

RESULTS OF ANALYSIS FOR 2024 FOR CONSECUTIVE SYSTEMS OF COOKEVILLE Volatile Organic Compounds

| Regulated VOC's | RESULTS | Sample due annual detection limit mg/l | MCL | DATE | ESC Sample # |
|--|---------|---|---------|----------|--------------|
| Benzene | ND | 0.0005 | 0.0050 | 1/2/2024 | L1692870 |
| Carbon tetrachloride | ND | 0.0005 | 0.0050 | | |
| 1,4-Dichlorobenzene (para) | ND | 0.0005 | 0.0750 | | |
| 1,2-Dichloroethane (ortho) | ND | 0.0005 | 0.0050 | | |
| 1,1-Dichloroethene (Dichloroethylene) | ND | 0.0005 | 0.0070 | | |
| 1,1,1-Trichloroethane | ND | 0.0005 | 0.2000 | | |
| Trichloroethene(Trichloroethylene) | ND | 0.0005 | 0.0050 | | |
| Vinyl chloride | ND | 0.0005 | 0.0020 | | |
| 1,2,4-Trichlorobenzene | ND | 0.0005 | 0.0700 | | |
| cis-1,2-Dichloroethene (Dichloroethylene) | ND | 0.0005 | 0.0700 | | |
| Xylenes, Total | ND | 0.0005 | 10.0000 | | |
| Methylene chloride (Dichloromethane) | ND | 0.0005 | 0.0050 | | |
| 1,2-Dichlorobenzene | ND | 0.0005 | 0.6000 | | |
| trans-1,2-Dichloroethene (Dichloroethylene) | ND | 0.0005 | 0.1000 | | |
| 1,2-Dichloropropane | ND | 0.0005 | 0.0050 | | |
| 1,1,2-Trichloroethane | ND | 0.0005 | 0.0050 | | |
| Tetrachloroethene (Tetrachloroethylene) | ND | 0.0005 | 0.0050 | | |
| Chlorobenzene | ND | 0.0005 | 0.1000 | | |
| Toluene | ND | 0.0005 | 1.0000 | | |
| Ethylbenzene | ND | 0.0005 | 0.7000 | | |
| Styrene | ND | 0.0005 | 0.1000 | | |

meta is the 1-3 position, ortho is the 1-2 position, para is the 1-4 position
cis is a double carbon bond attached to two other groups.
trans is a atom positioned opposite.

| Unregulated VOC's | Result | detection limit mg/l | MCL | DATE | ESC Sample # |
|--|---------|----------------------|-----|----------|--------------|
| Bromobenzene | ND | 0.0005 | | 1/2/2024 | L1692870 |
| Bromodichloromethane | 0.00237 | 0.0005 | *** | | |
| Bromoform | ND | 0.0005 | | | |
| Bromomethane | ND | 0.001 | | | |
| Chlorodibromomethane (Dibromochloromethane) | ND | 0.0005 | | | |
| Chloroethane | ND | 0.0005 | | | |
| Chloroform | 0.0102 | 0.0005 | *** | | |
| Chloromethane | ND | 0.0005 | | | |
| 1,2-Chlorotoluene (ortho) | ND | 0.0005 | | | |
| 1,4-Chlorotoluene (para) | ND | 0.0005 | | | |
| Dibromomethane (Methyl Bromide) | ND | 0.0005 | | | |
| 1,3-Dichlorobenzene (meta) | ND | 0.0005 | | | |
| 1,1-Dichloroethane | ND | 0.0005 | | | |
| 1,3-Dichloropropane | ND | 0.0005 | | | |
| 2,2-Dichloropropane | ND | 0.0005 | | | |
| 1,1-Dichloropropene | ND | 0.0005 | | | |
| 1,3-Dichloropropene | ND | 0.0005 | | | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0005 | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0005 | | | |
| 1,2,3-Trichloropropane | ND | 0.0005 | | | |

*** Bromodichloromethane is one of the four compounds that is the sum for THM's.

*** Chloroform is one of the four compounds that is the sum for THM's.

These compounds are formed when chlorine is used in the presence of natural organic matter

Cookeville treatment primarily focuses on organic removal and removes above 60% of organics annually.
 The sum of these four compounds must be 0.080 ppb to be in violation of the MCL.
 EPA states in the federal register, one must drink 2 liters of water per day for 70 years to have a 1 in 10,000 chance of cancer.

