

# Knoxville Utilities Board

Main

ICR WTP ID#: 606



ICR\_PWSID: TN0000366961003

ICR Month# 12 ~June 1998

Water Resource Cat SW  
Surface Water Resource Cate FS

Avg Flow: 31.34 MG retail for month  
Population: 192,000

## Influent Water Quality

|                |       |           |
|----------------|-------|-----------|
| Turbidity      | 6.35  | NTU       |
| Alkalinity     | 74    | ppm CaCO3 |
| Total Hardness | 102   | ppm CaCO3 |
| Ca Hardness    | 78    | ppm CaCO3 |
| pH             | 7.69  |           |
| TEMP:          | 20.6  | C         |
| NH3            | 0.2   | ppm N     |
| Br             | 0.085 | ppm       |
| UV abs         |       | cm-1      |
| TOC            | 1.85  | ppm       |
| SUVA:          |       | L/m/mg    |

### Additional Water Source

Type:  
Avg\_Flow MGD  
Day Flow: MGD

## Treatment

Process Train CONV  
Train Name: Main

Coagulant\_Type: AL

|            |      |        |
|------------|------|--------|
| Alum dose  | 0.95 | ppm Al |
| Iron dose: | 0    | ppm Fe |

WTP Disinfectant: CL2

Dist. Sys. Disinfectant: CL2

Cl2 Demand: 0.5 ppm Cl2

### Distribution System Residence Time:

#### Design Monthly

Average: 0.4 0.4 Days

Maximum: 1 1.1 Days

Dist. Sys. Storage Vol.: 25.9 MG

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Dist. Sys. Disinfectant: CL2

|                | <u>Influent</u> | <u>Finished</u> | <u>Max.DS</u> |           |
|----------------|-----------------|-----------------|---------------|-----------|
| Turbidity      | 6.35            | 0.13            | 0.1           | NTU       |
| Alkalinity     | 74              | 78              | 75            | ppm CaCO3 |
| Total Hardness | 102             | 112             | 110           | ppm CaCO3 |
| Ca Hardness    | 78              | 88              | 85            | ppm CaCO3 |
| pH             | 7.69            | 7.5             | 7.46          |           |
| TEMP           | 20.6            | 21.6            | 21.4          | C         |
| NH3            | 0.2             |                 |               | ppm N     |
| Br             | 0.085           |                 |               | ppm       |
| UV abs         |                 |                 |               | cm-1      |
| TOC            | 1.85            | 1.35            |               | ppm       |
| TRC            |                 | 2.3             | 1.6           | ppm Cl2   |
| FRC            |                 | 2.2             | 1.4           | ppm Cl2   |
| TTHM           |                 | 50              | 94            | ppb       |
| HAA5           |                 | 24.9            | 55.3          | ppb       |
| HAN4           |                 | 3.6             | 8.2           | ppb       |
| TOX            | -999            | 140             | 235           | ppb       |

THM Detail

|         | <u>Influent</u> | <u>Finished</u> | <u>Max.DS</u> |
|---------|-----------------|-----------------|---------------|
| TTHM    |                 | 50              | 94            |
| CHCl3   |                 | 19              | 46            |
| CHCl2Br |                 | 18              | 33            |
| CHClBr2 |                 | 13              | 15            |
| CHBr3:  |                 | -999            | -999          |

HAN Detail

|      | <u>Influent</u> | <u>Finished</u> | <u>Max.DS</u> |
|------|-----------------|-----------------|---------------|
| HAN4 |                 | 3.6             | 8.2           |
| TCAN |                 | -999            | -999          |
| DCAN |                 | 2.4             | 4             |
| BCAN |                 | -999            | 2.7           |
| DBAN |                 | 1.2             | 1.5           |

HAA Detail

|       | <u>Influent</u> | <u>Finished</u> | <u>Max.DS</u> |
|-------|-----------------|-----------------|---------------|
| HAA9  |                 |                 |               |
| HAA6: |                 | 31.7            | 67.3          |
| HAA5  |                 | 24.9            | 55.3          |
| TCAA  |                 | 13              | 27            |
| BDCAA |                 |                 |               |
| CDBAA |                 |                 |               |
| TBAA  |                 |                 |               |
| DCAA  |                 | 9.9             | 22            |
| BCAA: |                 | 6.8             | 12            |
| DBAA  |                 | 2               | 2.7           |
| MCAA  |                 | -999            | 2.5           |
| MBAA  |                 | -999            | 1.1           |

Other DBPs

|              | <u>Influent</u> | <u>Finished</u> | <u>Max.DS</u> |
|--------------|-----------------|-----------------|---------------|
| TCP          |                 | 2.1             | 3.5           |
| DCP          |                 | 0.6             | -999          |
| Chloropicrin |                 | -999            | 0.6           |
| CNCI         |                 |                 |               |
| Chlorite     |                 |                 |               |
| Chlorate     |                 |                 |               |
| Bromate      |                 |                 |               |
| Formaldehyde |                 |                 |               |
| Acetaldehyde |                 |                 |               |
| Glyoxal      |                 |                 |               |