

# **MODOCK SPRINGS TCE CONTAMINATION VICTOR, NY**

**NYS Inactive Hazardous Waste Site ID#: 8-35-013  
EPA ID: NY0002268860**

- **Contamination Overview**
- **Impact Summary**
- **Victor Citizens Against Contamination**
  - **Accomplishments**
  - **Keys To Success**
- **Recommendations**

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## **CONTAMINATION OVERVIEW**

- **Early 1990 Volatile Organic Compounds are identified in the main water supply used by both the Town and Village of Victor.**
- **Nature and initial levels of contamination in 1990 water sample:**
  - **TCE: 20 micrograms per liter = 20 ug/L = 20 ppb**
  - **TCA: 55 ppb**
  - **DCE: 2.4 ppb**
  - **These are measurements taken with technology and processes known to be much less accurate as the mechanisms in place today.**
  - **The NYS DOH considered these levels to be “very very low”**
- **About 7200 residents affected.**
  - **67% growth in population since ( 2006 population: 12000)**
- **Victor moves to an alternative water supply.**
  - **Lake Ontario and Hemlock Lake.**
  - **Many private wells are converted to the public water supply.**
- **Investigation begins in 1990 and is on-going.**

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## **PLUME CHARACTERISTICS**

- **Plume Properties:**
  - **Size:** Length = 6000 feet. (about 1 mile)  
Width = about 1000 feet.  
Depth = 5 – 10 feet. (saturated sand and clay below)
  - **Volume:** > 100, 000, 000 gallons of groundwater.
  - **Age:** About 35 years based on length and GW velocity of 175 ft. / yr.
  - **Spring Discharge:** > 100 GPM = > 52, 000, 000 gal. / yr.
- **Hydrogeologic Parameters:**
  - **Gradient:** .007 to .017 (increase toward Springs)
  - **Conductivity:**  $2 \times 10^{-3}$  to  $2 \times 10^{-4}$  cm / sec  
(decreases toward Springs)
  - **Porosity:** 20% to 30%
  - **Groundwater Velocity:** 175 ft. / year

