

Report #: 722221440

Date : 7/22/2022

P.O.Number: 7-22-22 Visa

Matrix: Water

Client: Whittaker

Sample
Location:

Phone (770) 893-2271

This sample taken by .- at on 7/21/2022. . Point of collection: .-

Advanced Environmental Health Scan Report

<u>Analytes</u>	<u>Results</u>	<u>Description</u>	<u>EPA Limits</u>
<u>Bacteria</u>			
Total Coliform	Absent	Indicates Presence of Harmful Bacteria	0
E. Coli	Absent	Known to Cause Illness	0
<u>MicroAnalysis</u>			
MicroAnalysis	See Attached		
<u>Mineral Chemistry</u>			
Sodium	8.34 mg/L	A Component of Salt	No Limit
Potassium	2.14 mg/L	A Component of Salt	No Limit
Copper	0.21 mg/L	Indicates Plumbing Corrosion	1.30 mg/L
Iron	0.01 mg/L	Brown Stains, Bitter Taste	0.30 mg/L
Manganese	0.01 mg/L	May Cause Black/ Laundry Staining	0.05 mg/L
Magnesium	3.47 mg/L	A Component of Hardness	No Limit
Calcium	8.11 mg/L	A Component of Hardness	No Limit
Arsenic (Total)	Not Detected	A Naturally Occurring Toxic Element	0.010 mg/L
Lead	Not Detected	A Toxic Metal, From Plumbing Components	0.015 mg/L
Zinc.	0.03 mg/L	A Toxic Metal if Exposed to High Amounts	5.0 mg/L
pH	5.44 SU	Acid/Basic Determination	6.5 - 8.5 SU
Turbidity	0.02 N.T.U.	Presence of Particles/Measure of Cloudiness	No Limit
Color	0 C.U.	Clarity (0), Discoloration (15)	15.0 C.U.
Odor	Absent	Odor May Be Due To Bacteria Contamination	3.0 T.O.N.
Conductivity	177.5 umhos	Electrical Resistance (umhos/cm)	No Limit
T.D.S.	106.5 mg/L	Total Dissolved Minerals Present	500.0 mg/L
Sediment	Absent	Undissolved Solids	Present
Alkalinity	Not Detected	Ability to Neutralize Acid	No Limit
Chlorine	Not Detected	A Disinfectant Byproduct	4.0 mg/L
Chloride	27.88 mg/L	A Component of Salt	250.0 mg/L
Hardness	34.5 mg/L	75 or Higher is Considered Hard	No Limit
Nitrate as Nitrogen	3.83 mg/L	Indicator of Biological Waste	10.0 mg/L
Nitrite as Nitrogen	Not Detected	Indicator of Waste	1.0 mg/L
Ammonia as Nitrogen	Not Detected	Indicator of Waste	No Limit
Sulfate	0.56 mg/L	A Mineral, Can Cause Odor	250.0 mg/L
Fluoride	Not Detected	Naturally Occuring or Added By Municipalities	4.0 mg/L
Tannins	Not Detected	Bitter Tasting Organic Substance	No Limit
<u>Radiochemistry</u>			
Radon in Water	891 pCi/L	Massachusetts D.E.P. Guideline - 10,000 pCi/L	-

