

2016128
Virginia Artesian Bottling Co
Steve Brown
4300 Spring Run Rd
Mechanicsville, VA 23116-6639



Source: Well #2, VA Artesian
Brand Name: Virginia Artesian Water
Container Size: 16.9 Oz.
Production Code: EXP 21 NOV 2013
Report Date: 1/27/2012
Sample ID's NTL:BTL: 307648

Executive Summary

National Testing Laboratory, Ltd. is pleased to provide you with results of your annual testing in this Water Analysis Terms and Explanations Report binder. This binder is provided to you as part of our comprehensive annual testing package. In response to customer requests, this WATER binder is designed so that you can quickly locate, interpret and convey analytical data regarding the quality of your products and sources.

Summary of Analytical Testing Results

The sample referenced above was submitted by your organization to our laboratory for testing. All analyses were performed by certified laboratories in conformance with NELAC standards and using USEPA approved methods. The analyses performed were customized to meet the regulatory requirements for annual testing of chemical and physical contaminants based upon the Beverage Company Profile your organization completed.

All analyses have been completed and reviewed for compliance to EPA, FDA, and IBWA standards.

[This sample meets all the EPA, FDA 21 CFR Sec. 165.110\(b\), and IBWA Standards of Quality.](#)

The Compliance Summary included in this WATER binder contains detailed information on the analytes tested and results obtained, in comparison to industry and federal standards. In addition, this WATER binder includes other helpful information such as a Glossary of Terms, Analyte Reference Guide, and sections of the FDA code of Federal Register (CFR's) that are applicable to bottled water production.

Feedback from you is important to us. If you have any questions regarding the analytical testing performance or comments and suggestions on this WATER binder, please contact a Beverage Group Representative at 800-458-3330, Option #5. If you prefer, you can email us at food-bev@ntllabs.com.

Sincerely,

Robert W. Gelbach
President, National Testing Laboratories, Ltd.

Beverage Compliance Summary



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Mechanicsville, VA
23116-6639

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Lower Reporting Limit: The smallest quantity of an analyte that our instruments can detect with accuracy.

Result: The value obtained from laboratory analysis. All results are expressed in mg/l unless otherwise specified.

EPA SOQ: The maximum contaminant level for the analyte as determined by the Environment Protection Administration.

FDA SOQ: The maximum acceptable level or standard of quality for the analyte as determined by the Food and Drug Administration.

IBWA SOQ: The maximum acceptable level or standard of quality for the analyte as determined by the International Bottled Water Association.

A blank or NA in one of the last three columns indicates that no maximum level has been established for that analyte.

Any RESULT in **RED** indicates that the value has exceeded the EPA MCL or one of the Standard of Quality

Federal I.D. Number	Analysis Performed	Method	Laboratory	Lower Reporting Limit mg/l	Result mg/l	EPA SOQ mg/l	FDA SOQ mg/l	IBWA SOQ mg/l
Microbiologicals								
3000	Total Coliform by P/A	9223B	NTL	--	--			
Total Coliform and E.coli were ABSENT in this sample.								
Inorganic Analytes - Metals								
1002	Aluminum	200.7	NTL	0.05	ND	0.2	0.2	0.20
1074	Antimony	200.8	NTL	0.003	ND	0.006	0.006	0.006
1005	Arsenic	200.8	NTL	0.002	ND	0.010	0.01	0.010
1010	Barium	200.7	NTL	0.10	ND	2	2	1
1075	Beryllium	200.8	NTL	0.001	ND	0.004	0.004	0.004
1079	Boron	200.7	NTL	0.10	ND			
1015	Cadmium	200.8	NTL	0.001	ND	0.005	0.005	0.005
1016	Calcium	200.7	NTL	2.0	ND			
1020	Chromium	200.7	NTL	0.007	ND		0.1	0.05
1022	Copper	200.8	NTL	0.002	ND	1	1	1
1028	Iron	200.7	NTL	0.020	ND	0.3	0.3	0.3
1030	Lead	200.8	NTL	0.001	ND	0.015	0.005	0.005
1031	Magnesium	200.7	NTL	0.10	ND			
1032	Manganese	200.8	NTL	0.004	ND	0.05	0.05	0.05
1035	Mercury	200.8	NTL	0.0002	ND	0.002	0.002	0.002
1036	Nickel	200.7	NTL	0.01	ND		0.1	0.1
1042	Potassium	200.7	NTL	1.0	ND			
1045	Selenium	200.8	NTL	0.002	ND	0.05	0.05	0.01
1050	Silver	200.7	NTL	0.01	ND	0.10	0.1	0.025
1052	Sodium	200.7	NTL	1	1			

