

1,4-Dioxane Sampling Update

Brookhaven National Laboratory
Community Advisory Council
March 9, 2017

Jason Remien
Manager, Environmental Protection Division

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1,4-Dioxane Articles

Newsday <http://www.newsday.com/news/health/dec-tells-laundromats-to-test-for-cancer-linked-chemical-1.1305432>

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DEC tells laundromats to test for cancer-linked chemical

January 31, 2017 By Emily C. Dooley emily.dooley@newsday.com

State environmental officials are requiring three Long Island laundromats to test for an unregulated man-made chemical that is a possible carcinogen and has been found in trace amounts throughout most of the area's drinking water supply.

Earlier this month, the Department of Environmental Conservation approved discharge permits for laundromats in St. James, Brentwood and Lake Ronkonkoma and required that the businesses test for 1,4-dioxane weekly for one month.

DEC's regional director Carrie Meek Gallagher said 1,4-dioxane is an emerging water quality threat on Long Island and requiring the laundromats to test for the chemical "will add to important data sets to help determine potential sources of this contamination and inform future response actions."

The chemical is used as a solvent in manufacturing operations but it is also believed to be in about 46 percent of cleaning and personal care products including detergents and soaps.

Results of an Environmental Protection Agency survey of drinking water supplies released in August found the chemical to be present at a 1-in-a-million cancer risk level in 7 percent of samples tested nationwide. On Long Island, 1,4-dioxane was found at the same cancer risk level or higher in 71 percent of water districts tested, Newsday reported last month.

The Citizens Campaign for the Environment requested the laundromats test for the chemical when their wastewater discharge permits were up for renewal, said Adrienne Esposito, executive director of the Farmingdale not-for-profit advocacy group.

"There are numerous laundry detergents that have high quantities of 1,4-dioxane and we are very concerned about laundromats being a point source of contamination," she said. "The DEC's action is an indication of the seriousness of the issue."



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Water Online

News Feature | January 18, 2017

New York Struggles With 1,4-Dioxane In Drinking Water

By Peck Johnson

Long Island, NY, has a growing problem with its drinking water.

In August, the U.S. EPA released a survey that showed 1,4-dioxane, a man-made chemical, contaminated the island's water and exceeded the national average.

1,4-dioxane emerges in the creation of personal care products such as "cosmetics, toothpaste, shampoos, and deodorants through a process known as ethoxylation, which is conducted to make these products less abrasive and increase their foaming." The compound has been classified as a carcinogen by the EPA.

"Once down the drain, the chemical is highly mobile in soil and does not easily break down, leading to contamination of groundwater-fed water sources, also known as aquifers or artesian wells," Harry Somma, the Long Island program coordinator for Citizens Campaign for the Environment (CCE), said. CCE is leading a fight to establish safe drinking water standards for 1,4-dioxane in New York.

Last month, CCE called on New York State to create a health-based safe drinking water standard to protect consumers. The Suffolk County Legislature sent a letter to Governor Andrew Cuomo calling on the state's department of health to create the standard.



Newsday http://www.newsday.com/long_island/gillibrand_bill_would_require_epa_to_set_drinking_water_standards-1.13207400

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Gillibrand bill would require EPA to set drinking water standards

March 3, 2017 By Emily C. Dooley emily.dooley@newsday.com

U.S. Sen. Kirsten Gillibrand (D-N.Y.), who has introduced a bill that would require the U.S. Environmental Protection Agency to set drinking water standards for certain contaminants or compounds, speaks during a roundtable discussion about scams that target seniors on Sunday, Feb. 26, 2017. (Credit: Jeff Bachner)



Sen. Kirsten Gillibrand introduced a bill Thursday that would require the U.S. Environmental Protection Agency to set drinking water standards for a probable carcinogen and certain other contaminants or compounds.

The bill would amend the Safe Drinking Water Act and force the EPA to regulate the probable carcinogen 1,4-dioxane, two perfluorinated compounds that affect the immune system, and perchlorate, which disrupts the thyroid.

"When it comes to drinking water, you have to live by the theory of 'it's better to be safe than sorry,'" Senate Minority Leader Chuck Schumer (D-N.Y.), who is a co-sponsor of the bill, said in an interview Friday. "We will push hard to get this through."

