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STATE OF WASHINGTON
DEPARTMENT OF HEALTH
SOUTHWEST DRINKING WATER REGIONAL OPERATIONS
P.O. Box 47823 Olympia, Washington 98504-7823
TDD Relay 1-800-833-6388

August 1, 2016 Mont Jeffreys, Manager Hartstene Pointe Water-Sewer District 772 East Chesapeake Drive Shelton, Washington 98584	Hartstene Pointe ID #31569	
	County:	Mason
	System Type:	Community
	Operating Permit Color:	Green
	Surveyor:	Regina Grimm
	Inspection Date:	July 21, 2016

Thank you for meeting with me to conduct a survey of this water system. Sanitary surveys are the Office of Drinking Water's (ODW) way to inspect public water systems through a field visit. ODW is also able to offer technical assistance to help utilities improve their system operations and ensure that public health is protected.

This report documents the findings of this survey. Deficiencies that need your attention are summarized below. As you correct the items, send me documentation that demonstrates the items have been completed as directed. Include the system name, ID number, and the date the deficiencies were corrected. You can send them to me by e-mail at regina.grimm@doh.wa.gov or by mail at PO Box 47823, Olympia, Washington 98504-7823.

If you are not able to correct these deficiencies, you must submit a Corrective Action Plan by the date assigned describing how and when the work will be completed.

SIGNIFICANT DEFICIENCIES* - BY SEPTEMBER 15, 2016

1. The treatment system for Well #2 is not operating properly and there have been four or more arsenic exceedances within the last 12 month period. This is classified as both a significant deficiency and treatment technique violation. We know you have been very proactive in pursuing a replacement treatment system. Please submit a corrective action plan with timeline of when you expect to put the new treatment system into service.

SIGNIFICANT FINDINGS - BY SEPTEMBER 15, 2016**

2. Please submit photos of the reservoir hatch (both open and closed) and reservoir vent to verify that reservoir appurtenances are protected against entry of contaminants.

SYSTEM INFORMATION

Hartstene Pointe is a community water system that is approved for 498 connections. About 75 percent of the homes are used part-time as vacation homes and about 25 percent are full-time residences. The water system's facilities include two groundwater wells, one booster station, one storage tank, two filtration treatment plants, and the distribution piping.

Since the last sanitary survey the water system has installed a booster station that enables them to use the full volume of their storage tank. Prior to the installation of the booster station only the top 12 feet (28,000 gallons) was available because the remaining storage (dead storage) was needed to maintain minimum system pressures. In 2009 ODW approved Hartstene Pointe's water system plan (WSP), but reduced the approved connections to place the water system at capacity. In 2012 the booster station was approved and the WSP was amended, increasing the connections back to previous levels.

SECTION 1: SOURCE

This system has two active groundwater sources and one emergency groundwater source that was never equipped. The system has had problems with meeting the arsenic standard with the Well #2 treatment plant and they had been using Well #1 as their primary source. However, Well #1 has had a significant loss in production and the system has gone back to using Well #2 as the lead well.

They think the production in Well #1 decreased because there is sand filling in the screens. They attempted to rehabilitate the well, but could not fix the problem. The production from Well #1 has decreased from 50 gallons per minute (gpm) to 38 gpm. The system is currently working with an engineering firm to obtain a replacement well. They expect to drill it this fall and hope to have the new well approved and in use by the end of the year. They are planning for the new well to produce about 100 gpm, which would enable them to fully utilize their instantaneous withdrawal limit on their water right.