Federal I.D. Number	Analysis Performed	Method	Laboratory	Lower Reporting Limit mg/l	Result mg/l	EPA SOQ mg/l	FDA SOQ mg/l	IBWA SOQ mg/l
Inorganic Analytes - Metals								
1085	Thallium	200.8	NTL	0.001	ND	0.002	0.002	0.002
4009	Uranium	200.8	NTL	0.001	ND	0.030	0.030	0.030
1095	Zinc	200.7	NTL	0.004	ND		5.0	5.0
Physical Factors								
1927	Alkalinity (Total as CaCO3)	2320B	NTL	20	ND			
1905	Apparent Color	2120B	NTL	3	ND	15	15	5
1928	Bicarbonate (as CaCO3)	2320B	NTL	20	ND			
1929	Carbonate (as CaCO3)	2320B	NTL	20	ND			
1910	Corrosivity	2330B	NTL		-5.5			
2905	Foaming Agents	5540C	NTL	0.1	ND	0.5		
MBAS, calculated as Linear Alkylate Sulfonate (LAS), mol wt of 342.4 g/mole								
1915	Hardness (as CaCO3)	2340C	NTL	10	ND			
1021	Hydroxide (as CaCO3)	2320B	NTL	20	ND			
1920	Odor Threshold	2150B	NTL	1	ND	3	3	3
1925	pH	150.1	NTL		6.2			
4254	pH Temperature	150.1	NTL		18			
1064	Specific Cond. @ 25 deg. C	2510B	NTL	1	7			
1930	Total Dissolved Solids	2540C	NTL	5	5	500	500	500
0100	Turbidity	2130B	NTL	0.1	ND	1	5	0.5
Inorganic Analytes - Other								
1094	Asbestos	100.2	EMSL Analytical	0.19	ND	7		
1011	Bromate	300.1	NTL	0.005	ND	0.010	0.010	0.010
1004	Bromide	300.1	NTL	0.005	ND			
1006	Chloramine as Cl2	4500Cl-G	NTL	0.05	ND	4	4	4
1017	Chloride	300.0	NTL	1.0	ND	250	250	250
1012	Chlorine as Cl2	4500Cl-G	NTL	0.05	ND	4	4	4
1008	Chlorine Dioxide as ClO2	4500ClO2D	NTL	0.1	ND	0.8	0.8	0.8
1009	Chlorite	300.1	NTL	0.005	ND	1	1	1
1024	Cyanide	335.4	Summit Environmental	0.02	ND	0.2	0.1	
1025	Fluoride	300.0	NTL	0.10	ND	4		
1040	Nitrate as N	300.0	NTL	0.05	ND	10	10	10
1041	Nitrite as N	300.0	NTL	0.05	ND	1	1	1
1044	Ortho Phosphate	300.0	NTL	2.0	ND			
1055	Sulfate	300.0	NTL	5.0	ND	250	250	250
Organic Analytes - Trihalomethanes								
2943	Bromodichloromethane	524.2 THMs	NTL	0.0005	ND			
2942	Bromoform	524.2 THMs	NTL	0.0005	ND			
2941	Chloroform	524.2 THMs	NTL	0.0005	ND			
2944	Dibromochloromethane	524.2 THMs	NTL	0.0005	ND			
2950	Total THMs	524.2 THMs	NTL	0.0005	ND	0.080	0.08	0.010

