PHARMACEUTICALS AND PERSONAL CARE PRODUCTS (PPCPs) MONITORING

PPCPs are a diverse collection of thousands of chemical substances, including prescription and over-the counter therapeutic drugs, veterinary drugs, fragrances, cosmetics, lotions such as sunscreen and insect repellants, diagnostic agents and vitamins. PPCPs from bodily excretion, bathing, and disposal of unwanted medications to septic systems, sewers or trash have the potential to enter our drinking water. Information on how to properly dispose of unwanted pharmaceuticals can be found at www.epa.gov/ppcp.

The detection and quantification of these chemicals has only recently been possible due to advances in laboratory testing technology. Presently EPA has no health standards or guidelines for PPCPs in drinking water and does not require

testing. In 2015 all of our wells were tested for 47 PPCPs, Carbamazepine, Dilantin, Gemfibrozil, Ibuprofen, Meprobamate, Naproxen, Phenobarbital, (4-Hydroxyphenyl)-5-Phenylhydantoin, Lamotrigine, Primidone, and Sulfamethoxazole were detected. The concentrations found are at levels far below medical doses, and have no known health effects.

Wherever possible, we are using granular activated carbon filtration and blending wells to remove these trace levels from the water we provide to you. Information on these pharmaceutical drugs and the results for each distribution area can be found in the tables below and on pages 12-14.

	WATER (U A	ALI	TY E	BY D	IST	ΓRI	BU	TI	ON A	RI	EA							
						Distrib	ution A	rea 1			Distrib	ution A	rea 4		[Distrib	ution A	rea 5	
Detected Compound	Likely Source	MCL	MCLG	Unit of			ange of I		_			ange of		_		R	ange of	•	_
				Measure	Violation Yes/No	Low Value			No. of Tests	Violation Yes/No	Low Value	High Value	Avg. Value	No. of Tests	Violation Yes/No	Low Value	High Value	Avg. Value	No. of Tests
Synthetic Organic Compound	ds including Pesticides and Pha	rmace	utical	S															
Carbamazepine	Anticonvulsant, mood stabilizing drug	50	n/a	ug/L	NO	ND	ND	ND	297	NO	ND	ND	ND	8	NO	ND	ND	ND	11
Dilantin	Antiepileptic drug	50	n/a	ug/L	NO	ND	0.24	ND	297	_NO	ND_	_ND_	ND	88	NO_	ND	ND	ND	_11
Gemfibrozil	Lipid lowering drug	50	n/a	ug/L	NO	ND	ND	ND	297	NO_	ND	ND_	ND	88	_NO	ND	ND_	ND	_11
	Used for determining drug levels in the body		n/a	ug/L	NO	ND	0.57	ND	149	NO_	ND	ND_	ND	_4	NO_	ND	ND	ND	_4
lbuprofen	Anti-inflammatory drug	50	n/a	ug/L	NO	ND_	0.06	ND	297	_NO	ND_	_ND_	ND_	8	_NO	ND	ND	ND	
Imidacloprid	Used as a pesticide	50	n/a	ug/L	NO	ND	ND	ND	297	NO_	ND	ND_	ND	88	_NO	ND	_ND_	ND	
Lamotrigine	Pharmaceutical anticonvulsant drug	50	n/a	ug/L	NO	ND	ND	ND	149	NO_	ND	ND_	ND	_4	NO_	ND	ND	ND	_4
Meprobamate	Antianxiety drug	50	n/a	ug/L	NO_	ND	0.06	ND	297	_NO	ND_	_ND_	ND	8	_NO_	ND	ND	ND	_11
Phenobarbital	Anticonvulsant, mood stabilizing drug	50	n/a	ug/L	NO	ND	0.25	ND	297	NO_	ND	ND_	ND	88	_NO	ND	_ND_	ND	_11
Primidone	Pharmaceutical anticonvulsant drug	50	n/a	ug/L	NO	ND	0.19	ND	149	NO_	ND_	_ND_	ND	4	_NO	ND	ND	ND	4
Sulfamethoxazole	Antibiotic	50	n/a	ug/L	NO_	ND	_ND	ND	297	_NO_	ND	_ND_	ND_	8	_NO_	ND	ND	ND	_11

	WATER (QU	ALI	TY E	SY D	IST	ri	BU	TI	ON A	RI	EA							
					[Distrib	ution A	rea 6		[Distrib	ution A	Area 7	•	[Distrib	ution A	rea 8	}
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No			Avg.	No. of	Violation Yes/No		ange of High Value		No. of	Violation Yes/No		ange of High Value	Avg.	ngs No. of Tests
Synthetic Organic Compound	ds including Pesticides and Pha	rmace	eutical	S															
Carbamazepine Dilantin Gemfibrozil (4-Hydroxyphenyl)-5-Phenylhydantoin Ibuprofen Imidacloprid Lamotrigine Meprobamate Phenobarbital Primidone Sulfamethoxazole	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Antianxiety drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50 50 50	n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	44 44 22 44 44 22 44 44 22 44 44 22 44	NO N	ND N	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	4 4 2 2 4 4 4 2 2 4 4 4 4 2	NO NO NO NO NO NO NO NO NO NO	ND N	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	8 8 8 4 4 8 8 8 8 4