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<u>Heavy Metals</u>			
Antimony	Not Detected	A Toxic Metal if Exposed to High Amounts	0.006 mg/L
Beryllium	Not Detected	A Toxic Metal if Exposed to High Amounts	0.004 mg/L
Cadmium	Not Detected	A Toxic Metal if Exposed to High Amounts	0.005 mg/L
Chromium	Not Detected	A Toxic Metal if Exposed to High Amounts	0.100 mg/L
Mercury	Not Detected	A Toxic Metal	0.002 mg/L
Nickel	Not Detected	A Toxic Metal if Exposed to High Amounts	0.100 mg/L
Selenium	Not Detected	A Toxic Metal if Exposed to High Amounts	0.050 mg/L
Silver	Not Detected	A Toxic Metal if Exposed to High Amounts	0.100 mg/L
Thallium	Not Detected	A Toxic Metal if Exposed to High Amounts	0.002 mg/L
<u>Other Parameters</u>			
PCB	Not Detected	Polychlorinated Biphenyls	0.0 mg/L
TOC	Not Detected	Total Organic Carbon	-
MBAS	Not Detected	Methylene Blue Active Substances	0.50 mg/L
Hydrogen Sulfide	Not Detected	Gas With Odor of Sulfur	0.05 mg/L
O-Phosphate	Not Detected	Nutrient	5.0 mg/L
T-Phosphorus	Not Detected	Nutrient	5.0 mg/L
<u>Volatile Organics</u>			
Benzene	Not Detected	Industrial Solvent	5.0 ug/L
Bromobenzene	Not Detected	Industrial Solvent	-
Bromochloromethane	Not Detected	Industrial Solvent	-
Bromodichloromethane	Not Detected	A Disinfectant Byproduct	-
Bromoform	Not Detected	Industrial Solvent	-
Bromomethane	Not Detected	Industrial Solvent	-
n-Butylbenzene	Not Detected	Industrial Solvent	-
sec-Butylbenzene	Not Detected	Industrial Solvent	No Limit
tert-Butylbenzene	Not Detected	Industrial Solvent	-
Carbon-Tetrachloride	Not Detected	Industrial Solvent	5.0 ug/L
Dibromochloromethane	Not Detected	A Disinfectant Byproduct	-
Chloroethane	Not Detected	Industrial Solvent	-
Chloroform	0.61 ug/L	A Disinfectant Byproduct	-
Chloromethane	Not Detected	Industrial Solvent	-
1,2-Chlorotoluene	Not Detected	Industrial Solvent	-
1,4-Chlorotoluene	Not Detected	Industrial Solvent	-
1,2-Dibromo-3-chloropropane	Not Detected	Pesticide Byproduct	0.2 ug/L
Dibromomethane	Not Detected	Industrial Solvent	-
1,2-Dibromoethane	Not Detected	Pesticide Byproduct	-
1,3-Dichlorobenzene	Not Detected	Pesticide Byproduct	-

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1,2-Dichlorobenzene	Not Detected	Pesticide Byproduct	600.0 ug/L
1,4-Dichlorobenzene	Not Detected	Pesticide Byproduct	5.0 ug/L
Dichlorodifluoromethane	Not Detected	Industrial Solvent	-
1,1-Dichloroethane	Not Detected	Plastic Manufacturing Byproduct	-
1,2-Dichloroethane	Not Detected	Plastic Manufacturing Byproduct	5.0 ug/L
1,1-Dichloroethylene	Not Detected	Plastic Manufacturing Byproduct	7.0 ug/L
cis-1,2-Dichloroethene	Not Detected	Industrial Solvent	70.0 ug/L
trans-1,2-Dichloroethene	Not Detected	Industrial Solvent	100.0 ug/L
1,2-Dichloropropane	Not Detected	Industrial Solvent	5.0 ug/L
1,3-Dichloropropane	Not Detected	Pesticide Byproduct	-
2,2-Dichloropropane	Not Detected	Industrial Solvent	-
1,1-Dichloropropene	Not Detected	Pesticide Byproduct	-
1,3-Dichloropropene	Not Detected	Pesticide Byproduct	-
trans-1,3-Dichloropropene	Not Detected	Pesticide Byproduct	No Limit
Ethylbenzene	Not Detected	Industrial Solvent	700.0 ug/L
Trichlorofluoromethane	Not Detected	Industrial Solvent	No Limit
Hexachlorobutadiene	Not Detected	Industrial Solvent	-
Isopropylbenzene	Not Detected	Industrial Solvent	-
Methyl-t-Butyl Ether (MTBE)	Not Detected	Gasoline Byproduct	70.0 ug/L
p-Isopropyltoluene	Not Detected	Industrial Solvent	-
p-Isopropylbenzene	Not Detected	Industrial Solvent	-
Methylene Chloride	Not Detected	Industrial Solvent	5.0 ug/L
Monochlorobenzene	Not Detected	Industrial Solvent	100.0 ug/L
Napthalene	Not Detected	Industrial Solvent	-
n-Propylbenzene	Not Detected	Industrial Solvent	-
Styrene	Not Detected	Plastic Manufacturing Byproduct	100.0 ug/L
1,1,1,2-Tetrachloroethane	Not Detected	Industrial Solvent	-
1,1,1,2-Tetrachloroethane	Not Detected	Industrial Solvent	-
Tetrachloroethylene	Not Detected	Industrial Solvent	5.0 ug/L
Toluene	Not Detected	Industrial Solvent	1000.0 ug/L
1,2,3-Trichlorobenzene	Not Detected	Industrial Solvent	-
1,2,4-Trichlorobenzene	Not Detected	Industrial Solvent	70.0 ug/L
1,1,1-Trichloroethane	Not Detected	Industrial Solvent	200.0 ug/L
1,1,2-Trichloroethane	Not Detected	Industrial Solvent	5.0 ug/L
Trichloroethylene	Not Detected	Industrial Solvent	5.0 ug/L
1,2,3-Trichloropropane	Not Detected	Industrial Solvent	-
1,2,4-Trimethylbenzene	Not Detected	Industrial Solvent	-
1,3,5-Trimethylbenzene	Not Detected	Plastic Manufacturing Byproduct	-
Vinyl Chloride	Not Detected	Plastic Manufacturing Byproduct	2.0 ug/L
o-Xylene	Not Detected	Industrial Solvent	T. Xylenes 10K ug/