VOC's ARE ANNUAL SAMPLING

SYNTHETIC ORGANIC COMPOUNDS due 2023

| | Results | det. limit | MCL in mg/l | Date | ESC SAMPLE # |
|----------------------------|---------|------------|-------------|-----------|--------------|
| SOC's-Atrazine-raw | ND | | 0.0001 | 4/28/2023 | L1611213 |
| SOC's-Atrazine-finished | ND | | 0.0001 | 4/30/2020 | L1215666 |
| SOC's-2, 4 D, added 2014 | ND | | 0.0001 | 4/28/2023 | L1611218 |
| SOC's-Picloram, added 2014 | ND | | 0.0001 | 4/30/2020 | 3554869001 |

MUST BE DONE IN THE COMPLIANCE PERIOD OF 2024-2026.

Next due 2024, 2025, OR 2026 between April 1st and June 30.

SOC's ANALYSIS FOR THE ABOVE IS ONCE DURING EACH 3 YEAR COMPLIANCE PERIOD BETWEEN APRIL AND JULY OF EACH 3-YEAR COMPLIANCE PERIOD AFTER A SIGNIFAICANT RAIN EVENT OF 1"

ALL OTHER SOC's IN 0400-45-01 ARE WAIVERED BECAUSE OF LACK OF USE I N THE AREA.

Sample every 3 years.

Primary Inorganics

Primary Inorganics must be sampled once during the compliance period of 2014-2016.

Due again in 2025-2027 compliance period. By letter dated 12/11/14 for a nine year date

| | detection limit | MCL mg/l | Date | ESC SAMPLE # |
|-----------------|-----------------|----------|-----------|--------------|
| Arsenic | ND | 0.001 | 6/28/2023 | L1632346 |
| Barium | 0.0171 | 0.005 | | |
| Cadium | ND | 0.001 | | |
| Chromium | ND | 0.01 | | |
| Cyanide | ND | 0.005 | | |
| Fluoride | ND | 0.1 | | |
| Mercury | ND | 0.0002 | | |
| Nickel | ND | 0.02 | | |
| Selenium | ND | 0.001 | | |
| Antimony Total | ND | 0.001 | | |
| Beryllium Total | ND | 0.001 | | |
| Thallium Total | ND | 0.001 | | |

Secondary Inorganics

Secondary Contaminants must be sampled once during the compliance period of 2014-2016.

Due again in 2022-2024 compliance period. By letter dated 12/11/14 for a nine year date

| | detection limit | MCL mg/l | ESC SAMPLE # |
|------------------|-----------------|--|---------------------|
| Aluminum | ND | 0.1 | 6/28/2023 L1632346 |
| Chloride | 36 | 1 | |
| Copper | ND | 0.02 | |
| Iron | ND | 0.1 | |
| Manganese | ND | 0.01 | |
| Silver | ND | 0.01 | |
| Sulfate | 5.85 | 5 | |
| MBAS | 0.105 | 0.1 | 12/13/2023 L1687511 |
| Zinc | ND | 0.05 | |
| Color | 5 | 1 | 12/15/2023 WP96736 |
| Odor | <1 | 1 | 12/15/2023 WP96736 |
| pH | 8.06 | 6.5--9.0 varies with corrosion control | |
| Dissolved Solids | 144 | 2.5 | 12/13/2023 L1687511 |
| Sodium | 23.3 | 1 | |
| Lead | ND | 0.002 | |

INORGANIC CHEMICALS

Abestos

| Results | Detection Limit |
|---------|-----------------|
| BDL | 0.17 |

Abestos
ABESTOS MUST BE SAMPLED ONCE IN THE 9 YEAR COMPLIANCE CYCLE OF 2020-2029
 ABESTOS MUST BE SAMPLED ONCE IN THE 1st 3 YEAR COMPLIANCE PERIOD OF EACH 9 YEAR CYCLE
SAMPLE DUE AGAIN IN 2030

| MCL | Date | PACE SAMPLE # |
|----------------------------|----------|---------------|
| 7 Million Fibers per Liter | 6/4/2021 | L1361092 |

Nitrate/Nitrite

| Results | MCL mg/l |
|------------|----------|
| 0.249 mg/l | 10 |

Nitrate
Nitrate for special sampling
NITRATE IS ANNUAL SAMPLING

MUST BE IN FIRST QUARTER OF EACH YEAR

| Date | PACE SAMPLE # |
|----------|---------------|
| 1/2/2024 | L1692786 |

Sodium

| Results | detection limit |
|-----------|-----------------|
| 23.7 mg/l | 1.00 mg/l |