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Organic Analytes - Haloacetic Acids								
2454	Dibromoacetic Acid	552.2 HAAs	NTL	0.0010	ND			
2451	Dichloroacetic Acid	552.2 HAAs	NTL	0.0010	ND			
2453	Monobromoacetic Acid	552.2 HAAs	NTL	0.0010	ND			
2450	Monochloroacetic Acid	552.2 HAAs	NTL	0.0010	ND			
2452	Trichloroacetic Acid	552.2 HAAs	NTL	0.0010	ND			
2456	Total HAAs	552.2 HAAs	NTL	0.0010	ND	0.060	0.06	0.060
Organic Analytes - Volatiles								
2986	1,1,1,2-Tetrachloroethane	524.2	NTL	0.0005	ND			
2981	1,1,1-Trichloroethane	524.2	NTL	0.0005	ND	0.2	0.2	0.03
2988	1,1,2,2-Tetrachloroethane	524.2	NTL	0.0005	ND			0.001
2985	1,1,2-Trichloroethane	524.2	NTL	0.0005	ND	0.005	0.005	0.003
2978	1,1-Dichloroethane	524.2	NTL	0.0005	ND			
2977	1,1-Dichloroethene	524.2	NTL	0.0005	ND	0.007	0.007	0.002
2410	1,1-Dichloropropene	524.2	NTL	0.0005	ND			
2420	1,2,3-Trichlorobenzene	524.2	NTL	0.0005	ND			
2414	1,2,3-Trichloropropane	524.2	NTL	0.0005	ND			
2378	1,2,4-Trichlorobenzene	524.2	NTL	0.0005	ND	0.07	0.07	0.009
2418	1,2,4-Trimethylbenzene	524.2	NTL	0.0005	ND			
2968	1,2-Dichlorobenzene	524.2	NTL	0.0005	ND	0.6	0.6	0.6
2980	1,2-Dichloroethane	524.2	NTL	0.0005	ND	0.005	0.005	0.002
2983	1,2-Dichloropropane	524.2	NTL	0.0005	ND	0.005	0.005	0.005
2424	1,3,5-Trimethylbenzene	524.2	NTL	0.0005	ND			
2967	1,3-Dichlorobenzene	524.2	NTL	0.0005	ND			
2412	1,3-Dichloropropane	524.2	NTL	0.0005	ND			
2969	1,4-Dichlorobenzene	524.2	NTL	0.0005	ND	0.075	0.075	0.075
2416	2,2-Dichloropropane	524.2	NTL	0.0005	ND			
2965	2-Chlorotoluene	524.2	NTL	0.0005	ND			
2966	4-Chlorotoluene	524.2	NTL	0.0005	ND			
2030	4-Isopropyltoluene	524.2	NTL	0.0005	ND			
2990	Benzene	524.2	NTL	0.0005	ND	0.005	0.005	0.001
2993	Bromobenzene	524.2	NTL	0.0005	ND			
2430	Bromochloromethane	524.2	NTL	0.0005	ND			
2214	Bromomethane	524.2	NTL	0.0005	ND			
2982	Carbon Tetrachloride	524.2	NTL	0.0005	ND	0.005	0.005	0.005
2989	Chlorobenzene	524.2	NTL	0.0005	ND	0.1	0.1	0.05
2216	Chloroethane	524.2	NTL	0.0005	ND			
2210	Chloromethane	524.2	NTL	0.0005	ND			
2380	cis-1,2-Dichloroethene	524.2	NTL	0.0005	ND	0.07	0.07	0.07
2228	cis-1,3-Dichloropropene	524.2	NTL	0.0005	ND			
2408	Dibromomethane	524.2	NTL	0.0005	ND			
2212	Dichlorodifluoromethane	524.2	NTL	0.0005	ND			

