

WASTEWATER SAMPLING PLAN

CLINTON WATER 2022



PREPARED FOR:

CITY OF CLINTON, ARKANSAS



SALT ENGINEERS & PLANNERS

PROJECT NO. 08-22-02

June 2022



6/29/22

Purpose and Background

The City of Clinton, Arkansas owns and operates the East Wastewater Treatment Plant (WWTP) to treat the City's sanitary sewer received by the gravity sewer collection system. The facility is permitted by the Arkansas Energy & Environment (AEE) Department of Environmental Quality (DEQ) under permit AR0048836 with AFIN 71-00018. The WWTP has a design flow of 1.2 MGD and discharges into an unnamed tributary of the South Fork of the Little Red River approximately 600 ft. upstream of the confluence of said tributary with the main channel of the South Fork of the Little Red River. During the permit renewal testing performed for the 2015 permit renewal, the initial Priority Pollutant Scan (PPS) of the WWTP effluent identified a Cadmium Concentration Maximum Daily Discharge of 2.0 µg/L and Average Daily Discharge Concentration of 1.4 µg/L. The PPS results were based on three samples using EPA Method 200.8, and it was noted by DEQ that contamination was suspected due to the Mercury results of the PPS showing 2 of 3 samples with elevated Mercury, and 1 as non-detectable - (Refer to **Appendix B** for the DEQ phone call record establishing suspected sample contamination). At the time, these Cadmium levels were reported to be below the Rule 2 Water Quality Standard of the State of Arkansas, which are calculated based upon water hardness. A stream hardness concentration of 25 mg/L was used to establish the actual Criterion Maximum Concentration (CMC) and Criterion Continuous Concentration (CCC) for the receiving stream. Current Water Quality Standards for Cadmium with 25 mg/L hardness equate to a CMC of 4.00 µg/L and CCC of 1.80 µg/L. The Concentration Multiplier was established as 2.13 and results in an Instream Waste Concentration (IWC) of 2.77 µg/L, which is above the current CCC.

The permit renewal for the Clinton WWTP was delayed by DEQ due to the discussion around the Mercury Total Maximum Daily Load (TMDL) established for the Little Red River Watershed. The permit expired on November 30, 2015. The permit renewal was delayed until July 1, 2019, on which the new permit took effect. The new permit established a Mass limit for Cadmium of 0.02 lbs/day (Monthly Average), an implied 2.0 µg/L concentration limit at the 1.2 MGD design flow. Additionally, the permit established staged Concentration limits of 2.01 µg/L (Monthly Average), and 4.02 µg/L (7-Day Average), that take effect 3 years after the effective date, or July 1, 2022.

The WWTP is not equipped to remove heavy metals to these trace levels. The Clinton Sanitary Sewer Collection System (SSCS) receives no known discharge from Significant Industrial Users (SIUs) nor any Categorical Industrial Users (CIUs). In an effort to establish the source of the metals contamination, sampling was performed across the Clinton SSCS and within the local watershed. Two sampling events were performed, one at watershed low-flow, and one at water-shed high flow. The sampling results are included in **Appendix A**. The samples were collected using clean sampling techniques (EPA Method 1669), and laboratory analysis was conducted by a third-party lab, not the lab who typically performs WWTP permit sampling. The sample results did not identify the source of the Cadmium but did provide additional evidence for possible contamination by the lab currently used for WWTP permit collection and sampling.

This Sampling Plan will detail an effort to further expand the Cadmium and Mercury sampling to document the suspected collection/laboratory contamination as the source of the elevated Cadmium. Mercury will be included since there is an established TMDL on the watershed and future permits are likely to establish a concentration limit.

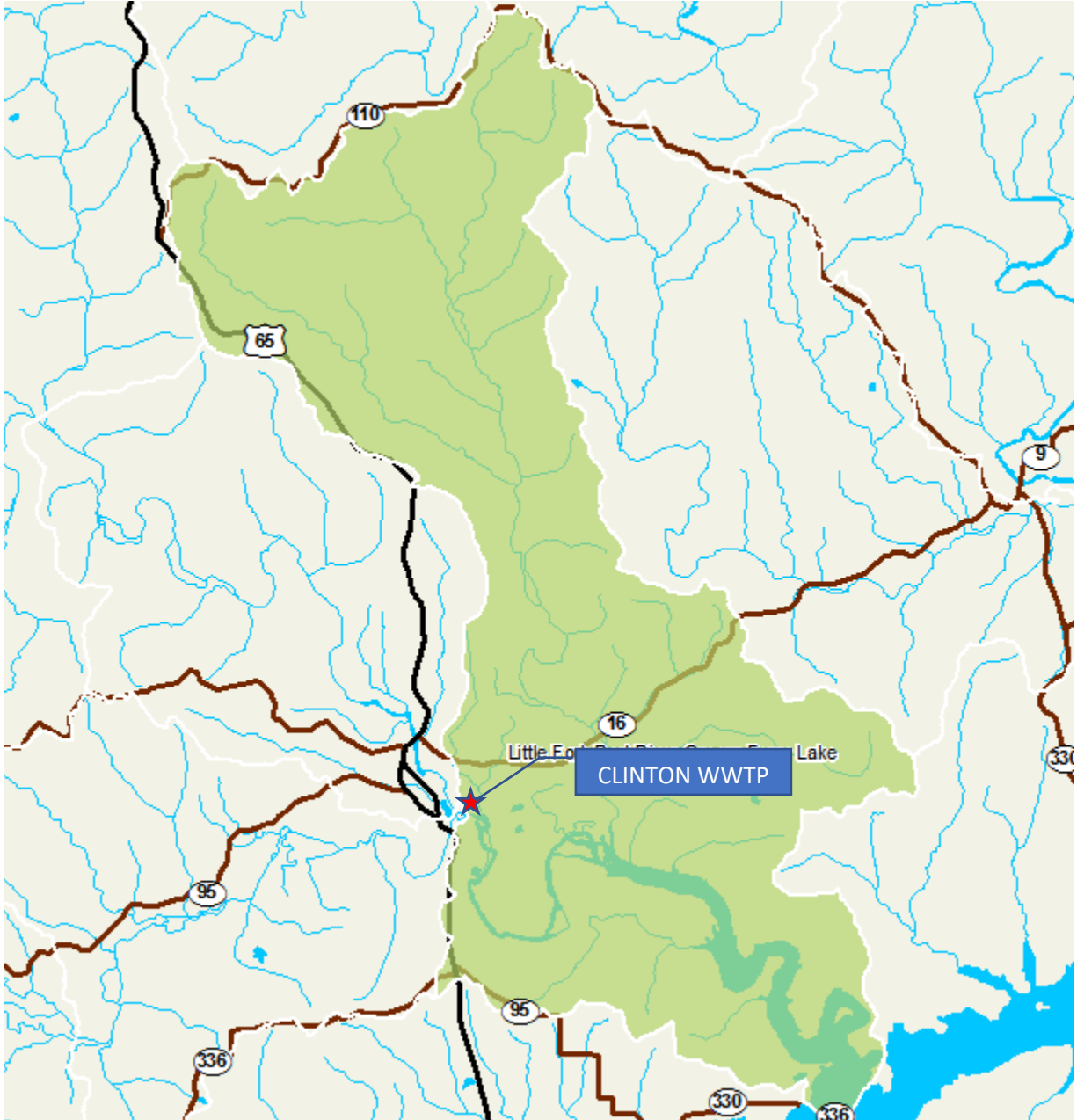


Figure 1: Location of Clinton WWTP within Watershed (110100140602)

