

OHA - DWS

Membrane Filter Monthly Operating Report

County: **Clatsop**

System Name: **Arch Cape Water**

Month/Year: **Mar-2024**

PWS ID#: 41 - **00802**

Minimum test pressure applied: **18** psi

Plant ID: WTP - **A**
(e.g., "A")

Minimum test pressure req'd: **18** psi

DIT = Direct Integrity Test on filter(s) [Yes, No, or "off" if all filters are offline] ⇔

PDR = Pressure Decay Rate

PDR_{Max} [^{psi}/min]

LRC [log removal]

DIT
Daily

LRC = Log Removal Credit

0.057

4.00

Day	CFE Daily Turbidity [NTU]	Highest CFE* [NTU]	Highest IFE [NTU]	Highest PDR of day [^{psi} /min]	Lowest LRV _{ambient} of day [log removal]	[Y/N] or "off"
1	off	off	off	off	off	off
2	off	off	off	off	off	off
3	off	off	off	off	off	off
4	0.030	0.28	0.280	0.04	off	yes
5	0.030	0.6	0.600	0.04	off	yes
6	0.030	0.63	0.630	0.04	off	yes
7	off	off	off	off	off	off
8	off	off	off	off	off	off
9	off	off	off	off	off	off
10	off	off	off	off	off	off
11	off	off	off	off	off	off
12	off	off	off	off	off	off
13	0.030	1.05	1.050	off	off	no
14	0.030	1.77	1.770	0.04	off	yes
15	0.020	0.03	0.030	0.04	off	yes
16	0.030	0.03	0.030	0.03	off	yes
17	0.020	0.02	2.200	0.04	off	yes
18	0.020	0.02	0.020	0.04	off	yes
19	0.030	0.04	0.040	0.03	off	yes
20	0.030	0.05	0.050	0.04	off	yes
21	off	off	off	off	off	off
22	0.030	0.24	0.240	0.04	off	yes
23	0.020	0.03	0.030	0.04	off	yes
24	0.030	0.03	0.030	0.04	off	yes
25	0.030	0.04	0.040	0.03	off	yes
26	0.030	0.03	0.030	0.04	off	yes
27	off	off	off	off	off	off
28	off	off	off	off	off	off
29	0.030	0.06	0.060	off	off	no
30	0.030	0.92	0.920	0.05	off	yes
31	0.030	0.03	0.030	0.04	off	yes

Compliance summary (operator to complete any blank fields)

95% of daily turbidity readings ≤ 1 NTU? [Y/N]	All turbidity readings ≤ 5 NTU? [Y/N]	All IFE turbidity readings ≤ 0.15 NTU? [Y/N]	Performance std met? [Y/N] (PDR ≤ PDR _{Max} , LRV ≥ LRC)	DIT Daily?
Yes	Yes	No	No	Yes
CT's met daily? (p. 2)	All Cl ₂ residual at EP ≥ 0.2 mg/L?	PDR ≤ PDR _{Max} ?	LRV _{ambient} ≥ LRC?	
Yes	Yes	Yes	No	

PRINTED NAME: *Matthew R. Gardner*

SIGNATURE: *Matthew R. Gardner*

Notes: *see email w/ attachment (notes in email)*

DATE: *4.2.24*

WT CERT #: *T-09382 D-09383*

PHONE #: *503 436 2790*

* Used for optimization purposes only.

