



October 18, 2023

Karl Frink
City of Brownsville, PWS #4100152
PO Box 188
Brownsville, OR 97327

Re: Water System Survey for City of Brownsville, PWS #4100152

Dear Karl Frink:

Thank you for your time and assistance in conducting a **Water System Survey at the City of Brownsville on September 27th, 2023**. The main purpose of the survey was to evaluate the entire water system in terms of supplying safe drinking water to the public. I have enclosed a copy of the report for your records. Please let me know whether any corrections are needed.

The first page of the report lists significant deficiencies and rule violations in the system that must be corrected as soon as possible. **You must submit a written corrective action plan describing how and when the deficiencies and violations will be corrected by December 6th, 2023 (7 weeks from the date of this letter)**. Once the deficiencies and rule violations are corrected, you must send me written verification of the corrections, including the dates corrections were completed.

If City of Brownsville fails to act within the required time frame, the business must notify all persons served by the water system. A repeat public notice will be required every three months until all deficiencies are corrected, or the business is in compliance with an approved corrective action plan. You must forward a copy of the public notice to Data Management, Compliance, and Enforcement (DMCE) at P.O. Box 14450, Portland, OR 97293-0450. You may also fax the report to 971-673-0694 or email to dwp.dmce@dhsosha.state.or.us.

The Oregon Administrative Rule (OAR) significant deficiencies and rule violations noted during the survey are as follows:

1. Per OAR 333-061-0043(1)(a), community water systems must deliver their Consumer Confidence Report (CCR) by July 1, annually. The report must contain data collected during, or prior to, the previous calendar year. The City's CCR has

not been received since 2020. The City currently has two open violations for this deficiency. Please submit the most current CCR to correct this deficiency.

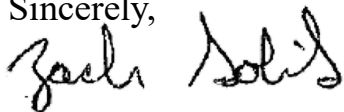
In addition, I have the following comments and recommendations:

1. Drinking Water Services has established criteria for determining whether a system has demonstrated “outstanding performance.” Systems designated Outstanding Performers may have the frequency of their water system surveys reduced from every three years to every five years. Although your water system did not meet the criteria due to the CCR late reporting, please review the enclosed handout to see what steps you can take toward receiving this designation.

A summary of the City of Brownsville’s monitoring requirements can be found on page 16. Please maintain a copy of this page and refer to it for future monitoring scheduling.

If you have any questions or concerns or would like the survey report in an alternate format, please contact me at 541-231-9077. Thank you for your assistance and cooperation.

Sincerely,



Zach Golik, P.E.
Regional Engineer
Drinking Water Services

CC: DWS Portland

Enc:

- City of Brownsville Water System Survey Report
- Outstanding Performance Criteria

Deficiency Summary

Surveyor: Zach Golik

Date Corrective Action Plan is due: December 6th, 2023

County: Linn

Yes	No	Significant Deficiencies and Rule Violations:	Date to be corrected	Date corrected
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Source: <i>Well construction:</i> <hr/> <i>Spring/other source:</i> <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Treatment: <i>Surface water treatment:</i> <hr/> <i>Disinfection:</i> <hr/> <i>Other treatment:</i> <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Finished Water Storage: <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distribution: <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Monitoring: <hr/>	<hr/>	<hr/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Management & Operations: Consumer Confidence Report not received <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Operator Certification: <hr/>	<hr/>	<hr/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other Rule Violations: <hr/>	<hr/>	<hr/>

Database Updates: None Inventory Treatment Monitoring Page:

Comments:

Source Deficiencies:

Well Construction Deficiencies:

- ⊕ Sanitary seal and casing not watertight
- ⊕ Does not meet setbacks from hazards
- ⊕ Wellhead not protected from flooding
- ⊕ No raw water sample tap
- ⊕ No treated sample tap (if applicable)
- ⊕ No screen on existing well vent

Spring Source Deficiencies:

- ⊕ Springbox not impervious durable material
- ⊕ No watertight access hatch/entry
- ⊕ No screened overflow
- ⊕ Does not meet setbacks from hazards
- ⊕ No raw water sample tap
- ⊕ No treated sample tap (if applicable)

Treatment Deficiencies/Violations:

Surface Water Treatment Deficiencies:

- + Turbidity standards not met - 0030(3)
- + Turbidimeters not calibrated per manufacturer or at least quarterly - 0036(5)(b)(A)(ii)
- ⊕ Incorrect location for turbidity monitoring
- ⊕ If serving > 3,300 people no alarm or auto plant shut off for low chlorine residual
- + For conventional or direct filtration: No alarm or plant shut off for high turbidity
- ⊕ For conventional filtration: Settled water not measured daily
- ⊕ For conventional or direct filtration: Turbidity profile not conducted on individual filters at least quarterly
- ⊕ For cartridge filtration: Filters not changed according to mfg. rec. pressure differential
- ⊕ For cartridge filtration: No pressure gauges before and after cartridge filter
- + For membrane filtration: Direct integrity testing does not meet requirements under -0036(5)(d)(B)
- + For membrane filtration: Indirect integrity testing does not meet requirements under -0036(5)(d)(C)
- ⊕ For diatomaceous earth filtration: Body feed not added with influent flow.

Disinfection Deficiencies/Violations:

- + DPD/EPA approved method not used - 0036(9)(e)
- + Free chlorine residual not maintained - 0032(3/5)
- + Chlorine not measured & recorded - 0036(9)
- + Minimum CT required not met all times - 0032(3/5)
- ⊕ No means to adequately determine flow rate on contact chamber effluent line
- + pH, Temperature, and chlorine residual not measured daily at first user - 0036(5)(a/b)

- ⊕ Failure to calculate CT values correctly
- ⊕ No means to adequately determine disinfection contact time under peak flow and minimum storage conditions

UV Disinfection Violations (OAR 333-0050(5)(k)):

- + Bypass around UV system
- + Lamp sleeve not cleaned
- + Lamp not replaced per manufacturer
- + No intensity sensor with alarm or shut-off

Other Treatment Violations:

- + Non-NSF approved chemicals - 0087(6)
- + Corrosion control parameters not met - 0034

Distribution System Violations:

- + System pressure < 20 psi - 0025(7)

Cross Connection (OAR 333-061-0070):

- + No ordinance or enabling authority (CWS)
- + Annual Summary Report not issued (CWS)
- + Testing records not current (CWS, NTNC, TNC)
- + No Cross Connection Control Specialist (CWS ≥ 300 connections)

Finished Water Storage Deficiencies:

- ⊕ Hatch not locked or adequately secured
- ⊕ Roof and access hatch not watertight
- ⊕ No flap valve, screen, or equivalent on drain
- ⊕ No screened vent

Monitoring Violations:

- + Monitoring not current - 0025(1)
- + Unaddressed MCL violations or LCR AL exceedances - 0030
- + No Coliform Sampling Plan - 0036(6)(a)(l)

Management & Operations Violations:

- + No operations and maintenance manual - 0065(4)
- + Emergency response plan not completed (CWS, NTNC) - 0064
- + Major modifications not approved (plan review) - 0050
- + Master plan not current (≥ 300 con.) - 0060(5)
- + Annual CCR not distributed (CWS) - 0043(1)(a)
- + PNC or out of compliance with AO
- + Public notice not issued as required - 0042

Operator Certification Violations:

- + No certified operator at required level - 0065(2)
- + No protocol for under certified operator - 0225(2)

Other Rule Violations:

- ⊕ Significant deficiency per OAR 333-061-0076
- + Rule violation per OAR 333-061-XXX

Inventory and Narrative

<input type="checkbox"/> Outstanding Performer			
Type:	Status	Size	Season: <input checked="" type="checkbox"/> All year <input type="checkbox"/> Seasonal
<input checked="" type="checkbox"/> Community (C)	Population:	1,906	Begins: (mm/dd) /
<input type="checkbox"/> Non-Transient Non-Community (NTNC)	Connections:	837	Ends: (mm/dd) /
<input type="checkbox"/> Transient Non-Community (TNC)	License: <input checked="" type="checkbox"/> Not Lic. <input type="checkbox"/> Health Dept. <input type="checkbox"/> Ag		Service Area Characteristics: MU
<input type="checkbox"/> Oregon Very Small (OVS)	Responsible Agency: <input checked="" type="checkbox"/> State <input type="checkbox"/> County <input type="checkbox"/> Ag		Owner Type: 4
Minimum WS Certification Requirements:	WD: 2 WT: 1 <input type="checkbox"/> FE <input type="checkbox"/> Small WS <input type="checkbox"/> N/A		