Sampling Project Description

The intent of the sampling is to document the fate and transport of Cadmium (Cd) and Mercury (Hg) within the Clinton SSCS to the point of discharge at Outfall 001 at the Clinton WWTP (AR0048836). The sampling results for the WWTP outfall will be compared with permit samples to document sample contamination, if occurring. EPA Method 1669 – “Clean Sampling Techniques” will be followed by the third-party laboratory utilized for sample collection. The table below shows the information for the current permit sampling lab, which also conducted the 2015 PPS upon which Cadmium limits were based. A third-party laboratory will be utilized for the Cadmium and Mercury samples collected utilizing EPA Sampling Method 1669.

| Laboratory |
|--|
| Environmental Services Company (ESC) Little Rock, AR <i>(Current Permit Sampling Lab)</i> |
| American Interplex Corporation Laboratories (AIC) Little Rock, AR <i>(Proposed Third-Party Lab using EPA Method 1669 Sampling Techniques)</i> |

Sampling Site Descriptions

The table below details the sampling sites chosen for analysis.

| Site # | Site | Parameters Analyzed | Lab assigned for conducting Sampling & Analysis |
|---------------|----------------------------|--|--|
| 1 | WWTP Outfall 001 | Required Permit Sampling for AR0048836 (includes Cd & Hg) | ESC |
| | WWTP Outfall 001 | Cd & Hg | AIC |
| 2 | WWTP Influent | BOD, TSS, TKN, TP, Cd, & Hg | ESC |
| | WWTP Influent | Cd & Hg | AIC |
| 3 | Equalization Lagoon | BOD, TSS, TKN, TP, Cd, & Hg | ESC |
| | Equalization Lagoon | Cd & Hg | AIC |
| 4 | Industrial Park PS | TSS, O&G, CBOD, COD, NH3-N, TKN, Cd, & Hg | ESC |
| | Industrial Park PS | Cd & Hg | AIC |
| 5 | WTP Residuals Pond Outfall | Required Permit Sampling for ARG640085 (includes TSS, Diss. Al, and TRC) + Cd & Hg | AIC |
| | WTP Residuals Pond Outfall | Cd & Hg | ESC |

- Site 1 – WWTP Outfall 001
The grab samples will be pulled directly from the head of the cascade aeration steps at the south end of the WWTP property. This corresponds with the permitted Outfall 001 sample location for Permit AR0048836.
- Site 2 – WWTP Influent
The grab samples will be pulled from the lower end of the bar screen channel. This will capture only collection system influent while avoiding dilution with equalization lagoon water.
- Site 3 – Equalization Lagoon
The grab samples will be pulled directly from the corner pond of the equalization lagoon using a sludge judge to reach out into the pond for a representative sample.
- Site 4 - Industrial Park PS
This pump station collects wastewater from the Natural State Processing chicken processing plant that operates out of the Global Performance Group, Inc. building. The industrial user contributes significant amounts of fats, oils, and grease to the Clinton SSCS. The grab samples will be pulled directly from the PS using a sludge judge to collect wastewater below the scum and grease layer.
- Site 5 – WTP Residuals Pond Outfall
The grab samples will be pulled from the sample box at the outfall of the backwash ponds. This corresponds with the permitted Outfall 101 sample location for Permit ARG640085.



Figure 2: Sampling Site Locations



Figure 3: Sampling Site Locations at WWTP

Analytes and Field Measurements

Analyte Summary Table

| Analyte | Lab Method | MDL | Permit Criteria | Sites Analyzed |
|----------|--------------|-----------|---------------------------|-----------------|
| Cd (TR) | EPA 200.8 | 0.5 µg/L | 2.01 µg/L (AR0048836) | All Sites (1-4) |
| Hg (TR) | EPA 1631.E | 0.2 ng/L | Report (AR0048836) | All Sites (1-4) |
| TSS | SM 2540.D | 1.0 mg/L | 15.0 mg/L (AR0048836) | All Sites (1-4) |
| CBOD | SM 5210.B | 2.0 mg/L | 7.0 mg/L (AR0048836) | 1, 2, & 3 |
| TKN | SM 4500.N | 0.1 mg/L | - | 1, 2, & 3 |
| NH3-N | SM 4500 | 0.1 mg/L | 2.1 mg/L (AR0048836) | 1, 2, & 3 |
| TP | EPA 365.3 | 0.01 mg/L | Report (AR0048836) | 1, 2, & 3 |
| COD | SM 5220.C | 20 mg/L | - | 1, 2, & 3 |
| O&G | EPA 1664.A | 1.4 mg/L | - | 1, 2, & 3 |
| Diss. Al | EPA 200.7 | 50 µg/L | 1.0 mg/L (ARG640085) | 4 |
| TRC | SM 4500.CI-G | 10 µg/L | 0.011 mg/L (ARG640085) | 4 |

Field Measurements

In addition to Sample ID, date and time of collection, other field measurements should also be recorded. The table below shows the field measurements that are to be recorded when each grab sample is collected at the representative sites.

| Site | Field Measurement |
|------|---|
| 1 | Weather Conditions, WWTP Effluent Flow |
| 2 | Weather Conditions, WWTP Effluent Flow |
| 3 | Weather Conditions, WWTP Effluent Flow |
| 4 | Weather Conditions |
| 5 | Weather Conditions, Backwash Pond Effluent Flow |

Sampling Schedule

The sampling schedule for each lab is shown below by site. The sampling is scheduled to begin the week of July 18, 2022 and continue through the week of September 19, 2022. This will result in the analysis of 10 samples from each site, from each lab, for a total of 20 samples for Total Recoverable Cadmium and Mercury.

