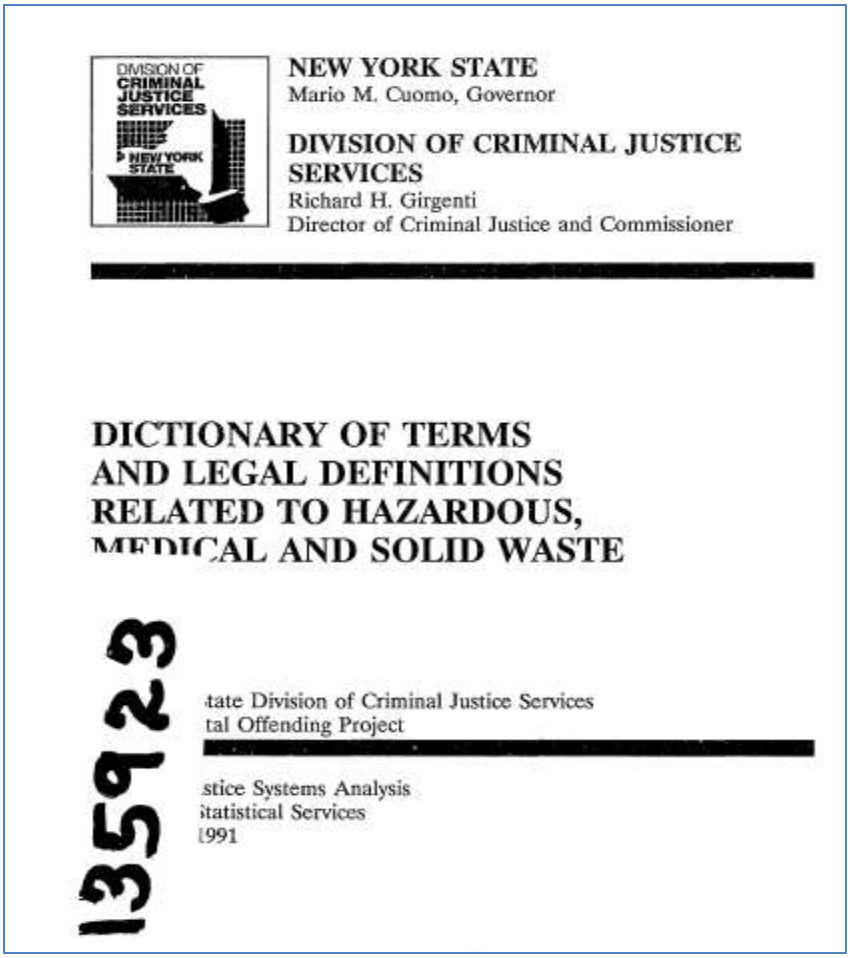
Inorganics	Organics
Detected in 75% or more	
94% Lead 94% Zinc 91% Copper	None
Detected in 50-74%	
58% Chromium 52% Arsenic	None
Detected in 20-49%	
48% Cadmium 43% Nickel 23% Cyanides	22% Bis(2-ethylhexyl)phthalate 20% α-Hexachloro-cyclohexane
Detected in 10-19%	
13% Antimony 12% Beryllium 11% Selenium	19% α-Endosulfan 19% Pentachlorophenol* 17% Chlordane* 15% Lindane* 15% Pyrene** 14% Phenol 12% Phenanthrene** 11% Dichloromethane 10% 4-Nitrophenol 10% Chrysene** 10% Fluoranthene**

* Chlorinated hydrocarbon



87) NEW YORK STATE CRIMINAL JUSTICE SERVICES

RESTRICTED CHEMICAL MATERIAL (a) Any halogenated hydrocarbon chemical (aliphatic or. aromatic) including but not limited to trichloroethane, tetrachloroethylene, methylene chloride, halogenated benzene, carbon tetrachloride; or (b) any aromatic hydrocarbon chemical including but not limited to benzene, toluene, naphthalene; or (c) any halogenated phenol derivative in which a hydroxide group and two or more halogen atoms are substituted onto the aromatic carbons of a benzene ring including but not limited to trichlorophenol, pentachlorophenol; or (d) acrolein, acrylonitrile, or benzidine. (ECL § 39-0103(4))



NEW YORK STATE
Mario M. Cuomo, Governor

DIVISION OF CRIMINAL JUSTICE SERVICES
Richard H. Girgenti
Director of Criminal Justice and Commissioner

DICTIONARY OF TERMS
AND LEGAL DEFINITIONS
RELATED TO HAZARDOUS,
MEDICAL AND SOLID WASTE

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88) SPRING FIELD OREGON – PENTACHLOROPHENOL PLUME

EWEB

MEMORANDUM

EUGENE WATER & ELECTRIC BOARD
ENVIRONMENTAL MANAGEMENT

Rely on us.

TO: Commissioners Brown, Cunningham, Cassidy, Ernst and Farmer

FROM: Debra Smith and David Donahue

DATE: November 09, 2010

SUBJECT: Update on the PCP plume from International Paper Containerboard Plant in Springfield

Issue

The Weyerhaeuser Company and now the International Paper Company (IP) have been working with the Oregon Department of Environmental Quality (DEQ) since 1995 to address groundwater contamination associated with its Springfield mill site located at 785 North 42nd Street, near the vicinity of the McKenzie River (Figure 1). EWEB should periodically evaluate the progress of this cleanup to make sure the McKenzie is not threatened from the **pentachlorophenol (PCP) groundwater plume** migrating northward from the IP plant. Staff has provided detailed background material and a summary of the analytical results for Commissioners who are interested in the technical data. Alternatively, if not interested in that level of detail, Commissioners can skip to the discussion section of the memo. Analytical results presented in this memorandum reflect the most recent data made available to staff since the previous plume update presented to the Board on November 17, 2009.

Background

Weyerhaeuser began operations at its Springfield facility in 1948. Until 1987, some of the lumber products produced at this **location were surface treated in on-site tanks with PCP, a wood preservative. PCP** has not been used at the site since that time. When the sawmill facility was removed in 1991, Weyerhaeuser discovered that the past practices of spraying and dipping of wood with PCP had contaminated surface soils and groundwater at the mill site. The company signed a Consent Order with the DEQ in September 1995, agreeing to investigate the contamination and identify potential solutions to protect human health and the environment.

During the investigation, Weyerhaeuser took a number of interim corrective actions to minimize the contamination and to protect public drinking water sources. These actions included removal and secure disposal of contaminated soil, asphalt paving in the area where PCP was applied to prevent the infiltration of precipitation, and sediment removal from a **storm water ditch where PCP-related compounds had been detected in sediments.** In addition, many groundwater monitoring wells were drilled at various depths in the vicinity of the site, and groundwater samples were collected (Figure 2). PCP was detected at concentrations equal to or exceeding 1 part per billion (ppb or µg/L), which is the U.S. Environmental Protection Agency maximum contaminant level for pentachlorophenol in drinking water. Weyerhaeuser coordinated with Springfield Utility Board (SUB) and Rainbow Water District (RWD) to collect groundwater samples from the operating municipal production wells. These wells are located northwest of the plant site (Figure 2). EWEB's raw water intake is located approximately one mile downstream from this well field.

PCP was detected at concentrations equal to or exceeding 1 part per billion (ppb or µg/L), which is the U.S. Environmental Protection Agency maximum contaminant level for pentachlorophenol in drinking water.

EWEB Hayden Bridge and Drinking Water Source Protection staff have been collecting water samples from Keizer Slough, 42nd and 52nd Street Stormwater channels, and raw water at the treatment plant since 2002 on a regular basis for pentachlorophenol analysis (among other analytes). **There have been seven detections out of 127 samples submitted for PCP analysis.** Results indicate low levels of PCP were detected in water samples collected from Keizer Slough (0.47 µg/L) and 42nd Street stormwater channel (0.20 µg/L) in May 2005. Low levels of PCP were also detected in 42nd Street and 52 Street stormwater channels in March and April 2005 ranging from 0.08 to 0.16 µg/L. There have been no PCP detections in raw water at the EWEB treatment plant above laboratory detection limits.

Analysis of the preliminary results once again indicates the presence of pentachloroanisole in both raw water (EWEB's filtration plant) and upstream sites at levels similar to those detected in 2007.

89) BELLINGHAM WASHINGTON STORM DRAIN WHATCOM CREEK

WASHINGTON STATE DEPARTMENT OF ECOLOGY

DRAINAGE BASIN TRACING STUDY: PHASE II CHEMICALS FOUND IN STORM DRAINS, WHATCOM CREEK AND SQUALICUM HARBOR IN BELLINGHAM, WASHINGTON

https://fortress.wa.gov/ecy/publications/publications/99337.pdf

Fifteen pesticides were detected in water. Each sample from the four sites examined had detectable levels of at least three pesticides. Although pesticide concentrations were lowest for organophosphorous pesticides – chlorpyriphos, diazinon, and malathion – these were the most likely to affect aquatic organisms due to their acute toxicity. These three pesticides were above recommended maximum concentrations (RMCs) to protect aquatic life (NAS/NAE, 1973) in water samples from Cable Street. Cable Street also had pentachlorophenol concentrations above criteria to protect human health. Park Place and Cemetery Creek had concentrations of diazinon above RMCs.

Pentachlorophenol (PCP) was found in the two Whatcom Creek sites with the higher concentration in the farther downstream site. The marine criteria for PCP is 360 ppb dry weight. The farther downstream site on Whatcom Creek (WHAT1) had one measurement of 430 ppb dry weight. Whatcom Creek feeds the Maritime Heritage Fish Hatchery which has experienced periodic fish kills (Kendra and Willms, 1990). Farther up the creek is Brooks Lumber, which may be leaching this chemical. Whether the occurrence of pentachlorophenol is from past or current discharge is not clear. Pentachlorophenol is somewhat water soluble and photodegrades so that compounds found in surface sediments probably have been recently deposited. Pentachlorophenol was also found at low concentrations at BELL091, BELL092 and BELL132. Along with other chlorinated phenols, PCP was found at concentrations above marine criteria at BELL162 along Bennett Avenue.

Existing Water Quality Data for Whatcom Creek

https://fortress.wa.gov/ecy/publications/publications/99337.pdf

Existing Water Quality Data for Whatcom Creek Water quality degradation has been a factor in the decline of fish populations in Whatcom Creek and is a potential threat to public health. Whatcom Creek was listed on the 1996 state 303(d) list of impaired water bodies for **pentachlorophenol,** temperature and fecal coliform violations of water quality standards. It remains on the state's proposed 303(d) list for 1998.

Past sampling efforts have identified water quality contaminants originating from urban stormwater runoff. In 1981 a spill of pentachlorophenol tainted oil from the Brooks Lumber facility resulted in a fish kill at the MHFH. Recurrent MHFH fish kills have been linked with metals and pentachlorophenol from stormwater tributaries and creek sediments (Kendra, 1988, Ostergaard, 1992). Kendra (1988) also detected PAHs and pesticides. Metals, PAHs, and chlorinated phenols were detected in Whatcom Creek during tributary drainage basin studies (PTI, 1991a, Cubbage, 1994). Hirsch (1996) also detected metals in Whatcom Creek near its mouth. The city of Bellingham urban streams monitoring data show state surface water quality violations (173-201A WAC) for fecal coliforms, temperature, and dissolved oxygen in more than 10 percent of samples collected between 1991 and 1995 for Whatcom Creek and its tributaries.

RECEIVING WATER AND SEDIMENT SAMPLING: AMERICAN CROSSARM AND CONDUIT PENTACHLOROPHENOL SPILL

87-e36

Segment No. 10-23-13

Washington State Department of Ecology
Water Quality Investigations Section
Olympia, Washington 98504-6811

WA-23-1020

May 1987

ABSTRACT

Subsequent to the November 1986 flood which resulted in the spillage of wood-preserving chemicals at American Crossarm and Conduit (Chehalis, Washington), water and sediment samples were collected for analysis. Elevated concentrations of pentachlorophenol and polynuclear aromatic hydrocarbons were detected in water and sediment from a storm drain lagoon which discharges to Dillenbaugh Creek. Pentachlorophenol was detected in the creek at concentrations near and above the EPA chronic water quality criterion for protection of aquatic organisms. Several polychlorinated dioxins (not TCDD) and dibenzofurans were detected in bottom sediments from the storm drain lagoon and creek.

INTRODUCTION

On November 24 and 25, 1986, heavy flooding caused wood-preserving chemicals to leak from underground storage tanks and open sumps at the American Crossarm and Conduit (ACC) facility in Chehalis, Washington. A portion of this spill drained to the John's Street storm drain which routed the spill southwest to a lagoon which discharges to Dillenbaugh Creek, a tributary of the Chehalis River (Figure 1). Additional routes of contamination probably occurred at the height of the flood during which the lower Dillenbaugh Creek drainage, including much of the ACC property and nearby residential areas of Chehalis, was inundated.

Contamination of the John's Street storm drain and Dillenbaugh Creek by ACC operations had been previously documented by field inspectors from Ecology's Southwest Regional Office and investigators from the Water Quality Investigations Section (WQIS) (Crawford, 1987).

The Hazardous Waste Cleanup Program (HWCP), through Mike Blum, requested that WQIS design and conduct a survey to determine the extent of water and sediment contamination resulting from the spill. This document reports the results of that survey.

90) PRODUCTION, IMPORT/EXPORT, USE, AND DISPOSAL

5.1 PRODUCTION

Vulcan Chemicals, a division of Vulcan Materials Company (Wichita, Kansas), is the only current domestic manufacturer of pentachlorophenol (SRI 1998). Pentachlorophenol is produced by the stepwise chlorination of phenols in the presence of catalysts (anhydrous aluminum chloride or ferric chloride). Outside of the United States, it is also produced by the alkaline hydrolysis of hexachlorobenzene. Typically, commercial grade pentachlorophenol is 86% pure. Contaminants generally consist of other polychlorinated phenols, polychlorinated dibenzo-p-dioxins, and polychlorinated dibenzofurans, which are formed during the manufacturing process (see Table 3-2). Pentachlorophenol has also been marketed in the past as a water-soluble sodium salt, a 5% emulsifiable concentrate, or a 3–40% solution in formulation with other chlorophenols, methylene bisthiocyanate, or copper naphthenate (IARC 1979). Production volumes for 1983–1986 were as follows: 45 million pounds in 1983; 42 million pounds in 1984; 38 million pounds in 1985; and 32 million pounds in 1986 (Mannsville 1987). About 24 million pounds were manufactured in 1987 by Vulcan Materials (HSDB 2001). More recent production data are not available. For further information on facilities in the United States that manufacture or process pentachlorophenol, refer to Table 5-1. Table 5-1 is derived from Toxics Release Inventory (TRI) data and reports only those facilities that release pentachlorophenol.

5.2 IMPORT/EXPORT

The U.S. consumption of pentachlorophenol for 1986 was reported to be 28 million pounds (CMR 1987). In 1982, 121,000 pounds of pentachlorophenol were imported to the United States (328,000 pounds were imported in 1980). In 1985, 3 million pounds of pentachlorophenol were exported, and in 1986, 2 million pounds were exported (Mannsville 1987). More recent data on the import/export volumes of pentachlorophenol are not available.

5.3 USE

Pentachlorophenol was one of the most widely used biocides in the United States. It was registered for use by EPA as an insecticide (termiticide), fungicide, herbicide, molluscicide, algicide, disinfectant, and as an ingredient in antifouling paint (Cirelli

1978a), but it has been a restricted-use pesticide since July 1984 (CELDS 1992; EPA 1984a). The principal use of pentachlorophenol is as a wood preservative

(registered by EPA for power-line poles, cross arms, fence posts, and the like). The treatment of wood for utility poles represents 80% of the U.S. consumption of pentachlorophenol (CMR 1987). However, pentachlorophenol is no longer contained in wood preserving solutions or insecticides and herbicides available for home and garden use since it is a restricted-use pesticide. Pentachlorophenol is used for the formulation of fungicidal and insecticidal solutions and for incorporation into other manufactured pesticide products. These nonwood uses account for no more than 2% of U.S. pentachlorophenol consumption (Mannsville 1987). This wide spectrum of uses was partially attributed to the solubilities of the nonpolar pentachlorophenol in organic solvents, and the sodium salt in water.

5.4 DISPOSAL

After treatment with sodium bicarbonate or a sand-soda ash mixture, pentachlorophenol can be incinerated. Incineration of pentachlorophenol is one of the most important sources of polychlorinated dibenzo-p-dioxins and dibenzofurans, so care must be taken during this process (Karasek and Dickson 1987). Pentachlorophenol has been designated as a hazardous substance, a hazardous pollutant, a toxic pollutant, and a hazardous waste by EPA. Disposal of pentachlorophenol is subject to EPA restrictions (EPA 1991, 1992).

91) TRIBAL LANDS PENTACHLOROPHENOL CONTAMINATION

http://www7.nau.edu/itep/main/docs/Conferences/15TLF_Booklet_v8.pdf

soil and possible creosote groundwater contamination, Underground Storage Tanks (USTs), soil and possible groundwater contamination by entachlorophenol of unknown origin, and uncharacterized demolition debris.

Program Highlights

http://nepis.epa.gov/Exe/ZyPDF.cgi/P100AIWD.PDF?Dockey=P100AIWD.PDF

The Masonite Mill Creek property previously contained two underground storage tanks (UST), which leaked roughly 10,000 gallons of diesel fuel into the soil. The soil was also contaminated with pentachlorophenol from wood preservative activities conducted on the property. The USTs were removed and approximately 1,700 cubic yards of diesel / pentachlorophenol contaminated soil was removed and stockpiled adjacent to the excavation. The contaminated soil was conditioned through exposure to the sun and by adding organic material. This process called “in-situ land farming,” reduced the contamination levels in the soil so that it is no longer a threat to human health or the environment. After the soil was treated, vegetation was planted to add nutrients to the soil. The goal of this project is to create a tribal agricultural lot of 25 acres that will provide alfalfa or related crops to the tribal agricultural interests in the Valley. Use of the Mill Creek property as an agricultural lot was chosen because of the dwindling agricultural lands on the reservation that are available to tribal members. Since the property is located in a fl oodplain, it is not appropriate for housing use **…**

92) DOW CHEMICAL PENTACHLOROPHENOL CONTAMINATION

St. Clair River

In 1996, Dow Chemical removed approximately 200 m3 of pentachlorophenol contaminated sediment. The removal took place about 1 km south of the Cole Drain, about 30 m offshore. The total project cost was estimated at $350,000 (Canadian).

93) THE US MILITARY'S OWN INSPECTOR GENERAL

http://reimaginerpe.org/files/3-2%20all.pdf

The US military's own Inspector General, in an internal 1986 study, revealed serious hazardous waste disposal problems in overseas bases including the Philippines. These problems involved wastes containing pentachlorophenol (a lethal poison), the toxic metal lithium, and PCBs

Page Six Summer 1992 Race, Poverty & the Environment

The Environmental Legacy of US Bases in the Philippines

by Jorge Emmanuel

no legal liability for the environmental damage caused by its bases.

the environment at overseas military bases. There are at least 300 toxic contamination sites in US Army bases in West Germany. The US Air Force

94) WOODEN BOATS AND PENTACHLOROPHENOL

http://www.woodenboat.com/library-content/woodenboat100.pdf

Mildewcides The effectiveness of a mildewcide is directly proportional to its toxicity to mold fungi. Unfortunately, many of the most effective mildewcides are also hazardous to human health— pentachlorophenol (PCP) being the most blatant example. As I have pointed out in several previous columns, I do not recommend the use of PCP under any circumstances. Several other less toxic chemicals are also reasonably effective in controlling mold growth: copper naphthenate; zinc naphthenate; copper-8- quinolinolate; bis-(tri-n-butyltin) oxide (TBTO); 2-(4-thiazolyl) benzi-midazol; 3-iodo-2-propynyl-butyl-carbamate (Polyphase); and chromium trioxide (chromic acid). With the exception of chromium trioxide (which is dissolved in water), the above chemicals are

WoodenBoat

THE MAGAZINE FOR WOODEN BOAT OWNERS, BUILDERS AND DESIGNERS

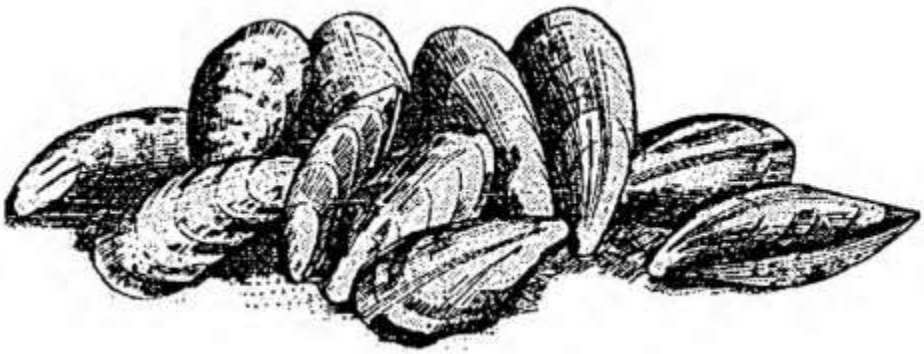
95) SHELLFISH CONTAMINATION

http://ea-lit.freshwaterlife.org/archive/ealit:2612/OBJ/19000644.pdf

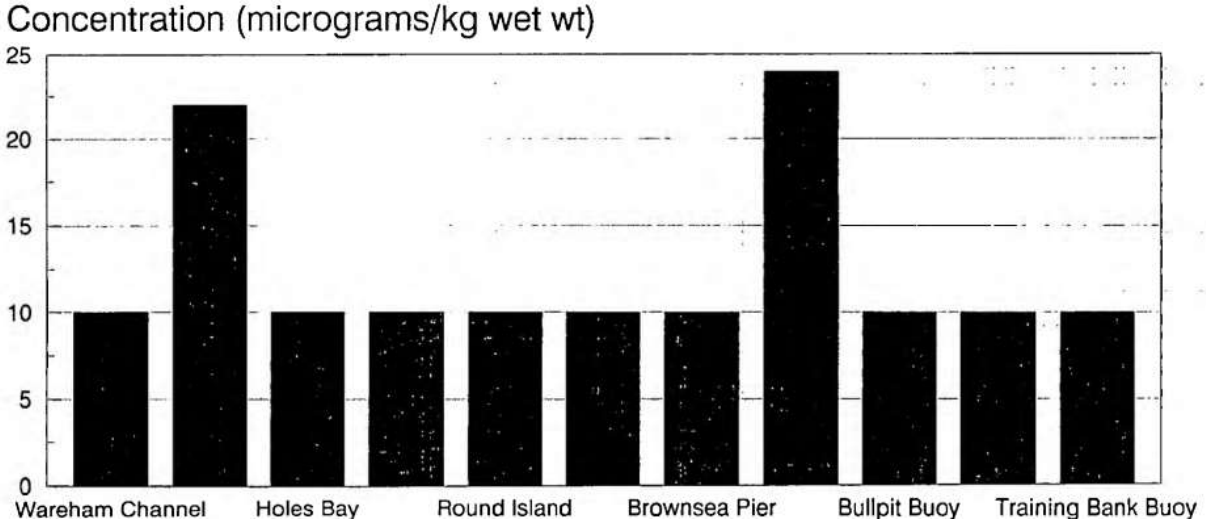
NRA WESSEX REGION

EEC SHELLFISH DIRECTIVE

Analysis of Bacteriological contamination and accumulation of metals and organics in the mussel *(Mytilus edulis)*



Bioaccumulation in Shellfish
Poole Harbour - Caged Mussel Experiment 1989
PENTACHLOROPHENOL



96) TANANA RIVER - EIELSON AIR FORCE BASE (EAFB) ALASKA

EIELSON AIR FORCE BASE (EAFB) FAIRBANKS NORTH STAR BOROUGH, ALASKA EPA FACILITY ID: AK1570028646 JUNE 14, 2006

http://www.atsdr.cdc.gov/HAC/pha/Eielson%20Air%20Force%20Base/EielsonAFB-PHA061406.pdf

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

Public Health Assessment for

Groundwater (ppb): Benzene (3,100), toluene (9,980), ethylbenzene (2,020), xylene **(11,770), pentachlorophenol** (39), bis(2-ethylhexyl)phthalate (11), and lead (5,100) were found above CVs. Surface Soil (ppm): Sampling during the RI found benzo(a)-pyrene (1.25) above the CV, and dibenz(a,h)anthracene (0.47) about equal to the CV

E-4 Fuel Storage and Fuel Tank Sludge Burial Area (ST13, DP26)	ST13 and DP26 cover 7-acres along the southeast end of the main base taxiway. Tank sludge was deposited at DP26 before 1980 and fuels were released at ST13 from leaks and spills at storage facilities.	**Groundwater (ppb)**: Benzene (3,100), toluene (9,980), ethyl-benzene (2,020), xylene (11,770), pentachlorophenol (39), bis(2-ethylhexyl)phthalate (11), and lead (5,100) were found above CVs. **Surface Soil (ppm):** Sampling during the RI found benzo(a)-pyrene (1.25) above the CV, and dibenz(a,h)anthracene (0.47) about equal to the CV.	Leaking storage tanks, impacted soils, and Building #1240 were cleared from ST13 and DP26 between 1988 and 1994. Remedial actions selected under the ROD signed in September 1994 have focused on decreasing BTEX and lead levels in groundwater. They have included passive fuel product recovery, bioventing, soil vapor extraction, and groundwater monitoring.	Based on a review of site data and potential exposure scenarios, ATSDR anticipates no potential public health hazards at ST13 and DP26. The public has limited access to this site and no drinking water wells are located nearby. Groundwater beneath ST13 and DP26 will continue to be monitored in the future.

http://www.newsminer.com/news/local_news/army-to-pay-epa-fine-for-munitions-dump-near-the/article_1e860ef8-9e0b-11e5-8392-fba4ac93cda7.html

Army to pay EPA fine for munitions dump near the Tanana River

97) ESCAMBIA TREATING COMPANY (ETC) MISSISSIPPI

http://chej.org/wp-content/uploads/Superfund-35th-Anniversary-Report1.pdf

Escambia Treating Company (ETC) operated from 1942 to 1982, using creosote and pentachlorophenol (PCP) to treat wood. The resulting residues are highly toxic and persistent in the environment and the human body. EPA sampling investigations detected dioxins, PCP, polycyclic aromatic hydro-carbons (PAHs), arsenic and other contaminants at high levels in the soil and sludge, offsite as well as onsite. The huge groundwater plume contains elevated levels of naphthalene, benzene, PAHs, phenol and vinyl chloride.

Mississippi:
Newsom Brothers/
Old Reichhold Chemicals, Inc.
Columbia

"Suffering is suffering," Charlotte Keys said. Unfortunately, the Mississippi evangelist is preaching to the choir in her small rural community. "When your population is as small as ours, people tend to turn a deaf ear. A great injustice has been served on people who have been oppressed, suppressed and depressed." The deaf ear Keys is talking about belongs to Reichhold Chemical Company.

Almost 50 years ago, the company took over more than 100 acres to produce turpentine, resins and other wood derivatives. By 1975, Reichhold had people working in the plant handling deadly toxins, such as pentachlorophenol (PCP) mixed with diesel oil. A year later, the Mississippi Air and Water Pollution Control Commission found the company was discharging wastewater containing phenols, oil and grease into a nearby stream. Reichhold continued operations until 1977, when a major blast destroyed the facility, ceasing operations.

98) OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

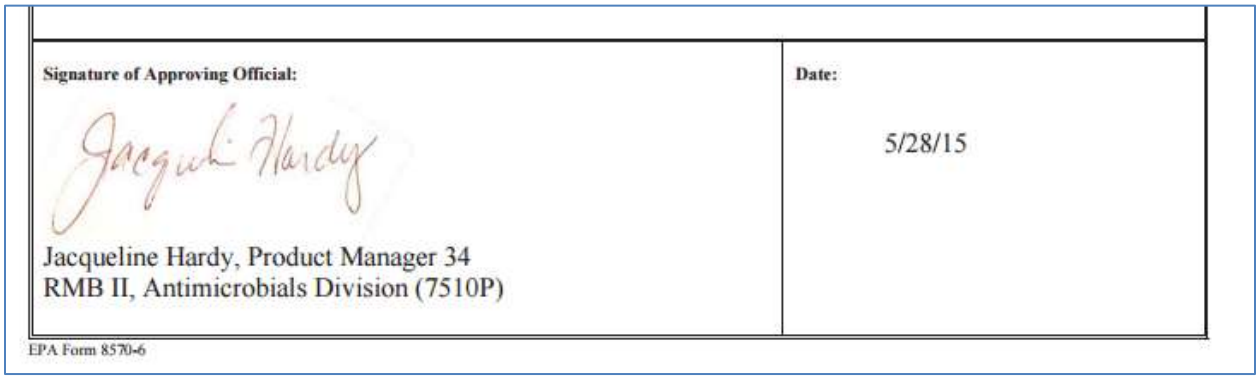
http://www.deq.state.or.us/lq/ECSI/ecsidetail.asp?seqnbr=275

Substance Contamination Information		
Substance	**Media Contaminated**	**Concentration Level**
CAUSTICS	Surface Water	Unknown
CHLOROBENZENE	Groundwater	17 ppb
DICHLOROBENZENE,1,4-	Groundwater	4.6 ppb
DIESEL - FUEL OIL	Soil	69,000 ppm
FORMALDEHYDE	Groundwater	1,800 ppb
GASOLINE	Soil	10,000 ppm
PCBs	Soil	90,000 ppm
PENTACHLOROPHENOL	Groundwater	7.6 ppb
PENTACHLOROPHENOL	Soil	30 ppm
TETRACHLOROETHYLENE	Groundwater	4.3 ppb
VINYL CHLORIDE	Groundwater	1.2 ppb

DEQ files contain numerous references to releases of hazardous materials at this large site, during the late 1960s and early 1970s. In 1967, plywood glue from above-ground tanks spilled into Johnson Creek, and routine disposal into the creek of glue wastes/tank sludges may have occurred. In 1973, up to 10,000 pounds of a red-brown caustic solution overflowed a tank during refilling, and entered the creek, causing a major fish kill. The facility was no longer used as a sawmill after about 1978, when Smurfit consolidated its operations at the Oregon City plant. Smurfit sold the majority of the site to Freeway Land Company in 1994. In 1989 Smurfit began to evaluate the extent of contamination at the site, and hired a consultant to perform Level I and II assessments. The Level II report included sample results from soil and groundwater; the samples were collected from areas judged to have the highest potential for contamination. The report identified significant on-site contamination as follows: 1) pentachlorophenol (PCP), and petroleum hydrocarbons in soil around the former plywood oiling building at the southern end of the site (soil in this area was later found to contain PCBs as well);

99) STELLA-JONES CORPORATION

http://www3.epa.gov/pesticides/chem_search/ppls/073408-00005-20150528.pdf



Signature of Approving Official:	Date:
Jacqueline Hardy Jacqueline Hardy, Product Manager 34 RMB II, Antimicrobials Division (7510P)	5/28/15

EPA Form 8570-6

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Antimicrobials Division (7510P) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460 NOTICE OF PESTICIDE: _X_ Registration ___ Reregistration (under FIFRA, as amended)	**EPA Reg. Number:** 73408-5	**Date of Issuance:** 5/28/15
	Term of Issuance: Conditional	
	Name of Pesticide Product: Stella-Jones Penta	

Name and Address of Registrant (include ZIP Code):

Stella-Jones Corporation
Two Gateway Center-Suite 1000 (10th Floor)
603 Stanwix Street
Pittsburgh, PA 15222

WARNING

FIRST AID	
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless told to by a poison control center or doctor.
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN:	This product is a metabolic stimulant. Treatment is supportive. Forced Diuresis may be effective to reduce total body-burden. Treat hyperthermia with physical measures. Do not administer aspirin, phenothiazines or atropine since they may enhance toxicity.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	

ACCEPTED
5/28/2015
Under the Federal Insecticide, Fungicide

Hazards to Humans and Domestic Animals

WARNING

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if inhaled. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco products, or using the toilet. Remove and wash contaminated clothing before reuse. Wear appropriate protective eyewear such as goggles or face shield.

FOR CHEMICAL EMERGENCY. Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

The U.S. EPA has determined that pentachlorophenol can produce defects in the offspring of laboratory animals. Exposure to pentachlorophenol during pregnancy should be avoided.

PERSONAL PROTECTION EQUIPMENT (PPE)

All personnel handling treated wood or handling treating equipment (including poles/hooks used to retrieve charge cables) that has come in contact with preservative must wear the following PPE:

- washable or disposable coveralls or long-sleeved shirt and long pants;
- chemical-resistant gloves; and,
- socks plus industrial grade safety work boots with chemical resistant soles.

All personnel cleaning or maintaining the treatment cylinder gasket/equipment or working with concentrate or wood treatment preservative must wear the following PPE:

- washable or disposable coveralls or long-sleeved shirt and long pants;
- chemical-resistant gloves;
- socks plus industrial grade safety work boots with chemical resistant soles; and,
- a full face shield.

