

# Texas Commission on Environmental Quality

## Investigation Report

### City of Wichita Falls

#### CN600129316

### CITY OF WICHITA FALLS

RN105598759

Investigation # 948337

Incident #

Investigator: JENNELLE CRANE

Site Classification

SW &gt;10K CONNECTION

Conducted: 06/27/2011 -- 06/29/2011

SIC Code: 4941

Program(s): PUBLIC WATER  
SYSTEM/SUPPLY

Investigation Type : Compliance Investigation

Location : MULT SITES

Additional ID(s) : 2430001

Address: 4801 BIG ED NEAL DR;  
WICHITA FALLS, TX 76307

Activity Type : REGION 03 - ABILENE

PWSCCISWCM - PWS CCI SW - Community

Principal(s) :

| Role       | Name                  |
|------------|-----------------------|
| RESPONDENT | CITY OF WICHITA FALLS |

Contact(s) :

| Role                          | Title                                              | Name                  | Phone               |
|-------------------------------|----------------------------------------------------|-----------------------|---------------------|
| Notified                      | SUPERINTENDENT<br>WATER<br>SOURCE/PURIFICATI<br>ON | MR MARK               | Fax (940) 691-4121  |
|                               |                                                    | SOUTHARD              | Work (940) 691-1153 |
| Regulated Entity Mail Contact | MAYOR                                              | HON GLENN             | Fax (940) 691-4121  |
|                               |                                                    | BARHAM                | Work (940) 691-1153 |
| Participated in Investigation | MAINTENANCE<br>SUPERVISOR                          | MR BUTCH<br>LEINWEBER | Work (940) 691-1153 |
| Participated in Investigation | DIRECTOR OF<br>PUBLIC UTILITY<br>OPERATIONS        | MR DANIEL NIX         | Fax (940) 691-4121  |
|                               |                                                    |                       | Work (940) 691-1153 |
| Participated in Investigation | SUPERINTENDENT<br>WATER<br>SOURCE/PURIFICATI<br>ON | MR MARK               | Fax (940) 691-4121  |
|                               |                                                    | SOUTHARD              | Work (940) 691-1153 |

Other Staff Member(s) :

| Role        | Name           |
|-------------|----------------|
| QA Reviewer | CLIFFORD MOORE |
| Supervisor  | CLIFFORD MOORE |

### Associated Check List

Checklist Name

PWS EMERGENCY POWER INITIATIVE  
PWS INVESTIGATION - EQUIPMENT MONITORING  
AND SAMPLING  
PWS STANDARD FIELD

Unit Name

City of Wichita Falls  
City of Wichita Falls  
City of Wichita Falls

Investigation Comments :

CITY OF WICHITA FALLS  
WICHITA COUNTY  
PWS ID NO. 2430001  
CCN NO. P0856

INTRODUCTION

The City of Wichita Falls Public Water Supply System was investigated by Ms. Jennelle Crane, Texas Commission on Environmental Quality Abilene Region Investigator, on June 27-29, 2011, to determine compliance with applicable public water supply requirements. Mr. Mark Southard, Water Source/Purification Superintendent, was notified of the investigation on June 16, 2011. The investigation was conducted with Mr. Southard, Mr. Butch Leinweber, Operator, and Mr. Daniel Nix, Public Works Director. The exit interview was conducted with Mr. Southard and Mr. Nix on June 29, 2011. A customer satisfaction survey was provided on June 29, 2011. A Notice of Violation (NOV) letter was sent to the facility to facilitate compliance.

CONTACT AND GENERAL FACILITY INFORMATION

SUPERIOR YES  
COMMUNITY YES

RESPONSIBLE OFFICIAL

The Honorable Glenn Barham, Mayor  
Phone: 940-761-7615 City Hall

Public Works Director  
Mr. Daniel Nix

Water Source /Purification Superintendent  
Mr. Mark Southard

Cypress WTP  
Phone: 940-691-1153  
Fax: 940-691-4121

Jasper WTP  
Phone: 940-322-638

PHYSICAL ADDRESSES

City Hall  
1300 7th Street  
Wichita Falls, Texas 76307

Cypress WTP  
4801 Big Edd Neal Drive  
Wichita Falls, Texas 76310

Jasper WTP  
2109 Burnett Road  
Wichita Falls, Texas 76301

MAILING ADDRESS

PO Box 1431  
Wichita Falls, Texas 76307

CERTIFIED OPERATORS

|                |                    |
|----------------|--------------------|
| Daniel Nix     | "A" Water Operator |
| Jerry Phillips | "A" Water Operator |
| Tommy Langford | "A" Water Operator |

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|                          |                    |
|--------------------------|--------------------|
| Mark Southard            | "A" Water Operator |
| Michael Miller           | "B" Surface Water  |
| Dennis Patterson         | "B" Surface Water  |
| Robert Phillips          | "B" Surface Water  |
| Tony Whitley             | "B" Surface Water  |
| Steven Willett           | "B" Surface Water  |
| Charles Wright           | "B" Surface Water  |
| Luke Baker               | "B" Surface Water  |
| Gayland Bragg            | "B" Surface Water  |
| Eddie Browning           | "B" Surface Water  |
| Isaac Devore             | "B" Surface Water  |
| Paul Steve Fisher        | "B" Surface Water  |
| Steven Halloway          | "B" Surface Water  |
| David Carl Pace          | "C" Surface Water  |
| Gerald Smith             | "C" Surface Water  |
| Sarai Smith              | "C" Surface Water  |
| Mark Soilz               | "C" Surface Water  |
| "Pancho" Eustacio Vela   | "C" Surface Water  |
| William Brandon Davis    | "C" Surface Water  |
| Trever Heskett           | "C" Surface Water  |
| "Butch" George Leinweber | "C" Surface Water  |
| "Mac" Calvin McPherson   | "C" Surface Water  |
| Patrick Babineaux        | "C" Distribution   |
| TJ Newell                | "D" Water          |
| Eric Stevens             | "D" Water          |
| Adam Harmon              | "D" Water          |
| Karen Menard             | "D" Water          |

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| AREA SERVED         | City of Wichita Falls and surrounding areas                            |
| SUPPLIER AND SOURCE | City of Wichita Falls/Lake Arrowhead, Lake Kickapoo, Lake Kemp/Surface |
| NEAREST PWS         | 12 miles to the City of Iowa Park                                      |
| TYPE OF I/C         | Supply and blending for 13 PWS systems                                 |

|                      |                       |
|----------------------|-----------------------|
| MICROBIOLOGICAL      |                       |
| SAMPLES REQUIRED     | No. 100               |
| SAMPLES SUBMITTED    | No. 100               |
| SITING PLAN          | YES (Monitoring Plan) |
| RAW SAMPLES REQUIRED | NO                    |

**CHEMICAL**

Based on the most recent chemical analysis this system meets the commission's chemical requirements.

**GENERAL FACILITY AND PROCESS INFORMATION**

The City of Wichita Falls has three raw water sources: Lake Arrowhead, Lake Kemp, and Lake Kickapoo.

Typically, water from Lake Kickapoo (2 @ 10,417 GPM) and Lake Arrowhead (2 @ 25,000 GPM) is pumped from the surface intakes to a pre-sedimentation basin system (the pre-sedimentation basins are called "SECONDARY RESERVOIR" by the city) and a raw water transfer pump station located at 4900 Fairway Blvd south of the Cypress Water Treatment Plant (WTP). Raw water is discharged into a 25.0 MG pre-sedimentation basin. This basin overflows into an adjoining 50.0 MG pre-sedimentation basin. A third pre-sedimentation basin (37.6 MG) is also at this site for extra storage and all three are manifolded together.

Five raw water transfer pumps at the raw water transfer pump station (2 @ 10,417 GPM, 2 @ 25,000 GPM, and 1 @ 1600 GPM) take suction from the largest of the three basins and discharge to the Cypress WTP.

Raw water gravity flows from the secondary reservoir to the Jasper WTP. It has been reported that the Jasper line creates a hydraulic restriction which limits this flow to 24 MGD.