| ESC Labs – Sampling Schedule | | | |
|-------------------------------------|-------------------------------|--|------------------------------|
| Site # | Site | Parameters Analyzed | Frequency |
| 1 | WWTP Outfall 001 | Cd & Hg (Total Recoverable) | 1/Week (Mon, Wed, or Fri) |
| | | Permit samples (AR0048836) | 3/Week (Mon, Wed, & Fri) |
| 2 | WWTP Influent | BOD, TSS, TKN, TP, Cd, & Hg | 1/Week (Mon, Wed, or Fri) |
| 3 | Equalization Lagoon | BOD, TSS, TKN, TP, Cd, & Hg | 1/Week (Mon, Wed, or Fri) |
| 4 | Industrial Park PS | TSS, O&G, CBOD, COD, NH3-N, TKN, Cd, & Hg | 1/Week (Mon, Wed, or Fri) |
| 5 | WTP Residuals Pond Outfall | Permit samples (ARG640085) | 1/Quarter |
| | | Cd & Hg | 1/Week (Mon, Wed, or Fri) |

| AIC Labs – Sampling Schedule | | | |
|-------------------------------------|-------------------------------|--------------------------------|-------------------------|
| Site # | Site | Parameters Analyzed | Frequency |
| 1 | WWTP Outfall 001 | Cd & Hg (Total Recoverable) | 1/Week (Tue or Thur) |
| 2 | WWTP Influent | Cd & Hg (Total Recoverable) | 1/Week (Tue or Thur) |
| 3 | Equalization Lagoon | Cd & Hg (Total Recoverable) | 1/Week (Tue or Thur) |
| 4 | Industrial Park PS | Cd & Hg (Total Recoverable) | 1/Week (Tue or Thur) |
| 5 | WTP Residuals Pond Outfall | Cd & Hg (Total Recoverable) | 1/Week (Tue or Thur) |

APPENDIX A

PRELIMINARY INVESTIGATIVE SAMPLE RESULTS



FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
3 Innwood Circle, Suite 220
Little Rock, AR 72211

This report contains the analytical results and supporting information for samples received on April 28, 2022. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Chief Operating Officer or a qualified designee.

A handwritten signature in black ink that reads 'Steve Bradford'. The signature is written in a cursive style and is positioned above a horizontal line.

Steve Bradford
Deputy Laboratory Director

This document has been distributed to the following:

PDF cc: FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
jmr@ftn-assoc.com



FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

SAMPLE INFORMATION

Project Description:

Four (4) water sample(s) received on April 28, 2022
Clinton HG & CD
10362-2724-001

Receipt Details:

A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

| <u>Laboratory ID</u> | <u>Client Sample ID</u> | <u>Sampled Date/Time</u> | <u>Notes</u> |
|----------------------|-------------------------|--------------------------|--------------|
| 265124-1 | Jailhouse Pump | 27-Apr-2022 1150 | |
| 265124-2 | Honey Hill Pump | 27-Apr-2022 1210 | |
| 265124-3 | UWAFK 01 | 27-Apr-2022 1245 | |
| 265124-4 | WHI0190 | 27-Apr-2022 1310 | |

Case Narrative:

There were no qualifiers for this data and all samples met quality control criteria.

References:

- "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
- "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
- "Standard Methods for the Examination of Water and Wastewaters", (SM).
- "American Society for Testing and Materials" (ASTM).
- "Association of Analytical Chemists" (AOAC).

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3 Innwood Circle, Suite 220
Little Rock, AR 72211

ANALYTICAL RESULTS

AIC No. 265124-1

Sample Identification: Jailhouse Pump 27-Apr-2022 1150

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1119 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | 0.028 | 0.0050 | ug/l | |
| Prep: 02-May-2022 0941 by 313 | Analyzed: 02-May-2022 1114 by 313 | | Batch: S52554 | |

AIC No. 265124-2

Sample Identification: Honey Hill Pump 27-Apr-2022 1210

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1122 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 0941 by 313 | Analyzed: 02-May-2022 1118 by 313 | | Batch: S52554 | |

AIC No. 265124-3

Sample Identification: UWAFK 01 27-Apr-2022 1245

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1132 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 0941 by 313 | Analyzed: 02-May-2022 1123 by 313 | | Batch: S52554 | |

AIC No. 265124-4

Sample Identification: WHI0190 27-Apr-2022 1310

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1135 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 0941 by 313 | Analyzed: 02-May-2022 1128 by 313 | | Batch: S52554 | |

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LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|--------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Cadmium | 0.02 mg/l | 98.5 | 85.0-115 | | | S52569 | 04May22 0833 by 313 | 04May22 1056 by 313 | | |
| Mercury, low level | 0.01 ug/l | 94.1 | 76.0-113 | | | S52554 | 02May22 0942 by 313 | 02May22 1031 by 313 | | |

MATRIX SPIKE SAMPLE RESULTS

| Analyte | Sample | Spike Amount | % | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|------------------------------|--------------|-------|----------|--------|---------------------|---------------------|-----|------|
| Cadmium | 265126-1 | 0.02 mg/l | 97.4 | 75.0-125 | S52569 | 04May22 0833 by 313 | 04May22 1059 by 313 | | |
| | 265126-1 | 0.02 mg/l | 97.0 | 75.0-125 | S52569 | 04May22 0833 by 313 | 04May22 1102 by 313 | | |
| | Relative Percent Difference: | | 0.463 | 20.0 | S52569 | | | | |
| Mercury, low level | 265072-3 | 0.01 ug/l | 91.9 | 63.0-111 | S52554 | 02May22 0942 by 313 | 02May22 1036 by 313 | | |
| | 265072-3 | 0.01 ug/l | 95.0 | 63.0-111 | S52554 | 02May22 0942 by 313 | 02May22 1040 by 313 | | |
| | Relative Percent Difference: | | 2.91 | 18.0 | S52554 | | | | |

LABORATORY BLANK RESULTS

| Analyte | Result | RL | LOQ | QC Sample | Preparation Date | Analysis Date | Qual |
|--------------------|---------------|--------|--------|-----------|---------------------|---------------------|------|
| Cadmium | < 0.0003 mg/l | 0.0003 | 0.0005 | S52569-1 | 04May22 0833 by 313 | 04May22 1052 by 313 | |
| Mercury, low level | < 0.0030 ug/l | 0.0030 | 0.0050 | S52554-1 | 02May22 0942 by 313 | 02May22 1026 by 313 | |



