

From: Mark Southard
Sent: Wed, 19 Nov 2014 16:07:35 -0600
To: David Sloan
Subject: Re: Cypress MORs
Attachments: FSO Locational Report.pdf, OCT14 SWMOR DPR MF_RO.pdf

David,

Sorry it took me a couple of days to get these to you. I have attached the October reports to this email.

Also, the feed nitrate to the RO trains averages 19 ppm, so you can figure the removal rate on any given day and train off that value. We haven't done a nitrate removal ratio since the first FSV, as the TCEQ settled on just maintaining a RO permeate nitrate concentration of less than 10 ppm.

Let me know if you need anything else.

Thanks

On Mon, Nov 17, 2014 at 1:36 PM, David Sloan <DWS@freese.com> wrote:

Hi Mark. I wanted to check and see if the FSO report might be available for October. This appears to give me the best indication so far what the RO is doing, and I thought October would give me the impact of the membrane replacements. Based on performance, I'm assuming Train 4 was the first replaced?

Also I wanted to see if you had any data showing what nitrate removal you are getting from the old and new RO membranes.

Thanks.

DAVID SLOAN / FREESE AND NICHOLS, INC.

From: Mark Southard [mailto:mark.southard@wichitafallstx.gov]
Sent: Friday, November 14, 2014 10:54 AM
To: David Sloan

Cc: Shawn Garcia
Subject: Re: Cypress MORs

David,

See the attached SWMORs that we submit for the 2010 conventional plant, the Cypress DPR plant (including the MF/RO and 2010) and the addendum I submit with all the extra data the State required.

Let me know if you have any questions.

On Thu, Nov 13, 2014 at 9:14 AM, David Sloan <DWS@freese.com> wrote:

Good Morning, Mark, I wanted to check and see if I could get copies of the MORs you submit to TCEQ for the Cypress plant, including the DPR facility. I know you're compiling WQ information on the RR effluent and DPR permeate, but I thought this might give me a head start on some of the RO performance. Thanks.

DAVID W. SLOAN, P.E., BCEE

SENIOR PROCESS ENGINEER

BOARD CERTIFIED ENVIRONMENTAL ENGINEER



WATER / WASTEWATER TREATMENT & REUSE
4055 INTERNATIONAL PLAZA, SUITE 200 | FORT WORTH, TX, 76109

[817 735 7277](tel:8177357277) VOICE | [817 528 4442](tel:8175284442) CELL

EMAIL: dws@freese.com

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Mark Southard

City of Wichita Falls

Water Source/Purification Superintendent

940-691-1153

940-691-4121 Fax



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Mark Southard

City of Wichita Falls

Water Source/Purification Superintendent

940-691-1153

940-691-4121 Fax



Surface Water Monthly Operating Report

Addendum for the Direct Potable Reuse Plant

Public Water

System Name:

City of Wichita Falls

Plant Name or Number:

Cypress DPR (Microfiltration/RO)

PWS ID No.:

2430001

Month:

October

Year:

2014

Location:	TCEQ-1J	TCEQ-2J	TCEQ-2JB	TCEQ-20J						TCEQ-20J					
	Max Turbidity (NTU)	Min Mono-chloramine (ppm)	E. coli (CFU/100mL)	Nitrate-N (ppm)						Flow (MGD)					
Date				Train 1	Train 2	Train 3	Train 4	Train 5	Train 6	Train 1	Train 2	Train 3	Train 4	Train 5	Train 6
10/1	4.56	3.44	<4.00	7	X	8.1	X	X	8.3	1.53	X	1.51	X	X	1.49
10/2	2.49	3.15	<4.00	4	X	X	2.7	9.3	X	1.53	X	X	1.5	1.51	X
10/3	2.66	4.00	<4.00	1.9	1.6	5.3	1.7	X	7.6	1.51	1.51	1.48	1.51	X	1.51
10/4	2.82	3.94	<4.00	1.7	2.2	X	X	X	9.6	1.51	1.51	X	X	X	1.5
10/5	2.55	3.85	<4.00	X	1.6	7	X	8.9	X	X	1.51	1.5	X	1.51	X
10/6	2.64	3.66	<4.00	2	X	X	2.4	X	8	1.51	X	X	1.51	X	1.51
10/7	2.31	4.03	<4.00	X	2	7.2	2.9	X	X	X	1.5	1.51	1.52	X	X
10/8	2.07	3.30	<4.00	1.7	1.6	8.1	X	1.7	X	1.55	1.53	1.53	X	1.54	X
10/9	2.28	3.59	<4.00	1.7	X	X	2.2	2	X	1.56	X	X	1.58	1.56	X
10/10	2.51	3.88	<4.00	X	2.3	9.2	X	X	9.5	X	1.45	1.44	X	X	1.44
10/11	2.69	3.99	<4.00	1.8	X	X	1.8	1.8	X	1.51	X	X	1.51	1.52	X
10/12	2.75	3.93	<4.00	X	1.6	6.5	X	2.3	X	X	1.51	1.5	X	1.5	X
10/13	3.08	3.65	<4.00	2.3	1.3	X	3.1	X	X	1.52	1.54	X	1.53	X	X
10/14	2.88	3.55	<4.00	1.5	1.4	X	X	1.5	X	1.52	1.54	X	X	1.54	X
10/15	3.38	3.59	<4.00	2.5	3.4	X	X	1.7	X	1.52	1.5	X	X	1.54	X
10/16	3.82	3.58	<4.00	2.2	1.3	1.5	X	1.4	1.2	1.58	1.51	1.48	X	1.57	1.52
10/17	3.65	3.31	<4.00	X	X	1.7	X	1.3	1.4	X	X	1.5	X	1.5	1.5
10/18	3.54	3.18	<4.00	X	X	1.2	X	1.5	2	X	X	1.54	X	1.53	1.54
10/19	3.72	3.27	<4.00	1.3	1.5	1.3	1.6	X	X	1.5	1.51	1.51	1.51	X	X
10/20	3.86	1.79	<4.00	1.3	2.2	1.7	X	X	X	1.51	1.51	1.5	X	X	X
10/21	3.61	3.98	<4.00	2	X	0.8	X	2.9	3.7	1.5	X	1.5	X	1.51	1.51
10/22	3.73	3.50	<4.00	X	1.9	1.6	X	X	1.8	X	1.54	1.54	X	X	1.55
10/23	4.00	3.66	<4.00	1.7	1.3	1.5	X	X	X	1.53	1.54	1.54	X	X	X
10/24	3.93	3.55	<4.00	1.2	1.4	X	X	1.2	1.2	1.49	1.5	X	X	1.49	1.52
10/25	3.85	3.38	<4.00	1.6	X	X	X	1.6	1.4	1.51	X	X	X	1.51	1.5
10/26	3.55	3.92	<4.00	X	0.9	1.4	X	0.9	X	X	1.75	1.75	X	1.49	X
10/27	4.12	3.56	<4.00	1.5	1.9	1.1	X	X	1.4	1.55	1.54	1.54	X	X	1.55
10/28	3.09	3.28	<4.00	1.6	X	1.3	X	1.7	X	1.55	X	1.53	X	1.53	X
10/29	2.82	3.78	<4.00	X	1.8	2.2	X	X	2	X	1.5	1.5	X	X	1.52
10/30	2.64	3.70	<4.00	1.3	X	X	X	2	2	1.51	X	X	X	1.51	1.51
10/31	3.00	3.73	4	2.1	1.8	1.4	X	X	X	1.51	1.51	1.51	X	X	X

Certificate No.

Submitted by:

and Grade:

WO0023530, AW

Date:

10-Nov-14

Surface Water Monthly Operating Report

Addendum for the Direct Potable Reuse Plant

Public Water System

Name: City of Wichita Falls

Plant Name or Number:

Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001

Month: October **Year:** 2014

Location:	TCEQ-20J						TCEQ-22J												
	Salt Rejection (% Removal)						Max 15-Min. Lagoon Return %	2-Hour Average Lagoon Return % Flows											
Date	Train 1	Train 2	Train 3	Train 4	Train 5	Train 6		12-2	2-4	4-6	6-8	8-10	10-12	12-2	2-4	4-6	6-8	8-10	10-12
10/1	89.5	X	85.2	X	X	74.5	47.81	x	x	x	x	x	x	x	x	x	x	x	x
10/2	93.4	X	X	94.8	75.2	X	48.87	x	x	x	x	x	x	x	x	x	x	x	x
10/3	97.5	97.6	84.8	95.9	X	73.2	48.45	x	x	x	x	x	x	x	x	x	x	x	x
10/4	97.7	97.8	X	X	X	75.3	48.23	x	x	x	x	x	x	x	x	x	x	x	x
10/5	X	97.8	85.7	X	75.8	X	49.47	x	x	x	x	x	x	x	x	x	x	x	x
10/6	97.2	X	X	95.8	X	76.6	48.31	x	x	x	x	x	x	x	x	x	x	x	x
10/7	X	97.4	83.3	95.2	X	X	46.99	x	x	x	x	x	x	x	x	x	x	x	x
10/8	97.5	97.5	84.8	X	96.7	X	47.83	x	x	x	x	x	x	x	x	x	x	x	x
10/9	97	X	X	95.2	96.7	X	47.69	x	x	x	x	x	x	x	x	x	x	x	x
10/10	X	97.4	82.9	X	X	71.6	49.47	x	x	x	x	x	x	x	x	x	x	x	x
10/11	97.6	X	X	95.2	97.5	X	48.51	x	x	x	x	x	x	x	x	x	x	x	x
10/12	X	97	82.3	X	97.4	X	49.62	x	x	x	x	x	x	x	x	x	x	x	x
10/13	97.3	97.3	X	95.5	X	X	47.79	x	x	x	x	x	x	x	x	x	x	x	x
10/14	98	98	X	X	97.8	X	47.26	x	x	x	x	x	x	x	x	x	x	x	x
10/15	97.8	97.9	X	X	97.9	X	46.77	x	x	x	x	x	x	x	x	x	x	x	x
10/16	97.8	98.1	96.3	X	97.8	96.8	48.41	x	x	x	x	x	x	x	x	x	x	x	x
10/17	X	X	97.8	X	97.5	97.4	48.97	x	x	x	x	x	x	x	x	x	x	x	x
10/18	X	X	98	X	98	97.7	47.58	x	x	x	x	x	x	x	x	x	x	x	x
10/19	98	97.9	98	96.9	X	X	47.32	x	x	x	x	x	x	x	x	x	x	x	x
10/20	97.3	97.8	98	X	X	X	47.87	x	x	x	x	x	x	x	x	x	x	x	x
10/21	97.6	X	97.9	X	97.8	97.4	47.29	x	x	x	x	x	x	x	x	x	x	x	x
10/22	X	97.7	97.9	X	X	97.4	47.02	x	x	x	x	x	x	x	x	x	x	x	x
10/23	97.7	97.7	97.9	X	X	X	48.06	x	x	x	x	x	x	x	x	x	x	x	x
10/24	97.7	97.6	X	X	97.6	97.4	48.04	x	x	x	x	x	x	x	x	x	x	x	x
10/25	97.4	X	X	X	97.6	95.9	46.54	x	x	x	x	x	x	x	x	x	x	x	x
10/26	X	97.7	97.9	X	97.9	X	47.91	x	x	x	x	x	x	x	x	x	x	x	x
10/27	97.6	97.8	98	X	X	97.5	47.44	x	x	x	x	x	x	x	x	x	x	x	x
10/28	97.9	X	97.1	X	98	X	48.63	x	x	x	x	x	x	x	x	x	x	x	x
10/29	X	97.6	97.9	X	X	97.7	48.43	x	x	x	x	x	x	x	x	x	x	x	x
10/30	97.7	X	X	X	98	97.8	48.34	x	x	x	x	x	x	x	x	x	x	x	x
10/31	98	98	98.2	X	X	X	50.01	42.75	43.53	43.00	44.59	43.21	43.42	42.14	43.74	42.97	43.47	46.43	43.96

Certificate No.

Submitted by: _____

and Grade: WO0023530, AW **Date:** 10-Nov-14

Surface Water Monthly Operating Report

Addendum for the Direct Potable Reuse Plant

Public Water System Name: City of Wichita Falls

Plant Name or Number:
Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001

Month: October **Year:** 2014

Location:	TCEQ-41J	TCEQ-42J
Date	Min. Ground Storage Tank Level (% Full)	Min Total Chlorine Residual (ppm)
10/1	70%	2.80
10/2	72%	3.00
10/3	70%	3.40
10/4	75%	3.20
10/5	78%	3.10
10/6	73%	3.20
10/7	70%	3.50
10/8	70%	3.40
10/9	73%	3.40
10/10	67%	3.30
10/11	71%	3.40
10/12	67%	3.70
10/13	63%	3.80
10/14	64%	3.60
10/15	66%	3.50
10/16	73%	3.40
10/17	71%	3.40
10/18	79%	3.30
10/19	80%	3.30
10/20	77%	3.40
10/21	71%	3.20
10/22	69%	3.20
10/23	63%	3.10
10/24	66%	3.20
10/25	72%	3.10
10/26	69%	3.10
10/27	64%	3.10
10/28	70%	2.60
10/29	74%	2.70
10/30	81%	2.40
10/31	77%	3.20

TCEQ-20J					
Current Month Average Salt Rejection					
Train 1	Train 2	Train 3	Train 4	Train 5	Train 6
97.05	97.7	93	95.6	95	89.6

TCEQ-20J					
Previous Month Average Salt Rejection					
Train 1	Train 2	Train 3	Train 4	Train 5	Train 6
X	76.6	85.7	96.2	77.9	76

TCEQ-42J			
	Nitrate-N	Nitrite-N	<i>E. coli</i>
Date	(ppm)	(ppm)	MPN
10/6	1.93	0.02	0.0
10/13	0.64	0.02	0.0
10/20	0.26	0.02	0.0
10/27	0.27	0.02	0.0

TCEQ-2JB			
	<i>Cryptosporidium</i>	<i>Giardia</i>	TCV
Date	(oocysts/L)	(cysts/L)	MPN
10/6	4.35	7.61	*

Previous Virus Data			
TCEQ-2JB			
	<i>Enterovirus</i>	<i>Norovirus</i>	TCV
Date	MPN/100mL		
8/4	0.00	0.00	0.00

TCEQ-42J			
	<i>Cryptosporidium</i>	<i>Giardia</i>	TCV
Date	(oocysts/L)	(cysts/L)	MPN
10/7	0.00	0.00	*
10/21	0.00	0.00	*

TCEQ-42J			
	<i>Enterovirus</i>	<i>Norovirus</i>	TCV
Date	MPN/100mL		
8/5	0.00	0.00	0.00

* TCEQ-2JB and TCEQ-42J virus samples were collected on the dates as shown, and results are expected 4-6 weeks from the sample date.

Submitted by: _____

Certificate No. and Grade: WO0023530, AW **Date:** 10-Nov-14

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER

Summary Page

PUBLIC WATER

SYSTEM NAME: City of Wichita Falls

PLANT NAME

OR NUMBER: Cypress DPR (Microfiltration/RO)

I certify that I am familiar with the information contained in this report and that,
to the best of my knowledge, the information is true, complete, and accurate.

PWS ID No.: 2430001

Plant ID No.: 21567

Operator's Signature:

Report for
the Month of: October 2014

Certificate No. & Grade: WO0023530, A Surface

Date: November 10, 2014

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	186	Number of 4-hour periods when plant was off-line:	0
Number of readings above 0.10 NTU:	5	Number of 4-hour periods when plant was on-line but turbidity data was not collected:	0
Number of readings above 0.3 NTU:	0	Number of days when plant was on-line but individual filter turbidity data was not collected:	0
Number of readings above 0.5 NTU:	0	Number of days with readings above 1.0 NTU:	0 (2)
Number of readings above 1.0 NTU:	0	Number of days with readings above 5.0 NTU:	0 (3)
Maximum allowable turbidity level:	0.3		
Percentage of readings above this limit:	0.0 % (1)		
Statistical Summary	Maximum turbidity reading: 0.13 NTU Minimum turbidity reading: 0.05 NTU CFE 95 th percentile value: 0.10 NTU	Average turbidity value: 0.08 NTU Standard deviation: 0.013 NTU IFE 95 th percentile: 0.241 NTU	
Bin Class: 4	Crypto Credit Required: 5.5 (7A)	Crypto Credit Achieved: 7.3 (7B)	Bin 3&4 Credits: 2.8 (7C)
Watershed Protection:	0.0	Conventional Treatment:	3.0
Bank Filtration:	0.0	Enhanced Filter Performance:	1.0
Presedimentation with Coagulation:	0.0	Bag and Cartridge Filtration:	0.0
Two-Stage Lime Softening:	0.0	Membrane Filtration:	2.8
		Second Stage Filtration:	0.0
		UV:	0.0
		Ozone, Chlorine Dioxide:	0.0
		Perform. Demonstration:	0.5
Number of days with a low CT for no more than 4.0 consecutive hours:	0	Average log inactivation for Giardia:	6.79
Number of days with a low CT for more than 4.0 consecutive hours:	0 (4)	Average log inactivation for viruses:	13.68
		Number of days when profiling data was not collected:	0
		Number of days when CT data was not collected:	0
Minimum disinfectant residual required leaving the plant:	0.5 mg/L, measured as Total Chlorine		
Number of days with a low residual for no more than 4.0 consecutive hours:	0		
Number of days with a low residual for more than 4.0 consecutive hours:	0 (5)	Number of days when disinfectant residual leaving the plant was not properly monitored:	0