Source ID #	Name:	Description:	Ecology Tag #	Listed on WFI	
				Yes	No
S01	Well #1 AHB601	Groundwater Well	AHB601	<input checked="" type="checkbox"/>	<input type="checkbox"/>
S02	Well #2 AHB690	Groundwater Well	AHB690	<input checked="" type="checkbox"/>	<input type="checkbox"/>

WELLHEAD	Source ID #		Source ID #	
	Yes	No	Yes	No
System has well log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Wellcap sealed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Openings sealed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Vent screened	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terminates 6" above grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Protected from flooding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Source meter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pressure gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
**Raw water sample tap	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check valve	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
**Protected from unauthorized access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Structure in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

WELLHEAD	Source ID #		Source ID #	
	Yes	No	Yes	No
*Sanitary control area has no unmitigated contaminants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
**Protected from physical damage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency of routine site visit	Weekly		Weekly	
Frequency of source meter reading	Weekly		Weekly	

WELL PUMP EQUIPMENT	Source ID #		Source ID #	
	Yes	No	Yes	No
*Functional and reliable pump and pump controls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Pump control valve or vacuum relief valve with a protected air gap at discharge	N/A		N/A	
Generator available	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Generator has automatic startup	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generator fuel source	Diesel			

EMERGENCY SOURCES

ID #	Name:	Description:	Ecology Tag #	Listed on WFI		Disconnected		Inspected	
				Yes	No*	Yes	No*	Yes	No*
S03	InAct 05-21-2007 Well #3	Groundwater Well	No Well Tag	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The emergency well is not connected to the system and does not have a well pump. A metal plate is welded on top of the well casing.

SECTION 2: DISINFECTION

Disinfection treatment is provided primarily as an oxidant for the filtration systems. The required chlorine residual is to maintain a detectable distribution residual. In order to maintain an adequate residual in distribution the operators target a chlorine residual of 0.7 to 0.8 ppm leaving the treatment plant. At the time of the survey the residual leaving the Well #2 treatment plant was 0.27 ppm, which the operator thought was low. When the new treatment system is installed it will include online analyzers that automatically check and adjust the chlorine dosage, so this should not be an issue in the future.

#	Site or Location	Treatment type and Chemical Used	Listed on WFI		CT Provided	
			Yes	No	Yes	No
1	Well #1 Pumphouse	Sodium Hypochlorite Injection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Well #2 Pumphouse	Sodium Hypochlorite Injection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CHEMICAL TREATMENT	1		2	
	Yes	No	Yes	No
Operated & maintained properly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*RPBA or air gap between the chemical tank and fill waterline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
**Post treatment sample tap	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Redundant equipment available	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schematic of treatment facilities available	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Adequate chlorine residual test kit available	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Test kit calibrated and maintained properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemical feed proportional to flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
**Approved chemicals used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

HYPOCHLORITE ADDITION	1		2	
	Yes	No	Yes	No
Hypochlorite concentration %	12.5%		12.5%	
Feed solution concentration				
Hypochlorite solution located in separate room	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISINFECTION COMPLIANCE	1		2	
	Yes	No	Yes	No
Disinfection required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CT required	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Minimum CT met at all times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peak flow used to calculate CT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly report submitted	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Residuals maintained in distribution system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Daily residuals recorded	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SECTION 3: OTHER TREATMENTS

#	Treatment Process	Chemical Added	Purpose	On WFI		Location in system
				Yes	No**	
1	Manganese Greensand Filtration	Potassium Permanganate, Sodium Hypochlorite	Iron, and Manganese Removal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Well #1 Treatment Building
2	Manganese Greensand Filtration	Ferric Chloride, Potassium Permanganate, Sodium Hypochlorite	Arsenic, Iron, and Manganese Removal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Well #2 Treatment Building

The treatment systems for both Well #1 and #2 are about to be replaced, so they have not been evaluated for compliance as part of this survey (see the 2011 Sanitary Survey report and the filter evaluation report prepared by United Pump and Supply, dated July 12, 2010, for detailed treatment information and a description of the problems with the plant).

The Well #1 treatment is designed to treat for iron and manganese removal and the Well #2 treatment is designed to remove arsenic, iron, and manganese. The old treatment plants are no longer functioning efficiently and the treatment for Well #2 is not capable of reliably removing arsenic. The new treatment plants have been funded through the State Revolving Fund program. As of the date of the sanitary survey the projects have been put out to bid. Construction is scheduled to start by September and to be completed in late Spring 2017.