For changes in operations staff contact Operator Certification: dws.opcert@odhsoha.oregon.gov

Primary Administrative Contact (mailing address):			
Contact Name:	Karl Frink	Phone:	(541) 466-3381
Title:	Public Works Superintendent	Cell:	(541) 409-3700
Street Address:	P.O. Box 188	Emergency #:	(541) 409-3700
City/State/Zip:	Brownsville, OR 97327	Email:	publicworks@ci.brownsville.or.us

Center of Service Area (for public maps):	
decimal degrees (e.g., 45.894357, -123.960433) or address	44.391617, -122.983277

Legal/Owner/Secondary Contact (optional/not entered in SDWIS):			
Contact Name:	Scott McDowell	Phone:	(541) 466-5880
Title:	City Administrator	Cell:	()
Street Address:	255 North Main St.	Emergency #:	()
City/State/Zip:	Brownsville, OR. 97327	Email:	admin@brownsville.or.us

System Physical Address (optional/not entered in SDWIS):			
Contact Name:	Karl Frink	Phone:	(541) 466-3381
Title:	Water Treatment Plant	Cell:	(541) 409-3700
Street Address:	200 Park Avenue	Emergency #:	(541) 409-3700
City/State/Zip:	Brownsville, OR. 97327	Email:	publicworks@ci.brownsville.or.us

Emergency Systems Available:			
Name:		PWS ID#:	41

Narrative:

Water sources include an infiltration gallery in the Calapooia River and four shallow wells approximately 300-400 feet from the river. The infiltration gallery is primarily used during the summer and the wells primarily in the winter, when river turbidity is too high. Water from both sources are treated at the water treatment plant nearby. The treatment includes 3 slow sand filtration. Disinfection is accomplished with sodium hypochlorite added to the chlorine contact chamber and clearwell for contact time. Along with corrosion control by adding soda ash. Treated water is pumped up to two storage reservoirs, one 1.1 MGal and one 0.25 MGal, both which gravity feed the distribution system.

Service area characteristic and owner type codes:

Service Area Characteristics		
Primary	Secondary	CODE
Residential	City or Town	MU
	Mobile Home Park	MP
	Subdivision	SU
	Rural	RA
	Other	OR
Transient	Recreation (parks, campground, beaches, ski areas, marinas)	PA
	Service Station	SS
	Summer Camp	SK
	Restaurant/Store	RS
	Highway Rest Area	HR
	Hotel/Motel, B&B	HM
Non-Transient Non-Community	Other (visitor ctr, church)	OT
	School	SC
	Institution	IN
	Medical Facility	MF
	Industrial/Agricultural	IA
	Day Care Center	DC
	Other	OA
Other	Interstate Carrier	IC
	Wholesaler (sells water)	WH
	Other Area	OT

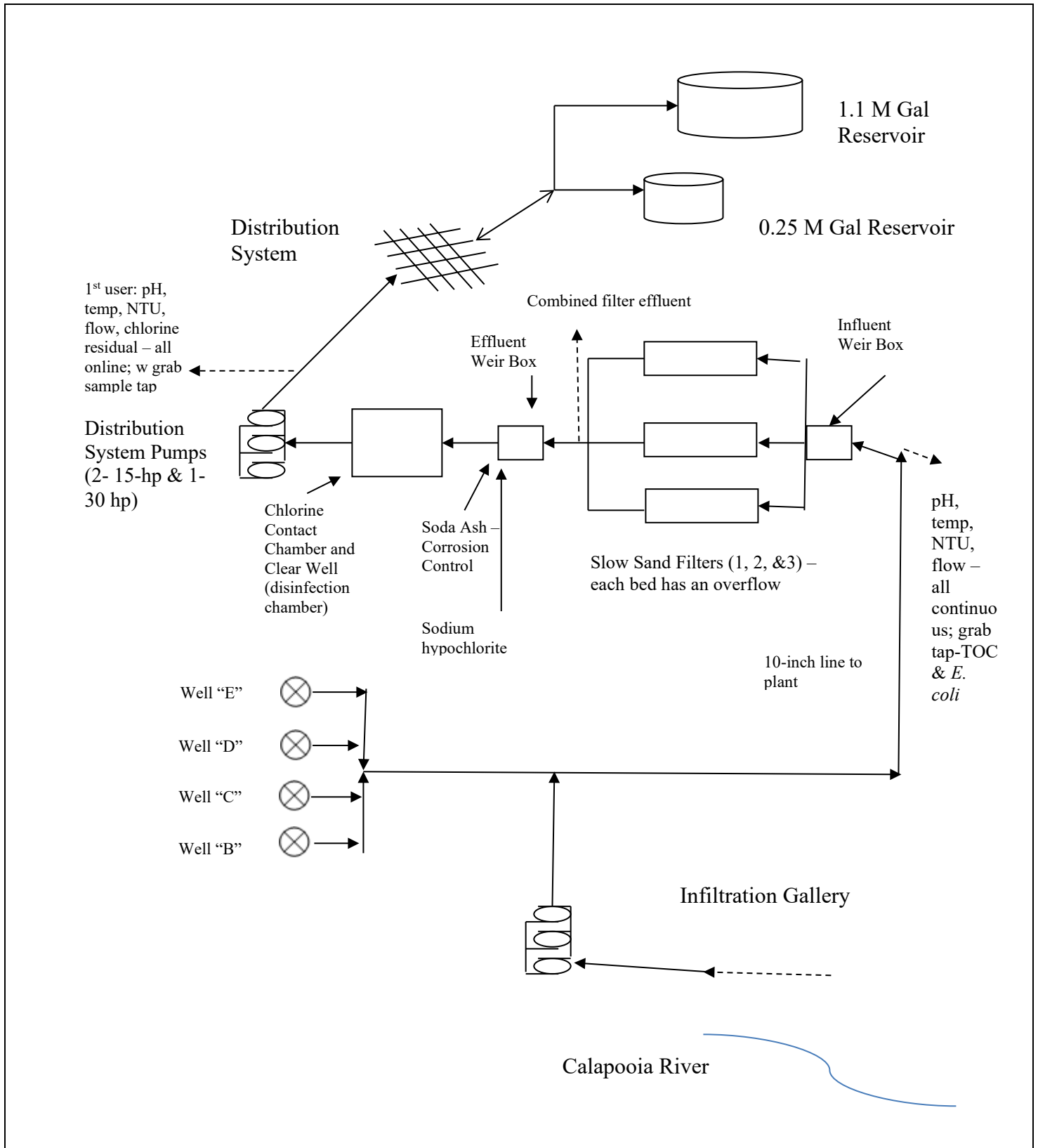
Determining System Type				
Population/Daily Use	Number of Connections	>25 Same Daily Users	≥25 Year Round Residents	System Type
<10	<4	No	No	Not a System
10 – 24	4-14	–	–	Oregon Very Small
25+	–	No	No	Transient Non-Community
25+	–	Yes	No	Non-Transient Non-Community
25+	15+	Yes	Yes	Community

Coliform Bacteria Sampling			
Community systems	Monthly samples based on population*		
Non-Transient, Transient, Oregon Very Small Systems	Groundwater population served		Surface water
	≤1000 1 per quarter	>1000 Monthly based on population*	Monthly sampling based on population*
Non-Community systems operating seasonally	Monthly samples based on population*		

Owner Type	Code
Federal Government	1
Private	2
State Government	3
Local Government	4
Mixed Public/Private	5

* Population	Samples per month
Up to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
etc.	See rules or call DWS

Water System Schematic



Source Information

ID	Entry Points (Location where water enters distribution and is sampled)	Source Type (Ground, Surface, GWUDI, Purchased ground, Purchased surface)	Availability (Permanent, Seasonal*, Emergency) *If seasonal, indicate begin/end dates			
			Begin (M/D)	End (M/D)		
A	EP for SSF/WTP	GWUDI	Permanent			

ID	Sources (Contributing to Entry Point)	Land Use*	Capacity (GPM)	Source Type (Ground, Surface, GWUDI, Purchased ground, Purchased surface)	Availability (Permanent, Seasonal, Emergency, Abandoned, Disconnected)
AA	Calapooia River IG	B,C,G,M	380	GWUDI	Permanent
AB	Well "B" (LINN 11992)	B,C,G,M	75	Ground	Permanent
AC	Well "C"	B,C,G,M	50	Ground	Permanent
AD	Well "D" (LINN 11752)	B,C,G,M	50	Ground	Permanent
AE	Well "E" (LINN 53471)	B,C,G,M	30	Ground	Permanent

*Land Use Codes: (A) Pristine Forest (B) Irrigated Crops (C) Non-Irrigated Crops (D) Pasture (E) Light Industry (F) Heavy Industry (G) Urban-Sewered Area (H) Rural On-Site Sewage Disposal (I) Urban On-Site Sewage Disposal (J) Rangeland (K) Managed Forest (L) Commercial (M) Recreational Use

Yes No

- Has the water system implemented strategies to protect their drinking water sources? (e.g., posting source area signs, notifying residents of hazardous waste collection events, provide residents information about maintaining their septic systems, abandoning unused wells, etc.)
- Is the water system interested in protecting their drinking water sources from contamination? If yes, contact regional geologist at 971-673-0405.

