

# Environmental Sub-Committee (ESC) of the Wainscott Citizens Advisory Committee (WCAC)

Minutes of the Meeting held on  
Friday, November 18, 2016 at 11:30 AM  
East Hampton Town Hall

(The minutes were approved unanimously on January 6, 2017)

Present: Simon Kinsella, WCAC Member & Chairman  
Carolyn Logan Gluck, WCAC Member & Secretary  
Frank Dalene, WCAC Member  
Rick Del Mastro, WCAC Member  
Virginia Edwards, WCAC Member  
Susan Macy, WCAC Member  
Sara Davison, Friends of Georgica Pond Foundation, Inc.  
Kathee Burke-Gonzlaez, Councilwoman, East Hampton Town Board  
Kim Shaw, Natural Resources Director, East Hampton Town

Excused: Bruce Solomon, WCAC Member

## Preliminaries

Environmental Sub-Committee (ESC) was confirmed as the name by which this group will be known.

It was agreed that the ESC will be concerned with ground water, surface water, natural habitat and air quality in Wainscott and environs.

Simon Kinsella was elected unanimously as Chairman.

Carolyn Logan Gluck will serve as Secretary.

## Background

Rick called attention to the article, "Chromium-6 Detected in East Hampton Wells," published in the *East Hampton Star* on Sept. 27, 2016 (attached) as the catalyst for the formation of this sub-committee.

He also confirmed that Suffolk Cement is actively in operation and agreed to present a more detailed account of the history of "the Pit" at a future point in time.

## Presentation by Kim Shaw

Natural Resources Director, East Hampton Town

Kim discussed chromium-6 (hexavalent chromium, Cr VI) and chromium-3 (trivalent chromium) pointing out that the latter occurs naturally and does not pose health risks. She pointed out that often water quality tests measure these compounds together. Kim emphasized the need for a breakdown of these measurements in order to determine levels of chromium-6. The EPA is considering establishing standards for chromium-6 for which there are none at present.

Kim suggested the ESC meet with a representative from the Suffolk County Department of Health Services, perhaps Doug Feldman, and one from SCWA. It was agreed the ESC would do so at its next meeting and Si will issue the invitation.

Kim informed the ESC that the Health Department recently installed monitoring wells near the site of the contaminated well in Wainscott.

Si Kinsella suggested that the ESC propose a program whereby those home owners living around the Pit or down-stream from the Pit can co-ordinate having their drinking water tested for hexavalent chromium at the same time. The more people who request to have their drinking water tested, the lower the cost would be per household. If this program is successful, it could be extended to the test for other drinking water contaminants lists within the EPA's Unregulated Contaminant Monitoring Rule (UCMR) program.

Kim also mentioned that a new public well on Stephen Hand's Path is under consideration. It would require the clearing of 5 acres and the installation of chain-link fencing. As the number of usable Montauk well fields declines, the number of East Hampton well fields will increase.

## Scientific Information/Update

Frank stressed the need for self-education on the subject of hexavalent chromium. Accordingly, he distributed information (attached) published by the –

- Water Research Foundation - Hexavalent Chromium in Drinking Water; and,
- U.S. Department of Labor Occupational Safety and Health Administration – Factsheet, Health Effects of Hexavalent Chromium

There was a discussion whether water contaminated with hexavalent chromium poses a health threat via ingestion of contaminated agricultural products (no).

Si Kinsella pointed out that chronic exposure to airborne hexavalent chromium is dangerous. Given the cement dust is blown and can accumulate in residences and businesses around the Pit (e.g. homes and business like Serena & Lily, Rumrunner, etc.), it was determined that an effort should be made to determine who is responsible for testing air quality in East Hampton.

Susan distributed an article (attached) –

- “State urged to limit probable carcinogen found in tap water,” published by Citizens Campaign for the Environment, posted November 17, 2016.

This article argues for the establishment of standards and treatment for removal of 1,4-Dioxane in the Long Island water supply.

## Assignments

Si suggested the ESC should establish itself as an authority on the regulatory environment and assigned sub-committee members to each organization (as listed below). It was proposed that each sub-committee member familiarize themselves with their chosen regulatory organization and serve as liaison.