Because of the reduced production from Well #1 the system has been using Well #2 as the primary source. A major problem with the Well #2 plant is that the filter media is spent and they are having to backwash extremely frequently. To get adequate removal of arsenic the ferric chloride dose needed to be increased and the backwash frequency was decreased from every 3 hours to every 6 hours. Unfortunately, this has reduced the effectiveness of arsenic removal. The running annual average for arsenic as of June 2016 is 8.2 mg/L, which is less than the MCL. However, when there are four or more exceedances within a 12 month period this is classified as a treatment technique violation and public notification is required. The monthly lab samples taken in September 2015, November 2015, May 2016, and June 2016 have exceeded the arsenic MCL.

The operator does not have a test kit for measuring the ferric chloride and he does not have a target dosage. The system needs to calculate the dosage being used and measure the residual. I checked with Stephen Baker, our treatment specialist in ODW Headquarters, for his recommendations. He said that arsenic treatment plant operators should be testing pre- and post-filtered iron levels on at least a weekly basis. Results will reflect both the background level, plus the added dose, less what is removed through filtration. The applied ferric chloride dose can be calculated from a feed pump drawdown test, knowing plant flow rate and feedstock strength (i.e. a standard pump calibration). For guidance on doing these calculations I recommend contacting Stephen Baker at (360) 236-3138 or by e-mail at stephen.baker@doh.wa.gov. **The system should develop a way to verify and record the ferric chlorine dosages.**

SECTION 4: DISTRIBUTION SYSTEM

The distribution system includes 2-inch, 4-inch, and 6-inch lines and is primarily AC pipe. As pipes are replaced they are using PVC pipe rather than AC. Most of the lines are 6-inch lines.

The system has completed installation of service meters for all their customers (finished in 2013). They are about to start reading the meters regularly so they can start monthly billing. They are also planning to establish a block rate structure to encourage conservation.

The system has also been working on fixing leaks. Their water mains are in good condition, but they are finding leaks on a lot of the customer laterals. To help with leak detection they are planning to hire a leak detection company.

The system is currently working on replacing their pressure relief valves (PRVs). The PRVs are 50 years old and have been starting to fail. **At the time of the survey one of the PRVs was not functioning, impacting the operation of the booster station.** The operator had to shut off the new booster station (boosts water pressure from 35 to 45 psi). The PRV replacement is currently out to bid and is scheduled to be finished by the end of August. Without the booster station online the standby storage is reduced because the full volume of the standpipe is not available. **If system pressures start dropping below 30 psi the system needs to implement emergency conservation measures until the PRV is fixed and the booster station is brought back online.**

FEATURES	Yes	No
Service area and facility map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minimum pressure requirements met	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Service meters (reading frequency is monthly)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Leak detection program	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water system leakage (%)	Unknown, No service meter readings yet.	
Adequate valving for flushing and pipe repair	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blow-offs on dead ends	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Routine flushing (frequency is annually)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Routine valve exercise (frequency is annually)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CROSS CONNECTION CONTROL	Yes	No
System has enabling authority	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ongoing hazard inspections	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High hazards identified	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High hazards protected	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Annual testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
System has installation standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CCS on staff or under contract	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cross connections observed have been eliminated	<input type="checkbox"/>	<input type="checkbox"/>

The system's only high hazards are the wastewater treatment plant and three sewer lift stations (the pool is not hard plumbed into the system). The sewer lift stations have reduced pressure backflow assemblies (RPBAs). The wastewater treatment plant is required to have an in-plant air gap. Currently, an RPBA is installed, but this is not sufficient protection. For technical assistance for evaluating proper backflow protection at the plant please contact Bill Bernier, ODW's Cross Connection Control Specialist, at (360) 236-3562 or by e-mail at william.bernier@doh.wa.gov.