						Distrib	ution A	rea 9		D	istribu	tion A	rea 10)	D	istribu	ution A	rea 11	
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No		ange of l High Value		No. of	Violation Yes/No		ange of l High Value		No. of	Violation Yes/No		ange of High Value	Avg.	No. o
Synthetic Organic Compound	ds including Pesticides and Pha	rmace	utical	S															
Dilantin Gemfibrozil _(4-Hydroxyphenyl)-5-Phenylhydantoin _lbuprofen	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Antianxiety drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50 50 50	n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	18 18 9 18 18 9 18 18 9 18	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	42 42 42 22 42 42 22 42 42 42 42 42	NO N	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	53 53 53 27 53 53 27 53 53 27 53

PHARMACEUTICALS AND PERSONAL CARE PRODUCTS (PPCPs) MONITORING (Continued)

	WATER (U A	ALI	TY E	BY D	ISI	ΓRI	BU	TI	ON A	\RI	EA							
					D	istribu	ition A	rea 12	2	D	istribu	ıtion A	rea 14	ļ.		istribu	ıtion A	rea 15	5
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No	Low Value		Avg.	gs No. of Tests	Violation Yes/No				No. of	Violation Yes/No	R Low Value	ange of High Value		No. of
Synthetic Organic Compound	ds including Pesticides and Pha	rmace	utical	S															
Carbamazepine Dilantin Gemfibrozil (4-Hydroxyphenyl)-5-Phenylhydantoin Ibuprofen Imidacloprid Lamotrigine Meprobamate Phenobarbital Primidone Sulfamethoxazole	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Antianxiety drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO N	ND ND ND ND ND ND ND ND ND ND	0.23 0.15 0.13 0.16 0.07 ND ND 0.33 1.20 0.19 ND	ND ND ND ND ND ND ND ND ND ND ND ND	327 327 327 164 327 327 164 327 327 164 327	NO N	ND N	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	15 15 7 15 15 7 15 7 15 7 15 15 7	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND ND	0.16 ND 0.10 ND ND ND 0.34 0.15 0.05 ND	ND N	220 220 220 112 220 220 112 220 220 112 220

	WATER (QU A	ALI	TY B	Y D	IST	ΓRI	BU	TI	ON A	ARI	EA							
					D	istribu	tion A	rea 20)	D	istribu	ution A	rea 23	}	D	istribu	ıtion A	rea 26	6
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No			Avg.	gs No. of Tests	Violation Yes/No		ange of High Value		gs No. of Tests	Violation Yes/No		ange of High Value	Avg.	gs No. of Tests
Synthetic Organic Compoun	ds including Pesticides and Pha	rmace	uticals	;															
	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50 50 50	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	0.06 ND 0.11 ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	85 85 43 85 85 43 85 85 43 85	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	0.08 ND ND ND ND 0.19 ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	151 151 78 151 151 78 151 78 151 151 78	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	40 40 21 40 21 40 21 40 21 40

	WATER (QU A	ALI	TY B	BY D	ISI	ΓRI	BU	TI	ON A	\RI	EA							
					D	istribu	ıtion A	rea 30)	D	istribu	ition A	rea 3	2	D	istribu	ution A	rea 35	5
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No		ange of High Value		gs No. of Tests	Violation Yes/No		ange of High Value		No. of	Violation Yes/No		ange of High Value	Avg.	No. of
Synthetic Organic Compoun	ds including Pesticides and Pha	rmace	euticals	S															
_(4-Hydroxyphenyl)-5-Phenylhydantoin _Ibuprofen _Imidacloprid	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide	50 50 50 50 50 50 50	n/a n/a n/a n/a n/a n/a n/a	ug/L ug/L ug/L ug/L ug/L	NO NO NO NO NO NO	ND ND ND ND ND ND	0.10 ND ND ND ND ND 0.19	ND ND ND ND ND ND	158 158 158 83 158 158	NO NO NO NO NO NO	ND ND ND ND ND ND	ND ND ND ND ND ND	ND ND ND ND ND ND	6 6 3 6 6	NO NO NO NO NO NO	ND ND ND ND ND ND	ND ND ND ND ND ND	ND ND ND ND ND ND	8 8 8 4 8 8
Lamotrigine Meprobamate Phenobarbital Primidone Sulfamethoxazole	Pharmaceutical anticonvulsant drug Antianxiety drug Anticonvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50	n/a n/a n/a n/a n/a	ug/L ug/L ug/L ug/L ug/L	NO NO NO NO	ND ND ND ND	ND ND ND 0.24 0.11	ND ND ND ND	158 158 83 158	NO NO NO NO	ND ND ND ND	ND ND ND ND	ND ND ND ND	6 6 3 6	NO NO NO NO	ND ND ND ND	ND ND ND ND	ND ND ND ND	8 8 4 8