Raw water from Lake Kemp through a canal system discharges to a pre-sedimentation basin located west of Wichita Falls on Headquarters Road. Three variable speed vertical turbine pumps (5200 GPM each) take suction from the pre-sedimentation basin and discharge to a center loaded radial flow clarifier and membrane plant located at the Cypress WTP site.

#### CYPRESS SURFACE WATER TREATMENT PLANTS

##### 2005 PLANT

###### Conventional/Membrane/RO Plant

The Cypress RO Membrane plant receives water from Lake Kemp Headquarters Road Pump Station (HRPS). The HRPS pumps 27 MGD of water from the reservoir to the Cypress RO Membrane Plant through a 42-inch pipeline approximately 65,000 feet long. Chlorine dioxide is injected into the pipeline at the effluent of the HRPS to maximize detention time. At the Cypress RO Membrane plant, water receives further treatment through solids contact clarifier, microfiltration, reverse osmosis, and then is mixed with the Cypress 1961 WTP water in the Cypress 1961 WTP 0.12 MG Clearwell\*. The disinfection involves injecting chlorine dioxide (ClO<sub>2</sub>) 65,000 feet upstream of the Cypress RO Membrane Plant. ClO<sub>2</sub> residual is monitored 85 feet downstream of the ClO<sub>2</sub> injection point; 2,310 feet downstream of the injection point and finally at the influent of the Cypress RO Membrane plant. Chloramine (NH<sub>2</sub>Cl) residual is monitored downstream of the Cypress 1961 0.12 MG Clearwell\*.

\*Once construction on the 2010 plant is complete the water from the 2005 membrane plant will mix in the 0.254 MG Clearwell located after the 2010 plant.

#### CYPRESS 1961, 1987, and 2010 WATER TREATMENT PLANTS

Raw water from Lake Arrowhead or the secondary reservoir discharges into three separate treatment trains at the plant. Chlorine dioxide is injected into the raw water transfer line going to the Cypress plant. System officials refer to these trains as the '61, '87, and '10 plants.

##### 1987 ('87) PLANT

Raw water from either Lake Arrowhead or the secondary reservoir is discharged to the splitter box located at the Cypress Plant Site. Raw water from the splitter box flows into two parshall flumes then to two 0.5 MG up-flow clarifiers (solids contact, sludge recirculation) where ferric sulfate, polymer, lime, anhydrous ammonia, and gas chlorine are injected. Clarified water then flows through a re-carbonation chamber, through four dual media filters, and into a 0.140 MG clearwell. Three high service pumps (3 @ 8.0 MGD each) take suction from the clearwell and discharge to the distribution system. Hydrofluosilicic acid (fluoride) and gas chlorine are added into the clearwell storage. A portion of the water delivered to the city can be diverted to three ground storage tanks located at the plant site (10 MG, 5.0 MG and 3.0 MG).

1961 ('61) PLANT - Raw water from either Lake Arrowhead or the secondary reservoir is discharged to the splitter box located at the Cypress Plant Site. Raw water from the splitter box flows into dual rapid mixer (static mixer), where ferric sulfate, lime, polymer, anhydrous ammonia, and gas chlorine are added. Water then flows through a parshall flume into two parallel straight-flow flocculation/sedimentation basins, collection trough, eight sand and gravel gravity filters, and into a 0.123 MG concrete clearwell. Four service pumps (5.0 MGD, 14.9 MGD and 2 @ 8.0 MGD) (three after project completion) take suction from the clearwell and discharge to the distribution system. Hydrofluosilicic acid (fluoride), gas chlorine, and carbon dioxide are injected prior to the filters. A portion of the water delivered to the city can be diverted to three ground storage tanks located at the plant site (10 MG, 5.0 MG and 3.0 MG).

##### 2010 ('10) PLANT (NOT YET COMPLETED)

Raw water from either Lake Arrowhead or the secondary reservoir is discharged to the splitter box located at the Cypress Plant Site. Raw water from the splitter box flows into a rapid mix/parshall flume where ferric sulfate, polymer, lime, anhydrous ammonia, and gas chlorine are injected. The water flows to a 90-foot diameter clarifier (solids contact, sludge recirculation). Clarified water then flows through a re-carbonation chamber, through five multi-media filters, and

into a 0.254 MG clearwell. Hydrofluosilicic acid (fluoride), gas chlorine and carbon dioxide are injected prior to the filters. Four transfer pumps take suction from the clearwell and discharge to three clearwells located at the plant site (10 MG, 5.0 MG and 3.0 MG). Just prior to the 0.254 MG clearwell, 10 MG of water from the 2005 membrane plant are added to the filtered water.

When construction is complete on the 2010 project, water from the three clearwells (10 MG, 5 MG and 3 MG) will be discharged to the distribution system through five high service pumps.

#### JASPER WATER TREATMENT PLANT

The transfer station pumps raw water from the secondary reservoir is pre-treated with chlorine dioxide at the transfer station prior to being discharged to two separate treatment trains at the Jasper WTP. System officials refer to these trains as the '2005 PLANT and the '51 PLANT.

##### 2005 Accelator Plant

Raw water, pretreated with chlorine dioxide, flows into a 14.0 MGD Accelator solids contact, slurry recirculation clarifier. Ferric sulfate and polymer is injected into the raw water line going to the Accelator. Lime, anhydrous ammonia, and gas chlorine are added into the central portion of the up-flow unit where rapid mixing and flocculation take place under the skirt of the unit. The clarified water flows upward and is drawn off via radial collectors. The combined settled effluent from the sedimentation basins flows through 12 rapid dual media declining rate gravity filters.

##### 1951 Accelator Plant

Raw water, pretreated with chlorine dioxide, flows into a 14.6 MGD Accelator solids contact, slurry recirculation clarifier. Ferric sulfate and polymer are injected into the raw water line going to the clarifier. Lime, anhydrous ammonia, and gas chlorine are added into the central portion of the up-flow unit where rapid mixing and flocculation take place under the skirt of the unit. The flocculated water flows upward and is drawn off via radial collectors with saw tooth weirs. Clarified water flows through the same 12 filters listed in the 2005 Plant.

Finished water from the 12 filters flows through a distribution box to three clearwells (4.8, 2.7 and 5.0 MG). Four service pumps (8 MGD, 8.6 MGD and 2 @14.9 MGD) take suction from the clearwells and discharge to the distribution system.

#### DISTRIBUTION FLOW AND PRESSURE PLANES

The City of Wichita Falls has four separate pressure planes:

##### CENTRAL - Serves 29,463 connections

Treated water from the Cypress and Jasper WTPs is pumped against the head provided by the Denver Street EST (1.0 MG), the Ninth Street EST (0.5 MG), and the 287 West EST (1.0 MG) which float on the system. The city is capable of bypassing both the 287 West and the Beverly PS's and allowing the North Pressure Plane to back-pressure the Central Pressure Plane. Also, it is possible to shutdown the 287 East PS and open valves to allow water in the East and Central Pressure Planes to combine and augment pressure maintenance in the Central Pressure Plane.

##### NORTH PRESSURE PLANE - serves 2,118 connections

Three (4.0 MGD each) service pumps at the 287 West PS take suction from the line feeding the 1.0 MG elevated storage tank and discharge to the North Pressure Plane: Reilly elevated storage tank (1.0 MG), and Puckett elevated storage tank (1.0 MG). Also, water from the Central Pressure Plane flows via distribution pressure into the 0.5 MG and 0.25 MG ground storage tanks at the North Beverly PS. Three service pumps (3 @ 4.0 MGD) take suction from the ground storage tanks and discharge to the system against the head provided by the Reilly and Puckett elevated storage tanks. The city has the capability to bypass both the 287 West and Beverly PS's and to allow the North Pressure Plane to back-pressure the Central Pressure Plane.

##### EAST PRESSURE PLANE - serves 151 connections

Treated water from the Central Pressure Plane flows by the distribution system pressure into a 0.40 MG GST at the 287 East PS. Two service pumps (2 @ 1.44 MGD) draw from the ground storage tank and discharge to the system against the head provided by the East 287 elevated

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storage tank (0.5 MG). It is also possible to by-pass the 287 East PS and to allow water from East Pressure Plane to provide additional pressure maintenance to the Central Pressure Plane.