Comments:
 River water source is an infiltration gallery that is only useable in summer. In winter when the river water turbidity is too high, the wells are used as the other water source.
 The source is threatened as the river bank erodes downstream, effecting water flow and turbidity. Critical infrastructure has already been impacted. Since the last Drinking Water Survey the 10 inch drinking water main across the Calapooia river has broke due to changes in water flow and been repaired.

Well Information

Source ID#: SRC-	AB	AC	AD	AE		
Source Name:	Well "B"	Well "C"	Well "D"	Well "E"		
Well log available?*	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Well log ID (e.g., COLU123, L12345)	LINN11992	Unk.	LINN11752	LINN44612		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Well active?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Pitless adaptor?	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● Sanitary seal & casing watertight?.....	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● Raw water sample tap?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● Treated water sample tap? <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● If vented, properly screened?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● Wellhead protected from flooding?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Concrete slab around casing?.....	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Casing height ≥12-in. above slab/grade?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Flowmeter?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Pressure gauge?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Pump to waste piping?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
● Well meets setbacks from hazards?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
If no, identify list of hazard(s) within the setback and the distance to the hazard.....						
HAZARD:						
DISTANCE (ft.):						
Protective housing?	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
If yes, does it have:						
Heat?	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Light?	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Floor drain?	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Well pump removal provision?.....	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Pump Type: (vertical turbine, submersible, centrifugal, shallow jet, deep jet)	Sub.	Sub.	Sub.	Sub.		
Bearing lubrication: (oil, or water).....	Water	Water	Water	Water		
Pumping capacity (gpm).....	75	50	50	50		

*If no well log available, record any known information regarding depth of well, depth of grout seal, year of installation, or casing diameter in the comments section below.

Comments:
Please work the Oregon Water Resource Department (OWRD) to locate and/or have a well log created for Well "C". The OWRD Well Verification Program assist with locating and/or creating a well log number. It is encouraged to have the OWRD program install identification bands on all wells in use. The contact for this program Ladeena Ashley (Ladeena.K.Ashley@water.oregon.gov) at 971-287-8218.

Potential Sanitary Hazards
(From OAR 333-061-0050(2)(a)(E))

The following sanitary hazards are not allowed within 100 feet of a well or spring:

- Any existing or proposed pit privy
- Subsurface sewage disposal drain field
- Cesspool
- Solid Waste disposal site
- Pressure sewer line
- Buried fuel storage tank
- Animal yard, feedlot, or animal waste storage
- Untreated storm water or gray water disposal
- Chemical (including solvent, pesticides, and fertilizers) storage, usage, or application)
- Fuel transfer or storage
- Mineral resource extraction
- Vehicle or machinery maintenance or long term storage
- Junk / auto / scrap yard
- Cemetery
- Unapproved well
- Well that has not been properly abandoned or of unknown or suspect construction
- Source of pathogenic organisms
- Any other similar public health hazards

The following are not allowed within 50 feet of a well or spring:

- Gravity sewer line
- Septic Tank

Exemptions to these setbacks must be listed and documented within the plan approval letter and in an approved construction waiver standard.

If a surface water source is located within 500 feet of a well or spring, please note the water body name and the distance to the well or spring. All groundwater sources within 500 feet to a surface water source should be considered for potential surface water influence. Check the file for correspondence. If a review has been done indicate results in comment section. If not, contact DWS at 971-673-0405.

Alternative Technology Treatment Plant Inspection

WTP inspection done with Water System Survey

WTP inspection only

WTP ID: 41 00152 WTP Name: TP for river and wells

Date of inspection: 8/9/2023 Inspected by: Zach Golik

Plant operator: Karl Frink

Total points given: _____

Points	Visit Frequency	Check One
Low range (0-15)	With next survey	<input type="checkbox"/>
Mid-range (16-25)	Annually	<input type="checkbox"/>
High range (26 or more)	Every 6 months	<input type="checkbox"/>

Comments:

The water plant appeared clean, organized and generally well run.

Source:

Describe Intake: Infiltration Gallery perforated pipe is in base of Calapooia River, flows to manhole, then gravity fed to pump station raw water is pumped to the plant.

Describe pumping facilities: Two 15-hp and one 30-hp pumps

Watershed control information (protection plan, security measures, etc.): Water system alternates source for lowest seasonal turbidity.

Factors affecting water quality (algal blooms, logging, etc.): Natural erosion, development, climate change

Treatment:

Cartridge or bag filter make/model: _____

Slow sand filter Diatomaceous earth Corrosion control

Other treatment Describe: _____

Peak plant production rate: (gpm) 400 Comments: _____

Log removal credit given: *Giardia*: 2.0 *Crypto*: 2.0 Date: _____

Treatment Plant:

Yes No if no, check points

Is raw water turbidity data collected at least daily? On-line Bench-top 3 pts

• Are turbidity compliance standards met? (<1 NTU 95% of time; all < 5 NTU) 10 pts

• Is CFE monitoring location acceptable (prior to any storage)? 5 pts

Can chart recorder document turbidity > 5.5 NTU?

• Are turbidimeters calibrated according to factory specifications or at least quarterly? 5 pts

Are calibration standards valid (not expired)?

Is flow through turbidimeter within manufacturer's range?

Water system has installed ne Lovibond brand online turbidimeters, model PTV 1000.

Disinfection

No #	Disinfection Method <small>(Chlorine Gas, Sodium Hypochlorite, On-site Generated Sodium Hypochlorite, Calcium Hypochlorite, Chloramines, Ozone, UV, Mixed Oxidants, Other)</small>	Location	Disinfection Source Water	Residual Maintenance	Other Purpose	Proportional to Flow	Dosage Recorded
1	Sodium Hypochlorite	WTP-Effluent Weir Box	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Yes No Chlorine residuals N/A

- Is a DPD or other EPA approved method used?
- NSF 60/61 certified (or equivalent)?
- Are entry point residuals recorded at least once per day (SWTR, GWR 4-log)? N/A
- Is entry point residual monitoring continuous if population > 3,300 (SWTR, GWR 4-log)? N/A
- Are distribution residuals recorded at least twice weekly?
- Are on-line chlorine analyzers verified weekly with DPD type or EPA approved test kit? N/A

Yes No Chlorine gas N/A

- Separate room for gas storage and feeder?
- Fan with on/off switch outside?
- Vent located next to the floor?
- Door with a window?
- Gas cylinders properly secured?
- Door that opens out?
- Self-contained breathing apparatus?
- Air scrubber system?

Yes No UV N/A

- Does all water contact UV (no bypass)?
- Is lamp sleeve cleaned?
- Is lamp replaced per manufacturer?
- Intensity sensor with alarm or shut-off?

CT evaluation for disinfection N/A

Disinfection Requirement: (sw) 0.5 log inactivation Giardia (sw) 1.0 log inactivation Giardia
 (gw) 4.0 log inactivation viruses (sw) log inactivation Crypto: _____
 (gw) Minimum chlorine residual: _____ mg/l

- Does the contact chamber have effluent flow meter or adequate alternative?
If no, how is peak flow determined for CT calculations? _____
- Has a tracer study been conducted or adequate alternative? Tracer Study Date: 9/13/2023
Demand flow (gpm): 415 Baffling factor (%): 70
Volume used (gal): 36,590 Results (min): 83

Adequate alternate method for contact time? Describe:

Peak hour demand flow over the past 12 months: gpm = 427
 Lowest operating volume over the past 12 months: gallons = Unk.

- Yes No
- Is tracer study still valid?
- (SW only) Are pH, temp, and chlorine residual measured daily before or at the first user?
- Are CT values being calculated correctly (Describe how contact time is determined, below)?
- Are CT values met at all times (SWTR, GWR 4-log)?

Comments:

The water system does appear it is regularly needing exceeding the peak hourly flow demand reflected in its tracer study during summer months. Although the actual peak flow exceedance do not appear to have exceeded 10% of the tested tracer study, it is recommended to the City of Brownsville perform a new tracer study at its need peak hourly flow.

