Exh. SH – 10
Docket UW 170924
Witness: Sarah Hand

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

SARAH HAND AND GRETCHEN HAND, a married couple Complainant, v. RAINIER VIEW WATER COMPANY, INC., Respondent.	DOCKET UW 170924 **EXHIBIT 10 TO TESTIMONY OF COMPLAINANT SARAH HAND**

EXHIBIT 10

TO TESTIMONY OF

Sarah Hand

March 19, 2018

Rainier View's 2016 Annual Water Quality Report for the Southwood System.

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RAINIER VIEW WATER COMPANY
ANNUAL WATER QUALITY REPORT: 2016

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For more information on this Southwood System water report, contact James Jensen; Rainier View Water Company's Quality Control Manager.
Contact him with your questions or concerns at (253) 537-6634 ext. 1239 or Jimmy@rainierviewwater.com.
Please be sure to reference your water system name when leaving a message.

About Rainier View Water Company

In 1962, Neil Richardson started a utility company, Richardson Water Company. Incorporating in 1990, Rainier View Water Company (RVWC) has grown to become one of the largest privately owned water utilities in the state of Washington, serving a population of over 35,000 in parts of Graham, Spanaway, Puyallup, Gig Harbor and additional outlying areas.

RVWC currently owns and operates 27 public water systems with an Inventory of 100 wells. Whether it is a small system servicing 4 homes or a large system servicing 14,000 connections. RVWC is staffed with courteous and knowledgeable water professionals who strive to continually improve upon the quality of services we provide to you, our valued customer.

This 2016 Water Quality Report is your annual update on the quality and safety of your drinking water. It includes recent water quality results through the monitoring period ending December 31, 2016, in accordance with state and federal regulations (not all testing is required every year). This report also provides access through references and telephone numbers to source water assessments, health effects information, and other water system topics.

Most importantly, this report shows that your drinking water sources meets all the primary and secondary EPA and Department of Health standards.

A Closer Look at our Filtration System

A Message from our Water Quality Control Manager…

Here at Rainier View Water we manage all types of water systems. We take pride in operating and maintaining every system with the same level of professionalism. We are continually upgrading our systems with new technology and treatment facilities to better serve you. In the past 3 years we have brought 7 new iron and manganese filtration systems online. We are currently in the construction stages of 3 more iron and manganese filtration systems. When these are complete we will have 13 iron and manganese filtration systems in total. As much as we would like to have these systems completed and operating, it is just not that simple. There are a lot of things that need to be done before we can bring these facilities online. We fully anticipate these new systems to be online by the end of 2017.

This past year has had several water quality related news headlines. The Crises in Flint and California has raised awareness of the importance of safe water supplies. Rainier View Water Company has always, and will continue to provide the safest possible water to every last free flowing tap that we serve. We have a professional, knowledgeable staff that works around the clock to provide you the water you drink. It is of the utmost importance to us to remain in compliance with all State and Federal guidelines regarding water quality. There have been times throughout the year that the product delivered to you has been aesthetically displeasing, but I guarantee it has been safe to drink or cook with. Manganese build up in pipes can be released in a countless number of different ways and no matter how hard we try we can't eliminate every possible incident of brown water. What we can do is ensure you that we will remedy any such case that is brought to our attention, whether it is as simple as flushing your service, or identifying a troublesome source that requires treatment. We can't fix a problem we are not aware exists. We highly encourage you to notify us, any time of day, if you are experiencing an issue with your water.

You can count on Rainier View Water to provide you with the highest quality water possible. We continually sample, test and treat your water on a regular basis. We are committed to meet every water quality standard on every system we operate, every single day.

I hope this Water Quality Report gives you the information you need to become more aware of what it takes to deliver safe drinking water to you, and that you will be able to make educated decisions regarding your own health.

Southwood Water System

System Identifcation Number

82844H

The Southwood Water System is owned and operated by Rainier View Water Company and is located in central Pierce County. The system encompasses approximately 21 square miles of predominantly rural areas with widespread residential development. The system has a unique history ultimately resulting in the systems 5 pressure zones. The system consists of 27 wells and 15 storage tanks with nearly 10 million gallons of storage. The system also has 5 Iron and Manganese treatment facilities, with another 3 scheduled for completion by the end of the second quarter of 2017. The Southwood Water system serves nearly 15,000 connections.