265.124

| | | | | | | | | | |
|--|----------------------------|-------------------------------------|--------------|--|-------------------|---|------|--|--------------|
| Date 28 April 2009 | | Project Name Clinton Hg-Cd | | Project No. 10367-7794-001 | | Project Manager (Print) Jeremy Rigby | | Page 1 of 1 | |
| Laboratory Name: American Intersplex | | | | Submitted by: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 • Fax (501) 225-6738 | | | | Lab Turn-Around-Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal <input type="checkbox"/> Other: ___/___/___ | |
| Sampler Signature(s) <i>[Signature]</i> | | Recorded By (Print) Kern Schacke | | Parameters (Method Number) | | Laboratory Notes | | | |
| SAMPLE DESCRIPTION | | | | | | | | | |
| Sample Identification | Date | Time | Matrix* | | No. of Containers | Comp | Grab | Laboratory Notes | |
| Clinton Hill pump | 5/1/22 | 1150 | W | S | 2 | | X | Clean metals low level Cd | |
| Clinton Hill pump | 5/1/22 | 1210 | | | 1 | | I | Clean metals low level Hg | |
| UWAFK01 | 5/1/22 | 1245 | | | 1 | | I | | |
| UWFI019D | 5/1/22 | 1310 | | | 1 | | I | | |
| Container Type: P | | | | | | | | | |
| Preservative: NO | | | | | | | | | |
| * Matrix: W = Water, S = Soil, O = Other G = Glass, P = Plastic, H = HCl to pH2 NO = None, S = Sulfuric acid pH2, V = VOA vials, B = NaOH to pH12 N = Nitric acid pH2 | | | | | | | | | |
| Relinquished By (Signature) <i>[Signature]</i> | Print Name Kern Schacke | Date 5/1/22 | Time 1600 | Received By (Signature) <i>[Signature]</i> | | Print Name Brown | | Date 4-28-22 | Time 1619 |
| Relinquished By (Signature) <i>[Signature]</i> | Print Name | Date | Time | Received By Laboratory (Signature) <i>[Signature]</i> | | Print Name | | Date | Time |
| Collected near the surface | | | | | | | | | |
| 5.9% | | | | | | | | | |



FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
3 Innwood Circle, Suite 220
Little Rock, AR 72211

This report contains the analytical results and supporting information for samples received on April 28, 2022. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Chief Operating Officer or a qualified designee.

A handwritten signature in black ink that reads 'Steve Bradford'.

Steve Bradford
Deputy Laboratory Director

This document has been distributed to the following:

PDF cc: FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
jmr@ftn-assoc.com

FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

SAMPLE INFORMATION

Project Description:

Eight (8) water sample(s) received on April 28, 2022
Clinton Hg & Cd
10362-2724-001

Receipt Details:

A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

| <u>Laboratory ID</u> | <u>Client Sample ID</u> | <u>Sampled Date/Time</u> | <u>Notes</u> |
|----------------------|-------------------------|--------------------------|--------------|
| 265125-1 | East Plant Intake | 27-Apr-2022 0915 | |
| 265125-2 | Outfall 001 | 27-Apr-2022 0930 | |
| 265125-3 | Field Blank | 27-Apr-2022 0935 | |
| 265125-4 | Downstream WWTP | 27-Apr-2022 0950 | |
| 265125-5 | Upstream WWTP | 27-Apr-2022 1010 | |
| 265125-6 | Intake | 27-Apr-2022 1035 | |
| 265125-7 | South Sewer Pump | 27-Apr-2022 1100 | |
| 265125-8 | Chicken Pump | 27-Apr-2022 1120 | |

Case Narrative:

There were no qualifiers for this data and all samples met quality control criteria.

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", (SM).
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

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ANALYTICAL RESULTS

AIC No. 265125-1

Sample Identification: East Plant Intake 27-Apr-2022 0915

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1138 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | 0.033 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1215 by 313 | | Batch: S52556 | |

AIC No. 265125-2

Sample Identification: Outfall 001 27-Apr-2022 0930

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1141 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1211 by 313 | | Batch: S52556 | |

AIC No. 265125-3

Sample Identification: Field Blank 27-Apr-2022 0935

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1145 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1220 by 313 | | Batch: S52556 | |

AIC No. 265125-4

Sample Identification: Downstream WWTP 27-Apr-2022 0950

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1148 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1225 by 313 | | Batch: S52556 | |

AIC No. 265125-5

Sample Identification: Upstream WWTP 27-Apr-2022 1010

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1151 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1230 by 313 | | Batch: S52556 | |

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ANALYTICAL RESULTS

AIC No. 265125-6

Sample Identification: Intake 27-Apr-2022 1035

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1154 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1234 by 313 | | Batch: S52556 | |

AIC No. 265125-7

Sample Identification: South Sewer Pump 27-Apr-2022 1100

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1158 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | 0.051 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1239 by 313 | | Batch: S52556 | |

AIC No. 265125-8

Sample Identification: Chicken Pump 27-Apr-2022 1120

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | 0.0017 | 0.0005 | mg/l | |
| Prep: 04-May-2022 0833 by 313 | Analyzed: 04-May-2022 1201 by 313 | | Batch: S52569 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 02-May-2022 1118 by 313 | Analyzed: 02-May-2022 1244 by 313 | | Batch: S52556 | |

FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|--------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Cadmium | 0.02 mg/l | 98.5 | 85.0-115 | | | S52569 | 04May22 0833 by 313 | 04May22 1056 by 313 | | |
| Mercury, low level | 0.01 ug/l | 82.7 | 76.0-113 | | | S52556 | 02May22 1119 by 313 | 02May22 1147 by 313 | | |

MATRIX SPIKE SAMPLE RESULTS

| Analyte | Sample | Spike Amount | % | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|------------------------------|--------------|-------|----------|--------|---------------------|---------------------|-----|------|
| Cadmium | 265126-1 | 0.02 mg/l | 97.4 | 75.0-125 | S52569 | 04May22 0833 by 313 | 04May22 1059 by 313 | | |
| | 265126-1 | 0.02 mg/l | 97.0 | 75.0-125 | S52569 | 04May22 0833 by 313 | 04May22 1102 by 313 | | |
| | Relative Percent Difference: | | 0.463 | 20.0 | S52569 | | | | |
| Mercury, low level | 265125-2 | 0.01 ug/l | 85.0 | 63.0-111 | S52556 | 02May22 1119 by 313 | 02May22 1152 by 313 | | |
| | 265125-2 | 0.01 ug/l | 87.1 | 63.0-111 | S52556 | 02May22 1119 by 313 | 02May22 1156 by 313 | | |
| | Relative Percent Difference: | | 2.41 | 18.0 | S52556 | | | | |