NOTE TO USER: As used on this label, the term "respirators' means property fitting, well-maintained, half-mask canister or cartridge respirators which are MSHA/NIOSH-approved for organic vapors and acid gases. Examples if acceptable materials for protective clothing (e. g., gloves, overalls, jackets, and boots) required during application and handling of pentachlorophenol are polyvinyl acetate (PVA), polyvinyl chloride (PCV), neoprene, NBR (Buna-N), and nitrile. In addition, plastic-coated disposable coveralls impervious to dust are acceptable for dust protection.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and wildlife. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

100) IDAHO POLE CO.

http://www.toxicsites.us/site.php?epa_id=MTD006232276

CEDAR ST

The Idaho Pole Co. (IPC) wood treating facility began operation in 1945 using creosote to preserve wood. In 1952 the company switched to pentachlorophenol in carrier oil (similar to fuel oil) for the wood treating solution. Site processes included pole treatment in butt vats with later addition of pressurized heated retort equipment in the area south of Cedar St. Treated poles were stacked for drying and shipment in the area. Burlington Northern operated a railroad roundhouse where wood treating chemicals and timber were shipped in and treated poles were shipped out of the site. Pole treatment processes included pole peeling with a bark-fill area for wood waste north of Cedar St. The current I-90, including surface water culverts, was constructed some time after wood-treating activities commenced at the site. In 1975 a pressurized heated retort was added for treating full length poles. The pole-length vats were removed in the early 1980s. There was also a drying area where treated poles were stored prior to shipment. IPC continued wood treating with a pressurized heated retort and butt-dipping vat until September 1997 when the company ceased wood-treating operations. In 1978, the Montana Department of Fish, Wildlife and Parks notified the Montana Department of Health & Environmental Services (MDHES) of a suspected release of oily wood treating fluid from the plant. MDHES found evidence of a release in ditches near the facility and near Rocky Creek. Consequently, MDHES issued a compliance order on September 29, 1978, notifying IPC of statutory violations and directing the company to stop uncontrolled releases and to clean up spilled treating fluid. The company built an interceptor trench along a portion of the property line to halt some of the pentachlorophenol (PCP) from entering the groundwater. In 1983, EPA and the state sampled the trench and found that PCP was moving away from the plant. EPA proposed the facility for the National Priorities List (NPL) in 49 FR 40320 of October 15, 1984. The listing was final on June 10, 1986 in 51 FR 21054. The Idaho Pole Co. Superfund Site is located near the northern limits of Bozeman, Montana, in the east half of Section 6 and the west half of Section 5, Township 2S, Range 6E of Gallatin County. The site includes about 75 acres, of which approximately 65 acres are owned by Idaho Pole Co. A small section of I-90 (transects the property. The area to the south of I-90 consists of 41.4 acres and is currently zoned M-2 (heavy industrial). This southern portion of the property is bound by Montana Rail Link (MRL) tracks to the south, an old MRL rail spur and the Montana Ready Mix and Crane Service Company to the east, I-90 to the north, and residential property, "L" Street and commercial property (Empire Building Materials) to the west. The property is bisected by Cedar Street, which runs east-west across the property. According to the City of Bozeman, the planned future land use for that portion of the property is industrial. Significant remaining features of the property include offices, groundwater extraction and injection galleries, monitoring

wells, a water treatment building and areas where treated soils have been left in place. The property to the north of I-90 comprises 32.8 acres. This area contains property owned by Idaho Pole Co. and Northwestern Energy. It is bound by Bohart Lane and I-90 to the south, Rocky Creek to the east, and residential property to the north and west. "L" Street runs along the western edge of the property, bisecting the northwestern comer of the property. The existing zoning for the area north of I-90 is a mixture of manufacturing and residential. According to the city of Bozeman, the planned future land use is industrial and residential. The Idaho Pole Company was founded in 1946 and is privately owned by McFarland Cascade Holdings, Inc. (MCHI). On November 30, 2012, MCHI was bought by Montreal-based Stella Jones, Inc. However, the McFarland family has retained the Idaho Pole properties located in Bozeman and assigned a new project manager to the site.

Ban 'penta' in the U.S., too

The East Hampton Environmental Coalition is made up of 17 environmental East End organizations with total membership of about 6,000. Each year, we create an East Hampton Green Guide to summarize members' concerns, detailing recommended actions for local politicians. We share a passion for and commitment to the preservation of our unique environment.

Coalition members have requested that Assemb. Fred Thiele Jr. (I-Sag Harbor) and state Sen. Kenneth LaValle (R-Port Jefferson) continue fighting for passage of their co-sponsored bill to prohibit the use of the toxic chemical pentachlorophenol "with regard to new or existing transmission utility poles or facilities." The bill is stalled in committees. We're concerned that the ban will die there.

In May, the Stockholm Convention on Persistent Organic Pollutants, an international environmental treaty, approved a global ban on this toxic chemical. The United States has not signed the treaty and is not bound by it.

It's time for Long Islanders to demand that our electric grid be updated in a 21st century, sustainable way that is safe for the environment and people.

Helene Forst
East Hampton

Editor's note: The writer is the chairwoman of Long Island Businesses for Responsible Energy.

NEWSDAY / AUDREY C. TIERNAN

North Hempstead Supervisor Judi Bosworth and Sen. Chuck Schumer speak in March about utility poles treated with pentachlorophenol.

101) RG HALEY INTL CORP BELLINGHAM,

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3928

The R.G. Haley site consists of about six upland acres and a larger in-water area on the Bellingham waterfront south of the intersection of Cornwall Avenue and Wharf Street. Studies show that upland soil**, marine sediment, and groundwater within the site, are contaminated with wood treatment chemicals.** The site (PDF 459KB) includes land owned by the City of Bellingham and land owned by the State of Washington, managed by the State Department of Natural Resources.

From the mid-1800s to the mid-1900s, the site was used for industries including lumber, coal and wharf operations. **Various companies treated wood on the property** since before 1951. R.G. Haley International Corporation was the last company to treat wood there, from 1955 to 1985. Douglas Management Company bought the R.G. Haley property in 1990. The city of Bellingham then bought it in 2009.

In 2001 and 2002, Douglas Management investigated oil seeping into Bellingham Bay from the shoreline along the northern boundary of what is now the site. The investigations identified contaminants and located a floating hydrocarbon plume immediately inland from the oil seep. The ongoing release of contaminants to Bellingham Bay prompted the company to take emergency actions, coordinating with Ecology. Emergency measures included building a sheet pile wall along the shoreline, installing oil recovery wells, monitoring wells and equipment, removing some sediment, and building shoreline erosion protection. An additional action was taken in 2013 to arrest oil seepage into the bay from a different location on the shoreline.

Additional work to investigate the nature and extent of contamination at the site continued between 2002 and 2014, culminating in the issuing of a public-review draft remedial investigation report in August, 2015. A public review draft feasibility report describing an evaluation of cleanup alternatives was issued at the same time.

Contaminants at the site include pentachlorophenol (PCP), hydrocarbons related to diesel fuel, dioxins/furans, and polycyclic aromatic hydrocarbons (PAHs). These contaminants are present in concentrations that must be addressed under the state's cleanup law, the Model Toxics Control Act.

The R.G. Haley site is one of 12 cleanup sites in the Bellingham Bay Demonstration Pilot project, a coordinated bay-wide effort by federal, tribal, state and local governments to clean up contamination, control pollution sources and restore habitat, with consideration for land and water uses. The work is informed by the Bellingham Bay Comprehensive Strategy, completed by the pilot work group in 2000.

102) DIAMOND DISTRICT OF NORCO, A MISSISSIPPI DELTA

http://discovermagazine.com/2015/nov/16-the-peoples-scientist

It's like a ghost town now — empty and quiet, even at midday. Tall grasses have overtaken open fields where homes once stood. This used to be a thriving African-American neighborhood of 1,500 with roots that go back more than 200 years. Today, it's home only to a couple of dozen families.

The turning point came in 1980, when her lab tested workers at the Blue Grass Army Depot near Lexington, Ky., where crates of ammo from Vietnam had been stored to be decommissioned. The employees, who were civilians from poor parts of Appalachia, took the wood crating home and used it to panel walls, build bookcases or burn in the fireplace.

They'd be very sick, but they needed the job, so they'd go out the next morning. I was educating people all along the coast...talking about the chemicals they were being exposed to and how they needed protective gear."

"The wood had been soaked in so much pentachlorophenol that it was dripping out of the train cars," says Subra, who adds that the EPA recently categorized the pesticide as a likely carcinogen. "We found it in the blood and urine of the workers, and it had also contaminated the air and the soil when they took it home. But we were never able to go back to the community and tell them what we had found. And these people had a right to know."

103) BIO FUEL – DON'T BURN - PENTACHLOROPHENOL

The proposed rule preamble discussed many different forms of biomass, including cellulosic and non-cellulosic biomass.15 How the final rule views clean biomass was addressed earlier in Section V.B.1, which addresses traditional fuel. Manure was discussed in the previous section (Section V.B.2), while pulp and paper sludges and resinated wood residuals will be discussed in more detail in Sections V.B.4 and V.B.6, respectively, of this preamble. This section discusses other biomass materials that may be burned as a fuel, and whether or not they would be considered a solid waste when combusted as a fuel. **Specifically, the proposed rule identified lead-based painted wood, and wood treated with pentachlorophenol**, copper-based and borate-based compound treatments as solid wastes due to elevated contaminant levels relative to traditional fuels. Moreover, the proposed rule explained that, to the extent that any treated wood

is identified as a hazardous waste, it would not be eligible to be burned in a non-hazardous waste combustion unit. We also specifically requested comment on the levels of contaminants in creosote-treated lumber due to the uncertainty associated with the level of contaminants (e.g., levels of polycyclic aromatic hydrocarbons present in creosote).16 We received comments on construction and demolition (C&D)-derived wood, treated wood, and OCC rejects.

Another commenter stated that treated wood (e.g., pentachlorophenol, copper-based compounds, borate based compounds) also should be considered a fuel because it is not discarded and can be safely burned in boilers. In addition, commenters stated that creosote treated wood is a coal derivative and burning creosote would likely result in emissions no greater than burning coal. Creosote is a distilled and homogenous product that should burn more thoroughly than coal and is not burned in its pure form. Commenters also noted that creosote treated wood is a combination of two materials we listed as traditional fuels. For these reasons, it should qualify as a fuel. However, the same commenter noted that they would not be opposed to EPA requiring CCA lumber to be removed from the fuel stream.

Although limited information was submitted in regard to painted wood or **pentachlorophenol,** copper-based and borate-based compound treated wood materials and **their contaminant concentrations,** we believe these secondary materials contain **elevated levels of contaminants relative to traditional fuels, and thus do not meet legitimacy criteria** and should be considered solid waste if burned in a combustion unit. (It should also be noted that to the extent that any of these treated **wood materials are identified as a hazardous waste**, it would not be eligible to be burned in a non-hazardous waste combustion unit.) In regard to creosote treated lumber, we believe there is still a fair amount of uncertainty associated with the level of contaminants (e.g., levels of polycyclic aromatic hydrocarbons present in creosote) in comparison to traditional fuels. We, therefore, are requesting that commenters provide additional data on contaminant levels associated with these non-hazardous secondary materials relative to traditional fuels that are in use today as fuels.

104) 1995 NEWS PAPER WARRING

http://localhistory.wilmlibrary.org/sites/all/themes/Wilmington/images/1985-07-10.pdf

WEDNESDAY, JULY 10, 1991 PAGE 5-1

Safety first: the rule for outdoor play areas

By James C. Cooper

Building your backyard play area can be compared to making a favorite dessert. Both require a good recipe or design, both require the right ingredients or materials and both need to be done in the right location. The kitchen usually works best for cooking the dessert, and there is a specific area of your yard that works best for building your play area.

Determine the best location for your play area by looking from within the house. Find a room, perhaps the kitchen or family room, that you will be in most often while the children are outdoors. Choose an area that can be observed from a window within this room. This is a great time saver when you have to check on crying, commotion or the absence of noise coming from the play area.

The area chosen from your window should be large enough for a 6 to 8 foot "use zone" around your play structure (see diagram). The "use zone" is for the running, jumping, and chasing that naturally occur around a play structure. It should be free of shrubs, fencing, sidewalks and other objects children can trip on or fall against.

When buying or planning your play structure, pay close attention to any squeeze-thru size spaces or openings accessible to the children. If the opening is wide enough for the body to slide through but too narrow for the head, strangulation can occur. For this reason the Consumer Product Safety Commission recommends that accessible openings, such as the space between ladder rungs or safety barriers, be no less than seven inches wide. An easy way to test your play equipment for unsafe openings, is to see if you can pass a seven inch diameter ball through any opening accessible to a child. If the ball can pass untouched through the opening, entrapment of the head should not be a problem.

If you are building your equipment out of wood, the effects of weather and ground contact need to be considered. Redwood and cedar naturally resist insects and decay without the use of preservatives but may, after a year or two, need to be stained to prevent slivering.

Old railroad ties, utility poles and fence posts that have been treated with creosote or pentachlorophenol (penta) are often available and inexpensive. There is sometimes a temptation to use them in borders and other parts of the play area. According to the Environmental Protection Agency (EPA), there is evidence associating frequent exposure to creosote or pentachlorophenol with cancer and other health problems. The EPA recommends that frequent and prolonged skin contact with these treated woods be avoided. Creosote and pentachlorophenol should not be used in playground equipment unless they have been sealed with at least two applications of an appropriate sealant. Urethane, epoxy and shellac are acceptable sealers for creosote-treated wood. Urethane, shellac, latex epoxy enamel and varnish are acceptable sealers for pentachlorophenol-treated wood.

Most of the pressure treated woods found in lumber yards and home improvement centers have been treated with one of the inorganic arsenicals. They are sold under trade names such as Outdoor Wood and All-Weather Wood. This type of treated lumber is widely used in commercial playground equipment. According to the EPA, it does not pose a risk from frequent or prolonged skin contact and, therefore, does not require sealers for protection.

Fir and southern yellow pine are woods commonly treated with the inorganic arsenicals. They are generally considered better than other types of pine for play equipment because they provide the extra strength needed in high stress areas such as swing posts and beams. Southern yellow pine also seems to be less prone to slivering than other types of lumber.

Too many injuries occur each year from home-made swing hangers that have not been checked regularly for wear. Improvised connections, such as those made from eye bolts and "S" hoks or eye bolts and rope, wear rapidly from the pendulum movement of the swing. Inexpensive swing hangers with bushings designed to absorb the friction and wear of the swing action are available but hard to find. If you are unable to locate a parts dealer in your area, a brochure featuring accessories, parts and plans for residential playsets can be obtained by writing to: Slides & Swings, 7900 Sunkist Boulevard, Minneapolis, Mn. 55444.

Safe backyard play areas take a little planning and a little more work but the satisfaction of doing the job right and knowing your children are safe more than pays for the extra effort.

105) EPA APPROVAL TO DISCHARGE PENTACHLOROPHENOL

https://www.env.nm.gov/swqb/documents/swqbdocs/NPDES/Permits/Tribals/NM0030601-PojoaqueTowaWWTP.pdf

Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES Permit No. NM0030601

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

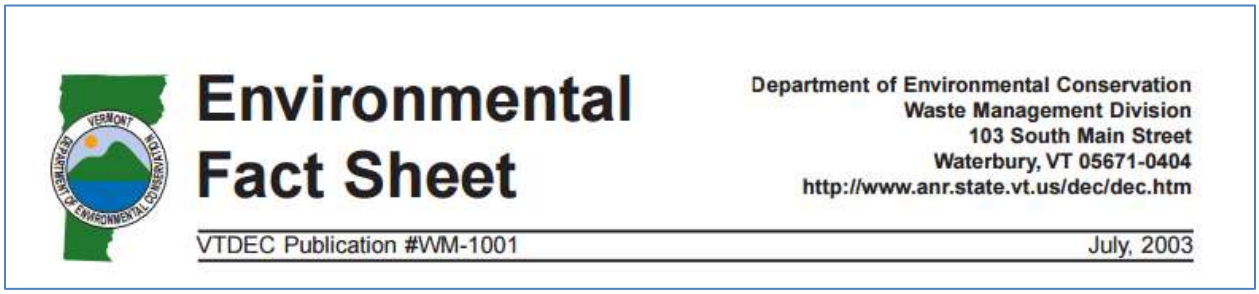
Towa Resort Wastewater Facility
Pueblo of Pojoaque
16 Viarial St.
Santa Fe, NM 87506

106) VERMONT GAS PENTA GROUNDWATER CONTAMINATION

Vermont Gas is required to follow the soil management plan when drilling in the VELCO right-of-way and study areas where the utility pole preservative **pentachlorophenol could cause groundwater contamination.**

107) VERMONT MANAGING TREATED WOOD WASTE

http://www.anr.state.vt.us/air/docs/woodwaste_fs.pdf



Environmental Fact Sheet

Department of Environmental Conservation
Waste Management Division
103 South Main Street
Waterbury, VT 05671-0404
http://www.anr.state.vt.us/dec/dec.htm

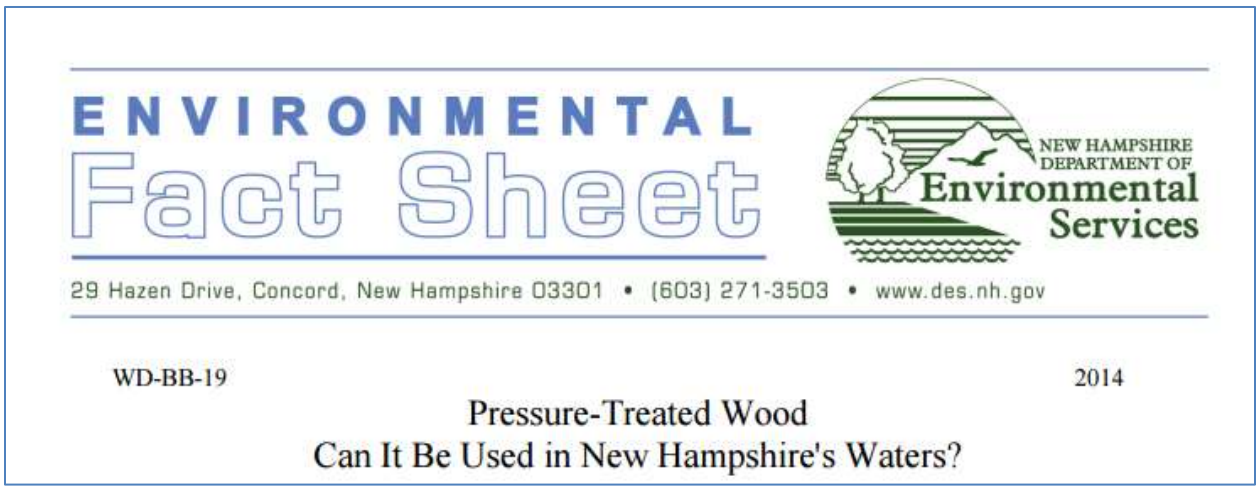
VTDEC Publication #WM-1001 July, 2003

Treated wood products such as telephone poles, railroad ties, and pressure treated lumber can **contain toxic constituents in sufficient concentrations to cause them to be regulated as hazardous waste** when discarded (i.e., when they first become "waste"). Because of this, the Waste Management Division frequently receives questions about how to best manage these materials. This fact sheet addresses the common questions: "Under what circumstances can treated wood be reused?" and "How should treated wood be disposed of?"

As a general rule, treated wood is easy to recognize. Wood that is treated with creosote or chlorophenolic formulations tends to be dark in color and has a "chemical" or "smoky" odor. Wood that is "pressure treated" with inorganic preservatives can usually be identified by a characteristic "greenish" color. Depending on the wood treatment method used, arsenic, chromium, cresols (constituents of creosote), or **chlorophenols (e.g., pentachlorophenol) can be present in concentrations high enough to exceed regulatory limits.**

108) ENVIRONMENTAL FACT SHEET NEW HAMPSHIRE

http://des.nh.gov/organization/commissioner/pip/factsheets/bb/documents/bb-19.pdf



Concerns over health and environmental effects There is a great concern about the use of pressure-treated wood in New Hampshire waters. Historically, creosote, pentachlorophenol, and inorganic arsenicals have been the most common preservatives used to extend the life of wood by protecting it from damage by insects, fungi, water and weather. High concentrations of these wood preservatives have been determined to have the capability to cause birth defects, tumors or cancer. As a result, creosote has been banned from use for quite some time. Both inorganic arsenicals and pentachlorophenol are known to accumulate in the tissues of animals. Exposure of fish to wood treatment solutions can rapidly cause harmful effects and death to fish at concentrations below 0.1 ppm. Though there is no evidence that sufficient amounts of these pesticides leach enough from docks to cause aquatic toxicity, the potential nevertheless exists.

Alternatives Acceptable alternatives are available. Cedar and redwood are naturally resistant to decay, but are more difficult to get in this part of the country, however, other alternatives such as **metals, plastics and composite materials** are available. Wood-polymer composites, made of 100 percent recycled wood and plastic, are environmentally friendly and may outlast other dock products. Another solution would be to use stainless steel pipes for the part of the dock that has direct contact with the lake or pond.

109) DRINKING WATER

http://www.who.int/water_sanitation_health/dwq/chemicals/pentachlorophenol.pdf

Major uses PCP and other chlorophenols are used primarily for protecting wood from fungal growth. Their use is in decline, and they have been abandoned from most other applications, such as indoor disinfectant, leather and textile application, and herbicide uses. **In several countries, their use has been totally discontinued (e.g. Sweden, Germany, Finland) or practically abandoned as a result of severe restrictions (e.g. Denmark)**. However, PCP is still an important pesticide in some developing countries

because of its low cost and broad spectrum. In some developed countries (e.g. France, USA), several thousand tonnes are produced annually (IARC, 1991; McConnell et al., 1991). Even in those countries where PCP use has been abandoned, PCP continues to be an important environmental contaminant, because it is imported via various materials treated with it.

110) EPA SUPERFUND - MOHAWK TANNERY, NASHUA, NH

http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0101188

The former Mohawk Tannery facility (a.k.a. Granite State Leathers) is located on approximately 30 acres in Nashua, Hillsborough County, New Hampshire. The currently inactive facility produced tanned hides for leather between 1924 and 1984. The site was proposed to the National Priorities List (NPL) on the basis of past disposal practices which included the direct discharge of wastewater containing such hazardous substances as chromium, zinc, and phenol into the Nashua River and the disposal of sludge containing such hazardous substances as chromium, **pentachlorophenol,** phenol, and 2,4,6-trichloropehenol into a number of unlined disposal areas at the site. Two of the largest disposal areas are located directly next to the Nashua River; with one of these areas within the 100-year flood plain. These disposal areas were not designed, constructed, operated, and maintained to prevent the washout of hazardous substances in the event of a flood. The confluence of the Nashua and the Merrimack Rivers is located approximately 3.5 miles downstream of the site. Both the Nashua River and the Merrimack River are fished extensively and wetlands are located along both rivers. Approximately 5,025 people receive drinking water from ground water wells within a 4-mile radius of the Site. However, a majority of the people living near the site are being supplied with potable water through the local water district.

The Site is comprised by two contiguous, approximately 15 acre parcels of land: a developed "northern parcel" that was historically used for tannery and waste disposal

operations, and a "southern parcel" that is undeveloped and does not appear to have been used by the former tannery.

111) EFFECTS OF PENTACHLOROPHENOL EXPOSURE

http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(05)63924-4/fulltext

Sir

O'Malley's review (April 19, p 1161)1 of pesticide exposure and poisonings did not mention the acute and chronic effects of pentachlorophenol (PCP) caused by PCP-treated lumber. PCP-related disorders are a cause of concern, even though the US Environmental Protection Agency imposed severe restrictions on such treatment of lumber. I have reviewed the records of five family members from Alabama, USA—the parents and three young children—who had been exposed to PCP-treated lumber for 14 months from the siding of their home (built in 1992) and the burning of PCP-treated logs in the fireplace. In addition to intense irritation of the eyes and respiratory tract, this family have had recurrent infections, neuropsychiatric symptoms, and abnormal findings on laboratory investigation (positive antinuclear antibodies, high titre of rheumatoid factor, decreased complement 4, and raised urinary porphyrins).

During the past 30 years, I have emphasised the hazards of commercial PCP and its contaminants in my writings2, 3, 4 and in testimony to the Environmental Protection Agency.5 The most serious complications involve aplastic anaemia, red-cell aplasia, thrombocytopenic purpura, several types of leukaemia, Hodgkin's disease, and non-Hodgkin lymphoma. Other PCP-related disorders include cardiomyopathy, nerve injury, soft-tissue sarcomas, severe inflammation of the upper and lower respiratory systems, fetal damage, congenital deformities, and infertility secondary to sperm destruction.

The extensive contamination of water, food, and air by PCP is a threat, owing to its persistence as a result of biomagnification. Epidemiological studies in the USA have detected PCP in over 80% of the population. PCP continues to vaporise from treated wood even after several years. Neither oil nor water-based paints eliminate the volatilisation of PCP from pressure-treated wood. There is also substantial blooming of PCP: the vaporisation of crystalline PCP as dust particles further increases exposure. Moreover, large amounts of chlorinated dibenzo-p-dioxins and dibenzofurans are present in PCP, especially in products manufactured in the USA.

112) CALIFORNIA PROP 65

The commercially available complex mixture of pentachlorophenol and by-products of its synthesis is a restricted-use pesticide and registered as a heavy-duty wood preservative for utility poles, cross arms, pilings, fence posts, and construction. It is also used as a competitive inhibitor of sulfotransferase in the laboratory. The complex mixture was used in the past as a biocide in ropes, paints, adhesives, leather, canvas, insulation, and brick walls. Indoor uses were cancelled in 1984. Non-wood preservative uses were cancelled and restricted in 1987.

[a] Pentachlorophenol is currently listed as known to the state to cause cancer under Proposition 65. This listing includes the byproducts of pentachlorophenol synthesis, which are found in varying amounts in pentachlorophenol and the sodium salt formulations.

[b]The commonly found by-products of pentachlorophenol synthesis include polychlorinated phenols (trichlorophenols and tetrachlorophenols), hexachlorobenzene, polychlorinated dibenzofurans (hexachlorodibenzofurans, heptachlorodibenzofurans, and octachlorodibenzofuran), polychlorinated dibenzo-p-dioxins (hexachlorodibenzo-*p*-dioxins, heptachlorodibenzo-*p*-dioxins, and octachlorodibenzo-*p*-dioxin), whereas 2,3,7,8-tetrachlorodibenzo-*p*-dioxin is a less commonly found by-product. Among them, 2,4,6-trichlorophenol, hexachlorobenzene, hexachlorodibenzodioxin, polychlorinated dibenzo-*p*-dioxins, and polychlorinated dibenzofurans are listed as known to the state to cause cancer under Proposition 65.

http://www.oehha.ca.gov/prop65/CRNR_notices/admin_listing/intent_to_list/NOIL103015pentachlrophenol.html

http://oehha.ca.gov/prop65/CRNR_notices/pdf_zip/PTFCommentsPentachlrophenol102315.pdf

113) NATIONAL TOXICOLOGY PEER REVIEW MEETING - 2013

http://ntp.niehs.nih.gov/ntp/about_ntp/monopeerrvw/2013/december/presentations/5_ntppeerreviewpcp_508.pdf

'Pentachlorophenol and by-products of its synthesis' is known to be a human carcinogen based on sufficient evidence from studies in humans demonstrating a causal relationship between exposure to pentachlorophenol and non-Hodgkin lymphoma. This conclusion is supported by sufficient evidence in experimental animals, and supporting mechanistic evidence.

Significant number of persons living in the U.S. are exposed to pentachlorophenol and by-products of its synthesis

- Widespread exposure, both past and present
  - Current exposures are lower than in the past, but exposure to workers and to general public still occurs
  - Evidence of recent exposures in the general population
    - People and homes near wood treatment facilities; blood levels of pentachlorophenol exposure: dioxin fingerprint from people near wood treatment facilities
    - From environmental and biological samples taken from preschool children and from their homes and day care centers
    - Data from the National Health and Nutrition Examination Survey (NHANES)
    - Low levels of pentachlorophenol have been found in foods, water, air, dust, and soil
    - Toxics Release Inventory (2011): 96,000 lbs from 30 U.S. facilities
  - Exposure to general population is primarily by inhalation and ingestion

https://ntp.niehs.nih.gov/ntp/roc/content/profiles/pentachlorophenol.pdf

Although the use of pentachlorophenol has been restricted since 1984, **there is evidence that people in the United States continue to be exposed to pentachlorophenol and by-products of its synthesis in the environment**. This evidence includes (1) elevated levels of chlorinated dioxins in the blood of people living near wood-treatment facilities and in the soil at their homes (Dahlgren et al. 2007**), (2) detection of pentachlorophenol in the urine of preschool children and in samples of indoor and outdoor air and dust from their homes and daycare centers** (Wilson et al. 2003, 2007), and (3) detection of pentachlorophenol in the urine of U.S. residents in the Na ….Although environmental and urinary pentachlorophenol levels in recent studies are **consistent with continuing exposure of many individuals in the United States,** the levels are generally lower than three or four decades ago

https://ntp.niehs.nih.gov/pubhealth/roc/listings/p/pentachlorophenol/summary/index.html

References

O'Malley, M. Clinical evaluation of pesticide exposure and poisoning. Lancet. 1997; 349: 1161–1166

View in Article | Summary | Full Text | Full Text PDF | PubMed | Scopus (131)

Roberts, HJ. Aplastic anemia due to pentachlorophenol and tetrachlorophenol. South Med J. 1983; 56: 632–635

View in Article | CrossRef

Roberts, HJ. Aplastic and red cell aplasia due to pentachlorophenol. South Med J. 1983; 76: 45–48

View in Article | CrossRef | PubMed

Roberts, HJ. Pentachlorophenol-associated aplastic anemia, red cell aplasia, leukemia and other blood disorders. J Fla Med Assoc. 1990; 77: 86–90

View in Article | PubMed

Roberts HJ. Testimony for FIFRA's scientific advisory panel. Forty-Second Meeting, Arlington, Virginia, June 17, 1981.

114) INTERNATIONAL CANCER AGENCY'S LATEST REPORT :

INTERNATIONAL CANCER AGENCY'S LATEST REPORT RAISES CONCERNS:

http://www.agri-pulse.com/International-cancer-agencys-latest-report-raises-CropLifes-ire-10252016.asp#.WBCnT8a_Jvo.twitter

WASHINGTON, Oct. 25, 2016 - The International Agency for Research on Cancer's latest report, which looks at the cancer-causing potential of five chemicals, received swift criticism from the group that represents U.S. pesticide manufacturers.

IARC published a summary in The Lancet yesterday of its review of pentachlorophenol (PCP), 2,4,6-trichlorophenol (TCP), aldrin, dieldrin, and 3,3′,4,4′-tetrachloroazobenzene (TCAB). The first four have been used as pesticides, but are no longer registered by EPA. TCAB "is formed during the production and degradation of chloroanilide herbicides," the Lancet news item said.

IARC categorized dieldrin, aldrin and TCAB as "probably carcinogenic to humans" (Group 2A in its classification framework); pentachlorophenol as "carcinogenic to humans" (Group 1), and TCP as "possibly carcinogenic to humans" (Group 2B).

But CropLife America, a frequent critic of the World Health Organization agency, raised questions about the report shortly after it appeared. CLA's Janet Collins, senior vice president of science and regulatory affairs, said IARC had failed to put its findings in the proper perspective.

"When communicating with the general public about any potential health concerns in its environment, it is important that organizations characterize hazard with perspective regarding actual exposure and real human health risk, which IARC's communication in Lancet fails to do," Collins said in a statement posted on CLA's website.

In an interview today, Collins elaborated on that position, but also questioned why IARC even evaluated the chemicals in the first place. All uses of aldrin and dieldrin in the United States, for example, have been banned since 1987.

"It begs the question: Why is IARC wasting time and resources and writing a press release?" Collins asked. "Our question continues to be: Why are we doing this?"

Pentachlorophenol "has been widely used as a wood preservative and insecticide, but its production and use are now restricted," IARC said in The Lancet. "General population exposure can occur from treated wood products, contaminated food and water, and incinerator emissions."

CropLife has been particularly outspoken in its criticism of IARC since March 2015, when the agency released a monograph - the official record of its working groups' deliberations - concluding that glyphosate, the active ingredient in Roundup, is probably a human carcinogen. A spokeswoman for CLA said Collins wants to be clear that CLA's concerns are about IARC's monograph program, not about IARC itself.

The IARC report triggered a wave of regulatory reviews around the world, most of which found it was unlikely to cause cancer in humans. An EPA Scientific Advisory Panel (SAP) was originally supposed to meet last week to review an agency paper that found glyphosate is not likely to be carcinogenic, but one of the panel members withdrew, and now EPA hopes to reschedule the meeting for December.

Attempts to reach IARC for comment on Tuesday were not successful.

In another development concerning IARC and glyphosate, House Science Committee Chairman Lamar Smith, R-Texas, told EPA Administrator Gina McCarthy he "is concerned that the EPA will not evaluate glyphosate based on sound science."

In a letter, Smith cited documents the committee obtained that appear to contradict McCarthy's testimony to the committee about the extent of EPA involvement in the IARC glyphosate review.

"From documents it has obtained, the committee has determined unequivocally" that two EPA employees, Peter P. Egeghy in the Office of Research and Development (ORD), and Matthew T. Martin of ORD's National Center for Computational Toxicology, "played a much larger role in the IARC's assessment of glyphosate than you or any EPA official has previously admitted to the committee," Smith said.

He asked McCarthy to make those two employees, as well as Jim Jones, assistant administrator for the Office of Chemical Safety and Pollution Prevention, available for interviews no later than 5 p.m. on Nov. 1.

Smith also raised questions about the inclusion on the glyphosate SAP of Kenneth Portier, an American Cancer Society statistician and the brother of toxicologist Christopher Portier, who participated in IARC's glyphosate report.

Christopher Portier contacted Jones after EPA's initial Cancer Assessment Review Committee (CARC) report on glyphosate was accidentally posted online in May. That report, which was online for a few days before being removed, concluded glyphosate was not likely to be a human carcinogen.

On May 4, 2016, Portier forwarded Jones a Politico article reporting on the posting of the CARC study "and the implications it may have for a European

Union decision on glyphosate," Smith said in his letter. "Understanding Portier's urgency in the matter, … Jones forwarded Portier's email on to his EPA subordinates stating, 'We need to think about a statement that goes beyond saying our assessment is not final. Looks like it will be used to inform other government decisions.'

"Given Portier's apparent efforts to use IARC to influence global policy decisions and his desire to discredit the (European Food Safety Authority) glyphosate study, it is reasonable to assume that Assistant Administrator Jones acted to assist him and IARC by publically (sic) downplaying scientific analysis conducted by EPA," Smith said.

Also on Tuesday, Reuters reported that IARC officials were discouraging members of its glyphosate panel from releasing documents related to the glyphosate review.

IARC "does not encourage participants to retain working drafts or documents after the monograph has been published," according to an email from IARC's Kate Guyton to six members of the glyphosate panel, Reuters reported.