Treatment

Process Used*	Chemical Added**	Purpose	Location in System	Code***
Particulate Removal	N/A	Filtration	Slow Sand	P346
Hypochlorination, Post	Sodium Hypochlorite	Disinfection SW/GWUDI	Pre-clearwell	D421
PH/Alkalinity Adjustment	Soda ash	Corrosion Control	Pre-clearwell	C502

*See "Treatment Plant Inspection" page for details on filtration. **See "Disinfection" page for details on disinfection equipment. ***See Treatment Codes on back.

Yes No

- Is treatment the same as last survey? (if no, explain in comments) _____
- Is lab equipment for on-site analysis appropriate? _____
- Is equipment maintained properly? _____
- Is redundant equipment available? _____
- Are chemicals NSF Standard 60 certified or equivalent? (N/A - no chemicals are used)
- If bypass piping is present, is there a physical separation? (SWTR, GWR 4-log, chemical MCL) N/A
- Does system practice corrosion control?
- Is corrosion control operated within parameters set by DWS? N/A

Describe method of corrosion control (if applicable)

Records Kept:

Yes / No

- Dosages
- Raw pH
- Raw temperature
- Raw turbidity and/or particle counts

Yes / No

- Flowrate
- Treated pH
- Treated temperature
- Treated turbidity

Comments:

Water system treatments are the same as the 2020 water system sanitary survey.

Treatment Codes:

Disinfection By-products Control

B121 Activated Carbon, Granular
B125 Activated Carbon, Powdered
B200 Chloramines
B220 Chlorine Dioxide
B240 Coagulation
B344 Filtration, Pressure Sand
B500 Lime-Soda Ash Addition
B600 Rapid Mix
B742 pH Adjustment, Pre
EP240 Enhanced Coagulation (BEP240)
ES240 Enhanced Softening (BES240)

Disinfection for Surface Water/GWUDI

D200 Chloramines
D220 Chlorine Dioxide
D401 Gaseous Chlorination, Post
D403 Gaseous Chlorination, Pre
D421 Hypochlorination, Post
D423 Hypochlorination, Pre
D455 Iodine
D541 Ozonation, Post
D543 Ozonation, Pre
D720 Validated Ultraviolet Radiation
D800 Mixed Oxidants, Post
D802 Mixed Oxidants, Pre

Disinfection or Residual Maintenance/Other for Groundwater (ZX200, ZX401, etc.)

D361 GWR 4-log Virus Compliance Mon
Z361 Interim 4-log Virus Compliance Mon
X200 Residual Maintenance, Chloramines
X401 Residual Maintenance, Gas Chlorination
X421 Residual Maintenance, Hypochlorination
X455 Residual Maintenance, Iodine
X541 Residual Maintenance, Ozonation
X800 Residual Maintenance, Mixed Oxidants
X720 NSF-55 Class A Ultraviolet Radiation

Dechlorination

E121 Activated Carbon, Granular
E627 Reducing Agent, Sulfur Dioxide

Corrosion Control

C143 Aeration, Diffused
C145 Aeration, Packed Tower
C441 Inhibitor, Bimetallic Phosphate
C443 Inhibitor, Hexametaphosphate
C445 Inhibitor, Orthophosphate
C447 Inhibitor, Ortho-Polyphosphate Blend
C449 Inhibitor, Silicate
C501 pH/Alkalinity Adjustment-Lime
C502 pH/Alkalinity Adjustment-Soda Ash
C503 pH/Alkalinity Adjustment-Caustic Soda
C504 pH/Alkalinity Adjustment-Sodium Bicarb.
C505 pH/Alkalinity Adjustment, Calcite Contactor
C506 Calcium Carbonate Precipitation
C507 pH/Alkalinity Adjustment-CO2
C550 Plumbing Replacement
CBLEND Blending for Dilution

Inorganics Removal (excluding As/Mn/Fe)

I344 Filtration, Pressure Sand
I460 Ion Exchange
I640 Reverse Osmosis
I999 Blending for Dilution

Arsenic (As) Removal

A100 Activated Alumina
A240 Coagulation
A320 Electrodialysis
A343 Filtration, Greensand
A344 Pyrolusite Filter
A347 Membrane Filtration
A423 Hypochlorination - arsenic
A460 Ion Exchange
A500 Lime Softening
A640 Reverse Osmosis
A742 PH Adjustment Pre - arsenic
A900 Granular Ferric Hydroxide
A902 Ferric Chloride Coagulation - arsenic
ABLND Blend for dilution of arsenic

Iron (Fe) Removal

F143 Aeration, Diffused
F240 Coagulation
F341 Filtration, Cartridge
F343 Filtration, Greensand
F344 Filtration, Pressure Sand
F345 Filtration, Rapid Sand
F403 Gaseous Chlorination, Pre
F421 Hypochlorination, Post
F423 Hypochlorination, Pre
F460 Ion Exchange
F506 Calcium Carbonate Precipitation
F543 Ozonation, Pre
F560 Permanganate
F640 Reverse Osmosis
F660 Sedimentation
F680 Sequestration
F740 pH Adjustment

Manganese (Mn) Removal

M343 Filtration, Greensand
M403 Gaseous Chlorination, Pre
M423 Hypochlorination, Pre
M560 Permanganate
M680 Sequestration

Radionuclides

R147 Aeration, Slat Tray

Other

Z200 Chloramines
Z380 Fluoridation
Z551 Public Education for L/C
Z580 Peroxide
Z720 Other Ultraviolet Radiation
ZC125 Pwd. Act. Carbon (PAC) for Cyanotoxins
ZN520 Groundwater Filter/Strainer

“Non-Treatment” (ZN000, etc.)

N000 No Treatment / Not Applicable
N349 Unfiltered, Avoiding Filtration
N350 Unfiltered, Must Install Filter
N996 Treatment Applied by Seller

Organics Removal

O121 Activated Carbon, Granular
O145 Aeration, Packed Tower
O160 Algae Control
O423 Hypochlorination, Pre
O560 Permanganate
O640 Reverse Osmosis
O742 pH Adjustment, Pre
O999 Blending for Dilution

Filtration for SW or GWUDI

P240 Coagulation
P341 Filtration, Cartridge
P342 Filtration, Diatomaceous Earth
P344 Filtration, Pressure Sand
P345 Filtration, Rapid Sand
P346 Filtration, Slow Sand
P347 Filtration, Ultrafiltration
P349 Filtration, Microfiltration
P360 Flocculation
P520 Microscreening
P600 Rapid Mix
P660 Sedimentation
P700 Sludge Treatment
P742 Ph Adjustment, Pre
PP349 Natural Filtration

Softening (Hardness Removal)

S240 Coagulation
S344 Filtration, Pressure Sand
S360 Flocculation
S460 Ion Exchange
S500 Lime – Soda Ash Addition
S640 Reverse Osmosis
S680 Sequestration

Taste/Odor Control

T121 Activated Carbon, Granular
T125 Activated Carbon, Powdered
T141 Aeration, Cascade
T143 Aeration, Diffused
T149 Aeration, Spray
T160 Algae Control
T343 Filtration, Greensand
T403 Gaseous Chlorination, Pre
T421 Hypochlorination, Post
T423 Hypochlorination, Pre
T506 Calcium Carbonate Precip.
D541 Ozonation, Post
D543 Ozonation, Pre
T560 Permanganate
T580 Peroxide
T720 Ultraviolet Radiation

Storage and Pressure Tanks

Number	Name	Tank Type (G)round, (E)levated, (P)ressure	Tank Material (Concrete, Steel, Redwood, Plastic, Other)	Year Built	Volume (gal.)
1	Clearwell	Ground	Concrete	1998	0.037MG
2	New Reservoir	Ground	Concrete	1998	1.1 MG
3	Old Reservoir	Ground	Concrete	1940	0.25 MG

Total Volume:

Reservoir Number:	1		2		3		Total Volume:		Total Volume:	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Reservoir Features										
Fence/gate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Hatch secured (e.g. locked, bolted, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● All tank access points watertight?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Screened vent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overflow?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Overflow protected (screen/flap/valve)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drain to daylight?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water level gauge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bypass piping? (● if used for contact time)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alarm for high or low levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Separate inlet/outlet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approved interior coating?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exterior in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual interior/exterior inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning schedule?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuously disinfected? (● post '81 redwood)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure Tanks										
Accessible for maintenance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bypass piping?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure relief device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air bladder/diaphragm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Valve for adding air?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

The old reservoir (reservoir 3) still has minimum leaks through it sidewalls. The floor manholes to the clear well have rubber gaskets installed making them water tight.

