

To comply with state regulations, Vail's Grove Cooperative annually issues a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of the drinking water and awareness of the need to protect our drinking water sources. We test your drinking water in accordance with the requirements of New York State for numerous contaminants including, total coliform, inorganic compounds, nitrate, nitrite; lead and copper; volatile organic compounds (VOC's); total trihalomethanes(TTHM's); synthetic organic compounds (SOC's) and purgeable organic compounds (POC's). Last year, we conducted tests for contaminants, of which none was a level higher than the state allows.

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes; streams; ponds; reservoirs; springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and, in some cases, radioactive material. It can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants, inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Departments and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

This Annual Water Quality Report (AWQR) is to keep you informed about the water and services delivered to you during calendar year 2016. The Cooperative's goal is to provide a safe and dependable supply of drinking water. Our water source is from three subterranean bedrock wells (each at an approximate depth of 300 feet) located near the pump house at the North end of Vail's Lakeshore Drive. The water is pumped from the wells into two (2) 25,000-gallon storage (50,000 gallons total) tanks after chlorination and then pumped to the homes and Pavilion of the Vail's Grove community at between 70 and 80 pounds of pressure per square inch. NY State certifies operators who serve on our Public Health Committee who test chlorine levels daily. During 2016 the wells produced and delivered 101,680 gallons of potable water. In 2003, the Department of Health completed a Source Water Assessment Summary and Final report regarding the three wells at Vail's Grove. The full report is available at the Vail's Grove Office should you wish to read it.

For more information or to discuss any drinking water issues, feel free to call us at (914) 669-5100, or you may call the Putnam County department of Health located at One Geneva Road, Brewster, New York 10509 at (845) 803-1370. Kathleen Heuschkel, Vail's Grove "Principal Operator in charge" will also answer any questions on drinking water quality. She may be reached at (845) 612-1851. P. McGuinness (Operator) may be reached at (845)669-5548. J. Moore may be reached at (845)803-2786/(914)669-9606. Any issues concerning drinking water quality may also be discussed at our regular monthly board meetings on the 3rd Thursday of each month.

In light of recent terrorist activities, in the event of suspected vandalism or sabotage at the pump house; contact Kathleen Heuschkel at (845) 612-1851 or the State Police at (845) 279-6161 or the Putnam County Sheriff's office at (845) 225-4300.

Vail's Grove Cooperative, Inc. routinely monitors (by a laboratory certified by New York State) for various substances and possible contaminants in our drinking water, according to Federal and State laws and on a schedule as determined by the State of New York. Attached tables show results of some of our monitoring from several previous years and list **only detected contaminants**. On the New York State schedule, our water is tested for inorganic contaminants, nitrate, nitrite, lead and copper, volatile organic contaminants, synthetic organic contaminants and total trihalomethanes. Our water is tested for coliform bacteria once per month. A coliform violation occurs when a total coliform positive sample is positive for E. coli and a repeat total coliform sample is positive, or when a total coliform positive sample is negative for E. coli, but a repeat coliform sample is positive for total coliforms and E. coli. The MCL for coliforms is 0 per 100 ml.

During the year 2016, there were no positive coliforms bacteria detected. We also monitored for the following purgeable Organic Compounds in drinking water which were all **below** detectable limits: Dichlorodifluoromethane, chloromethane, vinyl chloride, Bromomethane, Chloroethane, Trichlorofluoromethane, 1,1-Dichloroethene, Methylene Chloride, Trans-1,2-Dichloroethene,

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Inorganic Compounds

COMPOUND	RESULT	RL/PQL	UNITS	DATE	Sec.Goal	MCL	
Hardness(CaCO3)	301		mg/L	4/25/2016			
Alkalinity (CaCO#3)	181			4/21/2016			
Chloride	97.1		mg/L	4/22/2016	250		MCL-Maximum Contaminant Level (Lower of):
Color,Appearance	<1		Color Units	4/20/2016	15		40CFR Part 141; Public Health Law, Section 225,
Fluoride	<.10		0.1 mg/L	4/20/2016		4	part 5, subpart 5-1.
Langelier Index	-0.206		pH units	4/21/2016			The highest level of a contaminant that is allowed in drinking water.
Nitrite as Nitrogen	<0.004		mg/L	4/20/2016		1	MCL's are enforceable standards.
Nitrate as Nitrogen	2.51		mg/L	4/20/2016 ..		10	
Odor at 60 degrees C	<1		1 T.O.N	4/20/2016	3		
pH	7.47		0.1 pH units	4/21/2016	6.5 -8.5		
Sulfate	26.7		3 mg/L	4/20/2016	250		
Total Cyanidel(Drinking Water)	<0.005		0.005 mg/L	4/21/2016		0.2	
Total Diss. Solids	620		10 mg/L	4/21/2016	500	*	
Turbidity	<0.20		0.2 NTU	4/24/2016	5		
Silver	<.001		0.001 mg/L	4/24/2016	0.1		
Arsenic	<.0005		0.0005 mg/L	4/22/2016		0.01	
Barium	0.114		0.001 mg/L	4/24/2016		2	
Beryllium	<.0003		0.0003 mg/L	4/24/2016		0.004	
Calcium	86.4		0.05 mg/L	4/25/2016			
Cadmium	<.001		0.001 mg/L	4/24/2016		0.005	
Chromium	<.001		0.001 mg/L	4/24/2016		0.1	
Copper	0.043		0.002 mg/L	4/24/2016		1.3	