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In October, 2016, 18 scientists from eight countries met at the International Agency for Research on Cancer (IARC; Lyon, France) to finalise their critical review and evaluation of the carcinogenicity of pentachlorophenol (PCP), 2,4,6-trichlorophenol (TCP), aldrin, dieldrin, and 3,3′,4,4′-tetrachloroazobenzene (TCAB) following the procedures outlined in the IARC Monographs Preamble. **These assessments will be published as volume 117 of the IARC Monographs.[1]**

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The insecticide PCP, classified as a persistent organic pollutant under the Stockholm Convention, was evaluated as "carcinogenic to humans" (Group 1). PCP has been widely used as a wood preservative and insecticide, but its production and use are now restricted. General population exposure can occur from treated wood products, contaminated food and water, and incinerator emissions. **Epidemiological data provided sufficient evidence in humans for the carcinogenicity of PCP. In all of the available epidemiological studies, exposure to PCP was associated with an increased risk of non-Hodgkin lymphoma.** Results from a large cohort study[2] of Canadian sawmill workers showed a significant increase in the incidence of non-Hodgkin lymphoma with cumulative exposure to PCP. **Significantly increased risk of non-Hodgkin lymphoma was also reported for a cohort of US pesticide manufacturing workers exposed to PCP,[3] and results from two smaller studies[4, 5] including pesticide manufacturing workers showed positive associations between exposure to PCP and non-Hodgkin lymphoma. Positive associations with non-Hodgkin lymphoma were also seen in three case-control studies in Sweden and New Zealand. Risk of multiple myeloma, now classified as a subtype of non-Hodgkin lymphoma, was also increased in several studies. The pattern of excess cancers differed from that observed in populations that are highly exposed to dioxins, which are possible impurities of PCP. Additionally, there was sufficient evidence of carcinogenicity in experimental animals, with a pattern of tumours that was similar across three test agents of different purity (90·4%, 91%, or ≥98% PCP). Similarly, test agents varying in purity induced mechanistic effects that are different from those exhibited by dioxins. These mechanistic studies provided strong evidence of multiple key characteristics of human carcinogens,[6] indicating that PCP is metabolically activated to electrophilic benzoquinones and redox-cycling semiquinones, induces oxidative stress, is genotoxic, is anti-estrogenic, and alters cell signalling, apoptosis, and proliferation.**

TCP has also been used as a wood preservative, insecticide, and in the synthesis of some fungicides. The epidemiological data on TCP carcinogenicity were inadequate. There was sufficient evidence in experimental animals for the carcinogenicity of TCP, as induction of hepatocellular tumours in male and female mice, and monocytic leukaemia in male rats, has been reported.[7] Few mechanistic data or other relevant data were available. TCP was evaluated as "possibly carcinogenic to humans" (Group 2B).

Aldrin and dieldrin are synthetic organochlorine pesticides classified as persistent organic pollutants under the Stockholm Convention. Their use in several countries has been banned or severely restricted since the early 1970s, and general population exposures have declined. There was sufficient evidence in experimental animals for the carcinogenicity of aldrin, with three studies[8, 9, 10] reporting the induction of hepatocellular carcinomas. Epidemiological data on aldrin were inadequate and mechanistic data were sparse. However, since aldrin rapidly converts to dieldrin in the body, exposure to aldrin inevitably entails internal exposure to dieldrin. Dieldin is slowly excreted in humans because of inefficient metabolism and sequestration in fat. For dieldrin, a prospective study in Denmark found a **significant increase in the risk of breast cancer with increasing serum dieldrin levels**.[11] A similar study in Norway did not find an association, but had fewer exposed cases. **Positive associations with breast cancer were also reported in wives of men who had used dieldrin in the US Agricultural Health Study[12] and in women with the highest level of serum dieldrin in a case-control study in Long Island (NY, USA).[13]**

https://www.ncbi.nlm.nih.gov/pubmed/12163320?dopt=Abstract

http://cebp.aacrjournals.org/content/11/8/686.long

There was limited evidence in humans on dieldrin for breast cancer, and inadequate evidence for non-Hodgkin lymphoma and other cancers. There was sufficient evidence in experimental animals for the carcinogenicity of dieldrin, as hepatocellular carcinoma was observed in male and female mice in most of the 15 available studies.[8, 9, 10] Mechanistic studies provided moderate evidence for multiple key characteristics of carcinogens. Dieldrin, and aldrin metabolised to dieldrin, was evaluated as “probably carcinogenic to humans” (Group 2A).

TCAB is not manufactured commercially but is formed during the production and degradation of chloroanilide herbicides such as propanil, linuron, and diuron. TCAB was detected in propanil formulations (up to 2600 µg/g)[14] and in soil 2 years after propanil application. No exposure measurements were available, but exposure to TCAB can occur in herbicide manufacturing or application, from residues on food, or via proximity to aniline herbicide applications. No epidemiological studies of the carcinogenicity of TCAB were identified. Chloracne, a response pathognomonic for aryl hydrocarbon receptor (AhR) activation, was reported in four case series of workers exposed to TCAB and other chemicals during dichloroaniline herbicide production. TCAB bears structural resemblance to dioxins and is highly lipophilic, but is rapidly metabolised, with extensive

azo reduction in the gut and liver to give 3,4-dichloroaniline metabolites that are readily eliminated. In mice and rats, the incidence of multiple tumour types was increased, providing sufficient evidence in experimental animals for the carcinogenicity of TCAB. Lung tumours occurred in mice and rats. In mice, TCAB also caused cancers of the urethra and forestomach, fibrosarcomas and malignant schwannomas of the skin, and lymphomas. In rats, TCAB also induced malignant schwannoma, and cancers of the biliary system and oral mucosa.[15] This spectrum of rodent tumours encompasses those observed with other AhR agonists previously evaluated as Group 1 carcinogens (eg, dioxins, dioxin-like polychlorinated biphenyls, and 2,3,4,7,8-pentachlorodibenzofuran). Additionally, TCAB induces multiple non-neoplastic effects in rodents, rabbits, chicken, and zebrafish that are consistent with, or are hallmarks of, AhR activation. Specifically, in mice and rabbits, TCAB causes chloracne, and in chronically exposed rodents, TCAB induces CYP1A1 and CYP1A2, wasting syndrome, thymic atrophy, as well as hyperplasia and chronic inflammation in multiple tissues.[15]TCAB activates AhR in rats, mice, and chicken embryos; in vitro, TCAB binds to mouse AhR, and activates rat and rainbow trout AhR.[15, 16, 17, 18] These mechanistic data provided strong evidence that TCAB modulates receptor-mediated effects, induces chronic inflammation, and alters cell proliferation. TCAB was classified as “probably carcinogenic to humans” (Group 2A) because it belongs, on the basis of mechanistic considerations, to a class of agents that activate AhR, and some members of this class have previously been evaluated as Group 1 or Group 2A carcinogens.

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http://link.springer.com/article/10.1007%2Fs10552-006-0007-9

Cancer and Occupational Exposure to Pentachlorophenol and Tetrachlorophenol

Objective

The objective of this study is to assess the carcinogenicity of pentachlorophenol and tetrachlorophenol using data from the BC sawmill workers cohort study.

Methods

The cohort consisted of 27,464 men employed by 14 sawmills for **1 year** or more between 1950 and 1995. Fatal (1950–1995) and incident (1969–1995) cancers were identified using national registries. Plant records and systematic interviews with senior employees were used to estimate dermal exposure. Comparisons were made with the

general BC population and dose-response relationships were assessed using Poisson regression.

Results

There were 1,495 fatal cancer and 2,571 incident cancers. There were no large or statistically significant excesses of any of the specific cancers were observed compared to the general population. Internal analyses showed strong dose-response relationships for non-Hodgkin's lymphoma, multiple myeloma, and kidney cancer. These relationships were strongest when exposure was restricted to pentachlorophenol. The strength of the dose-response increased when exposure was lagged by 20 years.

Conclusions

Dermal exposure to pentachlorophenol was associated with non-Hodgkin's lymphoma, multiple myeloma, and kidney cancer, but not with other cancers of a priori interest.

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http://www.sciencedirect.com/science/article/pii/S0045653511002281

Mortality of US pentachlorophenol production workers through 2005

Abstract

A cohort of 2122 US pentachlorophenol (PCP) production workers from four plants in the National Institute for Occupational Safety and Health Dioxin Registry was exposed to PCP and to polychlorinated dibenzo-p-dioxin and dibenzofuran contaminants of PCP production. A subcohort of 720 was also exposed to 2,3,7,8-tetrachlorodibenzodioxin, a contaminant of trichlorophenol (TCP) while using TCP or a TCP derivative. PCP and several production contaminants have been implicated as animal carcinogens. A priori hypotheses were that the cohort would have elevated standardized mortality ratios (SMRs) for aplastic anemia, soft-tissue sarcoma, and non-Hodgkin lymphoma, as suggested by human studies, and for leukemia and liver, adrenal, thyroid, and parathyroid cancer, as suggested by animal studies. From 1940 to 2005 1165 deaths occurred with an overall SMR of 1.01 [95% confidence limits (CI), 0.95–1.07]. Overall cancer mortality (326 deaths, SMR 1.17, CI 1.05–1.31) was in statistically significant excess. There were excess deaths for trachea, bronchus and lung cancers (126 deaths, SMR 1.36, CI 1.13–1.62), non-Hodgkin lymphoma (17 deaths, SMR 1.77, CI 1.03–2.84), chronic obstructive pulmonary disease (63 deaths, SMR 1.38, CI 1.06–1.77), and medical complications (5 deaths, SMR 3.52, CI 1.14–8.22). In race- and sex-specific analyses, **white males had increased non-Hodgkin lymphoma mortality (17 deaths, SMR 1.98, CI 1.15–3.17) and males of other races had increased leukemia mortality (four deaths, SMR 4.57, CI 1.25–11.7). The excess of cancers of a priori**

interest, non-Hodgkin lymphoma and leukemia, provide some support for the carcinogenicity of PCP, however, further studies with more detailed exposure assessment are needed.

Highlights

► All 2122 former US pentachlorophenol (PCP) production workers were studied. ► Evidence suggests that PCP and some production contaminants are animal carcinogens. ► A mortality analysis compared PCP workers to the US population. ► **Overall cancer mortality was in statistically significant excess. ► Lung cancer and non-Hodgkin lymphoma mortality were significantly increased**.

115) EPA SETTLES WITH WESTROCK CP FOR $4.6 MILLION

https://www.epa.gov/newsreleases/epa-settles-westrock-cp-46-million-reimburse-cleanup-costs-former-wood-treating-plant

For Immediate Release: November 3, 2016

EPA settles with WestRock CP for $4.6 million to reimburse cleanup costs at former wood treating plant

SAN FRANCISCO – The U.S. Environmental Protection Agency has settled with WestRock CP, LLC, which will pay $1.6 million in cash plus shares of stock valued at nearly $3 million as partial reimbursement for a hazardous waste cleanup near Prescott, Ariz.

The site is a former wood treating plant located on the **Yavapai-Prescott Indian Tribe** reservation, and cleaned up by the EPA using its authority under the Comprehensive Environmental Response, Compensation and Liability Act (the Superfund law). In 2012, EPA discovered significant amounts of arsenic and pentachlorophenol-contaminated material at the abandoned site. The Agency spent $6.1 million removing 4,209 tons of contaminated soil during a two-month long cleanup.

“This unique settlement was structured to allow the Agency to receive corporate shares instead of a full cash payment,” said Enrique Manzanilla, Director of the Superfund Program for the EPA’s Pacific Southwest Office. “We are pleased to recover the majority of the taxpayer-provided funds spent on the environmental cleanup on tribal lands.”

The shares of stock being transferred to the Agency include 56,064 shares in WestRock CP, LLC’s parent company, WestRock Company, and 9,344 shares of a newly established spin-off company, Ingevity Corporation. The EPA will sell the stock once the settlement is finalized in federal District Court. The combined stock current value is $2,998,406.

Southwest Forest Industries Inc. operated the wood treating plant from 1961-1985, and a successor company, Smurit-Stone Container Enterprises, Inc. went bankrupt, leaving the cleanup obligations with the current corporate successor, Westrock, CP LLC, a manufacturer of paperboard and paper-based packaging.

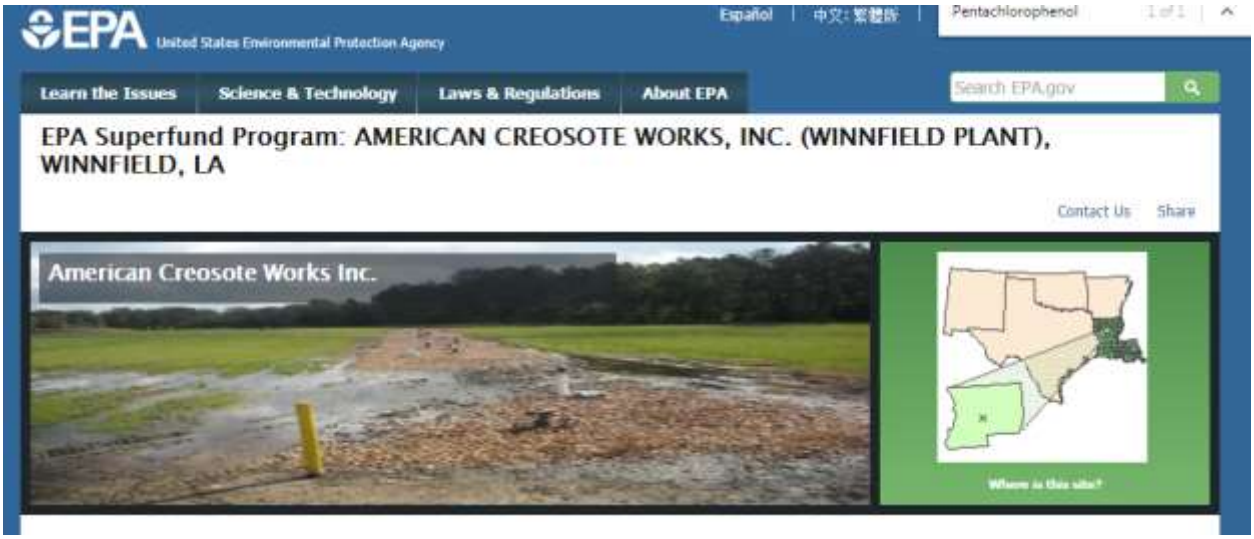
Pentachlorophenol, an industrial wood preservative, is extremely toxic and can cause neurological, blood, and liver effects, and eye irritation in the short term and long term impacts on the respiratory tract, blood, kidney, liver, immune system, eyes, nose, and skin. Arsenic, used to formulate a common wood preservative, can cause gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans.

The consent decree is subject to a 30-day public comment period. To view the consent decree or to submit comments, please visit: https://www.justice.gov/enrd/consent-decree/us-v-westrock-cp-llc

Media Contact: Margot Perez-Sullivan, 415-947-4149, perezsullivan.margot@epa.gov

116) AMERICAN CREOSOTE WORKS INC.

https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0600317



Current Status

On September 19, 2016, EPA signed the Record of Decision (ROD) Amendment for the American Creosote Works Inc. site. The ROD Amendment identifies the revised remedy which changes the method to address the source contaminants prescribed in the original 1993 remedy. EPA will be initiating a Remedial Design which develops the plans necessary to implement the revised remedy.

Site Background

The 34-acre American Creosote Works, Inc. (Winnfield Plant) site is located in Winnfield, Louisiana. Wood treatment took place on site from 1901 to 1979. The treatment process used creosote and pentachlorophenol (PCP). After the site owner, Dickerson Lumber Company, declared bankruptcy, Stallworth Timber Company purchased the property and wood treatment operations resumed in 1981 only to abandon the site in 1985. Spills and treatment process upsets contaminated soil and ground water. Remediaion at the site has been on-going since 1994.

117) UTILITY POLE KENMORE WETLANDS

Utility poles installed in a Kenmore wetland.

October - 2016

http://www.king5.com/mb/tech/science/environment/pse-installed-toxic-utility-poles-in-kenmore-wetland/346507066

WATCH THIS VIDEO ON THIS SITE

The Washington Department of Fish and Wildlife says Puget Sound Energy needs to fix toxic utility poles installed in a Kenmore wetland.

The poles are right next to Marilyn Knutson's home, where she keeps her horses in a fenced in pasture.

Knutson says she alerted WDFW about the new transmission line, which violates PSE's own permit. The wood is treated with a carcinogenic preservative called penta. It's not allowed in wetlands like the one around Swamp Creek.

"I worry about them rubbing up against the poles, getting it on their fur. They lick themselves," she said.

Knutson has lived near the wetland for 50 years. She is heartbroken about the latest challenge to her efforts to protect it.

"This wetland can make me cry," she said. "I do love my wetland. I love everything about it."

PSE claims the pole installation was a mistake, saying crews didn't realize they were crossing a wetland.

KING 5 received the following statement from PSE:

"We recently rebuilt our Moorlands-Vitulli transmission line that serves the Bothell and Kenmore neighborhoods. It's part of our continuing efforts to provide safe, reliable power to the area. During that work, we identified that poles treated with penta (pentachlorophenol) were placed in the wetlands in that corridor. The bases of the poles are in casings in the soil which provide stability and a barrier between the groundwater and the pole. However, since the casings end at top of the soil line, we immediately began working on solutions to extend the water barrier up the poles. That remediation work is underway with a variety of options being discussed."

Knutson doesn't believe PSE knew about the issue until her requests for information prompted action from WDFW. According to PSE, officials realized the error soon after installation.

In a letter sent from WDFW to PSE, Assistant Regional Habitat Program Manager Stewart Reinbold writes that he wants a response from PSE by November 4:

"Also as I have stated in my communications with Mr. Padvorac if PSE had asked to use Penta treated piles WDFW would have tried to work out an encapsulation situation. This would have included installation of a steel potentially plastic pile around the treated wood with a sealed concrete bottom and the surrounding piling extending up the Penta pile to above the 100 yr flood elevation. However at this point the Penta treated piles were not permitted and do not encapsulate the treated piles. Further the voicemail response from Mr. Padvorac stating the 5/8 crush rock surround part of the pile will stop any leaching is not correct."

Bill Lider and the Sno-KING watershed council want the poles removed. The chemical they're leeching can hurt salmon and other wildlife, then move up the food chain to humans.

"They obviously weren't paying attention to the requirements of their permit which told them not to use penta. Whether it was intentional or accidental is irrelevant," Lider said.

PSE says the new line provides safe and reliable power, and they'll find a way to provide a safe habitat for wildlife as well.

In the letter, Reinbold gives PSE until Friday to actively work with WDFW toward a resolution or else enforcement action could follow. However, Region 4 Habitat Program Manager Brendan Brokes tells KING 5:

"The Department of Fish and Wildlife is committed to working with PSE, as with all of our customers, to protect fish life and help them come into compliance with their Hydraulic Project Approval. We have long history of working PSE and this incident is an anomaly. We feel confident that PSE we will be able to work with them to resolve the concern. I'm still seeking information regarding this specific situation, but involving our enforcement division is typically reserved for the most egregious violations. At this point we have no reason to believe we will need their assistance."

PSE may have to wait until after salmon spawning season and winter to deal with the poles.

118) PENTACHLOROPHENOL COMPANY UNABLE TO PAY

http://www.dep.state.fl.us/waste/quick_topics/publications/wc/sites/summary/107.pdf

Post & Lumber Preserving Company
State Road 12 & Post Plant Road
Quincy, Florida
County: Gadsden
District: Northwest
Site Lead: Waste Cleanup Program
Approved for Cleanup: July 29, 1996
HWC # 107

Site Description and History

The Post & Lumber Preserving Company, Inc. is located at the northeast corner of State Road (SR) 12 and Post Plant Road, approximately 3.5 miles east of Quincy, Gadsden County, Florida in Township 02N, Range 03W, Section 11 at 30° 35′ 34.7700″ N, 84° 30′ 38.3800″ W. The area is rural residential with some light industry. The northeast and eastern portions of the site are bordered by undeveloped land covered by thick brush and trees. The former family-owned wood treating facility comprises approximately 18 acres including an office/storage building, the former wood treating area, and pole barn storage shed. The facility produced pressure treated posts and lumber using both Wolmanizing salts (copper, chromium & arsenic [CCA]) and pentachlorophenol (PCP), beginning in 1948. The CCA treatment consisted of a 1% solution of Wolman salts (fluoride, hexavalent chromium [Cr+6], arsenic, dimethyl phenol and copper). The PCP wood preservative consisted of a 5 – 7% solution of PCP mixed with diesel fuel and/or water. Both PCP and CCA onsite waste disposal activities are documented. Waste sludge from the PCP and CCA wastewater sumps was placed into an onsite sludge pit (8 ft × 30 ft × 4 ft deep). Sludge, process wastewater, and

surface water runoff from the site were also directed to a former onsite surface impoundment.

The facility is currently inactive and no longer conducts any wood treating operations. The former process area is littered with demolition debris from the razing of the plant. Black and green stained soil is evident surrounding the former treatment area. Several wooden structures remain onsite.

Two corrective actions were completed onsite prior to adoption for State funded cleanup. A reported 12 to 15 thousand cubic yards of contaminated soils and sludges from the original surface impoundment were addressed by the facility owner/operator through the RCRA closure permit, with the installation of an underlying clay liner and synthetic cover to contain the consolidated materials. In May 1996, the EPA Emergency Response and Removal Branch completed excavation and treatment of additional onsite soils, which exceeded EPA's emergency soil removal criteria. Excavated soils were treated onsite by solidification/ stabilization. Treated soils included those in the former process and dumping pit areas where excavation reached 6 to 8 feet below land surface and elsewhere onsite where soils were excavated to 2 feet below land surface.

Threat

Groundwater contamination in the surficial aquifer by PCP and arsenic has been confirmed. Area residents obtain potable water from the underlying Floridan Aquifer. A deep potable supply well is located at the southeast corner of the former process area. Periodic sampling of the deeper onsite potable supply well by DEP and offsite area private wells by the Florida Department of Health (DOH, formerly HRS) continues to indicate that the underlying Floridan Aquifer has not been

affected but the potential for contamination remains a concern. Dioxin, arsenic and PCP are present in onsite soils at concentrations above soil cleanup target levels for leachability to groundwater and direct contact based on both commercial and residential land use. DEP warning signs have been placed on the fence surrounding the former facility property, indicating the presence of contaminated soil and water.

To date, DEP has focused its soil cleanup efforts primarily on removal of contaminated soils from offsite properties where arsenic and dioxin have been confirmed at concentrations above residential soil cleanup target levels and the potential for exposure exists.

Response Strategy and Status (July 2016)

The site was approved for State funded cleanup in July 1996 after the DEP District office and the Office of General Counsel determined that the site owner was unable to perform site cleanup. Additional contamination assessment work was performed by DEP from July 1997 to January 1998 to determine the extent of groundwater and soil contamination exceeding allowable concentrations that are protective of current and future land use. Assessment included the installation and sampling of 7 new and three existing surficial aquifer monitoring wells, the collection of 209 soil samples both onsite and offsite, and sediment and surface water sampling.

The Contamination Assessment Report (CAR) was approved in June 1998. Data collected during the assessment indicates that arsenic contamination in soils above levels acceptable for residential land use is widespread onsite. PCP contamination in soils above residential cleanup goals is also present, but more localized onsite. Dioxin was observed in 7 out of 10 onsite soil samples at levels slightly above the Department's recommended allowable concentration of 7 ppt under a future residential land use scenario.

Both PCP and arsenic were detected in onsite groundwater in the surficial aquifer above State drinking water standards. Private well sampling by the Department of Health in 1997 did not detect site related contaminants in private wells on properties located immediately south of the site. No Floridan Aquifer contamination exceeding Drinking Water standards was observed.

The installation of additional monitoring wells and soil sampling was completed and a CAR Addendum was submitted in November 1998. The Addendum results confirmed the presence of soils and sediments immediately south of SR 12 containing arsenic and PCP above soil cleanup target levels for unrestricted residential use. Surficial aquifer contamination was not observed to extend offsite to the south or east. A Remedial Alternatives Evaluation Report (RAE) was submitted in October 1998. Treatability testing of potential technologies, including chemical oxidation and phyto-remediation technologies, was completed in June 2001. A Revised RAE Report was received in March 2002 that incorporated an evaluation of the treatability testing results and additional remedial alternatives which might be used to cleanup both the on- and offsite soil contamination and groundwater contamination.

The RAE estimated that 47,000 cubic yards of soils were present onsite with contaminant levels above that acceptable for unrestricted land use. The projected cost of soil cleanup determined in

the RAE ranged from $1.5 million to $13.88 million, depending upon the selected technology and land use scenario. Remediation of contaminated groundwater to State drinking water standards was projected to cost $2 million.

An Interim Remedial Measure (IRM) was selected by DEP in September 1999 to address the offsite soil and sediment contamination located south of SR 12. The selected IRM consisted of excavation of the offsite soils contaminated with arsenic and/or dioxin above DEP soil cleanup target levels (SCTL) for residential use, with offsite disposal at a permitted landfill. Additional offsite soil sampling and removal of contaminated soils south of SR 12 was conducted in phases, with approximately 54,221 tons of contaminated soils removed as of December 2006 (Phases I-IV).

Concurrently with the offsite removal activities, DEP conducted onsite and offsite soil and groundwater sampling including installation of additional monitoring wells north of SR 12. This data was necessary in order to support selection of a final onsite remedy and determine the need for offsite removal actions north of SR 12. The resulting data confirmed the presence of arsenic and dioxin soil contamination on properties north, east and west of the site. Groundwater contamination primarily by arsenic and pentachlorophenol was confirmed in the shallow aquifer onsite and to a limited degree offsite to the north, east, and southeast. Notices of "offsite contamination" to all affected property owners for both soil and groundwater were completed by DEP in 2005 and amended in 2006. Additional offsite monitoring wells were installed in October, 2010 and sampled along with the existing monitoring wells. A Groundwater Monitoring Report was submitted to DEP in November 2010. Groundwater monitoring is ongoing to ensure that existing groundwater contamination is not migrating.

In April 2007, DEP initiated soil removal activities on several properties west of the site and Post Plant Road. Approximately 10,112 tons of contaminated soils were excavated from offsite properties northwest of SR 12 (Phases V and VI) with transport and disposal at an offsite permitted disposal facility in 2007/2008.

Phase VII removal activities were initiated in March 2009 to address approximately 11,700 tons of contaminated soils located on offsite adjacent properties northwest and immediately east of the former Post and Lumber facility property. Removal activities were discontinued May 1, 2009 due to frequent rains and flooding resulting in poor field conditions and significant impacts to the excavation schedule. Properties where excavation and backfill had been completed were restored with sod and/or seed. DEP remobilized in October and completed removal and restoration activities for the three properties northwest of the Post & Lumber site in late November 2009. DEP and its contractor mobilized in June 2010 and completed the remaining Phase VII removal and restoration activities on the two properties located immediately east of the site in October 2010.

In July 2011, DEP and its contractor installed a system of low earthen berms and erosion control matting as an onsite interim action to control surface runoff and prevent erosion and transport of onsite contaminated soils into the wetland and creek located on the eastern end of the former facility property.

Post & Lumber Preserving Company

In March 2012, the DEP contractor mobilized to the site to complete a second onsite interim action. Trees and other vegetation were cleared from the surface of the former onsite RCRA closure unit and a thick synthetic cover was installed on top of the stockpile to secure the underling contaminated soils. Replacement of the original cover will prevent percolation of rainwater into the stockpile resulting in leaching of contaminants from that area into the groundwater.

Annual 2013 groundwater monitoring results along with onsite petroleum assessment results were provided in reports to DEP in October 2013. The 2013 monitoring results confirmed that groundwater contamination in the surficial aquifer, consisting of arsenic, pentachlorophenol (PCP) and PCP daughter products, remains primarily on the former facility property with limited offsite migration. The presence of PCP daughter products suggests that PCP degradation is occurring at the site. The annual event also included installation and sampling of temporary monitoring wells for petroleum constituents along with soil borings to determine if petroleum sources are present in former tank areas. Petroleum related compounds including benzene, MTBE and TRPH were identified above GCTLs in one or more temporary monitoring wells installed onsite. One or more soil samples contained petroleum constituents above default leachability criteria. Additional petroleum source delineation was recommended by the contractor. Additional permanent monitoring wells were installed as part of the subsequent annual site groundwater monitoring event as documented in the March 31, 2015 Annual Groundwater Monitoring Report.

Additional soil sampling was conducted in 2011 on the former facility property to further characterize site-related contamination and support selection of the final onsite remedy. The resulting onsite data confirmed concentrations of arsenic and dioxin, over the majority of the site, at levels significantly above commercial cleanup target levels. Further onsite and offsite sampling was completed in June 2013 to supplement existing data and included sediment sampling in wetlands located both onsite and immediately north of the former facility property. Results were provided in a draft Data Summary Report submitted to DEP in November 2013.

A draft Cost Estimate of Presumptive Remedial Options report was provided to DEP by the contractor in March 2014. A revised draft report was submitted in December 2014. In the report, potential onsite remedial technologies are evaluated and remedial cost estimates developed to support DEP selection of an onsite soil and wetland sediment remedy. An estimated 77,000 cubic yards of contaminated soils and sediments on the former Post & Lumber facility property contain contaminants above DEP commercial soil cleanup target levels and sediment quality guidelines. The final March 10, 2015 summary table of Presumptive Remedial Options Cost Estimates was provided to DEP which identified 6 onsite remedial options with supporting design assumptions, and cost estimates for each remedial alternative to address onsite soil and sediment contamination. The summary table also provided cost estimates to address the

remaining soil and sediment contamination on offsite properties based on excavation of an estimated 19,000 cubic yards.

Schedule

To date, approximately 74,000 tons of contaminated soils have been removed from surrounding offsite residential properties. Offsite sampling is conducted using a phased approach to support

Post & Lumber Preserving Company

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design and implementation of soil and sediment removal activities where DEP cleanup target levels are exceeded.

Site data indicates that offsite contaminated soils and wetland areas still need to be addressed on several properties north, northeast and southwest of the Post & Lumber site as well as properties to the east of the site abutting the creek leading to Little River where contaminated sediment has been identified. The estimated volume of contaminated soils and sediment remaining to be addressed is 96,000 cubic yards. DEP has reached out to the federal Environmental Protection Agency (EPA) for assistance in addressing the remaining onsite and offsite contamination.

Annual groundwater monitoring is ongoing.

Stockholm International Treaty on POPs Achieves Global Ban on PentaChloroPhenol

119) GROUNDWATER WELLS NEAR THE SAN JACINTO

http://www.houstonpress.com/news/harris-county-public-health-actually-tests-groundwater-wells-near-the-san-jacinto-river-waste-pits-and-finds-dioxin-8547961

Harris County Public Health Actually Tests Groundwater Wells Near the San Jacinto River Waste Pits and Finds Dioxin

Harris County Public Heath recently warned people living near the San Jacinto River Waste Pit Superfund site to avoid drinking tap water after dioxin, a known carcinogen, was detected in groundwater wells near the Channelview site. Along the way, the county became the first government agency to actually test the area groundwater wells for dioxins.

The moment was a small victory for Jackie Young, the head of San Jacinto River Coalition, and a former resident of Highlands, the town where most of the contaminated wells are located.

The San Jacinto River Waste Pits have been nestled on the edge of the San Jacinto River for decades, a forgotten remnant of the toxic sludge pumped out of a Pasadena paper mill that was packed into barges, shipped downriver and stored in pits dug on the lip of the river throughout the 1960s.

In 2005 state officials discovered – or maybe just finally noticed – the pits. Then the federal Environmental Protection Agency followed up and determined that tons of hazardous waste, including dioxin, a highly potent known carcinogen that has also been tied to various health issues and birth defects, had been slowly leaking out of the pits for years. The EPA put caps on the toxic mess and proclaimed the 14-acre area a Superfund site in 2008. EPA officials say there's no safe level of exposure to these chemicals, which include a large amount of dioxins.

Young and her family lived in the area for years before she began to suspect the seizures she suffered from, the skin lesions and the inexplicable shaking in her hands were caused by the water coming out of the tap. As we've previously reported, she was studying environmental geology at the University of Houston-Clear Lake when she tested the water from her family's well and found it had a consistently higher-than-average pH level. Her family shut down the well and started using bottled water. Young got IV chelation treatment, an expensive alternative toxicology therapy proven to be effective in heavy-metal poisoning, and began to recover.

Most people living in the river-bottom communities of Highlands and Channelview didn't hear about the waste pits until 2011, Young says. Harris County Attorney Vince Ryan joined forces with the state and sued three major corporations — International Paper, Waste Management of Texas and McGinnes Industrial Maintenance Corporation — for polluting the San Jacinto River.

rom there, Young has long argued that it would make sense to go from looking at river pollution to examining the area drinking water, but most of the government entities she's approached haven't seen it that way.

First, she contacted the EPA, explaining the tests she had run on her own on her family's well water and how her family's home was close to the dioxin-laden waste pits. Michael Schaffer, the director of the Environmental Public Health Division of Harris County Public Health, says the EPA initially wasn't concerned about groundwater wells near the site. “Early on, the EPA was asked to conduct tests; however, their subject matter experts felt it was unnecessary based on the data they had,” Schaffer stated.

Still, Young and other area residents kept raising concerns and asking the EPA to check out what was in the water. In 2013 the EPA tested six wells in the area, including Young's. Initially she was thrilled, but the federal agency didn't even look for dioxins in the water. And it didn't highlight this information when it discussed the test results in public, she says. “At the next community meeting, the EPA announced everything was okay. But they didn't say that they didn't even test for dioxin,” Young says. “If you don't test for it, of course it won't show up.”

The same thing happened with the Texas Department of State Health Services. Young says she urged the officials conducting the risk assessment on the San Jacinto River Superfund Site to look at area groundwater wells and test for dioxin, but the report didn't even mention the wells.

Federal environmental regulators still haven't actually looked for dioxins in local groundwater, she says. Last year, the EPA started to set up a system to test groundwater wells, but the system has yet to be completed. (We've asked EPA officials for comment on this and we'll update as soon as they get back to us.)