DISTRIBUTION SYSTEM

Minimum disinfectant residual required in distribution system:	0.5 mg/L, measured as Total Chlorine
Total number of readings this month:	165 (at least 100 required) (8)
Average disinfectant residual value:	3.14
Percentage of readings with a low residual this month:	0.0 % (6A)
Number of readings with a low residual:	0
Percentage of readings with a low residual last month:	0.0 % (6B)
Number of readings with no detectable residual:	0

ADDITIONAL REPORTS & WORKSHEETS

The Page 1 Addendum (Public Notices) is not required because there were no treatment technique or monitoring/reporting violations reported.			
Additional report(s) for individual filter monitoring required:	☒ NONE	☐ Filter Profile	☐ Filter Assessment
Additional report(s) for individual filter monitoring submitted:	☒ NONE	☐ Filter Profile (9)	☐ Filter Assessment (10)
No additional IFE Reports are required this month.			
P.2-Turbidity Data	P.3-Filter Data	P.4&5-Disinfection Data	P.6-TOCMOR
Alternate Technol.	Enhanced IFE Worksheet		
Membranes-PBT			Performance Demonstration

SURFACE WATER MONTHLY OPERATING REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER SUPPLY DIVISION/PUBLIC DRINKING WATER SECTION (MC-155)
P.O. BOX 13087, AUSTIN, TEXAS 78711-3087

This edition of the SWMOR-Alt was customized by the TCEQ on 05/18/14 for use during the City of Wichita Falls Temporary Direct Potable Reuse Project.

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

Turbidity Data Page

PUBLIC WATER SYSTEM NAME: <u>City of Wichita Falls</u>	PLANT NAME OR NUMBER: <u>Cypress DPR (Microfiltration/RO)</u>
PWS ID No.: <u>2430001</u> Plant ID No.: <u>21567</u>	Connections: <u>33,771</u>
Month: <u>October</u> Year: <u>2014</u>	Population: _____

					PERFORMANCE DATA													
Date	Raw Water Pumpage (MGD)	Treated Water Pumpage (MGD)	RAW WATER ANALYSES		SETTLED WATER TURBIDITY (Optional Data)						FINISHED WATER QUALITY							
			NTU	Alk.	Basin No.						Combined Filter Effluent Turbidity						Lowest	Time
					1	2	3	4	5	6	NTU1	NTU2	NTU3	NTU4	NTU5	NTU6	Residual	
1	5.000	8.832	2	54	2.3	1.3					0.09	0.09	0.08	0.08	0.08	0.10	2.8	
2	5.000	10.877	2	52	1.5	1.3					0.09	0.09	0.08	0.07	0.07	0.08	3.0	
3	5.000	9.287	2	61	1.0	1.1					0.07	0.07	0.07	0.06	0.07	0.07	3.4	
4	5.000	8.874	1	56	1.1	0.9					0.08	0.07	0.07	0.07	0.07	0.09	3.2	
5	5.000	9.242	2	64	1.1	1.3					0.08	0.08	0.08	0.08	0.08	0.09	3.1	
6	5.000	8.495	2	60	1.5	1.3					0.12	0.13	0.11	0.10	0.10	0.12	3.1	
7	5.000	9.107	2	51	1.6	1.2					0.08	0.09	0.09	0.08	0.09	0.10	3.2	
8	5.000	9.720	2	62	1.6	1.4					0.09	0.09	0.09	0.09	0.08	0.08	3.4	
9	5.000	9.965	2	50	1.2	1.2					0.09	0.11	0.10	0.10	0.09	0.09	3.4	
10	5.000	9.735	2	53	1.0	1.6					0.09	0.10	0.09	0.09	0.09	0.06	3.3	
11	5.000	8.032	2	48	1.4	1.1					0.09	0.09	0.09	0.08	0.07	0.07	3.4	
12	5.000	11.068	2	36	1.2	1.1					0.08	0.08	0.08	0.07	0.07	0.09	3.7	
13	5.000	10.651	2	27	1.6	1.0					0.08	0.09	0.08	0.10	0.08	0.09	3.8	
14	5.000	9.677	2	55	1.5	1.0					0.09	0.10	0.09	0.08	0.07	0.07	3.6	
15	5.000	9.201	3	54	1.8	1.3					0.07	0.07	0.07	0.06	0.06	0.07	3.5	
16	5.000	9.794	3	46	1.4	2.2					0.07	0.06	0.07	0.06	0.07	0.07	3.4	
17	5.000	8.504	3	48	2.6	1.3					0.07	0.08	0.08	0.08	0.08	0.09	3.4	
18	5.000	9.865	4	57	2.1	0.7					0.09	0.09	0.09	0.08	0.08	0.09	3.3	
19	5.000	10.330	3	66	2.1	1.2					0.09	0.08	0.08	0.08	0.07	0.08	3.3	
20	5.000	11.240	4	58	1.9	1.1					0.08	0.07	0.08	0.09	0.08	0.07	3.4	
21	5.000	8.974	4	61	2.0	1.1					0.09	0.08	0.07	0.07	0.07	0.09	3.2	
22	5.000	11.591	3	57	1.9	0.8					0.10	0.10	0.09	0.08	0.08	0.08	3.2	
23	5.000	8.854	4	56	2.5	0.9					0.07	0.07	0.07	0.07	0.06	0.06	3.1	
24	5.000	8.258	4	28	1.3	1.0					0.07	0.06	0.06	0.05	0.05	0.06	3.2	
25	5.000	10.421	4	48	1.4	1.0					0.07	0.09	0.08	0.07	0.07	0.07	3.1	
26	5.000	10.410	3	51	2.1	0.6					0.08	0.08	0.08	0.08	0.08	0.08	3.1	
27	5.000	9.620	3	47	1.6	1.0					0.08	0.08	0.08	0.06	0.07	0.08	3.1	
28	5.000	9.720	3	55	2.0	0.9					0.06	0.06	0.06	0.06	0.07	0.08	2.6	
29	5.000	9.200	2	44	0.9	0.9					0.09	0.09	0.08	0.08	0.08	0.08	2.7	
30	5.000	9.200	2	49	0.8	0.8					0.09	0.09	0.09	0.08	0.08	0.09	2.4	
31	5.000	9.760	4	49	1.1	1.1					0.10	0.10	0.09	0.09	0.09	0.09	3.2	
Total	155.000	298.504	NOTE: ONLY use the "Time" column to show the length of time that the disinfectant residual entering the distribution system fell below the acceptable level.															
Avg	5.000	9.629																
Max	5.000	11.591																
Min	5.000	8.032																

NOTE: ONLY use the "Time" column to show the length of time that the disinfectant residual entering the distribution system fell below the acceptable level.

SUBMITTED BY: _____	Certificate No. and Grade: <u>WO0023530, A Surface</u>	Date: <u>November 10, 2014</u>
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SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Filter Data Page

PUBLIC WATER
SYSTEM NAME: City of Wichita Falls

PLANT NAME
OR NUMBER: Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001 Plant ID No.: 21567