					D	istribu	tion A	rea 39)	D	istribu	ition A	rea 44	1	D	istribu	ıtion A	rea 53	3
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No		ange of I High Value	,	No. of	Violation Yes/No				No. of	Violation Yes/No		ange of I High Value	Avg.	No. c
Synthetic Organic Compound	ds including Pesticides and Pha	rmace	utical	S															
Carbamazepine	Anticonvulsant, mood stabilizing drug		n/a	ug/L	NO	ND	ND	ND	10	NO	ND	ND	ND	5	NO	ND	ND	ND	18
Dilantin	Antiepileptic drug	50 50	n/a	ug/L	NO NO	ND ND	ND ND	ND ND		NO NO	ND ND	ND ND	ND ND	5	NO NO	ND ND	ND ND	ND ND	18
	Lipid lowering drug		n/a n/a	ug/L	NO	ND ND	ND.	ND	5	NO	ND ND	ND ND	ND ND	2	NO	ND ND	ND ND	ND ND	<u>18</u>
4-Hydroxyphenyl)-5-Phenylhydantoin buprofen	Used for determining drug levels in the body Anti-inflammatory drug	50	n/a	ug/L	NO	ND	ND	ND	10	NO	ND	ND	ND	5	NO	ND	ND	ND	18
midacloprid	Used as a pesticide	50	n/a	ug/L ug/L	NO	ND	ND	ND	10	NO	ND	ND	ND	5	NO	ND	ND	ND	18
amotrigine	Pharmaceutical anticonvulsant drug	50	n/a	ug/L	NO	ND	ND	ND	5	NO	ND	ND	ND	3	NO	ND	ND	ND	9
Meprobamate	Antianxiety drug	50	n/a	ug/L ug/L	NO	ND	ND	ND	10	NO	ND	ND	ND	5	NO	ND	ND	ND	18
Phenobarbital	Anticonvulsant, mood stabilizing drug		n/a	ug/L	NO	ND	ND	ND	10	NO	ND	ND	ND	5	NO	ND	ND	ND	18
Primidone	Pharmaceutical anticonvulsant drug	50	n/a	ug/L	NO	ND	ND	ND	5	NO	ND	ND	ND	3	NO	ND	ND	ND	9
	Antibiotic	50	n/a	ug/L	NO	ND	ND	ND	40	NO	ND	ND	ND	_	NO	ND	ND	ND	18

PHARMACEUTICALS AND PERSONAL CARE PRODUCTS (PPCPs) MONITORING (Continued)

	WATER (U A	ALI	TYE	BY D	IST	ΓRI	BU	JTI	ON A	ARI	EA							
					D	istribu	tion A	rea 54	4	D	istribu	tion A	rea 5	5	D	istribu	ıtion A	rea 57	7
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No			Avg.	gs No. of Tests	Violation Yes/No		ange of High Value	Avg.	gs No. of Tests	Violation Yes/No		ange of High Value	Avg.	gs No. of Tests
Synthetic Organic Compoun	ds including Pesticides and Pha	rmace	utical	S															
	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Antionvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50 50 50 50 50 50 50	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	18 18 18 8 18 18 8 18 18 18	NO N	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	12 12 12 6 12 12 6 12 12 6 12 12	NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	8 8 8 5 8 8 5 8 8

	WATER (U A	ALI	TYE	BY D	IST	ΓRI	BU	JTI	ON A	ARI	EA							
					Dis	tributi	on Are	a EFV	۷D	Dis	tributi	on Are	a RSI	ND	Dis	tributi	on Are	a SBI	WD
Detected Compound	Likely Source	MCL	MCLG	Unit of Measure	Violation Yes/No		ange of High Value	Avg.	gs No. of Tests	Violation Yes/No		ange of High Value	Avg.	No. of	Violation Yes/No		ange of High Value	Avg.	ngs No. of
Synthetic Organic Compoun	ds including Pesticides and Pha	rmace	eutical	s															
	Anticonvulsant, mood stabilizing drug Antiepileptic drug Lipid lowering drug Used for determining drug levels in the body Anti-inflammatory drug Used as a pesticide Pharmaceutical anticonvulsant drug Antionvulsant, mood stabilizing drug Pharmaceutical anticonvulsant drug Antibiotic	50 50 50 50 50 50 50 50 50 50 50	n/a	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	NO N	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	13 13 6 13 13 6 13 13 6 13	NO N	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	2 2 2 1 2 2 1 2 2 1	NO NO NO NO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	ND ND ND ND ND ND ND ND ND	4 4 4 2 4 4 2 4 4 2 4

SAFE DISPOSAL OF PHARMACEUTICALS



Pharmaceutical contamination of drinking water is an important emerging concern. Changing our practices today can prevent future pollution of our only source of drinking water. Suffolk County Water Authority has partnered with King Kullen, Citizens Campaign for the Environment and SUEZ Water to launch a first of its kind, cutting edge program for the public to safely and conveniently dispose of unwanted and expired medications. Become a part of the solution to help stop the threat of discarded pharmaceuticals finding their way into our groundwater, bays and estuaries. Simply take



your unused medications to any of the safe disposal locations on Long Island. You can find a location near you on this interactive online map:

http://www.citizenscampaign.org/campaigns/pharmaceutical-disposal/nassau-suffolk-locations.asp

ASBESTOS MONITORING

Asbestos-cement water mains are made from cement with asbestos fibers added to make the pipes strong. Although drinking water can pass through these pipes without becoming contaminated with asbestos fibers, asbestos fibers may be released through the wear or breakdown of these mains. The EPA has set the maximum contaminant level (MCL) for asbestos at 7.0 million fibers per Liter (MFL). Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps. Approximately, 2% of

the SCWA's distribution system contains asbestos-cement pipes. Although testing is required every nine years, the SCWA tests every year.