LABORATORY BLANK RESULTS

| Analyte | Result | RL | LOQ | QC Sample | Preparation Date | Analysis Date | Qual |
|--------------------|---------------|--------|--------|-----------|---------------------|---------------------|------|
| Cadmium | < 0.0003 mg/l | 0.0003 | 0.0005 | S52569-1 | 04May22 0833 by 313 | 04May22 1052 by 313 | |
| Mercury, low level | < 0.0030 ug/l | 0.0030 | 0.0050 | S52556-1 | 02May22 1119 by 313 | 02May22 1142 by 313 | |



265125

Date: 28 April 2002
 Laboratory Name: Clinton Hg & Cd
 Project Name: American Intoplex
 Project No.: 10362-2724-001
 Submitted by: FTN Associates, Ltd.
 3 Innwood Circle, Suite 220
 Little Rock, AR 72211
 (501) 225-7779 • Fax (501) 225-6738
 Project Manager (Print): Jeremy Rigby

Recorded By (Print): Kevin Schanke
 Parameters (Method Number):
 Lab Turn-Around-Time:
 24 Hours
 48 Hours
 Normal
 Other: ___/___/___
 Laboratory Notes

| Sample Identification | Date | Time | Matrix* | | | No. of Containers | Comp | Grab | Container Type | Preservative |
|-----------------------|-------------|------|---------|---|---|-------------------|------|------|----------------|--------------|
| | | | W | S | O | | | | | |
| 1 East Plant Intake | 27 April 02 | 0915 | | | 2 | | X | P | NO | |
| 2 Benthic 001 | | 930 | | | | | | | | |
| 3 Field Blank | | 935 | | | | | | | | |
| 4 Downstream WWTP | | 0950 | | | | | | | | |
| 5 Upstream WWTP | | 1010 | | | | | | | | |
| 6 Intake | | 1035 | | | | | | | | |
| 7 South Sewer Pump | | 1100 | | | | | | | | |
| 8 Chicken Pump | | 1120 | | | | | | | | |

* Matrix: W = Water, S = Soil, O = Other
 G = Glass, P = Plastic, H = HCl to pH2
 NO = None, S = Sulfuric acid pH2, V = VOA vials, B = NaOH to pH12
 Relinquished By (Signature): Kevin Schanke
 Relinquished By (Signature): Kevin Schanke
 Received By (Signature): [Signature]
 Received By Laboratory (Signature): [Signature]
 Date: 28 April 2002
 Date: 4-28-22
 Time: 1600
 Time: 1619
 Print Name: Kevin Schanke
 Print Name: DANNY BROWN

Collected near the surface
 Laboratory Remarks:
 5.9°C

Environmental Services Company, Inc.

Corporate Office
 13715 West Markham
 Little Rock, AR 72211
 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch
 1107 Century Avenue
 Springdale, AR 72762
 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2205010357
 Customer Name : FTN & ASSOCIATES
 Customer Number : 1626
 Report Date : 05/17/22

Sample Date : 04/27/22
 Sample Time : 0930
 Sample Type : GRAB WATER
 Sample From : OUTFALL001 CLIN HGCD

Collected By: UNKNOWN
 Delivery By : KEVIN SCHANKE
 Work Order :
 Purchase Order :

Laboratory Analysis

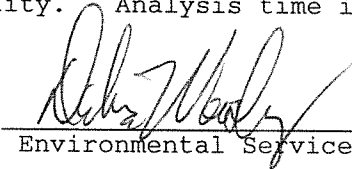
Quality Assurance

| <u>Analysis</u> | | | <u>Laboratory Analysis</u> | | | | <u>Quality Assurance</u> | | |
|-----------------|-------------|-----------|----------------------------|---------------|--------------|-----------------|--------------------------|------------------|-------------------|
| <u>Date</u> | <u>Time</u> | <u>By</u> | <u>Parameter</u> | <u>Result</u> | <u>Notes</u> | <u>Quantity</u> | <u>Method</u> | <u>Precision</u> | <u>Accuracy</u> |
| | | | | | | | | <u>% RPD</u> | <u>% Recovery</u> |
| 05/09 | 1652 | ARA | Mercury, low level | < 0.500 ng/L | | | EPA 1631E | 0.60 | 96.5 |
| 05/09 | 1356 | NTR | Cadmium | 4.06 ug/L | | | EPA 200.8 | 1.13 | 84.3 * |

* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature _____



Environmental Services Co., Inc.

MS



| Date 02 May 2022 | Project Name Clinton Hg: Cd | Project No. 10362-2724-001 | Project Manager (Print) Jeremy Ripley | | | | Page 1 of 1 | | | | | |
|---|--------------------------------------|--|--|--|----------------------------------|-------------------|---|------|---------------------------|--|------------------|--|
| Laboratory Name: Environmental Services Co Inc 13715 W. Markham Little Rock AR 72211 | | Submitted by: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 • Fax (501) 225-6738 | | Parameters (Method Number) | | | Lab Turn-Around-Time | | | | | |
| Sampler Signature(s) | | Recorded By (Print) | | <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Other: Due: ___/___/___ | | | | | | | | |
| SAMPLE DESCRIPTION | | | | | | | | | | | | |
| Sample Identification | Date | Time | Matrix* | | | No. of Containers | Comp | Grab | Clean metals low level Cd | Clean metals low level Hg | Laboratory Notes | |
| | | | W | S | O | | | | | | | |
| Outfall 001 2205010357 | 27 April 22 | 0930 | X | | | 2 | | X | X | | (2) 802 | |
| | | | | | | | Container Type | P | | | | |
| | | | | | | | Preservative | NO | | | | |
| | | | | | | | * Matrix: W = Water S = Soil O = Other | | | H = HCl to pH2 T = Sodium Thiosulfate | | |
| | | | | | | | G = Glass P = Plastic V = VOA vials | | | B = NaOH to pH2 Z = Zinc acetate | | |
| | | | | | | | NO = None S = Sulfuric acid pH2 N = Nitric acid pH2 | | | | | |
| Relinquished By (Signature) <i>[Signature]</i> | Print Name Karin Schanke | Date 27 May 2022 | Time 1500 | Received By (Signature) <i>[Signature]</i> | Print Name Linnea R. Brown | Date 5/2/22 | Time 1505 | | | | | |
| Relinquished By (Signature) To: Secure walk in cooler | Print Name By: Michael R. Ashford | Date 5/2/22 | Time 17:25 | Received By Laboratory (Signature) <i>[Signature]</i> | Print Name <i>[Signature]</i> | Date 5-3-22 | Time 1210 | | | | | |
| Collected near the surface Relinquished by Linnea Brown to Michael Radford 17:25 5/2/22 LKB | | | | Laboratory Remarks: RECEIVED FROM SECURE WALKIN COOLER AAC (1210) | | | | | | | | |

FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
3 Innwood Circle, Suite 220
Little Rock, AR 72211

This report contains the analytical results and supporting information for samples received on September 14, 2021. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Chief Operating Officer or a qualified designee.

 by LP

John Overbey
Chief Operating Officer

This document has been distributed to the following:

PDF cc: FTN Associates, Ltd.
ATTN: Mr. Jim Malcolm
jtm@ftn-assoc.com

FTN Associates, Ltd.
ATTN: Mr. Jeremy Rigsby
jmr@ftn-assoc.com

FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

SAMPLE INFORMATION

Project Description:

Thirteen (13) water sample(s) received on September 14, 2021
Clinton HG & Cd
Project No. 10362-2724-001

Receipt Details:

A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

| <u>Laboratory ID</u> | <u>Client Sample ID</u> | <u>Sampled Date/Time</u> | <u>Notes</u> |
|----------------------|-------------------------|--------------------------|--------------|
| 258568-1 | Intake A | 13-Sep-2021 1030 | |
| 258568-2 | South Sewer 2 | 13-Sep-2021 1100 | |
| 258568-3 | East plant intake | 13-Sep-2021 1130 | |
| 258568-4 | Land App Line | 13-Sep-2021 1140 | |
| 258568-5 | DS WWTF | 13-Sep-2021 1150 | |
| 258568-6 | US WWTF | 13-Sep-2021 1230 | |
| 258568-7 | UWAFK01 | 13-Sep-2021 1350 | |
| 258568-8 | Jail House | 13-Sep-2021 1415 | |
| 258568-9 | Honey Hill | 13-Sep-2021 1445 | |
| 258568-10 | WHI0190 | 13-Sep-2021 1540 | |
| 258568-11 | Chicken Pump | 13-Sep-2021 1600 | |
| 258568-12 | Field Blank | 13-Sep-2021 1450 | |
| 258568-13 | Trip Blank | 13-Sep-2021 | 1 |

Notes:

1. Sample label was incomplete in regard to date/time of sampling

Qualifiers:

- D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", (SM).
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

ANALYTICAL RESULTS

AIC No. 258568-1

Sample Identification: Intake A 13-Sep-2021 1030

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1132 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1031 by 313 | | Batch: S51569 | |

AIC No. 258568-2

Sample Identification: South Sewer 2 13-Sep-2021 1100

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1147 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | 0.028 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1036 by 313 | | Batch: S51569 | |

AIC No. 258568-3

Sample Identification: East plant intake 13-Sep-2021 1130

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1150 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | 0.072 | 0.025 | ug/l | D |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1128 by 313 | | Batch: S51569 | Dil: 5 |

AIC No. 258568-4

Sample Identification: Land App Line 13-Sep-2021 1140

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1154 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | 0.0073 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1045 by 313 | | Batch: S51569 | |

AIC No. 258568-5

Sample Identification: DS WWTF 13-Sep-2021 1150

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1157 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1059 by 313 | | Batch: S51569 | |

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Little Rock, AR 72211

ANALYTICAL RESULTS

AIC No. 258568-6

Sample Identification: US WWTF 13-Sep-2021 1230

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1201 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1104 by 313 | | Batch: S51569 | |

AIC No. 258568-7

Sample Identification: UWAFK01 13-Sep-2021 1350

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1204 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1109 by 313 | | Batch: S51569 | |

AIC No. 258568-8

Sample Identification: Jail House 13-Sep-2021 1415

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1208 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | 0.051 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1114 by 313 | | Batch: S51569 | |

AIC No. 258568-9

Sample Identification: Honey Hill 13-Sep-2021 1445

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | 0.00066 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1211 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | 0.014 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1118 by 313 | | Batch: S51569 | |

AIC No. 258568-10

Sample Identification: WHI0190 13-Sep-2021 1540

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|-----------------------------------|-----------|---------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 | 0.0005 | mg/l | |
| Prep: 20-Sep-2021 1620 by 313 | Analyzed: 21-Sep-2021 1215 by 313 | | Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 | 0.0050 | ug/l | |
| Prep: 15-Sep-2021 0926 by 313 | Analyzed: 15-Sep-2021 1123 by 313 | | Batch: S51569 | |

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3 Innwood Circle, Suite 220
Little Rock, AR 72211

ANALYTICAL RESULTS

AIC No. 258568-11

Sample Identification: Chicken Pump 13-Sep-2021 1600

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|--|-----------|------------------------------|--------------------|
| Cadmium EPA 200.8 | 0.0026 Prep: 20-Sep-2021 1620 by 313 Analyzed: 21-Sep-2021 1218 by 313 | 0.0026 | mg/l Batch: S51598 | D Dil: 5 |
| Mercury, low level EPA 245.7 | < 0.0050 Prep: 15-Sep-2021 0927 by 313 Analyzed: 15-Sep-2021 1230 by 313 | 0.0050 | ug/l Batch: S51570 | |

AIC No. 258568-12

Sample Identification: Field Blank 13-Sep-2021 1450

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|--|-----------|------------------------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 Prep: 20-Sep-2021 1620 by 313 Analyzed: 21-Sep-2021 1229 by 313 | 0.0005 | mg/l Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 Prep: 15-Sep-2021 0927 by 313 Analyzed: 15-Sep-2021 1234 by 313 | 0.0050 | ug/l Batch: S51570 | |

AIC No. 258568-13

Sample Identification: Trip Blank 13-Sep-2021

| <u>Analyte</u> | <u>Result</u> | <u>RL</u> | <u>Units</u> | <u>Qualifier</u> |
|--|--|-----------|------------------------------|------------------|
| Cadmium EPA 200.8 | < 0.0005 Prep: 20-Sep-2021 1620 by 313 Analyzed: 21-Sep-2021 1233 by 313 | 0.0005 | mg/l Batch: S51598 | |
| Mercury, low level EPA 245.7 | < 0.0050 Prep: 15-Sep-2021 0927 by 313 Analyzed: 15-Sep-2021 1239 by 313 | 0.0050 | ug/l Batch: S51570 | |

FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

LABORATORY CONTROL SAMPLE RESULTS

| Analyte | Spike Amount | % | Limits | RPD | Limit | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|--------------|------|----------|-----|-------|--------|---------------------|---------------------|-----|------|
| Cadmium | 0.02 mg/l | 99.5 | 85.0-115 | | | S51598 | 20Sep21 1620 by 313 | 21Sep21 1114 by 313 | | |
| Mercury, low level | 0.01 ug/l | 111 | 76.0-113 | | | S51569 | 15Sep21 0926 by 313 | 15Sep21 1017 by 313 | | |
| Mercury, low level | 0.01 ug/l | 99.0 | 76.0-113 | | | S51570 | 15Sep21 0927 by 313 | 15Sep21 1156 by 313 | | |

