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Docket UW-170924
Witness: Bob Blackman

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BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

SARAH HAND,

Complainant(s),

DOCKET UW-170924

v.

**SURREPLY TESTIMONY OF BOB
BLACKMAN**

RAINIER VIEW WATER COMPANY, INC.,

Respondent(s).

SURREPLY TESTIMONY OF

BOB BLACKMAN

July 16, 2018

1 **I. MS. HAND'S WATER TESTS**

2 **Q: Have you reviewed the water testing data submitted with Ms. Hand's reply**
3 **testimony?**

4 A: Yes. I reviewed the contents of Exhibit 3 to the Reply Testimony of Sarah Hand, which
5 appears to be testing data and laboratory reports of three water samples taken from Ms.
6 Hand's home by engineer Susan Evans.

7 **Q: Were these tests taken before or after the filtration system was online on the water**
8 **system supplying water to Ms. Hand's home?**

9 A: These tests were conducted after the Fir Meadows 4 well was relegated to emergency-
10 only status but before the filtration system was online. My attorney created a visual
11 timeline of the dates pertinent to this matter, including when Ms. Hand alleges she first
12 noticed brown water at her house, when she first informed Rainier View of brown water,
13 when she filed her complaints with the UTC and then the Superior Court, when she took
14 her water samples, and the dates related to Rainier View implementing filtration on this
15 system. That timeline is attached as Exhibit 1.

16 **Q: Do you see any problems with the testing Ms. Hand's representative conducted?**

17 A: Yes, several. Most importantly, there is no information about sampling methodology,
18 such as why she selected the two locations from which she sampled, or the temperature
19 of the water collected in the sample.
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21 **Q: Why does the water temperature matter?**

22 A: Hot water and cold water take different routes through a house. Ms. Hand states that
23 the bathtub faucet ran for 5 minutes between samples with the intent of sampling water
24 coming in directly from outside the house. However, the tests identify the sample as
25 "HW-MTub Faucet", which suggests this sample was of hot water from the master tub

1 faucet. It is very doubtful that the hot water heater emptied within five minutes such that
2 sample 2 was water drawn into the house from the outside pipes at that moment. More
3 likely, the second sample from the master bath contained water from the hot water
4 heater that had probably been stagnant for the prior 24 hours and was suddenly jolted
5 into action – a process likely to stir up manganese deposits in Ms. Hand’s pipes or water
6 heater and provide an artificially high manganese test reading.

7 **Q: What about the sample from the water heater?**

8 A: A water heater is not a sampling location that is likely to give a sample accurately
9 representing the water entering the house. The water heater, especially if unused for a
10 period of time, contains stagnant water. The hot water heater also tends to collect
11 contaminants over time. For that very reason, homeowners are recommended to drain
12 their water heaters at least once per year to flush out the naturally-occurring deposits
13 that accumulate over time. Thus, even though the sample from the hot water heater
14 contained levels of manganese below the secondary MCL, this reading is still probably
15 artificially high because it generally contains contaminants at a higher concentration than
16 the water entering the home.

17 **Q: Is Rainier View required to follow certain sampling and testing procedures?**

18 A: Yes. WACs 246-290-300, -310, and -320 explain the sampling and testing procedures
19 and requirements imposed on Rainier View in great detail. For example, Table 4 to WAC
20 246-290-300 describes the location from which to draw samples for Complete Inorganic
21 Chemical and Physical tests, like the one Ms. Hand collected. It prescribes the sample
22 be taken from “a point representative of the source, after treatment, and prior to entry to
23 the distribution system.” Although Ms. Hand could not have unilaterally tested the
24 source water, the source water test results are publicly available and have been
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1 produced in discovery. A copy of the most recent Fir Meadows 4 test data produced in
2 discovery is attached as Exhibit 2. These tests show that the water entering the
3 distribution system is consistently at or near non-detectable levels of manganese, and in
4 every test, far below the secondary MCL. Ms. Hand could have taken a more
5 representative sample by collecting water as close to the point of delivery as possible.
6 Rule 9 of Rainier View's tariff provides that the point of delivery is the water meter. A
7 copy of the Tariff is attached as Exhibit 3.