In 2015 we monitored 45 sampling station locations where asbestos-cement pipes exist. One sample from Koehler Place in Brentwood had 0.192 MFL of asbestos present. This result was well below the 7.0 MFL MCL. All other locations were non-detect (no asbestos fibers present). The sampling station at Koehler Place in Brentwood was resampled, and the results were non-detect for the resample.

MICROBIOLOGICAL TESTING and MONITORING REQUIREMENTS

To reduce the risk of illness caused by microbial contamination the SCWA tests for total coliform bacteria, including E. coli. Total coliform bacteria is a conservative indicator of the potential for contamination from waste and provides a basis for investigation to determine and correct sanitary deficiencies. E. coli is a coliform bacteria that indicates fecal contamination and an immediate concern requiring prompt investigation. The Total Coliform Rule (TCR) and Ground Water Rule (GWR) are EPA regulations that require us to test our distribution system for total coliform bacteria. When there is a total coliform-positive result found in a distribution system sample, we are then required to test our wells in the surrounding area. This is called Triggered Source Water monitoring. In 2015, all Triggered Source Water monitoring samples were total coliform-negative (no coliforms, including E. coli were found).

Total Coliform Rule (TCR) and Ground Water Rule (GWR) Monitoring

In 2015 we collected an average of 953 total coliform samples each month, including samples from East Farmingdale, Riverside, and Stony Brook Water Districts. The number of samples required is based on the population in each distribution area.

Large distribution areas (40 or more total coliform samples collected monthly), shown in Table I below, must report the highest percentage of positive samples collected in any one month. Small distribution areas (40 or less total coliform samples collected monthly), shown in Table II below, must report the highest number of positive samples.

2015 Microbiological Test Results for Distribution

TABLE I - Microbiological Test Results

For Large Water Distribution Areas

TABLE	I – Microbiological Test Result	S
	For Small Water Distribution Areas	

ompound	Violation	MCL	MCLG	Unit Measure	Likely Source	Compound	Violation	MCL	MCLG	Unit Measure	Likely Source
Total Coliform Bacteria	Yes/No	Presence of Coliform in 5% of Monthly Samples	0	n/a	Naturally Present in the Environment	Total Coliform Bacteria	Yes/No	Two or More Positive Samples	0	n/a	Naturally Present in the Environment
stribution Area		Highest Monthly Percentage Positive	Lowest Monthly Percentage Positive	Average Monthly Percentage Positive	No. of Tests for the Year	Distribution Area		Highest Monthly Amount Positive	Lowest Monthly Amount Positive	Average Monthly Amount Positive	No. of Tests for the Year
1 10	No No	0.5 % 1.9 %	0 % 0 %	0.1% 0.2%	2,333 583	None	No	0	0	0.0 %	0
15	No	0.8 %	0 %	0.1%	1,548	Distribution A	Areas 4, 5, 7	, 8, 9, 11, 14, 26, 30, 32	2, 35, 39, 44,	53, 54, 55, 57, St	ony Brook WD,

Distribution Areas 6, 12, 20, 23 had no detections of total coliform in 2015.

Dist

Distribution Areas 4, 5, 7, 8, 9, 11, 14, 26, 30, 32, 35, 39, 44, 53, 54, 55, 57, Stony Brook WD, Riverside WD, and E. Farmingdale WD had no detections of total coliform in 2015.

Bacteriological Test Results





Well Monitoring for Total Coliform

All SCWA wells prior to chlorination (source water monitoring) and the chlorinated water leaving the pump stations are tested quarterly for total coliform bacteria as required. As part of the GWR, EPA also requires reporting E. coli when found in source water monitoring. In 2015, all source water monitoring samples were E. coli-negative (no E. coli was found), except as noted in the chart below. Additional samples from these wells were total coliform-negative (no coliforms, including E. coli were found), and no sanitary deficiencies were found. In 2015, all samples collected after chlorination were total coliform-negative (no coliforms, including E. coli were found), except as noted in the chart below. Additional samples from these wells were total coliform-negative (no coliforms, including E. coli were found), and no sanitary deficiencies were found.

2015 Microbiological Test Results for Wells

Well Location	Collection Point at Pump Station	Test Results
Distribution Area 12*	Raw (prior to chlorination)	Total coliform-positive, E. coli-positive
Distribution Area 15*	Treated (after chlorination)	Total coliform-positive, E. coli-negative
Distribution Area 23*	Raw (prior to chlorination)	Total coliform-positive, E. coli-positive
* Please see map on pages 32	and 33 for the distribution area location	

Heterotropic Plate Count (HPC)

SCWA's lab also tests every filtration system and water storage tank for total coliform and performs Heterotrophic Plate Count (HPC) measurements. Since most bacteria, including many of the bacteria associated with drinking water systems, are heterotrophs, this test can provide useful informa-

tion about water quality. In 2015 the HPC results for our storage tanks were negative (no heterotrophs were found). The HPC results for our filter systems can be found in the 2016 Drinking Water Quality Report Supplement. Please see page 6 for more information on this report.



September 2015 Westbrook Main Extension Violation

In September 2015 SCWA allowed a water main project constructed by the developer for Westbrook Village condominium in Great River to be placed into service without proper approval from the Suffolk County Department of Health Services. This was considered a violation of the sanitary code Part 5-1.22. – Approval of plans and completed works. The subject water main was subsequently taken out of service. It was returned to service upon receipt of approval of completed works from SCDHS.