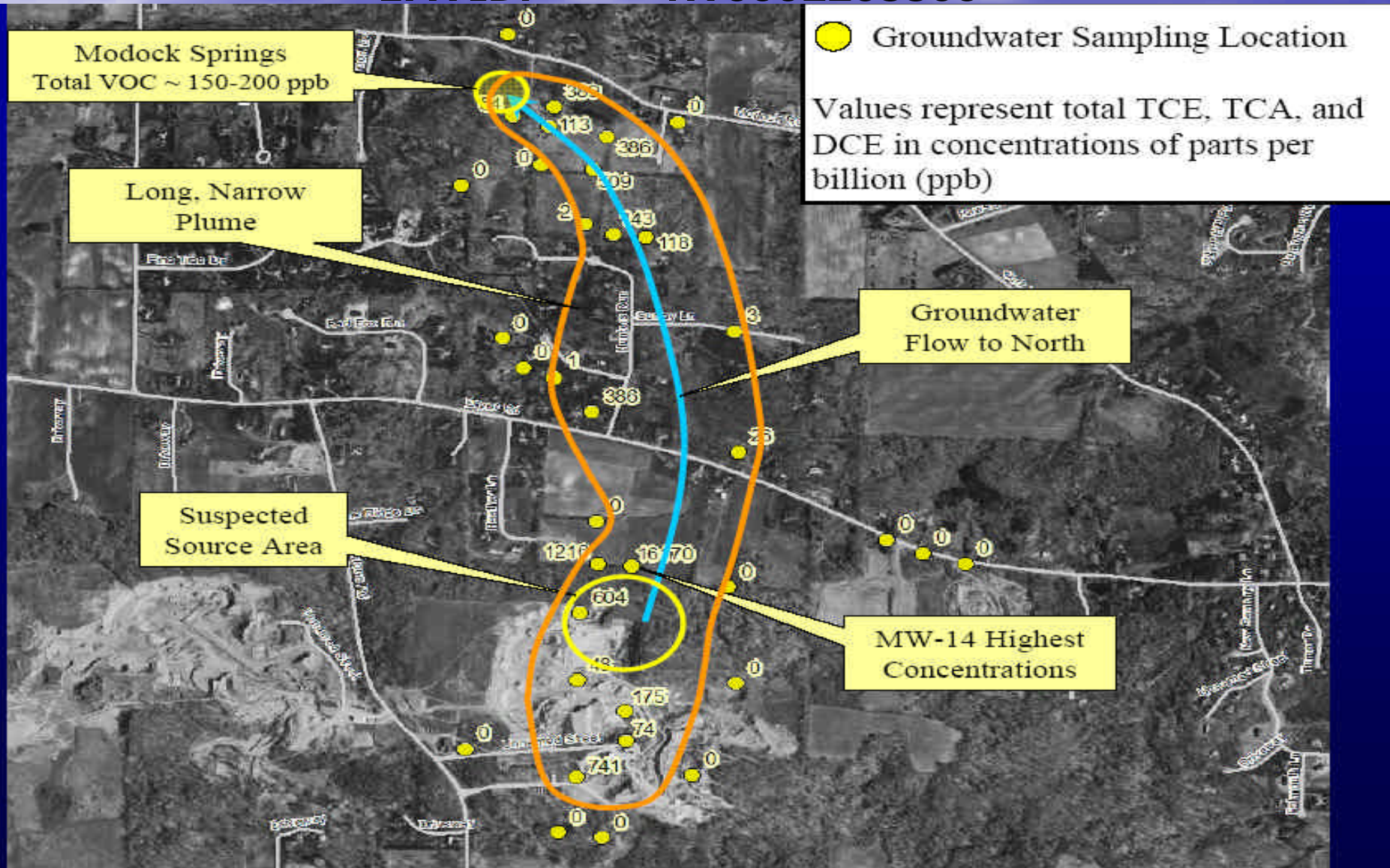
Michael Barry

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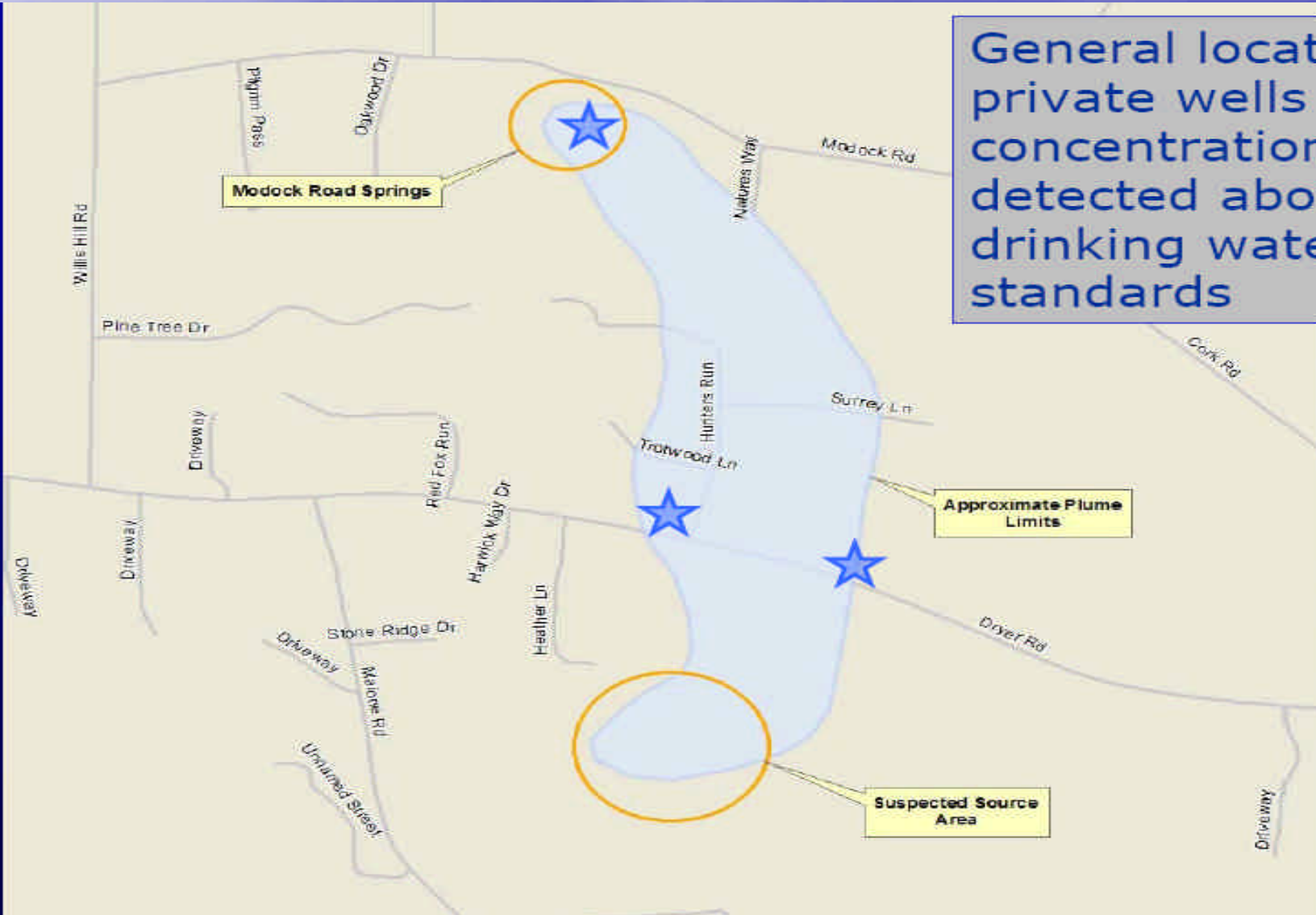
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General locations of private wells with concentrations detected above drinking water standards