### Governmental/Regulatory

- |  |                          |
|--|--------------------------|
| • Environmental Protection Agency (EPA)      | Frank Dalene             |
| • U.S. House of Representatives (Lee Zeldin) | Frank Dalene             |
| • NYS Senate (Frank LaValle)                 | Frank Dalene             |
| • NYS Assembly (Fred Thiele)                 | Frank Dalene             |
| • NYS Dept. of Environmental Conservation    | Si Kinsella              |
| • Suffolk County (Bridget Fleming)           | Si Kinsella & Susan Macy |
| • East Hampton Town                          | Kathee Burke-Gonzalez    |
| • East Hampton Town Trustees                 | Si Kinsella              |

### Not-for-Profit

- |   |                  |
|---|------------------|
| • Friends of Georgica Pond              | Sara Davison     |
| • Peconic Estuary Program               | Sara Davison     |
| • The Nature Conservancy                | Sara Davison     |
| • Peconic Baykeeper                     | Sara Davison     |
| • Peconic Land Trust                    | Virginia Edwards |
| • Citizens Campaign for the Environment | Susan Macy       |

### For-Profit -- TBD

- Suffolk County Water Authority (SCWA)
- Wainscott Hamlet Center LLC (the Pit)
- Wainscott Commercial Center LLC (the Pit)
- Suffolk Cement Inc. (the Pit)

### Judicial Considerations

- |                          |                     |
|--------------------------|---------------------|
| • State Attorney General | Carolyn Logan Gluck |
| • Legal Cases            | Carolyn Logan Gluck |

Next meeting: TBD in early December, probably Monday or Friday.

Immediate action points –  
Emailed on November 19, 2016

1. Si Kinsella & Kim Shaw are to arrange a meeting between the Suffolk County Health Department and ESC on the soonest available Monday or Friday.
2. Si Kinsella to draft a plan that offers private testing of wells for hexavalent chromium around the cement plant in Wainscott.
3. Rick Del Mastro to investigate the nature and danger posed by airborne hexavalent chromium and to ascertain the method used to quantify airborne hexavalent chromium contamination.
4. ECS members to email by reply dates during the holiday period when they will be unavailable for ESC meetings.

## Chromium-6 Detected in East Hampton Wells

By [Joanne Pilgrim](#) | September 27, 2016 - 10:24am

The Suffolk County Water Authority's base in East Hampton Taylor K. Vecsey

A toxic element labeled a carcinogen by the federal Department of Health and Human Services has been found in 93 percent of Suffolk County Water Authority wells, including a number in East Hampton Town.

Chromium-6, or hexavalent chromium, an element that occurs naturally in rocks, plants, soil, and animals, but is also produced and used by a variety of industries, from leather tanning to chrome plating and the production of dyes and pigments -- and has been found to be released into the environment by the electric power industry — was detected in tests conducted between 2013 and 2015.



There is no nationwide safe drinking water standard for chromium-6. However, in California scientists concluded that the ingestion of tiny amounts of the element can cause cancer. In that state, chromium-6 was at the center of the legal battle chronicled in the 2000 movie, "Erin Brockovich," the true story of a legal clerk who spearheaded a fight against Pacific Gas and Electric, winning a \$333 million settlement for residents of a California town whose drinking water was poisoned by chromium-6 released by the utility.

California scientists set a safe level, at which the chemical would not be expected to cause a health risk over lifetime exposure, at .02 parts per billion. Public health goals — which are not legally enforceable — in New Jersey and North Carolina were set at .07 p.p.b.

Nonetheless, California regulators set legal limits for chromium-6 in drinking water at 10 parts per billion, "after aggressive lobbying by industry and water utilities," said the authors of a report on the chemical issued last week.

Sample levels in East Hampton water authority supplies ranged from .033 parts per billion at a Montauk well field to a high of .54 parts per billion at a Wainscott well.

Of 808 water samples from water authority wells across Suffolk County, chromium-6 was found in 751, or 93 percent of them.

In the report issued on Sept. 20, based on water test data compiled by the Environmental Protection Agency, the Washington, D.C., Environmental Working Group said that "potentially unsafe concentrations" of chromium-6 were detected in the water supplies for more than 200 million Americans in all 50 states, more than two thirds of the country's population.