WEST PRESSURE PLANE- serves 2,648 connections

Treated water from the Cypress plant flows into the distribution system against the head provided by a 1.70 MG EST.

## RAW WATER PUMPS AND SYSTEM FACILITIES

## RAW WATER PUMPS

| EP SOURCE CODE | LOCATION                 | GPM    |
|----------------|--------------------------|--------|
| 001 S2430001A  | LAKE ARROWHEAD           | 25,000 |
| 001 S2430001A  | LAKE ARROWHEAD           | 25,000 |
| 001 S2430001A  | LAKE ARROWHEAD           | 1,600  |
| 002 S2430001B  | LAKE KICKAPOO            | 10,417 |
| 002 S2430001B  | LAKE KICKAPOO            | 10,417 |
| TOTAL          | 72,434 GPM = 104.305 MGD |        |

## PUMP STATION FACILITIES

| TYPE     | CAPACITY | MATERIAL | PUMP/TYPE   | LOCATION                 |
|----------|----------|----------|-------------|--------------------------|
| Ground   | 0.250 MG | Steel    | 4 MGD/cent  | Beverly PS N. of Hwy 287 |
| Ground   | 0.500 MG | Steel    | 4 MGD/cent  | Beverly PS N. of Hwy 287 |
|          |          |          | 4 MGD/cent  | Beverly PS N. of Hwy 287 |
| Ground   | 0.400 MG | Concrete | 1.44 MGD/VT | Eastside PS              |
|          |          |          | 1.44 MGD/VT | Eastside PS              |
| Elevated | 1.000 MG | Steel    | 4 MGD/cent  | 287 W. PS                |
|          |          |          | 4 MGD/cent  | 287 W. PS                |
|          |          |          | 4MGD/cent   | 287 W. PS                |

## ADDITIONAL STORAGE FACILITIES

| TYPE      | CAPACITY | MATERIAL | LOCATION                                   |
|-----------|----------|----------|--------------------------------------------|
| Clearwell | 0.140 MG | Concrete | Cypress WTP (87 Plant)                     |
| Clearwell | 0.123 MG | Concrete | Cypress WTP (61 Plant)                     |
| Clearwell | 0.254 MG | Concrete | NOT COMPLETED Cypress WTP (2010 Plant)     |
| Clearwell | 3.000 MG | Steel    | Cypress WTP                                |
| Clearwell | 5.000 MG | Steel    | Cypress WTP                                |
| Clearwell | 10.00 MG | Concrete | Cypress WTP                                |
| Clearwell | 2.700 MG | Concrete | Jasper WTP                                 |
| Clearwell | 5.000 MG | Concrete | Jasper WTP                                 |
| Clearwell | 4.800 MG | Concrete | Jasper WTP                                 |
| Elevated  | 0.500 MG | Steel    | Central Ninth Street (9th Street Tower)    |
| Elevated  | 0.500 MG | Steel    | East 287 E (East Tower)                    |
| Ground    | 0.400 MG | Steel    | East 287 East (East GST)                   |
| Elevated  | 1.000 MG | Steel    | Central Denver Street (Denver Tower)       |
| Elevated  | 1.000 MG | Steel    | North Reilly Road (Reilly Tower)           |
| Elevated  | 1.000 MG | Steel    | North Puckett Road (Puckett Tower)         |
| Elevated  | 1.000 MG | Steel    | West 287 West EST (West Tower)             |
| Elevated  | 1.700 MG | Steel    | South Cypress WTP (Kell Tower)             |
| Ground    | 0.250 MG | Steel    | Central North Beverly PS (North Beverly 1) |
| Ground    | 0.500 MG | Steel    | Central North Beverly PS (North Beverly 2) |

Total Elevated Storage 6.7 MG

Total Storage 38.9 MG

## SERVICE PUMPS

| NO. | OUTPUT  | LOCATION   |
|-----|---------|------------|
| 1   | 8.0 MGD | JASPER WTP |
| 2   | 8.6 MGD | JASPER WTP |

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|   |               |                               |
|---|---------------|-------------------------------|
| 3 | 14.9 MGD      | JASPER WTP                    |
| 4 | 14.9 MGD      | JASPER WTP                    |
| 1 | 8.0 MGD (VAR) | CYPRESS WTP (61 Plant Pump A) |
| 2 | 5.0 MGD       | CYPRESS WTP (61 Plant Pump B) |
| 3 | 14.9 MGD      | CYPRESS WTP (61 Plant Pump C) |
| 4 | 8.0 MGD       | CYPRESS WTP (61 Plant Pump D) |
| 5 | 8.0 MGD       | CYPRESS WTP (87 Plant Pump A) |
| 6 | 8.0 MGD       | CYPRESS WTP (87 Plant Pump B) |
| 7 | 8.0 MGD       | CYPRESS WTP (87 Plant Pump C) |
| 1 | 4.0 MGD       | BEVERLY PS                    |
| 2 | 4.0 MGD       | BEVERLY PS                    |
| 3 | 4.0 MGD       | BEVERLY PS                    |
| 1 | 1.44 MGD      | 287 E PS                      |
| 2 | 1.44 MGD      | 287 E PS                      |
| 1 | 4.0 MGD       | 287 W PS                      |
| 2 | 4.0 MGD       | 287 W PS                      |
| 3 | 4.0 MGD       | 287 W PS                      |

Total Service Pump Capacity      133.18 MGD    92,486 GPM

## CONNECTIONS AND POPULATION REPORTED DURING SURVEY

Retail= 34,380 connections      =20,628 GPM    =29.7 MGD

Wholesale Contract Amount 100%    = 11,250 GPM    = 16.2 MGD

TOTAL PRODUCTION REQUIREMENT    =45.9 MGD

TOTAL PRODUCTION PROVIDED        = 65 MGD

POPULATION RETAIL                  = 101,314

POPULATION WHOLE SALE    = 27,281

| SYSTEM CAPACITIES |                              | REQUIRED   | PROVIDED   |
|-------------------|------------------------------|------------|------------|
| PRODUCTION        | 0.6 GPM X 34,380 connections | 20,628 GPM |            |
| CONTRACTS         | 16.2 MGD/1440                | 11,250 GPM |            |
| TOTAL             | 31,878 GPM                   | 45,365 GPM |            |
| ELEVATED          | 100 GAL X 34,380 connections | 3.44 MG    | 6.7 MG     |
| TOTAL STORAGE     | 200 GAL X 34,380 connections | 6.9 MG     | 38.9 MG    |
| SP CAPACITY       | 0.6 GPM X 34,380 connections | 20,628 GPM | 92,486 GPM |
| SP PEAKING FACTOR | 38.21 MGD/1440 X 1.25        | 33,168 GPM | 82139 GPM  |

## MONTHLY OPERATING REPORT DATA

MAXIMUM DAY      38.21 MGD

AVERAGE DAY      20.54 MGD      June 2010 - May 2011

## CHLORINE AND PRESSURE FIELD TESTS

| Location         | Chlorine  | Pressure |
|------------------|-----------|----------|
| Reilly Road EST  | 4.2 mg/L  | 56 psi   |
| Puckett Road EST | >2.2 mg/L | 55 psi   |
| 287 W EST        | 5.2 mg/L  | 97 psi   |
| N. Beverly PS    | 2.34 mg/L | 85 psi   |
| 9th EST          |           | 58 psi   |
| 287 East         | 2.83 mg/L | 70 psi   |

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TREATED WATER SALES  
SYSTEMS TO WHICH WICHITA FALLS SUPPLIES ALL WATER

| SYSTEM NAME             | CONTRACTED AMOUNT |
|-------------------------|-------------------|
| Sheppard AFB            | 6.0 MGD           |
| Archer County MUD1      | 0.150 MGD         |
| City of Holliday        | 0.75 MGD          |
| City of Lakeside City   | 0.387 MGD         |
| Town of Pleasant Valley | 0.203 MGD         |
| City of Scotland        | 0.355 MGD         |
| City of Iowa Park       | 2.500 MGD         |