Suspected Source Area

Approximate Plume Limits

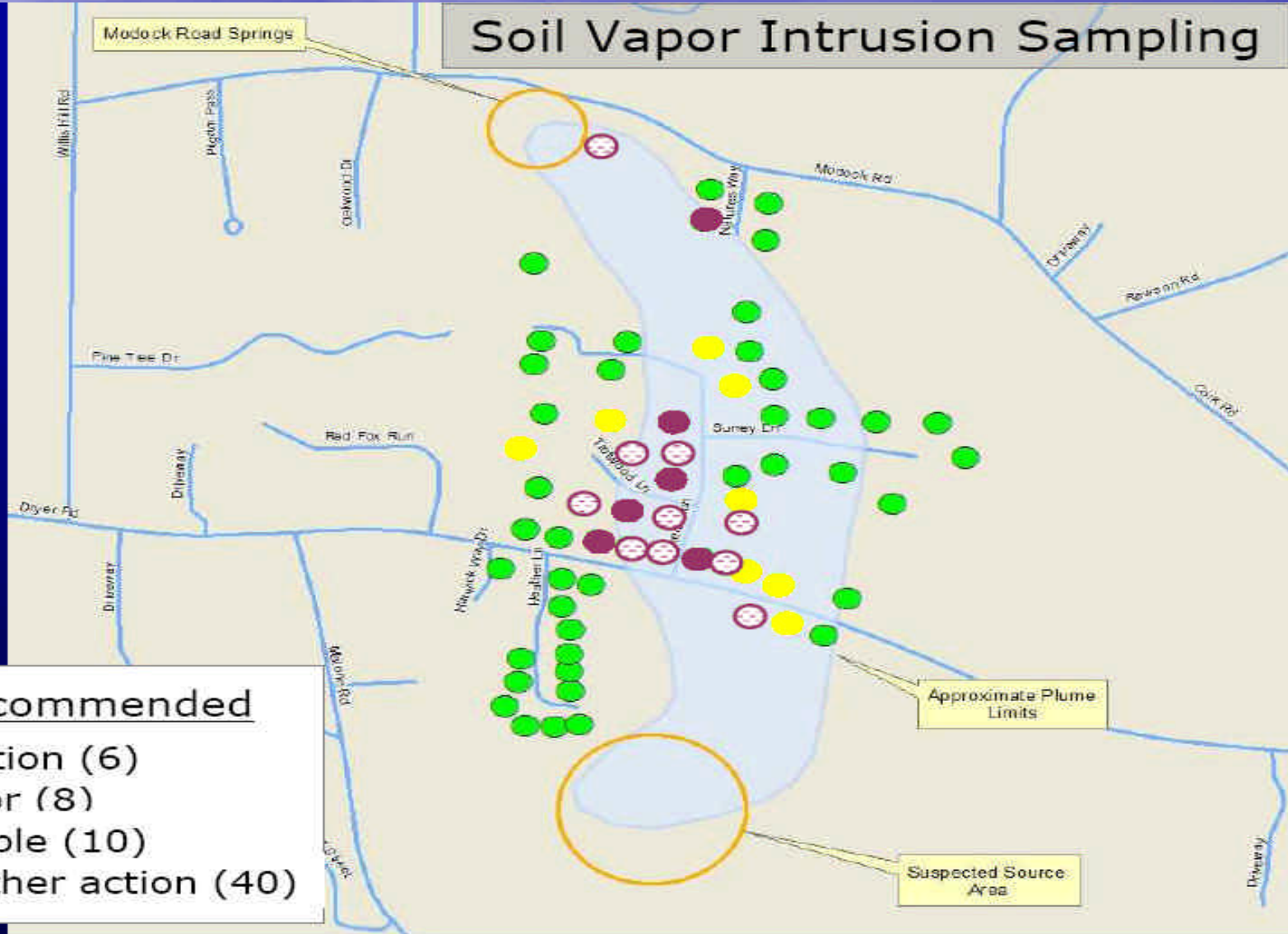
Modock Road Springs

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## **ENVIRONMENTAL IMPACT SUMMARY**

- **Several spring-fed streams are part of the headwaters of a tributary of Irondequoit Creek.**
  - **Both wild and stocked trout fishery.**
  - **Total VOC contamination ranges from 44 ppb to 1 ppb**
- **Total VOC concentrations at the Modock Springs have ranged up to 517 ppb:**
  - **TCE: up to 320 ppb**
  - **TCA: up to 180 ppb**
  - **DCE: up to 17 ppb**
- **Highest groundwater reading in the plume:**
  - **1670 ppb total VOC's**

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**PRIVATE WELL IMPACT SUMMARY**

- **60 wells tested from 1990 – 2006**
- **97 wells tested total between 1990 – 2008**
- **4 private wells found with “actionable” levels of TCE**
- **4 % - 7% impact rate.**
- **Total VOC’s range from 0.5 PPB to 386 PPB**

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## VAPOR INTRUSION IMPACT SUMMARY

- 64 homes tested between February and May of 2007
- 8 additional homes tested during 2007/2008 heating season.
- 24 homes with "actionable" levels.
  - mitigation, re-sampling, or monitoring
  - 33% - 38% impact rate.
- 6 homes required vapor mitigation (per DEC/DOH decision matrix)
  - 8% - 9% impact rate.
- Highest vapor intrusion readings:
  - sub-slab TCE: 1,700 micrograms per cubic meter
  - sub-slab TCA: 5,900
  - sub-slab DCE: 1,100

**–NOTE: 1 microgram per cubic meter = 1 mcg/m<sup>3</sup> = 1 ug/m<sup>3</sup>**

**1 ppb = 5.37 ug/m<sup>3</sup>**

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## **HEALTH IMPACT SUMMARY**

- **28 people living with cancer or severe health problems.**
- **15 known cancer deaths.**
- **3 known cases of Glioblastoma brain cancer.**
- **Other known forms of cancer, diseases or health problems include:**
  - ❖ **Lupus.**
  - ❖ **Lymphoma.**
  - ❖ **Esophageal cancer.**
  - ❖ **Brain tumors.**
  - ❖ **Reproduction issues.**
- **Cancer Cluster study started by DOH in June 2007**

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## **PROPERTY VALUE IMPACT SUMMARY**

- **Assessments reduced 10% - 20% on 60 properties.**
  - **Assessment reductions range from \$7,300 - \$125,000**
  - **Assessment reductions total approximately \$1.2M**
- **35 acre land sale terminated ... loss of \$400,000**
- **2 homes sold for less than assessed value.**
  - **Losses of \$38K and \$50K**
- **4 properties currently on the market and not able to sell.**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (ACCOMPLISHMENTS)**

- **Home meetings:**
  - **Town Supervisor and State Senator**
  - **NGO's: Center For Public Environmental Oversight (Lenny Siegel)**  
**National Disease Clusters Alliance (Dee Lewis)**
- **Discussions with other NGO's:**
  - **National Center For Health Housing (Rebecca Morley)**
  - **Center For Health, Environment and Justice (Steve Lester and Ron Davis)**
- **Meeting with University of Rochester epidemiology and toxicology researchers.**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (ACCOMPLISHMENTS)**