Sodium
 Rule 0400-45-01-.24(3) Notify local and State health officials/3 months
SODIUM IS ANNUAL SAMPLING

| MCL mg/l | Date | PACE SAMPLE # |
|----------|----------|---------------|
| none | 1/2/2024 | L1692862 |

Fluoride

| FLUORIDE | Results on site in mg/l | Results at independent lab | detection limits in mg/l |
|----------|-------------------------|----------------------------|--------------------------|
| Fluoride | 0.088 | ND | |
| Fluoride | 0.0758 | ND | |
| Fluoride | 0.0752 | ND | |
| Fluoride | 0.0742 | ND | |

FLUORIDE IS QUARTERLY SAMPLING

| MCL mg/l | PACE SAMPLE # |
|----------|--------------------|
| 0.15 2 | 1/2/2024 L1692866 |
| 0.15 2 | 4/1/2024 L1721903 |
| 0.15 2 | 7/1/2024 L1753066 |
| 0.15 2 | 10/1/2024 L1784531 |

TOTAL ORGANIC REMOVAL

| required TOC removal in % based on raw water alkalinity | Alkalinity removal by coagulation | TOC removal in % raw results | finished water results analyzed samples "non detect" are listed as | DATE | ESC SAMPLE # | Quarterly THM results in Finished water THM's leaving the plant, the system's maximum corresponding THM in ppb | site |
|---|-----------------------------------|------------------------------|--|-----------|--------------|--|--------|
| 25% | 55% | 48.5% | 0.96 | 1/1/2024 | L1692869 | 0.0152 | |
| 25% | 57% | 55.6% | 0.79 | 2/4/2024 | L1703605 | 0.0217 | |
| 25% | 61% | 68.3% | 0.68 | 3/2/2024 | L1711460 | 0.0218 | 0.0403 |
| 35% | 73% | 69.4% | 0.67 | 4/1/2024 | L1721902 | 0.037 | |
| 25% | 62.30% | 70.3% | 0.71 | 5/1/2024 | L1732128 | 0.0377 | |
| 25% | 75.80% | 73.0% | 0.66 | 6/3/2024 | L1743368 | 0.0324 | 0.058 |
| 25% | 59.70% | 69.2% | 0.85 | 7/1/2024 | L1753026 | 0.0435 | |
| 25% | 61.54% | 69.3% | 0.74 | 8/1/2024 | L1764338 | 0.0265 | |
| 25% | 68.75% | 67.1% | 0.72 | 9/5/2024 | L1776527 | 0.0241 | 0.0535 |
| 25% | 64.90% | 65.0% | 0.69 | 10/1/2024 | L1784371 | 0.0237 | |
| 25% | 60.30% | 58.6% | 0.91 | 11/5/2024 | L1796654 | 0.0141 | |

December 25% 65.00% 65.6% 1.92 0.66 12/3/2024 L1805817 0.012 0.0285
 26% required 65.0% actual removal 0.75

The above results are independent lab results as required and run 1 time per month to meet regulations.
 The water plant lab runs TOC daily 365 days/year to monitor treatment techniques.
 Finished TOC use 0.49 For the sample results that are ND at detection level of 0.50 mg/l.
 goal for TOC removal is >60% with a raw water alkalinity reduction of 64% .

Radio Chemicals

Due every 9 years

| | results in Ci/l | detection limits in Ci/l | DATE | ESC SAMPLE # |
|---------------------|-----------------|--------------------------|----------|--------------|
| Gross Alpha | 0.4530 | 3 | 2/1/2023 | L1581941 |
| Gross Alpha-2 Sigma | | | | |
| Radium 226 | 0.0532 | 1 | 2/1/2023 | |
| Radium 226-2 Sigma | | | | |
| Radium 228 | BDL | 1 | 2/1/2023 | |
| Radium 228-2 Sigma | | | | |

LEAD AND COPPER

LEAD

LEAD action level 0.015 mg/l 90th % or site #27
 29 of 30 samples non-detect, one sample analyzed result of

| result mg/l | detection limit | DATE | ESC SAMPLE # |
|--------------|-----------------|-----------|--------------|
| ND | 0.0020 mg/l | June 2023 | L1227830 |
| 0.00653 mg/l | | June 2023 | |