SYSTEMS USING WICHITA FALLS WATER TO SUPPLEMENT OR BLEND

| SYSTEM NAME         | CONTRACTED AMOUNT |
|---------------------|-------------------|
| City of Burkburnett | 3.870 MGD         |
| Dean Dale WSC       | 0.825 MGD         |
| Friberg-Cooper WSC  | 0.339 MGD         |
| Wichita Valley WSC  | 0.850 MGD         |

RAW WATER SALES

| SYSTEM NAME                    | CONTRACTED AMOUNT |
|--------------------------------|-------------------|
| City of Archer City            | 0.600 MGD         |
| Arrowhead Ranch Property (RRA) | 0.200 MGD         |
| City of Henrietta              | 0.268 MGD         |
| City of Olney                  | 1.000 MGD         |
| Lake Arrowhead(RRA)            | 0.516 MGD         |
| Wichita Valley WSC             | 1.161 MGD         |
| Windthorst WSC                 | 0.750 MGD         |

>10,000 POP  
INDIVIDUAL FILTER MONITORING= YES  
Online and Recorder (each) = YES  
15 minute recording (each) = YES  
ANY > 0.5 NTU readings at 4 hours  
after being returned to service = NA  
ANY > 1.0 NTU readings = NA  
IDENTIFY CAUSE = NA  
FILTER PROFILE REPORT = NA  
FILTER ASSESSMENT = NA

SWTP FACILITIES  
JASPER 2005 PLANT

RAW WATER PUMPS  
LAKE ARROWHEAD AND KICKAPOO  
5  
2 @ 25,000 GPM  
2 @ 10,417 GPM  
1 @ 1600 GPM

TOTAL CAPACITY = 72,434 GPM  
GPM w/largest out = 47,434 GPM  
MGD = 68.305 MGD

RAPID MIX  
Mechanical rapid mix equipment

FLOCCULATION EQUIPMENT  
Mechanical flocculation equipment Lime Softening

SEDIMENTATION  
TOTAL VOLUME = 1,166,666 gallons  
DETENTION TIME = 120 min  
GPM = 9722 GPM  
MGD = 14.0 MGD

TRANSFER PUMPS NA

FILTER CAPACITY  
(Gravity) (Dual Media) (36" Depth)  
(Declining Rate)  
6 @ 22' X 24' 6 @ 25' X 28.8'  
TOTAL FT2 = 7,488  
GPM X FT2 = 5  
TOTAL GPM = 37,440  
TOTAL MGD = 53.91 MGD

MISCELLANEOUS NA

TREATMENT PLANT CAPACITY  
NORMAL RATED DESIGN FLOW = 14.0 MGD  
LIMITING COMPONENT = SEDIMENTATION  
SYSTEM > 7,500 MGD FILTERS NOT A FACTOR

CLEARWELL CAPACITY  
TOTAL VOLUME = 12.5 MG PROVIDED CAPACITY  
0.05% X DESIGN CAP. = 0.7 MG REQUIRED CAPACITY  
OR  
35 OR 50 GAL. X CONN. = NA REQUIRED CAPACITY

TOTAL PLANT CAPACITY = 14.0 MGD

SWTP FACILITIES  
JASPER '51 PLANT

RAW WATER PUMPS  
LAKE ARROWHEAD AND KICKAPOO  
5 = 2 @ 25,000 GPM  
1 @ 1600 GPM  
2 @ 10,417 GPM  
TOTAL CAPACITY = 72,434 GPM  
GPM w/largest out = 47,434 GPM  
MGD = 68.305 MGD

RAPID MIX  
Mechanical rapid mix equipment

FLOCCULATION EQUIPMENT  
Mechanical flocculation equipment Lime Softening

SEDIMENTATION  
1 Upflow, Solids Contact, Sludge Recirculation Clarification Basin  
(Approved 60 min. Detention Time)  
= 1 @ 77' X 19.5 SWD = 679,215 gallons  
  
TOTAL VOLUME = 679,215 gallons  
DETENTION TIME = 679,215 gallons/60 min. (Austin Approval - 60 min.)

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|     |              |                                       |
|-----|--------------|---------------------------------------|
| GPM | = 11,320 gpm |                                       |
| MGD | = 16.301 MGD | (Austin Max. Approval for 12.600 MGD) |

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TRANSFER PUMPS NA

FILTER CAPACITY

(Gravity) (Dual Media) (36" Depth)

(Declining Rate)

6 @ 22' X 24' 6 @ 25' X 28.8'

TOTAL FT2 = 7,488

GPM X FT2 = 5

TOTAL GPM = 37,440

TOTAL MGD = 53.91 MGD

MISCELLANEOUS NA

TREATMENT PLANT CAPACITY

NORMAL RATED DESIGN FLOW = 12.600 MGD

LIMITING COMPONENT = SEDIMENTATION/Austin Approval 12.6 MGD

SYSTEM > 7.500 MGD FILTERS NOT A FACTOR

CLEARWELL CAPACITY

TOTAL VOLUME = 12.5 MG PROVIDED CAPACITY

0.05% X DESIGN CAP. = 0.630 MG REQUIRED CAPACITY

OR

35 OR 50 GAL. X CONN. = NA REQUIRED CAPACITY

TOTAL PLANT CAPACITY = 12.600 MGD

CYPRESS '61 PLANT

RAW WATER PUMPS

LAKE ARROWHEAD AND KICKAPOO

5 = 2 @ 25,000 GPM

1 @ 1600 GPM

2 @ 10,417 GPM

TOTAL CAPACITY = 72,434 GPM

GPM w/largest out = 47,434 GPM

MGD = 68.305 MGD

RAPID MIX

Mechanical rapid mix equipment

FLOCCULATION EQUIPMENT

Mechanical flocculation equipment Lime Softening

SEDIMENTATION

2 Straight Flow Basins = 2 @ 200' X 100' X 15.5' SWD = 4,637,600 gallons

TOTAL VOLUME = 4,637,600 gallons

DETENTION TIME = 4,637,600 gallons/240 min. (Lime Softening - 240 min.)

GPM = 19,323 GPM

MGD = 27.825 MGD

TRANSFER PUMPS NA

FILTER CAPACITY

(Gravity) (Rapid Sand) (36" Depth)

(Constant Rate)

4 @ 32.24' X 47.4' Sand/Gravel

TOTAL FT2 = 6,113

GPM X FT2 = 2

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TOTAL GPM = 12,225  
TOTAL MGD = 17.605 MGD With 1 Filter Out = 13.204 MGD

MISCELLANEOUS NA

TREATMENT PLANT CAPACITY  
NORMAL RATED DESIGN FLOW = 13.204 MGD  
LIMITING COMPONENT = FILTERS WITH 1 OUT  
SYSTEM > 7.500 MGD

CLEARWELL CAPACITY  
TOTAL VOLUME = 18.1MG PROVIDED CAPACITY  
0.05% X DESIGN CAP. = 0.660 MG REQUIRED CAPACITY  
OR  
35 OR 50 GAL. X CONN. = NA REQUIRED CAPACITY

TOTAL PLANT CAPACITY = 13.204 MGD

CYPRESS '87 PLANT

RAW WATER PUMPS  
LAKE ARROWHEAD AND KICKAPOO  
5 = 2 @ 25,000 GPM  
1 @ 1600 GPM  
2 @ 10,417 GPM  
TOTAL CAPACITY = 72,434 GPM  
GPM w/largest out = 47,434 GPM  
MGD = 68.305 MGD

RAPID MIX  
Mechanical rapid mix equipment

FLOCCULATION EQUIPMENT  
Mechanical flocculation equipment Lime Softening

SEDIMENTATION  
2 Circular Upflow, Solids Contact, Sludge Recirculation Basins  
= 2 @ 74' X 22' SWD = 1,415,493 gallons

TOTAL VOLUME = 1,415,493 gallons  
DETENTION TIME = 1,415,493 gallons/120 min. (Solids Contact - 120 min.)  
GPM = 11,796 gpm  
MGD = 16.986 MGD

TRANSFER PUMPS NA

FILTER CAPACITY  
(Gravity) (Dual Media) (Anthracite/Sand) (36" Depth)  
(Constant Rate)  
4 @ 25' X 28.8'  
TOTAL FT2 = 2,880  
GPM X FT2 = 5 (Dual Media)  
TOTAL GPM = 14,400  
TOTAL MGD = 20.736 MGD With 1 Filter Out = 10,800 gpm = 15.552 MGD