SECTION 5: FINISHED WATER STORAGE

The system has one tall standpipe for storage. The tank is located on top of a hill and is very tall, so most of the system is pressurized by gravity feed. The booster station provides some extra pressure (about 10 psi) to homes located around the base of the reservoir so that more of the storage volume is available for regular use.

The reservoir hatch and air vent were not accessible during the survey. Pictures need to be submitted so we can verify the condition of the hatch and vent.

RESERVOIR	RESERVOIR NAME	DESCRIPTION	YEAR BUILT	TOTAL VOLUME (GAL)
1	Storage Reservoir	Steel Standpipe	1973	188,000

TOP OF RESERVOIR	Res #1	
	Yes	No
**Hatch: Locked	<input type="checkbox"/>	<input type="checkbox"/>
*Hatch: Watertight seal or gasket	<input type="checkbox"/>	<input type="checkbox"/>
Hatch: Over-lapping cover	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Screened air vent	<input type="checkbox"/>	<input type="checkbox"/>
*Openings sealed/protected	<input type="checkbox"/>	<input type="checkbox"/>

FEATURES	Res #1	
	Yes	No
Separate inlet/outlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Protected drain outlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Protected overflow outlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Overflow line discharges into a sanitary sewer with an air gap	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operational water level gauge	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bypass piping or isolation possibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
**Protected from unauthorized entry	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Low level alarms	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample tap at outlet	<input type="checkbox"/>	<input checked="" type="checkbox"/>

MAINTENANCE	Res #1
	Yes No
Frequency of structural and coating inspection	Last coating in 2003, scheduled to do another inspection next year.
Frequency of cleaning	Not cleaned recently. Planned next year.
Frequency of appurtenance inspection	Not inspected regularly.
Frequency of routine site visit	Weekly
**Structure in good condition	<input checked="" type="checkbox"/> <input type="checkbox"/>
Clear of excessive vegetation	<input checked="" type="checkbox"/> <input type="checkbox"/>

SECTION 6: PRESSURE TANKS

This system does not have pressure tanks.

SECTION 7: BOOSTER PUMPS AND FACILITIES

A new booster station was installed in 2012 to allow for additional connections by freeing up more storage volume within the standpipe. Prior to installing the booster station only the top 12 feet of the tank was useable. If the water level dropped below 196-ft the system pressure would drop below 30psi at the highest customers. The pump station resolved the storage deficiency problem by allowing water that is stored below 196-ft to be pumped to an elevation of 208-ft (the overflow elevation of the reservoir).

The new booster station includes two pumps, one larger and one smaller. The smaller pump was sized at 30 gpm and a total dynamic head (TDH) of 30-ft. The second pump is rated at a high enough capacity that the entire system demand can be pumped from the reservoir if both groundwater wells are out of service. It has a capacity of 260 gpm at a TDH of 125-ft.

The design of the booster station is unusual. It is a blow-grade pumping station called a “pitless” booster station. The booster pumps are vertical submersible pumps installed in shallow pitless-type columns which are completely sealed. Pumped water flows from the reservoir into the pitless column and out into the distribution line. They appear similar to a wellhead and have a steel well cap with vent at the top of the casing. Adjacent to the two pumping shafts is a vault that includes isolation valves, a back-pressure sustaining valve, pressure switches, and pressure gauges. The vault has a sump pump and water level alarm.