Vulnerable populations…

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 guideline on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Protecting your water sources…

Rainier View Water Company has completed a source water assessment for all of our systems. This assessment reviewed the adjacent land uses that may pose a potential risk to the water sources. These risks include, but are not limited to, gas stations, landfills, dry cleaning, agricultural fields, wastewater treatment plants, and mining activities. Protecting and maintaining safe drinking water for all customers is of the utmost importance to Rainier View Water. We routinely monitor the wellhead for potential contaminants, but there are several things the customer can do to help. What you can do to protect source water:

- Ensure that your septic system is properly maintained.
- Use chemical fertilizers and pesticides sparingly if at all.
- Don't dump any hazardous waste on the ground. This includes: motor oil, pesticides, paint or paint cans, moth balls, flea collars, household cleaners, medicines, etc.

The Washington State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems in Washington. A source water assessment includes:

- A delineation (definition) of source water protection area.
- An inventory of potential sources of contamination.
- A susceptibility determination (how susceptible the source is to contamination).

An interactive map with data for your water system is available at:

http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/SourceWaterProtection/Assessment.aspx

LETS TALK ABOUT LEAD

It is highly likely you have heard all sorts of things about lead in drinking water, especially due to the crisis in Flint, Michigan. The conversation seems to be everywhere, the news, and social media. Everyone is talking about it and rightly so. You probably have questions about it yourself. So here are some facts about lead in drinking water.

- Lead is a naturally occurring metal, but it is also toxic to humans.
- Lead leaches into the water supply when corrosive water comes in contact with pipes and breaks the metal down, which results in lead particles contaminating the water.
- In Flint, around half of the city's service lines to homes were made of lead. The water was not being treated with an anti-corrosive agent, which the federal government requires.
- The United States Congress banned the use of lead solder and restricted the lead content of faucets and pipes in 1986. However, homes built prior to the ban may still have plumbing that contains lead.
- Hot water is also much more corrosive than cold water. It causes lead to dissolve more quickly than cold water. For this reason, if you suspect your water contains lead, you should avoid cooking with it completely, and use a completely different source for mixing baby formula.
- Lead is completely odorless, tasteless, and invisible when dissolved in water.
- If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing 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. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead

Rainier View Water Company is compliant with health and safety codes mandating use of lead-free material in water system replacements, repairs, and new installations. We have no known lead service lines in any of our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about the water in your home's plumbing? In Washington state, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures). Therefore, the Lead and Copper Rule is a critical part of our water quality program, and we follow it completely. This rule requires us to test waster *inside* a representative number of homes that have plumbing most likely to contain lead and/or lead solder. This test, along with other water quality testing, tells us if the water is corrosive enough to cause lead from home plumbing to leach into the water. If the Action Level (the concentration of a contaminant which, when exceeded, triggers action which a water system must follow before it becomes a health concern) is exceeded, either at a customer's home or system wide, we work with the customer to investigate the issue. If the problem is system wide, we will implement corrosion control treatment at the source before the lead levels create a health issue.

Regarding "contaminants" in drinking water…

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, and can pick up substances resulting from the presence of animals or from human activity.

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

To ensure that tap water is safe to drink, the Department of Health and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Washington Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Contaminants that may be present in source water include:

Inorganic contaminants: such as salts and metals, which can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.

Organic chemical contaminants: including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. They can also come from gas stations, urban storm water runoff, and septic systems.

Pesticides and herbicides: which may come from various sources such as agriculture, urban storm water runoff, and residential uses.

Microbial contaminants: such as viruses, parasites, and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.

Radioactive contaminants: which can occur naturally or result from oil and gas production and mining activities.

Drinking Water Terms and Definitions…

Action Level: The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirement which water systems must follow.

Entry Point to the Distribution System (EPDS): All water sources are monitored at the entry point to the distribution system before the first customer but after any required treatment.