Distribution System Information

Service Area and Facility Map

Yes	No		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Does the system have a service area and facility map (indicate features on map):	
		<input checked="" type="checkbox"/> Water lines (including size and material)	<input checked="" type="checkbox"/> Sources-wells & withdrawal points
		<input checked="" type="checkbox"/> Treatment facilities	<input checked="" type="checkbox"/> Pressure zones
		<input checked="" type="checkbox"/> Storage facilities (reservoirs)	<input checked="" type="checkbox"/> Pressure regulating valves
		<input checked="" type="checkbox"/> Sampling points	<input checked="" type="checkbox"/> Booster pumps

Distribution Data

Yes	No		Comments
<input checked="" type="checkbox"/>	<input type="checkbox"/>	● System pressure ≥ 20 psi?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water system leakage <10%?	~18%, leakage areas known
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hydrants or blowoffs on all dead ends? <input type="checkbox"/> N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Routine flushing? (How often)	~every 2 years
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Adequate valving?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Routine valve turning? (How often)	~every 3-4 years
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Does the distribution system have asbestos cement (AC) pipe?	roughly 500 feet
<i>If yes, verify asbestos sampling is completed on Water Quality Monitoring Page (CWS, NTNC).</i>			

Cross Connection Control (CWS, NTNC, and TNC)

Yes	No	N/A		Comments
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Assemblies tested annually? (CWS, NTNC, TNC)	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Ordinance or enabling authority? (CWS)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	● Annual Summary Report submitted? (CWS)	PWS missed 2022 report
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Certified Cross Connection Control Specialist? (CWS ≥ 300 connections)	

Comments:

The water system is general planning for a new water reservoir and adding a new groundwater source.

Water Quality Monitoring

Contaminant	N/A	Number & Frequency	Next Tests Due
Entry Point Sampling:			
Arsenic	<input type="checkbox"/>	once every 9 years	2029-2037
Inorganic Chemicals (Including Nitrite) (sw)	<input type="checkbox"/>	once every 9 years	2029-2037
Inorganic Chemicals (Including Nitrite) (gw)	<input checked="" type="checkbox"/>		
Nitrate	<input type="checkbox"/>	one, annually	2023
Radionuclides (Community Water Systems Only):			
Gross Alpha	<input type="checkbox"/>	one every 9 years	2026-2034
Radium 226/228	<input type="checkbox"/>	one every 9 years	2026-2034
Uranium	<input type="checkbox"/>	one every 9 years	2026-2034
SOCs	<input type="checkbox"/>	one every 3 years	2026-2028
VOCs (sw)	<input type="checkbox"/>	one, annually	2023
VOCs (gw)	<input checked="" type="checkbox"/>		
Distribution System Sampling:			
Coliform Bacteria	<input type="checkbox"/>	two monthly	ongoing
Asbestos (for AC pipe/asbestos geologic areas) ...	<input type="checkbox"/>	one every 9 years	2029-2037
TTHMs and HAA5s	<input type="checkbox"/>	one annually	2023
Lead and Copper # sites: _____	<input type="checkbox"/>		
Other Sampling:			
TOC	<input type="checkbox"/>	CH-A, one, quarterly	ongoing
Turbidity	<input type="checkbox"/>	every four hours	ongoing
Source Water Coliform	<input checked="" type="checkbox"/>		
Other (specify) _____	<input checked="" type="checkbox"/>		

- Yes** **No** ● Is all required monitoring current?
- Are samples collected at the correct locations in the system?

****Discuss correct sampling locations for all sampling (SRC, EP, DIST)****

****Discuss proper way to collect representative samples at all locations****

****Discuss possible sample reductions****

- Yes** **No** ● Have all MCL violations or LCR AL exceedances been addressed? N/A
- DBP's collected at correct locations? N/A
- Does the system have a written coliform sampling plan?
- Does the plan include:
- | | | | |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Yes | No | Yes | No |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | | | |

Comments:
Groundwater source water assessment not required due to the wells be treated with 4-log surface water treatment.

As of this survey date, the water system still has numerous outstand samples to report.

Management & Operations

O&M Manual and Emergency Response Plan

- | Yes | No | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | ● Does system have an operation and maintenance manual? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Does system have an emergency response plan? (● CWS, NTNC) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Do any system components have auxiliary power?
If yes, describe: potable generator that powers entire WTP. |

Operator Certification

- | Yes | No | N/A | |
|-------------------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Is the DRC identified and certified at the appropriate level?
If the DRC is a contract operator, how do they work with the system? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Does system have written protocols for under-certified operators? |

Plan Review/Master Plan

- | Yes | No | N/A | |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Have all major modifications been approved by DWS? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Does the system have a current (<20 yr. old) master plan? (Not required if < 300 connections)
What year was the plan completed? |

Compliance Status

- | Yes | No | N/A | |
|-------------------------------------|-------------------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Is water system in compliance (all orders resolved and not a priority non-complier)? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ● Does the system issue public notice as required? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ● Are consumer confidence reports sent to users each year? |

Comments:

Consumer confidence reports not received for 2022. Violations have been issued.



City of Brownsville
255 N Main St.
PO Box 188
Brownsville, OR 97327
Phone: (541)466-5666

December 4, 2023

Zach Golik, P.E., Regional Engineer
Oregon Health Authority, Drinking Water Services
2080 Laura Street
Springfield, OR 97477

Re: Water System Survey Corrective Action Plan for PWS 4100152.

Dear Zach,

Below is a summary of corrective action measures taken due to deficiencies discovered in the water system survey conducted at the City of Brownsville on September 27, 2023.

Deficiency:

Management and Operations: Consumer Confidence Report not received.

Corrective Actions:

On September 27, 2023, I emailed a copy of the 2022 Consumer Confidence Report and Certification letter to Zach Golik. There was a misunderstanding that I was to send the report to Data Management, Compliance and Enforcement (DCME) rather than Zach Golik directly. I emailed the 2020, 2021 and 2022 Consumer Confidence Reports along with the appropriate certifications to DMCE on October 18, 2023.

Summary:

The City of Brownsville strives to meet or exceed the Oregon Health Authority's rules and regulations with regards to safe drinking water and is transparent in the following ways:

- Every April we send out the Consumer Confidence Report and city newsletter to all residents within the Brownsville zip code, including residents and non-residents within the city limits. This includes any community groups, apartments, businesses, and any private employers.
- Every April the City posts our Consumer Confidence Report to our City website and is readily available for anyone wishing to review online.
- Copies of the Consumer Confidence Report are readily available at our City Hall, Library, Public Works Department, along with other publicly available locations for anyone to access.
- Staff review the Consumer Confidence Reports at City Council meetings and allow any questions, comments, or concerns the public may have.

Unfortunately, we did not meet the Outstanding Performers criteria as described in the summary report dated October 18, 2023, due to a clerical error, however we did, and will continue to be as transparent as possible with the people we serve in a very timely manner. We will continue to improve our management and operations to ensure such administrative tasks are completed in a timely manner and that the public we serve remains informed about the water that they drink.

If you have any questions, comments, or concerns, or prefer a paper copy of this document, please feel free to contact me at (541)409-3700.

Thank you,

A handwritten signature in blue ink, appearing to read 'K7 ID', is positioned above the typed name.

Karl Frink
Public Works Superintendent

Enc:

- 2020 Consumer Confidence Report and certification
- 2021 Consumer Confidence Report and certification
- 2022 Consumer Confidence Report and certification



2020 Consumer Confidence Report Certification Form

PWS Name: City of Brownsville

PWS ID#: 4100152

The public water system named above hereby confirms that its Consumer Confidence Report has been distributed to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Oregon Health Authority- Drinking Water Services

Certified by:

Name:	<u>Karl Frink</u>
Title:	<u>Public Works Superintendent</u>
Phone:	<u>(541)466-3381</u>
Date Certified:	<u>March 19, 2021</u>
Date of Distribuion:	<u>April 3, 2019</u>

Check all items below that apply:

- CCR was distributed by mail or other direct delivery.
- "Good Faith" efforts were used to reach non-bill paying consumers. These efforts include the following methods as recommended by the primacy agency:
 - Posting on the internet at: www.ci.brownsville.or.us/publicworks/page/annual-water-quality-reports.
 - Mailing to postal patrons within the service area of Brownsville.
 - Advertising the availability in the news media.
 - Publication in local newspaper.
 - Posting in public places (locations: City Hall, Public Works. Library)
 - Delivery of multiple copies to single bill addresses serving several people such as apartments, businesses, and large private employers.
 - Delivery to Community Organizations.
 - (for systems serving at least 100,000 persons) Posted on a publicly-accessible website.
 - Delivered to other agencies as required by the primacy agency.