Month: October Year: 2014

PERFORMANCE DATA																				
Date	INDIVIDUAL FILTER TURBIDITY																			
	Filter No. 1		Filter No. 2		Filter No. 3		Filter No. 4		Filter No. 5		Filter No. 6		Filter No. 7		Filter No. 8		Filter No. 9		Filter No. 10	
	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs	Max	4 Hrs
1	0.09	x	0.13	x	0.15	0.11	0.13	0.11	0.14	0.09										
2	0.07	x	0.08	x	0.08	x	0.11	x	0.07	x										
3	0.06	x	0.07	x	0.07	x	0.08	x	0.10	x										
4	0.14	0.12	0.07	x	0.07	x	0.08	x	0.06	x										
5	0.09	x	0.24	0.12	0.23	0.12	0.30	0.09	0.29	0.09										
6	0.09	x	0.09	x	0.10	x	0.17	x	0.09	x										
7	0.09	x	0.09	x	0.10	x	0.17	x	0.09	x										
8	0.14	0.13	0.09	x	0.09	x	0.10	x	0.08	x										
9	0.13	x	0.16	0.13	0.16	0.12	0.09	x	0.15	0.10										
10	0.08	x	0.02	x	0.10	x	0.15	0.12	0.09	x										
11	0.07	x	0.08	x	0.08	x	0.10	x	0.07	x										
12	0.30	0.10	0.07	x	0.07	x	0.08	x	0.06	x										
13	0.13	x	0.22	0.11	0.15	0.11	0.07	x	0.19	0.10										
14	0.08	x	0.09	x	0.10	x	0.22	0.12	0.09	x										
15	0.06	x	0.07	x	0.07	x	0.08	0.06	0.06	x										
16	0.06	x	0.06	x	0.16	0.11	0.07	x	0.05	x										
17	0.22	0.10	0.19	0.11	0.09	x	0.08	x	0.20	0.10										
18	0.09	x	0.10	x	0.08	x	0.15	0.11	0.10	x										
19	0.08	x	0.08	x	0.08	x	0.10	x	0.08	x										
20	0.29	0.11	0.08	x	0.17	0.11	0.09	x	0.08	x										
21	0.14	x	0.26	0.12	0.10	x	0.08	x	0.29	0.11										
22	0.09	x	0.11	x	0.09	x	0.19	0.12	0.20	x										
23	0.07	x	0.08	x	0.07	x	0.11	x	0.07	x										
24	0.06	x	0.07	x	0.16	0.10	0.08	x	0.06	x										
25	0.15	0.10	0.12	0.11	0.10	x	0.08	x	0.06	x										
26	0.08	x	0.12	x	0.08	x	0.14	0.11	0.11	0.09										
27	0.07	x	0.08	x	0.07	x	0.11	x	0.07	x										
28	0.08	x	0.08	x	0.15	0.13	0.09	x	0.07	x										
29	0.24	0.11	0.08	x	0.15	x	0.09	x	0.07	x										
30	0.09	x	0.13	0.11	0.09	x	0.14	0.13	0.25	0.09										
31	0.08	x	0.09	x	0.09	x	0.13	x	0.09	x										
SUMMARY & COMPLIANCE ACTIONS	Criteria									Filter No.										Plant
										1	2	3	4	5	6	7	8	9	10	
	Number of days with event(s) above 0.5 NTU at 4.0 hrs this month									0	0	0	0	0						
	Number of days with event(s) above 1.0 NTU this month									0	0	0	0	0						
	Number of days with event(s) above 1.0 NTU last month									0	0	0	0	0						
	Number of days with event(s) above 1.0 NTU two months ago									0	0	0	0	0						
	Total number of days with event(s) above 1.0 NTU in three months									0	0	0	0	0						
	Number of events above 2.0 NTU this month																			0
	Number of events above 2.0 NTU last month																			0
	Does the filter/plant have an approved Corrective Action Plan?									N	N	N	N	N						N
	Is the plant required to submit a Filter Profile Report?									N	N	N	N	N						
	Is the plant required to submit a Filter Assessment Report?									N	N	N	N	N						
Is the plant required to submit a Request for Compliance CPE?																			N	

SUBMITTED BY: _____ Certificate No. _____ and Grade: WO0023530, A Surface Date: November 10, 2014

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Disinfection Data Page

PUBLIC WATER
SYSTEM NAME: City of Wichita Falls
PWS ID No.: 2430001 Plant ID No.: 21567

PLANT NAME
OR NUMBER: Cypress DPR (Microfiltration/RO)
Month: October Year: 2014

DISINFECTION PROCESS PARAMETERS									
APPROVED CT STUDY PARAMETERS						PERFORMANCE STANDARDS			
Parameters	Disinfection Zones					Log Inactivations			
	D1	D2	D3	D4	D5	Giardia lamblia Cysts		Viruses	
Flow Rate (MGD)	7.500	7.500	3.308	10.000	10.000	2.0		5.0	
T ₁₀ (minutes)	357.0	223.2	5.6	67.1	223.3				

PERFORMANCE DATA									
DISINFECTION PROCESS DATA									
Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time
1	CLA D1	2.1	7.300	26.7	6.7				
	CLA D2	1.7	7.300	26.6	6.3				
	CLA D3	1.7	2.200	26.8	6.7	8.42	18.10	3.62	
	CLA D4	4.5	10.000	25.7	9.1			(V)	
	CLA D5	3.0	10.000	26.1	9.1				
2	CLA D1	2.0	7.200	26.4	6.5				
	CLA D2	1.4	7.200	26.1	6.4				
	CLA D3	1.3	2.200	26.3	6.8	8.13	16.71	3.34	
	CLA D4	3.7	10.000	24.9	9.2			(V)	
	CLA D5	3.4	10.000	24.8	9.1				
3	CLA D1	2.1	6.300	21.6	6.6				
	CLA D2	1.3	6.300	23.1	6.5				
	CLA D3	0.1	2.200	19.7	6.8	7.03	14.19	2.84	
	CLA D4	3.5	10.000	22.1	9.2			(V)	
	CLA D5	3.5	10.000	22.3	9.2				
4	CLA D1	2.3	7.000	24.4	6.7				
	CLA D2	1.7	7.000	24.7	6.4				
	CLA D3	1.2	2.200	24.0	6.6	7.85	15.63	3.13	
	CLA D4	3.0	10.000	22.6	9.3			(V)	
	CLA D5	3.3	10.000	22.4	9.3				
5	CLA D1	2.3	7.000	22.5	6.6				
	CLA D2	1.3	7.000	23.3	6.4				
	CLA D3	1.0	2.200	22.6	6.7	6.70	13.51	2.70	
	CLA D4	3.5	10.000	21.9	9.0			(V)	
	CLA D5	3.0	10.000	22.1	9.1				
6	CLA D1	2.5	7.300	25.0	6.7				
	CLA D2	1.4	7.300	25.0	6.5				
	CLA D3	0.7	2.200	24.5	6.8	8.42	16.64	3.33	
	CLA D4	4.5	10.000	22.6	9.1			(V)	
	CLA D5	3.3	10.000	23.6	9.0				
7	CLA D1	2.9	7.200	25.3	6.7				
	CLA D2	1.2	7.200	25.1	6.5				
	CLA D3	1.1	2.200	25.2	6.7	8.95	17.88	3.58	
	CLA D4	4.1	10.000	22.7	9.1			(V)	
	CLA D5	3.5	10.000	23.5	9.0				
8	CLA D1	2.9	7.200	25.3	6.7				
	CLA D2	1.2	7.200	25.1	6.5				
	CLA D3	1.1	2.200	25.2	6.7	8.95	17.88	3.58	
	CLA D4	4.1	10.000	22.7	9.1			(V)	
	CLA D5	3.5	10.000	23.5	9.0				

PERFORMANCE DATA									
DISINFECTION PROCESS DATA									
Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time
9	CLA D1	1.8	7.200	24.6	6.5				
	CLA D2	1.5	7.200	26.1	6.7				
	CLA D3	1.5	2.200	26.3	6.8	7.75	15.50	3.10	
	CLA D4	3.4	10.000	24.7	9.0			(V)	
	CLA D5	3.5	10.000	24.5	9.0				
10	CLA D1	1.7	7.200	24.4	6.6				
	CLA D2	1.0	7.200	22.4	6.5				
	CLA D3	1.0	2.200	22.9	6.8	5.94	11.88	2.38	
	CLA D4	3.9	10.000	20.1	9.1			(V)	
	CLA D5	3.3	10.000	20.9	9.0				
11	CLA D1	2.1	6.900	21.8	6.5				
	CLA D2	1.1	6.900	22.5	6.4				
	CLA D3	0.9	2.200	23.3	6.7	6.68	13.49	2.70	
	CLA D4	4.5	10.000	21.4	9.2			(V)	
	CLA D5	3.7	10.000	21.3	9.0				
12	CLA D1	1.7	7.000	22.6	6.4				
	CLA D2	0.9	7.000	23.4	6.2				
	CLA D3	0.6	2.200	22.2	6.6	6.50	13.10	2.62	
	CLA D4	4.4	10.000	20.3	9.0			(V)	
	CLA D5	4.2	10.000	21.7	8.8				
13	CLA D1	1.8	6.900	20.8	6.2				
	CLA D2	1.7	6.900	20.5	6.0				
	CLA D3	0.1	2.200	20.2	6.0	6.61	13.33	2.67	
	CLA D4	3.9	10.000	20.3	8.9			(V)	
	CLA D5	4.1	10.000	21.6	8.9				
14	CLA D1	2.1	6.900	21.0	6.5				
	CLA D2	0.9	6.900	21.0	6.1				
	CLA D3	1.8	2.200	21.9	6.5	5.94	11.95	2.39	
	CLA D4	3.8	10.000	19.5	8.8			(V)	
	CLA D5	3.7	10.000	20.1	8.8				
15	CLA D1	0.4	7.000	24.0	6.6				
	CLA D2	2.0	7.000	23.5	6.3				
	CLA D3	1.7	2.200	23.5	6.6	5.24	10.52	2.10	
	CLA D4	3.8	10.000	20.6	8.9			(V)	
	CLA D5	3.6	10.000	20.7	8.8				
16	CLA D1	2.3	6.500	21.9	6.3				
	CLA D2	1.7	6.500	22.4	6.2				
	CLA D3	1.8	2.200	22.6	6.6	7.25	14.61	2.92	
	CLA D4	3.7	10.000	20.1	8.9			(V)	
	CLA D5	3.7	10.000	20.0	8.8				

NOTE: = ONLY use the "Time=" column to show the length of time that the total inactivation ratio was less than 1.00.

SUBMITTED BY: _____ Certificate No. and Grade: W00023530, A Surface Date: November 10, 2014

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Disinfection Data Page (cont.)