Facility	Name	Description	Total Capacity (gpm)
1	Booster Station	Vertical submersible pumps.	Pump 1 – 30 gpm Pump 2 – 260 gpm

BOOSTER PUMPS	Facility 1	
	Yes	No
Number of pumps	2	
Frequency of routine site visit	Weekly	
Isolation valves	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pressure gauge(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pressure relief valve	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pump failure alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Functional pump and pump controls	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Protected from flooding	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Redundant pumps	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Equipment in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Generator available	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Generator has automatic startup	<input type="checkbox"/>	<input type="checkbox"/>
Generator fuel source		

BUILDINGS/ENCLOSURE	Facility 1	
	Yes	No
**Facility secure	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Structure in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SECTION 8: WATER QUALITY MONITORING AND REPORTING

This system has high arsenic, iron, and manganese. They are currently taking monthly arsenic samples from Well #2 and quarterly arsenic samples for Well #3. Recent arsenic monthly samples from Well #2 have been 11 ppb and 12 ppb, which exceeds the MCL of 10 ppb. In addition, the system has had four months in the last twelve months where the treatment has not met the MCL. This is considered a treatment technique violation. The system has been very proactive in pursuing a replacement treatment system.

Refer to the Water Quality Monitoring Schedule for your monitoring requirements and status. If you have any questions on source monitoring, please contact Sophia Petro at (360) 236-3046 or by e-mail at sophia.petro@doh.wa.gov.

CHEMICAL	
Sample Point	Description
1	After Well #1 Treatment Plant
2	After Well #2 Treatment Plant

CHEMICAL	Sample Point 1		Sample Point 2	
	Yes	No	Yes	No
Monitoring adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ODW WQ data reviewed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample collection sites correct	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
System has prior:				
<input type="checkbox"/> Nitrate results above 5 mg/L <input type="checkbox"/> Nitrite results above 0.5 mg/L <input checked="" type="checkbox"/> Primary MCL <input checked="" type="checkbox"/> Secondary MCL exceedance(s) <input type="checkbox"/> Organic detections <input type="checkbox"/> Other _____				

COLIFORM	Yes	No
Monitoring adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitoring plan adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitoring plan followed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
# of violations since last survey	None	

The revised total coliform rule went into effect in April 2016. ODW has developed new coliform monitoring plan templates that comply with the new rule. I recommend updating your monitoring plan, which can be downloaded from the ODW website in the publications section.

LEAD & COPPER	Yes	No
Monitoring adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Results below action level	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The new treatment system may affect the corrosiveness of the treated water. **When the new treatment system is put into service we will be scheduling the system to complete two six month sets of lead and copper monitoring.** If the treatment system lowers the pH or otherwise impacts the corrosiveness then additional treatment may be needed to compensate. **Prior to giving final approval for the treatment we will request the system to evaluate any change in corrosiveness.**

DISINFECTION BYPRODUCTS	Yes	No
Monitoring adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitoring plan adequate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitoring plan followed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Results satisfactory	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The system is currently on a reduced monitoring schedule and is required to collect one set of TTHM and HAA5 samples every three years during October. The next monitoring is due October 2018.

SECTION 9: SYSTEM MANAGEMENT AND OPERATIONS

When the system took over ownership from the county, it was in very poor condition. Over the last 6 years the water system’s leadership has been doing an excellent job planning for and implementing critical improvements. They have installed a new booster station so they could re-gain connections, they will be replacing both treatment plants with ones that automate with SCADA and have online analyzers to give more process control, they are going to install a mixer in the tank to reduce water stratification, they have installed service meters for all of their customers in plenty of time to meet the 2017 deadline, and they will be replacing their low producing well to regain needed capacity. Once the new treatment systems and the replacement for Well #1 are installed they should be in a good situation for many years to come.

PROJECT/PLANNING	Yes	No
System approved	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Current WSP/SWSMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Year WSP/SWSMP approved	WSP approved in 2009. Approved connections last updated in 2012 with booster station project.	
Emergency response plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>

REPORTING	Yes	No	N/A
WFI reviewed and updated with purveyor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	---
Consumer confidence report (Community only)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water use efficiency report (Municipal Water Suppliers)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cross connection control annual report (> 1000 conn)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

OPERATOR CERTIFICATION

This system is required to have a WTPO1 and a WDM1 for their certified operator. The new treatment plant will require the same level of certification. Mont Jeffreys is the operator in charge and handles full operations and maintenance of the water system including water sampling, plant operation, reporting, repairs oversight, emergency response, customer response, and so on. They have hired a new operator to help out with duties and to learn the system.