STAGE 2 DISINFECTANTS and DISINFECTION BYPRODUCTS RULE (Stage 2 DBPR) MONITORING

The SCWA is required to use a disinfectant to reduce the potential of microbial contamination. Minute amounts of chlorine are used to prevent bacterial growth in our distribution system. Disinfectants, such as chlorine, can react with the naturally occurring components in water to form byproducts referred to as disinfection byproducts (DBPs). DBPs, if consumed in excess of the MCLs over many years, may lead to increased health risks. To increase public health protection by reducing the potential risk of adverse health effects associated with DBPs from the required chlorination of our drinking water, the SCWA tests for two types of DBPs - Trihalomethanes (THMs) and Haloacetic Acids (HAAs). The MCL is 80 ppb for the sum of the four THMs, and for the sum of five HAAs the MCL is 60 ppb.

The Stage 2 Disinfectant and Disinfection Byproducts Rule (DBPR) is an EPA regulation that requires us to monitor our distribution system quarterly for four THMs (chloroform, bromodichloromethane, dibromochloromethane, and bromoform) and five HAAs (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, bromoacetic acid, and dibromoacetic acid). The chart below includes the range of quarterly results for the sum of the two groups of DBPs and the highest Locational Running Annual Average as required. The SCWA also monitors the wells and storage tanks for various other DBPs, including chlorate and four additional HAAs. The 2015 disinfection byproducts results for each distribution area are noted on pages 38 through 46.

2015 Stage 2 DBPR Test Results

Detected Compound		7	Total Trih	alomethanes	S	Haloacetic Acids					
Likely Source		Ву	product o	roduct of chlorination Byproduct of chlorina							
MCL				80			60				
MCLG			1	N/A		N/A					
Unit of Measure			ug/L			ug/L					
			Range o	f Readings			Range o	f Readings			
Location	Sample Site	Low Value	High Value	Annual Average	No. of Tests	Low Value	High Value	Annual Average	No. of Tests		
SCWA	1	2.94	17.24	8.18	4	ND	5.19	1.55	4		
	2	2.44	9.01	5.02	4	ND	3.56	1.18	4		
	3	ND	1.14	0.74	4	ND	ND	ND	4		
	4		28.99	19.28	4	ND	2.69	0.96	4		
	5	12.00	26.34	17.17	4	1.09	5.83	2.61	4		
	6	4.24	22.31	11.54	4	ND	1.84	0.85	4		
	7	0.36	3.58	1.96	4	ND	ND	ND	4		
	8	0.50	3.55	2.44	4	ND	3.82	2.48	4		
FHWD	1	0.72	4.42	2.24	4	ND	1.65	1.03	4		
	2	1.09	15.13	7.44	4	ND	13.89	5.79	4		
EFWD	1	ND	0.28	ND	4	ND	ND	ND	4		
	2	0.57	3.84	1.60	4	ND	0.48	ND	4		
SBWD	1	ND	2.95	2.36	4	ND	1.40	0.50	4		
	2	0.28	1.01	0.54	4	ND	ND	ND	4		
RSWD	1	0.78	2.55	1.61	4	ND	ND	ND	4		
	2	1.56	2.52	1.89	4	ND	1.33	0.48	4		

LEAD

Elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. SCWA is responsible for providing high quality drinking water, but is not responsible for the variety of materials used in a homeowner's plumbing. If you haven't run your water for several hours, you can minimize the potential for lead exposure by running your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. To schedule a lead test, please contact our Customer Service Center (contact information listed on back page). Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/safewater/lead.

Lead and Copper Rule (LCR) Monitoring

This EPA regulation requires public water systems to monitor drinking water at specific customers' taps every three years. To check the effectiveness of our pH treatment and to ensure the quality of our drinking water the SCWA performs this testing every year. If lead levels exceed 15 parts per billion (ppb) or copper levels exceed 1.3 parts per million (ppm) in more than 10% of these samples, we must improve our corrosion control (pH treatment). Based on our 2015 LCR results, we have optimal corrosion control. Additional information on our pH treatment can be found on page 9.

2015 Lead and Copper Test Results

The values reported below for lead and copper represent the 90th percentile of the total number of samples collected in each water system. A percentile is a value on a scale of 100 that indicates the percentage of a distribution that is equal to or below it.

Compound	Unit of Measure	MCL	G Acti	on Level	Source		
Lead	ug/l	0	1	5.	Househol	d plumbing	
Location	Violation Yes/No		Number of Samples		h Percentile ue (ug/l) ^{1,2}	No. of Samples Over Action Level	
SCWA	No	8/4-9/3	58	ND-8.15	2.17	0	
Fire Island	No	7/9-7/28	24	ND-9.83	7.26	0	
Stony Brook	No	8/25-9/13	23	ND-5.40	2.21	0	
Riverside	No	8/11-8/18	12	ND-1.55	1.08	0	
E. Farmingdale	No	8/17-9/8	22	ND-8.81	2.98	0	

- (1) The 90th percentile value is equal to or greater than 90% of the lead values detected in the water system.
- (2) In this case, 139 total samples were collected from the water systems shown above and the 90th percentile values ranged from 1.08 to 7.26 ug/l for lead. The action level for lead was not exceeded at any of the 139 sites tested.