Meanwhile, Ryan's case against the corporations moved through the court system. Ultimately, the parties made a deal, with two of the companies agreeing to pay about $29 million in civil penalties for dioxin contamination. (The third company was cleared of any responsibility by a split jury.) The state and Harris County split the settlement money – although the state has handed its share over to Harris County, as we've recently reported – and part of Harris County's share of the money was earmarked to test area groundwater wells.

Harris County Public Health officials opted to conduct the tests, which cost $190,000, because, well, that's what people wanted, according to Schaffer. “Harris County conducted the testing based upon constituents expressing they didn't feel the water was safe,” Schaffer stated in an email response to Houston Press questions. “While there was no evidence to support that, the county felt it was in the best interest of those residents.”

Harris County Public Health sent out letters earlier this year asking residents with registered groundwater wells in the area if they wanted their water tested. From April 19 to April 25, the county collected samples from 100 wells. It found dioxins in the water samples.

Harris County's initial findings revealed dioxins in the water samples, the first government-funded test to confirm what Young has been sure of for so long. “This testing really should have been done by the EPA, and the responsible parties should have been made to pay for it,” Young says. “It's unfortunate that our county government had to spend funds recovered from a lawsuit over the damages to our waterways, but nobody else was jumping on this, so the county did.”

However, there was a slight hitch in the testing process because at least some of the water well samples were accidentally contaminated in the lab. The lab analyzing the samples also had the chemical pentachlorophenol (another nasty, highly toxic carcinogen) in the same area.

That may not sound like a big deal, but pentachlorophenol (aka PCP) can potentially interfere with the sample readings, making the testing outcomes inconclusive. At least 24 samples were definitely contaminated with PCP, so officials started getting new samples on Thursday. They'll get the results in three weeks.

Still, despite the contamination issue, Harris County Public Health took the precaution of sending out a round of letters warning area residents to stick to bottled water for the time being.

Considering the risks that come with exposure to dioxins, Young was thrilled that county officials decided to warn people despite the chance the retesting could end up having different results. “Nobody should have to go through the things that people living around there are having to go through,” she says, noting that her father and a number of other people have gotten cancer they believe is connected to the water.

She only wishes the warnings had gone farther, that they'd instructed people to stop using the water entirely, she says.

Sister, the family dog, died on Wednesday. “It was awful. Her body was riddled with tumors. She swam in the San Jacinto River near our place in Highlands every single day that we lived there.”

UPDATE 8:11 a.m. Saturday: EPA spokesman Joseph Hubbard issued a statement in response to Houston Press questions about the agency's actions regarding the San Jacinto River Waste Pit Superfund site.

"EPA, along with the Texas Commission on Environmental Quality, continues to closely monitor the work of the Potential Responsible Parties at the San Jacinto Waste Pits site," Hubbard stated via email. "Later this summer, EPA plans to present our proposed plan for the remedy selection to address the contamination at the site and invite public comments. A formal public meeting will be held during the comment period. EPA will make a final selection based on the remedy in the Record of Decision after

consideration of public comments. The Responsiveness Summary, that is part of the Record of Decision, will capture the comments and EPA's responses."

http://www.chron.com/houston/article/Some-residents-near-the-San-Jacinto-Waste-Pits-8344246.php

120) WYCKOFF CO./EAGLE HARBOR SITE, KITSAP CO., WA

The Wyckoff Co./ Eagle Harbor Site, located on Bainbridge Island in Puget Sound (Figure 7), is yet another former wood treating facility where on-site wood treatment processes generated wastes which have contaminated soils and groundwater at the facility, as well as extensively contaminating the sediments of Eagle Harbor. COCs in the sediments at this site include PAHs, mercury and other heavy metals, and pentachlorophenol (PCP). Dioxin contamination occurs in the soils and groundwater beneath the former facility, as well as in seeps on adjacent beaches. A seafood consumption advisory for the harbor has been in place since the early 1980s due to the presence of PAHs in sediments, fish and shellfish, with particular concern for the local clam population which is used extensively by the Squamish tribe for subsistence fishing (USEPA Wyckoff Co./Eagle Harbor Site Details). The Wyckoff Co. site consists of three operable units (OUs): the Soil and Groundwater Remediation OU, the East Harbor OU, and the West Harbor OU. Remedies currently in place at this site include an extensive groundwater pump and treat system to remove both NAPL and dissolved phase contaminants from the former facility. A 54-acre sediment "hot spot" in the harbor was dredged to remove the most highly contaminated sediments, and then capped. Various other capping and monitoring programs address PAHs and hydrocarbon contamination. A TCRA was conducted from 1992-1994 on the Wyckoff treatment facility to remove creosote sludges and contaminated oils, dispose of asbestos, install a sheet-pile wall to prevent contaminated groundwater from seeping into the harbor, and remove and recycle various metal equipment and debris from the site. 30,000 cubic yards of contaminated soils have been removed from the former facility site either during the construction of sheet pile walls or as a remedial measure. The site continues to be monitored and reviewed for additional treatment options in those areas where natural attenuation is not achieving the expected reductions in hydrocarbon contamination. (USEPA Sept. 27, 2012)

The Wyckoff Point is a unique area. It is a promontory located in the heart of Puget Sound, forming the entry to Eagle Harbor. The Wyckoff Superfund Site is located on the east side of Bainbridge Island, in central Puget Sound. The Site comprises the former Wyckoff Company wood-treatment facility and subtidal and intertidal sediments in Eagle Harbor.

https://fortress.wa.gov/ecy/gsp/SitePageImageHandler.ashx?id=725

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2683

A wood-treatment facility operated on the Point for 85 years. These operations resulted in the soil and groundwater beneath the Former Process Area (the point) being contaminated with chemicals from the wood-treatment process, primarily creosote-derived polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP), aromatic carrier oils, and dioxins/furans. These contaminants pose a risk to public health and the environment.

It is in an area of significant wave action, exposed to a wide northeasterly fetch and vulnerable to constant ferry wake. It is located adjacent to an ancestral and important current tribal fishing ground, with established eelgrass beds. The City of Bainbridge Island and the Bainbridge Island Metro Park and Recreation District have purchased the Wyckoff property, including the Point, with plans to establish a showcase regional public park. Development of the park must occur in accordance with requirements stated in the Agreed Order entered into between the Department of Ecology and the City of Bainbridge Island.

EPA listed Wyckoff/Eagle Harbor as a Superfund Site in 1987 and began Superfund cleanup actions in 1991. The Wyckoff/Eagle Harbor Superfund Site encompasses contaminated areas within Eagle Harbor. The Superfund Site was divided into four operable units (OU). Three of these areas (OU's) are within the subject site of the Agreed Order, including the East Harbor OU, Wyckoff Soil OU and Wyckoff Groundwater OU. More information about these areas can be found in the 2006 Phase III Acquisition Area Fact Sheet.

Join EPA and Washington State Department of Ecology to learn more about the Wyckoff/Eagle Harbor Superfund Site Cleanup.

The Wyckoff/Eagle Harbor Superfund Site cleanup is important for Bainbridge Island and our region. The U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) would like to share information on progress made at the site, and about future work

For more information: http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/wyckoff

121) PELLA CORPORATION KNOXVILLE TN

http://www.desmoinesregister.com/story/money/business/2016/11/10/two-dangerous-chemicals-found-underground-pella-corp/93592244/

Kevin Hardy , kmhardy@dmreg.com 5:44 p.m. CST November 10, 2016

PELLA, Ia. — Pella Corp. inadvertently released two dangerous chemicals into the ground below its door and window-making plant here, a study mandated by the Environmental Protection Agency has concluded.

The years-long study found that the central Iowa manufacturing plant released Pentachlorophenol and dioxin, a toxic byproduct, into the groundwater. The study was a result of a 2010 settlement with the EPA, which required the company to test for 30 different possible sources of contamination.

Only the two chemicals were found to be at higher than acceptable levels. But officials say the contaminants do not threaten the city's drinking water supply, which relies on the Des Moines River and the Jordan aquifer.

"There's very limited exposure to human health for this," said Jim Nieboer, Pella's engineering manager of environmental, safety and sustainability. "And really, it's limited to people who work in our buildings and grounds crew who may be digging in our soil periodically planting flowers and tulips."

Each spring, Pella's Tulip Time Festival celebrates the city's rich Dutch heritage with traditional attire, food and hundreds of thousands of blooming tulips.

Like many manufacturers, Pella used Pentachlorophenol to treat wood. The company previously stored the chemical in underground tanks, which were removed in 1989. It now uses a proprietary product and stores dangerous chemicals in above-ground tanks and drums.

Pentachlorophenol was largely barred in the 1980s, though it is still used as a preservative for telephone poles and railroad ties.

If inhaled, it can cause coughing, dizziness, headache, breathing difficulty and sore throat, according to the Centers for Disease Control research. If ingested, it can cause stomach cramps, diarrhea, nausea, vomiting, weakness and unconsciousness. The CDC has also linked it to a higher risk of non-Hodgkin's lymphoma.

The World Health Organization describes dioxins as "highly toxic." The byproduct from the manufacturing of Pentachlorophenol can cause reproductive and developmental complications, damage the immune system and cause cancer.

Pella has hired a third party to perform tests on hundreds of soil samples across its campus. Tests found higher-than-acceptable levels of the chemicals in about a dozen samples, Nieboer said.

While some of those were flagged as far 40 feet into the ground, the geology of the area means locals probably have little reason to worry, said Mike Gannon, hydrologist at the Iowa Geological Survey at the University of Iowa.

"It's probably going to be primarily confined close to that property," he said. "It's really not going anywhere fast. It's there. It's in the soil."

Aquifer wells are hundreds of feet below the surface and are unlikely to be contaminated, he said. And with Pella's plant about two miles from the Des Moines River, the contaminants are unlikely to cause concern for those downriver who rely on it for drinking water.

"As long as it's contained there, and of course Pella Corp. would have control of their property, it probably doesn't pose much of a health risk," Gannon said.

Having just completed its study, Pella will wait for guidance from the EPA on whether it must remove the chemicals from the ground. Nieboer said that may be possible, but it would likely be a lengthy process.

"It's primarily underneath our manufacturing buildings," he said. "There are ways we can intercept and remove groundwater. Given the clay soils in Iowa, it could be a very long-term process of removal and treatment."

Pella spokeswoman Heidi Farmer said the company knows of no employees who became ill because of the soil. About 2,000 people work at the company's central Iowa location. Concrete floors protect those inside the plant, and the company has put in place precautions for those who may come in contact with the ground.

"To ensure the health and safety of our team members, even with the study complete, Pella is continuing to monitor and test our facility," she said.

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http://www.dwmmag.com/pella-corp-agrees-to-perform-environmental-investigation-cleanup-of-manufacturing-facility/

Pella Corp. Agrees to Perform Environmental Investigation, Cleanup of Manufacturing Facility

March 5th, 2010 by DWM Magazine

As a result of a settlement filed Monday, March 2 by the Environmental Protection Agency (EPA) Region 7, the Pella Corporation has agreed to conduct an investigation and cleanup of hazardous waste releases into soil and groundwater from its door and window manufacturing facility in Pella, Iowa, according to a report from the EPA.

The administrative order on consent, filed in Kansas City, Kan., is intended to address a series of longstanding environmental issues related to soil and groundwater contamination around Pella's facilities at 102 Main Street in Pella.

In 2006, under the authority of the Resource Conservation and Recovery Act (RCRA), EPA Region 7 completed an assessment of the company's facilities in Pella and identified a total of 30 different potential sources of soil and groundwater contamination. The RCRA order follows up on EPA's assessment and requires a thorough investigation and cleanup of wastes released from the facility. The contaminants to be addressed by Pella are primarily solvents and petroleum products related to wood treatment activities at the facility, including the solvent pentachlorophenol which has been detected in groundwater above federal drinking water levels, according to the press release.

The City of Pella relies on the Des Moines River and a deep well situated close to the company's plant for its public drinking water, according to the EPA. According to the EPA, Pella has committed, under EPA oversight, to investigate its hazardous releases, conduct a study to identify cleanup strategies, and then implement the cleanup selected by EPA at its own expense.

Pella spokesperson Kathy Krafka-Harkema told **DWM** magazine that Pella Corporation is committed to the safety of its team members, neighbors and communities in which it operates.
"As part of its commitment to environmental stewardship, Pella Corporation has entered into a consent order with The U.S. Environmental Protection Agency (EPA) to study soil and groundwater at the Pella, Iowa, manufacturing site at 102 Main Street," says Krafka-Harkema.

"Pella Corporation is committed to working with the EPA. Under the agreement, a review will be conducted. Following the results of that review, Pella Corporation will make further appropriate remedial actions if necessary and as directed by the EPA," she adds

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http://kniakrls.com/2016/11/pella-corporation-discovers-elevated-chemical-levels-in-environment-study/

Pentachlorophenol and dioxin have been found in the soil and groundwater at the Pella Corporation.

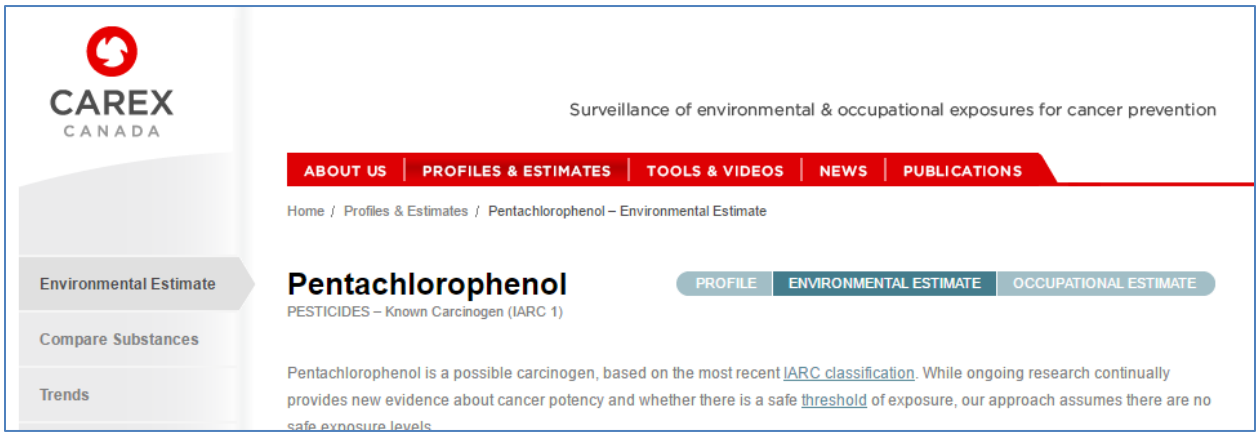
Jim Nieboer, Engineering Manager of Environmental, Safety and Sustainability for Pella Corp tells KNIA/KRLS News the discovery was made as part of an environmental study conducted by Pella Corporation in cooperation with the Environmental Protection Agency. Pella Corporation held a public meeting in March 2011 when the study began. The compound Pentachlorophenol was commonly used throughout the building industry to treat wood. Dioxin is an impurity in the compound. Pentachlorophenol has also been commonly used as an herbicide, insecticide, fungicide and as a disinfectant, although its use has declined with the recognition of its toxicity. Pella Corporation discontinued its use in 1986, and currently uses a different treatment that does not include the compound. The results of the testing showed some elevated levels of dioxin in select areas where pentachlorophenol was used or stored. **These compounds are at various depths from a few inches to several feet below the surface where exposure to employees and the public is limited.** In most areas where dioxin was detected, it is within EPA thresholds. **A limited number of locations exceed EPA thresholds.**

Nieboer assures the community that the contamination does NOT impact Pella's supply of drinking water. The company is continuing to collaborate with the EPA to determine what remedial action, if any, is needed based on t

122) NO SAFE LEVEL OF EXPOSURE

http://www.carexcanada.ca/en/pentachlorophenol/?platform=hootsuite#occupational_exposures

Pentachlorophenol is a possible carcinogen, based on the most recent IARC classification. While ongoing research continually provides new evidence about cancer potency and whether there is a safe threshold of exposure, our approach assumes there are no safe exposure levels.



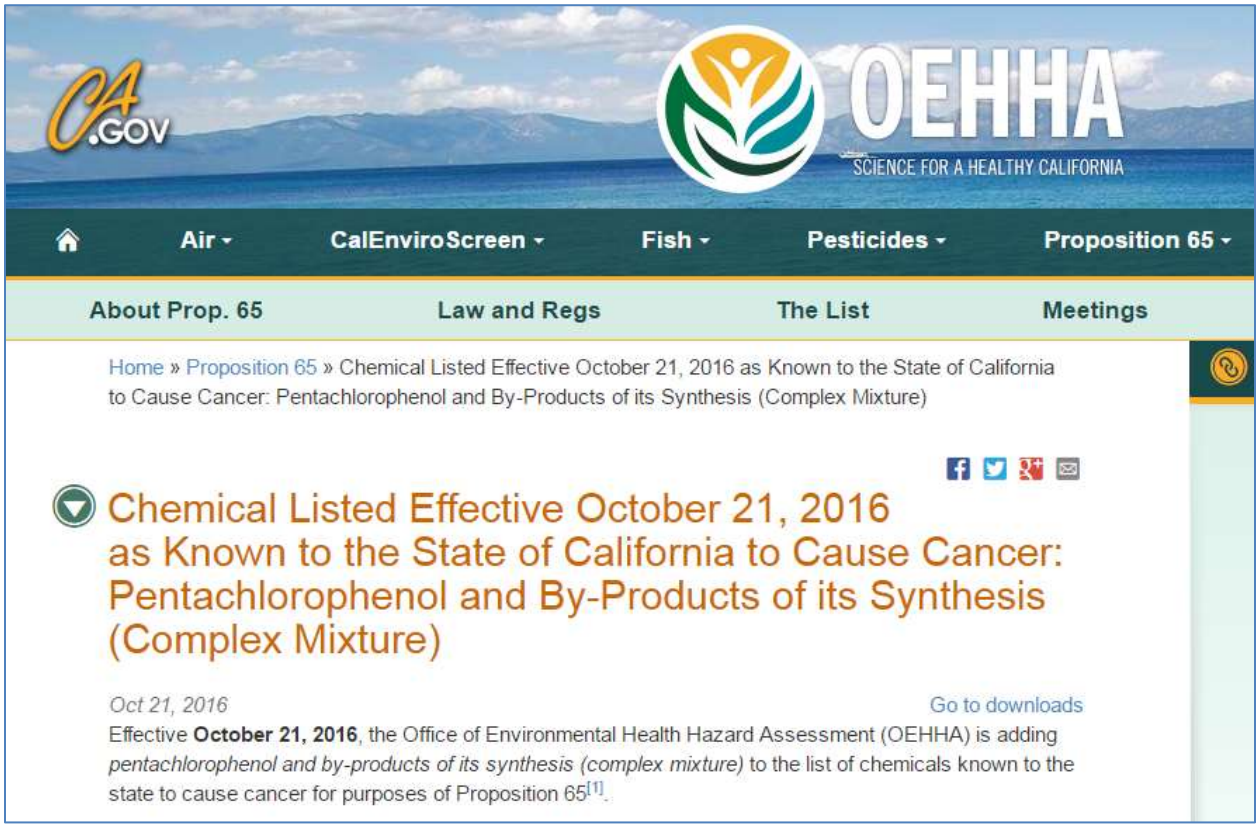
123) CHEJ

http://chej.org/wp-content/uploads/Superfund%2025th%20Anniversary%20Report-091505.pdf

http://essayonrequest.com/an-overview-of-the-escambia-treating-company-etc/

124) CALIFORNIA – PROP 65 KNOWN TO CAUSE CANCER

http://oehha.ca.gov/proposition-65/crnr/chemical-listed-effective-october-21-2016-known-state-california-cause-cancer



http://oehha.ca.gov/media/downloads/crnr/10212016responsepentachlorophenol.pdf

Chemical	CAS No.	Endpoint	Listing Mechanism*
Pentachlorophenol and by-products of its synthesis (complex mixture)	---	Cancer	AB (NTP)

*Listing mechanism: AB – "authoritative bodies" mechanism (Title 27, Cal. Code of Regs. section 25306).

Comment:
Chuck Idol supports the listing. Mr. Idol also provides information on cancer and non-cancer toxicity reported for pentachlorophenol and related mixtures, in the form of brief summaries of published studies other toxicity information, and links to several web pages.

Response:
OEHHA acknowledges the additional toxicity and related information provided, and the commenter's support for the listing.

125) COLVILLE POST & POLES

https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=56399

The nearly 23-acre Colville Post & Poles site is located at 396 Highway 395 North, four miles outside of Colville in Stevens County, Washington. The site is within 200 feet of the Colville River, which flows into Lake Roosevelt, a reservoir created by the Grand Coulee Dam on the Columbia River.

Colville Post & Poles, Inc. used the site to treat wood, primarily fence posts and rails, for about 60 years from the 1940s to 2005. Raw wood was dipped in tanks of heated solution and then dried on nearby drip pads. Treated wood was stockpiled on the ground in various locations in the yard.

Throughout the wood-treating period, pentachlorophenol and diesel leaked from piping and drip pads. In 1989, a 10,000-gallon, above-ground storage tank leaked pentachlorophenol to the ground. As a result, pentachlorophenol, petroleum products, dioxins, and furans have been found at the site.

In 2000, the Confederated Tribes of the Colville Reservation petitioned the U.S. Environmental Protection Agency (EPA) to assess contamination at the site. Colville Post & Poles, Inc. closed down in 2005 when the owners couldn't afford upgrades required to meet environmental standards. Site cleanup is government-funded because the site owners/former operators are unable pay for it.

To address immediate threats to humans and the environment, the EPA took action in 2005 and 2006. They investigated the site, demolished treatment and storage buildings, installed groundwater monitoring wells,

126) KERR-MCGEE'S AND DUKE ENERGY – NORTH CAROLINA

http://fortune.com/2015/10/11/navassa-creosote-contamination/

The town has historically been exploited by large corporations.

The town of Navassa, North Carolina is still being plagued by contamination from a wood treatment plant that closed more than 40 years ago, the Associated Press reports.

The plant, operated by Oklahoma energy company Kerr-McGee, was open from 1936 to 1974. The factory made use of creosote preservatives, which the U.S. Environmental Protection Agency has listed

as a probable human carcinogen. According to the EPA, the factory disposed of its creosote wastewater in ponds.

When the site was dismantled in 1980, Kerr-McGee drained the wastewater ponds and mixed the sludge that remained with clean soil. The town's mayor, Eulis Willis, said that no one questioned the environmental effects at the time. "All we wanted to do was get paid," he told the AP. "We weren't concerned about that—the environmental and health impacts. Folks were trying to put bread on the table."

Making matters worse is the fact that Navassa is primarily African-American (64% in the 2010 U.S. Census) and low-income (median income for a household was $35,607 in 2010). Those demographics suggest that Kerr-McGee could be exploiting residents who have neither the money or power to object to the impact of their jobs on their health and communities. (It wouldn't be the first energy company in that position. Duke Energy pleaded guilty to environmental crimes in the state earlier this year.)

The Navassa site is currently being cleaned up as part of a $5 billion settlement from litigation against Anadarko Petroleum Co. APC -0.79% , Kerr-McGee's parent company, in a case that involved dozens of other contaminated sites. The town will also receive $23 million from the Natural Resources Trustee Council.

EPA, NC DEQ, and Multistate Trust to Hold Public Meeting about Kerr-McGee Superfund Site in Navassa, North Carolina, Dec. 7, 2016

127) EPA ADDS RIEGELWOOD SITE TO SUPERFUND LIST

http://www.wwaytv3.com/2011/03/09/epa-adds-riegelwood-site-to-superfund-list/

WASHINGTON, DC (NEWS RELEASE) — The US Environmental Protection Agency is adding 10 new hazardous waste sites that risk people's health and threaten the environment to the National Priorities List of Superfund sites and is proposing to include 15 additional sites. Superfund is the federal program that investigates and cleans up the most complex, uncontrolled or abandoned hazardous waste sites in the country.

To date, there have been 1,637 sites listed on the NPL, 347 of which have been deleted, resulting in 1,290 current sites on the NPL. There are now 66 proposed sites awaiting final agency action: 61 in the general Superfund section and five in the federal facilities section. There are a total of 1,356 final and proposed sites.

Harmful contaminants found at the sites include arsenic, asbestos, barium, cadmium, chromium, copper, creosote, dichloroethene (DCE), dioxins, lead, mercury, pentachlorophenol (PCP), polynuclear aromatic hydrcarbons (PAHs), polychlorinated biphenyls (PCBs), tetrachloroethene (PCE), trichloroethane (TCA), trichloroethene (TCE), and zinc.

With all Superfund sites, EPA tries to identify and locate the parties potentially responsible for the contamination. For the newly listed sites without viable potentially responsible parties, EPA will investigate the full extent of the contamination before starting significant cleanup at the site. Therefore, it may be several years before significant cleanup funding is required for these sites.

Sites may be placed on the list through various mechanisms:

· Numeric ranking established by EPA's Hazard Ranking System

· Designation by states or territories of one top-priority site

· Meeting all three of the following requirements:

o The Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Department of Health and Human Services has issued a health advisory that recommends removing people from the site;

o EPA determines the site poses a significant threat to public health; and

o EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.

For Federal Register notices and supporting documents for these final and proposed sites: http://www.epa.gov/superfund/sites/npl/current.htm

128) KERR-MCGEE CHEMICAL (COLUMBUS)

EPA to Consider the Kerr-McGee Chemical (Columbus) Site for Proposal to Superfund's National Priorities List

Print Email CATEGORY: ARCHIVES

The U.S. Environmental Protection Agency (EPA) has announced that it is moving forward with the process to propose the Kerr-McGee Chemical (Columbus) site to the National Priorities List (NPL) list of hazardous waste sites. This decision is based on the bankruptcy filing of Tronox, LLC.

A formal decision to propose the site may be made as early as March 2011, the date when a number of other sites across the nation are expected to be proposed to the NPL as part of the federal rulemaking process. Consideration to propose the site to the NPL does not guarantee that the site will be proposed, or, that the site will be listed on the final NPL.

A community meeting will be held on Thursday, October 14, 2010 at the Lee Middle School Auditorium, 1815 Military Road, Columbus, MS, from 6:30 P.M. – 8:00 P.M. The purpose of this meeting is to present

the Superfund Process to the community surrounding the site and does not pertain, in any way, to ongoing or future litigation/legal action related to former site activities.

The EPA Superfund Removal Program will continue efforts to identify the levels and extent of contamination in the community surrounding the site. The initial phase of this work will involve the collection of soil and sediment samples at properties near the drainage pathways associated with the site. Representatives from EPA will contact a select number of property owners to request property access for additional EPA sample collection. The sampling results will be evaluated by EPA to determine if further action, including additional sampling or cleanup, is necessary.

The results and findings will be shared directly with the property owners and tenants. Additional on-site investigation work may be conducted, as necessary, to determine the need for additional cleanup work on the former Kerr-McGee property. EPA is working with the Mississippi Department of Environmental Quality (MDEQ) to ensure that the existing ground water treatment network continues to operate.

The Kerr- McGee Chemical (Columbus) Site is comprised of approximately 90 acres, and is located at 2300 North 14th Avenue in Columbus, Mississippi. The facility was operational from approximately 1928 to 2003. While operational, Kerr-McGee manufactured pressure-treated railroad products such as wooden cross ties, switch ties, and timbers. The production processes at the site utilized creosote and creosote coal tar solutions to produce pressure-treated wood products. The facility also used pentachlorophenol (PCP) for wood-treating from the 1950s until the mid-1970s.

Site Summary:

Site Location: The Kerr-McGee Chemical Corp - Columbus site consists of approximately 90 acres located east of the intersection of North 14th Avenue and North 21st Street in Columbus, Mississippi. The facility is closed, and all structures on the property have been demolished or dismantled. Access to the site is restricted by a fence that encloses the entire property.

Site History: While operational, Kerr-McGee manufactured pressure-treated railroad products such as wooden cross ties, switch ties and timbers. The production processes at the site utilized creosote and creosote tar solutions as well as pentachlorophenol (PCP) for wood treating. Structures formerly located on the Kerr-McGee property include an in-ground pit, sumps, underground drip collection tanks, above-ground tanks, a boiler, oil-water separators, surface impoundments, unlined sand filer beds, waste piles and a pine yard. Several closure actions had been conducted while the site was under Resource Conservation and Recovery Act (RCRA) corrective action; however, on-site and off-site soil and sediment contamination still exists.

http://environment.netronline.com/site.php?cid=MSD990866329

Site Contamination/Contaminants: Kerr-McGee maintained an unlined hazardous waste surface impoundment as part of their wastewater treatment system. Kerr Mc-Gee closed the surface impoundment in 1986 under a RCRA closure plan. However, post-excavation sampling documented the presence of creosote and PCP contamination in sub-surface soils below the backfilled impoundment. In addition to the closed impoundment, additional contamination has been detected in the former drip pad area, the railroad loading area and other process areas. A ground water plume has been identified

beneath the source areas on site that consists of free product and dissolved product from plant operations.

Potential Impacts on Surrounding Community/Environment: Offsite migration of creosote, PCP and dioxin compounds have been documented in sediment samples collected from drainage ditches which leave the site, and contaminants have migrated to the surrounding residential neighborhoods.

Response Activities (to date): Several closure activities were conducted by Kerr-McGee and their successor, Tronox, LLC, under the EPA RCRA program and state oversight. The surface impoundment was excavated and backfilled, and some additional soil contamination and drainage ditch excavation was conducted. A ground water extraction and treatment system has been operational on the site since 1990.

Need for NPL Listing: The state and the EPA RCRA program referred the site to EPA Superfund because Tronox, LLC, has declared bankruptcy and may not be able to fund the needed cleanup. Other federal and state cleanup programs were evaluated, but are not viable at this time. EPA received a letter of support for placing this site on the NPL from the state.

[The description of the site (release) is based on information available at the time the site was evaluated with the HRS. The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

129) NAVASSA: FROM GUANO TO CREOSOTE

http://www.coastalreview.org/2016/07/15413/

130) NORTH CAROLINA 40 YEARS

North Carolina town plagued by 40-year-old contamination

by Michal Addady @michal_addady OCTOBER 11, 2015, 12:28 PM EST

131) TRONOX TO SETTLE TEXARKANA TOXIC TORT

http://www.law360.com/articles/43317/tronox-to-settle-texarkana-toxic-tort

Law360, New York (January 7, 2008, 12:00 AM EST) -- Tronox Inc. and five plaintiffs have agreed in principle to settle a personal injury case over health problems allegedly stemming from chemical contamination on a site in Texas where Tronox's corporate predecessors, including Kerr-McGee Chemical LLC, treated wood for more than a century.

The two sides reached an agreement Friday, one day after Tronox filed its motion to dismiss for failure to designate expert witnesses in the U.S. District Court for the Eastern District of Texas.

The deadline for the plaintiffs to produce reports and disclose their experts was Dec. 21, 2007, the defendants claimed, yet the plaintiffs didn't designate experts, hand over reports or seek more time to comply.

On Monday, the settlement pact had been agreed to, but had yet to be confirmed in writing, said Jennifer Doan, who represents Tronox in this matter. Doan would not comment on the amount of the settlement, but said that Tronox was pleased with the deal.

Kerr-McGee Chemical changed its named to Tronox in 2005, and Tronox is now an independent company, Doan noted. When Anadarko Petroleum Corp. acquired Kerr-McGee in 2006, it did not acquire Tronox.

The site at issue, at which products like bridge timbers, telephone poles and pilings were pressure treated, sits on about 500 acres in Texarkana, Texas, is now owned by Tronox. Tronox's predecessors have owned and operated the site since 1902.

The wood at the Texarkana site was treated with pentachlorophenol until 1984, and with creosote from 1902 until 2003, and both those chemicals ended up in soil, ground water, surface water and air at the site, said the plaintiffs. Creosote preservative and pentachlorophenol are made up of a variety of chemicals that produce cancer and birth defects, according to the plaintiffs.

"The wood preserving industry, including without limitation, Kerr-McGee, has known about the toxic effects of creosote and pentachlorophenol since at least the 1950s," the complaint stated.

Several of the plaintiffs walked or rode on the site, and were exposed to the chemicals at issue by inhaling dust and fumes, as well as coming in contact with tainted soil and water, the plaintiffs contend. Some plaintiffs lived on the site in housing provided by Kerr-McGee, and workers who lived offsite tracked the chemicals into their vehicles and homes, the complaint claimed.

The contaminants also got into the air, from dust at the site being kicked up by vehicles and from the burning of contaminated wood, say the plaintiffs. The complaint says that "when the wind blew in the direction of plaintiffs' homes, the neighbors frequently saw black deposits on, among other things, their vehicles, lawn furniture, laundry, and window sills."

Zachary Akins, a minor, and Arthur O'Rand, who is deceased, both have representatives acting as plaintiffs on their behalf. O'Rand had "AML Leukemia" and Akins has cerebral palsy, seizures and an enlarged heart and was born without a lens in his right eye, according to the complaint. Plaintiffs Cynthia Branson and Christina Splawn suffer from cancer, and Jennifer Jeans has "Klippel-Fel Syndrom" and scoliosis, the complaint further asserts.

But according to Doan, the plaintiffs' claims are baseless, and unsupported by any proof or evidence whatsoever.

"There's absolutely no proof that the injuries alleged in this lawsuit were caused by exposure to any type of chemical, including creosote or pentachlorophenal," Doan said.

The July 2006 complaint, which named Kerr-McGee Chemicals LLC and Tronox Inc. as defendants, asked for unspecified damages with interest.