Karl Frink, Public Works Superintendent



2020

Annual Water Quality Report

Important information about your drinking water!

Our mission

The City of Brownsville is committed to providing clean, safe, quality water for everyone living and visiting our community. Our efforts include protecting and preserving our water resources, as well as enhancing our treatment processes to provide you, the consumer, with quality drinking water each time you turn on your tap.

Introduction

Thank you for taking time to review this consumer confidence report provided to you by the City of Brownsville. This report contains important information regarding the quality of Brownsville's drinking water. Congress passed the Safe Drinking Water Act in 1974 and gave the U.S. Environmental Protection Agency (EPA) the job of making rules, National Primary Drinking Water Regulations (NPDWR), to ensure drinking water in the U. S. is safe. In 1996, Congress passed amendments requiring drinking water systems to provide consumers with important information regarding their drinking water. This information includes where Brownsville's water comes from, what is in the water, and how it compares with Federal standards. We hope you find this report useful with regards to the safety of your drinking water.

Where does our water come from?

Brownsville's water sources are a well field and an infiltration gallery located in the southwest corner of Pioneer Park adjacent to the Calapooia River. Due of the close proximity of the river, the City's water sources are classified as "groundwater under the direct influence of surface water", which means that our source water comes from beneath the surface of the ground, but has significant or rapid shifts in water characteristics, such as pH, temperature and turbidity (clarity). The infiltration gallery is located under the Calapooia River and serves as the primary water source during the spring, summer and fall months of the year. The other water source, the well field, serves as our water source during the winter months when the river water is muddy and undesirable for treatment. The wells located in the well field, while still very close to the river, are classified as a ground water source, which means the source is located beneath the surface of the ground, and the water characteristics are relatively stable with only subtle fluctuations in pH, temperature, and turbidity. The City has a source water assessment report from the Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA), which provides additional information such as the delineation of water sources (watershed), potential sources of contamination and other perils within our watershed area. Copies of this report are available for review at City Hall and the Public Works Department.

Information about source 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.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

What if I have questions about our water?

This report shows our water quality and what it means. If you have any questions regarding our water, please contact our Public Works Department at (541) 466-3381, Monday through Friday, from 7:00am – 4:00pm, City. If there is no answer, please leave a message and we will get back to you as soon as possible. You may also attend the regular City Council meetings on the fourth Tuesday of each month at 7:00pm at Brownsville City Hall. If there is an emergency, please call Karl Frink, Public Works Superintendent at (541) 409-3700.

The City of Brownsville routinely monitors for constituents in your drinking water according to Federal and State law. Some of the constituents include total coliform, arsenic, disinfection by-products (trihalomethanes and haloacetic acids), lead and copper and arsenic. This report shows the results of the City's monitoring for the period of January 1, 2020 to December 31, 2020. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals and radioactive substances. All drinking water, *including bottled drinking water*, may reasonably be expected to contain at least small amount of some constituents. *It is important to remember the presence of these constituents does not necessarily pose a health risk.* More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800)426-4791, or on the internet at: <http://water.epa.gov/drink/hotline/index.cfm>. For more information regarding the EPA's Safe Drinking Water Act, please visit the EPA's website at: www.epa.gov/sdwa.

Terms and abbreviations used in this report

In this report, you may find some unfamiliar terms and abbreviations. To help you better understand these terms we have provided the following definitions:

Non Detects (ND) – laboratory analysis indicated the constituent is not present.

Part 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 (mcg/L) – one part per billion corresponds to one minute in 2000 years or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (ng/L) - one part per trillion corresponds to one minute in 2,000,000 years or one penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (pg/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.

Variations & Exemptions (V&E) – State of EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level – The level of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) – The “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The “Goal” (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for margin of safety.

Total Coliform: The Total Coliform Rules require water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulations, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution, we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Copper: Copper is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Important! Please note!

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 at (800)426-4791 or visit: www.epa.gov/ground-water-and-drinking-water for any questions you may have.

Summary of test results for 2020

Microbiological Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	ND	0	Presence of Coliform in any monthly sample.	Naturally present in the environment.
Fecal Coliform	N	ND	0	A routine sample and repeat samples are total coliform positive, and one is also fecal of E.coli positive.	Human and animal fecal waste.
Turbidity (NTU)	N	0.252 NTU	N/A	TT (NTU) 95% <1 NTU All < 5 NTU	Soil run off.
	N	100%		TT= percentage of samples <1 NTU	

Disinfection By-Products

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Haloacetic Acids (HAA5's) (ppb)	N	12.30 ppb	N/A	60 ppb	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM's) (ppb)	N	25.50 ppb	N/A	80 ppb	Byproduct of drinking water chlorination.

Inorganic Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Arsenic	N	ND	0	10 ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes.
Nitrates	N	ND	10	100 ppb	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits.
Lead	N	0.0 ppb	0	15.5 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	N	0.0 ppb	1.3	1350 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Asbestos	N	ND	7	7 MFL	Decay of asbestos cement water mains; erosion of natural deposits.

Essential things to know about water

Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The City of Brownsville built a new slow sand filter water treatment plant to provide adequate treatment and remedies for making our water safe. This new water plant went on line in 1998. We added soda ash to the treatment process of our water to adjust the pH of the water. Adjusting the pH of the water helps prevent the leaching of lead in the plumbing of your home. By making these improvements to our water system, we successfully completed two rounds of lead sampling during the year 1999. That success reduced our sampling requirement for lead from twice yearly to once every three years. We also passed the Phase II & V testing requirements. We successfully completed our lead and copper sampling in 2018 and will sample again in 2021 per the OHA drinking water requirements.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Brownsville is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 on the web at: www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.

Source water assessment report

The 1996 Amendments to the Safe Drinking Water Act require that all states conduct Source Water Assessments for public water systems within their boundaries. The assessments consist of (1) identification of the Drinking Water Protection Area, i.e., the area at the surface that is directly above that part of the aquifer that supplies groundwater to our well(s), (2) identification of potential sources of pollution within the Drinking Water Protection Area, and (3) determining the susceptibility or relative risk to the well water from those sources. The purpose of the assessment is to provide water systems with the information they need to develop a strategy to protect their drinking water resource if they choose. The respective Drinking Water Programs of the Department of Human Services and Environmental Quality have completed the assessment for our system. A copy of the report is on file at the Public Works Department and City Hall.

The aquifer(s) supplying water to our well(s): Willamette (sand and gravel). For additional information regarding the Willamette aquifer, please visit: www.oregon.gov/owrd/pages/gw/gw_pubs.aspx. Scroll down to locate GW Report No. 22.

Cross connection and backflow prevention

This past year the City of Brownsville has been very active with its' Cross Connection Control Program. The Program has been updated and new regulations and requirements have been implemented. This is a Federal and State required program to help protect our water system from potential cross-connection problems and the life threatening conditions when back siphoning or back pressure can be present. Many people don't understand the need for this program; however, there are many deaths across the nation each year where these programs are not in place. The City requires that all backflow devices be tested annually as required in the regulations. The City also provides a backflow device testing program to have any device tested annually at a reduced rate to our residents. Please call our Public Works Department at (541) 466-3381 if you would like to participate, or have any questions concerning this program. We can also be reached by email at: publicworks@ci.brownsville.or.us

Valuable reminder about drinking water!

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 is dangerous or poses a health risk. While industry marketing campaigns promote the notion that bottled water is best, please remember, at this time, bottled water is not required to meet the same high quality standards as municipal water. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water hotline at 1-800-426-4791, or on the web at: <https://www.epa.gov/ground-water-and-drinking-water>.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one in a million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements to the City's water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Income from water rates is used only to operate and maintain the water system and is required by law to be self-supporting.

In Closing...

The City of Brownsville continually works to meet and exceed all drinking water standards and requirements, and to provide top quality water to every tap. It is important that each of us help us protect our water sources to keep our water safe today, tomorrow and for generations to come. Thank you for taking the time to review this report. The City of Brownsville takes pride in serving our community and providing the quality customer service you deserve.

City Website

www.ci.brownsville.or.us

Our website is updated regularly and new information is available. The updates include information such as City Council meeting minutes, local activities, newsletters, contact information, municipal codes, meeting information, job openings, and more. Please feel free to visit our website any time for additional information.