Compound	Unit of Measure	MCL	G Acti	on Level	Likely Source			
Copper	mg/l	1.3	1	.3	Household plumbing			
Location	Violation Yes/No	Date of Sampling	Number of Samples	Results mg/l	90th Percentile Value (mg/l) ^{1,2}	No. of Samples Over Action Level		
SCWA	No	8/4-9/3	58	ND-0.722	0.458	0		
Fire Island	No	7/9-7/28	24	0.022-0.827	0.602	0		
Stony Brook	No	8/25-9/13	23	0.050-0.427	0.219	0		
Riverside	No	8/11-8/18	12	0.081-0.574	0.370	0		
E. Farmingdale	No	8/17-9/8	22	ND-0.301	0.210	0		

- (1) The 90th percentile value is equal to or greater than 90% of the copper values detected in the water system.
- (2) In this case, 139 total samples were collected from the water systems shown above and the 90th percentile values ranged from 0.210 to 0.602 ug/l for copper. The action level for copper was not exceeded at any of the 139 sites tested.





RADIONUCLIDES and RADIOLOGICAL MONITORING

Gross Alpha and Gross Beta

Most drinking water sources have very low levels of naturally occurring radioactive elements called radionuclides. These levels are low enough not to be considered a public health concern. Radionuclides can be present in several forms called isotopes which emit different types of radioactive particles called alpha or beta. Radioactivity in water is measured in picoCuries per liter (pCi/L). The EPA has set the maximum contaminant level (MCL), the highest level allowed in drinking water, for gross alpha (all alpha emitters except uranium and radon) at 15 pCi/L. NYS considers 50 pCi/L of gross beta activity to be the level of concern for gross beta. The gross alpha and gross beta results for each distribution area are noted on page 20.

Tritium

Some radionuclides emit gamma (also called photon) radiation. Common byproducts from nuclear reactors and waste, such as cesium-137, emit gamma radiation (also called photon emitters). Due to differences in energy levels, the MCL in pCi/L for a particular photon emitter will depend on the type of radionuclide present. Tritium, a radioactive isotope of the element hydrogen, is a weak beta emitter. It occurs naturally in the environment in very low concentrations, and may also be produced during nuclear weapon explosions and as a byproduct from nuclear reactors. The EPA has set a 20,000 pCi/L MCL for tritium. In 2015

we monitored 30 wells near Brookhaven National Laboratory for gross alpha and beta particles, tritium, and gamma radiation. These wells are located in distribution areas 12, 20, and 39. The gross alpha and gross beta results for these areas are listed in the chart on page 20. There were no detections of tritium or gamma radiation in the 76 samples tested.

Radium-226 and Radium-228

Radium, a naturally radioactive metal, occurs at very low levels in virtually all rock, soil, water, plants, and animals. Radium-226 and radium-228 are isotopes of radium. The EPA has set a combined MCL of 5 pCi/L for radium-226 and radium-228. If radium-226 is not tested, the gross alpha measurement is substituted for radium-226 to determine compliance with the MCL. Some people who drink water containing radium-226 or radium-228 in excess of the MCL over many years may have an increased risk of cancer.

From October 2007 through 2009, we monitored a well in each aquifer at all our well fields for gross alpha, gross beta and radium-228 as required, and presented the results for each year in our Drinking Water Quality Reports. Since that time, quarterly monitoring at new well fields or at new wells placed at a well field where the aquifer had not been monitored previously and continuing monitoring on existing wells as required has been performed. The results for each distribution area are noted in the chart on page 20.

IRON

Iron is naturally occurring in ground water and has no adverse health effects. At 1,000 ppb (parts per billion) of iron a substantial number of people will note a bitter astringent taste. Also, at this level, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at 50 ppb of iron, which is lower than detectable to taste buds.

Therefore, an MCL of 300 ppb represents a reasonable compromise as adverse aesthetics effects are minimized at this level. Many multivitamins may contain 3,000 or 4,000 micrograms (ppb) of iron per capsule. Additional information on our iron removal, treatment and water main flushing can be found on page 9, and the 2015 iron results for each distribution area are noted on pages 38 through 46.

MONITORING FOR TASTE AND ODOR CAUSING COMPOUNDS

IPMP (2-isopropyl-3-methoxypyrazine), produced by specific types of soil bacteria, causes a "raw potato" like taste and/or odor in drinking water. Some individuals may be sensitive to the taste and odor of IPMP at extremely low levels. There are no known health effects from this compound, nor has an MCL been set by EPA. Two wells in

Coram have IPMP, and in 2012 a filtration system to remove IPMP from the water was placed in operation. In addition to IPMP, two other odor-causing compounds were also tested for. In 2015, IPMP was found in Distribution Area 15 at a detection level of 1.0 parts per trillion (ppt)



Radon

Radon, a naturally occurring radioactive gas found in soil and outdoor air, may also be found in drinking water and indoor air. Some people exposed to elevated radon levels from sources including drinking water may, over many years, have an increased risk of developing cancer. The main risk from radon is lung cancer entering indoor air from soil under homes. For further information, call the state radon program at (800) 458-1158 or call the EPA's Radon Hotline at (800) SOS-Radon.

In 2015 we monitored for radon at 80 locations throughout our distribution system. The results for each distribution area are noted in the chart below. The test results ranged from non-detect (no radon found) to 288.9 pCi/L of radon. Currently there is no MCL for radon. The EPA is proposing to require water suppliers to provide water with levels no higher than 4,000 pCi/L of radon.