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m+p Xylenes	Not Detected	Industrial Solvent	T. Xylenes 10K ug/
<u>Pesticides</u>			
Aldrin	Not Detected		-
A-BHC	Not Detected		-
B-BHC	Not Detected		-
C-BHC	Not Detected		-
D-BHC	Not Detected		-
Chlordane	Not Detected		2.0 ug/L
4,4'-DDD	Not Detected		-
4,4'-DDE	Not Detected		-
4,4'-DDT	Not Detected		-
Dieldrin	Not Detected		-
Endosulfan I	Not Detected		-
Endosulfan II	Not Detected		-
Endosulfan Sulfate	Not Detected		-
Endrin	Not Detected		-
Endrin Aldehyde	Not Detected		-
Heptachlor	Not Detected		-
Heptachlor Epoxide	Not Detected		-
Methoxychlor	Not Detected		-
Toxaphene	Not Detected		-
Polychlorinated Bipenyls	Not Detected		-
<u>Herbicides</u>			
2,4-D	Not Detected		70.0 ug/L
2,4,5-TP	Not Detected		50.0 ug/L
2,4,5-T	Not Detected		-
<u>Semi-Volatile Organic</u>			
Acenaphthylene	Not Detected	Plastic Manufacturing Byproduct	-
Alachlor	Not Detected		-
Ametryn	Not Detected		-
Anthracene	Not Detected		-
Atraton	Not Detected		-
Atrazine	Not Detected		3.0 µg/L
Benz (A) Anthracene	Not Detected		-
Benzo (B) Fluoranthene	Not Detected		-
Benzo (K) Fluoranthene	Not Detected		-
Benzo (A) Pyrene	Not Detected		0.2 ug/L
Benzo (G,H,I,) Perylene	Not Detected		-