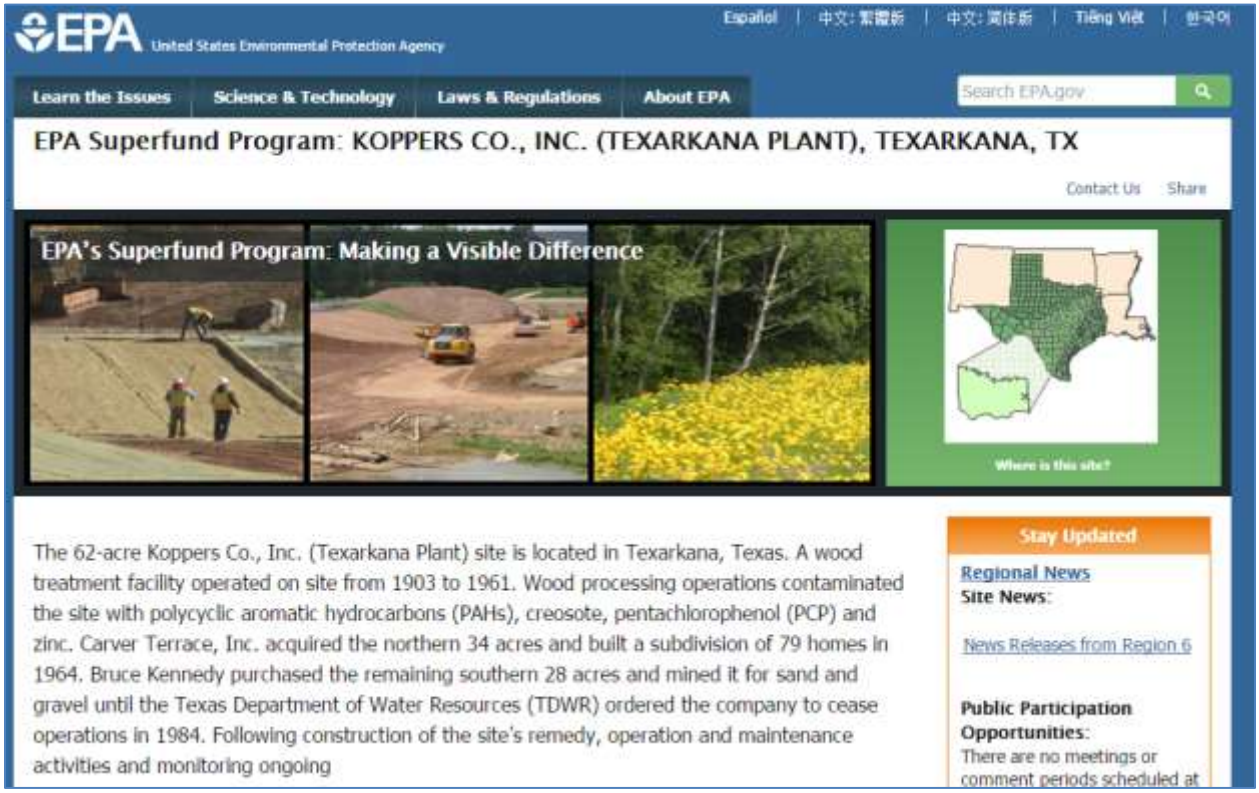
Lead counsel for the plaintiffs was not immediately available for comment.

The plaintiffs are represented by The Clark Firm and Durham & Pittard.

Tronox is represented by Haltom and Doan, as well as Lightfoot Franklin & White.

The case is Jeans et al. v. Kerr-McGee Chemical LLC et al., case number 06-297 in the U.S. District Court for the Eastern District of Texas.

https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0602570



https://inldigitallibrary.inl.gov/sti/3156882.pdf

132) BOSSIER CITY, LOUISIANA

http://webapp.stthomas.edu/recyclingquotes/catagory.html?catagory=9

A small neighborhood in Bossier City, Louisiana has some of the highest levels of chemical contamination, cancers and birth defects ever documented in the United States, according to National Institutes of Health (NIH) scientists. The Lincoln Creosote

plant is now a Superfund site on the National Priorities List of the most hazardous sites in the country. It was operated in a 20 acre field next to a residential area from 1935 to 1969 by several different owners and operators, producing telephone poles and railroad ties. The wood was pressure treated with creosote, copper-chromium arsenate and pentachlorophenol (PCP) and hung out to dry. Eventually, two large creosote ponds formed leaving arsenic and carcinogenic polycyclic aromatic hydrocarbons (PAHs) as deep as 15 feet in the ground. Large residential neighborhoods border the Lincoln Creosote facility to the north, northeast, south and westÂ¿ According to Dr. Patricia Williams, the high incidence of cancers and birth defects in Bossier City was probably caused by the contamination in the ground, air and water. Dr. Williams found that the incidence of leukemia from the late 1970s to the mid-1990s is as much as 40 times higher than normal populations, the rate varies depending on the type of leukemia. Breast cancer incidence is as much as five times higher than normal. Incidences of birth defects are 300 percent higher that those recorded during a comparable time period in Osaka, Japan which is near Hiroshima where an atomic bomb was dropped in 1945 to end World War II.

Marie Marzi, "Creosote Contaminates Louisiana Community for Generations,"

Environment News Service, 5 Sep 2001

http://www.corpwatch.org/article.php?id=23

BOSSIER CITY, Louisiana -- A cancer scientist calls it a gold mine for research, a former resident calls it death row, and lawyers have made millions off of it.

A small neighborhood in Bossier City, Louisiana has some of the highest levels of chemical contamination, cancers and birth defects ever documented in the United States, according to National Institutes of Health (NIH) scientists.

The Lincoln Creosote plant is now a Superfund site on the National Priorities List of the most hazardous sites in the country. It was operated in a 20 acre field next to a residential area from 1935 to 1969 by several different owners and operators, producing telephone poles and railroad ties. The wood was pressure treated with creosote, copper-chromium arsenate and pentachlorophenol (PCP) and hung out to dry.

Eventually, two large creosote ponds formed leaving arsenic and carcinogenic polycyclic aromatic hydrocarbons (PAHs) as deep as 15 feet in the ground. Large residential neighborhoods border the Lincoln Creosote facility to the north, northeast, south and west.

Harold Quigley and his family lived just across a ditch and railroad tracks, yards away from the plant. He spent summer nights sleeping on the side porch, breathing the fumes from the plant and watching trains come and go. The house sits vacant now, with overgrown weeds and hundreds of large fire ant hills. Though the family still owns it, no

one has lived there for years. Harold's sister Mary recalls playing in the tar pits and ditches on the site. She and her friends would walk on the crust of the creosote to see who could last the longest before falling in.

Harold sighs as he verbally wonders whether his sterility was a result of his exposure to the creosote. He has no doubt that his two cousins who died young of leukemia were victims of it. No one can be 100 percent positive that Harold's parents died from it. His mother had four types of cancer, and his father had heart disease.

His sister Bobbie had breast cancer and an aneurism. She now lives in a nursing home. His brothers James and Paul have both had skin cancer and both had sons with birth defects. James' son Scott and his wife Mary have had two stillborn babies. Harold's sister Linda has not had cancer yet. She says, "it's just a matter of time," but she gave birth to two children with birth defects. She also had a stillborn grandchild last year. Mary Quigley had two children with birth defects.

Some might say the Quigleys just have bad genes. But a medical professor from Louisiana State University who has documented the incidences of death and disease in this small neighborhood thinks differently. According to Dr. Patricia Williams, the high incidence of cancers and birth defects in Bossier City was probably caused by the contamination in the ground, air and water.

Dr. Williams found that the incidence of leukemia from the late 1970s to the mid-1990s is as much as 40 times higher than normal populations, the rate varies depending on the type of leukemia. Breast cancer incidence is as much as five times higher than normal.

Incidences of birth defects are 300 percent higher that those recorded during a comparable time period in Osaka, Japan which is near Hiroshima where an atomic bomb was dropped in 1945 to end World War II.

Some houses in Bossier City were built on top of creosote soaked soil, and over a ditch that was intented to carry the contaminants away from the plant.

Although the Environmental Protection Agency (EPA) remediated soil around those houses on Bardot Lane in the mid-1990s, Donald Rosebrook of EndoEnvironment tested soil behind the houses in 1998 and found it was still contaminated. He found benzopyrene, anthracene, and other PAHs at a depth of nearly three feet, and states in his report, "this is an extremely contaminated area that has not been remediated."

The EPA states on its website that no further action is "the preferred alternative" for the Lincoln Creosote location. The agency adds, "There appears to be no significant environmental or ecological risk as it [the site] lies in a highly urbanized area of Bossier City."

Today, there are signs posted around the old plant site warning,"Do not go in the ditch." There is a chain-link fence punched through with holes in some places, but neither seems to deter the dozens of children who live in low-income apartments built next to the site in the 1980s.

Several children told ENS they regularly cross the ditch to pick and eat blueberries which grow wild in the abandoned field where the plant buildings stood.

For the Quigleys and others who have seen their parents and neighbors die of cancer, their concern has shifted towards their children and grandchildren. There is strong scientific evidence that PAHs bind to DNA, permanently altering it and causing problems in subsequent generations.

"Is this something I passed down," wonders former resident Rudy Estess when he talks about his granddaughter who was born with Rhett's sydrome. He says she seemed fine until she turned two when she started to regress. She now has no motor skills an must be fed through a tube. Scientists can test to see if the DNA has been altered, but many people do not want to know.

"People are so depressed and cynical now," said 27 year old Ryan Gatti who grew up on Bardot Lane. He adds that people are worse off knowing about the DNA because their health insurance could deny their claims, stating they had a pre-existing condition.

NIH scientists hope they can get enough people to participate in their study. Usually, they travel overseas to study the effects of carcinogens on DNA, or they look for a select group of occupationally exposed individuals. In Bossier City, they may get a rare chance to see how PAHs affect American individuals over the long term.

They hope to find out whether or not the creosote is responsible for damaging DNA and causing cancer in people who are deceased, those who have moved away, and those who still live there. Even if they find that those living there now are being affected, there may be little if any recourse for them.

A lawsuit involving 2,100 current and former residents was settled out of court with Lincoln Creosote last year. Lawyers for the plaintiffs took about half the settlement after fees, $16 million, and the remaining $15 million was split between 2,100 people for an average of about $7,000 for each person.

Many of the plaintiffs were disappointed because they received no funds for future medical monitoring expenses and no compensation for their children and grandchildren who suffer from secondary exposure.

Bossier City resident Michael Davis worries about his daughter Brittany who started menstruating at age six and still suffers from growth hormone deficiency. He asks, "Why

was consideration not given to children not living at the site but bearing the weight of the effects?"

Davis says he was told by his attorneys that Brittany would be included in the lawsuit. When he found out she was not included and confronted his attorney, Kark Koch, he was told, "Brittany slipped through the cracks."

Brittany was not the only Bossier City child who slipped through the cracks. Jessie Dovis wrote this to the court, "I object to the allocation with the claim I have filed on behalf of my deceased son Darell D. Evans. Darell passed away on January 25th from colon cancer. I know that he was exposed and I believe that it caused his cancer. There is no history of cancer in my family. We lived in that area for a number of years. ... This $500.00 settlement is unjust."

For Gatti, the settlement was not much compensation. "When you get five or ten thousand dollars but you find out everyone on your street has cancer, I tell you, it bothers you every day."

The EPA Superfund history of the Lincoln Creosote site is online at: http://www.epa.gov/earth1r6/6sf/6sf-la.htm

133) OHIO PRESCHOOL CHILDREN

Short-term variability and predictors of urinary pentachlorophenol levels in Ohio preschool children

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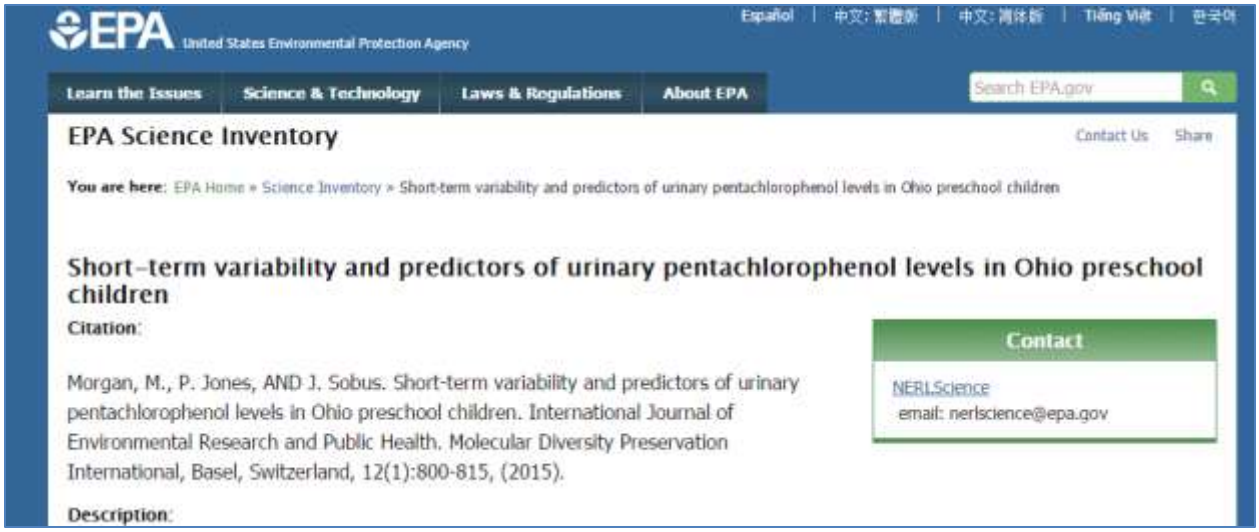

Short-term variability and predictors of urinary pentachlorophenol levels in Ohio preschool children

Contact

NERLScience

email: nerlscience@epa.gov

Citation:

Morgan, M., P. Jones, AND J. Sobus. Short-term variability and predictors of urinary pentachlorophenol levels in Ohio preschool children. International Journal of Environmental Research and Public Health. Molecular Diversity Preservation International, Basel, Switzerland, 12(1):800-815, (2015).

Description:

Pentachlorophenol (PCP) is a persistent and ubiquitous environmental contaminant. No published data exist on the temporal variability or important predictors of urinary PCP concentrations in young children. In this further analysis of study data, we have examined the associations between selected sociodemographic or lifestyle factors and urinary PCP concentrations in 115 preschool children over a 48-hour period and assessed the 48-hour variability of urinary PCP levels in a subset of 15 children. Monitoring was performed at 115 homes and 16 daycares in Ohio in 2001. Questionnaires/diaries and spot urine samples were collected from each child. The median urinary PCP level was 0.8 ng/mL (range = <0.2-23.8 ng/mL). The intraclass correlation coefficient for urinary PCP was 0.42, which indicates fairly low reliability for a single sample over a 48-hour period. In a multiple regression model, age of home and ln(creatinine levels) were significant predictors and sampling season, time spent outside, and pet ownership were marginally significant predictors of ln(urinary PCP

levels), collectively explaining 29% of the variability of PCP in urine. To adequately assess short-term exposures of children to PCP, several spot urine measurements are likely needed as well as information regarding residence age, seasonality, time spent outdoors, and pet ownership.

Purpose/Objective:

The National Exposure Research Laboratory's (NERL's) Human Exposure and Atmospheric Sciences Division (HEASD) conducts research in support of EPA's mission to protect human health and the environment. HEASD's research program supports Goal 1 (Clean Air) and Goal 4 (Healthy People) of EPA's strategic plan. More specifically, our division conducts research to characterize the movement of pollutants from the source to contact with humans. Our multidisciplinary research program produces Methods, Measurements, and Models to identify relationships between and characterize processes that link source emissions, environmental concentrations, human exposures, and target-tissue dose. The impact of these tools is improved regulatory programs and policies for EPA.

URLs/Downloads:

InternationalJournal of Environmental Research and Public Health Exit

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OFFICE OF RESEARCH AND DEVELOPMENT

NATIONAL EXPOSURE RESEARCH LAB
HUMAN EXPOSURE AND ATMOSPHERIC SCIENCES DIVISION
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134) CHILDREN AND PENTACHLOROPHENOL

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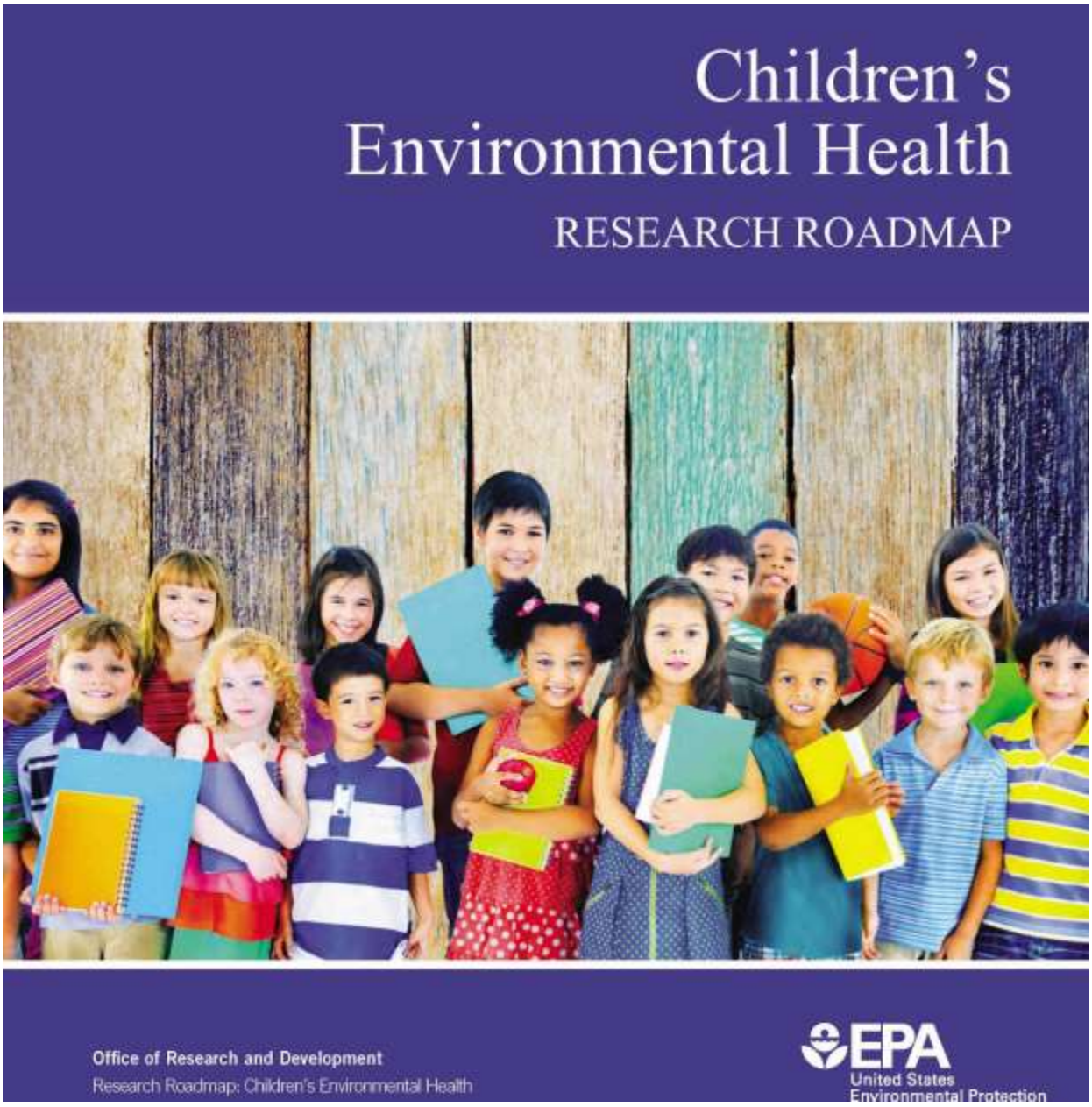

135) EPA FINES WESTON SOLUTIONS ON OAHU

https://www.epa.gov/newsreleases/epa-fines-weston-solutions-violating-cleanup-requirements-former-wood-treatment

http://www.hawaiidoh.org/references/HDOH%202011d.pdf

EPA fines Weston Solutions for violating cleanup requirements at former wood treatment facility on Oahu

News Releases from Region 09

12/20/2016

Contact Information:

Dean K. Higuchi (higuchi.dean@epa.gov)

808-541-2711

HONOLULU – The U.S. Environmental Protection Agency has assessed Weston Solutions, Inc. a $25,000 fine for violating an order issued in 2010, when Weston committed to clean up the former Chem-Wood wood treatment facility located in the Kapolei area of Oahu.

Between 1975 and 1988, Chem-Wood pressure-treated wood using hazardous chemicals containing chromium, arsenic and mineral spirits, some of which were released to the soil and impacted groundwater. EPA first took an enforcement action in 1988 and has overseen site investigations and cleanup activities.

Weston, a Pennsylvania-based environmental cleanup firm, has sold the property since 2010, but retains responsibility for carrying out the cleanup requirements. This includes maintaining the asphalt-concrete cap that provides a protective barrier from contaminated soil on the site. Weston violated the order when it failed to notify and obtain approval from EPA or the Hawaii Department of Health

after learning the current property owner, Goodfellow Brothers, Inc., had partially removed the cap.

"Our order requires Weston to maintain the integrity of the protective cap covering this hazardous waste site," said Jeff Scott, Director of the Land Division for U.S. EPA's Pacific Southwest Region. "This penalty sends a clear message that EPA takes these requirements seriously."

The facility's cleanup plan requires EPA approval prior to altering the asphalt-concrete cap. Weston was aware that Goodfellow began work in December 2015 to install a concrete pad to support a new above-ground fuel tank, but failed to notify EPA or seek its approval until March 2016. The work involved removal of 776 square feet of the cap and a 360 square-foot layer of clean fill material. Weston and Goodfellow claim that no underlying contaminated soil was disturbed by the project. EPA has since approved the fuel tank installation plan and Weston is now back in compliance with the consent order.

The 2010 EPA order directed the Estate of James Campbell, a former property owner, and Weston to grade the site and consolidate contaminated soil under an asphalt-concrete cap, monitor and treat contaminated groundwater, and it included restrictions prohibiting residential reuse of the property.

For more information on hazardous waste, please visit: http://www.epa.gov/epawaste/hazard

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\Subject: EPA fines Weston Solutions for violating cleanup requirements at former wood treatment facility

Date: Tue, Dec 20, 2016 1:29 pm

For Immediate Release: December 20, 2016
Media Contact: Dean Higuchi, 808-541-2711, higuchi.dean@epa.gov

EPA fines Weston Solutions for violating cleanup requirements at former wood treatment facility on Oahu

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For more information on hazardous waste, please visit: http://www.epa.gov/epawaste/hazard

136) VERMONT DRININK WATER CONTAMINATION FROM POLES

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558766/

137) ALBERTA CANADIAN PENTA WATER CONTAMINATION

http://www.cbc.ca/news/canada/edmonton/pretty-nasty-chemicals-alberta-orders-cleanup-at-former-creosote-treatment-plant-in-edmonton-1.3912726

http://www.timescolonist.com/news/alberta-orders-cleanup-at-former-creosote-treatment-plant-in-edmonton-1.5400849

http://edmontonjournal.com/news/local-news/province-orders-companies-to-clean-up-former-edmonton-wood-treatment-site

Alberta orders cleanup at former creosote treatment plant in Edmonton

EDMONTON — The Alberta government is making Domtar and other companies clean up the site of a former wood treatment facility in northeast Edmonton that could become a residential development. 2

Dec 23, 2016 6:39 PM by: Canadian Press

Updated Dec 23, 2016 7:30 PM

EDMONTON — The Alberta government is making Domtar and other companies clean up the site of a former wood treatment facility in northeast Edmonton that could become a residential development.

The creosote plant in the city's Hermitage neighbourhood operated from 1924 to 1987, and Alberta Environment says the site was partially remediated in 1991.

The department says a numbered company bought the property from Domtar in 2010, and that some contamination was left on the site in an unauthorized landfill and at a former wastewater treatment pond.

It says a berm was also built using contaminated materials, and sampling done by the government found it had "hazardous waste characteristics."

The province is ordering Domtar, Cherokee Canada Inc. and the numbered company to submit an independent sampling and remediation plan for the site of the disposed materials.

Cherokee Canada and the numbered company must also take the same steps for the berm.

"First, we have to determine the nature of the contamination, and that would provide direction for how those sites would need to be remediated," Alberta Environment spokesman Jamie Hanlon said Friday.

"Our concern is that the contamination on those sites be addressed."

In the 1990s, Domtar cleaned up contaminated soil in the backyards of four existing homes next to the former site, but residents were concerned at that time about the lack of action on the site itself.

Dr. David Schindler, a water expert at the University of Alberta, said at the time that the arsenic, creosote compounds and pentachlorophenol left in the soil and groundwater when Domtar closed its plant in 1987 were "pretty nasty chemicals."

He said pentachlorophenol is particularly dangerous and has been associated with developmental abnormalities and birth defects.

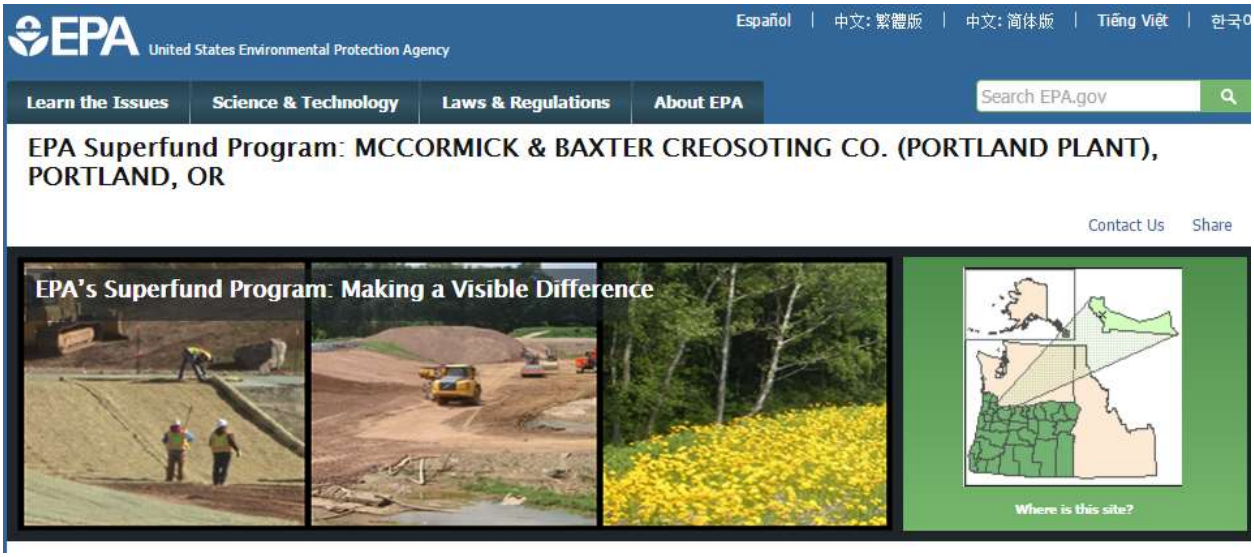
Alberta Environment said the site is proposed for a residential development.

The department said the current site approval holders have failed to act upon numerous requests since last year for soil sampling results on the berm.

The remedial action plans for the disposal sites are due by July 30. The remediation plan for the berm and any contamination that's found near it is due June 1.

138) ONE BILLION 13 YR PORTLAND WOOD PLANT CLEANUP

http://www.up.edu/showimage/show.aspx?file=27645
https://yosemite.epa.gov/R10/CLEANUP.NSF/ph/Portland+Harbor+Superfund+Site
http://www.opb.org/news/article/portland-harbor-superfund-cleanup-epa-proposal/
http://kuow.org/post/epa-calls-1-billion-portland-harbor-superfund-cleanup
https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=1000339



The McCormick and Baxter Creosoting Co. (Portland Plant) site is a former wood treatment facility located on the Willamette River in Portland, Oregon. The site encompasses about 43 acres on land and 23 acres of river area. Wood treatment operations took place at the site between 1944 and 1991. Wood-treating products used at the site included creosote/diesel oil mixtures, pentachlorophenol (PCP)/diesel oil mixtures, and a variety of water- and ammonia-based solutions containing arsenic, chromium, copper and zinc. Between 1945 and 1969, site operations included the discharge of wastewater and non-contact cooling water directly into the Willamette River. Prior to 1971, boiler water, stormwater and oily wastes were disposed of on the western portion of the site. Wood-treating operations ceased in 1991. Site activities contaminated soil, sediment and groundwater with hazardous chemicals. Following cleanup, operation and maintenance activities and monitoring are ongoing.

Record of Decision

January 6, 2017 - The U.S. Environmental Protection Agency today released a cleanup plan.

Active cleanup work at the site is now expected to take as much as **13 years**

Cost approximately $1 billion.

10 miles - Willamette River - Portland Harbor Superfund Site

Site runs through the economic heart of Portland, Oregon.

EPA's - dredging, capping, removal of over three million cubic yards of contaminated sediments.

Address contaminated groundwater that could re-contaminate

Address contaminated the river and river banks.

Address contaminated approximately 1,774 acres of the site

80,000 pounds (total) of airborne releases of volatile organic compounds and gases

113,000 pounds (total) reported on the property

Storm Water Run Off 1700 ppb

Contaminants include those released from the site and additional sources upstream.

A nearby resident reports continuing periodic chemical odors both winter and summer.

Odors indicate that people in the immediate are being exposed to airborne contaminants.

The sources of chemical odor exposure might never be clearly cleanup.

ATSDR concludes that plant workers were exposed to the wood treating chemicals arsenic, **pentachlorophenol,** and creosote as well as to dioxins/furans.

Two boys playing in shallow water received skin burns from hazardous chemicals.

People who eat contaminated fish and shellfish can be exposed to contaminants.

People who use the Willamette River near the site for recreation might be exposed by skin contact and incidental ingestion to any contamination that migrated into the river water.

Sickness related to occupational exposures to the wood treating chemicals arsenic, pentachlorophenol, and creosote is discussed below. Dioxins and furans are contaminants commonly found with pentachlorophenol at wood-treating facilities and have been found at this site.

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https://www.atsdr.cdc.gov/hac/pha/PHA.asp?docid=275&pg=2

EPA Announces Final Superfund Cleanup Plan for Portland Harbor

Agency: Public comments from all sectors helped hone the plan; stage now set for work to begin

Contact: Mark MacIntyre 206-553-7302 Macintyre.Mark@epa.gov

(Portland) January 6, 2017 - The U.S. Environmental Protection Agency today released its final cleanup plan, called a Record of Decision, for 10 miles of the Lower Willamette River within the Portland Harbor Superfund Site which runs through the economic heart of Portland, Oregon.

EPA's final plan, or ROD, addresses contaminated sediments through dredging, capping, enhanced natural recovery, and monitored natural recovery, including removal of over three million cubic yards of contaminated sediments. The ROD also addresses contaminated groundwater that could re-contaminate the river and river banks. Approximately 1,774 acres of the site with lower contaminant levels are expected to recover naturally over time. Active cleanup work at the site is now expected to take as much as 13 years and cost approximately $1 billion.

"This is a very strong cleanup plan, thanks in large part to the quality of the public comments we received," said Dennis McLerran, the EPA's Regional Administrator for the Pacific Northwest and Alaska. "Under the final plan, we'll be removing more contaminated sediment sooner, which means risks will be lower and the river will be safer faster. Input from the public, tribes, state and local government, environmental groups and business and industry helped us hone our plan and make it more responsive to people's concerns. We have been working very closely with Oregon DEQ on the final remedy and with state and EPA leadership. The stage is now set for cleanup work to begin in earnest."

Last Spring, the EPA released a Proposed Plan and received over 5,000 public comments, nearly 90 percent of which called for more robust cleanup measures than those outlined in the proposal. Compared to the Proposed Plan, the final plan released today:

• Further reduces health risks to people, fish, and wildlife sooner by dredging and/or capping 365 acres of contaminated sediment, 100 acres more than in the Proposed Plan;
• Will make it safer for people to eat more resident fish more often and sooner;
• Streamlines the process to get more "early action" cleanups underway;
• Achieves cleanup goals sooner, providing more certainty for commercial and industrial development;
• Provides pathways for reducing costs by following up on comments such as identifying an upland disposal site in closer proximity to Portland Harbor and by updating land use assumptions.

At the end of the active "construction" phase of cleanup, EPA expects a 100-fold reduction in contamination-related cancer and other serious risks. Natural recovery will further reduce these risks to levels deemed acceptable under Superfund and the Oregon Department of Environmental Quality (ODEQ) cleanup program. Not all risks will be eliminated.

McLerran's sentiments were echoed by Jim Woolford, Director of the Office of Superfund and Remediation and Technology Innovation in EPA's Headquarters Office in Washington, D.C.

"We've seldom had an opportunity to work as closely with our regional counterparts and their state partners as we have on the Portland Harbor cleanup," said Woolford. "Portland Harbor is a large and complex site. It required extensive coordination with our regional colleagues and all stakeholders to develop a plan that both meets the Portland community's needs and is consistent with national regulations and policies. I am very proud of the work we've done to achieve this important milestone."

Under a 2001 agreement with ODEQ, EPA manages the cleanup of the in-river cleanup portion of the site and ODEQ is responsible for the upland portion of the site. EPA's plan will complement ODEQ's ongoing upland and up river pollution source control work.

Richard Whitman, Interim Director of ODEQ, echoed EPA's optimistic outlook for the River's recovery.

"After 16 years of thorough study, DEQ agrees that it is time to move forward with the Portland Harbor cleanup. Contamination in the river poses real, ongoing risks to people's health so we need to get more cleanup underway faster, especially to protect people who rely on subsistence fishing from Harbor waters.

"A cleaner river will not only protect Oregonians, it will launch a new era for Portland as a river city, one where the lands stretching along the river are revitalized, and companies can invest without the threat of liability -- bringing new jobs to our communities. DEQ will continue work with EPA and others in partnership to move the cleanup forward and restore the Willamette waterfront as a lasting legacy for future generations."

Reducing toxins at a watershed scale

Outside of the cleanup, ODEQ and EPA will partner to convene stakeholders to create a strategy to address toxins within the larger Willamette watershed to protect the substantial investment of time, money, and work in recovering Portland Harbor. This effort could include promoting green infrastructure, forming Pesticide Stewardship Partnerships, encouraging pollution prevention through green chemistry and even local site clean ups. The goal is to reduce upstream and background contaminant loading to the river, which should further reduce contaminants in fish and shellfish.