Based on that, they estimated that the chemical "will cause more than 12,000 excess cases of cancer by the end of the century."

The levels of chromium-6 in East Hampton water are all below a general standard set by the federal Environmental Protection Agency. There is no E.P.A. standard of any kind specifically for chromium-6; instead, the agency has set a standard of 100 parts per billion for total chromium, which includes all forms of chromium, including chromium-6.

But, "in order to ensure that the greatest potential risk is addressed," the agency says, the assumption is that all of the chromium may be the more toxic chromium-6 — meaning that the agency allows levels of up that amount in drinking water without notification to consumers.

The water test results of samples taken from wells on Oakview Highway and Spring Close Highway in East Hampton, Fresh Pond Road in Amagansett, and Accabonac Road in Springs, as well as on Flamingo Avenue and Montauk Highway in Montauk, among others, show levels that are to be expected of the naturally occurring chromium-6, Kevin Durk, the Suffolk County Water Authority's director of water quality and laboratory services said on Sept. 21. "We have nothing close to the MCL [maximum-contaminant-level allowed] at all," he said.

The water authority follows the standards set by state and federal law regarding chromium, he said. For some chemicals, however, more stringent standards are set based on in-house analysis and recommendations. But, he said, "there is a difference of opinion about the health effects" of chromium.

The E.P.A. is reportedly evaluating the risks of chromium-6, with a report to be released for public comment next year.

But federal regulations "are stalled by a chemical industry challenge," a "standoff between scientists and advocates who want regulations based strictly on the chemical's health hazards, and industry, political and economic interests who want more relaxed rules based on the cost and feasibility of cleanup," said the authors of the report released last week, Dr. David Andrews and Bill Walker, a senior scientist and a managing editor at the Environmental Working Group.

The report details examples of how industry pressures have influenced chromium regulation. Though the E.P.A. prepared a draft report on the contaminant in 2011, the study authors say, its completion was delayed after interference by industry interests.

Under the Safe Drinking Water Act, the E.P.A. is required to test water for up to 30 unregulated contaminants every five years in order to assess whether new regulations are warranted. Over the past two decades, according to the study authors, the agency has ordered tests for only 81 chemicals and developed new regulations for only one of them, perchlorate — and those have not yet been implemented.

The federal law says the E.P.A. must determine the level of contaminants in drinking water at which no adverse health effects are likely to occur, based on exposure over a lifetime.

That "health goal," however, is not a legally enforceable mandate. It differs from the maximum-contaminant-level standard set by the agency, which is a legal limit for levels of contaminants in the water of any public system.

An E.P.A. website says that the maximum contaminant levels "are set as close to the health goals as possible after considering costs, benefits, and the ability of public water systems to detect and remove contaminants using suitable treatment technologies."

"We always try to be on the cutting edge, and be proactive," said Mr. Durk of the Suffolk County Water Authority yesterday. His lab tested water for 398 compounds last year, he said, far above the 149 contaminants for which New York State requires testing. And tests are done more frequently than required, Mr. Durk said — at a minimum of twice a year. The water authority publishes its water test results in a comprehensive report distributed to the public annually.

There are various forms of treatment the water authority could use to remove chromium from water supplies, Mr. Durk said, should that be deemed necessary, and, he said, in-home carbon filter systems have been found to remove it, at least temporarily.

### ***About the Author***

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[Joanne Pilgrim](#)

*Associate Editor*



September 2016

## Hexavalent Chromium in Drinking Water: Regulatory Update and Treatment Options

*Mary Smith, Water Research Foundation*

Hexavalent chromium is a form of the metallic element chromium. Chromium naturally occurs in rocks, animals, plants, soil, and in volcanic dust and gases. It comes in several different forms, including trivalent chromium and hexavalent chromium. Trivalent chromium is often referred to as Chromium (III) and is an essential nutrient for the body. Hexavalent chromium, or Chromium (VI), is generally used or produced in industrial processes, and has been demonstrated to be a human carcinogen when inhaled.