COPPER

COPPER action level 1.3 mg/l 90th % or site #27
 highest sample result of 30 samples

| | | | |
|------------|-------------|-----------|--|
| 0.134 mg/l | 0.0010 mg/l | June 2023 | |
| 0.147 mg/l | | June 2023 | |

LEAD AND COPPER COMPLIANCE DATE EACH 3 YEARS IN A COMPLIANCE PERIOD STARTING IN 1992.
 SAMPLES MUST BE TAKEN IN JUNE-SEPT PERIOD OF THE COMPLIANCE PERIOD
 LEAD AND COPPER COMPLIANCE DATE EACH 3 YEARS FROM LAST DATE TAKEN

SUMMARY OF PARENT SYSTEM DATA FOR 2024 TITLED AS FOLLOWS:

PLANT AND DIST. DATA SUMMARY FOR 2024

| | EFFLUENT TURBIDITY (NTU's) | | | | BACTERIA ANALYSIS (number) | | |
|-------|-------------------------------|------|------|--------|---------------------------------|------|----------|
| | number verified samples/month | LOW | HIGH | AVG | 60 required, number taken/month | #POS | #REPEATS |
| 2024 | | | | | | | |
| Jan | 186 | 0.01 | 0.14 | 0.0351 | 100 | 0 | 0 |
| Feb | 174 | 0.03 | 0.06 | 0.035 | 93 | 0 | 0 |
| March | 182 | 0.03 | 0.36 | 0.0479 | 94 | 0 | 0 |
| April | 180 | 0.03 | 0.16 | 0.0388 | 94 | 0 | 0 |
| May | 185 | 0.02 | 0.06 | 0.035 | 99 | 0 | 0 |
| June | 180 | 0.02 | 0.05 | 0.036 | 97 | 0 | 0 |
| July | 186 | 0.02 | 0.06 | 0.034 | 103 | 0 | 0 |

August
Sept
Oct
Nov
Dec
Total

| | | | | | | |
|------|------|------|--------|------|---|---|
| 186 | 0.02 | 0.06 | 0.036 | 100 | 1 | 3 |
| 180 | 0.03 | 0.04 | 0.033 | 94 | 0 | 0 |
| 186 | 0.02 | 0.05 | 0.033 | 97 | 0 | 0 |
| 180 | 0.02 | 0.05 | 0.035 | 103 | 0 | 0 |
| 186 | 0.02 | 0.14 | 0.0368 | 104 | 0 | 0 |
| 2191 | | | | 1178 | | |

PLANT AND DIST. DATA (in mg/l) SUMMARY FOR 2024

2024
Jan
Feb
March
April
May
June
July
August
Sept
Oct
Nov
Dec
Total

| CHLORINE RESIDUALS-DIST mg/l | | | | FLOURIDE DAILY PLANT AND DIST mg/l | | | |
|---|-----|------|------|------------------------------------|------|------|-------|
| number of samples /month from bacteria sampling | LOW | HIGH | AVG | number of samples /month | LOW | HIGH | AVG |
| 100 | 1.5 | 3.1 | 2.43 | 28 | 0.08 | 0.11 | 0.094 |
| 93 | 1.6 | 2.9 | 2.5 | 24 | 0.08 | 0.10 | 0.09 |
| 94 | 1.8 | 2.9 | 2.59 | 26 | 0.08 | 0.10 | 0.092 |
| 94 | 1.8 | 2.9 | 2.58 | 26 | 0.07 | 0.09 | 0.077 |
| 99 | 1.8 | 2.9 | 2.52 | 26 | 0.06 | 0.09 | 0.088 |
| 97 | 1.6 | 2.8 | 2.41 | 24 | 0.08 | 0.10 | 0.091 |
| 103 | 1.0 | 2.7 | 2.05 | 28 | 0.07 | 0.10 | 0.087 |
| 100 | 0.7 | 2.5 | 1.81 | 22 | 0.06 | 0.08 | 0.071 |
| 94 | 0.7 | 2.7 | 1.8 | 26 | 0.07 | 0.08 | 0.076 |
| 97 | 1.0 | 2.5 | 2 | 26 | 0.06 | 0.08 | 0.07 |
| 103 | 1.0 | 2.6 | 2.07 | 24 | 0.07 | 0.09 | 0.078 |
| 104 | 1.4 | 2.5 | 2.14 | 26 | 0.06 | 0.09 | 0.075 |
| 1178 | | | | 306 | | | |