Disinfection Monthly Operating Report

System Name: Arch Cape WaterPWS ID#: 41 - 00802Plant ID: WTP - A

0.5

↩ Log
Inactivation
Required via
Disinfection

Day	Minimum Cl ₂ Residual at 1 st User (C) * [mg/L = ppm]	Contact Time (T) [minutes]	Actual CT C x T (Formula)	Temp [° C]	pH	Required CT (Formula)	CT Met? * [Yes / No] (Formula)	Peak Hourly Demand Flow [GPM]	Notes (e.g. "Plant Off")
1	0.880	482	424.2	8.8	7.20	22.1	YES	44	PO
2	0.860	348	299.3	8.6	7.22	22.5	YES	59	PO
3	0.860	302	259.7	8.3	7.18	22.6	YES	66	PO
4	0.860	350	301.0	8.0	7.23	23.5	YES	55	
5	0.900	390	351.0	7.6	7.26	24.5	YES	54	
6	0.930	425	395.3	7.5	7.22	24.4	YES	54	
7	0.920	409	376.3	7.4	7.19	24.3	YES	55	PO
8	0.910	285	259.4	7.6	7.18	23.8	YES	76	PO
9	0.900	395	355.5	7.7	7.21	23.9	YES	58	PO
10	0.910	343	312.1	7.8	7.22	23.8	YES	65	PO
11	0.910	432	393.1	7.9	7.17	23.3	YES	50	PO
12	0.910	423	384.9	8.0	7.12	22.7	YES	49	PO
13	0.910	395	359.5	8.0	7.29	24.1	YES	51	
14	0.900	83	74.7	7.7	7.25	24.2	YES	267	
15	0.890	403	358.7	8.1	7.37	24.6	YES	57	
16	0.880	294	258.7	8.6	7.32	23.3	YES	74	
17	0.900	302	271.8	8.9	7.30	22.8	YES	73	
18	0.890	426	379.1	9.1	7.28	22.3	YES	54	
19	0.890	356	316.8	9.3	7.31	22.2	YES	62	
20	0.880	359	315.9	9.5	7.34	22.2	YES	63	
21	0.870	363	315.8	9.5	7.32	22.0	YES	58	PO
22	0.870	337	293.2	9.8	7.42	22.3	YES	63	
23	0.870	285	248.0	10.1	7.40	21.7	YES	79	
24	0.860	36	31.0	10.3	7.42	21.6	YES	618	
25	0.850	261	221.9	10.2	7.36	21.2	YES	82	
26	0.860	306	263.2	10.3	7.41	21.5	YES	74	
27	0.840	320	268.8	10.2	7.38	21.4	YES	67	PO
28	0.830	374	310.4	10.1	7.39	21.5	YES	55	PO
29	0.820	334	273.9	9.9	7.40	21.9	YES	59	
30	0.840	207	173.9	10.2	7.39	21.4	YES	101	
31	0.850	287	244.0	10.3	7.42	21.5	YES	79	

* If chlorine concentration at entry point < 0.2 mg/L, or CT not met, notify DWS within 24 hours.

Submit this monthly report by the 10th of following month by

mail: Drinking Water Services
PO Box 14350
Portland, OR 97293-0350

email: dwp.dmce@odhsoha.oregon.gov

fax: 971-673-0458

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Definitions & Additional Information

Glossary of Terms:

CFE = Combined Filter Effluent IFE = Individual Filter Effluent
PDR = Pressure Decay Rate \cong DIT = Direct Integrity Test LRC = Log Removal Credit
LRV = Log Removal Value TMP = Transmembrane Pressure
Cl₂ = Chlorine CT = chlorine Concentration x contact Time

LRV_{ambient}: The preferred performance metric Oregon is moving towards

LRV_{ambient} is a performance metric of the filter's *Cryptosporidium* removal efficiency; [log] units.

LRV_{ambient} is calculated using the last DIT results & operating conditions (e.g., flow, temp. & TMP)

A filter whose LRV_{ambient} is less than the LRC must be taken off-line, repaired and then re-tested.

LRV_{ambient} is an LRV calculated using most recent DIT results (e.g., PDR in ^{psi}/_{min}), current filter flowrate, water temperature, and TMP.

An LRV_{ambient} of 4-log is equivalent to 99.99% removal of *Cryptosporidium*.

The nature of membrane filtration requires higher pathogen removal rates. Therefore, 4-log is typically the minimum pathogen removal target.