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Organic Analytes - Volatiles								
2964	Dichloromethane	524.2	NTL	0.0005	ND	0.005	0.005	0.003
2992	Ethylbenzene	524.2	NTL	0.0005	ND	0.7	0.7	0.7
2246	Hexachlorobutadiene	524.2	NTL	0.0005	ND			
2994	Isopropylbenzene	524.2	NTL	0.0005	ND			
2251	Methyl Tert Butyl Ether	524.2	NTL	0.0005	ND			0.07
2247	Methyl-Ethyl Ketone	524.2	NTL	0.005	ND			
2248	Naphthalene	524.2	NTL	0.0005	ND			0.3
2422	n-Butylbenzene	524.2	NTL	0.0005	ND			
2997	o-Xylene	524.2	NTL	0.0005	ND			
	p and m-Xylenes	524.2	NTL	0.0010	ND			
2998	Propylbenzene	524.2	NTL	0.0005	ND			
2428	sec-Butylbenzene	524.2	NTL	0.0005	ND			
2996	Styrene	524.2	NTL	0.0005	ND	0.1	0.1	0.1
2426	tert-Butylbenzene	524.2	NTL	0.0005	ND			
2987	Tetrachloroethene	524.2	NTL	0.0005	ND	0.005	0.005	0.001
2991	Toluene	524.2	NTL	0.0005	ND	1	1	1
2979	trans-1,2-Dichloroethene	524.2	NTL	0.0005	ND	0.1	0.1	0.1
2224	trans-1,3-Dichloropropene	524.2	NTL	0.0005	ND			
2984	Trichloroethene	524.2	NTL	0.0005	ND	0.005	0.005	0.001
2218	Trichlorofluoromethane	524.2	NTL	0.0005	ND			
2904	Trichlorotrifluoroethane	524.2	NTL	0.0005	ND			
2976	Vinyl Chloride	524.2	NTL	0.0005	ND	0.002	0.002	0.002
2955	Xylenes (Total)	524.2	NTL	0.0005	ND	10	10	1
Organic Analytes - Others								
2931	1,2-Dibromo-3-chloropropane	504.1	NTL	0.00001	ND	0.0002	0.0002	0.0002
2946	1,2-Dibromoethane	504.1	NTL	0.00001	ND	0.00005	0.00005	0.00005
2063	2,3,7,8-TCDD (Dioxin)	1613B	Pace-Minneapolis	5	ND	30	30	30
2105	2,4-D	515.3 Sub	Underwriters Laboratories	0.0001	ND	0.070	0.07	0.070
2066	3-Hydroxycarbofuran	531.2	NTL	0.0010	ND			
2051	Alachlor	508.1	NTL	0.0002	ND	0.002	0.002	0.002
2047	Aldicarb	531.2	NTL	0.0010	ND	0.003		0.003
2044	Aldicarb sulfone	531.2	NTL	0.0010	ND	0.003		0.003
2043	Aldicarb sulfoxide	531.2	NTL	0.0010	ND	0.004		0.004
2356	Aldrin	505	NTL	0.00007	ND			
2050	Atrazine	508.1	NTL	0.0001	ND	0.003	0.003	0.003
2625	Bentazon	515.3 Sub	Underwriters Laboratories	0.0002	ND			
2306	Benzo(A)pyrene	525.2	NTL	0.0002	ND	0.0002	0.0002	0.0002
2076	Butachlor	525.2	NTL	0.0002	ND			
2021	Carbaryl	531.2	NTL	0.0010	ND			
2046	Carbofuran	531.2	NTL	0.0010	ND	0.04	0.04	0.04

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Organic Analytes - Others								
2959	Chlordane	505	NTL	0.0001	ND	0.002	0.002	0.002
2031	Dalapon	515.3 Sub	Underwriters Laboratories	0.001	ND	0.200	0.2	0.200
2035	Di(2-ethylhexyl) adipate	525.2	NTL	0.0002	ND	0.400	0.4	0.400
2039	Di(2-ethylhexyl) phthalate	525.2	NTL	0.0006	ND	0.006		0.006
2440	Dicamba	515.3 Sub	Underwriters Laboratories	0.0001	ND			
2933	Dichloran	505	NTL	0.001	ND			
2070	Dieldrin	505	NTL	0.00002	ND			
2041	Dinoseb	515.3 Sub	Underwriters Laboratories	0.0002	ND	0.007	0.007	0.007
2032	Diquat	549.2	NTL	0.001	ND	0.02	0.02	0.02
2033	Endothall	548.1	NTL	0.009	ND	0.1	0.1	0.1
2005	Endrin	525.2	NTL	0.0002	ND	0.002	0.002	0.002
2034	Glyphosate	547	NTL	0.006	ND	0.7	0.7	0.7
2065	Heptachlor	505	NTL	0.00001	ND	0.0004	0.0004	0.0004
2067	Heptachlor Epoxide	505	NTL	0.00001	ND	0.0002	0.0002	0.0002
2274	Hexachlorobenzene	505	NTL	0.0001	ND	0.001	0.001	0.001
2042	Hexachlorocyclopentadiene	505	NTL	0.0001	ND	0.05	0.05	0.05
2010	Lindane	505	NTL	0.00002	ND	0.0002	0.0002	0.0002
2022	Methomyl	531.2	NTL	0.0010	ND			
2015	Methoxychlor	505	NTL	0.0001	ND	0.04	0.04	0.04
2045	Metolachlor	525.2	NTL	0.0002	ND			
2595	Metribuzin	525.2	NTL	0.0002	ND			
2626	Molinate	525.2	NTL	0.0002	ND			
2036	Oxamyl	531.2	NTL	0.0010	ND	0.2	0.2	0.20
2383	PCB	505	NTL	0.0005	ND	0.0005	0.0005	0.0005
2934	Pentachloronitrobenzene	505	NTL	0.0001	ND			
2326	Pentachlorophenol	515.3 Sub	Underwriters Laboratories	0.00004	ND	0.001	0.001	0.001
2040	Picloram	515.3 Sub	Underwriters Laboratories	0.0001	ND	0.5	0.5	0.5
2077	Propachlor	525.2	NTL	0.0002	ND			
2110	Silvex 2,4,5-TP	515.3 Sub	Underwriters Laboratories	0.0002	ND	0.05	0.05	0.01
2037	Simazine	508.1	NTL	0.0001	ND	0.004	0.004	0.004
2627	Thiobencarb	525.2	NTL	0.0002	ND			
2910	Total Phenols	420.2	NSF	0.001	ND		0.001	0.001
2020	Toxaphene	505	NTL	0.001	ND	0.003	0.003	0.003
2055	Trifluralin	505	NTL	0.001	ND			
Radiologicals								
4109	Gross Alpha	900.0	Pace-Greensburg		-0.146	15	15	15
4100	Gross Beta	900.0	Pace-Greensburg		-0.097	50	50	50
4020	Ra - 226	903.0	Pace		-0.080			