Promoting "Early Actions"

EPA and the State are looking for parties to step forward to implement cleanup actions as soon as possible after the ROD. EPA may manage the Portland Harbor cleanup by dividing the site into smaller work areas for purposes of design and construction activities. Cleanup sequencing may also consider factors such as potential impacts of upstream work on downstream areas, the potential for resuspension of contaminants during construction, nature and extent of contamination, and integration of the cleanup actions into the overall remedy.

Cleanup "Next Steps"

Now that the Record of Decision is issued, EPA will request that the responsible parties begin work to implement it. To help the public better understand the path forward, and as requested by community groups, information sessions are slated for March. Those attending will hear more details about the final cleanup plan and will have an opportunity to ask questions.

Please check EPA's Portland Harbor website (http://go.usa.gov/3Wf2B) for the most up-to-date information on these community information sessions.

EPA's McLerran added, "We're looking forward to working with the State of Oregon and those responsible for the work to get the cleanup underway. We're hoping those involved with the cleanup will now move forward with the design phase of work. We are committed to our goal: reduce risks to people and the environment, and return the Lower Willamette to the health and vibrancy all Oregonians deserve.

"I would also like to thank Governor Brown for the close working relationship we have developed with the State of Oregon in developing this more protective remedy. The work over the last 18 months to develop a cleanup remedy for Portland Harbor is a model for how the state and federal government can work together to accomplish big things. We have also worked very closely with EPA headquarters to ensure this remedy is the best solution for Oregon while also being consistent with national Superfund policy and precedent."

Public Health Assessments & Health Consultations

PUBLIC HEALTH ASSESSMENT

McCORMICK & BAXTER CREOSOTING COMPANY (PORTLAND) PORTLAND, MULTNOMAH COUNTY, OREGON

ENVIRONMENTAL CONTAMINATION AND OTHER HAZARDS

Sampling has been conducted on site for surface soils; subsurface soils; groundwater; NAPLs(nonaqueous-phase liquids [e.g. nonsoluble liquids]); and storm water. Off site sampling wasconducted for surface soils, sediment, crayfish, and fish (Large Scale Sucker).

Those sampling data and supporting site-related information suggest that contaminantsassociated with wood treatment have been released to on-site soils, groundwater, and storm waterrunoff. Data also suggest that contaminants have migrated off site to sediments and river biota. River water quality also is likely to have been affected to some extent by site releases, butsampling information is not available for confirmation. Citizens' concerns about odor alsosuggest releases, but sampling information is not available for confirmation. This sectionidentifies contaminants ATSDR

representatives have selected for evaluation in later sections ofthis public health assessment to determine whether exposure to them has public healthsignificance. However, ATSDR's identification of contaminants here does not imply that humanexposure has occurred or that exposure would actually result in adverse health effects.

Contaminant selection considered the following factors:

- Concentrations of contaminants in media.
- Sample locations, field data quality, and laboratory data quality.
- Relationship of concentrations to ATSDR's public health assessment comparison values; the absence of valid comparison values.
- Community health concerns.

ATSDR's (EPA's) 1991 Toxic Chemical Release Inventory (TRI) (7), a database that containsinformation about annual releases of toxic chemicals to the environment, shows(1) approximately 80,000 pounds (total) of airborne releases of volatile organic compounds andgases were reported by three industrial facilities located between one-fourth of a mile and 1 milefrom the site and (2) another 113,000 pounds (total) reported by two facilities located between 1and 1½ miles from the property. All the facilities are on the west side of the river. Concentration information is not available for TRI data; hence, those airborne contaminants are not addressed further in this section of the assessment.

The specific contaminants selected to be addressed further in the public health assessment arelisted in data tables organized according to the media in which they were found (Tables 1through 8 in Appendix B). Those tables include, where available, the public health assessmentcomparison values ATSDR used for selection. Environmental Media Evaluation Guides (EMEGs) are estimated comparison concentrations that are based on health effects information determined by ATSDR for its Toxicological Profiles for specific chemicals. Cancer Risk Evaluation Guides (CREGs) are estimated comparison concentrations for specific chemicals based on an excess cancer rate of one in a million persons and are calculated using EPA's cancer slope factors. Reference Dose Media Evaluation Guide (RMEG) comparison concentrations are based on EPA's estimate of the daily dose below which exposure to a contaminant is unlikely to cause adverse non-cancer health effects. Proposed Maximum Contaminant Levels (PMCLs)represent EPA's proposed drinking water contaminant concentrations considered protective ofpublic health. Action Levels (ALs) are concentrations in drinking water, which, when exceeded,require implementation of a regulatory-based response protocol.

NOTE: Some of the sample data tables include information for polychlorinated dibenzodioxins(PCDDs) and polychlorinated dibenzofurans (PCDFs). PCDDs and

PCDFs constitute a familyof 210 structurally related chemical compounds. The PCDDs and PCDFs reported for samplestaken for this site are predominantly low-potency compounds (e.g., the octa and heptacompounds); 2,3,7,8 tetrachlorodibenzo-p-dioxin, the most potent of the compounds, occurs at amuch lower concentration than the rest. The EPA has developed a tentative methodology--theToxicity Equivalency Factor (TEF)--for reporting the cumulative concentrations of all PCDDsand PCDFs in terms of their relative potency compared to 2,3,7,8-tetrachlorodibenzo-p-dioxin. ATSDR provides PCDD/PCDF TEF values in the data tables.

A. On-Site Contamination

Tables 1 through 5 (Appendix B) present the maximum documented values of the on-sitecontaminants; these are considered in developing the Public Health Implications section of thisassessment. This section summarizes from those tables the specific organic compound and metalfound at the highest concentrations. Identification of contaminants here and in the tables doesnot imply that human exposure has occurred or that exposure would actually result in adversehealth effects.

Surface Soils (Table 1)

phenanthrene	4,900 parts per million (ppm)
arsenic	5,100 ppm

Subsurface Soils (Table 2)

naphthalene	23,000 ppm
arsenic	61,000 ppm

Groundwater (Table 3)

phenanthrene	3,900,000 ppb (parts per billion)
zinc	260,000 ppb

NAPL*; below ground (Table 4)

naphthalene	90,000,000 ppb
metals	not reported

* nonaqueous-phase liquids; not readily soluble in water

Storm Water (Table 5)

pentachlorophenol	1,700 ppb
copper	15,000 ppb (mean value)

B. Off-Site Contamination

Tables 6 through 8 (Appendix B) present the maximum documented values of the off-sitecontaminants; these are considered in developing the Public Health Implications section of thisassessment. This section summarizes from those tables the specific organic compound and metalfound at the highest concentrations. Identification of contaminants here and in the tables doesnot imply that human exposure has occurred or that exposure would actually result in adversehealth effects.

Surface Soils (Table 6)

benzofluoranthenes	1.3 ppm
arsenic	11 ppm (mean value)

River Sediment (Table 7)

naphthalene	3,500 ppm (estimated value)
manganese	690 ppm

**   River Water**

Studies conducted to date have not included data on river water quality at the site location.

Crayfish (Table 8)

naphthalene	57 ppb
zinc	15 ppm (mean value)

Large Scale Sucker (Table 8)

naphthalene	78 ppb (mean value
zinc	7.4 ppm

C. Quality Assurance and Quality Control

Reference documents indicate that quality control protocols were followed for sampling andlaboratory analyses.

D. Physical and Other Hazards

ATSDR did not observe any substantive physical or other hazards associated with the site.

PATHWAYS ANALYSES

Discussion of specific human exposure pathways in this section does not imply that adverse health effects are associated with them; health issues are discussed in the Public HealthImplications section. ATSDR identifies human exposure pathways by examining environmental and human components that might lead to contact with contaminants. A pathway analysis considers five elements: a source of contamination, transport through an environmental medium, a point of exposure, a route of human exposure, and an exposed population. Completed exposure pathways are those for which the five elements are evident, indicating that exposure to a contaminant has occurred in the past, is currently occurring, or will occur in the future. ATSDR regards people who come in contact with contamination as exposed; for example, people who drink water known to be contaminated, or who reside in an area with contaminated air, or who work or play in contaminted soil are considered exposed. Potential exposure pathways are those for which one or more of the elements is not clearly defined but through which exposure is plausible. Potential pathways indicate that exposure to a contaminant could have occurred in the past, could be occurring now, or could occur in the future. Elements of completed and potential exposure pathways are summarized in Tables 9 and 10 (Appendix B). Although the information available is ample for

identifying several specific completed and potential human exposure pathways, data for confirming the degree and duration of exposure are not available.

A. Completed Exposure Pathways

Principal Completed Exposure Pathways

Air: On Site (During Operation)

Although sampling data are not available to identify the specific airborne contaminants or concentrations on site (or off site) while MB operated, ATSDR's observations of active woodtreatment plants and awareness of treatment chemical potency lead the agency to conclude that MB's workers were substantively exposed to volatilized chemicals and contaminated dustthrough inhalation. Visitors and trespassers were not exposed to as great a degree.

Process Chemicals, Wastes, Soils: On Site (During Operation)

ATSDR's observations at active wood treatment plants and awareness of associated chemicalpotency lead the agency to conclude that MB's workers, during operations, were substantivelyexposed to contaminants associated with process chemicals and wastes and contaminants insurface soils (Table 1), principally through skin contact and incidental ingestion. Some of thecontaminants in process chemicals and wastes also are represented by sampling data obtained fornonaqueous-phase liquids (NAPLs) (Table 4) encountered below ground.

Air: Off Site (During Operation)

Nearby residents (some of whom reported plant-related odors) and nearby workers were exposed to volatilized organic chemicals and probably some contaminated dust through inhalation while the plant operated. Sampling data are not available to identify the specific airborne contaminants or their concentrations.

Other Completed Exposure Pathways

Because of the long-term potency of many of the contaminants, most of the exposures describedhere will continue until remediation is effected.

Soils: On Site

Evidence exists that trespassers occasionally breach the perimeter security fence intentionallyand enter the site. Trespass is believed to result in exposure to contaminants in surface soils now and in the future (until remediation is effected), principally through skin contact and incidental ingestion. Table 1 identifies some of the on-site surface soil contaminants and their respective concentrations.

Soils: Off Site

ATSDR believes residents and workers on nearby properties have been exposed, are now beingexposed, and will be exposed in the future to low levels of contaminants

deposited on the groundby wind in off-site areas while the facility was in operation. Other urban sources are likely tohave contributed to the soil contamination. Exposures to contaminated surface soils occur offsite principally through skin contact and incidental ingestion. Table 6 identifies some of theoff-site surface soil contaminants and their respective concentrations.

River Sediment: On Site and Off Site

Children have been observed walking and playing along the shoreline on site in the past, and ODEQ representatives learned that two boys received skin burns on their legs while playing on the adjacent downstream shoreline when the river level was low. Although the site security fence extends into the river to prevent entry along the shoreline, ODEQ representatives note that the fence is breached periodically and does not fully prevent access to the on-site shoreline area. Therefore, ATSDR believes trespassers have been exposed, are now being exposed, and will beexposed in the future (until remediation is effected) to contaminants in surface sediments on site,principally through skin contact. Some former workers probably were also exposed through skincontact. Similar exposures can occur on the immediate downstream shoreline off site. Table 7identifies some river sediments contaminants and their respective concentrations. Contaminants include those released from the site and possibly some released from additional sources upstream.

Crayfish and Fish: Off Site

The Oregon Health Division and Department of Fish and Wildlife have issued an advisorycautioning the public about commercial crayfish harvesting, and the shoreline area and paths tothe shore are posted. ODEQ is not aware of any recreational crayfishing activity. ODEQbelieves that the advisory has deterred commercial crayfishing in the immediate area, butcommercial crayfishing continues in downstream areas. This information indicates that peoplewho fish and crayfish in the area adjacent to the site have been exposed, are now being exposed,and will be exposed in the future (for a period after remediation is effected) through ingestion tochemicals taken up by crayfish and fish. Table 8 identifies some of the contaminants andrespective concentrations present in tissue samples taken from crayfish and the large scalesucker. Contaminants include types released from the site and possibly from additional sourcesalong the river.

Surface Water: Off Site

ATSDR believes that shoreline users, recreational and commercial fishermen, water skiers, andswimmers in the immediate area have been exposed, are being exposed now, and will be exposedto contaminants released from the site in the future (until remediation is effected), principallythrough skin contact and incidental ingestion. Investigations conducted to date have not includedriver water quality data for the site vicinity. Table 1 (on-site surface soil), Table 3 (on-site ground water), Table 4 (on-site

below-ground NAPLs), and Table 5 (on-site storm water) identify some of the contaminants released to the river; however, site-related concentrations in the river are expected to be much lower than represented in the tables, which represent contaminants in on-site media, because of dilution and chemical degradation processes.

Air: On Site and Off Site (After Operations)

A nearby resident reports continuing periodic chemical odors both winter and summer. ATSDR notes there are considerable chemical processing and petroleum storage activities on the west bank of the river and elsewhere in the area; the EPA's Toxic Chemical Release Inventory shows that some of those activities release volatile chemicals to the air. ATSDR's review of current site conditions and periodic remedial activities suggests that chemicals on site continue to volatiliz eat least to some limited extent, especially during warm weather, and some contaminated particles are likely to be transported by wind. Although wood treatment operations have ceased, there ports of continuing odors indicate that people in the immediate area (including workers on site and at nearby off-site businesses and also residents) are being exposed to airborne contaminants through inhalation. The specific source or sources of periodic chemical odor exposure might never be clearly defined, and air-related exposure might not terminate after site cleanup is effected.

B. Additional Exposure Pathway Issues

Potential Exposure Pathways

Soils: On Site

Remedial workers have the potential to be exposed to contaminants in soils (Tables 1 and 2)through incidental ingestion, inhalation, and skin contact as cleanup progresses if precautionary measures are unexpectedly inadequate for the conditions encountered. Future users of the site after remediation is complete also have the potential to be exposed to subsurface contaminants through incidental ingestion, inhalation, and skin contact if the protective soil cover is breached.

Air: On Site

If, after remediation, chemicals in the subsurface (Tables 2, 3, and 4) volatilize and migrateupward through the protective soil cover, or if cracks develop in the soil cover, future site userscould be exposed to contaminants periodically through inhalation. Exposure, should it occur through these mechanisms, might not be substantive because the chemicals reported through sampling are of low volatility.

Sediment: On Site and Off Site

Full remediation of site-related contaminated sediments along the shoreline and in the rivermight be difficult to achieve, and river currents conceivably could expose subsurface contaminants in the future. Therefore, ATSDR believes that persons using the shoreline after remediation might be exposed to contaminants, principally through skin contact.

Other Pathway Considerations

Groundwater: On Site and Off Site

ATSDR representatives toured the site vicinity with city water department personnel, who confirmed that all residences and businesses in the area are connected to the public water system. ATSDR representatives also reviewed water well data on file with the U.S. Geological Surveyand the Oregon Water Resources and found no wells recorded at locations that would likely be affected by the site. No apparent past or present users of groundwater contaminated by site releases (Table 3) were disclosed, and future users of that resource are unlikely.

PUBLIC HEALTH IMPLICATIONS

In this section, ATSDR discusses health effects of chemicals that people were exposed to on the site, evaluates available health outcome data, and addresses specific community health concerns.

A. Toxicologic Evaluation

To determine whether people can get sick from exposure, ATSDR begins by estimating daily exposure doses for each contaminant of concern by each route of exposure. We use information about levels of contaminants and about people's activities to estimate the exposure dose. The estimated exposure dose is then compared to a Minimal Risk Level (MRL), which is an estimate of daily exposure to a contaminant below which noncancer disease is unlikely to occur. To develop the MRL, ATSDR relies on information from scientific studies of the effects of exposure to contaminants on people and animals. If an exposure dose exceeds an MRL, or if no MRL has been developed, the estimated exposure dose is then compared to other health-based guidelines, such as the Environmental Protection Agency (EPA) reference dose, or to doses that resulted inadverse health effects in people or experimental animals as described in the scientific literature. These comparisons take into account the uncertainties inherent in relying on harmful effects produced in animals to predict the possibility of effects in people, as well as differences amongpeople.

In the United States population as a whole, cancer occurs in the lifetime of one in three people(8). It is very difficult for scientists to determine who will get cancer, but we do know thatexposure to some contaminants can increase the chances (or risk) of getting cancer. Even if aperson gets cancer, scientists and physicians typically cannot know the cause of the person's cancer. To determine whether exposure at this site might cause cancer, a numerical increase inthe risk of cancer is estimated using the estimated exposure dose and a cancer slope factordeveloped by the EPA specifically for each cancer-causing chemical.

Although potential and completed exposure pathways are described in detail in the Pathways Anaylses section, pathways and the people involved with the pathways are reiterated in thissection to provide context for the reader. Adverse health effects of exposure to contaminants of concern are discussed. Health effects of exposure to some of the contaminants found at this site are not known.

ATSDR concludes that plant workers were exposed to the wood treating chemicals arsenic,**pentachlorophenol,** and creosote as well as to dioxins/furans (predominantly the low-potencycompounds) during the plant's operation. These exposures are believed to have been throughincidental ingestion (i.e., swallowing by accident during other swallowing activities) of soils onsite. These exposures were at levels of public health concern. Additional exposures which mayhave occurred through direct skin contact with the chemicals or inhalation of the vapors and dustin the air could increase the health risk. Workers could have inhaled additional chemicals thatoriginated off the site; several other industrial facilities in the site's vicinity have reported (in theEPA Toxic Release Chemical Inventory [TRI]) releasing unknown concentrations of chemicalsinto the air. A discussion of potential health effects associated with worker exposure to eachchemical or chemical class is presented later in this section.

Trespassers and visitors to the plant during its operation would have been exposed to the samechemicals to which the workers were exposed. Because of the short exposure time, it is highlyunlikely that they would become ill from being exposed to most areas of the site.

Two boys playing in shallow water along the shoreline on or adjacent to the site reportedly received skin burns, apparently from contact with hazardous chemicals. The site is believed to be the source of the contamination. Other people might encounter chemicals along the shore lin eat levels capable of burning the skin. Site-related chemicals that can burn the skin are discussed later in this section.

People who eat contaminated fish and shellfish can be exposed to contaminants. Evaluation of contaminant levels in fish and shellfish indicate that, for people who subsist on crayfish or suckers over a long time, health effects from exposure to polychlorinated dibenzodioxins and dibenzofurans might be expected. It is not known

whether anyone ingests contaminated fish tothat extent. Those potential health effects are discussed later in this section.

Nearby residents and workers were exposed when they breathed contaminated air during the plant's operation. The site might not have been the only source of air contaminants. Other nearby facilities have reported releases. Because there is no available air data, those inhalation exposures cannot be evaluated. Residents have reported health effects that are known to be experienced by individuals with no known exposure to hazardous waste, but are also consistent with inhalation exposure to site-related contaminants. Site-related chemicals that can cause those health effects are discussed later in this section.

Residents might also be exposed to airborne contaminants during remediation. Real-time airmonitoring would show whether airborne contaminants released by remedial activities would beat a level of health concern.

People who use the Willamette River near the site for recreation might be exposed by skin contact and incidental ingestion to any contamination that migrated into the river water. Studies conducted to date have not included river water sampling. It is likely that site-related contaminants are diluted enough in the water that there is no health threat to recreational water users.

Although the facility has been closed and fenced, remedial workers and people who trespass onto the site or wander near the site at the river's edge can be exposed to contaminants by incidentally ingesting on-site soil and sediments in the river and at the river's edge. Because remedial workers wear protective gear and because intruders are not likely to stay on the site for long, remedial workers and others are not likely to swallow contaminants often; it is unlikely that they will get sick this way. However, people who wander near the site at the river's edge might expose their skin to contaminated sediments. Contaminants in the sediment do not appear to beat levels that would cause any effects; however, in one case, two children who waded near thesite reportedly received skin injuries consistent with the type of damage exposure to site-relatedcontaminants can cause.

People who live or work nearby can incidentally ingest contaminants in soils on properties where they live or work. Results from several residential soil samples show that contaminant levels are so low that it is unlikely that anyone will get sick from incidentally ingesting soil. Limited soil data from adjacent industrial property also show that contaminant levels are so low that workers are unlikely to get sick from incidental soil ingestion; however, we do not have enough soil sample information to be reasonably sure that the contaminant concentrations found represent thetrue concentrations in that area.

Potential Health Effects of Chemicals

Sickness related to occupational exposures to the wood treating chemicals arsenic,pentachlorophenol, and creosote is discussed below. Dioxins and furans are contaminants commonly found with pentachlorophenol at wood-treating facilities and have been found at thissite. Therefore, those chemical groups are included in this discussion. Health effects of eatingdioxin-contaminated fish are included in this discussion as well.

Coal-tar creosote is a complex mixture of more than 300 compounds, including polycyclicaromatic hydrocarbons (PAHs), phenol and cresols. PAHs have been found at this site. There are no sampling data confirming phenol and cresols on site, and compounds related to phenols(substituted phenols) were found only at very low levels in on-site soil. However, because workers worked with creosote, we assume that they were exposed to phenol and cresols. Therefore, health effects of exposure to phenol, cresols, and PAHs are discussed. Because these chemicals can injure the skin upon contact and the respiratory system upon inhalation, potential health effects for people who wander along the shoreline and for people who live around the site and breathe contaminated air are included in this discussion as well. There are no environmentaldata confirming that the latter two groups of people are exposed at levels of health concern. However, health effects consistent with exposure to creosote have been reported.

Arsenic

Arsenic is a naturally occurring element. Pure arsenic is a gray metal-like material; arsenic is usually found combined with such other elements as oxygen, chlorine, and sulfur. Arsenic combined with these elements is called inorganic arsenic. Inorganic arsenic is used as apreservative for wood to make it resist rot and decay; it is predominantly inorganic arsenic which has been found as a contaminant at this site.

Plant workers

Plant workers were exposed to arsenic through incidental ingestion, inhalation and skin contact. The maximum arsenic concentration found on site was 5,100 parts per million (ppm) in soil.

Inorganic arsenic has been recognized as a human poison since ancient times. There arenumerous studies conducted on people who swallowed inorganic arsenic at doses similar to thoseATSDR estimates workers received. The results of those studies are discussed below (9).

Perhaps the single most characteristic effect of long-term oral exposure to inorganic arsenic is a pattern of skin changes. This pattern includes a darkening of the skin and the appearance ofsmall warts or corns on the palms, soles, and torso. While these skin changes are not considered to be a health concern in their own right, a small number of

the corns might ultimately develop into skin cancer. Swallowing arsenic has also been reported to increase the risk of cancer in theliver, bladder, kidney, and lung. The Department of Health and Human Services (DHHS) andthe EPA have determined that arsenic causes cancer in humans. Arsenic in the soil at the site isat levels which can lead to a low increased risk of cancer in workers.

Other effects of exposure to arsenic at levels workers may have sustained included irritation ofthe stomach and intestines, with symptoms such as pain, nausea, vomiting and diarrhea; impairednerve function causing "pins and needles" in the hands and feet; blood vessel damage; anemia;and liver damage. Off-site arsenic exposures of this magnitude are probably not possible.

Pentachlorophenol (PCP) and dioxins/furans

PCP is a substance made from other chemicals. It does not occur naturally. PCP is used as awood preservative and is released to the air by evaporation from treated wood surfaces. It entersthe soils as a result of spills. Polychlorinated dibenzo-*p*-dioxins and dibenzofurans, also calleddioxins and furans, are classes of compounds that do not occur naturally and are not intentionallymanufactured (except as reference standards for analytic laboratories). However, they can beinadvertently produced as impurities. Technical grade PCP usually contains dioxins and furansas impurities.

Plant workers

Plant workers were exposed to PCP and dioxins/furans through incidental ingestion, inhalationand skin contact. The maximum PCP concentration found on the MB site was 4,800 ppm in soil. Dioxins and furans concentrations are given as a single 2,3,7,8-tetrachlorodibenzo-*p*-dioxin toxicequivalent concentration; the maximum dioxin/furan concentration was 0.38 ppm. Althoughthere are no data from which to estimate actual inhalation or skin exposure doses, workers atwood treatment facilities are known to inhale and take in through the skin significant levels ofPCP and dioxins/furans.

Because of PCP's frequent contamination with dioxins/furans, wood-treatment plant workerswho work with PCP are generally exposed to dioxins/furans as well. Studies conducted onwood-treatment workers exposed to PCP actually investigate health effects of exposure to PCPcontaminated with dioxins/furans (10).

Various studies of wood treatment workers exposed to PCP show that the blood, kidneys, andskin can be affected (10). Exposure was associated with aplastic anemia (defective functioningof the blood-forming cells), reduced kidney function, and skin and eye irritation. The lengthsand levels of exposure that cause harmful effects in people are not well defined. Studies in ratsand cows also show an association between PCP exposure and blood, kidney, and skin disorders. Exposure to PCP, dioxins and furans is known to cause chloracne in people. Chloracne is a skinproblem characterized by cysts and abscesses on the face, chest, and abdomen.

The EPA has classified PCP and dioxins/furans as probable human carcinogens (10,11). PCP isclassified as a probable human carcinogen because studies have shown an association betweeningesting pure PCP and cancer in mice; dioxins and furans are classified as probable humancarcinogens because studies have shown an association between dioxin ingestion and cancer inrats. The levels of PCP and dioxins/furan in the site's soil correspond to a low increased risk ofcancer for workers.
Crayfish and sucker eaters

ATSDR staff members estimated dioxin/furan exposure doses for people who eat contaminatedcrayfish and suckers on a regular basis. We assumed that people rely solely on crayfish andsuckers as their sole source of fish and shellfish (we assumed they ate between one and four sixounce meals of crayfish and/or suckers a month). The levels of dioxin/furans in crayfish andsuckers correspond to levels associated with a low increased risk of cancer for people whosubsist on crayfish and/or suckers for many years. In addition, although there have been nowell-substantiated reports of reproductive toxicity in people who ate dioxins/furans, studies inrats indicate that eating dioxin might cause spontaneous abortions (11). It is not known whetheranyone relies on crayfish and/or suckers harvested near the site as their sole source of fish andshellfish. For people who occasionally eat contaminated crayfish, no adverse health effects areexpected.

Creosote,phenol,cresol,and polycyclic aromatic hydrocarbons (PAHs)

Coal-tar creosote is a widely used wood preservative. It contains phenol, cresol, and PAHs. PAHs make up a class of chemicals. There are more than one hundred PAHs.

Plant workers

Plant workers were exposed to creosote through incidental ingestion, inhalation and skin contact. Because creosote is a mixture, its concentration cannot be measured. PAHs, however, weremeasured in soil. Maximum concentrations of carcinogenic PAHs found on site were 420 ppmbenzo(a)anthracene; 210 ppm benzo(a)pyrene; 1,000 ppm benzofluoranthenes; 1,900 ppmchrysene; 22 ppm dibenz(a,h)anthracene; and 56 ppm indeno(1,2,3-cd)pyrene.

There is little information on the health effects of creosote exposure in workers. Brief workerexposure to large amounts of creosote can harm the skin, eyes, nervous system, and kidneys. Studies of workers exposed for a longer time to lower levels of creosote through the skindescribe burns and irritation of the skin and eyes as the most frequent symptoms.

In addition, animal studies of phenol exposure and human studies of cresol exposure indicate that inhalation of those compounds can irritate the respiratory tract (13,14).

Creosote inhalation effects are further discussed below in the Community Health Concerns Evaluation section.

Based on animal studies, the DHHS and the EPA have decided that the PAHsbenzo(a)anthracene, benzo(a)pyrene, benzofluoranthenes, chrysene, dibenz(a,h)anthracene andindeno(1,2,3-cd)pyrene probably cause cancer in people (15). Those PAHs have been found onsite. In laboratory experiments, they have caused tumors in animals when the animals breathedthem, ate them, or had long periods of skin contact with them. Studies of humans show thatindividuals exposed by breathing or skin contact for long periods to mixtures that contain PAHsand other compounds can also develop cancer. PAHs in the soil at the site are at levels whichcan lead to a low increased risk of cancer for workers.
Nearby residents

Little is known about the health effects of coal-tar creosote inhalation; however, mouse studie sshow inhalation of beechwood creosote, which has some of the same components as coal-tarcreosote, can cause irritation to the respiratory tract (12).
Phenol and cresols are constituents of coal-tar creosote. Animal studies of phenol exposure andhuman studies of cresols exposure indicate that those compounds can irritate the respiratory tractwhen inhaled (13,14). Although the results do not give a time frame, irritation probably beginswithin minutes. Guinea pigs exposed to phenol at higher concentrations for a longer time period(more than a month) developed pneumonia, bronchitis and other serious lung problems (13). Pulmonary edema and hemorrhage and perivascular sclerosis (hardening of the tissue) in thelungs was seen in animals exposed to cresols for one month (14).

Pentachlorophenol is another chemical commonly used at the site. There is very little information on inhalation effects of pentachlorophenol; however, it appears to cause inflammation of the upper respiratory tract and bronchitis in people upon chronic, high-doseoccupational exposure in the presence of other chemicals (10).

Since we do not know what chemicals people were smelling or their concentrations, we cannot determine whether the health effects mentioned above could be related to the site.

Historical wading exposure

Boys were playing in the river at the edge of the site when they reportedly received burns. Sampling of river sediment found chemicals that are also found in creosote. Several reports inthe literature describe skin irritation (reddening and itching), burns, and squamous papillomas(warts) that appeared following acute or prolonged skin contact with coal-tar creosote. Coal-tarcreosote also induces phototoxicity of the skin

(12). A phototoxic material makes the skin moresusceptible to damage such as sunburn and blisters upon exposure to light. Thus, the reportedburns are consistent with contact with creosote.

B. Health Outcome Data Evaluation

The State of Oregon maintains vital statistics (i.e., information about births and deaths). Thatinformation is collected at the county level. Oregon has neither a cancer nor a birth defectsregistry. No health studies on the workers at or the community around the site were found.

County-level data contain information about the whole county. Elevated death rates for a community as small as that working at or living near the MB site would not affect county rates as a whole. County data might provide information about trends in a community, but only a community-specific analysis can truly attempt to answer whether cancer rates near the site a reelevated. If an elevated death rate is seen at the county level, we cannot prove its relation to the site. Likewise, the absence of an elevated death rate does not mean that the site has had no effecton the death rate in the community. For these reasons, ATSDR staff members did not examine mortality rates.

C. Community Health Concerns Evaluation

Several health concerns were expressed at the ATSDR-sponsored public availability meeting inPortland on February 23, 1994. Those concerns are addressed in this section.

Chemical odors associated with breathing difficulties

There are no data on contaminant concentrations in air, so we do not know whether the odorpeople smelled was from chemicals from the site. We cannot determine whether people couldget sick from the odor. We do know some of the health effects from inhalation of creosote andassociated chemicals found on the site. Please refer to the Creosote, phenol, cresol, and polycyclic aromatic hydrocarbons (PAHs), Nearby residents discussion in the Toxicologic Evaluation section above. Breathing difficulties are consistent with exposure to site-related contaminants, but are also non-specific symptoms commonly experienced by individuals with no known exposures to hazardous waste.

Cancer

As discussed in the Toxicologic Evaluation section above, cancer occurs in the lifetime of one inthree people (8). It is very difficult for scientists to determine who will get cancer. Further, ifsomeone gets cancer, scientists and physicians typically cannot know the cause of the person'scancer. We do know, however, that some site-related chemicals are carcinogens; at sufficientlyhigh doses, they are capable of causing specific cancers. Arsenic is a known human carcinogen;pentachlorophenol, dioxin, and

creosote (as well as one of its parts, the polycyclic aromatichydrocarbons) are probably human carcinogens.

Plant workers were exposed to carcinogens at levels of public health concern. We estimate a lowto moderate increased cancer risk for workers exposed to arsenic, PCP, dioxin and PAHs through incidental soil ingestion. Additional exposure through inhalation or skin contact with those contaminants could increase the cancer risk.
We do not know to what chemicals or at what concentrations nearby residents were or are being exposed by breathing the air.

Lung Spots
Lung spots is a general descriptive term and is not actually a disease. A resident who lived near the site reported that the physician took a chest X-ray, which showed a spot. Although the person said he did not smoke, second-hand smoke from cigarettes might contribute to spot formation. There are additional conditions that can cause spots in the lungs, including a common cold complicated by pneumonia, other bacterial or viral infections, or the presence of manufactured fibers. Without substantive specific information about the spots, we cannot give any opinion about their possible cause.

Chronic bronchitis and lung tissue damage
We have no information about contaminant levels in the air near the site or about length ofexposure. It is not possible to determine whether bronchitis and lung tissue damage would be expected in nearby residents. Concerned individuals should discuss potential chemical exposures when consulting their physicians.