Oregon Health Authority Website

www.oregon.gov/oha/ph/healthyenvironments/drinkingwater

Public Works Contact Information

Karl Frink, Public Works Superintendent

Office: (541)466-3381

Mobile/ Emergency: (541)409-3700

Fax: (541)466-5118

Email: publicworks@ci.brownsville.or.us

Mail: P.O. Box 188, Brownsville, OR 97327



2021 Consumer Confidence Report Certification Form

PWS Name: City of Brownsville

PWS ID#: 4100152

The public water system named above hereby confirms that its Consumer Confidence Report has been distributed to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Oregon Health Authority- Drinking Water Services

Certified by:

Name:	Karl Frink
Title:	Public Works Superintendent
Phone:	(541)466-3381
Date Certified:	March 18, 2022
Date of Distribuion:	March 25, 2022

Check all items below that apply:

- CCR was distributed by mail or other direct delivery.
- "Good Faith" efforts were used to reach non-bill paying consumers. These efforts include the following methods as recommended by the primacy agency:
 - Posting on the internet at: www.ci.brownsville.or.us/publicworks/page/annual-water-quality-reports.
 - Mailing to postal patrons within the service area of Brownsville.
 - Advertising the availability in the news media.
 - Publication in local newspaper.
 - Posting in public places (locations: City Hall, Public Works. Library)
 - Delivery of multiple copies to single bill addresses serving several people such as apartments, businesses, and large private employers.
 - Delivery to Community Organizations.
 - (for systems serving at least 100,000 persons) Posted on a publicly-accessible website.
 - Delivered to other agencies as required by the primacy agency.

Karl Frink, Public Works Superintendent



2021

Annual Water Quality Report

Important information about your drinking water!

Our mission

The City of Brownsville is committed to providing clean, safe, quality water for everyone living and visiting our community. Our efforts include protecting and preserving our water resources, as well as enhancing our treatment processes to provide you, the consumer, with quality drinking water each time you turn on your tap.

Introduction

Thank you for taking time to review this consumer confidence report provided to you by the City of Brownsville. This report contains important information regarding the quality of Brownsville's drinking water. Congress passed the Safe Drinking Water Act in 1974 and gave the U.S. Environmental Protection Agency (EPA) the job of making rules, National Primary Drinking Water Regulations (NPDWR), to ensure drinking water in the U. S. is safe. In 1996, Congress passed amendments requiring drinking water systems to provide consumers with important information regarding their drinking water. This information includes where Brownsville's water comes from, what is in the water, and how it compares with Federal standards. We hope you find this report useful with regards to the safety of your drinking water.

Where does our water come from?

Brownsville's water sources are a well field and an infiltration gallery located in the southwest corner of Pioneer Park adjacent to the Calapooia River. Due of the close proximity of the river, the City's water sources are classified as "groundwater under the direct influence of surface water", which means that our source water comes from beneath the surface of the ground, but has significant or rapid shifts in water characteristics, such as pH, temperature and turbidity (clarity). The infiltration gallery is located under the Calapooia River and serves as the primary water source during the spring, summer and fall months of the year. The other water source, the well field, serves as our water source during the winter months when the river water is muddy and undesirable for treatment. The wells located in the well field, while still very close to the river, are classified as a ground water source, which means the source is located beneath the surface of the ground, and the water characteristics are relatively stable with only subtle fluctuations in pH, temperature, and turbidity. The City has a source water assessment report from the Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA), which provides additional information such as the delineation of water sources (watershed), potential sources of contamination and other perils within our watershed area. Copies of this report are available for review at City Hall and the Public Works Department.

Information about source 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.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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Terms and abbreviations used in this report

In this report, you may find some unfamiliar terms and abbreviations. To help you better understand these terms we have provided the following definitions:

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Nitrates: As a precaution, we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Copper: Copper is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Important! Please note!

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 at (800)426-4791 or visit: www.epa.gov/ground-water-and-drinking-water for any questions you may have.

Summary of test results for 2021

Microbiological Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	ND	0	Presence of Coliform in any monthly sample.	Naturally present in the environment.
Fecal Coliform	N	ND	0	A routine sample and repeat samples are total coliform positive, and one is also fecal of E.coli positive.	Human and animal fecal waste.
Turbidity (NTU)	N	0.106 NTU	N/A	TT (NTU) 95% <1 NTU All < 5 NTU	Soil run off.
	N	100%		TT= percentage of samples <1 NTU	

Disinfection By-Products

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Haloacetic Acids (HAA5's) (ppb)	N	12.30 ppb	N/A	60 ppb	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM's) (ppb)	N	25.50 ppb	N/A	80 ppb	Byproduct of drinking water chlorination.

Inorganic Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Arsenic	N	ND	0	10 ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes.
Nitrates	N	ND	10	100 ppb	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits.
Lead	N	0.0 ppb	0	15.5 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	N	0.0 ppb	1.3	1350 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Asbestos	N	ND	7	7 MFL	Decay of asbestos cement water mains; erosion of natural deposits.

Essential things to know about water

Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The City of Brownsville built a new slow sand filter water treatment plant to provide adequate treatment and remedies for making our water safe. This new water plant went on line in 1998. We added soda ash to the treatment process of our water to adjust the pH of the water. Adjusting the pH of the water helps prevent the leaching of lead in the plumbing of your home. By making these improvements to our water system, we successfully completed two rounds of lead sampling during the year 1999. That success reduced our sampling requirement for lead from twice yearly to once every three years. We also passed the Phase II & V testing requirements. We successfully completed our lead and copper sampling in 2021 and will sample again in 2024 per the OHA drinking water requirements.

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Source water assessment report

The 1996 Amendments to the Safe Drinking Water Act require that all states conduct Source Water Assessments for public water systems within their boundaries. The assessments consist of (1) identification of the Drinking Water Protection Area, i.e., the area at the surface that is directly above that part of the aquifer that supplies groundwater to our well(s), (2) identification of potential sources of pollution within the Drinking Water Protection Area, and (3) determining the susceptibility or relative risk to the well water from those sources. The purpose of the assessment is to provide water systems with the information they need to develop a strategy to protect their drinking water resource if they choose. The respective Drinking Water Programs of the Department of Human Services and Environmental Quality have completed the assessment for our system. A copy of the report is on file at the Public Works Department and City Hall.

The aquifer(s) supplying water to our well(s): Willamette (sand and gravel). For additional information regarding the Willamette aquifer, please visit: www.oregon.gov/owrd/pages/index.aspx.

Cross connection and backflow prevention

This past year the City of Brownsville has been very active with its' Cross Connection Control Program. The Program has been updated and new regulations and requirements have been implemented. This is a Federal and State required program to help protect our water system from potential cross-connection problems and the life threatening conditions when back siphoning or back pressure can be present. Many people don't understand the need for this program; however, there are many deaths across the nation each year where these programs are not in place. The City requires that all backflow devices be tested annually as required in the regulations. The City also provides a backflow device testing program to have any device tested annually at a reduced rate to our residents. Please call our Public Works Department at (541) 466-3381 if you would like to participate, or have any questions concerning this program. We can also be reached by email at: publicworks@ci.brownsville.or.us

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Our website is updated regularly and new information is available. The updates include information such as City Council meeting minutes, local activities, newsletters, contact information, municipal codes, meeting information, job openings, and more. Please feel free to visit our website any time for additional information.

Oregon Health Authority Website

www.oregon.gov/oha/ph/healthyenvironments/drinkingwater

Public Works Contact Information

Karl Frink, Public Works Superintendent

Office: (541)466-3381

Mobile/ Emergency: (541)409-3700

Fax: (541)466-5118

Email: publicworks@ci.brownsville.or.us

Mail: P.O. Box 188, Brownsville, OR 97327



2022 Consumer Confidence Report Certification Form

PWS Name: City of Brownsville

PWS ID#: 4100152

The public water system named above hereby confirms that its Consumer Confidence Report has been distributed to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Oregon Health Authority- Drinking Water Services

Certified by:

Name:	<u>Karl Frink</u>
Title:	<u>Public Works Superintendent</u>
Phone:	<u>(541)466-3381</u>
Date Certified:	<u>March 9, 2023</u>
Date of Distributuion:	<u>March 18, 2023</u>

Check all items below that apply:

- CCR was distributed by mail or other direct delivery.
- "Good Faith" efforts were used to reach non-bill paying consumers. These efforts include the following methods as recommended by the primacy agency:
 - Posting on the internet at: www.ci.brownsville.or.us/publicworks/page/annual-water-quality-reports.
 - Mailing to postal patrons within the service area of Brownsville.
 - Advertising the availability in the news media.
 - Publication in local newspaper.
 - Posting in public places (locations: City Hall, Public Works. Library)
 - Delivery of multiple copies to single bill addresses serving several people such as apartments, businesses, and large private employers.
 - Delivery to Community Organizations.
 - (for systems serving at least 100,000 persons) Posted on a publicly-accessible website.
 - Delivered to other agencies as required by the primacy agency.