Water sources can be affected by hexavalent chromium naturally or through contamination plumes from industrial centers, landfills, and improper discharge of industrial processing streams. The health effects of hexavalent chromium through ingestion—the dominant exposure route for drinking water—have seen limited study and yielded uncertain conclusions. However, a study conducted by the National Toxicology Program (NTP) that was published in 2007 concluded that hexavalent chromium is carcinogenic when ingested in drinking water. Therefore, utilities and public health officials have begun to investigate the feasibility of reducing hexavalent chromium concentrations in drinking water.

### Regulatory Update

The current national drinking water standard, or maximum contaminant level (MCL), for total chromium is 100 micrograms per liter, or parts per billion (ppb), which was raised from the previous level of 50 ppb in 1991. Some states have retained stricter standards. For instance, California's current standard for total chromium is 50 ppb. Total chromium is the combined concentration of all states of the metal chromium, including hexavalent chromium and the less toxic trivalent chromium.

Hexavalent chromium is one of 20 chemicals that are currently being reviewed by the EPA for possible further regulation in drinking water. In September 2010, the EPA issued a draft risk assessment of hexavalent chromium in its Integrated Risk Information System (IRIS) database, which specifically addressed the health risk of hexavalent chromium from ingestion of drinking water. As part of the IRIS process, the toxicological reviews were completed in 2015; however, no other phases of the process have been published to the IRIS website. While the eventual outcomes of the IRIS process could include a more stringent national standard for total or hexavalent chromium, there is no current indication that this is imminent.

The results of the NTP study also triggered the Office of Environmental Health Hazard Assessment (OEHHA) in California to draft a proposed public health goal for hexavalent chromium in drinking water of 0.02 ppb. The public health goal was officially set by OEHHA, and California's Department of Public Health issued a final state MCL for hexavalent chromium of 10 ppb on April 15, 2014. To establish drinking water standards, regulators typically use the results



of toxicological studies like the NTP study to calculate a dose that is meant to protect people from a 70-year lifetime of exposure and to limit the cancer risk to one case in every million people. Regulators also consider the feasibility and costs of removing hexavalent chromium from drinking water before they establish a standard. Although the new standard was immediately effective, Senate Bill No. 385 has since authorized the Board to grant a limited time grace period for water systems to achieve compliance without being considered in violation, as long as compliance plans and strict safeguards are established.

## **Treatment and Removal**

Hexavalent chromium is found more often in ground waters than in surface waters. It can be removed using a handful of proven treatment techniques depending on the level present in the source water, removal goals, other water quality parameters, competing treatment objectives, and treatment waste disposal options. Anion exchange (both strong-base and weak-base), membrane filtration by nanofiltration and reverse osmosis, reduction followed by coagulation and precipitation, and adsorption can remove hexavalent chromium from drinking water. Research conducted by a collaboration of southern California drinking water utilities, EPA, and the Water Research Foundation found that weak-base anion exchange and reduction-coagulation-filtration could remove hexavalent chromium to below 5 ppb for the utilities' particular groundwater source. Other California utilities participating in additional Water Research Foundation studies found that strong-base anion exchange was a viable treatment for their particular water sources, particularly if residuals disposal options were readily available.

## **WRF Research on Hexavalent Chromium**

WRF has conducted the following studies to help utilities understand and address hexavalent chromium removal:

### ***Occurrence Studies***

- [\*Occurrence Survey of Boron and Hexavalent Chromium\*](#) (project #2759)
- [\*Geochemical Controls on Chromium Occurrence, Speciation, and Treatability\*](#) (project #2842)

### ***Treatment and Removal Studies***

- [\*Hexavalent Chromium Removal Using Anion Exchange and Reduction With Coagulation and Filtration\*](#) (project #3167)
- [\*Low-Level Hexavalent Chromium Treatment Options: Bench-Scale Evaluation\*](#) (project #2814)
- [\*Impact of Water Quality on Hexavalent Chromium Removal Efficiency and Cost\*](#) (project #4450)
- [\*Hexavalent Chromium Treatment with Strong Base Anion Exchange\*](#) (project #4488)
- [\*Evaluating Reduction Coagulation Filtration and Anion Exchange Brine Optimization for Cr\(VI\) Removal\*](#) (project #4445/4516)

