



## City of Ocean Shores Water Department

### **2004 Annual Drinking Water Quality Report**

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services that we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts that we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is wells. These wells draw from a deep aquifer located 500 feet beneath the peninsula, and a shallow aquifer located 95 feet below the peninsula.



*- Ocean Shores Well #1*

We are pleased to report that our drinking water is safe and meets federal and state requirements.

If you have any questions about this report or your water utility, please contact the Water Department staff at 289-4210. We want our valued customers to be informed about their water utility. If you want more information, please attend any of the regularly scheduled council meetings. They are held on the second and fourth Mondays of each month. For more information about time and location of these meetings, you can contact City Hall at 289-2488.

From time to time, you will see members of our staff flushing the water mains through fire hydrants.

This process is exercised to circulate the water in the low flow areas of the distribution system. These areas are especially prone to taste and odor problems due to stagnant water conditions, which result in a lack of chlorine residual and create an environment that is conducive to the growth of iron and sulfur reducing bacteria.



- *Flushing a water main*

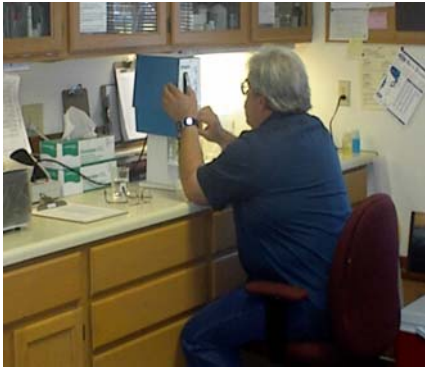
Iron and Sulfur reducing bacteria are a common nuisance in well waters, but they are not considered a health hazard. Iron bacteria dissolve iron in the water as an energy source and leave slimy deposits of red iron hydrate as a by-product. Iron bacteria thrive in water that contains dissolved oxygen and as little as 0.01 milligrams per liter of dissolved iron. They prefer a temperature range of 45 to 60 degrees Fahrenheit. Water from our wells is the perfect environment to produce these conditions. Iron bacteria also create an environment that encourages the growth of sulfur reducing bacteria in the water distribution system.

These sulfur reducing bacteria produce hydrogen sulfide as a by-product, resulting in a “rotten egg” or sulfur odor in the water. Both types of bacteria will produce odors depending on the growth rate in our distribution system. Iron bacteria are very resistant to chlorine because of the slimy cell coating that they produce. Consequently, once they are established in a piping network, they are very difficult to eradicate.

Strategies for minimizing bacteria problems are focused on management since eradication is not likely. Several methods for removing these bacteria exist, such as flushing and pigging. However, it should be noted that these methods are ineffective unless the conditions that encourage bacterial growth are minimized, such as dead ends and poor circulation.

We will continue to prioritize the areas of our distribution system that require flushing and/or pigging.

The Ocean Shores Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2004. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some substances. It's important to remember that the presence of these substances or contaminants does not necessarily pose a health risk.



- Plant Operator Steve Wilme testing the water.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Parts per trillion (ppt) or Nanograms per liter (nanograms/l)* - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

*Parts per quadrillion (ppq) or Picograms per liter (picograms/l)* - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.

*Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

*Treatment Technique (TT)* - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level* - (mandatory language) The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

*Maximum Contaminant Level Goal* - (mandatory language) The "Goal"(MCLG) is the

level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

N/A – Not applicable (not required for analysis this reporting period.)

<b>TEST RESULTS</b>						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
1. Total Coliform Bacteria	N	0	PA	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
2. Fecal coliform and <i>E.coli</i>	N	0	N/A	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	Human and animal fecal waste
3. Turbidity	N	0.8	NTU	n/a	TT	Soil runoff
<b>Radioactive Contaminants</b>						
4. Beta/photon emitters	N/A		mrem/yr	0	4	Decay of natural and man-made deposits
5. Alpha emitters	N/A		pCi/1	0	15	Erosion of natural deposits
6. Combined radium	N/A		pCi/1	0	5	Erosion of natural deposits
<b>Inorganic Contaminants</b>						
7. Antimony	N	<0.005	ppb	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
8. Arsenic	N	<0.002	ppb	n/a	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
9. Asbestos	N/A		MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
10. Barium	N	<0.1	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
11. Beryllium	N	<0.003	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
12. Cadmium	N	<0.002	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints

13. Chromium	N	<0.01	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper	N	<0.02	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
15. Cyanide	N	<0.05	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
16. Fluoride	N	<0.2	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
17. Lead	N	<0.002	ppb	0	AL=.015	Corrosion of household plumbing systems, erosion of natural deposits
18. Mercury (inorganic)	N	<0.0005	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
19. Nitrate (as Nitrogen)	N	<0.2	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
20. Nitrite (as Nitrogen)	N	<0.2	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
21. Selenium	N	<0.005	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
22. Thallium	N	<0.002	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>						
23. 2,4-D	N	ND	ppb	70	70	Runoff from herbicide used on row crops
24. 2,4,5-TP (Silvex)	N	ND	ppb	50	50	Residue of banned herbicide
25. Acrylamide	N	ND		0	TT	Added to water during sewage/wastewater treatment
26. Alachlor	N	ND	ppb	0	2	Runoff from herbicide used on row crops
27. Atrazine	N	ND	ppb	3	3	Runoff from herbicide used on row crops
28. Benzo(a)pyrene (PAH)	N	ND	nanograms/l	0	200	Leaching from linings of water storage tanks and distribution lines
29. Carbofuran	N	ND	ppb	40	40	Leaching of soil fumigant used on rice and alfalfa
30. Chlordane	N	ND	ppb	0	2	Residue of banned termiticide
31. Dalapon	N	ND	ppb	200	200	Runoff from herbicide used on rights of way
32. Di(2-ethylhexyl) adipate	N	ND	ppb	400	400	Discharge from chemical factories
33. Di(2-ethylhexyl) phthalate	N	ND	ppb	0	6	Discharge from rubber and chemical factories
34. Dibromochloropropane	N	ND	nanograms/l	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
35. Dinoseb	N	ND	ppb	7	7	Runoff from herbicide used on soybeans and vegetables
36. Diquat	N	ND	ppb	20	20	Runoff from herbicide use
37. Dioxin [2,3,7,8-TCDD]	N	ND	picograms/l	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories
38. Endothall	N	ND	ppb	100	100	Runoff from herbicide use

39. Endrin	N	ND	ppb	2	2	Residue of banned insecticide
40. Epichlorohydrin	N	ND		0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
41. Ethylene dibromide	N	ND	nanograms/l	0	50	Discharge from petroleum refineries
42. Glyphosate	N	ND	ppb	700	700	Runoff from herbicide use
43. Heptachlor	N	ND	nanograms/l	0	400	Residue of banned termiticide
44. Heptachlor epoxide	N	ND	nanograms/l	0	200	Breakdown of heptachlor
45. Hexachlorobenzene	N	ND	ppb	0	1	Discharge from metal refineries and agricultural chemical factories
46. Hexachlorocyclopentadiene	N	ND	ppb	50	50	Discharge from chemical factories
47. Lindane	N	ND	nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
48. Methoxychlor	N	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
49. Oxamyl [Vydate]	N	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
50. PCBs [Polychlorinated biphenyls]	N	ND	nanograms/l	0	500	Runoff from landfills; discharge of waste chemicals
51. Pentachlorophenol	N	ND	ppb	0	1	Discharge from wood preserving factories
52. Picloram	N	ND	ppb	500	500	Herbicide runoff
53. Simazine	N	ND	ppb	4	4	Herbicide runoff
54. Toxaphene	N	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle

As you can see by the table, our system had no violations. We are proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some substances and contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. For more information about contaminants and potential health effects call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.



- Crew installing a new water main

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. Rate adjustments may be necessary in order to address these improvements.

Thank you for allowing us to provide your family with clean, quality water this year. In order to maintain a safe and dependable water supply, we sometimes need to make improvements that will benefit all of our customers.

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office if you have questions.

The Ocean Shores' Water Department staff works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.