Karl Frink, Public Works Superintendent

Karl Frink, Public Works Superintendent



2022

Annual Water Quality Report

Important information about your drinking water!

Our mission

The City of Brownsville is committed to providing clean, safe, quality water for everyone living and visiting our community. Our efforts include protecting and preserving our water resources, as well as enhancing our treatment processes to provide you, the consumer, with quality drinking water each time you turn on your tap.

Introduction

Thank you for taking time to review this consumer confidence report provided to you by the City of Brownsville. This report contains important information regarding the quality of Brownsville's drinking water. Congress passed the Safe Drinking Water Act in 1974 and gave the U.S. Environmental Protection Agency (EPA) the job of making rules, National Primary Drinking Water Regulations (NPDWR), to ensure drinking water in the U. S. is safe. In 1996, Congress passed amendments requiring drinking water systems to provide consumers with important information regarding their drinking water. This information includes where Brownsville's water comes from, what is in the water, and how it compares with Federal standards. We hope you find this report useful with regards to the safety of your drinking water.

Where does our water come from?

Brownsville's water sources are a well field and an infiltration gallery located in the southwest corner of Pioneer Park adjacent to the Calapooia River. Due of the close proximity of the river, the City's water sources are classified as "groundwater under the direct influence of surface water", which means that our source water comes from beneath the surface of the ground, but has significant or rapid shifts in water characteristics, such as pH, temperature and turbidity (clarity). The infiltration gallery is located under the Calapooia River and serves as the primary water source during the spring, summer and fall months of the year. The other water source, the well field, serves as our water source during the winter months when the river water is muddy and undesirable for treatment. The wells located in the well field, while still very close to the river, are classified as a ground water source, which means the source is located beneath the surface of the ground, and the water characteristics are relatively stable with only subtle fluctuations in pH, temperature, and turbidity. The City has a source water assessment report from the Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA), which provides additional information such as the delineation of water sources (watershed), potential sources of contamination and other perils within our watershed area. Copies of this report are available for review at City Hall and the Public Works Department.

Information about source 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.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

What if I have questions about our water?

This report shows our water quality and what it means. If you have any questions regarding our water, please contact our Public Works Department at (541) 466-3381, Monday through Friday, from 7:00am – 4:00pm, City. If there is no answer, please leave a message and we will get back to you as soon as possible. You may also attend the regular City Council meetings on the fourth Tuesday of each month at 7:00pm at Brownsville City Hall. If there is an emergency, please call Karl Frink, Public Works Superintendent at (541) 409-3700.

The City of Brownsville routinely monitors for constituents in your drinking water according to Federal and State law. Some of the constituents include total coliform, arsenic, disinfection by-products (trihalomethanes and haloacetic acids), lead and copper and arsenic. This report shows the results of the City's monitoring for the period of January 1, 2020 to December 31, 2020. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals and radioactive substances. All drinking water, *including bottled drinking water*, may reasonably be expected to contain at least small amount of some constituents. *It is important to remember the presence of these constituents does not necessarily pose a health risk.* More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800)426-4791, or on the internet at: <http://www.epa.gov/federal-agencies/drinking-water-hotline>. For more information regarding the EPA's Safe Drinking Water Act, please visit the EPA's website at: www.epa.gov/sdwa.

Terms and abbreviations used in this report

In this report, you may find some unfamiliar terms and abbreviations. To help you better understand these terms we have provided the following definitions:

Non Detects (ND) – laboratory analysis indicated the constituent is not present.

Part 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 (mcg/L) – one part per billion corresponds to one minute in 2000 years or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (ng/L) - one part per trillion corresponds to one minute in 2,000,000 years or one penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (pg/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.

Variations & Exemptions (V&E) – State of EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level – The level of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) – The “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The “Goal” (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for margin of safety.

Total Coliform: The Total Coliform Rules require water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulations, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution, we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Copper: Copper is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Important! Please note!

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 at (800)426-4791 or visit: www.epa.gov/ground-water-and-drinking-water for any questions you may have.

Summary of test results for 2021

Microbiological Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	ND	0	Presence of Coliform in any monthly sample.	Naturally present in the environment.
Fecal Coliform	N	ND	0	A routine sample and repeat samples are total coliform positive, and one is also fecal of E.coli positive.	Human and animal fecal waste.
Turbidity (NTU)	N	0.361 NTU	N/A	TT (NTU) 95% <1 NTU All < 5 NTU	Soil run off.
	N	100%		TT= percentage of samples <1 NTU	

Disinfection By-Products

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Haloacetic Acids (HAA5's) (ppb)	N	5.04 ppb	N/A	60 ppb	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM's) (ppb)	N	14.9 ppb	N/A	80 ppb	Byproduct of drinking water chlorination.

Inorganic Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Arsenic	N	ND	0	10 ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes.
Nitrates	N	ND	10	100 ppb	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits.
Lead	N	0.0 ppb	0	15.5 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	N	0.0 ppb	1.3	1350 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Asbestos	N	ND	7	7 MFL	Decay of asbestos cement water mains; erosion of natural deposits.

Essential things to know about water

Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The City of Brownsville built a new slow sand filter water treatment plant to provide adequate treatment and remedies for making our water safe. This new water plant went on line in 1998. We added soda ash to the treatment process of our water to adjust the pH of the water. Adjusting the pH of the water helps prevent the leaching of lead in the plumbing of your home. By making these improvements to our water system, we successfully completed two rounds of lead sampling during the year 1999. That success reduced our sampling requirement for lead from twice yearly to once every three years. We also passed the Phase II & V testing requirements. We successfully completed our lead and copper sampling in 2021 and will sample again in 2024 per the OHA drinking water requirements.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Brownsville is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 on the web at: www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information.

Source water assessment report

The 1996 Amendments to the Safe Drinking Water Act require that all states conduct Source Water Assessments for public water systems within their boundaries. The assessments consist of (1) identification of the Drinking Water Protection Area, i.e., the area at the surface that is directly above that part of the aquifer that supplies groundwater to our well(s), (2) identification of potential sources of pollution within the Drinking Water Protection Area, and (3) determining the susceptibility or relative risk to the well water from those sources. The purpose of the assessment is to provide water systems with the information they need to develop a strategy to protect their drinking water resource if they choose. The respective Drinking Water Programs of the Department of Human Services and Environmental Quality have completed the assessment for our system. A copy of the report is on file at the Public Works Department and City Hall.

The aquifer(s) supplying water to our well(s): Willamette (sand and gravel). For additional information regarding the Willamette aquifer, please visit: www.oregon.gov/owrd/pages/index.aspx.

Cross connection and backflow prevention

This past year the City of Brownsville has been very active with its' Cross Connection Control Program. The Program has been updated and new regulations and requirements have been implemented. This is a Federal and State required program to help protect our water system from potential cross-connection problems and the life threatening conditions when back siphoning or back pressure can be present. Many people don't understand the need for this program; however, there are many deaths across the nation each year where these programs are not in place. The City requires that all backflow devices be tested annually as required in the regulations. The City also provides a backflow device testing program to have any device tested annually at a reduced rate to our residents. Please call our Public Works Department at (541) 466-3381 if you would like to participate, or have any questions concerning this program. We can also be reached by email at: publicworks@ci.brownsville.or.us

Valuable reminder about drinking water!

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 is dangerous or poses a health risk. While industry marketing campaigns promote the notion that bottled water is best, please remember, at this time, bottled water is not required to meet the same high quality standards as municipal water. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water hotline at 1-800-426-4791, or on the web at: <https://www.epa.gov/ground-water-and-drinking-water>.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one in a million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements to the City's water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Income from water rates is used only to operate and maintain the water system and is required by law to be self-supporting.

In Closing...

The City of Brownsville continually works to meet and exceed all drinking water standards and requirements, and to provide top quality water to every tap. It is important that each of us help us protect our water sources to keep our water safe today, tomorrow and for generations to come. Thank you for taking the time to review this report. The City of Brownsville takes pride in serving our community and providing the quality customer service you deserve.

City Website

www.ci.brownsville.or.us

Our website is updated regularly and new information is available. The updates include information such as City Council meeting minutes, local activities, newsletters, contact information, municipal codes, meeting information, job openings, and more. Please feel free to visit our website any time for additional information.

Oregon Health Authority Website

www.oregon.gov/oha/ph/healthyenvironments/drinkingwater

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