The bill has been referred to the Senate Committee on Environment and Public Works, of which Gillibrand (D-N.Y.) is a member. *Representatives of other senators on the panel did not respond.*

Senator Phillips Discusses Need to Protect Long Island's Water Supply With State Commissioners of Health and Environmental Conservation

STATE HEALTH AND ENVIRONMENTAL CONSERVATION | February 10, 2017

STATE ENVIRONMENTAL PROTECTION AGENCY/ENVIRONMENTAL PROTECTION AGENCY



Senator Phillips (D-Massachusetts) recently took part in a roundtable session with the State Commissioners of Health and Environmental Conservation to discuss efforts to protect Long Island's water.

01-27-17

SCHUMER, GILLIBRAND: POSSIBLE CANCER-CAUSING CHEMICAL FOUND IN LI WATER SUPPLY REQUIRES IMMEDIATE EPA SCRUTINY TO ENSURE PUBLIC HEALTH; SENATORS CALL ON EPA TO SPEED UP HEALTH RISK ASSESSMENT OF 1,4-DIOXANE & DELIVER ANSWERS TO ANXIOUS PUBLIC; NO TIME TO WAIT

EPA Survey Finds that 11 Water Districts Exceeded the NYS & National Average for Traces of 1,4-Dioxane—A Possible Carcinogen; Federal Maximum Contaminant Level in Drinking Water Does Not Fit Good for the Chemical & Many Questions On Health Risk Remain

Senators Backed TSCA Law That Names 11 Chemicals As One EPA Must Investigate; Senators Urge Agency To Accelerate Most Frisk Risk Evaluation For 1,4-Dioxane & Consider Max Contaminant Level

Schumer, Gillibrand: We Cannot Afford An EPA Backtrack When It

Testing, Testing Everywhere, To Keep It Safe To Drink

With help, East/West leads in Beekmantown (again)

Albany's 53M offer keeps Nature's Bounty Co. in LI

Children's Heart Foundation grant is a Long Island first

Building a better economy, one hoop after a time

Suffolk BIA tar deal backs

01-27-17

Citizens Campaign unveils map of 1,4-Dioxane water contamination

Updated February 26, 2017 7:22 PM

FARMINGDALE - The Citizens Campaign for the Environment has made a easier for residents to see just how widespread the contamination of Long Island's water is.

According to their recent evaluation, Long Island water suppliers have reported the highest levels of 1,4-dioxane contamination in the nation. The chemical, found in products such as detergents and baby wipes, is listed as "likely to be carcinogenic to humans" by the Environmental Protection Agency.

The group has posted an interactive map on its website that lets Long Islanders view their town's level of 1,4-dioxane in the groundwater.

Executive Director Adrienne Esposito says health officials have not agreed on how many parts per billion that 1,4-dioxane should be considered unsafe in drinking water.

Newsday http://www.newsday.com/long_island/epa_needs_to_set_drinking_water_standard_for-dioxane-1.13107912

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State: EPA needs to set drinking water standard for 1,4-dioxane

February 11, 2017 By Emily C. Dooley emily.dooley@newsday.com



From left, Dr. Harold Walker, co-director of the Stony Brook Center for Clean Water Technology, Carrie Gallagher, regional director for the state Department of Environmental Conservation, with state Health Commissioner Dr. Howard Zucker as he signs a letter to the EPA. Suffolk County Executive Steve Belton is at right. They were at a meeting on water quality issues at Stony Brook University Feb. 11, 2017. (Credit: Ed Bock)

Gov. Andrew M. Cuomo, state and Suffolk County officials on Saturday pressed the U.S. Environmental Protection Agency to set a drinking water standard for 1,4-dioxane, a probable carcinogen found in trace amounts throughout Long Island's drinking water supply.

The state Department of Environmental Conservation said it will expand New York's Superfund program to require that all hazardous waste sites be evaluated for the man-made chemical, a manufacturing solvent that is also found in detergents, shampoos, deodorants and other products.

The announcement came after state officials, politicians, activists, and water industry professionals met at Stony Brook University's Center for Clean Water Technology. Several of those in attendance co-signed a letter Cuomo wrote to asking EPA Administrator Catherine McCabe, asking her to regulate 1,4-dioxane nationally and invest in treatment technology.

State Health Commissioner Howard Zucker said New York will give the EPA about three months to respond before moving to set its own safe drinking water standard.

"This is a national issue and the federal government needs to step up and provide clear guidance to states on how to address 1,4-dioxane," Cuomo said in a statement to Newsday. "If they don't act, we will."