- [Assessment of Single-Pass Ion Exchange, Adsorptive Media, and RCF for Cr\(VI\) Removal](#) (project #4423)

The following projects related to Cr(VI) treatment and removal have been funded and are in progress:

- [Scoping Study to Review Contributions of Chromium to Drinking Water from Corrosion in the Distribution System](#) (project #4562)
- [Cost-Effective Cr\(VI\) Residuals Management Strategies](#) (project #4556)
- [Bench-Scale Evaluation of Alternative Cr\(VI\) Removal Options for Small Systems](#) (project #4561)

### **Expert Symposium**

- [HexChrom 2013 Symposium](#): This workshop was held February 4, 2013 in Sacramento, California. Presenters provided in-depth information related to the latest developments in health effects research, regulation of hexavalent chromium as a contaminant, treatment techniques, and associated challenges and costs.

### **Other Helpful Documents**

- EPA's basic information page about chromium in drinking water: <https://www.epa.gov/dwstandardsregulations/chromium-drinking-water>
- California's public health goal for hexavalent chromium, Office of Environmental Health Hazard Assessment: [http://oehha.ca.gov/media/downloads/water/chemicals/phg/cr6phg072911\\_0.pdf](http://oehha.ca.gov/media/downloads/water/chemicals/phg/cr6phg072911_0.pdf)
- Information on the National Toxicology Program health effects study: <http://www.nih.gov/news/pr/may2007/niehs-16.htm>
- National Toxicology Program hexavalent chromium information page: <http://ntp.niehs.nih.gov/ntp/factsheets/ntpsexavchrnfactr5.pdf>

## Health Effects of Hexavalent Chromium

Hexavalent chromium is a toxic form of the element chromium. Hexavalent chromium compounds are man-made and widely used in many different industries.

Some major industrial sources of hexavalent chromium are:

- chromate pigments in dyes, paints, inks, and plastics
- chromates added as anti-corrosive agents to paints, primers and other surface coatings
- chrome plating by depositing chromium metal onto an item's surface using a solution of chromic acid
- particles released during smelting of ferro-chromium ore
- fume from welding stainless steel or nonferrous chromium alloys
- impurity present in portland cement.

### How hexavalent chromium can harm employees

Workplace exposure to hexavalent chromium may cause the following health effects:

- lung cancer in workers who breathe airborne hexavalent chromium
- irritation or damage to the nose, throat, and lung (respiratory tract) if hexavalent chromium is breathed at high levels
- irritation or damage to the eyes and skin if hexavalent chromium contacts these organs in high concentrations.

### How hexavalent chromium affects the nose, throat and lungs

Breathing in high levels of hexavalent chromium can cause irritation to the nose and throat. Symptoms may include runny nose, sneezing, coughing, itching and a burning sensation.

Repeated or prolonged exposure can cause sores to develop in the nose and result in nosebleeds. If the damage is severe, the nasal septum (wall separating the nasal passages) develops a hole in it (perforation).

Breathing small amounts of hexavalent chromium even for long periods does not cause respiratory tract irritation in most people.

Some employees become allergic to hexavalent chromium so that inhaling chromate compounds can cause asthma symptoms such as wheezing and shortness of breath.

### How hexavalent chromium affects the skin

Some employees can also develop an allergic skin reaction, called allergic contact dermatitis. This occurs from handling liquids or solids containing hexavalent chromium. Once an employee becomes allergic, brief skin contact causes swelling and a red, itchy rash that becomes crusty and thickened with prolonged exposure. Allergic contact dermatitis is long-lasting and more severe with repeated skin contact.

Direct skin contact with hexavalent chromium can cause a non-allergic skin irritation. Contact with non-intact skin can also lead to chrome ulcers. These are small crusted skin sores with a rounded border. They heal slowly and leave scars.

### How employees can be exposed to hexavalent chromium

Employees can inhale airborne hexavalent chromium as a dust, fume or mist while:

- producing chromate pigments and powders; chromic acid; chromium catalysts, dyes, and coatings
- working near chrome electroplating
- welding and hotworking stainless steel, high chrome alloys and chrome-coated metal
- applying and removing chromate-containing paints and other surface coatings.