PUBLIC WATER SYSTEM NAME: <u>City of Wichita Falls</u>	PLANT NAME OR NUMBER: <u>Cypress DPR (Microfiltration/RO)</u>
PWS ID No.: <u>2430001</u>	Plant ID No.: <u>21567</u>
Month: <u>October</u>	Year: <u>2014</u>

DISINFECTION PROCESS PARAMETERS									
APPROVED CT STUDY PARAMETERS						PERFORMANCE STANDARDS			
Parameters	Disinfection Zones					Log Inactivations			
	D1	D2	D3	D4	D5	Giardia lamblia Cysts		Virus	
Flow Rate (MGD)	7.50	7.50	3.31	10.00	10.00	2.0		5.0	
T ₁₀ (minutes)	357.00	223.20	5.60	67.10	223.30				

PERFORMANCE DATA									
Date	DISINFECTION PROCESS DATA								
	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
17	CLA D1	0.1	7.000	24.4	6.5				
	CLA D2	1.4	7.000	23.6	6.2				
	CLA D3	1.3	2.200	24.1	6.7	4.36	8.78	1.76	
	CLA D4	3.6	10.000	20.5	8.9			(V)	
	CLA D5	3.7	10.000	21.2	8.8				
18	CLA D1	1.9	7.000	22.3	6.4				
	CLA D2	0.8	7.000	22.4	6.3				
	CLA D3	1.2	2.200	22.7	6.4	5.75	11.61	2.32	
	CLA D4	3.5	10.000	20.8	9.0			(V)	
	CLA D5	3.3	10.000	21.2	8.8				
19	CLA D1	2.2	7.000	22.3	6.6				
	CLA D2	1.0	7.000	22.3	6.4				
	CLA D3	0.9	2.200	22.6	6.7	6.26	12.61	2.52	
	CLA D4	3.7	10.000	20.8	8.9			(V)	
	CLA D5	3.4	10.000	20.5	8.8				
20	CLA D1	1.7	7.100	24.9	6.6				
	CLA D2	1.5	7.100	23.3	6.4				
	CLA D3	1.5	2.200	23.3	6.8	6.74	13.44	2.69	
	CLA D4	3.5	10.000	21.3	8.9			(V)	
	CLA D5	3.4	10.000	21.8	8.8				
21	CLA D1	2.3	7.100	22.5	6.6				
	CLA D2	1.3	7.100	24.1	6.5				
	CLA D3	0.8	2.200	22.8	6.8	6.76	13.59	2.72	
	CLA D4	3.5	10.000	20.5	9.1			(V)	
	CLA D5	3.6	10.000	20.2	8.9				
22	CLA D1	2.0	6.900	21.9	6.5				
	CLA D2	1.3	6.900	21.9	6.3				
	CLA D3	0.9	2.200	22.0	6.7	6.19	12.48	2.50	
	CLA D4	3.3	10.000	20.7	9.0			(V)	
	CLA D5	3.5	10.000	20.6	8.9				
23	CLA D1	2.2	6.900	23.6	6.5				
	CLA D2	1.2	6.900	23.5	6.4				
	CLA D3	0.8	2.200	22.5	6.6	7.19	14.44	2.89	
	CLA D4	3.9	10.000	21.7	9.1			(V)	
	CLA D5	3.6	10.000	21.5	8.9				
24	CLA D1	1.7	7.000	23.6	6.4				
	CLA D2	1.5	7.000	23.9	6.2				
	CLA D3	1.5	2.200	25.1	6.5	6.80	13.65	2.73	
	CLA D4	3.3	10.000	22.5	9.2			(V)	
	CLA D5	3.5	10.000	22.5	9.1				

PERFORMANCE DATA									
Date	DISINFECTION PROCESS DATA								
	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
25	CLA D1	2.1	6.900	22.5	6.6				
	CLA D2	0.9	6.900	23.2	6.2				
	CLA D3	0.8	2.200	22.8	6.7	6.39	12.89	2.58	
	CLA D4	3.5	10.000	21.9	9.1			(V)	
	CLA D5	3.3	10.000	22.2	9.0				
26	CLA D1	2.1	6.900	23.1	6.5				
	CLA D2	1.7	6.900	23.6	6.2				
	CLA D3	1.1	2.200	23.1	6.5	6.90	13.88	2.78	
	CLA D4	3.5	10.000	20.9	9.1			(V)	
	CLA D5	3.1	10.000	21.3	9.0				
27	CLA D1	2.3	6.900	22.8	6.5				
	CLA D2	1.2	6.900	22.9	6.4				
	CLA D3	0.4	2.200	23.1	6.6	7.08	14.25	2.85	
	CLA D4	3.4	10.000	22.7	9.1			(V)	
	CLA D5	3.3	10.000	23.0	9.1				
28	CLA D1	2.0	7.000	23.3	6.7				
	CLA D2	1.4	7.000	22.9	6.4				
	CLA D3	1.5	2.200	23.3	6.7	6.55	13.17	2.63	
	CLA D4	3.5	10.000	21.3	9.0			(V)	
	CLA D5	3.1	10.000	21.8	9.1				
29	CLA D1	1.7	6.800	23.1	6.4				
	CLA D2	1.4	6.800	23.1	6.4				
	CLA D3	1.2	2.200	22.6	6.8	6.22	12.53	2.51	
	CLA D4	3.7	10.000	20.7	9.0			(V)	
	CLA D5	3.3	10.000	20.8	8.9				
30	CLA D1	1.5	7.000	21.5	6.6				
	CLA D2	1.3	7.000	21.1	6.3				
	CLA D3	0.8	2.200	21.7	6.6	5.14	10.32	2.06	
	CLA D4	3.6	10.000	18.7	8.9			(V)	
	CLA D5	3.3	10.000	19.3	8.8				
31	CLA D1	2.0	6.500	20.6	6.5				
	CLA D2	1.0	6.500	20.5	6.3				
	CLA D3	1.1	2.200	21.5	6.6	5.73	11.54	2.31	
	CLA D4	3.2	10.000	20.4	9.0			(V)	
	CLA D5	3.4	10.000	20.2	8.9				
						Max	8.95	18.10	
						Min	4.36	8.78	
						Avg	6.79	13.68	
						SD	1.06	2.18	

NOTE: = ONLY use the "Time=" column to show the length of time that the total inactivation ratio was less than 1.00.

SUBMITTED BY: _____	Certificate No. _____	and Grade: <u>WO0023530, A Surface</u>	Date: <u>November 10, 2014</u>
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MONTHLY TOTAL ORGANIC CARBON REMOVAL REPORT (TOCMOR)

FOR SURFACE WATER OR GROUND WATER UNDER THE INFLUENCE OF SURFACE WATER SYSTEMS

PUBLIC WATER SYSTEM NAME: <u>City of Wichita Falls</u> PWS ID No.: <u>2430001</u>	PLANT NAME OR NUMBER: <u>Cypress DPR (Microfiltration/RO)</u> Month: <u>October</u> Year: <u>2014</u>	Plant ID No.: <u>21567</u> Type of treatment: X Conventional Unconventional explain: <u>Microfiltration and Reverse Osmosis Prior to Conventional Treatment</u>
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Note: Systems are required to run one TOC Sample Set every month. Additional space is provided for those systems that do additional sampling

Test No.	Test Date	Monthly TOC Sample Set			Actual % TOC Removed	Step 1 Required Removal %	Step 1 Removal Ratio	Optional data		INDIVIDUAL SAMPLE COMPLIANCE REMOVAL RATIO
		Raw Alkalinity	Raw TOC	Treated TOC				Step 2 Required % Removal	Step 2 Removal Ratio	
		Enter the Sample Set results			calculated	calculated from matrix	calculated		calculated	calculated
1	10/7	63	9.59	3.22	66.4	NA	NA	NA	NA	NA
2	10/14	48	9.83	3.12	68.3	NA	NA	NA	NA	NA
3	10/21	62	11.00	3.08	72.0	NA	NA	NA	NA	NA
4	10/28	59	10.69	3.17	70.3	NA	NA	NA	NA	NA
5										
6										
7										
8										
9										
10										
11										
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24										
25										
26										
27										
28										
29										
30										
31										
Avg		58.00	10.28	3.15	69.26		NA			NA
Max		63.00	11.00	3.22	72.00		NA			NA
Min		48.00	9.59	3.08	66.42		NA			NA

TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

TOC Summary					Monthly Compliance Ratio
Raw Water Alkalinity	Raw Water TOC	Treated Water TOC	TOC % Removal	ACC # used	
58	10.28	3.15	69.3	NA	NA

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

Operator's Signature: _____

Certificate No. and Grade: W00023530, A Surface

Date: November 10, 2014

Submit the report by the 10th of the month following the reporting period to:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 WATER SUPPLY DIVISION/PUBLIC DRINKING WATER SECTION (MC-155)
 P.O. BOX 13087, AUSTIN, TEXAS 78711-3087