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Bromacil	Not Detected		-
Butachlor	Not Detected		-
Butylate	Not Detected		-
ButylBenzyl Phthalate	Not Detected		-
Carboxin	Not Detected		--
Alpha Chlordane	Not Detected		-
Gamma Chlordane	Not Detected		-
Trans Nonachlor	Not Detected		-
Chlorneb	Not Detected		-
Chlorobenzilate	Not Detected		-
Chlorpropam	Not Detected		-
Chlorothalonil	Not Detected		-
Chloropyrifos	Not Detected		-
2-Chlorobiphenyl	Not Detected		-
Chrysene	Not Detected		-
Cyanazine	Not Detected		-
Cycloate	Not Detected		-
DCPA	Not Detected		-
DDD, 4,4'	Not Detected		-
DDE, 4,4'	Not Detected		-
DDT, 4,4'	Not Detected		-
Diazinon	Not Detected		-
Dibenz (A,H) Anthracene	Not Detected		-
Di-N-Butyl Phthalate	Not Detected		-
2,3-Dichlorobiphenyl	Not Detected	Industrial Solvent	-
Dichlorvos	Not Detected		-
Dieldrin.	Not Detected		-
Diethyl Phthalate	Not Detected		-
Di (2-Ethylhexyl) Adipate	Not Detected		-
Di (2-Ethylhexyl) Phthalate	Not Detected		-
Dimethyl Phthalate	Not Detected		-
2,4-Dinitrotoluene	Not Detected		-
2,6-Dinitrotoluene	Not Detected		-
Diphenamid	Not Detected		-
Disulfoton	Not Detected		-
Endosulfan I	Not Detected		-
Endosulfan II	Not Detected		-
Endosulfan Sulfate	Not Detected		-
Endrin.	Not Detected		-
Endrin Aldehyde	Not Detected		-

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EPTC	Not Detected		-
Ethoprpo	Not Detected		-
Etridiazole	Not Detected		-
Fenamiphos	Not Detected		-
Fenarimol	Not Detected		-
Fluorene	Not Detected		-
Fluridone	Not Detected		-
Heptachlor.	Not Detected		-
Heptachlor Epoxide	Not Detected		-
2,2',3,3',4,4',6-HeptachloroBiphenyl	Not Detected		-
Hexachlorobenzene	Not Detected		-
2,2',4,4',5,6'-HexachloroBiphenyl	Not Detected		-
Alpha Hexachlorocyclohexane	Not Detected		-
Beta Hexachlorocyclohexane	Not Detected		-
Delta Hexachlorocyclohexane	Not Detected		-
Hexachlorocyclohexane	Not Detected		-
Hexazinone	Not Detected		-
Indeno (1,2,3-CD) Pyrene	Not Detected		-
Isophorone	Not Detected		-
Lindane	Not Detected		-
Merphos	Not Detected		-
Methoxychlor.	Not Detected		-
Methyl Paraoxon	Not Detected		-
Metolachlor	Not Detected		-
Metribuzin	Not Detected		-
Mevinphos	Not Detected		-
MGK 264	Not Detected		-
Molinate	Not Detected		-
Napropamide	Not Detected		-
Napthalene.	Not Detected	Industrial Solvent	-
Norflurazon	Not Detected		-
2,2',3,3',4,5',6,6'-OctachloroBipheny	Not Detected		-
Pebulate	Not Detected		-
2,2',3',4,6-Pentachlorobiphenyl	Not Detected		-
Pentachlorophenol	Not Detected		-
Phenanthrene	Not Detected		-
Permethrin, Cis	Not Detected		-
Permethrin, Trans	Not Detected		-
Prometron	Not Detected		-
Prometryn	Not Detected		-

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Pronamide	Not Detected		-
Propachlor	Not Detected		-
Propazine	Not Detected		-
Pyrene	Not Detected		-
Simazine	Not Detected		-
Simetryn	Not Detected		-
Stifros	Not Detected		-
Terbuthiuron	Not Detected		-
Terbacil	Not Detected		-
Terbufos	Not Detected		-
Terbutryn	Not Detected		-
2,2',4,4'-Tetrachlorobiphenyl	Not Detected		-
Triademefon	Not Detected		-
2,4,5-Trichlorobiphenyl	Not Detected		-
Tricyclazole	Not Detected		-
Trifluralin	Not Detected		-
Vernolate	Not Detected		-
PCB Screen	Not Detected		-
Toxaphene Screen	Not Detected		-
Technical Chloradane	Not Detected		-
<u>Analytes</u>			
Acenaphthene	Not Detected	Plastic Manufacturing Byproduct	-