Highest PDR (Pressure Decay Rate):

Enter the highest pressure decay rate in ^{psi}/_{min} measured for DITs of all operating filters in a day.

A filter whose PDR exceeds the PDR_{Max} must be taken off-line, repaired and re-tested.

(PDR_{Max} is an Upper Control Limit (UCL) based on the DIT Pressure Decay Rate)

DIT Daily:

Enter "Y" if ALL filters operating in a given day were subjected to a DIT.

Enter "N" if ANY operating filter did not have a DIT.

Enter "Off" if ALL filters were off-line for the day.

Each filter producing water for human consumption in a given day must undergo a DIT

Highest IFE [NTU]: Must be continuously monitored.

If ever exceeds 0.15 NTU for > 15 minutes: Run a DIT, & complete Turbidity Triggered DIT form

Highest CFE [NTU]:

Data is collected for optimization purposes. Not for compliance.

The optimization goal for membranes is 0.05 NTU

To be used when IFE exceeds 0.15 NTU, and submitted to OHA-DWS *

Water System Name: Arch Cape Water

Water System ID: 00802 [00802 Water System Profile on DataOnline](#)

Treatment Plant ID: WTP- A PDR_{Max} = maximum allowed pressure decay rate for a passing DIT

County: Clatsop LRC = Log Removal Credit granted for filtration, LRV_{ambient} must be ≥ LRC.

Month - Year: Mar-24

Date/Time and membrane unit(s) affected		Pressure Decay Rate (PDR) [^{psi} /min]: 0.06			LRC: 4.00	
Date/Time	Membrane unit/skid/cell ID#	Turbidity level > 0.15 NTU resulting in DIT [NTU]	Corrective action	DIT Re-test Results [^{psi} /min]	Return-to-service turbidity [NTU]	Return-to-service LRV _{ambient} [log]

Monthly Summary

All return to service turbidity readings ≤ 0.15 NTU? (Enter Yes or No) ⇨

All membrane units removed from service until a DIT passes? (Enter Yes or No) ⇨

All return to service LRV_{ambient} ≥ LRC? (Enter Yes or No) ⇨

Name: _____
 Signature: _____
 Phone #: _____

Date: _____
 WT Cert #: _____

* OAR 333-061-0036(5)(d)(C)(iv) states that if indirect integrity monitoring includes turbidity and the filtrate turbidity readings are above 0.15 NTU for a period greater than 15 minutes (i.e., two consecutive 15-minute readings above 0.15 NTU), direct integrity testing in accordance with subparagraphs (5)(d)(B)(i) through (v) of this rule must immediately be performed on the associated membrane unit.

OHA - Drinking Water Program - Surface Water Quality Data Form
Slow Sand, Membrane, Diatomaceous Earth Filtration, or Unfiltered Systems