MISCELLANEOUS NA

TREATMENT PLANT CAPACITY  
NORMAL RATED DESIGN FLOW = 15.552 MGD

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LIMITING COMPONENT = FILTERS WITH 1 OUT  
SYSTEM > 7.500 MGD

CLEARWELL CAPACITY  
TOTAL VOLUME = 18.1 MG PROVIDED CAPACITY  
0.05% X DESIGN CAP. = 0.778 MG REQUIRED CAPACITY  
OR  
35 OR 50 GAL. X CONN. = NA REQUIRED CAPACITY  
TOTAL PLANT CAPACITY = 15.552 MGD

CYPRESS PLANT  
2005 UPFLOW CLARIFIER/MEMBRANE PLANT/RO PLANT

RAW WATER PUMPS  
LAKE KEMP/ HRPS (12 MG reservoir)  
3 @ 9 MGD  
TOTAL CAPACITY = 27 MGD  
GPM w/largest out = 18 MGD  
MGD = 18 MGD

RAPID MIX  
Mechanical rapid mix equipment in upflow clarifier

FLOCCULATION EQUIPMENT  
Upflow clarifier (150' Dia. X 24' SWD TO OVERFLOW)  
Solids contact upflow

SEDIMENTATION  
Upflow clarifier (150' Dia. X 24' SWD TO OVERFLOW)  
Solids contact upflow

MICRO-FILTRATION MEMBRANE PLANT  
27.0 MG flow Plant Capacity

TREATMENT PLANT CAPACITY  
NORMAL RATED DESIGN FLOW = 27.0 MGD  
LIMITING COMPONENT = CLEARWELL STORAGE (SHARES WITH '67 PLANT  
AND AFTER 2010 PLANT IS BUILT WILL SHARE WITH 2010 PLANT)

TOTAL PLANT CAPACITY = 10.0 MGD

CYPRESS '10 PLANT (NOT COMPLETED)

RAW WATER PUMPS  
LAKE ARROWHEAD AND KICKAPOO  
5 = 2 @ 25,000 GPM  
1 @ 1600 GPM  
2 @ 10,417 GPM  
TOTAL CAPACITY = 72,434 GPM  
GPM w/largest out = 47,434 GPM  
MGD = 68.305 MGD

RAPID MIX  
Mechanical rapid mix equipment

FLOCCULATION EQUIPMENT  
Mechanical flocculation equipment Lime Softening

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**SEDIMENTATION**

1 Circular Upflow, Solids Contact, Sludge Recirculation Basins  
= 1 @ 90' X 18.9' SWD = 926,500 gallons

TOTAL VOLUME = 926,500 gallons

DETENTION TIME = 926,500 gallons/120 min. (Solids Contact - 120 min.)

GPM = 7,721 GPM

MGD = 11.1 MGD

**TRANSFER PUMPS NA**

**FILTER CAPACITY**

(Gravity) (Dual Media) (Anthracite/Sand) (36" Depth)  
(Constant Rate)

5 @ 24' X 15

TOTAL FT2 = 1,800

GPM X FT2 = 5 (Dual Media)

TOTAL GPM = 9000 GPM

TOTAL MGD = 12.96 MGD

With 1 Filter Out = 7,200 GPM = 10.37 MGD

**MISCELLANEOUS NA**

**TREATMENT PLANT CAPACITY**

NORMAL RATED DESIGN FLOW = 15.552 MGD

LIMITING COMPONENT = FILTERS WITH 1 OUT

SYSTEM > 7.500 MGD

**CLEARWELL CAPACITY**

TOTAL VOLUME = 18.25 MG PROVIDED CAPACITY

0.05% X DESIGN CAP. = 0.5 MG REQUIRED CAPACITY

**TREATMENT PLANT CAPACITY**

NORMAL RATED DESIGN FLOW = 10.0 MGD

LIMITING COMPONENT = FILTERS

TOTAL PLANT CAPACITY = 10.0 MGD

**BACKGROUND**

**Current Enforcement Action**

An NOV letter was sent to the facility to facilitate compliance.

**Prior Enforcement Action**

This facility has been investigated two times in the past five years. The last inspection was conducted on July 29 - August 1, 2008, and resulted in an NOV being sent to the facility for eight violations and two additional issues were also noted. All violations alleged during the 2008 investigation are being addressed during this investigation.

**Court/Agreed Orders**

This facility has been sent to enforcement one time in the past 10 years. The violations associated with the agreed order have been resolved and the case is now closed.

**Boil Water Notices**

No BWNs have been issued for the City of Wichita Falls in the past five years.

**Complaints**

One complaint has been lodged against the facility in the past five years. This complaint was regarding possible ash from a nearby business contaminating the drinking water. This complaint could not be confirmed.

ADDITIONAL INFORMATION

Conclusions and recommendations

1. An NOV letter was sent to the facility to facilitate compliance.
2. Maintain routine surveillance.

This investigation was originally Approved with RN105569594 CITY OF WICHITA FALLS SURFACE WATER TREATMENT PLANT.

**NOV Date**

08/19/2011

**Method**

WRITTEN

**OUTSTANDING ALLEGED VIOLATION(S)  
ASSOCIATED TO A NOTICE OF VIOLATION**

**Track No:** 290381

**Compliance Due Date:** 06/29/2014

**Violation Start Date:** 8/1/2008

**30 TAC Chapter 290.46(l)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/18/2008

Failure to provide an adequate flushing program for the water distribution system.

Flushing of mains. All dead end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title (relating to Disinfectant Residuals).

During the comprehensive compliance investigation (CCI), it was observed that the City of Wichita Falls had not been flushing all dead-end mains on a monthly basis. Mr. Jack E. Scott, Superintendent for Water Distribution, stated that the City of Wichita Falls does not have the personnel or money to flush dead-end mains monthly.

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide an adequate flushing program. All dead-end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title.

During the comprehensive compliance investigation conducted on July 29 -August 1, 2008, it was noted that the City of Wichita Falls had not been flushing all dead-end mains on a monthly basis. Mr. Jack E Scott, Superintendent of Water Distribution, stated that the City of Wichita Falls does not have the personnel or money to flush dead-end mains monthly.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls does not have a flushing program and are not flushing dead-end mains each month.

Investigation: 983807

Comment Date: 02/07/2012

Failure to provide an adequate flushing program. All dead-end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title.

During the comprehensive compliance investigation conducted on July 29 -August 1, 2008, it was noted that the City of Wichita Falls had not been flushing all dead-end mains on a monthly basis. Mr. Jack E Scott, Superintendent of Water Distribution, stated that the City of Wichita Falls does not have the personnel or money to flush dead-end mains monthly.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls does not have a flushing program and are not flushing dead-end mains each month.

During the record review investigation conducted on February 7, 2012, it was noted that the City of Wichita Falls is working on funding for the flushing program. This violation has been active since the investigation conducted July 29- August 1, 2008. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1020418

Comment Date: 07/16/2012

Failure to provide an adequate flushing program. All dead-end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title.

During the comprehensive compliance investigation conducted on July 29 -August 1, 2008, it was noted that the City of Wichita Falls had not been flushing all dead-end mains on a monthly basis. Mr. Jack E Scott, Superintendent of Water Distribution, stated that the City of Wichita Falls does not have the personnel or money to flush dead-end mains monthly.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls does not have a flushing program and are not flushing dead-end mains each month.

During the record review investigation conducted on February 7, 2012, and July 16, 2012, it was noted that the City of Wichita Falls is working on funding for the flushing program. This violation has been active since the investigation conducted July 29- August 1, 2008. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1055983

Comment Date: 01/29/2013

Failure to provide an adequate flushing program. All dead-end mains must be flushed at monthly intervals. Dead-end lines and other mains shall be flushed as needed if water quality complaints are received from water customers or if disinfectant residuals fall below acceptable levels as specified in §290.110 of this title.