- **Designed and implemented a public awareness communications system:**
  - **web page: [www.victornytce.org](http://www.victornytce.org)**
  - **email list: [vcac@victornytce.org](mailto:vcac@victornytce.org)**
- **Cancer cluster study started for the plume area.**
- **Health Statistics Review started for the Village area.**
- **A formal civil and criminal investigation of wrong doing.**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (ACCOMPLISHMENTS)**

- **Installation of vapor mitigation systems in 31 homes:**
  - **Excludes the 6 identified by the DEC as requiring mitigation.**
  - **Argument based on the 2006 NYS Assembly report:**
    - ❖ **Vapor Intrusion of Toxic Chemicals: An Emerging Public Health Concern by Assemblyman Thomas P. DiNapoli Chairman of New York State Assembly Committee on Environment Conservation.**
  - **Statement to my State Senator:**

***"While my soil vapor intrusion results indicate minimal exposure, my well is known to have the highest contamination of any private well and because no clean up plan has been published, I demand that a vapor mitigation system be installed at my house. I will no longer play Russian Roulette with my family's health."***

**Michael Barry**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (ACCOMPLISHMENTS)**

- **Town appointed Task Force.**
  - **Communication liaison between the people and DEC/DOH**
  - **Analyze impact.**
  - **Make recommendation to Town Board.**
- **Assessment reduction plan.**
  - **60 homes.**
  - **Property Assessment Exemption (proposed at local and state levels).**
  - **More work needed.**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (ACCOMPLISHMENTS)**

- **Property Value Protection Plan.**
  - **Address equity damage on most damaged properties.**
  - **Reimburse homeowners who have experienced real estate losses.**
  - **Public water connections at no cost to the homeowner.**
  - **Ensure fair market value for all eligible properties.**
  - **Paid for by \$1.2M fund from State Senator and Responsible Party.**
  - **Collaborate with responsible party, state agencies and town.**
    - **Lawyers are expensive and take time.**

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## **VICTOR CITIZENS AGAINST CONTAMINATION (KEYS TO SUCCESS)**

- **Organize people open to recognizing the nature of the problem and willing to work on a resolution.**
- **Focus on the health and economic impact.**
- **Identify local, state and federal representatives.**
- **Determine funding sources and hit them hard.**
- **Be aggressive and persistent with all local, state and federal officials and pertinent agencies.**
- **Leverage the election season.**
- **Get involved with NGO's**
- **Develop relationships with advocacy leaders in other communities.**
  - **New York Vapor Intrusion Alliance ([members@nyvia.org](mailto:members@nyvia.org))**

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## **RECOMMENDATIONS**

- **Write State wide guidelines to assist Assessors in evaluating residential property values in contaminated areas.**
  - Training
  - Collaboration with other Town Assessors.
- **Legislation for Property Assessment Contamination Exemption.**
  - Similar to Senior Citizen and Veteran exemptions
- **Appoint local level Task Forces for investigating the impact on the health and property values.**
- **Impose deed restrictions on development near contamination sites.**
  - Prevent wells from being drilled on or near contamination zones.
  - Require installation of vapor mitigation systems in all new homes.
- **Implement blanket mitigation for existing homes.**
  - Install public water and vapor mitigation systems.
- **Implement Property Value Protection Plan variant.**

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## **RECOMMENDATIONS**

- **Review water quality insurance plans for all municipalities.**
  - **Do they test for these types of VOC's?**
  - **Do they insure against contamination?**
- **Require private wells to be tested during real estate transactions.**
  - **Similar to the requirements for septic systems.**
- **Review how businesses report the use of toxic chemicals to local fire districts.**
  - **A means of tracking who uses what and keeping responsible parties accountable.**

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- **Develop and implement a web-based national disease database system.**
  - **Based on professionally designed disease survey instruments.**
  - **Integrates with existing government health related databases.**
  - **Open and shared access.**
  - **Reports by leading epidemiologists and toxicologists.**
- **Utilize contamination site web pages for posting public information.**
- **Lower the 5 PPB standard to 1 PPB.**
  - **Remember, we all used to smoke and not wear seat belt because we didn't know better ...**  
**... then we changed the standards.**

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## **RECOMMENDATIONS**

- **Adopt local, state and federal legislation based on:**
  - **2006 New York State Assembly Vapor Intrusion of Toxic Chemicals report by Assemblyman Thomas P. DiNapoli**
  - **The Toxic Chemical Exposure Reduction Act proposed legislation by U.S. Senator Clinton in 2007.**