County: Clatsop

Month/Year: Mar-24

System Name: Arch Cape Water District		ID#: 41	00802	WTP : TP - A			
Day	12 AM [NTU]	4 AM [NTU]	8 AM [NTU]	NOON [NTU]	4 PM [NTU]	8 PM [NTU]	Highest Reading of the day ¹ [NTU]
1	PO	PO	PO	PO	PO	PO	PO
2	PO	PO	PO	PO	PO	PO	PO
3	PO	PO	PO	PO	PO	PO	PO
4	PO	PO	PO	0.03	0.03	0.02	0.28
5	0.03	0.03	0.02	0.02	0.02	0.03	0.60
6	0.03	0.02	PO	PO	PO	PO	0.63
7	PO	PO	PO	PO	PO	PO	PO
8	PO	PO	PO	PO	PO	PO	PO
9	PO	PO	PO	PO	PO	PO	PO
10	PO	PO	PO	PO	PO	PO	PO
11	PO	PO	PO	PO	PO	PO	PO
12	PO	PO	PO	PO	PO	PO	PO
13	PO	PO	PO	0.03	0.02	0.03	1.05
14	0.03	0.05	0.03	0.02	0.03	0.02	1.77
15	0.02	PO	PO	PO	PO	PO	0.03
16	PO	PO	PO	PO	PO	PO	0.03
17	0.02	0.02	0.02	0.02	0.02	0.02	2.20
18	0.02	PO	PO	PO	PO	PO	0.02
19	PO	PO	PO	PO	PO	0.03	0.04
20	0.03	0.03	PO	PO	PO	0.03	0.05
21	PO	PO	PO	PO	PO	PO	PO
22	PO	PO	0.03	0.02	0.02	0.02	0.24
23	0.02	0.02	PO	PO	PO	PO	0.03
24	0.03	0.03	PO	PO	PO	PO	0.03
25	PO	PO	PO	0.03	0.03	0.03	0.04
26	0.03	0.03	PO	PO	PO	PO	0.03
27	PO	PO	PO	PO	PO	PO	PO
28	PO	PO	PO	PO	PO	PO	PO
29	PO	PO	PO	PO	0.03	0.03	0.06
30	0.03	0.03	0.03	0.03	0.02	0.02	0.92
31	0.03	0.02	0.02	0.02	0.03	PO	0.03
Slow Sand/Membrane/DE Filtration/Unfiltered				Monthly Summary (Answer Yes or No)			
95% of daily turbidity readings ≤ 1 NTU? ²		Yes / No		CT's met everyday? (see back)		All Cl2 residual at entry point ≥ 0.2 mg/l?	
All daily turbidity readings ≤ 5 NTU?		Yes / No		Yes / No		Yes / No	
Notes:				PRINTED NAME:			
				SIGNATURE:			DATE:
				PHONE #: ()			CERT #:

¹ Including continuous NTU data, if applicable, for optimization recording purposes. Compliance values in columns 12 AM through 8 PM may not correspond to continuous readings' maximum. ² Filtered systems only.

OHA - Drinking Water Program - Surface Water Quality Data Form

County: **Orange**

WTP-: **A**

Disinfection *Giardia*
Log Inactiv: **0.00**

System Name: **Rockledge Water District**

ID#: **41**

Month/Year: **Mar-20**

Date / Time	Minimum Cl ₂ Residual at 1st User (C) ³	Contact Time (T)	Actual CT	Temp	pH	Required CT	CT Met? ³	Peak Hourly Demand Flow
	[ppm or mg/L]	[minutes]	C X T	[° C]		formula	Yes / No	[GPM]
1	0.88	482	424.0	8.8	7.20	22.1		44
2	0.86	346	295.0	8.6	7.22	22.5		36
3	0.86	302	260.1	8.3	7.18	22.6		32
4	0.86	350	301.3	8.0	7.23	23.5		40
5	0.9	390	351.1	7.6	7.26	24.5		48
6	0.93	425	384.6	7.5	7.22	24.4		54
7	0.92	406	378.5	7.4	7.19	24.3		55
8	0.91	385	258.6	7.6	7.18	25.3		78
9	0.9	355	358.7	7.7	7.21	23.8		68
10	0.91	343	312.3	7.8	7.22	23.8		65
11	0.91	432	363.4	7.9	7.17	23.3		80
12	0.91	423	384.8	8.0	7.12	22.7		45
13	0.91	388	358.8	8.1	7.29	24.0		51
14	0.9	83	74.3	7.7	7.25	24.2		387
15	0.89	403	359.0	8.1	7.37	24.6		51
16	0.88	294	258.7	8.7	7.32	23.2		74
17	0.9	302	271.6	8.9	7.30	22.8		73
18	0.89	426	379.0	9.1	7.28	22.3		54
19	0.89	356	317.2	9.3	7.31	22.2		82
20	0.88	359	316.4	9.5	7.34	22.2		83
21	0.87	363	315.8	9.5	7.32	22.0		88
22	0.87	337	292.8	9.9	7.42	22.2		83
23	0.87	285	247.9	10.1	7.40	21.7		79
24	0.86	36	30.7	10.3	7.42	21.6		518
25	0.85	261	221.9	10.2	7.36	21.2		82
26	0.86	305	263.2	10.3	7.41	21.5		74
27	0.84	320	268.4	10.2	7.38	21.4		87
28	0.83	374	319.6	10.1	7.39	21.5		86
29	0.82	334	273.6	9.9	7.40	21.9		89
30	0.84	207	174.0	10.2	7.39	21.4		101
31	0.85	287	243.7	10.3	7.42	21.5		79