If you have any questions or this information is inaccurate, please contact Operator Certification at (800) 525-2536.

Name of Operator	Certification Number	Certifications	Mandatory Operator
Mont Jeffreys	008103	WDM2, BTO, CCS	<input checked="" type="checkbox"/>

WDS-Water Distribution Specialist; WDM-Water Distribution Manager; WTPO-Water Treatment Plant Operator, BTO-Basic Treatment Operator; CCS-Cross Connection Specialist; BAT-Backflow Assembly Tester

OPERATIONS	Yes	No
Operational records maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Complaints followed up	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Complaints documented	<input checked="" type="checkbox"/>	<input type="checkbox"/>
# of complaints recorded at ODW (since last survey)	None	
Operation and maintenance program	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Previous survey deficiencies/findings corrected, if no list below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CLOSING

Your system has no total coliform MCL violation, no more than one total coliform monitoring violation since the last survey, but does have significant deficiencies identified in this current survey. Your system can qualify for the reduced frequency of Sanitary Surveys under WAC 246-290-416 (1) of once every 5 years, if all the identified significant deficiencies are addressed by the timelines indicated in this report.

Regulations establishing a schedule of fees, including fees for sanitary surveys, were adopted April 30, 2012 (WAC 246-290-990). The amount due is \$1,122. An itemized worksheet is enclosed with the invoice.

If you have any questions, please contact me at (360) 236-3035 or by e-mail at regina.grimm@doh.wa.gov.