8 **Q: Do you believe the water Rainier View provides to Ms. Hand is impure?**

9 A: No. Ms. Hand's assertion that the water Rainier View provided her is presumptively
10 "impure" because one of the three samples her representative collected from her house
11 slightly exceeded the secondary MCL for manganese is overzealous. In addition to the
12 sampling methodology I already discussed, the WACs prescribe a rolling annual testing
13 average, rather than relying on one solitary test result. Using one single test to make a
14 legal presumption about an entire water system is unreasonable, particularly relating to
15 qualities of the water that are notorious for sporadic fluctuations based on sudden
16 pressure events. Where the statutes and regulations require Rainier View to follow a
17 particular method of testing, it would be unjust to deem Rainier View's water "impure"
18 based on a different, less precise testing method.

19 **Q: What if we averaged Ms. Hand's test results together, as the WACs suggest?**

20 A: If we assume the "non-detect" reading to be zero, based on Ms. Hand's own tests of
21 0.08 from the second tub draw, 0.03 from the water heater sample, and non-detect from
22 the first tub draw, Ms. Hand's water averages 0.037. Thus, even despite the flawed
23 sampling methods, Ms. Hand's water sample average is below the secondary MCL for
24 manganese of 0.05.
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1 **Q: Will you please address Ms. Hand’s allegation about water “color”?**

2 A: The color of the water is also strongly affected by the testing methodology. The water at
3 the bottom of the water heater, particularly when it has been stagnant for periods of time,
4 will inherently have a higher color reading. It is possible that condition caused the high
5 reading from the water heater sample and the second tub draw, despite a non-detect
6 reading on the first tub draw.

7 **Q: What remedy would a high color reading demand?**

8 A: Like manganese, color has a secondary MCL under WAC 246-290-310, so Rainier View
9 would be required only to take follow-up action as directed by the DOH. The DOH has
10 not directed Rainier View to take any such action. Nonetheless, if a customer called to
11 report discolored water that did not clear up after letting the water run, we would create a
12 work order to flush the pipes at that location. This method has proven successful in
13 nearly every case.

14 **Q: Will you please address Ms. Hand’s allegations about turbidity?**

15 A: Ms. Hand cites WAC 246-290-666(c)(iii), which does not apply to Southwood Sound, the
16 water system servicing Springwood Estates. According to WAC 246-290-620, Part 6 of
17 Chapter 246-290 WAC applies to water systems that use surface sources or
18 groundwater sources under the direct influence of surface water, known as GWI. The
19 DOH and Department of Ecology both classify the wells at issue here as groundwater,
20 rather than surface water or GWI sources, because of the depth of the wells and the
21 confining layers about the intakes. Thus, the turbidity requirement Ms. Hand mentions is
22 not applicable.

23 **Q: How does this relate to her allegations about potential health concerns?**

24 A: Ms. Hand argues that turbidity present in some of her tests poses a health risk based on
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1 a statement she found by the USGS Water Science School. Surface and GWI water are
2 more susceptible to certain waterborne diseases, as described in WAC 246-290-601,
3 thus, the State requires additional testing and treatment for surface and GWI sources.
4 Even though groundwater sources, like the wells at issue here, are less susceptible to
5 waterborne illnesses, the state regulations impose disinfection and monitoring
6 requirements with which Rainier View complies.

7 **Q: What does the DOH's proposed adoption of the EPA's lifetime health advisory for**
8 **manganese mean to Rainier View?**

9 A: DOH's anticipated adoption of the EPA's lifetime health advisory would require no
10 change to Rainier View's operations. As Mr. Means explained at pages 8-9 and 49-50,
11 the secondary MCL for manganese is 50 parts per billion, or 0.05 mg/L, at which point
12 manganese begins to present an aesthetic concern. It is not until the manganese
13 reaches a sustained level of 300 parts per billion, or 0.30 mg/L, that a potential health
14 concern begins to arise. He explained that manganese is a nutrient our bodies require,
15 that we typically get through food, and that this lifetime health advisory represents a very
16 conservative, precautionary number, assuming everybody is already exposed to normal
17 amounts of manganese through other sources.

18 **Q: Does any testing show Rainier View's water at the level of the EPA's lifetime**
19 **health advisory?**

20 A: No -- even the pre-treatment levels of manganese at the Fir Meadows 4 well are less
21 than half the level identified in the lifetime health advisory the DOH may adopt. And
22 because the tests consistently show Rainier View's water far below the EPA's lifetime
23 health advisory, we believe this further proves that the water we provide is safe to drink.
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