MATRIX SPIKE SAMPLE RESULTS

| Analyte | Sample | Spike Amount | % | Limits | Batch | Preparation Date | Analysis Date | Dil | Qual |
|--------------------|------------------------------|--------------|------|----------|--------|---------------------|---------------------|-----|------|
| Cadmium | 258569-3 | 0.02 mg/l | 92.7 | 75.0-125 | S51598 | 20Sep21 1620 by 313 | 21Sep21 1103 by 313 | | |
| | 258569-3 | 0.02 mg/l | 94.0 | 75.0-125 | S51598 | 20Sep21 1620 by 313 | 21Sep21 1106 by 313 | | |
| | Relative Percent Difference: | | 1.39 | 20.0 | S51598 | | | | |
| Mercury, low level | 258568-1 | 0.01 ug/l | 97.6 | 63.0-111 | S51569 | 15Sep21 0926 by 313 | 15Sep21 1021 by 313 | | |
| | 258568-1 | 0.01 ug/l | 83.6 | 63.0-111 | S51569 | 15Sep21 0926 by 313 | 15Sep21 1026 by 313 | | |
| | Relative Percent Difference: | | 13.0 | 18.0 | S51569 | | | | |
| Mercury, low level | 258569-3 | 0.01 ug/l | 91.4 | 63.0-111 | S51570 | 15Sep21 0927 by 313 | 15Sep21 1201 by 313 | | |
| | 258569-3 | 0.01 ug/l | 82.6 | 63.0-111 | S51570 | 15Sep21 0927 by 313 | 15Sep21 1206 by 313 | | |
| | Relative Percent Difference: | | 8.05 | 18.0 | S51570 | | | | |

LABORATORY BLANK RESULTS

| Analyte | Result | RL | LOQ | QC Sample | Preparation Date | Analysis Date | Qual |
|--------------------|---------------|--------|--------|-----------|---------------------|---------------------|------|
| Cadmium | < 0.0003 mg/l | 0.0003 | 0.0005 | S51598-1 | 20Sep21 1620 by 313 | 21Sep21 1052 by 313 | |
| Mercury, low level | < 0.0030 ug/l | 0.0030 | 0.0050 | S51569-1 | 15Sep21 0926 by 313 | 15Sep21 0954 by 313 | |
| Mercury, low level | < 0.0030 ug/l | 0.0030 | 0.0050 | S51570-1 | 15Sep21 0927 by 313 | 15Sep21 1142 by 313 | |



258568

| Date 14 Sep 21 | Project Name Clinton Hg & Cd | Project No. 10362-2724-001 | Project Manager (Print) Jeremy Rigby | Page 1 of 12 | | | | | |
|--|--|--|--|---|----------------------------------|------------------------|---------------------|------|------------------------------------|
| Laboratory Name: American Interplex | | Submitted by: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 • Fax (501) 225-6738 | | | | | | | |
| Sampler Signature(s) <i>[Signature]</i> | | Recorded By (Print) _____ | | | | | | | |
| SAMPLE DESCRIPTION | | | | | | | | | |
| Sample Identification | Date | Time | Matrix* | | | No. of Containers | Comp | Grab | Laboratory Notes |
| | | | W | S | O | | | | |
| 1 Intake A | 13 Sep 21 | 1030 | X | | | 2 | | X | Clean metals low level Hg Cd |
| 2 "outhsewer 2 | | 1100 | | | | | | | |
| 3 East plant intake | | 1130 | | | | | | | |
| 4 Land App line | | 1140 | | | | | | | |
| 5 DS WWTF | | 1150 | | | | | | | |
| 6 US WWTF | | 1230 | | | | | | | |
| 7 WWAFK01 | | 1350 | | | | | | | |
| 8 Jail house | | 1415 | | | | | | | |
| Container Type: P NO | | | | | | | | | |
| Preservative: NO | | | | | | | | | |
| * Matrix: W = Water S = Soil O = Other P = Plastic H = HCl to pH2 NO = None S = Sulfuric acid pH2 V = VOA vials B = NaOH to pH12 T = Sodium Thiosulfate Z = Zinc acetate | | | | | | | | | |
| Relinquished By (Signature) <i>[Signature]</i> | Print Name Kevin Schanke | Date 14 Sep 21 | Time 0840 | Received By (Signature) <i>[Signature]</i> | Print Name DANNY BRAND | Date 9-14-21 | Time 0840 | | |
| Relinquished By (Signature) | Print Name | Date | Time | Received By (Signature) | Print Name | Date | Time | | |
| Collected near the surface | | | | | | | | 5.92 | |



258568

| Date 14 Sep 2021 | Project Name Clinton Hg & Cd | Project No. 10362 - 2724 - 001 | Project Manager (Print) Jeremy Rigsby | Page # of # 2 of 2 | | | | | | | |
|--|---|-----------------------------------|--|------------------------------------|---------------------------|-------------------|--------------|--|-----------------|-----------------|------------------|
| Laboratory Name American Interplex | Submitted by: FTN Associates, Ltd. 3 Inwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 • Fax (501) 225-6738 | Parameters (Method Number) | Lab Turn-Around-Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal <input type="checkbox"/> Other: ___/___/___ Duc: ___/___/___ | | | | | | | | |
| Sampler Signature(s) <i>Kevin Schenke</i> | Recorded By (Print) | Laboratory Notes | | | | | | | | | |
| SAMPLE DESCRIPTION | | | | | | | | | | | |
| Sample Identification | Date | Time | Matrix* | | | No. of Containers | Comp | Grab | Clean metals Cd | Clean metals Hg | Laboratory Notes |
| | | | W | S | O | | | | | | |
| 9 Honey Hill | 13 Sep 21 | 1445 | X | | | 2 | | X | X | | |
| 10 WHIST90 | | 1540 | | | | | | | | | |
| 11 Chicken pump | | 1600 | | | | | | | | | |
| 12 Field Blank | | 1450 | | | | | | | | | |
| 13 Blank | | | | | | | | | | | |
| Container Type: P G NO NO | | | | | | | | | | | |
| Preservative: NO NO | | | | | | | | | | | |
| * Matrix: W = Water S = Soil O = Other P = Plastic H = HCl to pH2 NO = None S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH2 G = Glass V = VOA vials | | | | | | | | | | | |
| Requisitioned By (Signature) <i>Kevin Schenke</i> | Print Name Kevin Schenke | Date 14 Sep 21 | Time 0840 | Received By (Signature) | Print Name | Date | Time | T = Sodium Thiosulfate Z = Zinc acetate | | | |
| Relinquished By (Signature) <i>Kevin Schenke</i> | Print Name | Date | Time | Received By Laboratory (Signature) | Print Name DANNY BROWN | Date 9-14-21 | Time 0840 | | | | |
| Collected near the surface | | | | | | | | | | | |
| 5.9pc | | | | | | | | | | | |

Environmental Services Company, Inc.