Sincerely,



Regina N. Grimm, P.E.
Office of Drinking Water, Regional Engineer

Enclosures

cc: Stephanie Kenny, Mason County Public Health



Well #2 Wellhouse



Well #2



Well #2 Source Meter



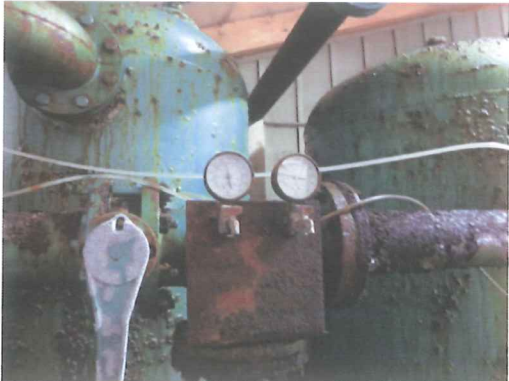
Well #1



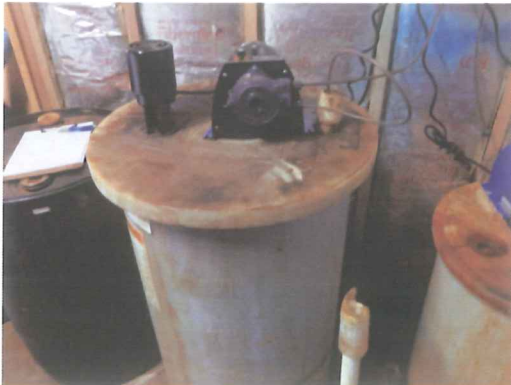
Well #1 Vent



Proposed New Well Site – Well #1 Replacement



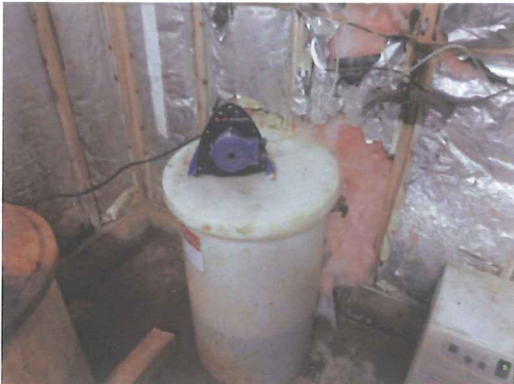
Well #2 Filtration Vessels



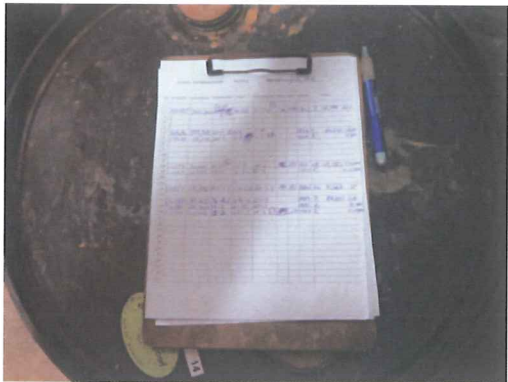
Well #2 Permanganate Batch Solution Tank



Well #2 Batch Solution Tank



Well #2 Batch Solution Tank



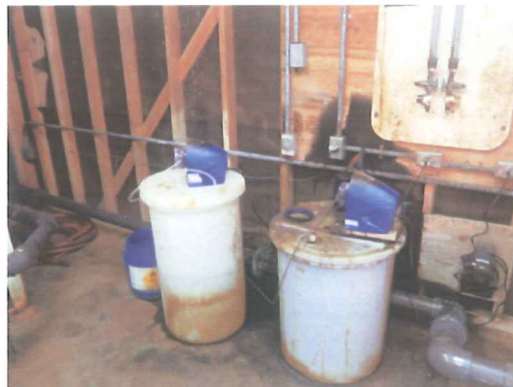
Well #2 Treatment Log



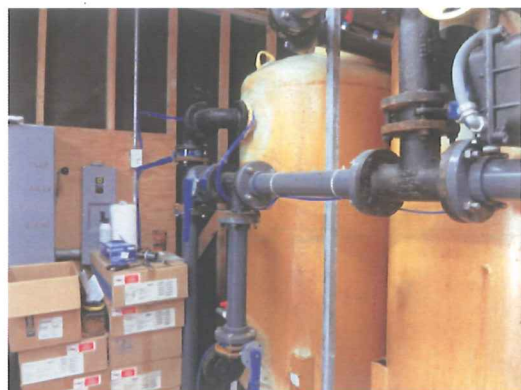
Well #2 Treatment Control Panel



Well #1 Treatment Vessels



Well #1 Batch Solution Tanks (Chlorine and Permanganate)



Well #1 Treatment



Well #1 Treatment Control Panel



Storage Standpipe



Storage Access Ladder



Booster Station Vertical Pitless Pumps



Booster Station Vault



Booster Station Vault

SANITARY SURVEY FEE WORKSHEET

Department of Health
Office of Drinking Water
Sanitary Survey Time Tracking

PWS ID # 315690

System Name Hartstene Pointe
County Mason County
Surveyor Regina Grimm

Date: 07/27/16

System over 10,000 Connections? NO

	Quantity Hours/Miles	Cost
Department of Health Paid Costs		
Survey program RO Coordination	1 \$	102 \$ 102.00
Survey Program Administrative Support	1 \$	102 \$ 102.00
Travel expenses (Mileage)	80 (# Miles) x (\$.56/Mile)	\$ 26.93
Technical Assistance	1 \$	102 \$ 102.00
Travel Time <10,000	2	102 \$ 204.00
Total Department of Health Costs to Perform All Surveys		\$ 536.93
Water System Paid Costs		
Scheduling, research, prep	1 \$	102 \$ 102.00
Survey Field Work	2 \$	102 \$ 204.00
Survey documentation – preparation of survey report to the purveyor	8 \$	102 \$ 816.00
Additional Water System Paid Costs for systems serving 10,000 or more connections		
	Hours	
	0 \$	\$ -

NOTES:

Total Cost of Survey \$ 1,658.93

Costs Covered by DOH \$ 536.93

Invoice amount due (Less than 10,000 Connections) \$ 1,122.00