2015 RADIOLOGICAL TEST RESULTS (ALL DISTRIBUTION AREAS)

Detected Compound	G	ROSS	ALPH	A	GROSS BETA			RADON-222			RADIUM-226				RADIUM-228					
Likely Source	Ero		of Natu	ıral			oosits, missio				occuri		Erosion of Natural Deposits				Erosion of Natural Deposits			
MCL			5		50				N/A			5			5					
MCLG			0		0				0			0			0					
Unit of													pCi/L							
Measure	pCi/L pCi/L					pCi/L								pCi/L						
Distribution	Range of Readings					_	Read				Readi		Range of Readings				Range of Readings Low High Average No. of			
Distribution Area	Low Value	High . Value	Average Value	No. of Tests	Low Value	High Value	Average Value	No. of Tests			Average Value	No. of Tests	Low Value		Average Value	No. of Tests		High . Value	Average Value	Tests
1	ND	ND	ND	17	ND	ND	ND	17	ND	147.4	ND	10	ND	ND	ND	7	ND	ND	ND	7
4	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
5	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
6	ND	ND	ND	2	ND	ND	ND	2	ND	288.9	208.6	3	NA	NA	NA	0	NA	NA	NA	0
7	ND	ND	ND	1	ND	ND	ND	1	150.5	150.5	150.5	1	NA	NA	NA	0	NA	NA	NA	0
8	ND	ND	ND	1	ND	ND	ND	1	105.3	105.3	105.3	1	NA	NA	NA	0	NA	NA	NA	0
9	ND	ND	ND	4	ND	ND	ND	4	ND	ND	ND	2	ND	ND	ND	2	ND	1.18	ND	2
10	ND	ND	ND	5	ND	ND	ND	5	ND	ND	ND	2	ND	ND	ND	3	ND	ND	ND	3
11	ND	2.02	ND	13	ND	2.99	ND	13	ND	149.0	ND	2	ND	ND	ND	11	ND	1.21	ND	11
12	ND	1.74	ND	67	ND	2.77	ND	67	ND	145.3	ND	13	ND	ND	ND	15	ND	ND	ND	15
14	ND	ND	ND	3	ND	ND	ND	3	ND	114.2	ND	2	ND	ND	ND	1	1.16	1.16	1.16	1
15	ND	ND	ND	20	ND	ND	ND	20	ND	131.5	ND	6	ND	ND	ND	14	ND	ND	ND	14
20	ND	1.73	ND	44	ND	2.63	ND	44	ND	ND	ND	5	ND	ND	ND	8	ND	1.03	ND	8
23	ND	ND	ND	12	ND	ND	ND	12	ND	ND	ND	6	ND	ND	ND	6	ND	ND	ND	6
26	ND	ND	ND	5	ND	ND	ND	5	ND	268.8	142.0	3	ND	ND	ND	2	ND	ND	ND	2
30	ND	1.53	ND	8	ND	ND	ND	8	ND	175.6	ND	3	ND	ND	ND	5	ND	ND	ND	5
32	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
35	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
39	ND	ND	ND	4	ND	ND	ND	4	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
44	ND	ND	ND	2	ND	ND	ND	2	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1
53	ND	ND	ND	5	ND	ND	ND	5	ND	ND	ND	4	ND	ND	ND	1	ND	ND	ND	1
54	ND	ND	ND	5	ND	ND	ND	5	ND	ND	ND	4	ND	ND	ND	1	ND	ND	ND	1
55	ND	ND	ND	1	ND	ND	ND	1	ND	ND	ND	1	NA	NA	NA	0	NA	NA	NA	0
57	ND	ND	ND	5	ND	ND	ND	5	ND	ND	104.0	1	ND	ND	ND	4	ND	ND	ND	4
EFWD	ND	16.1	4.26	8	ND	10.3	3.00	8	ND	128.8	ND	2	ND	2.53	1.37	5	ND	1.84	1.13	5
RSWD	ND	ND	ND	1	ND	ND	ND	1	121.3	121.3	121.3	1	NA	NA	NA	0	NA	NA	NA	0
SBWD	ND	ND	ND	2	ND	ND	ND	2	ND	153.1	101.6	2	NA	NA	NA	0	NA	NA	NA	0

2015 SCWA & SCDHS RADIOLOGICAL RESULTS FOR SCWA WELLS IN E. FARMINGDALE

Sampled by	Sample Type	Date Collected	Ra 228 (pCi/L)	Ra 226 (pCi/L)	Combined Ra-226/228 (pCi/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Tritium (pCi/L)
SCWA	Compliance	1/12/2015	1.84	2.53	4.37	6.07	Not analyzed	Not analyzed
SCDHS	Surveillance	3/10/2015	Not analyzed	Not analyzed	-	16.1+/-0.5 pCi/L	10.3+/-0.2 pCi/L	<200

- 1. The Suffolk County Dept. of Health Services collected a surveillance sample at New Highway well #2 on 3/10/15 and test results for Gross Alpha showed it to be 16.1 (+/-0.5) pCi/L, which is over the MCL of 15.0 pCi/L. Since the New Highway well #2 was removed from service, an MCL violation requiring public notification has not occurred at this time. Compliance with the MCL is determined by a running annual average of radionuclide results or by a single sample that is more than four times the MCL. The MCL for combined Radium-226/228 is 5 pCi/L.
- 2. The surveillance sample collected by SCDHS on 3/10/15 would trigger SCWA to begin quarterly monitoring for radionuclides.
- 3. Additional radiological test results for wells in East Farmingdale can be found in the large green table above under the Distribution Area EFWD.