³ If Cl₂ at entry point < 0.2 mg/l or CT not met, DWP to be notified by end of next business day.

Revised February 2012

Enter data in green shaded cells.

Date	Total Contact Time (min)	Lowest Reservoir Level (ft)	Volume/ft of depth (gal)	Baffling Factor (%)	Effective Reservoir Volume (gal)	Peak Hour Demand (gpm)	Tank Contact Time (min)	Pipe Diameter (in)	Pipe Length (ft)	Pipe Volume (gal) (baffling = 1)	Pipe Contact Time (min)
1	482	24.7	18,381	0.0375	17,025	44	387	8	1,600	4,176	95
2	348	23.7	18,381	0.0375	16,336	59	277	8	1,600	4,176	71
3	302	22.9	18,381	0.0375	15,785	66	239	8	1,600	4,176	63
4	350	21.9	18,381	0.0375	15,095	55	274	8	1,600	4,176	76
5	390	24.5	18,381	0.0375	16,888	54	313	8	1,600	4,176	77
6	425	27.2	18,381	0.0375	18,749	54	347	8	1,600	4,176	77
7	409	26.6	18,381	0.0375	18,335	55	333	8	1,600	4,176	76
8	285	25.4	18,381	0.0375	17,508	76	230	8	1,600	4,176	55
9	395	27.2	18,381	0.0375	18,749	58	323	8	1,600	4,176	72
10	343	26.3	18,381	0.0375	18,128	65	279	8	1,600	4,176	64
11	432	25.3	18,381	0.0375	17,439	50	349	8	1,600	4,176	84
12	423	24	18,381	0.0375	16,543	49	338	8	1,600	4,176	85
13	395	23.2	18,381	0.0375	15,991	51	314	8	1,600	4,176	82
14	83	25.9	18,381	0.0375	17,853	267	67	8	1,600	4,176	16
15	403	27.3	18,381	0.0375	18,818	57	330	8	1,600	4,176	73
16	294	25.5	18,381	0.0375	17,577	74	238	8	1,600	4,176	56
17	302	25.9	18,381	0.0375	17,853	73	245	8	1,600	4,176	57
18	426	27.3	18,381	0.0375	18,818	54	348	8	1,600	4,176	77
19	356	26	18,381	0.0375	17,921	62	289	8	1,600	4,176	67
20	359	26.8	18,381	0.0375	18,473	63	293	8	1,600	4,176	66
21	363	24.5	18,381	0.0375	16,888	58	291	8	1,600	4,176	72
22	337	24.7	18,381	0.0375	17,025	63	270	8	1,600	4,176	66
23	285	26.6	18,381	0.0375	18,335	79	232	8	1,600	4,176	53
24	36	26	18,381	0.0375	17,921	618	29	8	1,600	4,176	7
25	261	25	18,381	0.0375	17,232	82	210	8	1,600	4,176	51
26	306	26.8	18,381	0.0375	18,473	74	250	8	1,600	4,176	56
27	320	25	18,381	0.0375	17,232	67	257	8	1,600	4,176	62
28	374	23.8	18,381	0.0375	16,405	55	298	8	1,600	4,176	76
29	334	22.5	18,381	0.0375	15,509	59	263	8	1,600	4,176	71
30	207	24.3	18,381	0.0375	16,750	101	166	8	1,600	4,176	41
31	287	26.8	18,381	0.0375	18,473	79	234	8	1,600	4,176	53