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Enhanced Individual Filter Performance Data Page

PUBLIC WATER
SYSTEM NAME:

City of Wichita Falls

PLANT NAME

OR NUMBER: Cypress DPR (Microfiltration/RO)

PWS ID No.:

2430001

Plant ID No.:

21567

Month:

October

Year:

2014

Optimized Individual Filter Effluent (IFE) Performance

PERFORMANCE DATA

Filter No.	Total No. of Readings	No. of Readings > or = 0.15 NTU	Percent of Readings > or = 0.15 NTU	No. of Confirmed Readings > 0.3 NTU		Filter No.	Total No. of Readings	No. of Readings > or = 0.15 NTU	Percent of Readings > or = 0.15 NTU	No. of Confirmed Readings > 0.3 NTU
1	2,959	8	0.27%	0		26				
2	2,954	11	0.37%	0		27				
3	2,948	9	0.31%	0		28				
4	2,953	13	0.44%	0		29				
5	2,950	12	0.41%	0		30				
6						31				
7						32				
8						33				
9						34				
10						35				
11						36				
12						37				
13						38				
14						39				
15						40				
16						41				
17						42				
18						43				
19						44				
20						45				
21						46				
22						47				
23						48				
24						49				
25						50				
Summary	Were more than 5% of the IFE readings from any of the filters above the 0.15 NTU performance criteria?			No	Giardia and Cryptosporidium Log Removal Credit Allowed this Month For Enhanced IFE Performance					1.0
	Did any of the filters have confirmed IFE readings above 0.3 NTU?			No						

SUBMITTED BY:

Certificate No.

and Grade: WO0023530, A Surface

Date: November 10, 2014

MEMBRANE MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER
Pressure Decay Rate Direct Integrity Tests

PUBLIC WATER
SYSTEM NAME: City of Wichita Falls

PLANT NAME
OR NUMBER: Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001

Plant ID No.: 21567

Month: October

Year: 2014

TEST PARAMETERS & ADDITIONAL DATA

DIT CONDITIONS & ADDITIONAL DATA	Unit No. 1										Unit No. 2									
	DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month Data	DIT _{last} date	Pass? Yes/No	C/A Success?		DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month	DIT _{last} date	Pass? Yes/No	C/A Success?	
		16.5	2.8	1.650			9/30/14	YES	NA			16.5	2.8	1.650			9/30/14	YES	NA	
	Optional Data	Filt.Fluid gfd	TMP psi								Optional Data	Filt.Fluid gfd	TMP psi							

PERFORMANCE DATA

Date	Unit No. 1										Unit No. 2									
	Operational Data						DIT Data				Operational Data						DIT Data			
	Daily Pump. MG	Norm. Filt.Fluid gfd	TMP psi	Norm. Spc.Fluid gfd/psi	Daily Max. mNTU	CIP done?	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass?	C/A success?	Daily Pump. MG	Norm. Filt.Fluid gfd	TMP psi	Norm. Spc.Fluid gfd/psi	Daily Max. mNTU	CIP done?	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass?	C/A success?
1	1.335	14.3	4.2	3.44	32		18.3	0.620	YES	NA	1.425	14.3	2.4	5.96	22		18.4	0.530	YES	NA
2	1.360	4.1	3.8	1.08	29		18.3	0.650	YES	NA	1.185	14.3	2.3	6.18	24		18.5	0.530	YES	NA
3	1.302	14.3	4.1	3.46	32		18.2	0.600	YES	NA	1.375	14.3	2.5	5.79	20		18.3	0.530	YES	NA
4	1.354	14.4	4.2	3.45	28		18.1	0.610	YES	NA	1.269	14.3	2.5	5.77	20		18.3	0.510	YES	NA
5	1.254	14.3	4.2	3.38	31		18.2	0.600	YES	NA	1.385	14.3	2.6	5.55	28		18.1	0.570	YES	NA
6	1.333	14.3	4.1	3.50	27		18.2	0.610	YES	NA	1.252	14.3	2.4	6.06	22		18.3	0.550	YES	NA
7	1.279	14.3	4.1	3.48	31		18.3	0.610	YES	NA	1.266	14.3	2.5	5.81	17		18.4	0.530	YES	NA
8	1.322	14.3	4.2	3.44	36		18.3	0.620	YES	NA	1.291	14.3	2.4	6.09	22		18.4	0.550	YES	NA
9	1.311	14.3	4.1	3.48	36		18.3	0.620	YES	NA	1.311	14.3	2.4	5.86	52		18.4	0.530	YES	NA
10	1.435	14.3	4.3	3.29	34		18.3	0.630	YES	NA	1.444	14.3	2.5	5.80	23		18.4	0.540	YES	NA
11	1.231	14.2	4.5	3.12	30		18.2	0.590	YES	NA	1.200	14.2	2.7	5.27	22		18.3	0.500	YES	NA
12	1.343	14.1	5.0	2.85	34		18.2	0.580	YES	NA	1.294	14.1	2.8	5.09	24		18.3	0.480	YES	NA
13	1.200	14.1	4.9	2.81	36		18.2	0.580	YES	NA	1.245	14.2	2.9	4.96	45		18.4	0.490	YES	NA
14	1.333	14.2	5.4	2.65	31		18.2	0.600	YES	NA	1.330	14.2	3.0	4.76	24		18.4	0.510	YES	NA
15	1.251	14.2	5.1	2.79	34		18.1	0.620	YES	NA	1.183	14.2	3.0	4.73	18		18.4	0.480	YES	NA
16	1.237	14.1	5.4	2.61	35		18.3	0.570	YES	NA	1.344	14.2	3.0	4.69	25		18.4	0.480	YES	NA
17	1.228	14.2	5.2	2.73	34		18.3	0.600	YES	NA	1.178	14.1	3.0	4.71	18		18.5	0.480	YES	NA
18	1.277	14.2	5.9	2.39	36		18.4	0.570	YES	NA	1.326	14.2	3.3	4.32	27		18.5	0.460	YES	NA
19	1.283	14.1	5.8	2.44	33		18.4	0.560	YES	NA	1.200	14.2	3.3	4.33	18		18.3	0.520	YES	NA
20	1.338	14.1	6.1	2.32	36		18.5	0.470	YES	NA	1.314	14.2	3.3	4.27	17		18.5	0.470	YES	NA
21	0.794	14.2	3.9	3.66	33	yes	16.6	1.000	YES	NA	1.347	14.2	3.2	4.43	19		18.4	0.500	YES	NA
22	1.317	14.2	4.4	3.19	57		17.4	0.820	YES	NA	1.350	14.2	3.4	4.22	21		18.3	0.500	YES	NA
23	1.248	14.2	4.4	3.26	37		17.7	0.740	YES	NA	1.261	14.2	3.2	4.46	25		18.4	0.500	YES	NA
24	1.306	14.3	4.6	3.10	36		17.7	0.760	YES	NA	1.295	14.2	3.3	4.34	19		18.4	0.510	YES	NA
25	1.468	14.4	4.5	3.18	37		17.9	0.710	YES	NA	0.076	15.0	3.1	4.79	54		16.6	0.990	YES	NA
26	1.512	14.2	4.7	3.00	43		17.9	0.700	YES	NA	0.000	X	X	X	X		X	X	X	
27	1.439	14.3	4.6	3.13	32		17.9	0.720	YES	NA	0.855	14.2	2.5	5.67	37		16.6	0.990	YES	NA
28	1.136	14.2	4.7	3.01	35		18.0	0.680	YES	NA	1.303	14.2	2.7	5.24	18		17.8	0.690	YES	NA
29	1.325	14.3	4.7	3.03	32		17.9	0.680	YES	NA	1.227	14.3	2.7	5.23	20		17.9	0.630	YES	NA
30	1.261	14.3	4.8	2.95	29		18.0	0.650	YES	NA	1.328	14.3	2.8	5.04	23		17.9	0.610	YES	NA
31	1.314	14.4	4.8	2.98	43		17.9	0.680	YES	NA	1.239	14.4	2.8	5.18	31		17.9	0.640	YES	NA

SUMMARY	Unit No. 1										Unit No. 2									
	Operational Data										Operational Data									
	DIT Data										DIT Data									
	Number of days with DIT triggered by high turbidity or particle count										Number of days with DIT triggered by high turbidity or particle count									
	Number of days with a monitoring violation										Number of days with a monitoring violation									

SUBMITTED BY: _____ Certificate No. and Grade: WO0023530, A Surface Date: November 10, 2014

MEMBRANE MONTHLY OPERATING REPORT
FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Pressure Decay Rate Direct Integrity Tests (cont.)