During the comprehensive compliance investigation conducted on July 29 -August 1, 2008, it was noted that the City of Wichita Falls had not been flushing all dead-end mains on a monthly basis. Mr. Jack E Scott, Superintendent of Water Distribution, stated that the City of Wichita Falls does not have the personnel or money to flush dead-end mains monthly.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls does not have a flushing program and are not flushing dead-end mains each month.

During the record review investigation conducted on February 7, 2012, July 16, 2012, and January 29, 2013, it was noted that the City of Wichita Falls is working on funding for the flushing program. This violation has been active since the investigation conducted July 29- August 1, 2008. This violation will remain active until adequate documentation is received in the Abilene Region Office.

**Recommended Corrective Action:** Submit a copy of the flushing log documenting that the dead-end mains are being flushed on a monthly basis or request an exception for this rule from the water supply division in accordance with 30 TAC 290, to the Abilene Region Office by the due date.

**ALLEGED VIOLATION(S) NOTED AND RESOLVED  
ASSOCIATED TO A NOTICE OF VIOLATION**

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Track No: 290379

Resolution Status Date: 7/16/2012

Violation Start Date: 8/1/2008

Violation End Date: 7/13/2012

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**30 TAC Chapter 290.42(d)(13)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/18/2008

Failure to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant.

The identification of influent, effluent, waste backwash, and chemical feed lines shall be accomplished by the use of labels or various colors of paint. Where labels are used, they shall be placed along the pipe at no greater than five-foot intervals. Color coding must be by solid color or banding. If bands are used, they shall be placed along the pipe at no greater than five-foot intervals.

During the comprehensive compliance investigation (CCI), it was observed that the City of Wichita Falls failed to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant.

Investigation: 948337

Comment Date: 08/09/2011

Failure to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant. The identification of influent, effluent, waste backwash, and chemical feed lines shall be accomplished by the use of labels or various colors of paint. Where labels are used, they shall be placed along the pipe at no greater than five-foot intervals. Color coding must be by solid color or banding. If bands are used, they shall be placed along the pipe at no greater than five-foot intervals.

During the comprehensive compliance investigation conducted on July 29-August 1, 2008, it was observed that the City of Wichita Falls failed to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was observed that the Cypress Water Treatment Plant was under major construction and all the labels had not been installed.

Investigation: 983807

Comment Date: 02/07/2012

Failure to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant. The identification of influent, effluent, waste backwash, and chemical feed lines shall be accomplished by the use of labels or various colors of paint. Where labels are used, they shall be placed along the pipe at no greater than five-foot intervals. Color coding must be by solid color or banding. If bands are used, they shall be placed along the pipe at no greater than five-foot intervals.

During the comprehensive compliance investigation conducted on July 29-August 1, 2008, it was observed that the City of Wichita Falls failed to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was observed that the Cypress Water Treatment Plant was under major construction and all the labels had not been installed.

During the record review investigation conducted on February 7, 2012, it was noted that the Cypress WTP is currently undergoing and expansion and one the expansion is completed the labels will be in place. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1020418

Comment Date: 07/16/2012

Failure to label the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant.

**Recommended Corrective Action:** Submit written documentation including photographs indicating that all the influent, effluent, waste backwash, and chemical feed lines at the Cypress Water Treatment Plant are now labeled in accordance with 30 TAC 290 to the Abilene Region Office by the due date.

**Resolution:** Documentation received on April 13, 2012 noted that the labeling of the water plant lines is complete. In the documentation are photographs of the labels. Based on this documentation this violation is now resolved.

Track No: 290380

Resolution Status Date: 8/9/2011

Violation Start Date: 8/1/2008

Violation End Date: 6/29/2011

**30 TAC Chapter 290.42(f)(1)(E)(ii)(I)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/21/2008

Failure to provide containment facilities for aqua mag and for sulfuric acid at the Cypress Water Treatment Plant.

Containment facilities for a single container or for multiple interconnected containers must be large enough to hold the maximum amount of chemical that can be stored with a minimum freeboard of six vertical inches or to hold 110% of the total volume of the container(s), whichever is less.

During the comprehensive compliance investigation (CCI), it was observed that the City of Wichita Falls did not have containment facilities for aqua mag and for sulfuric acid at the Cypress Water Treatment Plant.

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide containment facilities for Aqua Mag and for the sulfuric acid at the Cypress Water Treatment Plant.

**Recommended Corrective Action:** Please submit written documentation to the Abilene Region Office, indicating that City of Wichita Falls has containment facilities for the aqua mag and for sulfuric acid at the Cypress Water Treatment Plant in accordance with Title 30 Texas Administrative Code (TAC), Chapter 290 by the compliance due date.

**Resolution:** During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed that the Aqua Mag and the sulfuric acid had proper containment. This observation is adequate to resolve this violation.

Track No: 290382

Resolution Status Date: 8/9/2011

Violation Start Date: 8/1/2008

Violation End Date: 6/29/2011

**30 TAC Chapter 290.46(m)(6)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/21/2008

Failure to repair one of the raw water pumps located at the Lake Kickapoo raw water pump station.

Pumps, motors, valves, and other mechanical devices shall be maintained in good working condition.

During the comprehensive compliance investigation (CCI), it was observed that a raw water pump located at the Lake Kickapoo raw water pump station is inoperative.

Investigation: 948337

Comment Date: 08/09/2011

Failure to repair one of the raw water pumps located at the Lake Kickapoo raw water pump station.

**Recommended Corrective Action:** Please submit written documentation to the Abilene Region Office, indicating that the City of Wichita Falls has repaired the inoperative raw water pump located at the Lake Kickapoo raw water pump station and that it is now available to be placed in service in accordance with Title 30 Texas Administrative Code (TAC), Chapter 290 by the compliance due date.

**Resolution:** During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed that both of the raw water pumps at the Lake Kickapoo raw water pump station were in good working condition. This observation is adequate to resolve this violation.

Track No: 344026

Resolution Status Date: 8/19/2011

Violation Start Date: 8/1/2008

Violation End Date: 6/27/2011

**30 TAC Chapter 290.41(e)(2)(C)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/18/2008

Failure to provide strict enforcement of the ordinance restricting recreational activities and trespassing within the 200 foot restricted zone around the raw water intake at Lake Kickapoo.

A restricted zone of 200 feet radius from the raw water intake works shall be established and all recreational activities and trespassing shall be prohibited in this area. Regulations governing this zone shall be in the city ordinances or the rules and regulations promulgated by a water district or similar regulatory agency. The restricted zone shall be designated with signs recounting these restrictions. The signs shall be maintained in plain view of the public and shall be visible from all parts of the restricted area. In addition, special buoys may be required as deemed necessary by the executive director. Provisions shall be made for the strict enforcement of such ordinances or regulations.

During the comprehensive compliance investigation (CCI), it was observed that trot lines and jug lines were located around the raw water intake located at Lake Kickapoo.

Investigation: 948337

Comment Date: 08/19/2011

Failure to provide strict enforcement of the ordinance restricting recreational activities and trespassing within 200 foot restricted zone around the raw water intake at Lake Kickapoo.

**Recommended Corrective Action:** Please submit written documentation to the Abilene Region Office, indicating that the City of Wichita Falls has made provisions for the strict enforcement of the ordinances and regulations governing the recreational activities and trespassing in the restricted zone around the raw water intake.

**Resolution:** During the comprehensive compliance investigation conducted in June 27-29, 2011, no recreation activities were observed at the raw water intake site at Lake Kickapoo. This observation is adequate to resolve this violation.

Track No: 344031

Resolution Status Date: 1/29/2013

Violation Start Date: 8/1/2008

Violation End Date: 12/11/2012

**30 TAC Chapter 290.42(d)(2)(C)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/21/2008

Failure to provide an air gap or other acceptable backflow prevention device on the pre chlorination line at the Jasper Street water treatment plant.

Make-up water supply lines to chemical feeder solution mixing chambers shall be provided with an air gap or other acceptable backflow prevention device.

During the comprehensive compliance investigation (CCI), it was observed that no backflow prevention device is provided for the water line providing pressure for the pre chlorine injection line located in the chlorine feed room at the Jasper water treatment plant.