Maximum Contaminant Level (MCL): 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. If a contaminant is believed to cause health concerns in humans, then the MCL is set as close to practical to zero and at an acceptable level of risk. Generally, the maximum acceptable risk of cancer is 1 in 10,000 with 70 years of exposure.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefit of the use of disinfectants to control microbial contaminants.

Parts Per Billion (ppb): Some analytes in water are measured in very small units. One ppb equals one microgram per liter. For example one part per billion equals: 2 drops of water in a 15,000 gallon backyard swimming pool, one second of time in 31.7 years, or the first 16 inches of a trip to the moon.

Parts Per Million (ppm): One ppm equals one milligram per liter or 1,000 times more than a ppb. One part per million equals: 1.4 cup of water in a typical 15,000 gallon backyard swimming pool; or one second of time in 11.6 days.

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Lead and copper 90th Percentile: Out of every 10 homes sampled 9 were at or below this level.

WATER QUALITY TABLE

The water quality information presented in this report is from the most recent round of testing done according to the regulations. All data shown were collected during the last calendar year unless otherwise noted in the table.

Your water is tested for more than 150 different contaminants for which state and federal standards have been set. The following tables identify what contaminants were found in your water, and at what levels.

SOUTHWOOD WATER QUALITY TABLE

REGULATED AT THE GROUNDWATER SOURCES

Constituent	Last Tested	Units	MCL	MCLG	Your Water	Violation?	Potential Sources of Contaminant
Arsenic	2016	ppm	0.01	0.01	0.005	No	Natural erosion
Nitrate	2016	ppm	10	10	4.2	No	Agricultural uses, septic

REGULATED AT GROUNDWATER SOURCES (Secondary)

Constituent	Last Tested	Units	SMCL	Your Water	Violation?	Potential Sources of Contaminant
Manganese	2016	ppm	0.05	0.23	Yes	Leaching from natural deposits
Sodium	2014	ppm	None	25	No	Erosion of natural deposits; seawater influence
Turbidity	2014	NTU	None	0.3	No	Soil runoff

REGULATED IN THE DISTRIBUTION SYSTEM

Constituent	Last Tested	Units	MCL	Your Water	Violation?	Potential Sources of Contaminant
Total Trihalomethane	2016	ug/L	80	1	No	Disinfection byproduct
Haloacetic Acid	2016	ug/L	60	ND	No	Disinfection byproduct

REGULATED AT THE CONSUMERS TAP

Constituent	Last Tested	Units	AL	Samples collected	90th % value	Violation?	Potential Sources of Contaminant
Lead	2015	ppm	0.015	30	0.001	No	Corrosion of household plumbing systems
Copper	2015	ppm	1.3	30	0.63	No	Corrosion of household plumbing systems

DISINFECTION RESIDUAL

Constituent	Your Water	Units	MRDL	Range		Violation?	Potential Sources of Contaminant
				Low	High		
Chlorine	0.55	ppm	4	0.01	2.25	No	Water additive to control microbes

BACTERIOLOGICAL ANALYSIS

Constituent	Month Detected	Samples per month	MCL	# of samples detected	Violation?	Potential Sources of Contaminant
Total Coliform	July	50	0	1	No	Sampling technique; naturally present in the environment

A Few Water Conservation Tips…

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no cost ways to conserve water. ***Small changes can make a big difference.***

- Take short showers – a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill.

Visit www.epa.gov/watersense for more information.

Exceedance Report

Total Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. A sample collected in 7/2016 exceeded the MCL of one (1). The water system was inspected and additional water samples were satisfactory. None of the repeat samples or the source (well) samples were coliform positive. Rainier View Water completed a voluntary level 2 assessment of the system according to the Triggered Source monitoring report and found a potential cause of the problem which was remedied on 7/15/2016. All sampling protocol was followed and DOH was notified of the problem and sample results in real time. The suspected source(s) of the coliform bacteria may have been particles of dirt or pollen in the distribution system and/or contamination on the outside of the sampling station faucets.

Manganese

A few sources on the Southwood System were in exceedance for Manganese. Sources 01, 20, and 27 have been identified for future iron and manganese filtration treatment facilities. These facilities are scheduled to be online by the middle of 2017.