PUBLIC WATER SYSTEM NAME:	City of Wichita Falls	PLANT NAME OR NUMBER:	Cypress DPR (Microfiltration/RO)	PUBLIC SYSTEM NAME:					
PWS ID No.:	2430001	Plant ID No.:	21567	Month:	October	Year:	2014	PWS ID	

TEST PARAMETERS & ADDITIONAL DATA																				DIT CONDITIONS & ADDITIONAL DATA
DIT CONDITIONS & ADDITIONAL DATA	Unit No. 3									Unit No. 4										
	DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month	DIT _{last} date	Pass? Yes/No	C/A Success?	DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month	DIT _{last} date	Pass? Yes/No	C/A Success?		
		16.5	2.8	1.650			9/30/14	YES	NA		16.5	2.8	1.650			9/30/14	YES	NA		
	Optional Data	Filt.Fluc gfd	TMP psi								Optional Data	Filt.Fluc gfd	TMP psi							

PERFORMANCE DATA																					
Date	Unit No. 3										Unit No. 4										Date
	Operational Data						DIT Data				Operational Data						DIT Data				
	Daily Pump. MG	Norm. Flt.Fluc gfd	TMP psi	Norm. Spc.Fluc gfd/psi	Daily Max. mNTU	CIP done? -	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass? -	C/A success? -	Daily Pump. MG	Norm. Flt.Fluc gfd	TMP psi	Norm. Spc.Fluc gfd/psi	Daily Max. mNTU	CIP done? -	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass? -	C/A success? -	
1	1.367	14.3	4.6	3.15	38		18.3	0.570	YES	NA	1.359	14.4	0.8	18.70	29		18.3	0.570	YES	NA	1
2	1.332	14.3	4.4	3.24	37		18.3	0.580	YES	NA	1.358	14.4	0.8	18.46	34		18.5	0.540	YES	NA	2
3	1.264	14.3	4.5	3.17	32		18.1	0.570	YES	NA	1.234	14.4	0.8	17.52	25		18.3	0.520	YES	NA	3
4	1.321	14.4	4.7	3.07	42		18.0	0.570	YES	NA	1.328	14.4	0.9	16.18	22		18.3	0.500	YES	NA	4
5	1.286	14.3	4.6	3.09	44		18.1	0.570	YES	NA	1.293	14.8	0.9	15.91	24		18.4	0.490	YES	NA	5
6	1.344	14.3	4.7	3.08	27		18.1	0.590	YES	NA	1.333	14.4	0.9	16.53	25		18.5	0.500	YES	NA	6
7	1.280	14.3	4.5	3.22	30		18.1	0.590	YES	NA	1.278	14.5	0.8	17.27	28		18.4	0.520	YES	NA	7
8	1.308	14.3	4.7	3.04	37		18.2	0.580	YES	NA	1.340	14.4	0.9	16.56	34		18.6	0.490	YES	NA	8
9	1.299	14.3	4.4	3.23	33		18.2	0.580	YES	NA	1.231	14.4	0.8	17.33	34		18.5	0.500	YES	NA	9
10	1.374	14.3	4.8	2.97	35		18.2	0.590	YES	NA	1.310	14.5	0.9	15.63	39		18.6	0.480	YES	NA	10
11	1.280	14.2	4.8	2.93	32		18.1	0.580	YES	NA	1.355	14.6	1.0	14.17	34		18.4	0.470	YES	NA	11
12	1.233	14.2	5.4	2.63	42		18.1	0.540	YES	NA	1.240	14.3	1.1	13.48	30		18.4	0.450	YES	NA	12
13	1.287	14.2	5.2	2.72	42		18.1	0.560	YES	NA	1.320	14.4	1.1	13.19	30		18.4	0.450	YES	NA	13
14	1.235	14.2	5.7	2.48	53		18.2	0.550	YES	NA	1.277	14.7	1.2	12.44	32		18.5	0.440	YES	NA	14
15	1.302	14.2	5.5	2.57	29		18.3	0.540	YES	NA	1.325	14.6	1.2	12.45	36		18.6	0.440	YES	NA	15
16	1.269	14.2	5.7	2.47	57		18.2	0.540	YES	NA	1.280	14.7	1.2	12.53	31		18.5	0.440	YES	NA	16
17	1.336	14.2	5.7	2.47	46		18.2	0.550	YES	NA	1.325	14.3	1.1	12.54	35		18.5	0.450	YES	NA	17
18	1.226	14.1	6.2	2.29	49		18.3	0.530	YES	NA	1.226	14.1	6.2	2.29	40		18.5	0.440	YES	NA	18
19	1.340	14.2	6.4	2.21	50		18.3	0.520	YES	NA	1.332	14.4	1.3	11.50	35		18.6	0.430	YES	NA	19
20	1.216	14.2	6.3	2.25	33		18.3	0.540	YES	NA	1.199	14.3	1.2	12.25	32		18.6	0.430	YES	NA	20
21	1.421	14.2	6.3	2.27	43		18.2	0.560	YES	NA	1.434	14.8	1.3	11.82	40		18.6	0.440	YES	NA	21
22	1.076	14.2	5.6	2.55	29	YES	18.1	0.580	YES	NA	1.257	14.4	1.2	12.09	31		18.5	0.440	YES	NA	22
23	1.301	14.2	5.9	2.40	29		18.2	0.560	YES	NA	1.320	14.4	1.2	12.16	26		18.5	0.450	YES	NA	23
24	1.221	14.3	5.7	2.51	57		18.2	0.580	YES	NA	1.249	14.4	1.1	12.63	31		18.6	0.450	YES	NA	24
25	1.490	14.4	6.2	2.33	32		18.2	0.590	YES	NA	1.688	15.3	1.3	11.64	53		18.6	0.450	YES	NA	25
26	1.642	14.2	5.8	2.44	29		18.1	0.584	YES	NA	1.523	14.3	1.1	13.03	35		18.6	0.460	YES	NA	26
27	1.286	14.2	5.9	2.41	75		18.2	0.570	YES	NA	1.366	14.5	1.2	12.52	31		18.6	0.440	YES	NA	27
28	1.346	14.4	6.1	2.38	45		18.1	0.590	YES	NA	1.341	14.5	1.2	12.48	40		18.6	0.440	YES	NA	28
29	1.239	14.3	6.0	2.36	37		18.0	0.580	YES	NA	1.245	14.8	1.3	11.82	28		18.5	0.430	YES	NA	29
30	1.337	14.3	6.1	2.33	32		18.1	0.570	YES	NA	1.367	14.4	1.2	12.28	25		18.4	0.440	YES	NA	30
31	1.210	14.4	6.1	2.36	31		18.2	0.550	YES	NA	1.257	14.8	1.2	11.94	28		18.5	0.430	YES	NA	31

SUMMARY			Unit No. 3	Unit No. 4	SUMMARY
	IIT	Number of days with DIT triggered by high turbidity or particle count	0	0	
		Number of days with a monitoring violation	0	0	
	DIT	Number of days with failure to pass a DIT	0	0	
		Number of days with a treatment technique violation	0	0	
	Comments	General Remarks	Additional Comments	Additional Comments	

SUBMITTED BY:		Certificate No. and Grade:	WO0023530, A Surface	Date:	November 10, 2014	SUBMITT
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MEMBRANE MONTHLY OPERATING REPORT
 FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
 OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
Pressure Decay Rate Direct Integrity Tests (cont.)

WATER M NAME: City of Wichita Falls PLANT NAME OR NUMBER: Cypress DPR (Microfiltration/RO)
 No.: 2430001 Plant ID No.: 21567 Month: October Year: 2014

TEST PARAMETERS & ADDITIONAL DATA																			
Unit No. 5										Unit No. 6									
DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month	DIT _{last} date	Pass? Yes/No	C/A Success?		DIT Cond'ns	P _{test} psi	LRC -	UCL psi/min		Prev. Month	DIT _{last} date	Pass? Yes/No	C/A Success?	
	16.5	2.8	1.650			9/30/14	YES	NA											
Optional Data	Filt.Flux gfd	TMP psi								Optional Data	Filt.Flux gfd	TMP psi							