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide an air gap or other acceptable backflow device on the pre-chlorination line at the Jasper plant. Make-up water supply lines to chemical feeder solution mixing chambers shall be provided with an air gap or other acceptable backflow prevention device.

During the comprehensive compliance investigation conducted on July 29 - August 1, 2008, and June 27-29, 2011, it was observed that a backflow prevention device was not provided for the water line providing pressure for the pre-chlorine injection line located in the chlorine room at the Jasper Water Treatment Plant.

Investigation: 983807

Comment Date: 02/07/2012

Failure to provide an air gap or other acceptable backflow device on the pre-chlorination line at the Jasper plant. Make-up water supply lines to chemical feeder solution mixing chambers shall be provided with an air gap or other acceptable backflow prevention device.

During the comprehensive compliance investigation conducted on July 29 - August 1, 2008, and June 27-29, 2011, it was observed that a backflow prevention device was not provided for the water line providing pressure for the pre-chlorine injection line located in the chlorine room at the Jasper Water Treatment Plant.

During the record review investigation conducted on February 7, 2012, it was noted that the City of Wichita Falls has a back flow prevention device where the chlorine makeup water enters the chlorine building. This is not adequate backflow prevention since the pre and post chlorination lines utilize the same water without a backflow prevention device between them. Since the pre chlorination line does not have a back flow prevention device on it, untreated water can backflow from the pre chlorination line into the chlorine room and out the post chlorination line. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1020418

Comment Date: 07/19/2012

Failure to provide an air gap or other acceptable backflow device on the make-up water line between the pre-chlorination and post-chlorination line at the Jasper plant so that raw water cannot backflow into the plant and out the post chlorination line thus contaminating the finished water. Make-up water supply lines to chemical feeder solution mixing chambers shall be provided with an air gap or other acceptable backflow prevention device. All plant piping shall be constructed so as to be thoroughly tight against leakage. No cross-connection or interconnection shall be permitted to exist in a filtration plant between a conduit carrying filtered or post-chlorinated water and another conduit carrying raw water or water in any prior stage of treatment.

During the comprehensive compliance investigation conducted on July 29 - August 1, 2008, and June 27-29, 2011, it was observed that a backflow prevention device was not provided for the water line providing pressure for the pre-chlorine injection line located in the chlorine room at the Jasper Water Treatment Plant.

During the record review investigation conducted on February 7, 2012, and July 16, 2012, it was noted that the City of Wichita Falls has a back-flow prevention device where the chlorine makeup water enters the chlorine building. This is not adequate backflow prevention since the pre and post chlorination lines utilize the same water without a backflow prevention device between them. Since the pre chlorination line make-up water line does not have a back flow prevention device on it, untreated water can backflow from the pre chlorination line into the make-up water line and out the post chlorination line which makes this a cross-connection. A backflow prevention device must be placed on the make-up water line in-between the pre and post chlorination injectors. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1055983

Comment Date: 01/29/2013

Failure to provide an air gap or other acceptable backflow device on the make-up water line between the pre-chlorination and post-chlorination line at the Jasper plant so that raw water cannot backflow into the plant and out the post chlorination line thus contaminating the finished water.

**Recommended Corrective Action:** Submit written documentation and photographs indicating that the City of Wichita Falls is now providing an appropriate backflow prevention device for the pre-chlorine injection make-up water line at the Jasper WTP in accordance with 30 TAC 290, to the Abilene Region Office by the due date.

**Resolution:** Documentation received on December 11, 2012, noted that the City of Wichita Falls now has a backflow prevention device on the pre-chlorine makeup water line in the chlorine room. In the documentation is a photograph of the backflow prevention device. This documentation is adequate to resolve this violation.

Track No: 344034

Resolution Status Date: 8/9/2011

Violation Start Date: 8/1/2008

Violation End Date: 6/29/2011

**30 TAC Chapter 290.46(s)(2)(C)(ii)****Alleged Violation:**

Investigation: 595307

Comment Date: 08/18/2008

Failure to calibrate all continuous disinfection residual analyzers at least once every 90 days.

Continuous disinfectant residual analyzers shall be calibrated at least once every 90 days using chlorine solutions of known concentrations.

During the comprehensive compliance investigation (CCI), it was observed that the continuous disinfectant residual analyzers located at the Cypress and Jasper water treatment plants have not been calibrated at least every 90 days with chlorine solutions of known concentrations

Investigation: 948337

Comment Date: 08/09/2011

Failure to calibrate all continuous disinfection residual analyzers at least once every 90 days.

**Recommended Corrective Action:** Please submit written documentation to the Abilene Region Office, indicating that the City of Wichita Falls is providing for the proper calibration of all continuous disinfectant residual analyzers at least once every 90 days in accordance with Title 30 Texas Administrative Code (TAC), Chapter 290 by the compliance due date.

**Resolution:** During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed that all the continuous disinfection residual analyzers had been calibrated at least once every 90 days. This observation is adequate to resolve this violation.

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Track No: 344037

Resolution Status Date: 8/9/2011

Violation Start Date: 8/1/2008

Violation End Date: 6/29/2011

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**30 TAC Chapter 290.46(m)**

**Alleged Violation:**

Investigation: 595307

Comment Date: 08/18/2008

Failure to maintain and clean the raw water pump stations located at Lake Arrowhead and Lake Kickapoo.

Maintenance and housekeeping. The maintenance and housekeeping practices used by a public water system shall ensure the good working condition and general appearance of the system's facilities and equipment. The grounds and facilities shall be maintained in a manner so as to minimize the possibility of the harboring of rodents, insects, and other disease vectors, and in such a way as to prevent other conditions that might cause the contamination of the water.

During the comprehensive compliance investigation (CCI), it was observed that the raw water pump stations located at Lake Kickapoo and at Lake Arrowhead were not properly maintained.

Investigation: 948337

Comment Date: 08/09/2011

Failure to maintain and clean the raw water pump stations located at Lake Arrowhead and Lake Kickapoo.

**Recommended Corrective Action:** Please submit written documentation to the Abilene Region Office indicating that the raw water pump stations have been cleaned out and are being properly maintained in accordance with Title 30 Texas Administrative Code (TAC), Chapter 290 by the compliance due date.

**Resolution:** During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed that the raw water pump stations were in good condition. This observation is adequate to resolve this violation.

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Track No: 443731

Resolution Status Date: 2/7/2012

Violation Start Date: Unknown

Violation End Date: 12/2/2011

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**30 TAC Chapter 290.43(c)(4)**

**Alleged Violation:**

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide a proper liquid level indicator at the 287 West PS, the Denver Tower, and the 287 East PS/EST. All clearwells and water storage tanks shall have a liquid level indicator located at the tank site. The indicator can be a float with a moving target, an ultrasonic level indicator, or a pressure gauge calibrated in feet of water. If an elevated tank or standpipe has a float with moving target indicator, it must also have a pressure indicator located at ground level. Pressure gauges must not be less than three inches in diameter and calibrated at not more than two-foot intervals. Remote reading gauges at the owner's treatment plant or pumping station will not eliminate the requirement for a gauge at the tank site unless the tank is located at the plant or station.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was observed at the 287 West PS, the Denver Tower, and the 287 East PS/EST, a proper liquid level indicator was not provided.

Investigation: 983807

Comment Date: 02/07/2012

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Failure to provide a proper liquid level indicator at the 287 West PS, the Denver Tower, and the 287 East PS/EST.

**Recommended Corrective Action:** Submit written documentation and photographs indicating an appropriate liquid level indicator is now being provided at the 287 West PS, the Denver Tower, and the 287 East PS/EST, in accordance with 30 TAC 290, to the Abilene Region Office by the due date.

**Resolution:** On December 2, 2011, documentation was received in the Abilene Region Office noting that the City of Wichita Falls now has liquid level indicators in accordance with 30 TAC 290. In the documentation are photographs of the liquid level indicators. This documentation is adequate to resolve this violation.