Corporate Office
 13715 West Markham
 Little Rock, AR 72211
 Tel. (501)221-2565 Fax (501)221-1341

Northwest Arkansas Branch
 1107 Century Avenue
 Springdale, AR 72762
 Tel. (479)750-1170 Fax (479)750-1172

Control Number: 2109010462
 Customer Name : FTN & ASSOCIATES
 Customer Number : 1626
 Report Date : 10/05/21

Sample Date : 09/13/21
 Sample Time : 1030
 Sample Type : GRAB WATER
 Sample From : INTAKE B

Collected By: KEVIN SHANLA
 Delivery By : KEVIN SHANLA
 Work Order :
 Purchase Order :

| <u>Laboratory Analysis</u> | | | | | | | <u>Quality Assurance</u> | |
|----------------------------|-------------|-----------|--------------------|--------------|-----------------|---------------|--------------------------|-----------------|
| <u>Analysis</u> | | | <u>Result</u> | <u>Notes</u> | <u>Quantity</u> | <u>Method</u> | <u>Precision</u> | <u>Accuracy</u> |
| <u>Date</u> | <u>Time</u> | <u>By</u> | | | | | <u>Parameter</u> | <u>% RPD</u> |
| 10/01 | 1548 | ACZ | Mercury, low level | 11.100 ng/L | | EPA 1631E | 0.00 | 93.0 |
| 09/22 | 1120 | NTR | Cadmium | < 20.00 ug/L | | EPA 200.8 | 4.22 | 115.2 |

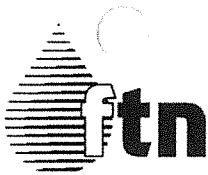
* QA data shown is from a different sample or standard on the same date.

All equipment used is checked and/or calibrated daily. All NPDES testing is conducted in accordance with 40 CFR Part 136. A minimum of 10% spiked and duplicate samples is run on each parameter where applicable for Quality Assurance purposes. Quality Assurance Plan on file with Arkansas Department of Environmental Quality. Analysis time indicates the time of the start of the analytical batch in which the specific sample was included.

Signature _____



Environmental Services Co., Inc.



| Date 14 Sep 2021 | Project Name Clinton Hg 2 Cdb | Project No. 10362-2724-001 | Project Manager (Print) Jeremy Rigsby | | | | Page 1 of 1 | | | | | | | | | | | | | | |
|--|----------------------------------|--|--|--|---|-------------------|--|----------------------------|-----------------|---------------------|--|--|----------------|----|--|--|------------|--|--|--|--|
| Laboratory Name: Environmental Services Co 13715 W. Markham St Little Rock AR 72211 | | Submitted by: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 • Fax (501) 225-6738 | | Parameters (Method Number) | | | Lab Turn-Around-Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal <input type="checkbox"/> Other: Due: ___/___/___ | | | | | | | | | | | | | | |
| Sampler Signature(s) | | Recorded By (Print) | | Clean metals Low level Cd Clean metals Low level Hg | | | Laboratory Notes | | | | | | | | | | | | | | |
| SAMPLE DESCRIPTION | | | | | | | | | | | | | | | | | | | | | |
| Sample Identification | Date | Time | Matrix* | | | No. of Containers | Comp | Grab | | | | | | | | | | | | | |
| | | | W | S | O | | | | | | | | | | | | | | | | |
| Intake B | 13 Sep 21 | 1030 | X | | | 2 | | X | X | X | | | | | | | 210901046Z | | | | |
| | | | | | | | | | | | | | Container Type | P | | | | | | | |
| | | | | | | | | | | | | | Preservative | NO | | | | | | | |
| * Matrix: W = Water S = Soil O = Other G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate NO = None S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate | | | | | | | | | | | | | | | | | | | | | |
| Relinquished By (Signature) | Print Name Kevin Schank | Date 14 Sep 21 | Time 11000 | Received By (Signature) | | | | Print Name Bryanna Wray | Date 9/14/21 | Time 11000 | | | | | | | | | | | |
| Relinquished By (Signature) | Print Name | Date | Time | Received By Laboratory (Signature) | | | | Print Name | Date | Time | | | | | | | | | | | |
| Collected near the surface | | | | | | | | | | Laboratory Remarks: | | | | | | | | | | | |

BXW

APPENDIX B

ADEQ PHONE CALL RECORD



A R K A N S A S
Department of Environmental Quality

PHONE CALL

To:
Isaac Keeling

From:
Guy Lester

Date: 8/25/2015
Time: 9:03 AM

Subject: Issues with City of Clinton - WWTfs permit renewals

Summary of Communication:

Spoke with Mr. Keeling concerning issues with the renewal of the City of Clinton WWTfs permits.

1. Both facilities are included in the Mercury in Fish Tissue TMDL for the Little Red River, so the renewal is on HOLD until everything is worked out with the TMDL.
2. 2 of the 3 Mercury samples for the East facility were high, and 1 was non-detect. This implies that the samples may have been contaminated. I told Mr. Keeling that he has the option of re-sampling using clean sampling techniques to determine if there are actually high levels of Mercury in the effluent. All samples will then be evaluated to determine whether or not they are representative of the discharge.
3. Cadmium was also detected in the discharge, but not above the WQS. However, the 3 data points show RP because of the limited data multiplier.
4. The facility must have the capability to send water from the sludge storage pond back to the headworks of the treatment plant, or a separate permit will be required.
5. Sludge depth in sludge pond needs to be determined. Mr. Keeling said that the pond level was low several years back and that sludge level was also low.
6. Mr. Keeling's email address has been cancelled due to changes at the local ISP.

Conclusions, Actions Taken or Required:

1. None.
2. If additional Mercury data are submitted, all Mercury data will be evaluated to determine whether or not they are representative of the discharge.
3. Additional samples collected for Mercury may also be tested for Cadmium. As with Mercury, all Mercury data will be evaluated to determine whether or not they are representative of the discharge.
4. Information will be submitted about pumping sludge pond water to headworks.
5. Information concerning the depth of sludge in the sludge pond needs to be submitted. This may be documentation from the time the water level in the pond was low, or actual sludge depth measurements.
6. Mr. Keeling will send me an email from his new email address as soon as he gets it. I will then send him an email documenting our conversation.