Every five years the EPA selects up to 30 unregulated contaminants for suppliers to test for in order to get a picture of how prevalent they may be and at what concentrations. It's one way the federal agency decides whether to set a drinking water standard.

Community Corner (New York/Northfork/around town)

Environmentalists Warn of New, Emerging Carcinogen Found in Personal Care Products

Environmentalists asked state to set a new safe water drinking standard; the chemical is found in lotions, shampoos, makeup, they say.

By Lisa Finn (Patch Staff) - (@lisa.finn) /user/lisa-finn-22148ec/ November 14, 2016 2:49 pm ET P (@http://my.patch.com/user/26781745/edtd)

Citizens Campaign for the Environment and Suffolk County Legis. Kara carcinogen they say is found in baby lotion, baby wipes, and other personal care products.

The group held a press conference Monday, calling on New York Gov. Andrew Cuomo "to establish a safe drinking water standard for 1,4-dioxane, an emerging contaminant used in many personal care products," according to a release from Adrienne Esposito, executive director of CCE.

According to Esposito, who also spoke at a meeting on Saturday organized by the East Marion Community Association, 1,4-dioxane has been detected at levels exceeding the Environmental Protection Agency's health reference guideline for cancer risk, set at .35 micrograms per liter, in 72 percent of Long Island public water systems tested for the contaminant.

Of the 4,400 water supply systems tested by the EPA nationwide, the highest levels of the contaminant were found on Long Island, she said.

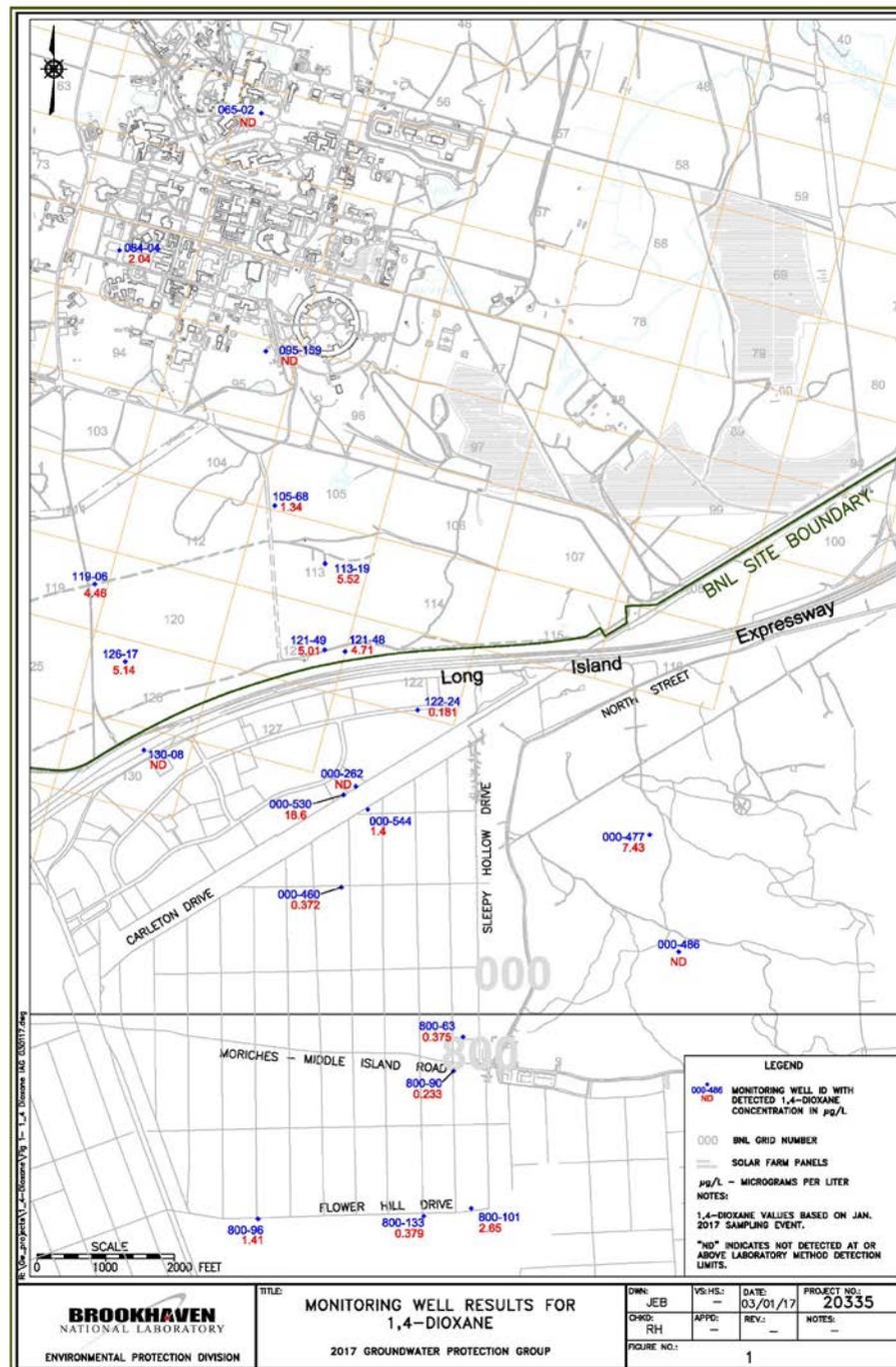
CCE submitted a letter to Cuomo and met with his staff to urge both action and the creation of "a safe drinking water standard for 1,4-dioxane, which