Track No: 443732

Resolution Status Date: 7/16/2012

Violation Start Date: Unknown

Violation End Date: 4/13/2012

**30 TAC Chapter 290.43(c)(3)**

**Alleged Violation:**

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide an overflow that reaches the ground at the Puckett Road EST. Overflows shall be designed in strict accordance with current AWWA standards and shall terminate with a gravity-hinged and weighted cover. The cover shall fit tightly with no gap over 1/16 inch. If the overflow terminates at any point other than the ground level, it shall be located near enough and at a position accessible from a ladder or the balcony for inspection purposes. The overflow(s) shall be sized to handle the maximum possible fill rate without exceeding the capacity of the overflow(s). The discharge opening of the overflow(s) shall be above the surface of the ground and shall not be subject to submergence.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was observed that the overflow did not reach the ground and was not accessible for inspections at the Puckett Road EST.

Investigation: 983807

Comment Date: 02/07/2012

Failure to provide an overflow that reaches the ground at the Puckett Road EST. Overflows shall be designed in strict accordance with current AWWA standards and shall terminate with a gravity-hinged and weighted cover. The cover shall fit tightly with no gap over 1/16 inch. If the overflow terminates at any point other than the ground level, it shall be located near enough and at a position accessible from a ladder or the balcony for inspection purposes. The overflow(s) shall be sized to handle the maximum possible fill rate without exceeding the capacity of the overflow(s). The discharge opening of the overflow(s) shall be above the surface of the ground and shall not be subject to submergence.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was observed that the overflow did not reach the ground and was not accessible for inspections at the Puckett Road EST.

During the record review investigation conducted on February 7, 2012, it was noted that the over flow does not reach the ground but the City feels it is accessible for inspection purposes from the walkway around the bowl. Based on the photographs provided it appears that the overflow end is below the walkway and therefore not accessible for inspection purposes. This violation will remain active until adequate documentation is received in the Abilene Region Office.

Investigation: 1020418

Comment Date: 07/16/2012

Failure to provide an overflow that reaches the ground at the Puckett Road EST.

**Recommended Corrective Action:** Submit written documentation and photographs indicating that an appropriate overflow is now being provided at the Puckett Road EST or during the next tank inspection provide photographs that the overflow is easily accessible from the walkway, in accordance with 30 TAC 290, to the Abilene Region Office by the due date.

**Resolution:** Documentation received on April 13, 2012, noted that the City of Wichita Falls extended the overflow down to just below the catwalk in the late 1990's to the current position to fulfill the current regulation. This information was not provided to the investigator during the onsite investigation. Based on the new information provided this violation is considered resolved.

**Track No:** 443733

**Resolution Status Date:** 2/7/2012

**Violation Start Date:** Unknown **Violation End Date:** 12/2/2011

**30 TAC Chapter 290.46(s)(1)**

**Alleged Violation:**

Investigation: 948337

Comment Date: 08/09/2011

Failure to provide/maintain records of all meter calibrations. Flow measuring devices and rate-of-flow controllers that are required by §290.42(d) of this title (relating to Water Treatment) shall be calibrated at least once every 12 months. Flow measuring devices shall be provided to measure the raw water supplied to the plant, the recycled decant water, the treated water used to backwash the filters, and the treated water discharged from the plant. Additional metering devices shall be provided as appropriate to monitor the flow rate through specific treatment processes. Metering devices shall be located to facilitate use and to assist in the determination of chemical dosages, the accumulation of water production data, and the operation of plant facilities.

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that all the meters did not have calibration records. It was noted that all of the raw, backwash, finished and decant water meter calibrations were not available.

Investigation: 983807

Comment Date: 02/07/2012

Failure to provide/maintain records of all meter calibrations.

**Recommended Corrective Action:** Submit written documentation including calibration certificates and a list of all raw, backwash, finished and decant meters for each plant indicating that all raw, backwash, finished and decant meters have been calibrated in the past 12 months in accordance with 30 TAC 290, to the Abilene Region Office by the due date.

**Resolution:** On December 2, 2011, documentation was received in the Abilene Region Office noting that the City of Wichita Falls now has calibrated all their meters in accordance with 30 TAC 290. In the documentation are copies of the meter calibrations. This documentation is adequate to resolve this violation.

**Track No:** 443734

**Resolution Status Date:** 8/9/2011

**Violation Start Date:** Unknown **Violation End Date:** 7/5/2011

**30 TAC Chapter 290.121(a)**

**Alleged Violation:**

Investigation: 948337

Comment Date: 08/09/2011

Failure to maintain an up-to-date monitoring plan. All public water systems shall maintain an up-to-date chemical and microbiological monitoring plan. Monitoring plans are subject to the review and approval of the executive director. A copy of the monitoring plan must be maintained at each water treatment plant and at a central location.

During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed that the City of Wichita Falls had not updated their monitoring plan since August 23, 2007. Since that date a new CT study and new plants have come online.

**Recommended Corrective Action:** It is required that the City of Wichita Falls maintain an up-to-date monitoring plan in accordance with 30 TAC 290.

**Resolution:** On July 5, 2011, documentation was received in the Abilene Region Office noting that the City of Wichita Falls has updated their monitoring plan. In the documentation is a copy of a few updated pages of the monitoring plan. This documentation is adequate to resolve this violation.

**Track No:** 443736

**Resolution Status Date:** 8/9/2011

**Violation Start Date:** Unknown **Violation End Date:** 7/18/2011

**30 TAC Chapter 290.43(e)**

**Alleged Violation:**

Investigation: 948337

Comment Date: 08/09/2011

Failure to maintain the fence lines at the Reilly Road EST and the 9th Street EST. All potable water storage tanks and pressure maintenance facilities must be installed in a lockable building that is designed to prevent intruder access or enclosed by an intruder-resistant fence with lockable gates. Pedestal-type elevated storage tanks with lockable doors and without external ladders are exempt from this requirement. The gates and doors must be kept locked whenever the facility is unattended.

During the comprehensive compliance investigation conducted in June 27-29, 2011, it was observed at the Reilly Road EST and the 9th Street EST the fences were covered with vines and there were tree limbs going across the fence.

**Recommended Corrective Action:** It is required that the City of Wichita Falls maintain the fences in accordance with 30 TAC 290.

**Resolution:** On July 18, 2011, documentation was received in the Abilene Region Office noting that the fences at the two towers have been cleared. In the documentation are photographs of the cleared fences. This documentation is adequate to resolve this violation.

**Additional Issues**

**Description** Item 7

**Additional Comments**

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls did not have a laboratory approval form. On July 5, 2011, the City provided a copy of the completed form. It is recommended that the City of Wichita Falls maintain an up-to-date laboratory approval form.

**Description** Item 8

**Additional Comments**

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls exception letters for chloramines and chlorine dioxide could not be found. These exceptions were granted by the Texas Water Commission. It is recommended that the City of Wichita Falls request an updated exception for Chloramines and Chlorine Dioxide.

**Description** Item 9

**Additional Comments**

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the City of Wichita Falls was not maintaining hand written records of the information that is submitted on the SWMOR. It is recommended that the City of Wichita Falls create a bench top sheet in which the operators hand write results of laboratory test results that is to be transferred onto the SWMOR.

**Description** Item 10

**Additional Comments**

During the comprehensive compliance investigation conducted on June 27-29, 2011, it was noted that the approved CT study parameters for the Jasper plant and the SWMOR approved CT study parameters did not match. Disinfection contact time will be based on tracer study data or a theoretical analysis submitted by the system owner or their designated agent and approved by the executive director and the actual flow rate that is occurring at the time that monitoring occurs. It is required that the City of Wichita Falls utilize the approved CT study parameters for each plant on each SWMOR.

Signed \_\_\_\_\_  
Environmental Investigator

Date \_\_\_\_\_

Signed \_\_\_\_\_  
Supervisor

Date \_\_\_\_\_

**Attachments: (in order of final report submittal)**

\_\_\_ Enforcement Action Request (EAR)

\_\_\_ Letter to Facility (specify type) : \_\_\_\_\_

Investigation Report

\_\_\_ Sample Analysis Results

\_\_\_ Manifests

\_\_\_ NOR

\_\_\_ Maps, Plans, Sketches

\_\_\_ Photographs

\_\_\_ Correspondence from the facility

\_\_\_ Other (specify) : \_\_\_\_\_

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