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Radiologicals								
			Analytical Services - PA					
4030	Ra - 228	904.0	Pace-Greensburg		-0.174	5	5	5
4004	Radon 222	7500-Rn	Radon Diagnostic Laboratory	50	ND			
USP XXIII								
	Ammonia (as NH3)	USP XXIII	NTL		Pass			
1016	Calcium	USP XXIII	NTL		Pass			
1901	Carbon Dioxide (Free CO2)	USP XXIII	NTL		Pass			
1017	Chloride	USP XXIII	NTL		Pass			
	Heavy Metals (USP)	USP XXIII	NTL		Pass			
	Oxidizables (USP)	USP XXIII	NTL		Pass			
1925	pH	USP XXIII	NTL		6.4			
1055	Sulfate	USP XXIII	NTL		Pass			
	Total Solids	USP XXIII	NTL	1	ND	10		

Federal I.D. Number	Analysis Performed	Method	Laboratory	Lower Reporting Limit mg/l	Result mg/l	EPA SOQ mg/l	FDA SOQ mg/l	IBWA SOQ mg/l
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- SOQ for Fluoride is dependent upon temperature and other factors.
- Secondary Inorganic Parameters. SOQ's are established for evaluating aesthetic (non-health related) properties in water for items such as: Aluminum, Chloride, Color, Copper, Corrosivity, Foaming Agents (anionic surfactants), Iron, Manganese, Odor, pH, Silver, Sulfate, TDS, and Zinc.
- The measurement units for radiological contaminants are pCi/L (Pico Curries per Liter).
- The measurement units for Dioxin are pg/L (Picograms per Liter).
- The measurement units for Asbestos are MF/L (Million Fibers per Liter).
- Included in FDA's 9 contaminant regulations: Antimony, Beryllium, Cyanide, Nickel, Thallium, Dioxin, Diquat, Endothall, Glyphosate.
- No SOQ's or MCL's established for individual trihalomethane (THM) or haloacetic acid (HAA) contaminants. The sum of the four THM's and five HAA's are regulated as total trihalomethanes (TTHM's) and total haloacetic acids (THAA's) respectively.
- Mineral water is exempt from some allowable levels. These exemptions are aesthetically based allowable levels and do not relate to a health concern. Examples are: Chloride, Iron, Manganese, Sulfate, TDS, and Zinc.
- Gross Alpha results over 5 pCi/L trigger testing for Radium-226 and Radium-228 (which may already be required under other regulations). No SOQ's or MCL's established for Radium-226 and Radium-228 individually. The sum of Radium-226 and Radium-228 should not exceed 5 pCi/L.
- Gross Beta results over 8 pCi/L trigger testing for man-made radionuclides: Strontium-90 and Tritium.
- Borate calculated as H3BO3 from Boron analysis.
- Hydrogen sulfide determination based on Standard Method 4500-S2-H for approximating hydrogen sulfide from total sulfide.
- Both the FDA and IBWA Model Code guidelines for pH in purified water are 5.0 – 7.0. The guideline for source water and other product waters is 6.5 – 8.5. NOTE: This guideline is not enforceable.
- ABWI guideline pH value is between 3.5 – 8.5.
- According to W.H.O. – available data does not support the establishment of a health-based guideline value for pH in drinking water.

This compliance summary report is provided as a courtesy to our customers and should only be used for regulatory compliance if submitted in combination with all individual laboratory reports from National Testing Laboratories and sub-contracted laboratories.