1,4-Dioxane Sampling Update

- In response to a recommendation by the NYSDEC/ NYSDOH during their review of the 2015 Groundwater Status Report, BNL agreed to collect samples from 22 representative groundwater monitoring wells on and off site that currently or historically had significant TCA concentrations or are downgradient of those locations.
 - Since the late 1950's, 1,4-dioxane has been used as a stabilizer for TCA
- The CAC was last briefed in January on the planned sampling
- Samples were collected in mid-January and analyzed via EPA Method 522 (low detection limit)

1,4-Dioxane Sampling Results

- Detected in 17 of the 22 monitoring wells
- Concentrations ranged from 0.18 $\mu\text{g}/\text{L}$ to 18.6 $\mu\text{g}/\text{L}$
- All concentrations were below the current NYS standard for non-specific organic contaminants of 50 $\mu\text{g}/\text{L}$



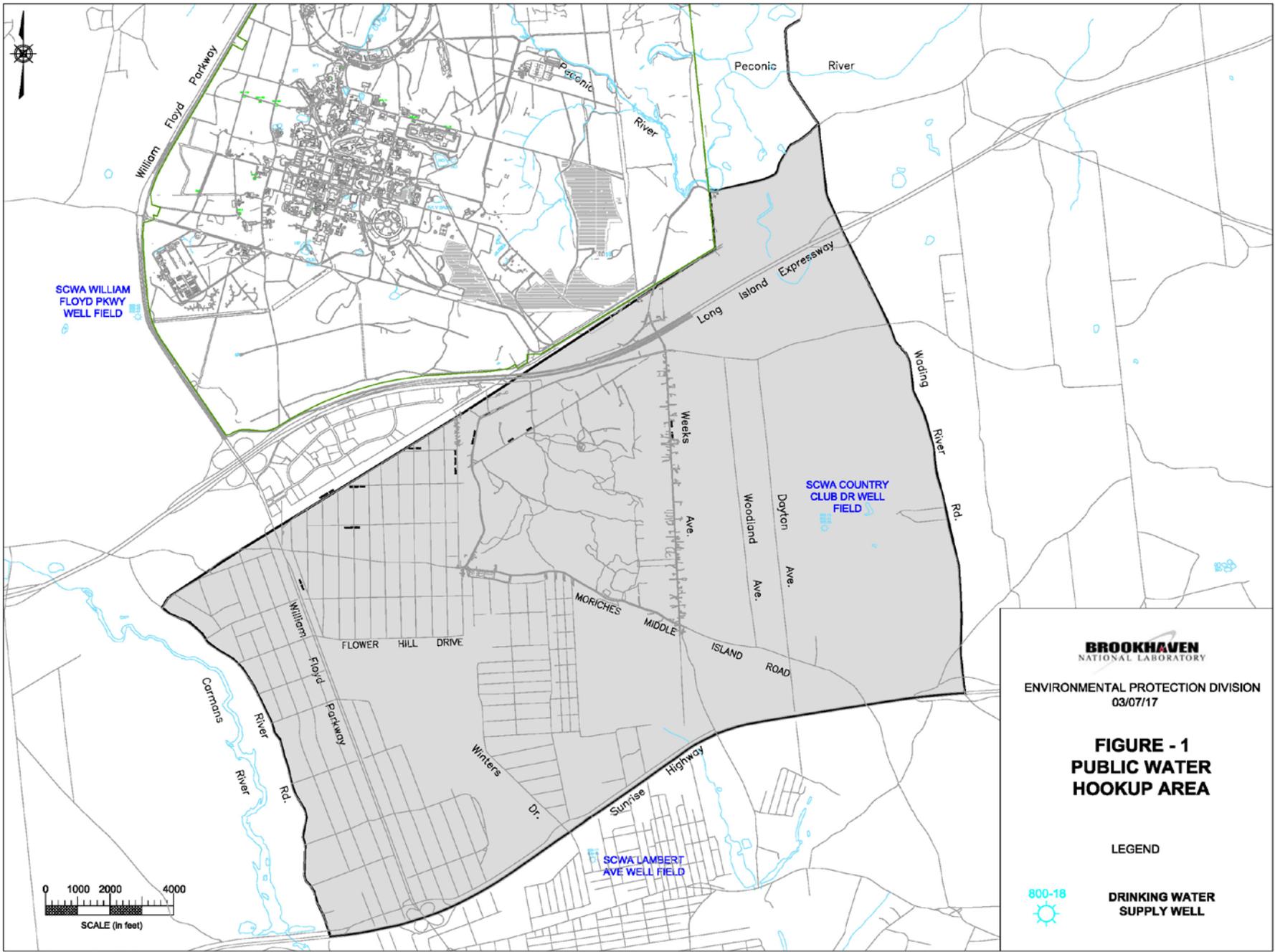
1,4-Dioxane Sampling Update

- Drinking Water Supply Well Testing:
 - BNL's drinking water supply wells were tested by SCDHS in 2015 and 2016 and no 1,4-dioxane was detected
 - SCWA testing of drinking water supply wells downgradient of the Lab also did not detect 1,4-dioxane
- The groundwater monitoring data were reviewed with the regulators on March 2nd
 - Because an individual drinking water standard has not been established for 1,4-dioxane, there was considerable discussion between the regulators on how this data will be utilized and the need for any follow-up
 - The 1,4-dioxane monitoring results will be included in the 2016 Groundwater Status Report