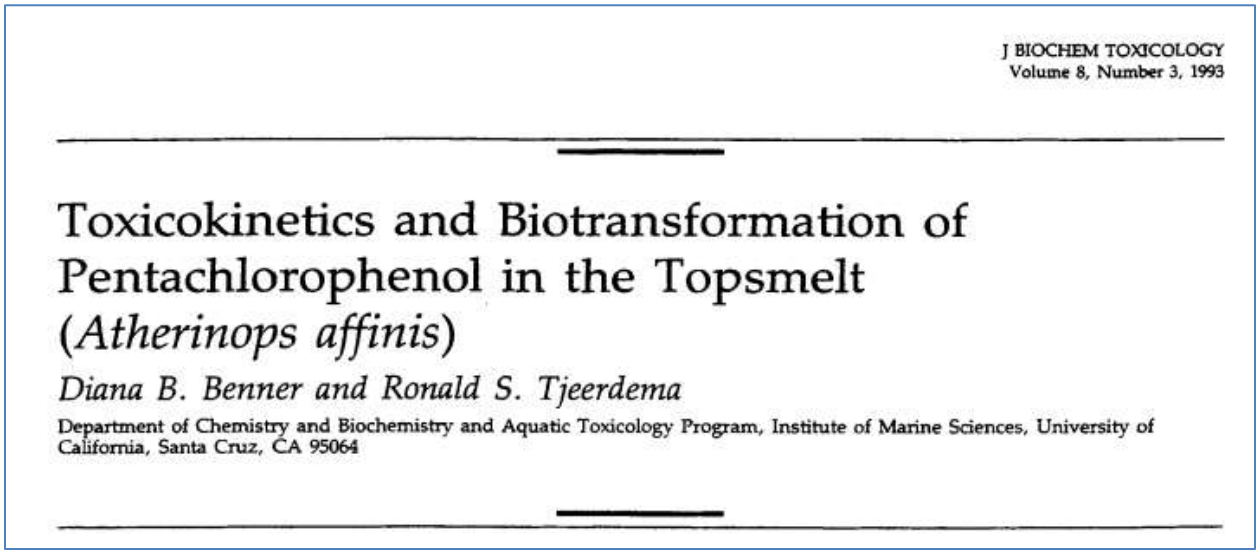
Chronic bronchitis is among the most common conditions afflicting modern populations (16). Chronic bronchitis results from prolonged irritation of the bronchial membrane and causescoughing and excessive secretion of mucus for extended periods. By far the most common causeof chronic bronchitis is cigarette smoking, but air pollution and industrial fumes and dustirritation are also important irritants (17). Hereditary background can also play an important role(16). Chemicals used at the plant are respiratory irritants in people and animals and, at sufficientlevels for sufficient amounts of time, have caused bronchitis and lung tissue damage in animals.
Safety of produce harvested from Sauvies Island
Sauvies Island is approximately 1½ miles downstream from the site. ATSDR staff members believe that contaminants originating from the site would be sufficiently diluted after entering the river and traveling 1½ miles to pose no hazard from ingested island produce that is irrigated withriver water.

Burns to skin exposed to sediments
Youngsters reportedly received burns when playing in the river at the edge of the site. Sampling of river sediment found chemicals that are also found in creosote. The children's burns are consistent with contact with creosote. Please refer to the Creosote,

phenol, cresol, and polycyclicaromatic hydrocarbons (PAHs), Historical wading exposure discussion in the ToxicologicEvaluation section.

139) TOXICOKINETICS AND BIOTRANSFORRNATION – FISH DEATH

https://eurekamag.com/pdf.php?pdf=009658183



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Toxicokinetics and Biotransformation of Pentachlorophenol in the Topsmelt (*Atherinops affinis*)

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140) OROVILLE DAM SPILLWAY FLASH FLOOD

http://news.watercloudsolutions.com/hazardous-waste-in-a-national-priority-list-superfund-site-is-within-oroville-dam-spillway-flash-flood-warning-area/

BY DR. GRETCHEN BORIA-PÉREZ ON FEBRUARY 14, 2017

A major water spill in California's second largest reservoir has made international headlines, as water levels exceeded the Oroville Dam capacity. The precipitation brought by three recent atmospheric river storms caused the reservoir to overflow, sending copious amounts of water rushing out of an emergency spillway.

Water flowing from the eroded overflow spillway of Oroville Dam, CA on February 11, 2017. California Department of Water Resources.

Officials have been scrambling to plug the spillway in an attempt to prevent erosion, which, in a worst case scenario, could result in a 30-foot wall of water rushing out of the collapsed dam.

About 188,000 people have been evacuated from the area, and it is unclear when they will be able to return to their homes. More rain is expected later this week, thus

increasing the chances of further erosion if the emergency spillway is not repaired on time.

A flash flood warning has been issued for the area near the dam until 4:30 PM PST Tuesday. However, depending on the expected precipitation, the warning could be extended or re-issued.

One potential environmental danger is that a location designated by the EPA as having been contaminated with hazardous waste is located within the flash flood warning zone. The location is an active Superfund site, and is listed on the EPA's National Priorities List (NPL).

An EPA Superfund site is a designated uncontrolled or abandoned place where hazardous waste is located, possibly affecting local ecosystems or people. Under the EPA Superfund program, sites are located, investigated, and cleaned up to reduce or eliminate hazardous waste. The program is also responsible for environmental emergency response, oil spills and natural disasters.

The Superfund site in question is the Koppers Co., Inc. (Oroville Plant). According to the EPA, Between 1948 and 2001, Koppers chemically treated wood on site to protect against deterioration by insects or fungi. Soil, surface water and groundwater at the site was contaminated by **pentachlorophenol (PCP)** and other hazardous substances. The Koppers Superfund site was also added to the NPL, which contains national priorities among the known releases of designated hazardous substances, and any pollutant or contaminant which presents an imminent and substantial danger to the public health or welfare.

Both shallow and deep aquifers exist below the site and are connected. According to analyses done by the Central Valley Regional Water Quality Control Board, the shallow aquifer was contaminated with pentachlorophenol (PCP), isopropyl ether, various polynuclear aromatics, copper, chromium, and arsenic, all of which Koppers used in its processes.

According to the EPA the contaminated soil at the Koppers site was excavated and placed in two on-site disposal cells. The groundwater is currently being pumped from the ground, treated and re-injected into the aquifer. It is unclear whether a potential flash flood in the area would be likely to compromise the cells.

A potential risk is that groundwater used for drinking water could become further contaminated. The soil could be eroded by large amounts of water rushing through the site. The EPA has warned in the past, that excavating below five feet on site is a potential health risk, since soil above five feet is clean fill or has concentration levels below industrial cleanup levels.

Although the area is on an industrial zone, significant flooding could carry waste, if any, away from the site.

Evacuees and area residents should remain informed and obey all warnings, as several hazards are associated with the potential collapse of the dam.

141) STATE OFFICIALS PITCH PLAN FOR 'OVERDUE' CLEANUP AT BROOKLYN CENTER SUPERFUND SITE

http://www.startribune.com/state-officials-pitch-plan-for-overdue-cleanup-at-brooklyn-center-superfund-site/419439224/

State officials pitch plan for 'overdue' cleanup at Brooklyn Center Superfund site

Residents say they worry about exposure to wood-treating chemicals.

By Hannah Covington Star Tribune APRIL 13, 2017 — 10:00PM

As a kid, Gary Snodgrass played ball near the willow trees and dug for earth worms in a now fenced-off swath of land abutting Middle Twin Lake in Brooklyn Center. Growing up, he never thought twice about the splotchy black stains on the rocks and soil underfoot.

Not until years later did Snodgrass discover that the wooded green space where he once played was part of a larger site that decades of wood-treating operations had left polluted.

More than a decade after most of the Superfund site has already been scrubbed and redeveloped, pollution officials are now tackling the remaining 11 or so acres on the site's western edge and fielding feedback from residents about a proposed $4.8 million cleanup plan.

"I figured most of it was already cleaned up," said Snodgrass, 59. "Why didn't they do all of it when they cleaned up the rest?"

State pollution officials say the delay in addressing this remaining parcel partly stems from the Superfund program being in "triage mode," with limited staffing and a growing workload.

Cleanup efforts at the Brooklyn Center site date to the 1980s. Joslyn Manufacturing & Supply Co. was named responsible to work with the Minnesota Pollution Control Agency (MPCA) on a cleanup in 1983. The area made the federal Superfund list in 1984.

From the 1920s until 1980, companies at the site treated materials like wooden utility poles and railroad ties with preservatives, which polluted the soil and groundwater with

pentachlorophenol (PCP) and other contaminants. Over the years, cleanup has included treating and disposing of contaminated soil and extracting pollutants from the aquifer. Pumps continue to remove contaminated groundwater on the site, which has been largely redeveloped with new buildings and businesses.

City officials say the remaining swath, which is still owned by Joslyn, is wet, marshy land ill suited for development even when it's been cleaned up. Even so, they said they welcome remediation.

"It's been long in the coming," said City Engineer Steve Lillehaug.

Pollution and health officials say a driving force behind the latest cleanup effort is dioxins, a contaminant first discovered in the western portion of the site in 1998. Dioxins can cause cancer, as well as reproductive and developmental problems, among other health risks.

Health officials say residents may have come in contact with contaminants by walking or biking through the wooded area. But, they said, that area is removed from the most polluted areas, making health effects unlikely. Testing also shows that the site has not had "an adverse impact" on the lake, according to the health department and MPCA.

But residents say they still worry about their years of potential exposure.

Rick Arntson, 67, has lived in the neighborhood since the 1970s and used to bike with his kids through the green space. He always noticed an oily smell, but it wasn't until a fence blocked off the worn walking path about 15 years ago that he got nervous.

"I wonder what kind of stuff I came in contact with," said Arntson, a retired carpenter. "If it was bad for us, what took so long to put that fence in?"

Several dozen residents turned out to a public meeting Wednesday to hear the MPCA's pitch for remedying the remaining green space just east of Middle Twin Lake. Residents have until May 19 to submit feedback.

The pollution agency is proposing a plan that includes digging up contaminated soil and hauling thousands of truckloads of it away to a landfill. The remaining polluted soil will be consolidated in a mound and capped with at least 2 feet of clean soil.

"This is the final chapter in the cleanup story of this property," said Hans Neve, who supervises the Superfund program at the MPCA. "It's overdue."

142) RELIABLE WOOD MARYLAND

http://content.usatoday.com/news/nation/environment/smokestack/polluter/10339

Reliance Treated Wood Inc

Industry: Wood Preservation

Public contact number listed in this company's reports to the EPA **(410) 754-5711**

Toxic chemicals emitted by company

Arsenic and arsenic compounds

Schools affected most by company

Federalsburg Elementary School
Federalsburg, Maryland

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III - OFFICE OF COMMUNICATIONS & GOVERNMENT RELATIONS
1650 Arch Street Philadelphia, Pennsylvania 19103-2029
Phone - 215/814-5100 Fax - 215/814-5102

EPA Environmental News

Contact: Roy Seneca seneca.roy@epa.gov (215) 814-5567

Reliance Treated Wood, Inc. Settles Hazardous Waste Violations at Federalsburg, Md. Facility

PHILADELPHIA (May 11, 2017) Reliance Treated Wood, Inc. has agreed to pay a $69,000 penalty to settle alleged violations of hazardous waste regulations at its wood treatment facility in Federalsburg, Md., the U.S. Environmental Protection Agency announced today.

The settlement addresses compliance with environmental regulations that help protect communities and the environment from potential exposure to hazardous waste.

EPA cited Reliance Treated Wood, Inc. for violating the Resource Conservation and Recovery Act (RCRA), the federal law governing the treatment, storage, and disposal of hazardous waste. RCRA is designed to protect public health and the environment, and avoid long and extensive cleanups, by requiring the safe, environmentally sound storage and disposal of hazardous waste.

Reliance Treated Wood, Inc. pressure treats wood at its facility. EPA cited the company for alleged violations including:

- Storage of hazardous waste containing chromated copper arsenate in the drippage collection system and sump for more than 90 days;
- Failure to obtain and keep on file an annual written assessment of the facility's drip pad;
- Failure to adequately maintain the facility's leak containment safeguards;
- Failure to maintain an adequate contingency plan;
- Failure to maintain personnel training records;
- Failure to make timely waste determinations.

The settlement reflects the company's compliance efforts, and its cooperation with EPA in the investigation. As part of the settlement, Reliance Treated Wood, Inc. has not admitted liability, but has certified its compliance with applicable RCRA requirements.

For more information about hazardous waste and RCRA,
visit http://www.epa.gov/epawaste/hazard/index.htm .

Reliance Wood Preserving Co. Maryland Department of the Environment June 1999 Reliance Wood Preserving Company Federalsburg, Maryland Site Location The 18-acre Reliance Wood Preserving Company site is located on Industrial Park Drive, Federalsburg, Maryland. The site is generally flat and surrounded by wooded land. A locked gate across Industrial Park Road is the only access restriction to the site. Site History In 1977, Mr. Daniel Dorman purchased the forested, undeveloped property from the town of Federalsburg and started a wood treatment facility, utilizing a copper chromate arsenate (CCA) process. During the second year of operation, the company experimented with pentachlorophenol wood treatment for six to eight months but abandoned that process and returned to CCA treatment. In 1998, the concrete drip pad was renovated to meet slope requirements and repair deterioration problems that could have created a pathway for off- site migration of CCA solution. The new larger drip pad, with a surrounding elevated curb, reduced the amount of debris accumulating in the drip catch pits, thus reducing the amount of waste. A plastic liner installed beneath the pad prevents treatment solution from migrating through the concrete pad and reaching the soil. Contaminated soil under the original pad was removed and sent to a licensed hazardous waste facility. Environmental Investigations A site visit by the Maryland Department of Health and Mental Hygiene (DHMH) on June 18, 1981 revealed 143 drums of hazardous waste improperly labeled and stored on site. The company applied for a permit to store hazardous waste but it was denied because of poor storage practices. On May 5, 1982, a Complaint and Order was issued to Reliance Wood Preserving Company to remove all hazardous waste stored in the drums discovered in June of 1981. In response, the contents of the 143 drums were consolidated into 58 drums that were disposed of off site on July 14, 1982. Surface water samples were collected three times in 1984 in response to complaints and the discovery of discolored surface waters on the site. Arsenic was found at levels just above EPA Risk-Based Concentrations at each sampling. In response to the above activities, the Water Supply Division of the DHMH MD-240 Caroline County, Maryland Reliance Wood Preserving Company began operations in 1977. A 1981 application to store hazardous waste was denied by the Maryland Department of Health and Mental Hygiene due to poor storage practices. A Complaint and Order to remove 143 drums of illegally stored hazardous waste was issued on May 5, 1982. A Preliminary Assessment by MDE was completed July 1987. A Site Inspection by NUS Corporation was completed on May 10, 1990. The Environmental Protection Agency (EPA) designated the site as “No Further Remedial Action Planned” on January 23, 1996. In 1998, the concrete drip pad was renovated and a plastic liner was installed under the pad.

Page 2

Reliance Wood Preserving Co. Maryland Department of the Environment June 1999 on February 27, 1985 sampled Federalsburg municipal well number 6. However, no contamination was found. The Maryland Department of the Environment (MDE) completed a Preliminary Assessment in July 1987 to document information compiled from files, interviews, and on-site visits. Because contamination found in soils and surface waters on site was not detected in ground water, the site was given a low priority with appropriate sampling recommended. A MDE inspection in May 1989 revealed chrome and arsenic contamination in large puddles of green storm water and stained soils adjacent to the drip pad. The puddled water was transferred to the excess solution storage tank, and the soil was removed. The NUS Corporation completed a Site Inspection, under contract with EPA, in May of 1990. On January 23, 1996, EPA designated the site as “No Further Remedial Action Planned.” Current Status For the 1999 Cooperative Agreement with EPA, MDE is conducting a site survey of the Reliance Wood Preserving

Company. The Site Survey Initiative was proposed to reassess the status of those sites that were previously designated No Further Remedial Action Planned by EPA. This initiative is intended to determine if site conditions have remained stable, provide a current description of the site, and identify and address any new pathways for contamination. The initiative is also intended to determine whether the State should recommend further investigation by EPA, oversight by the State and no further investigation by EPA, or no further action to be taken by EPA or the State and the State designate the site as a "Formerly Investigated Site." Contact Art O'Connell Maryland Department of the Environment Site and Brownfields Assessments/State Superfund Division (410)-631-3493

143) AIRLINE UNIFORMS PENTA

http://www.afacwa.org/uniforms

Your uniform, your health

In September 2016, AFA members at Envoy, Piedmont, and PSA were provided with new uniforms manufactured by TwinHill. These uniforms are the same as those provided to Flight Attendants at mainline American Airlines (AA). Since then, a growing number of our members are reporting **symptoms associated with wearing the new uniforms**. The reported symptoms include rash/irritated skin, eye irritation, breathing problems, and headaches. They mirror the types of symptoms reported by our sisters and brothers who are wearing these uniforms at AA.

Table 2: Chemicals found in 1+ fabrics with description of key health impacts

Chemical	Sensitizer?	Irritant?	Known/suspected Endocrine disruptor?	Carcinogen?
Chlordane	No	Yes	Yes	Probable human carcinogen
Chromium	Yes	Yes	Insufficient data	Depends; hexavalent chromium is a human carcinogen; trivalent chromium is not
Dichlorophenol	No	Yes	Yes	No
Formaldehyde	Yes	Yes	Yes	Known human carcinogen
Nickel	Yes	Yes	Yes	Probable human carcinogen
NP	No	Yes	Yes	No data
NP(EO)	Yes	Yes	No data	No data
OP(EO)	No	Yes	No data	No data
Pentachlorophenol	No	Yes	Yes	Likely human carcinogen
Tetrachlorophenol	No	Yes	Yes	Possible animal carcinogen
Trichlorophenol	No	Yes	Yes	Probable human carcinogen

https://www.forbes.com/sites/christinenegroni/2017/06/22/no-quick-fix-for-american-airlines-wardrobe-malfunction/#77987644265c

More than 3,000 cases of skin irritation, breathing problems and swelling in various degrees of seriousness were reported to the Association of Professional Flight Attendants. More health issues were reported by pilots and uniformed ground staff.

https://cdn.afacwa.org/docs/safety/afa-bulletinchemicals-in-clothesrev21mar2017.pdf

Key findings are:

- The lining fabric in both skirts (wrap skirt, polyester alternative skirt) failed a recognized fabric standard because of excess amounts of two wood preservative/fungicide chemicals.

Chemical Testing of Flight Attendant Uniforms – March 2017

In Feb. 2017, the Association of Flight Attendants-CWA, AFL-CIO requested chemical testing on 14 Flight Attendant uniform garments in circulation at Envoy Air, PSA Airlines, and Piedmont Airlines. These are the same garments being worn by mainline American Airlines Flight Attendants. Key findings are listed in Table 1.

Table 1: Summary of chemical testing of 14 TwinHill uniform garments
(Bold font indicates amount of chemical that exceeded limits in Oeko-Tex 100 Standard)

Garment	Chemicals found
All-weather coat	Outer fabric: nickel; Padding material: NP(EO)[1], OP(EO)[2]
Apron	formaldehyde, nickel
Suiting, dress	Woven fabric: chromium, nickel
Suiting, pants	Lining: NP[3]
Suiting, skirt (polyester-alt.)	Pocket lining: dichlorophenol, nickel, **pentachlorophenol** **tetrachlorophenol**, trichlorophenol,
Suiting, skirt (wrap)	Pocket lining: nickel, **tetrachlorophenol**, dichlorophenol, trichlorophenol, pentachlorophenol; Woven fabric: NP; Lining: NP
Suiting, vest	Woven fabric: chlordane, NP, NP(EO)

https://cdn.afacwa.org/docs/safety/afa-bulletinchemical-testing-of-fa-uniforms21mar2017.pdf

https://www.bizjournals.com/chicago/news/2016/12/05/american-airlines-employees-seek-ceo-help-uniforms.html

Since employees at the world's largest airline began wearing the uniforms, hundreds of reports of symptomatic reactions to the garments, ranging from rashes and hives to headaches, swollen eyes and severe breathing problems, have been reported. And the number of reports continues to swell.

http://www.afacwa.org/uniforms

https://www.cdc.gov/niosh/pgms/worknotify/pdfs/appendix_d_pcp_notification_final.pdf

https://www.bizjournals.com/chicago/news/2016/12/05/american-airlines-employees-seek-ceo-help-uniforms.html

144) DERIDDER BATON ROUGE LA SUPERFUND LIST:

http://www.theadvocate.com/baton_rouge/news/environment/article_154a4ebc-f4a4-11e6-8c09-4f18fc68f10a.html

http://www.theadvocate.com/baton_rouge/news/environment/article_70d4ec7e-7604-11e7-8629-57ce7605763e.html

Sierra Club calls for action on long-polluted Devil's Swamp in north Baton Rouge

In Devil's Swamp, even the crawfish are poisonous.

For years, Rollins Environmental Services released toxic chemicals into the wetlands, and regulators have warned residents not to swim in the area or eat fish or crustaceans from the water.

The state found Polychlorinated Biphenyls — or PCBs — in the 1980s, and in 2004 about 12 square miles of the swamp were declared a Superfund hazardous materials site by the federal Environmental Protection Agency.

Decades-old pollution may no longer be at the front of people's minds, but Thursday an LSU professor emphasized that though the chemicals were discovered 30 years ago, the books on the case are still open, and people who live and work nearby can still have a say in the swamp's fate.

Devil's Swamp is located along the Mississippi River near Scotlandville and Alsen, a community that's been beset by environmental concerns, most recently that the debris from the August flood was hauled to a site near their homes. However, because the Mississippi floods the swamp every year, the animals in Devil's Swamp wind up washing farther downstream, pointed out Willie Fontenot, a retired staffer with the state Attorney General's office.

Margaret Reams, of the LSU Superfund Research Center, encouraged members of the local chapter of the Sierra Club to learn about the site and contact with agencies like the EPA that have authority over the site.

The club moved its meeting Thursday from its usual site — The Backpacker on Jefferson Highway — to the Greater King David Baptist Church in Scotlandville.

"Keeping our air and water clean and enjoying outdoors are important to people of all races and economic status," the club wrote in a notice explaining why they decided to change the venue. "That

way our BR Sierra Club of privileged, white people will get to know people from North Baton Rouge that want to protect our environment and enjoy the outdoors."

A pair of church congregants joined about a dozen Sierra Club members, and the groups briefly discussed how best to mobilize and coordinate efforts to get the swamp cleaned up.

"This is Baton Rouge. It's not an alien, foreign city," Fontenot remarked, saying concerns about Devil's Swamp shouldn't be thought of as just a problem for people in Alsen.

The ultimate goal, Reams explained, is to clean up the pollutants so the land can be put back to use. Other Superfund sites have eventually been cleaned enough that they can be built on, or turned into golf courses.

Perhaps Devil's Swamp can just return to being natural wetlands free from pollutants.

145) MONTANA POLE PLANT

http://mtstandard.com/news/local/state-can-t-clean-up-all-contaminants-from-montana-pole/article_161f455c-39e4-5ff7-b1fb-5ed6dbf0fab0.html

State can't clean up all contaminants from Montana Pole Plant

SUSAN DUNLAP susan.dunlap@mtstandard.com Aug 17, 2017 Updated 10 hrs ago

After about 20 years of cleanup work, the state told the Butte-Silver Bow Council of Commissioners Wednesday that the remediation of the Montana Pole Plant site has only been partially successful.

The state gave a presentation Wednesday before commissioners because the site is at a pivotal point, said David Bowers, state project manager. Despite 20 years' worth of soil treatment, the state recently found that dioxin, a carcinogen, did not break down and is still present in the soil at the site off Josette Avenue west of South Montana Street.

Because of its lack of success with dioxin, DEQ plans to modify the cleanup plan, invite public input, and hold additional public meetings to discuss the issue and the road that lies ahead.

The state anticipates the site will be ready for handoff by 2019. But to ensure it will be safe even for recreational use – meaning less safe than if the site were cleaned up to meet industrial or residential use standards – the former wood-treatment site must be partially capped and the recreational uses controlled.

BSB Chief Executive Dave Palmer expressed displeasure that it can only be used as a park.

“If it can only be used as a park when it’s finished, it’ll probably be a state-owned park. Butte-Silver Bow doesn’t need any more parks,” Palmer told Bowers during the commission meeting.

It would be up to the county, who has right of first refusal on the property, to pay for turning the space into a recreational area.

Bowers pointed to the many places across the country that have such sites, including Butte’s Copper Mountain Recreation Complex, which is a baseball field over a cap that protects residents who use it from contamination from the landfill below the surface.

Anaconda’s Old Works Golf Course is another capped site. Above buried arsenic and other contaminants in the ground is a Jack Nicklaus-designed world-class golf course.

Commissioners didn’t sound pleased with what they heard Wednesday.

Commissioner Bill Anderson questioned Bowers over money. The state received a $35-million cash-out from the responsible parties through a settlement in the 1990s to clean up the site.

The state has $29 million left, Bowers said. But water must also be treated at the site. The water treatment plant, which is pumping and treating the pentachlorophenol (PCP), dioxins, furans, and polycyclic aromatic hydrocarbons out of the groundwater, is expected to be necessary for at least another 30 years. All of the contaminants are carcinogens.

Bowers said it costs the state about $900,000 annually to run the treatment plant. That includes the plant’s electrical cost.

Bowers said the state is looking to optimize the plant in an effort to save money. That would likely include installing a new system in the plant so that needed manpower hours to monitor the treatment could be reduced.

Optimization would also help the plant meet water quality standards. Bowers told the Standard that the plant is not meeting the standard for PCP because the standard changed since the remedy for the site was agreed upon in the 1990s. He said, however, that the plant comes “close” to meeting the new standard now.

The plant is monitored once a week, he said.

The groundwater is treated with a type of carbon that strips the carcinogenic contaminants out of the water before it’s discharged into a lagoon. The water then finds its way into Silver Bow Creek.

Several of the commissioners commented that the Montana Pole Plant site is “another waste-in-place” solution.

"We're back at square one," Commissioner Jim Fisher said, commenting on the fact that after 20 years of cleanup, the state is now finding that the cleanup didn't completely work.

But Palmer may have summed up the mood of the commissioners when he closed Bowers's presentation with one last parting shot.

"Milltown Dam (east of Missoula) hauled the waste (from a dam removal in 2007) to Opportunity. Why can't we do the same thing and haul it to Helena where the decision-makers live?" Palmer said.

In this file photo taken in 2014, the pole barns can be seen at the Montana Pole Plant site, south of Silver Bow Creek and west of South Montana Street. The state gave a presentation before the Council of Commissioners Wednesday to explain why the site's cleanup plan needs to be modified.

Walter Hinick, The Montana Standard

146) LAW OFFICE FILES FEDERAL CLASS ACTION LAWSUIT

http://www.prnewswire.com/news-releases/mitnick-law-office-files-federal-class-action-lawsuit-against-sherwin-williams-for-cancer-cluster-300508059.html

http://cmitnick.net/gibbsboro.pdf

Mitnick Law Office Files Federal Class Action Lawsuit Against Sherwin-Williams For Cancer Cluster

(PRNewsfoto/Mitnick Law Office, LLC)

NEWS PROVIDED BY
Mitnick Law Office, LLC
Aug 22, 2017, 16:41 ET
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PHILADELPHIA, Aug. 22, 2017 /PRNewswire/ -- Today, a class action lawsuit was filed in New Jersey Federal Court against the Fortune 500 company, Sherwin-Williams. A filing in the District Court of New Jersey alleges that Sherwin-Williams, who owned a paint manufacturing facility in the quaint New Jersey town of Gibbsboro from 1930 until 1978, contaminated the town's soil and groundwater with unsafe levels of lead, arsenic and other carcinogens. That contamination has now migrated to surrounding residences and businesses within Gibbsboro, causing a cancer cluster within the town.

Residents of the Gibbsboro community are asking the federal court to hold Sherwin-Williams accountable for the contamination that is causing residents, including children, to develop cancer and other serious medical conditions. Contaminated areas of Gibbsboro have been listed on the Environmental Protection Agency's National Priority List since 1999 and designated as Superfund sites.

The Borough of Gibbsboro is located within central Camden County, New Jersey. The Borough is approximately 2.2 miles in size and is home to approximately 2,274 residents according to the 2010 United States Census. The Borough is located about 15 miles southeast of Philadelphia Pennsylvania. Land-use in this small community is comprised of a combination of commercial, industrial, open spaces, and residential zones.

The Lawsuit alleges that as part of its operations, Sherwin-Williams utilized and generated hazardous substances, including lead, arsenic, pentachlorophenol, benzene, cadmium, and numerous other known carcinogens.

"The process by which Sherwin-Williams manufactured, stored and disposed of paint and paint by-products had the effect of releasing and omitting toxic chemicals and hazardous substances, including lead, arsenic, benzene, barium and pentachlorophenol into the grounds, air and surrounding environment. Over time these hazardous substances have migrated into surrounding corporate, business and residential properties. This contamination has existed far too long and a company of Sherwin-Williams size should have had the corporate responsibility to protect the residents and visitors of Gibbsboro," Craig Mitnick, Esq.

"Air, land and groundwater contaminated by the Defendant's activities at the Sherwin-Williams Site have migrated for years, and continue to spread to further surrounding areas, with hazardous chemical levels exceeding acceptable NJDEP and USEPA regulatory background guidelines."

The Environmental Protection Agency published the following in a 1999 Administrative Consent Order issued between Sherwin-Williams and the EPA:

"Exposure to the various hazardous substances present at the Site by direct contact, inhalation, or ingestion may cause a variety of adverse human health effects... and the conditions present at the Site constitute an imminent and substantial endangerment to public health, welfare, or the environment." (United States Environmental Protection Agency, Region II, Administrative Order on Consent for Removal Action, 1999)

Also in 1999, the New Jersey Department of Health and Senior Services (NJDHSS) and the Agency for Toxic Substances and Disease Registry (ATSDR) concluded that an urgent health hazard existed to children and adults who lived, worked and visited the Sherwin-Williams Site areas. Even with this fact, continued development on contaminated land took place, including constructing public walking trails, constructing commercial establishments, opening new restaurants and renovating existing residential properties.

Defendant Sherwin-Williams has contaminated both public and private property, inadequately addressed the contamination they caused, and failed to warn residents and the public of the contamination it knew existed. Sherwin-Williams ignored the health hazards, concealed those hazards from residents by not engaging the community and by not actively addressing the contamination that it caused. Sherwin-Williams failed to warn Plaintiffs and the public of the contamination it knew existed and the dangers of exposure, including cancer.

147) LIST OF PENTACHLOROPHENOL SITES AND ISSUES

http://www.greenenvironmentnews.com/Articles/pentachlorophenol

Articles matching pentachlorophenol

- **E.P.A. adds One and Suggests 5 Sites in the Southeast to Superfund's National Priorities List**
  ... arsenic, asbestos, barium, cadmium, chromium, copper, creosote, dichloroethene (DCE), dioxins, lead, mercury, **pentachlorophenol** (PCP), polynuclear aromatic hydrcarbons (PAHs), polychlorinated biphenyls (PCBs), tetrachloroethene (PCE), trichloroethane (TCA ...
- **Final Phase of Cleanup Completed at Havertown Superfund Location Thanks to Recovery Act Backing**
  ... Wood Preservers to treat wood products. The company allegedly used an on-site well to dispose of diesel-type oil and **pentachlorophenol** (PCP), a pesticide and wood preserver and a probable carcinogen. The liquid wastes traveled into nearby Naylor's Run, a ...
- **E.P.A. to Consider the Kerr-McGee Chemical (Columbus) Location for Suggestion to Superfund's National Priorities List**

... creosote and creosote coal tar solutions to produce pressure-treated wood products. The facility also used **pentachlorophenol** (PCP) for wood-treating from the 1950s until the mid-1970s. Category: Hazardous Waste Type: ...

- **E.P.A. Acts To Protect Public Health Through Superfund At Abandoned Location in Trenton, New Jersey**

  ... in them. Labels on drums revealed the presence of hazardous substances such as sulfuric acid, ammonium hydroxide, **pentachlorophenol** and naphthalene. The location was unsecured and there was evidence of vandalism and unauthorized public entry. In May, ...

- **U.S. E.P.A. completes cleanup at Southern California Edison location from Superfund list**

  ... the Southern California Edison Visalia Pole Yard Superfund site. The poles were treated with the wood preservatives creosote and **pentachlorophenol**, which seeped into the surrounding subsurface soils and groundwater. In 1975, cleanup measures began; in 1994 ...

- **$2.6 million for contaminated land cleanup, economic development in Montana**

  ... a lumber yard, saw mill and a post and pole treating facility from the 1970s to 1990s. Location soil contamination includes **pentachlorophenol** and dioxin, which may leach into groundwater or runoff into nearby Big Spring Creek. Grant funds will be used to ...

- **E.P.A. to Hold Public Meeting on Suggested Project for Groundwater Cleanup at Escambia Wood Treating Superfund Location in Pensacola, Florida**

  ... . During its operational period, the facility treated utility poles, foundation pilings, and lumber with creosote and **pentachlorophenol**. In October 1991, E.P.A. excavated approximately 225,000 cubic yards of contaminated material and stockpiled it under ...

- **Residential Cleanup Begins at the Picayune Wood Treating Location in Picayune, Mississippi**

  ... scope of work was recently expanded to address contamination in the surrounding neighborhood. A release of hazardous substances (creosote, **pentachlorophenol**, polynuclear aromatic hydrocarbons, and dioxin) occurred at the Location and, as a result, has ...

- **Cleanup Continues at the Picayune Wood Treating Location in Picayune, Mississippi**

  ... the Location and remove hazards it may pose to human health and the environment. A release of hazardous substances (creosote, **pentachlorophenol**, polynuclear aromatic hydrocarbons, and dioxin) occurred at the Location and, as a result, has contaminated ...

- **E.P.A. Gains Backing for Cleanup at the Escambia Wood Treating Superfund Location in Pensacola, Florida**

  ... . During its operational period, the facility treated utility poles, foundation pilings, and lumber with creosote and **pentachlorophenol**. In October 1991, E.P.A. excavated approximately 225,000 cubic yards of contaminated material and stockpiled it under ...

- **Sonford Products Location in Flowood, Mississippi Added to EPA's Superfund Countrywide Priorities List**

  ... at the property; Sonford International and Sonford Products. The operations of both businesses involved turning solid **pentachlorophenol** (PCP) into liquid formations. Sonford Products also produced pesticide products and products that controlled the growth ...

- **E.P.A. Adds Five and Suggests Five Sites to Superfund's Countrywide Priorities List**

  ... -137, chromium, cis-1,2-dichloroethene (cis-1,2-DCE), copper, dibenzofuran compounds, dioxin, lead, lindane, mercury, **pentachlorophenol** (PCP), polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), silver, tetrachloroethene (PCE), thorium-230, ...

- **Cleanup Begun at the Camilla Wood Preserving Location in Camilla, Ga**

  ... remove any hazards it may pose to human health and the environment. A release of hazardous substances (creosote, **pentachlorophenol**, and 2,3,7,8-tetracholorodibenzo-p-dioxin) occurred at the Location and, as a result, has contaminated groundwater beyond ...