PERFORMANCE DATA																			
Unit No. 5										Unit No. 6									
Operational Data						DIT Data				Operational Data						DIT Data			
Daily Pump. MG	Norm. Filt.Flux gfd	TMP psi	Norm. Spc.Flux gfd/psi	Daily Max. mNTU	CIP done? -	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass? -	C/A success? -	Daily Pump. MG	Norm. Filt.Flux gfd	TMP psi	Norm. Spc.Flux gfd/psi	Daily Max. mNTU	CIP done? -	P _{initial} psi	ΔP _{test} /Δt psi/min	DIT pass? -	C/A success? -
0.972	14.3	1.9	7.45	25		18.9	0.370	YES	NA										
1.275	14.3	2.0	7.12	15		19.0	0.370	YES	NA										
1.335	14.3	2.0	7.20	18		18.8	0.370	YES	NA										
1.262	14.3	2.1	6.76	15		18.8	0.340	YES	NA										
1.326	14.3	2.1	6.94	16		18.8	0.360	YES	NA										
1.271	14.3	2.1	6.99	17		18.9	0.360	YES	NA										
1.376	14.3	2.0	7.17	18		18.9	0.380	YES	NA										
1.248	14.3	2.0	7.04	14		19.0	0.370	YES	NA										
1.336	14.3	2.0	7.16	27		19.0	0.380	YES	NA										
0.823	14.4	1.7	8.36	25		16.7	1.000	YES	NA										
1.289	14.2	1.8	7.75	21		17.6	0.750	YES	NA										
1.226	14.2	1.9	7.42	30		18.0	0.620	YES	NA										
1.328	14.2	2.0	7.01	17		18.1	0.600	YES	NA										
1.202	14.3	2.1	6.87	25		18.3	0.550	YES	NA										
1.312	14.2	2.1	6.65	28		18.4	0.530	YES	NA										
1.238	14.2	2.1	6.78	18		18.4	0.510	YES	NA										
1.327	14.2	2.2	6.43	24		18.5	0.500	YES	NA										
1.225	14.3	2.2	6.38	22		18.5	0.500	YES	NA										
1.246	14.2	2.5	5.78	21		18.6	0.460	YES	NA										
1.308	14.2	2.3	6.31	25		18.6	0.470	YES	NA										
1.318	14.3	2.4	6.04	31		18.6	0.470	YES	NA										
1.314	14.2	2.3	6.29	23		18.5	0.480	YES	NA										
1.226	14.2	2.3	6.10	23		18.6	0.470	YES	NA										
1.312	14.3	2.3	6.32	18		18.6	0.470	YES	NA										
1.564	14.5	2.4	6.17	29		18.6	0.470	YES	NA										
1.620	14.3	2.3	6.15	16		18.6	0.460	YES	NA										
1.265	14.2	2.2	6.50	19		18.6	0.480	YES	NA										
1.228	14.4	2.4	6.03	16		18.7	0.440	YES	NA										
1.331	14.3	2.3	6.30	27		18.5	0.430	YES	NA										
1.367	14.4	1.2	12.28	18		18.4	0.440	YES	NA										
1.297	14.6	2.3	6.24	18		18.6	0.420	YES	NA										

		Unit No. 5	Unit No. 6
IIT	Number of days with DIT triggered by high turbidity or particle count	0	
	Number of dates with monitoring violation	0	
DIT	Number of dates with failure to pass DIT	0	
	Number of dates with treatment technique violation	0	
Comments	General Remarks	Additional Comments	Additional Comments

ED BY: _____ Certificate No. and Grade: W00023530, A Surface Date: November 10, 2014

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

LT2ESWTR Summary Page

PUBLIC WATER

SYSTEM NAME: City of Wichita Falls

PLANT NAME

OR NUMBER: Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001

Plant ID No.: 21567

Month: October

Year: 2014

Note: Indicate the treatment processes in each train. (see comment)	TREATMENT TECHNOLOGIES																
	PRETREATMENT CREDITS				FILTRATION TECHNOLOGY CREDITS						ENHANCED PERFORMANCE CREDITS		DISINFECTION TECHNOLOGY CREDITS			OTHER TREATMENT CREDITS	
	Riverbank Filtration	Presed. with Coagul.	Two-stage Lime Softening	Conventional Sedimentation or Clarification	Conventional Granular Media Filters	Bag or Cartridge Filtration	Two-Stage Filtration	Membrane Filtration (PBT)	Membrane Filtration (QBT)	Membrane Filtration (MBT)	Enhanced CFE Perform.	Optimized IFE Perform.	Crypto Chemical Disinfect.	UV Disinfect. (ISA)	UV Disinfect. (CDA)	Watershed Protection	Perform. Demon.
	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	TRUE			TRUE	TRUE	FALSE	FALSE		FALSE	TRUE
Overall				TRUE	TRUE			TRUE			TRUE	TRUE					TRUE
Train 1																	
Train 2																	
Train 3																	
Train 4																	
Train 5																	
1								2.80									0.50
2								2.80									0.50
3								2.80									0.50
4								2.80									0.50
5								2.80									0.50
6								2.80									0.50
7								2.80									0.50
8								2.80									0.50
9								2.80									0.50
10								2.80									0.50
11								2.80									0.50
12								2.80									0.50
13								2.80									0.50
14								2.80									0.50
15								2.80									0.50
16				0.50	2.50			2.80			0.00	1.00					0.50
17								2.80									0.50
18								2.80									0.50
19								2.80									0.50
20								2.80									0.50
21								2.80									0.50
22								2.80									0.50
23								2.80									0.50
24								2.80									0.50
25								2.80									0.50
26								2.80									0.50
27								2.80									0.50
28								2.80									0.50
29								2.80									0.50
30								2.80									0.50
31								2.80									0.50
MIN				0.5	2.5			2.80			0.0	1.0					0.5

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

LT2ESWTR Summary Page (cont)

PUBLIC WATER

SYSTEM NAME: City of Wichita Falls

PLANT NAME

OR NUMBER: Cypress DPR (Microfiltration/RO)

PWS ID No.: 2430001

Plant ID No.: 21567

Month: October

Year: 2014

GIARDIA AND CRYPTOSPORIDIUM TREATMENT CREDITS												GIARDIA INACTIVATION CREDITS						VIRAL INACTIVATION CREDITS						
	Total Daily Credit By Train						Total Daily Bin 3 & 4 Credit by Train						Total Daily Inactivation Credit By Train						Total Daily Inactivation Credit by Train					
Overall						Minimum						Minimum						Minimum						Minimum
Train 1	TRUE						TRUE						TRUE						TRUE					
Train 2		FALSE						FALSE						FALSE						FALSE				
Train 3			FALSE						FALSE						FALSE						FALSE			
Train 4				FALSE						FALSE						FALSE						FALSE		
Train 5					FALSE						FALSE						FALSE						FALSE	
1	7.30					7.30	2.80					2.80	8.42					8.42	18.10					18.10
2	7.30					7.30	2.80					2.80	8.13					8.13	16.71					16.71
3	7.30					7.30	2.80					2.80	7.03					7.03	14.19					14.19
4	7.30					7.30	2.80					2.80	7.85					7.85	15.63					15.63
5	7.30					7.30	2.80					2.80	6.70					6.70	13.51					13.51
6	7.30					7.30	2.80					2.80	8.42					8.42	16.64					16.64
7	7.30					7.30	2.80					2.80	8.95					8.95	17.88					17.88
8	7.30					7.30	2.80					2.80	8.95					8.95	17.88					17.88
9	7.30					7.30	2.80					2.80	7.75					7.75	15.50					15.50
10	7.30					7.30	2.80					2.80	5.94					5.94	11.88					11.88
11	7.30					7.30	2.80					2.80	6.68					6.68	13.49					13.49
12	7.30					7.30	2.80					2.80	6.50					6.50	13.10					13.10
13	7.30					7.30	2.80					2.80	6.61					6.61	13.33					13.33
14	7.30					7.30	2.80					2.80	5.94					5.94	11.95					11.95
15	7.30					7.30	2.80					2.80	5.24					5.24	10.52					10.52
16	7.30					7.30	2.80					2.80	7.25					7.25	14.61					14.61
17	7.30					7.30	2.80					2.80	4.36					4.36	8.78					8.78
18	7.30					7.30	2.80					2.80	5.75					5.75	11.61					11.61
19	7.30					7.30	2.80					2.80	6.26					6.26	12.61					12.61
20	7.30					7.30	2.80					2.80	6.74					6.74	13.44					13.44
21	7.30					7.30	2.80					2.80	6.76					6.76	13.59					13.59
22	7.30					7.30	2.80					2.80	6.19					6.19	12.48					12.48
23	7.30					7.30	2.80					2.80	7.19					7.19	14.44					14.44
24	7.30					7.30	2.80					2.80	6.80					6.80	13.65					13.65
25	7.30					7.30	2.80					2.80	6.39					6.39	12.89					12.89
26	7.30					7.30	2.80					2.80	6.90					6.90	13.88					13.88
27	7.30					7.30	2.80					2.80	7.08					7.08	14.25					14.25
28	7.30					7.30	2.80					2.80	6.55					6.55	13.17					13.17
29	7.30					7.30	2.80					2.80	6.22					6.22	12.53					12.53
30	7.30					7.30	2.80					2.80	5.14					5.14	10.32					10.32
31	7.30					7.30	2.80					2.80	5.73					5.73	11.54					11.54
MIN	7.30					7.30	2.80					2.80	4.36					4.36	8.78					8.78
AVG	7.30					7.30	2.80					2.80	6.79					6.79	13.68					13.68
MAX	7.30					7.30	2.80					2.80	4.36					4.36	8.78					8.78

Redaction Log

Redaction Reasons by Exemption

Reason	Description	Pages (Count)
		1(1)