- BNL will continue to monitor regulatory discussion and action on this emerging chemical of concern, and keep the CAC informed

Backup Slides

1,4-Dioxane Sampling Update

Well ID*	Project	Date Sampled	Depth (ft bls)	1,4-Dioxane (µg/L)
065-02	OU III Central	1/19/2017	60	ND
084-04	OU III Central	1/19/2017	150	2.04
095-159	OU III Building 96	1/19/2017	50	ND
105-68	OU III Middle Road	1/20/2017	205	1.34
113-19	OU III Middle Road	1/20/2017	230	5.52
121-48	OU III South Boundary	1/20/2017	228	4.71
121-49	OU III South Boundary	1/20/2017	215	5.01
122-24	OU III Industrial Park East	1/19/2017	275.5	0.181 J
119-06	OU III Western South Boundary	1/20/2017	130	4.46
126-17	OU III Western South Boundary	1/20/2017	140	5.14
130-08	OU III Western South Boundary	1/19/2017	150	ND
000-477	OU III North Street East	1/18/2017	170	7.43
000-486	OU III North Street East	1/18/2017	165	ND
000-262	OU III Industrial Park	1/19/2017	182.5	ND
000-530	OU III Industrial Park	1/19/2017	210	18.6
000-544	OU III Industrial Park	1/19/2017	230	1.4
000-460	OU III LIPA	1/18/2017	300	0.372
800-63	OU III North Street	1/18/2017	206	0.375
800-101	OU III Airport	1/18/2017	280	2.65
800-133	OU III Airport	1/18/2017	225	0.379
800-90	OU III Airport	1/18/2017	255	0.233
800-96	OU III Airport	1/18/2017	189	1.41
µg/L	Micrograms per liter.			
ft bls	Feet below land surface.			
*	Wells are grouped by project from upgradient to downgradient.			
ND	Not detected, <0.2 µg/L.			



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03/07/17

**FIGURE - 1
PUBLIC WATER
HOOKUP AREA**

LEGEND



**DRINKING WATER
SUPPLY WELL**