Iron	<.01	0.001 mg/L	4/24/2016	0.3	
Mercury	<.0002	0.0002 mg/L	4/22/2016		0.002
Magnesium	20.6	0.005 mg/L	4/24/2016		
Manganese	<.001	0.001 mg/L	4/24/2016	0.05	
Sodium	24.9	1 mg/L	4/25/2016		*
Nickel	<.001	0.001 mg/L	4/25/2016		
Lead	0.003	0.001 mg/L	4/24/2016		0.015
Antimony	<.0008	0.0008 mg/L	4/25/2016		0.006
Selenium	<.001	0.001 mg/L	4/23/2016		0.05
Thallium	<.0007	0.0007 mg/L	4/23/2016		0.002
Zinc	0.065	0.002 mg/L	4/24/2016	5	

* Exceeds Secondary Goal

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AWQR 2016

HAAS'S

CONTAMINANT

DATE

MDL STANDARD

DETECTED

INFORMATION

VIOLATION

TABLE 3

HALOACETIC ACIDS(HAAS'S)

HAAS'S in our drinking water are a byproduct of the chlorination which is necessary to prevent coliform

Monochloro Acetic Acid	8/17/2016	2 ND	
Dichloro Acetic Acid	8/17/2016	1.0 ug/l ND	
Trichloro Acetic Acid	8/7/2016	1.0 ug/l ND	
Monobromo Acetic Acid	8/17/2016	1.0 ug/l ND	
Dibromo Acetic Acid	8/17/2016	1.0 ug/l 1.3 ug/l	
Bromochloro Acetic Acid	8/17/2016	1.0 ug/l 1.3 ug/l	
Total Haloacetic Acid	8/17/2016	1.0 ug/l 3.4 ug/l	
Surrogate		Recovery QC Limits	
2,3-Dibromopropionic Acid	8/17/2016	188% 70%-130%	

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Trihalomethanes

COMPOUND	RESULT	UNITS	DATE
Bromodichloromethane	1.5	0.5 ug/L	8/19/2016
Bromoform	1.7	0.5 ug/L	8/19/2016
Chloroform	0.54	0.5 ug/L	8/19/2016
Dibromochloromethane	3.1	0.5 ug/L	8/19/2016
Total Trihalomethanes(TTHM)	6.94	0.5 ug/L	8/19/2016
QA/QC SURROGATES			
%1,2-DICHLOROBENZENE	93	%	8/19/2016
%BROMOFLUOROBENZENE	94	%	8/19/2016

2016 Water Stats				
Water Supplied	K.Gal/Month	Avg. Chlorine	Coliforms	E.Coli
January	696	0.03	ND	ND
February	726	0.5	ND	ND
March	676	0.2	ND	ND
April	756	0.6	ND	ND
May	788	0.1	ND	ND
June	985	0.1	ND	ND
July	1239	0.1	ND	ND
August	1161	0.1	ND	ND
September	967	0.45	ND	ND
October	796	0.1	ND	ND
November	670	0.1	ND	ND
December	708	0.1	ND	ND
Total	101,680	ND	ND	ND
Average/daily	2,785	ND	ND	ND
average/monthly	84,730	0.2	ND	ND

	A	B	C	D	E	F	G	H	I	J
1										
2	Purgeable Organic Compounds							POC's Detected in 2016		
3	Contaminant	Date	Unit		MCLG or Standard	Detected level		Information		Violated
4										
5	Benzene	8/17/2016	ug/L		0.5	ND				
6	Bromobenzene	8/17/2016	ug/L		0.5	ND				
7	Bromochloromethane	8/17/2016	ug/L		0.5	ND				
8	Bromodichloromethane	8/17/2016	ug/L		0.5	ND		Same as above		NO
9	Bromoform	8/17/2016	ug/L		0.5	ND				
10	Bromomethane	8/17/2016	ug/L		0.5	ND				
11	n-Butylbenzene	8/17/2016	ug/L		0.5	ND				
12	sec-Butylbenzene	8/17/2016	ug/L		0.5	ND				
13	tert-Butylbenzene	8/17/2016	ug/L		0.5	ND				
14	Carbontetrachloride	8/17/2016	ug/L		0.5	ND				
15	Chlorobenzene	8/17/2016	ug/L		0.5	ND				
16	Chlorethane	8/17/2016	ug/L		0.5	ND				
17	Chloroform	8/17/2016	ug/L		0.5	ND		The source is a by-product of drinking water		
18	Chloromethane	8/17/2016	ug/L		0.5	ND		THHMs are formed when source water contains		NO
19	2-Chlorotoluene	8/17/2016	ug/L		0.5	ND		large amounts of organic matter. Some		
20	4-Chlorotoluene	8/17/2016	ug/L		0.5	ND		people who drink water containing THHMs		
21	1,2-dibromo-3-chloropropane (DBCP)	8/17/2016	ug/L		0.5	ND		in excess of the MCL over many years may		
22	Dibromochloromethane	8/17/2016	ug/L		0.5	ND		experience problems with their liver, kidneys,		
23	1,2-dibromoethane (EDB)	8/17/2016	ug/L		0.5	ND		central nervous systems, and may have an		
24	Dibromomethane	8/17/2016	ug/L		0.5	ND		increased risk of getting cancer.		
25	1,2-dichlorobenzene	8/17/2016	ug/L		0.5	ND				
26	1,3-dichlorobenzene	8/17/2016	ug/L		0.5	ND		Same as above		NO
27	1,4-dichlorobenzene	8/17/2016	ug/L		0.5	ND				
28	Dichlorodifluoromethane	8/17/2016	ug/L		0.5	ND				