- **E.P.A. Orders Beazer to Perform $52 Million Cleanup**

... and telephone poles were loaded into cylinders and pressure injected with either creosote or a mixture of fuel oil and **pentachlorophenol** (PCP). Creosote contains polycyclic aromatic hydrocarbons (PAHs), a group of compounds which include both probable and ...

- **Sonford Products Location in Flowood, Miss., Suggested for Addition to EPA's Superfund Countrywide Priorities List**

  ... at the property; Sonford International and Sonford Products. The operations of both businesses involved turning solid **pentachlorophenol** (PCP) into liquid formations. Sonford Products also produced pesticide products and products that controlled the growth ...

- **E.P.A. Adds Five and Suggests Six Sites to Superfund's Countrywide Priorities List**

  ... found at these final and suggested sites include arsenic, chromium, benzene, dichloroethene, dieldrin, dioxin, lead, **pentachlorophenol** (PCP), polychlorinated biphenlys (PCBs), toluene, toxaphene, trichloroethene (TCE), tetrachloroethene (PCE), xylene, ...

- **Final Cleanup Project Approved for Escambia Wood Treating Company Superfund Location in Pensacola, Fla.**

  ... . During its operational period, the facility treated utility poles, foundation pilings, and lumber with creosote and **pentachlorophenol**. In October 1991, E.P.A. excavated 255,000 cubic yards of contaminated material and stockpiled it under secure cover at ...

- **Cleanup Project for Hatheway & Patterson Superfund Location Approved**

  ... work. From 1953 to 1993, the Hatheway & Patterson Company used the location to treat wood using solutions of **pentachlorophenol** (PCP) in fuel oil, as well as copper, chromium and arsenic. These contaminants have been found in location soils and ...

- **E.P.A. settles with J.H. Baxter for hazardous waste violations**

  ... required under federal and state laws. Waste from the facility's wood treating process is considered hazardous because it contains the chemical **pentachlorophenol** , which can cause organ damage at high levels and is suspected to cause cancer. As part of ...

- **Oeser Company to Pay Millions to Cleanup Superfund Location in Bellingham**

  ... mid-1980's. Creosote is composed of polynuclear aromatic hydrocarbons (PAHs) and phenol compounds. The company now uses **pentachlorophenol** (PCP or Penta). Both compounds are hazardous substances. Over 60 years of operations, the soil and groundwater at ...

- **E.P.A. to Hold Informational Meeting to Discuss the Suggested Cleanup Project for the Hatheway & Patterson Superfund Location**

  ... , MA. From 1953 to 1993, the Hatheway & Patterson Company used the location to treat wood using solutions of **pentachlorophenol** (PCP) in fuel oil, as well as copper, chromium and arsenic. These contaminants have been found in location soils and ...

- **E.P.A. declares the availability of the Removal Administrative Record for the Union Timber Corporation Location in Homerville, Georgia**

  ... was regulated under the Resource Conservation and Recovery Act. The facility treated posts and poles using creosote and **pentachlorophenol** from 1972 to 1988. The Location consists of about ten acres located south of Hwy. US 84-West, approximately one mile ...

- **E.P.A. files complaint against Oeser for dangerous wastes violations**

  ... EPA's information request suggest that the company has routinely mismanaged wood preserving chemicals, particularly **pentachlorophenol** (or "penta"), (which the E.P.A. has classified as a probable human carcinogen**) because it: failed to contain excess ...

- **E.P.A. TO HOLD INFORMATIONAL MEETING ON SUGGESTED HATHEWAY and PATTERSON SUPERFUND LOCATION**

... and a Consolidated Railways rail line. From 1953 to 1993, the company used the Location to treat wood using solutions of **pentachlorophenol** (PCP) in fuel oil, and floruorochrome-arsenate-phenol salts in water as well as chromated copper-arsenate (CCA) ...

- **NEWSOM BROTHERS SUPERFUND LOCATION IN COLUMBIA, MISSISSIPPI SUGGESTED FOR DELETION FROM COUNTRYWIDE PRIORITIES LIST OF HAZARDOUS WASTE SITES**

  ... Reichhold Chemicals, Inc., (Reichhold) purchased the property. Reichhold's operation involved various chemical processes including mixing **pentachlorophenol** (PCP) with diesel oil. Xylenes were also used in a number of processes. The Location was listed on ...

- **E.P.A. SUPERFUND REMOVAL UNDERWAY AT THE GEORGIA-PACIFIC HARDWOOD SITE, PLYMOUTH, WASHINGTON COUNTY, NORTH CAROLINA**

  ... limits of Plymouth, North Carolina in a mixed residential/commercial/industrial setting. Contaminants of concern include **pentachlorophenol**, dioxin, lead, and arsenic. Persons interested in obtaining additional information are encouraged to contact Michael ...

- **E.P.A. SUPERFUND REMOVAL UNDERWAY AT THE CAROLINA ASSOCIATED MILL SITE, NEWTON, CATAWBA COUNTY, North Carolina**

  ... . The drums contain acid and caustic materials, as well as, other hazardous substances including ethylbenzene, xylene, **pentachlorophenol**, and napthalene. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as " ...

- **Federal Court approves $700,000 settlement to resolve E.P.A. claim at Circle Delaware Lumber location in Klamath Falls**

  ... at the location included treating milled lumber in a 1,000 gallon dip tank that contained a solution of diesel oil and **pentachlorophenol** (PCP). Use of the dip tank resulted in the release of high concentrations of PCP, dioxin, and petroleum hydrocarbons ...

148) WAUSAU TESTS FOR BENEATH THOMAS STREET

http://www.wausaudailyherald.com/story/news/2017/08/24/wausau-orders-tests-harmful-chemicals-beneath-thomas-street/575798001/

WAUSAU - The city has commissioned testing for potentially lethal chemical compounds that lie beneath the surface of Thomas Street before an ongoing road project moves farther east.

Mayor Robert Mielke ordered the testing to find out if the second phase of the street's reconstruction will stir up chemicals that were released into the soil and groundwater in the 1980s by Crestline Windows. Crestline had operated near the 3M plant at the time. Most buildings were torn down in the 1990s, according to Wausau Daily Herald archives.

The compound in question, pentachlorophenol or "Penta," is a preservative that was used by Crestline to treat the wood used in its windows and doors, according to documents detailing the use of the chemical. The documents also note that dioxins, which are known to be carcinogens, may be present. The use of Penta was stopped in 1986 at Crestline.

The decision to test the Thomas Street soil was made during a meeting of key players involved in the construction process, including Gary Gisselman and Lisa Rasmussen, both City Council members. The meeting was called last week after some council members opposed a vote to move forward with the street work without testing.

Residents of the area had raised concerns that demolition and road construction in the eastern stretch of Thomas Street, just west of the Wisconsin River, would stir up the chemicals in the soil.

The testing will likely cost about $10,000 to complete, Mielke said, but he said it will be worth the expense to ensure no harm comes to those living around the construction area.

"We want to calm fears and concerns of residents in the area," the mayor said.

City Council members and others discussed the contaminants during an Aug. 8 meeting, but the council then voted 6-4 to proceed with plans and renderings for phase two of the Thomas Street project.

The testing, which will consist of six 12-foot soil borings, was expected to begin this Friday when the soil is taken from the ground, said Public Works Director Eric Lindman. The samples will then be analyzed at the depths of 1 to 2 feet and 9 to 12 feet. If anything shows up in any of the samples at those depths, then the middle portion will also be tested. The test results will be returned to the city in three to four weeks.

Lindman said the borings will help the city to see if there is any Penta or dioxins lurking in the soil, although he believes data the city has received from the state Department of Natural Resources is accurate. That data, he said, shows that the toxins are deep enough in the ground that the Thomas Street construction wouldn't disturb them.

"(These tests) are to help us verify what we already know," he said.

Despite the call for testing, the second phase is still moving forward in terms of planning, Lindman said. The plan is being drawn up by engineering firm AECOM, which is compiling information on where to place the new median and turning lanes. Lindman said a plan for the next phase of construction could come back to city officials for approval as early as October, but is more likely to take longer.

He also cautioned that even when the plans are presented, the city would still need to make decisions about how and when to proceed with the project.

"Having plans will allow us to more accurately talk about it," Lindman said. "This will allow us to have a more educated discussion."

149) $30 MILLION KOPPERS SITE IN CHARLESTON

Additional $30 Million Cleanup at the Koppers Site in Charleston, S.C, to Pave Way for Redevelopment

U.S. EPA Media Relations

Reply

Yesterday, 4:15 PM

You

U.S. ENVIRONMENTAL PROTECTION AGENCY

NEWS RELEASE

WWW.EPA.GOV/NEWSROOM

CONTACT: Davina Marraccini at marraccini.davina@epa.gov or 404-562-8293

EPA Proposes Additional $30 Million Cleanup at the Koppers Superfund Site in Charleston, S.C., to Pave Way for Mixed-Use Development

A public meeting will be held on September 28, 2017, and public comments are sought through October 17, 2017

https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0403350

https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.contams&id=0403350

WASHINGTON (September 18, 2017) – The U.S. Environmental Protection Agency (EPA) has proposed a plan to conduct additional cleanup at the Koppers Superfund Site in Charleston, S.C. EPA will hold a public meeting

to present the proposed plan and answer questions on Thursday, September 28, 2017 from 6 p.m. to 8 p.m. at the International Longshoremen's Association, 1142 Morrison Drive in Charleston. EPA is also soliciting public comments on the plan for 30-days ending on October 17, 2017.

EPA's proposed cleanup plan presents an amendment to the original remedy, including an estimated $30 million in additional cleanup work on the Koppers site that will be implemented by a consortium of developers under EPA oversight. This additional cleanup work will facilitate the redevelopment of the Koppers site into a new mixed-use community that includes residential and other uses.

The proposed plan identifies changes to the original cleanup that was largely completed in 2003 to be protective under a future commercial/industrial land-use scenario. The Koppers site is a key component of a larger 200+ acre assemblage that the City of Charleston has zoned for a mixed-use brownfield redevelopment project, known as "Magnolia," that includes commercial/retail use, office use, residential use, hotel use, and civic and park space.

The additional cleanup work under the Proposed Plan involves:

1. In-Situ Stabilization and Solidification of creosote in the subsurface of the Old Impoundment Area instead of the ongoing recovery system;
2. Installation of a more permanent soil exposure cover to support a change in land use; and
3. Replacement of existing drainage ditches with a subterranean storm sewer system consistent with future use.

The proposed plan is posted online at: https://semspub.epa.gov/work/04/11069917.pdf.

The proposed plan and other site-related documents are also available for review at the information repository located in the Charleston County Public Library, 68 Calhoun Street in Charleston.

Written comments may be e-mailed to zeller.craig@epa.gov or mailed to: Craig Zeller, U.S. EPA Region 4, Superfund Division - 11th Floor, 61 Forsyth Street SW, Atlanta, GA.

After considering all information received during the public comment period, EPA will consult with the South Carolina Department of Health and Environmental Control and publish its final plan in a Record of Decision document.

The 102-acre Koppers site is located in the "neck" area of Charleston amid industrial, commercial and residential properties. From 1940 to 1978, Koppers operated a wood-treating facility on approximately 45-acres generally bounded by Milford Street on the north, Braswell Street on the south, the Ashley River on the west and the King Street Extension on the east. The remaining 57-acre portion of the site, located south of Braswell Street, was owned by Ashepoo Phosphate/Fertilizer Works. EPA incorporated these 57-acres into the Koppers Site boundary to investigate historical waste disposal practices and environmental impacts.

More information about the Koppers Superfund Site: www.epa.gov/superfund/koppers-charleston-plant

More information about in-situ stabilization and solidification: https://clu-in.org/download/Citizens/a_citizens_guide_to_solidification_and_stabilization.pdf

Connect with EPA Region 4 on Facebook: www.facebook.com/eparegion4

And on Twitter: @EPASoutheast

150) TOXIC POLLUTANTS AT CASMALIA

http://lompocrecord.com/news/local/toxic-pollutants-at-casmalia-hazardous-waste-dump-are-many/article_9f32d21c-da31-50e2-9e16-0c5afacf1436.html

Toxic pollutants at Casmalia hazardous waste dump are many

Mike Hodgson mhodgson@leecentralcoastnews.com Dec 4, 2017

The U.S. Environmental Protection Agency and the Casmalia Steering Committee have identified a wide range of toxic contamination throughout the Casmalia Resources hazardous waste management facility, which has been closed since 1991.

More than 300 chemicals, including metals, volatile and semivolatile organic compounds and both dense-component and light-component nonaqueous phase liquids, have been detected in the soil, surface water and underground aquifers.

Health impacts from exposure to those toxic materials can range from moderate to life-threatening, depending on the method, duration and intensity of the exposure.

Here's a look at some of the pollutants found on the site and the potential health effects from exposure to them.

Nonaqueous phase liquid groundwater pollutants generally include chlorinated solvents, wood preservatives like creosote and pentachlorophenol, coal tars and pesticides.

Human health impacts from exposure to creosote and coal tar include increased risks of bladder and lung cancers and multiple myeloma.

Exposure to pentachlorophenol can damage the liver, kidneys, blood, lungs, nervous system, immune system, gastrointestinal tract, skin, eyes and mouth and, in large enough amounts, can cause the cells to produce heat, raising body temperature to the point of organ failure and death.

Chlorinated solvent exposure can lead to fatigue, headaches, chronic skin problems, damage to the nervous system, kidneys and liver and various cancers.

Exposure to pesticides, depending on the type, can result in increased risks of leukemia, lymphoma and cancers of the brain, kidneys, breasts, prostate, pancreas, liver, lungs and skin, neurological damage, dermatitis, diabetes, altered fetal growth, birth defects, fetal death, reduced male fertility, genetic alterations to sperm and altered hormone function.

Volatile and semivolatile organic compounds consist of carbon combined with such elements as hydrogen, oxygen, fluorine, chlorine, bromine, sulfur and nitrogen, and health problems they can cause depend on the compound, how the exposure comes about and the length and intensity of the exposure.

Impacts can range from relatively mild and short-term issues like eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reactions, nausea, and memory impairment to more severe and long-term problems like liver, kidney and central nervous system damage.

Metals most commonly found in contaminated groundwater include arsenic, cadmium, chromium, copper, lead, nickel and zinc, and they also cause a wide range of health problems.

Depending on the metal and amount of exposure, they can lower energy levels, damage the brain, lungs, kidneys, liver, blood composition, chromosomes and DNA, cause thickening and altered pigmentation of the skin and interfere with enzyme regulation.

Metal exposure can also lead to cellular degeneration, memory problems, brain necrosis, behavioral changes and physical, muscular and neurological degenerative processes that imitate such diseases as multiple sclerosis, Parkinson's disease, Alzheimer's disease and muscular dystrophy.

Some metals can also contribute to incidences of bronchitis, asthma and other respiratory problems and can cause skin, lung, bladder and kidney cancers.

151) OREGON – 2017 EXCEEDING DISCHARGE LIMITS

http://www.statesmanjournal.com/story/tech/science/environment/2017/12/07/sheridan-wood-preserving-plant-again-fined-water-pollution/929112001/

http://www.oregon.gov/deq/nr/052016McFarland.pdf

https://yosemite.epa.gov/r10/cleanup.nsf/7780249be8f251538825650f0070bd8b/cfa95836250e268c8825681f0005f651!OpenDocument

Oregon
Kate Brown, Governor

Department of Environmental Quality
Headquarters
811 SW 6th Ave
Portland, OR 97204-1390
(503) 229-5696
FAX (503) 229-6124
TTY: 711

May 10, 2016

CERTIFIED MAIL: 7014 2870 0001 3373 5593

McFarland Cascade Holdings, Inc.
c/o Nick Reniff, Registered Agent
90049 HWY 99 N
Eugene, OR 97402

Re: Notice of Civil Penalty Assessment and Order
Case No. WQ/I-WR-16-043

This letter is to inform you that the Oregon Department of Environmental Quality (DEQ) has issued you a civil penalty of $7,217 for the December 2015 and January 2016 exceedances of the pentachlorophenol and total copper limits in the wastewater discharge permit for your facility at 22125 Rock Creek Road in Sheridan, Oregon.

Pentachlorophenol and copper are toxic to fish and other aquatic life. Exceeding the limits in your permit creates a risk that these environmental receptors may be harmed by your wastewater discharge.

5. Schedule A of the permit states that the daily maximum concentration of pentachlorophenol (PCP) in Respondent's effluent is limited to 20µg/L and the monthly average concentration is limited to13 µg/L.

A Washington company has been fined a second time for discharging pentachlorophenol into the South Yamhill River above permitted levels at its Sheridan wood preserving facility.

The chemical is toxic to fish and other aquatic organisms.

Tacoma-based McFarland Cascade Holdings purchased Sheridan's Pacific Wood Preserving of Oregon in 2013.

McFarland Cascade Holdings is a wholly-owned subsidiary of Stella-Jones Inc., a Canadian company with 37 wood preserving operations in North America and sales of $1.84 billion in 2016. It produces railway ties, utility poles, residential lumber and industrial products. http://www.stella-jones.com/operations.php

In January 2015, the Oregon Department of Environmental Quality issued the company a federal permit to operate a wastewater collection, treatment and disposal facility at 22125 Rock Creek Road.

In May 2016, the Oregon Department of Environmental Quality found that the company had exceeded allowable levels of pentachlorophenol in December 2015 and in January 2016. It imposed a fine of $7,217, which it lowered to $6,000 after an appeal.

Now, DEQ has fined the company $8,400 for again exceeding the limit, in January 2017.

In addition, DEQ has ordered the company to increase testing for pentachlorophenol in the facility's wastewater from once a month to twice a month during 2018.

And the company must install a 500,000 gallon storage tank to supplement the treatment system.

The company has until Dec. 21 to appeal the penalty.

Marcell Driessen, vice president of human resources, declined to say whether the company would appeal.

"We're looking into the allegations. As always, we hope to resolve it amicably," Driessen said. "McFarland Cascade Holdings takes environmental compliance extremely seriously."

tloew@statesmanjournal.com, 503-399-6779 or follow at Twitter.com/Tracy_Loew

152) BILL WOULD EXEMPT UTILTIY COMPANY FFROM PESTICIDE

https://www.alaskasenate.org/2018/member/peter-micciche/
https://www.alaskasenate.org/2018/sponsor-statements/?b=SB173
https://www.alaskasenate.org/2018/files/7715/1811/6217/SB173_Sponsor_Statement.pdf
http://akleg.gov/legislator.php?id=mhe
Senator.Peter.Micciche@akleg.gov
SENATOR PETER MICCICHE

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https://www.alaskapublic.org/2018/02/16/bill-would-exempt-utility-companies-from-pesticide-pollution/

Bill would exempt utility companies from pesticide pollution

By Jacob Resneck, KTOO - Juneau - February 16, 2018

A bill that would protect power companies from liability related to a widely used pesticide is moving through the Alaska Senate. Federal wildlife officials have already alerted the state they've found "concerning levels" of the toxic compound on the Kenai Peninsula.

There are about a quarter million wooden power poles in Alaska. Most are treated with a pesticide marketed as Penta which is short for Pentachlorophenol. It's been around since the 1930s.

SB 173's sponsor is Sen. Peter Micciche. The Kenai Peninsula Republican told the Senate Resources Committee that protecting power companies from liability is important for consumers.

"The reason for bringing this forward is the financial protection of nearly every Alaskan ratepayer who depends upon a utility to have electricity delivered to their home, business or facility," Micciche said.

In 2015, biologists working for the U.S. Fish and Wildlife Service discovered what it termed "concerning levels" of the pesticide in soils around power poles running through the Kenai National Wildlife Refuge.

The refuge manager notified the Alaska Department of Environmental Conservation in January 2016. State regulators then wrote to Homer Electric Association saying the utility would be responsible for any contamination since it owns the poles.

Homer Electric's General Manager Brad Janorschke testified to the Senate committee that it would be expensive if they had to remove the poles, especially as they'd need to be barged south for disposal.

"The cost to remove a single utility pole from service and comply with a lengthy site cleanup process would be about $30,000," Janorschke said "30,000 bucks a pole."

Fish and Wildlife has yet to publish its findings, but its correspondence with the state – and raw data from the soil samples – were released to the Alaska Community Action on Toxics.

Pamela Miller is the Anchorage-based environmental group's executive director. She says the group filed a Freedom of Information Act request when they found out about the studies on the Kenai National Wildlife Refuge.

Miller is alarmed that the power industry wants the law changed.

"This particular study by the Fish and Wildlife Service may have been at least the primary impetus for the utilities to seek a political solution to their problem," Miller said.

There's been push back on the Resources Committee. Sen. Bill Wielechowski, an Anchorage Democrat, said the bill would shift liability for contamination away from the utilities and onto property owners.

"I'm concerned that nobody's going to be responsible," Wielechowski said. "I mean, should the manufacturer possibly be responsible? Should the person who's applying it be responsible? It would seem to me, there should be some responsibility somewhere other than the person who has absolutely no say about where these poles go."

The Department of Environmental Conservation is studying the issue.

“We know what the product does and its toxicity. That’s been clearly defined by EPA,” Kristin Ryan, who heads DEC’s spill response and prevention division, said.

Ryan told Senators that recent samples were taken to see whether the pesticide leaches power poles. She said DEC doesn’t expect results for at least several weeks.

****

Senator Peter A. Micciche

Alaska State Legislature

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SB173

Sponsor Statement

The bottom-line purpose of my choice to bring SB173 forward is the financial protection of nearly every Alaskan ratepayer who depends upon a utility to deliver electricity to their home, business or facility. SB173 conforms Alaska law to federal law with respect to wood poles treated with pesticides registered with the Environmental Protection Agency. The legislation is drafted narrowly to apply only to a “wood utility pole installed, removed or used by public utilities in connection with providing a utility service in the state.”

In the State of Alaska, every wooden utility pole is factory-treated with a preservative/pesticide which prolongs the service life of the pole by protecting it from organisms that compromise structural integrity. It is logical to assume that soil coming in direct contact with treated utility poles for 30 or more years would include traces of that preservative.

The provisions of AS 46.03.822(a) are interpreted to assume public utility liability and indirectly, Alaskan ratepayers for remediating residual preservative when replacing or removing treated wooden utility poles. This liability does not exist under federal law because the companion federal statute to AS 46.03.822 contains a specific exemption for “the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C. 136 et seq.].”

SB173 clarifies and eliminates the assumption of liability and remediation costs for trace elements by including the federal exemption within Alaska's statutes.

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153) LAWMAKERS LOOK AT POTENTAL PENTA PROBLEM

http://peninsulaclarion.com/news/2018-03-01/lawmakers-look-potential-penta-problem#.Wpm9PdU71ew.email

Posted March 1, 2018 09:26 pm - Updated March 2, 2018 03:46 pm

By BEN BOETTGER Peninsula Clarion

Lawmakers look at potential penta problem

Editor's note: This story has been changed to add information about an error in the 2015 U.S Fish and Game ground contamination study near HEA powerlines.

Leglislators are debating a bill to exempt utilities from legal liability for chemicals used to treat wooden poles, prompted by possible soil contamination around Homer Electric Association (HEA) powerline poles following the Kenai Spur Highway north of Sterling.

Sen. Peter Micciche (R-Soldotna) sponsored the proposal, Senate Bill 173, with a companion bill, House Bill 334, sponsored by Reps. Mike Chenault (R-Nikiski), Adam Wool (D-Fairbanks), and Chris Tuck (D-Anchorage).

The HEA powerline in question is in the Kenai National Wildlife Refuge, where Refuge Deputy Manager Steve Miller said staff noticed apparently dead vegetation around the base of the poles. Miller said HEA's permit to cross the Refuge, from the Refuge's parent agency, the U.S. Fish and Wildlife Service, specifies a distance from the base of the poles beyond which substances shouldn't reach. In 2015, Fish and Wildlife sent toxicologist Lori Verbrugge to sample surface soil around 12 of the poles. She found levels of pentachlorophenol — a heavy-duty wood preservative often shortened to "penta" — greater than the U.S. Environmental Agency's allowed amounts.

Wooden utility poles can have useful service lives of up to 60 years, thanks in part to chemicals like penta, which is applied to kill ants, termites, and rot-inducing fungus. Penta permeates about 36 million wooden poles nationwide according to the EPA, and about 250,000 in Alaska, according to Micciche's testimony on SB 173 to the Senate Resources and Senate Judiciary Committees. Though the U.S Environmental Protection Agency permits penta as a wood preservative under the Federal Insecticide, Fungicide, and Rodenticide Act (FIRFA), it restricts previous uses as an insecticide and herbicide.

The EPA most recently examined the potential health effects of penta in 2008, when it reregistered the chemical under FIRFA and ruled that it "will not pose unreasonable risks to humans or the environment" if properly applied as a wood preservative, but that "a reasonably strong argument can be made that exposure to pentachlorophenol is associated with increased risks of a number of diseases. … Based on the evidence collected to date, careful control of exposures to chlorophenols, including pentachlorophenol, is certainly warranted."

It's unknown whether that disease risk comes from penta or other chemicals that appear within it — specifically, dioxins and furins, two toxic substances created as byproducts of penta's manufacturing process that may be more toxic than penta itself, Verbrugge said.

"If you look at the structure of pentacholorophenol, you'll see that if you put two of them together, kind of like puzzle pieces, it'd be a dioxin," Verbrugge said. "It's a trace contaminant, but they're so toxic that even though they're only there in trace levels, they turn out to be the toxicity driver."

Verbrugge's findings from the soil samples are awaiting peer review and haven't yet been published. However, in a January 2016 letter informing the Alaska Department of Environmental Conservation (DEC) of the findings, Kenai Wildlife Refuge Manager Andy Loranger wrote that the study had found "that a majority of poles treated with (penta), both historically (1950s) and more recently (within the past 20 years) have contaminated surrounding soils with concerning levels of (penta) and dioxins/furans."

After recieving Fish and Wildlife's analysis, Program Manager John Halverson of DEC's Contaminated Sites program requested that HEA investigate the extant of the contamination in a May 2016 letter.

In soil 50 centimeters from the base of the poles, Verbrugge's study found pentachlorophenol concentrations "on average 3-4 orders of magnitude above the (EPA's) risk-based screening levels," Halverson wrote — an average concentration of 18 parts per million, versus EPA standards of 2.1 parts per million. Dioxin concentrations, Halverson wrote, "were on average 3-4 orders of magnitude above the risk-based screening levels at 50 cm from the poles."

"As the owner of the poles, HEA is responsible for any contamination that may have resulted from their use," Halverson wrote.

HEA questioned both the Fish and Wildlife findings and the need for further study that DEC requested. HEA Environmental Compliance Officer Bruce Linton responded that "power poles and adjacent soil are not a hazardous waste and do not require cleanup or characterization." Linton also wrote that contaminant levels "may actually be significantly (orders-of-magnitude) over reported by the (Fish and Wildlife Service)" and that HEA had found "what appear to be significant flaws in the reported test results putting the entire data set into question." These included one measure of chemical concentration that ranged up to 8.1 million parts per million, according to Linton's letter (Verbrugge wrote in a later email that this was a measurement unit error made by the testing laboratory, corrected in current drafts of the study).

"The (Fish and Wildlife Service) soil data, although qualitative at best, confirms common knowledge that wood treatment constituents routinely transfer from the wood pole into the soil adjacent to the pole, and that the effect is limited to a few tens of inches from the pole, but does not indicate mobile contaminant migration," Linton wrote.

In a Feb. 12 Senate Resources Committee hearing on the bill, HEA General Manager Brad Janorschke said that if HEA was required to decontaminate the power pole areas, they would have to excavate, bag, and ship the soil to the Lower 48 to be cleaned in processing facilities which don't exist in Alaska — putting the cost at around $30,000 per pole. Since HEA is a publicly-regulated utility and member-owned

cooperative, the cost may fall indirectly on its members — a fact Micciche cited in his sponsor's statement for the bill.

"The bottom-line purpose of my choice to bring SB173 forward is the financial protection of nearly every Alaskan ratepayer who depends upon a utility to deliver electricity to their home, business or facility," Micciche wrote.

Effects

Verbrugge's study compared levels of penta, dioxins, and furans around the poles to EPA standards, but did not look at actual environmental effects the chemicals may have had — a question that remains unresearched and which Verbrugge called "an interesting and important next step."

"The first thing we'd need to know: have either humans or ecological receptors been exposed to these contaminants, are they actually picking them up from their environment or not?" Verbrugge said. "For it to be toxic, there has to be exposure to it, so that would be the first question — is anybody being exposed to it? And if so, at what levels? And then looking for the effects."

At the Senate Resources hearing, DEC Director of Spill Prevention and Response Kristen Ryan said that how penta leaches from wooden poles "depends on the technology used to manufacture the pole, and the environment that it's in."

"That is a varied question, and something (DEC) is getting data on right now — to see what are the dynamics in Alaska's environment related to utility poles in wetlands, and if we have anything different occurring up here versus what happens in the rest of the U.S., which is that very little leaches off if it's been treated correctly at a manufacturing plant where they use specific technology that reduces the amount of leaching," Ryan said.

The Alaska Department of Transportation (DOT) is presently working on the stretch of the Spur Highway were Verbrugge found contamination. Part of that work involves removing some of the poles, and DOT agreed to have a contractor carry out the analysis that Halverson had requested of HEA. Halverson said DOT plans to do that work this winter.

Janorschke told Senate Resources that DEC is also asking members of the the trade group Alaska Power Association to confer on best practices for handling, storing, and disposing of chemically-treated wood poles, similar to an effort carried out by health agencies and utility representatives in Vermont, where in 2009 penta was found in three shallow water wells near utility poles that penetrated the water table.

Liability

In the bill's committee hearings, senators took up the question of where responsibility for penta would fall if utilities are exempt. Speaking to Senate Judiciary on Feb. 28, Micciche said his narrow goal for the bill was to "fine-tune liability" by eliminating from state law consequence for penta ground contaminiation which he said doesn't exist under federal law's permitting for the chemical under FIRFA.

"The intent of this bill is not that, no matter what happens with penta from a pole, someone would be released of liability," Micciche said. "So we're looking for the right mix of liability that protects the normal use of penta, versus some sort of gross neglience or other spill."

The existing Alaska code from which Micciche's bill would exempt utilities puts liability for hazardous substance releases on the owners of the substance or of the releasing facility, or on the person responsible for transporting or disposing of the substance. Environmental lawyer David Wilkinson of the Alaska Department of Law told Senate Judiciary that other possible legal consequences for penta contamination "are likely to survive" exemption from this code, but "it's not crystal clear" how the exemption could change them. As an example, he gave a hypothetical accussation of neglience involving a utility, which would require demonstrating "duty, breach of duty, causation, and harm," he said.

"But when courts look to find a duty, they look to statutes," Wilkinson said. "So there's a question raised by (the exemption): does that alter the duty that a utility might owe to a landowner? There's a litigation question there that might come up."

154) LINKS – MORE LINKS ON WEB SITE:

http://www3.epa.gov/airtoxics/hlthef/pentachl.html

http://www.fs.fed.us/t-d/pubs/htmlpubs/htm06772809/page14.htm

http://www.dtic.mil/dtic/tr/fulltext/u2/a322630.pdf

http://www.wbrc.com/story/28944736/toxic-trouble-does-contamination-remain-in-the-soil-and-water

http://www3.epa.gov/airtoxics/hlthef/pentachl.html

http://nepis.epa.gov/Simple.html

https://www.facebook.com/PentaChloroPhenol

http://www.lawandenvironment.com/tag/pentachlorophenol/

http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=2133&context=ealr

http://cdn.ca9.uscourts.gov/datastore/opinions/2013/04/03/11-16042.pdf

http://cdn.ca9.uscourts.gov/datastore/opinions/2013/04/03/11-16042.pdf

http://chm.pops.int/Portals/0/download.aspx?d=UNEP-POPS-POPRC8WG-ASSES-PCP-draftRP-Supp-20130416.En.docx

http://vtdigger.org/2014/08/21/rare-cases-utility-poles-source-pcp-contamination-drinking-water/

http://blog.medfriendly.com/2013/02/is-your-drinking-water-contaminated-by.html

http://ohiowatersheds.osu.edu/node/1573

http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2012.300910

http://www.alexanderinjury.com/library-toxic-11/

http://www.houstonpress.com/2007-12-06/news/toxic-town/full/

https://www.wicourts.gov/ca/opinion/DisplayDocument.pdf?content=pdf&seqNo=65827

http://archive.nationalaglawcenter.org/assets/cases/beyond.html

http://www.slate.com/blogs/the_eye/2013/10/30/utility_poles_should_we_send_them_underground.html

http://timesofindia.indiatimes.com/india/India-reluctant-to-join-global-ban-on-toxic-chemical/articleshow/47470800.cms

http://investor.kmgchemicals.com/phoenix.zhtml?c=76939&p=irol-newsArticle&ID=1866548

http://www.dufferincounty.ca/files/uploads/2015-01-08_County_Council_minutes.pdf

http://www.deq.state.or.us/lq/ECSI/ecsidetailfull.asp?seqnbr=959

http://www.cob.org/cob/helog.nsf/HE/21D7C3A5F682F33788257E310063A0BC?OpenDocument

http://origin-www.upnorthlive.com/uploadedFiles/wpbn/News/Stories/2015-4-22%20Kids%20Kove%20Press%20Release.pdf

http://en.paperblog.com/rising-tide-vermont-addison-county-residents-stage-sit-in-at-public-service-board-demanding-a-halt-to-pipeline-construction-915848/

http://environment.netronline.com/site.php?cid=WAD008957243

http://www.whatcomwatch.org/php/WW_open.php?id=689

http://jama.jamanetwork.com/article.aspx?articleid=201292\

https://clu-in.org/download/contaminantfocus/dnapl/Treatment_Technologies/Visalia_pyrolysis_1998.pdf

http://www.nbcbayarea.com/investigations/Chemical-Leak-at-Livermore-Oil-Field-May-Have-Contaminated-Some-Alameda-County-Water-Supplies-353092171.html

http://www.eco-usa.net/superfund_sites/california_superfund_sites.shtml

http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0902061

http://www.atsdr.cdc.gov/toxprofiles/tp51-c9.pdf