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Skin exposure can occur during direct handling of hexavalent chromium-containing solutions, coatings, and cements.

### Steps OSHA has taken to protect employees from health hazards caused by hexavalent chromium

The new OSHA workplace standard requires employers to:

- limit eight-hour time-weighted average hexavalent chromium exposure in the workplace to 5 micrograms or less per cubic meter of air.
  - perform periodic monitoring at least every 6 months if initial monitoring shows employee exposure at or above the action level (2.5 micrograms per cubic meter of air calculated as an 8-hour time-weighted average).
  - provide appropriate personal protective clothing and equipment when there is likely to be a hazard present from skin or eye contact.
- implement good personal hygiene and house-keeping practices to prevent hexavalent chromium exposure.
  - prohibit employee rotation as a method to achieve compliance with the exposure limit (PEL).
  - provide respiratory protection as specified in the standard.
  - make available medical examinations to employees within 30 days of initial assignment, annually, to those exposed in an emergency situation, to those who experience signs or symptoms of adverse health effects associated with hexavalent chromium exposure, to those who are or may be exposed at or above the action level for 30 or more days a year, and at termination of employment.

For more complete information:



U.S. Department of Labor

[www.osha.gov](http://www.osha.gov)

(800) 321-OSHA

DSG 7/2006



## CCE IN THE NEWS

**Source: Newsday**

### **State urged to limit probable carcinogen found in tap water**

BY EMILY C. DOOLEY

Posted: November 17, 2016

Originally Published: November 14, 2016

Drinking water standards for a solvent and probable carcinogen found in Long Island's water supplies need to be set by the state, an official with an environmental group said Monday.

The chemical, 1,4-Dioxane, also used in personal care products, was found in nearly every water district on Long Island as part of a nationwide survey mandated by the U.S. Environmental Protection Agency.

Results of that survey were released in August.

"This is a problem that's growing . . .," said Adrienne Esposito, executive director of Citizens Campaign for the Environment, during a Hauppauge news conference Monday to put pressure on state officials.

"We need state action," Esposito said. "We need a drinking water standard."

Suffolk County Legis. Kara Hahn (D-Setauket), who chairs the environment, planning and agriculture committee, said she was also working to make a similar request on behalf of the legislature.

Used as a stabilizer for industrial chemicals and in personal care products like detergent, 1,4-Dioxane cannot be treated through normal processes like air strippers.

Monday, the Suffolk County Water Authority announced it had approval from the state Department of Health to build and use a treatment system to remove the chemical. It is the first of its kind approved in New York.

"Our expectations are that this process could be the solution regulators have been looking for to address this emerging contaminant of concern," said SCWA Chief Executive Officer Jeffrey W. Szabo said in a news release.

More than 80,000 chemicals are registered for use nationwide and EPA regulations set safe drinking water levels for 96 contaminants. Every five years, in an attempt to gauge what other compounds may be in drinking water, the EPA requires water suppliers serving at least 10,000 people to test for up to 30 unregulated contaminants, from viruses and hormones to metals and volatile organic chemicals.

While the EPA does not have a drinking water regulation for 1,4-Dioxane, New York State has a catchall limit for 50 parts per billion for unregulated contaminants. In a statement, the state Department of Health said it urged the EPA to set standards for "unregulated contaminants in order to equitably protect all Americans."

As part of the EPA survey, Hicksville Water District officials learned one of their wells detected 33 parts per billion of 1,4-Dioxane, the highest amount in the nation.

The district took the well out of normal use, making it the first to go offline when demand was lower and the last to go live in cases of high use.

It also asked the EPA and state Department of Environmental Conservation for help finding the source, and is part of a pilot program to test a removal system.

**"This is a problem that's growing," Esposito said. "This is a problem that's real. And we have the chance to get in front of this before it gets worse."**

Local water suppliers would like a national standard set by EPA that gives them time to get treatment systems in place, not something installed politically, said Dennis Kelleher, president of H2M Water and public relations representative for the Long Island Water Conference, a coalition of more than 50 water suppliers and industry representatives.

"We should be asking the EPA to set the standard," he said. "It's not a political issue, it's a scientific issue."