	A	B	C	D	E	F	G	H	I	J
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32	1,1-Dichloroethane	8/17/2016	ug/L		0.5	ND				
33	1,2-Dichloroethane	8/17/2016	ug/L		0.5	ND				
34	1,1-Dichloroethene	8/17/2016	ug/L		0.5	ND				
35	cis-1,2-dichloroethene	8/17/2016	ug/L		0.5	ND				
36	trans-1,2-dichloroethene	8/17/2016	ug/L		0.5	ND	same as above			NO
37	1,2-Dichloropropane	8/17/2016	ug/L		0.5	ND				
38	1,3-Dichloropropane	8/17/2016	ug/L		0.5	ND				
39	2,2-Dichloropropane	8/17/2016	ug/L		0.5	ND				NO
40	1,1-Dichloropropene	8/17/2016	ug/L		0.5	ND				
41	cis-1,3-dichloropropene	8/17/2016	ug/L		0.5	ND				
42	trans-1,3-dichloropropene	8/17/2016	ug/L		0.5	ND				
43	Ehtylbenzene	8/17/2016	ug/L		0.5	ND				
44	hexachlorobutadiene	8/17/2016	ug/L		0.5	ND				
45	Isopropylbenzene	8/17/2016	ug/L		0.5	ND				
46	4-Isopropyltoluene	8/17/2016	ug/L		0.5	ND				
47	Methyl tert-butyl ether, MTBE	8/17/2016	ug/L		1	ND				
48	Methylene Chloride	8/17/2016	ug/L		0.5	ND				
49	Napthalene	8/17/2016	ug/L		0.5	ND				
50	n-Propylbenzene	8/17/2016	ug/L		0.5	ND				
51	Styrene	8/17/2016	ug/L		0.5	ND				
52	1,2,3-Trichloropropane	8/17/2016	ug/L		0.5	ND				
53	1,2,3-Trimethylbenzene	8/17/2016	ug/L		0.5	ND				
54	1,1,1,2-Tetrachloroethane	8/17/2016	ug/L		0.5	ND				
55	1,1,2,2-Tetrachloroethane	8/17/2016	ug/L		0.5	ND				
56	Tetrachloroethane (PCE)	8/17/2016	ug/L		0.5	ND				
57	Toluene	8/17/2016	ug/L		0.5	ND				
58	Total Trihalomethanes	8/17/2016	ug/L		0.5	ND				
59	1,2,3-Trichlorobenzene	8/17/2016	ug/L		0.5	ND				
60	1,2,4-Trichlorobenzene	8/17/2016	ug/L		0.5	ND				
61	1,1,1-Trichloroethane	8/17/2016	ug/L		0.5	ND				

	A	B	C	D	E	F	G	H	I	J
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63	1,1,2-Trichloroethane	8/17/2016	ug/L		0.5	ND				
64	Trichloroethene (TCE)	8/17/2016	ug/L		0.5	ND				
65										
66										
67	Trichlorofluoromethane	8/17/2016	ug/L		0.5	ND				
68	1,2,4-trimethylbenzene	8/17/2016	ug/L		0.5	ND				
69	1,3,5-Trimethylbenzene	8/17/2016	ug/L		0.5	ND				
70	Vinyl Chloride	8/17/2016	ug/L		0.5	ND				
71	Xylenes (total)	8/17/2016	ug/L		0.5	ND				
72										
73	Sample QC									
74	Surrogate	Recovery		QC Limits						
75	Bromofluorobenzene	94%		70%-130%						
76	1,2-Dichlorobenzene-d4	94%		70%-130%						
77										
78										
79	(Note 1): The MCL for Total Trihalomethanes (TTHM) is 100.0 ug/l)									
80										
81	QA/QC surrogates***		Small percentages of these POC's were also detected (i.e 1,2 dichlorobenzene and							
82	on	8/17/2016	bromofluorobenzene).							
83			No MCL exists for these 2 POC compounds.							

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