Chlorine residual monitored continuously leaving the water plant
Chlorine verified every 4 hours leaving the water plant

PLANT AND DISTRIBUTION DATA SUMMARY FOR 2024 hardness and pH.

pH monitored continuously in standard units
pH verified every 4 hours each day

2024
Jan
Feb
March
April
May
June
July
August
Sept
Oct
Nov
Dec
Total

| HARDNESS mg/l | | | | HIGHEST pH of FINISHED WATER LEAVING THE PLANT | | | |
|-------------------------|-----|------|------|--|-----|------|------|
| number of samples taken | LOW | HIGH | AVG | sample days, 6 samples/day to verify | LOW | HIGH | AVG |
| 31 | 78 | 86 | 82 | 31 | 7.7 | 8.3 | 7.9 |
| 29 | 72 | 86 | 81 | 29 | 7.8 | 8.4 | 7.95 |
| 31 | 66 | 76 | 70.3 | 31 | 7.8 | 8.2 | 7.9 |
| 30 | 66 | 72 | 69.1 | 30 | 7.8 | 8.0 | 7.9 |
| 31 | 68 | 72 | 69.7 | 31 | 7.2 | 8.2 | 7.81 |
| 30 | 66 | 72 | 68.7 | 30 | 7.2 | 7.5 | 7.27 |
| 31 | 70 | 86 | 77.8 | 31 | 7.2 | 8.4 | 7.34 |
| 31 | 76 | 90 | 83.2 | 31 | 7.2 | 7.5 | 7.39 |
| 30 | 74 | 80 | 74 | 30 | 7.3 | 7.8 | 7.40 |
| 31 | 76 | 84 | 79.6 | 31 | 7.2 | 7.6 | 7.39 |
| 30 | 72 | 87 | 78.7 | 30 | 7.3 | 7.6 | 7.43 |
| 31 | 80 | 90 | 84.3 | 31 | 7.3 | 7.8 | 7.41 |
| 366 | | | | 366 | | | |

2196 total samples verified.

To find grains per gallon multiply mg/l by 0.0584.
Example: Dec ave 84.3 * 0.0584= 4.92 grains per gallon.

Disinfection by Products

Total Trihalomethanes (THM's) are the sum total of four compounds formed when chlorine is added in the presence of natural organic matter (NOM's). The MCL for the summation of the four compounds is 0.080 parts per billion (ppb's) or 80 ppm's.

These four compounds are Chloroform, Bromodichloromethane, Chlorobromomethane, and Bromoform.

Total Halogenated Acids (HAA's) are the sum total of five compounds formed in the presence of chlorine and NOM. The MCL for the summation of the five compounds is 0.060 ppb's or 60 ppm's.

The five compounds are Bromoacetic acid, Chloroacetic acid, Dibromoacetic acid, Dichloroacetic acid, and Trichloroacetic acid.

MCL for THM's 0.080 parts / billion, THAA's 0.060 parts / billion

2024
 March
 June
 Sept
 Dec
site average for year
 min for 16 samples
 max for 16 samples

| THM quarterly | | | | THAA quarterly | | | |
|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|
| HWY 70 E. | HWY 70 W | IRONWOOD GC | BUCK MTN | HWY 70 E. | HWY 70 W | IRONWOOD GC | BUCK MTN |
| 0.0369 | 0.0285 | 0.034 | 0.0403 | 0.036 | 0.0373 | 0.0381 | 0.0396 |
| 0.058 | 0.0394 | 0.0508 | 0.0569 | 0.0689 | 0.0584 | 0.066 | 0.071 |
| 0.0572 | 0.0309 | 0.0441 | 0.0535 | 0.0332 | 0.0248 | 0.0294 | 0.0367 |
| 0.0222 | 0.0201 | 0.0275 | 0.0285 | 0.0204 | 0.02 | 0.0241 | 0.0265 |
| 0.0436 | 0.0297 | 0.0391 | 0.0448 | 0.0396 | 0.0351 | 0.0394 | 0.0435 |
| 0.0201 | | | | 0.02 | | | |
| 0.058 | | | | 0.071 | | | |

average for 16 sites

0.0393 for THM's

0.0394 for THAA's