Microanalysis of Report #722221440

1. Bacteria

Bacteria Found Similar to
Brevundimonas vesicularis

Total Colony Count = 100 cfu/100 mL

2. Fungi (Including Mold and Yeast)

Yeast Found Similar to
Rhodotorula glutinis

Mold Found Similar to
Aspergillus glaucus

Mold Found Similar to
Aspergillus niger

Total Colony Count = 120 cfu/100 mL

3. Particles

Small Quantity of Sand & Mineral Sediment

No Organisms Found

Particle Count = 85 Particles/ mL

CFU/ml = colony forming units per milliliter

² TNTC = Too numerous to count

³ Additional information regarding the organism(s) detected in this analysis can be attained using resources such as the Internet, local libraries, or by consulting your physician.

Brevundimonas vesicularis

Brevundimonas vesicularis are aerobic, gram-negative bacilli that are isolated from both the external environment and human clinical specimens. While infections caused by this species are uncommon, there have been a few cases of opportunistic infections that have occurred in immunocompromised individuals, such as bacteremia and endocarditis.

References

Yang, M., Chen, Y., Chen, T., Lin, W., Lin, C., & Lu, P. (2006). Case report: Infective endocarditis caused by *Brevundimonas vesicularis*. *BMC Infectious Diseases*, 6:179.

Shang, S., Chiu, S., Chan, M., Wang, N., Yang, Y., Lin, J., & Chang, F. (2012). Invasive *Brevundimonas vesicularis* bacteremia: Two case reports and review of the literature. *Journal of Microbiology, Immunology and Infection*, 45:6, 468-472.

Rhodotorula glutinis

Rhodotorula glutinis is a species of yeast that is widely found in air, soil, lakes, oceans, and dairy products. *R. glutinis* is a common contaminant and is considered to be largely non-pathogenic, though infections caused by this species have been documented in immunocompromised individuals. Infections resulting from this yeast include fungemia associated with catheters (presence of fungi in the blood), endocarditis (inflammation of the endocardium), peritonitis (complication of chronic peritoneal dialysis), meningitis, keratomycosis (inflammation of the cornea), dacryocystitis (infection of the lacrimal sac (of the eye)), and endophthalmitis (inflammation of the internal coats of the eye).

References

Seifi, Z., Mahmoudabadi, A. Z., & Hydrinia, S. (2013). Isolation, identification, and susceptibility profile of *Rhodotorula* species isolated from two educational hospitals in Ahvaz. *Jundishapur Journal of Microbiology*, 6(6): e8935.

Rhodotorula glutinis. (n.d.). In *Viticulture and Enology*. Retrieved from http://wineserver.ucdavis.edu/industry/enology/winemicro/wineyeast/rhodotorula_glutinis.html

Aspergillus glaucus

Aspergillus glaucus is a filamentous fungus which is known to have a wide environmental distribution due to its physiological hardiness under more extreme conditions. This fungus can be mildly pathogenic but rarely infects humans because of its high susceptibility to various antifungals. However, as with other members of the *Aspergillus* genus, *Aspergillus glaucus* is capable of causing infections in immunosuppressed individuals.

References

Larone, D. H. (1995). *Medically important fungi: A guide to identification* (3rd ed.). Washington, DC: American Society for Microbiology Press. (Original work published 1976)

Aspergillus glaucus. (n.d.). from the Wikipedia wiki:
https://en.wikipedia.org/wiki/Aspergillus_glaucus

Aspergillus niger

This species is considered common to indoor environments. It is widespread in the soil and on plants and is also considered a common contaminant of foods. It has a musty odor. It is commonly found in the environment on textiles, in soils, grains, fruits and vegetables isolated from tropical and subtropical soils but less frequently from other areas. It is reported to be allergenic. It is common in secondary organisms following bacterial otitis and is more commonly being implicated in pulmonary disease in immunocompromised hosts. It has also been reported to cause skin infections.