NITRATE

Nitrate naturally occurs in a number of foods, particularly vegetables. It is also used as preservatives in meats such as bacon. Nitrate is also used to make lawn, garden and agricultural fertilizers and is found in sewage and wastes from farm animals. It generally gets into drinking water by runoff into surface water or by leaching into groundwater after application or after improper sewage or animal waste disposal. Infants are particularly sensitive to nitrate. High levels of nitrate in drinking water have caused serious illness and sometimes death in infants under 6 months of age. The serious illness occurs because nitrate is converted to nitrite in the body and nitrite reduces the ability of the

infant's blood to carry oxygen. Symptoms of the illness can develop rapidly and include shortness of breath and blueness of the skin (blue baby condition). Exposure to nitrate in drinking water at levels above 10 milligrams per liter (10 mg/L) increases the risk of developing the illness. Because the effects of nitrate and nitrite are additive, water containing more than 10 mg/L of total nitrate/nitrite should not be used to prepare infant formula or other beverages for infants. To ensure the quality of our drinking water, we monitor more frequently than required. The 2015 nitrate results for each distribution area are noted on pages 38 through 46.

Go Green: Sign Up for e-Billing Today!



Even when you're paying bills, you can be helping the environment. The Suffolk County Water Authority now offers e-Billing, a quick, easy and environmentally-friendly way to pay your water bill.

With e-Billing, you can manage various aspects of your water account without leaving a paper trail. You can receive your bill electronically; set up automated payments from your checking or savings account; make a one-time payment; and view your current and past bills online.

For more information or to sign up, go to www.scwa.com.

SPECIAL INFORMATION FOR IMMUNO-COMPROMISED INDIVIDUALS

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological contaminants are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791. Individuals who think

they may have cryptosporidiosis or giardiasis should contact their health care providers immediately. New York State law requires water suppliers to notify their customers about the risks of cryptosporidiosis and giardiasis. Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic parasites found in surface water and groundwater under the influence of surface water. There have been no known outbreaks of cryptosporidiosis or giardiasis linked to any public water supplies in Suffolk County. For more information on cryptosporidiosis and giardiasis, please contact the Suffolk County Department of Health Services at (631) 852-5810.

LONG ISLAND COMMISSION FOR AQUIFER PROTECTION - LICAP



Jeffrey W. Szabo 2015 Chairman, LICAP

In late 2013, the Suffolk County Water Authority, in conjunction with the Long Island Water Conference and the Nassau-Commissioners Suffolk Water Association and with support unanimous of legislatures of both Nassau County and Suffolk County, created the Long Island Commission for Aguifer Protection to advocate for a coordinated, regional approach to

groundwater resources management.

This year, LICAP will release the first-ever State of the Aquifer report for Long Island. This inaugural State of the Aguifer report will assess the current condition of the sole source aguifer that provides all of Long Island's drinking water. We hope that this report, which will be updated every year, will serve as a vital tool in keeping Long Island residents informed about the aquifers that provide all of our drinking water and helping them to make better decisions about how to keep our drinking water safe.

A noteworthy finding during LICAP's first two years is that there are significant data gaps in island-wide water quality information that make it very difficult to draw any definitive conclusions about patterns of contamination. One primary

objective of LICAP is to create a water quality database connecting all of Long Island, as well as an island-wide monitoring program. We expect that these steps will help us to better draw conclusions about specific threats to the aquifer system and the potential damage of each threat.

Though Long Island's groundwater faces threats every day. Suffolk residents can be assured that the quality of the drinking water provided by the Suffolk County Water Authority is excellent and will continue to be so in the future. Given the extensive water quality testing required by state and federal law and the use of sophisticated treatment systems to remediate contaminants, groundwater-related threats can be prevented from becoming drinking water problems impacting Suffolk residents.

LICAP members are also hard at work creating a Groundwater Resources Management Plan to assess threats to groundwater quality and quantity. That report will serve as a blueprint for the regional management of our aquifer system. Since we are all living and working directly on top of our water supply, issues concerning the quality and quantity of water in Long Island's aquifers directly impact the quality of all of our lives. All meetings of LICAP are open to the public.

For more information on LICAP please visit the website http://www.liaguifercommission.com/home.html.

LICAP - Water Quality Mapping: The Next Step in Coordinated Water Resources Managment

For decades, researchers, scientists and officials from public agencies and water utilities have collected and analyzed water quality data from wells located all across Long Island. This data has been used to produce reports vital to the understanding of Long Island's aquifers. Water quality data from thousands of wells, as well as information about well location, the aquifer from which water was drawn, water table elevation and pumping history - is managed in dozens of independent databases by various entities. But until now, no one has attempted to unify all available information into a single database available to everyone, including the general public. Suffolk and Nassau County officials created LICAP to advance a coordinated regional approach to groundwater resources management. To that end, water suppliers from across Long Island shared water quality data from calendar year 2015 to develop a single, unified database. The creation of this database allows water utilities and public agencies to search for any chemical constituent and have results visually displayed by concentration, location, depth and sample date, among other criteria. Shown below are SCWA and LICAP public supply wells from which this water quality data was obtained.

